THE EFFECT OF DEGASSING OF H_2O ON CRYSTALLIZATION AND OXIDATION IN SUBDUCTION-ZONE MAGMAS: IMPLICATIONS FOR THE ORIGIN OF ANDESITE IN CONTINENTAL ARCS

by

Stephen Matthew Crabtree

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Geology)
in The University of Michigan
2010

Doctoral Committee:

Professor Rebecca A. Lange, Chair
Professor Christopher M. Hall
Professor Samuel B. Mukasa
Professor Youxue Zhang
Associate Professor Marion S. Oey

Neither you nor I nor anybody else knows for certain what is going on inside the earth, seeing that we have penetrated only about one twelve-thousandth part of its radius; what is more, science is eminently perfectible…

Jules Verne, Journey to the Center of the Earth – 1864

© Stephen Matthew Crabtree, 2010

For Dad, Mom, and all those who never let me give up.

Acknowledgements

First, I would like to thank my advisor, Becky Lange. After five long, hard, and only too frequently confusing years looking at Mexican lavas, the end has come. Thanks for being there, for giving me that extra shove when I needed it, and for helping me to push on, and not give up when the data just didn't make sense. To my Sam Mukasa, thank you for challenging me to reconsider my own theories more than once. To Youxue Zhang, thank you for the last-minute lessons on diffusion, and for letting us use, discard, and pick back up the viscosity model. To Sally Oey, thanks for taking the plunge into this thesis, and for reminding me that not everyone is a geologist. To Chris Hall, thanks for teaching me how to process my argon dates, more than once, and for stepping in, and stepping up so last-minute that I'm still amazed by your colossal effort. Of all those in the department who are not on my committee, I owe the greatest thanks to Carl Henderson – microprobe genius with the patience of Job. Without you and your painstaking efforts to teach me how to use that machine, more than once, this thesis would have never come about..

To my friends in the Geology Department, I owe you so much. Thanks especially to my commiserating office-mate of the last three years, Chris Stefano. Your willingness to listen in and give guidance during my own academic trials and tribulations, while going through many of the same yourself, has been invaluable. I have learned (and probably forgotten) more about rare minerals, e-commerce, and ethnic cooking from

talking to you that I ever imagined possible. Hopefully, my own random ramblings about politics, elections, and some of the best and worst movies ever made were just as tolerably received.

To my other fellow petrology graduate students – Mary Catherine O'Leary, Xuan Guo, and Laura Waters – thank you for your support. Although I had to suffer at times through hours/days/weeks of unsuccessful experiments and analyses on the piston cylinder and microprobe, just knowing that you were in the same boat more often than not made even the most dispiriting failures tolerable, and even amusing.

To my non-geology friends, particularly those in the UM Graduate Christian Fellowship, thank you for keeping me sane, and inspired. Your prayers and your presence in my life have meant more than you will ever know. To those of you who offered to informally read through and critique my papers, knowing full-well that they were about geologic principles that went far over your own heads, I thank you. To those of you who actually managed to plow through the papers – Paul, Katherine, Chris, Martha, and Ashley, I remain amazed, and grateful.

I wouldn't be where I am today if not for three instructors who had the most profound impact on my life. To my F&M advisor, Stan Mertzman, thanks for showing me how amazing volcanic geology and geochemistry could be, and thanks all the more for making me take one more shot at grad school, even in the face three rejection letters. To my high-school earth science teacher, thanks for giving me that B-, and giving me something to prove. Sorry, but to me, you'll always be Mr. Yarnell. To Dr. Diane Meily, thanks for pushing me so hard, and for showing me that it's not enough to just know

something. You have to know why you know it, and why anyone else should ever care. Wherever you are up in heaven, I hope you're smiling today.

Last, but far from least, thank you to my family back home in Pennsylvania, both blood-relatives and kin. More times that I want to admit, you believed in me more than I believed in myself. Even at those times when the light at the end of the tunnel seemed to be growing dimmer, you knew that I'd make it. To my sister and brother-in-law – my favorite meteorologists – I'll make geologists of your kids, yet. For my mom and dad especially, I have been grateful beyond words for your unfailing love and support. You've given me so much. Hopefully now I'll be able to give you some of the thanks you deserve.

To anyone else I may have missed, thank you!

TABLE OF CONTENTS

DEDICATION ii

ACKNOWLEDGEMENTS iii

LIST OF FIGURES vii

LIST OF TABLES x

LIST OF APPENDICES xi

ABSTRACT xii

CHAPTER

1. INTRODUCTION 1

2. CRYSTAL-POOR ANDESITES AND DACITES: COMPLEX PETROGRAPHY CAUSED BY DEGASSING-INDUCED RAPID CRYSTALLIZATION 13

3. THE EFFECT OF DEGASSING, CRYSTALLIZATION, AND DIFFERENTIATION ON THE OXIDATION STATE OF HYDROUS ARC MAGMAS 91

4. THE PETROLOGIC HISTORY OF THE SANGANGUEY VOLCANIC FIELD, NAYARIT, MEXICO: COMPARISONS IN A SUITE OF CRYSTAL-RICH AND CRYSTAL-POOR LAVAS ERUPTED SINCE 300 KYA 125

5. CONCLUSIONS 203

APPENDICES 216

LIST OF FIGURES

Figure
1.1 Map of Tepic-Zacoalco rift zone 9
2.1 Location map for samples in this study 49
2.2 Cross-polar photomicrographs (2.5x) and corresponding aluminum element maps of the groundmass for (a) TAN-13, (b) TEQ-66, and (c) TEQ-34 50
2.3 Histograms of plagioclase phenocryst and microlite analyses, as a function of %An. 51
2.4 Histograms of orthopyroxene and clinopyroxene phenocryst analyses, as a function of Mg#. 52
2.5 Plot of temperature obtained from two Fe-Ti oxides vs. SiO_2 content of sample 53
2.6 (a) Range of analyzed plagioclase compositions (%An) plotted as a function of An# of the liquid; (b) Range of analyzed orthopyroxene compositions (Mg#) plotted as a function of Mg# of the liquid 55
2.7 BSE images of six plagioclase crystals (A-F) in sample TEQ-34 57
2.8 BSE images of six plagioclase crystals (A-F) in sample TEQ-66 59
2.9 BSE images of six plagioclase crystals (A-F) in sample TAN-13 61
2.10 BSE images of six orthopyroxene crystals (A-F) in sample TEQ-34 63
2.11 BSE images of six orthopyroxene crystals (A-F) in sample TEQ-66 65
2.12 BSE images from the literature that show dissolution of sodic plagioclase and re-crystallization of calcic plagioclase in experiments 66
2.13 BSE and photomicrograph images taken from the literature, which show diffusion-limited growth textures caused by large undercoolings 67
2.14 Schematic plot of the plagioclase binary loop projected from a magmatic liquid 68
2.15 (a) Plot of $RTlnD_{Ba}$ vs An (mol%); (b) Plot of $RTlnD_{Sr}$ vs. An (mol%) 69
2.16 Plot of Ba in plagioclase as a function of An (mol%) 70
2.17 Phase diagram for H_2O fluid-saturated andesite from experiments of Moore and Carmichael (1998) 71
2.18 (a) Schematic fluid-saturated plagioclase liquidus curve on a pressure vs. temperature plot; (b) Schematic plot of crystal growth rate and nucleation rate with degree of undercooling (ΔT) 73
2.19 A plot of melt viscosity during plagioclase growth for each sample as a function of wt% SiO_2 74
2.20 Plot of calculated values of $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid for the most Mg-rich and most Mg-poor crystals as a function of ΔNNO for each sample 75
2.21 Plot of $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid as a function of melt water concentration 77

3.1 Map of Tepic-Zacoalco rift zone. 103
3.2 Cross-polar photomicrographs (2.5x) and corresponding aluminum element maps of the groundmass for (a) TAN-13, (b) TEQ-66, and (c) TEQ-34 104
3.3 Plots of log $(X_{Mg}/X_{Mn})_{magnetite}$ vs. log $(X_{Mg}/X_{Mn})_{ilmenite}$ for all pairings of ilmenite and titanomagnetite with equilibrium test of Bacon and Hirschmann (1988) 105
3.4 Plots of oxygen fugacity (ΔNNO) vs. T (°C) calculated for all pairings of ilmenite and titanomagnetite 107
3.5 Histograms of ΔNNO and wt% FeO calculated for all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991) 109
3.6 Comparison plot of pre-eruptive wt% FeO vs. post-eruptive wt% FeO concentrations for all samples, with 1:1 correspondence line 113
3.7 Calculated uncertainty of ΔNNO due to change in 0.3 wt% FeO, plotted with respect to wt% FeO^T 114
3.8 Residual wt% FeO plotted as a function of pre-eruptive ΔNNO values....115
3.9 Concentrations (wt%) of H_2O, H_2, and FeO for sample TEQ-34 plotted as a function of a function of ΔNNO from ΔNNO -1 to ΔNNO +1....116
3.10 Histogram of pre-eruptive and post-eruptive ΔNNO values calculated in this study....117
3.11 Compiled pre-eruptive Fe^{3+}/Fe^T values plotted as a function of wt% SiO_2 from this study, Lewis-Kenedi *et al* (2005), Harris (1986), and Kelley and Cottrell (2009) 118
4.1 (a) Map of Tepic-Zacoalco rift zone; (b) Shaded digital elevation model of Volcan Sanganguey with sampleo locations for this study....164
4.2 Comparison images of crystal-rich and crystal-poor andesite and dacite from this study of similar compositions....165
4.3 Map of dated and undated samples from Volcán Sanganguey region....166
4.4 Histograms of plagioclase phenocryst compositions (%An)....167
4.5 Histograms of pyroxene compositions (Mg#) 168
4.6 (a) Range of analyzed plagioclase acompositions (%An) plotted as a function of An# of the liquid for each sample; (b) Range of analyzed orthopyroxene compositions (Mg#) plotted as a function of Mg# of the liquid for each sample....170
4.7 BSE images of six plagioclase crystals (A-F) in sample XAL-106....172
4.8 BSE images of six plagioclase crystals (A-F) in sample XAL-134....174
4.9 BSE images of six plagioclase crystals (A-F) in sample XAL-109....176
4.10: BSE images of six plagioclase crystals (A-F) in sample XAL-103....178
4.11 BSE images of six orthopyroxene crystals (A-F) in xample XAL-106....180
4.12 BSE images of four pyroxene crystals (A-D) in sample XAL-134....181
4.13 BSE images of six orthopyroxene crystals (A-F) in sample XAL-109 183
4.14 BSE images of four orthopyroxene crystals (A-D) in sample XAL-103....184
4.15 BSE images from the literature that show dissolution of sodic plagioclase (out of equilibrium) and re-crystallization of calcic plagioclase (in equilibrium) in experiments 185
4.16 BSE and photomicrograph images taken from the literature, which show rapid crystal-growth textures caused by large undercoolings....186

4.17 Phase diagram for H_2O fluid-saturated andesite from experiments of Moore and Carmichael (1998).....187
4.18 Estimated times for homogenization of orthopyroxene phenocrysts, applying the equation of Ganguly and Tazzoli (1994) 188
4.19 Ages, H_2O concentrations, and T plotted relative to wt% SiO for samples from this study and Nelson and Livieres, 1986 189
5.1 Phase diagram for H_2O fluid-saturated andesite from experiments of Moore and Carmichael (1998), with adiabatic ascent paths for two samples from this study 211
5.2 Comparison plot of pre-eruptive wt% FeO vs. post-eruptive wt% FeO concentrations for all samples, with 1:1 correspondence line 212
5.3 Compiled pre-eruptive Fe^{3+}/Fe^{T} values plotted as a function of wt% SiO_2 from this study, Lewis-Kenedi *et al* (2005), Harris (1986), and Kelley and Cottrell (2009) 213
5.4: Comparison of a) maximum observed wt% H_2O, b) temperature (°C) , and c) ΔNNO from all samples featured in this study plotted as a function of wt% SiO_2. 221

LIST OF TABLES

2.1 Bulk compositions and modal petrography 78

2.2 Average Fe-Ti oxide compositions....79

2.3 Minimum and maximum %An plagioclase compositions....80

2.4 Minimum and maximum Mg# orthopyroxene compositions 81

2.5 Ba and Sr data from plagioclase 82

2.6 Free energy values of hydration reactions 83

3.1 Bulk compositions and modal petrography 119

3.2 Compiled wt% FeO analyses from this study....120

3.3 Average Fe-Ti oxide compositions....121

4.1 Bulk compositions and modal petrography 190

4.2.1 Geochronology data passing all stated criteria 191

4.2.2 Geochronology data not passing all stated criteria 191

4.3 Average Fe-Ti oxide compositions....192

4.4 Minimum and maximum %An plagioclase compositions....193

4.5 Minimum and maximum Mg# orthopyroxene compositions 194

4.6 Average concentrations of selected trace elements 195

LIST OF APPENDICES

APPENDIX A	Major and trace element concentrations in analyzed samples	216
APPENDIX B	Compositional analyses of plagioclase crystals	223
APPENDIX C	Compositional analyses of orthopyroxene crystals	317
APPENDIX D	Compositional analyses of clinopyroxene crystals	364
APPENDIX E	Compositional analyses of ilmenite crystals	373
APPENDIX F	Compositional analyses of titanomagnetite crystals	377
APPENDIX G	Major and trace element concentrations in plagioclase, defined by laser-ablation ICP-MS	382
APPENDIX H	Plots of results from iterated pairings of Fe-Ti oxides	387
APPENDIX I	Compositional analyses of plagioclase and pyroxene crystals plotted with respect to distance across each crystal	396
APPENDIX J	BSE images of selected plagioclase and pyroxene crystals	401
APPENDIX K	Geochronology results from the Sanganguey volcanic field, Nayarit, Mexico	444

Abstract

The Effect of Degassing of H_2O on Crystallization and Oxidation in Subduction-Zone Magmas: Implications for the Origin of Andesite in Continental Arcs

The volcanic arcs above subduction zones provide a window into the magmatic processes that create continental crust. The lavas erupted at arcs may span the compositional range from basalt to rhyolite, but the dominant lava types are andesite and dacite, which are intermediate in SiO_2 content (57-69 wt%). In this thesis, two common hypotheses for the origin of intermediate magmas in the Mexican volcanic arc are examined: (1) mixing between basalt/basaltic andesite and dacite/rhyolite to form andesite, and (2) crystal fractionation from andesite in the upper crust to form dacite. In addition, the effect of degassing on the oxidation state of arc magmas is evaluated.

In Chapter 2, the phenocryst assemblages in seven crystal-poor (< 5%) andesite and dacite samples are examined. A wide compositional range for plagioclase and pyroxene in each sample is found, along with reverse zoning. Both are features that have previously been interpreted as evidence of mixing between disparate magma types. Through application of Fe-Ti oxide thermometry and plagioclase-liquid hygrometry, it is shown that the crystal compositions and textures are best explained by volatile degassing during magma ascent rather than magma mixing.

In Chapter 3, the effect of extensive degassing on the oxidation state of intermediate magmas is evaluated. Pre-eruptive Fe^{2+} concentrations were determined for 12 andesite and dacite magmas that initially contained 8-3 wt% H_2O, and were compared

to their post-eruptive Fe^{2+} concentrations after extensive degassing; there is no difference within analytical error, nor is there any evidence of a systematic variation in Fe^{3+}/Fe^{T} ratios with differentiation. The results show that the relatively oxidized character of subduction-zone magmas is inherited from their mantle source.

In Chapter 4, the eruptive history of the large stratovolcano, Volcán Sanganguey, and its surrounding peripheral vents is examined. Andesite and dacite are the most voluminous types, followed by alkaline basalts. Ar geochronology, whole-rock compositions, and an assessment of pre-eruptive magmatic water concentrations and temperatures are used to show that the andesites cannot be explained by magma mixing between the basalt and dacite, and that the dacites cannot be derived from the andesite by crystal fractionation in the upper crust.

Chapter 1

Introduction

The volcanic arcs above subduction zones provide a window into the magmatic processes that create continental crust. The lavas erupted at arcs may span the compositional range from basalt to rhyolite (50-77 wt% SiO_2), but the dominant lava types are andesite and dacite, which are intermediate in SiO_2 content (57-69 wt%). Although it has long been recognized that andesite is one of the most common magma types erupted at subduction zones and is relatively rare at other tectonic settings, there continues to be a confusing array of different models to explain both its origin and its unique abundance at convergent margins. End-member processes that are most frequently invoked include: (1) crystal fractionation of hydrous basalt (in the upper, middle, and/or lower crust; e.g., Grove *et al*., 2005); (2) partial melting of hydrated, mafic lower crust (e.g., Borg and Clynne, 1998); (3) magma mixing of basalt with rhyolite/dacite (e.g., Singer *et al*., 2008; Reubi and Blundy, 2008), and (4) assimilation of granitoid upper crust by basalt/basaltic andesite (e.g., McBirney *et al*., 1987; Grove *et al*., 1988). In this thesis, results are presented that permit the magma-mixing and assimilation hypotheses for the origin of andesite to be critically evaluated. In addition, data are presented to evaluate whether dacite is formed from andesite by crystal fractionation in the upper crust. These new data are obtained by focusing attention on andesite and dacite lavas erupted from small, short-lived monogenetic vents and then comparing them to similar lavas erupted from a large, central volcano.

At most volcanic arcs, large stratovolcanoes, such as Mts. Rainier, Mazama (Crater Lake), and Shasta in the Cascades, and Volcáns Tequila and Ceboruco in the Mexican arc, dominate both the physical landscape and the body of published research on the origin of andesite and dacite at subduction zones (e.g., Williams, 1942; Crandell, 1969; Nelson, 1980; Wallace and Carmichael, 1994; Chertkoff and Gardner, 2004; Grove *et al*., 2005; Bacon and Lanphere, 2006). There are several major characteristics which most of these large edifices have in common with each other. (1) The lavas tend to be andesites and dacites (~58-69 wt% SiO_2); in other words, they are intermediate in composition. (2) The lavas tend to be highly crystalline: >20-30% phenocrysts. (3) The main phenocrysts in these lavas (plagioclase and pyroxene) often span a wide range of composition within a single sample. 4) The plagioclase and pyroxene textures are complex and typically display both normal and reverse zoning; they are often riddled with melt inclusions. 5) The melt inclusions in plagioclase and pyroxene have H_2O concentrations that range from 2-6 wt%, significantly higher than those found in melt inclusions in lavas from mid-ocean ridges and intraplate settings (e.g., Wallace, 2005).

These observations have led to a commonly proposed hypothesis that many andesites erupted at large stratovolcanoes may form by mixing between basaltic and dacitic/rhyolitic magmas and/or assimilation of granitoid by basalt, usually within an upper crustal magma chamber. The complex crystal textures and compositional zoning patterns, along with the wide range in crystal compositions, have been viewed as compelling evidence in support of the magma-mixing and/or assimilation hypotheses to form andesite. Water is often envisioned as playing a unique role in forming andesite by

reducing melt viscosities and facilitating magma mixing between the disparate end member compositions. In this thesis, this common set of assumptions is challenged by focusing not on the large, majestic stratovolcanoes that dominate the landscape at volcanic arcs, but instead by examining the lavas erupted from small, peripheral vents, which also erupt andesite and dacite.

Recently, ^{40}Ar-^{39}Ar geochronology and eruptive volume studies of volcanic arcs have not solely focused on the large, andesitic stratovolcanoes, but have expanded to include the surrounding domes, shields, cinder cones and fissure-fed flows that erupt peripherally to the main, central edifices at subduction zones (e.g., Hildreth and Lanphere, 1994; Hildreth *et al*., 2003; Lewis-Kenedi *et al*., 2005; Frey *et al*., 2010; Ownby *et al*., 2010). The lavas erupted from the peripheral vents span a range of compositions and crystallinity, including andesites and dacites that are notably phenocryst-poor (< 5 vol%). These crystal-poor samples are ideal for study because: (1) their bulk compositions closely approximate liquid compositions, (2) phenocryst-liquid equilibrium is readily evaluated, and (3) estimates of pre-eruptive melt water concentrations and temperatures from the phenocrysts are not complicated by the effects of long-term storage in an upper crustal magma chamber, where magmas can cool, extensively crystallize and mix with new magma inputs.

This dissertation focuses on andesites and dacites from the western Mexican continental arc, principally from small-volume flows erupted from peripheral vents surrounding large stratovolcanoes along the Tepic-Zacoalco rift zone (Fig. 1.1). The TZR is the SE-NW arm of a triple-rift that also includes the N-S trending Colima rift and the E-W trending Chapala rift. A series of large stratovolcanoes have formed along the

TZR in response to subduction of the Rivera microplate, part of the former Farallon Plate, beneath the western margin of the North American plate (Fig. 1.1). Andesite and dacite dominate the volume of many of these large stratovolcanoes (e.g., Frey *et al*., 2004; Lewis-Kenedi *et al*., 2005; Ownby *et al*., 2007). Peripheral, small-volume, crystal-poor lavas have also been found around these same stratocones, and analysis of their petrology is the focus of Chapters 2 and 3. Chapter 4 focuses on a comparison between the crystal-rich and crystal-poor lavas erupted around one of these large stratovolcanoes, V. Sanganguey.

In Chapter 2, petrologic analyses are presented for a suite of seven crystal-poor andesite and dacite lavas (< 5 vol%) from the western Mexican arc, with samples peripheral to four separate stratovolcanoes (V. Sanganguey, V. Tequila, V. Ceboruco, and V. Tancítaro; Fig. 1.1). As previously noted, these crystal-poor samples are ideal for analysis of intensive variables related to phenocryst growth, as the bulk composition of each lava may be used as a proxy for the initial liquid from which the observed crystals were grown. Differences in temperature are understood to have a significant effect upon the composition of crystals grown from the magma. To address this concern, analysis of co-existing ilmenite and titanomagnetite crystals from each sample was undertaken, which allowed application of the Fe-Ti two-oxide thermometer (Ghiorso and Evans, 2008). The pre-eruptive oxygen fugacity of each magma was also obtained by the equilibrium between ilmenite and titanomagnetite.

Plagioclase and pyroxene crystal compositions were analyzed with the electron microprobe and their textures were documented with back-scattered electron (BSE) imaging. Application of the plagioclase-liquid hygrometer of Lange *et al*. (2009) allowed

water concentrations in the melt phase at the time of initial plagioclase crystallization to be calculated, and maximum values from ~3 to ~8 wt% H_2O were found. As degassing is anticipated during the eruption of these arc magmas (e.g., Cashman and Blundy, 2000; Blundy and Cashman, 2005), an assessment of whether degassing during ascent is a reasonable mechanism for the generation of the observed range of phenocryst compositions and textures in each sample is warranted. In addition, an evaluation of whether dacitic magmas were generated through the crystal-fractionation of the andesitic magmas can be made. If such a mechanism were at work, then it may be expected that the dacites should have systematically lower H_2O concentrations than the andesites.

The effects of volatile degassing, and of closed-system crystallization and/or differentiation, on the oxidation state of these magmas are additionally addressed in Chapter 3. It has been suggested that degassing and crystallization of the bulk magma may result in a change in the oxidation state (e.g., Christie *et al*., 1986; Sisson and Grove, 1993). In this third chapter, quantification of the FeO concentration is completed for six of the samples discussed in Chapter 2, and six other samples erupted peripherally to V. Tequila previously examined by Lewis-Kenedi *et al*. (2005) and Frey and Lange (2010). These twelve samples include six andesites (60-63 wt% SiO_2) and six dacites (65-69 wt% SiO_2). These samples are all phenocryst-poor, but have groundmasses that range from glassy to finely crystalline. Application of the plagioclase-liquid hygrometer (Lange *et al*., 2009; see above) has indicated degassing of up to 8 wt% H_2O in these samples. Any significant oxidation caused by degassing should be plainly revealed by a comparison of the pre-eruptive and post-eruptive concentration of Fe^{2+} (wt% FeO) in each sample.

Post-eruptive concentrations of Fe^{2+} were analyzed by direct titration (Reichen and Fahey, 1962) and back-titration (Wilson, 1960), calibrated against certified standards from the Canadian Geological Survey (SY-4) and United States Geological Survey (BIR-1, W-2, QLO-1). Pre-eruptive Fe^{2+} concentrations were calculated by analysis of two Fe-Ti oxides (see above) and application of the oxygen barometer of Ghiorso and Evans (2008). The model equation of Kress and Carmichael (1991) was then used to convert measures of melt oxygen fugacity, temperature and bulk composition to melt ferric-ferrous values.

The effect of closed-system crystallization on the bulk ferric-ferrous ratio was assessed in order to resolve the open question of whether the model of Kress and Carmichael (1991), which was calibrated on 100% quenched glasses, can be applied to samples that are partially crystalline. This assessment is made through a comparison of pre- and post-eruptive Fe^{2+} concentrations in samples that have groundmasses that range from nearly completely crystallized to nearly completely glassy.

In order to quantify the effect of differentiation on the oxidation state of calc-alkaline magmas, pre-eruptive Fe^{+3}/Fe^{T} ratios from the andesites and dacites in this study are compared to those in a suite of rhyolites in the region (Harris, 1986), as well as to Fe^{3+}/Fe^{T} ratios in arc basalts and basaltic andesites, as measured by Kelley and Cottrell (2009) in olivine-hosted melt inclusions. Any significant increase in oxidation state as a result of differentiation should be revealed by a positive trend between the Fe^{3+}/Fe^{T} ratio and the bulk liquid SiO_2 content.

In Chapter 4, comparisons between suites of phenocryst-rich and phenocryst-poor samples are considered, again with the intent of assessing the potential mechanisms to

generate andesitic and dacitic magmas. All eight samples featured in this chapter were taken from the main edifice of Volcán Sanganguey, a large, dominantly andesitic stratovolcano along the TZR (see Fig 1.1), or from small-volume flows and cones erupted peripherally to this main edifice. In a similar fashion to those already completed for the two phenocryst-poor samples featured in this chapter, petrologic analyses of six crystal rich (≥ 25 vol%) samples – four dacites, two andesites – were undertaken. As with the phenocryst-poor samples (see Ch. 2), the focus was on quantitative analysis of the magmatic temperatures, ranges of compositions and textures observed in the Fe-Ti oxides, plagioclase, and pyroxene crystals in these phenocryst-rich specimens, and the pre-eruptive concentration of water in each sample. New eruption ages were also determined by $^{40}Ar/^{39}Ar$ geochronology for a suite of 22 samples from the Sanganguey volcanic field, including those eight that are the focus of this chapter.

The electron microprobe was again employed to document the range of compositions and textures for the crystals in these lavas, just as for the phenocryst-poor specimens. Quantification of the magmatic temperature and oxidation state for each sample was accomplished by applying the Fe-Ti two oxide model of Ghiorso and Evans (2008). As reported in the literature for other large stratovolcanoes, substantial compositional variation among the plagioclase and pyroxene grains in each crystal-rich sample was expected, and found (e.g., Luhr, 2000). Here, an evaluation is made of whether this was caused by magma mixing between mafic and felsic magmas or, alternatively, by degassing of water during magma ascent. A further evaluation assesses whether the dacites from V. Sanganguey were derived from the andesites by crystal fractionation in the upper crust. Specifically examined is whether the dacites have

systematically lower H_2O concentrations compared to the andesites, which may be expected if the dacites are formed by extraction of interstitial liquid after degassing-induced crystallization of the andesites.

One final assessment of whether magma mixing or crystal-fractionation are necessarily dominant forces in generating the andesite and dacite lavas at V. Sanganguey can be made by comparison of the trace element abundances between the andesites and the locally-erupted end-member lavas – calc-alkaline dacites and alkaline olivine basalts. While there may yet be other mafic inputs lower in the crust that could contribute to magma mixing, an assessment based upon those magma compositions known to be locally present would still give an indication of whether magma mixing or crystal-fractionation is a dominant process in generating the andesite observed as having erupted throughout the Sanganguey volcanic field, including from the main edifice, Volcán Sanganguey. If either mechanism is at work, then they would be revealed by generally continuous trends of trace element concentrations with respect to the SiO_2 contents of the analyzed samples.

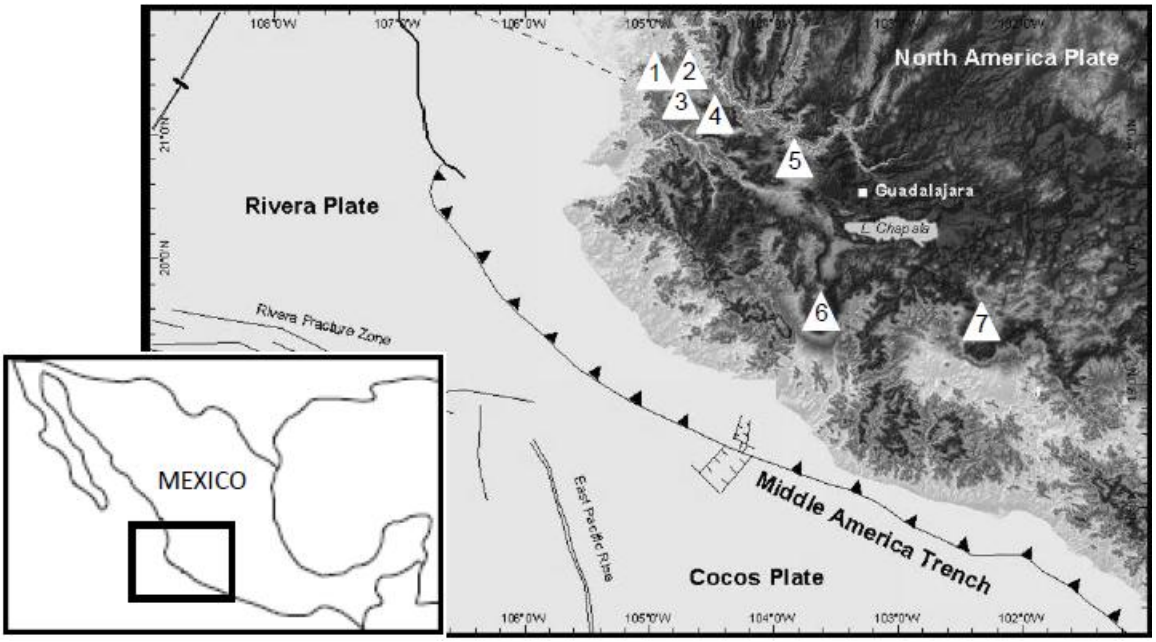


Figure 1.1: Map of Tepic-Zacoalco rift zone. Numbered triangles denote major calc-alkaline stratovolcanoes in the western Mexican arc: (1) Volcán San Juan, (2) Volcán Sanganguey, (3) Volcán Tepitiltic, (4) Volcán Ceboruco, (5) Volcán Tequila, (6) Volcán Colima, (7) Volcán Tancítaro.

REFERENCES

Bacon, C.R. and Lanphere, M.A., 2006, Eruptive history and geochronology of Mount Mazama and the Crater Lake region, Oregon: Geological Society of America Bulletin, v. 118, p. 1331-1359.

Blundy, J. and Cashman, K., 2005, Rapid decompression-driven crystallization recorded by melt inclusions from Mt. St Helens volcano: Geology, v. 33, p. 793-796.

Borg, L.E. and Clynne, M.A., 1998, The petrogenesis of felsic calc-alkaline magmas from the southernmost Cascades, California – Origin by partial melting of basaltic lower crust: Journal of Petrology, v. 39, p. 1187-1222.

Chertkoff, D.G. and Gardner, J.E., 2004, Nature and timing of magma interactions before, during and after caldera-forming eruption of Volcán Ceboruco, Mexico: Contributions to Mineralogy and Petrology, v. 146, p. 715-735.

Frey, H.M. and Lange, R.A., 2010, Petrologic diversity in andesites and dacites from the Tequila volcanic field, Mexico: resolving the effects of degassing vs. magma mixing: Contributions to Mineralogy and Petrology (accepted)

Cashman, K. and Blundh, J., 2000, Degassing and crystallization of ascending andesite and dacite: Philosophical Transactions of the Royal Society of London A., v. 358, p. 1487-1513.

Christie, D.M., Carmichael, I.S.E., and Langmuir, C.H., 1986, Oxidation states of mid-ocean ridge basalt glasses: Earth and Planetary Science Letters, v. 79, p. 397-411.

Crandell, D.R., 1969, The geologic story of Mount Rainier, A look to the geologic palst of one of America's most scenic volcanoes: U.S Geological Survey Bulletin, v. 1292.

Frey, H.M. and Lange, R.A., 2010, Petrologic diversity in andesites and dacites from the Tequila volcanic field, Mexico: resolving the effects of degassing vs. magma mixing: Contributions to Mineralogy and Petrology (accepted)

Ghiorso M and Evans B (2008) Thermodynamics of rhombohedral oxide solid solutions and a revision of the Fe-Ti two-oxide geothermometer and oxygen barometer. American Journal of Science, v. 308, p. 957-1039.

Grove, T.L., Baker, M.B., Price, R.C., Parman, S.W., Elkins-Tanton, L.T., Chatterjee, N., and Müntener, O., 2005, Magnesian andesite and dacite flows from Mt. Shasta, northern California: products of fractional crystallization of H_2O-rich mantle melts: Contributions to Mineralogy and Petrology, v. 148, p. 542-565.

Grove, T.L., Kinsler, R.J., Baker, M.B., Donnelly-Nolan, J.M., and Lesher, C.E., 1988, Assimilation of granite by basaltic magma at Burnt Lava Flow, Medicine Lake volcano, northern California: Contributions to Mineralogy and Petrology, v. 99, p. 320-343

Hildreth, W., 2007, Quaternary magmatism in the Cascades: Geologic perspectives: U.S. Geological Survey, Professional Paper 1744, 136 p.

Hildreth, W. and Lanphere, M., 1994, Potassium-Argon geoghronology of a basalt-andesite-dacite arc system – The Mount Adams volcanic field, Cascades Range of southern Washington: Geological Society of America Bulletin, v. 106, p. 1413-1429.

Hildreth, W., Fiersten, J., and Lanphere, M., 2003, Eruptive history and geochronology of the Mount Baker volcanic field, Washington: Geological Society of America Bulletin, v. 115, p. 729-764.

Kress, V. C. and Carmichael, I. S. E., 1991, Stoichiometry of the iron oxidation reaction in silicate melts: American Mineralogist, v. 73**,** p. 1267-1274.

Lewis-Kenedi, C.B., Lange, R.A., Hall, C.M., and Delgado-Granados, H., 2005, The eruptive history of the Tequila volcanic field, western Mexico: ages, volumes, and relative proportions of lava types: Bulletin of Volcanology, v. 67, p. 391-414.

Luhr, J.F., 2000, The geology and petrology of Volcán San Juan (Nayarit, Mexico) and the compositionally zoned Tepic Pumic: Journal of Volcanology and Geothermal Research, v. 95, p. 109-156.

McBirney, A.R., Taylor, H.P., and Armstrong, R.L., 1987, Paricutin re-examined: A classical example of crustal assimilation in calc-alkaline magma: Contributions to Mineralogy and Petrology, v. 95, p. 4-20.

Nelson, S.A., 1980, Geology and petrology of Volcán Ceboruco, Nayarit, Mexico: Geological Society of America Bulletin, v. 91, p. 639-643.

Ownby, S.E., Lange, R.A., Hall, C.M., and Delgado-Granados, H., Origin of andesite in the deep crust and eruption rates in the Tancítaro-Nueva Italia region of the central Mexican arc: Geological Society of America Bulletin (accepted).

Reichen LE and Fahey JJ (1962) An improved method for the determination of FeO in rocks and minerals including garnet. U.S. Geological Survey Bulletin, v. 1144B, p 1-5.

Reubi, O. and Blundy, J., 2008, Assimilation of plutonic roots, formation of high-L 'exotic' melt inclusions and genesis of andesitic magmas at Volcán de Colima, Mexico: Journal of Petrology, v. 49, p. 2221-2243.

Sisson, T.W. and Grove T.L., 1993, Experimental investigations of the role of H_2O in calc-alkaline differentiation and subduction zone magmatism: Contributions to Mineralogy and Petrology, v. 113, p. 143-166.

Wallace, P.J. and Carmichael, I.S.E., 1994, Petrology of Volcán Tequila, Jalisco, Mexico: disequilibrium phenocryst assemblages and evolution of the subvolcanic magma system: Contributions to Mineralogy and Petrology, v. 117, p. 345-361.

Wallace, P.J., 2005, Volatiles in subduction zone magmas: concentrations and fluxes based on melt inclusion and volcanic gas data: Journal of Volcanology and Geothermal Research, v. 140, p. 217-240.

Williams, H., 1942, The geology of Crater Lake National Park, Oregon, with a reconnaissance of the Cascade Range southward to Mount Shasta: Carnegie Institute of Washington Publication 540.

Wilson, A.D. 1960, The microdetermination of ferrous iron in silicate minerals by a volumetric and a colorimetric method: Analyst, v. 85, p. 823-827.

Chapter 2

Crystal-Poor Andesites and Dacites: Complex Petrography Caused by Degassing-Induced Rapid Crystallization

ABSTRACT

A detailed petrologic study of seven phenocryst-poor andesites and dacites erupted from short-lived, monogenetic, peripheral vents in the Mexican volcanic arc is presented. Despite low phenocryst (+ microphenocryst) abundances (< 5%), these magmas were each multiply-saturated with five to seven mineral phases (plagioclase + orthopyroxene + titanomagnetite + apatite + ilmenite ± clinopyroxene ± hornblende ± biotite). Groundmass textures range from nearly complete glass to nearly complete microlite crystallization. Eruptive temperatures, on the basis of Fe-Ti two oxide thermometry, range from 872 (±13) to 1085 (±16) °C for the andesites and 760 (±18) to 957 (±19)°C for the dacites. Corresponding oxygen fugacities range from -0.9 to + 0.6 log units relative to the Ni-NiO buffer. With temperature known, the plagioclase-liquid hygrometer was applied to the sparse plagioclase phenocrysts in each sample; the highest calculated water concentrations range from 6.5 to 2.7 wt% H_2O for the andesites and from 8.4 to 4.4 wt% H_2O for the dacites. These results require that the magmas were fluid-saturated at depths >9 and >12 km, respectively, for the most hydrous andesite and dacite. The plagioclase population in each sample spans a wide range in composition (≤ 36 mol% An), which can be attributed to the effects of changing melt water concentration due to degassing during magma ascent. The orthopyroxene population in each sample

also spans a wide range in composition (≤ 17 % Mg#), and it is proposed on the basis of phase equilibrium experiments from the literature that this also reflects variable melt water concentrations, with higher water leading to more Fe-rich orthopyroxene. Degassing leads to a progressive increase in melt viscosity, and the phenocrysts crystallized over an interval of ~2.4-4.4 $\log_{10}$Pa-s in these samples. The phenocrysts often display diffusion-limited growth textures (e.g., skeletal and hopper crystals, large interior melt hollows) consistent with large undercoolings caused by degassing, which has produced a complicated petrography in these crystal-poor hydrous magmas, including reverse and patchy zoning in plagioclase and pyroxene.

INTRODUCTION

Andesite and dacite are common magma types erupted at continental arcs, especially from large, composite stratovolcanoes. For example, in the western Mexican volcanic arc there are several stratovolcanoes (Volcáns San Juan, Sanganguey, Tepetiltic, Ceboruco, Tequila, Colima, and Tancítaro; Fig. 2.1) that have primarily erupted andesite ± dacite. These intermediate magmas are phenocryst-rich (25-45%) and display complex petrographic features. Frequently, within a single sample, the plagioclase and pyroxene phenocrysts span a wide range of compositions, display both normal and reverse zoning, and have textures variably described as sieved, dusty, honeycomb, patchy, resorbed, and corroded (e.g., Luhr and Carmichael, 1980; Nelson 1980; Nelson and Livieres, 1986; Wallace and Carmichael, 1994; Luhr, 2000; Chertkoff and Gardner, 2004; Reubi and Blundy, 2008). These petrographic complexities have led these researchers to conclude that mixing between magmas of distinctly different bulk compositions (e.g., basalt vs. andesite vs. dacite), and/or the incorporation of xenocrystic

material, is a common phenomenon in the magmatic evolution of andesite. In this study, we evaluate whether complex phenocryst textures and compositional zoning patterns can additionally form by degassing-induced crystallization.

The loss of water during decompression of fluid-saturated magmas has long been recognized as an important driving force for syn-eruptive microlite crystallization (e.g., Cashman, 1992; Geschwind and Rutherford, 1995; Wolf and Eichelberger, 1997; Hammer *et al.,* 1999; Hammer *et al.,* 2000; Piochi *et al.,* 2005; Clarke *et al.,* 2007), with implications for the dynamics of magma ascent and eruption style. Several experimental studies have explored the kinetics of degassing-induced microlite crystallization, which can lead to skeletal, dendritic (swallow tails) and hopper textures (Hammer and Rutherford, 2002; Couch *et al.,* 2003; Martel and Schmidt, 2003; Szramek *et al.,* 2006; Suzuki *et al.,* 2007). Degassing-induced crystallization can also affect *phenocryst* growth (e.g., Anderson, 1984; Sisson and Grove, 1993; Moore and Carmichael, 1998; Brophy *et al.,* 1999; Cashman and Blundy, 2000; Carmichael, 2002; Blundy and Cashman, 2005; Genareau *et al.,* 2007: McCanta *et al.,* 2007), and the question arises whether complex petrographic features can form in *phenocrysts* as a consequence of large undercoolings that can occur during the rapid ascent fluid-saturated magmas. A progressive loss of water is expected to change the equilibrium plagioclase to more sodic compositions (e.g., Sisson and Grove, 1993) and to increase melt viscosity, and thus chemical diffusivity; the latter will promote diffusion-limited crystal growth mechanisms. Therefore, degassing-induced crystallization has the potential to produce complex textures and compositional zoning patterns in phenocrysts.

In this study, the role of degassing-induced crystallization of phenocrysts is evaluated through a petrologic study of four andesite and three dacite samples from the western Mexican arc. These lavas contrast with those erupted from large, composite stratovolcanoes in that they are phenocryst-poor (1-5 vol% crystals) and were erupted from small, short-lived, monogenetic vents. Their eruption from peripheral vents minimizes the potential effects of large-scale, open-system magma mixing, which is common in the plumbing system beneath large stratovolcanoes. The phenocryst-poor nature of these samples permits a straightforward application of the plagioclase-liquid hygrometer (Lange *et al.*, 2009), which is difficult to apply to magmas that are 25-50% crystallized and may have had a complex history of open-system mixing.

GEOLOGICAL SETTING

The seven samples from this study are located within the western half of the TransMexican Volcanic Belt, which is associated with subduction of the Rivera and Cocos Plates beneath the North American Plate (Fig. 2.1). The lavas were all erupted from peripheral vents broadly adjacent to four large, composite stratovolcanoes (Fig. 2.1). Of the seven sample locations (latitude and longitude are listed in Table 2.1), two (XAL-106 and XAL-134) are peripheral to Volcán Sanganguey (Nelson and Livieres, 1986), two (IXT-11 and IXT-21) are peripheral to Volcán Ceboruco (Frey *et al.*, 2004), two (TEQ-34 and TEQ-66) are peripheral to Volcán Tequila (Lewis-Kenedi *et al.*, 2005), and one (TAN-13) is peripheral to Volcán Tancítaro (Ownby *et al.*, 2007). An overview of the tectonic setting of the western half of TransMexican Volcanic Belt is found in Frey *et al.*, (2007) and Ownby *et al.*, (2009), and references therein.

GEOCHEMISTRY AND PETROGRAPHY

The seven samples were crushed and powdered using a steel jaw crusher and an alumina/ceramic shatter box, and then analyzed for major and trace elements by X-ray fluorescence at Franklin & Marshall College, Pennsylvania. In addition, ferrous iron was measured by the Wilson (1960) titration method, in duplicate, along with a Canadian Survey standard, SY-4; the two titrated values of wt% FeO for SY-4 (2.94 and 2.87) match the certified value (2.86 ± 0.09). The whole-rock major elements are reported in Table 2.1, along with Ba and Sr concentrations. A complete list of trace element data is available in Appendix A. The seven samples include three dacites (68.5-67.1 wt% SiO_2) and four andesites (63.0-61.1 wt% SiO_2), and are listed in order of decreasing SiO_2 wt%.

The samples contain five to seven mineral phases (plagioclase + orthopyroxene + titanomagnetite + apatite + ilmenite ± clinopyroxene ± hornblende ± biotite). Crystal abundances were determined by point counting (≥ 1500-2000 points) across a standard petrographic thin section in replicate, and the average is reported in Table 2.1. The total phenocryst abundance (phenocrysts > 200 μm length; microphenocrysts > 50 μm length) is low, ranging from 5.0 to 1.6 %. In all cases, plagioclase is dominant, comprising 45-88% of the phenocryst assemblage. Orthopyroxene (0.1-0.6%) is the next most abundant and ubiquitous phase. Fe-Ti oxides, hornblende and biotite are tabulated without respect to size; apatite occurs primarily in the groundmass and is not tabulated. No grains of quartz, alkali feldspar, or olivine were found in any of the duplicate thin sections from the seven samples.

Photomicrographs of three representative samples (TAN-13, TEQ-66 and TEQ-34) illustrate the phenocryst-poor character of these samples (Fig. 2.2). Corresponding

Al (aluminum) element maps (600 μm x 600 μm) of their groundmass reveal a variation from nearly complete glass to nearly complete microlite crystallization (Fig. 2.2). The textures of the plagioclase and pyroxene phenocrysts are also variable and display euhedral, faceted forms, in addition to more complex shapes that include skeletal and swallow tail features, as well as rounded margins with protruding nubs. Melt channels, hollows and inclusions are often abundant. A detailed description of the crystal textures is given below in the section on BSE (back-scattered electron) images.

CRYSTAL COMPOSITIONS

Analytical Methods

Compositions of titanomagnetite, ilmenite, plagioclase and pyroxene crystals in each sample were analyzed with a Cameca SX-100 electron microprobe at the University of Michigan. A 15 kV accelerating potential was used in all analyses, with a beam current of 4 nA for the plagioclases and 15 nA for both the Fe-Ti oxides and pyroxenes. For the Fe-Ti oxides, their small size permitted only a few analyses per grain. For each plagioclase and pyroxene crystal, a long-axis transect from rim to rim was completed, with a regular spacing interval of approximately 7.5, 15, 30, or 60 microns depending on total crystal size. For the plagioclase, anorthite content was calculated as the molar ratio Ca/(Ca+Na+K) and is reported as mol%. For the pyroxene grains, the Mg# was calculated as the molar ratio Mg/(Mg+Fe) and is reported as a percentage.

Trace element analyses of the plagioclase crystals were performed using the laser ablation inductively coupled plasma mass spectrometer (LA-ICP-MS) at Oregon State University, using a laser spot size of 50 μm. Analyses were calibrated using the ^{43}Ca

peak in the sample, while regularly monitoring the BCR-2G, BHVO-2G, and NIST-612 standards.

Analytical Results

The average composition of titanomagnetite and ilmenite in each sample is shown in Table 2.2 for six of the seven samples; ilmenite grains large enough for analysis were not found in one andesite (TAN-13). All Fe-Ti oxide analyses are reported in Appendices E (ilmenite) and F (titanomagnetite). A plot of $\log(X_{Mg}/X_{Mn})$magnetite vs. $\log(X_{Mg}/X_{Mn})$ ilmenite for all possible magnetite-ilmenite pairs in each sample is shown in the Appendix H. None of the pairs deviate strongly from the equilibrium test proposed by Bacon and Hirschmann (1988).

Compositional analyses of the most Ca-rich and most Na-rich plagioclase in each sample are reported in Table 2.3 and those of the most Mg-rich and Fe-rich orthopyroxene in each sample are reported in Table 2.4, whereas all plagioclase, orthopyroxene and clinopyroxene analyses are reported in Appendices B, C, and D respectively. Plots that illustrate the compositional traverses across all analyzed plagioclase crystals are shown for all samples in Appendix I. The results illustrate that individual plagioclase crystals may be unzoned, reversely zoned, or normally zoned. The data in Fig. G.1 also illustrate that the plagioclase microphenocrysts span the same compositional range as the phenocrysts. Throughout the rest of this text, the term "phenocryst" will imply both phenocryst + microphenocryst, in contrast to groundmass microlites.

Compositions of plagioclase phenocrysts and microlites are presented in a histogram for each sample (Fig. 2.3). For six of seven samples, the histograms show a

similar pattern, where the plagioclase phenocrysts span a continuous range in composition, with a peak at the mid-range, and where the microlites are shifted to more sodic compositions. In contrast, andesite TAN-13 has a bimodal plagioclase population with two peaks at An_{84} and An_{63}; the microlites overlap with the more sodic peak. Similar histograms are presented for pyroxene phenocrysts in each sample (Fig. 2.4), although they are far less abundant compared to plagioclase.

The results summarized in Figs. 2.3 and 2.4 illustrate four notable features: (1) There is a wide compositional continuum recorded by both plagioclase (up to 36 An%) and orthopyroxene (up to 17% Mg#) phenocrysts despite their low overall abundances. (2) Six of seven plagioclase histograms display a peak in the phenocryst population at the middle of the compositional range. (3) The plagioclase microlites tend to be shifted to more sodic compositions compared to the phenocrysts. (4) Clinopyroxene, when present, always plots at the high end of the Mg# range for the orthopyroxenes.

The analyzed Ba and Sr concentrations from spot analyzes of plagioclase crystals in TEQ-34, TEQ-66 and TAN-13 are presented in Table 2.5, along with calculated partition coefficients for Sr and Ba:

$$D_{Ba} = \frac{Ba(ppm)^{plagioclase}}{Ba(ppm)^{liquid}}; \quad D_{Sr} = \frac{Sr(ppm)^{plagioclase}}{Sr(ppm)^{liquid}} \tag{2.1}$$

The partition coefficients are calculated on the assumption that whole-rock Ba and Sr concentrations correspond to liquid values, owing to the sparse phenocrysts. This assumption is tested later in this paper. For all three samples, D_{Ba} increases with decreasing X_{An}. For TAN-13 and TEQ-66, D_{Sr} increases slightly with decreasing X_{An}, whereas the opposite trend is observed for TEQ-34. The complete set of all analyzed trace elements in plagioclase is presented in Appendix G.

CALCULATION OF INTENSIVE VARIABLES

Temperature and Oxygen Fugacity

Temperature and oxygen fugacity (relative to the Ni-NiO buffer) were calculated for each of the six samples where two Fe-Ti oxides were analyzed, using the geothermometer and oxygen barometer of Ghiorso and Evans (2008). The average temperature and ΔNNO value ($\log_{10}fO_2$ of sample relative to that of the Ni-NiO buffer at the same temperature) were derived from all possible pairings of analyzed titanomagnetite and ilmenite compositions in each sample, and the results are summarized in plots of ΔNNO vs. temperature for each sample in Appendix H. Temperatures range from 760 (± 18) to 1085 (± 16) °C and ΔNNO values range from -0.9 (± 0.2) to +0.6 (± 0.1). These ΔNNO values, which are typical of arc magmas, can be used to calculate liquid Fe^{2+} concentrations (wt% FeO), using the empirically calibrated model of Kress and Carmichael (1991), which allows the melt ferric-ferrous ratio to be calculated when melt composition, temperature and oxygen fugacity are known. The average wt% FeO value in each sample obtained from the two Fe-Ti oxides closely matches that measured by titration (Table 2.1). In Appendix H, histograms of ΔNNO values based on all possible pairing of the two Fe-Ti oxides are presented for each sample, along with corresponding wt% FeO values.

Among the six samples, there is only a weak correlation between temperature and wt% SiO_2, but the correlation is stronger if the presence or absence of a hydrous phenocryst (hornblende or biotite) is taken into account (Fig. 2.5). In other words, those lavas that contain a hydrous phenocryst (hornblende/biotite) record a lower temperature relative to those that are free of any hydrous mineral phase. This result is consistent with

numerous phase equilibrium studies that document a thermal stability limit to hornblende and biotite in various andesite and dacite liquids (e.g., Eggler and Burnham, 1973; Moore and Carmichael, 1998; Holtz *et al.*, 2005). The relationship in Fig. 2.5 permits a temperature of ~925 ± 50 °C to be *estimated* for TAN-13, the one andesite sample in which ilmenite could not be analyzed. TAN-13 contains hornblende microphenocrysts, which imposes an upper temperature limit of 975 °C according to the hydrous phase equilibrium experiments of Moore and Carmichael (1998) on an andesite similar in composition to TAN-13.

Application of the Plagioclase-Liquid Hygrometer

The plagioclase-liquid hygrometer of Lange *et al.*, (2009) was employed to calculate pre-eruptive melt water concentrations in each sample. This hygrometer is calibrated on a data set that spans a wide range of liquid compositions (46-74 wt% SiO_2), plagioclase compositions (An_{93}-An_{37}), temperatures (825-1230°C), pressures (0-300 MPa), and dissolved melt water concentrations (0-7 wt%). The temperatures used in these calculations are those obtained from the Fe-Ti oxide geothermometer (Table 2.2). The effect of pressure on the plagioclase hygrometer is small (± 100 MPa corresponds to ± 0.1 wt% H_2O calculated in the melt; Lange *et al.*, 2009); therefore, calculations were made at a constant pressure of 100 MPa. Because the abundance of plagioclase is so sparse in each sample (1-4%), the bulk composition of each sample can be used as the liquid composition. The application of the plagioclase-liquid hygrometer is based on the assumption that the plagioclases are all phenocrysts and not xenocrysts; this assumption is tested later in this paper.

The results of these calculations are shown in Fig. 2.3, where wt% H_2O is shown on the plagioclase histograms. The maximum water concentrations for six of seven samples, calculated on the basis of the most calcic plagioclase in each sample, range from 6.4 to 2.7 wt% H_2O, which is well within the range documented from melt inclusions in various andesite and dacite liquids (e.g., Wallace, 2005 and references therein). In addition, one of the dacite samples (TEQ-34), with a temperature of 760 ± 18 °C (Table 2.2), records an even higher maximum concentration of 8.3-7.9 wt% for An_{45-35} phenocrysts, although both the low temperature and high maximum wt% H_2O involve a small extrapolation of the plagioclase-liquid hygrometer. However, the low temperature for this dacite magma (760 ± 18°C) is fully consistent with its saturation with biotite, for which a thermal stability limit of ~770°C in a similar dacite was documented by phase equilibrium experiments (Holtz *et al.*, 2005). From these experiments, it is also seen that a dacite magma at ~760°C requires initial water concentrations in excess of 7.5 wt% in order to be crystal-poor (<5 %).

The calculated wt% H_2O values in Fig. 2.3 are shown at the onset, peak, and end of plagioclase growth. Note that the effect on the hygrometer of *not* taking into account the effect of changing melt composition owing to extensive microlite plagioclase crystallization, namely lower CaO/Na_2O ratios, is to calculate melt water concentrations that are too *low*. Therefore, the wt% H_2O values calculated at the end of plagioclase growth, after extensive microlite crystallization, are minimum values only.

Calculation of Pyroxene-Liquid Fe-Mg K_D values

The analyzed compositions for the pyroxene crystals shown in Fig. 2.4 can be used to calculate a pyroxene-liquid $^{Fe\text{-}Mg}K_D$ value, where

$$K_D = \left(\frac{X_{MgO}}{X_{FeO}}\right)^{liquid}\left(\frac{X_{FeO}}{X_{MgO}}\right)^{crystal} . \quad (2.2)$$

Because there is such a sparse abundance of ferromagnesian minerals in each of the seven samples (< 1 % in six of seven samples; < 2 % in TEQ-66), and because the concentration of Fe^{2+} (wt% FeO) in the melt at the time of phenocryst growth is independently constrained by Fe-Ti oxide oxygen barometry (and matched by the titration results; Table 2.1), the concentration of MgO and FeO in the bulk sample can be used to reliably calculate the ratio of X_{MgO}/X_{FeO} in the liquid for use in Eqn. 2.2. The ratio of X_{FeO}/X_{MgO} in the crystal is obtained from the microprobe analyses of pyroxene, assuming all iron is FeO.

The calculated $^{Fe\text{-}Mg}K_D$ values are shown on the pyroxene histograms in Fig. 2.4. The results indicate that most of the $^{Fe\text{-}Mg}K_D$ values range from 0.16 to 0.49, with some extending above 0.5.

LIQUID VS. CRYSTAL COMPOSITIONS

The wide compositional variation documented for plagioclase and pyroxene in each sample raises the question of whether there is any correlation between the compositions of the phenocrysts and the liquid compositions, and whether there are any compositional outliers. This is evaluated in Fig. 6a, which shows a tight, linear correlation between the most sodic plagioclase in each sample and its liquid An% (defined in Table 2.1). There is also a broad, positive correlation between the most calcic plagioclase in each sample and its liquid An%, which overlaps the range of experimental phase equilibrium data (open circles in Fig. 2.6a) used to calibrate the plagioclase-liquid hygrometer of Lange *et al.* (2009). The overlap with the experimental data is consistent

with the interpretation that the most calcic plagioclase crystals in each sample are phenocrysts and therefore reliable indicators of maximum melt water concentrations. There are three possible explanations for why the sodic plagioclase crystals do not overlap with the experimental data: (i) they are xenocrysts, (ii) extensive microlite crystallization changes the liquid An%, and therefore, the value based on the bulk liquid may not be applicable to the more sodic crystals; and/or (iii) there is a paucity of sodic plagioclase-liquid equilibrium data because of kinetic problems associated with high melt viscosities, which increase when melts are more evolved (higher SiO_2) and have less water.

In addition to the correspondence between crystal and liquid compositions seen for plagioclase (Fig. 2.6a), there is also a broad, positive correlation between both the most Mg-rich and Mg-poor orthopyroxene in each sample and their liquid Mg# (Fig. 2.6b). Moreover, the wide compositional range in orthopyroxene in each sample overlaps the compositional range in orthopyroxenes from numerous phase equilibrium experiments (open circles in Fig. 2.6b) on hydrous andesite and dacite magmas, where oxygen fugacity was either buffered or monitored (Gardner *et al.,* 1995; Moore and Carmichael, 1998; Blatter and Carmichael, 1998; 2001; Martel *et al.,* 1999; Scaillet and Evans, 1999; Pichavant *et al.,* 2002; Grove *et al.,* 2003; Costa *et al.,* 2004; Holtz *et al.,* 2005). Superimposed on Fig. 2.6b are isopleths of constant $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid. The experimentally determined $^{Fe\text{-}Mg}K_D$ values span the range from 0.1 to 0.5 for hydrous andesites and dacites.

CRYSTAL TEXTURES: BSE IMAGES OF PLAGIOCLASE AND PYROXENE

In order to more fully explore the cause of the wide compositional variation among the plagioclase and orthopyroxene crystals in each sample, BSE (back-scattered electron) images of their textures are shown for a select set of plagioclase crystals from three samples (TEQ-34, TEQ-66, and TAN-13) in Figs. 2.7-2.9, each of which show a wide variation in plagioclase composition (Fig. 2.4). In Figs. 2.10 and 2.11, BSE images of orthopyroxene crystals in TEQ-34 and TEQ-66 are shown, as these two samples show the widest variation in orthopyroxene compositions (Fig. 2.4). BSE images of plagioclase and pyroxene for the remaining four samples are shown in Appendix J.

The BSE images in Figs. 2.7-2.11 (and those in Appendix J) clearly show that the plagioclase and pyroxene crystals in each sample often show complex textures, including faceted euhedral rims, rounded rims with protruding nubs, and abundant melt channels and hollows inside the crystals. The individual crystals also display complex compositional zoning patterns in the same thin section, including normal, reverse, and patchy, alongside other crystals with little zoning at all.

DISCUSSION

Experimental constraints on textures: resorption or diffusion-limited growth?

There are at least three interpretations for the development of the complex crystalline textures and zoning patterns seen in the BSE phenocryst images (Figs. 2.7-2.11): (i) resorption/dissolution of xenocrysts that were incorporated during magma mixing and/or assimilation (e.g., Kuo and Kirkpatrick, 1982; Kawamoto *et al.,* 1992; Streck, 2008), (ii) resorption/dissolution of phenocrysts owing to decompression under fluid-undersaturated conditions and/or an increase in melt temperature (e.g., Nelson and Montana, 1992; Humphreys *et al.,* 2006), and (iii) diffusion-limited crystal growth

induced by rapid and large undercoolings (e.g., Lofgren, 1974; Anderson, 1984; Kawamoto *et al.,* 1992). To facilitate the interpretation of the textural features seen in the BSE images (Figs. 2.7-2.11), comparisons can be made with crystal images obtained from crystal dissolution experiments (Fig. 2.12) and crystal growth experiments (Fig. 2.13).

Experiments on plagioclase xenocrysts: why calcic xenocrysts are resistant to dissolution

In Fig 2.12a, a BSE image from an experiment by Johannes *et al.* (1994) shows the dissolution of An_{66} under H_2O fluid-saturated conditions at 500 MPa and 1000°C, and its re-crystallization to the equilibrium composition of ~An_{89-93}. There is a clear reaction boundary along the crystal-melt interface, illustrating the combined effects of dissolution of the sodic xenocryst and re-precipitation of the equilibrium calcic plagioclase. Similarly, in Fig. 2.12b, a BSE image from an experiment by Nakamura and Shimakita (1998) shows the dissolution of An_{59} plagioclase in a melt in equilibrium with a more calcic plagioclase. These experiments are consistent with the earlier study of Tsuchiyama (1985), where plagioclase grains of different compositions were immersed in various host liquids, such that the plagioclase was either more sodic or more calcic than the equilibrium plagioclase. For those plagioclase crystals that were too sodic, a dissolution and recrystallization texture developed along their rims. In contrast, for those plagioclase grains that were too calcic, the interface between the crystal rim and liquid remained smooth; after 53-72 hours, sodic rims (~120-240 micron thick) formed. Experiments by Larsen (2005) confirm the lack of any reaction boundary when sodic plagioclase rims grew on calcic xenocrysts after 480 hours in a rhyodacite magma.

The reason why calcic xenocrysts do not react with melts, in contrast to the rapid dissolution of sodic plagioclase xenocrysts, is explained in Fig. 2.14, which is a schematic illustration of the binary plagioclase phase diagram, projected from a magma composition. Three equilibrium plagioclase compositions are shown along the solidus curve, An_{80}, An_{60} and An_{40}. The phase diagram clearly shows that under any condition where the xenocryst is more calcic than the equilibrium plagioclase, the xenocryst is always located in the crystal stability field. Therefore, the only mechanism available for re-equilibration to a more sodic composition is solid-state diffusion, which is slow for plagioclase. Therefore, there is no reaction and the equilibrium sodic plagioclase simply crystallizes along the margins of the calcic xenocryst, as confirmed by experiments (Tsuchiyama, 1985; Larsen, 2005). Conversely, under any condition where the xenocryst is more sodic than the equilibrium plagioclase, the xenocryst is always located in the liquid stability field or inside the plagioclase loop, where a reaction of melting and re-precipitation of the calcic plagioclase is predicted, and again confirmed by experiments (Tsuchiyama, 1985; Johannes *et al.*, 1994; Nakamura and Shimakita, 1998). The conclusion that can be drawn from Fig. 2.14, along with the dissolution experiments in Fig. 2.12, is that clear textural evidence of dissolution and/or resorption should be found whenever sodic xenocrysts occur in a melt where the equilibrium plagioclase is more calcic. In contrast, textural evidence of dissolution will be absent if the xenocryst is more calcic than the equilibrium plagioclase.

Diffusion-limited crystal growth experiments: the effect of large and rapid undercoolings

In contrast to the images of plagioclase dissolution and re-crystallization in Fig. 2.12, the BSE images in Fig. 2.13 are all obtained from crystal-growth experiments,

where large and rapid undercoolings (ΔT = liquidus T – magma T) were induced either by degassing upon decompression or by fast cooling rates. Crystal growth experiments (e.g., Muncill and Lasaga, 1987) have shown that as ΔT increases, crystal growth rates initially increase, peak, and then decrease. At low ΔT, crystal growth rates are relatively low and interface-limited growth is expected, which leads to crystals with flat, faceted rims. However, as ΔT increases and crystal growth rates increase, diffusion-limited growth may occur, especially if component mobility is low (i.e., low diffusivity) owing to high melt viscosity, which can produce crystals with skeletal, dendritic, and hopper textures. In Fig. 2.13a and 2.13b, BSE images from experiments on two dacite liquids at 780°C (Hammer and Rutherford, 2002) and 900°C (Suzuki *et al.,* 2007), respectively, show plagioclase with skeletal and hopper textures, with abundant melt hollows. These crystals formed as a consequence of rapid decompression from 200 to 100 MPa (Fig. 2.13a) and 145 to 50 MPa (Fig. 2.13b) under H_2O fluid-saturated conditions, thus producing large undercoolings and a corresponding increase in melt viscosity (owing to water loss). The crystalline textures in Fig. 2.13a and 2.13b were clearly produced through diffusion-limited growth. In Fig. 2.13c, a photomicrograph from Lofgren (1974) shows skeletal, hollow plagioclase crystals, which formed in a hydrous liquid along the plagioclase binary under H_2O-fluid saturated conditions at 500 MPa as a result of an abrupt drop in temperature (ΔT) of 100°C. The skeletal crystals are a classic example of diffusion-limited growth, which can be attributed to high crystal growth rates associated with the relatively large ΔT. In Fig. 2.13d, a BSE image from Hammer (2006) shows a skeletal, faceted, hopper olivine crystal that grew in a basalt in response to a cooling rate

of ~6°C/hr. Again, the skeletal and hopper features in the olivine can be attributed to diffusion-limited growth associated with high crystal growth rates.

Key observations and conclusions drawn from the BSE images

The experimental results in Figs. 2.12-2.13 indicate that there may be more than one interpretation to the crystal textures illustrated in Figs. 2.7-2.11. On the basis of the BSE images alone, both a xenocryst and phenocryst origin are possible interpretations of the different crystalline textures. However, a few key observations can be made and some broad conclusions are permissible.

(1) An assumption that all crystal growth occurs in the order of core first and rim later cannot be made. This is clearly illustrated in Figs. 2.13a-2.13c. Diffusion-limited growth can produce complex growth patterns including the formation of large interior melt channels and hollows (in full communication with the matrix liquid) that can crystallize after the rims.

(2) None of the plagioclase crystals shown in the BSE images, despite the wide range of composition within each sample, illustrate a dissolution texture with a reaction rim, which is clearly identifiable from the experiments (Fig. 2.12) of Johannes *et al.*, (1994) and Nakamura and Shimakita (1998). The only possible exception is crystal F in TAN-13 (Fig. 2.9). However, the sodic core in that crystal has an identical composition to the euhedral rims on all other plagioclase crystals in that sample, which is inconsistent with a xenocryst origin for that composition.

(3) Both normal and reverse zoning is observed in plagioclase crystals, often in the same thin section. In most cases, the sodic plagioclase (whether as a rim or core) crystallized *after* the adjacent calcic plagioclase, owing to the absence of any

dissolution/recrystallization textures (illustrated in Fig. 2.12). It is possible that the contrasting zoning pattern, both normal and reverse, can be explained by the experimental results of Suzuki *et al.* (2007), Hammer and Rutherford (2002), and Lofgren (1974), which show the initial growth of hollow, skeletal plagioclase (at large undercoolings and thus relatively high growth rates) that can subsequently crystallize both inward (the core) and outward (the rim). This hypothesis will be explored later in this paper.

(4) Both normal and reverse zoning is observed in orthopyroxene; reverse zoning is more common (Mg-rich rims). This dual zoning pattern may have developed in an analogous manner to that for plagioclase, discussed above, and/or may additionally involve the incorporation of Fe-rich xenocrysts. It is the Fe-rich orthopyroxenes that lead to the highest $^{Fe\text{-}Mg}K_D$ values (> 0.4).

(5) The complex textures on various orthopyroxene crystals (Figs. 2.10-2.11) may be indicative of diffusion-limited crystal growth, and not necessarily resorption/dissolution. There is abundant experimental evidence that orthopyroxene is *stable* in dacite and andesite liquids over a wide range of temperature, oxygen fugacity, and melt water concentration, including those documented for the samples in this study, as shown in Fig. 2.6b (Gardner *et al.*, 1995; Moore and Carmichael, 1998; Blatter and Carmichael, 1998; 2001; Martel *et al.*, 1999; Scaillet and Evans, 1999; Pichavant *et al.*, 2002; Grove *et al.*, 2003; Costa *et al.*, 2004: Holtz *et al.*, 2005). Thus, disequilibrium between orthopyroxene and liquid is expected to occur with respect to Mg#, in which case the crystal-liquid response should be diffusive Fe-Mg exchange (e.g., the

development of a rim as seen in crystal F in TEQ-34; Fig. 2.10), and not dissolution or incipient melting.

Sr and Ba Plagioclase-Liquid Partition Coefficients

An additional data set that is useful for evaluating the occurrence of plagioclase phenocrysts vs. xenocrysts in the andesite and dacite magmas is the calculated Ba and Sr partition coefficients between liquid and plagioclase (Table 2.5). Both Blundy and Wood (1991) and Bindeman *et al.* (1998) present model equations to calculate $RTlnD_{Ba}$ and $RTlnD_{Sr}$ as a function of plagioclase composition (An mol%). In Fig. 2.15a, a plot $RTlnD_{Ba}$ vs. An% is presented for analyzed crystals from TEQ-34, TEQ-66 and TAN-13. The data overlap those used by Blundy and Wood (1991) to calibrate their model, as well as the experimental results of Bindeman *et al.* (1998) and Bindeman and Davis (2000). The results for TEQ-34 extend to plagioclase compositions ≤ An30 for which there is no experimental data and for which the data used by Blundy and Wood (1991) are scattered. On the basis of Fig. 2.15a, there is no evidence that any of the plagioclase crystals in the three samples are xenocrysts.

In Fig. 2.15b, a plot of $RTlnD_{Sr}$ vs. An (mol%) is presented, and the data for TEQ-66 and TAN-13 overlap those used by Blundy and Wood (1991) and the experimental results of Bindeman *et al.* (1998) and Bindeman and Davis (2000). However, the results for each sample have a flatter slope in Fig. 2.15b than the overall combined data set. Although both Blundy and Wood (1991) and Bindeman *et al.* (1998) present models of $RTlnD_{Sr}$ that depend only on plagioclase composition, an additional dependence on silicate melt composition cannot be ruled out (e.g., SiO_2-rich compositions leading to higher $RTlnD_{Sr}$ for the same plagioclase composition). In the

data sets of Blundy and Wood (1991), Bindeman *et al.* (1998) and Bindeman and Davis (2000), there are systematic changes in silicate melt composition as the plagioclase composition changes (more SiO_2-rich as the plagioclase becomes more sodic). Therefore, on the basis of Fig. 2.15b, a phenocryst origin for the plagioclase crystals in TEQ-66 and TAN-13 is permitted.

The results for TEQ-34 are more complex, and the $RTlnD_{Sr}$ values for the most calcic plagioclases (~An_{45}-An_{35}) overlap with the experimental results of Bindeman *et al.* (1998) and Bindeman and Davis (2000), as well as the data set used by Blundy and Wood (1991). However, for those plagioclase crystals ≤ An_{35} in TEQ-34, there is a steady decline in $RTlnD_{Sr}$ with decreasing An%, which is not predicted by available models (Blundy and Wood, 1991; Bindeman *et al.,* 1998). However, over this range of plagioclase composition (≤ An_{35}), there are no experimental data and the results used by Bundy and Wood (1991) are sparse and scattered. It is plausible that the steady decline in D_{Sr} is related to the rapid increase in Ba concentration in plagioclase, as An% decreases (Fig. 2.16). Experiments are needed to test the possibility that high concentrations of Ba in sodic plagioclase reduce the incorporation of Sr into the lattice. In the absence of these data, a phenocrystic origin for the sodic plagioclase crystals in TEQ-34 remains a viable hypothesis.

Hypotheses to explain the variable plagioclase compositions

There are two primary hypotheses to explain the wide range in plagioclase compositions seen in the andesites and dacites in this study: (i) the incorporation of plagioclase xenocrysts (e.g., assimilation of country rock, including restite, and/or magma mixing), and (ii) a progressive change in melt water concentration during

degassing, thus affecting the plagioclase composition, as the magma ascends to the surface. With all the textural and compositional data for plagioclase in hand, along with calculated temperatures and water concentrations, it is possible to fully examine each hypothesis.

Xenocrystic plagioclase?

From the textural evidence of the BSE images, only calcic plagioclase is a possible xenocryst in the andesite and dacite magmas, and not sodic plagioclase, owing to the paucity of dissolution and recrystallization textures in the plagioclase crystals (Tsuchiyama, 1985; Johannes *et al.*, 1994; Nakamura and Shimakita, 1998). This observation also places a tight constraint on the order of crystallization, calcic plagioclase before sodic plagioclase.

Although the textural evidence permits a xenocryst origin for the most calcic plagioclase in each sample, there are two additional constraints at odds with this hypothesis. (1) There is a positive correlation between the An% of the most calcic plagioclase in each sample and the liquid An% (Fig. 2.6a). If the most Ca-rich plagioclases are xenocrysts in each sample, such a correlation with liquid An% is not expected. (2) The most calcic plagioclases in each sample, as shown in Fig. 2.6a, overlap the phase-equilibrium data used to calibrate the plagioclase-liquid hygrometer of Lange *et al.* (2009), which strongly supports a phenocryst origin. In summary, there is sufficient evidence to challenge the interpretation that the incorporation of xenocrysts is the only mechanism to account for the wide range of plagioclase compositions in each sample. An alternative model to consider is whether they formed in response to variable melt water concentrations as a consequence of magma degassing.

Degassing-induced crystallization of plagioclase during rapid magma ascent?

In order to explore the hypothesis that the wide range of plagioclase compositions in each sample was caused by degassing-induced crystallization over a range of melt water concentrations, it is necessary to evaluate whether this scenario is consistent with H_2O fluid-saturated phase diagrams that have been constructed for various andesites and dacites from phase-equilibrium experiments. For example, in Fig. 2.17, an experimentally produced phase diagram from Moore and Carmichael (1998) for an andesite (~62 wt% SiO_2) under H_2O fluid-saturated conditions is shown. Isopleths of dissolved wt% H_2O are plotted on this diagram, using the water solubility model of Moore *et al*. (1998). The temperatures and water concentrations derived for two andesites from this study, XAL-134 and TAN-13, which have bulk compositions similar to the andesite studied by Moore and Carmichael (1998), can be plotted on this phase diagram.

The first sample to examine is XAL-134, for which temperature is known (~1085 ± 16°C) from the Fe-Ti two-oxide geothermometer. At this temperature, the most calcic plagioclase phenocryst observed in this sample (~An_{72}), leads to a melt water concentration of 2.7 wt% calculated from the hygrometer of Lange *et al.* (2009). The combination of 1085°C and 2.7 wt% H_2O falls exactly on the plagioclase-in curve in Fig. 2.17, which illustrates remarkably good agreement between two independent sets of data (this study and Moore and Carmichael, 1998). Note that if XAL-134 contained plagioclase xenocrysts of ~An_{85}, the maximum melt water concentration calculated for XAL-134 would be ~3.8 wt% H_2O at 1085°C, which would place the crystallization of

An_{85} squarely in the liquid stability field and thus in conflict with the phase diagram in Fig. 2.17.

In summary, the temperature and melt water results for XAL-134 during crystal growth are consistent with a degassing-induced crystallization path, as illustrated in Fig. 2.17. It is unknown how much water was dissolved in this andesite prior to crossing the plagioclase-in curve, but any melt water concentration in excess of 2.7 wt%, at 1085°C, would have placed the andesite above its liquidus, even if it contained dissolved CO_2. The only effect of adding CO_2 to the system is to increase the absolute value of total pressure on the y-axis in Fig. 2.17. In a review paper, Wallace (2005) shows that CO_2 concentrations in melt inclusions from various andesites and dacites are typically ≤ 500 ppm; at these CO_2 levels, the maximum increase in the pressure for the solubility of 2.7 wt% H_2O is ≤ 50 MPa. Thus, if the pressure axis were to remain the same in Fig. 2.17, but the coexisting fluid was a mixture of CO_2-H_2O, given melt CO_2 concentrations ≤ 500 ppm, the only alteration to the phase diagram would be to steepen the negative slopes of the anhydrous mineral-in curves, and push the wt% H_2O isopleths to higher (≤ 50 MPa) pressures. In other words, both crystallization and fluid-saturation would occur at pressures ≤ 50 MPa higher (< 1 km deeper) than indicated on the phase diagram.

A similar comparison can be made between the phase diagram in Fig. 2.17 and the temperature and wt% H_2O results for TAN-13. Unlike XAL-134, this sample contains hornblende in its phenocryst assemblage and is constrained to have ascended at a temperature < 975°C. At an estimated temperature of 925 (± 50) °C, the most calcic plagioclase in this sample (An_{87}) corresponds to a melt water concentration of 6.4 wt% H_2O, which again exactly falls on the plagioclase-in curve on the Moore and Carmichael

(1998) phase diagram at 925°C. Because TAN-13 has a bimodal distribution of plagioclase phenocrysts, as seen in the histogram in Fig. 2.3, the calcic plagioclases may be interpreted as xenocrysts. However, they do not plot in the liquid stability field in Fig. 2.17, as expected if they were calcic xenocrysts, but instead plot in the plagioclase stability field, consistent with a degassing-induced crystallization path. It is possible that the bimodal plagioclase population was produced because the magma stalled briefly at two depths, one corresponding to ~6.3-6.0 wt% H_2O solubility in the melt, and the second corresponding to ~4.5 wt% H_2O solubility, allowing time for the sodic rims to form. Therefore, despite the bimodal character to the plagioclase compositions in TAN-13, a phenocryst origin is permitted by all the available data.

Unlike the case for XAL-134, the lowest water concentration recorded by the plagioclase in TAN-13 is ~4 wt% H_2O. Thus, the question arises as to why the plagioclase phenocrysts in TAN-13 do not record lower water concentrations (i.e., extend to more sodic compositions), consistent with continued degassing of the magma as it ascended to the surface. One possibility is that phenocryst growth terminates when the crystallization regime transitions from one that is growth-controlled to one that is nucleation-controlled. If so, the results of the plagioclase-liquid hygrometer indicate that this transition occurred in TAN-13 at relatively deep conditions, corresponding to pressures where the water solubility is ~4 wt%. To explore this hypothesis further, the relationship between microlite crystallization and degree of undercooling is discussed below.

Crystal growth rates vs. nucleation rates with undercooling

As previously noted, the samples in this study are phenocryst-poor, whereas the groundmass varies from nearly completely crystallized to nearly completely glassy (Fig. 2.2). The plagioclase histograms in Fig. 2.3 illustrate that the most sodic phenocrysts overlap in composition with the microlites, and mark the transition from growth-controlled crystallization to nucleation-controlled crystallization (e.g., Hammer *et al.,* 1999; Blundy and Cashman, 2008). This transition is predicted to occur as the degree of undercooling (ΔT = T of plagioclase liquidus – T of magma) increases, as illustrated in a schematic plot (Fig. 2.18) of crystal growth rate and nucleation rate as a function of undercooling (modified from Carmichael, 1974).

For an ascending fluid-saturated magma that crosses the plagioclase-in curve upon ascent (Fig. 2.18a), the magnitude of ΔT will increase as the melt water concentration decreases. The most calcic plagioclase is expected to form at low ΔT (zone 1 in Fig. 2.18), which corresponds to relatively low crystal growth rates and low nucleation rates. Therefore, for a rapidly ascending magma that does not stall, the most calcic plagioclases are expected to form in low abundance, which is consistent with six of seven histograms in Fig. 2.3. As the magma continues to ascend and degas, and the plagioclase becomes more sodic, both the crystal growth rate and nucleation rate increase (zone 2 in Fig. 2.18). The composition of plagioclase crystallizing during this interval is expected to be the most abundant in the plagioclase population, and thus form the mid-range peak in the histograms in Fig. 2.3. Further ascent and degassing will increase ΔT to the point where the crystal growth rate declines and the nucleation rate reaches a maximum (zone 3 in Fig. 2.18), at which point extensive microlite crystallization is expected along with a decline in the phenocryst population. The plagioclase composition

that crystallizes during zone 3 is expected to be the most sodic because of declining melt water concentrations. The emerging view is that a degassing-induced crystallization path, as illustrated in Fig. 2.17 for XAL-134 and TAN-13, leads to a pattern of plagioclase growth rates and nucleation rates that is fully consistent with the histograms in Fig. 3, as well as the textural evidence for diffusion-limited crystal growth (e.g., Fig. 2.7).

Melt viscosity as a kinetic barrier to microlite nucleation in TEQ-34

TEQ-34 is the only sample that has a groundmass that is primarily glass with only sparse microlites (Fig. 2.2), which may be attributed to its high melt viscosity during phenocryst growth. Melt viscosity during plagioclase crystallization can be calculated for each sample, using the model of Hui and Zhang (2007), where temperature is known from the Fe-Ti oxides, melt wt% H_2O is known from the plagioclase-liquid hygrometer, and the liquid composition is assumed to be that for the bulk sample. In Fig. 2.19, melt viscosity at the onset of phenocryst growth and microlite growth (based on the histograms in Fig. 2.3) is shown for each sample, as a function of wt% SiO_2. Also shown is the maximum melt viscosity at the end of plagioclase crystallization. (Recall that the effect on the hygrometer of *not* taking into account the effect of changing melt composition owing to extensive microlite crystallization, is to calculate melt water concentrations that are too *low*, and therefore melt viscosities that are too *high*.) Not surprisingly, the dacites undergo plagioclase growth at higher melt viscosities than the andesites. From the groundmass textures illustrated in Fig. 2.2, it is seen that the extent of groundmass crystallization vs. glass is strongly controlled by the melt viscosity at the time the transition occurs between growth-controlled crystallization and nucleation-

controlled crystallization. The evidence from TEQ-34 suggests a viscosity limit of ~4.4 $\log_{10}$ Pa-s (less than that of creamy peanut butter; Baker *et al.*, 2004) on plagioclase nucleation during rapid ascent of a fluid-saturated magma. A kinetic barrier to plagioclase nucleation is highly plausible under these conditions, where the rate of viscosity change with time is high due to the rapid loss of dissolved water during degassing upon rapid ascent (analogous to a rapid cooling rate).

Summary comments

The evidence provided thus far supports degassing-induced crystallization as the cause of the wide compositional range of plagioclase observed in each sample, as well as the compositional distribution of the plagioclase phenocrysts and microlites (Fig. 2.3). If the model presented in Figs. 2.17 and 2.18 is correct, then diffusion-limited crystal growth is expected to occur in the phenocryst population, especially as ΔT and melt viscosity increase as degassing proceeds. It is perhaps not surprising, therefore, to find that the most complex orthopyroxene textures, including abundant melt hollows and rounded margins with protruding nubs, are found in those magmas (TEQ-34 and TEQ-66) that record the highest melt viscosities during plagioclase growth (Fig. 2.19). It raises the possibility that these complex textures were caused by diffusion-limited crystal growth under conditions of low melt diffusivity. To evaluate this hypothesis, all mechanisms to explain the wide range in pyroxene compositions in each sample (Fig. 2.4) must be explored.

Hypotheses to explain the variable orthopyroxene compositions

There are at least three different hypotheses to explain the wide variation in orthopyroxene-liquid $^{Fe\text{-}Mg}K_D$ values, despite the overall low abundance of orthopyroxene ($\leq$ 0.3% in six of seven samples): (1) a progressive change in the melt oxidation state (and thus melt Mg#) during degassing upon ascent, thus inducing a change in the apparent orthopyroxene-liquid $^{Fe\text{-}Mg}K_D$ value; (2) the incorporation of orthopyroxene xenocrysts; and (3) a progressive change in melt water concentration during degassing, if dissolved water affects the equilibrium composition (Mg#) of pyroxene.

Variation in melt oxidation state?

Several researchers have explored the possibility that the oxidation state of a melt may increase as a consequence of volatile degassing (e.g., Sisson and Grove, 1993; Luhr, 2000; Burgisser and Scaillet, 2007). If orthopyroxene crystallization coincides with degassing, as indicated in Fig. 2.17, then a degassing-induced change in the melt ferric-ferrous ratio could affect apparent $^{Fe\text{-}Mg}K_D$ values. This scenario is evaluated in Fig. 2.20, where K_D vs. ΔNNO is plotted for the most Mg-rich (low $^{Fe\text{-}Mg}K_D$) and the most Fe-rich (high $^{Fe\text{-}Mg}K_D$) orthopyroxene crystals in each sample. The open symbol on each curve marks the $^{Fe\text{-}Mg}K_D$ calculated for the measured ΔNNO value for each sample (Table 2.2). The curves in Fig. 2.20 illustrate that even when the oxidation state of the melt is reduced to ΔNNO = -3, well below values expected for arc magmas, the $^{Fe\text{-}Mg}K_D$ for the most Fe-rich orthopyroxene crystals continue to extend up to 0.4 and higher. Therefore, a variation in oxidation state by three orders of magnitude cannot explain the wide range in orthopyroxene composition (Mg#) observed in each sample.

Xenocrystic orthopyroxene?

Another hypothesis to consider is that the wide range in orthopyroxene $^{Fe\text{-}Mg}K_D$ values is due to magma mixing and/or the incorporation of orthopyroxene xenocrysts. It is the Fe-rich orthopyroxenes that give rise to the highest $^{Fe\text{-}Mg}K_D$ values (> 0.4), and these are often interpreted as xenocrysts (e.g., Reubi and Blundy, 2008) because it has been experimentally well established that there is a narrow range of orthopyroxene-liquid $^{Fe\text{-}Mg}K_D$ values of ~0.27-0.33 for basalt liquids, over a wide range of pressures, temperatures, and melt water concentrations in basalt liquids (Grove and Juster, 1989; Kinzler and Grove, 1992; Kinsler, 1997; Gaetani and Grove, 1998). However, there are abundant phase-equilibrium experiments, where oxygen fugacity was rigorously controlled and/or monitored (Gardner *et al.*, 1995; Moore and Carmichael, 1998; Blatter and Carmichael,1998; 2001; Martel *et al.,* 1999; Scaillet and Evans, 1999; Pichavant *et al.,* 2002; Grove *et al.,* 2003; Costa *et al.*, 2004; Holtz *et al.*, 2005) that clearly show $^{Fe\text{-}Mg}K_D$ values between orthopyroxene and hydrous andesite/dacite liquids that span a wider range, including values up to 0.5 (Fig. 2.6b). In other words, orthopyroxene-liquid $^{Fe\text{-}Mg}K_D$ values obtained for basalts are not necessarily the appropriate values for all hydrous andesite and dacite liquids.

Moreover, there are several additional lines of evidence that argue against a xenocryst explanation for the most Fe-rich orthopyroxenes in each sample. (1) If they are xenocrysts, they must be derived from a more felsic magma. However, the only plausible plagioclase xenocrysts must be the most calcic in each sample (based on textural evidence), which requires input from a more mafic magma. Thus, the inferred sources for the two sets of xenocrysts (calcic plagioclase and Fe-rich orthopyroxene) are contradictory. (2) In a plot of opx Mg# vs. liquid Mg# (Fig. 2.6b), there is a strong linear

correlation, not only for the most Mg-rich crystals, but also for the most Fe-rich crystals in each sample. If the Fe-rich pyroxenes are xenocrysts, then a correlation with melt Mg# is not expected. (3) In the plot of opx Mg# vs. liquid Mg#, the compositional range of orthopyroxenes in the six samples from this study fall well within the range documented in hydrous andesite and dacite liquids in phase-equilibrium experiments where oxygen fugacity was rigorously controlled and/or monitored (Fig. 2.6b). In summary, none of the evidence listed above requires a xenocryst origin for the orthopyroxenes in the samples from this study.

Does melt water concentration affect orthopyroxene composition?

The last mechanism to consider is the most parsimonious, which is to invoke the same process to explain the wide compositional range for *both* plagioclase and orthopyroxene, namely the loss of dissolved water in the melt because of degassing during magma ascent. There are three compelling reasons to expect that an increase in melt water concentration (probably hydroxyl groups) favors a more Fe-rich orthopyroxene.

First, this is the behavior seen for olivine, according to the thermodynamic model of Toplis (2005) on the Mg-Fe exchange between olivine and liquid. In that model, which is calibrated on a substantial experimental data set from the literature, the concentrations of silica, alkalis, and water in the liquid each exert a discernable influence on the $^{Fe\text{-}Mg}K_D$ value between olivine and liquid, with an increase in melt water leading to higher $^{Fe\text{-}Mg}K_D$ values (more Fe-rich olivine). Note that the thermodynamic model for the olivine-liquid Mg-Fe exchange reaction cannot be quantitatively applied to orthopyroxene, because their standard state reactions are completely different. But the

results of Toplis (2005) are suggestive that the effect of dissolved water is to reduce the activity of MgO relative to FeO in the melt.

Second, the phase equilibrium results of both Grove *et al.* (2003) and Gardner *et al.* (1995), where oxygen fugacity was buffered, support the association between high melt water concentrations and Fe-rich orthopyroxenes. In experiments on a magnesian andesite (Fig. 2.21a), the average $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid under anhydrous conditions is 0.27 ± 0.03, whereas under water-saturated conditions at 200 and 800 MPa, the $^{Fe\text{-}Mg}K_D$ value increases to 0.36 and 0.40, respectively. Similar results are obtained from experiments on the Mt. St. Helens dacite (Fig. 2.21b) where $^{Fe\text{-}Mg}K_D$ values increases from ~0.23 to ~0.44-0.47, as the water concentration in the melt increases from ~2.8 to ~5.1 wt% H_2O.

The third line of evidence that dissolved water (i.e., hydroxyl groups) reduces the activity of the MgO component relative to the FeO (Fe^{2+}) component in magmatic liquids can be found by examining the basis for the plagioclase-liquid hygrometer. Lange *et al.* (2009) proposed that the reason why dissolved water reduces the activity of $NaAlSi_3O_8$ relative to $CaAl_2Si_2O_8$ in magmatic liquids is because of the preferential formation of NaOH vs. $Ca(OH)_2$ species in the melt. This is confirmed by infrared (IR) spectroscopic results on aluminosilicate glasses from Ohlhorst *et al.* (2000), and it is predicted by free energy calculations using the JANAF thermochemical tables (fourth edition; Chase, 1998).

In Table 2.6, the free energies of several hydration reactions are tabulated for various solids at 298 K and 1 bar. The results show the clear preference of hydroxl groups to complex with various cations in the order: Na > Ca > Mg > Fe^{2+} > Fe^{3+}. The

relevance of these calculations to magmatic liquids is illustrated in two ways. First, it reveals a large, negative free energy of -85.5 kJ/mol for the following exchange reaction:

$$Ca(OH)_2 + Na_2O = 2Na(OH) + CaO. \quad (2.3)$$

If Eqn. 2.3 is extended to magmatic liquids, it predicts that dissolved hydroxyl groups preferentially bond with Na rather than Ca and thereby reduce the activity of Na_2O relative to CaO in the melt, and explains why an increase in melt water concentration leads to a more calcic plagioclase, as clearly demonstrated in numerous experiments (e.g., Sisson and Grove, 1993). Second, the results in Table 2.6 predict that hydroxyl groups are least likely to complex with Fe^{3+} and Fe^{2+}, compared to the other cations, which is consistent with the experimental results of Moore *et al.* (1995) and Gaillard *et al.* (2001) that show dissolved water has little effect on ferric-ferrous ratios in magmatic liquids.

The free energy calculations in Table 2.6 also permit a prediction to be made regarding the effect of dissolved water on the Mg# of ferromagnesian minerals in magmatic liquids, by looking at the following exchange reaction:

$$Fe(OH)_2 + MgO = Mg(OH)_2 + FeO. \quad (2.4)$$

The change in free energy is -24.2 kJ/mole, more than a factor of three times smaller than that for the Ca-Na hydrous exchange reaction in Eqn (2.3). Nonetheless, it clearly predicts that the effect of dissolved water is to reduce the activity of MgO relative to FeO in the melt, owing to the preferential speciation of hydroxyl groups with Mg^{2+} vs. Fe^{2+}, and the effect is expected to be smaller than that for plagioclase, which is consistent with the smaller range in Mg# vs. An% for the phenocrysts in each sample (Figs. 2.3 and 2.4).

If the effect of variable dissolved water, as a consequence of degassing upon magma ascent, is the cause of the wide compositional range of the orthopyroxenes in

each sample, the question that arises is why this does not extend to clinopyroxene. The clinopyroxene population consistently spans a narrow compositional range, with $^{Fe\text{-}Mg}K_D$ values that cluster below 0.3.

The relatively high-Mg and narrow compositional range of the clinopyroxenes

One of the striking features seen in Fig. 2.4 is that the clinopyroxenes have compositions that are consistently on the high-Mg end of the coexisting orthopyroxene range. An examination of Fig. 2.17 shows that this is consistent with a degassing-induced crystallization path. At any given temperature, an ascending fluid-saturated magma traveling along an adiabat (e.g., rapid vertical transport along a fracture) will intersect the orthopyroxene liquidus at a higher pressure compared to augite, and therefore a higher melt water concentration. Therefore, an ascending magma will traverse the orthopyroxene stability field over a longer depth interval, and therefore a larger range in melt water concentration, than it will for augite. This may explain the narrower compositional range for clinopyroxene than for orthopyroxene in each sample (Fig. 2.2), and why orthopyroxene is generally more abundant (Table 2.1). In addition, if an increase in water concentration favors a more Fe-rich pyroxene composition, then the Mg-rich character of the augites is explained by their initial crystallization at shallower depths, and thus lower melt water concentrations, compared to the crystallization interval for orthopyroxene.

CONCLUSIONS

There are several key conclusions that can be drawn from the petrologic examination of seven phenocryst-poor andesite and dacite lavas in this study. One of the

most important observations is that andesite and dacite magmas transported rapidly through the crust can erupt on the surface with < 5% phenocrysts. This clearly indicates that these intermediate magma types, including andesite, represent *liquid* compositions.

What is both surprising and useful is that these phenocryst-poor magmas are multiply saturated with five to seven different mineral phases (plagioclase + orthopyroxene + titanomagnetite + apatite + ilmenite ± clinopyroxene ± hornblende ± biotite). This permits temperatures to be obtained from Fe-Ti oxide thermometry, which in turn allows pre-eruptive water concentrations to be calculated with the plagioclase-liquid hygrometer (≤ 6.4 wt% for the andesites; ≤ 8.3 wt% for the dacites).

The results indicate that these magmas were fluid-saturated in the upper crust, and therefore degassing-induced crystallization was inevitable during magma ascent. The evidence from this study further demonstrates that a wide range in plagioclase composition (≤ 36 mol% An) can crystallize solely because of a progressive loss of water (≤ 2.5 wt% H_2O) during magma ascent. It also appears that a wide range in the orthopyroxene compositions (≤ 17% Mg#) can form by the same process, with higher melt water concentrations favoring Fe-rich compositions. Therefore, Mg-rich rims on orthopyroxene (reverse zoning) may simply reflect the effect of late crystallization at lower melt water concentrations. Degassing additionally promotes diffusion-limited crystal growth due to the combined effects of large undercoolings and low melt diffusivity (high melt viscosity), which can lead to skeletal, dendritic, and hopper textures, as well as large interior melt hollows, all of which are seen in the samples from this study. The development of skeletal grains with larger interior melt hollows, which

later crystallize in at lower water concentrations, can lead to reverse zoning in plagioclase.

Finally, there is clear evidence that these phenocryst-poor, fluid-saturated magmas were transported *rapidly* to the surface, in some cases from depths > 12 km (e.g., TEQ-34). The loss of water during magma ascent, owing to degassing, causes a rapid change in melt viscosity, which in turn can lead to a kinetic barrier to nucleation of plagioclase once the melt reaches a viscosity of ~4.4 $\log_{10}$ Pa-s. It appears that in order for hydrous intermediate magmas to erupt on the surface with such low phenocryst abundances (<5%), they must ascend rapidly through the crust, without stalling for a prolonged period of time and without intersecting a pre-existing, partially molten magma reservoir. Apparently, these conditions are sufficiently rare that phenocryst-poor andesites and dacites are not abundant at subduction zones, and they tend to erupt most commonly from peripheral vents. Nonetheless, such phenocryst-poor lavas provide unique insights that can be extended to their crystal-rich equivalents, including an assessment of initial *liquid* compositions, temperatures, and water concentrations prior to extensive crystallization.

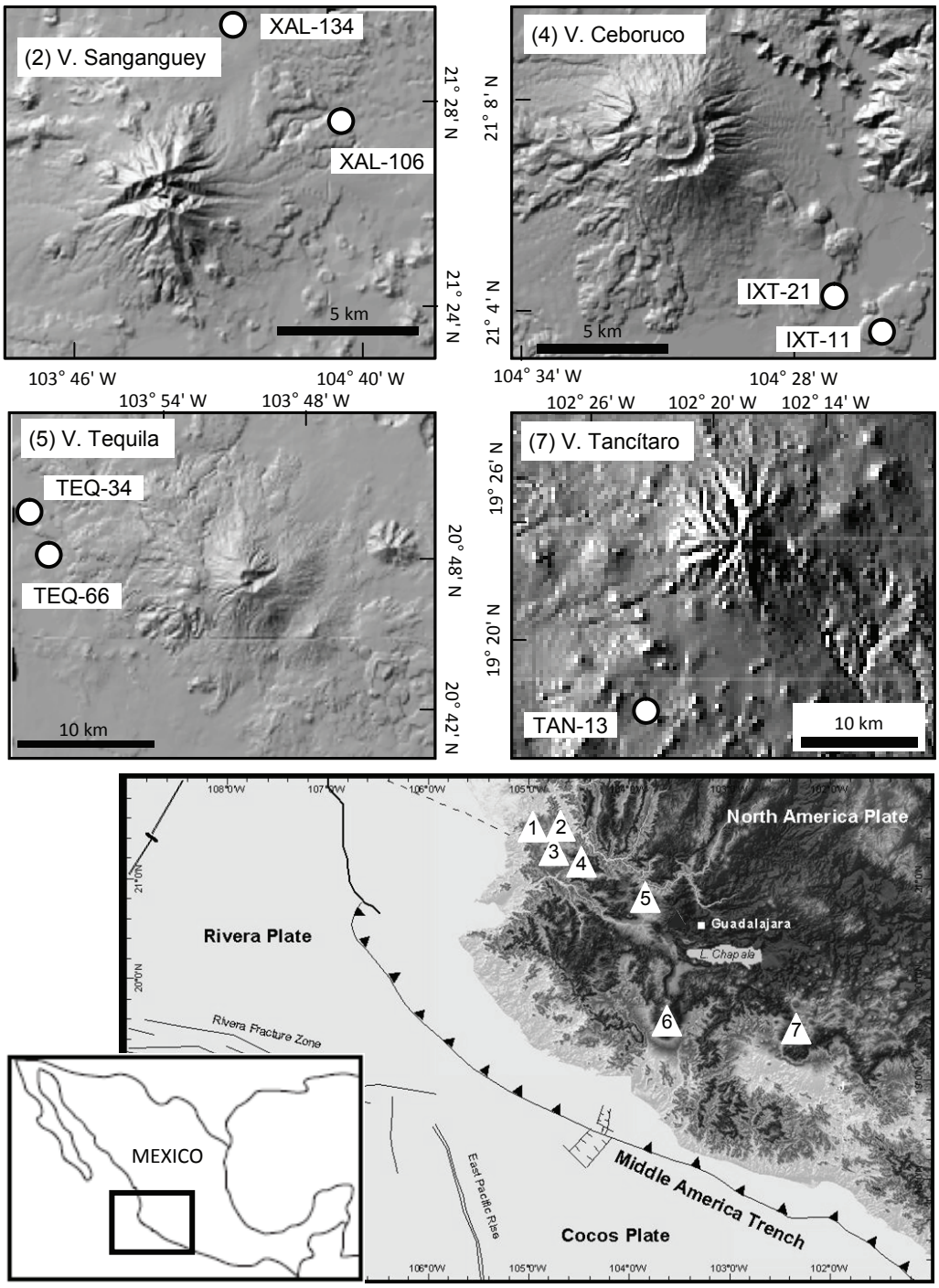


Figure 2.1. Location map for samples in this study. Numbered triangles in lower map denote large stratovolcanoes in the western Mexican arc: (1) Volcán San Juan, (2) Volcán Sanganguey, (3) Volcán Tepitiltic, (4)Volcán Ceboruco, (5) Volcán Tequila, (6) Volcán Colima, (7) Volcán Tancítaro. Enlarged hillshade maps for stratovolcanoes (2), (4), (5) and (7) show the location of peripheral vents from which the seven samples were obtained.

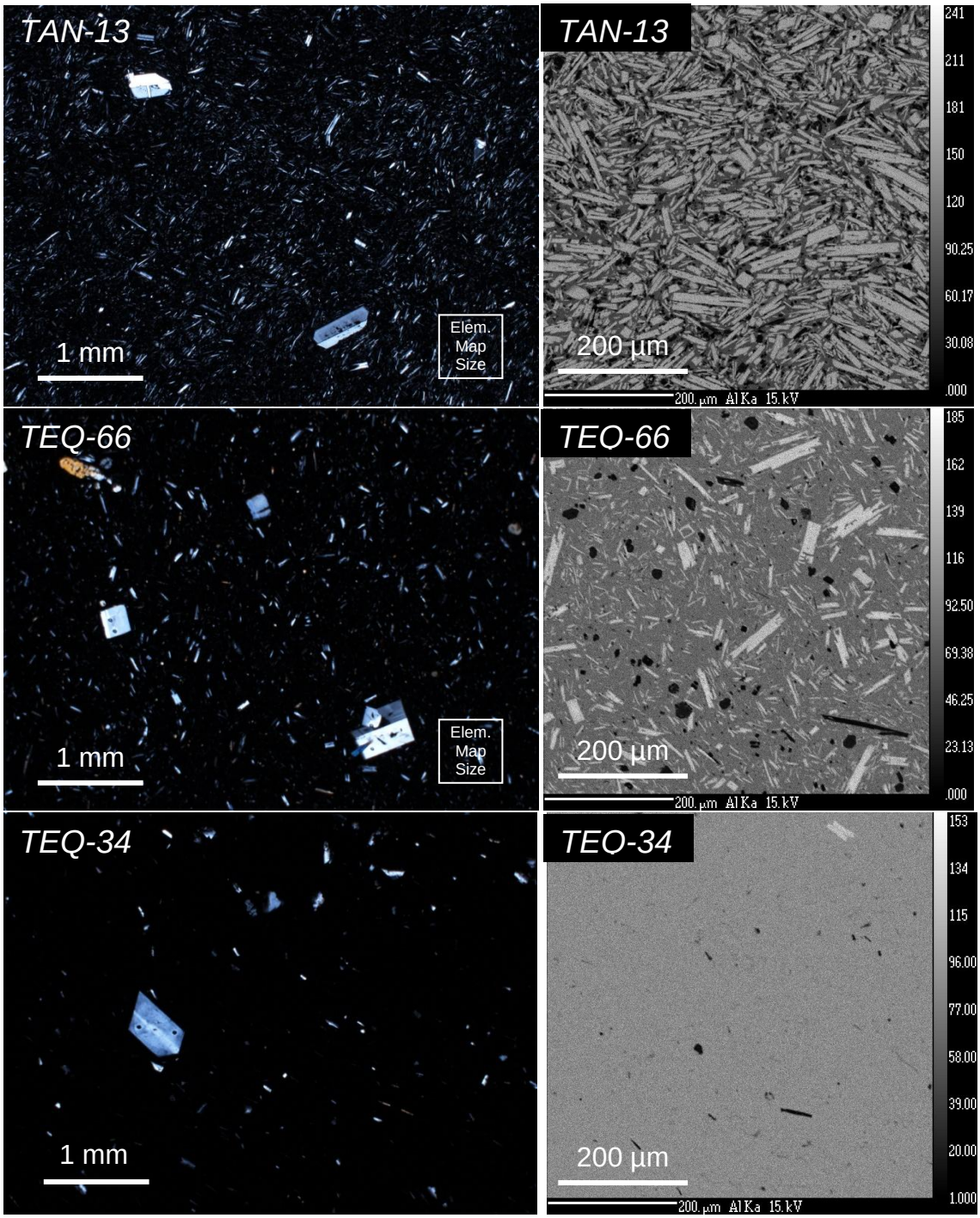


Figure 2.2: Cross-polar photomicrographs (2.5x) and corresponding aluminum element maps of the groundmass for (a) TAN-13, (b) TEQ-66, and (c) TEQ-34.

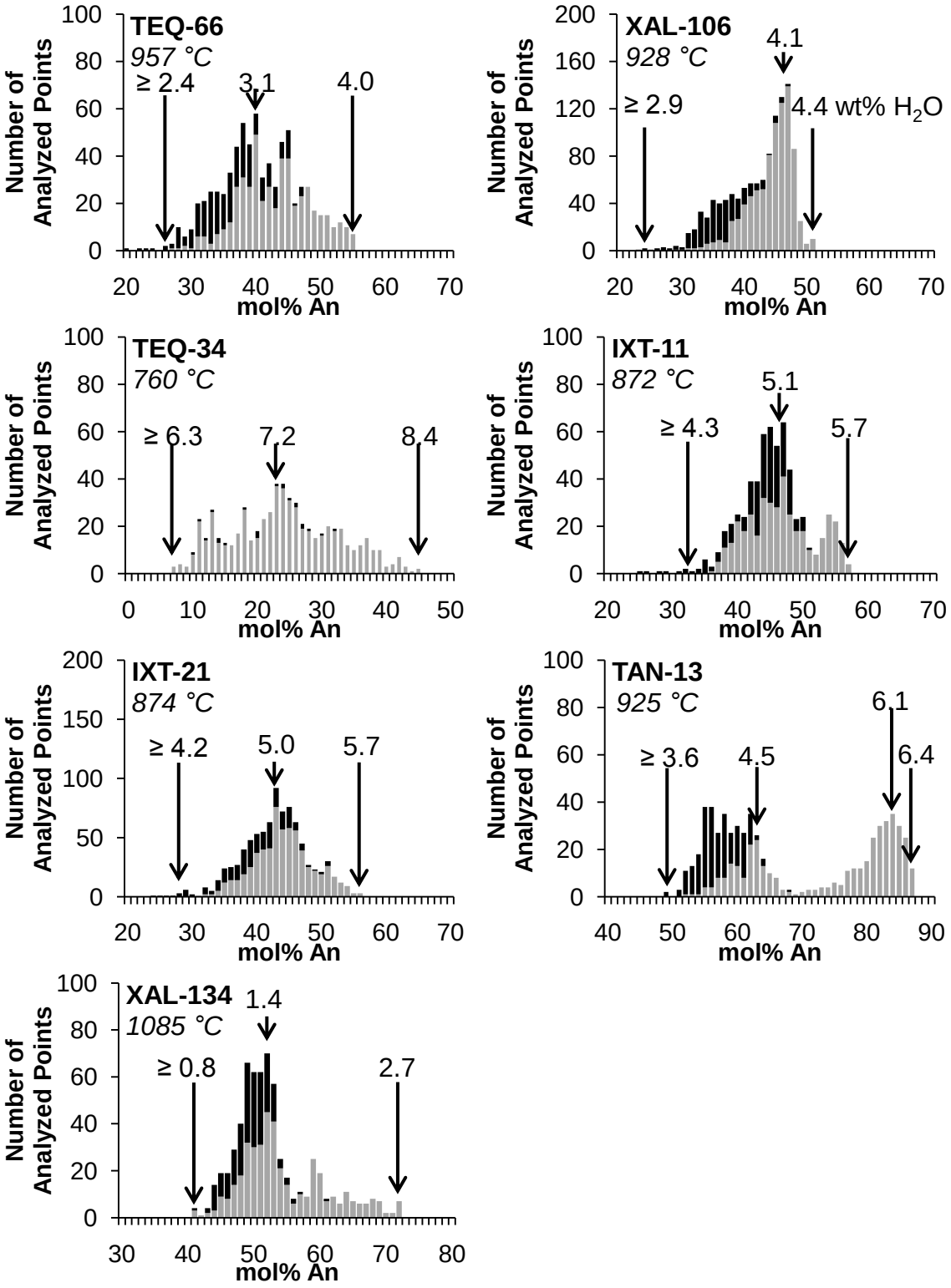


Figure 2.3: Histograms of plagioclase phenocryst (grey) and microlite (black) analyses, as a function of %An. The microlites consistently plot at the sodic end of the phenocryst range, and are absent from TEQ-34. Also shown are calculated wt% H_2O values in the melt obtained by the plagioclase-liquid hygrometer of Lange *et al.* (2009); see text for discussion.

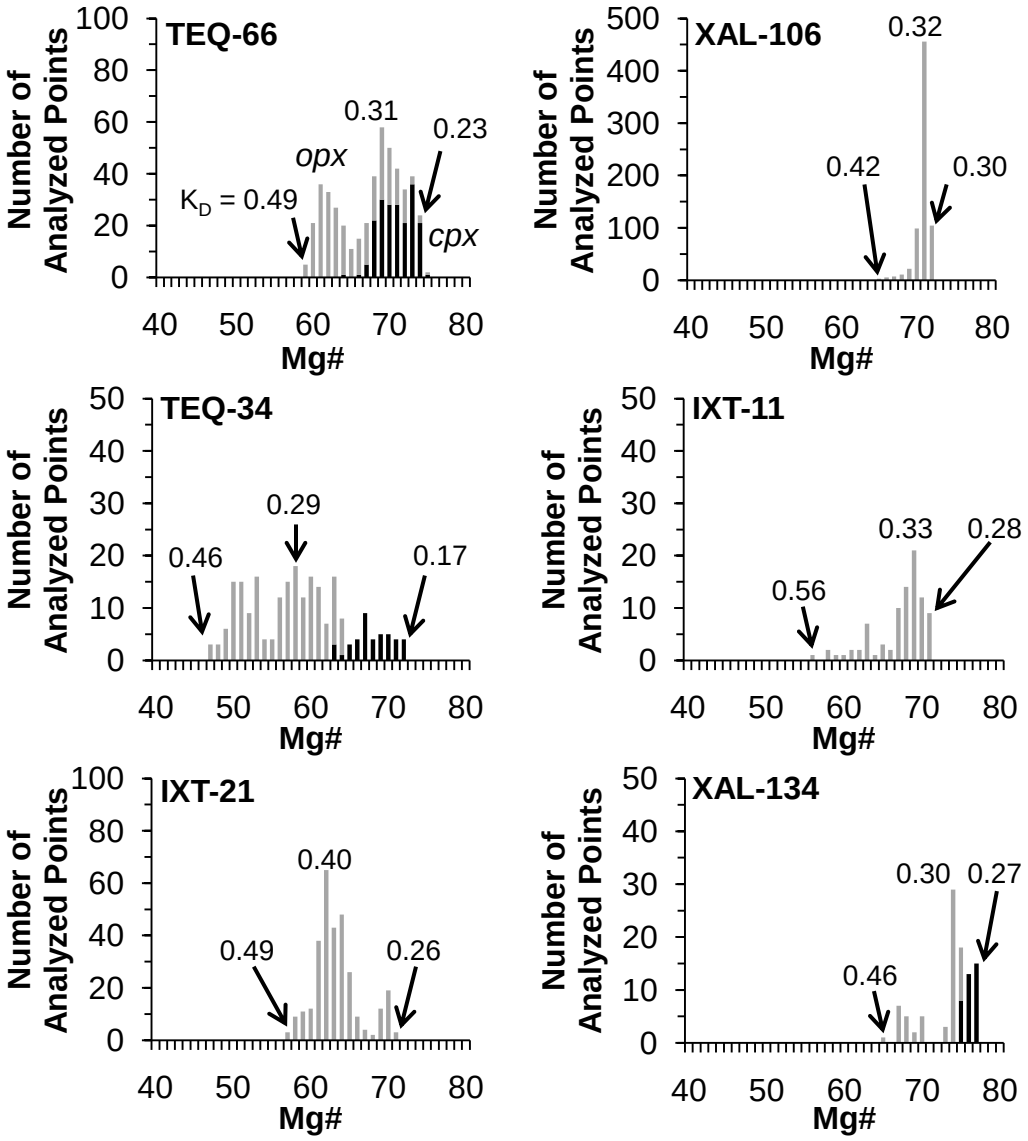


Figure 2.4: Histograms of orthopyroxene (grey) and clinopyroxene phenocrysts (black) phenocryst analyses, as a function of Mg#. The clinopyroxenes consistently plot at the high Mg# end of the orthopyroxene range, and are only found as phenocrysts in TEQ-34, TEQ-66, and XAL-134. Also shown are calculated $^{Fe\text{-}Mg}K_D$ values between pyroxene and liquid. The liquid Fe^{2+} concentration (wt% FeO) is derived from the Fe-Ti two-oxide oxygen barometer and thermometer and closely matches measurements by titration (Table 2.1); see text for discussion.

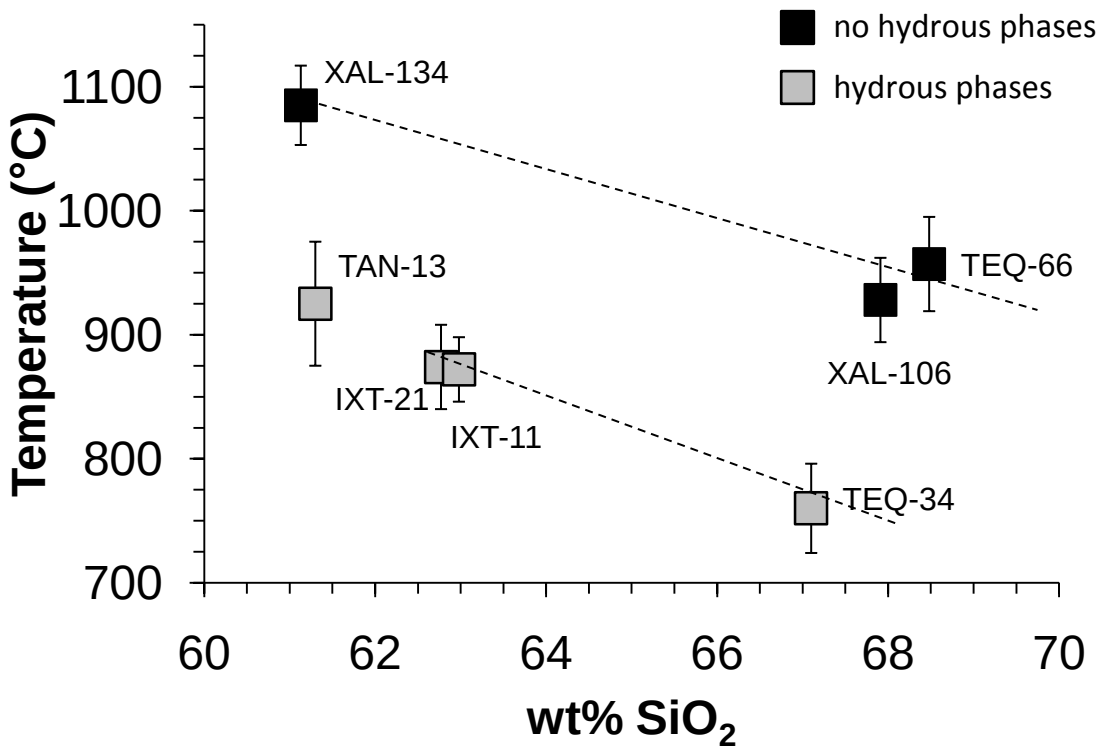
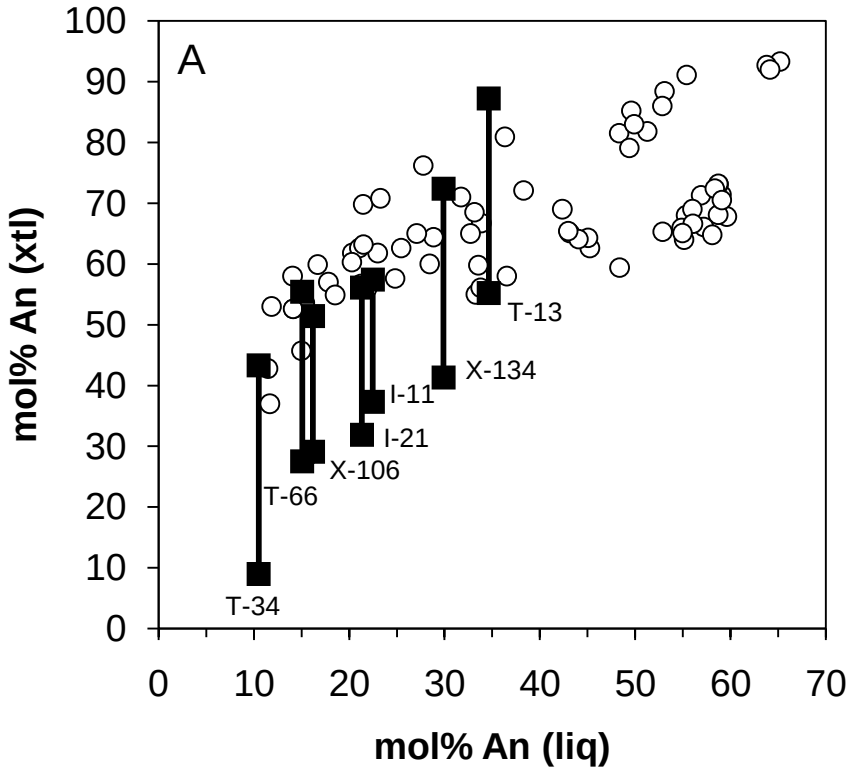


Figure 2.5: Plot of temperature obtained from two Fe-Ti oxides vs. SiO_2 content of sample. Filled squares depict samples that do not contain any hydrous mineral phase, whereas shaded squares depict samples that contain either hornblende or biotite. Dashed lines are linear fits. The temperature for TAN-13, which contains hornblende microphenocrysts, is estimated by extension of the lower dashed curve.

Figure 2.6: (a) Range of analyzed plagioclase compositions (%An) plotted as a function of the An# of the liquid (defined in Table 2.1) for each sample. There is a broad, positive correlation between the liquid An# and the most sodic and calcic plagioclases, respectively. The open circles are the experimental data used to calibrate the plagioclase-liquid hygrometer of Lange *et al.* (2009). (b) Range of analyzed orthopyroxene compositions (Mg#) plotted as a function of Mg# (= mol% MgO/(MgO + FeO)) of the liquid for each sample. There is a broad, positive correlation between orthopyroxene composition and liquid Mg#. Superimposed on this figure are isopleths (solid curves) of constant $K_D^{Fe\text{-}Mg}$ ranging from 0.2 to 0.6. The open circles are orthopyroxene compositions (Mg#) obtained from experiments in the literature on hydrous andesite and dacite bulk compositions where coexisting liquid Mg# is well known because oxygen fugacity was rigorously controlled or monitored (see text).


A
mol% An (xtl)
mol% An (liq)
T-13
X-134
I-11
I-21
X-106
T-66
T-34

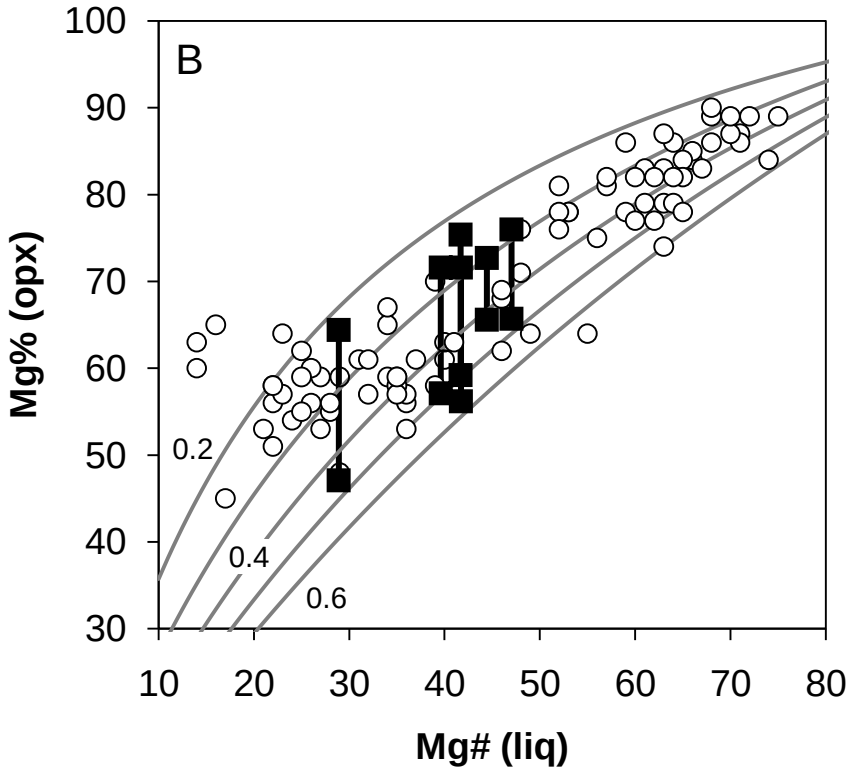

B
Mg% (opx)
Mg# (liq)
0.2
0.4
0.6

Figure 2.7: BSE images of six plagioclase crystals (A-F) in TEQ-34, which span a wide range of composition (~An40-An10), but show less compositional variation within each crystal than between them. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H2O is calculated from the plagioclase-liquid hygrometer. Both crystals A and E have similar "swallow tail" textures, despite a marked difference in their compositions. In contrast, crystals C and D have similar compositions, but display completely different textures.

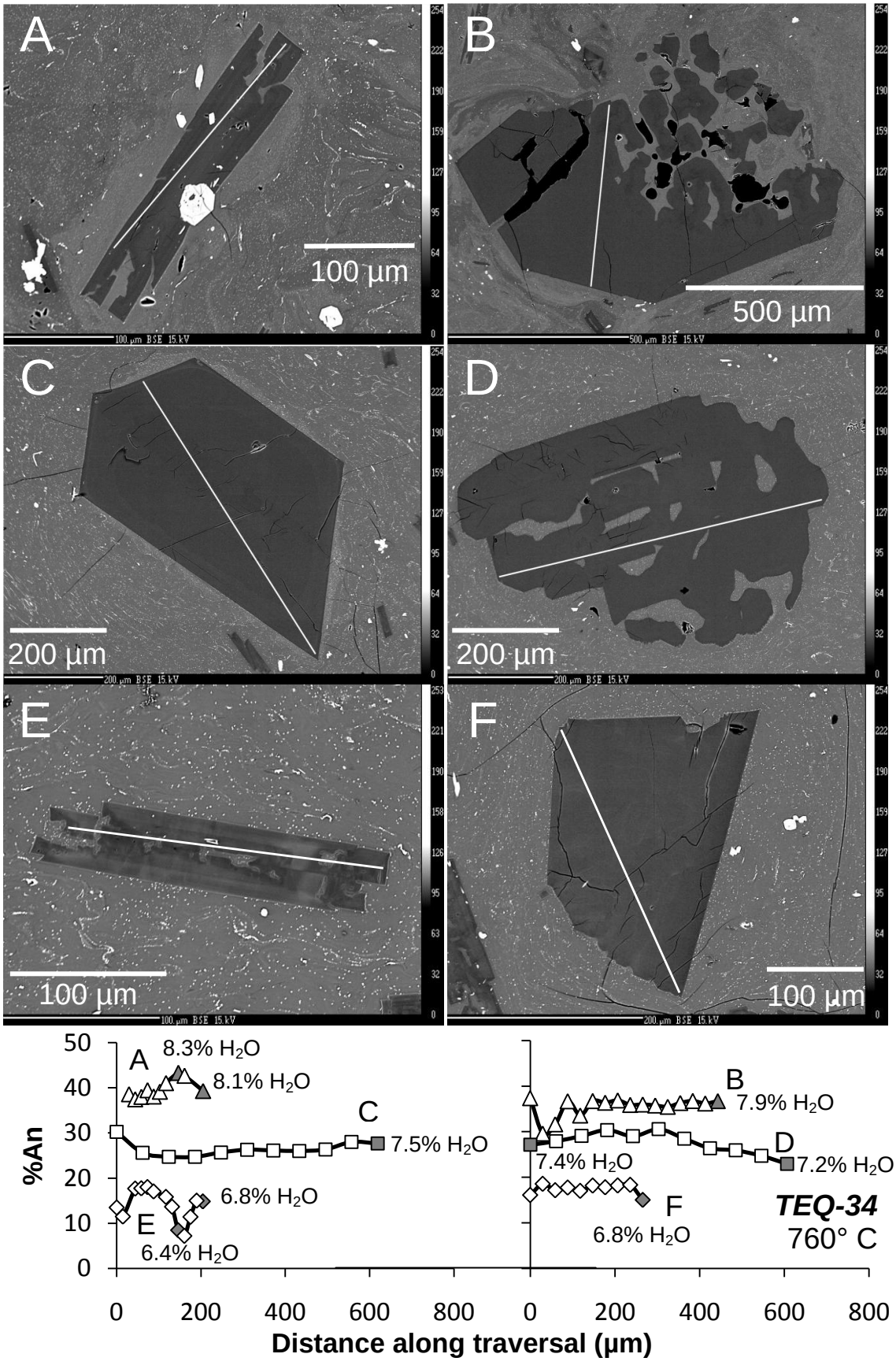

A
100 µm
B
500 µm
C
200 µm
D
200 µm
E
100 µm
F
100 µm
%An
50
40
30
20
10
0
A
8.3% H2O
8.1% H2O
C
7.5% H2O
6.8% H2O
E
6.4% H2O
B
7.9% H2O
D
7.4% H2O
7.2% H2O
F
6.8% H2O
TEQ-34
760° C
0
200
400
600
800
Distance along traversal (µm)

Figure 2.8: BSE images of six plagioclase crystals (A-F) in TEQ-66, which collectively range from An_{55} to An_{37}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystal A is the most calcic and is homogeneous except for a thin sodic rim (An_{38}). Crystal C is less calcic (An_{48}), also homogeneous, and again displays a thin sodic rim of the same composition (An_{38}) as that seen on crystal A. Crystal E is homogenous, with no rim, and its composition (An_{37}) matches that of the rims on crystals A and C. Crystals B, D and F have similar compositions to crystals C, and E, but display complex textures and zoning patterns.

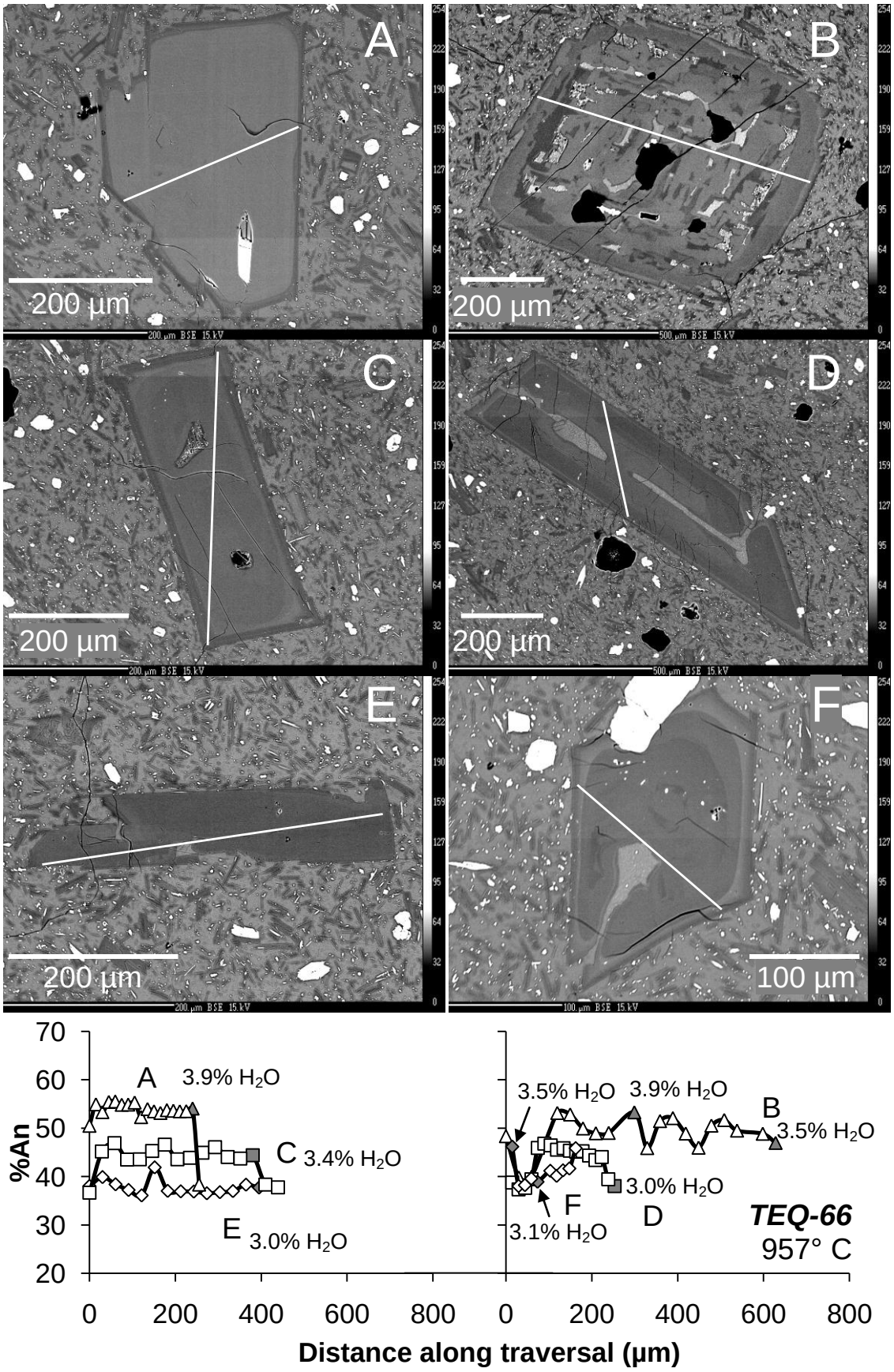

A
200 µm
B
200 µm
C
200 µm
D
200 µm
E
200 µm
F
100 µm
%An
70
60
50
40
30
20
A 3.9% H2O
C 3.4% H2O
E 3.0% H2O
3.5% H2O
3.9% H2O
B
3.5% H2O
3.0% H2O
F
3.1% H2O
D
TEQ-66
957° C
0
200
400
600
800
Distance along traversal (µm)

Figure 2.9: BSE images of six plagioclase crystals (A-F) in TAN-13, which largely display a bimodal compositional range between An_{87-82} and An_{65-60}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. All crystals display sharp, euhedral rims on at least one or more sides, although crystal D displays a complex texture. Crystals A through D all have calcic cores of similar composition (An_{87-82}) that are in sharp compositional contrast with their rims (~An_{60}). The sodic rim on crystal A is thick (70-200 microns), whereas the rims are much thinner (20-30 microns) on crystals B-D; these rims match the homogeneous composition of crystal E, which has a euhedral, skeletal shape. Crystal F, in contrast to crystals A-D, has a sodic core; in this case, the sodic core matches the rim compositions of crystals A-D, and the homogenous composition of crystal E.

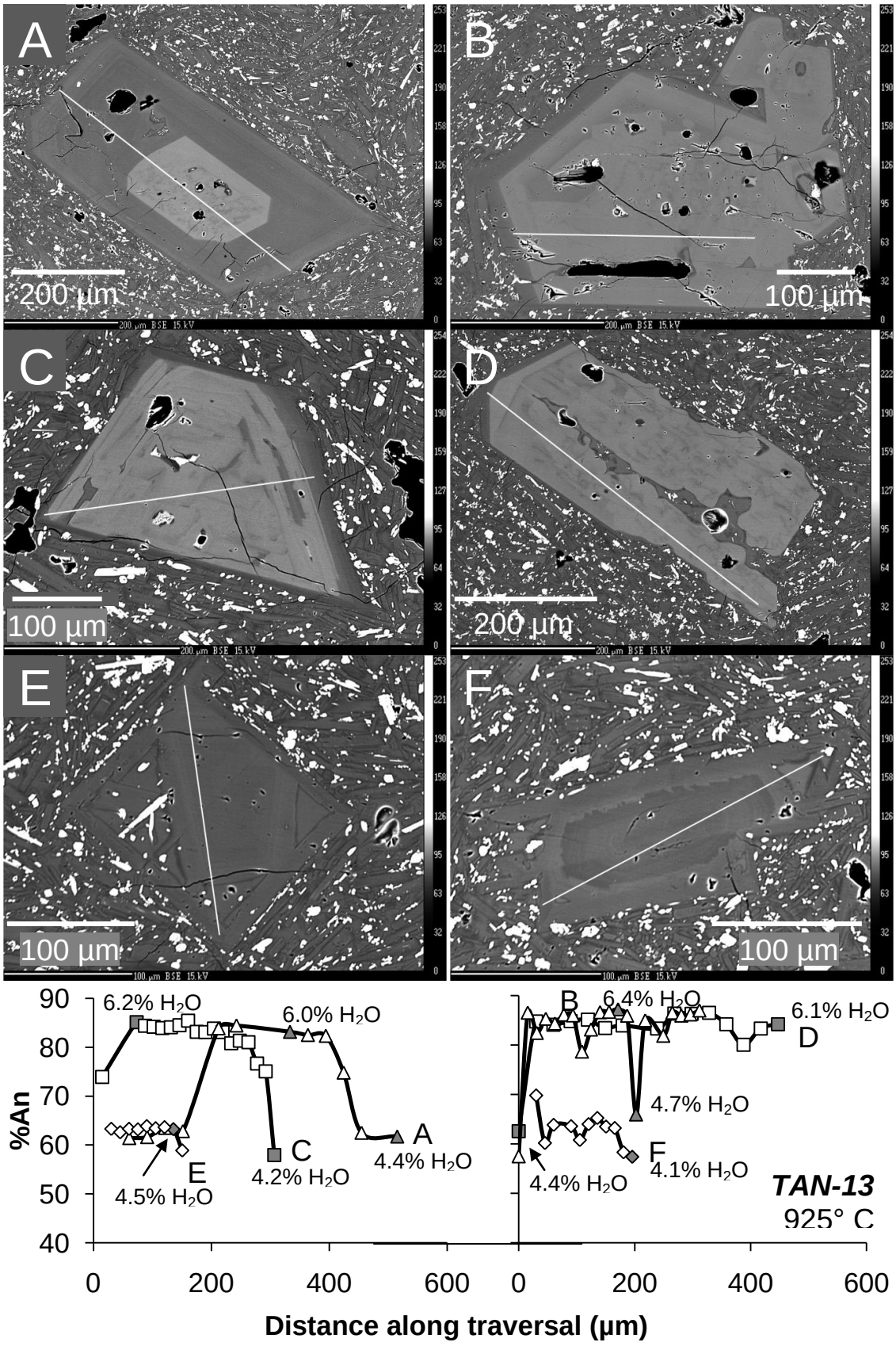

A
200 µm
B
100 µm
C
100 µm
D
200 µm
E
100 µm
F
100 µm
%An
90
80
70
60
50
40
6.2% H2O
6.0% H2O
A
4.4% H2O
C
4.2% H2O
E
4.5% H2O
B
6.4% H2O
6.1% H2O
D
4.7% H2O
F
4.1% H2O
4.4% H2O
TAN-13
925° C
0
200
400
600
Distance along traversal (µm)

Figure 2.10: BSE images of six orthopyroxene crystals (A-F) in TEQ-34, which collectively span Mg# values of 61-47, with corresponding $^{Fe\text{-}Mg}K_D$ values of 0.25 to 0.46. Crystals A thru E have rounded, nobby edges and are riddled with melt inclusions. Crystals C, D and E are notable among this group for having one or more sides that are sharp, flat, and faceted. Only crystal F has faceted rims on all sides. Crystal F and D have similar compositions, despite the contrast in their textures. Crystal E shows a clear case of reverse zoning. Crystals A thru D are variably and complexly zoned in composition.

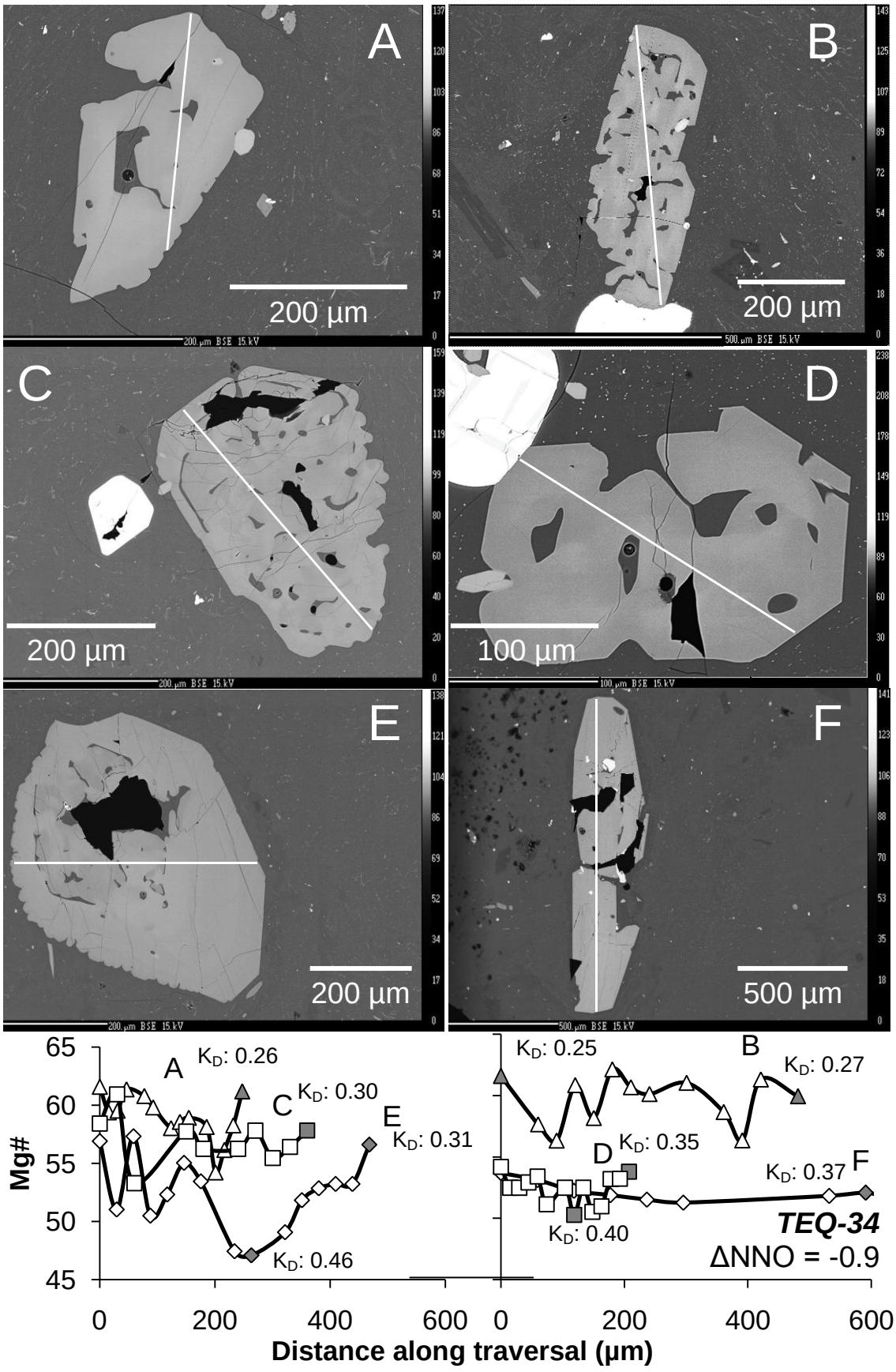
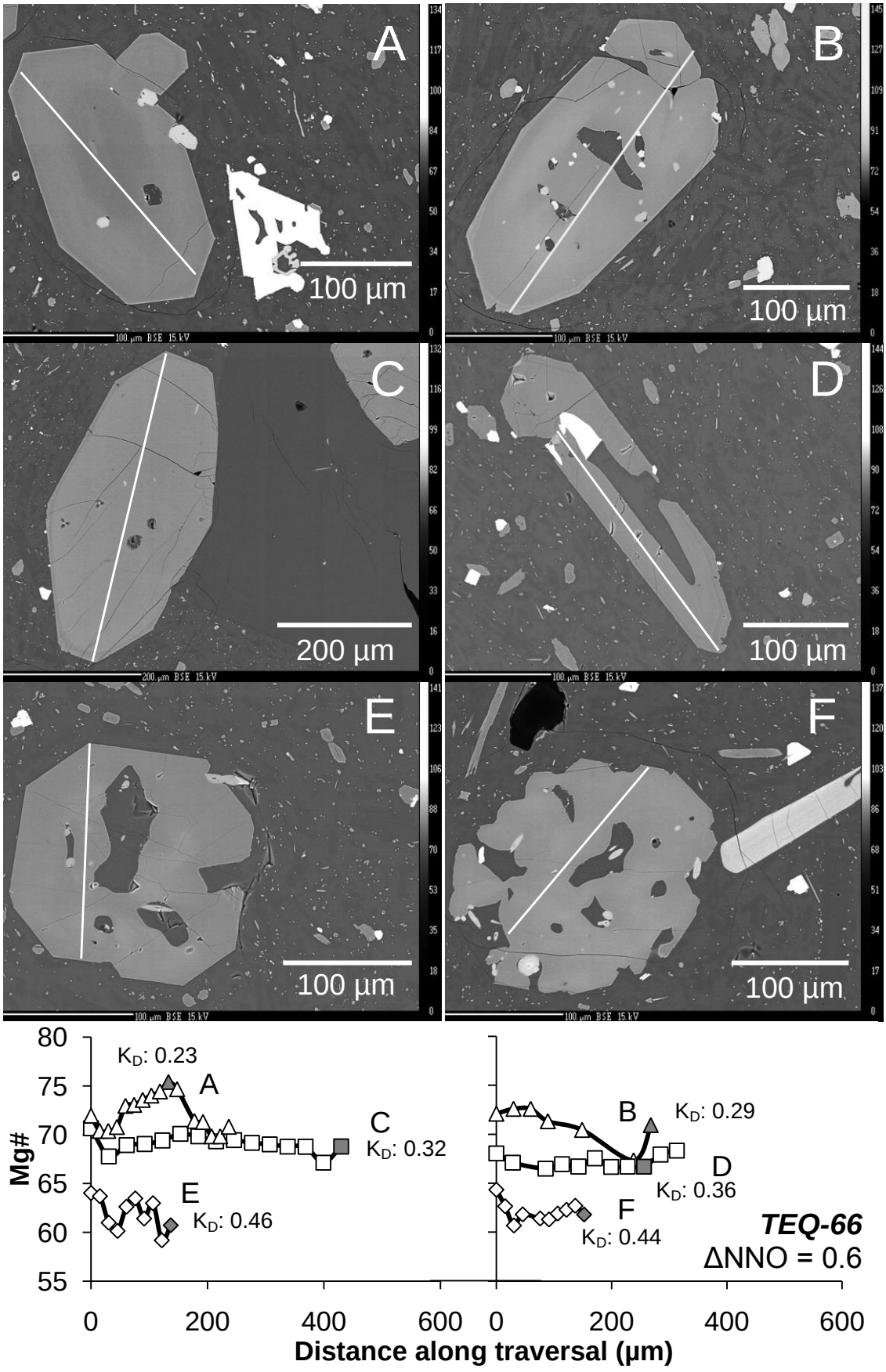

A
200 µm
B
200 µm
C
200 µm
D
100 µm
E
200 µm
F
500 µm
Mg#
65
60
55
50
45
A
K_D: 0.26
C
K_D: 0.30
E
K_D: 0.31
K_D: 0.46
K_D: 0.25
B
K_D: 0.27
D
K_D: 0.35
F
K_D: 0.37
K_D: 0.40
TEQ-34
ΔNNO = -0.9
0
200
400
600
Distance along traversal (µm)

Figure 2.11: BSE images of six orthopyroxene crystals (A-F) in TEQ-66, with Mg# values between 60-75. Crystals A thru E all display sharp, faceted euhedral rims, with $^{Fe\text{-}Mg}K_D$ values that range from 0.29 to 0.46, and each shows variable degrees of zoning. Crystal A displays normal zoning, with a distinctly more Mg-rich core (darker) compared to its rim. Crystals C and D display little zoning, whereas crystal E is variably zoned, with large holes in its interior. Crystals B, D and E also have large interior hollows. Crystal F has a similar Fe-rich composition as that of crystal E, but its edges are nobby and rounded, and it contains numerous melt hollows.


A
100 µm
B
100 µm
C
200 µm
D
100 µm
E
100 µm
F
100 µm
80
75
70
65
60
55
Mg#
K_D: 0.23
A
C
K_D: 0.32
E
K_D: 0.46
B
K_D: 0.29
D
K_D: 0.36
F
K_D: 0.44
TEQ-66
ΔNNO = 0.6
0
200
400
600
0
200
400
600
Distance along traversal (µm)

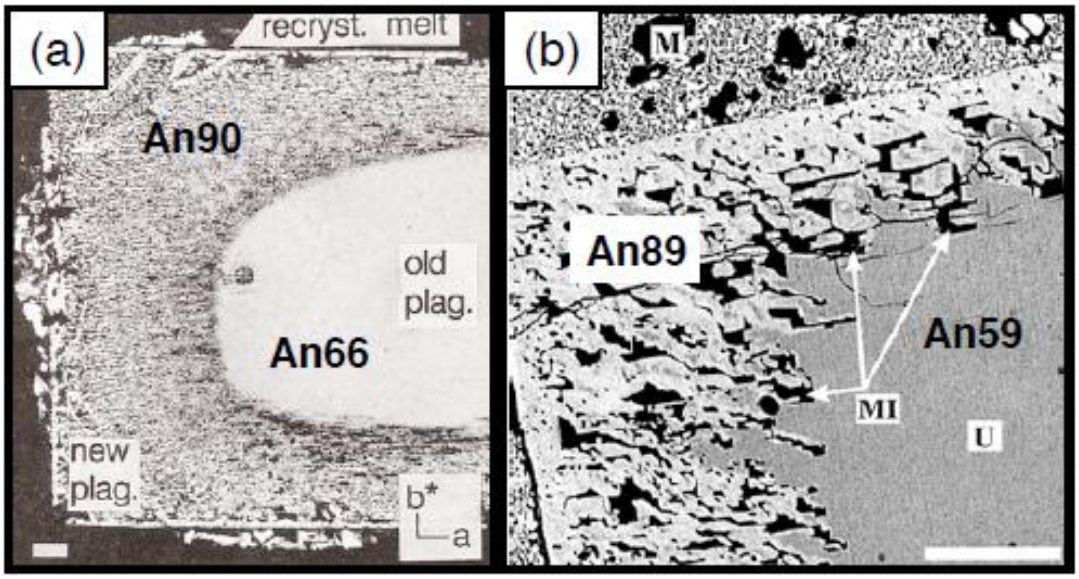


Figure 2.12: BSE images from the literature that show dissolution of sodic plagioclase (out of equilibrium) and re-crystallization of calcic plagioclase (in equilibrium) in experiments. (a) Dissolution of An_{66} and re-crystallization of equilibrium An_{90}; Johannes *et al*., 1994. (b) Dissolution of An_{59} and re-crystallization of equilibrium An_{89}; Nakamura and Shimakita, 1998. M=melt; MI=melt inclusion; U=unreacted.

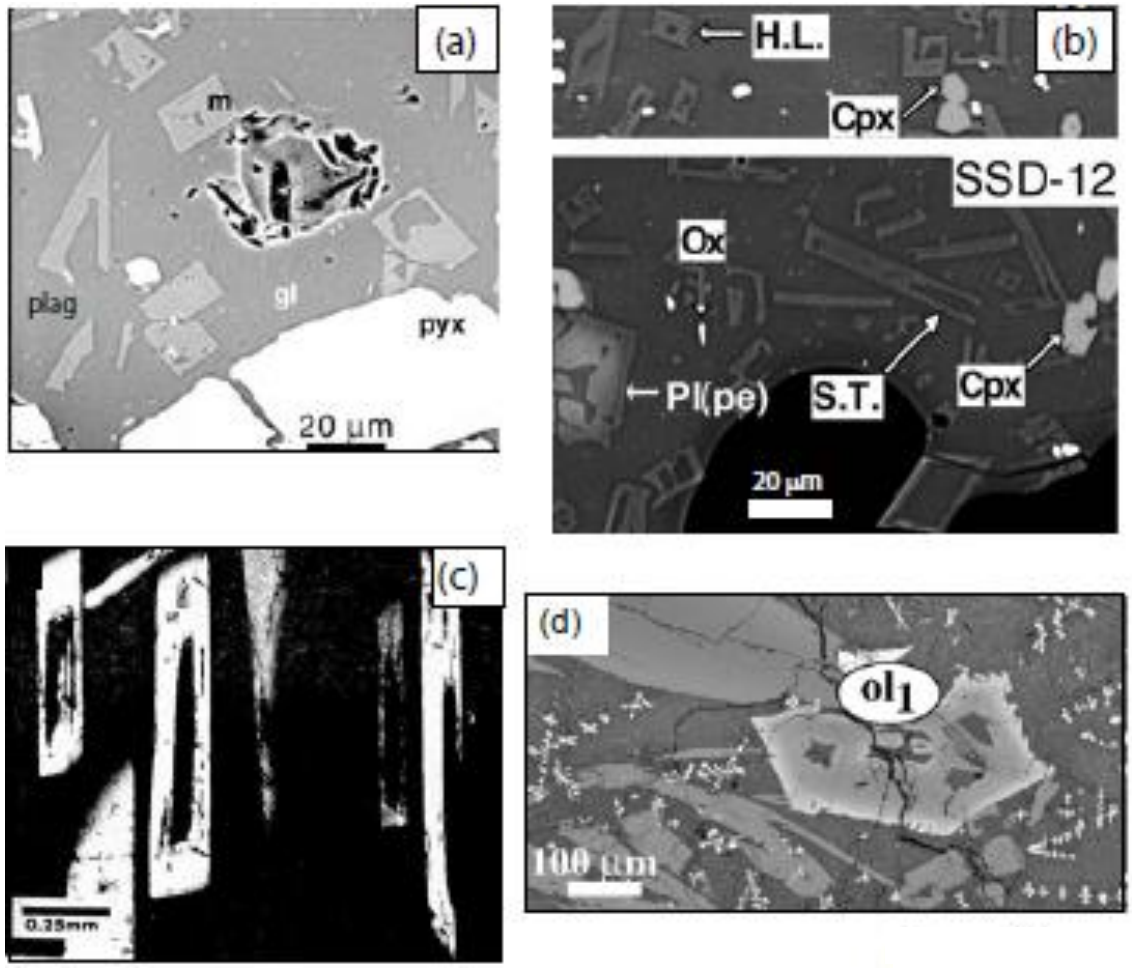


Figure 2.13: BSE and photomicrograph images taken from the literature, which show diffusion-limited growth textures caused by large undercoolings. (a) Run product after decompression (220-100 MPa) of dacite liquid at 780°C under H_2O fluid-saturated conditions; m=melt; plag=plagioclase; pyx=pyroxene; Hammer and Rutherford, 2002. (b) Run products after decompression (145-50 MPa) of dacite liquid at 900°C under H_2O fluid-saturated conditions and then held for: (1) 24 hours and (2) 12 hours; HL=hollow; ST=swallow tail; Pl(pe)=pre-existing plagioclase; Cpx=clinopyroxene; Ox=Fe-Ti oxide; Suzuki *et al*. (2007). (c) Abrupt drop in temperature by ~100 degrees below the liquidus in plagioclase liquid at 500 MPa, H_2O fluid-saturated conditions; Lofgren, 1974. (d) Rapid cooling of basalt by 6°/hour; ol_1=olivine; Hammer, 2006.

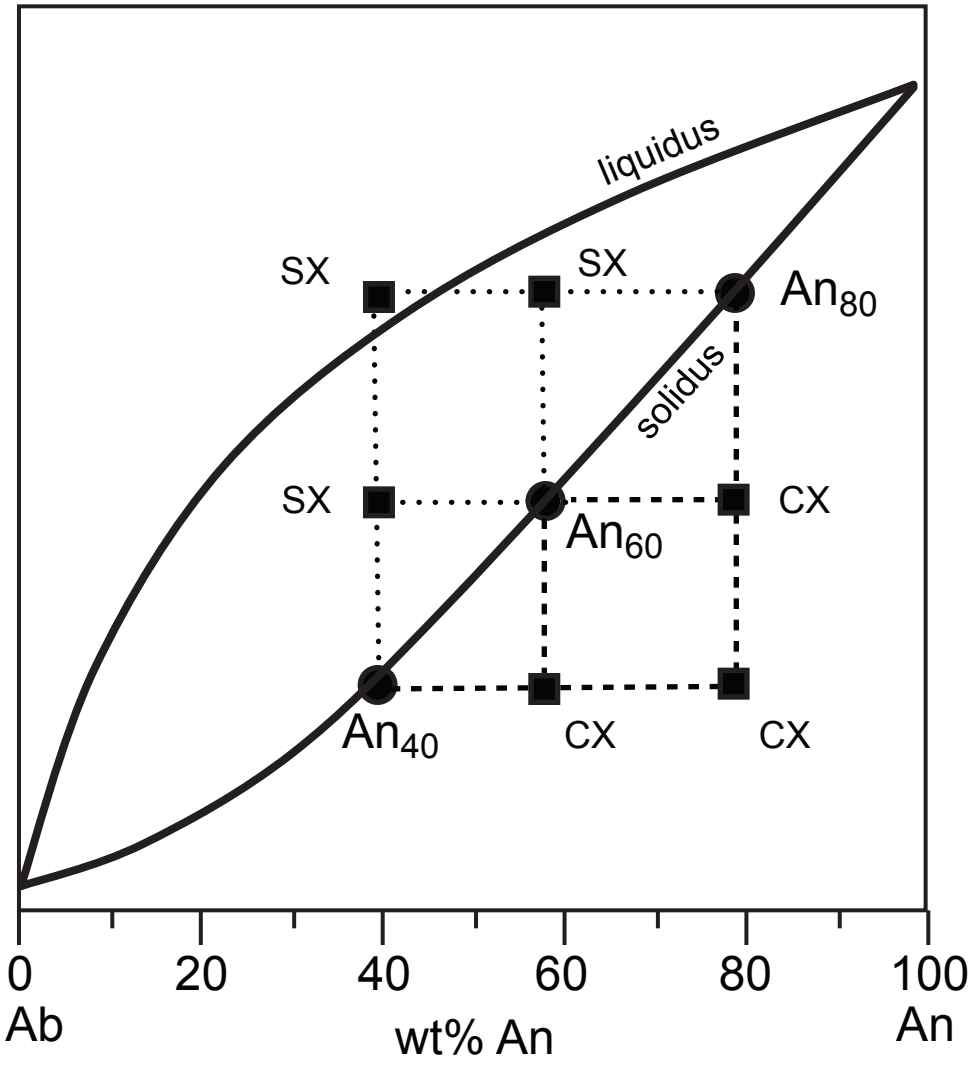


Figure 2.14: Schematic plot of the plagioclase binary loop projected from a magmatic liquid. An_{80}, An_{60}, and An_{40} are equilibrium plagioclase crystals on the solidus; CX=calcic xenocryst, which are always in the crystal stability field and re-equilibration must occur by solid-state diffusion; SX=sodic xenocryst, which are always inside the plagioclase loop or in the liquid stability field and re-equilibration occurs by melting and recrystallization.

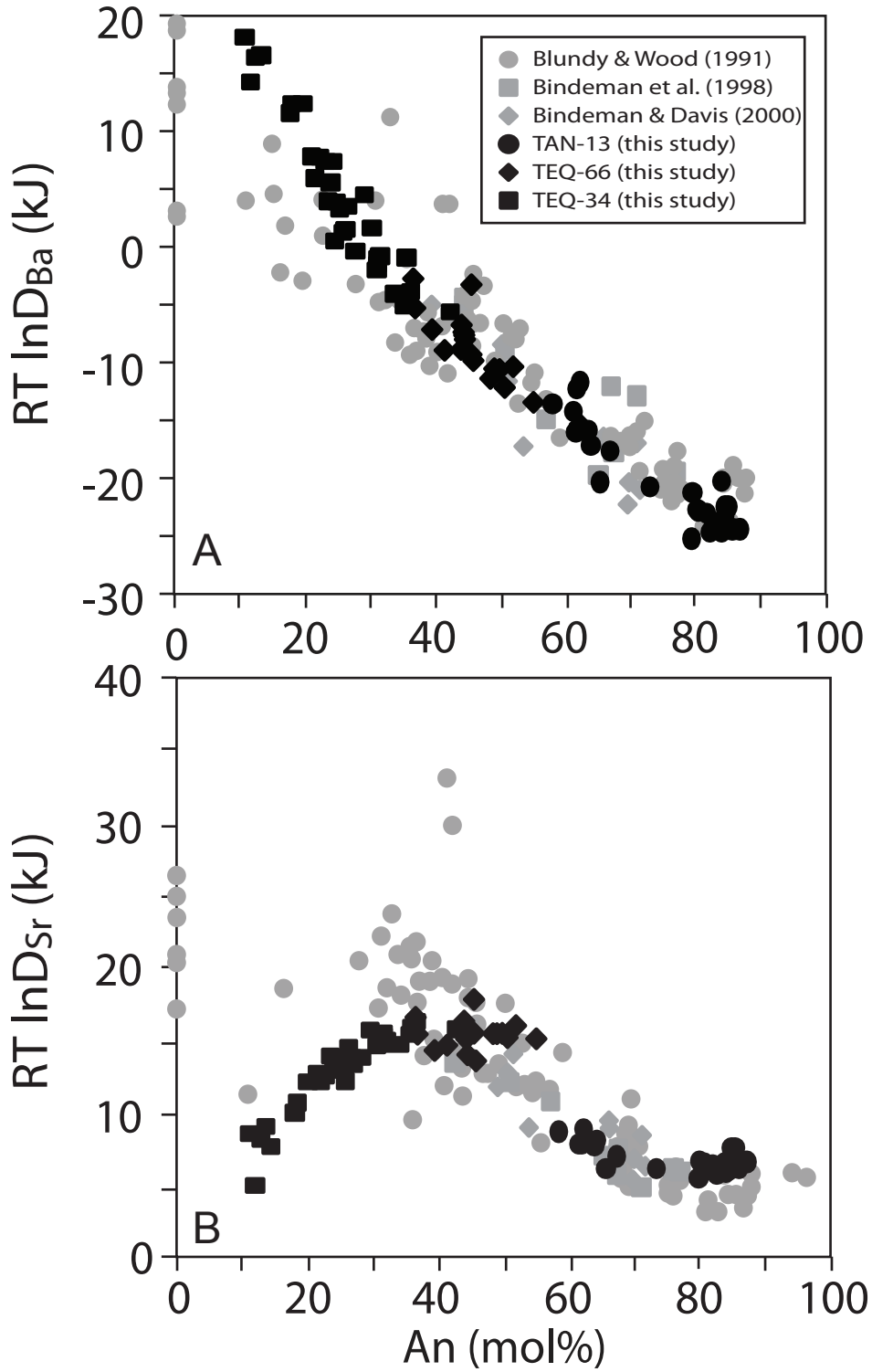


Figure 2.15. (a) Plot of $RT\ln D_{Ba}$ vs. An (mol%) where solid black symbols are from this study. Grey circles are the data used by Blundy & Wood (1991) to calibrate their model equation; grey squares and grey diamonds are the experimental data of Bindeman et al. (1998) and Bindeman & Davis (2000), respectively. (b) Plot of $RT\ln D_{Sr}$ vs. An (mol%); symbols are the same as in (a).

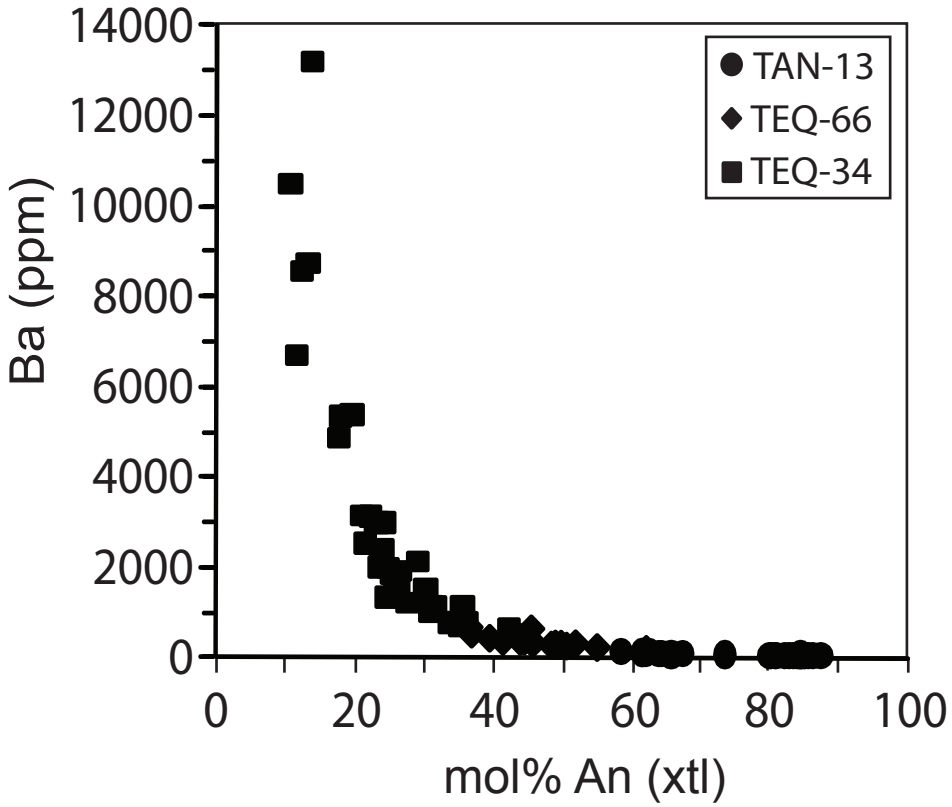


Figure 2.16: Plot of Ba in plagioclase as a function of An (mol%). Note the exponential increase in Ba with decreasing An%, which may limit the incorporation of Sr into the plagioclase lattice.

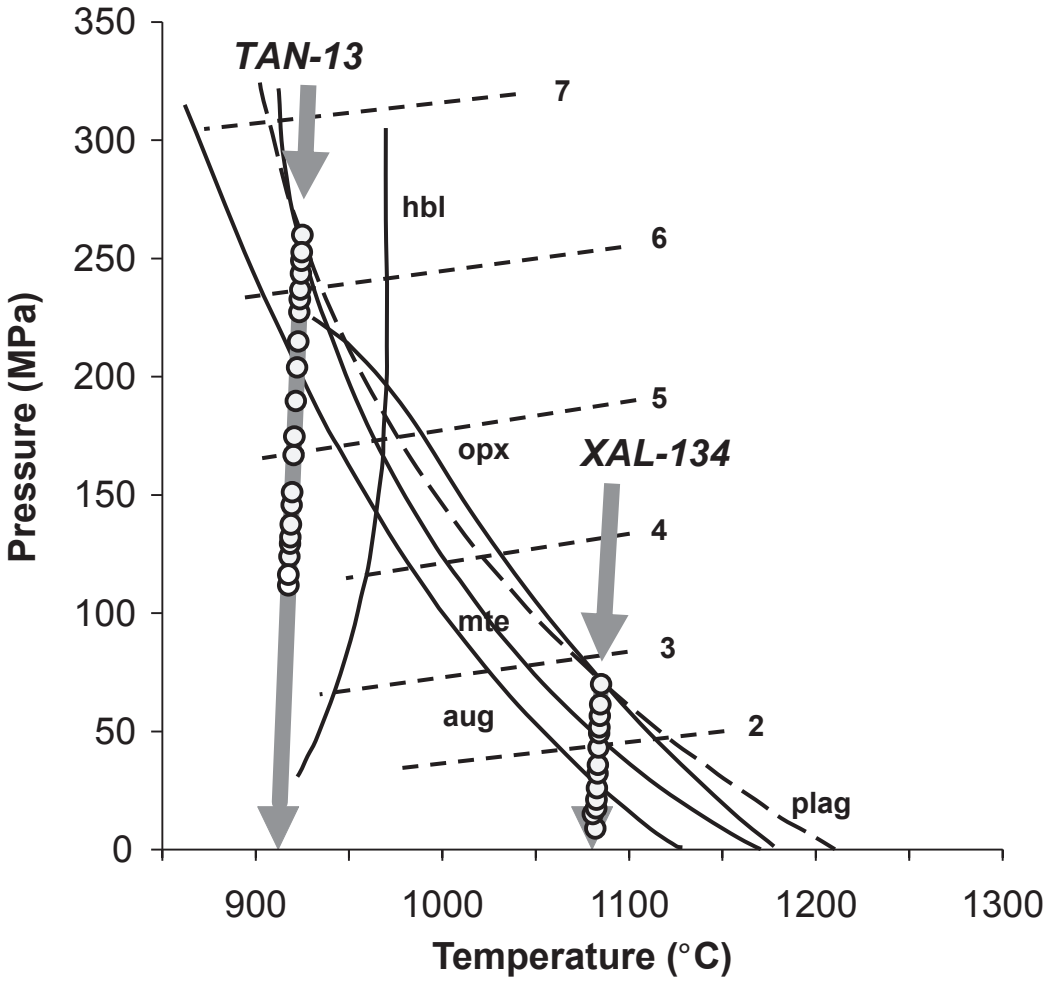
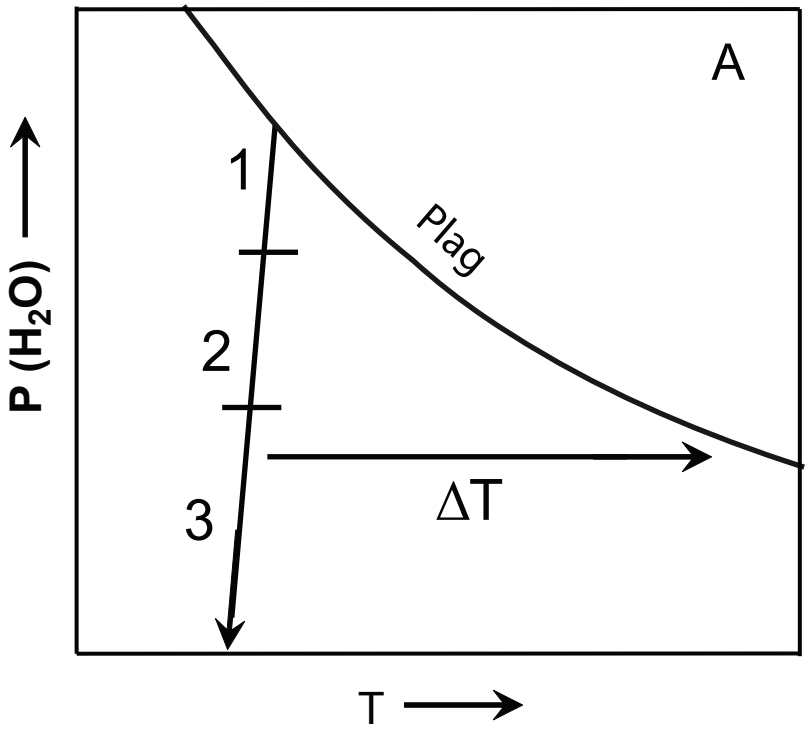
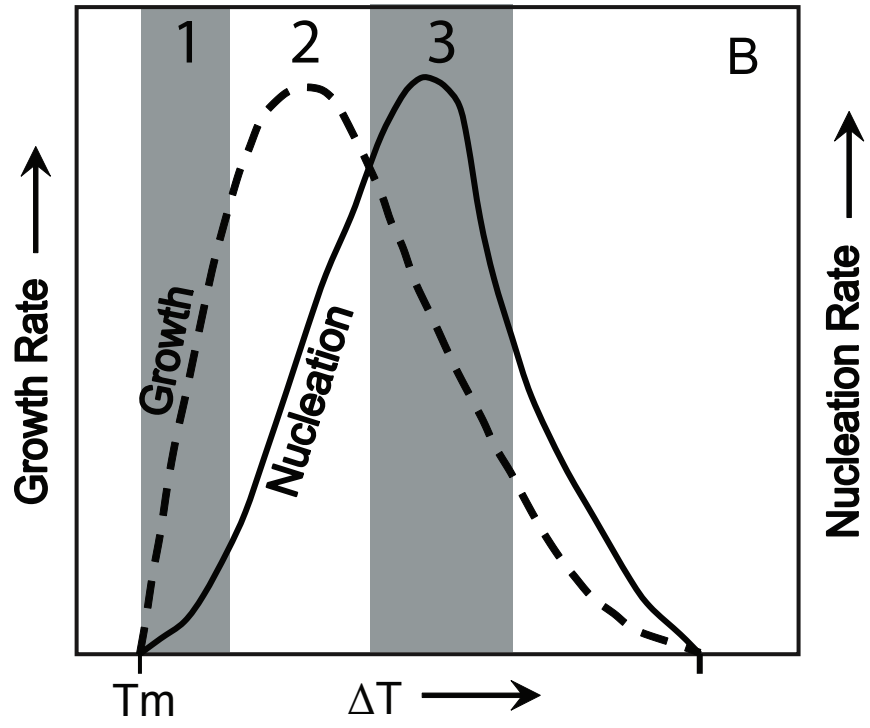


Figure 2.17: Phase diagram for H_2O fluid-saturated andesite from experiments of Moore and Carmichael (1998). Dashed lines show isopleths of water solubility in the melt when saturated with pure H_2O fluid from Moore et al. (1998). Superimposed are adiabatic ascent paths (grey arrows) for two andesites from this study at temperatures obtained by Fe-Ti oxide thermometry (XAL-134) or estimated from Fig. 2.5 (TAN-13). White dots correspond to the temperatures from the Fe-Ti oxides (Table 2.2) and the water concentrations calculated from the plagioclase-liquid hygrometer (Fig. 2.3).

Figure 2.18: (a) Schematic fluid-saturated plagioclase liquidus curve on a pressure vs. temperature plot. After an ascending magma crosses the plagioclase-in curve, it passes through three zones, where ΔT (=temperature of plagioclase liquidus – temperature of magma) progressively increases. (b) Schematic plot of crystal growth rate and nucleation rate with degree of undercooling (ΔT); modified from Carmichael (1974). Three zones are indicated, which correspond to those in (a). In zone 1, the most calcic plagioclase grows, owing to relatively high melt water concentrations; nucleation rates are low and crystal growth rates are increasing. In zone 2, plagioclase of intermediate composition grows as nucleation rates increase and crystal growth rates peak; this composition is expected to be the most abundant. In zone 3, the most sodic plagioclase grows, owing to relatively low melt water, and marks the transition from growth-controlled crystallization (i.e., phenocrysts) to nucleation-controlled crystallization (i.e., microlites).


A
1
2
3
Plag
ΔT
P (H2O)
T


1
2
3
B
Growth
Nucleation
Growth Rate
Nucleation Rate
Tm
ΔT

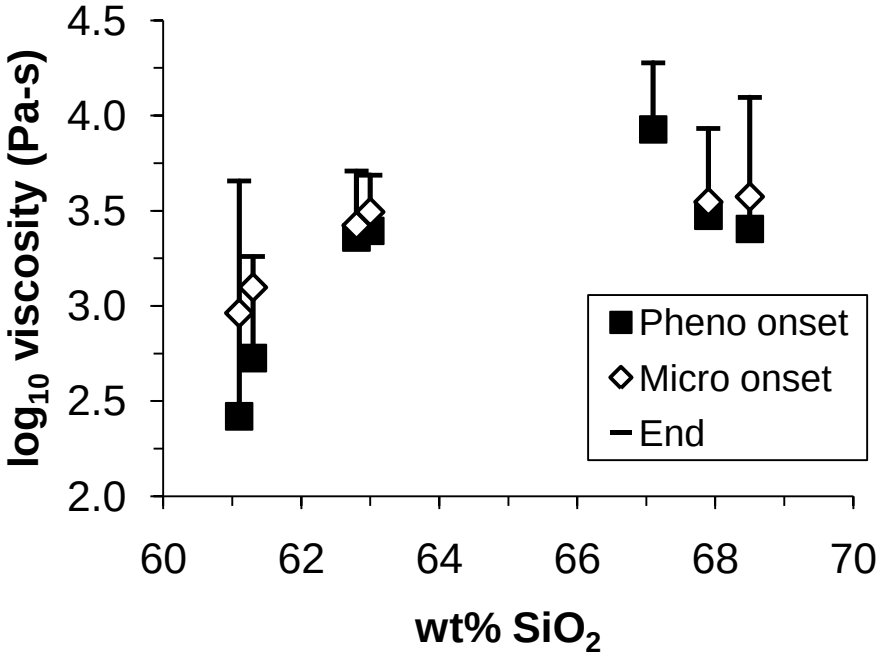


Figure 2.19: A plot of melt viscosity during plagioclase growth for each sample as a function of wt% SiO_2. Melt viscosity is calculated from the model of Hui and Zhang (2007), using the bulk liquid compositions in Table 2.1, temperatures from the Fe-Ti oxides (Table 2.2), and the melt water concentrations from the plagioclase-liquid hygrometer (Fig. 2.3).

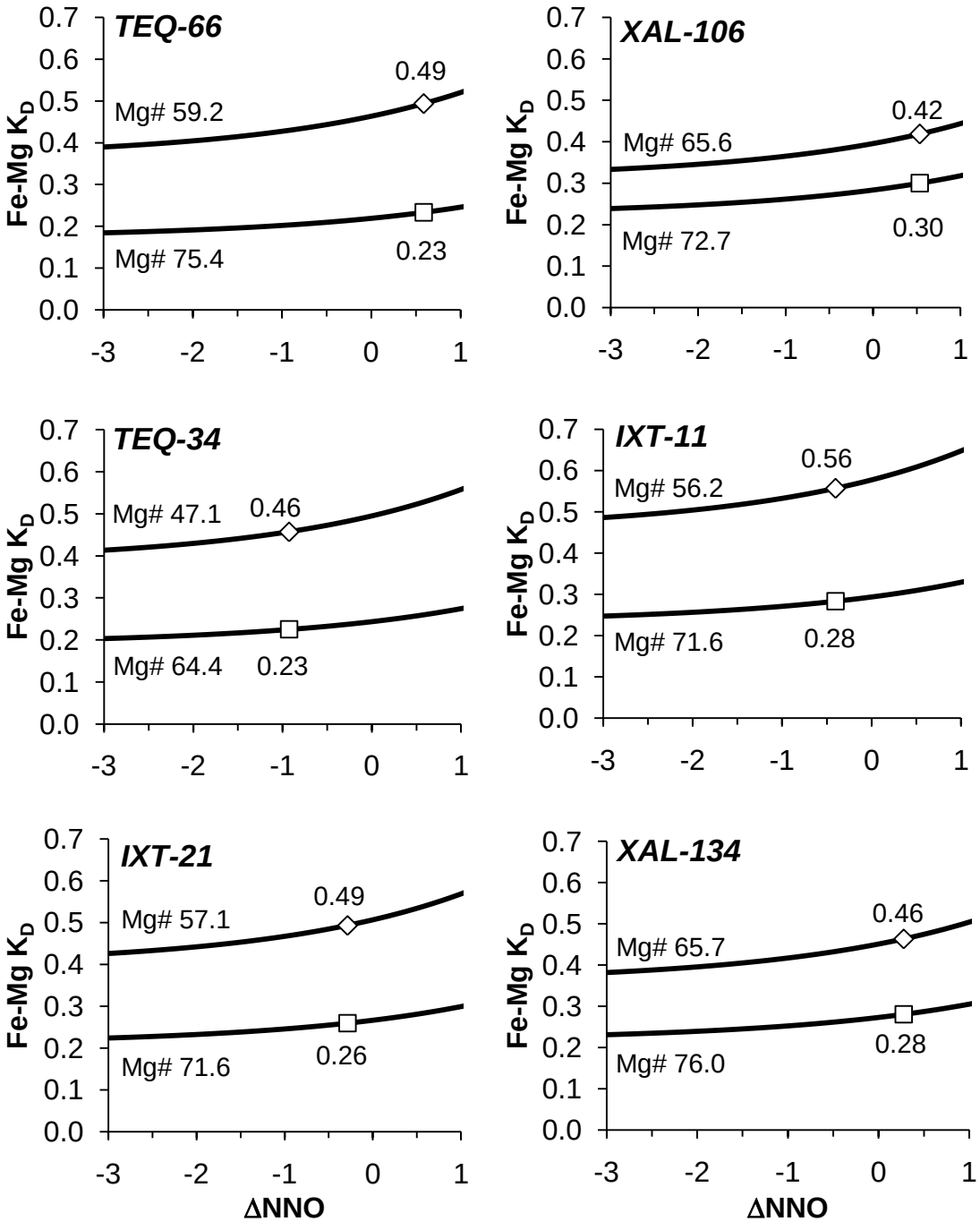
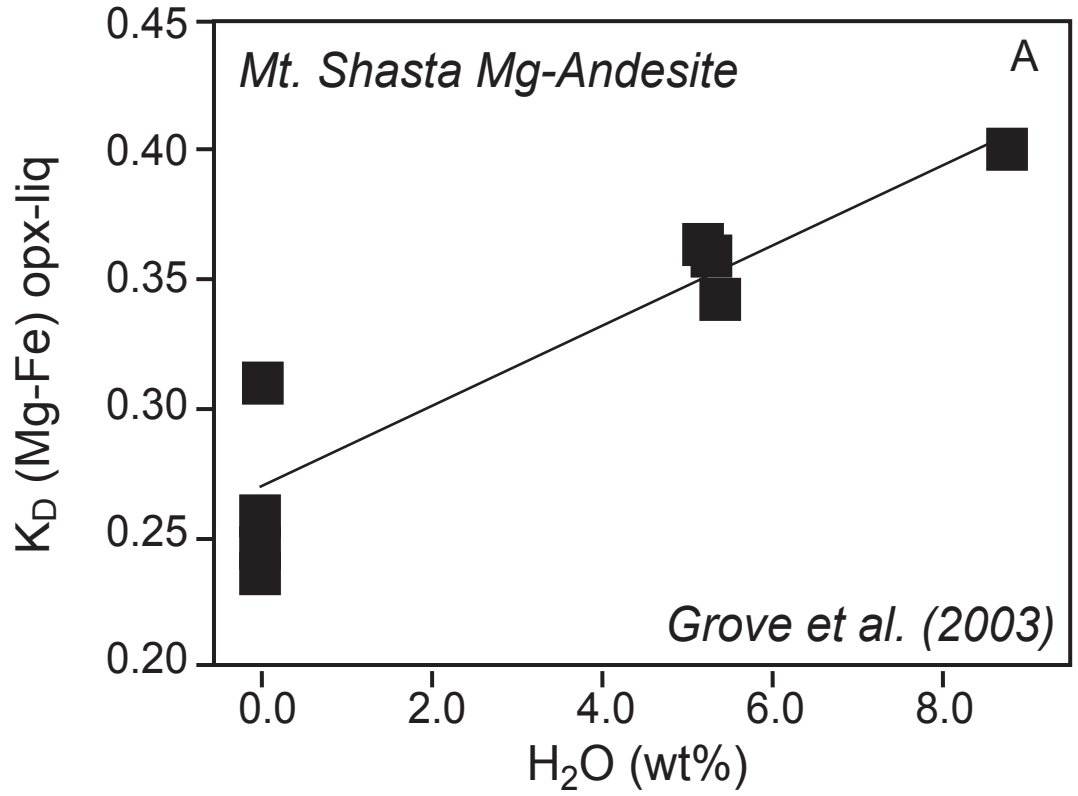


Figure 2.20: Plot of calculated values of $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid for the most Mg-rich and most Mg-poor crystals as a function of ΔNNO for each sample. The diamonds on each curve correspond to the calculated for each crystal at the ΔNNO obtained from two Fe-Ti oxides (Table 2.2). As ΔNNO values decrease, mol% FeO in the liquid increases and $^{Fe\text{-}Mg}K_D$ decreases. The results show that even at ΔNNO = -3, well below those measured, the $^{Fe\text{-}Mg}K_D$ values for the most Mg-poor orthopyroxenes remain at values > 0.4 for six of seven samples.

Figure 2.21: Plot of $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid as a function of melt water concentration. (a) Experiments from Grove *et al*. (2003) on a Mg-rich andesite. Anhydrous experiments are buffered at QFM with gas mixing, whereas H2O fluid-saturated experiments are buffered with the assemblage Ni-NiO. Note that reported $^{Fe\text{-}Mg}K_D$ values in Grove *et al.* (2003) are based on total iron as FeO from microprobe analyses of the glass and not on re-calculated liquid FeO concentrations based on the buffered oxygen fugacities. Corrected $^{Fe\text{-}Mg}K_D$ values are shown in (a). (b) Six phase equilibrium experiments of Gardner *et al.* (1995) on Mount St. Helens dacite at 825 and 875°C, all of which were buffered with the Ni-NiO assemblage. Plotted $^{Fe\text{-}Mg}K_D$ values are based on re-calculated liquid FeO concentrations based on the buffered oxygen fugacities.


Mt. Shasta Mg-Andesite
A
Grove et al. (2003)
K_D (Mg-Fe) opx-liq
0.45
0.40
0.35
0.30
0.25
0.20
0.0
2.0
4.0
6.0
8.0
H_2O (wt%)

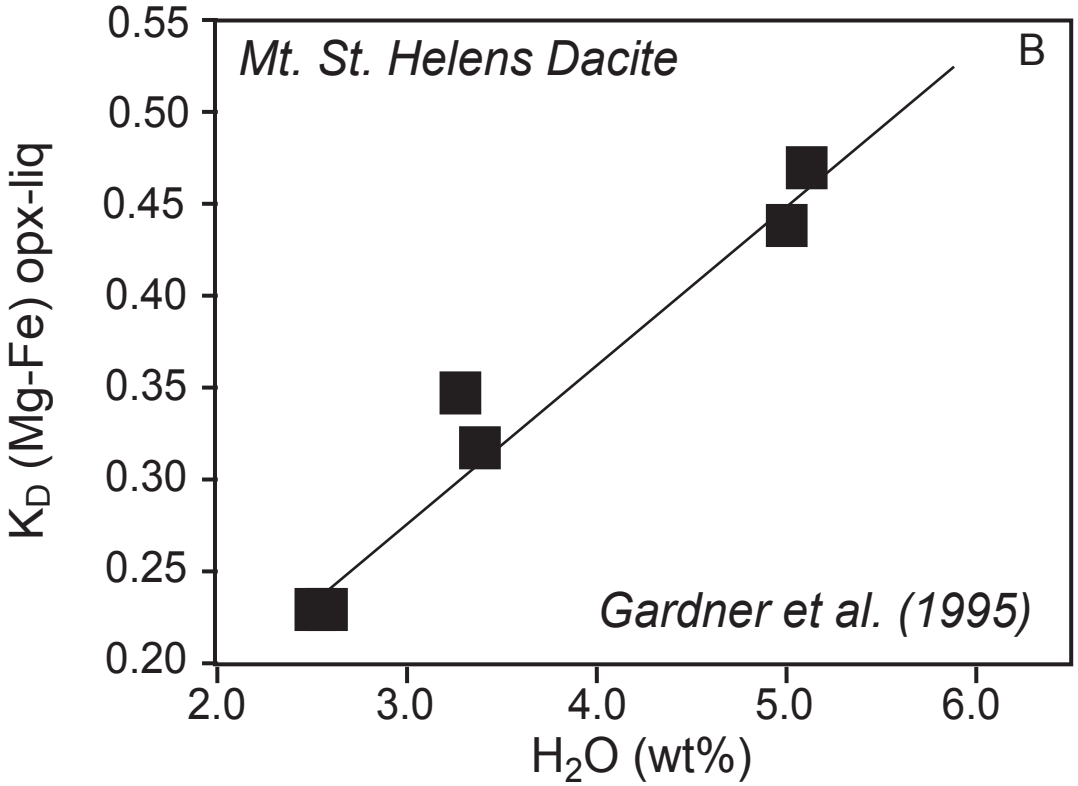

Mt. St. Helens Dacite
B
Gardner et al. (1995)
K_D (Mg-Fe) opx-liq
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
2.0
3.0
4.0
5.0
6.0
H_2O (wt%)

Table 2.1: Bulk compositions and modal petrography

Sample:	TEQ-66	XAL-106	TEQ-34	IXT-11	IXT-21	TAN-13	XAL-134
Lat. (N)	20° 48.15'	21° 27.68'	20° 49.80'	21° 03.60'	21° 4.25'	19° 15.94'	21° 29.77'
Long. (W)	103° 59.02'	104° 40.36'	103° 59.80'	104° 26.75'	104° 27.00'	102° 23.14'	104° 42.35'
SiO_2	68.5	67.9	67.1	63.0	62.8	61.3	61.1
TiO_2	0.67	0.64	0.60	0.82	0.85	0.68	1.33
Al_2O_3	14.9	16.1	15.7	17.2	17.4	18.3	16.6
FeO^T	3.14	3.26	3.38	4.61	4.69	5.08	6.14
MnO	0.08	0.17	0.11	0.15	0.17	0.09	0.14
MgO	0.93	1.09	0.65	1.51	1.39	2.41	2.36
CaO	2.35	2.66	1.66	3.66	3.43	5.78	4.90
Na_2O	4.43	5.25	5.53	5.48	5.63	4.60	4.67
K_2O	3.91	2.65	4.25	2.38	2.70	1.56	2.02
P_2O_5	0.22	0.21	0.16	0.35	0.35	0.22	0.59
LOI	0.23	0.31	0.30	0.20	0.25	0.00	0.22
Total	99.4	100.3	99.5	99.4	99.8	100.2	100.4
Sr (ppm)	266	454	213	602	529	266	588
Ba (ppm)	908	955	1265	995	1060	908	826
$An\#_{liq}$	15.07	16.19	10.51	22.47	21.33	34.65	29.90
$Mg\#_{liq}$	0.39	0.45	0.31	0.44	0.41	0.54	0.51
[1] FeO_{FeTi}	2.32	2.43	2.85	3.75	3.78	---	4.74
[2] FeO_{Titr}	2.33	2.34	2.55	3.58	3.68	3.62	4.85
Plag ph	0.6%	1.4%	0.8%	0.8%	0.8%	0.0%	0.6%
mph	0.9%	2.9%	1.0%	1.2%	0.2%	3.5%	1.0%
Opx ph	0.0%	0.0%	0.0%	<0.1%	0.0%	0.0%	0.1%
mph	0.6%	0.4%	0.1%	0.1%	0.2%	0.1%	0.3%
Cpx ph	<0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	<0.1%
mph	0.7%	0.0%	0.1%	0.0%	<0.1%	<0.1%	0.1%
Biotite	0.0%	0.0%	<0.1%	0.0%	0.0%	0.0%	0.0%
Hbl	0.0%	0.0%	0.0%	1.5%	0.3%	0.7%	0.0%
Fe-Ti Ox	0.5%	0.3%	0.2%	0.4%	0.3%	0.3%	0.7%
Gdms	96.7%	95.0%	97.7%	96.0%	98.2%	95.3%	97.2%

ph = phenocryst (>200 µm); mph = microphenocryst (>20 µm); gdms= groundmass;

$An\#_{liq}$ = [XAn/XAn + XAb] * 100, where XAn = 64.0 $(X^{liq}_{CaO})(X^{liq}_{Al_2O_3})(X^{liq}_{SiO_2})^2$

and XAb = 18.963 $(X^{liq}_{Na_2O})^{0.5}$ $(X^{liq}_{Al_2O_3})^{0.5}$ $(X^{liq}_{SiO_2})^3$ (Lange, et al., 2009)

$Mg\#_{liq} = Mg/(Mg+Fe^{2+})_{molar}$

[1]FeO calculated on basis of ΔNNO value obtained from two Fe-Ti oxides (except TAN-13)

[2]FeO obtained by titration

Table 2.2: Average Fe-Ti oxide compositions

Sample	TEQ-66	XAL-106	TEQ-34	IXT-11	IXT-21	XAL-134
Phase	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm
# of analyses	20	16	10	2	4	10
SiO_2	0.03	0.03	0.04	0.13	0.07	0.02
TiO_2	43.44	44.17	49.29	47.08	47.46	44.40
Al_2O_3	0.26	0.30	0.10	0.07	0.16	0.40
Fe_2O_3	20.24	18.83	7.62	10.17	10.59	19.88
V_2O_3	0.10	0.00	0.00	0.00	0.00	0.16
Cr_2O_3	0.02	0.01	0.01	0.01	0.01	0.01
FeO	32.15	31.91	38.67	37.11	37.14	30.93
MnO	0.54	0.83	1.18	0.96	1.09	0.44
MgO	2.81	3.20	2.29	2.18	2.10	3.60
CaO	0.02	0.04	0.01	0.18	0.08	0.02
Total	99.59	99.31	99.21	97.86	98.71	99.86
$X_{ilmenite}$	69.3	68.6	81.7	80.1	79.7	67.2
Phase	Mte	Mte	Mte	Mte	Mte	Mte
# of analyses	7	16	7	13	18	9
SiO_2	0.07	0.08	0.07	0.11	0.10	0.11
TiO_2	12.50	11.83	12.22	15.02	14.74	17.86
Al_2O_3	2.44	2.58	2.41	1.93	3.06	1.86
Fe_2O_3	41.75	43.52	42.49	36.15	35.00	30.17
V_2O_3	0.33	0.13	0.04	0.11	0.16	0.41
Cr_2O_3	0.01	0.01	0.01	0.00	0.01	0.01
FeO	39.59	38.80	40.13	43.86	43.82	46.62
MnO	0.53	0.74	0.73	0.69	0.73	0.52
MgO	1.71	1.83	1.14	1.58	2.23	1.70
CaO	0.03	0.02	0.02	0.08	0.04	0.07
Total	98.96	99.53	99.27	99.52	99.87	99.32
$X_{ulvospinel}$	35.2	33.1	34.5	43.3	41.1	51.5
T (°C)	957 ± 19	928 ± 17	760 ± 18	872 ± 13	874 ± 17	1085 ± 16
ΔNNO	0.6 ± 0.1	0.5 ± 0.1	-0.9 ± 0.1	-0.4 ± 0.1	-0.3 ± 0.1	0.3 ± 0.1

Table 2.3:Minimum and Maximum %An plagioclase compositions

Sample	TEQ-66	TEQ-66	XAL-106	XAL-106	TEQ-34	TEQ-34	IXT- 11	IXT- 11	IXT- 21	IXT- 21	TAN-13	TAN-13	XAL-134	XAL-134
ph/mph	mph	ph	mph	ph	ph	ph	ph	ph	ph	ph	ph	ph	ph	ph
SiO_2	61.1	54.1	60.4	54.1	65.3	56.9	59.2	53.7	60.1	53.6	54.1	45.9	56.5	49.4
Al_2O_3	23.4	28.7	24.5	28.1	20.9	26.5	25.8	28.6	24.8	28.6	28.2	34.1	26.3	31.8
Fe_2O_3	0.5	0.6	0.5	0.5	0.2	0.6	0.2	0.5	0.4	0.6	0.6	0.4	0.5	0.7
CaO	5.6	11.4	6.2	10.5	1.9	8.9	7.8	11.9	6.7	11.6	11.3	17.7	8.7	15.2
Na_2O	7.5	4.9	7.9	5.4	8.0	6.1	7.0	4.8	7.6	4.9	5.0	1.4	6.7	3.2
K_2O	1.0	0.3	0.6	0.2	3.5	0.4	0.3	0.1	0.5	0.2	0.2	0.0	0.3	0.1
Sum	99.0	99.7	100.0	98.7	99.7	99.6	100.4	99.6	100.0	99.6	99.3	99.6	98.9	100.2
%An	27.5	55.4	29.1	51.4	9.0	43.3	37.3	57.4	31.9	56.1	55.2	87.2	41.3	72.4
wt% H2O	2.5	4.4	3.2	4.4	6.4	8.4	4.5	5.7	4.4	5.7	4.0	6.5	0.8	2.7

Table 4: Minimum and maximum Mg# orthopyroxene compositions

Sample	TEQ-66	TEQ-66	XAL-106	XAL-106	TEQ-34	TEQ-34	IXT-11	IXT-11	IXT-21	IXT-21	XAL-134	XAL-134
ph/mph	mph	ph	ph	mph	ph	ph	mph	mph	ph	ph	ph	ph
SiO_2	52.7	53.5	53.1	53.9	50.7	53.1	51.1	53.4	51.3	53.6	52.6	54.5
TiO_2	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Al_2O_3	0.5	1.6	0.7	0.9	0.3	0.7	0.9	1.4	1.4	1.1	1.4	0.8
FeO	24.6	15.6	21.3	17.3	30.1	21.5	26.3	18.0	25.6	17.8	21.0	15.3
MnO	1.3	0.4	1.1	1.0	1.7	0.9	1.4	0.8	1.4	0.8	0.9	0.5
MgO	20.0	26.9	22.9	25.8	15.0	21.8	18.9	25.5	19.1	25.2	22.5	27.1
CaO	1.2	1.6	1.1	1.4	1.7	1.6	0.9	1.3	1.5	1.6	1.4	1.5
Sum	100.2	99.8	100.4	100.4	99.5	99.9	99.6	100.5	100.5	100.3	100.2	99.9
Mg#	59.2	75.4	65.6	72.7	47.1	64.4	56.2	71.6	57.1	71.6	65.7	76.0
K_D	0.49	0.23	0.42	0.30	0.46	0.23	0.56	0.28	0.49	0.26	0.46	0.28

Table 2.5: Ba and Sr data from plagioclase

TEQ-66				
X_{An}	Ba (ppm)	Sr (ppm)	D_{Ba}	D_{Sr}
36.5	695	1343	0.77	5.05
36.8	538	1199	0.59	4.51
39.4	446	1076	0.49	4.04
41.3	373	1114	0.41	4.19
43.8	375	1222	0.41	4.59
43.9	464	1310	0.51	4.92
44.2	437	1162	0.48	4.37
44.3	425	1241	0.47	4.67
44.4	379	1045	0.42	3.93
44.4	410	1226	0.45	4.61
45.4	359	1208	0.40	4.54
45.4	660	1515	0.73	5.70
45.7	341	1002	0.38	3.77
48.3	292	1204	0.32	4.53
48.9	318	1120	0.35	4.21
49.7	315	1207	0.35	4.54
50.5	270	1172	0.30	4.41
51.8	323	1270	0.36	4.78
54.9	237	1163	0.26	4.37
62.0	196	1033	0.22	3.88

TEQ-34				
X_{An}	Ba (ppm)	Sr (ppm)	D_{Ba}	D_{Sr}
10.8	10474	573	8.28	2.69
11.6	6691	380	5.29	1.78
12.4	8543	549	6.75	2.58
13.3	8706	610	6.88	2.86
14.0	13165	520	10.41	2.44
17.7	4873	680	3.85	3.19
18.0	5335	738	4.22	3.46
19.7	5368	874	4.24	4.10
21.1	3147	931	2.49	4.37
21.6	2538	870	2.01	4.08
22.4	3131	920	2.48	4.32
23.2	2993	1074	2.37	5.04
23.6	2009	958	1.59	4.50
24.0	2424	1011	1.92	4.75
24.2	2992	968	2.37	4.54
24.7	1348	980	1.07	4.60
24.9	1997	1016	1.58	4.77
25.4	1857	879	1.47	4.13
25.9	1468	1156	1.16	5.43
26.3	1507	1065	1.19	5.00
26.5	1914	1005	1.51	4.72
27.8	1221	1060	0.97	4.98
29.2	2143	1329	1.69	6.24
30.3	1532	1163	1.21	5.46
31.1	1010	1291	0.80	6.06
31.2	1137	1265	0.90	5.94
31.2	1067	1188	0.84	5.58
31.6	1156	1225	0.91	5.75
33.8	793	1178	0.63	5.53
35.4	699	1283	0.55	6.02
35.7	1139	1345	0.90	6.31
36.3	809	1418	0.64	6.66
42.4	662	1334	0.52	6.26

TAN-13				
X_{An}	Ba (ppm)	Sr (ppm)	D_{Ba}	D_{Sr}
58.3	126	1788	0.25	2.37
61.5	118	1638	0.23	2.17
61.9	99	1653	0.20	2.19
62.1	144	1827	0.29	2.42
62.5	153	1708	0.30	2.27
63.8	100	1617	0.20	2.15
64.2	88	1689	0.17	2.24
65.6	64	1382	0.13	1.83
67.2	84	1505	0.17	2.00
73.3	62	1380	0.12	1.83
79.8	39	1289	0.08	1.71
79.9	58	1455	0.12	1.93
80.6	51	1390	0.10	1.84
80.7	49	1439	0.10	1.91
82.0	49	1415	0.10	1.88
82.6	41	1340	0.08	1.78
83.2	44	1383	0.09	1.83
83.8	42	1432	0.08	1.90
84.0	45	1341	0.09	1.78
84.3	64	1451	0.13	1.92
84.4	41	1362	0.08	1.81
84.8	47	1405	0.09	1.86
84.9	52	1595	0.10	2.12
85.4	52	1597	0.10	2.12
86.0	42	1390	0.08	1.84
87.2	42	1445	0.08	1.92

Table 2.6: Free energy values of hydration reactions

Reaction	$\Delta G(298\ K)$ kJ/mol
$Na_2O + H_2O = 2NaOH$	-143.3
$CaO + H_2O = Ca(OH)_2$	-57.8
$MgO + H_2O = Mg(OH)_2$	-27.6
$FeO + H_2O = Fe^{2+}(OH)_2$	-3.4
$1/3\ Fe_2O_3 + H_2O = 2/3\ Fe(OH)_3$	14.7

REFERENCES

Anderson, A. T., 1984, Probable relations between plagioclase zoning and magma dynamics, Fuego Volcano, Guatemala: American Mineralogist, v. 69, p. 660-676.

Bacon, C. R. and Hirschmann, M. M., 1988, Mg/Mn partitioning as a test for equilibrium between coexisting Fe-Ti oxides: American Mineralogist, v. 73, p. 57-61.

Baker, D. R., Dalpé, C. and Poirier, G., 2004, The viscosities of foods as analogs for silicate melts: Journal of Geoscience Education, v. 52, p. 363-367.

Blatter, D. L. and Carmichael, I. S. E., 1998, Plagioclase-free andesites from Zitácuaro (Michoacán), Mexico: Petrology and experimental constraints: Contributions to Mineralogy and Petrology, v. 132, p. 121-138.

Blatter, D. L. and Carmichael, I. S. E., 2001, Hydrous phase equilibria of a Mexican high-silica andesite: a candidate for a mantle origin?: Geochimica et Cosmochimica Acta, v. 65, p. 4043-4065.

Blundy, J. and Cashman, K., 2005, Rapid decompression-driven crystallization recorded by melt inclusions from Mount St. Helens volcano: Geology, v. 33, p. 793-796.

Blundy, J. and Cashman, K., 2008, Petrologic reconstruction of magmatic system variables and processes: Reviews in Mineralogy and Geochemistry, v. 69, p. 179-239.

Brophy, J. G., Whittington, C. S. and Park, Y.-K., 1999, Sector-zoned augite megacrysts in Aleutian high alumina basalts: implications for the conditions of basalt crystallization and the generation of calc-alkaline magmas: Contributions to Mineralogy and Petrology, v. 135, p. 277-290.

Burgisser, A. and Scaillet, B., 2007, Redox evolution of a degassing magma rising to the surface: Nature, v. 445, p. 194-197.

Carmichael, I. S. E., 2002, The andesite aqueduct: perspectives on the evolution of magmatism in west-central (105-99°W) Mexico: Contributions to Mineralogy and Petrology, v. 143, p. 641-663.

Cashman, K., 1992, Groundmass crystallization of Mount St Helens dacite, 1980-1986 – a tool for interpreting shallow magmatic processes: Contributions to Mineralogy and Petrology, v. 109, p. 431-449.

Cashman, K. and Blundy, J., 2000, Degassing and crystallization of ascending andesite and dacite: Philosophical Transactions of the Royal Society of London A, v. 358, p. 1487-1513.

Chase, M. W., 1998, NIST-JANAF thermochemical tables, fourth edition: Journal of Physical Chemistry Reference Data, Monograph 9. Springer, Heidelberg.

Chertkoff, D. G. and Gardner, J. E., 2004, Nature and timing of magma interactions before, during and after caldera-forming eruption of Volcán Ceboruco, Mexico: Contributions to Mineralogy and Petrology, v. 146, p. 715-735.

Clarke, A. B., Stephens, S., Teasdale, R., Sparks, R. S. J., and Diller, K. 2007, Petrologic constraints on the decompression history of magma prior to Vulcanian explosions at the Souffiere Hills volcano, Montserrat: Journal of Volcanology and Geothermal Research, v. 161, p. 261-274.

Clemens, J. D., Petford, N. and Mawer, C. K., 1997, Ascent mechanisms of granitic magmas: causes and consequences. In: Holmes, M. (ed.) Deformation-enhanced fluid transport in the Earth's crust and mantle. London: Chapman and Hall, pp. 144-171.

Costa, F., Scaillet, B. and Pichavant, M., 2004, Petrological and experimental constraints on the pre-eruption conditions of Holocene dacite from Volcan San Pedro (36°S, Chilean Andes) and the importance of sulphur in silicic subduction-related magmas. Journal of Petrology, v. 45, p. 855-881.

Couch, S., Sparks, R. S. J. and Carroll, M. R., 2003, The kinetics of degassing-induced crystallization at Soufriere Hills Volcano, Montserrat: Journal of Petrology, v. 44, p. 1477-1502.

Eggler, D. H., and Burnham, C. W., 1973, Crystallization and fractionation trends in the system andesite-H_2O-CO_2-O_2 at pressures to 10 kb: Geological Society of America Bulletin, v. 84, p. 2517-2532.

Frey, H. M., Lange, R. A., Hall, C. M. and Delgado Granados, H., 2004, Magma eruption rates constrained by $^{40}Ar/^{39}Ar$ chronology and GIS for the Ceboruco-San Pedro volcanic field, western Mexico: Geological Society of America Bulletin, v. 116, p. 259-276.

Frey, H. M., Lange, R. A., Hall, C. M., Delgado Granados, H. and Carmichael, I. S. E., 2007, A Pliocene ignimbrite flare-up along the Tepic-Zacoalco rift: Evidence for the initial stages of rifting between the Jalisco block (Mexico) and North America: Geological Society of America Bulletin, v. 119, p. 49-64.

Gaetani, G. A. and Grove, T. L., 1998, The influence of water on melting of mantle peridotite: Contributions to Mineralogy and Petrology, v. 131, p. 323-346.

Gaillard, F., Scaillet, B., Pichavant, M. and Bény, J-M., 2001, The effect of water and fO_2 on the ferric-ferrous ratio of silicate melts: Chemical Geology, v. 174, p. 255-273.

Gardner, J. E., Rutherford, M., Carey, S., and Sigurdsson, H., 1995, Experimental constraints on pre-eruptive water contents and changing magma storage prior to explosive eruptions of Mount St. Helens volcano: Bulletin of Volcanology, v. 57, p. 1-17.

Genareau, K., Hervig, R., and Clarke, A., 2007, Geochemical variations in late-stage growth of volcanic phenocrysts revealed by SIMS depth-profilin:.American Mineralogist, v. 92, p. 1374-1382.

Geschwind, C., and Rutherford, M. J., 1995, Crystallization of microlites during magma ascent: the fluid mechanics of recent eruptions at Mount St. Helens: Bulletin of Volcanology, v. 57, p. 356-370.

Ghiorso, M. S. and Evans, B. W., 2008, Thermodynamics of rhombohedral oxide solid solutions and a revision of the Fe-Ti two-oxide geothermometer and oxygen barometer: American Journal of Science, v. 308, 957-1039.

Grove, T. L., Elkins-Tanton, L. T., Parman, S. W., Chatterjee, N., Müntener, O. and Gaetani, G. A., 2003, Fractional crystallization and mantle-melting controls on calc-alkaline differentiation trends: Contributions to Mineralogy and Petrology, v. 145, p. 515-533.

Grove, T. L. and Juster, T. C., 1989, Experimental investigations of low-Ca pyroxene stability and olivine-pyroxene-liquid equilibria at 1 atm in natural basaltic and andesitic liquids: Contributions to Mineralogy and Petrology, v. 103, p.287-305.

Hammer, J. E., 2006, Influence of fO_2 and cooling rate on the kinetics and energetics of Fe-rich basalt crystallization: Earth and Planetary Science Letters, v. 248, 618-637.

Hammer, J. E., Cashman, K. V., Hoblitt, R. P., and Newman, S., 1999, Degassing and microlite crystallization during pre-climactic events of the 1991 eruption of Mt. Pinatubo, Philippines: Bulletin of Volcanology, v. 60, p. 355-380.

Hammer, J. E., Cashman, K. V., and Voight, B., 2000, Magmatic processes revealed by textural and compositional trends in Merapi dome lavas: Journal of Volcanological and Geothermal Research, v. 100, p. 165-192.

Hammer, J. E. and Rutherford, M. J., 2002, An experimental study of the kinetics of decompression-induced crystallization in silicic melt: Journal of Geophysical Research, v. 107, BI, p. 2021.

Holtz, F., Sato, H., Lewis, J., Behrens, H. and Nakada, S., 2005, Experimental petrology of the 1991-1995 Unzen dacite, Japan. Part 1: Phase relations, phase composition and pre-eruptive conditions: Journal of Petrology, v. 46, p. 319-337.

Hui, H. and Zhang, Y., 2007, Toward a general viscosity equation for natural anhydrous and hydrous silicate melts: Geochimica et Cosmochimica Acta, v. 71, p. 403-416.

Humphreys, M. C. S., Blundy, J. D., and Sparks, R. S. J., 2006, Magma evolution and open-system processes at Shiveluch Volcano: insights from phenocryst zoning: Journal of Petrology, v. 47, p. 2303-2334.

Johannes, W., Koepke, J. and Behrens, H., 1994, Partial melting reactions of plagioclase and plagioclae-bearing assemblages, in: Parson, I. (Ed.), Feldspars and their Reactions, Kluwer, Dordrecth, 1993, p. 161-194.

Kawamoto, T., 1992, Dusty and honeycomb plagioclase: indicators of processes in the Uchino stratified magma chamber, Izu Peninsula, Japan: Journal of Volcanology and Geothermal Research, v. 49, p. 191-208.

Kinzler, R. J., 1997, Melting of mantle peridotite at pressures approaching the spinel to garnet transition: application to mid-ocean ridge basalt petrogenesis: Journal of Geophysical Research, v. 102, p. 853-874.

Kinzler, R. J. and Grove, T. L., 1992, Primary magmas of mid-ocean ridge basalts. 1. Experiments and methods: Journal of Geophysical Research, v. 97, p. 6885-6906.

Kress, V. C. and Carmichael, I. S. E., 1991, Stoichiometry of the iron oxidation reaction in silicate melts: American Mineralogist, v. 73, p. 1267-1274.

Kuo, L-C., and Kirkpatrick, R. J., 1982, Pre-eruption history of phyric basalts from DSDP Legs 45 and 46: evidence from morphology and zoning patterns in plagioclase: Contributions to Mineralogy and Petrology, v. 79, p. 13-27.

Lange, R. A., Frey, H. M. and Hector, J., 2009, A thermodynamic model for the plagioclase-liquid hygrometer/thermometer: American Mineralogist, v. 94, 494-506.

Larsen, J. F., 2005, Experimental study of plagioclase rim growth around anorthite seed crystals in rhyodacite melt: American Mineralogist, v. 90, p. 417-427.

Lewis-Kenedi, C. B., Lange, R. A., Hall, C. M. and Delgado Granados, H., 2005, The eruptive history of the Tequila volcanic field, western Mexico: Bulletin of Volcanology, v. 67, p. 391-414.

Lofgren, G., 1974, An experimental study of plagioclase crystal morphology: isothermal crystallization: American Journal of Science, v. 274, p. 243-273.

Luhr, J. F., 2000, The geology and petrology of Volcán San Juan (Nayarit, México) and the compositionally zoned Tepic Pumice. Journal of Volcanology and Geothermal Research, v. 95, 109-156.

Luhr, J. F. and Carmichael, I .S. E., 1980, Colima Volcanic Complex, Mexico. 1. Post-caldera andesites from Volcan Colima. Contributions to Mineralogy and Petrology, v. 71, p. 343-373.

Martel, C., Pichavant, M., Holtz, F. and Scaillet, B., 1999, Effects of fO_2 and H_2O on andesite phase relations between 2 and 4 kbar: Journal of Geophysical Research, v. 104, p. 29453-29470.

Martel, C. and Schmidt, B. C., 2003, Decompression experiments as an insight into ascent rates of silicic magmas: Contribution to Mineralogy and Petrology, v. 144, p. 397-415.

McCantra, M. C., Rutherford, M. J., and Hammer, J. E., 2007, Pre-eruptive and syn-eruptive conditions in the Black Butte, California dacite: insight into crystallization kinetics in a silicic magma system: Journal of Volcanology and Geothermal Research, v. 160, p. 263-284.

Métrich, N., Bertagnini, A., Landi, P. and Rosi, M., 2001, Crystallization driven by decompression and water loss at Stromboli Volcano (Aeolian Islands, Italy): Journal of Petrology, v. 42, p. 1471-1490.

Moore, G. and Carmichael, I. S. E., 1998, The hydrous phase equilibria (to 3 kbar) of an andesite and basaltic andesite from western Mexico: constraints on water content and conditions of phenocryst growth: Contributions to Mineralogy and Petrology, v. 130, p. 304-319.

Moore, G., Righter, K. and Carmichael, I. S. E., 1995, The effect of dissolved water on the oxidation state of iron in natural silicate liquids: Contributions to Mineralogy and Petrology, p. 120, v. 170-179.

Moore, G., Vennemann, T. and Carmichael, I. S. E., 1998, An empirical model for the solubility of H_2O in magmas to 3 kilobars: American Mineralogist, v. 83, p. 36-42.

Muncill, G. E. and Lasaga, A. C., 1987, Crystal-growth kinetics of plagioclase in igneous systems: one-atmosphere experiments and application of a simplified growth model: American Mineralogist, v. 72, p. 299-311.

Nakamura, M. and Shimakita, S., 1998, Dissolution origin and syn-entrapment compositional change of melt inclusion in plagioclase: Earth and Planetary Science Letters, v. 161, 119-133.

Nelson, S. A., 1980, Geology and petrology of Volcan Ceboruco, Nayarit, Mexico: Geological Society of America Bulletin, v. 91, p. 639-643.

Nelson, S. A. and Livieres, R. A., 1986, Contemporaneous calc-alkaline and alkaline volcanism at Sanganguey Volcano, Nayarit, Mexico: Geological Society of America Bulletin, v. 97, p. 798-808.

Nelson, S. T. and Montana, A., 1992, Sieve-textured plagioclase in volcanic rocks produced by rapid decompression: American Mineralogist, v. 77, p. 1242-1249.

Ohlhorst, S., Behrens, H., Holtz, F. and Schmidt, B. C., 2000, Water speciation in aluminosilicate glasses and melts, in: Rammlmair, D., Hederer, J., Oberthür, Th., Heimann, R. B., and Pentinghaus, U. (eds.), Applied Mineralogy in Research, Economy, Technology and Culture. Rotterdam: Balkema, pp. 193-196.

Ownby, S., Delgado Granados, H., Lange, R. A. and Hall, C. M., 2007, Volcán Tancítaro, Michoacán, Mexico, $^{40}Ar/^{39}Ar$ constraints on its history of sector collapse: Journal of Volcanology and Geothermal Research, v. 161, p. 1-14.

Ownby, S. E., Lange, R. A., Hall, C. M. and Delgado-Granados, H., 2009, Magma eruption rates along an 80-km arc-front segment of the Michoacán-Guanajuato Volcanic Field, Mexico: Evidence for differentiation of basalt to andesite in the deep crust: Geological Society of America Bulletin (in review)

Pichavant, M., Martel, C., Bourdier, J. L. and Scaillet, B., 2002, Physical conditions, structure, and dynamics of a zoned magma chamber: Mount Pelée (Martinique, Lesser Antilles Arc): Journal of Geophysical Research, v. 197, B5, p. 2093.

Piochi, M., Mastrolorenzo, G., and Pappalardo, L., 2005, Magma ascent and eruptive processes from textural and compositional features of Monte Nuovo pyroclastic products, Campi Flegrei, Italy: Bulletin of Volcanology, v. 67, p. 663-678.

Reubi, O. and Blundy, J., 2008, Assimilation of plutonic roots, formation of high-K 'exotic' melt inclusions and genesis of andesitic magmas at Volcán de Colima, Mexico: Journal of Petrology, v. 49, p. 2221-2243.

Sakuyama, M., 1979, Evidence of magma mixing: petrological study of Shirouma-Oike calcalkaline andesite volcano. Japan: Journal of Volcanology and Geothermal Research, v. 5, p. 179-208.

Scaillet, B. and Evans, B. W., 1999, The 15 June 1991 eruption of Mount Pinatubo. I. Phase equilibria and pre-eruption P-T-fO_2-fH_2O conditions of the dacite magma: Journal of Petrology, v. 40, p. 381-411.

Sisson, T. W. and Grove, T. L., 1993, Experimental investigations of the role of H_2O in calc-alkaline differentiation and subduction zone magmatism: Contributions to Mineralogy and Petrology, v. 113, p. 143-166.

Streck, M., 2008, Mineral textures and zoning as indicators for open system processes: Reviews in Mineralogy and Geochemistry, v. 69, p. 595-622.

Suzuki, Y., Gardner, J. E., and Larsen, J. F., 2007, Degassing and microlite crystallization of basaltic andesite magma erupting at Arenal volcano, Costa Rica: Journal of Volcanology and Geothermal Research, v. 157, p. 182-201.

Szramek, L., Gardner, J. E., and Larsen, J. F., 2007, Experimental constraints on syn-eruptive magma ascent related to the phreatomagmatic phase of the 2000AD eruption of Usu Volcano, Japan: Bulletin of Volcanology, v. 69, p. 423-444.

Toplis, M., 2005, The thermodynamics of iron and magnesium partitioning between olivine and liquid: criteria for assessing and predicting equilibrium in natural and experimental systems: Contributions to Mineralogy and Petrology, v. 149, p. 22-39.

Tsuchiyama, A., 1985, Dissolution kinetics of plagioclase in the melt of the system diopside-albite-anorthite and origin of dusty plagioclase in andesites: Contributions to Mineralogy and Petrology, v. 89, p. 1-16.

Wallace, P. J., 2005, Volatiles in subduction zone magmas: concentrations and fluxes based on melt inclusion and volcanic gas data: Journal of Volcanology and Geothermal Research, v. 140, p. 217-240.

Wallace, P. J. and Carmichael, I. S. E., 1994, Petrology of Volcán Tequila, Jalisco, Mexico: disequilibrium phenocryst assemblages and evolution of the subvolcanic magma system: Contributions to Mineralogy and Petrology, v. 117, p. 345-361.

Wolf, K. J., and Eichelberger, J. C., 1997, Syneruptive mixing, degassing, and crystallization at Redoubt Volcano, eruption of December 1989 to May 1990: Journal of Volcanology and Geothermal Research, v. 75, p. 19-37.

Chapter 3

The Effect of Degassing, Crystallization, and Differentiation on the Oxidation State of Hydrous Arc Magmas

ABSTRACT

The post-eruptive wt% FeO concentrations in 12 phenocryst-poor (< 5%) andesite and dacite (60-69 wt% SiO_2) lavas from peripheral, monogenetic vents in the western Mexican arc have been measured by direct titration and back titration methods, in duplicate. The results match, within analytical error (± 0.3 wt%), the wt% FeO concentrations in the pre-eruptive magmas, which were calculated on the basis of oxygen fugacity and temperature results from Fe-Ti two-oxide oxygen barometry. Calculations of pre-eruptive and post-eruptive oxygen fugacity values relative to the Ni-NiO buffer (in terms of $\log_{10}$ units) for the 12 samples span a similar range; pre-eruptive ΔNNO = -0.9 to +0.7 and post-eruptive ΔNNO = -0.9 to + 0.9. There is independent evidence, from application of the plagioclase-liquid hygrometer, that these 12 magmas contained ~8 to ~3 wt% H_2O at the time of phenocryst growth, which was extensively degassed upon eruption. Therefore, there is no evidence that degassing of ≤ 8 wt% H_2O had any resolvable effect on the oxidation state of these magmas. Nor is there any evidence that extensive groundmass (closed-system) crystallization affected the bulk Fe^{3+}/Fe^{2+} ratios. Finally, there is no systematic variation in the pre-eruptive ΔNNO values of the samples as a function of SiO_2 concentration. Therefore, the results of this study indicate that the elevated Fe^{3+}/Fe^{T} ratios of arc andesites and dacites, relative to mid-ocean ridge basalts,

cannot be attributed to degassing and/or differentiation effects, but instead are likely inherited from mantle-derived arc basalts.

INTRODUCTION

The extent to which degassing and both open- and closed-system crystallization affects the oxidation state of arc magmas is widely debated. Although it is well established that arc lavas have higher Fe^{3+}/Fe^{T} ratios than mid-ocean spreading ridge basalts (e.g., Christie *et al*., 1986; Carmichael *et al*., 1991; Kelley and Cottrell, 2009), there is controversy over whether this reflects a difference in the oxidation state of their respective mantle source regions, or alternatively is caused by secondary effects such as crystallization and/or degassing (e.g., Christie *et al*., 1986; Sisson and Grove, 1993; Holloway, 2004; Sun *et al*., 2004; Lee *et al*., 2005; Hirschmann, 2009). Several researchers have modeled how degassing of mixed H-C-O-S fluids may change the Fe^{3+}/Fe^{T} of various magmas (e.g., Mathez, 1984; Carmichael and Ghiorso, 1986; Candela, 1986; Burgisser and Scaillet, 2007). Either oxidation or reduction can occur depending on the initial oxidation state, with possible implications for the origin of magmatic ore deposits (e.g., Sillitoe *et al*., 1997).

For example, degassing of the H_2O component in the melt can lead to the following reaction:

$$H_2O\ (melt) + 2\ FeO\ (melt) = H_2\ (fluid) + Fe_2O_3\ (melt) \qquad (3.1)$$

The degree to which this reaction occurs depends strongly on the initial oxygen fugacity (fO_2) of the melt, because it controls the extent of H_2O dissociation to H_2 in the fluid phase upon degassing. For example, at 1000°C, for a magma with an fO_2 that is one

$\log_{10}$ unit *above* vs. one log unit *below* the fO_2 of the Ni-NiO reference buffer (ΔNNO = +1 vs. -1), approximately 0.3% vs. 1.5% of the H_2O in the fluid phase will dissociate to form H_2 (O'Neill and Powcenby, 1993; Kress *et al*., 2004). Thus the more reducing the magma, the greater the potential for a net increase in the melt Fe^{3+}/Fe^{T} ratio as a consequence of H_2O degassing. However, this effect is complicated by the degassing of sulfur, which can dissolve in silicate melts as either sulfide (S^{2-}) or sulfate (S^{6+}) species, depending on the fO_2, temperature, and pressure of the melt (e.g., Carroll and Rutherford, 1985; Luhr, 1990; Jugo *et al*., 2005). In turn, the exsolved fluid phase has various sulfur species (SO_2, S_2, H_2S), with different valences (S^{4+}, S^0, and S^{2-}), and their relative proportions are again dependent on fO_2, temperature, and pressure (Kress *et al*., 2004). Thus, it is necessary to know all the intensive variables as well as the concentration of all dissolved volatile components at depth, in order to calculate the net effect of volatile degassing on the oxidation state (Fe^{3+}/Fe^{T} ratio) of the residual melt phase (e.g., Burgisser and Scaillet, 2007). The emerging view is that it is not known to what extent analyzed Fe^{3+}/Fe^{T} ratios in erupted flows reflect pre-eruptive values in the magma prior to extensive degassing, especially for arc magmas that contain high concentrations of dissolved volatiles.

The purpose of this study, therefore, is to provide the first quantitative documentation of the effect of volatile degassing on the oxidation state of a suite of andesite and dacite magmas by comparing their pre-eruptive Fe^{3+}/Fe^{2+} ratios during initial phenocryst growth, prior to extensive degassing, with their post-eruptive Fe^{3+}/Fe^{2+} ratios. The effect of differentiation on magma oxidation is additionally evaluated by comparing pre-eruptive Fe^{3+}/Fe^{T} ratios across the andesite-dacite suite (60-69 wt% SiO_2).

The co-precipitation of two Fe-Ti oxides in these phenocryst-poor (< 5%) magmas permits pre-eruptive oxygen fugacity and temperature to be calculated using the oxygen barometer and thermometer of Ghiorso and Evans (2008). With temperature and fO_2 known, along with the melt composition, the pre-eruptive Fe^{3+}/Fe^{2+} ratio in the melt is calculated from the empirically calibrated model of Kress and Carmichael (1991):

$$\ln\left(\frac{X_{Fe_2O_3}}{X_{FeO}}\right) = a\ln fO_2 + \frac{b}{T} + c + \sum_i d_i X_i \qquad (3.2)$$

For comparison, the post-eruptive Fe^{3+}/Fe^{2+} ratio is obtained by combining analyses of total iron (Fe^T) with separate analyses of Fe^{2+} by titration (Wilson, 1960; Reichen and Fahey, 1962); the difference provides the Fe^{3+} concentration. Because calibration of the Kress and Carmichael (1991) model is based on analyses of Fe^{2+} using the colorimetric method of Wilson (1960), it is additionally necessary to establish that the colorimetric and titration techniques to analyze ferrous iron (described below) all give the same result on available certified rock standards.

GEOLOGICAL SETTING AND PETROGRAPHY

The andesite and dacite samples were erupted from 12 different monogenetic vents along the western portion of the Mexican volcanic arc (Fig. 3.1), and were the focus of two previous studies that document their pre-eruptive water concentrations (Frey and Lange, 2010; Crabtree and Lange, 2010). Eight of the 12 samples were erupted in the Tequilia volcanic field (Lewis-Kenedi *et al*., 2005) from peripheral vents adjacent to the large stratovolcano, Volcán Tequila, whereas the remaining four samples are from peripheral vents near Volcáns Ceboruco and Sanganguey (Fig. 3.1). The 12 samples in this study differ from those erupted from large, composite stratovolcanoes in that they are

phenocryst poor (2-5 vol%; Table 3.1; Fig. 3.2) and show no evidence of storage in an upper crustal chamber, where mixing or mixing among different magma inputs may occur. None of the samples display any evidence of post-eruptive alteration. The groundmass ranges from nearly complete glass to nearly complete fine-grained crystallization (Fig. 3.2). The locations of all samples (latitude and longitude) are provided in Table 3.1. An overview of the tectonic setting of the western Mexican volcanic arc is found in Frey *et al*. (2007).

ANALYTICAL METHODS AND RESULTS

Post-eruptive Fe^{2+} concentration

The twelve rock samples were crushed and powdered using a steel jaw crusher and an alumina/ceramic shatter box, and then analyzed for major element chemistry by X-ray fluorescence at Franklin & Marshall College, Lancaster, Pennsylvania and by inductively coupled plasma (ICP) analysis at Activations Laboratories in Ancaster, Ontario (Table 3.1). Fe^{2+} concentration (wt% FeO) was measured by titration in each sample, in duplicate, by two methods: (1) direct titration and (2) back-titration. In the direct titration method (e.g., Reichen and Fahey, 1962; Grillot *et al*., 1964), Fe^{2+} is released from the silicate matrix during sample digestion and directly determined by titration with a solution of potassium dichromate. In the back-titration method (Wilson, 1960), inadvertent Fe^{2+} oxidation is prevented during sample digestion by the addition of V^{5+}, which oxidizes Fe^{2+} as soon as it is released from the silicate matrix to form V^{4+}. Since V^{4+} is more resistant to oxidation than Fe^{2+}, the amount of Fe^{2+} is determined by the back titration of the excess of V^{5+} added. Both colorimetric and titrimetric methods to analyze Fe^{2+} in silicate rocks using V^{5+} have been established (Wilson, 1960). In this

study, the back-titration and direct-titration methods to analyze Fe^{2+} were employed for all 12 samples as well as four certified standards: one Canadian Geological Survey standard (SY-4) and three United States Geology Survey standards (BIR-1, W-2, QLO-1). The four standards were additionally analyzed for Fe^{2+} with the colorimetric method of Wilson (1960), in duplicate (Table 3.2).

A compilation of the titration results (wt% FeO) is presented in Table 3.2. The two-sigma standard deviation on the basis of four titration measurements on each sample varies from ± 0.14 to ± 0.29 wt% FeO. For an assessment of accuracy, the average of three titrations on the Canadian Survey standard, SY-4, leads to a value of 2.85 ± 0.22 (± 2□), which compares well to the certified value of 2.87 ± 0.09 wt%. Duplicate titration and colorimetric measurements of wt% FeO were additionally performed on three USGS standards (BIR-1, W-2, and QLO-1) and the results match the certified values (Table 3.3). The agreement between the colorimetric and titration methods for all four standards verifies that both methods yield accurate results on rock powders.

Pre-eruptive Fe^{2+} concentration

The pre-eruptive Fe^{2+} concentration is obtained from the two Fe-Ti oxide oxygen barometer of Ghiorso and Evans (2008). Compositions of titanomagnetite and ilmenite crystals in each sample were analyzed with a Cameca SX-100 electron microprobe at the University of Michigan. A 15 kV accelerating potential was used in all analyses, with a beam current of 15 nA. The average composition of ilmenite and titanomagnetite in each sample is shown in Table 3 for the 12 samples. In Appendices E and F respectively, the compositions of all analyzed ilmenite and titanomagnetite crystals in all 12 samples are provided. In Figure 3.3, a plot of $\log(X_{Mg}/X_{Mn})$magnetite vs. $\log(X_{Mg}/X_{Mn})$ ilmenite is

shown for all possible magnetite-ilmenite pairs in each sample. None of the pairs deviate strongly from the equilibrium test proposed by Bacon and Hirschmann (1988).

Temperature and oxygen fugacity were calculated for all possible pairs of analyzed titanomagnetite and ilmenite compositions in each sample using the thermodynamic model of Ghiorso and Evans (2008). The calculated oxygen fugacity for each sample is reported relative to the oxygen fugacity of the Ni-NiO buffer at the calculated temperature (Δ NNO = $\log_{10}fO_2$ of sample relative to that of the Ni-NiO buffer at the same temperature), using the data of O'Neill and Pownceby (1993). The results are plotted in Figure 3.4 and were used to calculate corresponding ferric-ferrous ratios in the melt with the Kress and Carmichael (1991) model (Eqn. 3.2). This ratio was converted to wt% FeO from the total iron concentration reported for each sample in Table 3.1.

The variation in ΔNNO values that arise from all possible pairings of the titanomagnetite and ilmenite compositions in each sample translates into a small variability in wt% FeO; the two-sigma standard deviation in wt% FeO is $\leq$ 0.05 wt% for all samples. A histogram of both ΔNNO and pre-eruptive wt% FeO in each sample, on the basis of all possible pairs of Fe-Ti oxides in each sample, is shown in Figure 3.5. A larger source of error is derived from the uncertainty in total iron (wt% FeO^T; Table 3.1) when propagated through the model equation of Kress and Carmichael (1991). An absolute error of $\pm$ 0.2 wt% in FeO^T translates into an error of ~ $\pm$ 0.16 wt% FeO (ferrous iron). Therefore, a conservative estimate of the total uncertainty in wt% FeO calculated for the pre-eruptive melt is $\pm$ 0.21 wt%, absolute.

DISCUSSION

Pre-eruptive vs. post-eruptive Fe^{2+} concentrations and Fe^{3+}/Fe^{T} ratios

For each of the andesite and dacite samples, a comparison between the pre-eruptive and post-eruptive Fe^{2+} concentration (wt% FeO) is illustrated in Figure 3.6. There are two reasons why wt% FeO is the parameter compared in Figure 3.6. First, it is the concentration of Fe^{2+} that is expected to change during degassing-induced oxidation and/or reduction. Thus, Fe^{2+} is the parameter to directly monitor in evaluating the extent to which degassing affects the magma redox state. Second, wt% FeO has the smallest analytical error compared to other descriptions of the redox state (e.g., Fe^{3+}/Fe^{T} or ΔNNO values), where the propagation of uncertainties leads to larger relative errors (e.g., Fig. 3.5). For example, an uncertainty of ± 0.3 wt% FeO propagates into much larger uncertainties in ΔNNO as the total iron concentration of the magma decreases (Fig. 3.7). In contrast, errors in wt% FeO are independent of total iron concentration.

The data in Figure 3.6 fall along the 1:1 correspondence line and, within analytical error, there is no clear evidence of any systematic change in wt% FeO (and therefore, the Fe^{3+}/Fe^{T} ratio) between pre-eruptive and post-eruptive conditions. However, when the residuals in wt% FeO (pre-eruptive vs. post-eruptive) are plotted as a function of the pre-eruptive ΔNNO value in the magma, obtained from the two Fe-Ti oxides, a linear fit to the data reveals a small negative correlation (Fig. 3.8). In other words, it is the more reduced magmas at the time of phenocryst growth (pre-eruptive) that show the most evidence of post-eruptive oxidation, albeit barely resolvable within analytical error. Thus, a closer examination of how degassing may affect the oxidation state of the magmas is warranted.

Pre-eruptive water concentrations and the effect of degassing on magma redox

There is abundant evidence that the andesite and dacite samples in this study contained significant concentrations of dissolved water during phenocryst growth. In two previous studies (Crabtree and Lange, 2010; Frey and Lange, 2010), dissolved water concentrations were calculated for these samples using the plagioclase-liquid hygrometer of Lange *et al*. (2009); maximum values range from 2.7 to 8.3 wt% H_2O. Water concentrations within this range are commonly documented for andesite and dacite magmas erupted at subduction zones, as evidenced from melt inclusion studies (e.g., Wallace, 2005 and references therein) as well as phase equilibrium experiments on historically erupted lavas (e.g., Luhr, 1990; Gardner *et al*., 1995; Couch *et al*., 2003; Holtz *et al*., 2005). It is equally clear that nearly all the dissolved water degassed from the 12 magmas after eruption, as indicated by their low LOI (loss on ignition) values (Table 3.1). Extensive degassing of water (and other volatiles) is expected because the solubility of water in magmatic liquids is strongly pressure dependent and reaches a value < 0.2 wt% at atmospheric pressure (Moore *et al*., 1998; Zhang *et al*., 2007).

The sample in Figure 3.8 with the lowest pre-eruptive oxidation state (ΔNNO = -0.9) is also the sample with the highest water concentration (~8.3 wt%) on the basis of plagioclase-liquid hygrometry (Crabtree and Lange, 2010). Thus, this sample (TEQ-34) has the greatest capacity to oxidize during degassing of H_2O via Eqn. 3.1, and the magnitude of the change in melt oxidation can be calculated following the method outlined in Candela (1986), using the Kress *et al*. (2004) thermodynamic gas mixing model. In Figure 3.9, the gradual decrease in melt wt% FeO that results from degassing ~8.3 wt% H_2O is illustrated, along with the gradual decrease in % H_2 in the fluid phase.

The calculations indicate a maximum decrease of only 0.3 wt% FeO, which matches the magnitude of the residual in Fig. 3.8, but is also within the margins of analytical uncertainty. In other words, it is possible that oxidation due to degassing of H_2O is the cause of the slight negative correlation in Fig. 3.8. However, the effect is small and within the limits of analytical detection. If sulfur was an additional component that degassed from TEQ-34, then the initial effect would be one of melt reduction as sulfide (S^{2-}) is the dominant (≥90%) sulfur species dissolved in melts at ΔNNO = -0.9 (Jugo *et al*., 2005), whereas a mixture of sulfur valences (S^{2-}, S^0, S^{4+}) are stable in the equilibrium fluid phase (Kress *et al*., 2004).

In summary, although it is possible that degassing may have altered the ferric-ferrous ratio in the erupted lavas, the effect is small and difficult to detect within analytical uncertainty. Moreover, there is no difference in the spread of pre-eruptive and post-eruptive ΔNNO values among the suite of 12 samples, as illustrated in Figure 3.10. This observation supports the conclusion that degassing had a negligible effect on the oxidation state of the andesite and dacite magmas in this study.

The effect of groundmass (closed-system) crystallization on magma redox

Another question that can be addressed in this study is the effect of groundmass crystallization on the bulk Fe^{3+}/Fe^{2+} ratio in magmas. The empirical model of Kress and Carmichael (1991) is based on samples quenched to 100% glass, and it has been an open question whether or not Eqn. 3.2 can be applied to partially to completely crystallized samples. The phenocryst-poor samples in this study have groundmasses that range from crystalline to glassy (Fig. 3.2). There is no evidence that the andesites, with nearly complete, fine-grained crystallization of their groundmasses, have a post-eruptive Fe^{2+}

concentration that is different from their pre-eruptive values, within analytical error (Fig. 3.6; Table 3.2). Therefore, two conclusions emerge: (1) closed-system crystallization, which is the best description of extensive groundmass crystallization, has no measurable effect on the bulk Fe^{3+}/Fe^{2+} ratio, and (2) the empirical model of Kress and Carmichael (1991) can be applied to samples that have undergone closed-system crystallization.

The effect of differentiation on magma oxidation state

The samples in this study range from andesite to dacite (~60-69 wt% SiO_2) and a plot of their pre-eruptive Fe^{3+}/Fe^{T} ratios as a function of wt% SiO_2 (Fig. 3.11) shows that there is no change in the oxidation state of these magmas with differentiation. Eight of the 12 samples in this study erupted from the Tequila volcanic field, in close spatial and temporal association with several rhyolite domes and flows (Lewis-Kenedi *et al*., 2005). The two Fe-Ti oxide model of Ghiorso and Evans (2008) was applied to ilmenite and titanomagnetite analyses reported by Harris (1986) for four of these Tequilia rhyolites, and the resulting Fe^{3+}/Fe^{T} ratios ratios are plotted in Fig. 3.11. The data clearly indicate that the andesite-dacite-rhyolite lavas (~60-74 wt% SiO_2) from the Tequila volcanic field all have similar pre-eruptive Fe^{3+}/Fe^{T} ratios and, therefore, there is no evidence of any systematic increase in oxidation state with differentiation for this suite of lavas.

This conclusion is reinforced when the Fe^{3+}/Fe^{T} ratios measured by Kelley and Cottrell (2009) in olivine-hosted melt inclusions from various arc basalts and basaltic andesites are included in Fig. 3.11. These represent pre-eruptive melt values prior to degassing as the melt inclusions are fully encased within olivine phenocrysts. The Fe^{3+}/Fe^{T} ratios were obtained by micro-XANES (x-ray absorption near-edge structure) spectroscopy and thus provide rare insights into the oxidation state of arc basalts prior to

degassing. The combined evidence in Fig. 3.11 indicates that magma differentiation at subduction zones, along the "calc-alkaline" trend, does not necessarily induce oxidation.

CONCLUSIONS

There are three key conclusions to be drawn from this study. First, there is no resolvable effect of extensive degassing ($\leq$ 8 wt% H_2O) on the oxidation state of the andesite and dacite magmas. The Fe^{2+} concentrations at depth, during initial phenocryst growth, are within analytical error of the Fe^{2+} concentrations in the corresponding lavas after complete degassing. Second, there is no detectable change in the Fe^{2+}/Fe^{3+} ratio of the magmas as a consequence of partial to complete groundmass crystallization, which confirms that the Kress and Carmichael (1991) empirical model, which was calibrated on liquids quenched to 100% glass, can be applied to crystalline samples. Third, there is no evidence that the pre-eruptive oxidation state of arc magmas varies systematically with SiO_2 concentration. This conclusion holds for the 12 samples in this study (60-69 wt% SiO_2) and extends to arc basalts and associated arc rhyolites from the literature. Therefore, the observation that the Fe^{3+}/Fe^{T} ratios in arc magmas are systematically higher than those in mid-ocean ridge basalts cannot be readily attributed to the effects of differentiation and/or degassing. It appears that the elevated oxidation state of arc magmas is a feature inherited from the interaction of peridotite in the arc mantle wedge with hydrous and oxidizing slab-derived fluids.

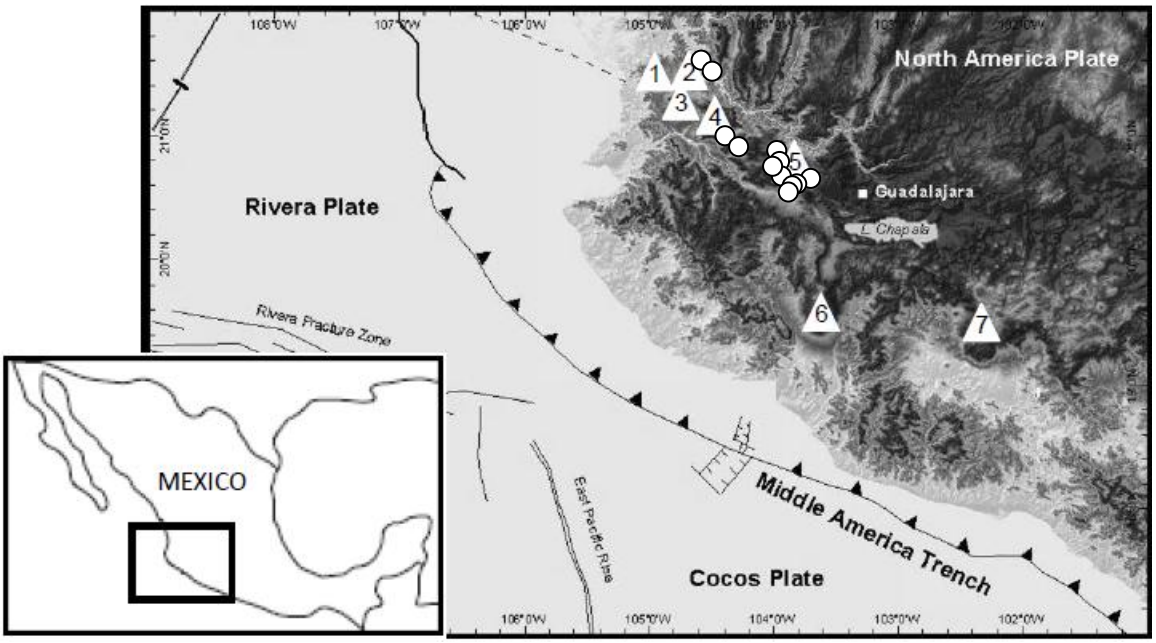


Figure 3.1: Map of Tepic-Zacoalco rift zone. Numbered triangles denote major calc-alkaline stratovolcanoes in the western Mexican arc: (1) Volcán San Juan, (2) Volcán Sanganguey, (3) Volcán Tepitiltic, (4) Volcán Ceboruco, (5) Volcán Tequila, (6) Volcán Colima, (7) Volcán Tancítaro. White circles denote locations of the twelve samples in this study.

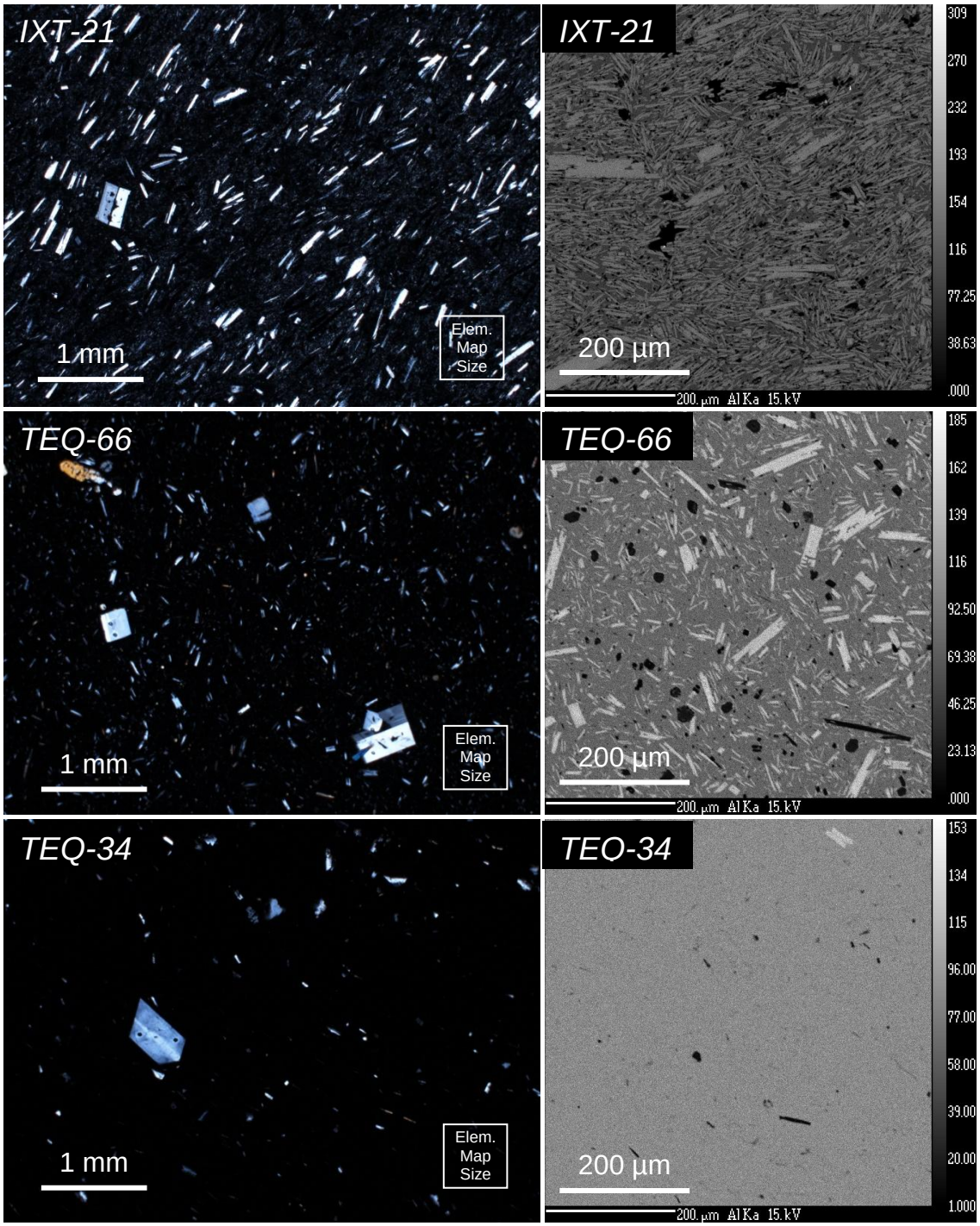


Figure 3.2: Cross-polar photomicrographs (2.5x) and corresponding aluminum element maps of the groundmass for (a) TAN-13, (b) TEQ-66, and (c) TEQ-34

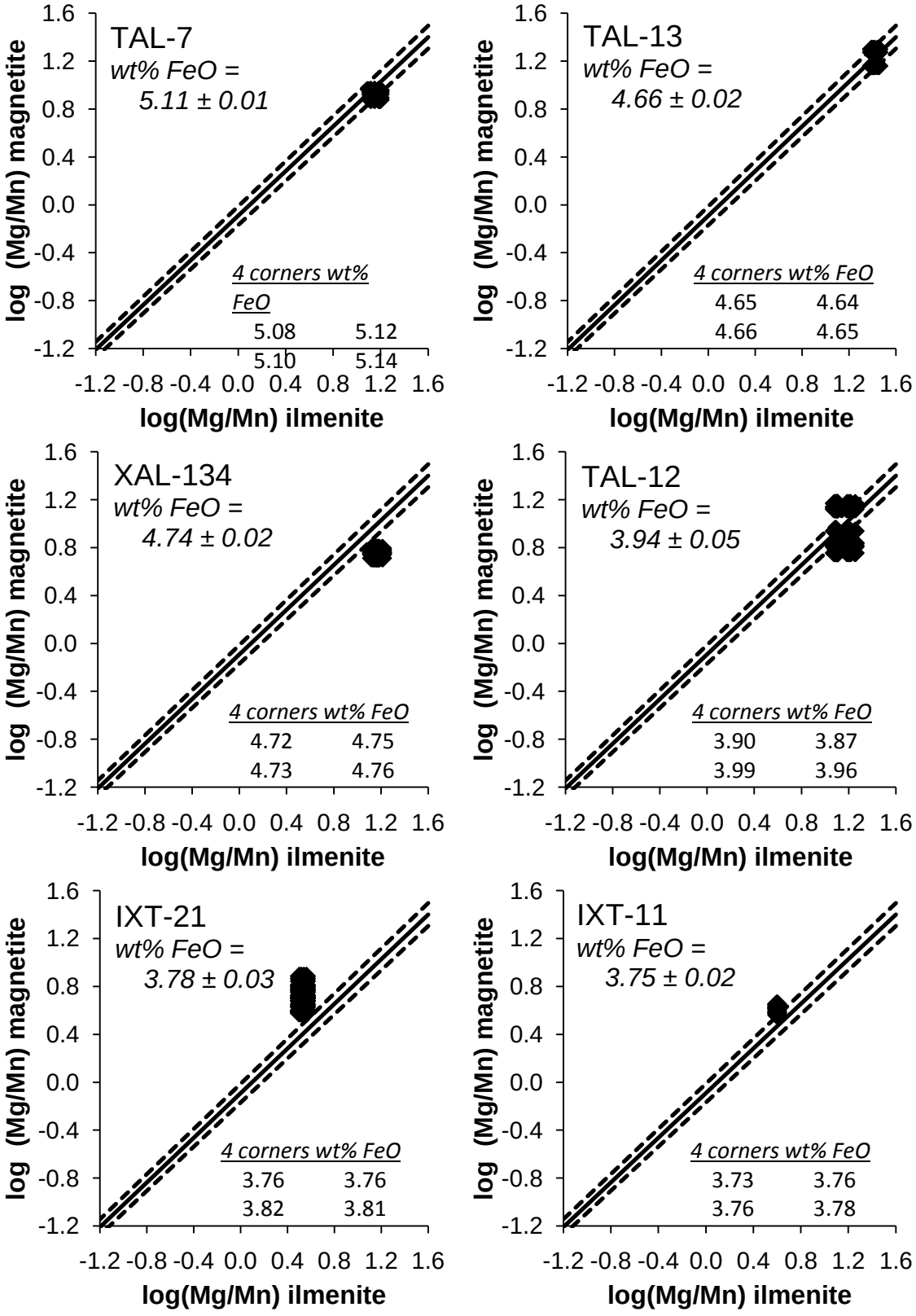


Figure 3.3: Plots of log $(X_{Mg}/X_{Mn})_{magnetite}$ vs. log $(X_{Mg}/X_{Mn})_{ilmenite}$ for all pairings of ilmenite and titanomagnetite with equilibrium test of Bacon and Hirschmann (1988)

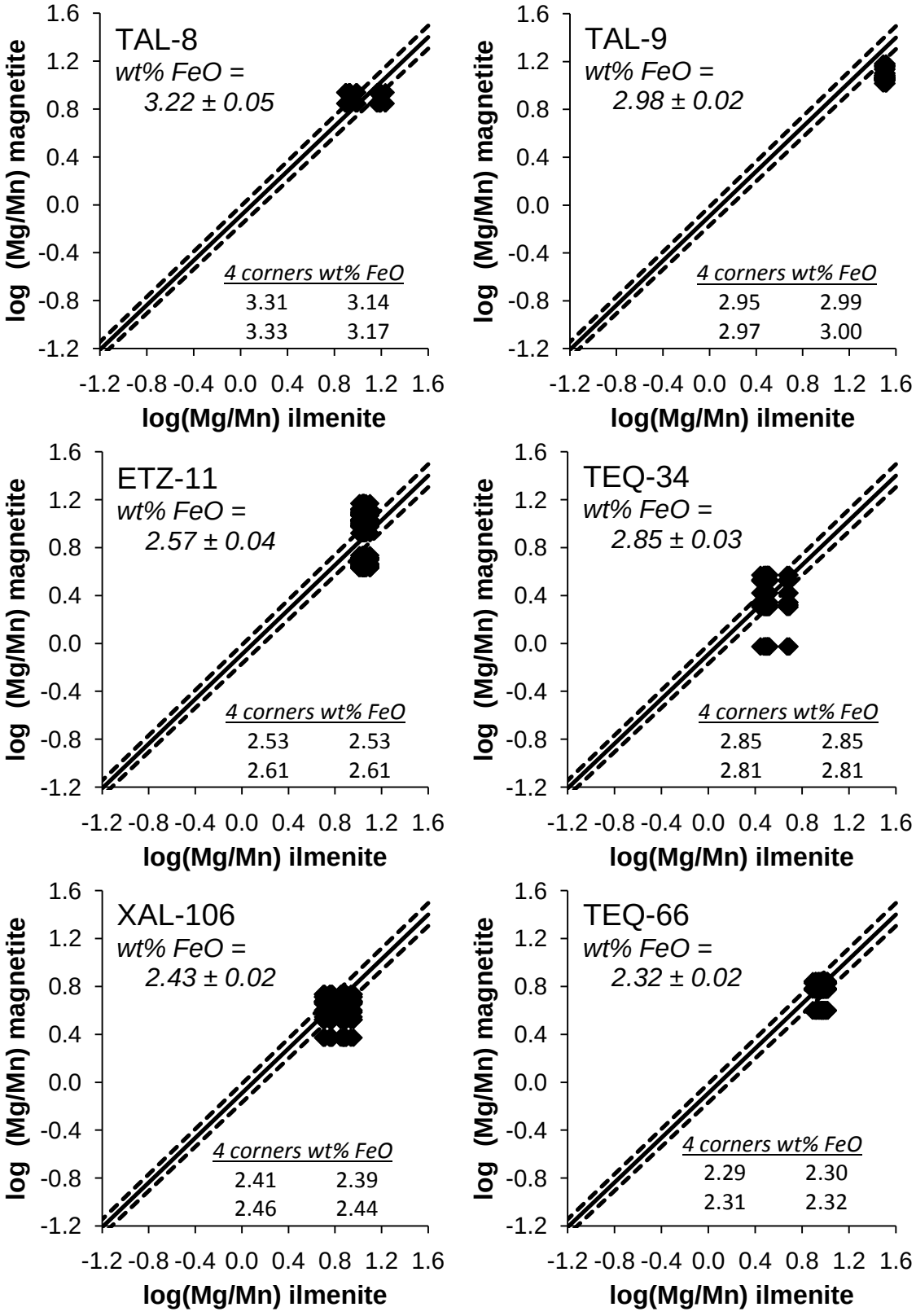


Figure 3.3 (cntd): Plots of log $(X_{Mg}/X_{Mn})_{magnetite}$ vs. log $(X_{Mg}/X_{Mn})_{ilmenite}$ for all pairings of ilmenite and titanomagnetite with equilibrium test of Bacon and Hirschmann (1988)

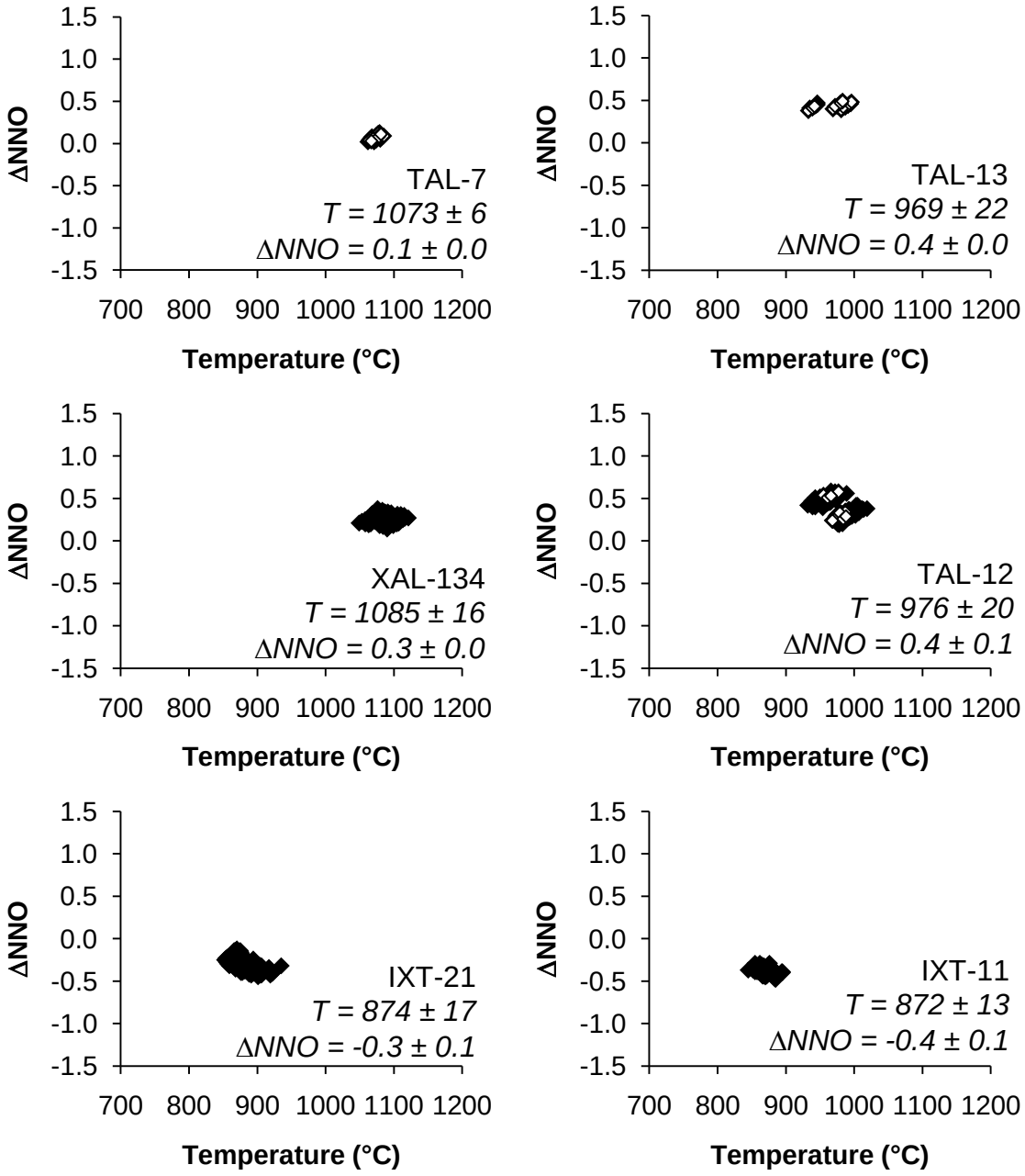


Figure 3.4: Plots of oxygen fugacity (ΔNNO) vs. T (°C) calculated for all pairings of ilmenite and titanomagnetite, using two Fe-Ti oxide geothermometer and oxygen barometer model of Ghiorso and Evans (2008). White diamonds represent those pairings that pass within the 1σ bounds of the Bacon and Hirschmann (1988) equilibrium test.

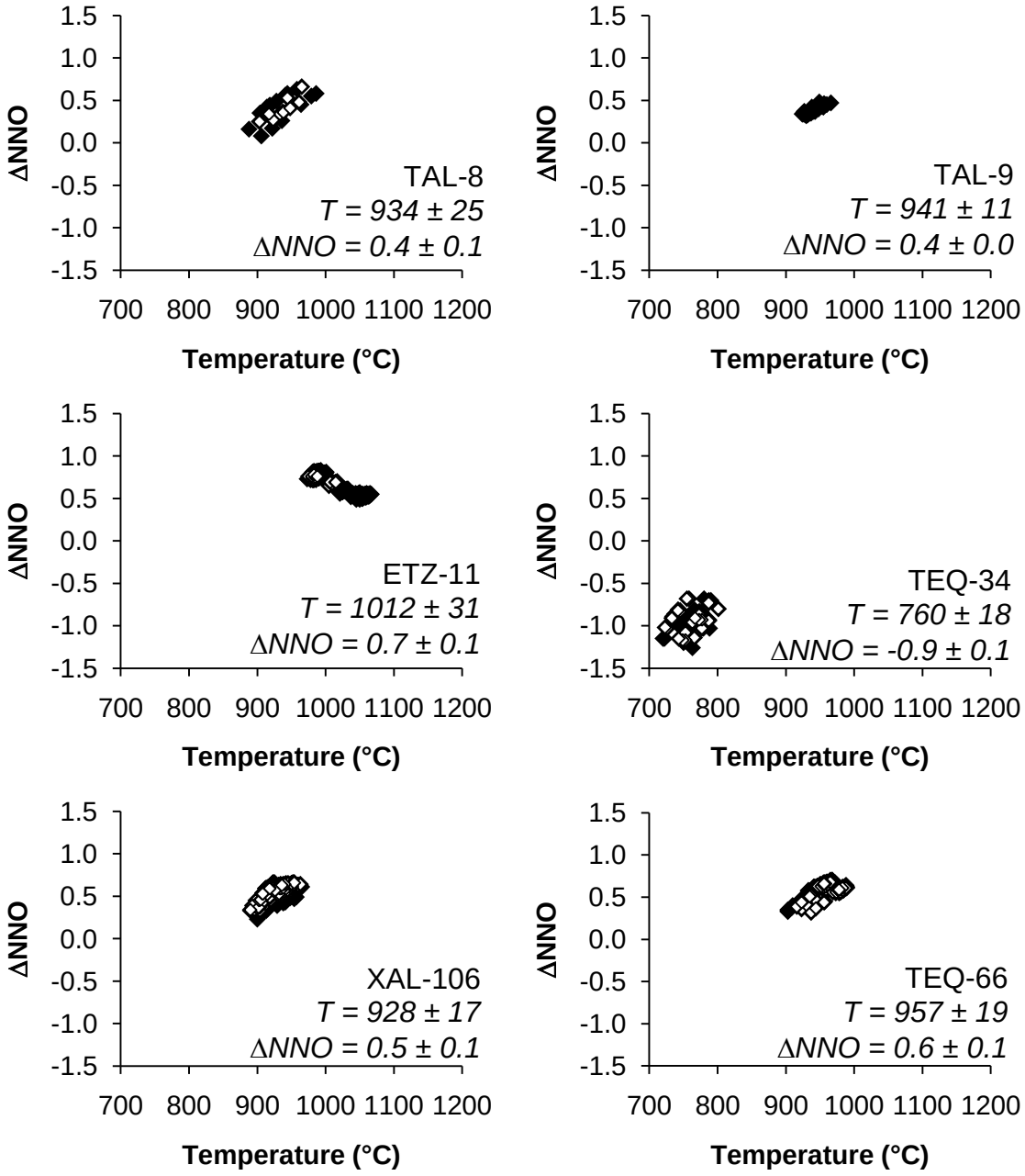


Figure 3.4 (cntd): Plots of oxygen fugacity (ΔNNO) vs. T (°C) calculated for all pairings of ilmenite and titanomagnetite, using two Fe-Ti oxide geothermometer and oxygen barometer model of Ghiorso and Evans (2008). White diamonds represent those pairings that pass within the 1σ bounds of the Bacon and Hirschmann (1988) equilibrium test.

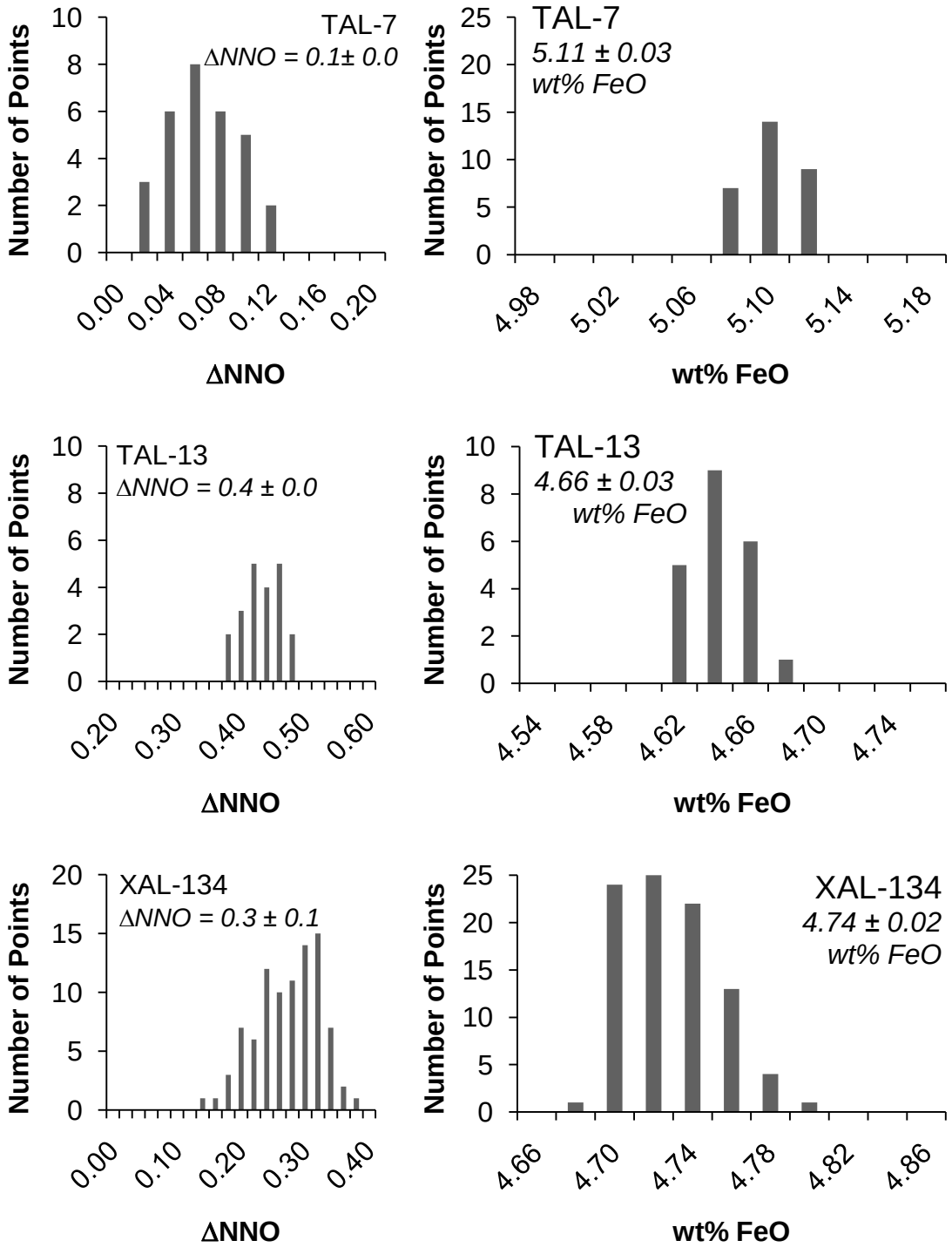


Figure 3.5: Histograms of ΔNNO and wt% FeO calculated for all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991)

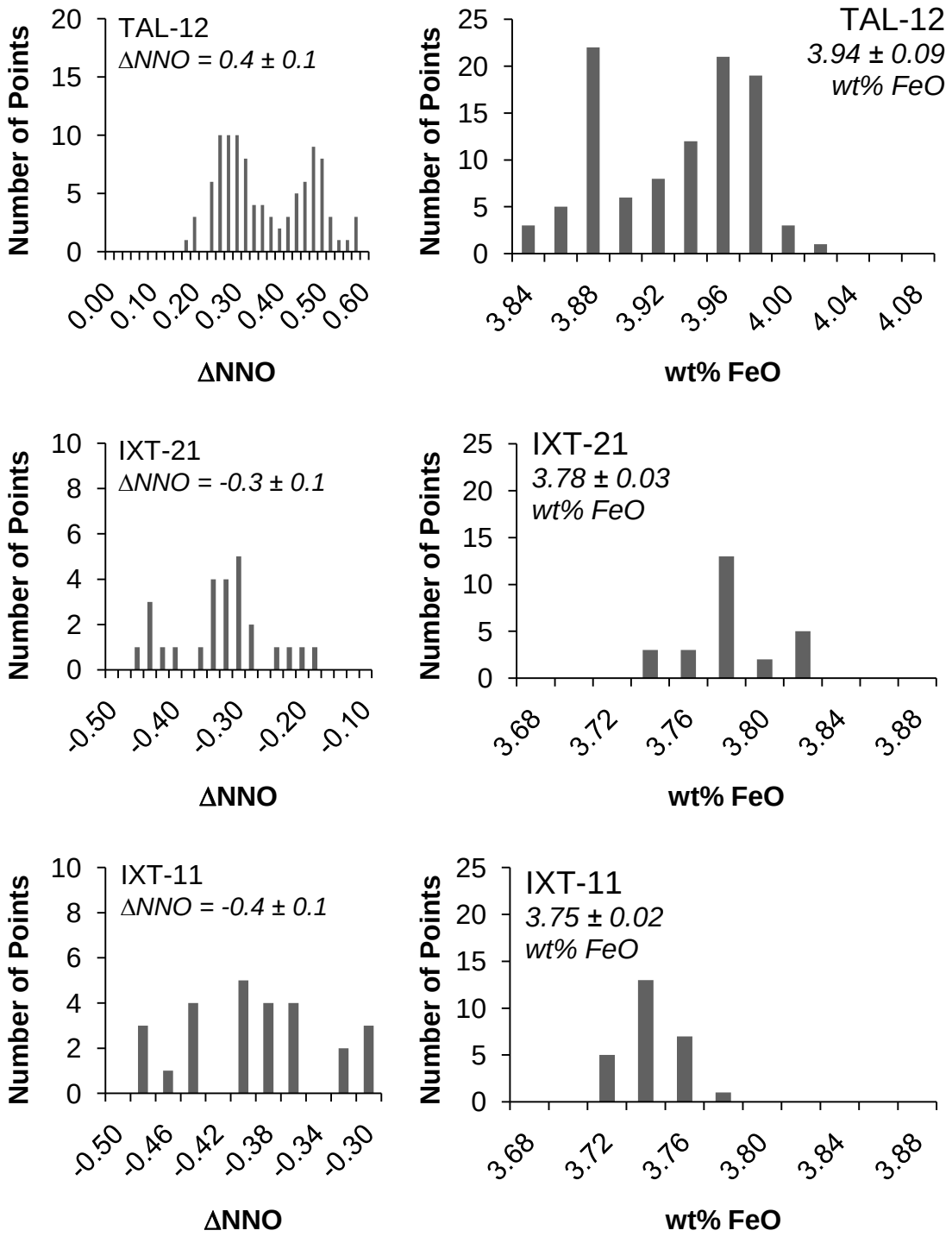


Figure 3.5 (cntd): Histograms of ΔNNO and wt% FeO calculated for all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991)

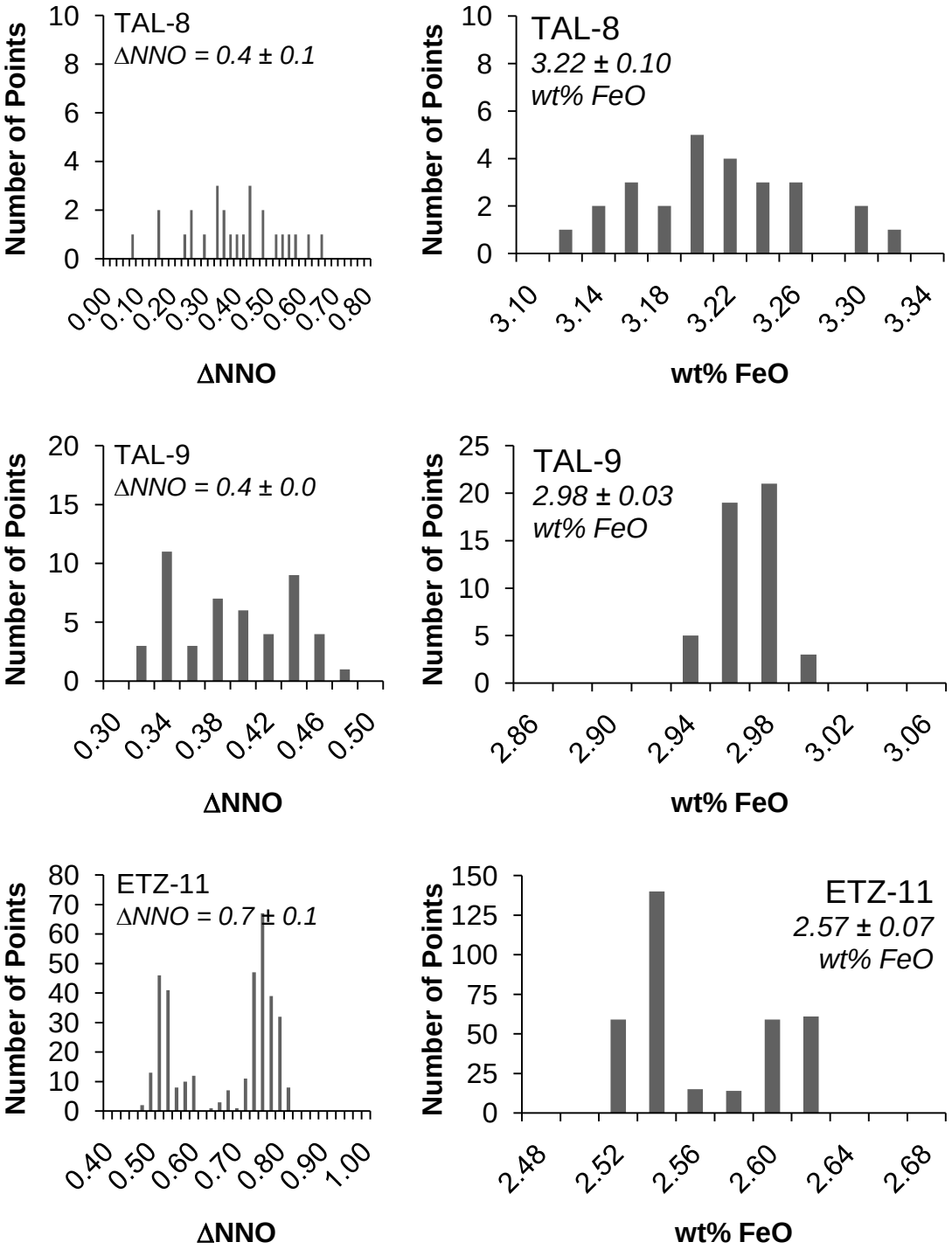


Figure 3.5 (cntd): Histograms of ΔNNO and wt% FeO calculated for all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991)

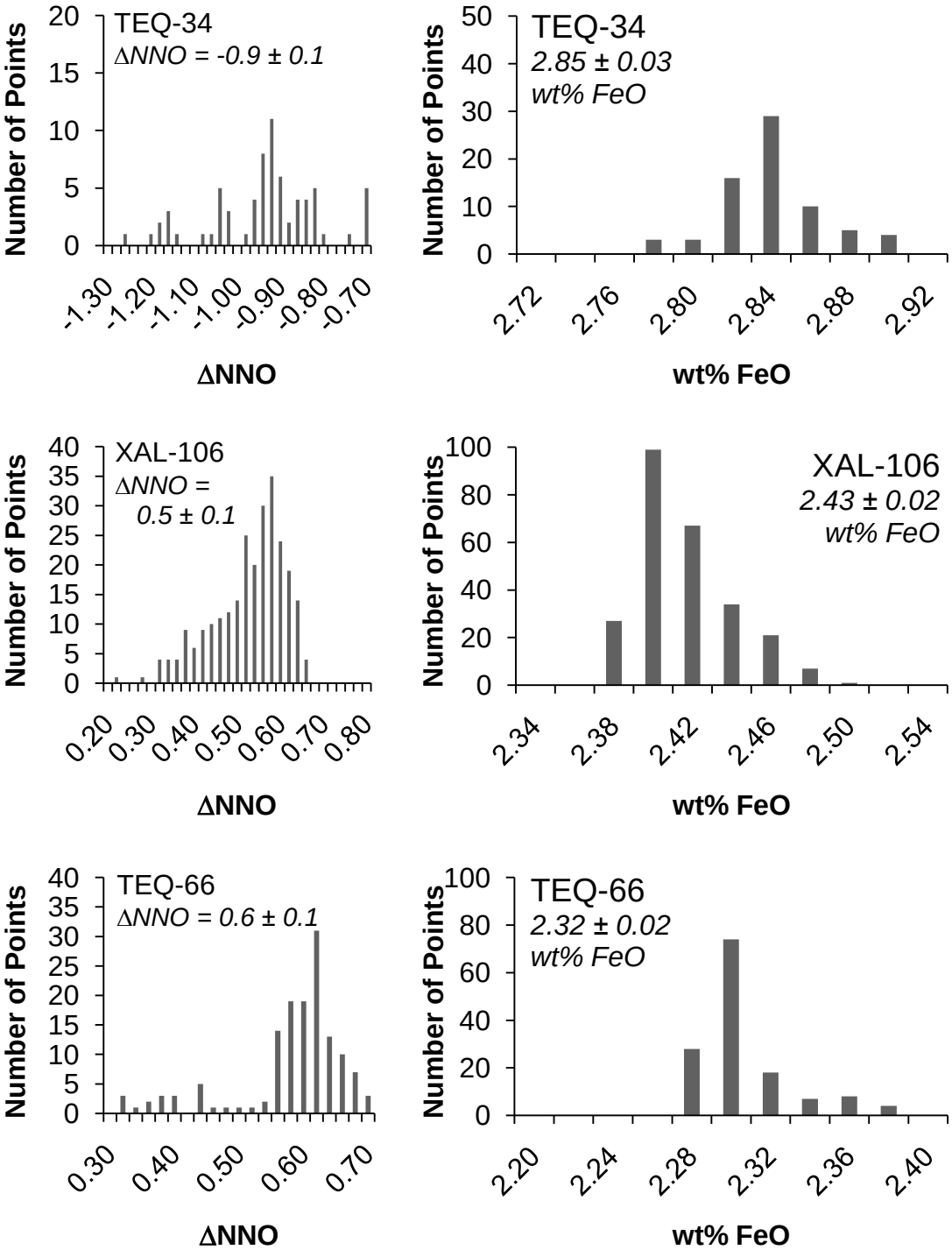


Figure 3.5 (cntd): Histograms of ΔNNO and wt% FeO calculated for all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991)

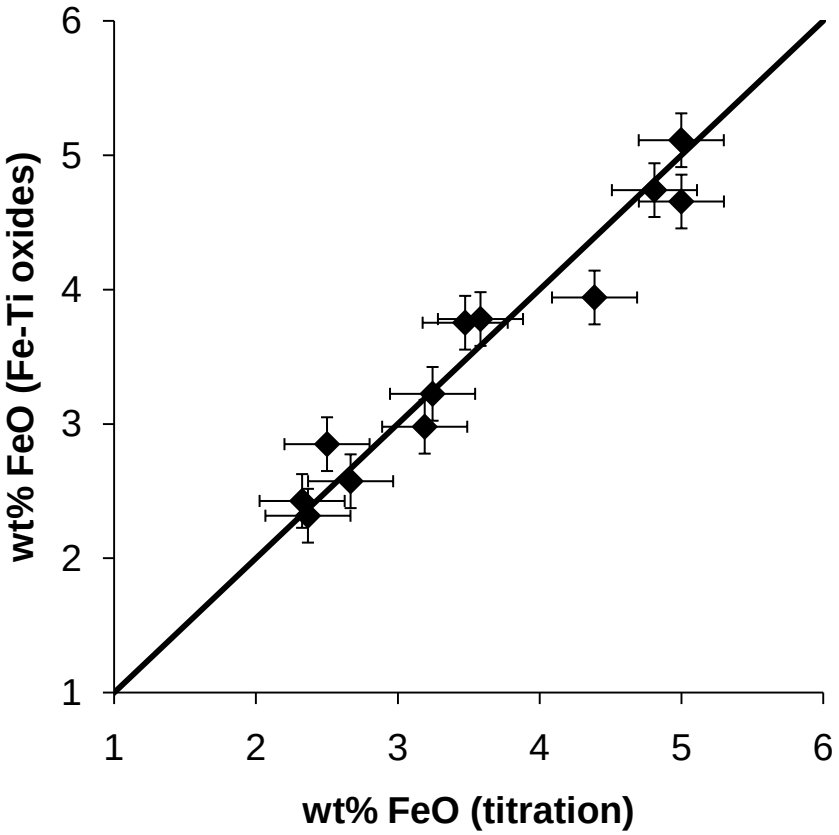


Figure 3.6: Comparison plot of pre-eruptive wt% FeO (defined by Fe-Ti oxide analysis) vs. post-eruptive wt% FeO concentrations (defined by Fe^{2+} bulk titration) for all samples, with 1:1 correspondence line**.** Wt% FeO (titration), noted with a standard error of ± 0.3 wt% FeO, is the average of four titrations – two direct titration analyses employing method of Reichen and Fahey (1962), two back-titrations employing method of Wilson (1960). Wt% FeO (Fe-Ti oxides), noted with a standard error of ± 0.1 wt% FeO, is calculated from the average of all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991).

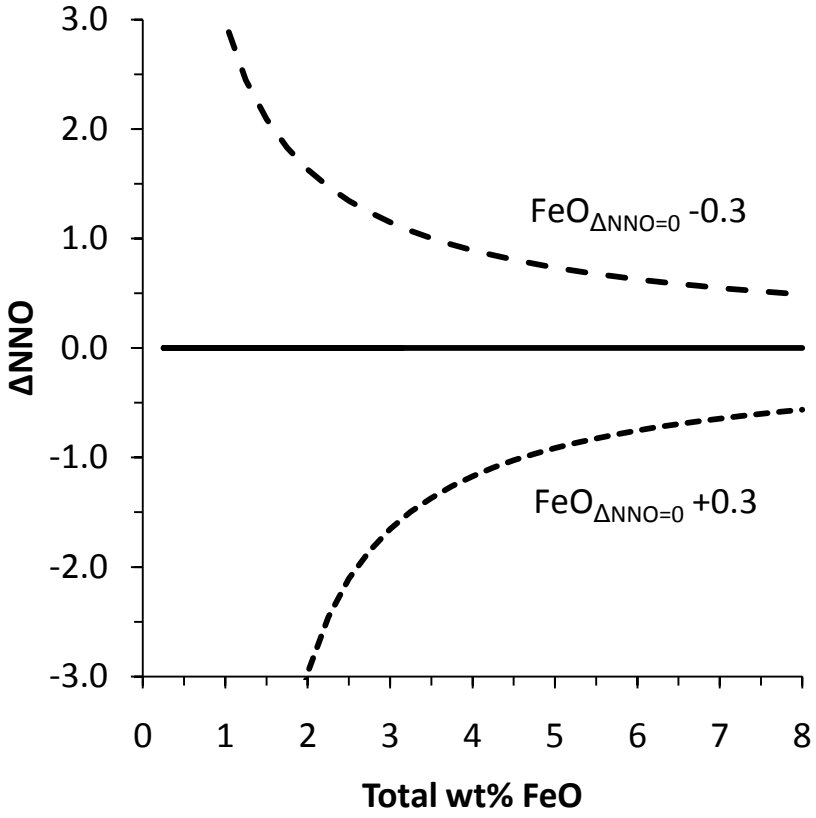


Figure 3.7: Calculated uncertainty of ΔNNO due to change in 0.3 wt% FeO, plotted with respect to wt% FeO^T. Uncertainty calculated using model of Kress and Carmichael (1991).

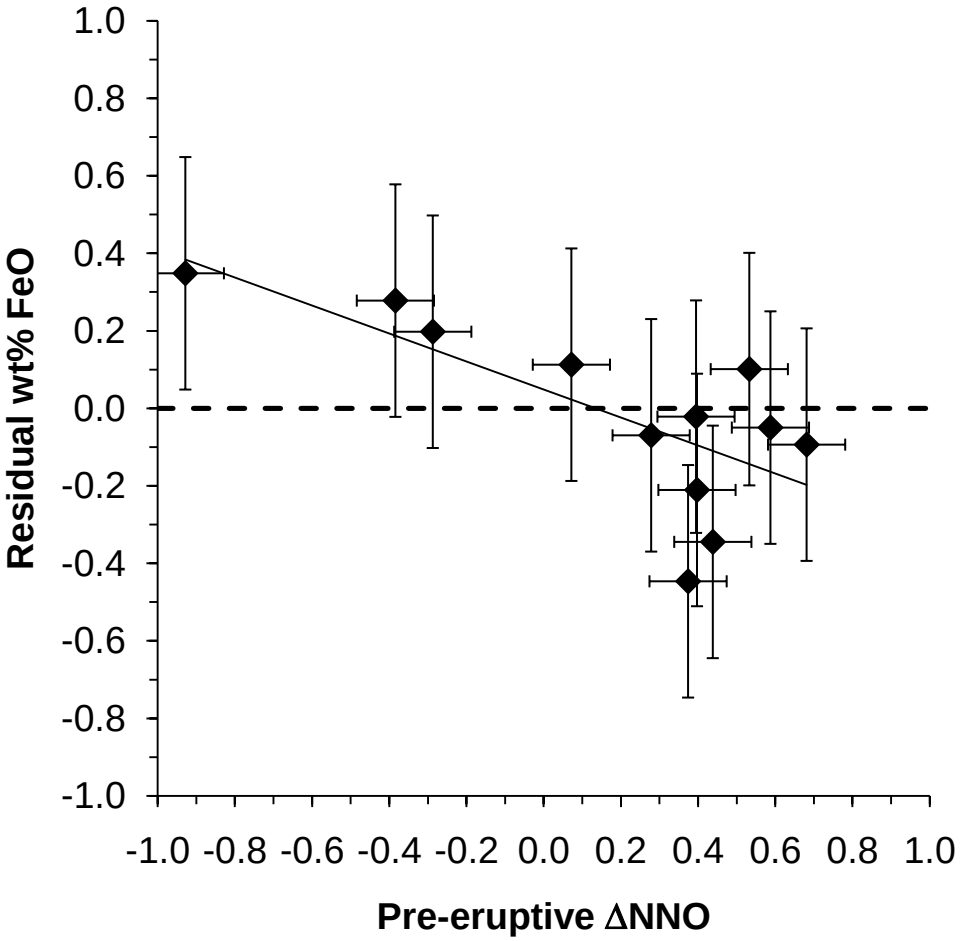


Figure 3.8: Residual wt% FeO plotted as a function of pre-eruptive ΔNNO values**.** Residual wt% FeO is defined as [pre-eruptive wt% FeO – post-eruptive wt% FeO]. Pre-eruptive ΔNNO calculated from all pairings of ilmenite and titanomagnetite using model of Ghiorso and Evans (2008). Pre-eruptive wt% FeO calculated by application of model of Kress and Carmicahel (1991) to pre-eruptive ΔNNO value. Post-eruptive wt% FeO is determined by average of replicate direct titration and back-titration analyses.

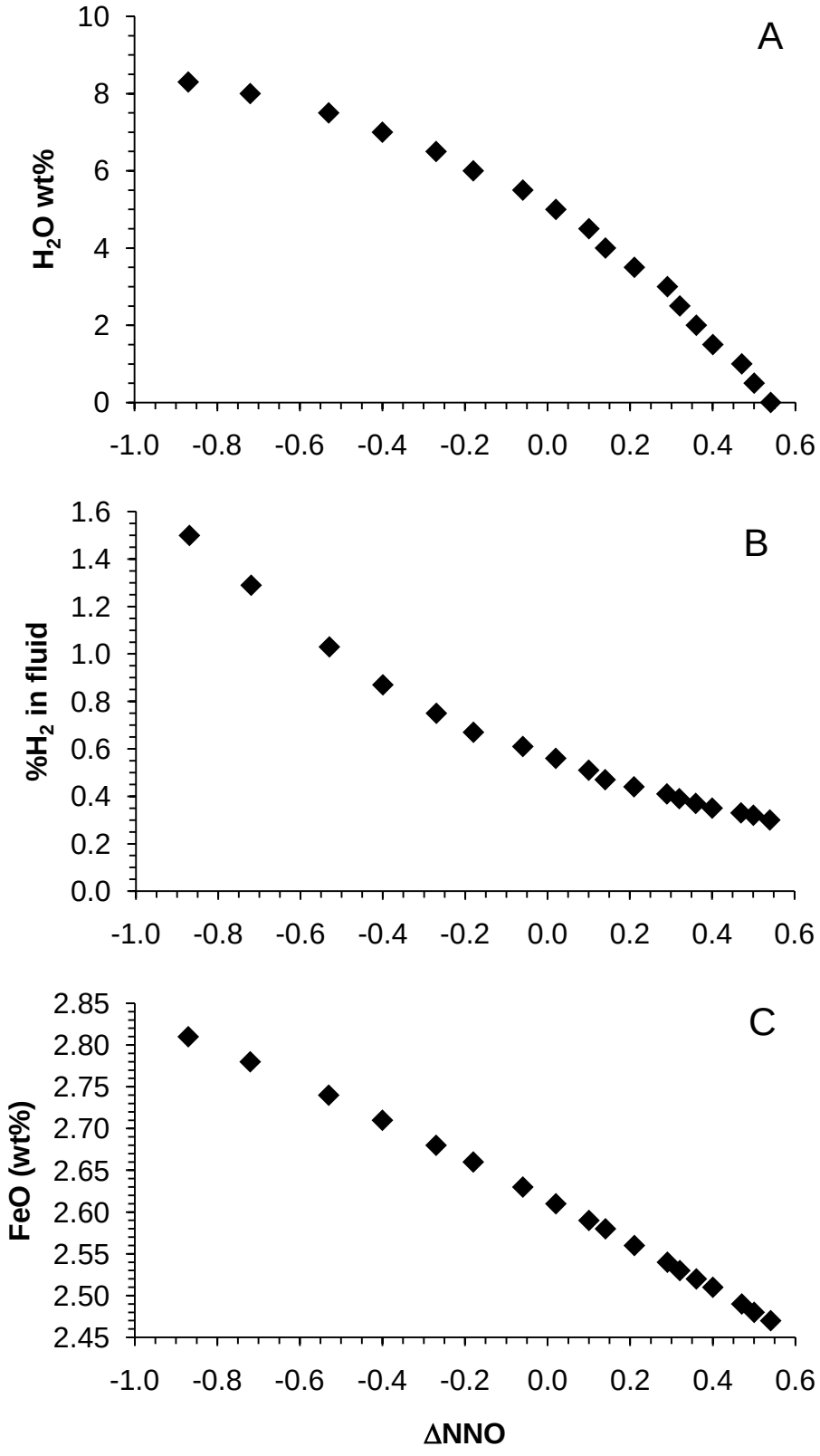


Figure 3.9: Concentrations (wt%) of H_2O, H_2, and FeO for sample TEQ-34 plotted as a function of a function of ΔNNO from ΔNNO -1 to ΔNNO +1

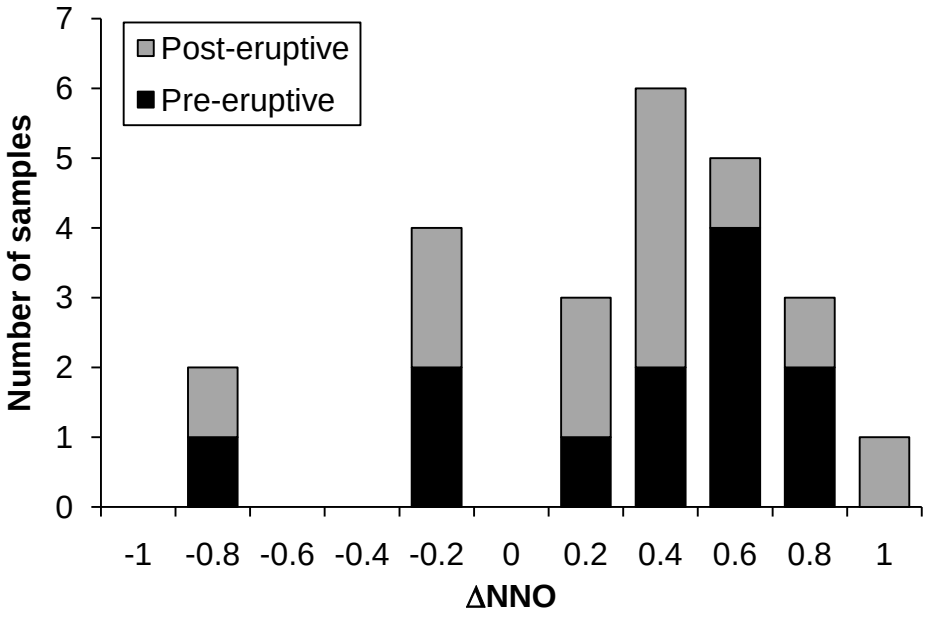


Figure 3.10: Histogram of pre-eruptive and post-eruptive ΔNNO values calculated in this study. Pre-eruptive ΔNNO values calculated from all pairings of titanomagnetite and ilmenite using model of Ghiorso and Evans (20008). Post-eruptive ΔNNO calculated using model of Kress and Carmichael (1991) applied to post-eruptive wt% FeO concentrations determined by titration.

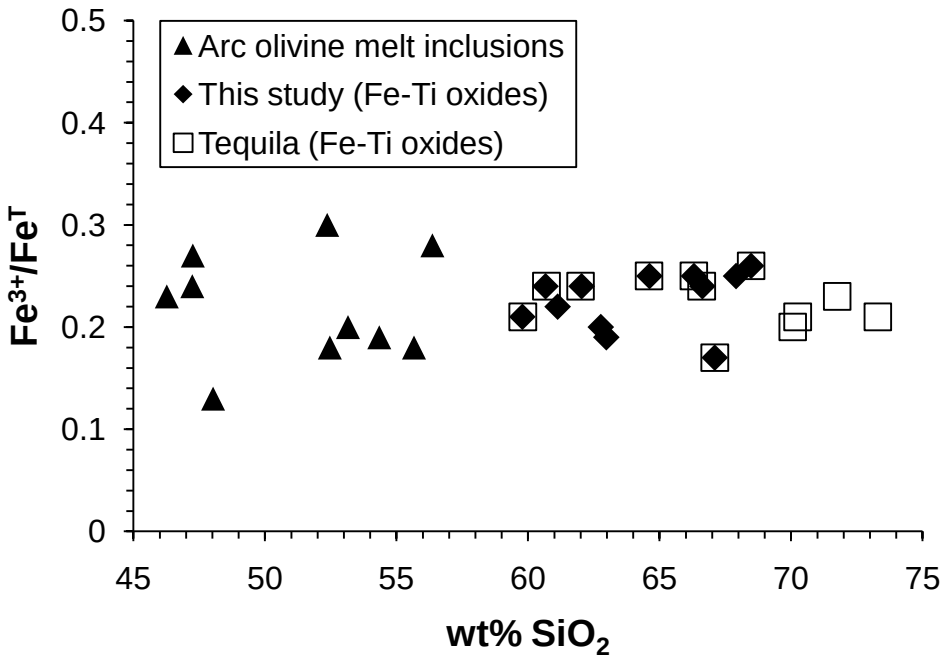


Figure 3.11: Compiled pre-eruptive Fe^{3+}/Fe^{T} values plotted as a function of wt% SiO_2 from this study, Lewis-Kenedi *et al* (2005), Harris (1986), and Kelley and Cottrell (2009). See text for calculation methods.

Table 3.1: Bulk compositions and modal petrography

Sample	TAL-7	TAL-13	XAL-134	TAL-12	IXT-21	IXT-11	TAL-8	TAL-9	ETZ-11	TEQ-34	XAL-106	TEQ-66
Lat. (N)	20° 44.32'	20° 44.70'	21° 29.77'	20° 41.98'	21° 04.25'	21° 03.60'	20° 44.85'	20° 44.91'	20° 47.00'	20° 49.80'	21° 27.68'	20° 48.15'
Long. (W)	103° 56.79'	103° 49.50'	104° 42.35'	103° 47.78'	104° 27.00'	104° 26.75'	103° 55.82'	103° 55.24'	104° 00.46'	103° 59.80'	104° 40.36'	103° 59.02'
SiO_2	59.80	60.70	61.13	62.00	62.77	62.98	64.60	66.30	66.60	67.10	67.91	68.48
TiO_2	1.42	1.27	1.33	1.14	0.85	0.82	0.93	0.77	0.71	0.60	0.64	0.67
Al_2O_3	16.20	16.20	16.64	16.20	17.43	17.15	15.70	15.40	15.50	15.67	16.07	14.90
$Fe_2O_3^T$	7.23	6.85	6.82	5.77	5.21	5.12	4.75	4.39	3.95	3.76	3.62	3.49
MnO	0.12	0.11	0.14	0.11	0.17	0.15	0.09	0.08	0.09	0.11	0.17	0.08
MgO	2.44	2.51	2.36	2.50	1.39	1.51	1.33	1.56	0.94	0.65	1.09	0.93
CaO	5.32	5.39	4.90	5.25	3.43	3.66	3.46	3.55	2.57	1.66	2.66	2.35
Na_2O	4.49	4.37	4.67	4.28	5.63	5.48	4.75	4.48	5.06	5.53	5.25	4.43
K_2O	2.31	2.35	2.02	2.44	2.70	2.38	3.00	3.30	3.65	4.25	2.65	3.91
P_2O_5	0.52	0.41	0.59	0.36	0.35	0.35	0.32	0.23	0.22	0.16	0.21	0.22
LOI	0.00	0.00	0.22	0.00	0.25	0.20	0.00	0.00	0.00	0.30	0.31	0.23
Total	99.85	100.16	100.81	100.05	100.18	99.80	98.93	100.06	99.29	99.79	100.57	99.69
Plag ph	1.5%	1.8%	0.6%	1.2%	0.8%	0.8%	1.3%	2.0%	1.3%	0.8%	1.4%	0.6%
mph	1.3%	1.7%	1.0%	2.6%	0.2%	1.2%	1.0%	1.5%	0.7%	1.0%	2.9%	0.9%
Opx ph	0.0%	0.3%	0.1%	0.1%	0.0%	<0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
mph	0.2%	0.3%	0.3%	0.7%	0.2%	0.1%	0.8%	0.3%	0.2%	0.1%	0.4%	0.6%
Cpx ph	0.0%	0.0%	<0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	<0.1%
mph	0.2%	0.1%	0.1%	0.4%	<0.1%	0.0%	0.2%	0.2%	0.0%	0.1%	0.0%	0.7%
Biotite	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	<0.1%	0.0%	0.0%
Hbl	0.0%	0.2%	0.0%	<0.1%	0.3%	1.5%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%
Fe-Ti Ox	0.1%	0.1%	0.7%	0.1%	0.3%	0.4%	0.1%	0.1%	0.1%	0.2%	0.3%	0.5%
Gdms	96.7%	95.5%	97.2%	94.9%	98.2%	96.0%	96.1%	95.4%	97.7%	97.7%	95.0%	96.7%

ph = phenocryst (>200 µm); mph = microphenocryst (>50 µm); gdms= groundmass

Table 3.2: Compiled wt% FeO analyses from this study

Sample	Certified wt% FeO	*Fe-Ti Oxides* FeO	± 1σ	± 2σ	*Reichen & Fahey (1962)* Titr. 1	Titr. 2	Avg. ± 2σ	*Wilson (1960)* Titr. 1	Titr. 2	Avg. ± 2σ	*Colorimetry (Wilson)* Test 1	Test 2	*All Titrations* Avg. ± 2σ	Δ%FeO (Fe-Ti - Titr.)	Δ%FeO (Cert. - Titr.)	Δ%FeO (Cert. - Col.)
TEQ-34		2.85	0.03	0.05	2.57	2.33	2.45 ± 0.34	2.53	2.57	2.55 ± 0.05			2.50 ± 0.23	0.35		
TEQ-66		2.32	0.02	0.05	2.56	2.25	2.40 ± 0.44	2.35	2.31	2.33 ± 0.06			2.37 ± 0.27	-0.05		
XAL-106		2.43	0.02	0.05	2.40	2.22	2.31 ± 0.25	2.27	2.41	2.34 ± 0.20			2.33 ± 0.19	0.10		
XAL-134		4.74	0.02	0.05	4.11	4.73	4.42 ± 0.88	4.84	4.86	4.85 ± 0.03			4.81 ± 0.14	-0.07		
IXT-11		3.75	0.02	0.04	3.40	3.35	3.37 ± 0.08	3.62	3.53	3.58 ± 0.13			3.47 ± 0.25	0.28		
IXT-21		3.78	0.03	0.05	3.58	3.40	3.49 ± 0.26	3.76	3.60	3.68 ± 0.22			3.58 ± 0.30	0.20		
TAL-7		5.11	0.01	0.03	4.95	4.94	4.94 ± 0.02	5.06	5.05	5.05 ± 0.01			5.00 ± 0.13	0.11		
TAL-8		3.22	0.05	0.10	3.18	3.19	3.19 ± 0.01	3.34	3.27	3.31 ± 0.10			3.25 ± 0.15	-0.02		
TAL-9		2.98	0.02	0.03	3.08	3.11	3.09 ± 0.04	3.34	3.23	3.29 ± 0.16			3.19 ± 0.24	-0.21		
TAL-12		3.94	0.05	0.09	4.23	4.31	4.27 ± 0.11	4.55	4.46	4.51 ± 0.13			4.39 ± 0.29	-0.45		
TAL-13		4.66	0.02	0.03	4.94	4.90	4.92 ± 0.05	5.08	5.07	5.08 ± 0.02			5.00 ± 0.18	-0.34		
ETZ-11		2.57	0.04	0.07	2.69	2.57	2.63 ± 0.17	2.71	2.70	2.71 ± 0.02			2.67 ± 0.14	-0.09		
BIR-1a	8.34± 0.10					8.61					8.17	8.25	8.61 n.a.		-0.27	0.13
QLO-1	2.97 ± 0.05					2.94			3.10			3.02	3.02 ± 0.23		-0.05	-0.05
SY-4	2.86 ± 0.09					2.73		2.94	2.87	2.91 ± 0.10	2.82	2.84	2.85 ± 0.22		0.01	0.03
W-2a	8.34 ± 0.09					8.29						8.42	8.29 n.a.		0.05	-0.08

Table 3.3: Average Fe-Ti oxide compositions

Sample	TAL-7	TAL-13	XAL-134	TAL-12	IXT-21	IXT-11	TAL-8	TAL-9	ETZ-11	TEQ-34	XAL-106	TEQ-66
Phase	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm
# of analyses	5	7	10	10	4	2	13	3	12	10	16	20
SiO_2	0.01	0.00	0.02	0.01	0.07	0.13	0.03	0.00	0.01	0.04	0.03	0.03
TiO_2	45.43	45.39	44.40	44.94	47.46	47.08	44.82	45.63	42.76	49.29	44.17	43.44
Al_2O_3	0.29	0.46	0.40	0.38	0.16	0.07	0.25	0.48	0.30	0.10	0.30	0.26
Fe_2O_3	17.41	18.79	19.88	18.47	10.59	10.17	17.92	18.79	21.96	7.62	18.83	20.24
V_2O_3	0.55	0.03	0.16	0.04	0.00	0.00	0.36	0.01	0.10	0.00	0.00	0.10
Cr_2O_3	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.03	0.01	0.01	0.01	0.02
FeO	30.82	29.38	30.93	31.99	37.14	37.11	32.42	27.61	30.62	38.67	31.91	32.14
MnO	0.45	0.35	0.44	0.45	1.09	0.96	0.49	0.34	0.51	1.17	0.83	0.54
MgO	3.78	5.05	3.60	3.50	2.10	2.18	2.95	6.14	3.22	2.29	3.20	2.81
CaO	0.05	0.05	0.02	0.04	0.08	0.18	0.05	0.07	0.02	0.01	0.04	0.02
Total	98.82	99.52	99.86	99.82	98.71	97.86	99.30	99.09	99.50	99.21	99.31	99.59
mol% ilm	68.6	63.4	67.2	68.9	79.7	79.9	71.0	59.6	66.3	81.8	68.6	69.3
Phase	Mte	Mte	Mte	Mte	Mte	Mte	Mte	Mte	Mte	Mte	Mte	Mte
# of analyses	6	3	9	10	24	13	2	16	9	7	16	7
SiO_2	0.00	0.00	0.11	0.01	0.11	0.11	0.04	0.04	0.03	0.07	0.08	0.07
TiO_2	19.22	13.62	17.86	14.03	14.88	15.02	13.14	12.69	14.23	12.22	11.82	12.50
Al_2O_3	2.15	3.29	1.86	2.81	3.00	1.93	2.70	2.67	2.70	2.41	2.58	2.44
Fe_2O_3	29.41	40.04	30.17	39.35	37.69	36.15	40.68	42.84	39.45	42.49	43.52	41.75
V_2O_3	0.67	0.33	0.41	0.39	0.15	0.11	0.50	0.29	0.19	0.04	0.13	0.33
Cr_2O_3	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.01	0.01	0.01	0.01	0.01
FeO	44.60	38.68	46.62	41.23	41.37	43.86	39.71	37.71	40.14	40.13	38.80	39.59
MnO	0.48	0.31	0.52	0.34	0.74	0.69	0.50	0.47	0.57	0.73	0.74	0.53
MgO	2.29	3.14	1.70	1.86	2.18	1.58	2.20	3.26	2.59	1.14	1.82	1.71
CaO	0.09	0.08	0.07	0.05	0.04	0.08	0.01	0.04	0.02	0.02	0.02	0.03
Total	98.91	99.48	99.32	100.05	100.17	99.52	99.49	100.01	99.92	99.27	99.53	98.96
Mol% ulv	53.6	37.5	51.5	38.9	41.0	43.3	36.6	34.9	39.3	34.5	33.1	35.2
T (°C)	1073 ± 6	969 ± 22	1085 ± 16	976 ± 20	874 ± 17	872 ± 13	934 ± 25	941 ± 11	1012 ± 31	760 ± 18	928 ± 17	957 ± 19
ΔNNO	0.1 ± 0.0	0.4 ± 0.0	0.3 ± 0.1	0.4 ± 0.1	-0.3 ± 0.1	-0.4 ± 0.1	0.4 ± 0.1	0.4 ± 0.0	0.7 ± 0.1	-0.9 ± 0.1	0.5 ± 0.1	0.6 ± 0.1

Temperature and ΔNNO are average (+/- 1σ) from all possible pairings of ilmenite and titanomagnetite analyses

REFERENCES

Bacon, C.R. and Hirschmann, M.M., 1988, Mg/Mn partitioning as a test for equilibrium between coexisting Fe-Ti oxides:American Mineralogist, v. 73, p. 57-61.

Burgisser, A., Scaillet, B., 2007, Redox evolution of a degassing magma rising to the surface: Nature, v. 445, p. 194-197.

Candela, P.A., 1986, The evolution of aqueous vapor from silicate melts: effect on oxygen fugacity: Geochimica Cosmochimica Acta, 50, 1205-1211.

Carroll, M.R. and Rutherford, M.J., 1985, Sulfide and sulfate saturation in hydrous silicate melts. Journal of Geophysical Research, v. 90, p. C601-C612.

Carmichael, I.S.E., 1991, The redox states of basic and silicic magmas: a reflection of their source regions?: Contributions to Mineralogy and Petrology, v. 106, p. 129-141.

Carmichael, I.S.E. and Ghiorso, M.S., 1986, Oxidation-reduction relations in basic magma: a case for homogeneous equilibria: Earth and Planetary Science Letters, v. 78, p. 200-210.

Christie, D.M., Carmichael, I.S.E., and Langmuir, C.H., 1986, Oxidation states of mid-ocean ridge basalt glasses: Earth and Planetary Science Letters, v. 79, p. 397-411.

Crabtree, S.M. and Lange, R.A., 2010, Crysal-poor andesites and dacites: complex petrography induced by degassing-induced crystallization: Journal of Petrology (accepted).

Couch, S., Harford, C.L., Sparks, R.S.J., and Carroll, M.R., 2003, Experimental constraints on the conditions of formation of highly calcic plagioclase microlites at the Soufriere Hills Volcano, Montserrat: Journal of Petrology, v. 44, p. 1455-1475.

Frey, H.M. and Lange, R.A., 2010, Petrologic diversity in andesites and dacites from the Tequila volcanic field, Mexico: resolving the effects of degassing vs. magma mixing: Contributions to Mineralogy and Petrology (accepted)

Frey, H.M., Lange, R.A., Hall, C.M., Delgado-Granados, H., and Carmichael, I.S.E., 2007, A Pliocene ignimbrite flare-up along the Tepic-Zacoalco rift: evidence for the initial stages of rifting between the Jalisco block (Mexico) and North America: Geological Society of America Bulletin, v. 119, p. 49-64.

Gardner, J.E.,, Rutherford, M., Carey, S., and Sigurdsson, H., 1995, Experimental constraints on pre-eruptive water contents and changing magma storage prior to

explosive eruptions of Mount St. Helens volcano: Bulletin Volcanlogy, v. 57, p 1-17.

Ghiorso, M. and Evans, B., 2008, Thermodynamics of rhombohedral oxide solid solutions and a revision of the Fe-Ti two-oxide geothermometer and oxygen barometer: American Journal of Science, v. 308, p. 957-1039.

Grillot, H., Béguinot, J., Boucetta, M., Rouquette, C., and Sima, A., 1964, Méthode d'analyse quantitative appliqués aux roches et alux prelements de la prospection géochimique: Mémoire du BRGM, v. 30, p. 3319.

Harris, J.M., 1986, Silicic volcanics of Volcán Tequila, Jalisco, Mexico: MS thesis, University of California.

Hirschmann, M.M., 2009, Ironing out the oxidation state of Earth's mantle: Science, v. 325, p. 545-546.

Holloway, J.R., 2004, Redox reactions in seafloor basalts: possible insights into silicic hydrothermal system: Chemical Geology, v. 210, p. 225-230.

Holtz, F., Sato, H., Lewis, J., Behrens, H., and Nakada, S., 2005, Experimental petrology of the 1991-1995 Unzen dacite, Japan. Part 1: Phase relations, phase composition and pre-eruptive conditions: Journal of Petrology, v. 46, p. 319-337.

Jugo, P., Luth, R., and Richards, J., 2005, Experimental data on the speciation of sulfur as a function of oxygen fugacity in basaltic melts: Geochimica Cosmochimica Acta, v. 69, p. 497-503.

Kelley, K.A. and Cottrell, E., 2009, Water and the oxidation state of subduction zone magmas: Science, v. 325, p. 605-607.

Kress, V.C. and Carmichael, I.S.E., 1991, The compressibility of silicate liquids containing Fe2O3 and the effect of composition, temperature, oxygen fugacity and pressure on their redox states: Contributions and Mineralogy, v. 108, p. 82-92.

Kress, V.C., Ghiorso, M.S., and Lastuka, C., 2004, Microsoft EXCEL spreadsheet-based program for calculating gas speciation in the C-O-H-S-Cl-F system: Computers and Geosciences, v. 30, p. 211-214.

Lee, C-T.A., Leeman, W.P., Canil, D., and Li, Z.-X.A., 2005, Similar V/Sc systematics in MORB and arc basalts: implications for the oxygen fugacities of hteir mantle source regions: Journal of Petrology, v. 46, p. 2313-2336.

Lewis-Kenedi, C.B., Lange, R.A., Hall, C.M., and Delgado-Granados, H., 2005, The eruptive history of the Tequila volcanic field, western Mexico: ages, volumes, and relative proportions of lava types: Bulletin of Volcanology, v. 67, p. 391-414.

Luhr, J.F., 1990, Experimental phase relations of water-saturated and sulfur-saturated arc magmas and the 1982 eruptions of El Chichon volcano: Journal of Petrology, v. 31, p. 1071-1114.

Mathez, E.A., 1984, influence of degassing on oxidation states of basaltic magmas: Nature, v. 310, p. 371-375.

Moore, G., Vennemann, T., and Carmichael, I.S.E., 1998, An empirical model for the solubility of H2O in magmas to 3 kilobars: American Mineralogist, v. 83, p. 36-42.

O'Neill, H.S.C. and Pownceby, M.I., 1993, Thermodynamic data from redox reactions at high temperatures. I. An experimental and theoretical assessment of the electrochemical method using stabilized zirconia electrolytes, with revised values for the Fe-"FeO", Co-CoO, Ni-NiO and Cu-Cu_2O buffers and new data for the W-WO_2 buffer: Contributions to Mineralogy and Petrology, v. 114, p. 296-314.

Reichen, L.E. and Fahey, J.J., 1962, An improved method for the determination of FeO in rocks and minerals including garnet. U.S. Geological Survey Bulletin, v. 1144B, p 1-5.

Sillitoe, R.H., 1997, Characteristics and controls of the largest porphyry copper-gold and epithermal gold deposits in the circum-Pacific region. Australian Journal of Earth Sciences, v. 44, p. 373-388.

Sisson, T.W. and Grove, T.L., 1993, Experimental investigations of the role of H_2O in calc-alkaline differentiation and subduction zone magmatism: Contributions to Mineralogy and Petrology, v. 113, p. 143-166.

Sun, W.D., Arculus, R.J., Kamenetsky, V., and Binns, R.A., 2004, Release of gold-bearing fluids in convergent margin magmas prompted by magnetite crystallization: Nature, v. 431, p. 975-978.

Wallace, P.W., 2005, Volatiles in subduction zone magmas: concentrations and fluxes based on melt inclusion and volcanic gas data: Journal of Volcanological and Geothermal Research, v. 140, p. 217-240.

Wilson, A.D., 1960, The microdetermination of ferrous iron in silicate minerals by a volumetric and a colorimetric method: Analyst, v. 85, p. 823-827.

Zhang, Y., Xu, Z., Zhu, M., and Wang, H., 2007, Silicate melt properties and volcanic eruptions: Reviews in Geophysics, v. 45, RG4004, p 1-27.

Chapter 4

The Petrologic History of the Sanganguey Volcanic Field, Nayarit, Mexico: Comparisons in a suite of crystal-rich and crystal-poor lavas erupted since 300 kya

ABSTRACT

A detailed petrologic study has been completed for eight samples from the vicinity of Volcán Sanganguey, Nayarit, Mexico. This suite of samples includes four crystal-rich andesites (40-49 vol%) and two crystal-rich dacites (24-26 vol%), as well as two crystal poor samples (< 5 vol%), one andesite and one dacite, of similar composition. All of these magmas were multiply saturated with at least five mineral phases (plagioclase + orthopyroxene + titanomagnetite + ilmenite + apatite ± clinopyroxene ± hornblende). Eruptive temperatures, calculated on the basis of Fe-Ti oxide thermometry, range from 853 (± 24) °C to 986 (± 19) °C for the crystal-rich andeites, and from 908 (± 20) °C to 929 (± 77) °C for the crystal-rich dacites. Temperatures calculated for the crystal-poor andesite and dacite were 928 (± 17) °C and 1085 (± 16) °C, respectively. Corresponding oxygen fugacities for the full suite of samples range from -0.1 to +0.9 log units relative to the Ni-NiO buffer, with all but one ≤ NNO +0.5. All eight samples show significantly broad compositional ranges for both plagioclase and orthopyroxene crystals. Textural analysis of the phenocryst assemblages reveal examples of equilibrium and rapid-growth textures, without any evidence of dissolution/recrystallization as a result of disequilibrium or the incorporation of xenocrysts. Further analyses of these samples and others from the region surrounding V. Sanganguey, by $^{40}Ar/^{39}Ar$ geochronology, bulk

geochemistry, and application of the plagioclase-liquid hygrometer (Lange *et al*., 2009) provide no evidence of magma mixing as the main driving force in the generation of intermediate magmas in the Sanganguey volcanic field, or of crystal-fractionation of andesites as a prominent mechanism for generating the analyzed dacite lavas.

INTRODUCTION

Andesite and dacite are the most common magma types erupted at continental arcs, and are the most abnundant lavas erupted from large, composite stratovolcanoes. In North America, this has been shown to be the case in both the Cascades (e.g., Hildreth *et al*., 2003; Hildreth, 2007, etc.) and the western Mexican volcanic arc (e.g., Lewis-Kenedi *et al*., 2005). In this latter volcanic arc there are several large stratovolcanoes (Volcáns San Juan, Sanganguey, Tepetiltic, Ceboruco, Tequila, Colima, and Tancítaro; Fig. 4.1a) that have primarily erupted andesite ± dacite. The intermediate magmas forming these edifices are crystal rich (25-50%) and display complex petrographic features. Commonly, within a single sample, the plagioclase and pyroxene span a wide range of compositions, display apparent normal and reverse zoning, and have textures variably described as sieved, dusty, patchy, resorbed, and corroded (e.g., Luhr and Carmichael, 1980; Nelson, 1980; Nelson and Livieres, 1986; Wallace and Carmichael, 1994; Luhr, 2000; Chertkoff and Gardner, 2004; Reubi and Blundy, 2008). The petrographic complexities in intermediate magmas erupted from large, composite stratovolcanoes have led several researchers to conclude that mixing between magmas of distinctly different bulk compositions (felsic vs. mafic) and/or the incorporation of xenocrystic material is a common phenomenon in the origin and evolution of andesite (e.g., Singer *et al*., 2008,

Reubi and Blundy, 2008). Others have concluded that fractional crystallization of more mafic magmas is the driving force in generating the andesites and dacites erupted in these arcs (e.g., Grove *et al*., 2005).

These high-volume, crystal-rich lavas are not the sole eruptive products of volcanic arcs. Throughout both the Mexican and Cascades arcs, intensive mapping has revealed many small-volume eruptions and flows, found surrounding these larger central volcanoes (e.g., Hildreth and Lanphere, 1994; Hildreth *et al*., 2003; Frey *et al*., 2004; Lewis-Kenedi, 2005; Bacon and Lanphere, 2006; Mertzman *et al*., 2008). While a great many of these lavas are crystal rich (25-50%), crystal-poor lavas have also been found and analyzed from among these same peripheral flows. Many of these crystal-poor lavas have been shown to have similar petrographic characteristics among their phenocrysts as have been noted for the crystal-rich lavas erupted from the central volcanoes that they surround (Frey *et al*., 2010; Crabtree and Lange, 2010).

In this study, we evaluate whether two proposed methods – the ingestion of xenocrysts and/or the mixing of mafic and felsic magmas, and crystal fractionation of more mafic, locally-erupting magmas – are *required* to explain the petrographic features observed. A potential alternate theory – the loss of water during decompression of fluid-saturated magmas – has long been recognized as an important process in crystallization (e.g., Moore and Carmichael, 1998, Brophy *et al*., 1999; Cashman and Blundy, 2000; Metrich *et al*, 2001; Carmichael, 2002; Blundy and Cashman, 2005). Experimental studies of crystal textures that develop during degassing-induced crystallization reveal complex, rapid-growth features, including skeletal crystals, swallow tails, and the entrapment of melt inclusions (e.g., Hammer and Rutherford, 2002; Couch *et al*, 2003;

Martel and Schmidt, 2003), in contrast with those features developed due to resorption. The applicability of this alternate theory to is assessed with respect to a suite of intermediate lavas from the region surrounding Volcán Sanganguey, Nayarit, Mexico.

Among these lavas are two crystal-rich dacites (~25%) and four crystal-rich andesites (40-49%), representing material commonly associated with the andesite/dacite central edifice, and two crystal-poor samples – a dacite (5%) and an andesite (3%) – erupted from small, short-lived, monogenetic vents (Table 4.1, Fig. 4.1b). A visual comparison between the crystal-rich and crystal-poor nature of these samples is provided in Fig. 4.2, contrasting two andesites (XAL-103, XAL-134) and two dacites (XAL-115, XAL-106). All of the samples in this study lack evidence of post-eruptive alteration; there are tight definitions of both their magmatic temperatures and oxidation states, based upon analyzed Fe-Ti oxides in each sample (Ghiorso and Evans, 2008). Application of the plagioclase-liquid hygrometer (Lange *et al*., 2009) has been completed to provide minimum H_2O concentrations at the time of crystallization in each of the eight samples.

An evaluation of the *requirement* of crystal-fractionation as a mechanism for generating the dacites erupted at V. Sanganguey is based upon the compositions of the bulk magmas and the crystals grown therein. Further evidence is provided by analysis of the eruptive ages of the lavas erupted in the Sanganguey volcanic field, and by calculations of magmatic temperatures and water contents at the time of crystal growth in these same magmas, with a purpose of identifying trends in these variables as related to increases in the magmas' bulk SiO_2 contents.

GEOLOGIC SETTING

Volcán Sanganguey is a major volcanic edifice along the Tepic-Zacoalco rift zone in Western Mexico. The TZR is the SE-NW arm of a triple-rift that also includes the N-S trending Colima rift and the E-W trending Chapala rift. A series of major calc-alkaline volcanoes have erupted along the TZR in response to the subduction of the Rivera and Cocos microplates, remnants of the ancient Farallon Plate (Fig 4.1a). Andesite, and secondarily dacite, dominate the volume of many of these large stratovolcanoes in the Western Mexican arc (e.g., Frey *et al*., 2004; Lewis-Kenedi *et al*., 2005; Ownby *et al*., 2007). V. Sanganguey itself is a dominantly andesitic cone, with substantial dacite flows also contributing to the main edifice volume. Multiple low-volume monogenetic vents are also present in the immediate vicinity to V. Sanganguey, with erupted lavas ranging from basaltic-andesite to dacite. (Nelson and Livieres, 1986). Also locally present is a suite of alkaline lavas, not genetically relatable to the calc-alkaline suite forming V. Sanganguey, despite their spatial and temporal overlap. These vents are more closely relatable to the materials erupted from V. Las Navajas to the north, a dominantly rhyolitic edifice whose eruptions, including ash-flows, pre-date those at V. Sanganguey. It has been suggested that the upwelling of magma responsible for building V. Las Navajas may also have been responsible for initiating the production of magmas that later formed the main cone of V. Sanganguey (Ibid.). Much work on this cone has focused on the main edifice, and the deeply-incised canyon, Arroyo Caracol, that roughly bisects V. Sanganguey from the northeast to southwest. The heart of this canyon, with a vertical exposure totaling ~300m, reveals that the bulk of the edifice is composed of a non-hornblende-bearing andesite, with prior flows of andesite and dacite contributing to a

lesser degree. It has been reasonably concluded that the majority of lavas erupting from V. Sanganguey were erupted from a single central vent, with subordinate lavas emanating from peripheral vents along and beyond the flanks of the main edifice (Ibid.). The samples most prominently employed in this study are noted on Fig 4.1b, a map of V. Sanganguey, designated by labeled squares.

GEOCHRONOLOGY AND ERUPTIVE HISTORY

Limited dating has been done of the materials composing V. Sanganguey and the small-volume flows surrounding the main edifice, employing $^{40}Ar/^{39}Ar$ geochronology, with sample preparation and analysis completed at the University of Michigan. For the present study, five bulk ground-mass grains were dated for each of twenty-two specimens, including the eight samples previously mentioned, and prominently featured later. A complete analytical data set, with age spectra, inverse isochron diagrams, and volumes of gas released from each sample is provided for each specimen from this study in Appendix K. Four criteria were applied to quantify the reliability of each date, following established methodology (e.g., Lanphere and Dalrympole, 1976; Fleck *et al.*, 1977). First, plateau spectra must yield greater than 50% of the ^{39}Ar released, over three or more contiguous steps. Second, plateau and isochron ages must be in agreement within 2σ at the 95% confidence level. Third, the $^{40}Ar/^{36}Ar$ intercept on the isochron plot must match the atmospheric value of 295.5 within 2σ at the 95% confidence interval. Fourth, the MSWD (mean square of weighted deviates) must be less than 1.8 for both the plateau age and isochron age. Fifteen samples yielded dates meeting all four stated criteria. They are presented in Table 4.2.1. Dates not meeting all four of these criteria

are presented in Table 4.2.2. Of the two samples failing criteria number one, and thus defined by their total gas age, one (XAL-101) yielded a negative date far beyond 2σ (-1672 ± 177 ka). The all-points isochron for this sample yielded a date of 247 ± 393 ka. The plateau dates for three of the other five samples not meeting all four criteria fall within 10 ka at the 95% confidence level, and all samples not meeting these criteria, excepting XAL-101, fall within 100 ka at the 95% confidence level.

The absolute ages of the andesitic main edifice, based upon dates by Nelson and Livieres (1986), range from 231 to 216 ka. The absolute ages of the peripheral andesite and dacite units from this study collectively range as far back as 306 ka. Dated alkali-basalt, andesite and dacite samples from V. Sanganguey are noted in Fig. 4.3 as black, grey and white squares, respectively. Undated material for which geochemical analyses were available are represented as triangles of these same colors. The dates labeling points in Fig. 4.3 correspond with those preferred dates noted in bold in Tables 4.2.1 and 4.2.2. It may be observed that several of the dacite samples analyzed yield ages that predate the eruption of the main cone-building andesites. This corroborates analysis of superpositioning of flows by Nelson and Livieres (1986). The eruptions of the alkali olivine basalts are temporally scattered, occurring before, after, and even at the same time as the main cone-building of V. Sanganguey.

Prior studies estimated the minimum volume of erupted andesite at V. Sanganguey as approximately 25 km^3, with a minimum volume dacites of five km^3 (Nelson and Livieres, 1986). Estimates made using GIS software for this study stipulate the minimum erupted volume as 30-32 km^3. Peripheral flows yielded far smaller defined volumes, with individual flows ranging as high as only 1-1.5 km^3. Several of these flows

were crystal-poor in nature, a striking contrast with the crystallinity observed with samples from the flanks of the main edifice, despite having similar compositions (Table 4.1).

GEOCHEMISTRY AND PETROGRAPHY

Intensive geochemical analysis was completed on eight specimens collected from the flanks of V. Sanganguey and from peripheral flows around but distinct from the main cone. Among these samples were five andesites and three dacites, with one distinctly crystal-poor specimen of each type (XAL-134 and XAL-106 respectively) (Fig 4.1b). The samples were crushed and powdered using a steel jaw crusher and an alumina/ceramic shatter box, and then analyzed for major and trace elements by X-ray fluorescence at Franklin & Marshall College, Pennsylvania. In addition, ferrous iron was measured by titration, and by analysis of co-existing ilmenite and titanomagnetite, described below. Whole-rock major elements are reported in Table 4.1 (trace elements in Appendix A), along with calculated values for Mg# (= MgO/MgO+FeO) and An# (see note in Table 4.1). The eight samples include three dacites (67.9-67.1 wt% SiO_2) and five andesites (62.4-61.1 wt% SiO_2), and are listed in order of decreasing wt% SiO_2.

The samples contain five to seven mineral phases (plagioclase + orthopyroxene + titanomagnetite + apatite + ilmenite ± clinopyroxene ± hornblende). Crystal abundances were determined by point counting (≥ 1500-2000 points) across a standard petrographic thin section in replicate, and the averages are reported in Table 4.1. The total crystallinity (phenocrysts > 200 μm; microphenocrysts > 50 μm) is low for samples XAL-106 and XAL-134, ranging from 2.8 to 5.0%. The remaining six samples are far more crystal-

rich, with dacites ranging from 24.5-26.4%, and andesites from 40.2-48.7%. In all cases, plagioclase is dominant, with orthopyroxene generally as the next most abundant and ubiquitous silicate phase. Fe-Ti oxides and hornblende are tabulated without respect to size; apatite occurs primarily in the groundmass and is not tabulated. No grains of quartz, alkali feldspar, or olivine were found in any of the duplicate thin sections from the eight samples.

The textures of the various plagioclase and pyroxene crystals are highly variable and display euhedral, faceted forms, in addition to more complex shapes that include skeletal, hopper, and swallow tail features. Melt inclusions are often abundant. A detailed description of the crystal textures is given below in the section on BSE (back-scattered electron) images.

CRYSTAL COMPOSITIONS

Analytical Methods

Compositions of titanomagnetite, ilmenite, plagioclase and pyroxene crystals in each sample were analyzed with a Cameca SX-100 electron microprobe at the University of Michigan. A 15 kV accelerating potential was used in all analyses, with a beam current of 4 nA for the plagioclases and 15 nA for both the Fe-Ti oxides and pyroxenes. For the Fe-Ti oxides, their small size permitted only a few analyses per grain. For each plagioclase and pyroxene crystal, a long-axis transect from rim to rim was completed, with a regular spacing interval of approximately 7.5, 15, 30, or 60 microns depending on total crystal size. For the plagioclase, anorthite content was calculated as the molar ratio Ca/(Ca+Na+K) and is reported as mol%. For the pyroxene grains, the Mg# was calculated as the molar ratio Mg/(Mg+Fe) and is reported as a percentage.

Analytical Results

The average composition of titanomagnetite and ilmenite in each sample is shown in Table 4.3. The Fe-Ti oxide analyses pass the Mg/Mn equilibrium test of Bacon and Hirschmann (1988), with plots of all possible pairs presented in Appendix H. Compositional analyses of the most Ca-rich and most Na-rich plagioclase in each sample are reported in Table 4.4, and analyses of the most Mg-rich and Fe-rich orthopyroxene in each sample are reported in Table 4.5. Compositional data for each analyzed point are provided in Appendices B (plagioclase), C (orthopyroxene), D (clinopyroxene), E (ilmenite), and F (titanomagnetite).

A compilation of the compositions (%An) for all points analyzed in plagioclase crystals >50 μm in length is presented in Figs. 4.4. Compiled compositional analyses (Mg#) from orthopyroxene and clinopyroxene are presented in Fig. 4.5, designated by grey and black bars, respectively. Grain-by-grain analyses for plagioclase and pyroxenes are presented for each sample in Appendix I, with compositions plotted with respect to the distance traversed rim-to-rimacross each measured grain.

The results summarized in Figs. 4.4 and 4.5 illustrate three notable features: (1) There is a statistically-broad compositional continuum recorded by both plagioclase (span 22-46 mol% An) and orthopyroxene (8-14% Mg#), regardless of high or low overall phenocryst abundances. (2) The range of clinopyroxene compositions is generally narrower and more Mg-rich than that of the orthopyroxenes in each sample. (3) There is a singular compositional peak in abundance for each phase in each sample. None of the samples analyzed from this suite, whether crystal-rich or crystal-poor, show a bimodal distribution of crystal compositions.

CALCULATION OF INTENSIVE VARIABLES

Temperature and Oxygen Fugacity

Temperature and oxygen fugacity (relative to the Ni-NiO buffer) were calculated for each of the eight samples, using the geothermometer and oxygen barometer of Ghiorso and Evans (2008), with averages presented in Table 4.3. Standard deviations on these averages are reported and indicate tight constraints on ΔNNO, and also tight constraints on T for all samples except XAL-115. Given the abundance of hornblende in this sample (4.0%, Table 4.1), the calculated absolute temperature of 929 °C appears to be reasonable. Compositional data for each analysis is available in Appendices E and F. All possible pairings of ilmenite and magnetite are shown for each sample on plots of log $(X_{Mg}/X_{Mn})_{magnetite}$ vs. log $(X_{Mg}/X_{Mn})_{ilmenite}$ in Appendix H. None deviate strongly from the equilibrium test proposed by Bacon and Hirschmann (1988).

Overall, temperatures range from 853 (± 24) to 1085 (± 16) °C and ΔNNO values range from -0.1 (± 0.1) to 0.9 (± 0.1), with most ΔNNO values between 0.0 and 0.5 (Table 4.3, Appendix H). These ΔNNO values are typical of arc magmas, and yield very tightly-constrained wt% FeO concentrations for each bulk liquid.

Application of the Plagioclase-Liquid Hygrometer

The plagioclase-liquid hygrometer of Lange *et al.* (2009) was employed to calculate pre-eruptive melt water concentrations in each sample. The temperatures used in these calculations are those obtained from the Fe-Ti oxide geothermometer (Table 4.3). The effect of pressure on the plagioclase hygrometer is small (± 100 MPa corresponds to ± 0.1 wt% H_2O calculated in the melt; Lange *et al.*, 2009); therefore, calculations were

made at a constant pressure of 100 MPa. Because the abundance of plagioclase is so sparse in each crystal-poor sample (1-4%), the bulk composition of each sample can be used as the liquid composition in those cases. In the case of the crystal-rich samples, the bulk composition is also used, owing to the inability to precisely catalog the proportion of each plagioclase composition present.

The results of these calculations are shown superimposed in Fig. 4.4 with respect to corresponding mol% An in each sample. The maximum recorded water concentrations are calculated on the basis of the most calcic plagioclase analyzed in each sample. For dacites, this maximum water concentration is 4.4% for the crystal-poor sample, but ranges from 5.3 to 5.6 wt% H_2O between the two crystal-rich samples. For andesites, the crystal-poor sample yields a maximum water concentration of 2.9%, while the crystal-rich yield maximum concentrations between 3.4 and 7.0 wt% H_2O. All of these are well within the range documented from melt inclusions in various andesite and dacite liquids (e.g., Wallace, 2005 and references therein). The lowest wt% water is recorded by the most albitic plagioclase in each sample. In the crystal-rich samples, however, it is understood that the bulk composition is not an accurate proxy for the magma from which the most albitic plagioclase grew. As the correct equilibrium liquid composition would be more evolved than that employed, the H_2O concentrations calculated using these crystals must be taken as minima. Even without this consideration, the lowest concentration of water during plagioclase crystallization must have been > 3.5 wt% for the crystal-rich dacites – more often > 4.0 wt%, and > 1.5 wt% for the andesites – more often > 3.8%.

Calculation of Pyroxene-Liquid Mg-Fe K_D values

The calculated Mg# in each pyroxene crystal shown in Fig. 4.5 can be used to calculate a pyroxene-liquid $^{Fe\text{-}Mg}K_D$ value, where

$$K_D = \left(\frac{X_{MgO}}{X_{FeO}} \right)^{liquid} \left(\frac{X_{FeO}}{X_{MgO}} \right)^{crystal} . \quad (4.1)$$

Because FeO in the melt is independently constrained by Fe-Ti oxide oxygen barometry, the concentration of MgO and FeO in the bulk sample can be used to reliably calculate the ratio of X_{MgO}/X_{FeO} in the liquid for use in Eqn. 4.1 for the crystal-poor samples. This is not the case for the crystal-rich samples, as crystallization of pyroxene and Fe-Ti oxides will dramatically affect the total iron content and the Fe^{3+}/Fe^{2+} and Fe^{2+}/Mg ratios of the liquid from which these same crystals are growing. All six crystal-rich samples in this study contain > 2.8 vol% Fe-Ti oxides. The end result is that any K_D values calculated using the bulk liquid will necessarily be maxima. The ratio of X_{FeO}/X_{MgO} in the crystal is obtained from the microprobe analyses of pyroxene, assuming all iron is FeO.

The $^{Fe\text{-}Mg}K_D$ values calculated from pyroxene analyses in each sample are superimposed for the corresponding compositions (Mg#) in Fig. 4.5. The results indicate that $^{Fe\text{-}Mg}K_D$ values for orthopyroxene in the dacites range from 0.22 to 0.44. For the andesites, the $^{Fe\text{-}Mg}K_D$ values range from 0.26 to 0.70, with the majority of analyses leading to $^{Fe\text{-}Mg}K_D$ values below 0.50.

LIQUID VS. CRYSTAL COMPOSITIONS

As previously noted, there is a significant range in compositional variation expressed by both the plagioclase and the pyroxene in each sample. In Fig. 4.6, correlations between the ranges of plagioclase and orthopyroxene are evaluated with respect to the bulk liquid composition. Compositional ranges from crystal-rich samples are designated by black lines, while ranges from crystal-poor samples are designated by grey lines. Five samples previously discussed in Chapter 2 are included in these plots, providing a greater context for evaluating differences between the crystal-poor and crystal-rich suites. Xenocrysts or either plagioclase or orthopyroxene would be expected to appear as significant outliers from any trend.

In Fig. 4.6a, a fairly tight, linear correlation is seen between the most sodic plagioclase in each sample and its liquid An# (defined in Table 4.1). There is also a broad, positive correlation between the most calcic plagioclase in each sample and its liquid An%, which overlaps the range of experimental phase equilibrium data (open circles in Fig. 4.6a) used to calibrate the plagioclase-liquid hygrometer of Lange *et al.* (2009). Even for XAL-129, the one sample showing a potential calcic outlier, there is overlap with this most calcic composition among the experimental data. The overlap is consistent with the interpretation that the most calcic plagioclase crystals in each sample are phenocrysts and therefore reliable indicators of maximum melt water concentrations. There are three possible explanations for why the sodic plagioclase crystals do not overlap with the experimental data: (i) they are xenocrysts, (ii) extensive microlite or groundmass crystallization changes the liquid An%, and therefore, the value based on the bulk liquid may not be applicable to the more sodic crystals; and/or (iii) there is a paucity

of sodic plagioclase-liquid equilibrium data because of kinetic problems associated with high melt viscosities, which increase when melts are more evolved (higher SiO_2) and have less water.

In addition to the correspondence between crystal and liquid compositions seen for plagioclase (Fig. 2.6a), there is also a broad, positive correlation between both the most Mg-rich and Mg-poor orthopyroxene in each sample and their liquid Mg# (Fig. 2.6b). Moreover, the wide compositional range in orthopyroxene in each sample overlaps the compositional range in orthopyroxenes from numerous phase equilibrium experiments (open circles in Fig. 2.6b) on hydrous andesite and dacite magmas, where oxygen fugacity was either buffered or monitored (Gardner *et al.,* 1995; Moore & Carmichael, 1998; Blatter & Carmichael, 1998; 2001; Martel *et al.,* 1999; Scaillet & Evans, 1999; Pichavant *et al.,* 2002; Grove *et al.,* 2003; Costa *et al.,* 2004; Holtz *et al.,* 2005). Superimposed on Fig. 2.6b are isopleths of constant $^{Fe\text{-}Mg}K_D$ between orthopyroxene and liquid. The experimentally determined $^{Fe\text{-}Mg}K_D$ values span the range from 0.2 to 0.6 for hydrous andesites and dacites. Of note, the range in orthopyroxene compositions analyzed in each crystal-rich sample is generally narrower than in the crystal-poor samples. Potential causes for this pattern are discussed later. Nevertheless, there is no evidence thusfar presented that *requires* the incorporation of xenocrysts to explain the ranges in either plagioclase or pyroxene, even among the crystal-rich samples.

CRYSTAL TEXTURES: BSE IMAGES OF PLAGIOCLASE AND PYROXENE

In order to more fully explore the cause of the wide compositional variation among the plagioclase and pyroxene crystals in each sample, BSE (back-scattered

electron) images of their textures are presented for the two crystal-poor samples (XAL-106, XAL-134) and two crystal-rich samples (XAL-109, XAL-103), representative of some of the textures observed amongst the other crystal-rich samples. The plagioclase crystals depicted in Figs. 4.7-4.10 span the range of compositions within each sample, clearly showing a significant degree of variation in mol% An. The pyroxene crystals depicted in Figs. 4.11-4.14 again illustrate the full range of compositions within each sample. While the degree of variation is limited relative to that in the plagioclase, the breadth of each range is still statistically significant relative to the variation within each crystal. BSE images of plagioclase and pyroxene for the remaining samples are shown in Appendix J.

The BSE images in Figs. 4.7-4.14 (and those in Appendix J) clearly show that the plagioclase and pyroxene crystals in each sample often show complex textures, including faceted euhedral rims, hopper textures, skeletal forms, and melt channels and hollows in some crystal interiors. Alongside crystals showing only minimal zoning, complex zoning patterns, including normal, reverse, and oscillatory are also readily apparent. Of note, the zoning in the crystal-rich samples is generally more diffuse, particularly in the pyroxenes, than is the case for the crystal-poor samples. Potential causes for this pattern are discussed later.

DISCUSSION

Experimental constraints on crystal textures: dissolution or rapid growth?

There are at least three interpretations for the development of the complex crystalline textures and zoning patterns seen in the BSE phenocryst images (Figs. 4.7-

4.14): (1) resorption/dissolution of xenocrysts that were incorporated during magma mixing and/or assimilation (e.g., Kuo and Kirkpatrick, 1982; Kawamoto *et al.,* 1992; Streck, 2008), (2) resorption/dissolution of phenocrysts owing to decompression under fluid-undersaturated conditions and/or an increase in melt temperature (e.g., Nelson and Montana, 1992; Humphreys *et al.,* 2006), and (3) diffusion-limited crystal growth induced by rapid and large undercoolings (e.g., Lofgren, 1974; Anderson, 1984; Kawamoto *et al.,* 1992). To facilitate the interpretation of the textural features seen in the BSE images (Figs. 4.7-4.14), comparisons can be made with crystal images obtained from crystal dissolution experiments (Fig. 4.15) and crystal growth experiments (Fig. 4.16).

In Fig. 4.15a, a BSE image from an experiment by Johannes *et al*. (1994) shows the dissolution of An_{66} under H_2O fluid-saturated conditions at 500 MPa and 1000°C, and its recrystallization to the equilibrium composition of ~An_{89-93}. There is a clear reaction boundary along the crystal-melt interface, illustrating the combined effects of dissolution of the sodic plagioclase and re-precipitation of the equilibrium calcic plagioclase. Similarly, in Fig. 4.15b, a BSE image from an experiment by Nakamura and Shimakita (1998) shows the dissolution of An_{59} plagioclase in a melt in equilibrium with a more calcic plagioclase. These experiments are consistent with the earlier study of Tsuchiyama (1985), where plagioclase grains of different compositions were immersed in various host liquids, such that the plagioclase was either more sodic or more calcic than the equilibrium plagioclase. For those plagioclase that were too sodic, a dissolution and recrystallization texture developed along their rims. In contrast, for those plagioclase

grains that were too calcic, the interface between the crystal rim and liquid remained smooth; after 53-72 hours, sodic rims (~120-240 microns thick) formed.

In contrast to the images of plagioclase dissolution and recrystallization in Fig. 4.10, the BSE images in Fig. 4.11 are all obtained from rapid crystal-growth experiments, where large undercoolings were induced either by rapid degassing upon decompression or by rapid cooling rates. In Figs. 4.16a and 4.16b, BSE images from experiments on a rhyolite liquid at 860°C (Martel and Schmidt, 2003) and a dacite liquid at 780°C (Hammer and Rutherford, 2002), respectively, show plagioclase with skeletal and hopper textures, with abundant melt inclusions. These crystals formed as a consequence of rapid decompression from 150 to 50 MPa (Fig. 4.16a) and 220 to 100 MPa (Fig. 4.16b) under H_2O fluid-saturated conditions, thus producing large undercoolings. In Fig. 4.16c, a photomicrograph from Lofgren (1974) shows skeletal, hollow plagioclase crystals, which formed in a hydrous liquid along the plagioclase binary under H_2O fluid-saturated conditions at 500 MPa as a result of an abrupt drop in temperature (ΔT) of 100°C. In Fig. 4.16d, a BSE image from Hammer (2006) shows a skeletal, faceted, hopper olivine crystal that grew in a basalt in response to a cooling rate of ~6°C/hr. These contrasting images (Fig. 4.15 and Fig. 4.16) will be used to identify and classify the textures of the plagioclase and pyroxene crystals found in the three dacite and five andesite samples.

Key observations and conclusions drawn from the BSE images

The BSE images of the plagioclase and pyroxene crystals from the four depicted samples, (Figs. 4.7-4.14) representative of grains from throughout the suite (see

Appendix J), illustrate numerous textural and compositional features that permit several conclusions to be made.

First, the crystals in the BSE images fall into two distinct textural categories. The either have: a) euhedral, faceted, sharp rims, indicative of textural equilibrium for the rim compositions, or b) skeletal, swallow-tailed, or hopper features, indicative of diffusion-limited rapid growth. None of the crystals shown in the BSE images, despite the wide range of compositions within each sample, and the wide range of crystallinities (2.8-48.7 vol%) among the samples, illustrate a dissolution texture with a reaction rim. Such a texture would be clearly identifiable from the BSE's, and would be comparable to those from experiments of Johannes *et al*. (1994) and Nakamura and Shimakita (1998).

Second, euhedral plagioclase rims of different compositions can be found in a single sample, in a single thin-section, whether the sample is crystal-rich (e.g., XAL-103, An_{45-55}, Fig 4.10) or crystal-poor (e.g., XAL-106, An_{35-49}, Fig 4.7). Thus, textural equilibrium is observed for plagioclase crystals of significantly different compositions within the same thin section.

Third, euhedral and rapid-growth pyroxene rims can be found in a single sample, in a single thin-section (e.g., XAL-134, Mg# 65-80, Fig. 4.12). Thus, textural equilibrium is observed for pyroxene grains of significantly different compositions within the same thin section.

Fourth, normal, reverse, and oscillitory zoning is observed in plagioclase crystals, often within the same thin section, among both the crystal-rich (e.g., XAL-109, Fig. 4.9) and crystal-poor samples (e.g., XAL-134, Fig. 4.8). Given the absence of dissolution/recrystallization textures, it is clear that the sodic composition in many cases

may have crystallized after adjacent calcic plagioclase. The contrasting zoning patterns, both normal and reverse, can be explained by the experimental results of Martel and Schmidt (2003), Hammer and Rutherford (2002, and Lofgren (1974), illustrated in Fig. 4.11, which show the initial growth of hollow, skeletal plagioclase (at large undercoolings) that can subsequently crystallize both inward and outward. This is all the more significant in the crystal-rich samples where fine oscillatory zoning is common and plainly visible in the BSE's of plagioclase crystals, but the innermost cores of the plagioclase are more commonly sodic than calcic (e.g., XAL-103, Fig. 4.10). The plagioclase grains are recording slight changes in the local equilibrium magma composition, but consistently indicate that the sodic composition is the last to grow, whether in the core or rim.

Fifth, both normal and reverse zoning is observed in the orthopyroxene grains, though this feature is more muted in the crystal-rich magmas (e.g., XAL-134, Fig. 4.12; XAL-109, Fig. 4.13). The ultimate, latest-growth, thin rims on the orthopyroxene tend to be more magnesian in composition. This dual pattern may have developed in an analogous manner to that for plagioclase, discussed above, and/or may be the result of incorporating several Fe-rich xenocrysts. This theory regarding xenocrysts is discussed later.

Sixth, the swallow-tail textures on various orthopyroxenes (see Appendix J, crystal C in XAL-129, crystals B and D in XAL-115, crystal B in XAL-117) are indicative of rapid growth, not resorption/dissolution. There is abundant experimental evidence that orthopyroxene is stable in dacite and andesite liquids over a wide range of temperature, oxygen fugacity, and melt-water concentration, including those documented

for the samples in this study (Gardner *et al*., 1995; Moore and Carmichael, 1998; Blatter and Carmichael, 1998; 2001; Martel *et al,* 1999; Scaillet and Evans, 1999; Pichavant *et al*., 2002; Grove *et al*., 2003; Costa *et al*., 2004; Holtz *et al*., 2005). Thus, disequilibrium between orthopyroxene and liquid is expected to occur with respect to Mg#, in which case the crystal-liquid response should be diffusive Fe-Mg exchange (e.g., the development of rims as seen in crystals A and B in XAL-103, Fig. 4.14), and not dissolution or incipient melting. Moreover, the trapped inclusions of co-precipitating apatite and Fe-Ti oxide (e.g., crystal D in XAL-106) further corroborate a rapid-growth interpretation for the orthopyroxenes. The issue of diffusive Fe-Mg exchange in the orthopyroxenes, and its significance for magma chamber residence time, is discussed later.

The conclusions summarized above may be used to distinguish between competing models to explain the ranges in both plagioclase and pyroxene compositions observed among all the samples.

Hypotheses to explain the variable plagioclase compositions

There are two primary hypotheses proposed to explain the wide range in plagioclase compositions seen in the andesites and dacites in this study: (1) the incorporation of plagioclase xenocrysts (e.g., through magma mixing), and (2) a progressive change in melt water concentration during degassing, thus affecting the plagioclase composition, as the magmas ascends towards the surface. With all the textural and compositional data for the plagioclase in hand, along with calculated temperatures and water concentrations, it is possible to fully examine each hypothesis.

Xenocrystic plagioclase?

From the textural evidence of the BSE images, only calcic plagioclase is a possible xenocryst in the andesite and dacite magmas in this study, and not sodic plagioclase, owing to the absence of any dissolution/recrystallization textures in the plagioclase crystals (Tsucyiyama, 1985; Johannes *et al*., 1994; Nakamura and Shimakita, 1998). This is a quantitative and qualitative conclusion that places a tight constraint on the order of crystallization (calcic plagioclase before sodic plagioclase) and additionally precludes the incorporation of sodic plagioclase xenocrysts into a magma in equilibrium with a more calcic plagioclase.

Although the textural evidence permits a xenocrystic origin for the most calcic plagioclase in each sample, there are several additional constraints that contradict this hypothesis. (1) There is a positive correlation between the An content of the most calcic plagioclase in each sample and the liquid An# (Fig 4.6), with only samples XAL-129 (andesite, higher maximum mol% An) and XAL-103 (dacite, lower maximum mol% An) clearly deviating from this trend. If most of the Ca-rich plagioclase grains were xenocrysts in each sample, such a correlation with the liquid Ca# would not be expected, nor would there be such clear overlap with the experimental data used to calibrate the plagioclase hygrometer, depicted in Fig. 4.6 as white circles. (2) The plagioclase compositions span a continuum in composition, and not two or more distinct populations (Fig. 4.4); such a distribution is unlikely if most of the Ca-rich plagioclases are xenocrysts. (3) A xenocrystic origin does not explain the rapid-crystal-growth textures observed (Figs 4.7-4.10, Appendix J). In all, though xenocrysts could have been captured and brought to the surface in the lavas from this study, none of the evidence listed above

requires the incorporation of xenocrysts to account for the wide range of plagioclase compositions observed in each sample, be it crystal-poor or crystal-rich. An alternative model is that they formed in response to variable melt water concentrations as a consequence of magma degassing.

Degassing-induced crystallization of plagioclase during rapid magma ascent?

In order to explore the hypothesis that the wide range of plagioclase compositions in each sample was caused by degassing-induced crystallization over a range of melt-water concentrations, it is necessary to evaluate whether this scenario is consistent with H_2O fluid-saturated phase diagrams that have been constructed for various andesites and dacites from phase-equilibrium experiments. In Fig. 4.17, an experimentally-produced phase diagram from Moore and Carmichael (1998) for an andesite (~62 wt% SiO_2) under H_2O fluid-saturated conditions is shown. Also shown in Fig. 4.17 are the presumptive adiabatic ascent paths for three andesites in this study. One of these samples, XAL-134, is crystal-poor (2.8 vol%), while the other two, XAL-132 and XAL-103, are crystal-rich, with upwards of 40 vol% crystals in each sample, including > 30 vol% plagioclase (Table 4.1). All three of these samples have similar bulk andesite compositions used by Moore and Carmichael (1998).

The first sample to examine is the crystal poor andesite XAL-134, for which temperature is known (~1085 ± 16 °C) from the two Fe-Ti oxide geothermometer (Ghiorso and Evans, 2008). In Fig. 4.17, a decompression path for this sample is shown, where at 1085 °C it intersects the plagioclase liquidus curve at a pressure of ~70 MPa (~2.7 km depth), when the water concentration in the melt is ~2.7 wt% H_2O. As XAL-

134 ascends, the water concentration steadily drops to a value of ~0.8 wt% H_2O, recorded by its most sodic plagioclase, which corresponds to a pressure of ~90 bars and a depth of ~350 meters. Thus, there is complete consistency between all the available data (temperature from Fe-Ti oxides, water concentrations from plagioclase, and the experimentally-produced H_2O fluid-saturated phase diagram for an andesite of similar composition) and the concept of rapid, adiabatic ascent of XAL-134, a phenocryst-poor andesite to the surface, presumably along a fracture, fully explaining the range in plagioclase compositions observed in this sample.

Concerns in applying plagioclase-liquid hygrometer to crystal-rich samples

The conclusion discussed above for the crystal-poor sample, more thoroughly defined in Crabtree and Lange, 2010a, is not so clearly drawn for the two crystal-rich samples presented in Fig. 4.17. One overriding concern in applying such crystal rich samples to this diagram is that it was defined using minimally-crystallized quenched glass products. Further, the initial liquid composition can not be so confidently known as for the crystal-poor samples. Reactions occurring as a result of prolonged residence times or extensive crystallization have not been accounted for. It has already been recognized that substantial crystallization would cause analyses of H_2O contents via the plagioclase hygrometer for more sodic plagioclase to be of questionable reliability (i.e., they would be exposed to a substantially more evolved equilibrium liquid than for the first-grown calcic plagioclase). In both of these crystal-rich andesite cases, however, application of the plagioclase-liquid hygrometer (Lange *et al*., 2009) to the presumed most calcic plagioclase in each sample reveals another potential concern, as the resultant

calculations of wt% H_2O are significantly below those defined by Moore and Carmichael (1998). The simplest and most likely cause is a failure to document the most calcic plagioclase crystals grown from the magma. As may be seen from Fig. 4.4, it is reasonable for there to be very few crystals of the most calcic composition, whether the magma erupts crystal-rich or crystal-poor (see XAL-134, XAL-117). While these more calcic crystals are still likely to be analyzed in crystal-poor samples, it is statistically far less likely in crystal-rich samples, as is suggested here by the shorter histogram-based "tails" on plagioclase compositions for samples XAL-103 and 132. It is thereby much more difficult to fully and precisely quantify either the minimum (due to differentiation) or the maximum (due to scarcity of calcic phenocrysts) wt% H_2O experienced by the plagioclase, so such stated bounds on water contents in phenocryst-rich lavas should be treated cautiously.

General conclusions to explain variable plagioclase compositions

The range of plagioclase compositions observed among the crystal-poor samples in this study – XAL-106, XAL-134 – may be the result of degassing-induced crystallization during rapid ascent. Dissolution and recrystallization textures are not observed for any of the plagioclase in these samples. Instead, textures indicating rapid, diffusion-limited growth during ascent have been documented among the plagioclase in this study, as well as in other studies of crystal-poor andesites and dacites throughout the western Mexican arc (e.g., Frey and Lange, 2010; Crabtree and Lange, 2010a). Degassing-induced changes in the H_2O concentration ($\Delta H_2O < 2.0$ wt%) may result in

significant changes in the composition of the plagioclase crystallizing in equilibrium with this ever-changing melt.

The breadth of plagioclase compositions observed among the crystal-rich andesites and dacites is only slightly greater than the breadths of compositions observed for the crystal-poor samples. The trend in the most calcic compositions of plagioclase among the samples suggests that the assimilation of xenocrysts from distinctly more mafic magmas is *not required* to produce the range of compositions observed (Fig 4.6a). Mixing of two discrete andesite magmas may be occurring, but the occasion or degree of such mixing cannot presently be quantified.

Hypotheses to explain the variable orthopyroxene compositions in crystal-poor samples

As described in Crabtree and Lange, 2010a, there are at least three different hypotheses to explain the wide variation in orthopyroxene-liquid $^{Fe\text{-}Mg}K_D$ values in the crystal-poor samples (Fig. 4.5): (1) a progressive change in the melt oxidation state (and Mg#) during degassing upon ascent, thus inducing a change in the apparent orthopyroxene-liquid $^{Fe\text{-}Mg}K_D$ value; (2) the incorporation of orthopyroxene xenocrysts; and (3) a progressive change in melt water concentration during degassing, if dissolved water affects the equilibrium composition (Mg#) of pyroxene.

Variation in melt oxidation state

Several researchers have explored the possibility that the oxidation state of a melt may increase as a consequence of volatile degassing (e.g., Sisson and Grove, 1993; Luhr,

2000; Burgisser and Scaillet, 2007; Crabtree and Lange, 2010b). If orthopyroxene crystallization coincides with degassing, as indicated in Fig. 4.21, then a degassing-induced change in the melt ferric-ferrous ratio could affect the apparent $^{Fe\text{-}Mg}K_D$ values. This scenario was evaluated for the two crystal-poor samples in this study, and for four other crystal-poor andesites and dacites, by Crabtree and Lange (2010a), with the conclusion that a variation in oxidation state by three orders of magnitude was still insufficient to explain the wide range in orthopyroxene composition (Mg#) observed in these samples (XAL-106, XAL-134; Fig. 4.5). Furthermore, Crabtree and Lange (2010b) provided evidence that degassing of up to 8 wt% H_2O has a negligible effect upon the bulk ferrous iron content within analytical error (see Ch. 3)

Xenocrystic orthopyroxene

Another hypothesis to consider is that the wide range in orthopyroxene $^{Fe\text{-}Mg}K_D$ values in the crystal poor samples from this study is due to magma mixing and/or the incorporation of orthopyroxene xenocrysts. Because it is the Fe-rich orthopyroxenes that give rise to the highest $^{Fe\text{-}Mg}K_D$ values, these are the likely candidates to be xenocrysts, owing to the widespread perception in the literature (e.g., Reubi and Blundy, 2008) that the $^{Fe\text{-}Mg}K_D$ between pyroxene and the liquid spans a relatively narrow range (e.g., 0.26-0.30; Sisson and Grove, 1993) for all magmas.

Nonetheless, there are several lines of evidence that argue against a xenocryst explanation: (1) If the Fe-rich orthopyroxenes are xenocrysts, they must be derived from a more felsic magma. However, the only plausible plagioclase xenocrysts must be the more calcic in each sample, which requires input from a more mafic magma. Thus, the

inferred sources for the two sets of xenocrysts (calcic plagioclase and Fe-rich orthopyroxene) are contradictory. (2) The orthopyroxene compositions in these crystal-poor samples (XAL-106, XAL-134) span a continuum, and not two or more distinct populations. Such a distribution is unlikely if the most Mg-poor (Fe-rich) pyroxenes are xenocrysts. (3) In a plot of orthopyroxene Mg# vs. liquid Mg# (Fig 4.6b), all the values for the crystal-poor samples fall well within the range documented in hydrous andesite and dacite liquids in several recent phase-equilibrium studies where oxygen fugacity was rigorously controlled and/or monitored (Gardner *et al*., 1995; Moore and Carmichael, 1998; Blatter and Carmichael, 1998, 2001; Martel *et al*., 1999; Scaillet and Evans, 1999; Pichavant *et al*., 2002; Grove *et al*., 2003; Costa *et al*., 2004; Holtz *et al*., 2005).

Superimposed on Fig. 4.6b are isopleths of constant $^{Fe\text{-}Mg}K_D$ ranging from 0.2 to 0.6. The experimental data clearly indicate that the $^{Fe\text{-}Mg}K_D$ between orthopyroxene and hydrous andesite and dacite liquid fall within a broad range and readily extend up to values > 0.4, in contrast to the widely held view that $^{Fe\text{-}Mg}K_D$ values for pyroxene-liquid span a narrow range, namely that documented for hydrous basalts (e.g., 0.26-0.30; Sisson and Grove, 1993). In summary, none of the evidence listed above is consistent with a xenocrystic origin for the orthopyroxene in the crystal-poor samples in this study.

Does melt-water concentration affect orthopyroxene composition?

The final mechanism to consider is the most parsimonious, which is to invoke the same process to explain the wide compositional range for both plagioclase and orthopyroxene in the crystal poor samples, namely the loss of dissolved water in the melt because of degassing during magma ascent. There are two compelling reasons to expect

that an increase in melt water concentration (probably hydroxyl groups) favors a more Fe-rich orthopyroxene. First, this is the behavior seen for olivine, according to the thermodynamic model of Toplis (2005) on the Mg-Fe exchange between olivine and liquid. In that model, which is calibrated on a substantial experimental data set form the literature, the concentrations of silica, alkalis, and water in the liquid each exert a discernable influence on the $^{Fe\text{-}Mg}K_D$ value between olivine and liquid, with an increase in water leading to higher $^{Fe\text{-}Mg}K_D$ values (more Fe-rich olivine). Second, Gardner *et al* (1995) conducted a series of three phase-equilibrium experiments on the Mt. St. Helens dacite at 150 MPa, each with a different water concentration. Each of these three sets of experiments were conducted at 875 and 825 °C, for a total of six orthopyroxene-liquid results. Their data showed a rise in $^{Fe\text{-}Mg}K_D$ from ~0.23 to ~0.44-0.47 accompanying a rise in water concentration in the melt from ~2.8 to ~5.1 wt% H_2O. The agreement between the two sets of data supports the hypothesis that it is a change in the melt water concentration during degassing that induces a change in the composition of the orthopyroxenes in the crystal-poor samples (XAL-106, XAL-134), with the most Fe-rich compositions crystallizing at the higher water concentrations.

Hypotheses to explain the variable orthopyroxene compositions in crystal-rich samples

As previously noted, a common explanation given for any wide variation of observed orthopyroxene crystals is the incorporation of xenocrysts. This theory is particularly prevalent when discussing crystal-rich magmas, and can sometimes be validly demonstrated (e.g., Witter *et al*., 2005). While there are indeed wide ranges of

orthopyroxenes observed among the six crystal-rich samples in this study, two other significant features of these crystallized ranges are notable – both of which provide evidence against the requirement of incorporating xenocrysts. First, the average span of phenocrystic/microphenocrystic orthopyroxene compositions is generally narrower in the crystal-rich samples in this study than in the crystal-poor samples. Secondly, there appears to be a relatively common minimum Mg# composition among the orthopyroxenes of the crystal-rich samples across a wide range of liquid compositions (~Mg# 66-68; Fig. 4.6b). While both observations may be the result of insufficient sampling, such a pair of coincidences seems unlikely. These differences from orthopyroxenes analyzed in crystal-poor samples are particularly striking in comparison to three samples analyzed by Crabtree and Lange (2010a), IXT-11, IXT-21, and TEQ-66, all of which have comparable liquid Mg#'s to that for samples XAL-115 and XAL-129 (this study).

The orthopyroxene grains from the aforementioned three crystal-poor samples were shown to have classic rapid-growth textures, similar to those presented by Lofgren (1974) and Hammer (2006) (see Appendix J). Orthopyroxene grains in samples XAL-115 and XAL-129 also show rapid crystallization features (Appendix J) and strongly faceted rims, but no dissolution/recrystallization textures have been observed for any of the orthopyroxene grains in this study, suggesting that they were grown in equilibrium with the melt, or underwent diffusion-limited disequilibrium growth. While both normal and reverse zoning patterns are observed on orthopyroxenes in the crystal-rich samples, the core-rim boundaries in both cases are less sharply-defined than in the crystal-poor samples of this study and Crabtree and Lange (2010a). Altogether, this implies that the

orthopyroxenes are growing directly from the magma as phenocrysts in each sample, perhaps even as a consequence of degassing, but this does not answer the question of why more Fe-rich orthopyroxenes are not observed in these lavas.

Prolonged residence time and orthopyroxene homogenization

One potential cause for the narrower range of observed pyroxene compositions in the crystal-rich lavas, aside from insufficient sampling, is a prolonged residence time in a magma chamber prior to eruption. Many studies have focused on the interdiffusion of Fe and Mg in olivine (e.g., Buening and Buseck, 1973, Dohmen and Chakraborty, 2007; Dohmen *et al*., 2007) and garnet (e.g., Cygan and Lasaga, 1985; Chakraborty and Ganguly, 1992; Schwandt *et al*., 1995), both highly useful in geothermobarometry. Less work has been completed on Fe-Mg interdiffusivity in clinopyroxenes (e.g., Chakraborty *et al*., 2008; Zhang *et al*, 2009). Still less work has been published or presented towards the purpose of defining either the self-diffusion rate of Mg or the Fe-Mg interdiffusion rate in orthopyroxenes (Ganguly and Tazolli, 1994; Schwandt *et al*., 1998, Ter Heege *et al*., 2006). Those studies which have focused on orthopyroxene have been particularly case-specific, with questionable potential for extrapolation to a broader range of specimens.

Three variables are recognized as having the most significant impacts upon the Fe-Mg interdiffusion rate in orthopyroxens – crystal composition (X_{Fe}), temperature, and oxygen fugacity (fO_2). While the effect of the former two variables is comparatively well understood, the effect of the latter with orthopyroxenes is less clear. Experimental results have been put forth showing that at a fixed T (1000) and X_{Fe}, (= 0.10), "diffusion

coefficients decrease by a factor of ~ 4 with decreasing oxygen fugacity between 10^{-12} and 10^{-16} bar." (Ter Heege *et al,* 2006). With the expectation that increased fO_2 and increased T would yield faster diffusion rates, the equation of Ganguly and Tazzoli (1994) was applied to a range of temperatures and orthopyroxene sizes and compositions from the samples in this study; this equation was defined by the authors as valid for temperatures from 500-800 °C and log fO_2 values from the iron-wustite (IW) buffer to IW+0.8. Both of these ranges of conditions are below those calculated for the samples presented here, and have compounding effects on the predicted Fe-Mg interdiffusivity, each defining slower diffusion rates at the experimental conditions than are anticipated at the calculated magmatic conditions from this study. With the diffusion rates thereby considered to be minimums, the resultant times necessary for homogenization should thus be considered as maximums.

Fig. 4.18 illustrates these calculated times for full homogenization of orthopyroxene crystals with radii of (a) 50 μm, and (b) 200 μm. These sizes are common among the orthopyroxene of both the crystal-poor and crystal-rich samples of this study. Most of the compositions for pyroxenes in these samples range from X_{Fe} = 0.2-0.3. Considering temperatures ranging from 853 to 1085 °C defined by Fe-Ti oxides in this study (XAL-117, XAL-134; Table 4.3), application of the equation from Ganguly and Tazzoli thereby implies absolute maximum times for homogenization of ~3300 to 30 years for typical microphenocrysts (~100 μm diameter), and ~53,000-500 years for phenocrysts (~400 μm diameter). Application of the principle put forth by Ter Heege *et al*., 2006, that higher fO_2 values will result in more rapid diffusion rates (perhaps by a factor of >4), yields more approximate maximum times for homogenization of < 1000

years for microphenocrysts, and < 14,000 years for phenocrysts (~400 μm diameter). These are reasonable residence times for orthopyroxene phenocrysts in a large magma chamber such as that beneath V. Sanganguey. With the added considerations that (1) the homogenization time would be even shorter for more Fe-rich orthopyroxenes (Fig 4.18; Ganguly and Tazzoli, 1994), and (2) the potential Fe-rich rims would be far thinner than 50 μm, it is possible that the lack of observed Fe-rich orthopyroxene crystals or rims in the crystal-rich samples from this study may be the result of average or prolonged residence times in the magma chamber prior to eruption. The preservation of these more Fe-rich compositions and sharper core-rim boundaries in the crystal-poor magmas (Figs. 4.11, 4.12) would come as a consequence of their rapid ascent, with insufficient time permitted for homogenization between the core and rim of the more strongly-zoned crystals. This does not contradict the evidence of comparably broad ranges of plagioclase phenocryst compositions observed for both the crystal-poor and crystal-rich samples, as the rate of self-homogenization of pyroxene grains is several orders of magnitude more rapid than in plagioclase feldspar.

Potential origins for andesites and dacites erupted in the Sanganguey volcanic field

So far, it has been shown that there are many commonalities between the crystal-rich and crystal poor samples collected for this study, beyond their similarities in bulk composition (Table 4.1). The theory of magma mixing has been assessed as a cause for the broad ranges of plagioclase and pyroxene observed. This has, not, however, addressed the overarching question of the origin of these andesite and dacite samples in general. How are these intermediate magmas being generated?

Several methods have been proposed for the origin of andesites and dacites such as those sampled for this study. Two commonly-invoked theories to produce the observed intermediate lava compositions are crystal-fractionation of a more mafic magma (e.g., Grove *et al*, 2005) and magma mixing of felsic and mafic (rhyolitic/dacitic and basaltic) end-member components (e.g., Reubi and Blundy, 2008). While evidence supporting these theories has been documented for the build-up of other edifices, evidence from samples collected for this study suggests that neither method is principally responsible for the generation of the andesite/dacite forming the bulk of Volcán Sanganguey.

Is crystal fractionation of andesite generating dacite at V. Sanganguey?

The bulk of V. Sanganguey is composed of a crystal-rich andesite, while peripheral calc-alkaline flows of andesite and dacite are common. Nelson and Livieres (1986) previously addressed the question of the andesites originating from crystal-fractionation of the locally-erupted alkali olivine basalts, concluding that such an origin was not geochemically supported. In focusing on the calc-alkaline suite, however, it must be considered whether the relatively low-volume dacitic flows are the result of crystal-fractionation of an andesite chamber beneath V. Sanganguey. Three principal lines of evidence have been assessed. (1) If crystal-fractionation of andesite is the dominant driving force in the generation of these dacites, then there should be a general progression towards more evolved magmas over time. Among those dated andesite and dacite samples available (Nelson and Livieres (1986), this study), there is no trend of increasing SiO_2 content over time (Fig. 4.19a). The samples dated by Nelson and

Livieres from the Arroyo Carrocol are designated by white diamonds, with dacites showing both older and younger ages than these main edifice samples. (2) If the andesites were undergoing crystal fractionation to produce the dacites, then they would be expected to show generally higher temperatures than the dacites. Among the eight samples for this study, there is no clear correlation between temperature and wt% SiO_2 (Fig. 4.19b). All three dacites have recorded temperatures between 908 and 928 °C, while the five andesites vary widely in temperatures, between 853 and 1085 °C. (3) Crystal-fractionation of andesite, coupled with degassing, would typically yield dacites with systematically lower H_2O contents than the parental andesite magmas. There is no negative trend of calculated maximum H_2O contents with SiO_2 (Fig. 4.24c).

In summary, there are three major trends that one would expect to see relative to increasing SiO_2 content if the dacites were being produced by crystal-fractionation of the local andesites – progressively younger ages, cooler temperatures, and lower concentrations of H_2O. None of these three trends are apparent among the samples in this study, and instead there is considerable overlap with respect to all three variables (Fig. 4.19). Therefore, while crystal fractionation cannot be entirely discarded as a force in generating the dacites surrounding V. Sanganguey, it cannot be considered as the dominant means generating these magmas.

Is magma mixing (dacite + alkali olivine basalt) producing andesite at V. Sanganguey?

Numerous flows of dacite and alkali olivine basalt have been collected for this study. As noted from Fig. 4.19a, many of the andesite lavas erupted are of comparable age with these two more divergent lava types. Nelson and Livieres (1986) concluded that

the alkali olivine basalts had no genetic link to the calc-alkaline suite of the Sanganguey volcanic field. Nonetheless, it should be considered whether these andesites may be the result of mixing between these magmas. One particularly striking piece of evidence against this mixing theory comes from analysis of the trace elements in the samples from this study (complete tabulation of bulk trace element analyses are available in Appendix A). Of particular note are the concentrations of Sr, Y, Zr, and Nb, whose average concentrations for each general lava type (alkali olivine basalt, andesite, and dacite) are provided in Table 4.6. The average concentration of Sr is greater in andesite than in either the alkali olivine basalts or dacite, beyond the 1σ standard deviation. Likewise, the concentration Nb in andesite is significantly less than in either the alkali olivine basalts or dacites, beyond even the 2σ margin. While technically overlapping within 1σ, this same pattern is again repeated for concentrations of both Y and Zr, with the andesites showing far lower concentrations of these trace elements than either magma supposedly a component in mixing to generate these andesites. In short, on the basis of trace element geochemistry, there are no physical processes by which the bulk of the andesites generated in the Sanganguey volcanic field could be generated by the simple magma mixing of the locally-erupted alkali olivine basalt and dacite. Rather, it is more likely that the compositions of these andesites are being set at the time of generation in the deep or mid-crust.

CONCLUSIONS

This study has focused on comparing and contrasting samples from a suite of crystal-rich and crystal-poor andesites and dacites surrounding V. Sanganguey, Nayarit,

Mexico. Geochronology and GIS analysis have aided in establishing the temporal and spatial relationships between these lavas. Analysis of crystal textures and compositions from these lavas (principally plagioclase, orthopyroxene, and Fe-Ti oxides), and of the bulk compositions of these lavas, have revealed several significant commonalties and differences among the samples of this suite.

1) There are significantly broad compositional ranges of plagioclase present in both crystal-poor and crystal-rich andesites and dacites from this suite. Textural features of these plagioclase crystals indicate phenocrystic origins, exhibiting euhedral and rapid-growth textures throughout the phase's compositional ranges for each sample. Textural features indicating xenocrystic origins for crystals, such as dissolution/recrystallization boundaries, are not observed. While not denying the potential of xenocrysts contributing to the ranges of plagioclase observed, there is no evidence requiring the incorporation of xenocrysts to produce these ranges.

2) Degassing-induced crystallization during rapid ascent is a viable mechanism for the generation of the suites of plagioclase grains in the crystal-poor samples. While residence times in magma chambers were likely substantial for the more-crystalline samples in this study (~25-50 vol% phenocrysts/microphenocrysts), there is evidence of rapid-growth crystallization in these lavas as well. This suggests that while degassing may not be driving the majority of the crystallization of these more crystal-rich lavas, it is likely to be playing a role in their petrologic history.

3) There are significantly broad compositional ranges of orthopyroxene observed in both the crystal-poor and crystal-rich samples of the suite of andesites and dacites in this study. Xenocrystic textures are not observed for these orthopyroxene grains, but

rather euhedral and rapid-growth textures are observed throughout the spectrum of orthopyroxene compositions for each sample. As with the plagioclase, this suggests that the incorporation of xenocrysts is not the likely cause of these broad compositional ranges among the orthopyroxenes of each sample.

4) The ranges of orthopyroxene compositions observed in the crystal-rich samples are significantly narrower than in crystal-poor samples of similar liquid Mg# compositions, with the predicted, more Fe-rich compositional range commonly unobserved (Crabtree and Lange, 2010a; this study). First-order approximations of the time required for homogenization of the orthopyroxene grains (Fe-Mg interdiffusion within the crystals) suggest that these difference may be the result of greater magma chamber residence times for these crystal-rich magmas (Ganguly and Tazzoli, 1994; Ter Heege *et al*., 2006).

5) The dacites locally erupted at V. Sanganguey are not necessarily the products of fractional crystallization of magmas otherwise sourcing the locally-erupted andesites, based on the lack of any trends of decreasing age, temperature, or H_2O contents with increasing SiO_2 contents. While some of the dacites may have been generated by this mechanism, it cannot be called upon as a dominant means of creating the dacites observed in the Sanganguey volcanic field.

6) The andesites locally erupted at V. Sanganguey are not the products of magma mixing between the local alkali olivine basalt and calc-alkaline dacite magmas. Comparisons of trace element concentrations preclude the viability of any magma mixing model between these two end-members to produce the dominant andesite compositon. If

magma mixing has been at work in generating these magmas, it is more likely between two magmas of more similar compositions – e.g., andesite with andesite.

In all, the evidence from this study supports the idea that magma mixing between magmas of significantly different initial compositions (andesite/dacite and a mafic end-member) is not the primary process driving the generation of the lavas erupted in the Sanganguey volcanic field. Dissolution/recrystallization disequilibria textures indicating the inclusion of xenocrysts are not observed; equilibrium and rapid-growth textures are observed across broad ranges of plagioclase and orthopyroxene compositions, suggesting degassing-driven crystallization as a potential force in the generation of these samples. Magma mixing of the discrete mafic and dacitic magmas locally observed cannot account for the ranges of observed trace element concentrations. Further, crystal fractionation of more mafic magmas is not a dominant mechanism in producing the dacite magmas erupted at V. Sanganguey. Eruptive timelines and trends of intensive variables with respect to increasing SiO_2 content yield no evidence for differentiation of the locally-erupted andesite magmas to generate the locally-erupted dacites. An alternative method for producing these intermediate-composition magmas must be considered.

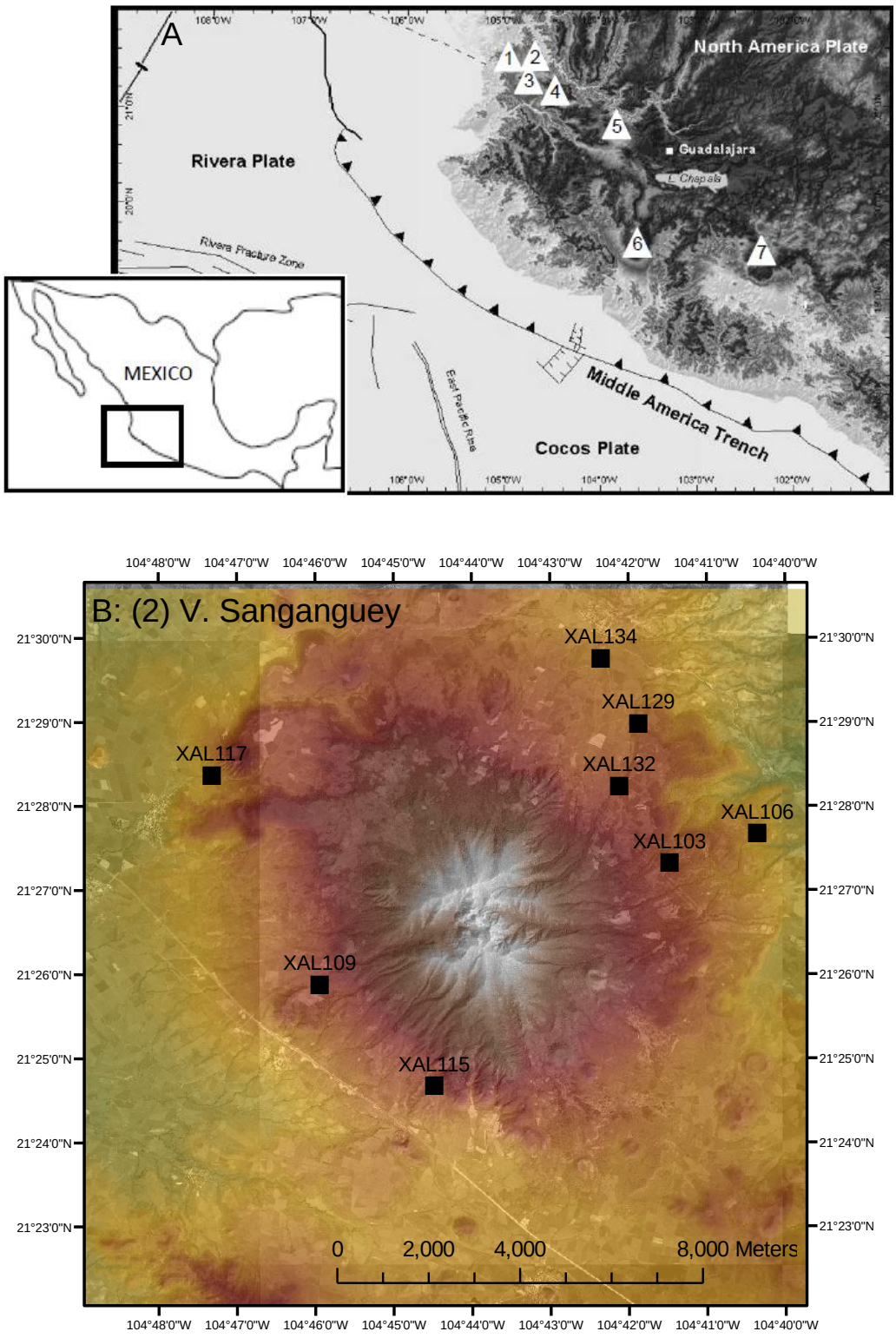


Figure 4.1: (A) Map of Tepic-Zacoalco rift zone. Numbered triangles denote large stratovolcanoes in the western Mexican arc: (1) Volcán San Juan, (2) Volcán Sanganguey, (3) Volcán Tepitiltic, (4)Volcán Ceboruco, (5) Volcán Tequila, (6) Volcán Colima, (7) Volcán Tancítaro. (B) Shaded digital elevation model (DEM) of Volcán Sanganguey with sample locations for this study.

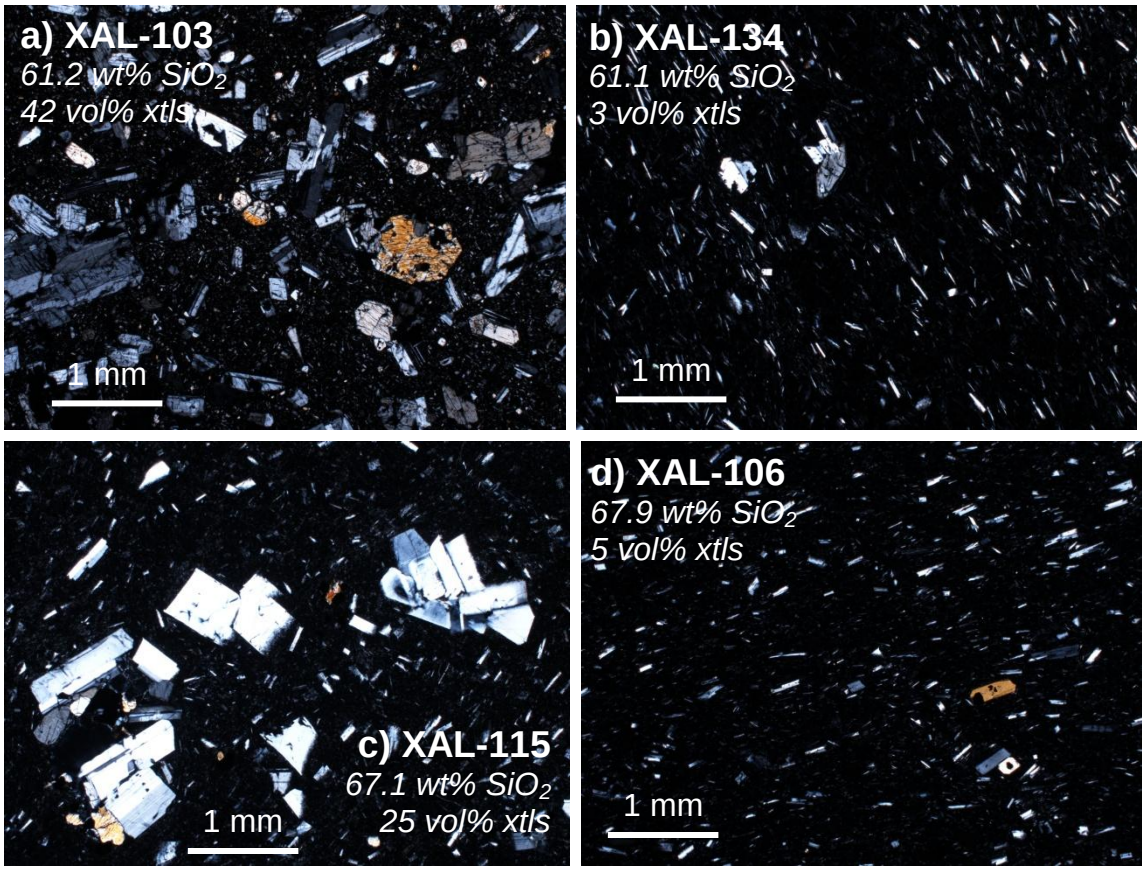


Figure 4.2: Comparison images of crystal-rich and crystal-poor andesite and dacite from this study of similar compositions – 2.5x magnification under crossed polarized light

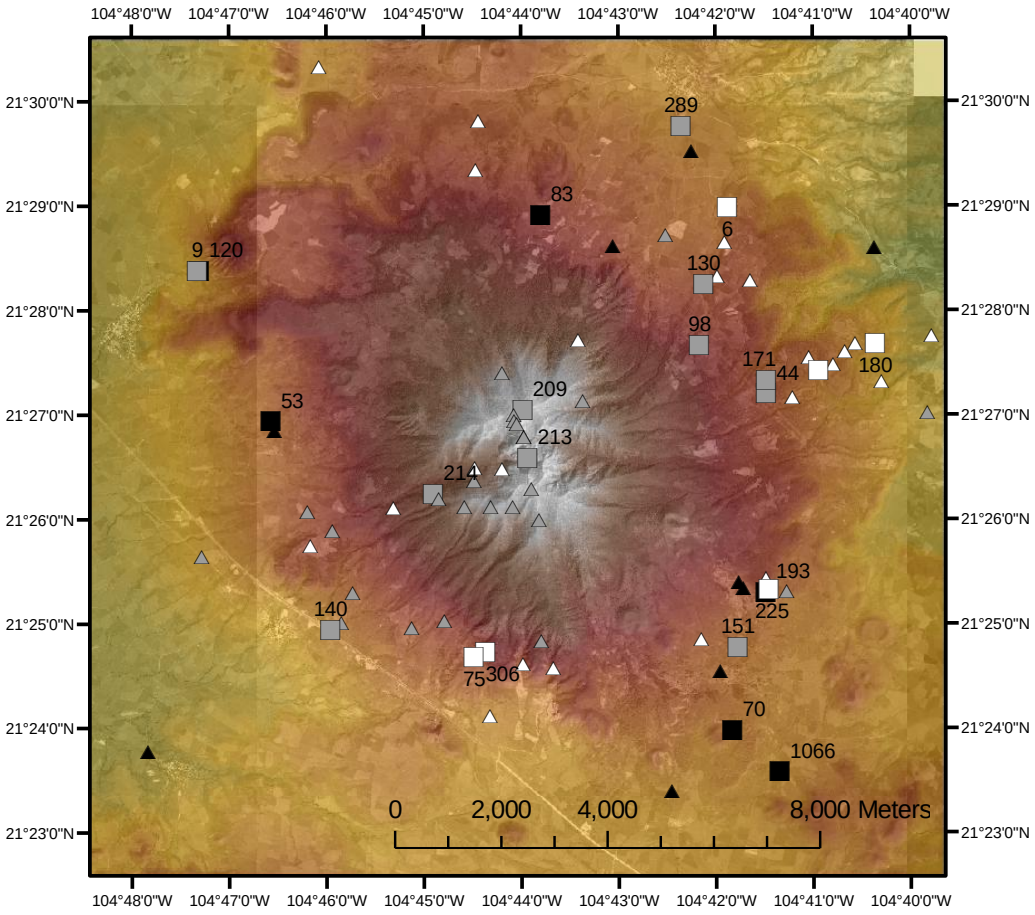


Figure 4.3: Map of dated and undated samples from Volcán Sanganguey region. Squares represented dated samples, with ages noted (ka). Triangles denote undated samples. Black symbols represent alkali olivine basalt. Grey symbols represent andesite. White symbols represent dacite.

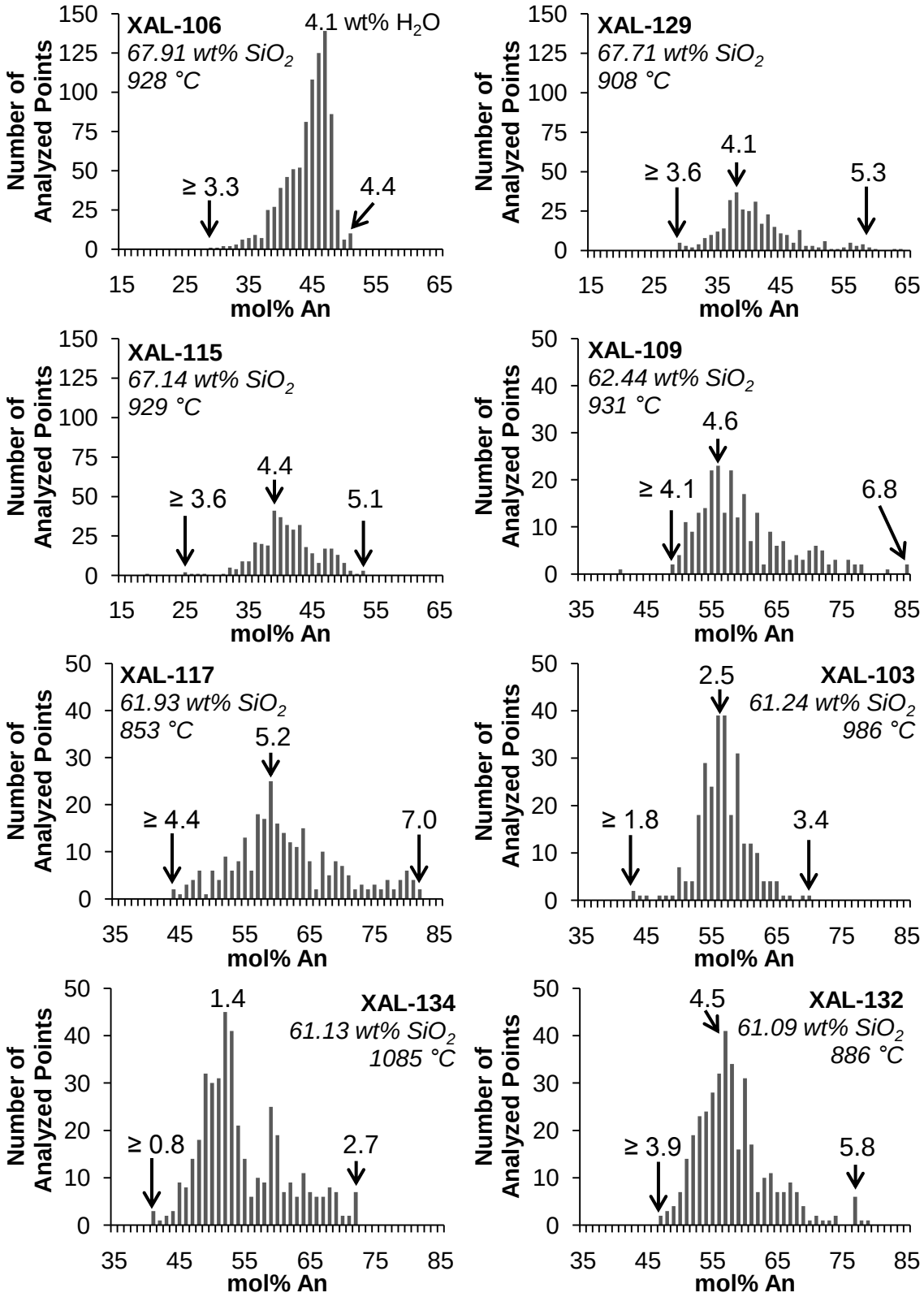


Figure 4.4: Histograms of plagioclase phenocryst compositions (%An). Superimposed numbers are wt% H_2O values calculated from the plagioclase-liquid hygrometer (Lange *et al.*, 2009)

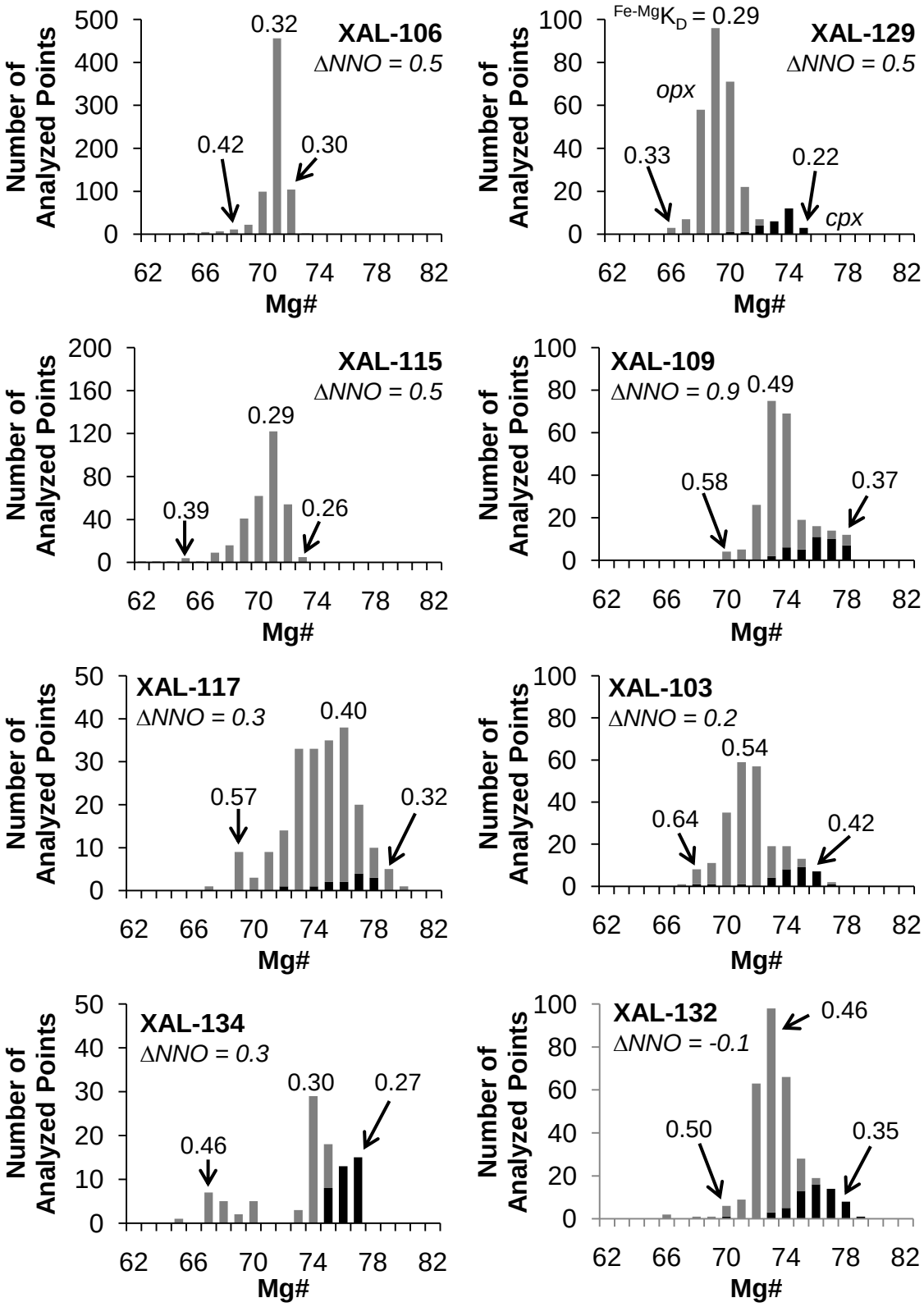
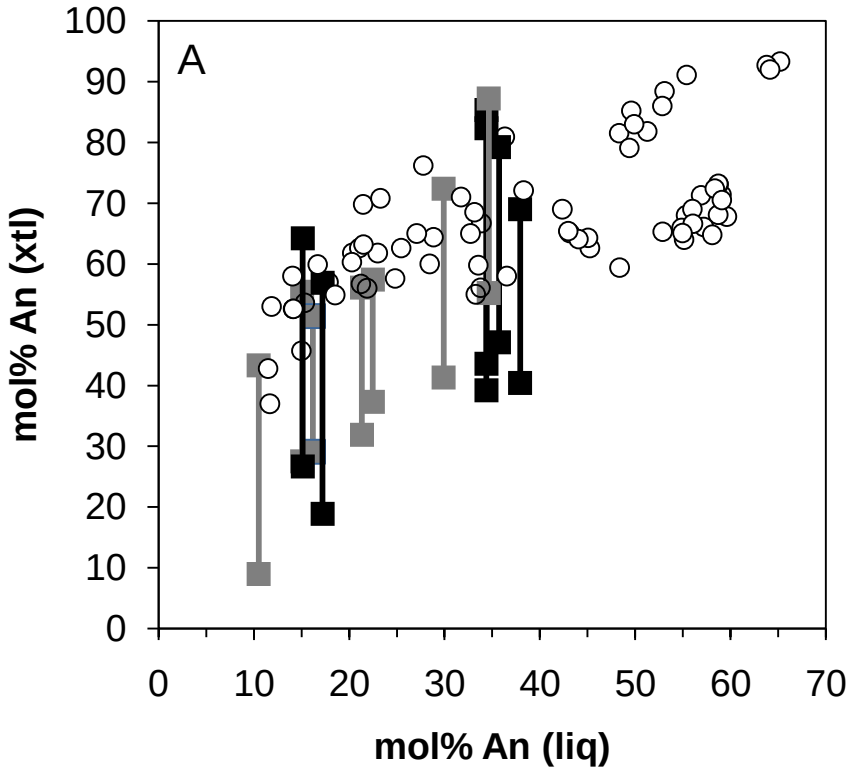


Figure 4.5: Histograms of pyroxene compositions (Mg#). Grey bars represent orthopyroxene analyses. Black bars represent clinopyroxene analyses. Numbers superimposed are calculated $^{Fe\text{-}Mg}K_D$ values.

Figure 4.6: (a) Range of analyzed plagioclase compositions (%An) plotted as a function of the An# of the liquid (defined in Table 4.1) for each sample. There is a broad, positive correlation between the liquid An# and the most sodic and calcic plagioclases, respectively. The open circles are the experimental data used to calibrate the plagioclase-liquid hygrometer of Lange *et al.* (2009). (b) Range of analyzed orthopyroxene compositions (Mg#) plotted as a function of the Mg# (= mol% MgO/(MgO + FeO)) of the liquid for each sample. There is a broad, positive correlation between orthopyroxene composition and liquid Mg#. Superimposed on this figure are isopleths (solid curves) of constant $K_D^{Fe\text{-}Mg}$ ranging from 0.2 to 0.6. The open circles are orthopyroxene compositions (Mg#) obtained from experiments in the literature on hydrous andesite and dacite bulk compositions where coexisting liquid Mg# is well known because oxygen fugacity was rigorously controlled or monitored (see text).


A
mol% An (xtl)
mol% An (liq)
0
10
20
30
40
50
60
70
80
90
100

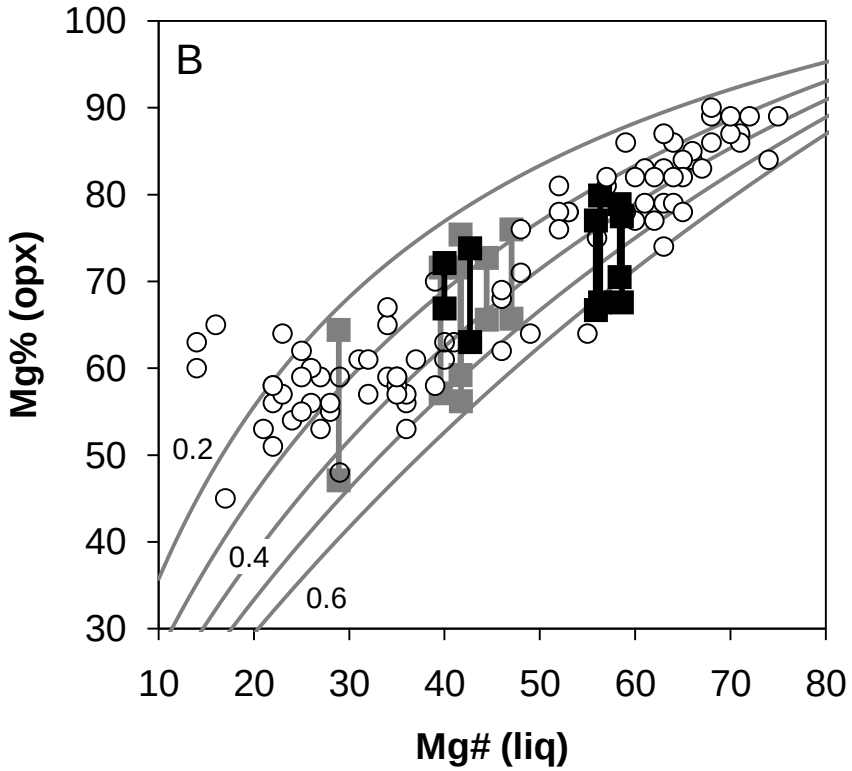

B
Mg% (opx)
Mg# (liq)
0.2
0.4
0.6
30
40
50
60
70
80
90
100
10
20
30
40
50
60
70
80

Figure 4.7: BSE images of six plagioclase crystals (A-F) in sample XAL-106, spanning a somewhat narrow range of composition (An_{50}-An_{45}). White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A, C, and E are all fairly homogenous. All have euhedral, faceted outlines, which are especially sharp in crystal E. Crystal D has a darker (sodic) patch in its interior, but no dissolution/recrystallization texture is observed at the interface. An interior glass inclusion is preserved in crystal F.

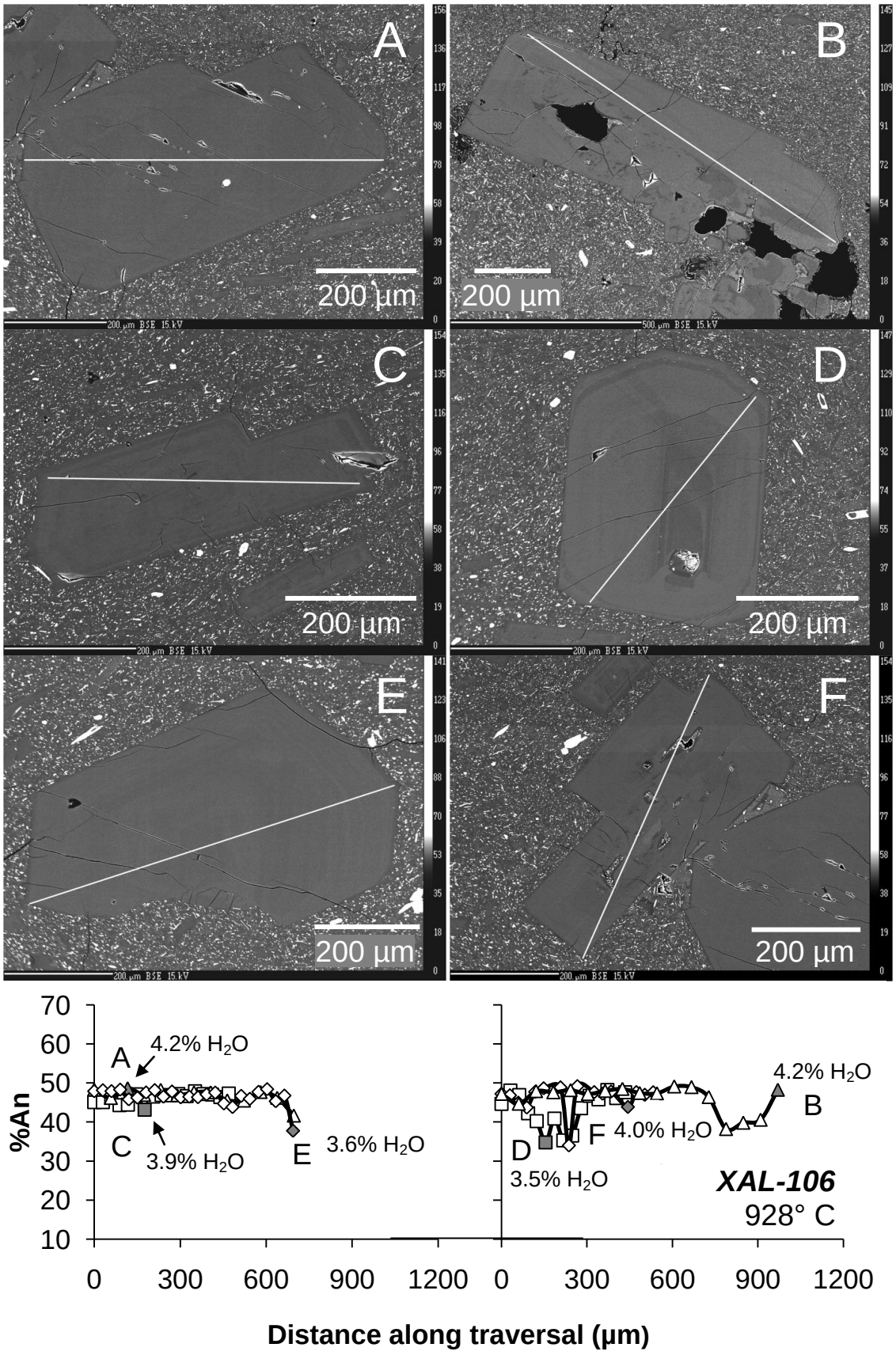

A
200 µm
B
200 µm
C
200 µm
D
200 µm
E
200 µm
F
200 µm
%An
70
60
50
40
30
20
10
A
4.2% H2O
C
3.9% H2O
E
3.6% H2O
D
3.5% H2O
F
4.0% H2O
B
4.2% H2O
XAL-106
928° C
0
300
600
900
1200
Distance along traversal (µm)

Figure 4.8: BSE images of six plagioclase crystals (A-F) in sample XAL-134 (An_{71}-An_{41}), all with euhedral rims (An_{71}-An_{54}). White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A and B are the most calcic crystals (An_{71}) and have interior regions that are more sodic. While both homogeneous, crystal C has faceted rims, whereas crystal D has a "swallow tail" shooting out from its lower right side. Crystals E and F have rim compositions of An_{60}, similar to that of crystal C, and sodic interior compositions (~An_{42}). The "hopper" texture of the titanomagnetite crystal adjacent to crystal E is indicative of rapid growth conditions.

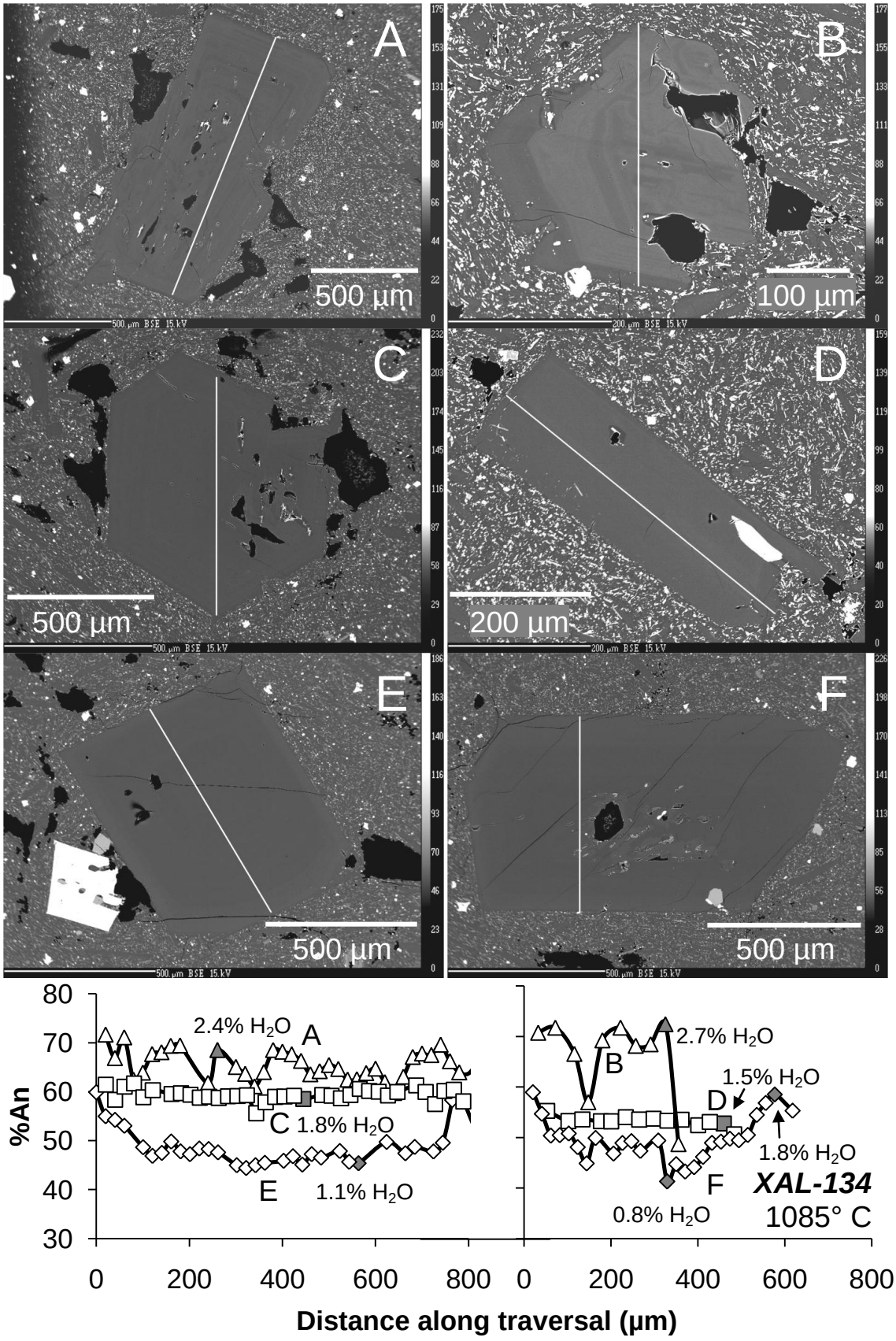
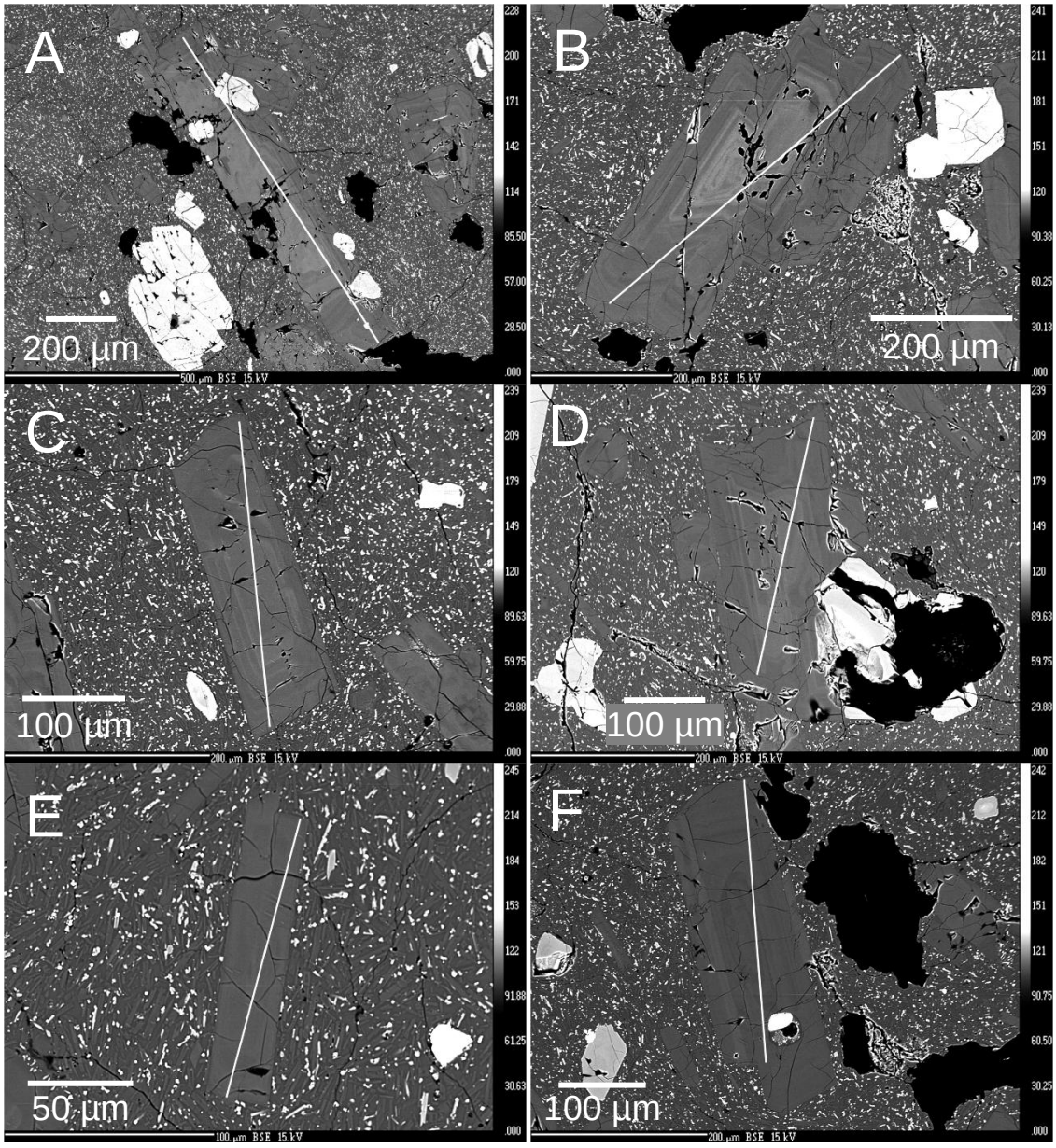

A
500 µm
B
100 µm
C
500 µm
D
200 µm
E
500 µm
F
500 µm
2.4% H2O
A
C 1.8% H2O
E 1.1% H2O
2.7% H2O
B
1.5% H2O
D
1.8% H2O
F
0.8% H2O
XAL-134
1085° C
%An
Distance along traversal (µm)

Figure 4.9: BSE imagess of six plagioclase crystals (A-F) in sample XAL-109, ranging in size from ~100-1000 μm. All have faceted edges, with rim compositions between An_{53} and An_{60}. Crystals A-D also show fine oscillatory zoning surrounding calcic cores. Grains A and B show the most calcic cores, reaching up to An_{85} in grain A. The cores in crystals C and D are more subtle, reaching as high as ~An_{70} in each case. While still showing very fine oscillatory zoning, crystals E and F are generally homogeneous, with overall compositions approximating the rim compositions from grains A-D.


A
200 µm
B
200 µm
C
100 µm
D
100 µm
E
50 µm
F
100 µm

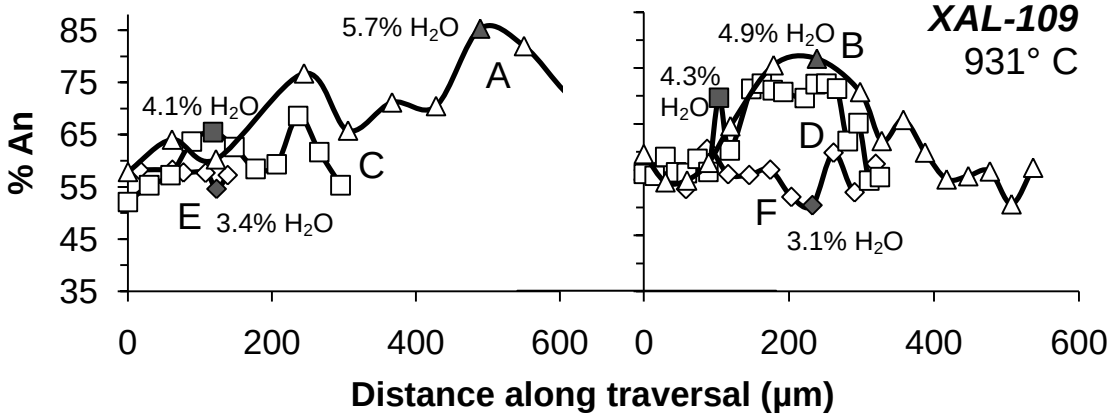

XAL-109
931° C
% An
85
75
65
55
45
35
5.7% H2O
A
4.1% H2O
C
E
3.4% H2O
4.9% H2O
B
4.3% H2O
D
F
3.1% H2O
0
200
400
600
0
200
400
600
Distance along traversal (µm)

Figure 4.10: BSE images of six plagioclase crystals (A-F) in sample XAL-103, ranging from 150 to 700 μm in length. Crystal A is strongly zoned, ranging up to An_{70}, with melt inclusions trapped in its more sodic core. Crystal B is also zoned, but more subtly so, up to An_{65} surrounding a more sodic core. This grain is also adjacent to a strikingly-zoned pyroxene. Neither the plagioclase nor the pyroxene depicted show dissolution reaction textures. Crystals C, D, and F are faceted, and roughly homogeneous, with dominant compositiong ~An_{55}. Both also show, however, fine oscillatory zoning, with crystals D-F showing sodic cores. Dissolution reaction textures are not observed.

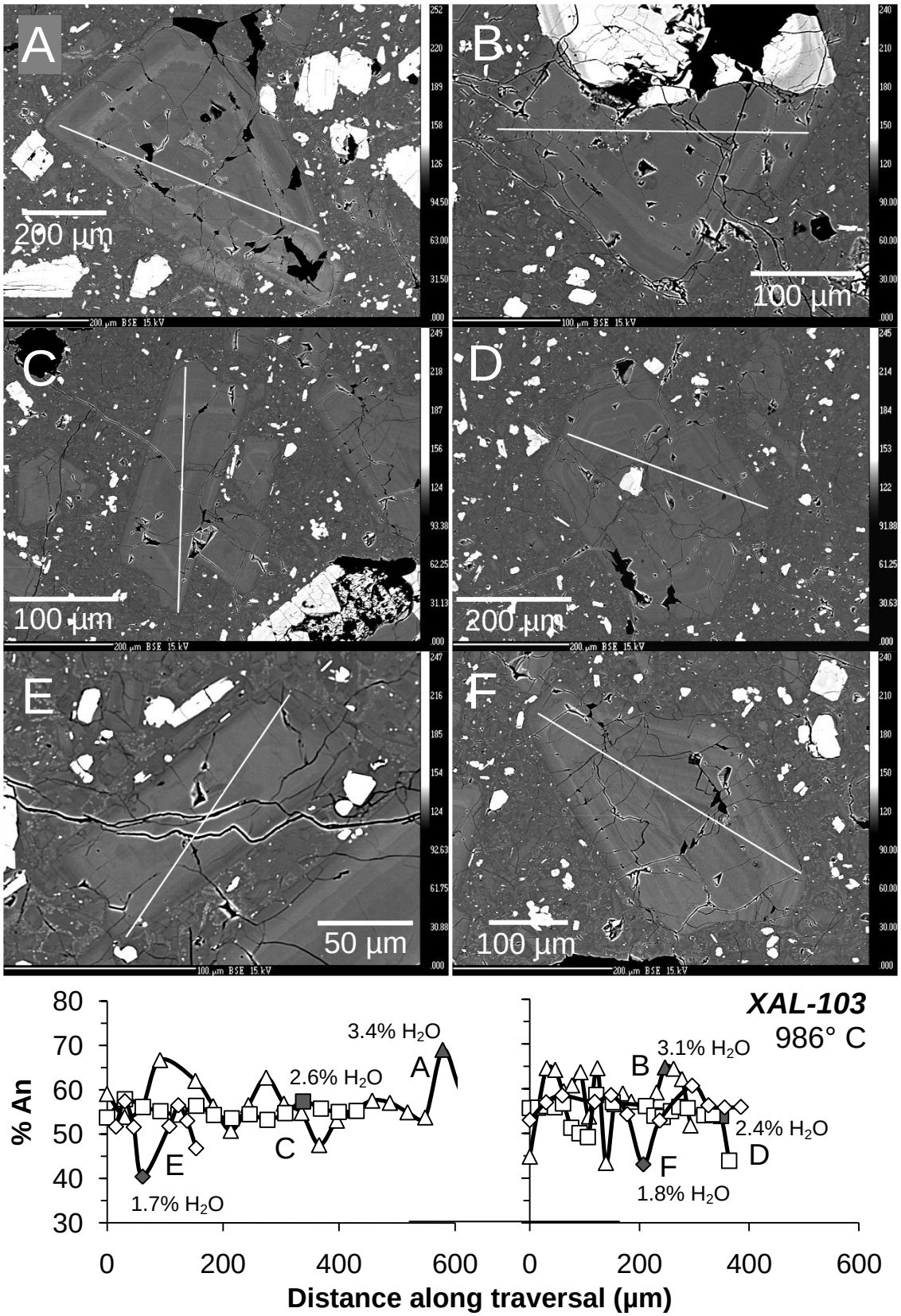
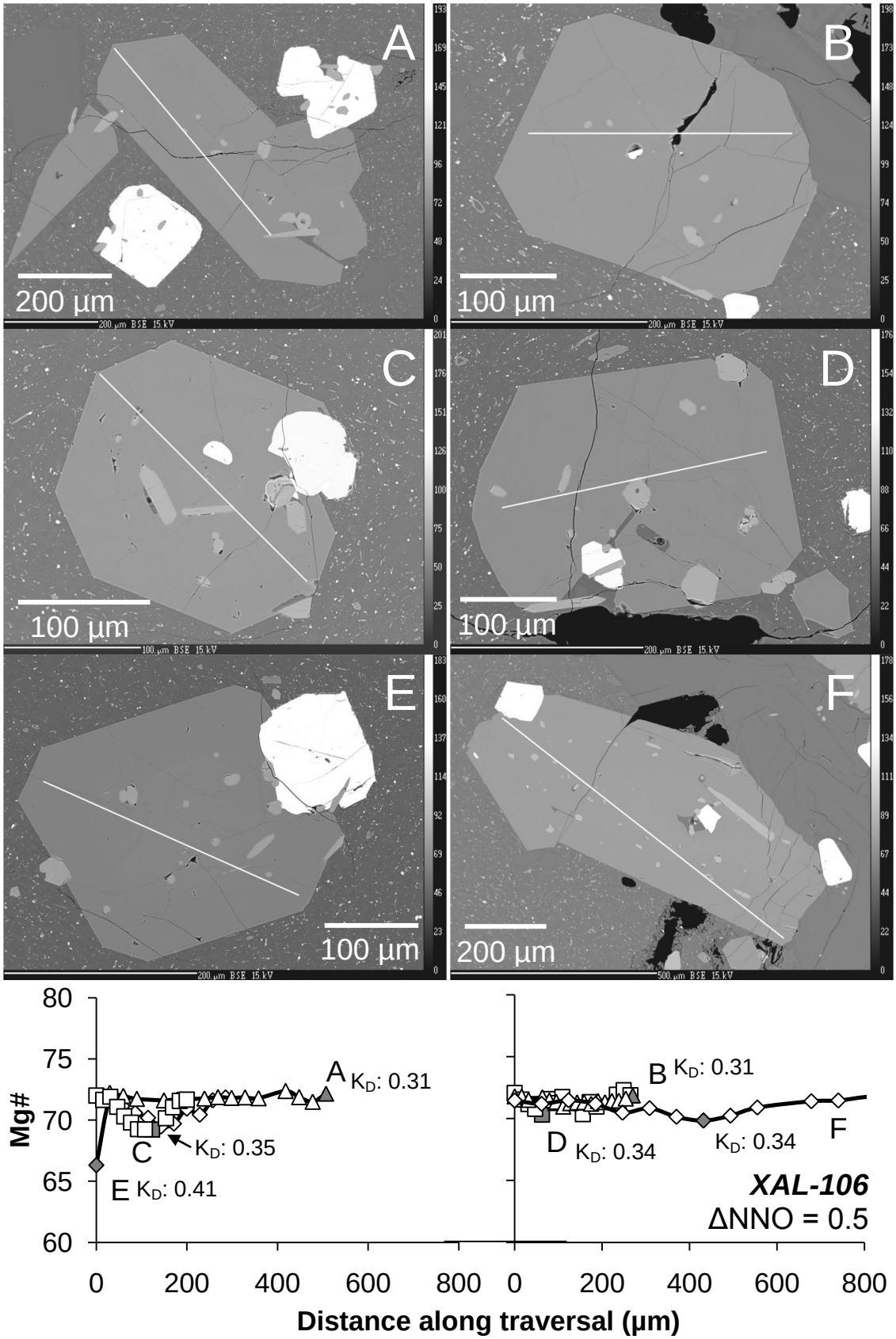

A
200 µm
B
100 µm
C
100 µm
D
200 µm
E
50 µm
F
100 µm
XAL-103
986° C
% An
80
70
60
50
40
30
3.4% H2O
2.6% H2O
1.7% H2O
3.1% H2O
2.4% H2O
1.8% H2O
0
200
400
600
Distance along traversal (µm)

Figure 4.11: BSE images of six orthopyroxene crystals (A-F) in sample XAL-106, ranging in size from 200-860 microns, with Mg# values that largely cluster between 68-72, and correspond to $^{Fe\text{-}Mg}K_D$ values of 0.31 to 0.35. All six crystals display sharp, faceted euhedral outlines, indicative of textural equilibrium. There are abundant small inclusions of apatite (light gray), as well as Fe-Ti oxides (bright white) in all the orthopyroxene grains.


A
200 µm
B
100 µm
C
100 µm
D
100 µm
E
100 µm
F
200 µm
Mg#
80
75
70
65
60
A K_D: 0.31
B K_D: 0.31
C
K_D: 0.35
D K_D: 0.34
K_D: 0.34
F
E K_D: 0.41
XAL-106
ΔNNO = 0.5
0
200
400
600
800
0
200
400
600
800
Distance along traversal (µm)

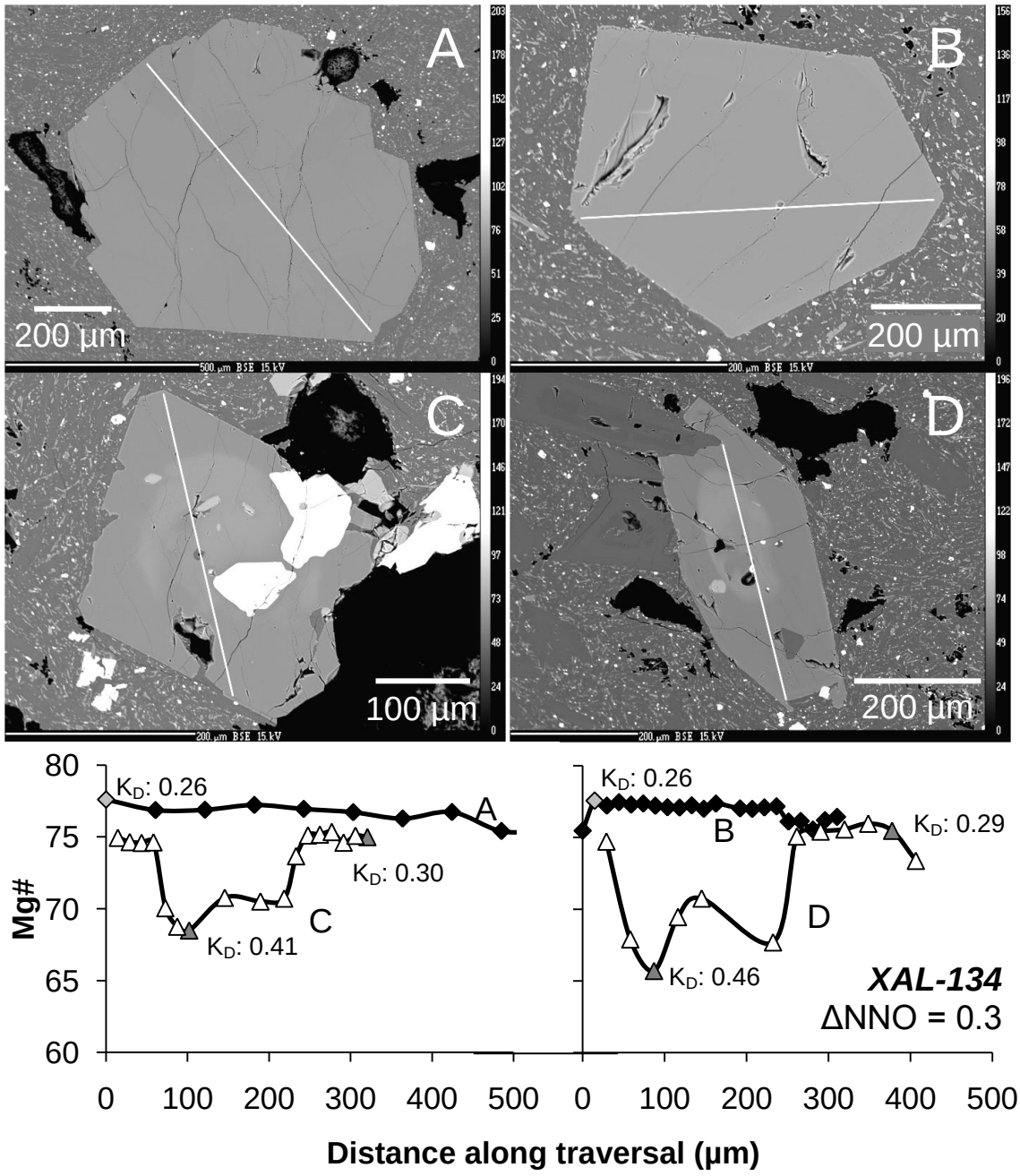
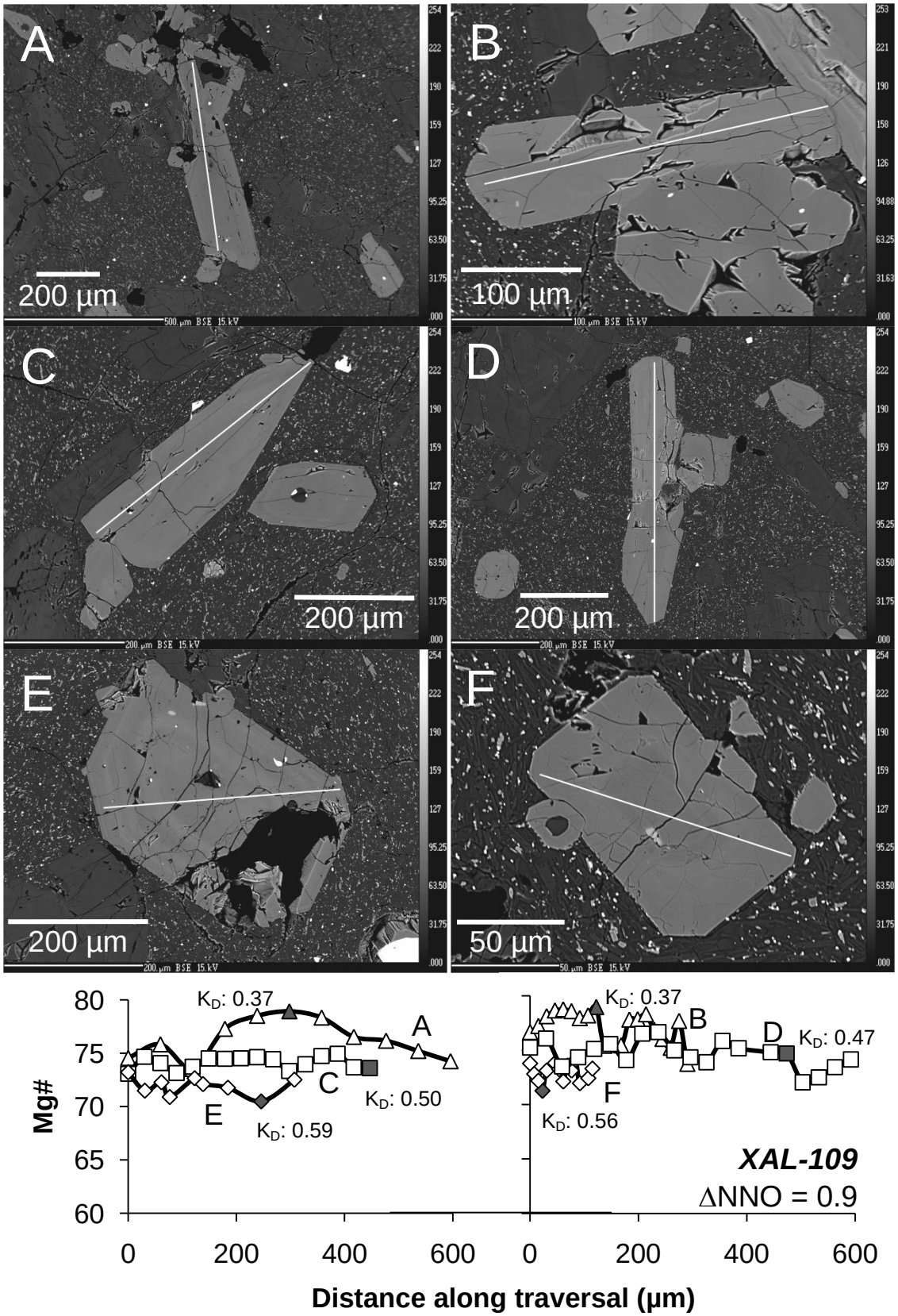


Figure 4.12: BSE images of four pyroxene crystals (A-D) in sample XAL-134, all of which display euhedral, faceted rims. Crystals A and B are clinopyroxenes and have the highest Mg# (~77), corresponding to a $^{Fe\text{-}Mg}K_D$ value of ~0.26. Orthopyroxene crystals C and D each contain a more Fe-rich core surrounding by Mg-rich rims (reverse zoning). The rim compositions (Mg# 75) on the orthopyroxenes have $^{Fe\text{-}Mg}K_D$ values of ~0.30, similar to those for the clinopyroxene crystals (~.26). However, the orthopyroxene cores have Mg# values that extend down to 65, corresponding to $^{Fe\text{-}Mg}K_D$ values as high as ~0.46.

Figure 4.13: BSE images of six orthopyroxene crystals (A-F) in sample XAL-109. Each grain has faceted edges, and all show rim compositions of ~Mg# 73-76. Fe-Ti oxides are visible as inclusions in all six crystals shown. Crystals A and B are among the most magnesian in the sample. Applying the bulk composition as the liquid, the most Mg-rich points in both grains yield $^{Fe\text{-}Mg}K_D$ values 0.37. Crystals C-F are generally homogeneous, but show subtle magnesian cores. $^{Fe\text{-}Mg}K_D$ values for the most Fe-rich analyses in crystals E and F – both plainly euhedral crystals, lacking any dissolution textures – reach as high as 0.56-0.59.


A
200 µm
B
100 µm
C
200 µm
D
200 µm
E
200 µm
F
50 µm
Mg#
80
75
70
65
60
K_D: 0.37
A
C
K_D: 0.50
E
K_D: 0.59
K_D: 0.37
B
D
K_D: 0.47
F
K_D: 0.56
XAL-109
ΔNNO = 0.9
0
200
400
600
0
200
400
600
Distance along traversal (µm)

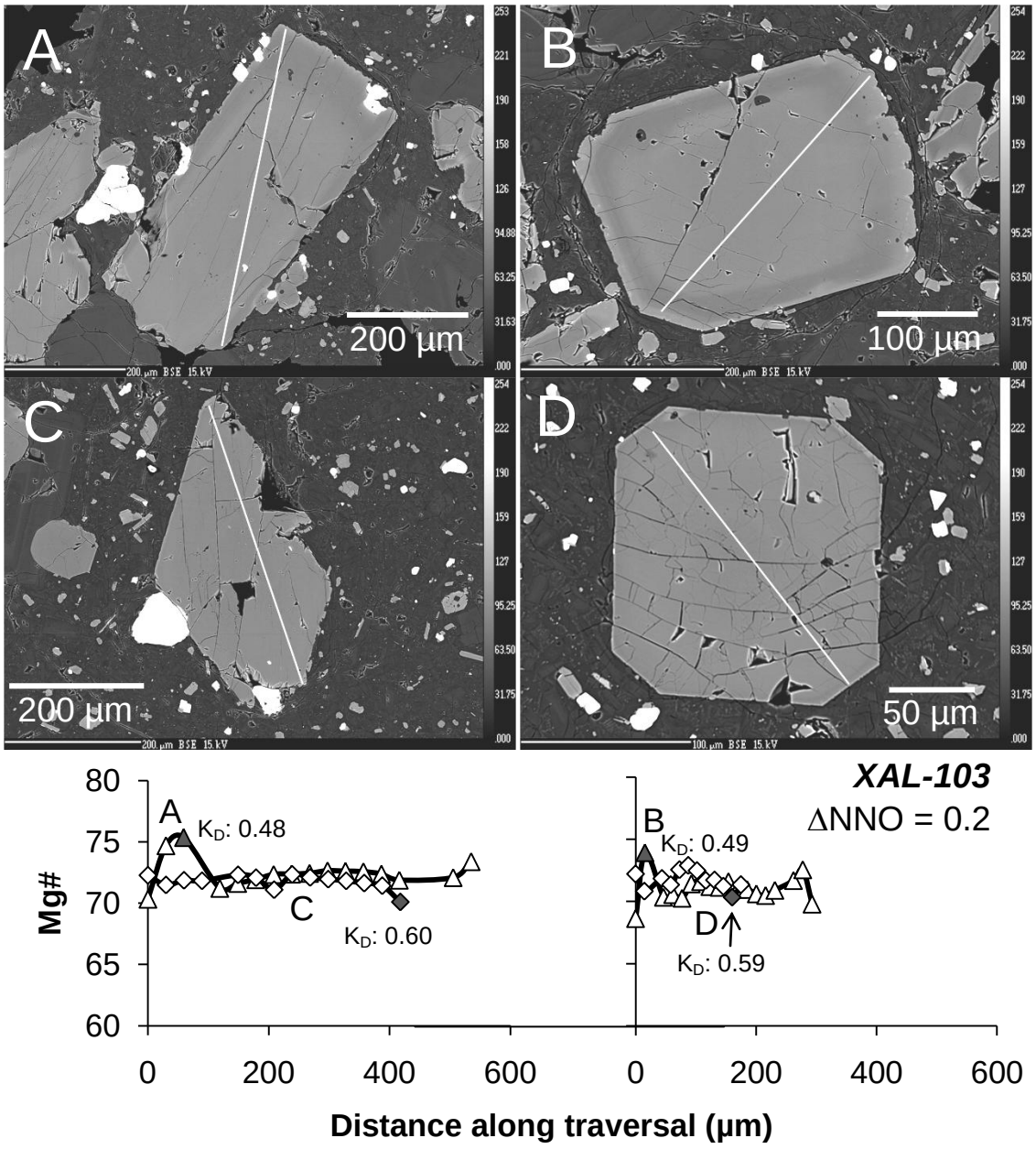


Figure 4.14: BSE images of four orthopyroxene crystals (A-D) in sample XAL-103, each of which is plainly faceted. Crystals A and B show subtle Mg-rich regions surrounding Fe-rich cores. Crystals C and D are homogeneous from rim to rim. The dominant composition in all four grains is ~Mg# 71-72, yielding $^{Fe\text{-}Mg}K_D$ values of ~0.6. The Mg-rich regions in grains A and B reach as high as Mg# 75, with $^{Fe\text{-}Mg}K_D$ values of ~0.48. These $^{Fe\text{-}Mg}K_D$ values were calculated using the bulk composition of the lava, and must be considered as maximum values.

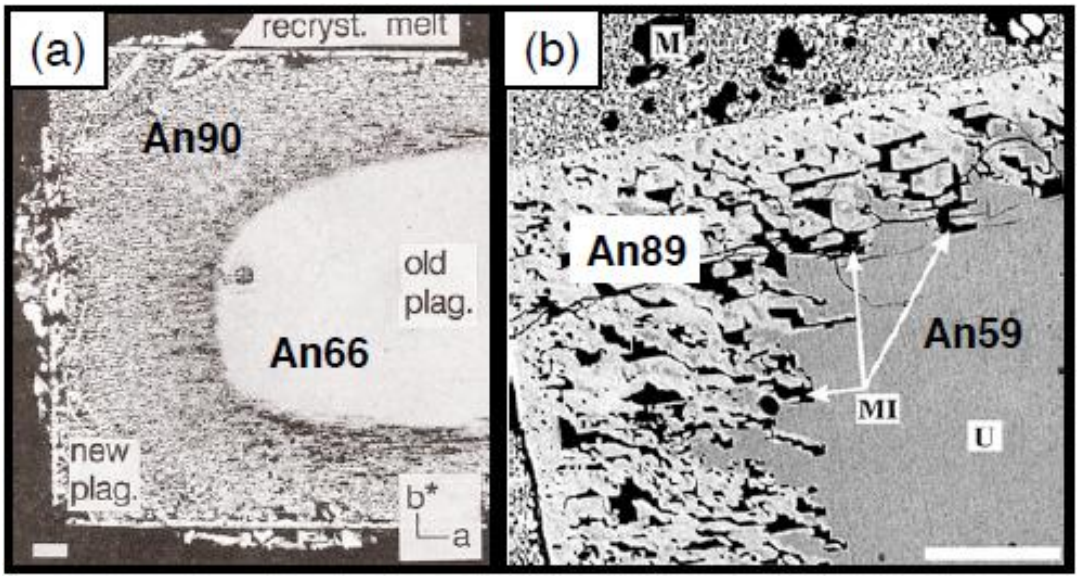


Figure 4.15: BSE images from the literature that show dissolution of sodic plagioclase (out of equilibrium) and re-crystallization of calcic plagioclase (in equilibrium) in experiments. (a) Dissolution of An_{66} and re-crystallization of equilibrium An_{90}; Johannes *et al.*, 1994. (b) Dissolution of An_{59} and re-crystallization of equilibrium An_{89}; Nakamura and Shimakita, 1998.

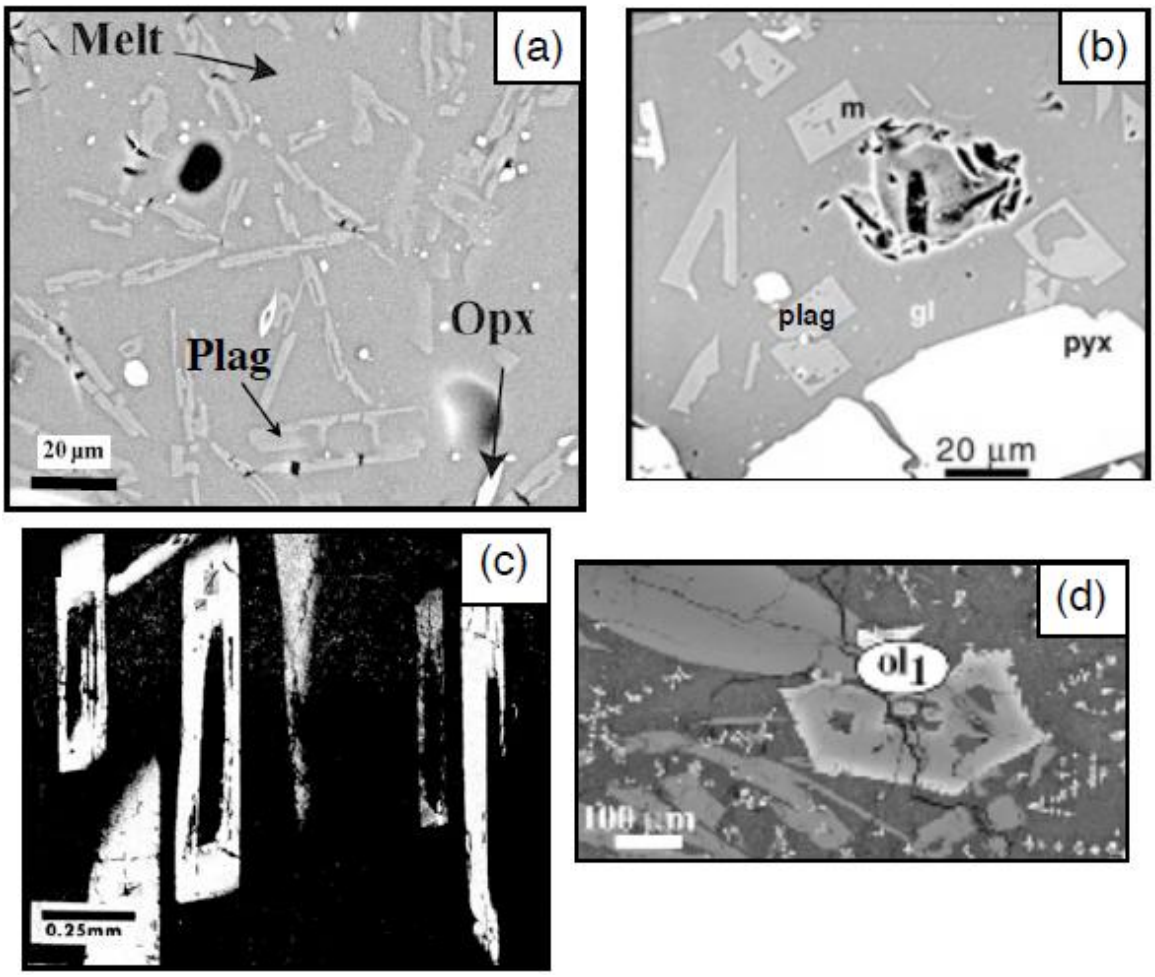


Figure 4.16: BSE and photomicrograph images taken from the literature, which show rapid crystal-growth textures caused by large undercoolings. (a) Decompression (150-50 MPa) of rhyolite liquid at 860°C under H_2O fluid-saturated conditions; Martel and Schmidt, 2003. (b) Decompression (220-100 MPa) of dacite liquid at 780°C under H_2O fluid-saturated conditions; Hammer and Rutherford, 2002. (c) Abrupt drop in temperature by ~100 degrees below the liquidus in plagioclase liquid at 500 MPa, H_2O fluid-saturated conditions; Lofgren, 1974. (d) Rapid cooling of basalt by 6°/hour; Hammer, 2006. Skeletal crystals with large interior melt inclusions are common.

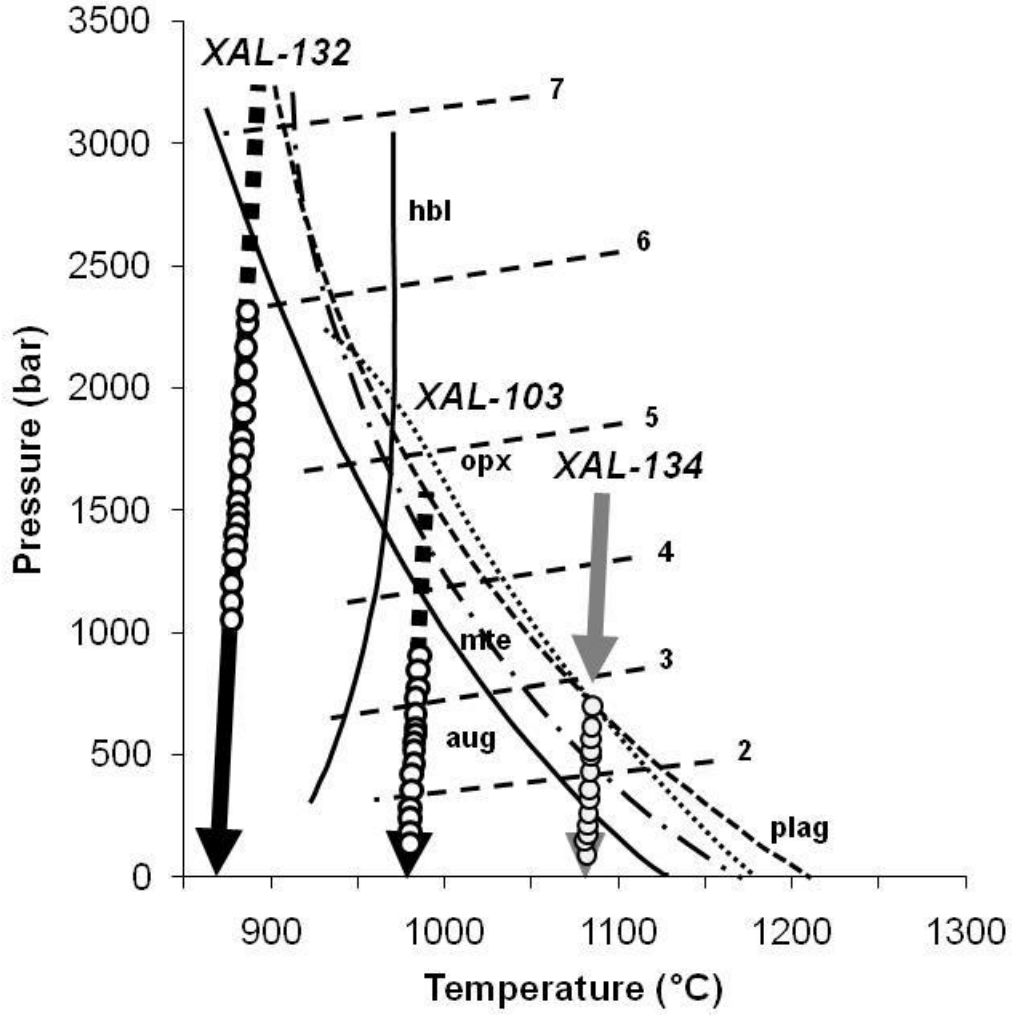


Figure 4.17: Phase diagram for H_2O fluid-saturated andesite from experiments of Moore and Carmichael (1998). Dashed lines show isopleths of water solubility in the melt when saturated with pure H_2O fluid from Moore *et al.* (1998). Superimposed are adiabatic ascent paths (grey arrows) for three andesites from this study at temperatures obtained by Fe-Ti oxide thermometry (Table 4.3; XAL-132, XAL-103, XAL-134). White dots correspond to water concentrations calculated for the analyzed range of plagioclase compositions in each sample (Fig. 4.4).

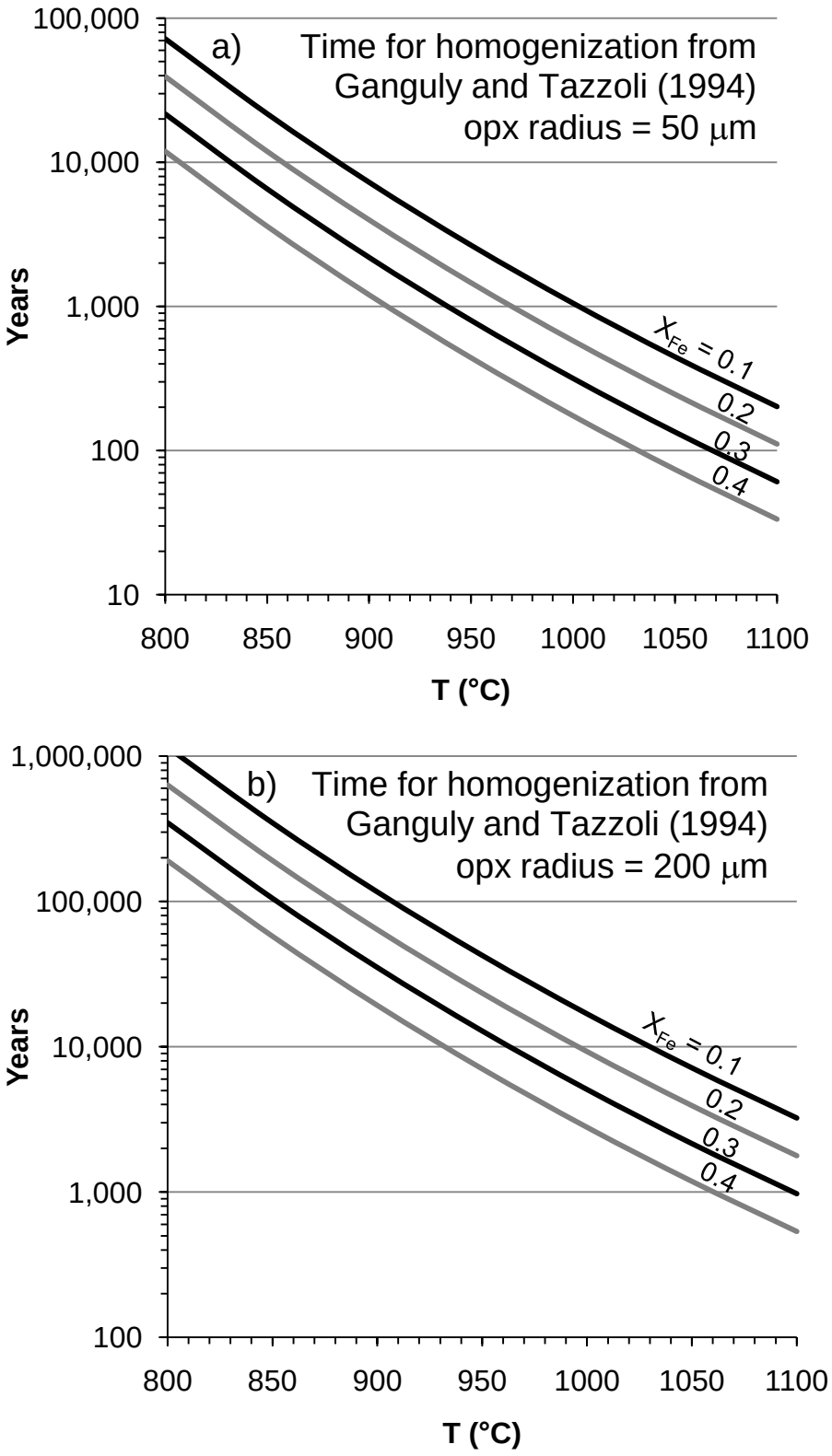


Figure 4.18: Estimated times for homogenization of orthopyroxene phenocrysts, applying the equation of Ganguly and Tazzoli (1994)

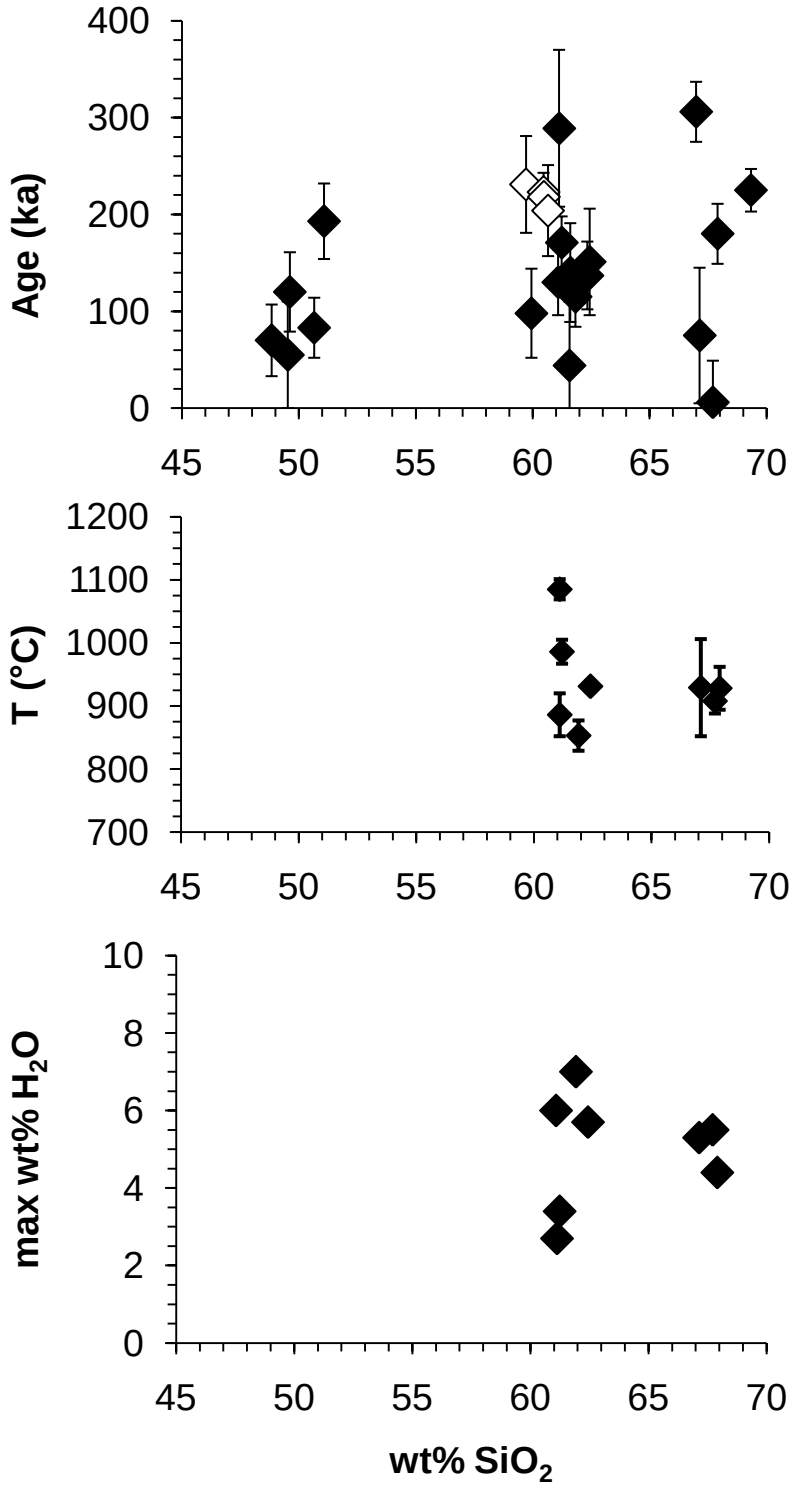


Figure 4.19: Ages, H_2O concentrations, and T plotted relative to wt% SiO for samples from this study and Nelson and Livieres (1986). Error margins are ± 1σ

Table 4.1: Bulk compositions and modal petrography

Sample:	XAL-106	XAL-129	XAL-115	XAL-109	XAL-117	XAL-103	XAL-134	XAL-132
Lat. (N)	21° 27.68'	21° 28.99'	21° 24.69'	21° 25.89'	21° 28.38'	21° 27.33'	21° 29.77'	21° 28.25'
Long. (W)	104° 40.36'	104° 41.88'	104° 44.48'	104° 45.95'	104° 47.32'	104° 41.48'	104° 42.35'	104° 42.12'
SiO_2	67.9	67.7	67.1	62.4	61.9	61.2	61.1	61.1
TiO_2	0.64	0.67	0.56	0.71	0.73	0.73	1.33	0.73
Al_2O_3	16.1	15.94	16.11	17.1	17.0	18.1	16.6	17.6
Fe_2O_3	0.92	0.88	0.88	1.48	1.21	1.19	1.55	1.08
[1] FeO	2.43	2.38	2.37	3.56	3.69	3.89	4.74	3.97
MnO	0.17	0.11	0.12	0.10	0.10	0.10	0.14	0.10
MgO	1.09	0.89	0.99	2.80	2.67	3.09	2.36	2.82
CaO	2.66	2.42	2.68	5.48	5.33	5.97	4.90	5.61
Na_2O	5.25	5.10	4.73	3.81	3.64	3.65	4.67	3.82
K_2O	2.65	3.00	3.02	1.99	2.44	1.89	2.02	1.85
P_2O_5	0.21	0.46	0.21	0.20	0.22	0.18	0.59	0.20
LOI	0.31	1.02	1.80	1.28	1.28	1.25	0.22	0.98
Total	100.3	100.61	100.69	100.97	100.30	101.26	100.4	99.9
$An\#_{liq}$	16.19	15.12	17.20	34.40	34.41	37.94	29.90	35.72
$Mg\#_{liq}$	44.43	40.00	42.68	58.37	56.33	58.60	47.02	55.87
ΔNNO	0.5	0.5	0.5	0.9	0.3	0.2	0.3	-0.1
Plag ph	1.4%	10.6%	10.0%	23.3%	17.6%	27.5%	0.6%	25.1%
mph	2.9%	11.2%	6.0%	6.9%	6.6%	4.3%	1.0%	10.3%
Opx ph	0.0%	0.7%	0.1%	2.4%	1.6%	3.8%	0.1%	1.3%
mph	0.4%	0.0%	0.1%	3.5%	1.9%	1.6%	0.3%	1.6%
Cpx ph	0.0%	0.3%	0.2%	1.0%	0.5%	0.9%	<0.1%	2.7%
mph	0.0%	0.2%	0.1%	1.1%	0.9%	0.2%	0.1%	4.1%
Hbl	0.0%	0.1%	4.0%	0.0%	5.9%	0.0%	0.0%	0.0%
Fe-Ti Ox	0.3%	3.1%	4.3%	2.8%	5.4%	3.2%	0.7%	3.8%
Gdms	95.0%	73.6%	75.5%	59.2%	59.8%	58.4%	97.2%	51.3%

ph = phenocryst (>200 µm); mph = microphenocryst (>20 µm); gdms= groundmass;

$An\#_{liq} = [XAn/XAn + XAb] * 100$, where $XAn = 64.0\ (X^{liq}_{CaO})(X^{liq}_{Al_2O_3})(X^{liq}_{SiO_2})^2$

and $XAb = 18.963\ (X^{liq}_{Na_2O})^{0.5}\ (X^{liq}_{Al_2O_3})^{0.5}\ (X^{liq}_{SiO_2})^3$ (Lange, et al., 2009)

$Mg\#_{liq} = Mg/(Mg+Fe^{2+})_{molar;}$ Fe^{2+} calculated on basis of ΔNNO value obtained from two Fe-Ti oxides

Table 4.2.1: Geochronology data passing all stated criteria

Sample	Lat. (N)	Long. (W)	Type	Total Gas Age ±1σ (ka)	Plateau Age ±1σ (ka)	MSWD	% ^{39}Ar	Steps	Isochron Age ±1σ (Ma)	MSWD	(^{40}Ar/^{36}Ar) ±1σ	Points
XAL-102	21° 27.20'	104° 41.48'	And	113 ± 73	**44 ± 66**	1.68	100.0%	1-13	-42 ± 89	1.55	297.3 ± 1.3	13
XAL-108	21° 26.94'	104° 46.57'	AOB	1119 ± 31	**53 ± 33**	0.68	69.5%	1-10	57 ± 45	0.76	294.2 ± 9.9	10
XAL-125	21° 23.98'	104° 41.83'	AOB	75 ± 39	**70 ± 37**	1.29	100.0%	1-13	89 ± 47	1.33	291.7 ± 4.9	13
XAL-116	21° 28.38'	104° 47.31'	AOB	133 ± 64	**120 ± 41**	0.91	100.0%	1-13	88 ± 69	0.96	299.1 ± 6.3	13
XAL-132	21° 28.25'	104° 42.12'	And	-46 ± 46	**130 ± 34**	0.91	99.3%	2-13	222 ± 65	0.74	288.2 ± 4.4	12
XAL-113	21° 25.04'	104° 44.80'	And	69 ± 43	**137 ± 35**	0.89	74.0%	2-11	144 ± 38	0.97	293.8 ± 3.7	10
XAL-121	21° 24.77'	104° 41.78'	And	158 ± 33	**151 ± 31**	1.53	100.0%	1-13	145 ± 48	1.66	296.0 ± 2.3	13
XAL-109	21° 25.89'	104° 45.95'	And	137 ± 56	**151 ± 55**	1.46	100.0%	1-13	147 ± 65	1.59	295.7 ± 1.3	13
XAL-103	21° 27.33'	104° 41.48'	And	128 ± 44	**171 ± 27**	0.86	71.9%	1-6	171 ± 32	1.07	295.4 ± 1.8	6
XAL-106	21° 27.68'	104° 40.36'	Dac	243 ± 54	**180 ± 31**	1.51	100.0%	1-13	172 ± 31	1.47	296.6 ± 0.9	13
XAL-120	21° 25.30'	104° 41.48'	AOB	240 ± 39	**193 ± 39**	1.62	66.0%	5-13	174 ± 45	1.79	299.9 ± 7.7	9
XAL-119	21° 25.33'	104° 41.45'	Dac	274 ± 31	**225 ± 22**	1.60	97.9%	2-13	204 ± 29	1.58	297.1 ± 1.5	12
XAL-134	21° 29.77'	104° 42.35'	And	-134 ± 177	**289 ± 81**	1.22	100.0%	1-13	365 ± 83	1.22	294.4 ± 0.3	13
XAL-114	21° 24.73'	104° 44.37'	Dac	275 ± 47	**306 ± 31**	1.42	89.5%	3-12	311 ± 34	1.54	294.2 ± 2.7	10
XAL-126	21° 23.58'	104° 41.34'	AOB	1066 ± 74	**952 ± 44**	1.54	96.9%	2-12	965 ± 43	1.68	294.9 ± 1.2	11

Table 4.2.2: Geochronology data not passing all stated criteria

Sample	Lat. (N)	Long. (W)	Type	Total Gas Age ±1σ (ka)	Plateau Age ±1σ (ka)	MSWD	% ^{39}Ar	Steps	Isochron Age ±1σ (Ma)	MSWD	(^{40}Ar/^{36}Ar) ±1σ	Points
XAL-101	21° 27.54'	104° 40.94'	Dac	**-1672 ± 177**	na ± na	na	na	na	na ± na	na	na	na
XAL-117	21° 28.38'	104° 47.32'	And	51 ± 47	**-35 ± 44**	1.71	81.8%	1-6	-17 ± 64	2.05	294.8 ± 1.6	6
XAL-129	21° 28.99'	104° 41.88'	Dac	-70 ± 48	**6 ± 43**	1.42	100.0%	1-13	212 ± 81	0.83	291.4 ± 1.4	13
XAL-115	21° 24.69'	104° 44.49'	Dac	63 ± 59	**75 ± 70**	1.91	67.0%	8-13	-277 ± 151	1.06	302.7 ± 2.9	6
XAL-138	21° 28.92'	104° 43.79'	AOB	**83 ± 31**	na ± na	na	na	na	na ± na	na	na	na
XAL-133	21° 27.66'	104° 42.17'	And	63 ± 41	**98 ± 46**	1.50	100.0%	1-13	301 ± 257	1.55	280.7 ± 10.4	13
XAL-112	21° 24.95'	104° 45.96'	And	166 ± 52	**140 ± 51**	1.55	98.0%	1-11	360 ± 93	1.02	282.3 ± 5.1	11

Table 4.3: Average Fe-Ti oxide compositions

Sample	XAL-106	XAL-129	XAL-115	XAL-109	XAL-117	XAL-103	XAL-134	XAL-132
Phase	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm	Ilm
# of analyses	16	17	14	8	6	12	10	4
SiO_2	0.03	0.02	0.02	0.03	0.01	0.03	0.02	0.03
TiO_2	44.17	44.74	44.60	42.32	46.12	45.32	44.40	47.63
Al_2O_3	0.30	0.22	0.26	0.36	0.20	0.20	0.40	0.19
Fe_2O_3	18.83	17.59	18.28	22.36	14.66	16.42	19.88	13.22
V_2O_3	0.00	0.05	0.00	0.18	0.08	0.19	0.16	0.03
Cr_2O_3	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02
FeO	31.91	33.48	33.02	30.78	35.02	33.55	30.93	33.89
MnO	0.83	0.77	1.01	0.35	0.56	0.50	0.44	0.45
MgO	3.20	2.74	2.77	2.71	2.71	2.98	3.60	4.26
CaO	0.04	0.04	0.04	0.06	0.03	0.04	0.02	0.04
Total	99.31	99.65	100.01	99.17	99.39	99.25	99.86	99.76
$X_{ilmenite}$	68.6	71.6	70.4	67.9	74.9	72.4	67.2	71.2
Phase	Mte	Mte	Mte	Mte	Mte	Mte	Mte	Mte
# of analyses	16	12	10	21	4	10	9	9
SiO_2	0.08	0.07	0.07	0.08	0.09	0.09	0.11	0.11
TiO_2	11.83	11.95	12.47	11.10	10.89	16.10	17.86	13.09
Al_2O_3	2.58	2.28	2.23	3.07	2.65	1.56	1.86	2.13
Fe_2O_3	43.52	43.92	43.01	44.39	45.09	35.81	30.17	40.89
V_2O_3	0.13	0.28	0.11	0.57	0.45	0.66	0.41	0.63
Cr_2O_3	0.01	0.01	0.01	0.23	0.13	0.20	0.01	0.51
FeO	38.80	39.10	39.59	37.66	38.95	42.60	46.62	40.24
MnO	0.74	0.66	0.86	0.34	0.42	0.47	0.52	0.36
MgO	1.83	1.83	1.70	2.54	1.59	2.03	1.70	1.81
CaO	0.02	0.03	0.02	0.02	0.01	0.02	0.07	0.08
Total	99.53	100.14	100.07	100.01	100.26	99.54	99.32	99.85
$X_{ulvospinel}$	33.1	33.3	34.7	30.7	30.3	45.0	51.5	36.5
T (°C)	928 ± 17	908 ± 20	929 ± 77	931 ± 8	853 ± 24	986 ± 19	1085 ± 16	886 ± 34
ΔNNO	0.5 ± 0.1	0.5 ± 0.1	0.5 ± 0.1	0.9 ± 0.1	0.3 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	-0.1 ± 0.1

Temperature and ΔNNO are average (+/- 1σ) from all possible pairings of ilmenite and titanomagnetite analyses

Table 4.4:Minimum and Maximum %An plagioclase compositions

Sample	XAL-106	XAL-106	XAL-129	XAL-129	XAL-115	XAL-115	XAL-109	XAL-109	XAL-117	XAL-117	XAL-103	XAL-103	XAL-134	XAL-134	XAL-132	XAL-132
ph/mph	mph	ph	mph	ph	ph	mph	mph	ph	ph	ph	mph	ph	ph	ph	ph	ph
SiO_2	60.4	54.1	63.8	51.3	63.0	53.3	58.7	46.1	56.1	48.0	56.7	50.2	56.5	49.4	55.1	48.2
Al_2O_3	24.5	28.1	20.8	32.1	21.9	29.0	25.8	33.8	26.6	33.5	25.6	30.7	26.3	31.8	27.0	32.7
Fe_2O_3	0.5	0.5	0.8	0.6	0.6	0.9	0.6	0.5	0.7	0.6	0.9	0.6	0.5	0.7	0.5	0.6
CaO	6.2	10.5	5.0	11.5	4.1	11.9	8.1	17.7	8.9	17.1	8.2	14.2	8.7	15.2	9.8	16.1
Na_2O	7.9	5.4	6.5	3.5	9.0	4.9	6.6	1.6	6.1	2.0	6.4	3.4	6.7	3.2	5.8	2.3
K_2O	0.6	0.2	1.6	0.1	0.9	0.1	0.4	0.1	0.4	0.1	0.5	0.1	0.3	0.1	0.4	0.4
Sum	100.0	98.7	98.8	99.4	99.8	100.6	100.3	99.9	98.9	101.4	98.3	99.3	98.9	100.2	98.9	100.1
%An	29.1	51.4	26.7	64.2	18.9	56.9	39.2	85.3	43.6	82.3	40.4	69.0	41.3	72.4	47.1	79.2
wt% H_2O	3.2	4.4	3.3	5.5	3.3	5.3	2.5	5.7	4.4	7.0	1.7	3.4	0.8	2.7	3.9	6.0

Table 4.5:Minimum and Maximum Mg# orthopyroxene compositions

Sample	XAL-106	XAL-106	XAL-129	XAL-129	XAL-115	XAL-115	XAL-109	XAL-109	XAL-117	XAL-117	XAL-103	XAL-103	XAL-134	XAL-134	XAL-132	XAL-132
ph/mph	ph	mph	mph	mph	ph	mph	Ph	ph	ph	ph	ph	ph	ph	ph	ph	ph
SiO_2	53.1	53.9	54.1	55.3	53.1	54.1	54.4	54.4	53.9	55.1	53.4	55.5	52.6	54.5	53.6	53.3
TiO_2	0.2	0.2	0.2	0.2	0.8	0.1	0.1	0.2	0.2	0.2	0.4	0.2	0.3	0.3	0.1	0.2
Al_2O_3	0.7	0.9	1.2	0.7	2.3	0.6	0.8	2.0	2.7	2.3	1.4	0.8	1.4	0.8	0.7	2.9
FeO	21.3	17.3	20.4	17.3	20.6	16.7	18.9	13.4	19.8	13.2	20.2	14.6	21.0	15.3	21.0	14.4
MnO	1.1	1.0	0.8	0.6	1.2	1.0	1.0	0.3	0.8	0.3	0.5	0.3	0.9	0.5	1.1	0.4
MgO	22.9	25.8	23.2	25.1	19.6	26.3	25.3	28.1	23.2	29.6	23.6	28.1	22.5	27.1	23.6	27.0
CaO	1.1	1.4	1.3	1.8	1.6	1.3	0.7	1.8	1.0	1.3	1.8	1.4	1.4	1.5	0.6	1.9
Sum	100.4	100.4	101.4	100.8	100.1	100.0	101.3	100.4	101.5	102.2	101.2	101.0	100.2	99.9	100.8	100.3
Mg#	65.6	72.7	66.9	72.1	63.0	73.8	70.5	78.9	67.6	79.9	67.6	77.5	65.7	76.0	66.7	77.0
K_D	0.42	0.30	0.33	0.26	0.44	0.26	0.59	0.37	0.62	0.32	0.68	0.41	0.46	0.28	0.63	0.38

Table 4.6: Average concentrations of selected trace elements

Type	Sr (ppm)	Y (ppm)	Zr (ppm)	Nb (ppm)
Alk. Olv. Bas	504 ± 84	34 ± 11	209 ± 73	33 ± 10
Andesite	646 ± 31	20 ± 4	147 ± 30	9 ± 3
Dacite	428 ± 41	31 ± 9	250 ± 13	19 ± 1

REFERENCES

Anderson, A. T., 1984, Probable relations between plagioclase zoning and magma dynamics, Fuego Volcano, Guatemala: American Mineralogist, v. 69, p. 660-676.

Bacon, C.R. and Hirschmann, M.M., 1988, Mg/Mn partitioning as a test for equilibrium between coexisting Fe-Ti oxides: American Mineralogist, v. 73, p. 57-61.

Bacon, C.R. and Lanphere, M.A., 2006, Eruptive history and geochronology of Mount MAzama and the Crater Lake region, Oregon: Geological Society of America Bulletin, v. 118, p. 1331-1359.

Blatter, D.L. and Carmichael, I.S.E., 1998, Plagioclase-free andesites from Zitácuaro (Michoacán), Mexico: Petrology and experimental constraints: Contributions to Mineralogy and Petrology, v. 132, p. 121-138.

Blatter, D.L. and Carmichael, I.S.E., 2001, Hydrous phase equilibria of a Mexican high-silica andesite: a candidate for a mantle origin?: Geochimica et Cosmochimica Acta, v. 65, p. 4043-4065.

Blundy, J. and Cashman, K., 2005, Rapid decompression-driven crystallization recorded by melt inclusions from Mount St. Helens volcano: Geology, v. 33, p. 793-796.

Brophy, J.G., Whittington, C.S., and Park, Y.K., 1999, Sector-zoned augite megacrysts in Aleutian high alumina basalts: implications for the conditions of basalt crystallization and the generation of calc-alkaline magmas: Contributions to Mineralogy and Petrology, v. 135, p. 277-290.

Buening, D.K., and Buseck, P.R., 1973, Fe-Mg lattice diffusion in olivine: Journal of Geophysical Research, v. 78, p. 6852-6862.

Burgisser, A. and Scaillet, B., 2007, Redox evolution of a degassing magma rising to the surface: Nature, v. 445, p. 194-197.

Carmichael, I.S.E., 2000, The andesite aqueduct: perspectives on the evolution of magmatism in west-central (105-99° W) Mexico: Contributionso to Mineralogy and Petrology, v. 143, p. 641-663.

Cashman, K. and Blundy, J., 2000, Degassing and crystallization of ascending andesite and dacite: Philosophical Transactions of the Royal Society of London A, v. 358, p. 1487-1513.

Chakraborty, S., Dohmen, R., Mueller, T., Becker, H.W., Ter Heege, J., 2008, Fe-Mg interdiffusion coefficients in clinopyroxene: experimental determinations using nanoscale thin films: American Geophysical Union, Fall Meeting 2008, abstract #MR21C-04.

Chakaborty, S., and Ganguly, J., 1992, Cation diffusion in aluminosilicate garnets: experimental determination in spessartine-almandine diffusion couples, evaluation of effective binary diffusion coefficients, and applications: Contributions to Mineralogy and Petrology, v. 111, p. 74-86.

Chertkoff, D.G. and Gardner, J.E., 2004, Nature and timing of magma interactions before, during and after caldera-forming eruption of Volcán Ceboruco, Mexico: Contributions to Mineralogy and Petrology, v. 146, p. 715-735.

Costa, F., Scaillet, B., and Pichavant, M., 2004, Petrological and experimental constraints on the pre-eruption conditions of Holocene dacite from Volcán San Pedro (36° S, Chilean Andes) and the importance of sulphur in silicic subduction-related magmas: Journal of Petrology, v. 45, p. 855-881.

Couch, S., Sparks, R.S.J., and Carroll, M.R., 2003, The kinetics of degassing-induced crystallization at Soufriere Hills Volcano, Montserrat: Journal of Petrology, v. 44, p. 1477-1502.

Crabtree, S.M. and Lange, R.A., 2010, Crysal-poor andesites and dacites: complex petrography induced by degassing-induced crystallization: Journal of Petrology (accepted).

Crabtree, S.M. and Lange, R.A., 2010b, The effect of degassing, crystallization, and differentiation on the oxidation state of hydrous arc magmas: Science (in review).

Cygen, R.T. and Lasaga, A.C., 1985, Self-diffusion of magnesium in garnet at 750 to 900 °C: American Journal of Science, v. 285, p. 328-350.

Dohmen, R., Becker, H-W, and Chakraborty, S., 2007, Fe-Mg diffusion in olivine I: experimental determination between 700 and 1,200 °C as a function of composition, crystal orientation and oxygen fugacity: Physics and Chemistry of Minerals, v. 34, p. 389-407.

Dohmen, R. and Chakraborty, S., 2007, Fe-Mg diffusion in olivine II: point defect chemistry, change of diffusion mechanisms and a model for calculation of diffusion coefficients in natural olivine: Physics and Chemistry of Minerals, v. 34, p. 409-430.

Fleck, R.J., Sutter, J.F., and Elliot, D.H., 1977, Interpretation of discordant $^{40}Ar/^{39}Ar$ age-spectra of Mesozoic tholeiites from Antarctica: Geochimica et Cosmochimica Acta, v. 41, p. 15-32.

Frey, H.M. and Lange, R.A., 2010, Petrologic diversity in andesites and dacites from the Tequila volcanic field, Mexico: resolving the effects of degassing vs. magma mixing: Contributions to Mineralogy and Petrology (accepted)

Frey, H.M., Lange, R.A., Hall, C.M., and Delgado-Granados, H., 2004, Magma eruption rates constrained by $^{40}Ar/^{39}Ar$ chronology and GIS for the Ceboruco-San Pedro volcanic field, western Mexico: Geological Society of America Bulletin, v. 116, p. 259-276.

Ganguly, J. and Tazzoli, V., 1994, Fe^{2+}-Mg interdiffusion in orthopyroxene: Retrieval from the data on intracrystalline exchange reaction: American Mineralogist, v. 79, p. 930-937.

Gardner, J.E., Rutherford, M., Carey, S., and Sigudsson, H., 1995, Experimental constraints on pre-eruptive water contents and changing magma storage prior to explosive eruptions of Mount St. Helens volcano: Bulletin of Volcanology, v. 57, p. 1-17.

Ghiorso, M.S., and Evans, B.W., 2008, Thermodynamics of rhombohedral oxide solid solutions and a revision of the Fe-Ti two-oxide geothermometer and oxygen barometer: American Journal of Science, v. 308, p. 957-1039.

Grove, T.L., Baker, M.B., Price, R.C., Parman, S.W., Elkins-Tanton, L.T., Chatterjee, N., and Müntener, O., 2005, Magnesian andesite and dacite flows from Mt. Shasta, northern California: products of fractional crystallization of H_2O-rich mantle melts: Contributions to Mineralogy and Petrology, v. 148, p. 542-565.

Grove, T.L., Elkins-Tanton, L.T., Parman, S.W., Chatterjee, N., Müntener, O., and Gaetani, G.A., 2003, Fractional Crystallization and mantle-melting controls on calc-alkaline differentiation trends: Contributions to Mineralogy and Petrology, v. 145, p. 515-533.

Hammer, J.E., 2006, Influence of fO_2 and cooling rate on the kinetics and energetic of Fe-rich basalt crystallization: Earth and Planetary Science Latters, v. 248, p. 618-637.

Hammer, J.E. and Rutherford, M.J., 2002, An experimental study of the kinetics of decompression-induced crystallization in silicic melt: Journal of Geophysical Research, v. 107, BI, 2021.

Hildreth, W., 2007, Quaternary magmatism in the Cascades: Geologic Perspectives: U.S. Geological Survey, Professional Paper 1744, 136 p.

Hildreth, W. and Lanphere, M., 1994, Potassium-Argon geoghronology o fa basalt-andesite-dacite arc system – The Mount Adams volcanic field, Cascades Range of couthern Washington: Geological Society of America Bulletin, v. 106, p. 1413-1429.

Hildreth, W., Fiersten, J., and Lanphere, M., 2003, Eruptive history and geochronology of the Mount Baker volcanic field, Washington: Geological Society of America Bulletin, v. 115, p. 729-764.

Holtz, F., Sato, H., Lewis, J., Behrens, H., and Nakada, S., 2005, Experimental petrology of the 1991-1995 Unzen dacite, Japan. Part 1: Phase relations phase composition and pre-eruptive conditions: Journal of Petrology, v. 46, p. 319-337.

Humphreys, M. C. S., Blundy, J. D., and Sparks, R. S. J., 2006, Magma evolution and open-system processes at Shiveluch Volcano: insights from phenocryst zoning: Journal of Petrology, v. 47, p. 2303-2334.

Johannes, W., Koepke, J., and Behrens, H., 1994, Partial melting reactions of plagioclase and plagioclase-bearing assemblages, in: Parson, I. (Ed.), Feldspars and their Reactions, Kluwer, Dordrecth, 1993, p. 161-164.

Kawamoto, T., 1992, Dusty and honeycomb plagioclase: indicators of processes in the Uchino stratified magma chamber, Izu Peninsula, Japan: Journal of Volcanology and Geothermal Research, v. 49, p. 191-208.

Kress, V.C., and Carmichael, I.S.E., 1998, Stoichiometry of the iron oxidation reaction in silicate melts: American Mineralogist, v. 73, p. 1267-1274.

Kuo, L-C., and Kirkpatrick, R. J., 1982, Pre-eruption history of phyric basalts from DSDP Legs 45 and 46: evidence from morphology and zoning patterns in plagioclase: Contributions to Mineralogy and Petrology, v. 79, p. 13-27.

Lange, R.A., Frey, H.M., and Hector, J., 2009, A thermodynamic model for the plagioclase-liquid hygrometer/thermometer: American Mineralogist, v. 94, p. 494-506.

Lanphere, M.A. and Dalrymple, G.B., 1976, Identification of excess ^{40}Ar by the $^{40}Ar/^{39}Ar$ age spectrum technique: Earth and Planetary Science Letters, v. 32, p. 141-148.

Lewis-Kenedi, C.B., Lange, R.A., Hall, C.M., and Delgado-Granados, H., 2005, The eruptive history of the Tequila volcanic field, western Mexico: ages, volumes, and relative proportions of lava types: Bulletin of Volcanology, v. 67, p. 391-414.

Lofgren, G., 1974, An experimental study of plagioclase crystal morphology: isothermal crystallization: American Journal of Science, v. 274, p. 243-273.

Luhr, J.F., 2000, The geology and petrology of Volcán San Juan (Nayarit, Mexico) and the compositionally zoned Tepic Pumice: Journal of Volcanology and Geothermal Research, v. 95, p. 109-156.

Luhr, J.F. and Carmichael, I.S.E., 1980, Colima Volcanic Comples, Mexico. 1. Post-caldera andesites from Volcán Colima: Contributions to Mineralogy and Petrology, v. 71, p. 343-373.

Martel, C., Pichavant, M., Holtz, F., and Scaillet, B., 1999, Effects of fO_2 and H_2O on andesite phase relations between 2 and 4 kbar: Journal of Geophysical Research, v. 104, p. 29453-29470.

Martel, C., and Schmidt, B.C., 2003, Decompression experiments as an insight into ascent rates of silicic magmas: Contributions to Mineralogy and Petrology, v. 144, p. 397-415.

Mertzman, S. A., Crabtree, S., Lunt, A., and Weaver, I., 2008, Preliminary Geologic Map of the Little Chinquapin Mountain 7.5' Quadrangle, Jackson and Klamath Counties, Oregon: Oregon Department of Geology and Mineral Industries.

Métrich, N., Bertangnini, A., Landi, P. and Rosi, M., 2001, Crystallization driven by decompression and water loss at Stromboli Volcano (Aeolian Islands, Italy): Journal of Petrology, v. 42, p. 1471-1490.

Moore, G. and Carmichael, I.S.E., 1998, The hydrous phase equilibria (to 3 kbar) of an andesite and basaltic andesite from western Mexico: constraints on water content and conditions of phenocryst growth: Contributions to Mineralogy and Petrology, v. 130, p. 304-319.

Nakamura, M. and Shimakita, S., 1998, Dissolution origin and syn-entrapment compositional change of melt inclusion in plagioclase: Earth and Planetary Science Letters, v. 161, p. 119-133.

Nelson, S.A., 1980, Geology and petrology of Volcán Ceboruco, Nayarit, Mexico: Geological Society of America Bulletin, v. 91, p. 639-643.

Nelson, S.A. and Livieres, R.A., 1986, Contemporaneous calc-alkaline and alkaline volcanism at Sanganguey Volcano, Nayarit, Mexico: Geological Society of America Bulletin, v. 97, p. 798-808.

Nelson, S. T. and Montana, A., 1992, Sieve-textured plagioclase in volcanic rocks produced by rapid decompression: American Mineralogist, v. 77, p. 1242-1249.

Ownby, S.E., Delgado-Granados, H., Lange, R.A., and Hall, C.M., 2007, Volcán Tancítaro, Michoacán, Mexico, $^{40}Ar/^{39}Ar$ constraints on its history of sector collapse: Journal of Volcanology and Geothermal Research, v. 161, p. 1-14.

Ownby, S.E., Lange, R.A., Hall, C.M., and Delgado-Granados, H., Origin of andesite in the deep crust and eruption rates in the Tancítaro-Nueva Italia region of the central Mexican arc: Geological Society of America Bulletin (accepted).

Pichavant, M., Martel, C., Bourdier, J.L., and Scaillet, B., 2002, Physical conditions, structure, and dynamics of a zoned magma chamber: Mount Pelée (Martinique, Lesser Antilles Arc): Journal of Geophysical Research, v. 197, B5, p. 2083.

Reubi, O. and Blundy, J., 2008, Assimilation of plutonic roots, formation of high-L 'exotic' melt inclusions and genesis of andesitic magmas at Volcán de Colima, Mexico: Journal of Petrology, v. 49, p. 2221-2243.

Scaillet, B. and Evans, B.W., 1999, The 15 June 1991 eruption of Mount Pinatubo. I. Phase equilibria and pre-eruption P-T-fO_2-fH_2O conditions of the dacite magma: Journal of Petrology, v. 40, p. 381-411.

Schwandt, C.S., Cygan, R.T., and Westrich, H.R., 1995, Mg self-diffusion in pyrope garnet: American Mineralogist, v. 80, p. 483-490.

Schwandt, C.S., Cygan, R.T., and Westrich, H.R., 1998, Magnesium self-diffusion in orthoenstatite: Contributions to Mineralogy and Petrology, v. 130, p. 390-396.

Singer, B.S., Jicha, B.R., Harper, M.A., Naranjo, J.A., Lara, L.E., and Morena-Roa, J., 2008, Eruptive history, geochronology, and magmatic evolution of the Puyehue-Cordón Caulle volcanic complex, Chile: Geological Society of American Bulletin, v. 120, p. 599-618.

Sisson, T.W. and Grove, T.L., 1993, Experimental investigations of the role of H_2O in calc-alkaline differentiation and subduction zone magmatism: Contributions to Mineralogy and Petrology, v. 113, p. 143-166.

Sparks, R.S.J., Huppert, H.E., Turner, J.S., Sakuyama, M., and O'Hara, M.J., 1984, The fluid dynamics of evolving magma chambers [and discussion]: Philosophical Transactions of the Royal Society of London. A., vol. 310, p. 511-534.

Streck, M., 2008, Mineral textures and zoning as indicators for open system processes: Reviews in Mineralogy and Geochemistry, v. 69, p. 595-622.

Ter Heege, J.H., Dohmen, R., Becker, H., and Chakraborty, S., Experimental determination of the Fe-Mg interdiffusion coefficients in orthopyroxene using pulsed laser ablation and nanoscale thin films: American Geophysical Union, Fall Meeting 2006, abstract #MR21A-0004.

Toplis, M., 2005. The thermodynamics of iron and magnesium partitioning between olivine and liquid: criteria for assessing and predicting equilibrium in natural and experimental systems: Contributions to Mineralogy and Petrology, v. 149, p. 22-39.

Tsuchiyama, A., 1985, Dissolution kinetics of plagioclase in the melt of the system diopside-albite-anorthite and origin of dusty plagioclase in andesites: Contributions to Mineralogy and Petrology, v. 149, p. 1-16.

Wallace, P.J. and Carmichael, I.S.E., 1994, Petrology of Volcán Tequila, Jalisco, Mexico: disequilibrium phenocryst assemblages and evolution of the subvolcanic magma system: Contributions to Mineralogy and Petrology, v. 117, p. 345-361.

Witter, J.B., Kress, V.C. and Newhall, C.G., 2005, Volcán Popocatépetl, Mexico. petrology, magma mixing, and immediate sources of volatiles for the 1994-present eruption: Journal of Petrology, v. 46, p. 2337-2366.

Zhang, X., Ganguly, J., and Ito, M., Ca-Mg diffusion in diopside: tracer and chemical inter-diffusion coefficients: Contributions to Mineralogy and Petrology, v. 159, p. 175-186.

Chapter 5

Conclusions

This dissertation addresses the role of degassing in magmatic arcs, with particular attention to its potential effect upon crystallization and oxidation in intermediate magmas. Individually, each of the three stand-alone chapters deals with a separate aspect of the role of degassing, and an assessment of what mechanisms for the creation of andesite and dacite magmas are supported by the data collected. Results featured in these chapters are all drawn from natural samples collected from the western Trans-Mexican Volcanic Belt, and were primarily the result of intensive analyses of the compositions and textures of plagioclase, pyroxene, and Fe-Ti oxides within each featured sample, and calculation of magmatic temperatures, water contents, and other variable from those analytical results. The emphasis in Chapters 2 and 3 is on crystal-poor andesite and dacite lavas erupted peripherally to major edifices throughout the western TMVB. Chapter 4 focuses on a comparison between samples taken exclusively from the Sanganguey volcanic field, including both andesitic and dacitic examples of phenocryst-poor and phenocryst-rich lavas.

Degassing as a driving force for the crystallization of plagioclase and pyroxene in rapidly-ascending magmas

Though relatively few in number, phenocryst-poor andesites and dacites are observed throughout the western TMVB. These lavas are of similar compositions to

those erupted from the crystal-rich central edifices, and as such, are ideal for considering the means of generating these intermediate magmas. Despite their crystal-poor nature, many of these lavas contain plagioclase and pyroxene crystals that collectively span wide compositional ranges. Careful analyses of the crystal textures in these lavas reveal no evidence of dissolution or recrystallization due to disequilibrium between the crystals and the melt in which they erupted. Rather, equilibrium textures such as faceted rims, and diffusion-limited disequilibrium rapid-growth textures (hopper, swallow-tail, etc) are commonly observed. This suggests that the incorporation of xenocrysts is not a significant force in producing the wide ranges of crystal compositions observed, and that mixing of mafic and felsic end-member magmas at depth is not required for the generation of these intermediate magmas. These magmas arrived in the upper crust crystal-poor, and proceeded to erupt crystal-poor. In order to produce the phenocryst textures observed, these lavas must have undergone rapid, adiabatic ascent to the surface. The rapid loss of water could drive this rapid ascent (Cashman and Blundy, 2000). Taking into account the composition of the bulk magma (presumed as a proxy for the liquid in these crystal poor samples), the crystal composition, and the magmatic temperature (defined by Fe-Ti oxides), the plagioclase-liquid hygrometer (Lange *et al.*, 2009) can be used to make an assessment of the concentration of water needed to crystallize the plagioclase compositions observed in these lavas. Application of these calculated H_2O concentrations to the experimentally-derived phase diagram for H_2O fluid-saturated andesite from Moore and Carmichael (1998) reveals complete agreement between defined temperatures, crystal compositions, and concentrations of water in the melt (Fig. 5.1). Further, the lack of any pattern of trends of decreasing temperature or

water contents with differentiation suggest that the crystal-poor dacites are not being generated by crystal fractionation of the andesites and release of the interstitial liquid.

Observed equilibrium and rapid-growth textures in the pyroxene grains, and the absence of any observed diffusion/recrystallization textures in these phenocryst-poor samples, further substantiate degassing during rapid ascent as a driving force for crystallization, and suggests that the progressive loss of water due to degassing may be responsible not only for changes in the equilibrium plagioclase composition, but also of the equilibrium pyroxene composition.

The negligible effect of degassing on magma oxidation states

Water contents calculated from the plagioclase hygrometer reveal that all the samples in a suite of phenocryst-poor lavas from throughout the western TMVB experienced a degassing of at least 2.8, and as much as 8.4 wt% H_2O during their rapid ascent through the crust and eruption (Chapter 2; Frey and Lange, 2010). Such concentrations of H_2O have been documented for calc-alkaline magmas from numerous melt inclusion studies (Wallace, 2005, and references therein). It has been suggested that degassing of these concentrations of water may result in an oxidation of the magma (e.g., Sisson and Grove, 1993). Calculation of the pre-eruptive Fe^{2+} (FeO) concentration was completed via application of the equation of Kress and Carmichael (1991) to ΔNNO values calculated by the two Fe-Ti oxide thermometer and oxygen barometer of Ghiorso and Evans (2008) for each iterated pair of analyzed ilmenite and titanomagnetite crystals in each of the twelve samples. Assessment of the post-eruptive concentration of Fe^{2+} (FeO) was accomplished through replicate titrations of the bulk powders of these same

twelve samples via direct titration (Reichen and Fahey, 1962) and back-titration (Wilson, 1960). As depicted in Fig 5.2., there is no pattern of oxidation observed for these samples between the pre-eruptive and post-eruptive wt% FeO concentrations, but instead, a particularly tight correlation between the two, suggesting that the degassing of up to 8 wt% H_2O has only a negligible effect upon the oxidation state of the bulk magma – i.e., any change in fO_2 is within analytical error.

The negligible effect of closed-system crystallization on magma oxidation states

Among these same twelve samples presented in Chapter 3, ground mass textures ranged from nearly completely glassy to nearly completely crystallized, with the most extensive groundmass crystallization among the andesites, and the glassiest groundmass among the dacites. There has been a reasonable concern over whether the model typically used to calculate between the Fe^{2+}/Fe^{3+} ratio and the magma's oxidation state (ΔNNO) can be applied to samples that are partially or fully crystalline, given that that model (Kress and Carmichael, 1991) was based on fully quenched glasses. In Fig 5.2, there is no discernable pattern of oxidation among the andesites between their pre-eruptive and post-eruptive Fe^{2+} concentrations. If groundmass crystallization could cause significant oxidation of the bulk magma, then these samples would certainly show it relative to their glassier dacitic counterparts. The model of Kress and Carmichael may thus be reasonably applied to samples that have undergone closed-system crystallization.

The negligible effect of differentiation on magma oxidation states

A final concern for magma oxidation is the effect of differentiation. The pre-eruptive Fe^{+3}/Fe^{T} ratios from the samples presented in Chapter 3, plotted relative to their wt% SiO_2 contents, do not present any trend of increasing oxidation with increasing differentiation (higher SiO_2) content. This lack of any positive correlation is reinforced by results calculated from ilmenite and titanomagnetites presented by Harris (1986) for rhyolites from V. Tequila, and again by Fe^{+3}/Fe^{T} ratios obtained by Kelley and Cottrell (2009) from olivine-hosted melt inclusions from various arc basalts and basaltic andesites. Across the broad range of magmatic bulk SiO_2 contents, the plot of pre-eruptive Fe^{3+}/Fe^{T} presents no discernable pattern of oxidation as a result of differentiation (Fig 5.3).

The similarities between phenocryst-rich andesites and dacites at Volcán Sanganguey and phenocryst-poor andesites and dacites throughout the western TMVB

Intensive analysis of the compositions and textures of plagioclase and pyroxene crystals from six phenocryst-rich lavas erupted from the flanks of, and peripherally to V. Sanganguey revealed no disequilibrium textures indicative of the inclusion of xenocrysts, but rather revealed the presence of ubiquitous equilibrium textures in these lavas. Phenocrysts in several samples even exhibited rapid-growth, diffusion-limited disequilibrium textures, making a comparison with the phenocryst-poor andesites and dacites discussed in Chapters 2 and 3 all the more relevant. This lack of any observed dissolution/recrystallizaiton textures, while not precluding the incorporation of

xenocrysts or magma mixing, suggests that there may be other mechanisms at work in generating the breadth of phenocryst compositions observed in the crystal-rich lavas, and in generating the bulk magmatic liquids altogether. Degassing, which drove the crystallization of the phenocryst-poor magmas, must be considered as an alternative.

A series of comparisons among all the samples prominently employed in Chapters 2-4 is given in Fig 5.4, with results from this dissertation and from Frey and Lange (2010) plotted against bulk SiO_2 content. In each case, the six crystal-rich samples described in Chapter 4 are denoted by grey diamonds. The twelve phenocryst-poor samples from Chapters 2 through 4 are denoted by black diamonds. The first of these comparisons, with respect to the maximum H_2O content as calculated from the plagioclase hygrometer, shows that the there is no common trend of the crystal-rich having either higher or lower water concentrations than the crystal-poor samples at the initiation of plagioclase crystal growth. The second comparison, with respect to absolute temperature as recorded by Fe-Ti oxides, and calculated using the model of Ghiorso and Evans (2008), likewise reveals no consistent pattern of the crystal-rich magmas being either hotter or colder than their phenocryst-poor counterparts. The third plot, showing the pre-eruptive oxidation state (ΔNNO value) of each magma, again fails to show any trend in comparing the crystal-rich magmas from the flanks of V. Sanganguey with the phenocryst-poor samples collected throughout the arc.

In all, the overarching conclusion in comparing the crystal-rich samples from V. Sanganguey with those same variables in the phenocryst-poor samples is that there is no consistent difference in the fundamental variables controlling crystallization in these arc magmas. With that consideration, there is no need to invoke a separate mechanism, such

as the intermixing of two discrete end-member magmas, to explain the broad compositional ranges of crystals observed at V. Sanganguey. While there were still likely multiple inputs to generate the volume of magma erupted from V. Sanganguey, it is equally valid to suggest that the inputs were already andesitic or dacitic in composition upon arrival in the upper crust, as it is to suggest magma mixing to bring about the same result.

General conclusions for the mechanisms generating andesite and dacite in the western Trans-Mexican Volcanic Belt

This dissertation provides evidence concerning the very mechanisms by which the intermediate magmas of the Trans-Mexican volcanic belt are being generated. Two of the most commonly proposed methods for the generation of andesite and dacite are the mixing of mafic and felsic end-member magmas (e.g., Reubi and Blundy, 2008) and crystal fractionation of basalt to form andesite, with subsequent fractionation of andesite to form dacite (e.g., Grove *et al*, 2005). The applicability of these two mechanisms can be assessed from the data presented.

Textural and compositional analyses of phenocryst assemblages presented in this dissertation provide no evidence for mixing between mafic and felsic end-member magmas as being a major force in the generation of the andesitic and dacitic magmas, whether crystal-rich or crystal-poor. Disequilibrium textures indicative of mixing are not observed for the plagioclase or pyroxene grains presented, but equilibrium textures are ubiquitous, suggesting that there is no substantial incorporation of xenocrysts in any of these analyzed intermediate lavas, and as such, no requisite magma mixing.

Compositional data for those most mafic and felsic lavas sampled in this study, presented in Chapter 4, provides further evidence against this mechanism being at work. There is no way that the voluminous crystal-rich andesites, or the low-volume crystal-poor andesites erupted at V. Sanganguey could be generated by the mixing at depth of the alkali olivine basalt and calc-alkaline dacite magmas that have been erupted throughout the Sanganguey volcanic field.

Further, the data presented in Figure 5.4 shows that there is no trend of decreasing water concentrations or temperature along the continuum of increasing SiO_2contents for the lavas analyzed in this study. Coupled with the lack of any trend in geochronology, this provides strong evidence that the dacites erupted throughout the TMVB, be they crystal-rich or crystal-poor, are not being directly derived from the analyzed andesitic magmas through crystal fractionation. Therefore, these dacites, like the andesites, must be arriving in the upper crust with their compositions already set at depth.

While these two mechanisms have been documented to be at work in other magmatic settings, there is no observable evidence of their being in effect for the generation of the andesites and dacites presented in this dissertation. Alternate mechanisms, such as the rapid degassing of H_2O, must be considered as potential means to produce these intermediate lavas.

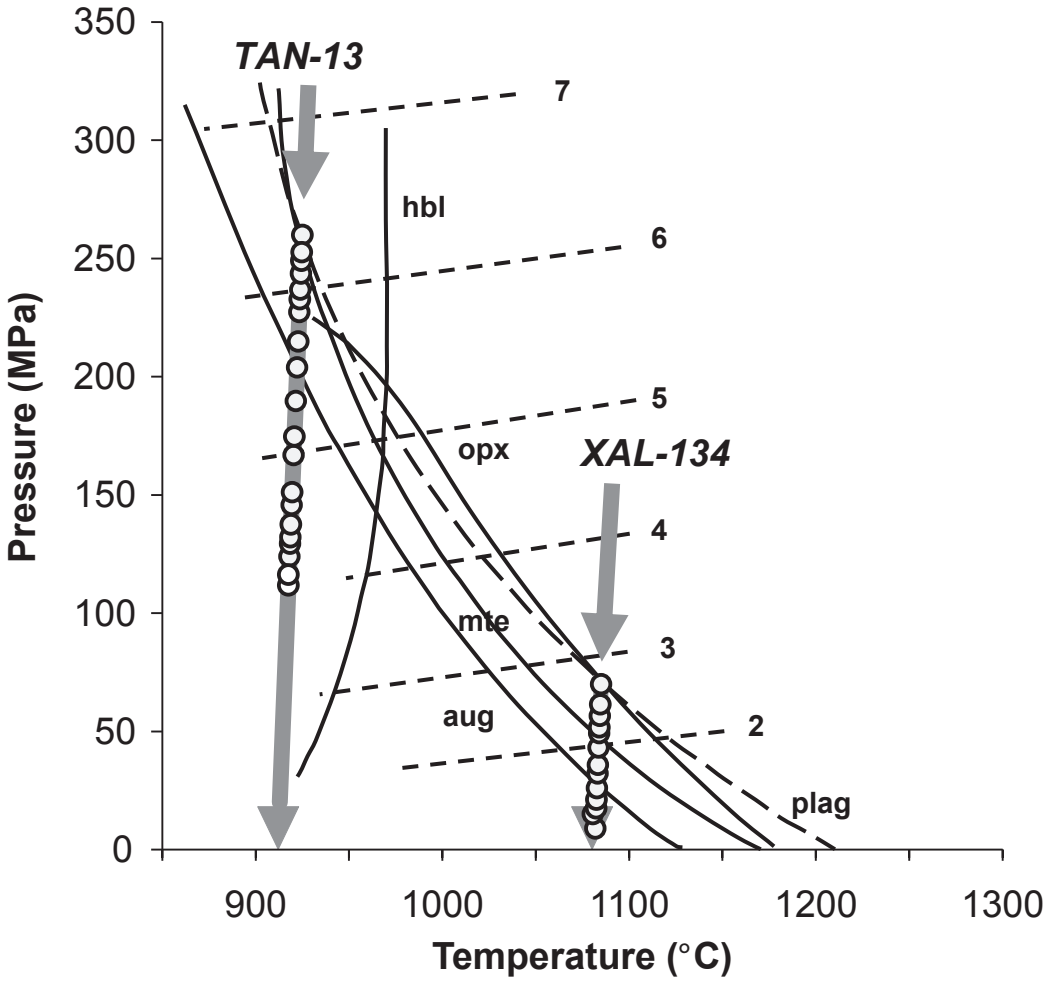


Figure 5.1: Phase diagram for H_2O fluid-saturated andesite from experiments of Moore and Carmichael (1998). Dashed lines show isopleths of water solubility in the melt when saturated with pure H_2O fluid from Moore et al. (1998). Superimposed are adiabatic ascent paths (grey arrows) for two andesites from this study at temperatures obtained by Fe-Ti oxide thermometry (XAL-134) or estimated from Fig. 2.5 (TAN-13). White dots correspond to the temperatures from the Fe-Ti oxides (Table 2.2) and the water concentrations calculated from the plagioclase-liquid hygrometer (Fig. 2.3).

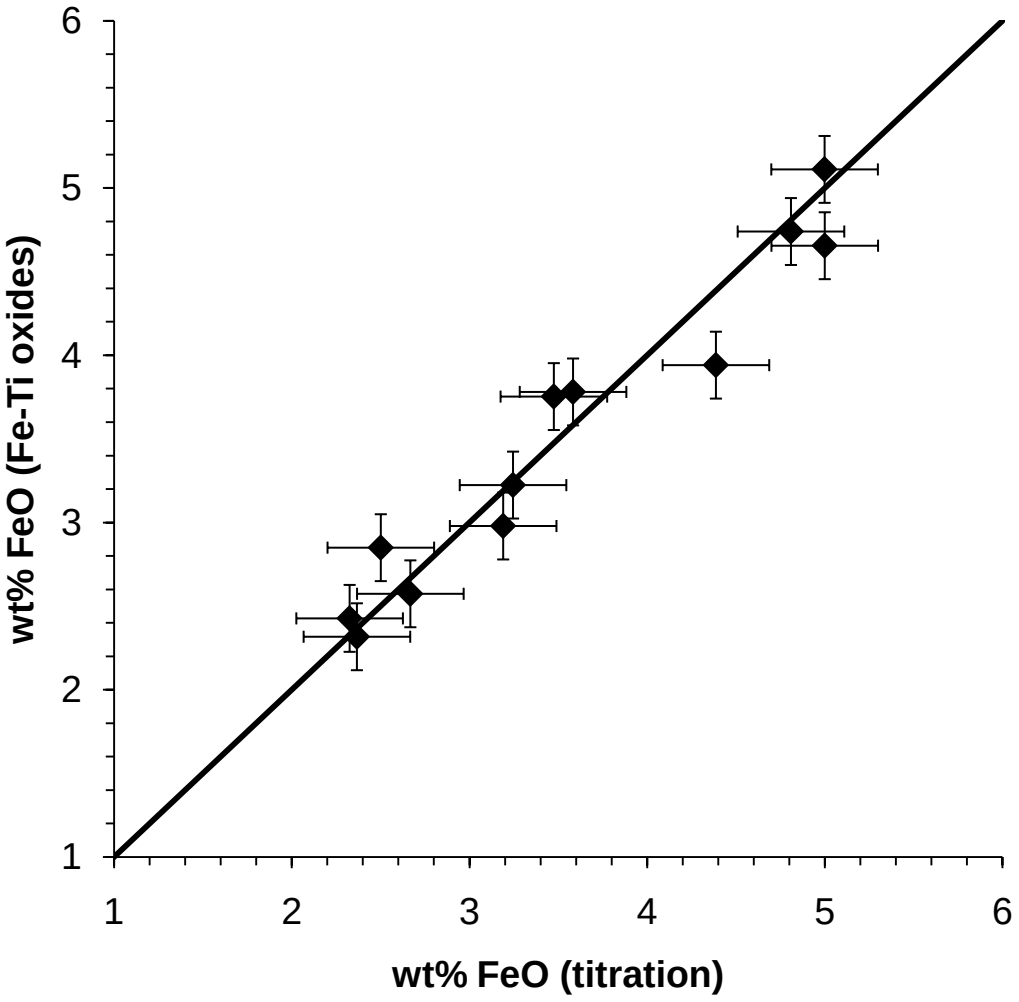


Figure 5.2: Comparison plot of pre-eruptive wt% FeO (defined by Fe-Ti oxide analysis) vs. post-eruptive wt% FeO concentrations (defined by Fe^{2+} bulk titration) for all samples, with 1:1 correspondence line**.** Wt% FeO (titration), noted with a standard error of ± 0.3 wt% FeO, is the average of four titrations – two direct titration analyses employing method of Reichen and Fahey (1962), two back-titrations employing method of Wilson (1960). Wt% FeO (Fe-Ti oxides), noted with a standard error of ± 0.1 wt% FeO, is calculated from the average of all pairings of ilmenite and titanomagnetite using models of Ghiorso and Evans (2008) and Kress and Carmichael (1991).

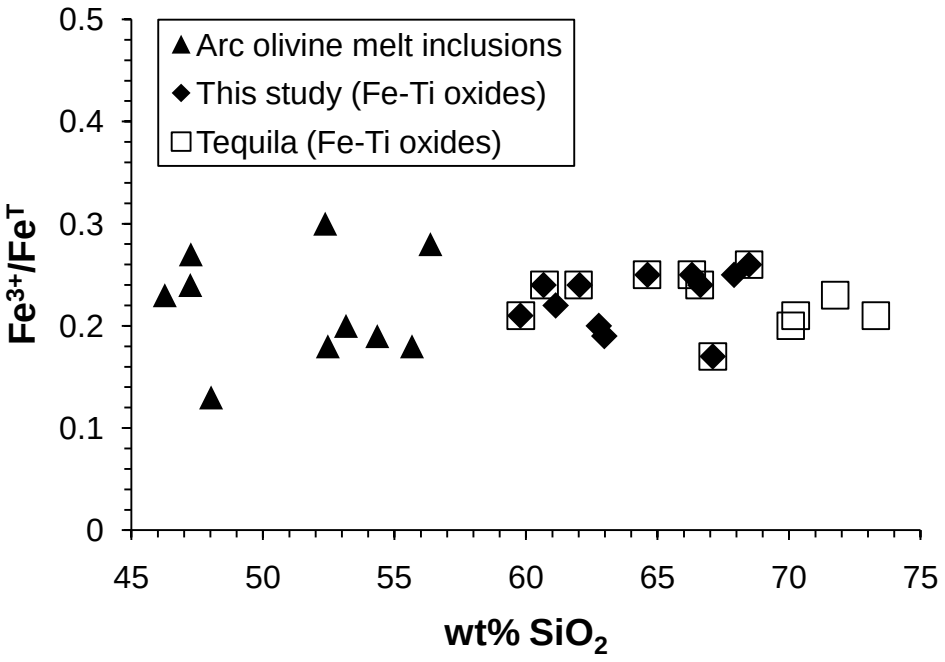


Figure 5.3: Compiled pre-eruptive Fe^{3+}/Fe^{T} values plotted as a function of wt% SiO_2 from this study, Lewis-Kenedi *et al* (2005), Harris (1986), and Kelley and Cottrell (2009). See text for calculation methods.

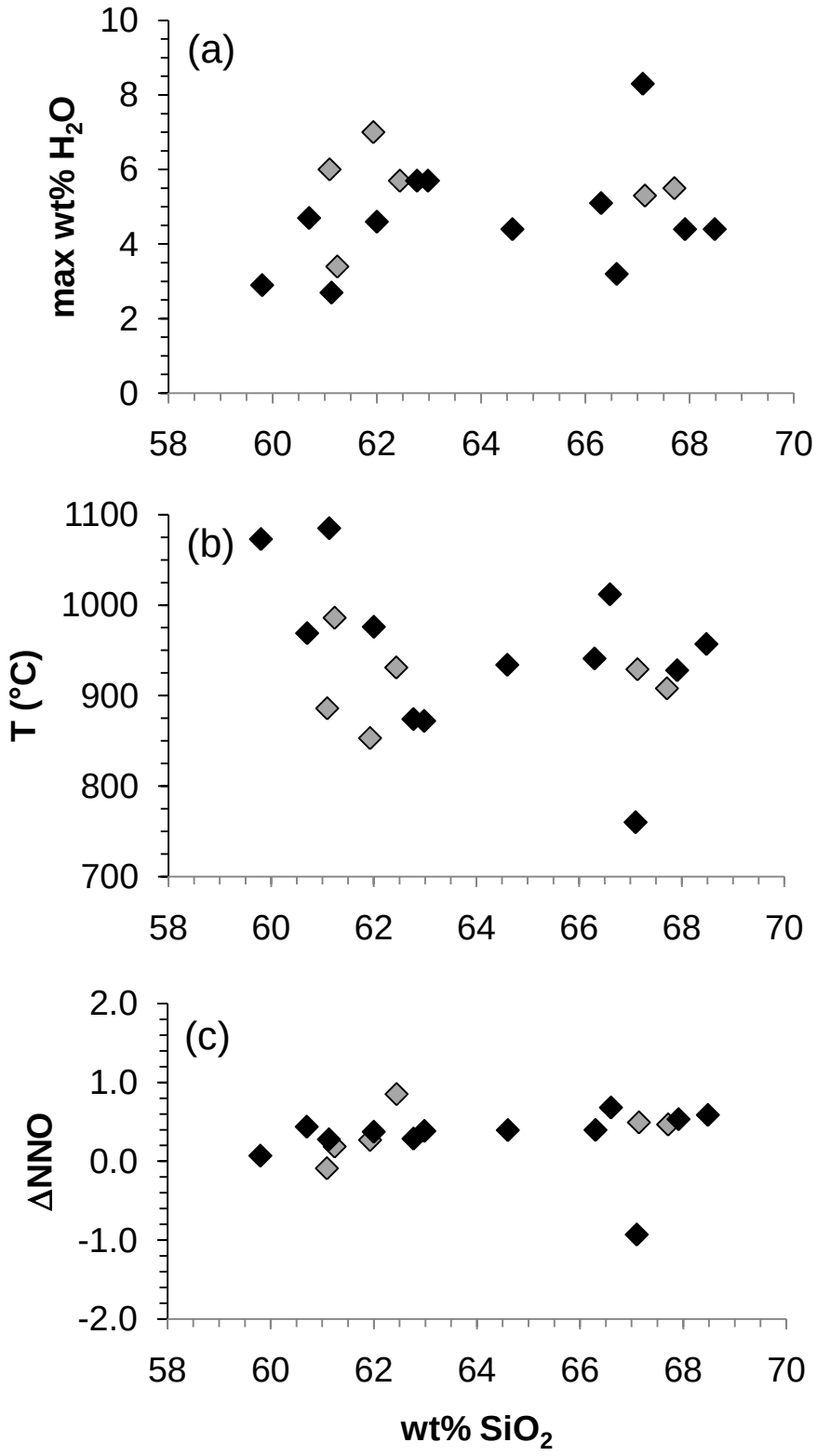


Figure 5.4: Comparison of a) maximum observed wt% H_2O, b) temperature (°C) , and c) ΔNNO from all samples featured in this study plotted as a function of wt% SiO_2. Grey diamonds denote crystal-rich lavas; Black diamonds denote phenocryst-poor lavas

REFERENCES

Cashman, K., and Blundy, J., 2000, Degassing and crystallization of ascending andesite and dacite: Philosophical Transactions of the Royal Society of London A., v. 358, p. 1487-1513.

Frey, H.M. and Lange, R.A., 2010, Petrologic diversity in andesites and dacites from the Tequila volcanic field, Mexico: resolving the effects of degassing vs. magma mixing: Contributions to Mineralogy and Petrology (accepted)

Ghiorso, M. and Evans, B., 2008, Thermodynamics of rhombohedral oxide solid solutions and a revision of the Fe-Ti two-oxide geothermometer and oxygen barometer: American Journal of Science, v. 308, p. 957-1039.

Harris, J.M., 1986, Silicic volcanics of Volcán Tequila, Jalisco, Mexico: MS thesis, University of California.

Kelley, K.A. and Cottrell, E., 2009, Water and the oxidation state of subduction zone magmas: Science, v. 325, p. 605-607.

Kress, V. C. and Carmichael, I. S. E., 1991, Stoichiometry of the iron oxidation reaction in silicate melts: American Mineralogist, v. 73**,** p. 1267-1274.

Lange, R. A., Frey, H. M. and Hector, J. (2009). A thermodynamic model for the plagioclase-liquid hygrometer/thermometer: American Mineralogist, v. 94, p. 494-506.

Moore, G. and Carmichael, I. S. E., 1998, The hydrous phase equilibria (to 3 kbar) of an andesite and basaltic andesite from western Mexico: constraints on water content and conditions of phenocryst growth: Contributions to Mineralogy and Petrology v. 130, p. 304-319.

Reichen, L.E. and Fahey, J.J., 1962, An improved method for the determination of FeO in rocks and minerals including garnet: U.S. Geological Survey Bulletin, v. 1144B, p. 1-5.

Sisson, T.W. and Grove, T.L., 1993, Experimental investigations of the role of H_2O in calc-alkaline differentiation and subduction zone magmatism: Contributions to Mineralogy and Petrology, v. 113, p. 143-166.

Wallace, P.J., 2005, Volatiles in subduction zone magmas: concentrations and fluxes based on melt inclusion and volcanic gas data: Journal of Volcanology and Geothermal Research, v. 140, p. 217-240.

Wilson, A.D., 1960, The microdetermination of ferrous iron in silicate minerals by a volumetric and a colorimetric method: Analyst, v. 85, p. 823-827.

APPENDIX A

MAJOR AND TRACE ELEMENT CONCENTRATIONS IN ANALYZED SAMPLES

Specimen	XAL-118A	XAL-118B	XAL-125	XAL-128	XAL-123	XAL-126	XAL-108	XAL-107
SiO_2	48.22	48.79	48.84	49.03	49.42	49.43	49.52	49.53
TiO_2	2.06	1.91	1.93	2.15	2.11	1.96	2.11	2.10
Al_2O_3	16.77	16.52	16.06	17.35	16.50	16.69	16.84	16.86
Fe_2O_3	2.42	2.20	1.57	4.22	3.96	3.43	1.48	1.78
[1] FeO	6.26	6.35	7.03	5.01	5.29	7.37	7.61	7.23
MnO	0.16	0.16	0.16	0.17	0.17	0.20	0.17	0.17
MgO	7.76	8.95	9.72	7.24	7.27	5.94	7.35	7.22
CaO	8.67	9.04	9.13	8.28	9.10	9.91	9.18	9.25
Na_2O	3.30	3.09	2.77	3.13	3.30	3.30	3.28	3.11
K_2O	1.59	1.47	1.33	1.55	1.44	0.77	1.41	1.36
P_2O_5	0.57	0.45	0.45	0.60	0.44	0.52	0.48	0.49
LOI	0.89	0.71	0.85	0.95	0.98	0.56	0.63	1.04
Total	**98.67**	**99.65**	**99.83**	**99.68**	**99.98**	**100.07**	**100.04**	**100.14**
$Fe_2O_3^T$	9.38	9.26	9.38	9.79	9.84	11.62	9.94	9.82
Rb	19.4	19.5	17.9	316	13.7	9.1	14.0	13.1
Sr	479.3	469.5	457.4	459	446.1	604.5	465.8	472.6
Y	29.3	26.5	25.2	30.2	29.2	54.3	28.9	29.7
Zr	231.8	196.2	184.1	243	222.3	156.9	222.2	222.8
V	204.1	205.7	217.8	199	208.9	232.4	219.7	225.4
Ni	143.3	183.8	209.3	114	108.1	28.8	93.9	94.8
Cr	290.9	357.8	460.9	190	229.4	91.5	211.1	220.6
Nb	41.7	39.0	35.7	32.7	27.0	17.0	32.5	32.5
Ga	17.6	16.9	16.0	19.4	17.7	19.8	18.1	17.9
Cu	n.a.	n.a.	n.a.	52	n.a.	n.a.	n.a.	n.a.
Zn	74.3	68.5	59.6	71	74.4	81.5	66.1	69.7
Co	35.9	39.2	41	36	37.1	36.9	37	37
Ba	264	265	322.7	318	154.9	347.7	215	213.7
La	31.6	32.6	24.9	27	20.7	57.3	29.6	28.2
Ce	46.4	48.4	44.3	47	39.8	36.7	45.2	41.9
U	0.4	1.1	2.6	1.2	2.5	1.6	1.7	1.7
Th	3.8	4.1	3.2	3.3	1.1	1.4	3.8	1.3
Sc	25	27.2	25.8	27	25.2	24.4	25	26.5
Pb	1.8	2	0.9	1	1.2	2.9	0.8	1.4

Major element data in wt%; Trace element abundances in p.p.m.

[1]FeO defined by bulk Fe-titration (Reichen and Fahey, 1962) except where noted

[2]FeO defined by Fe-Ti oxide geothermometry and oxygen barometry (Ghiorso and Evans, 2008)

Specimen	XAL-116	XAL-138	XAL-137	XAL-122	XAL-127	XAL-120	XAL-110	XAL-124
SiO_2	49.62	50.66	50.68	50.68	51.06	51.08	52.31	52.42
TiO_2	2.14	2.04	2.01	2.07	2.04	2.46	2.27	1.98
Al_2O_3	16.99	17.36	17.73	17.30	17.57	15.14	17.06	17.77
Fe_2O_3	2.77	1.67	3.28	2.36	1.84	5.64	3.04	4.22
[1] FeO	6.74	7.09	5.76	6.30	7.04	7.68	7.23	5.34
MnO	0.17	0.18	0.18	0.17	0.18	0.28	0.17	0.16
MgO	6.71	5.59	5.56	5.75	5.56	3.23	3.90	3.90
CaO	9.00	7.78	7.50	7.87	7.69	6.77	7.13	7.66
Na_2O	3.50	3.61	3.61	3.82	3.56	4.30	3.92	3.80
K_2O	1.22	1.94	1.95	1.99	1.91	1.70	1.07	1.00
P_2O_5	0.42	0.60	0.59	0.65	0.60	1.39	0.44	0.45
LOI	0.42	0.99	1.08	0.75	0.90	0.53	0.86	1.09
Total	**99.70**	**99.53**	**99.92**	**99.71**	**99.94**	**100.20**	**99.40**	**99.79**
$Fe_2O_3^T$	10.26	9.55	9.68	9.36	9.66	14.18	11.08	10.15
Rb	7.4	19.0	18.9	25.0	268	17.5	7.9	10.6
Sr	420.9	459.9	453.2	485.5	479	522.3	664.6	719.5
Y	32.2	33.9	35.0	32	34.3	63.7	43.9	25
Zr	223.1	80.7	79.8	299.2	306	346.6	175.6	151.7
V	225.2	181.4	182.2	182.5	165	139.4	257.9	227.3
Ni	78.2	58.3	62.4	67.3	59	0	4	10.8
Cr	193.2	120.6	128.6	139.9	108	2.7	12.5	26
Nb	22.5	41.9	41.9	48.7	41.2	39.3	16.4	15.1
Ga	18.7	20.5	21.0	19.2	22.3	24.8	22.1	21.0
Cu	n.a.	53.2	43.8	n.a.	51	n.a.	n.a.	n.a.
Zn	66.4	301.9	307.9	77.6	73	141.4	93.7	96.5
Co	38.2	30.4	31.1	30.8	29	32.4	30.2	28.6
Ba	132.5	245.0	319.7	311.8	270	627.6	521.2	590
La	19.5	36.4	38.3	42.4	35	57.3	32.2	17.1
Ce	29.1	48.4	54.5	57.6	49	82.3	43.9	34.7
U	0.2	1.4	0.9	1.6	2.5	3.3	1.1	0
Th	2.4	4.3	3.3	4.7	4.2	4.1	3.3	1.2
Sc	27	23.5	22.3	19.7	19	27.1	25.4	23.6
Pb	1	1.5	2.2	2.3	1	2.9	4.6	4.5

Major element data in wt%; Trace element abundances in p.p.m.

[1]FeO defined by bulk Fe-titration (Reichen and Fahey, 1962) except where noted

[2]FeO defined by Fe-Ti oxide geothermometry and oxygen barometry (Ghiorso and Evans, 2008)

Specimen	XAL-135	XAL-133	XAL-111	XAL-132	XAL-134	XAL-103	TAN-13	XAL-102
SiO_2	58.07	59.95	61.05	61.09	61.13	61.24	61.30	61.58
TiO_2	0.79	0.75	0.75	0.73	1.33	0.73	0.68	0.72
Al_2O_3	18.38	18.79	17.93	17.60	16.64	18.06	18.30	17.69
Fe_2O_3	5.52	1.94	1.70	1.08	1.55	1.19	1.62	1.48
[1] FeO	2.55	3.39	3.49	[2] 3.97	[2] 4.74	[2] 3.89	3.62	3.46
MnO	0.15	0.10	0.09	0.10	0.14	0.10	0.09	0.09
MgO	0.51	3.18	2.99	2.82	2.36	3.09	2.41	2.97
CaO	0.63	6.09	5.88	5.61	4.90	5.97	5.78	5.86
Na_2O	4.47	3.70	3.66	3.82	4.67	3.65	4.60	3.63
K_2O	4.64	1.60	1.85	1.85	2.02	1.89	1.56	2.02
P_2O_5	0.15	0.20	0.21	0.20	0.59	0.18	0.22	0.18
LOI	3.96	1.00	1.22	0.98	0.22	1.25	0.00	1.28
Total	**99.81**	**100.70**	**100.82**	**99.90**	**100.36**	**101.26**	**100.18**	**100.96**
$Fe_2O_3^T$	8.35	5.71	5.58	5.49	6.82	5.51	5.65	5.33
Rb	78.3	854	27.0	870	28.8	29.0	94.7	29.9
Sr	128.3	712	683.7	646	587.5	687.8	266	680.8
Y	123.8	16.6	20.7	17.6	30	16.6	23.9	18.5
Zr	145.3	125	123.5	154	223.8	122.6	242	125.4
V	56.6	112	116.2	106	111.3	114.7	58	105.9
Ni	19.5	18	17.9	16	<1	16.7	<1	15.8
Cr	15.6	27	28.4	29	7.2	26.8	6	28.2
Nb	50.9	7.3	6.6	9.6	17.7	6.6	19.9	6.9
Ga	32.7	19.0	17.3	18.6	19.2	17.5	15.3	17.0
Cu	11.4	22	n.a.	20	n.a.	n.a.	3	n.a.
Zn	423.8	60	62.8	64	88.9	58.2	60	57.5
Co	22.2	13	12.9	11	13.8	13.7	<1	11.3
Ba	1009.1	1009	776	872	826.3	763.9	908	764.5
La	503.3	18	26.6	20	28.5	19.4	30	18
Ce	<1	38	36.3	46	57.2	42.3	77	34.9
U	2.9	0.7	1.1	1.0	2.4	1	2.2	1.5
Th	5.5	2.1	2.1	2.5	3.7	3	8.5	2.4
Sc	7.7	14	12.2	12	16.1	14.3	7	13.2
Pb	8.4	7	8.5	10	8.2	9.6	9	7.8

Major element data in wt%; Trace element abundances in p.p.m.

[1]FeO defined by bulk Fe-titration (Reichen and Fahey, 1962) except where noted

[2]FeO defined by Fe-Ti oxide geothermometry and oxygen barometry (Ghiorso and Evans, 2008)

Specimen	XAL-112	XAL-121	XAL-117	XAL-113	XAL-109	IXT-21	IXT-11	XAL-104
SiO_2	61.61	61.83	61.93	62.34	62.44	62.77	62.98	66.15
TiO_2	0.76	0.72	0.73	0.71	0.71	0.85	0.82	0.64
Al_2O_3	18.07	17.55	17.02	17.32	17.11	17.43	17.15	16.01
Fe_2O_3	1.68	1.53	1.21	2.00	1.48	1.01	0.96	1.09
[1] FeO	3.45	3.27	[2] 3.69	3.00	[2] 3.56	[2] 3.78	[2] 3.75	2.21
MnO	0.10	0.11	0.10	0.10	0.10	0.17	0.15	0.13
MgO	2.97	2.80	2.67	2.67	2.80	1.39	1.51	1.07
CaO	5.36	5.52	5.33	5.30	5.48	3.43	3.66	2.60
Na_2O	3.71	3.54	3.64	3.91	3.81	5.63	5.48	4.80
K_2O	1.79	2.22	2.44	1.93	1.99	2.70	2.38	3.13
P_2O_5	0.18	0.18	0.22	0.21	0.20	0.35	0.35	0.22
LOI	1.16	1.09	1.28	0.57	1.28	0.25	0.20	1.65
Total	**100.83**	**100.36**	**100.30**	**100.05**	**100.97**	**99.76**	**99.39**	**99.69**
$Fe_2O_3^T$	5.51	5.16	5.31	5.33	5.44	5.21	5.12	3.55
Rb	22.6	31.4	31.7	32.1	30.7	39.1	35.9	39.3
Sr	629.3	639.1	634.2	639.3	629.8	529	602	455.4
Y	16.8	17	18.7	20.7	18.4	31.4	28.7	26
Zr	137.7	135.5	153.7	141.2	151.3	385	323	244.7
V	110.1	107.1	96.8	99.3	96.5	38	38	29.6
Ni	17.2	14.5	13.8	13.7	14.2	1	2	0
Cr	27.5	24.9	22	22.6	27.7	2	2	3.1
Nb	6.9	6.9	9.0	8.5	8.0	31.2	26.3	19.1
Ga	18.2	17.2	17.0	17.2	17.3	19.9	19.4	17.6
Cu	n.a.	n.a.	n.a.	n.a.	n.a.	<1	<1	n.a.
Zn	60.3	55.2	62.2	60.5	63.2	107	98	75.1
Co	11.9	11.9	12.3	11	11.1	5	5	1.9
Ba	991.5	863	801.9	875.1	803.5	1060	985	956.6
La	19.7	21.4	18.6	22.1	21.1	32	26	33.8
Ce	41.5	42.9	46.8	42	41.5	86	83	58.8
U	1.3	0.6	0.9	1.1	1.1	1.5	<0.5	2.5
Th	2.7	2	3.1	2.8	2.8	5	2.6	4.4
Sc	13.5	14.2	12.1	12.5	13.2	7	7	7.2
Pb	9.9	9.2	9	9.9	7.7	10	11	9.3

Major element data in wt%; Trace element abundances in p.p.m.

[1]FeO defined by bulk Fe-titration (Reichen and Fahey, 1962) except where noted

[2]FeO defined by Fe-Ti oxide geothermometry and oxygen barometry (Ghiorso and Evans, 2008)

Specimen	XAL-100	XAL-105	XAL-130	XAL-131	XAL-101	XAL-114	TEQ-34	XAL-115
SiO_2	66.19	66.45	66.47	66.74	66.83	66.99	67.10	67.14
TiO_2	0.63	0.64	0.68	0.69	0.64	0.41	0.60	0.56
Al_2O_3	16.06	15.89	15.84	15.96	16.21	17.04	15.67	16.11
Fe_2O_3	1.18	1.12	1.66	1.51	1.61	2.74	0.92	0.88
[1] FeO	2.05	2.28	1.76	1.92	1.67	0.44	[2] 2.85	[2] 2.37
MnO	0.12	0.13	0.10	0.10	0.11	0.11	0.11	0.12
MgO	1.06	1.11	0.93	0.94	0.95	0.69	0.65	0.99
CaO	2.58	2.68	2.55	2.56	2.54	2.15	1.66	2.68
Na_2O	4.87	5.04	4.56	4.75	5.20	4.91	5.53	4.73
K_2O	3.05	2.89	3.40	3.21	2.68	2.56	4.25	3.02
P_2O_5	0.22	0.21	0.19	0.20	0.22	0.11	0.16	0.21
LOI	1.52	1.46	1.82	1.55	0.54	1.17	0.30	1.80
Total	**99.52**	**99.91**	**99.96**	**100.12**	**99.20**	**99.32**	**99.50**	**100.69**
$Fe_2O_3^T$	3.46	3.65	3.62	3.64	3.47	3.23	3.76	3.51
Rb	39.5	39.0	1077	1039	38.7	20.4	86.1	40.6
Sr	444.2	455.9	403	399	457.2	354.3	213	485.6
Y	24	23.4	38.2	33.6	29.7	52.6	35.1	29.1
Zr	245.4	242.3	262	263	245.6	266.5	870	223.8
V	29.8	27.7	38	46	24.9	18.6	24	26.6
Ni	0	0	<1	<1	0	0	<1	0
Cr	3.3	1.6	6	10	0	0	2	0.1
Nb	19.6	19.3	20.1	19.8	19.5	19.6	33.2	16.7
Ga	17.2	17.7	18.5	18.4	17.6	18.7	17.8	17.5
Cu	n.a.	n.a.	7	7	n.a.	n.a.	6	n.a.
Zn	74.2	74.8	67	68	72.8	61.3	90	71.1
Co	0.7	1.3	2	2	1.3	0.1	<1	1.6
Ba	954	943.2	1079	1041	996.5	1406.9	1265	1097.8
La	28.2	26.9	52	38	40.1	118.7	36	46.6
Ce	56.4	64.2	58	68	61.2	89.7	116	53.4
U	1.5	1.4	2.0	2.6	3.1	2.8	1.4	2.2
Th	4	3.7	4.5	3.9	5.4	6.8	9.4	4.2
Sc	7.7	6.9	10	9	6	4.9	9	5.5
Pb	8	8.7	13	11	9.4	14.5	10	9.9

Major element data in wt%; Trace element abundances in p.p.m.

[1]FeO defined by bulk Fe-titration (Reichen and Fahey, 1962) except where noted

[2]FeO defined by Fe-Ti oxide geothermometry and oxygen barometry (Ghiorso and Evans, 2008)

Specimen	XAL-129	XAL-106	TEQ-66	XAL-119	XAL-136
SiO_2	67.71	67.91	68.48	69.34	70.35
TiO_2	0.67	0.64	0.67	0.52	0.37
Al_2O_3	15.94	16.07	14.90	15.78	9.95
Fe_2O_3	0.88	0.92	0.91	2.32	5.63
[1] FeO	[2] 2.38	[2] 2.43	[2] 2.32	0.90	2.28
MnO	0.11	0.17	0.08	0.15	0.23
MgO	0.89	1.09	0.93	0.70	0.21
CaO	2.42	2.66	2.35	2.36	0.29
Na_2O	5.10	5.25	4.43	5.11	4.88
K_2O	3.00	2.65	3.91	2.90	4.46
P_2O_5	0.46	0.21	0.22	0.18	0.05
LOI	1.02	0.31	0.23	0.42	1.59
Total	**100.61**	**100.30**	**99.43**	**100.67**	**100.28**
$Fe_2O_3^T$	3.52	3.62	3.49	3.32	8.16
Rb	1064	38.4	94.7	46.4	136.0
Sr	385	453.5	266	385.9	14.3
Y	38.2	23.3	23.9	25.3	68.2
Zr	267	247.1	242	245.5	251.5
V	41	26.3	58	21.4	9.5
Ni	<1	0	<1	0	<1
Cr	3	4.6	6	0	<1
Nb	20.2	19.6	19.9	19.4	114.4
Ga	18.9	17.8	15.3	17.3	33.6
Cu	7	n.a.	3	n.a.	3.9
Zn	66	76.9	60	70.1	898.7
Co	2	0.5	<1	1.2	9.1
Ba	1066	955.3	908	1143.5	125.4
La	56	27.7	30	29.4	118.0
Ce	75	58.8	77	64.8	131.7
U	2.1	2.8	2.2	2.7	6.3
Th	4.6	4.6	8.5	5.4	17.9
Sc	7	7.3	7	5.8	0.5
Pb	13	8.2	9	7.6	18.4

Major element data in wt%; Trace element abundances in p.p.m.
[1]FeO defined by bulk Fe-titration (Reichen and Fahey, 1962) except where noted
[2]FeO defined by Fe-Ti oxide geothermometry and oxygen barometry (Ghiorso and Evans, 2008)

APPENDIX B

COMPOSITIONAL ANALYSES OF PLAGIOCLASE CRYSTALS

Table B.1.1: XAL-132, Plagioclase grain 1

Dist (µm)	61.9	92.7	123.6	247.2	278.1	309.0	339.9	370.8	401.7
SiO_2	52.74	54.19	52.78	54.67	54.98	52.86	55.04	54.16	54.33
TiO_2	0.05	0.06	0.09	0.08	0.05	0.08	0.00	0.10	0.07
Al_2O_3	29.77	28.17	29.71	27.89	27.89	29.58	27.75	28.40	28.06
Fe_2O_3	0.82	0.60	0.67	0.59	0.50	0.58	0.50	0.79	0.79
MnO	0.00	-0.02	0.00	-0.02	-0.04	0.00	-0.04	0.01	-0.04
MgO	0.08	0.07	0.05	0.06	0.06	0.06	0.06	0.05	0.06
CaO	12.62	11.89	12.38	10.99	10.87	13.15	10.70	10.69	12.30
BaO	0.07	-0.06	-0.06	0.16	0.07	0.04	0.20	0.15	0.04
Na_2O	4.21	4.85	4.40	5.28	5.33	4.10	5.50	4.97	4.95
K_2O	0.23	0.28	0.20	0.25	0.22	0.18	0.33	0.25	0.28
sum	100.58	100.02	100.23	99.95	99.92	100.62	100.03	99.55	100.83
mol%An	61.6	56.6	60.2	52.7	52.4	63.3	50.8	53.5	57.0
mol%Ab	37.1	41.8	38.7	45.8	46.4	35.7	47.3	45.0	41.5
mol%Or	1.3	1.6	1.2	1.4	1.2	1.0	1.8	1.5	1.5

Table B.1.2: XAL-132, Plagioclase grain 2

Dist (µm)	15.5	31.0	61.9	77.4	92.8	108.3	123.8	139.2	154.6	170.1
SiO_2	53.44	54.70	53.08	53.52	53.62	53.83	53.83	54.92	54.53	52.64
TiO_2	0.06	0.10	0.03	0.01	0.02	0.05	0.06	0.01	0.02	0.04
Al_2O_3	29.71	28.27	28.96	28.82	28.97	28.34	28.89	27.73	28.24	29.63
Fe_2O_3	0.57	0.74	0.66	0.73	0.54	0.54	0.63	0.58	0.74	0.81
MnO	-0.04	-0.02	0.00	0.02	-0.01	0.00	0.01	-0.01	-0.02	-0.03
MgO	0.04	0.07	0.06	0.06	0.05	0.06	0.09	0.08	0.09	0.05
CaO	12.68	11.32	12.61	12.67	11.94	12.20	11.52	11.40	11.35	13.08
BaO	0.01	0.06	0.03	0.08	0.01	0.12	0.08	0.11	0.09	-0.03
Na_2O	4.41	5.15	4.59	4.52	4.61	4.84	4.63	5.33	4.95	4.46
K_2O	0.24	0.28	0.17	0.19	0.19	0.15	0.09	0.29	0.20	0.24
sum	101.13	100.66	100.19	100.60	99.95	100.13	99.83	100.44	100.19	100.89
mol%An	60.5	54.0	59.7	60.1	58.2	57.7	57.6	53.3	55.2	61.0
mol%Ab	38.1	44.4	39.3	38.8	40.7	41.4	41.8	45.1	43.6	37.7
mol%Or	1.3	1.6	1.0	1.1	1.1	0.8	0.6	1.6	1.2	1.3

Table B.1.3: XAL-132, Plagioclase grain 3

Dist (µm)	0.0	29.9	59.7	89.6	119.4	149.3	179.1	209.0	238.8	268.7	298.5	328.4	388.2	418.0	477.7	507.6	537.4	567.3
SiO_2	53.50	54.79	54.12	52.96	56.88	50.96	51.37	51.06	50.31	51.10	51.79	50.69	51.76	52.57	48.73	53.03	53.07	52.57
TiO_2	0.05	0.05	0.06	0.05	0.06	0.05	0.03	0.02	0.05	0.02	0.02	0.04	-0.01	0.01	0.00	0.05	0.05	0.00
Al_2O_3	28.26	28.16	28.54	28.21	26.35	30.88	30.37	30.52	31.37	30.85	30.46	30.58	30.53	29.39	32.76	29.42	29.08	29.16
Fe_2O_3	0.76	0.59	0.55	0.59	0.65	0.60	0.63	0.62	0.54	0.60	0.60	0.47	0.62	0.65	0.60	0.50	0.42	0.62
MnO	0.01	-0.03	-0.02	-0.02	-0.02	-0.05	0.02	0.00	0.03	-0.01	-0.01	-0.02	0.00	0.01	0.03	0.02	0.10	0.04
MgO	0.05	0.07	0.05	0.04	0.01	0.05	0.04	0.05	0.06	0.09	0.02	0.05	0.06	0.06	0.03	0.06	0.05	0.07
CaO	11.23	10.64	11.66	11.89	9.83	14.30	13.05	13.63	14.59	13.76	13.51	14.01	13.07	12.62	15.50	12.71	12.10	12.15
BaO	0.05	-0.01	-0.11	-0.04	0.02	0.08	-0.04	-0.12	-0.07	-0.12	-0.01	-0.06	0.03	0.06	0.03	-0.09	0.03	-0.07
Na_2O	4.97	5.75	4.80	4.81	5.63	3.25	3.86	3.58	3.02	3.48	3.82	3.62	3.84	4.35	2.55	4.56	4.76	4.67
K_2O	0.28	0.30	0.24	0.20	0.64	0.08	0.16	0.20	0.12	0.12	0.15	0.17	0.18	0.27	0.09	0.14	0.24	0.21
sum	99.16	100.31	99.89	98.68	100.05	100.19	99.48	99.55	100.02	99.88	100.32	99.54	100.09	99.99	100.31	100.39	99.90	99.41
mol%An	54.6	49.7	56.5	57.1	47.3	70.5	64.6	67.0	72.3	68.1	65.6	67.5	64.6	60.6	76.6	60.2	57.6	58.3
mol%Ab	43.8	48.6	42.1	41.7	49.0	29.0	34.5	31.8	27.0	31.1	33.6	31.5	34.3	37.8	22.8	39.0	41.0	40.6
mol%Or	1.6	1.7	1.4	1.2	3.7	0.5	0.9	1.2	0.7	0.7	0.9	0.9	1.1	1.5	0.5	0.8	1.4	1.2

Table B.1.4: XAL-132, Plagioclase grain 4

Dist (µm)	0.0	30.2	60.4	120.7	150.8	181.0	211.2	241.4	271.5	301.7
SiO_2	51.97	53.22	52.91	53.29	52.62	54.61	52.82	52.77	52.48	52.76
TiO_2	0.07	0.02	0.02	0.03	-0.01	-0.03	0.04	-0.01	0.04	0.01
Al_2O_3	29.26	29.09	29.13	28.23	29.01	28.86	29.47	28.86	28.31	28.64
Fe_2O_3	0.81	0.57	0.63	0.74	0.72	0.65	0.76	0.66	0.83	0.67
MnO	0.05	0.03	0.01	-0.01	-0.02	-0.01	0.03	0.00	0.01	-0.02
MgO	0.04	0.08	0.06	0.08	0.06	0.06	0.08	0.06	0.08	0.10
CaO	12.78	12.22	12.34	11.67	11.79	10.89	12.22	12.57	11.79	12.00
BaO	-0.03	-0.03	-0.06	0.01	-0.06	-0.09	0.05	0.04	0.02	0.10
Na_2O	4.32	4.59	4.43	4.57	4.82	4.94	4.48	4.64	4.65	4.63
K_2O	0.19	0.26	0.19	0.30	0.22	0.22	0.17	0.17	0.24	0.24
sum	99.46	100.06	99.66	98.91	99.15	100.10	100.12	99.76	98.46	99.13
mol%An	61.4	58.7	60.0	57.5	56.7	54.2	59.5	59.4	57.6	58.1
mol%Ab	37.5	39.8	39.0	40.7	42.0	44.5	39.5	39.7	41.0	40.5
mol%Or	1.1	1.5	1.1	1.8	1.3	1.3	1.0	1.0	1.4	1.4

Table B.1.5: XAL-132, Plagioclase grain 5

Dist (µm)	0.0	14.8	59.1	73.8	88.6	103.4	118.1	132.9	147.7	162.4	191.9	206.7	221.5	251.0
SiO_2	53.50	53.28	54.41	53.87	54.64	54.24	55.09	55.05	53.97	53.97	54.21	55.47	54.41	53.57
TiO_2	0.06	0.06	0.03	0.03	0.09	0.01	0.04	0.05	0.05	0.03	0.09	0.05	0.05	0.04
Al_2O_3	28.57	29.52	28.70	29.15	28.12	28.42	28.13	27.79	28.46	29.59	28.96	27.57	28.49	29.18
Fe_2O_3	0.92	0.70	0.63	0.72	0.43	0.52	0.61	0.53	0.61	0.71	0.74	0.53	0.59	0.81
MnO	0.01	0.02	0.03	0.03	0.00	-0.01	0.05	-0.02	0.01	-0.01	0.01	0.04	-0.02	0.01
MgO	0.09	0.07	0.06	0.07	0.06	0.09	0.05	0.06	0.08	0.07	0.06	0.05	0.08	0.06
CaO	11.46	12.46	11.66	11.69	11.61	11.07	11.39	11.21	12.16	11.62	11.93	10.67	11.74	11.89
BaO	0.13	-0.01	0.09	-0.01	0.13	0.02	0.05	-0.01	0.05	0.12	0.02	0.21	0.08	0.04
Na_2O	4.96	4.39	5.08	5.00	4.96	4.98	4.94	5.11	4.80	4.61	4.76	5.76	5.01	4.67
K_2O	0.27	0.20	0.19	0.21	0.20	0.22	0.23	0.30	0.15	0.22	0.21	0.34	0.23	0.19
sum	99.96	100.69	100.86	100.76	100.24	99.57	100.58	100.07	100.35	100.94	100.99	100.70	100.66	100.46
mol%An	55.2	60.4	55.3	55.7	55.8	54.4	55.3	53.9	57.8	57.5	57.4	49.6	55.7	57.8
mol%Ab	43.2	38.5	43.6	43.1	43.1	44.3	43.4	44.4	41.3	41.2	41.4	48.5	43.0	41.1
mol%Or	1.5	1.1	1.1	1.2	1.2	1.3	1.3	1.7	0.9	1.3	1.2	1.9	1.3	1.1

Table B.1.6: XAL-132, Plagioclase grain 6

Dist (µm)	0.0	15.4	30.9	46.3	61.7	77.1	92.7	108.1	123.5	139.0	154.4	169.8	185.2	200.7
SiO_2	54.94	54.58	54.77	52.20	54.19	54.48	54.21	55.25	54.84	53.91	55.12	53.01	53.05	54.06
TiO_2	0.05	0.08	0.05	-0.03	0.01	0.04	0.02	0.01	0.03	0.09	0.01	-0.01	0.05	0.02
Al_2O_3	28.01	28.62	27.94	31.03	29.16	28.98	28.82	27.79	27.88	28.08	27.81	29.40	28.91	28.97
Fe_2O_3	0.81	0.58	0.65	0.59	0.53	0.54	0.66	0.52	0.60	0.54	0.61	0.51	0.63	0.65
MnO	0.00	0.03	-0.04	-0.06	-0.05	-0.02	-0.03	-0.06	0.02	0.01	-0.03	-0.02	0.07	0.07
MgO	0.07	0.07	0.08	0.08	0.05	0.04	0.02	0.04	0.05	0.06	0.06	0.06	0.05	0.06
CaO	10.93	11.04	11.26	11.39	11.46	11.40	11.68	11.11	10.80	11.77	10.80	12.40	11.62	11.46
BaO	0.10	0.29	0.04	0.07	0.07	0.15	0.09	0.17	0.15	0.07	0.03	0.14	-0.01	0.12
Na_2O	5.31	5.21	5.13	4.75	4.94	4.89	4.89	5.25	5.37	5.04	5.38	4.36	4.51	4.80
K_2O	0.42	0.27	0.22	0.26	0.28	0.19	0.23	0.25	0.34	0.27	0.28	0.29	0.25	0.26
sum	100.64	100.76	100.08	100.29	100.64	100.70	100.57	100.33	100.07	99.84	100.07	100.14	99.14	100.46
mol%An	52.0	53.1	54.1	56.2	55.3	55.7	56.2	53.2	51.6	55.5	51.7	60.1	57.8	56.0
mol%Ab	45.7	45.4	44.7	42.3	43.1	43.2	42.5	45.4	46.5	43.0	46.6	38.2	40.6	42.4
mol%Or	2.4	1.5	1.2	1.5	1.6	1.1	1.3	1.4	1.9	1.5	1.6	1.7	1.5	1.5

Table B.1.7: XAL-132, Plagioclase grain 7

Dist (µm)	14.8	29.5	44.2	73.7	88.5	103.2	117.9	132.6	147.4	176.9	191.5	206.3	221.0	250.5	265.2	294.7	309.5	338.9	353.6	368.4
SiO_2	54.49	52.70	55.82	54.07	53.48	52.90	55.22	54.61	54.30	53.37	55.21	54.97	52.93	53.03	53.91	51.50	54.08	52.90	54.77	55.17
TiO_2	0.05	0.04	0.03	0.05	0.01	0.01	0.06	0.03	0.05	0.08	0.03	0.04	-0.02	0.04	-0.01	0.01	0.01	-0.01	0.08	0.06
Al_2O_3	28.64	29.34	26.84	28.53	29.40	29.23	27.63	28.60	28.71	29.99	27.73	28.29	29.85	29.47	28.68	30.55	27.92	28.73	28.05	27.08
Fe_2O_3	0.67	0.73	0.75	0.67	0.61	0.88	0.65	0.75	0.72	0.71	0.84	0.59	0.67	0.70	0.74	0.73	0.86	0.75	0.76	0.76
MnO	0.04	0.05	0.02	0.08	-0.03	-0.01	-0.01	0.03	-0.02	-0.04	-0.05	0.02	-0.06	-0.04	-0.09	-0.09	-0.04	-0.10	0.01	0.03
MgO	0.05	0.06	0.07	0.11	0.07	0.08	0.07	0.10	0.10	0.06	0.08	0.10	0.05	0.07	0.06	0.07	0.07	0.05	0.10	0.06
CaO	11.50	12.48	10.72	11.06	12.48	11.99	10.78	11.40	11.34	11.96	11.09	11.25	12.17	12.41	11.72	13.08	10.98	12.06	10.95	10.03
BaO	0.01	0.06	-0.01	0.01	0.03	0.03	0.09	0.03	0.09	-0.02	0.07	0.03	-0.01	-0.01	-0.02	-0.02	-0.07	-0.02	-0.11	0.00
Na_2O	4.90	4.39	5.81	5.02	4.39	4.74	5.45	4.98	4.90	4.59	5.45	5.31	4.45	4.52	4.80	3.95	5.07	4.98	5.48	5.72
K_2O	0.24	0.14	0.30	0.24	0.24	0.20	0.30	0.27	0.24	0.20	0.20	0.27	0.11	0.25	0.20	0.13	0.22	0.23	0.27	0.38
sum	100.59	99.99	100.35	99.83	100.68	100.04	100.23	100.78	100.43	100.88	100.65	100.87	100.14	100.44	100.00	99.90	99.11	99.57	100.36	99.31
mol%An	55.7	60.6	49.6	54.2	60.3	57.6	51.3	55.0	55.3	58.3	52.3	53.1	59.8	59.4	56.8	64.2	53.8	56.5	51.7	48.2
mol%Ab	42.9	38.6	48.7	44.4	38.3	41.2	47.0	43.5	43.3	40.5	46.5	45.4	39.6	39.2	42.0	35.1	45.0	42.2	46.8	49.7
mol%Or	1.4	0.8	1.6	1.4	1.4	1.2	1.7	1.5	1.4	1.1	1.1	1.5	0.6	1.4	1.2	0.7	1.3	1.3	1.5	2.1

Table B.1.8: XAL-132, Plagioclase grain 8

Dist (µm)	61.0	91.5	122.0	305.0	365.9	396.5	427.0
SiO_2	55.22	51.42	51.33	52.62	54.37	52.88	55.75
TiO_2	0.03	0.00	0.02	0.07	0.07	0.08	0.06
Al_2O_3	28.23	30.94	30.16	29.61	28.32	29.08	27.80
Fe_2O_3	0.79	0.72	0.67	0.57	0.81	0.67	0.81
MnO	0.10	0.07	0.05	0.09	0.04	0.00	0.00
MgO	0.08	0.03	0.08	0.07	0.10	0.09	0.08
CaO	10.45	13.62	13.12	12.47	11.63	12.53	10.64
BaO	-0.27	-0.11	-0.11	-0.07	-0.14	-0.10	-0.02
Na_2O	5.37	3.70	3.96	4.57	5.08	4.86	5.41
K_2O	0.46	0.11	0.11	0.30	0.22	0.22	0.37
sum	100.47	100.50	99.39	100.31	100.50	100.31	100.90
mol%An	50.4	66.6	64.3	59.1	55.2	58.1	51.0
mol%Ab	46.9	32.8	35.1	39.2	43.6	40.7	46.9
mol%Or	2.6	0.6	0.6	1.7	1.2	1.2	2.1

Table B.1.9: XAL-132, Plagioclase grain 9

Dist (µm)	59.3	88.9	118.6	148.2	177.9	296.4	355.7	385.4	415.0	444.6	474.2	503.9
SiO_2	52.72	51.75	52.63	51.28	48.97	49.74	52.07	51.90	52.86	54.00	53.32	54.77
TiO_2	0.09	0.05	0.05	0.07	0.05	0.06	0.04	0.06	0.07	0.03	0.07	0.07
Al_2O_3	29.42	30.46	30.00	30.79	32.32	31.48	30.51	30.33	29.82	29.18	29.32	28.39
Fe_2O_3	0.67	0.58	0.52	0.62	0.56	0.64	0.48	0.54	0.56	0.46	0.58	0.59
MnO	0.02	0.04	0.04	0.05	0.07	0.02	-0.02	0.02	-0.03	-0.01	-0.05	-0.05
MgO	0.04	0.01	0.04	0.04	0.06	0.06	0.04	0.05	0.07	0.08	0.06	0.10
CaO	12.98	14.20	12.93	14.00	15.90	14.92	12.87	12.93	12.84	11.58	12.37	10.84
BaO	-0.06	-0.02	-0.02	0.08	-0.14	-0.01	-0.01	0.03	0.15	0.04	-0.07	0.07
Na_2O	4.65	3.77	4.31	3.73	2.55	3.01	4.01	3.96	4.07	4.72	4.85	5.12
K_2O	0.28	0.15	0.16	0.12	0.07	0.13	0.19	0.15	0.26	0.27	0.23	0.32
sum	100.79	100.98	100.66	100.77	100.40	100.04	100.19	99.98	100.67	100.35	100.67	100.22
mol%An	59.8	66.9	61.8	67.0	77.2	72.7	63.2	63.8	62.6	56.7	57.8	52.9
mol%Ab	38.7	32.2	37.3	32.3	22.4	26.5	35.7	35.3	35.9	41.8	41.0	45.2
mol%Or	1.5	0.9	0.9	0.7	0.4	0.8	1.1	0.9	1.5	1.5	1.3	1.9

Table B.1.10: XAL-132, Plagioclase grain 10

Dist (µm)	0.0	61.6	92.5	184.9	246.5	308.1	400.6	462.2	493.0
SiO_2	53.39	53.34	52.47	51.47	50.15	51.90	51.81	53.84	53.79
TiO_2	0.05	0.05	0.04	0.05	0.04	0.03	-0.01	0.02	0.01
Al_2O_3	29.34	29.63	29.78	30.56	31.24	30.51	31.05	28.95	29.46
Fe_2O_3	0.63	0.49	0.49	0.68	0.67	0.51	0.51	0.59	0.69
MnO	0.04	0.03	0.08	0.05	0.06	0.01	0.03	0.05	0.01
MgO	0.07	0.06	0.09	0.06	0.06	0.05	0.05	0.07	0.04
CaO	12.44	12.24	12.80	13.83	14.99	12.93	13.03	12.29	12.03
BaO	0.01	0.12	0.06	0.04	0.04	0.08	-0.05	0.00	-0.03
Na_2O	4.76	4.49	4.13	3.65	3.42	4.09	3.91	4.75	4.76
K_2O	0.20	0.12	0.17	0.13	0.13	0.17	0.18	0.26	0.22
sum	100.93	100.55	100.08	100.53	100.79	100.27	100.51	100.81	100.97
mol%An	58.4	59.7	62.6	67.2	70.3	63.0	64.1	58.0	57.6
mol%Ab	40.4	39.6	36.5	32.1	29.0	36.1	34.8	40.6	41.2
mol%Or	1.1	0.7	1.0	0.7	0.7	1.0	1.1	1.5	1.2

Table B.1.11: XAL-132, Plagioclase grain 11

Dist (µm)	61.1	122.1	152.6	183.1	244.2	274.8	305.3	335.8	396.8
SiO_2	52.67	53.57	53.82	52.89	53.42	53.51	49.38	54.79	53.18
TiO_2	0.02	0.05	0.05	0.03	0.03	0.02	0.01	0.05	0.06
Al_2O_3	29.55	29.52	28.49	29.41	28.63	29.15	31.88	28.20	29.23
Fe_2O_3	0.64	0.60	0.44	0.54	0.66	0.45	0.60	0.59	0.83
MnO	-0.03	0.08	-0.03	0.00	0.00	0.00	0.05	0.05	0.02
MgO	0.06	0.00	0.02	0.03	0.05	0.08	0.08	0.08	0.05
CaO	13.04	12.17	11.61	12.24	11.40	12.32	15.32	11.18	12.14
BaO	0.02	0.07	0.07	0.12	-0.06	0.08	0.09	0.20	0.04
Na_2O	4.30	4.65	4.84	4.30	4.92	4.64	2.88	5.11	4.71
K_2O	0.14	0.20	0.25	0.20	0.28	0.19	0.05	0.21	0.22
sum	100.42	100.91	99.56	99.76	99.34	100.44	100.34	100.47	100.47
mol%An	62.1	58.5	56.2	60.4	55.2	58.8	74.4	54.1	58.0
mol%Ab	37.1	40.4	42.4	38.4	43.1	40.1	25.3	44.7	40.7
mol%Or	0.8	1.1	1.4	1.2	1.6	1.1	0.3	1.2	1.2

Table B.1.12: XAL-132, Plagioclase grain 12

Dist (µm)	0.0	15.0	104.6	134.5	149.5	164.4	179.3	194.3	209.2	224.2	239.1	269.0
SiO_2	54.54	54.50	53.39	52.89	54.13	55.53	53.83	53.15	53.88	54.05	55.73	55.35
TiO_2	0.05	0.02	0.01	0.02	0.04	0.05	0.03	0.02	0.00	0.03	0.03	0.01
Al_2O_3	28.09	27.94	29.17	28.37	28.84	27.94	29.45	29.36	29.39	28.27	27.52	27.44
Fe_2O_3	0.85	0.79	0.70	0.62	0.74	0.62	0.65	0.67	0.81	0.55	0.74	0.87
MnO	0.00	0.03	-0.03	-0.05	-0.03	-0.04	-0.03	0.03	0.00	0.04	0.05	0.05
MgO	0.07	0.08	0.07	0.06	0.09	0.08	0.06	0.06	0.07	0.06	0.10	0.08
CaO	11.28	10.85	11.71	11.96	11.74	10.54	11.72	12.68	11.97	11.85	10.60	10.24
BaO	0.00	0.07	0.12	0.14	0.17	0.23	0.18	0.04	0.09	0.06	0.11	0.14
Na_2O	5.21	5.25	4.76	4.75	4.85	5.32	4.63	4.40	4.55	5.01	5.28	5.60
K_2O	0.33	0.21	0.19	0.20	0.20	0.29	0.21	0.17	0.20	0.25	0.23	0.41
sum	100.41	99.75	100.08	98.96	100.77	100.57	100.73	100.58	100.96	100.16	100.38	100.19
mol%An	53.5	52.7	57.0	57.5	56.6	51.4	57.6	60.8	58.5	55.8	51.9	49.1
mol%Ab	44.7	46.1	41.9	41.3	42.3	46.9	41.2	38.2	40.3	42.7	46.8	48.6
mol%Or	1.9	1.2	1.1	1.2	1.1	1.7	1.2	1.0	1.2	1.4	1.4	2.3

Table B.1.13: XAL-132, Plagioclase grain 13

Dist (µm)	29.8	59.5	89.3	148.7	178.5	208.3	238.0	267.8	297.5	327.3	357.0	416.5	446.3	476.1
SiO_2	54.59	55.37	53.29	54.37	55.25	54.39	53.95	54.17	53.41	53.42	55.21	54.87	53.05	53.17
TiO_2	0.03	0.05	0.04	0.03	0.01	0.03	0.06	0.00	0.02	0.02	0.06	0.01	0.01	0.03
Al_2O_3	28.64	27.88	29.43	28.15	28.44	28.74	29.03	29.35	29.00	29.62	27.79	28.31	29.55	28.88
Fe_2O_3	0.59	0.67	0.53	0.51	0.42	0.60	0.55	0.49	0.63	0.69	0.60	0.74	0.58	0.62
MnO	0.02	0.04	0.02	0.00	-0.01	0.01	0.02	0.01	-0.05	-0.01	0.02	0.01	-0.01	0.01
MgO	0.06	0.07	0.06	0.06	0.03	0.06	0.03	0.06	0.03	0.03	0.05	0.06	0.04	0.02
CaO	11.65	10.95	12.08	11.48	11.21	10.69	11.40	11.79	11.73	12.43	11.16	11.01	12.58	12.09
BaO	0.09	0.03	-0.01	0.01	-0.06	-0.03	0.04	-0.01	-0.06	0.01	-0.13	-0.19	-0.16	-0.06
Na_2O	4.86	5.58	4.47	5.12	5.40	4.98	4.97	4.87	4.68	4.48	5.36	5.20	4.35	4.71
K_2O	0.18	0.27	0.17	0.29	0.21	0.16	0.19	0.20	0.17	0.14	0.22	0.25	0.23	0.25
sum	100.71	100.91	100.10	100.00	100.90	99.63	100.24	100.92	99.57	100.82	100.33	100.26	100.21	99.72
mol%An	56.4	51.3	59.3	54.4	52.8	53.7	55.3	56.6	57.5	60.0	52.9	53.2	60.7	57.8
mol%Ab	42.6	47.3	39.7	44.0	46.0	45.3	43.6	42.3	41.5	39.1	45.9	45.4	38.0	40.7
mol%Or	1.0	1.5	1.0	1.6	1.2	1.0	1.1	1.1	1.0	0.8	1.2	1.4	1.3	1.4

Table B.1.14: XAL-132, Plagioclase grain 14

Dist (µm)	0.0	57.2	85.7	114.2	142.8	200.0	228.6	257.2	285.7	314.2	342.8
SiO_2	54.39	55.01	53.35	55.15	53.89	52.68	54.39	54.07	53.84	55.90	53.25
TiO_2	0.04	0.03	0.04	0.04	0.05	0.06	0.06	-0.01	0.03	0.06	0.04
Al_2O_3	29.12	28.41	28.87	28.50	28.58	29.11	28.68	28.96	28.73	27.88	29.31
Fe_2O_3	0.54	0.60	0.52	0.69	0.56	0.60	0.50	0.62	0.58	0.77	0.60
MnO	0.00	-0.03	0.04	-0.03	-0.02	-0.06	0.00	-0.09	-0.01	-0.07	-0.04
MgO	0.03	0.05	0.05	0.09	0.06	0.07	0.05	0.05	0.06	0.09	0.04
CaO	11.59	11.15	11.59	10.74	11.56	12.34	11.30	11.69	11.63	11.03	12.65
BaO	-0.02	-0.10	-0.05	0.02	-0.01	0.10	0.15	0.04	-0.08	-0.04	0.00
Na_2O	4.70	5.13	4.93	5.17	5.07	4.70	5.12	5.09	4.90	5.17	4.34
K_2O	0.24	0.29	0.20	0.21	0.19	0.14	0.19	0.18	0.20	0.19	0.18
sum	100.63	100.55	99.54	100.58	99.93	99.74	100.44	100.59	99.88	100.98	100.39
mol%An	56.9	53.6	55.8	52.8	55.1	58.7	54.4	55.4	56.1	53.5	61.0
mol%Ab	41.7	44.7	43.0	46.0	43.8	40.5	44.5	43.6	42.8	45.4	37.9
mol%Or	1.4	1.7	1.2	1.2	1.1	0.8	1.1	1.0	1.2	1.1	1.0

Table B.1.15: XAL-132, Plagioclase grain 15

Dist (µm)	0.0	185.2	246.9	308.6	370.4	432.1	493.8	617.3	679.0	740.7	802.5	864.2	925.9
SiO_2	52.75	51.79	53.00	52.77	55.24	53.63	54.30	53.45	54.62	54.99	54.30	53.41	53.23
TiO_2	0.05	0.07	0.03	0.02	0.05	0.05	0.00	0.02	0.03	0.00	0.03	0.02	0.03
Al_2O_3	28.55	29.43	29.28	28.82	28.14	28.34	28.84	29.14	28.50	28.11	28.62	29.12	29.12
Fe_2O_3	0.81	0.67	0.73	0.68	0.57	0.60	0.59	0.58	0.58	0.60	0.57	0.65	0.63
MnO	-0.06	-0.05	-0.04	-0.07	-0.04	-0.07	-0.07	0.07	-0.02	0.03	0.06	-0.01	0.04
MgO	0.09	0.12	0.07	0.05	0.06	0.06	0.07	0.08	0.08	0.09	0.10	0.07	0.06
CaO	11.62	12.01	12.38	12.29	11.18	10.88	11.85	12.38	11.79	10.26	11.41	12.25	11.82
BaO	0.04	-0.01	0.02	0.19	0.02	0.05	0.05	-0.12	-0.03	0.01	-0.09	-0.07	-0.10
Na_2O	4.75	4.26	4.69	4.57	5.05	5.02	4.91	4.64	4.74	5.19	4.96	4.67	4.72
K_2O	0.26	0.23	0.23	0.23	0.27	0.28	0.22	0.15	0.22	0.23	0.19	0.20	0.22
sum	98.85	98.51	100.38	99.54	100.54	98.83	100.75	100.38	100.51	99.50	100.15	100.31	99.77
mol%An	56.6	60.1	58.6	59.0	54.2	53.6	56.4	59.1	57.2	51.5	55.4	58.5	57.3
mol%Ab	41.9	38.6	40.1	39.7	44.3	44.8	42.3	40.0	41.6	47.1	43.5	40.3	41.4
mol%Or	1.5	1.4	1.3	1.3	1.5	1.6	1.2	0.8	1.3	1.4	1.1	1.2	1.2

Table B.1.16: XAL-132, Plagioclase grain 16

Dist (µm)	0.0	57.8	173.4	404.6	578.0	635.7	693.5
SiO_2	53.44	53.00	54.39	47.82	50.50	52.07	54.94
TiO_2	0.06	0.04	0.02	0.01	0.00	0.09	0.07
Al_2O_3	28.62	30.05	28.14	32.37	31.01	30.81	28.43
Fe_2O_3	0.87	0.53	0.52	0.44	0.63	0.50	0.50
MnO	0.02	0.01	0.00	0.06	0.06	0.00	0.03
MgO	0.08	0.05	0.07	0.08	0.04	0.05	0.05
CaO	12.05	12.28	10.37	15.78	14.26	12.62	11.48
BaO	-0.12	-0.09	0.10	0.16	0.15	-0.11	0.01
Na_2O	4.82	4.47	5.43	2.46	3.63	4.44	5.13
K_2O	0.33	0.17	0.21	0.14	0.15	0.18	0.28
sum	100.19	100.52	99.24	99.31	100.42	100.63	100.91
mol%An	56.9	59.7	50.7	77.4	67.9	60.5	54.4
mol%Ab	41.2	39.3	48.1	21.8	31.3	38.5	44.0
mol%Or	1.9	1.0	1.2	0.8	0.8	1.0	1.6

Table B.1.17: XAL-132, Plagioclase grain 17

Dist (µm)	61.9	154.6	371.2	433.0
SiO_2	54.87	54.71	54.50	54.12
TiO_2	0.07	0.08	0.07	0.09
Al_2O_3	28.34	28.16	28.39	28.69
Fe_2O_3	0.68	0.57	0.73	1.01
MnO	0.01	0.00	-0.02	0.03
MgO	0.11	0.08	0.18	0.16
CaO	11.09	11.40	11.02	11.16
BaO	0.02	-0.04	0.02	0.05
Na_2O	5.06	5.27	4.85	5.04
K_2O	0.27	0.27	0.26	0.33
sum	100.53	100.49	99.98	100.69
mol%An	53.9	53.6	54.8	54.0
mol%Ab	44.5	44.9	43.6	44.1
mol%Or	1.6	1.5	1.5	1.9

Table B.1.18: XAL-132, Plagioclase grain 18

Dist (µm)	15.0	44.9	59.9	89.8	104.8	149.7	179.7	194.6
SiO_2	53.15	54.60	53.66	55.02	55.85	53.63	52.83	52.52
TiO_2	0.08	0.07	0.07	0.06	0.09	0.01	0.02	0.02
Al_2O_3	29.89	29.17	29.46	27.57	27.57	29.55	29.50	29.63
Fe_2O_3	0.78	0.63	0.62	0.67	0.58	0.63	0.63	0.62
MnO	0.10	0.05	0.03	0.02	0.00	-0.01	-0.02	-0.03
MgO	0.09	0.07	0.09	0.09	0.07	0.09	0.07	0.06
CaO	12.20	11.23	11.34	10.19	10.49	11.70	12.60	12.92
BaO	0.08	0.15	0.16	0.07	0.10	0.06	-0.03	-0.13
Na_2O	4.39	4.82	4.70	5.35	5.63	4.75	4.22	4.19
K_2O	0.17	0.21	0.24	0.26	0.29	0.23	0.09	0.17
sum	100.93	101.00	100.35	99.29	100.66	100.64	99.91	99.98
mol%An	60.0	55.6	56.3	50.5	49.9	56.9	61.9	62.4
mol%Ab	39.1	43.2	42.3	48.0	48.5	41.8	37.5	36.6
mol%Or	1.0	1.2	1.4	1.5	1.6	1.3	0.6	0.9

Table B.1.19: XAL-132, Plagioclase grain 19

Dist (µm)	30.3	90.8	242.2	272.5	333.0	393.6	423.8	454.2
SiO_2	53.26	53.80	54.57	52.49	55.11	54.09	53.24	55.46
TiO_2	0.01	0.02	0.07	0.03	0.07	0.06	0.07	0.11
Al_2O_3	29.98	28.87	28.62	30.28	27.03	28.59	29.24	27.86
Fe_2O_3	0.69	0.62	0.54	0.52	0.54	0.54	0.58	0.73
MnO	0.00	-0.04	0.05	0.12	0.01	-0.02	-0.09	-0.08
MgO	0.10	0.07	0.18	0.16	0.15	0.09	0.05	0.09
CaO	12.05	12.20	11.49	12.54	9.75	11.16	12.40	10.73
BaO	0.02	-0.03	0.09	-0.01	0.01	0.10	0.13	0.10
Na_2O	4.59	4.42	4.89	4.42	5.79	5.00	4.56	5.16
K_2O	0.22	0.24	0.28	0.20	0.39	0.13	0.15	0.28
sum	100.91	100.18	100.78	100.76	98.86	99.75	100.33	100.44
mol%An	58.5	59.6	55.6	60.4	47.1	54.8	59.5	52.6
mol%Ab	40.3	39.0	42.8	38.5	50.6	44.4	39.6	45.8
mol%Or	1.3	1.4	1.6	1.2	2.3	0.8	0.9	1.6

Table B.1.20: XAL-132, Plagioclase grain 20

Dist (µm)	61.0	121.9	152.4	182.8	213.3	243.8	274.2	335.2	396.1	426.6	457.1
SiO_2	52.51	53.32	51.38	52.15	51.70	53.81	52.18	52.83	51.30	51.63	53.93
TiO_2	0.05	0.08	0.07	0.04	0.05	0.05	0.05	0.04	0.01	0.03	0.06
Al_2O_3	28.97	29.66	30.24	30.51	30.03	28.70	29.51	29.56	30.42	30.17	28.92
Fe_2O_3	0.55	0.68	0.62	0.46	0.54	0.44	0.67	0.54	0.62	0.55	0.66
MnO	-0.04	-0.06	-0.02	-0.02	-0.03	-0.06	-0.03	-0.02	-0.08	-0.02	0.05
MgO	0.07	0.10	0.07	0.08	0.08	0.09	0.07	0.11	0.07	0.05	0.05
CaO	12.61	12.68	13.35	13.49	12.77	11.77	12.66	12.60	13.73	13.56	11.75
BaO	-0.08	-0.01	0.14	0.10	0.16	0.05	0.13	0.16	0.06	0.10	-0.01
Na_2O	4.54	4.39	3.71	3.97	4.08	4.82	4.41	4.29	3.54	3.79	4.55
K_2O	0.22	0.11	0.11	0.08	0.15	0.21	0.15	0.20	0.10	0.12	0.19
sum	99.41	100.94	99.67	100.86	99.52	99.87	99.79	100.31	99.77	99.98	100.14
mol%An	59.8	61.1	66.1	65.0	62.8	56.7	60.8	61.1	67.8	65.9	58.1
mol%Ab	39.0	38.3	33.3	34.6	36.3	42.1	38.4	37.7	31.6	33.4	40.7
mol%Or	1.2	0.6	0.6	0.5	0.9	1.2	0.9	1.2	0.6	0.7	1.1

Table B.1.21: XAL-132, Plagioclase grain 21

Dist (µm)	0.0	29.4	58.8	88.3	117.7	147.1	264.8	323.6	353.0	382.4	411.8	441.3
SiO_2	55.84	55.57	54.44	52.73	52.43	51.66	50.65	53.69	51.27	54.44	55.92	54.48
TiO_2	0.02	0.02	-0.01	0.06	0.01	0.02	-0.04	0.03	-0.04	0.00	-0.01	0.05
Al_2O_3	27.61	27.94	28.28	29.68	29.48	30.63	30.38	28.96	30.73	28.27	27.66	28.28
Fe_2O_3	0.52	0.68	0.47	0.52	0.55	0.63	0.58	0.54	0.72	0.53	0.61	0.83
MnO	0.00	-0.01	-0.04	-0.02	-0.04	0.00	0.01	0.00	0.07	0.01	-0.01	0.00
MgO	0.06	0.06	0.05	0.04	0.04	0.00	0.08	0.07	0.08	0.05	0.07	0.09
CaO	10.36	10.33	11.49	12.60	12.52	13.74	13.54	11.62	14.38	11.35	10.42	10.24
BaO	0.17	-0.02	0.10	0.09	0.02	0.12	0.12	0.09	0.07	-0.02	0.07	-0.01
Na_2O	5.55	5.24	4.96	4.13	4.43	3.72	3.68	5.11	3.58	4.96	5.36	5.28
K_2O	0.36	0.37	0.20	0.17	0.15	0.14	0.08	0.26	0.13	0.24	0.27	0.27
sum	100.48	100.17	99.94	99.99	99.59	100.65	99.09	100.37	100.99	99.83	100.36	99.50
mol%An	49.7	51.0	55.5	62.2	60.4	66.6	66.7	54.9	68.5	55.1	51.0	50.9
mol%Ab	48.2	46.8	43.3	36.9	38.7	32.6	32.8	43.7	30.8	43.5	47.5	47.5
mol%Or	2.1	2.1	1.1	1.0	0.9	0.8	0.5	1.5	0.7	1.4	1.5	1.6

Table B.1.22: XAL-132, Plagioclase grain 22

Dist (µm)	30.3	60.6	121.2	151.5	212.0	242.3	302.9	333.2	393.8	454.4	484.7
SiO_2	54.50	54.00	53.98	53.23	52.60	52.50	52.65	53.41	53.69	55.09	54.81
TiO_2	0.07	0.07	0.06	0.06	0.07	0.08	0.05	0.08	0.07	0.10	0.10
Al_2O_3	27.56	29.03	29.42	29.41	30.12	29.72	29.18	29.37	28.95	27.37	27.69
Fe_2O_3	0.60	0.79	0.62	0.55	0.52	0.57	0.56	0.59	0.67	0.81	0.72
MnO	0.01	0.04	0.00	0.05	0.11	0.03	-0.06	0.02	-0.02	-0.04	0.03
MgO	0.09	0.07	0.08	0.08	0.05	0.06	0.08	0.09	0.08	0.10	0.11
CaO	10.82	11.07	11.92	12.11	12.82	12.76	12.03	11.95	11.52	10.23	10.67
BaO	-0.04	0.07	-0.06	0.05	-0.01	0.13	0.08	0.17	0.08	0.09	-0.02
Na_2O	5.27	4.82	4.62	4.44	4.23	4.25	4.57	4.69	4.76	5.67	5.29
K_2O	0.33	0.27	0.28	0.19	0.19	0.20	0.28	0.17	0.23	0.33	0.27
sum	99.19	100.22	100.91	100.16	100.69	100.28	99.40	100.53	100.04	99.74	99.66
mol%An	52.2	55.1	57.8	59.4	61.9	61.7	58.3	57.9	56.4	49.0	51.9
mol%Ab	46.0	43.3	40.6	39.5	36.9	37.2	40.1	41.1	42.2	49.1	46.6
mol%Or	1.9	1.6	1.6	1.1	1.1	1.1	1.6	1.0	1.4	1.9	1.6

Table B.1.23: XAL-132, Plagioclase grain 23

Dist (µm)	15.0	30.0	45.2	60.2	75.2	105.3	120.3	135.4	150.4	165.4	195.5	210.5	225.6	240.6	255.6
SiO_2	53.93	54.48	55.01	52.66	55.48	54.97	53.88	55.16	53.97	53.83	55.35	53.02	55.29	52.36	55.73
TiO_2	0.02	0.01	0.05	0.02	0.04	0.08	0.03	0.05	0.02	0.06	0.06	0.05	0.00	0.05	0.09
Al_2O_3	28.85	28.60	27.34	28.90	28.11	28.24	28.74	28.55	28.00	28.91	27.91	28.51	28.18	29.96	27.42
Fe_2O_3	0.67	0.63	0.74	0.84	0.73	0.68	0.82	0.78	0.66	0.73	0.77	0.74	0.68	0.61	0.97
MnO	0.04	0.05	0.03	0.05	0.04	0.04	0.07	0.02	-0.03	-0.04	0.00	0.02	-0.03	-0.02	-0.01
MgO	0.06	0.07	0.07	0.06	0.03	0.05	0.05	0.04	0.08	0.05	0.10	0.06	0.05	0.07	0.05
CaO	11.37	11.47	10.00	12.35	10.67	11.11	12.26	10.84	11.22	11.87	10.52	11.31	10.94	12.59	10.12
BaO	0.06	-0.02	-0.01	-0.02	0.01	0.06	-0.01	0.01	0.02	0.13	0.15	0.10	0.13	0.07	0.13
Na_2O	4.78	4.70	5.54	4.47	5.17	5.04	4.64	5.16	4.85	4.68	5.42	4.61	5.34	4.27	5.78
K_2O	0.24	0.29	0.36	0.18	0.34	0.28	0.25	0.27	0.24	0.23	0.23	0.25	0.22	0.25	0.49
sum	100.00	100.28	99.14	99.50	100.61	100.54	100.74	100.87	99.03	100.45	100.51	98.67	100.81	100.20	100.77
mol%An	56.0	56.4	48.9	59.8	52.2	54.0	58.5	52.9	55.3	57.6	51.1	56.7	52.4	61.1	47.8
mol%Ab	42.6	41.8	49.0	39.1	45.8	44.4	40.1	45.5	43.3	41.1	47.6	41.8	46.3	37.5	49.4
mol%Or	1.4	1.7	2.1	1.0	2.0	1.6	1.4	1.6	1.4	1.3	1.3	1.5	1.3	1.5	2.7

Table B.1.24: XAL-132, Plagioclase grain 24

Dist (µm)	0.0	91.3	121.8	152.3	182.8	213.2	243.7	304.6	335.1	365.5	396.0
SiO_2	53.87	55.56	54.31	53.43	54.93	55.09	53.86	53.30	53.04	54.69	54.06
TiO_2	0.04	0.03	0.01	0.01	-0.03	0.02	0.00	0.04	-0.03	0.02	0.02
Al_2O_3	28.46	28.49	28.98	29.22	27.93	28.01	28.96	29.11	29.11	27.97	28.21
Fe_2O_3	0.67	0.53	0.62	0.54	0.62	0.76	0.61	0.65	0.58	0.77	0.74
MnO	-0.01	-0.02	-0.04	0.00	-0.06	-0.04	-0.03	-0.03	0.04	0.00	-0.01
MgO	0.06	0.07	0.08	0.07	0.09	0.09	0.09	0.06	0.08	0.10	0.05
CaO	11.94	10.47	11.55	11.71	11.11	10.97	11.65	12.08	11.84	10.47	11.25
BaO	0.10	0.08	0.06	0.02	0.10	0.06	0.13	-0.07	-0.07	-0.07	-0.07
Na_2O	4.91	5.37	5.10	4.68	5.20	5.19	4.63	4.68	4.25	5.16	4.98
K_2O	0.27	0.29	0.25	0.18	0.25	0.22	0.24	0.23	0.20	0.27	0.27
sum	100.31	100.87	100.92	99.86	100.15	100.35	100.13	100.04	99.03	99.38	99.50
mol%An	56.5	51.0	54.8	57.4	53.4	53.2	57.3	58.0	59.9	52.1	54.6
mol%Ab	42.0	47.3	43.8	41.5	45.2	45.5	41.2	40.7	38.9	46.4	43.8
mol%Or	1.5	1.7	1.4	1.0	1.5	1.2	1.4	1.3	1.2	1.6	1.5

Table B.1.25: XAL-132, Plagioclase grain 25

Dist (µm)	0.0	29.4	117.7	235.4	264.8	382.6	412.0	470.9	500.3
SiO_2	54.48	54.56	53.33	53.77	55.14	55.10	53.90	54.06	54.30
TiO_2	0.02	-0.01	-0.02	-0.01	-0.02	0.00	0.00	0.03	0.04
Al_2O_3	27.74	28.47	28.97	28.78	28.05	28.33	29.17	28.83	27.68
Fe_2O_3	0.76	0.73	0.60	0.63	0.77	0.68	0.57	0.50	0.58
MnO	0.05	-0.02	0.05	-0.04	0.01	0.00	-0.01	-0.04	0.05
MgO	0.06	0.07	0.07	0.09	0.10	0.10	0.11	0.09	0.09
CaO	10.94	10.56	11.95	11.62	10.46	11.28	11.51	11.97	10.67
BaO	0.12	0.06	-0.07	0.16	0.08	0.13	-0.09	-0.09	-0.17
Na_2O	5.40	5.21	4.86	4.84	5.53	4.98	4.70	4.75	5.08
K_2O	0.34	0.30	0.15	0.29	0.32	0.22	0.31	0.14	0.32
sum	99.91	99.93	99.88	100.12	100.45	100.82	100.16	100.23	98.62
mol%An	51.8	51.9	57.1	56.1	50.2	54.9	56.5	57.8	52.7
mol%Ab	46.3	46.3	42.0	42.3	48.0	43.9	41.7	41.4	45.4
mol%Or	1.9	1.8	0.9	1.7	1.8	1.3	1.8	0.8	1.9

Table B.1.26: XAL-132, Plagioclase grain 26

Dist (µm)	88.1	117.5	146.9	176.3	205.6	293.8	323.1	352.5	381.9	411.3	440.6	470.0
SiO_2	51.52	51.46	52.24	52.14	51.38	51.41	50.93	51.41	52.53	51.97	55.87	54.24
TiO_2	0.01	0.03	0.02	-0.01	0.00	0.03	0.05	0.02	0.02	0.02	0.08	0.02
Al_2O_3	30.64	30.08	30.73	30.32	30.43	30.95	31.01	30.51	30.01	29.89	27.90	28.83
Fe_2O_3	0.51	0.42	0.51	0.59	0.55	0.61	0.53	0.69	0.70	0.58	0.53	0.85
MnO	-0.04	0.01	0.02	-0.05	0.04	0.00	-0.03	-0.02	0.00	0.06	0.00	0.00
MgO	0.06	0.06	0.05	0.02	0.06	0.02	0.05	0.07	0.06	0.06	0.07	0.05
CaO	13.58	13.48	13.30	13.11	13.52	13.50	14.04	13.91	12.57	13.01	10.55	10.97
BaO	-0.16	-0.08	0.16	0.05	0.06	0.11	0.00	0.08	0.03	-0.08	-0.03	-0.07
Na_2O	3.61	3.81	3.75	3.84	3.93	3.46	3.45	3.92	4.35	4.19	5.43	4.80
K_2O	0.18	0.13	0.09	0.12	0.10	0.12	0.12	0.11	0.18	0.15	0.39	0.33
sum	99.92	99.39	100.86	100.13	100.08	100.21	100.15	100.70	100.44	99.84	100.79	100.02
mol%An	66.8	65.7	65.8	64.9	65.2	67.8	68.7	65.8	60.9	62.6	50.6	54.7
mol%Ab	32.2	33.6	33.6	34.4	34.3	31.5	30.6	33.6	38.1	36.5	47.1	43.3
mol%Or	1.1	0.7	0.6	0.7	0.6	0.7	0.7	0.6	1.0	0.9	2.2	2.0

Table B.1.27: XAL-132, Plagioclase grain 27

Dist (µm)	91.7	122.3	152.8	244.6	305.8	336.3	366.9	397.4	428.1	458.6	489.2	519.8	550.4
SiO_2	53.74	53.54	52.34	50.97	51.26	51.66	51.57	54.95	52.66	55.31	53.24	54.36	52.68
TiO_2	0.06	0.04	0.01	0.05	0.04	0.04	0.02	0.05	0.04	0.03	0.03	0.04	0.03
Al_2O_3	29.19	28.89	30.44	30.26	30.32	30.70	30.46	27.93	30.11	27.91	29.93	28.30	29.16
Fe_2O_3	0.74	0.59	0.74	0.57	0.60	0.45	0.53	0.76	0.69	0.65	0.65	0.81	0.83
MnO	0.06	0.01	0.05	-0.05	-0.02	0.00	0.00	-0.03	0.01	0.04	0.05	0.07	0.04
MgO	0.11	0.07	0.07	0.07	0.07	0.06	0.06	0.09	0.08	0.11	0.08	0.10	0.10
CaO	11.71	11.84	12.53	13.58	12.76	12.67	13.83	11.20	12.49	10.21	12.03	11.37	12.35
BaO	-0.05	-0.08	0.05	0.16	0.15	0.20	0.01	0.13	0.15	0.04	0.04	0.07	-0.06
Na_2O	4.78	4.83	4.21	3.87	4.04	4.03	3.59	5.32	4.50	5.19	4.38	5.01	4.48
K_2O	0.20	0.27	0.18	0.12	0.14	0.09	0.08	0.25	0.17	0.26	0.15	0.32	0.18
sum	100.54	99.99	100.62	99.60	99.35	99.90	100.15	100.64	100.89	99.74	100.57	100.44	99.78
mol%An	56.8	56.6	61.5	65.5	63.0	63.1	67.7	53.0	60.0	51.3	59.8	54.6	59.7
mol%Ab	42.0	41.8	37.4	33.8	36.1	36.3	31.8	45.6	39.1	47.2	39.4	43.5	39.2
mol%Or	1.1	1.5	1.1	0.7	0.8	0.6	0.4	1.4	1.0	1.5	0.9	1.8	1.0

Table B.1.28: XAL-132, Plagioclase grain 28

Dist (µm)	0.0	31.1	62.2	93.3	124.3	155.4	217.7	279.8	310.9
SiO_2	53.49	55.19	54.71	54.93	53.73	54.13	52.82	52.66	53.87
TiO_2	0.09	-0.01	-0.01	0.04	0.03	0.02	0.05	0.02	0.04
Al_2O_3	29.16	28.23	28.40	27.27	28.39	29.25	29.84	28.52	28.65
Fe_2O_3	0.90	0.68	0.60	0.73	0.52	0.65	0.54	0.57	0.74
MnO	0.06	0.08	0.05	0.08	-0.02	0.02	0.01	0.08	0.01
MgO	0.10	0.08	0.07	0.08	0.08	0.08	0.10	0.08	0.09
CaO	11.72	10.94	10.68	10.10	11.73	11.69	11.84	11.43	11.31
BaO	0.07	0.05	0.07	-0.01	0.07	-0.12	-0.10	-0.07	-0.01
Na_2O	4.44	5.08	5.33	5.44	4.71	4.65	4.51	4.57	4.94
K_2O	0.25	0.21	0.28	0.26	0.23	0.30	0.18	0.24	0.22
sum	100.30	100.53	100.18	98.91	99.48	100.67	99.78	98.11	99.85
mol%An	58.4	53.7	51.7	49.8	57.2	57.1	58.6	57.2	55.2
mol%Ab	40.1	45.1	46.7	48.6	41.5	41.1	40.4	41.4	43.6
mol%Or	1.5	1.2	1.6	1.5	1.3	1.7	1.0	1.4	1.3

Table B.1.29: XAL-132, Plagioclase grain 29

Dist (µm)	30.2	60.3	90.5	120.7	150.8	180.9	241.3	271.4	301.6	331.8	362.0	392.1	422.3	452.5	482.6	512.7	542.9	573.1	603.2
SiO_2	52.24	53.86	54.41	53.66	53.22	53.32	51.64	51.37	50.48	52.27	53.06	53.13	56.27	54.08	55.55	54.38	54.35	52.27	54.05
TiO_2	0.12	0.07	0.05	0.02	0.04	0.03	0.03	0.01	0.02	0.05	0.04	0.04	0.06	0.04	0.05	0.03	0.09	0.01	0.06
Al_2O_3	28.60	28.46	28.27	28.63	29.11	29.54	30.01	30.33	31.10	29.96	28.97	30.03	27.85	28.57	27.87	28.32	28.41	28.58	28.78
Fe_2O_3	0.77	0.65	0.64	0.43	0.46	0.52	0.54	0.51	0.46	0.54	0.46	0.52	0.44	0.60	0.51	0.56	0.47	0.63	0.67
MnO	0.17	0.02	-0.02	0.07	0.02	-0.02	-0.01	0.02	-0.04	0.01	0.03	-0.04	0.03	-0.03	0.01	-0.02	0.00	-0.02	-0.02
MgO	0.05	0.08	0.05	0.07	0.06	0.07	0.03	0.03	0.02	0.05	0.04	0.05	0.04	0.02	0.03	0.04	0.03	0.10	0.07
CaO	11.34	11.43	10.98	11.60	11.72	12.57	14.01	13.25	14.10	13.11	12.15	12.30	9.98	11.66	10.70	11.44	11.47	11.68	11.95
BaO	-0.01	-0.03	-0.12	-0.06	-0.04	0.02	-0.04	-0.04	-0.05	-0.07	-0.10	-0.05	-0.10	0.00	-0.05	-0.06	-0.06	-0.03	0.05
Na_2O	4.48	4.87	5.17	4.77	4.74	4.28	3.69	4.02	3.45	4.05	4.66	4.28	5.59	4.95	5.28	5.03	5.00	4.54	4.67
K_2O	0.28	0.19	0.27	0.24	0.26	0.14	0.12	0.18	0.14	0.15	0.27	0.22	0.32	0.28	0.31	0.26	0.25	0.26	0.15
sum	98.05	99.61	99.71	99.43	99.59	100.47	100.00	99.67	99.67	100.13	99.57	100.47	100.48	100.17	100.26	99.98	100.02	98.02	100.43
mol%An	57.3	55.8	53.1	56.6	56.9	61.4	67.3	63.9	68.8	63.6	58.2	60.6	48.7	55.6	51.9	54.9	55.1	57.8	58.1
mol%Ab	41.0	43.1	45.3	42.1	41.6	37.8	32.1	35.0	30.4	35.5	40.3	38.2	49.4	42.8	46.3	43.6	43.4	40.6	41.0
mol%Or	1.7	1.1	1.6	1.4	1.5	0.8	0.7	1.0	0.8	0.9	1.5	1.3	1.9	1.6	1.8	1.5	1.5	1.5	0.9

Table B.1.30: XAL-132, Plagioclase grain 30

Dist (µm)	30.9	92.7	123.6	154.5	185.3	216.3	247.2	278.0	308.9	339.9	401.6
SiO_2	52.62	54.36	53.34	53.51	53.13	54.54	55.51	54.91	53.16	53.37	53.87
TiO_2	0.01	0.05	0.05	0.02	0.07	0.06	0.07	0.05	0.05	0.07	0.08
Al_2O_3	29.87	28.72	28.77	28.53	29.24	28.41	27.66	28.00	29.56	29.15	28.96
Fe_2O_3	0.76	0.45	0.66	0.52	0.47	0.55	0.49	0.46	0.39	0.48	0.66
MnO	0.04	0.04	-0.01	-0.01	0.05	0.05	0.04	0.09	0.08	0.00	0.05
MgO	0.08	0.05	0.05	0.06	0.06	0.05	0.08	0.07	0.09	0.05	0.08
CaO	12.28	11.63	11.29	11.65	12.36	11.10	9.98	10.78	12.52	12.38	11.96
BaO	-0.09	-0.01	-0.04	-0.01	0.10	0.10	-0.01	0.04	0.10	-0.01	0.12
Na_2O	4.61	5.32	4.87	4.99	4.51	5.20	5.73	5.20	4.52	4.70	4.77
K_2O	0.19	0.27	0.16	0.22	0.14	0.29	0.34	0.27	0.15	0.25	0.24
sum	100.38	100.88	99.13	99.50	100.13	100.35	99.89	99.87	100.62	100.42	100.79
mol%An	58.9	53.9	55.7	55.6	59.7	53.2	48.1	52.6	60.0	58.4	57.3
mol%Ab	40.0	44.6	43.4	43.1	39.5	45.1	49.9	45.9	39.2	40.2	41.3
mol%Or	1.1	1.5	0.9	1.3	0.8	1.6	2.0	1.5	0.8	1.4	1.4

Table B.1.31: XAL-132, Plagioclase grain 31

Dist (µm)	0.0	29.7	59.3	89.0	118.7	178.0	207.6	237.3	267.0	296.6	326.3	355.9	385.6
SiO_2	52.27	53.52	53.90	55.09	53.94	55.61	54.11	55.01	53.48	53.38	53.96	53.23	52.39
TiO_2	0.09	0.07	0.07	0.10	0.07	0.07	0.06	0.09	0.08	-0.05	0.02	-0.03	-0.03
Al_2O_3	28.84	28.51	28.44	28.16	28.84	27.52	29.13	28.26	28.80	28.72	28.61	28.32	29.38
Fe_2O_3	0.62	0.70	0.69	0.66	0.70	0.56	0.67	0.62	0.85	0.61	0.63	0.88	0.55
MnO	0.05	-0.02	-0.02	-0.01	-0.01	-0.07	-0.06	-0.03	-0.01	0.01	-0.03	-0.01	0.02
MgO	0.06	0.13	0.13	0.11	0.11	0.09	0.09	0.09	0.08	0.07	0.11	0.10	0.06
CaO	12.07	11.69	11.31	10.96	11.79	10.88	11.76	11.18	11.38	11.84	11.55	11.81	11.95
BaO	0.15	-0.10	-0.07	-0.07	-0.14	-0.11	0.14	-0.08	-0.05	0.02	0.04	0.13	0.16
Na_2O	4.46	4.63	4.81	5.00	4.91	5.24	4.79	5.34	4.64	4.75	4.93	4.76	4.85
K_2O	0.24	0.30	0.38	0.34	0.24	0.29	0.32	0.28	0.30	0.26	0.17	0.17	0.30
sum	98.84	99.44	99.65	100.34	100.45	100.07	100.99	100.75	99.56	99.61	99.98	99.36	99.63
mol%An	59.1	57.2	55.3	53.7	56.2	52.5	56.5	52.8	56.5	57.1	55.9	57.2	56.7
mol%Ab	39.5	41.0	42.5	44.3	42.4	45.8	41.7	45.6	41.7	41.5	43.2	41.8	41.6
mol%Or	1.4	1.8	2.2	2.0	1.3	1.7	1.8	1.6	1.8	1.5	1.0	1.0	1.7

Table B.1.32: XAL-132, Plagioclase grain 32

Dist (µm)	0.0	60.4	120.8	181.2	241.5	301.9	362.4	422.7	543.5	664.3	845.5	905.8	966.2
SiO_2	54.67	52.96	53.24	54.79	54.92	52.00	48.37	49.88	48.20	52.32	49.88	53.80	55.11
TiO_2	0.01	-0.03	-0.03	-0.02	-0.05	0.05	0.03	0.05	0.05	0.02	-0.02	0.04	0.03
Al_2O_3	27.75	29.82	29.44	28.36	28.44	30.61	32.70	31.23	32.65	30.54	32.27	28.51	28.23
Fe_2O_3	0.85	0.52	0.61	0.59	0.43	0.60	0.54	0.92	0.59	0.57	0.59	0.66	0.83
MnO	0.07	0.01	-0.02	0.04	0.01	0.07	0.01	0.03	0.01	0.03	0.04	0.04	0.00
MgO	0.09	0.07	0.08	0.04	0.06	0.07	0.09	0.08	0.06	0.06	0.04	0.06	0.08
CaO	10.85	12.24	12.24	10.61	11.60	13.08	15.77	13.86	16.11	12.90	15.15	10.95	10.94
BaO	-0.07	0.07	0.08	0.07	0.04	-0.07	0.04	-0.11	0.10	-0.07	-0.09	0.07	0.10
Na_2O	5.37	4.41	4.31	5.29	4.67	3.92	2.51	3.37	2.31	3.90	2.95	5.37	5.04
K_2O	0.32	0.19	0.19	0.23	0.24	0.14	0.08	0.09	0.04	0.08	0.11	0.24	0.34
sum	99.90	100.26	100.15	99.99	100.37	100.46	100.12	99.39	100.12	100.34	100.90	99.73	100.67
mol%An	51.8	59.9	60.4	51.9	57.0	64.3	77.3	69.1	79.2	64.3	73.5	52.3	53.5
mol%Ab	46.4	39.0	38.5	46.8	41.5	34.8	22.2	30.4	20.6	35.2	25.9	46.3	44.6
mol%Or	1.8	1.1	1.1	1.3	1.4	0.8	0.4	0.5	0.2	0.5	0.6	1.4	2.0

Table B.1.33: XAL-132, Plagioclase grain 33

Dist (µm)	0.0	15.2	30.4	45.6	60.8	76.1	91.3	167.3	228.2
SiO_2	53.86	53.94	53.20	52.45	48.19	47.96	53.26	48.35	53.06
TiO_2	0.07	0.03	0.02	0.00	0.02	0.01	0.09	0.07	-0.01
Al_2O_3	29.67	28.30	29.69	29.98	32.01	32.81	28.95	32.47	28.55
Fe_2O_3	0.80	0.62	0.57	0.59	0.61	0.68	0.51	0.72	0.73
MnO	0.00	0.01	0.03	0.03	0.03	0.01	-0.02	0.01	0.04
MgO	0.09	0.08	0.06	0.05	0.04	0.06	0.03	0.03	0.09
CaO	11.97	11.42	12.22	12.83	16.01	15.54	11.64	16.41	11.57
BaO	0.21	0.07	-0.01	0.10	0.00	0.08	-0.08	0.01	0.17
Na_2O	4.61	5.06	4.41	3.87	2.61	2.58	4.94	2.43	4.69
K_2O	0.27	0.35	0.15	0.18	0.05	0.07	0.20	0.09	0.24
sum	101.54	99.86	100.35	100.08	99.57	99.80	99.52	100.59	99.12
mol%An	58.0	54.4	60.0	64.0	77.0	76.6	55.9	78.4	56.9
mol%Ab	40.4	43.6	39.2	34.9	22.7	23.0	42.9	21.1	41.7
mol%Or	1.6	2.0	0.9	1.1	0.3	0.4	1.2	0.5	1.4

Table B.1.34: XAL-132, Plagioclase grain 34

Dist (µm)	0.0	14.8	29.6	44.3	59.1	74.0	88.8	103.5	147.9	162.7	251.4
SiO_2	51.51	52.73	53.00	52.68	51.85	51.33	51.87	52.20	49.47	51.84	51.16
TiO_2	0.03	0.03	-0.02	-0.01	0.00	-0.03	-0.01	-0.03	0.08	0.10	0.02
Al_2O_3	28.62	29.80	28.79	30.05	30.19	30.11	30.62	30.33	30.98	30.18	29.59
Fe_2O_3	0.70	0.62	0.57	0.65	0.58	0.36	0.59	0.56	0.69	0.63	0.80
MnO	0.05	0.05	0.09	0.04	0.06	0.09	0.06	0.08	0.01	0.01	-0.04
MgO	0.06	0.07	0.07	0.05	0.04	0.06	0.07	0.06	0.11	0.06	0.10
CaO	12.41	12.77	11.89	12.55	13.09	13.30	13.12	12.69	14.86	13.89	12.85
BaO	0.09	0.11	0.11	0.14	0.07	0.22	0.15	0.06	0.10	0.04	0.07
Na_2O	4.26	4.43	4.94	4.25	4.12	4.03	3.95	4.44	3.24	3.98	4.37
K_2O	0.33	0.15	0.27	0.18	0.18	0.19	0.15	0.15	0.14	0.18	0.30
sum	98.07	100.74	99.70	100.57	100.18	99.67	100.57	100.53	99.68	100.91	99.21
mol%An	60.5	60.9	56.2	61.4	63.1	63.9	64.2	60.7	71.2	65.2	60.9
mol%Ab	37.6	38.2	42.2	37.6	35.9	35.0	34.9	38.4	28.0	33.8	37.5
mol%Or	1.9	0.8	1.5	1.0	1.0	1.1	0.9	0.9	0.8	1.0	1.7

Table B.2.1: XAL-134, Plagioclase grain 1

Dist (µm)	0.0	20.1	40.3	60.4	100.7	120.8	140.9	161.0	181.2	201.3	221.4	241.6	261.7	302.0	322.1	342.2	362.4	402.6	422.8	442.9	463.0
SiO_2	52.10	53.55	54.03	54.28	55.62	55.64	55.45	54.97	55.14	55.85	55.14	55.46	55.41	55.95	55.81	56.30	56.20	55.84	55.72	55.92	55.43
TiO_2	0.06	0.05	0.05	0.07	0.04	0.04	0.04	0.05	0.03	0.01	0.05	0.02	0.05	0.03	0.05	0.06	0.05	0.05	0.04	0.06	0.03
Al_2O_3	29.10	28.52	28.09	28.22	27.59	27.42	27.12	27.63	27.00	27.60	27.03	27.20	27.32	26.61	26.60	26.58	26.74	26.91	26.86	26.74	26.85
Fe_2O_3	0.68	0.59	0.51	0.51	0.44	0.45	0.42	0.40	0.45	0.44	0.51	0.39	0.42	0.41	0.44	0.43	0.47	0.43	0.47	0.44	0.43
MnO	-0.01	0.00	0.02	-0.02	0.03	-0.01	0.02	0.00	0.00	0.01	0.00	0.01	0.01	0.00	-0.02	-0.01	0.02	0.02	0.02	0.01	-0.01
MgO	0.08	0.07	0.06	0.06	0.05	0.04	0.05	0.05	0.06	0.06	0.06	0.05	0.03	0.04	0.05	0.05	0.06	0.05	0.05	0.04	0.06
CaO	12.53	11.56	11.17	10.93	10.16	9.77	9.82	10.36	9.81	9.75	9.97	10.05	9.87	9.33	9.14	9.45	9.48	9.49	9.82	9.37	9.76
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.55	5.09	5.08	5.21	5.78	5.97	5.81	5.60	5.76	5.83	5.72	5.79	5.82	6.11	6.13	6.21	6.09	6.00	5.97	6.12	5.84
K_2O	0.14	0.21	0.20	0.21	0.23	0.24	0.30	0.25	0.24	0.28	0.24	0.24	0.28	0.31	0.30	0.28	0.29	0.29	0.30	0.29	0.28
sum	99.24	99.63	99.21	99.46	99.93	99.56	99.01	99.32	98.49	99.83	98.72	99.23	99.22	98.78	98.50	99.35	99.40	99.08	99.25	98.99	98.67
mol%An	59.9	55.0	54.2	53.0	48.6	46.9	47.5	49.8	47.8	47.2	48.4	48.3	47.6	45.0	44.4	45.0	45.4	45.9	46.8	45.1	47.2
mol%Ab	39.3	43.8	44.6	45.7	50.1	51.8	50.8	48.8	50.8	51.1	50.2	50.3	50.8	53.2	53.9	53.5	52.9	52.5	51.5	53.3	51.1
mol%Or	0.8	1.2	1.1	1.2	1.3	1.3	1.7	1.4	1.4	1.6	1.4	1.4	1.6	1.8	1.7	1.6	1.7	1.7	1.7	1.6	1.6

Table B.2.1 (cntd): XAL-134, Plagioclase grain 1

Dist (µm)	483.1	523.4	543.5	563.7	624.1	664.3	684.5	724.7	744.8	765.0
SiO_2	55.73	55.22	55.89	55.74	54.44	55.07	54.68	55.00	54.68	52.51
TiO_2	0.01	0.02	0.05	0.05	0.03	0.05	0.03	0.04	0.05	0.04
Al_2O_3	27.36	27.10	26.70	26.71	27.36	27.13	27.45	27.10	27.31	28.90
Fe_2O_3	0.43	0.46	0.50	0.42	0.46	0.43	0.38	0.46	0.45	0.56
MnO	-0.01	0.00	-0.02	0.00	0.01	0.02	0.01	0.01	0.01	-0.02
MgO	0.05	0.05	0.04	0.05	0.04	0.05	0.05	0.07	0.05	0.07
CaO	9.65	9.95	9.39	9.42	10.41	9.77	10.05	9.98	10.24	12.11
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	5.93	5.81	5.97	6.07	5.66	5.81	5.69	5.86	5.60	4.67
K_2O	0.31	0.27	0.32	0.29	0.24	0.27	0.24	0.25	0.24	0.18
sum	99.47	98.88	98.85	98.74	98.65	98.59	98.59	98.76	98.64	99.02
mol%An	46.5	47.9	45.7	45.4	49.7	47.4	48.7	47.8	49.6	58.3
mol%Ab	51.7	50.6	52.5	53.0	48.9	51.0	49.9	50.8	49.1	40.7
mol%Or	1.8	1.5	1.8	1.6	1.4	1.6	1.4	1.4	1.4	1.0

Table B.2.2: XAL-134, Plagioclase grain 2

Dist (µm)	20.3	60.9	81.2	101.6	121.9	162.5	182.8	203.1	223.4
SiO_2	56.52	52.74	54.35	54.58	54.43	54.56	54.06	54.66	54.46
TiO_2	0.19	0.04	0.04	0.05	0.02	0.04	0.03	0.04	0.06
Al_2O_3	25.90	29.42	28.52	27.81	28.24	27.95	28.11	28.02	27.87
Fe_2O_3	0.80	0.54	0.49	0.57	0.56	0.54	0.54	0.59	0.50
MnO	-0.01	0.01	0.02	-0.01	0.01	0.01	0.00	0.00	0.01
MgO	0.07	0.07	0.08	0.06	0.05	0.06	0.08	0.07	0.08
CaO	9.89	12.23	11.29	10.84	10.76	11.04	11.01	11.04	10.84
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	5.28	4.64	5.19	5.38	5.34	5.47	5.21	5.39	5.43
K_2O	0.68	0.15	0.20	0.21	0.22	0.20	0.20	0.22	0.21
sum	99.32	99.82	100.17	99.49	99.63	99.88	99.26	100.01	99.45
mol%An	48.9	58.8	54.0	52.0	52.0	52.1	53.2	52.5	51.8
mol%Ab	47.2	40.3	44.9	46.8	46.7	46.8	45.6	46.3	47.0
mol%Or	4.0	0.8	1.1	1.2	1.3	1.1	1.2	1.2	1.2

Table B.2.2 (cntd): XAL-134, Plagioclase grain 2

Dist (µm)	243.7	284.4	304.7	325.0	345.3	365.6	385.9	406.2	426.5	446.8	467.2	487.5	507.8	528.1	568.7	589.0	629.6	650.0	690.6	710.9	731.2
SiO_2	54.36	54.42	54.60	54.82	54.55	54.85	54.67	54.85	55.07	54.76	54.41	54.93	53.92	54.08	53.46	54.89	53.32	53.29	52.25	52.25	52.57
TiO_2	0.04	0.03	0.02	0.05	0.06	0.05	0.03	0.04	0.05	0.05	0.04	0.05	0.03	0.03	0.05	0.05	0.04	0.05	0.05	0.06	0.04
Al_2O_3	28.15	27.80	27.84	27.75	28.11	27.81	28.06	27.92	28.02	27.96	28.14	28.22	27.85	27.65	28.42	28.23	29.01	29.69	29.77	28.95	29.53
Fe_2O_3	0.52	0.52	0.49	0.50	0.57	0.50	0.57	0.53	0.51	0.48	0.54	0.50	0.71	0.60	1.09	0.48	0.49	0.71	0.65	0.62	0.56
MnO	0.00	-0.01	0.03	-0.02	0.04	0.05	0.00	-0.03	0.02	-0.01	0.01	-0.01	0.04	0.03	0.01	0.02	0.00	0.00	0.01	0.01	0.01
MgO	0.06	0.06	0.06	0.08	0.07	0.06	0.05	0.06	0.07	0.07	0.06	0.06	0.07	0.07	0.09	0.06	0.08	0.09	0.08	0.08	0.09
CaO	11.04	10.84	10.85	10.85	10.70	10.55	10.81	10.88	10.78	10.89	10.95	10.77	10.72	10.79	10.26	10.86	11.99	12.50	12.55	12.26	12.45
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	5.28	5.37	5.35	5.30	5.49	5.42	5.40	5.32	5.36	5.36	5.24	5.30	5.35	5.34	5.70	5.28	4.81	4.08	4.31	4.41	4.53
K_2O	0.20	0.23	0.19	0.20	0.22	0.19	0.21	0.21	0.22	0.20	0.19	0.20	0.23	0.19	0.16	0.22	0.15	0.17	0.15	0.17	0.12
sum	99.66	99.26	99.44	99.53	99.81	99.48	99.80	99.78	100.10	99.77	99.58	100.03	98.92	98.77	99.25	100.08	99.88	100.57	99.81	98.80	99.91
mol%An	53.0	52.1	52.3	52.5	51.2	51.3	51.9	52.4	52.0	52.3	53.0	52.3	51.9	52.2	49.4	52.5	57.4	62.2	61.1	60.0	59.9
mol%Ab	45.9	46.6	46.7	46.4	47.5	47.6	46.9	46.4	46.8	46.6	45.9	46.6	46.8	46.7	49.7	46.2	41.7	36.8	38.0	39.0	39.4
mol%Or	1.2	1.3	1.1	1.2	1.3	1.1	1.2	1.2	1.3	1.2	1.1	1.1	1.3	1.1	0.9	1.2	0.9	1.0	0.8	1.0	0.7

Table B.2.2 (cntd): XAL-134, Plagioclase grain 2

Dist (µm)	751.5	771.8	792.1	812.4	853.1	873.4	893.7	914.0	934.3	974.9	1015.6	1035.9	1056.2	1096.8	1117.1	1157.7	1178.0	1198.3	1218.7
SiO_2	52.70	52.99	52.55	52.62	55.52	53.25	54.04	54.31	54.71	54.49	54.82	54.12	54.20	54.71	53.91	54.41	55.14	54.93	53.76
TiO_2	0.04	0.05	0.04	0.05	0.05	0.01	0.04	0.04	0.04	0.03	0.04	0.04	0.03	0.03	0.03	0.04	0.05	0.01	0.05
Al_2O_3	29.09	29.20	29.44	29.20	30.12	28.75	28.72	28.66	28.64	28.23	28.43	28.17	28.47	28.71	28.33	28.46	28.70	28.62	29.01
Fe_2O_3	0.67	0.53	0.60	0.58	1.18	0.56	0.65	0.65	0.61	0.64	0.53	0.80	0.68	0.46	0.87	0.84	0.58	0.55	0.60
MnO	0.01	-0.02	0.02	0.01	0.00	0.00	-0.01	0.01	0.00	-0.01	-0.01	-0.01	-0.01	0.03	0.01	-0.03	0.00	0.01	-0.01
MgO	0.09	0.09	0.09	0.07	0.09	0.07	0.11	0.07	0.08	0.08	0.06	0.08	0.08	0.07	0.09	0.08	0.08	0.08	0.06
CaO	12.26	12.57	12.52	12.54	10.90	11.68	11.17	11.23	11.32	10.81	10.86	11.16	10.88	11.04	10.86	10.74	10.85	11.06	11.50
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.53	4.45	4.57	4.46	5.36	4.76	5.26	4.88	4.93	5.25	5.28	5.12	5.16	5.13	4.69	5.16	5.27	5.25	5.01
K_2O	0.15	0.16	0.15	0.17	0.16	0.17	0.20	0.20	0.20	0.22	0.20	0.24	0.21	0.20	0.19	0.19	0.19	0.23	0.18
sum	99.53	100.03	99.97	99.72	103.38	99.26	100.17	100.05	100.52	99.74	100.21	99.72	99.69	100.38	98.98	99.90	100.85	100.73	100.17
mol%An	59.4	60.4	59.7	60.2	52.4	56.9	53.4	55.3	55.3	52.6	52.6	53.9	53.2	53.7	55.5	52.9	52.6	53.1	55.3
mol%Ab	39.7	38.7	39.4	38.8	46.7	42.0	45.5	43.5	43.6	46.2	46.3	44.8	45.6	45.1	43.3	46.0	46.3	45.6	43.6
mol%Or	0.9	0.9	0.8	1.0	0.9	1.0	1.1	1.2	1.1	1.2	1.2	1.4	1.2	1.2	1.2	1.1	1.1	1.3	1.0

Table B.2.3: XAL-134, Plagioclase grain 3

Dist (µm)	20.7	41.5	62.2	83.0	103.7	124.5	145.2	186.7	207.4	228.2	248.9	269.7	290.4	311.2	331.9	352.6	373.4	394.1	414.9	435.6
SiO_2	55.20	55.10	55.35	54.83	54.73	54.84	54.84	54.48	54.58	55.24	56.09	55.74	55.67	55.87	56.26	56.06	54.91	54.89	55.30	54.50
TiO_2	0.05	0.04	0.05	0.03	0.06	0.02	0.03	0.01	0.03	0.02	0.04	0.04	0.03	0.05	0.03	0.04	0.04	0.04	0.03	0.02
Al_2O_3	27.46	27.52	27.66	27.67	27.18	27.46	27.36	27.21	28.09	27.18	27.14	27.52	27.20	27.06	26.95	27.10	27.83	27.69	27.15	27.98
Fe_2O_3	0.44	0.51	0.47	0.48	0.60	0.45	0.40	0.62	0.40	0.51	0.42	0.44	0.39	0.36	0.41	0.44	0.45	0.48	0.47	0.45
MnO	-0.02	-0.04	0.02	0.00	-0.01	0.00	0.03	0.02	0.03	0.02	0.01	0.03	0.03	0.02	0.00	-0.01	0.01	-0.01	-0.01	0.00
MgO	0.06	0.07	0.06	0.05	0.07	0.05	0.05	0.07	0.04	0.07	0.04	0.06	0.05	0.05	0.05	0.04	0.05	0.04	0.05	0.05
CaO	10.12	10.35	10.19	10.62	10.30	10.20	10.21	10.27	10.56	9.99	9.58	9.94	9.75	9.57	9.66	9.80	10.15	10.30	10.15	10.55
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	5.74	5.64	5.63	5.59	5.59	5.54	5.63	5.61	5.54	5.76	5.94	5.89	5.87	6.06	5.97	5.96	5.61	5.69	5.67	5.47
K_2O	0.25	0.22	0.23	0.25	0.25	0.23	0.21	0.26	0.26	0.28	0.26	0.27	0.28	0.29	0.24	0.28	0.21	0.24	0.22	0.25
sum	99.29	99.42	99.66	99.52	98.77	98.81	98.77	98.54	99.53	99.05	99.53	99.92	99.27	99.33	99.57	99.71	99.26	99.36	99.04	99.27
mol%An	48.6	49.7	49.3	50.5	49.7	49.7	49.4	49.5	50.5	48.2	46.4	47.5	47.1	45.8	46.6	46.8	49.4	49.3	49.1	50.9
mol%Ab	50.0	49.0	49.4	48.1	48.9	48.9	49.4	49.0	48.0	50.3	52.1	50.9	51.3	52.5	52.1	51.6	49.4	49.3	49.6	47.7
mol%Or	1.4	1.3	1.3	1.4	1.4	1.4	1.2	1.5	1.5	1.6	1.5	1.5	1.6	1.6	1.4	1.6	1.2	1.4	1.3	1.4

Table B.2.3 (cntd): XAL-134, Plagioclase grain 3

Dist (µm)	456.4	497.9	518.6	539.3
SiO_2	55.09	55.47	53.53	52.72
TiO_2	0.03	0.05	0.04	0.07
Al_2O_3	27.72	27.19	28.88	28.55
Fe_2O_3	0.53	0.40	0.57	0.66
MnO	-0.01	-0.02	0.00	0.01
MgO	0.06	0.07	0.06	0.10
CaO	10.32	10.03	11.65	11.81
BaO	n.a.	n.a.	n.a.	n.a.
Na_2O	5.78	5.75	5.03	4.87
K_2O	0.21	0.23	0.20	0.20
sum	99.72	99.17	99.97	98.99
mol%An	49.1	48.4	55.5	56.7
mol%Ab	49.7	50.2	43.4	42.2
mol%Or	1.2	1.3	1.1	1.1

Table B.2.4: XAL-134, Plagioclase grain 4

Dist (µm)	20.0	40.0	60.0	80.0	100.0	120.0	140.0	160.0	180.0	240.0	260.1	300.1	320.1	340.1	360.1
SiO_2	49.36	50.61	49.62	51.99	51.23	50.45	50.22	50.09	49.90	51.11	50.26	51.16	51.69	52.45	50.85
TiO_2	0.05	0.05	0.05	0.05	0.06	0.05	0.02	0.05	0.03	0.09	0.04	0.07	0.05	0.06	0.07
Al_2O_3	31.39	30.58	31.13	29.38	30.12	30.40	30.42	30.56	30.92	29.46	30.81	30.17	29.91	29.48	30.20
Fe_2O_3	0.63	0.68	0.59	0.61	0.60	0.62	0.60	0.62	0.60	0.83	0.61	0.56	0.62	0.63	0.63
MnO	0.02	-0.01	0.03	0.02	-0.03	0.00	-0.02	0.02	0.00	0.01	0.03	0.02	0.01	0.00	-0.03
MgO	0.06	0.07	0.08	0.07	0.07	0.08	0.09	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
CaO	14.74	13.72	14.73	12.94	13.16	13.98	14.09	14.53	14.34	12.95	14.14	13.53	13.07	12.54	13.16
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	3.17	3.68	3.25	4.21	4.02	3.62	3.58	3.47	3.41	3.99	3.52	3.94	4.06	4.34	3.99
K_2O	0.08	0.12	0.10	0.14	0.14	0.11	0.11	0.12	0.12	0.67	0.11	0.12	0.11	0.12	0.14
sum	99.51	99.50	99.57	99.41	99.38	99.30	99.11	99.52	99.38	99.18	99.60	99.65	99.60	99.69	99.09
mol%An	71.7	66.9	71.1	62.4	63.9	67.7	68.1	69.4	69.4	61.8	68.5	65.0	63.6	61.1	64.0
mol%Ab	27.9	32.4	28.3	36.7	35.3	31.7	31.3	30.0	29.9	34.4	30.9	34.3	35.7	38.2	35.1
mol%Or	0.5	0.7	0.6	0.8	0.8	0.6	0.6	0.7	0.7	3.8	0.6	0.7	0.6	0.7	0.8

Table B.2.4 (cntd): XAL-134, Plagioclase grain 4

Dist (µm)	380.1	400.1	420.1	440.1	460.1	480.1	500.1	520.1	540.1	560.1	580.1	600.1	620.1	640.1	660.1	680.1	700.1	720.1	740.1	760.2	780.2
SiO_2	50.56	50.24	50.51	50.67	51.07	51.33	51.59	50.91	51.58	51.56	51.40	51.31	51.53	52.19	51.71	50.39	50.56	50.18	49.95	50.64	51.43
TiO_2	0.03	0.05	0.04	0.03	0.06	0.06	0.06	0.06	0.06	0.06	0.04	0.06	0.06	0.07	0.05	0.05	0.05	0.05	0.06	0.05	0.07
Al_2O_3	30.72	30.56	30.79	30.45	30.11	29.86	30.02	29.89	29.84	29.76	30.13	30.07	29.57	29.22	29.57	30.29	30.94	30.71	30.97	30.36	29.86
Fe_2O_3	0.59	0.64	0.68	0.64	0.58	0.60	0.63	0.63	0.61	0.57	0.58	0.64	0.58	0.60	0.57	0.66	0.65	0.72	0.58	0.56	0.60
MnO	0.00	0.02	0.02	-0.03	0.04	0.01	0.02	0.02	0.00	0.02	-0.03	0.01	0.02	-0.02	0.01	-0.03	0.04	-0.01	0.00	0.01	-0.01
MgO	0.09	0.08	0.08	0.07	0.07	0.09	0.09	0.07	0.08	0.09	0.09	0.08	0.08	0.09	0.08	0.08	0.09	0.09	0.09	0.08	0.08
CaO	14.03	13.98	13.80	13.71	13.28	13.20	13.49	13.28	12.86	12.91	13.26	13.38	12.80	12.61	13.18	13.92	14.12	13.89	14.36	13.66	13.08
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	3.48	3.54	3.57	3.77	4.11	3.99	3.86	3.92	4.18	4.17	4.07	3.95	4.25	4.59	4.18	3.68	3.64	3.62	3.39	3.76	4.01
K_2O	0.13	0.10	0.12	0.12	0.15	0.13	0.12	0.14	0.14	0.16	0.14	0.13	0.14	0.16	0.14	0.14	0.11	0.13	0.12	0.14	0.10
sum	99.62	99.22	99.61	99.43	99.49	99.26	99.88	98.92	99.35	99.29	99.67	99.64	99.03	99.52	99.48	99.18	100.20	99.39	99.52	99.25	99.23
mol%An	68.5	68.2	67.6	66.3	63.6	64.2	65.4	64.6	62.5	62.5	63.8	64.7	61.9	59.7	63.1	67.1	67.8	67.5	69.6	66.2	63.9
mol%Ab	30.8	31.3	31.7	33.0	35.6	35.1	33.9	34.6	36.7	36.6	35.4	34.6	37.3	39.4	36.1	32.1	31.6	31.8	29.7	33.0	35.5
mol%Or	0.7	0.6	0.7	0.7	0.9	0.7	0.7	0.8	0.8	0.9	0.8	0.7	0.8	0.9	0.8	0.8	0.6	0.7	0.7	0.8	0.6

Table B.2.4 (cntd): XAL-134, Plagioclase grain 4

Dist (µm)	800.2	820.2	840.2	860.2	880.2	900.2	920.2	960.2	980.2	1000.2	1020.2	1040.2	1060.2	1080.2	1100.2	1120.2	1140.2	1160.2	1180.2	1220.2
SiO_2	51.31	50.82	50.30	52.91	50.91	50.99	52.28	51.72	53.42	51.01	51.81	50.28	51.62	51.81	50.97	52.32	51.26	51.80	51.31	50.59
TiO_2	0.05	0.06	0.05	0.07	0.05	0.05	0.07	0.09	0.08	0.06	0.07	0.05	0.06	0.07	0.03	0.06	0.04	0.04	0.04	0.06
Al_2O_3	29.78	30.51	30.68	28.82	30.24	30.27	29.22	29.66	28.55	29.84	29.56	30.29	29.46	29.51	30.15	29.67	29.90	29.68	29.57	30.41
Fe_2O_3	0.64	0.64	0.61	0.60	0.57	0.60	0.65	0.59	0.62	0.61	0.62	0.54	0.58	0.68	0.58	0.62	0.61	0.64	0.59	0.59
MnO	0.04	-0.02	-0.01	-0.03	-0.02	0.00	0.03	0.00	0.02	0.02	-0.01	0.03	0.04	0.00	-0.02	0.01	0.01	0.02	0.00	-0.02
MgO	0.09	0.09	0.08	0.10	0.07	0.09	0.08	0.08	0.09	0.07	0.10	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.06	0.06
CaO	13.22	13.65	14.11	11.92	13.75	13.45	12.36	12.96	11.61	13.44	13.01	13.86	12.79	12.71	13.32	12.53	13.33	12.89	13.06	13.66
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.07	3.80	3.46	4.72	3.87	3.84	4.43	4.17	4.89	3.97	4.22	3.78	4.25	4.25	3.97	4.48	4.06	4.27	4.09	3.85
K_2O	0.14	0.10	0.12	0.15	0.12	0.12	0.15	0.15	0.16	0.14	0.13	0.11	0.14	0.15	0.13	0.15	0.12	0.14	0.13	0.12
sum	99.33	99.66	99.40	99.27	99.57	99.42	99.26	99.41	99.43	99.16	99.50	99.04	99.02	99.26	99.22	99.91	99.40	99.56	98.85	99.30
mol%An	63.7	66.1	68.8	57.7	65.8	65.5	60.1	62.7	56.2	64.7	62.6	66.5	61.9	61.7	64.5	60.2	64.0	62.1	63.3	65.8
mol%Ab	35.5	33.3	30.5	41.4	33.5	33.8	39.0	36.5	42.8	34.5	36.7	32.9	37.3	37.4	34.8	39.0	35.3	37.2	35.9	33.6
mol%Or	0.8	0.6	0.7	0.9	0.7	0.7	0.9	0.8	0.9	0.8	0.8	0.6	0.8	0.9	0.8	0.8	0.7	0.8	0.8	0.7

Table B.2.4 (cntd): XAL-134, Plagioclase grain 4

Dist (µm)	1240.2	1260.3	1280.3	1300.3
SiO_2	51.23	50.86	48.61	53.73
TiO_2	0.05	0.09	0.04	0.07
Al_2O_3	29.96	30.28	31.40	27.95
Fe_2O_3	0.60	0.65	0.66	0.69
MnO	0.02	-0.02	0.02	-0.03
MgO	0.08	0.09	0.08	0.09
CaO	13.25	13.55	15.31	11.33
BaO	n.a.	n.a.	n.a.	n.a.
Na_2O	4.11	3.70	2.77	5.05
K_2O	0.13	0.10	0.09	0.18
sum	99.44	99.30	98.99	99.06
mol%An	63.6	66.5	74.9	54.7
mol%Ab	35.7	32.9	24.5	44.2
mol%Or	0.7	0.6	0.5	1.1

Table B.2.5: XAL-134, Plagioclase grain 5

Dist (µm)	20.6	41.2	61.8	82.4	103.0	123.6	144.2	164.8	206.0	226.6	247.2	267.8	309.0	329.6	350.2
SiO_2	53.05	54.26	54.92	54.52	55.23	55.75	56.71	55.14	56.09	55.27	55.02	55.75	55.47	56.46	56.78
TiO_2	0.06	0.03	0.05	0.01	0.04	0.03	0.05	0.04	0.04	0.04	0.04	0.06	0.06	0.02	0.06
Al_2O_3	29.46	28.43	27.89	27.74	27.62	27.37	26.87	27.57	27.30	27.71	27.76	27.28	27.42	26.31	26.54
Fe_2O_3	0.62	0.50	0.44	0.48	0.49	0.41	0.42	0.44	0.44	0.49	0.49	0.51	0.52	0.47	0.47
MnO	0.01	-0.01	0.00	0.01	0.02	0.00	-0.01	0.00	-0.02	0.00	0.02	0.00	0.00	0.02	0.00
MgO	0.08	0.07	0.05	0.07	0.05	0.05	0.03	0.04	0.06	0.05	0.07	0.05	0.06	0.05	0.04
CaO	12.38	11.48	10.40	10.26	10.52	10.12	9.26	10.38	9.66	10.12	10.30	9.93	10.27	8.72	9.31
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.66	5.11	5.54	5.43	5.49	5.85	6.13	5.61	5.91	5.72	5.69	5.94	5.63	6.65	6.16
K_2O	0.16	0.23	0.19	0.21	0.22	0.28	0.25	0.23	0.24	0.19	0.27	0.25	0.29	0.30	0.30
sum	100.49	100.09	99.49	98.73	99.67	99.88	99.72	99.45	99.72	99.59	99.65	99.78	99.72	99.01	99.67
mol%An	59.0	54.7	50.4	50.4	50.8	48.1	44.8	49.9	46.8	48.9	49.3	47.3	49.4	41.3	44.7
mol%Ab	40.1	44.0	48.5	48.3	48.0	50.3	53.7	48.8	51.8	50.0	49.2	51.2	49.0	57.0	53.6
mol%Or	0.9	1.3	1.1	1.2	1.3	1.6	1.4	1.3	1.4	1.1	1.5	1.4	1.6	1.7	1.7

Table B.2.5 (cntd): XAL-134, Plagioclase grain 5

Dist (µm)	370.8	391.4	412.0	432.6	453.2	473.8	494.4	515.0	535.6	556.2	576.8	618.0
SiO_2	56.54	56.95	56.12	54.99	55.02	55.22	55.26	54.98	53.56	53.58	52.42	53.39
TiO_2	0.02	0.02	0.04	0.04	0.05	0.04	0.01	0.04	0.04	0.03	0.06	0.04
Al_2O_3	26.58	26.61	27.10	27.60	27.70	27.29	27.68	27.85	28.25	28.88	29.07	28.54
Fe_2O_3	0.45	0.49	0.39	0.35	0.41	0.41	0.46	0.45	0.48	0.59	0.57	0.60
MnO	-0.01	0.01	0.01	0.00	-0.03	0.01	-0.01	0.02	0.00	0.01	0.04	0.00
MgO	0.05	0.06	0.05	0.07	0.04	0.05	0.05	0.05	0.05	0.07	0.08	0.08
CaO	8.93	9.15	9.52	10.08	10.23	10.37	10.25	10.57	11.50	11.66	12.17	11.51
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.27	6.20	5.97	5.65	5.68	5.63	5.61	5.58	5.20	4.77	4.66	4.99
K_2O	0.32	0.31	0.26	0.26	0.25	0.25	0.27	0.23	0.17	0.19	0.16	0.22
sum	99.16	99.80	99.48	99.03	99.35	99.27	99.58	99.78	99.27	99.77	99.23	99.38
mol%An	43.2	44.1	46.1	48.9	49.2	49.7	49.4	50.5	54.5	56.8	58.5	55.3
mol%Ab	54.9	54.1	52.3	49.6	49.4	48.8	49.0	48.2	44.6	42.1	40.6	43.4
mol%Or	1.9	1.8	1.5	1.5	1.5	1.4	1.5	1.3	1.0	1.1	0.9	1.3

Table B.2.6: XAL-134, Plagioclase grain 6

Dist (µm)	20.2	40.5	60.7	80.9	101.1	121.4	161.8	182.0	202.3	222.5	242.7	262.9	283.2	303.4	323.6	343.8	364.1	384.3	404.5	424.7	445.0
SiO_2	52.03	52.79	52.15	52.00	52.90	52.15	52.55	52.65	52.74	52.51	52.68	52.62	52.48	52.44	52.35	52.16	52.69	52.37	52.66	52.88	52.62
TiO_2	0.06	0.05	0.03	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.03	0.04	0.05	0.06	0.05	0.03	0.03	0.05	0.05	0.04	0.03
Al_2O_3	29.23	29.15	29.50	29.47	29.16	28.96	29.22	29.35	29.11	29.04	29.04	29.21	29.35	29.12	29.45	29.21	28.98	29.11	29.12	29.27	28.92
Fe_2O_3	0.60	0.68	0.58	0.59	0.58	0.56	0.57	0.56	0.60	0.61	0.54	0.63	0.55	0.54	0.49	0.92	0.53	0.57	0.56	0.52	0.49
MnO	0.01	0.03	0.00	0.01	0.01	0.00	0.01	0.00	-0.02	0.02	0.02	0.00	-0.01	0.00	-0.02	-0.01	0.05	0.01	0.03	0.01	0.00
MgO	0.08	0.09	0.09	0.09	0.09	0.09	0.07	0.09	0.06	0.07	0.08	0.07	0.07	0.08	0.07	0.09	0.08	0.09	0.09	0.07	0.07
CaO	12.60	12.09	12.54	12.65	12.17	12.40	12.18	12.40	12.26	12.18	12.23	12.23	12.23	12.27	12.18	11.85	12.04	12.18	12.20	12.21	12.08
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.28	4.67	4.33	4.25	4.59	4.39	4.48	4.51	4.53	4.62	4.59	4.64	4.58	4.60	4.52	5.12	4.74	4.59	4.57	4.54	4.63
K_2O	0.15	0.14	0.14	0.13	0.16	0.18	0.14	0.18	0.15	0.16	0.17	0.17	0.16	0.14	0.15	0.16	0.17	0.16	0.16	0.18	0.16
sum	99.05	99.70	99.36	99.24	99.71	98.78	99.28	99.79	99.49	99.26	99.38	99.62	99.46	99.24	99.25	99.54	99.31	99.14	99.44	99.71	99.00
mol%An	61.4	58.4	61.0	61.7	58.9	60.3	59.5	59.7	59.4	58.8	59.0	58.7	59.1	59.1	59.3	55.6	57.8	58.9	59.0	59.2	58.5
mol%Ab	37.7	40.8	38.2	37.5	40.2	38.6	39.6	39.3	39.7	40.3	40.1	40.3	40.0	40.1	39.8	43.5	41.2	40.2	40.0	39.8	40.6
mol%Or	0.9	0.8	0.8	0.8	0.9	1.0	0.8	1.0	0.9	0.9	1.0	1.0	0.9	0.8	0.9	0.9	1.0	0.9	0.9	1.0	0.9

Table B.2.6 (cntd): XAL-134, Plagioclase grain 6

Dist (µm)	485.4	505.6	525.9	546.1	566.3	586.5	606.8	627.0	647.2	687.7	707.9	728.1	748.3	768.6	788.8	809.0
SiO_2	52.58	52.46	52.63	52.20	52.31	52.30	52.52	52.54	52.59	52.73	52.09	52.83	52.23	52.18	52.69	53.90
TiO_2	0.04	0.04	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.07	0.04	0.05	0.04	0.06	0.04	0.06
Al_2O_3	29.19	29.16	29.13	29.24	29.42	29.42	29.40	29.17	29.33	29.70	29.50	28.76	29.33	29.29	29.01	28.00
Fe_2O_3	0.60	0.61	0.56	0.58	0.57	0.56	0.55	0.59	0.62	0.60	0.56	0.61	0.52	0.59	0.67	0.77
MnO	0.01	0.01	0.00	0.00	0.03	0.01	0.03	0.00	0.00	-0.02	0.00	0.01	0.00	0.03	-0.02	0.00
MgO	0.08	0.06	0.07	0.08	0.08	0.08	0.07	0.09	0.07	0.08	0.09	0.07	0.08	0.08	0.08	0.10
CaO	12.38	12.25	12.12	12.04	12.48	12.49	12.39	12.31	12.41	12.61	12.41	11.95	12.52	12.49	11.96	11.13
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.59	4.58	4.62	4.45	4.41	4.49	4.46	4.58	4.48	4.33	4.47	4.78	4.49	4.43	4.70	5.17
K_2O	0.16	0.13	0.16	0.17	0.14	0.13	0.16	0.16	0.16	0.12	0.17	0.17	0.15	0.14	0.14	0.26
sum	99.63	99.31	99.34	98.81	99.49	99.54	99.64	99.48	99.72	100.21	99.33	99.21	99.36	99.28	99.25	99.38
mol%An	59.3	59.2	58.6	59.3	60.5	60.2	60.0	59.2	59.9	61.3	59.9	57.5	60.2	60.4	58.0	53.5
mol%Ab	39.8	40.1	40.4	39.7	38.7	39.1	39.1	39.8	39.1	38.1	39.1	41.6	39.0	38.8	41.2	45.0
mol%Or	0.9	0.7	0.9	1.0	0.8	0.8	0.9	0.9	0.9	0.7	1.0	1.0	0.8	0.8	0.8	1.5

Table B.2.7: XAL-134, Plagioclase grain 7

Dist (µm)	53.4	78.4	108.2	129.7	167.4	187.5	212.6	241.6
SiO_2	52.69	53.14	54.73	55.21	55.26	55.29	53.42	52.34
TiO_2	0.03	0.05	0.03	0.04	0.03	0.05	0.03	0.05
Al_2O_3	29.02	28.89	28.11	27.92	27.75	27.96	28.98	29.62
Fe_2O_3	0.61	0.52	0.41	0.48	0.45	0.46	0.50	0.58
MnO	0.01	0.01	0.01	0.01	0.01	0.02	0.01	-0.01
MgO	0.08	0.07	0.05	0.06	0.06	0.04	0.05	0.08
CaO	12.21	11.43	10.74	10.51	10.23	10.16	11.45	12.55
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.67	4.99	5.49	5.72	5.71	5.74	5.05	4.40
K_2O	0.18	0.20	0.25	0.25	0.23	0.25	0.20	0.18
sum	99.51	99.29	99.82	100.22	99.73	99.97	99.70	99.80
mol%An	58.5	55.2	51.2	49.7	49.1	48.7	55.0	60.6
mol%Ab	40.5	43.6	47.4	48.9	49.6	49.8	43.9	38.4
mol%Or	1.0	1.2	1.4	1.4	1.3	1.5	1.1	1.0

Table B.2.8: XAL-134, Plagioclase grain 8

Dist (µm)	0.0	19.0	44.0	71.3	98.3	148.4	173.7	223.7	248.7	275.7
SiO_2	50.41	48.83	50.96	51.35	49.32	49.28	49.85	49.07	50.33	53.75
TiO_2	0.05	0.04	0.05	0.06	0.04	0.04	0.04	0.03	0.04	0.09
Al_2O_3	30.52	31.37	30.29	30.01	31.60	31.14	31.26	31.47	30.94	28.56
Fe_2O_3	0.69	0.72	0.65	0.60	0.66	0.75	0.67	0.59	0.64	0.73
MnO	0.01	0.03	-0.01	0.00	0.03	0.01	0.03	0.04	-0.03	0.01
MgO	0.07	0.07	0.10	0.09	0.07	0.10	0.08	0.07	0.07	0.11
CaO	14.02	14.90	13.57	12.97	14.94	14.42	14.16	15.03	14.20	11.06
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	3.86	3.09	3.98	4.19	3.13	3.33	3.54	3.19	3.51	5.21
K_2O	0.16	0.08	0.12	0.14	0.09	0.11	0.12	0.09	0.11	0.24
sum	99.79	99.14	99.71	99.43	99.89	99.17	99.75	99.58	99.80	99.75
mol%An	66.1	72.3	64.9	62.6	72.2	70.1	68.4	71.9	68.7	53.3
mol%Ab	33.0	27.2	34.4	36.6	27.3	29.3	30.9	27.6	30.7	45.4
mol%Or	0.9	0.5	0.7	0.8	0.5	0.6	0.7	0.5	0.7	1.4

Table B.2.9: XAL-134, Plagioclase grain 9

Dist (µm)	52.9	102.1	134.2	177.1	200.4	234.0	265.3	298.1	330.1	362.1	400.7	427.6	459.6	483.5
SiO_2	53.28	54.23	53.78	53.94	53.95	53.98	54.15	53.81	54.05	54.01	54.32	54.27	54.37	54.72
TiO_2	0.05	0.07	0.06	0.08	0.09	0.07	0.07	0.06	0.06	0.06	0.09	0.06	0.09	0.06
Al_2O_3	28.73	28.17	28.18	28.17	28.45	28.37	28.73	28.60	28.37	28.45	28.00	28.17	28.14	28.28
Fe_2O_3	0.66	0.66	0.59	0.66	0.66	0.65	0.65	0.64	0.62	0.60	0.69	0.62	0.65	0.68
MnO	0.01	0.00	0.00	0.02	0.02	-0.01	-0.03	0.05	-0.01	0.01	-0.01	0.02	0.00	0.02
MgO	0.08	0.09	0.09	0.10	0.08	0.09	0.10	0.08	0.11	0.09	0.14	0.09	0.09	0.12
CaO	11.49	11.11	11.19	11.16	11.03	11.39	11.25	11.18	11.11	11.28	10.88	11.22	11.13	10.49
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	5.02	5.27	5.22	5.29	5.23	5.22	5.27	5.18	5.24	5.29	5.31	5.33	5.36	5.46
K_2O	0.17	0.18	0.21	0.21	0.20	0.21	0.19	0.22	0.20	0.20	0.21	0.23	0.23	0.29
sum	99.49	99.79	99.31	99.63	99.71	99.97	100.37	99.80	99.74	99.99	99.63	100.01	100.05	100.13
mol%An	55.3	53.2	53.6	53.2	53.2	54.0	53.5	53.7	53.3	53.5	52.4	53.1	52.8	50.6
mol%Ab	43.7	45.7	45.2	45.6	45.7	44.8	45.4	45.0	45.5	45.4	46.4	45.6	46.0	47.7
mol%Or	1.0	1.0	1.2	1.2	1.1	1.2	1.1	1.3	1.1	1.1	1.2	1.3	1.3	1.7

Table B.2.10: XAL-134, Plagioclase grain 10

Dist (µm)	32.8	72.2	116.0	148.0	180.6	222.2	257.2	291.4	325.5	355.5
SiO_2	49.59	49.21	50.26	53.49	49.92	48.98	50.16	50.34	49.36	55.42
TiO_2	0.04	0.05	0.06	0.04	0.03	0.05	0.05	0.04	0.04	0.10
Al_2O_3	31.11	31.40	30.55	29.11	31.12	31.52	30.78	30.90	31.81	27.38
Fe_2O_3	0.70	0.70	0.66	0.65	0.64	0.66	0.66	0.66	0.66	0.90
MnO	0.01	0.00	-0.02	-0.01	-0.01	0.06	0.00	0.01	0.00	0.01
MgO	0.07	0.08	0.07	0.09	0.09	0.08	0.10	0.09	0.07	0.12
CaO	14.69	14.92	13.65	11.92	14.37	14.91	14.26	14.27	15.17	10.03
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	3.30	3.18	3.72	4.85	3.45	3.18	3.61	3.57	3.15	5.64
K_2O	0.09	0.10	0.10	0.17	0.11	0.10	0.11	0.10	0.06	0.31
sum	99.59	99.65	99.04	100.31	99.72	99.52	99.71	99.96	100.33	99.89
mol%An	70.8	71.8	66.6	57.0	69.3	71.8	68.2	68.5	72.4	48.7
mol%Ab	28.7	27.7	32.9	42.0	30.1	27.7	31.2	31.0	27.2	49.5
mol%Or	0.5	0.6	0.6	1.0	0.6	0.6	0.6	0.5	0.4	1.8

Table B.2.11: XAL-134, Plagioclase grain 11

Dist (µm)	28.2	58.4	83.7	127.6	154.5	189.1	214.1	239.2	288.9	319.1	389.7	491.8
SiO_2	52.08	53.61	53.52	53.12	52.73	52.62	52.58	52.58	52.86	52.71	52.56	52.23
TiO_2	0.05	0.03	0.04	0.05	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.07
Al_2O_3	29.50	28.70	28.56	29.05	29.00	29.23	29.24	29.07	29.48	29.42	29.14	29.17
Fe_2O_3	0.58	0.52	0.54	0.51	0.57	0.53	0.51	0.56	0.56	0.60	0.52	0.65
MnO	0.01	-0.02	0.01	0.00	0.02	0.00	-0.01	-0.01	0.01	0.02	-0.01	0.02
MgO	0.07	0.06	0.06	0.06	0.07	0.08	0.09	0.08	0.07	0.07	0.07	0.07
CaO	12.64	11.65	11.23	11.76	11.87	11.92	12.01	11.96	12.15	12.33	12.17	12.14
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	4.49	5.00	5.04	4.86	4.74	4.75	4.69	4.72	4.51	4.58	4.71	4.61
K_2O	0.13	0.21	0.19	0.17	0.18	0.18	0.18	0.21	0.16	0.16	0.17	0.15
sum	99.56	99.76	99.19	99.59	99.21	99.34	99.33	99.21	99.86	99.94	99.39	99.09
mol%An	60.4	55.6	54.6	56.6	57.5	57.5	58.0	57.7	59.3	59.2	58.2	58.8
mol%Ab	38.8	43.2	44.4	42.4	41.5	41.4	41.0	41.1	39.8	39.8	40.8	40.4
mol%Or	0.8	1.2	1.1	1.0	1.0	1.0	1.0	1.2	0.9	0.9	1.0	0.9

Table B.2.12: XAL-134, Plagioclase grain 12

Dist (µm)	29.7	62.5	101.1	123.9	148.3	181.7	240.5	283.9
SiO_2	54.13	54.29	55.07	54.72	54.83	54.41	54.40	53.53
TiO_2	0.04	0.05	0.02	0.05	0.03	0.05	0.03	0.04
Al_2O_3	29.11	28.82	28.22	28.43	28.09	28.35	28.49	28.60
Fe_2O_3	0.62	0.48	0.54	0.48	0.46	0.51	0.46	0.54
MnO	0.03	0.01	-0.01	-0.03	0.00	0.02	-0.02	0.00
MgO	0.07	0.05	0.06	0.05	0.05	0.08	0.06	0.08
CaO	11.70	10.98	10.68	10.76	10.57	10.82	10.78	11.16
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	5.05	5.16	5.44	5.43	5.48	5.37	5.42	5.15
K_2O	0.21	0.20	0.21	0.23	0.19	0.22	0.21	0.18
sum	100.97	100.05	100.23	100.12	99.70	99.83	99.83	99.27
mol%An	55.5	53.4	51.4	51.6	51.1	52.0	51.7	53.9
mol%Ab	43.3	45.4	47.4	47.1	47.8	46.7	47.1	45.0
mol%Or	1.2	1.2	1.2	1.3	1.1	1.2	1.2	1.0

Table B.2.13: XAL-134, Plagioclase grain 13

Dist (µm)	15.6	31.2	62.6	78.2
SiO_2	55.56	54.25	54.58	55.19
TiO_2	0.06	0.07	0.07	0.07
Al_2O_3	27.60	28.23	28.44	27.44
Fe_2O_3	0.87	0.79	0.69	0.80
MnO	-0.02	0.01	0.04	0.03
MgO	0.12	0.06	0.06	0.06
CaO	10.36	11.15	11.23	10.10
BaO	0.12	0.07	-0.12	-0.02
Na_2O	5.52	5.11	5.04	5.81
K_2O	0.28	0.17	0.24	0.33
sum	100.58	99.92	100.66	99.82
mol%An	50.1	54.1	54.4	48.1
mol%Ab	48.3	44.9	44.2	50.0
mol%Or	1.6	1.0	1.4	1.9

Table B.2.14: XAL-134, Plagioclase grain 14

Dist (µm)	0.0	7.3	14.5	29.0	36.3	43.5	50.8	58.1	65.3	72.6
SiO_2	57.24	56.19	56.10	55.92	55.72	55.28	55.89	55.35	55.34	57.24
TiO_2	0.09	0.03	0.03	0.02	0.04	0.04	0.04	-0.01	0.07	0.08
Al_2O_3	26.69	26.56	27.99	27.42	27.37	27.70	27.51	27.91	26.84	26.46
Fe_2O_3	0.63	0.64	0.61	0.75	0.71	0.95	0.69	0.64	0.68	0.89
MnO	0.05	0.02	-0.02	0.02	0.02	0.06	0.05	0.04	0.03	0.02
MgO	0.05	0.21	0.06	0.11	0.09	0.10	0.10	0.11	0.16	0.14
CaO	8.84	9.49	10.28	10.23	9.98	10.39	10.27	10.41	9.61	8.91
BaO	0.05	0.02	0.10	-0.19	-0.06	-0.19	-0.06	-0.12	0.18	0.12
Na_2O	6.48	5.87	5.43	5.67	5.85	5.66	5.66	5.52	5.91	6.64
K_2O	0.39	0.31	0.19	0.24	0.29	0.23	0.29	0.29	0.34	0.47
sum	100.54	99.40	100.79	100.37	100.06	100.41	100.49	100.28	99.16	101.00
mol%An	42.0	46.4	50.6	49.2	47.7	49.7	49.3	50.2	46.4	41.5
mol%Ab	55.8	51.9	48.4	49.4	50.6	49.0	49.1	48.1	51.6	55.9
mol%Or	2.2	1.8	1.1	1.4	1.6	1.3	1.6	1.7	2.0	2.6

Table B.2.15: XAL-134, Plagioclase grain 15

Dist (µm)	29.3	73.4	102.7	117.4
SiO_2	55.78	54.73	54.05	56.59
TiO_2	0.08	0.04	0.06	0.09
Al_2O_3	27.26	27.31	27.47	26.79
Fe_2O_3	0.82	0.83	0.71	0.95
MnO	0.01	0.02	0.04	0.03
MgO	0.07	0.11	0.11	0.07
CaO	9.66	10.51	10.80	9.43
BaO	0.10	0.02	0.03	0.05
Na_2O	6.02	5.60	5.66	6.26
K_2O	0.44	0.42	0.20	0.42
sum	100.34	99.58	99.32	100.72
mol%An	45.9	49.7	50.7	44.3
mol%Ab	51.7	47.9	48.1	53.3
mol%Or	2.5	2.4	1.1	2.4

Table B.2.16: XAL-134, Plagioclase grain 16

Dist (µm)	0.0	15.1	30.0	45.1	60.1	75.2	90.2	105.2	120.3	135.3
SiO_2	55.65	54.92	55.41	54.01	54.79	54.96	54.16	55.17	55.06	55.19
TiO_2	0.06	0.06	0.07	0.03	0.07	0.05	0.05	0.09	0.08	0.07
Al_2O_3	27.14	28.24	27.73	27.80	27.82	28.42	28.40	28.71	28.11	27.77
Fe_2O_3	0.96	0.89	0.90	0.93	0.83	0.73	0.69	0.86	0.76	0.75
MnO	0.03	-0.01	-0.04	-0.01	0.04	0.00	-0.03	-0.02	-0.07	0.06
MgO	0.08	0.10	0.09	0.10	0.06	0.10	0.07	0.09	0.13	0.09
CaO	9.46	10.25	10.58	10.90	10.64	10.82	10.75	10.82	11.02	10.71
BaO	-0.03	-0.10	-0.06	-0.02	0.03	-0.03	0.00	0.05	0.00	-0.03
Na_2O	6.14	5.68	5.48	5.28	5.41	5.29	5.56	5.26	5.44	5.34
K_2O	0.46	0.32	0.27	0.16	0.27	0.16	0.12	0.19	0.24	0.31
sum	100.09	100.48	100.54	99.20	99.96	100.53	99.79	101.22	100.84	100.42
mol%An	44.8	49.0	50.8	52.8	51.3	52.6	51.3	52.6	52.1	51.6
mol%Ab	52.6	49.2	47.6	46.3	47.2	46.5	48.0	46.3	46.6	46.6
mol%Or	2.6	1.8	1.5	0.9	1.5	0.9	0.7	1.1	1.3	1.8

Table B.2.17: XAL-134, Plagioclase grain 17

Dist (µm)	30.9	61.7	92.6	108.0
SiO_2	54.64	54.96	55.23	55.39
TiO_2	0.10	0.05	0.08	0.05
Al_2O_3	27.75	27.50	28.13	27.33
Fe_2O_3	0.86	0.81	0.61	0.89
MnO	-0.02	-0.06	-0.03	0.02
MgO	0.11	0.08	0.11	0.09
CaO	10.21	10.00	10.29	10.26
BaO	0.00	0.03	-0.03	0.05
Na_2O	5.26	5.64	5.72	5.80
K_2O	0.34	0.27	0.25	0.32
sum	99.27	99.32	100.42	100.18
mol%An	50.7	48.7	49.1	48.6
mol%Ab	47.3	49.7	49.4	49.7
mol%Or	2.0	1.6	1.4	1.8

Table B.2.18: XAL-134, Plagioclase grain 18

Dist (µm)	0.0	15.2	30.4	45.5	60.7	106.3	121.5	151.8
SiO_2	57.52	54.85	53.42	54.08	54.82	54.70	55.27	54.24
TiO_2	0.09	0.08	0.02	0.09	0.08	0.08	0.07	0.07
Al_2O_3	25.05	26.99	28.14	28.32	28.14	27.67	27.77	28.94
Fe_2O_3	0.93	0.77	0.89	0.85	0.85	0.76	0.71	0.86
MnO	-0.03	-0.03	-0.06	-0.01	-0.01	-0.03	0.03	-0.02
MgO	0.15	0.10	0.08	0.08	0.08	0.11	0.09	0.08
CaO	8.65	9.77	10.44	10.66	10.76	10.32	10.48	10.65
BaO	0.00	0.04	0.00	-0.05	0.03	0.03	-0.18	-0.18
Na_2O	6.64	5.71	4.96	5.29	5.32	5.67	5.48	5.35
K_2O	0.56	0.31	0.22	0.24	0.20	0.15	0.24	0.25
sum	99.97	98.62	98.16	99.65	100.28	99.65	100.14	100.43
mol%An	40.5	47.7	53.1	52.0	52.2	49.7	50.7	51.7
mol%Ab	56.3	50.5	45.6	46.7	46.7	49.4	47.9	46.9
mol%Or	3.1	1.8	1.3	1.4	1.1	0.9	1.4	1.4

Table B.2.19: XAL-134, Plagioclase grain 19

Dist (µm)	0.0	15.0	30.0	45.0	60.1	75.0	90.1	105.1	120.0
SiO_2	55.33	54.71	55.24	55.58	54.32	55.26	55.40	54.53	55.27
TiO_2	0.07	0.06	0.07	0.09	0.06	0.04	0.09	0.09	0.10
Al_2O_3	28.02	27.81	27.34	27.85	28.27	27.68	28.06	28.31	28.15
Fe_2O_3	0.74	0.62	0.66	0.62	0.61	0.61	0.69	0.72	0.89
MnO	-0.03	0.03	0.02	0.06	0.00	0.01	-0.05	-0.06	-0.04
MgO	0.11	0.07	0.05	0.07	0.08	0.05	0.05	0.07	0.08
CaO	10.03	9.88	10.25	10.14	11.06	10.18	10.30	11.08	10.80
BaO	-0.21	-0.06	-0.13	-0.03	-0.10	-0.08	0.08	0.07	0.19
Na_2O	5.75	5.60	5.72	5.92	5.23	5.75	5.43	5.36	5.38
K_2O	0.33	0.24	0.37	0.28	0.29	0.28	0.30	0.30	0.32
sum	100.38	99.15	99.82	100.61	100.17	99.91	100.58	100.72	101.30
mol%An	48.1	48.7	48.7	47.9	53.0	48.7	50.3	52.4	51.6
mol%Ab	50.0	49.9	49.2	50.6	45.3	49.7	48.0	45.9	46.5
mol%Or	1.9	1.4	2.1	1.6	1.6	1.6	1.8	1.7	1.8

Table B.2.20: XAL-134, Plagioclase grain 20

Dist (µm)	0.0	15.7	31.4	47.0	62.7	78.4	94.1	109.7	125.4	141.1
SiO_2	54.26	54.51	54.31	54.85	53.93	54.26	54.46	54.44	54.28	54.66
TiO_2	0.10	0.05	0.09	0.05	0.04	0.06	0.09	0.06	0.08	0.08
Al_2O_3	28.08	28.17	28.42	28.11	28.54	28.21	28.07	27.77	27.78	27.58
Fe_2O_3	0.66	0.57	0.78	0.66	0.65	0.63	0.66	0.70	0.69	0.73
MnO	-0.08	0.04	0.01	0.01	-0.01	0.01	-0.02	0.04	0.02	0.02
MgO	0.04	0.09	0.07	0.10	0.06	0.06	0.07	0.09	0.06	0.16
CaO	10.73	10.70	10.66	11.12	11.23	11.00	11.24	10.47	11.26	10.65
BaO	0.02	0.11	-0.12	-0.06	-0.12	-0.12	-0.03	-0.05	-0.08	0.09
Na_2O	5.35	5.03	5.42	5.16	5.29	5.13	5.08	5.41	5.39	5.52
K_2O	0.27	0.21	0.27	0.18	0.18	0.18	0.25	0.25	0.23	0.25
sum	99.58	99.47	100.24	100.27	99.99	99.64	100.01	99.27	99.88	99.73
mol%An	51.7	53.4	51.3	53.8	53.4	53.6	54.2	50.9	52.9	50.9
mol%Ab	46.7	45.4	47.2	45.2	45.5	45.3	44.3	47.6	45.8	47.7
mol%Or	1.6	1.3	1.5	1.1	1.0	1.1	1.4	1.5	1.3	1.4

Table B.2.21: XAL-134, Plagioclase grain 21

Dist (µm)	0.0	30.2	45.3	60.4	75.6	90.6	105.7	120.9	135.9	151.0	166.2	181.2
SiO_2	57.47	54.33	55.01	53.77	54.91	54.15	54.20	54.38	55.03	54.77	54.51	56.00
TiO_2	0.09	0.09	0.07	0.07	0.06	0.06	0.02	0.08	0.04	0.05	0.09	0.08
Al_2O_3	26.58	28.88	28.17	28.46	28.09	27.75	28.12	28.67	27.96	27.40	27.68	26.37
Fe_2O_3	0.93	0.81	0.72	0.74	0.70	0.72	0.66	0.69	0.61	0.70	0.79	0.95
MnO	-0.01	-0.04	-0.05	-0.05	-0.04	0.06	0.00	0.04	0.02	-0.02	-0.01	-0.04
MgO	0.08	0.11	0.06	0.08	0.09	0.08	0.07	0.09	0.05	0.08	0.10	0.37
CaO	9.04	10.86	11.41	11.31	10.58	10.61	10.50	11.51	10.78	10.80	10.48	9.88
BaO	0.00	0.03	0.09	-0.06	0.00	0.12	0.08	-0.05	0.08	0.05	0.12	0.09
Na_2O	6.41	5.21	5.44	5.07	5.65	5.30	5.18	5.28	5.31	5.57	5.63	5.87
K_2O	0.41	0.24	0.24	0.23	0.25	0.23	0.22	0.18	0.25	0.23	0.29	0.33
sum	101.17	100.57	101.27	99.98	100.39	99.23	99.27	101.04	100.28	99.69	99.68	100.00
mol%An	42.8	52.8	53.0	54.5	50.2	51.8	52.1	54.1	52.1	51.1	49.9	47.3
mol%Ab	54.9	45.8	45.7	44.2	48.4	46.8	46.6	44.9	46.4	47.6	48.5	50.8
mol%Or	2.3	1.4	1.3	1.3	1.4	1.4	1.3	1.0	1.5	1.3	1.6	1.9

Table B.2.22: XAL-134, Plagioclase grain 22

Dist (µm)	0.0	7.4	14.8	22.2	29.6	37.1	44.5	51.9	59.3	74.1	88.9	96.3
SiO_2	55.02	54.89	54.25	54.64	54.13	54.61	54.38	55.12	54.27	53.08	53.85	54.08
TiO_2	0.08	0.06	0.04	0.04	0.05	0.05	0.01	0.04	0.08	0.07	0.08	0.09
Al_2O_3	27.35	28.03	27.80	27.04	27.80	28.24	28.30	27.75	27.70	27.94	28.02	28.09
Fe_2O_3	0.70	0.70	0.71	0.86	0.49	0.62	0.64	0.73	0.82	0.77	0.88	0.86
MnO	-0.06	-0.03	0.07	0.02	0.04	0.01	0.04	0.02	0.05	0.05	0.02	0.02
MgO	0.12	0.11	0.06	0.48	0.10	0.06	0.06	0.08	0.07	0.10	0.08	0.29
CaO	9.96	10.61	10.92	10.46	11.06	10.51	10.50	10.56	10.58	10.77	11.11	10.89
BaO	0.02	0.03	0.00	0.00	0.06	0.09	0.12	0.12	0.13	0.00	0.05	0.12
Na_2O	5.71	5.31	5.30	5.60	5.44	5.45	5.28	5.56	5.38	5.25	5.37	5.27
K_2O	0.28	0.19	0.24	0.18	0.24	0.21	0.18	0.20	0.31	0.19	0.25	0.21
sum	99.23	100.01	99.41	99.35	99.51	99.97	99.64	100.17	99.38	98.21	99.69	99.95
mol%An	48.3	51.9	52.5	50.3	52.2	51.0	51.8	50.6	51.2	52.5	52.6	52.7
mol%Ab	50.1	47.0	46.1	48.7	46.5	47.8	47.2	48.2	47.1	46.3	46.0	46.1
mol%Or	1.6	1.1	1.4	1.0	1.4	1.2	1.1	1.2	1.8	1.1	1.4	1.2

Table B.2.23: XAL-134, Plagioclase grain 23

Dist (µm)	14.4	28.7	43.1	71.8	86.2	100.5	114.9	129.3
SiO_2	54.63	54.75	54.82	54.09	54.44	54.12	53.48	54.14
TiO_2	0.08	0.05	0.07	0.08	0.08	0.06	0.05	0.08
Al_2O_3	27.59	27.48	27.67	28.38	27.47	28.12	27.64	27.15
Fe_2O_3	0.73	0.66	0.68	0.64	0.78	0.81	0.62	0.76
MnO	-0.01	0.05	-0.01	0.01	0.00	-0.01	-0.02	-0.01
MgO	0.05	0.07	0.09	0.07	0.10	0.13	0.11	0.09
CaO	10.49	9.96	10.39	11.06	10.43	10.87	10.92	10.60
BaO	0.02	0.05	-0.06	-0.02	0.00	0.00	-0.03	0.02
Na_2O	5.33	5.63	5.52	5.24	5.57	5.50	5.13	5.41
K_2O	0.19	0.23	0.22	0.20	0.25	0.21	0.21	0.26
sum	99.10	99.11	99.50	99.79	99.12	99.97	98.19	98.50
mol%An	51.5	48.8	50.3	53.2	50.1	51.6	53.4	51.2
mol%Ab	47.4	49.9	48.4	45.6	48.5	47.3	45.4	47.3
mol%Or	1.1	1.3	1.3	1.1	1.4	1.2	1.2	1.5

Table B.2.24: XAL-134, Plagioclase grain 24

Dist (µm)	0.0	30.5	45.7	61.0	76.2	91.5	122.0	137.2	183.0
SiO_2	55.49	53.45	53.46	53.81	55.83	54.00	54.29	54.58	55.59
TiO_2	0.09	0.06	0.09	0.03	0.08	0.08	0.06	0.07	0.08
Al_2O_3	27.51	28.26	28.20	28.00	27.83	28.47	28.29	27.82	27.30
Fe_2O_3	0.87	0.60	0.76	0.53	0.47	0.69	0.72	0.71	0.75
MnO	0.01	0.01	0.01	0.02	-0.05	0.02	0.00	0.02	-0.01
MgO	0.10	0.07	0.11	0.08	0.07	0.08	0.12	0.11	0.05
CaO	9.84	11.09	10.19	10.40	10.23	11.12	10.83	10.81	9.71
BaO	0.09	-0.05	0.05	-0.11	-0.05	0.03	0.11	0.02	-0.33
Na_2O	5.67	5.27	5.24	5.46	5.46	5.23	5.16	5.39	5.88
K_2O	0.38	0.20	0.27	0.17	0.19	0.23	0.14	0.22	0.40
sum	100.03	99.19	98.40	98.89	100.23	99.95	99.71	99.87	99.76
mol%An	47.9	53.1	51.0	50.8	50.3	53.3	53.3	51.9	46.6
mol%Ab	49.9	45.7	47.4	48.2	48.6	45.4	45.9	46.8	51.1
mol%Or	2.2	1.2	1.6	1.0	1.1	1.3	0.8	1.3	2.3

Table B.2.25: XAL-134, Plagioclase grain 25

Dist (µm)	28.9	57.7	72.1	101.0
SiO_2	51.17	53.22	54.52	55.26
TiO_2	0.08	0.09	0.08	0.10
Al_2O_3	26.08	28.15	28.23	27.82
Fe_2O_3	0.77	0.64	0.86	0.96
MnO	0.05	0.05	0.03	0.10
MgO	0.09	0.06	0.06	0.10
CaO	13.05	11.34	10.79	10.26
BaO	-0.49	0.15	0.12	0.16
Na_2O	5.21	5.17	5.37	5.64
K_2O	0.30	0.21	0.29	0.31
sum	99.46	99.07	100.34	100.71
mol%An	57.2	54.1	51.8	49.2
mol%Ab	41.3	44.7	46.6	49.0
mol%Or	1.5	1.2	1.6	1.8

Table B.2.26: XAL-134, Plagioclase grain 26

Dist (µm)	0.0	31.1	46.5	62.0	77.5	93.0	108.5	123.9
SiO_2	55.33	55.37	53.73	53.68	54.86	54.60	54.32	55.65
TiO_2	0.08	0.09	0.08	0.08	0.08	0.09	0.10	0.08
Al_2O_3	28.00	27.88	28.16	28.17	28.24	27.79	27.66	27.26
Fe_2O_3	0.73	0.71	0.68	0.68	0.79	0.65	0.75	0.95
MnO	-0.03	0.08	0.01	0.06	0.02	0.08	-0.05	-0.01
MgO	0.06	0.11	0.09	0.11	0.06	0.12	0.13	0.13
CaO	10.36	10.35	11.04	11.36	10.83	10.87	10.66	10.40
BaO	-0.08	0.18	0.06	0.12	0.11	0.09	-0.03	0.18
Na_2O	5.63	5.65	5.51	5.55	5.53	5.57	5.35	5.90
K_2O	0.33	0.19	0.22	0.27	0.22	0.28	0.29	0.36
sum	100.51	100.60	99.56	100.08	100.72	100.13	99.68	101.00
mol%An	49.5	49.8	51.9	52.3	51.3	51.1	51.5	48.3
mol%Ab	48.6	49.2	46.9	46.2	47.4	47.4	46.8	49.6
mol%Or	1.9	1.1	1.2	1.5	1.2	1.5	1.7	2.0

Table B.2.27: XAL-134, Plagioclase grain 27

Dist (µm)	14.9	22.4	29.8	37.2	44.7	52.2	59.6	67.1	96.9
SiO_2	55.13	54.11	53.73	53.77	53.85	54.26	53.92	54.07	55.33
TiO_2	0.03	0.04	0.07	0.10	0.05	0.10	0.10	0.08	0.07
Al_2O_3	27.31	28.15	28.93	29.12	28.53	28.52	28.38	28.01	27.09
Fe_2O_3	0.63	0.69	0.71	0.67	0.69	0.59	0.60	0.69	0.68
MnO	-0.04	0.01	0.03	0.01	-0.04	-0.01	0.04	0.03	-0.02
MgO	0.09	0.09	0.06	0.07	0.06	0.08	0.09	0.11	0.12
CaO	10.87	11.58	11.56	11.81	11.17	11.37	10.69	10.72	9.34
BaO	0.03	0.08	0.06	0.05	0.18	0.09	0.11	-0.05	0.00
Na_2O	5.48	4.96	4.81	4.79	4.93	5.12	5.44	5.34	6.01
K_2O	0.35	0.23	0.24	0.19	0.27	0.23	0.24	0.20	0.40
sum	100.05	100.02	100.30	100.62	99.81	100.41	99.59	99.28	99.01
mol%An	51.3	55.6	56.2	57.0	54.7	54.4	51.3	52.0	45.2
mol%Ab	46.8	43.1	42.4	41.9	43.7	44.3	47.3	46.9	52.6
mol%Or	1.9	1.3	1.4	1.1	1.6	1.3	1.4	1.2	2.3

Table B.2.28: XAL-134 Plagioclase Microlites

Microlite #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SiO_2	54.48	56.59	56.56	54.96	55.99	55.93	55.62	54.47	57.38	56.53	56.31	57.39	55.81	56.51	49.41	57.47	56.12	56.18	55.98
TiO_2	0.07	0.05	0.08	0.04	0.09	0.06	0.08	0.04	0.10	0.07	0.03	0.07	0.01	0.08	0.05	0.04	0.02	0.06	0.09
Al_2O_3	28.61	27.97	28.29	28.58	28.65	28.12	28.43	28.39	26.33	27.09	27.58	28.15	28.49	28.05	24.37	27.55	28.44	27.56	28.32
Fe_2O_3	0.82	0.76	0.81	0.75	0.95	0.95	0.80	0.90	1.32	0.60	0.88	0.87	0.82	0.74	0.88	0.80	0.73	0.92	0.73
MnO	-0.03	-0.02	0.01	0.00	0.05	-0.03	-0.02	0.00	0.01	0.01	0.06	0.03	0.03	0.02	-0.03	-0.03	0.03	0.03	-0.01
MgO	0.07	0.08	0.07	0.08	0.05	0.05	0.05	0.09	0.77	0.07	0.09	0.07	0.08	0.08	0.10	0.05	0.08	0.06	0.10
CaO	10.67	10.33	10.83	12.07	10.72	11.12	10.95	10.97	9.65	10.34	10.07	9.96	10.63	10.84	15.64	9.33	10.76	10.32	10.36
BaO	0.07	0.10	0.01	0.07	0.07	-0.02	0.09	0.09	-0.02	0.09	0.14	0.14	0.09	0.25	0.05	0.05	0.01	0.01	-0.02
Na_2O	5.33	5.67	5.51	4.92	5.53	5.50	5.64	5.34	5.99	5.72	5.74	6.13	5.70	5.61	5.19	6.10	5.57	5.95	5.64
K_2O	0.17	0.24	0.25	0.29	0.27	0.24	0.31	0.17	0.36	0.36	0.34	0.40	0.31	0.26	0.39	0.43	0.29	0.43	0.39
sum	100.25	101.79	102.41	101.76	102.36	101.93	101.95	100.45	101.88	100.86	101.24	103.20	101.96	102.43	96.04	101.79	102.05	101.52	101.58
mol%An	52.0	49.5	51.3	56.6	50.9	52.1	50.9	52.6	46.1	49.0	48.3	46.3	49.9	50.9	61.3	44.7	50.8	47.8	49.2
mol%Ab	47.0	49.1	47.3	41.8	47.5	46.6	47.4	46.4	51.8	49.0	49.8	51.5	48.4	47.7	36.8	52.8	47.6	49.8	48.5
mol%Or	1.0	1.4	1.4	1.6	1.5	1.3	1.7	0.9	2.0	2.0	1.9	2.2	1.8	1.5	1.8	2.5	1.7	2.3	2.2

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
SiO_2	60.16	55.70	55.67	57.01	55.89	57.48	56.41	56.23	55.93	55.69	54.98	55.61	56.26	55.90	55.96	56.20	57.27	54.64	56.01
TiO_2	0.09	0.06	0.11	0.13	0.05	0.07	0.14	0.12	0.16	0.08	0.08	0.12	0.12	0.13	0.13	0.12	0.15	0.08	0.06
Al_2O_3	25.85	28.03	28.27	28.12	28.16	27.20	27.68	28.33	27.28	28.11	28.17	27.94	27.31	28.16	28.74	28.37	28.38	28.99	27.81
Fe_2O_3	1.40	0.74	0.87	0.88	0.77	0.91	0.91	0.91	0.82	0.79	0.69	0.61	0.70	0.67	0.67	0.81	0.62	0.65	0.85
MnO	-0.01	-0.04	0.01	-0.01	-0.04	0.00	0.00	0.00	-0.02	0.05	-0.04	0.03	-0.03	-0.04	-0.04	0.02	0.02	-0.04	-0.04
MgO	0.18	0.12	0.09	0.11	0.18	0.26	0.12	0.11	0.07	0.03	0.16	0.07	0.05	0.05	0.04	0.04	0.08	0.08	0.05
CaO	8.67	10.72	10.42	10.42	10.25	9.15	10.04	10.09	9.50	10.88	10.66	11.21	9.47	10.53	11.09	10.36	10.25	11.35	10.37
BaO	0.24	0.22	0.11	0.16	0.22	0.11	0.13	0.04	0.11	-0.01	-0.06	-0.03	-0.12	-0.08	-0.14	-0.06	-0.14	-0.04	0.04
Na_2O	5.74	5.37	5.85	5.88	5.41	6.30	5.65	5.64	6.03	5.57	5.59	5.43	6.22	5.49	5.51	5.64	5.97	4.78	5.54
K_2O	0.40	0.24	0.28	0.30	0.33	0.39	0.31	0.29	0.39	0.27	0.30	0.24	0.39	0.19	0.31	0.36	0.29	0.14	0.18
sum	102.71	101.16	101.67	103.00	101.21	101.87	101.39	101.76	100.27	101.47	100.53	101.23	100.38	101.01	102.27	101.86	102.90	100.61	100.87
mol%An	44.4	51.7	48.9	48.6	50.2	43.5	48.6	48.8	45.5	51.1	50.4	52.6	44.7	50.9	51.8	49.4	47.9	56.3	50.3
mol%Ab	53.2	46.9	49.6	49.7	47.9	54.3	49.6	49.5	52.3	47.3	47.9	46.1	53.1	48.0	46.5	48.6	50.5	42.9	48.7
mol%Or	2.4	1.4	1.5	1.7	1.9	2.2	1.8	1.7	2.2	1.5	1.7	1.3	2.2	1.1	1.7	2.1	1.6	0.8	1.1

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
SiO_2	55.39	55.69	55.84	55.84	55.69	56.82	55.38	56.89	55.82	55.80	56.48	55.42	54.35	56.33	56.73	54.94	55.47	56.27	55.19
TiO_2	0.09	0.08	0.02	0.08	0.07	0.10	0.09	0.10	0.14	0.11	0.12	0.11	0.16	0.10	0.15	0.11	0.15	0.11	0.05
Al_2O_3	28.28	28.73	28.84	28.55	27.62	27.84	29.04	27.91	27.10	27.95	27.23	28.24	28.41	28.23	27.92	28.88	28.33	28.53	28.26
Fe_2O_3	0.91	0.75	0.58	0.82	0.75	0.81	0.68	0.82	0.77	0.73	0.86	0.79	0.80	0.69	0.93	0.85	0.81	0.69	0.82
MnO	-0.03	-0.03	-0.01	0.00	-0.03	0.03	0.05	-0.02	0.00	-0.04	0.00	-0.03	-0.03	-0.08	-0.04	0.00	-0.01	-0.06	0.03
MgO	0.11	0.06	0.06	0.11	0.11	0.09	0.08	0.18	0.13	0.12	0.11	0.10	0.14	0.11	0.10	0.09	0.13	0.07	0.08
CaO	10.50	10.48	10.57	11.11	10.88	10.10	10.91	9.13	10.65	10.31	9.22	10.71	11.39	10.58	9.84	11.20	10.37	10.54	10.58
BaO	0.04	-0.08	-0.06	-0.09	0.02	-0.06	-0.08	0.00	0.09	0.31	-0.02	0.18	0.00	0.07	0.13	0.13	0.16	0.07	0.28
Na_2O	5.62	5.56	5.49	5.44	5.77	5.98	5.27	6.19	5.78	5.61	6.06	5.40	5.60	5.67	6.03	5.29	5.86	5.54	5.55
K_2O	0.33	0.27	0.24	0.26	0.31	0.35	0.20	0.40	0.28	0.37	0.30	0.19	0.15	0.27	0.39	0.25	0.29	0.24	0.22
sum	101.23	101.52	101.58	102.10	101.19	102.05	101.63	101.58	100.77	101.27	100.36	101.11	100.97	101.96	102.16	101.74	101.57	102.00	101.06
mol%An	49.9	50.2	50.8	52.3	50.1	47.4	52.7	43.9	49.7	49.3	44.9	51.7	52.5	50.0	46.4	53.2	48.6	50.5	50.7
mol%Ab	48.3	48.3	47.8	46.3	48.1	50.7	46.1	53.8	48.8	48.5	53.4	47.2	46.7	48.5	51.4	45.4	49.7	48.1	48.1
mol%Or	1.9	1.5	1.4	1.4	1.7	1.9	1.2	2.3	1.6	2.1	1.7	1.1	0.8	1.5	2.2	1.4	1.6	1.4	1.3

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite #	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
SiO_2	56.09	56.79	52.48	55.57	56.65	55.74	56.48	55.67	55.99	56.00	54.78	55.57	56.84	56.72	55.43	56.53	55.42	55.46	56.01
TiO_2	0.07	0.08	0.07	0.08	0.08	0.13	0.06	0.06	0.11	0.08	0.10	0.02	0.09	0.06	0.09	0.02	0.11	0.11	0.05
Al_2O_3	28.75	27.82	26.56	28.08	27.77	27.96	27.68	28.55	27.81	27.55	28.41	28.14	27.36	27.62	28.20	27.99	28.40	28.33	28.48
Fe_2O_3	0.78	0.75	0.74	0.84	0.85	0.94	0.82	0.84	0.99	0.95	0.91	0.79	0.90	0.95	0.69	0.77	0.85	0.74	0.77
MnO	-0.02	0.03	0.02	-0.08	-0.09	-0.07	-0.11	-0.06	-0.09	-0.08	-0.04	-0.03	0.05	0.12	0.04	0.08	0.03	0.07	0.07
MgO	0.06	0.12	0.03	0.07	0.10	0.10	0.08	0.10	0.10	0.07	0.11	0.08	0.07	0.11	0.10	0.06	0.17	0.07	0.09
CaO	10.99	9.82	10.17	10.80	10.10	10.52	9.63	10.39	10.71	10.23	11.24	10.98	9.75	10.28	10.83	9.87	11.05	10.43	10.71
BaO	0.11	0.02	0.18	-0.03	0.18	0.16	0.05	-0.03	-0.05	0.01	-0.12	-0.14	0.05	0.09	0.09	0.11	0.18	0.20	0.09
Na_2O	5.64	5.99	3.99	5.54	5.97	5.68	6.16	5.63	5.72	5.82	5.39	5.52	5.81	5.94	5.60	5.87	5.63	5.69	5.41
K_2O	0.36	0.37	0.37	0.41	0.39	0.20	0.35	0.18	0.32	0.35	0.33	0.24	0.33	0.34	0.35	0.28	0.27	0.29	0.18
sum	102.82	101.78	94.62	101.26	101.99	101.36	101.20	101.34	101.60	100.98	101.12	101.16	101.24	102.23	101.43	101.58	102.10	101.39	101.86
mol%An	50.8	46.5	57.0	50.7	47.3	50.0	45.4	50.0	49.9	48.3	52.6	51.6	47.2	48.0	50.7	47.4	51.3	49.5	51.7
mol%Ab	47.2	51.4	40.5	47.1	50.6	48.9	52.6	49.0	48.3	49.7	45.6	47.0	50.9	50.1	47.4	51.0	47.3	48.8	47.3
mol%Or	2.0	2.1	2.5	2.3	2.2	1.1	2.0	1.0	1.8	2.0	1.8	1.4	1.9	1.9	2.0	1.6	1.5	1.6	1.0

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite #	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
SiO_2	55.42	56.06	55.43	54.93	56.28	56.33	58.07	56.36	56.92	55.89	57.63	57.76	56.68	57.85	55.59	55.69	57.03	55.88	56.08
TiO_2	0.07	0.06	0.13	0.07	0.11	0.09	0.08	0.11	0.11	0.09	0.09	0.15	0.09	0.16	0.07	0.06	0.13	0.12	0.07
Al_2O_3	29.37	29.14	28.29	28.45	27.73	27.79	26.22	28.04	27.76	28.61	26.78	27.54	28.03	27.45	28.60	28.43	28.63	28.45	27.79
Fe_2O_3	0.80	0.85	0.72	0.86	0.84	0.87	0.85	0.85	0.88	0.55	3.20	1.05	0.83	1.13	0.70	0.75	0.81	0.78	0.95
MnO	0.06	0.05	0.04	-0.03	-0.04	0.03	0.02	0.04	-0.01	0.00	0.03	-0.04	0.05	0.08	0.01	-0.01	0.05	0.01	0.04
MgO	0.09	0.08	0.08	0.10	0.22	0.28	0.15	0.08	0.06	0.06	0.91	0.10	0.11	0.09	0.05	0.08	0.09	0.12	0.11
CaO	11.18	10.78	10.32	10.83	10.06	9.95	8.69	10.74	10.12	10.95	9.43	9.26	10.33	9.20	10.62	10.61	10.40	11.11	10.98
BaO	0.19	0.13	-0.10	0.09	0.04	0.06	-0.06	0.01	0.01	-0.06	0.09	0.16	0.16	0.20	0.17	0.19	0.11	0.11	0.08
Na_2O	5.48	5.26	5.58	5.36	6.06	5.56	6.47	5.86	5.97	5.53	5.96	6.23	5.69	5.91	4.55	5.53	5.55	5.37	5.49
K_2O	0.35	0.35	0.27	0.19	0.39	0.40	0.49	0.37	0.41	0.20	0.41	0.34	0.36	0.58	0.23	0.20	0.35	0.21	0.30
sum	103.02	102.76	100.76	100.86	101.69	101.36	100.98	102.47	102.23	101.82	104.51	102.56	102.31	102.64	100.58	101.52	103.13	102.16	101.88
mol%An	52.0	52.0	49.8	52.2	46.8	48.6	41.4	49.3	47.3	51.7	45.5	44.2	49.1	44.7	55.5	50.8	49.9	52.7	51.6
mol%Ab	46.1	46.0	48.7	46.7	51.0	49.1	55.8	48.7	50.4	47.2	52.1	53.8	48.9	52.0	43.1	48.0	48.1	46.1	46.7
mol%Or	1.9	2.0	1.6	1.1	2.1	2.3	2.8	2.0	2.3	1.1	2.3	1.9	2.0	3.3	1.4	1.2	2.0	1.2	1.7

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite#	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
SiO_2	55.47	56.39	55.26	55.98	55.90	55.61	54.85	55.43	55.51	56.94	56.23	55.37	56.31	57.45	54.90	56.76	55.60	54.32	55.69
TiO_2	0.10	0.10	0.08	0.08	0.07	0.08	0.08	0.07	0.08	0.05	0.09	0.09	0.11	0.13	0.08	0.13	0.12	0.13	0.12
Al_2O_3	29.29	28.33	28.33	28.23	27.72	28.31	28.19	27.29	28.50	28.90	27.75	28.66	28.23	27.66	28.76	28.65	27.42	28.03	27.37
Fe_2O_3	0.69	0.78	0.81	0.79	0.86	0.67	0.72	0.78	0.84	0.65	0.76	0.86	0.81	0.81	0.83	0.87	0.84	0.77	0.75
MnO	0.02	-0.01	-0.07	-0.10	-0.06	-0.10	-0.06	-0.07	-0.09	-0.03	-0.05	-0.05	0.04	0.00	0.07	0.02	0.01	0.04	0.00
MgO	0.11	0.10	0.08	0.06	0.08	0.09	0.10	0.08	0.07	0.08	0.07	0.06	0.06	0.08	0.08	0.06	0.11	0.08	0.04
CaO	11.73	10.74	10.77	10.24	10.26	10.92	10.55	10.41	10.96	10.66	10.71	11.02	10.06	9.36	11.35	10.02	9.80	10.72	9.91
BaO	0.17	0.17	-0.05	0.01	0.10	-0.03	0.12	0.06	0.10	0.24	0.03	0.09	0.18	0.37	0.08	0.22	0.20	0.13	0.21
Na_2O	5.36	5.96	5.63	5.74	5.71	5.35	5.52	5.59	5.53	5.74	5.65	5.24	5.80	6.15	5.16	5.79	5.79	5.36	5.65
K_2O	0.20	0.25	0.33	0.32	0.27	0.23	0.27	0.28	0.32	0.29	0.29	0.24	0.31	0.36	0.24	0.36	0.35	0.20	0.33
sum	103.13	102.82	101.18	101.33	100.90	101.14	100.34	99.92	101.82	103.51	101.52	101.58	101.90	102.36	101.56	102.88	100.24	99.76	100.07
mol%An	54.1	49.2	50.5	48.8	49.1	52.3	50.6	49.9	51.4	49.8	50.4	53.0	48.1	44.7	54.1	47.9	47.4	51.9	48.3
mol%Ab	44.8	49.4	47.7	49.4	49.4	46.4	47.9	48.5	46.9	48.6	48.0	45.6	50.2	53.2	44.5	50.1	50.6	46.9	49.8
mol%Or	1.1	1.4	1.8	1.8	1.6	1.3	1.6	1.6	1.8	1.6	1.6	1.4	1.7	2.0	1.4	2.0	2.0	1.2	1.9

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite#	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
SiO_2	55.16	54.24	54.74	55.51	55.73	54.88	54.64	53.57	55.52	54.89	54.81	55.99	55.39	54.45	54.11	55.79	55.86	55.30	56.32
TiO_2	0.09	0.09	0.07	0.08	0.10	0.07	0.07	0.06	0.06	0.04	0.10	0.05	0.08	0.11	0.10	0.10	0.12	0.09	0.11
Al_2O_3	27.21	27.72	27.26	28.00	26.77	27.79	28.23	28.20	27.79	28.00	28.18	26.98	28.60	27.98	27.95	27.53	26.90	27.86	26.92
Fe_2O_3	0.83	0.80	0.77	0.77	1.00	0.75	0.71	0.74	0.91	0.78	0.67	0.60	0.71	0.82	0.79	0.62	0.71	0.79	0.79
MnO	0.02	0.02	0.09	0.09	0.07	0.04	0.07	0.07	0.03	0.05	0.02	0.03	0.07	0.04	0.01	0.04	0.05	0.05	0.06
MgO	0.08	0.06	0.15	0.18	0.20	0.18	0.19	0.17	0.17	0.16	0.06	0.06	0.07	0.09	0.06	0.10	0.08	0.07	0.07
CaO	10.18	10.64	10.15	10.25	9.61	10.90	11.11	10.80	10.26	10.70	10.40	10.12	11.23	10.32	11.04	9.93	9.33	10.45	10.00
BaO	0.09	0.15	0.06	0.16	0.12	0.06	0.06	0.07	0.06	0.13	-0.08	-0.02	0.03	-0.02	-0.02	-0.02	0.00	-0.02	0.07
Na_2O	5.73	5.37	5.63	5.73	6.10	5.63	5.42	5.32	5.68	5.43	5.49	5.77	5.46	5.71	5.17	5.52	6.05	5.56	5.86
K_2O	0.30	0.26	0.27	0.22	0.40	0.19	0.16	0.21	0.22	0.15	0.24	0.22	0.23	0.27	0.19	0.24	0.31	0.28	0.43
sum	99.69	99.34	99.18	100.99	100.09	100.49	100.65	99.22	100.71	100.34	99.89	99.81	101.87	99.78	99.42	99.84	99.39	100.43	100.63
mol%An	48.7	51.5	49.2	49.1	45.5	51.1	52.7	52.2	49.3	51.7	50.4	48.6	52.5	49.2	53.5	49.2	45.2	50.2	47.4
mol%Ab	49.6	47.0	49.3	49.7	52.2	47.8	46.5	46.5	49.4	47.5	48.2	50.1	46.2	49.2	45.4	49.5	53.0	48.2	50.2
mol%Or	1.7	1.5	1.5	1.2	2.3	1.1	0.9	1.2	1.3	0.9	1.4	1.3	1.3	1.5	1.1	1.4	1.8	1.6	2.4

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite#	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152
SiO_2	54.13	55.27	55.41	54.62	54.82	53.33	55.24	55.08	54.33	53.63	54.97	54.83	55.04	56.49	54.32	54.30	55.16	56.08	54.59
TiO_2	0.07	0.07	0.06	0.06	0.06	0.07	0.06	0.05	0.05	0.09	0.09	0.04	0.09	0.13	0.11	0.09	0.09	0.15	0.09
Al_2O_3	28.06	26.98	27.62	27.84	27.30	28.72	27.53	27.71	28.25	27.80	27.78	27.68	27.55	26.25	28.78	28.04	26.19	26.46	27.59
Fe_2O_3	0.79	0.88	0.61	0.77	1.10	0.79	0.87	0.75	0.81	0.75	0.80	0.72	0.81	0.79	0.57	0.71	1.24	0.76	0.75
MnO	-0.03	-0.02	-0.04	0.00	0.01	-0.05	0.00	0.01	0.02	0.03	0.04	0.04	0.04	0.09	0.05	0.07	0.04	0.05	0.02
MgO	0.07	0.08	0.06	0.09	0.17	0.07	0.09	0.06	0.06	0.09	0.08	0.07	0.08	0.15	0.06	0.06	0.53	0.04	0.07
CaO	10.83	9.60	10.33	10.94	10.04	11.06	10.59	10.76	11.10	10.73	10.78	10.13	10.13	9.25	11.49	11.04	9.40	9.23	10.98
BaO	0.09	0.04	0.03	0.20	0.10	0.07	0.21	0.32	0.03	0.13	0.12	-0.01	0.02	0.07	0.09	0.02	-0.02	0.05	0.08
Na_2O	5.09	5.80	5.50	5.26	5.67	4.98	5.45	5.48	5.11	5.11	5.51	5.47	5.64	6.01	5.07	5.24	5.79	6.12	5.61
K_2O	0.30	0.36	0.26	0.26	0.31	0.20	0.32	0.25	0.36	0.21	0.25	0.38	0.29	0.43	0.16	0.25	0.38	0.46	0.24
sum	99.40	99.06	99.84	100.04	99.57	99.24	100.34	100.46	100.12	98.58	100.41	99.35	99.70	99.65	100.70	99.80	98.79	99.40	100.01
mol%An	53.1	46.8	50.2	52.7	48.6	54.4	50.8	51.3	53.4	53.0	51.2	49.5	48.9	44.8	55.1	53.0	46.2	44.3	51.3
mol%Ab	45.2	51.1	48.3	45.9	49.6	44.4	47.3	47.3	44.5	45.7	47.4	48.3	49.4	52.7	44.0	45.6	51.5	53.1	47.4
mol%Or	1.7	2.1	1.5	1.5	1.8	1.2	1.8	1.4	2.1	1.2	1.4	2.2	1.7	2.5	0.9	1.4	2.2	2.6	1.3

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite#	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
SiO_2	56.75	54.95	53.65	54.29	54.30	54.26	54.21	54.78	54.55	55.39	54.91	54.64	54.17	55.21	54.71	55.30	54.16	54.50	54.38
TiO_2	0.06	0.06	0.03	0.03	0.08	0.08	0.06	0.06	0.12	0.10	0.11	0.08	0.06	0.11	0.09	0.11	0.12	0.13	0.08
Al_2O_3	27.05	27.88	28.72	28.13	28.03	27.86	28.05	27.94	27.45	26.12	26.88	28.36	27.53	27.24	27.77	27.69	27.64	27.49	28.20
Fe_2O_3	0.78	0.63	0.89	0.70	0.74	0.68	0.79	0.68	0.76	1.73	0.78	0.77	0.66	0.72	0.87	0.78	0.95	0.73	0.76
MnO	0.05	-0.01	0.04	0.02	0.00	0.05	-0.01	0.00	0.05	0.05	-0.03	-0.03	-0.05	-0.02	-0.01	-0.03	-0.04	-0.07	-0.05
MgO	0.09	0.09	0.11	0.09	0.11	0.09	0.13	0.11	0.11	1.19	0.11	0.06	0.07	0.08	0.10	0.09	0.48	0.06	0.07
CaO	9.72	10.47	11.05	11.18	10.61	10.87	10.61	10.39	10.63	9.58	9.98	10.66	10.21	10.25	10.15	9.96	10.79	9.88	10.60
BaO	0.12	0.11	0.18	0.08	0.14	0.06	0.05	0.07	0.11	0.16	0.02	0.04	0.01	0.05	0.10	0.11	-0.02	-0.02	-0.02
Na_2O	5.92	5.31	5.20	5.23	5.57	5.29	5.26	5.54	5.48	5.65	5.66	5.13	5.32	5.65	5.68	5.72	5.13	5.64	5.43
K_2O	0.36	0.24	0.28	0.26	0.27	0.33	0.24	0.31	0.24	0.31	0.37	0.28	0.28	0.32	0.29	0.35	0.34	0.29	0.28
sum	100.90	99.71	100.15	100.01	99.84	99.55	99.38	99.88	99.48	100.27	98.79	99.98	98.24	99.60	99.74	100.09	99.54	98.64	99.73
mol%An	46.6	51.4	53.1	53.4	50.5	52.2	52.0	50.0	51.0	47.5	48.3	52.6	50.6	49.1	48.9	48.1	52.7	48.4	51.0
mol%Ab	51.3	47.2	45.3	45.2	48.0	45.9	46.6	48.2	47.6	50.7	49.6	45.8	47.7	49.0	49.5	49.9	45.4	49.9	47.4
mol%Or	2.1	1.4	1.6	1.5	1.5	1.9	1.4	1.8	1.4	1.8	2.2	1.6	1.7	1.8	1.7	2.0	2.0	1.7	1.6

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite#	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190
SiO_2	55.40	54.49	55.62	55.05	56.48	54.79	55.69	54.11	54.67	55.17	53.94	56.08	55.27	54.22	54.85	55.23	54.38	53.71	54.82
TiO_2	0.14	0.08	0.14	0.09	0.10	0.13	0.13	0.15	0.12	0.07	0.07	0.06	0.06	0.07	0.05	0.05	0.06	0.04	0.08
Al_2O_3	27.10	27.46	26.74	27.55	26.28	27.26	26.60	28.32	27.59	27.20	27.53	27.50	27.08	27.50	27.81	27.83	28.02	28.47	28.09
Fe_2O_3	0.72	0.82	0.94	0.76	0.99	0.75	0.78	0.81	0.97	1.03	0.79	0.71	0.77	0.91	0.66	0.72	0.87	0.66	0.74
MnO	0.00	-0.03	-0.01	-0.04	-0.01	-0.02	-0.01	-0.01	0.01	0.00	0.04	-0.01	-0.01	0.03	0.03	0.00	0.00	-0.02	-0.01
MgO	0.08	0.09	0.19	0.20	0.06	0.08	0.07	0.09	0.08	0.12	0.09	0.10	0.09	0.07	0.07	0.09	0.07	0.09	0.11
CaO	9.40	10.69	9.40	10.70	9.32	10.37	9.70	10.51	10.01	9.52	9.97	9.83	9.60	10.60	10.21	10.26	10.39	11.47	10.73
BaO	0.06	0.03	0.05	-0.01	0.01	0.01	0.09	-0.03	0.12	0.02	0.01	-0.05	-0.05	-0.02	-0.03	-0.03	0.01	0.01	0.01
Na_2O	5.98	5.37	5.83	5.20	5.93	5.59	5.60	5.04	5.61	5.91	5.71	5.91	6.08	5.50	5.57	5.66	5.27	5.02	5.31
K_2O	0.41	0.32	0.34	0.33	0.48	0.35	0.40	0.28	0.35	0.35	0.30	0.32	0.43	0.30	0.39	0.25	0.24	0.24	0.22
sum	99.31	99.32	99.24	99.83	99.63	99.32	99.06	99.26	99.53	99.39	98.45	100.44	99.32	99.18	99.60	100.06	99.31	99.68	100.08
mol%An	45.4	51.4	46.2	52.2	45.2	49.6	47.8	52.6	48.6	46.1	48.3	47.0	45.5	50.7	49.2	49.3	51.4	55.0	52.1
mol%Ab	52.3	46.8	51.9	45.9	52.1	48.4	49.9	45.7	49.3	51.9	50.0	51.1	52.1	47.6	48.6	49.2	47.2	43.6	46.6
mol%Or	2.4	1.8	2.0	1.9	2.8	2.0	2.3	1.7	2.0	2.0	1.7	1.8	2.4	1.7	2.2	1.4	1.4	1.4	1.3

Table B.2.28 (cntd): XAL-134 Plagioclase Microlites

Microlite #	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208
SiO_2	54.29	54.97	54.88	55.02	53.44	54.39	54.83	55.10	56.28	54.29	53.19	56.12	55.52	55.74	54.60	56.33	54.14	54.99
TiO_2	0.12	0.07	0.10	0.07	0.05	0.04	0.09	0.14	0.18	0.07	0.04	0.10	0.11	0.08	0.09	0.08	0.08	0.09
Al_2O_3	28.08	27.60	26.34	27.48	27.88	28.11	27.84	27.10	26.32	28.09	28.44	26.61	27.21	27.09	27.89	26.60	27.30	27.36
Fe_2O_3	0.60	0.75	0.85	0.70	0.69	0.58	0.58	0.88	0.93	0.59	0.74	0.91	0.79	0.73	0.65	0.81	0.82	0.69
MnO	0.02	0.06	0.02	0.02	0.00	0.08	0.00	0.03	0.09	0.03	-0.02	0.03	-0.01	-0.05	-0.04	-0.02	0.00	0.05
MgO	0.10	0.10	0.22	0.08	0.10	0.11	0.11	0.08	0.09	0.07	0.10	0.39	0.07	0.07	0.12	0.06	0.08	0.09
CaO	10.25	10.49	8.99	10.22	10.73	10.87	10.70	10.13	9.18	10.78	10.93	9.15	10.05	9.61	10.35	9.22	10.09	10.58
BaO	0.04	0.11	0.10	-0.03	0.03	-0.01	-0.04	0.03	0.04	0.01	0.00	0.09	-0.02	-0.01	0.03	0.03	0.09	0.00
Na_2O	5.51	5.48	5.84	5.59	5.01	5.20	5.50	5.51	5.62	5.20	4.99	6.01	5.87	5.94	5.58	5.89	5.21	5.61
K_2O	0.35	0.25	0.50	0.39	0.22	0.24	0.24	0.41	0.59	0.20	0.19	0.40	0.34	0.29	0.30	0.34	0.33	0.30
sum	99.37	99.88	97.84	99.55	98.15	99.62	99.84	99.40	99.32	99.32	98.59	99.81	99.93	99.50	99.57	99.32	98.14	99.76
mol%An	49.7	50.7	44.6	49.2	53.5	52.9	51.1	49.2	45.8	52.8	54.1	44.6	47.7	46.4	49.8	45.4	50.7	50.2
mol%Ab	48.3	47.9	52.5	48.6	45.2	45.7	47.6	48.4	50.7	46.1	44.7	53.0	50.4	51.9	48.6	52.6	47.4	48.1
mol%Or	2.0	1.5	2.9	2.2	1.3	1.4	1.3	2.4	3.5	1.2	1.1	2.3	1.9	1.7	1.7	2.0	1.9	1.7

Table B.3.1: XAL-103, Plagioclase grain 1

Dist (µm)	0.0	30.5	61.1	91.8	122.3	152.9	183.4	214.1	244.6	275.2	305.7	336.3	366.9
SiO_2	52.24	53.60	53.51	54.37	54.77	54.04	52.27	52.84	49.37	53.54	53.42	53.34	53.64
TiO_2	0.05	0.07	0.06	0.08	0.05	0.06	0.04	0.05	0.09	0.06	0.02	0.00	0.04
Al_2O_3	28.41	29.59	29.04	28.30	27.74	28.60	29.71	29.24	26.92	28.88	29.02	28.69	28.42
Fe_2O_3	0.84	0.74	0.57	0.57	0.64	0.62	0.70	0.62	1.43	0.59	0.68	0.69	0.67
MnO	0.03	0.00	0.00	-0.01	0.00	0.01	0.02	0.02	-0.01	-0.02	-0.01	0.02	0.02
MgO	0.07	0.09	0.10	0.08	0.07	0.08	0.09	0.09	0.09	0.07	0.07	0.08	0.07
CaO	11.79	11.91	12.18	11.43	11.16	11.42	12.58	12.17	10.23	12.31	12.09	11.80	11.92
BaO	0.01	-0.01	0.01	0.03	0.00	0.02	0.03	0.02	-0.03	0.00	0.01	0.07	0.00
Na_2O	4.45	4.52	4.75	5.01	5.33	4.89	4.16	4.46	3.97	4.51	4.56	4.63	4.70
K_2O	0.23	0.22	0.18	0.23	0.22	0.25	0.16	0.20	0.19	0.17	0.23	0.22	0.19
sum	98.13	100.74	100.39	100.10	99.98	99.99	99.76	99.72	92.29	100.15	100.10	99.54	99.68
mol%An	58.6	58.5	58.0	55.0	53.0	55.5	62.0	59.4	58.0	59.6	58.7	57.7	57.7
mol%Ab	40.0	40.2	40.9	43.7	45.8	43.0	37.1	39.4	40.7	39.5	40.0	41.0	41.2
mol%Or	1.4	1.3	1.0	1.3	1.2	1.5	1.0	1.2	1.3	1.0	1.3	1.3	1.1

Table B.3.2: XAL-103, Plagioclase grain 2

Dist (µm)	0.0	14.7	29.5	44.2	58.9	88.4	103.1	117.9	132.6	147.3	162.1	176.8	191.5	206.3
SiO_2	52.66	52.29	52.31	54.57	52.17	52.72	53.27	52.85	52.69	53.18	53.67	54.77	52.39	52.18
TiO_2	0.03	0.03	0.00	0.01	0.03	0.05	0.04	0.02	0.02	0.04	0.02	0.02	0.05	0.02
Al_2O_3	29.09	29.15	29.42	27.88	28.54	29.42	29.21	29.41	28.96	28.94	28.39	28.50	28.42	29.48
Fe_2O_3	0.70	0.76	0.63	0.65	0.90	0.71	0.77	0.77	0.70	0.63	0.71	0.65	0.67	0.71
MnO	0.00	-0.01	0.01	-0.02	0.00	0.00	0.00	-0.02	0.03	-0.01	0.02	-0.01	-0.01	0.01
MgO	0.08	0.06	0.07	0.05	0.08	0.06	0.09	0.09	0.09	0.08	0.09	0.10	0.08	0.07
CaO	12.23	12.90	12.47	11.17	12.16	12.47	12.30	12.40	11.97	11.90	11.88	11.41	11.95	12.67
BaO	0.03	0.04	0.01	-0.04	-0.05	0.02	0.00	0.04	0.03	0.03	0.01	-0.02	0.02	0.01
Na_2O	4.42	4.23	4.38	5.21	4.04	4.33	4.50	4.41	4.51	4.63	4.80	5.13	4.51	4.21
K_2O	0.22	0.21	0.16	0.26	0.23	0.22	0.19	0.18	0.19	0.20	0.20	0.25	0.21	0.20
sum	99.45	99.66	99.50	99.80	98.16	100.03	100.37	100.18	99.18	99.64	99.81	100.84	98.32	99.57
mol%An	59.7	62.0	60.6	53.4	61.6	60.7	59.5	60.2	58.8	58.0	57.1	54.3	58.7	61.7
mol%Ab	39.0	36.8	38.5	45.1	37.0	38.1	39.4	38.8	40.1	40.9	41.8	44.2	40.1	37.1
mol%Or	1.3	1.2	0.9	1.5	1.4	1.3	1.1	1.0	1.1	1.2	1.1	1.4	1.2	1.2

Table B.3.3: XAL-103, Plagioclase grain 3

Dist (µm)	0.0	15.1	30.2	60.5	75.6	90.7	105.9	121.0	136.1	151.2	166.4	181.4	196.6	211.7	226.8	241.9	272.2	287.3
SiO_2	53.96	53.18	53.46	53.50	53.93	53.84	54.21	53.94	52.72	52.74	52.81	53.11	52.85	53.68	52.54	52.53	52.99	54.77
TiO_2	0.05	0.05	0.05	0.05	0.06	0.04	0.04	0.07	0.05	0.04	0.04	0.05	0.04	0.03	0.02	0.03	0.02	0.04
Al_2O_3	28.49	29.03	28.71	29.22	28.77	28.90	28.77	28.73	29.46	29.65	29.48	29.45	29.42	28.96	28.41	29.55	29.45	28.38
Fe_2O_3	0.64	0.69	0.77	0.63	0.67	0.66	0.63	0.64	0.69	0.59	0.57	0.62	0.62	0.65	0.67	0.71	0.68	0.65
MnO	0.02	0.02	0.04	0.04	0.04	0.02	0.04	0.01	0.03	0.02	0.00	0.01	0.00	0.03	0.03	0.02	0.02	0.02
MgO	0.05	0.06	0.07	0.08	0.06	0.06	0.06	0.05	0.08	0.06	0.07	0.07	0.07	0.06	0.05	0.06	0.06	0.08
CaO	11.51	12.12	11.40	12.23	11.86	11.77	11.37	11.64	12.66	12.60	12.36	12.39	12.23	12.24	11.76	12.78	12.52	11.32
BaO	0.07	0.07	0.07	0.04	0.05	0.07	0.10	0.04	0.11	0.04	0.03	0.08	0.04	0.00	0.04	0.07	0.05	0.02
Na_2O	4.79	4.58	4.73	4.53	4.67	4.75	4.89	4.72	4.16	4.26	4.32	4.25	4.47	4.57	4.38	4.05	4.14	5.05
K_2O	0.28	0.20	0.23	0.20	0.23	0.21	0.24	0.23	0.18	0.19	0.20	0.17	0.21	0.21	0.21	0.19	0.21	0.25
sum	99.90	100.02	99.56	100.56	100.39	100.33	100.37	100.09	100.16	100.20	99.88	100.19	99.95	100.42	98.12	99.99	100.18	100.59
mol%An	56.1	58.7	56.3	59.2	57.6	57.1	55.4	56.9	62.1	61.3	60.5	61.1	59.4	58.9	59.0	62.8	61.8	54.5
mol%Ab	42.2	40.1	42.3	39.7	41.1	41.7	43.2	41.8	36.9	37.6	38.3	37.9	39.3	39.8	39.8	36.0	37.0	44.0
mol%Or	1.6	1.2	1.4	1.1	1.3	1.2	1.4	1.4	1.0	1.1	1.2	1.0	1.2	1.2	1.3	1.1	1.2	1.4

Table B.3.3 (cntd): XAL-103, Plagioclase grain 3

Dist (µm)	302.4	317.6	332.6	347.8
SiO_2	53.77	53.17	54.28	53.93
TiO_2	0.04	0.05	0.05	0.05
Al_2O_3	28.93	29.38	28.26	28.34
Fe_2O_3	0.67	0.69	0.77	0.78
MnO	0.02	0.02	0.00	0.00
MgO	0.07	0.06	0.07	0.06
CaO	11.91	12.18	11.49	11.65
BaO	0.02	0.02	0.06	0.12
Na_2O	4.79	4.47	4.98	4.91
K_2O	0.21	0.21	0.28	0.27
sum	100.44	100.27	100.24	100.11
mol%An	57.2	59.3	55.2	55.9
mol%Ab	41.6	39.4	43.2	42.6
mol%Or	1.2	1.2	1.6	1.5

Table B.3.4: XAL-103, Plagioclase grain 4

Dist (µm)	0.0	58.7	117.5	176.2	234.9	293.6	352.4	411.1	469.8	528.7	587.4	646.1	704.8	763.6	822.3
SiO_2	53.22	52.97	53.95	51.93	54.23	54.15	55.17	52.90	54.11	54.29	54.05	53.97	51.99	54.27	55.29
TiO_2	0.07	0.05	0.06	0.03	0.05	0.03	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.08
Al_2O_3	28.37	28.22	28.86	30.28	28.40	28.45	27.61	28.94	28.63	28.95	28.99	28.72	29.95	28.52	27.43
Fe_2O_3	0.62	0.70	0.70	0.63	0.59	0.59	0.65	0.66	0.64	0.62	0.65	0.71	0.62	0.73	0.77
MnO	0.03	0.02	0.00	0.03	0.04	0.02	0.03	0.00	-0.02	0.00	0.00	0.01	0.03	0.02	0.00
MgO	0.05	0.07	0.06	0.07	0.07	0.07	0.09	0.09	0.08	0.09	0.08	0.09	0.09	0.07	0.06
CaO	11.62	11.94	11.61	13.61	11.23	11.24	10.93	12.14	11.29	11.95	11.98	11.36	13.20	11.74	10.23
BaO	0.09	0.06	0.02	0.03	0.06	0.02	-0.02	0.04	0.00	0.07	0.03	0.05	0.04	0.03	0.03
Na_2O	4.83	4.66	4.76	3.82	5.07	5.00	5.26	4.48	5.03	4.81	4.71	4.87	3.86	4.80	5.50
K_2O	0.23	0.23	0.23	0.12	0.21	0.22	0.29	0.22	0.23	0.23	0.23	0.23	0.16	0.26	0.38
sum	99.14	98.95	100.26	100.57	99.98	99.81	100.07	99.51	100.05	101.06	100.79	100.05	99.97	100.50	99.79
mol%An	56.3	57.8	56.6	65.8	54.4	54.7	52.6	59.2	54.6	57.1	57.6	55.6	64.8	56.6	49.6
mol%Ab	42.3	40.9	42.0	33.5	44.4	44.0	45.8	39.5	44.1	41.6	41.0	43.1	34.3	41.9	48.2
mol%Or	1.4	1.3	1.4	0.7	1.2	1.3	1.6	1.3	1.3	1.3	1.3	1.3	1.0	1.5	2.2

Table B.3.5: XAL-103, Plagioclase grain 5

Dist (µm)	15.3	30.7	46.0	61.4	107.4	122.7	138.0	153.4
SiO_2	54.84	53.52	54.97	56.73	54.76	53.81	54.93	55.92
TiO_2	0.03	0.02	0.05	0.10	0.03	0.02	0.02	0.05
Al_2O_3	27.82	28.91	27.87	25.58	27.87	28.57	28.07	26.87
Fe_2O_3	0.79	0.78	0.77	0.89	0.81	0.77	0.80	0.97
MnO	0.02	0.01	0.01	0.01	0.00	-0.01	0.02	0.01
MgO	0.05	0.05	0.05	0.04	0.07	0.05	0.05	0.05
CaO	10.65	11.91	10.50	8.17	10.68	11.71	11.04	9.45
BaO	0.06	0.00	0.04	0.01	-0.01	-0.02	0.00	0.09
Na_2O	5.28	4.72	5.27	6.35	5.31	4.83	5.22	5.68
K_2O	0.32	0.25	0.26	0.45	0.27	0.24	0.29	0.37
sum	99.88	100.19	99.85	98.36	99.83	100.01	100.49	99.49
mol%An	51.7	57.4	51.6	40.4	51.8	56.5	53.0	46.8
mol%Ab	46.4	41.2	46.9	56.9	46.6	42.1	45.4	51.0
mol%Or	1.9	1.4	1.5	2.7	1.5	1.4	1.6	2.2

Table B.3.6: XAL-103, Plagioclase grain 6

Dist (µm)	0.0	30.4	60.9	91.3	152.3	182.8	213.2	243.7	274.2	304.7	335.1	365.5	396.0	426.4	457.0	487.4	517.9	548.3
SiO_2	53.40	54.47	53.60	51.17	52.49	53.78	71.75	52.96	52.60	53.87	54.29	55.09	55.08	54.11	53.83	53.72	54.26	54.56
TiO_2	0.06	0.04	0.06	0.04	0.04	0.06	0.06	0.04	0.05	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.05	0.07
Al_2O_3	29.43	28.45	28.65	30.54	29.79	28.71	18.09	28.08	29.68	28.73	28.51	26.63	27.82	28.66	28.59	28.48	28.02	27.92
Fe_2O_3	0.70	0.69	0.59	0.67	0.69	0.69	0.58	0.64	0.66	0.63	0.61	0.88	0.56	0.59	0.56	0.59	0.65	0.61
MnO	-0.02	-0.01	0.02	-0.01	-0.02	0.02	0.01	-0.01	0.01	-0.03	-0.02	-0.01	0.02	0.00	0.00	-0.01	0.02	0.01
MgO	0.06	0.08	0.07	0.06	0.06	0.07	0.06	0.08	0.07	0.06	0.07	0.11	0.09	0.08	0.07	0.09	0.07	0.07
CaO	12.20	11.11	11.56	13.79	12.72	11.60	6.82	11.54	12.83	11.65	11.36	9.73	10.99	11.66	11.96	11.81	11.52	11.09
BaO	0.00	0.04	0.02	0.02	0.05	-0.01	0.07	-0.03	-0.02	0.02	0.06	0.01	-0.01	-0.05	-0.07	-0.03	-0.03	-0.06
Na_2O	4.51	5.09	4.79	3.69	4.19	4.80	3.35	4.74	4.08	4.72	5.00	5.70	5.19	5.04	4.72	4.76	5.05	5.11
K_2O	0.23	0.23	0.26	0.17	0.17	0.25	0.46	0.23	0.18	0.22	0.26	0.34	0.26	0.24	0.21	0.22	0.25	0.22
sum	100.60	100.21	99.64	100.16	100.23	99.96	101.25	98.31	100.15	99.97	100.25	98.56	100.12	100.44	100.02	99.74	99.89	99.70
mol%An	59.1	53.9	56.3	66.8	62.0	56.4	50.8	56.6	62.8	56.9	54.8	47.6	53.1	55.4	57.6	57.1	55.0	53.8
mol%Ab	39.5	44.7	42.2	32.3	37.0	42.2	45.1	42.0	36.1	41.8	43.7	50.4	45.4	43.3	41.2	41.6	43.6	44.9
mol%Or	1.3	1.3	1.5	1.0	1.0	1.4	4.1	1.4	1.1	1.3	1.5	2.0	1.5	1.3	1.2	1.2	1.4	1.3

Table B.3.6 (cntd): XAL-103, Plagioclase grain 6

Dist (µm)	578.7	609.3	639.7	670.2
SiO_2	50.18	52.28	53.23	56.79
TiO_2	0.05	0.01	0.08	0.05
Al_2O_3	30.69	28.68	28.81	27.11
Fe_2O_3	0.59	0.58	0.64	0.79
MnO	0.01	0.04	0.02	0.00
MgO	0.06	0.07	0.06	0.06
CaO	14.17	12.19	11.76	9.52
BaO	-0.07	0.03	0.08	0.04
Na_2O	3.43	4.39	4.60	5.69
K_2O	0.12	0.20	0.29	0.37
sum	99.32	98.48	99.61	100.44
mol%An	69.0	59.8	57.6	47.0
mol%Ab	30.3	39.0	40.7	50.8
mol%Or	0.7	1.2	1.7	2.2

Table B.3.7: XAL-103, Plagioclase grain 7

Dist (µm)	0.0	30.7	61.4	92.1	122.9	153.6	184.4	215.1	245.8	276.5	307.2	338.0	368.7	399.4	430.1
SiO_2	54.89	53.70	54.02	54.42	54.62	54.54	54.49	54.83	54.57	55.09	54.56	53.94	54.29	54.24	53.60
TiO_2	0.07	0.03	0.05	0.04	0.06	0.04	0.03	0.05	0.02	0.04	0.02	0.03	0.02	0.07	0.06
Al_2O_3	28.21	28.80	28.57	28.48	28.41	28.70	28.04	28.32	28.31	28.41	28.07	29.35	28.77	28.31	28.14
Fe_2O_3	0.76	0.65	0.68	0.64	0.64	0.72	0.68	0.66	0.65	0.65	0.62	0.70	0.68	0.71	1.03
MnO	0.01	0.01	0.02	0.03	0.01	0.02	0.02	0.01	-0.01	0.00	-0.01	-0.02	0.01	0.05	0.03
MgO	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.08	0.08	0.06	0.07	0.07
CaO	11.08	12.01	11.42	11.33	11.24	11.72	11.25	10.94	11.27	10.92	11.20	11.96	11.64	11.37	10.86
BaO	0.09	0.06	0.08	0.06	0.04	0.02	0.06	-0.02	-0.04	0.02	0.01	0.05	0.01	-0.03	0.02
Na_2O	5.07	4.68	4.78	4.93	5.03	4.86	5.07	5.06	5.03	5.12	4.96	4.77	4.95	4.98	4.65
K_2O	0.31	0.23	0.23	0.24	0.26	0.22	0.25	0.27	0.26	0.28	0.23	0.22	0.24	0.24	0.32
sum	100.58	100.28	99.93	100.27	100.39	100.94	99.99	100.22	100.19	100.63	99.79	101.12	100.69	100.09	98.81
mol%An	53.8	57.9	56.1	55.2	54.4	56.4	54.3	53.6	54.5	53.2	54.8	57.4	55.7	55.0	55.3
mol%Ab	44.5	40.8	42.5	43.4	44.1	42.3	44.2	44.8	44.0	45.1	43.9	41.4	42.9	43.6	42.8
mol%Or	1.8	1.3	1.3	1.4	1.5	1.3	1.4	1.6	1.5	1.6	1.4	1.2	1.4	1.4	1.9

Table B.3.8: XAL-103, Plagioclase grain 8

Dist (µm)	0.0	29.6	59.1	118.3	148.0	177.6	207.1	236.7	295.9	325.5	355.0	384.7
SiO_2	54.53	53.63	53.12	52.52	52.60	54.24	57.01	55.02	52.73	54.25	53.89	54.01
TiO_2	0.04	0.04	0.05	0.05	0.03	0.04	0.06	0.06	0.04	0.03	0.06	0.08
Al_2O_3	27.92	28.94	29.03	28.31	28.25	28.23	26.14	27.83	29.46	28.92	28.77	28.39
Fe_2O_3	0.83	0.67	0.67	0.77	0.85	0.69	0.69	0.64	0.62	0.70	0.68	1.30
MnO	0.02	0.01	0.01	-0.01	0.01	0.02	0.00	0.03	0.02	0.01	0.04	0.02
MgO	0.07	0.08	0.07	0.08	0.07	0.07	0.07	0.08	0.09	0.08	0.10	0.07
CaO	10.97	11.76	12.12	11.48	11.63	11.37	8.87	10.99	12.48	11.65	11.46	11.15
BaO	0.04	-0.01	0.04	0.08	0.11	0.10	0.06	0.11	0.11	0.13	0.00	-0.03
Na_2O	5.17	4.77	4.62	4.64	4.43	5.13	6.24	5.26	4.36	4.86	4.88	4.68
K_2O	0.32	0.23	0.21	0.22	0.19	0.25	0.36	0.25	0.19	0.22	0.21	0.28
sum	99.93	100.12	99.96	98.17	98.21	100.12	99.50	100.30	100.09	100.87	100.09	99.98
mol%An	53.0	56.9	58.5	57.0	58.5	54.3	43.1	52.8	60.6	56.3	55.8	55.9
mol%Ab	45.2	41.8	40.4	41.7	40.4	44.3	54.9	45.7	38.3	42.5	43.0	42.4
mol%Or	1.9	1.3	1.2	1.3	1.1	1.4	2.1	1.4	1.1	1.3	1.2	1.7

Table B.3.9: XAL-103, Plagioclase grain 9

Dist (µm)	0.0	30.5	60.9	91.4	121.8	152.2	182.7	213.2	243.6	274.1	304.6	335.0	365.5	395.9	456.8	487.3	517.7	548.2
SiO_2	54.23	55.33	54.64	53.97	53.49	54.08	54.00	54.03	54.00	53.66	53.46	54.23	54.32	54.17	54.70	54.49	54.59	54.84
TiO_2	0.05	0.06	0.06	0.06	0.05	0.08	0.04	0.03	0.01	0.04	0.00	0.02	0.04	0.02	0.03	0.03	0.05	0.03
Al_2O_3	28.59	28.23	28.68	29.17	28.77	28.77	28.86	28.75	28.77	29.11	28.98	29.01	28.86	28.71	28.26	28.19	28.23	28.22
Fe_2O_3	0.63	0.62	0.65	0.53	0.52	0.55	0.55	0.57	0.68	0.74	0.63	0.60	0.54	0.58	0.59	0.62	0.65	0.66
MnO	0.03	0.02	0.00	0.01	0.03	0.03	0.03	0.01	0.03	0.02	-0.01	0.01	0.02	0.02	0.00	-0.01	0.01	0.00
MgO	0.07	0.06	0.07	0.06	0.08	0.07	0.08	0.08	0.06	0.07	0.06	0.05	0.04	0.06	0.06	0.06	0.05	0.05
CaO	11.18	10.68	11.08	11.31	12.05	11.45	11.52	11.63	11.54	11.97	12.12	11.53	11.76	11.39	11.12	10.94	11.02	11.18
BaO	-0.01	0.00	0.01	0.04	0.00	-0.03	0.01	0.00	0.03	-0.03	0.02	-0.05	0.01	0.02	0.02	0.02	-0.07	0.10
Na_2O	4.93	5.38	5.10	4.69	4.59	4.60	4.73	4.78	4.80	4.40	4.59	4.90	4.86	4.83	5.02	4.92	5.14	5.11
K_2O	0.24	0.30	0.25	0.22	0.21	0.18	0.23	0.22	0.22	0.19	0.19	0.26	0.22	0.23	0.22	0.26	0.26	0.28
sum	99.95	100.67	100.55	100.06	99.79	99.80	100.07	100.07	100.16	100.21	100.05	100.60	100.67	100.06	100.04	99.56	100.01	100.50
mol%An	54.8	51.4	53.7	56.4	58.5	57.3	56.6	56.6	56.3	59.4	58.7	55.7	56.5	55.8	54.4	54.3	53.4	53.9
mol%Ab	43.7	46.9	44.8	42.3	40.3	41.6	42.1	42.1	42.4	39.5	40.2	42.8	42.2	42.8	44.4	44.2	45.1	44.5
mol%Or	1.4	1.7	1.5	1.3	1.2	1.0	1.4	1.3	1.3	1.1	1.1	1.5	1.3	1.4	1.3	1.5	1.5	1.6

Table B.3.10: XAL-103, Plagioclase grain 10

Dist (µm)	0.0	15.2	30.3	45.4	60.6	75.7	90.9	106.1	121.2	151.5	212.1	227.3	242.5	257.6	272.7	287.9	318.2	333.4	348.5	363.7
SiO_2	54.42	54.16	54.13	53.96	53.91	55.67	55.40	56.27	53.18	53.85	53.61	54.30	54.60	54.19	54.17	53.66	54.95	54.23	54.50	57.06
TiO_2	0.02	0.04	0.03	0.05	0.03	0.03	0.01	0.04	0.02	0.06	0.06	0.06	0.09	0.06	0.06	0.03	0.04	0.05	0.04	0.03
Al_2O_3	28.74	28.57	28.57	28.56	28.64	27.77	27.47	27.33	29.04	28.69	28.92	28.05	27.83	28.19	28.50	28.77	28.19	28.39	28.43	26.85
Fe_2O_3	0.67	0.62	0.58	0.63	0.67	0.72	0.63	0.60	0.69	0.66	0.64	0.63	0.70	0.66	0.63	0.69	0.65	0.64	0.63	0.71
MnO	0.00	0.02	0.00	0.01	-0.02	0.01	0.02	0.00	0.00	-0.02	-0.04	-0.02	-0.01	-0.01	-0.03	-0.02	0.00	0.00	-0.01	0.00
MgO	0.08	0.06	0.08	0.08	0.08	0.09	0.08	0.07	0.06	0.05	0.06	0.08	0.09	0.09	0.09	0.07	0.08	0.06	0.05	0.05
CaO	11.54	11.80	11.53	11.40	11.82	10.66	10.36	10.08	12.18	11.72	11.51	11.16	10.91	11.31	11.65	11.33	11.31	11.39	11.36	9.09
BaO	0.14	0.07	0.06	0.08	0.11	0.06	0.06	0.09	0.06	0.06	0.06	0.08	0.03	0.04	-0.01	0.02	0.09	0.08	-0.05	0.04
Na_2O	4.94	5.00	4.83	4.84	4.83	5.38	5.53	5.55	4.60	4.73	4.79	5.09	5.04	4.97	4.92	4.82	5.12	5.17	5.18	6.15
K_2O	0.22	0.26	0.23	0.22	0.24	0.32	0.29	0.31	0.24	0.25	0.28	0.25	0.24	0.24	0.22	0.26	0.28	0.23	0.29	0.41
sum	100.78	100.60	100.05	99.82	100.35	100.72	99.86	100.33	100.06	100.11	99.96	99.70	99.57	99.80	100.26	99.66	100.72	100.25	100.51	100.43
mol%An	55.7	55.8	56.1	55.8	56.7	51.3	50.0	49.2	58.6	57.0	56.1	54.0	53.7	55.0	56.0	55.7	54.1	54.2	53.9	43.9
mol%Ab	43.1	42.8	42.5	42.9	42.0	46.9	48.3	49.0	40.1	41.6	42.2	44.6	44.9	43.7	42.8	42.8	44.3	44.5	44.5	53.7
mol%Or	1.2	1.4	1.3	1.3	1.4	1.9	1.7	1.8	1.3	1.5	1.6	1.5	1.4	1.4	1.3	1.5	1.6	1.3	1.6	2.4

Table B.3.11: XAL-103, Plagioclase grain 11

Dist (µm)	0.0	29.9	59.8	89.7	179.4	209.3	239.2	269.1	298.9	328.8	358.7	388.6	418.5	448.4	478.2	508.1	538.1	568.0
SiO_2	53.58	53.81	54.08	54.18	55.21	54.08	53.53	53.32	53.54	53.77	53.39	54.76	53.58	53.34	53.90	53.79	53.91	54.61
TiO_2	0.06	0.03	0.04	0.02	0.04	0.05	0.05	0.06	0.05	0.04	0.04	0.05	0.05	0.04	0.06	0.03	0.05	0.08
Al_2O_3	28.55	28.59	29.09	29.01	28.06	28.85	28.78	29.77	28.77	28.81	28.97	28.32	28.92	29.57	28.87	29.20	28.92	28.63
Fe_2O_3	0.78	0.72	0.68	0.59	0.71	0.72	0.61	0.73	0.82	0.70	0.64	0.69	0.64	0.67	0.63	0.70	1.27	0.82
MnO	-0.01	0.02	-0.02	0.00	0.03	0.01	0.04	0.01	0.04	0.02	0.02	0.02	-0.01	0.00	-0.01	0.00	-0.01	0.01
MgO	0.06	0.07	0.07	0.08	0.11	0.09	0.11	0.11	0.11	0.11	0.08	0.11	0.10	0.10	0.10	0.10	0.10	0.10
CaO	12.03	11.69	12.01	11.77	10.87	11.73	11.76	12.32	12.17	11.57	12.16	11.06	11.94	12.24	11.81	12.38	11.25	11.54
BaO	-0.05	0.00	0.01	0.05	0.07	0.09	0.04	0.06	0.05	0.02	0.07	0.08	0.10	0.06	0.01	0.09	0.09	0.02
Na_2O	4.62	4.70	4.82	4.82	5.31	4.83	4.78	4.46	4.58	4.69	4.49	5.14	4.65	4.43	4.71	4.54	4.43	4.87
K_2O	0.20	0.23	0.20	0.24	0.24	0.19	0.18	0.19	0.20	0.20	0.17	0.21	0.21	0.19	0.22	0.18	0.26	0.28
sum	99.89	99.88	100.99	100.79	100.65	100.68	99.87	101.05	100.35	99.96	100.03	100.44	100.20	100.65	100.35	101.00	100.39	100.96
mol%An	58.3	57.1	57.3	56.6	52.4	56.7	57.0	59.8	58.8	57.0	59.3	53.7	58.0	59.8	57.3	59.5	57.5	55.8
mol%Ab	40.5	41.6	41.6	42.0	46.3	42.2	41.9	39.2	40.0	41.8	39.7	45.1	40.8	39.1	41.4	39.5	40.9	42.6
mol%Or	1.2	1.3	1.1	1.4	1.3	1.1	1.1	1.1	1.2	1.2	1.0	1.2	1.2	1.1	1.3	1.0	1.6	1.6

Table B.3.12: XAL-103, Plagioclase grain 12

Dist (µm)	30.1	60.2	90.3	120.4	150.5	180.6	240.8	270.9	301.0	331.1
SiO_2	54.14	54.41	54.74	53.94	54.57	55.89	55.24	55.29	53.23	52.98
TiO_2	0.03	0.04	0.06	0.03	0.04	0.03	0.04	0.03	0.03	0.01
Al_2O_3	28.09	27.95	28.27	28.30	28.59	27.84	27.58	27.53	28.75	28.28
Fe_2O_3	0.65	0.60	0.61	0.67	0.69	0.68	0.66	0.71	0.71	0.72
MnO	0.03	0.00	0.01	0.02	-0.01	0.01	0.00	0.00	0.01	0.03
MgO	0.08	0.09	0.09	0.07	0.07	0.09	0.07	0.09	0.07	0.05
CaO	11.25	10.98	11.08	11.49	11.48	10.54	10.35	10.54	11.68	11.78
BaO	0.05	0.05	0.03	0.04	-0.03	0.04	0.04	0.02	-0.02	-0.06
Na_2O	5.04	5.10	5.21	4.81	4.85	5.55	5.47	5.52	4.67	4.70
K_2O	0.20	0.23	0.24	0.22	0.22	0.25	0.26	0.28	0.23	0.26
sum	99.57	99.46	100.36	99.60	100.54	100.91	99.74	100.00	99.40	98.80
mol%An	54.6	53.6	53.3	56.2	56.0	50.5	50.3	50.5	57.2	57.2
mol%Ab	44.3	45.0	45.3	42.5	42.7	48.1	48.2	47.9	41.4	41.3
mol%Or	1.1	1.3	1.4	1.3	1.3	1.4	1.5	1.6	1.3	1.5

Table B.3.13: XAL-103, Plagioclase grain 13

Dist (µm)	0.0	29.9	89.9	120.0	179.8	209.9	239.8	299.8	329.7	359.8	389.7	419.7	449.7	479.6	509.6	569.6	599.6	629.5
SiO_2	53.33	53.73	50.62	55.19	55.37	54.78	55.70	54.92	55.06	55.30	55.75	53.59	51.91	54.50	54.88	54.31	55.12	55.07
TiO_2	0.03	0.02	0.03	0.06	0.04	0.05	0.05	0.06	0.05	0.03	0.02	0.03	0.04	0.03	0.04	0.08	0.04	0.05
Al_2O_3	29.09	28.99	31.30	28.48	28.03	27.96	28.31	27.97	27.87	28.33	27.58	28.77	29.75	28.44	28.43	28.18	28.33	28.30
Fe_2O_3	0.67	0.66	0.68	0.61	0.69	0.79	0.73	0.71	0.61	0.59	0.61	0.64	0.62	0.62	0.60	0.65	0.66	0.61
MnO	0.00	0.01	0.01	-0.01	0.01	-0.01	-0.02	0.00	-0.02	0.00	0.00	0.00	0.02	0.01	0.00	-0.01	0.02	0.00
MgO	0.08	0.07	0.06	0.06	0.06	0.07	0.09	0.09	0.06	0.05	0.05	0.06	0.06	0.05	0.06	0.06	0.06	0.06
CaO	12.04	11.74	14.30	10.96	11.04	10.74	11.03	10.72	11.02	11.17	10.12	11.83	12.98	11.35	11.37	11.22	11.33	11.19
BaO	-0.06	0.00	-0.02	0.01	0.04	0.08	0.06	-0.01	0.05	0.07	0.03	0.05	0.10	0.08	0.08	0.07	0.03	0.08
Na_2O	4.60	4.77	3.37	5.19	5.13	5.21	5.19	5.29	5.18	5.22	5.47	4.76	3.98	4.99	4.95	5.00	5.00	5.24
K_2O	0.20	0.18	0.12	0.26	0.26	0.24	0.26	0.27	0.25	0.26	0.29	0.24	0.17	0.23	0.23	0.23	0.23	0.27
sum	100.03	100.17	100.50	100.84	100.70	99.99	101.47	100.03	100.18	101.04	99.95	99.99	99.64	100.31	100.65	99.82	100.81	100.88
mol%An	58.5	57.0	69.6	53.1	53.5	52.5	53.2	52.0	53.3	53.4	49.7	57.1	63.7	54.9	55.2	54.6	54.9	53.3
mol%Ab	40.4	41.9	29.7	45.4	45.0	46.1	45.3	46.4	45.3	45.1	48.6	41.6	35.3	43.7	43.5	44.1	43.8	45.2
mol%Or	1.1	1.1	0.7	1.5	1.5	1.4	1.5	1.6	1.4	1.5	1.7	1.4	1.0	1.3	1.3	1.3	1.3	1.5

Table B.3.14: XAL-103, Plagioclase grain 14

Dist (µm)	0.0	14.5	29.1	43.6	58.2	72.6	87.1	101.7	116.2	130.7	145.2	159.7	174.3	188.8	203.3	217.8	232.4	246.9
SiO_2	53.11	52.71	52.89	53.06	54.79	54.85	54.47	53.13	53.66	53.50	54.57	53.14	53.27	54.88	52.37	52.95	54.41	55.09
TiO_2	0.05	0.05	0.04	0.05	0.02	0.04	0.03	0.05	0.04	0.05	0.06	0.06	0.05	0.07	0.07	0.03	0.04	0.07
Al_2O_3	29.59	30.01	29.61	29.54	28.42	28.49	29.00	29.04	29.06	29.25	28.16	29.99	29.39	28.20	29.50	29.00	28.51	27.91
Fe_2O_3	0.82	0.74	0.69	0.78	0.69	0.70	0.74	0.63	0.64	0.64	0.71	0.77	0.92	0.72	1.12	0.66	0.75	0.77
MnO	-0.04	0.00	0.02	0.00	0.00	-0.01	0.01	0.00	0.00	0.01	-0.01	-0.05	-0.04	-0.03	-0.04	-0.04	-0.03	0.00
MgO	0.08	0.08	0.07	0.09	0.07	0.09	0.09	0.07	0.08	0.06	0.08	0.07	0.11	0.08	0.11	0.11	0.08	0.09
CaO	12.56	12.44	12.67	12.23	11.43	11.51	11.25	12.58	11.79	12.31	11.22	12.58	11.48	11.15	11.96	12.52	11.52	11.05
BaO	0.06	0.08	0.11	0.14	0.05	0.10	0.01	0.05	0.07	0.08	0.01	0.02	-0.01	0.02	-0.01	0.01	0.01	0.03
Na_2O	4.32	4.36	4.35	4.33	4.98	5.08	4.81	4.70	4.55	4.50	5.02	4.14	4.32	5.03	4.15	4.32	4.92	5.25
K_2O	0.21	0.21	0.21	0.19	0.20	0.23	0.20	0.19	0.16	0.16	0.23	0.17	0.20	0.25	0.18	0.19	0.20	0.33
sum	100.82	100.68	100.69	100.41	100.68	101.11	100.63	100.44	100.07	100.60	100.05	100.97	99.73	100.40	99.48	99.79	100.48	100.61
mol%An	60.9	60.4	61.0	60.3	55.3	54.9	55.7	59.0	58.3	59.6	54.6	62.0	58.8	54.3	60.8	60.9	55.7	52.7
mol%Ab	37.9	38.4	37.8	38.6	43.6	43.8	43.1	39.9	40.7	39.5	44.1	37.0	40.0	44.3	38.2	38.0	43.1	45.4
mol%Or	1.2	1.2	1.2	1.1	1.2	1.3	1.2	1.0	1.0	0.9	1.3	1.0	1.2	1.4	1.1	1.1	1.2	1.9

Table B.3.15: XAL-103, Plagioclase grain 15

Dist (µm)	0.0	14.9	29.8	44.6	59.5	74.4	89.3	119.1	133.9	148.8	163.7	178.6	193.5	208.4	223.2	238.1
SiO_2	53.28	52.54	53.71	52.78	52.19	52.96	53.62	53.17	53.77	54.58	54.27	53.73	52.98	53.74	55.12	55.55
TiO_2	0.05	0.09	0.04	0.04	0.03	0.02	0.02	0.04	0.04	0.05	0.03	0.04	0.05	0.07	0.06	0.09
Al_2O_3	28.96	28.85	28.61	29.95	29.48	29.16	28.68	28.77	28.52	28.42	28.37	28.52	29.40	28.03	27.15	27.47
Fe_2O_3	0.76	1.23	0.69	0.63	0.66	0.62	0.67	0.74	0.69	0.68	0.64	0.62	0.71	0.74	0.58	0.86
MnO	-0.03	-0.04	0.04	0.03	0.03	0.01	0.03	0.03	0.03	0.04	0.03	0.00	-0.01	-0.01	-0.01	0.01
MgO	0.09	0.09	0.06	0.07	0.05	0.09	0.06	0.08	0.08	0.08	0.07	0.06	0.07	0.09	0.06	0.05
CaO	11.85	11.21	11.85	13.01	12.43	12.20	11.87	12.00	11.54	11.07	11.59	11.92	12.19	11.61	10.46	10.84
BaO	0.09	0.00	0.01	0.04	-0.01	0.04	0.04	0.00	0.07	0.02	0.01	0.03	0.06	0.06	0.07	0.13
Na_2O	4.83	4.24	4.84	4.09	4.15	4.50	4.72	4.56	5.01	5.17	4.95	4.77	4.36	4.93	5.56	5.19
K_2O	0.22	0.20	0.18	0.18	0.16	0.25	0.23	0.22	0.23	0.24	0.21	0.20	0.19	0.24	0.28	0.33
sum	100.13	98.46	100.03	100.83	99.19	99.87	99.96	99.67	99.99	100.37	100.21	99.93	100.04	99.52	99.38	100.55
mol%An	56.8	58.6	56.9	63.1	61.8	59.1	57.4	58.5	55.3	53.4	55.7	57.3	60.0	55.8	50.2	52.6
mol%Ab	41.9	40.1	42.0	35.9	37.3	39.5	41.3	40.2	43.4	45.2	43.1	41.5	38.9	42.9	48.2	45.6
mol%Or	1.3	1.3	1.0	1.0	0.9	1.5	1.3	1.3	1.3	1.4	1.2	1.2	1.1	1.4	1.6	1.9

Table B.3.16: XAL-103, Plagioclase grain 16

Dist (µm)	0.0	15.4	30.8	46.3	61.7	77.1	92.5	107.9	123.4	138.8	154.2	169.6	185.1	215.9	231.3	246.7	262.2	277.6	293.0
SiO_2	56.89	54.08	52.11	52.07	53.03	54.31	52.92	56.43	51.94	57.61	54.37	53.88	53.46	53.99	53.78	51.80	52.08	52.22	54.11
TiO_2	0.08	0.09	0.08	0.06	0.04	0.11	0.06	0.41	0.03	0.05	0.04	0.04	0.09	0.03	0.04	0.04	0.03	0.05	0.08
Al_2O_3	26.75	28.46	29.82	30.35	29.31	27.25	30.38	25.04	30.13	26.65	28.53	29.13	28.84	28.55	29.24	30.42	30.10	29.75	27.52
Fe_2O_3	0.75	0.71	1.05	0.67	0.55	0.64	0.71	3.49	0.61	0.72	0.69	0.66	1.00	0.67	0.65	0.70	0.67	0.68	1.08
MnO	-0.02	0.05	-0.01	0.01	-0.03	-0.01	-0.01	0.04	-0.01	-0.03	-0.02	0.00	-0.02	0.02	0.01	0.01	0.01	-0.01	0.02
MgO	0.06	0.06	0.09	0.09	0.07	0.10	0.10	0.81	0.08	0.10	0.09	0.09	0.10	0.08	0.08	0.07	0.08	0.06	0.07
CaO	9.30	11.56	12.65	13.35	12.32	11.90	12.63	10.08	13.06	9.10	11.68	12.02	11.19	11.52	12.18	13.15	13.26	12.49	10.43
BaO	0.14	0.04	-0.01	0.01	-0.06	0.00	-0.05	0.01	0.00	0.00	-0.03	0.00	0.00	0.05	0.06	0.01	0.04	0.03	0.01
Na_2O	6.08	4.89	3.70	3.99	4.50	3.82	3.85	4.11	3.83	6.27	4.80	4.47	4.48	4.79	4.50	3.84	3.95	4.09	5.13
K_2O	0.39	0.26	0.20	0.19	0.23	0.65	0.20	1.03	0.20	0.43	0.26	0.25	0.26	0.26	0.23	0.17	0.14	0.18	0.37
sum	100.46	100.25	99.71	100.79	100.05	98.82	100.86	101.64	99.87	100.95	100.46	100.56	99.45	99.99	100.77	100.21	100.38	99.57	98.84
mol%An	44.8	55.8	64.6	64.2	59.4	60.7	63.7	53.8	64.6	43.4	56.5	58.9	57.1	56.2	59.2	64.8	64.5	62.1	51.8
mol%Ab	53.0	42.7	34.2	34.7	39.3	35.3	35.1	39.7	34.2	54.2	42.0	39.6	41.4	42.3	39.5	34.2	34.8	36.8	46.0
mol%Or	2.2	1.5	1.2	1.1	1.3	4.0	1.2	6.5	1.2	2.4	1.5	1.4	1.6	1.5	1.3	1.0	0.8	1.1	2.2

Table B.3.17: XAL-103, Plagioclase grain 17

Dist (µm)	0.0	60.5	90.8	121.1	151.3	181.6	211.8	242.1	272.4	302.6	332.9	363.2	393.4	453.9	484.2	514.5	544.7	575.0	605.3
SiO_2	53.50	54.24	54.06	54.55	54.65	54.11	54.76	53.08	53.24	54.16	53.49	53.50	53.84	54.14	55.92	55.43	53.49	54.92	53.06
TiO_2	0.06	0.03	0.06	0.05	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.04	0.05	0.06	0.04	0.04	0.06
Al_2O_3	29.04	28.17	28.32	28.71	28.88	28.83	28.56	29.94	29.58	29.02	29.36	29.33	29.28	29.05	28.00	28.15	28.76	28.71	28.62
Fe_2O_3	0.60	0.60	1.01	0.57	0.59	0.55	0.58	0.46	0.58	0.53	0.55	0.51	0.57	0.59	0.63	0.61	0.67	0.61	1.11
MnO	0.01	0.01	0.02	-0.01	0.01	0.00	0.01	0.00	0.03	0.02	0.01	0.03	0.02	-0.03	-0.02	-0.03	0.01	0.00	-0.01
MgO	0.05	0.07	0.07	0.05	0.05	0.06	0.06	0.05	0.05	0.07	0.05	0.05	0.04	0.06	0.08	0.07	0.08	0.08	0.09
CaO	11.70	11.20	10.66	11.55	11.15	11.64	11.17	12.51	12.53	11.66	12.07	12.39	11.84	11.67	10.67	10.61	11.61	11.26	10.87
BaO	0.04	0.05	0.03	0.06	0.07	0.04	0.08	0.03	0.11	0.06	0.02	0.08	0.07	0.09	0.05	0.02	0.05	0.02	0.04
Na_2O	4.72	5.01	4.77	4.88	5.04	4.86	5.11	4.34	4.41	4.81	4.49	4.55	4.59	4.81	5.30	5.43	4.75	5.20	4.50
K_2O	0.22	0.25	0.27	0.25	0.27	0.26	0.28	0.19	0.21	0.26	0.23	0.21	0.18	0.24	0.30	0.27	0.25	0.29	0.25
sum	99.93	99.69	99.31	100.68	100.77	100.39	100.67	100.66	100.82	100.67	100.37	100.72	100.52	100.70	101.01	100.68	99.71	101.12	98.60
mol%An	57.1	54.5	54.3	55.9	54.2	56.1	53.9	60.7	60.4	56.4	58.9	59.4	58.2	56.5	51.8	51.1	56.6	53.6	56.3
mol%Ab	41.7	44.1	44.0	42.7	44.3	42.4	44.6	38.2	38.4	42.1	39.7	39.4	40.8	42.2	46.5	47.3	41.9	44.8	42.2
mol%Or	1.2	1.4	1.6	1.5	1.6	1.5	1.6	1.1	1.2	1.5	1.4	1.2	1.1	1.4	1.7	1.6	1.4	1.6	1.5

Table B.4.1: TAN-13, Plagioclase grain 1

Dist (µm)	29.2	87.7	102.3	116.9	146.1	160.7	175.3	190.0	204.6	233.8
SiO_2	47.53	49.22	49.07	48.92	49.04	48.97	49.09	48.35	47.04	51.30
TiO_2	0.04	0.04	0.03	0.02	-0.01	0.01	0.01	-0.02	-0.01	0.07
Al_2O_3	32.39	31.53	31.40	31.65	31.62	31.62	31.38	32.05	32.92	29.23
Fe_2O_3	0.48	0.54	0.52	0.48	0.55	0.51	0.54	0.60	0.51	1.36
MnO	0.01	-0.03	0.02	0.01	0.05	0.01	0.01	-0.01	0.01	-0.01
MgO	0.03	0.07	0.08	0.07	0.04	0.06	0.07	0.05	0.04	0.49
CaO	15.85	14.47	14.56	14.63	14.37	14.66	14.48	14.88	16.05	13.25
BaO	-0.05	-0.06	-0.16	-0.08	-0.02	-0.14	0.03	-0.03	0.02	0.03
Na_2O	2.26	2.86	2.91	2.84	2.82	2.97	2.97	2.66	2.04	3.53
K_2O	0.05	0.09	0.07	0.10	0.05	0.10	0.03	0.05	0.06	0.25
sum	98.74	98.82	98.67	98.72	98.69	98.98	98.60	98.74	98.74	99.52
mol%An	79.3	73.3	73.1	73.5	73.6	72.7	72.8	75.4	81.0	66.5
mol%Ab	20.4	26.2	26.5	25.8	26.1	26.7	27.0	24.4	18.6	32.0
mol%Or	0.3	0.5	0.4	0.6	0.3	0.6	0.2	0.3	0.4	1.5

Table B.4.2: TAN-13, Plagioclase grain 2

Dist (µm)	0.0	29.9	59.8	89.7	119.6	149.5	209.3	239.3	269.2	299.1	329.0
SiO_2	53.35	45.40	46.19	46.31	46.73	46.21	46.43	45.90	47.21	46.49	54.06
TiO_2	0.05	0.01	-0.02	0.01	0.02	-0.01	0.00	0.01	-0.03	-0.02	0.06
Al_2O_3	27.32	33.30	33.48	33.05	33.27	33.37	33.18	33.30	33.00	32.78	27.03
Fe_2O_3	1.56	0.47	0.47	0.55	0.59	0.59	0.43	0.62	0.57	0.66	1.43
MnO	-0.01	0.01	0.00	0.04	0.00	0.04	0.02	-0.01	0.01	0.05	0.03
MgO	0.68	0.07	0.06	0.04	0.05	0.05	0.04	0.06	0.04	0.05	0.52
CaO	11.27	17.31	17.44	16.49	16.51	16.46	17.02	16.82	16.12	16.52	11.03
BaO	0.04	0.06	-0.10	-0.04	-0.01	0.00	-0.02	0.06	0.02	0.01	0.06
Na_2O	4.49	1.70	1.75	1.97	1.80	1.91	1.82	1.59	2.13	1.97	4.56
K_2O	0.28	0.06	0.03	0.07	0.07	0.06	0.04	0.08	0.07	0.08	0.41
sum	99.04	98.41	99.46	98.55	99.04	98.75	99.09	98.45	99.36	98.66	99.34
mol%An	57.1	84.6	84.5	81.9	83.2	82.3	83.6	85.0	80.4	81.8	55.8
mol%Ab	41.2	15.1	15.4	17.7	16.4	17.3	16.2	14.5	19.2	17.7	41.7
mol%Or	1.7	0.4	0.2	0.4	0.4	0.4	0.2	0.5	0.4	0.4	2.4

Table B.4.3: TAN-13, Plagioclase grain 3

Dist (µm)	60.6	181.8	303.1	363.7	424.3	484.9	545.5	606.1	666.8
SiO_2	50.57	46.58	46.39	46.16	46.50	47.60	51.64	51.49	53.69
TiO_2	0.04	0.06	0.02	-0.01	-0.03	-0.02	0.00	0.00	0.05
Al_2O_3	30.51	33.60	33.71	33.68	33.54	32.61	30.12	30.41	28.35
Fe_2O_3	0.59	0.67	0.53	0.50	0.52	0.38	0.48	0.52	0.94
MnO	0.03	0.04	0.01	0.02	-0.01	0.05	0.01	0.00	0.00
MgO	0.06	0.05	0.06	0.05	0.04	0.03	0.06	0.08	0.29
CaO	13.30	16.44	16.89	17.22	16.89	15.37	13.17	12.97	11.07
BaO	0.14	0.06	0.03	-0.03	0.07	0.05	0.00	0.04	0.05
Na_2O	3.55	1.62	1.47	1.51	1.60	2.46	3.75	3.69	4.37
K_2O	0.06	0.01	0.03	0.06	0.04	0.06	0.10	0.10	0.26
sum	98.84	99.13	99.18	99.25	99.26	98.64	99.34	99.41	99.08
mol%An	67.2	84.8	86.2	86.0	85.1	77.2	65.6	65.6	57.4
mol%Ab	32.4	15.1	13.6	13.6	14.6	22.4	33.8	33.7	41.0
mol%Or	0.3	0.1	0.2	0.4	0.2	0.4	0.6	0.6	1.6

Table B.4.4: TAN-13, Plagioclase grain 4

Dist (µm)	14.9	29.8	44.8	59.7	104.4	119.3	134.3	179.0	208.9
SiO_2	46.21	47.56	46.90	46.34	47.45	47.86	47.12	46.92	50.44
TiO_2	0.00	0.04	0.01	0.01	0.00	0.03	0.05	0.02	0.07
Al_2O_3	33.18	32.22	32.36	32.67	32.14	32.06	32.37	32.61	29.96
Fe_2O_3	0.57	0.70	0.74	0.52	0.72	0.74	0.70	0.68	1.33
MnO	-0.02	-0.01	0.04	0.01	0.02	0.00	0.00	0.01	0.01
MgO	0.07	0.07	0.09	0.04	0.18	0.18	0.11	0.07	0.38
CaO	16.76	16.33	16.01	16.43	15.74	15.61	15.81	16.38	13.99
BaO	-0.05	-0.09	-0.04	0.10	-0.05	0.02	0.00	-0.09	-0.06
Na_2O	1.91	2.06	2.00	1.90	2.27	2.30	2.29	2.04	2.83
K_2O	0.03	0.10	0.11	0.04	0.11	0.11	0.08	0.07	0.31
sum	98.79	99.18	98.29	98.14	98.64	99.01	98.60	98.86	99.43
mol%An	82.8	80.9	81.0	82.5	78.7	78.4	78.8	81.3	71.8
mol%Ab	17.0	18.5	18.3	17.2	20.6	20.9	20.7	18.3	26.3
mol%Or	0.2	0.6	0.7	0.3	0.7	0.6	0.5	0.4	1.9

Table B.4.5: TAN-13, Plagioclase grain 5

Dist (µm)	0.0	29.8	59.7	89.5	119.3	149.2	179.0	238.6	268.5	298.3	328.1	358.0	387.8	417.6	447.5
SiO_2	52.54	46.16	45.80	46.27	45.91	45.99	46.14	46.35	45.93	46.04	45.71	45.97	43.44	46.68	46.29
TiO_2	0.06	0.00	-0.01	0.00	0.01	0.01	0.03	0.00	0.01	-0.01	0.01	0.01	0.04	0.03	0.04
Al_2O_3	29.25	33.43	33.27	33.69	33.56	33.25	33.35	33.34	33.87	33.72	33.88	33.27	30.40	33.29	33.09
Fe_2O_3	0.91	0.51	0.46	0.52	0.54	0.55	0.45	0.46	0.47	0.51	0.48	0.51	0.38	0.47	0.42
MnO	0.01	0.02	-0.04	-0.02	-0.01	-0.04	-0.01	-0.02	0.03	0.05	0.05	0.02	-0.04	-0.03	0.03
MgO	0.10	0.03	0.03	0.04	0.03	0.02	0.05	0.06	0.05	0.05	0.03	0.03	0.04	0.02	0.04
CaO	12.78	17.00	17.00	17.02	17.41	16.61	16.93	16.72	16.84	17.52	17.44	17.06	15.83	16.71	16.67
BaO	-0.04	-0.04	-0.03	0.01	0.16	0.08	0.08	0.07	0.16	0.13	0.11	0.09	0.04	-0.02	-0.02
Na_2O	4.09	1.67	1.76	1.67	1.66	1.77	1.74	1.84	1.46	1.51	1.48	1.76	1.96	1.82	1.71
K_2O	0.21	0.02	0.03	0.01	0.03	0.08	0.07	0.02	0.01	0.03	0.04	0.02	0.34	0.03	0.03
sum	99.98	98.86	98.35	99.24	99.37	98.44	98.85	98.87	98.86	99.57	99.26	98.77	92.48	99.12	98.42
mol%An	62.6	84.8	84.1	84.9	85.1	83.4	84.0	83.3	86.3	86.3	86.5	84.2	80.0	83.4	84.2
mol%Ab	36.2	15.1	15.7	15.1	14.7	16.1	15.6	16.6	13.6	13.5	13.3	15.7	17.9	16.4	15.6
mol%Or	1.2	0.1	0.2	0.1	0.2	0.5	0.4	0.1	0.1	0.2	0.2	0.1	2.1	0.2	0.2

Table B.4.6: TAN-13, Plagioclase grain 6

Dist (µm)	30.9	123.6	154.5	216.3	247.2	309.0	339.8
SiO_2	45.75	45.33	45.18	45.62	46.16	48.38	46.08
TiO_2	0.04	0.01	0.01	-0.03	0.01	0.04	0.00
Al_2O_3	33.77	33.67	33.80	34.21	33.93	31.17	32.61
Fe_2O_3	0.47	0.50	0.51	0.55	0.51	0.75	0.44
MnO	0.02	-0.02	-0.04	0.06	0.01	0.05	0.03
MgO	0.03	0.05	0.06	0.02	0.01	0.05	0.04
CaO	17.66	17.58	17.84	17.64	17.30	16.37	16.73
BaO	-0.08	-0.03	-0.03	-0.03	-0.09	-0.03	-0.09
Na_2O	1.55	1.44	1.41	1.49	1.66	2.23	1.94
K_2O	0.02	0.06	0.03	0.06	0.05	0.22	0.04
sum	99.46	98.72	98.96	99.73	99.66	99.33	98.02
mol%An	86.2	86.8	87.4	86.4	85.0	79.2	82.5
mol%Ab	13.7	12.9	12.5	13.2	14.7	19.6	17.3
mol%Or	0.1	0.3	0.2	0.4	0.3	1.3	0.3

Table B.4.7: TAN-13, Plagioclase grain 7

Dist (µm)	31.0	61.9	92.9	123.9	154.9	185.8	216.8	247.8	278.7	309.7	340.7
SiO_2	51.00	51.30	51.82	51.86	51.54	52.08	51.84	52.01	51.55	51.31	50.82
TiO_2	0.00	0.04	0.05	0.00	0.02	0.02	0.02	0.01	-0.02	0.00	0.01
Al_2O_3	29.59	29.87	29.87	29.60	29.55	29.31	29.57	29.42	29.91	29.80	29.81
Fe_2O_3	0.49	0.50	0.45	0.50	0.66	0.47	0.60	0.53	0.49	0.46	0.42
MnO	0.02	0.03	0.00	0.01	0.02	0.03	0.01	0.01	0.04	0.04	-0.02
MgO	0.08	0.07	0.05	0.03	0.07	0.05	0.05	0.06	0.03	0.05	0.04
CaO	13.04	12.79	12.42	12.34	12.73	12.03	12.38	12.18	12.85	12.57	13.11
BaO	-0.02	-0.04	-0.06	0.00	0.02	-0.02	0.03	-0.01	-0.07	-0.02	0.02
Na_2O	4.12	4.16	4.09	4.25	4.21	4.51	4.28	4.41	4.30	4.28	3.92
K_2O	0.09	0.12	0.05	0.14	0.10	0.13	0.10	0.13	0.11	0.09	0.06
sum	98.51	98.94	98.92	98.81	98.95	98.69	98.89	98.84	99.34	98.64	98.25
mol%An	63.3	62.5	62.5	61.1	62.2	59.1	61.2	59.9	61.9	61.6	64.6
mol%Ab	36.2	36.8	37.2	38.1	37.2	40.1	38.3	39.3	37.5	37.9	35.0
mol%Or	0.5	0.7	0.3	0.8	0.6	0.7	0.6	0.8	0.6	0.5	0.3

Table B.4.8: TAN-13, Plagioclase grain 8

Dist (µm)	30.8	61.6	92.4	123.2	154.0	184.8	246.4	277.2	308.0	338.8	369.6	400.4
SiO_2	48.42	48.25	46.91	48.97	47.80	46.23	46.75	48.21	49.26	47.53	47.84	49.47
TiO_2	0.01	0.02	0.02	0.03	-0.01	0.05	0.00	0.05	0.04	0.04	0.01	0.02
Al_2O_3	32.93	33.05	33.41	31.60	32.75	33.64	33.47	32.65	32.27	33.19	32.94	31.11
Fe_2O_3	0.50	0.51	0.57	0.64	0.73	0.53	0.47	0.51	0.30	0.66	0.55	0.66
MnO	-0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.01	0.02	0.03	-0.01	-0.04
MgO	0.04	0.06	0.03	0.05	0.08	0.02	0.04	0.05	0.06	0.05	0.06	0.09
CaO	16.36	16.13	16.78	16.17	16.45	17.36	17.17	15.80	15.43	16.39	16.18	14.95
BaO	-0.04	0.03	-0.16	-0.16	-0.07	-0.06	0.04	-0.16	-0.01	-0.06	0.01	-0.07
Na_2O	2.28	2.24	1.74	2.93	2.16	1.76	1.98	2.40	2.66	2.14	2.47	3.25
K_2O	0.04	0.08	-0.03	0.06	0.02	0.00	0.00	0.05	0.06	0.06	0.07	0.15
sum	100.59	100.39	99.53	100.65	100.01	99.73	99.98	99.73	100.11	100.09	100.13	99.71
mol%An	79.7	79.6	84.3	75.0	80.7	84.5	82.7	78.2	76.0	80.6	78.0	71.2
mol%Ab	20.1	20.0	15.8	24.6	19.2	15.5	17.3	21.5	23.7	19.1	21.5	28.0
mol%Or	0.2	0.5	-0.2	0.4	0.1	0.0	0.0	0.3	0.3	0.3	0.4	0.9

Table B.4.9: TAN-13, Plagioclase grain 9

Dist (µm)	14.9	29.9	44.8	59.8	74.7	89.6	104.6	119.5
SiO_2	47.10	47.13	46.35	46.96	46.57	46.32	47.42	46.98
TiO_2	0.01	0.01	0.02	0.00	0.02	0.03	0.06	0.01
Al_2O_3	32.90	32.87	32.89	33.14	33.44	33.65	32.42	33.16
Fe_2O_3	0.55	0.61	0.57	0.50	0.56	0.50	0.63	0.69
MnO	0.04	0.07	0.04	0.01	0.02	0.05	0.00	0.00
MgO	0.04	0.03	0.04	0.03	0.04	0.02	0.09	0.07
CaO	16.51	16.67	16.93	16.68	17.13	17.13	16.59	17.11
BaO	-0.04	0.00	0.02	0.04	-0.03	0.10	0.00	-0.03
Na_2O	1.97	2.03	2.02	2.06	1.86	1.75	2.04	1.97
K_2O	0.08	0.08	0.05	0.08	0.04	0.08	0.22	0.03
sum	99.28	99.49	98.93	99.50	99.68	99.64	99.47	100.02
mol%An	81.8	81.6	82.0	81.4	83.3	84.0	80.8	82.6
mol%Ab	17.7	17.9	17.7	18.1	16.4	15.5	18.0	17.2
mol%Or	0.5	0.5	0.3	0.5	0.2	0.5	1.3	0.2

Table B.4.10: TAN-13, Plagioclase grain 10

Dist (µm)	14.2	28.4	42.5	56.7	70.9	85.1	99.3	113.5	127.6
SiO_2	47.06	47.43	47.12	45.38	46.14	46.93	46.49	48.28	47.83
TiO_2	0.00	0.01	-0.01	0.04	0.02	-0.01	-0.03	0.01	0.01
Al_2O_3	31.88	32.11	32.10	32.93	32.60	32.45	32.44	31.74	31.60
Fe_2O_3	0.60	0.69	0.58	0.54	0.56	0.57	0.56	0.69	0.57
MnO	-0.03	-0.14	-0.15	-0.10	-0.06	-0.11	0.03	-0.07	-0.03
MgO	0.06	0.05	0.04	0.05	0.06	0.04	0.03	0.04	0.04
CaO	16.15	15.83	16.09	16.75	16.38	16.36	16.71	15.67	15.75
BaO	0.10	0.00	0.00	0.00	-0.05	-0.04	0.01	0.08	0.04
Na_2O	2.44	2.36	2.25	1.99	2.04	2.13	2.22	2.59	2.59
K_2O	0.07	0.08	0.06	0.08	0.04	0.04	0.07	0.04	0.09
sum	98.37	98.65	98.31	97.77	97.84	98.59	98.57	99.15	98.55
mol%An	78.2	78.4	79.5	81.9	81.5	80.7	80.3	76.8	76.7
mol%Ab	21.4	21.2	20.1	17.6	18.3	19.1	19.3	23.0	22.8
mol%Or	0.4	0.5	0.3	0.5	0.2	0.2	0.4	0.2	0.5

Table B.4.11: TAN-13, Plagioclase grain 11

Dist (µm)	14.9	29.9	44.8	59.7	74.7	89.6	104.5	194.1	209.1	224.0	238.9	253.9	268.8	283.7	298.7
SiO_2	49.61	46.57	46.96	47.41	47.45	47.84	50.08	48.60	47.49	47.24	47.24	47.14	46.52	49.54	54.58
TiO_2	0.04	0.01	0.01	0.01	0.01	0.01	0.09	0.09	0.05	0.01	0.03	0.02	0.00	0.01	0.10
Al_2O_3	31.57	33.28	33.14	32.80	32.73	32.03	30.14	30.98	31.65	32.78	32.67	32.46	33.74	30.88	27.35
Fe_2O_3	0.69	0.53	0.55	0.55	0.48	0.49	0.91	1.16	1.07	0.50	0.52	0.59	0.54	0.65	0.96
MnO	-0.01	-0.01	0.03	-0.02	-0.05	-0.05	-0.03	0.05	0.01	-0.09	-0.02	-0.08	-0.06	-0.08	0.00
MgO	0.05	0.04	0.03	0.04	0.05	0.06	0.11	0.62	0.57	0.06	0.03	0.06	0.05	0.10	0.19
CaO	15.03	16.92	16.72	16.38	15.80	15.81	14.43	15.11	15.69	16.40	16.17	16.08	16.94	14.08	10.73
BaO	-0.12	-0.10	-0.06	-0.13	-0.06	-0.03	-0.03	-0.08	-0.05	0.01	0.03	0.11	0.01	0.05	-0.01
Na_2O	2.91	1.83	1.87	2.09	2.27	2.47	2.82	2.50	2.10	2.21	2.20	2.13	1.79	3.24	4.72
K_2O	0.08	0.04	0.02	0.03	0.05	0.05	0.34	0.10	0.07	0.08	0.05	0.04	0.05	0.08	0.36
sum	99.98	99.30	99.35	99.31	98.83	98.75	98.95	99.33	98.77	99.29	98.94	98.63	99.64	98.68	99.10
mol%An	73.7	83.4	83.1	81.1	79.2	77.7	72.3	76.5	80.2	80.0	80.0	80.5	83.7	70.3	54.5
mol%Ab	25.8	16.3	16.8	18.7	20.6	21.9	25.6	22.9	19.4	19.5	19.7	19.3	16.0	29.2	43.3
mol%Or	0.5	0.2	0.1	0.2	0.3	0.3	2.1	0.6	0.5	0.5	0.3	0.2	0.3	0.5	2.2

Table B.4.12: TAN-13, Plagioclase grain 12

Dist (µm)	0.0	14.8	29.6	44.4	59.2	74.1	88.9	103.7	118.5	133.3	148.1	162.9	177.7	192.6	207.4	222.2	237.0
SiO_2	53.45	52.85	50.76	52.35	52.07	52.97	53.08	53.56	53.04	53.19	53.64	53.08	52.63	52.09	52.71	55.45	54.99
TiO_2	0.06	0.06	0.01	0.03	0.04	0.03	0.08	0.02	0.03	0.02	0.04	0.02	0.03	0.03	-0.02	0.11	0.09
Al_2O_3	29.21	29.94	31.92	29.44	30.69	29.90	28.84	29.69	29.35	29.78	29.86	29.66	30.10	30.59	30.43	27.57	27.81
Fe_2O_3	0.92	0.64	0.62	0.49	0.58	0.58	0.77	0.62	0.61	0.71	0.66	0.57	0.44	0.57	0.62	1.21	1.21
MnO	-0.04	0.01	-0.02	-0.05	-0.02	-0.05	-0.03	-0.05	-0.03	0.06	0.00	0.05	-0.02	0.08	-0.01	0.01	0.05
MgO	0.07	0.06	0.04	0.04	0.04	0.04	0.09	0.03	0.07	0.05	0.05	0.05	0.02	0.01	0.00	0.12	0.45
CaO	12.28	13.14	14.34	12.66	13.13	12.25	12.15	12.37	12.22	11.89	12.24	12.36	12.82	13.25	12.62	11.57	11.25
BaO	-0.09	0.02	-0.04	-0.04	0.09	0.09	0.03	0.07	0.06	-0.16	-0.21	-0.19	-0.18	-0.16	0.01	-0.02	0.07
Na_2O	4.77	3.97	3.11	4.08	4.22	4.67	4.22	4.63	4.68	4.57	4.34	4.39	4.35	3.90	4.24	4.23	4.15
K_2O	0.17	0.16	0.10	0.18	0.13	0.17	0.22	0.13	0.13	0.10	0.18	0.13	0.13	0.16	0.16	0.54	0.52
sum	101.05	100.95	101.03	99.33	101.11	100.74	99.59	101.13	100.21	100.36	101.02	100.31	100.60	100.69	100.86	101.05	100.82
mol%An	58.2	64.0	71.4	62.5	62.8	58.6	60.6	59.2	58.7	58.6	60.3	60.4	61.5	64.6	61.6	58.2	58.1
mol%Ab	40.9	35.0	28.0	36.4	36.5	40.4	38.1	40.1	40.6	40.8	38.7	38.9	37.8	34.5	37.4	38.5	38.7
mol%Or	0.9	1.0	0.6	1.1	0.7	0.9	1.3	0.7	0.7	0.6	1.0	0.8	0.7	0.9	0.9	3.3	3.2

Table B.4.13: TAN-13, Plagioclase grain 13

Dist (µm)	0.0	59.4	89.1	118.8	148.5	237.7	267.4	297.1	326.8
SiO_2	55.15	46.92	46.89	46.26	46.88	48.36	47.64	46.73	52.35
TiO_2	0.07	0.05	0.04	-0.02	0.03	0.05	0.04	0.05	0.05
Al_2O_3	26.94	33.97	33.47	34.00	33.45	32.93	33.23	34.28	29.68
Fe_2O_3	1.03	0.58	0.52	0.50	0.68	0.48	0.51	0.50	0.88
MnO	0.05	-0.02	0.02	0.02	-0.02	0.04	0.03	-0.02	-0.05
MgO	0.22	0.04	0.02	-0.01	0.03	0.04	0.07	0.04	0.12
CaO	10.70	17.88	16.95	18.31	17.46	16.37	17.04	17.65	13.18
BaO	-0.06	-0.04	-0.03	0.01	0.00	-0.12	-0.03	-0.06	-0.03
Na_2O	5.12	1.59	2.08	1.46	1.66	2.30	2.13	1.59	4.20
K_2O	0.38	0.04	0.09	0.04	0.10	0.05	0.06	0.03	0.08
sum	99.65	101.14	100.16	100.62	100.48	100.65	100.84	101.05	100.65
mol%An	52.4	86.0	81.4	87.2	84.9	79.5	81.3	85.8	63.1
mol%Ab	45.4	13.8	18.1	12.6	14.6	20.2	18.4	14.0	36.4
mol%Or	2.2	0.2	0.5	0.2	0.6	0.3	0.3	0.2	0.5

Table B.4.14: TAN-13, Plagioclase grain 14

Dist (µm)	14.3	28.6	42.9	57.2	85.8	100.2	114.5	128.8	143.1	157.4	171.7
SiO_2	46.81	46.42	45.69	46.74	46.02	47.04	48.09	46.12	45.52	45.83	46.23
TiO_2	-0.01	-0.01	-0.03	0.07	0.03	0.02	0.05	-0.01	0.05	0.05	0.05
Al_2O_3	32.78	33.49	33.42	31.47	33.15	31.99	32.14	33.02	33.66	33.41	33.75
Fe_2O_3	0.64	0.52	0.53	1.15	0.47	0.74	0.81	0.59	0.51	0.62	0.53
MnO	-0.01	-0.02	0.04	0.00	-0.04	0.00	-0.05	0.01	-0.07	-0.04	-0.02
MgO	0.02	0.03	0.01	0.39	0.04	0.06	0.07	0.05	0.04	0.03	0.04
CaO	16.50	17.01	17.28	15.64	17.13	15.76	15.70	17.15	17.36	17.49	16.95
BaO	0.03	0.00	0.02	-0.17	0.02	0.05	0.04	0.06	-0.09	0.02	0.02
Na_2O	1.99	1.58	1.49	1.82	1.59	1.93	2.00	1.75	1.59	1.49	1.49
K_2O	0.05	0.01	0.02	0.26	-0.01	0.12	0.13	-0.01	0.02	0.03	0.03
sum	98.84	99.21	98.62	97.65	98.45	97.80	99.08	98.78	98.77	98.96	99.08
mol%An	81.8	85.6	86.4	81.3	85.7	81.2	80.6	84.4	85.6	86.5	86.1
mol%Ab	17.9	14.4	13.5	17.1	14.4	18.0	18.6	15.6	14.2	13.3	13.7
mol%Or	0.3	0.1	0.1	1.6	-0.1	0.7	0.8	-0.1	0.1	0.2	0.2

Table B.4.15: TAN-13, Plagioclase grain 15

Dist (µm)	14.6	73.0	87.6	102.2	116.8	131.4	146.0	160.6	175.2	189.8	204.4	219.0	233.6	248.2	262.8	277.4	292.0	306.6
SiO_2	49.17	46.33	46.64	46.25	46.45	46.15	46.15	45.92	46.71	47.10	46.34	46.37	47.18	46.89	46.93	48.16	48.69	53.16
TiO_2	0.03	0.04	0.01	0.01	0.01	0.04	0.02	0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.03	0.01	0.03	0.09
Al_2O_3	31.46	32.86	33.27	33.41	33.72	32.93	33.85	33.12	32.90	32.97	32.41	33.27	32.80	33.09	32.88	32.20	31.96	27.71
Fe_2O_3	0.57	0.50	0.52	0.52	0.51	0.56	0.46	0.53	0.52	0.52	0.40	0.41	0.45	0.48	0.60	0.53	0.59	0.95
MnO	0.00	-0.01	-0.04	0.01	-0.01	0.01	-0.03	-0.01	0.02	0.01	0.02	0.08	0.06	0.04	-0.01	0.03	0.07	0.01
MgO	0.04	0.04	0.05	0.05	0.04	0.05	0.05	0.02	0.03	0.03	0.03	0.01	0.03	0.03	0.04	0.05	0.06	0.15
CaO	14.76	17.36	17.29	17.08	16.98	16.88	17.02	17.29	17.07	16.98	16.43	16.83	16.33	16.27	16.33	15.77	15.34	11.50
BaO	0.00	0.01	-0.05	0.01	0.05	0.01	-0.07	-0.03	0.05	0.03	0.02	0.12	-0.02	0.02	0.04	0.06	-0.02	-0.03
Na_2O	2.79	1.63	1.75	1.73	1.75	1.74	1.71	1.59	1.86	1.87	1.73	1.84	2.11	2.03	2.08	2.61	2.77	4.39
K_2O	0.14	0.08	0.02	0.06	0.06	0.05	0.03	0.06	0.08	0.07	0.03	0.08	0.04	0.06	0.05	0.07	0.07	0.33
sum	98.98	98.88	99.63	99.16	99.65	98.44	99.47	98.54	99.26	99.61	97.43	99.02	99.00	98.96	99.08	99.61	99.59	98.37
mol%An	73.9	85.1	84.4	84.2	83.9	84.1	84.5	85.4	83.2	83.1	83.8	83.1	80.8	81.3	81.0	76.7	75.0	58.0
mol%Ab	25.3	14.4	15.5	15.5	15.7	15.6	15.3	14.3	16.4	16.5	16.0	16.5	18.9	18.3	18.7	22.9	24.5	40.1
mol%Or	0.8	0.4	0.1	0.4	0.4	0.3	0.2	0.3	0.5	0.4	0.2	0.5	0.3	0.3	0.3	0.4	0.4	2.0

Table B.4.16: TAN-13, Plagioclase grain 16

Dist (µm)	60.6	90.9	121.2	151.5	212.1	242.5	333.4	363.7	394.0	424.3	454.6	515.2
SiO_2	51.87	52.21	51.01	51.46	46.29	46.49	46.39	46.68	46.31	48.30	51.03	52.14
TiO_2	0.02	0.02	0.02	0.05	0.03	0.01	0.00	0.03	-0.02	0.04	0.05	0.05
Al_2O_3	29.08	29.20	29.85	29.60	33.05	33.13	33.22	32.70	32.81	31.76	29.70	28.45
Fe_2O_3	0.45	0.59	0.38	0.42	0.45	0.54	0.48	0.48	0.51	0.48	0.51	0.85
MnO	0.01	-0.03	0.00	0.03	0.09	0.01	0.00	-0.05	-0.04	-0.03	0.04	0.08
MgO	0.04	0.07	0.08	0.06	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.15
CaO	12.62	12.67	12.97	12.99	16.79	17.03	17.01	16.98	16.84	15.41	12.74	12.75
BaO	0.13	0.09	0.02	0.04	-0.03	-0.01	-0.01	0.04	-0.01	0.02	0.10	0.09
Na_2O	4.33	4.20	4.07	4.18	1.78	1.72	1.87	1.95	1.96	2.83	4.14	4.17
K_2O	0.09	0.25	0.08	0.10	0.02	0.03	0.05	0.07	0.06	0.06	0.13	0.29
sum	98.68	99.31	98.57	98.94	98.63	99.12	99.07	98.97	98.54	99.06	98.63	99.16
mol%An	61.4	61.6	63.5	62.8	83.8	84.4	83.2	82.5	82.3	74.8	62.5	61.8
mol%Ab	38.1	37.0	36.1	36.6	16.1	15.4	16.5	17.1	17.3	24.9	36.7	36.6
mol%Or	0.5	1.4	0.5	0.6	0.1	0.2	0.3	0.4	0.3	0.4	0.8	1.7

Table B.4.17: TAN-13, Plagioclase grain 17

Dist (µm)	29.2	58.3	87.5	116.7	145.8	175.0	204.2	233.3	262.5	291.7	320.8
SiO_2	51.81	51.69	52.14	51.78	51.84	51.10	51.39	51.23	52.54	51.38	52.16
TiO_2	0.05	0.04	0.02	0.04	0.03	0.03	0.03	0.01	0.05	0.03	0.02
Al_2O_3	29.96	29.96	29.25	29.48	29.78	30.37	29.80	29.53	28.98	29.91	29.72
Fe_2O_3	0.51	0.64	0.76	0.56	0.58	0.45	0.51	0.61	0.64	0.63	0.86
MnO	0.01	0.05	0.00	0.02	0.04	-0.01	-0.02	-0.05	0.01	-0.04	0.04
MgO	0.06	0.11	0.12	0.06	0.07	0.08	0.05	0.06	0.05	0.05	0.08
CaO	13.01	12.76	12.65	13.22	12.81	13.32	13.23	12.79	12.13	13.22	12.89
BaO	-0.10	-0.07	-0.02	-0.03	0.02	0.08	0.01	-0.02	0.06	0.07	0.02
Na_2O	3.89	4.06	4.25	4.10	4.24	3.94	3.93	4.19	4.31	3.98	3.96
K_2O	0.09	0.12	0.11	0.09	0.09	0.12	0.12	0.09	0.24	0.14	0.21
sum	99.49	99.59	99.48	99.39	99.66	99.59	99.12	98.63	99.17	99.49	99.96
mol%An	64.6	63.0	61.8	63.7	62.2	64.7	64.6	62.5	60.0	64.2	63.4
mol%Ab	34.9	36.3	37.6	35.7	37.3	34.6	34.7	37.0	38.6	35.0	35.3
mol%Or	0.5	0.7	0.6	0.5	0.5	0.7	0.7	0.6	1.4	0.8	1.3

Table B.4.18: TAN-13, Plagioclase grain 18

Dist (µm)	0.0	15.0	30.1	45.1	60.1	75.1	90.2	105.2	120.2	135.2	150.3	165.3	180.3	225.4	240.4	255.4	270.5	285.5	300.5
SiO_2	46.76	52.43	46.73	46.84	46.82	47.49	47.14	47.20	46.70	45.77	47.14	47.59	46.83	46.61	46.65	46.88	48.94	45.71	51.60
TiO_2	0.00	0.00	0.03	-0.02	0.00	-0.01	0.03	0.01	0.02	0.00	-0.04	-0.01	-0.02	-0.02	-0.01	-0.02	-0.03	0.01	0.02
Al_2O_3	33.84	29.31	33.94	34.28	33.12	33.37	33.52	33.06	33.18	34.54	33.54	33.88	33.08	33.15	33.93	33.12	32.37	33.50	29.62
Fe_2O_3	0.63	0.70	0.45	0.48	0.44	0.63	0.58	0.63	0.57	0.50	0.54	0.43	0.59	0.56	0.55	0.59	0.66	0.62	0.83
MnO	0.06	0.03	0.04	0.07	0.05	0.07	0.00	-0.02	0.00	0.01	0.02	0.05	0.04	0.02	-0.04	-0.03	-0.10	-0.06	-0.06
MgO	0.04	0.09	0.05	0.05	0.09	0.05	0.02	0.05	0.06	0.04	0.05	0.05	0.03	0.04	0.03	0.04	0.03	0.03	0.15
CaO	17.18	12.46	17.26	17.01	17.45	17.07	17.02	16.83	17.47	17.43	17.81	17.29	17.79	17.14	17.35	17.45	15.15	16.97	12.91
BaO	0.00	0.01	-0.04	0.03	-0.09	0.06	0.01	0.07	0.01	0.00	0.13	0.03	0.15	0.04	0.13	0.03	-0.04	0.09	0.18
Na_2O	1.64	4.54	1.82	1.63	1.91	1.85	1.90	1.91	1.77	1.57	1.87	1.90	1.67	1.88	1.65	1.84	2.79	1.67	4.09
K_2O	0.04	0.29	0.03	0.02	0.01	0.05	0.02	0.05	0.08	0.01	0.00	0.02	0.00	0.00	0.01	0.02	0.11	0.03	0.18
sum	100.34	99.98	100.51	100.57	99.93	100.64	100.28	99.82	99.86	99.86	101.11	101.43	100.29	99.44	100.45	99.96	100.05	98.73	99.66
mol%An	85.1	59.3	83.8	85.1	83.4	83.4	83.1	82.7	84.1	85.9	84.0	83.3	85.5	83.5	85.2	83.9	74.5	84.7	62.9
mol%Ab	14.7	39.1	16.0	14.8	16.6	16.3	16.8	17.0	15.4	14.0	16.0	16.6	14.5	16.5	14.7	16.0	24.8	15.1	36.0
mol%Or	0.2	1.6	0.2	0.1	0.1	0.3	0.1	0.3	0.5	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.7	0.2	1.0

Table B.4.19: TAN-13, Plagioclase grain 19

Dist (µm)	0.0	15.2	30.4	45.6	60.7	75.9	91.1	106.3	121.5	136.7	151.8	167.0	182.2	212.6	227.8	242.9	258.1	273.3
SiO_2	51.96	47.51	46.93	46.97	46.55	47.24	47.76	46.72	46.49	46.07	45.96	46.04	49.47	48.14	45.83	46.08	45.70	46.83
TiO_2	0.04	0.04	0.02	-0.01	0.02	0.01	0.02	0.00	0.03	0.01	0.00	0.01	0.08	0.04	-0.02	-0.02	-0.01	-0.01
Al_2O_3	28.79	32.48	32.48	32.31	32.81	32.67	31.94	32.72	33.69	33.92	33.51	33.63	30.99	31.50	33.46	32.99	33.70	33.19
Fe_2O_3	1.07	0.59	0.62	0.67	0.51	0.60	0.75	0.71	0.49	0.58	0.53	0.55	0.83	1.04	0.56	0.43	0.51	0.50
MnO	0.02	-0.05	0.02	0.00	-0.02	-0.03	-0.03	-0.06	-0.03	0.04	-0.02	-0.05	-0.02	0.06	-0.01	-0.02	-0.06	-0.02
MgO	0.31	0.06	0.04	0.03	0.05	0.05	0.11	0.06	0.04	0.04	0.07	0.07	0.08	0.18	0.03	0.04	0.03	0.04
CaO	12.14	15.52	15.19	15.82	16.03	15.86	15.25	15.71	16.33	16.48	16.73	16.93	14.89	15.18	16.62	16.51	16.75	16.22
BaO	-0.17	-0.15	-0.11	-0.09	0.06	-0.02	0.10	0.02	0.12	-0.13	-0.07	-0.05	-0.05	0.05	0.05	0.01	0.01	-0.02
Na_2O	3.98	2.25	2.25	2.27	2.05	2.17	2.28	1.98	1.62	1.65	1.69	1.58	2.21	2.25	1.73	1.68	1.51	1.72
K_2O	0.31	0.07	0.06	0.05	0.07	0.07	0.18	0.04	0.04	0.03	0.02	0.03	0.38	0.17	0.06	0.05	0.05	0.06
sum	98.66	98.52	97.61	98.15	98.24	98.76	98.55	98.02	98.89	98.81	98.51	98.87	99.05	98.69	98.35	97.86	98.29	98.63
mol%An	61.6	78.9	78.6	79.2	80.9	79.8	77.9	81.2	84.6	84.5	84.5	85.4	77.0	78.0	83.8	84.2	85.7	83.6
mol%Ab	36.5	20.7	21.1	20.6	18.7	19.8	21.0	18.5	15.2	15.3	15.4	14.4	20.7	20.9	15.8	15.5	14.0	16.1
mol%Or	1.9	0.4	0.3	0.3	0.4	0.4	1.1	0.2	0.2	0.2	0.1	0.2	2.4	1.0	0.4	0.3	0.3	0.4

Table B.4.20: TAN-13, Plagioclase grain 20

Dist (µm)	0.0	7.3	14.6	21.9	29.2	36.5	43.8	51.1	65.7	73.0	80.3	87.6	94.9	102.2	109.5	116.8	124.1	131.4	138.7	146.0
SiO_2	52.30	46.74	47.21	46.66	46.86	47.33	46.55	46.62	47.01	46.89	47.26	47.94	47.05	47.22	46.05	51.64	51.55	52.15	53.59	53.27
TiO_2	-0.01	0.06	0.00	0.01	-0.01	0.00	0.06	0.00	-0.03	-0.03	-0.03	-0.01	-0.02	0.05	0.01	-0.02	0.01	0.03	0.04	0.06
Al_2O_3	29.58	33.82	33.52	33.62	33.67	33.61	33.01	33.60	33.51	33.74	33.01	32.87	33.52	33.97	33.95	30.30	30.52	29.66	28.50	29.66
Fe_2O_3	1.03	0.76	0.58	0.60	0.55	0.41	0.45	0.71	0.58	0.54	0.60	0.46	0.62	0.62	0.45	0.56	0.68	0.67	0.91	0.89
MnO	-0.05	-0.02	-0.02	-0.02	0.07	0.06	0.07	0.09	0.02	-0.04	0.06	-0.02	0.01	-0.03	0.06	-0.01	0.07	-0.04	0.06	0.01
MgO	0.11	0.05	0.05	0.06	0.04	0.03	0.04	0.05	0.05	0.06	0.05	0.04	0.04	0.04	0.02	0.06	0.08	0.05	0.09	0.07
CaO	12.74	16.87	17.17	16.83	17.32	17.36	17.08	17.16	17.18	17.25	16.21	16.51	16.75	17.33	17.78	13.71	13.96	12.99	11.66	11.87
BaO	0.10	-0.06	-0.10	0.07	-0.04	-0.09	0.00	-0.01	-0.09	-0.06	0.00	-0.07	-0.18	0.06	0.03	0.15	0.03	0.12	0.06	0.07
Na_2O	4.25	1.90	1.90	1.81	1.68	1.76	1.76	1.68	1.84	1.70	2.37	2.35	1.91	1.66	1.67	3.74	3.66	4.07	4.87	4.63
K_2O	0.13	0.06	0.00	0.01	0.03	0.03	0.05	0.05	0.03	0.04	0.00	0.06	0.03	0.07	0.04	0.06	0.11	0.19	0.18	0.20
sum	100.25	100.26	100.44	99.67	100.22	100.58	99.09	99.99	100.42	100.21	99.65	100.34	100.00	101.12	100.12	100.29	100.75	99.99	100.07	100.94
mol%An	61.9	82.8	83.3	83.7	84.9	84.4	84.0	84.7	83.6	84.7	79.1	79.3	82.7	84.9	85.3	66.7	67.4	63.1	56.3	57.9
mol%Ab	37.4	16.9	16.7	16.3	14.9	15.4	15.7	15.0	16.2	15.1	20.9	20.4	17.1	14.7	14.5	32.9	32.0	35.8	42.6	40.9
mol%Or	0.8	0.4	0.0	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.0	0.3	0.2	0.4	0.2	0.4	0.6	1.1	1.0	1.2

Table B.4.21: TAN-13, Plagioclase grain 21

Dist (µm)	15.6	31.2	46.7	62.3	77.9	93.5	109.0	124.6	140.2	155.8	171.4	186.9	202.5	218.1	249.2	264.8	280.4	296.0	311.6
SiO_2	45.55	47.81	46.25	45.71	46.49	46.12	48.55	47.45	46.22	46.63	45.98	46.43	51.49	46.82	47.24	46.04	45.93	46.09	45.52
TiO_2	0.07	0.00	0.01	-0.02	0.00	0.04	0.11	0.01	0.01	0.02	0.04	0.02	0.01	0.00	0.02	0.04	0.02	0.03	0.01
Al_2O_3	33.15	33.59	34.00	34.03	34.15	33.91	31.04	33.40	33.87	34.58	34.29	33.59	29.85	33.42	32.90	34.03	34.33	33.86	34.28
Fe_2O_3	0.54	0.61	0.59	0.44	0.51	0.59	0.91	0.52	0.39	0.64	0.60	0.54	0.73	0.53	0.53	0.58	0.47	0.64	0.44
MnO	0.06	0.02	-0.06	-0.06	-0.02	-0.05	-0.01	-0.01	-0.02	0.01	-0.02	0.01	0.02	0.05	0.00	0.06	0.00	-0.01	0.00
MgO	0.07	0.07	-0.01	0.02	0.03	0.01	0.04	0.04	0.04	0.08	0.03	0.02	0.15	0.08	0.04	0.02	0.08	0.04	0.06
CaO	17.46	16.71	17.65	17.13	17.88	17.44	15.69	17.47	17.73	17.59	18.02	17.36	13.59	17.56	16.63	17.69	17.42	17.83	18.25
BaO	0.03	0.01	-0.15	-0.06	-0.07	-0.13	-0.03	0.07	-0.04	0.04	-0.09	0.00	0.00	-0.03	0.06	0.04	0.25	0.04	0.15
Na_2O	1.48	1.95	1.66	1.73	1.58	1.55	2.20	1.93	1.49	1.45	1.44	1.55	3.74	1.68	1.97	1.47	1.55	1.57	1.46
K_2O	0.02	0.02	0.03	0.03	0.02	0.03	0.22	0.05	0.03	0.05	0.03	0.02	0.19	0.05	0.09	0.07	0.03	0.01	0.07
sum	98.68	100.97	100.33	99.31	100.68	99.68	98.93	100.93	99.78	101.10	100.42	99.65	99.78	100.21	99.49	100.05	100.19	100.31	100.38
mol%An	86.6	82.5	85.3	84.4	86.2	86.0	78.7	83.1	86.7	86.7	87.2	85.9	66.0	85.0	81.9	86.5	86.0	86.2	87.0
mol%Ab	13.3	17.4	14.5	15.4	13.7	13.8	20.0	16.6	13.1	13.0	12.6	13.9	32.9	14.7	17.6	13.0	13.9	13.7	12.6
mol%Or	0.1	0.1	0.2	0.2	0.1	0.1	1.3	0.3	0.2	0.3	0.2	0.1	1.1	0.3	0.5	0.4	0.2	0.1	0.4

Table B.4.22: TAN-13, Plagioclase grain 22

Dist (µm)	0.0	30.0	59.9	89.9	149.9	209.8	239.8	329.7	359.7
SiO_2	53.85	47.44	48.34	47.26	47.83	47.31	45.61	47.88	49.02
TiO_2	0.07	0.03	0.03	0.00	-0.01	-0.01	-0.02	-0.02	0.05
Al_2O_3	28.19	33.95	32.72	33.35	33.50	33.99	33.99	33.42	32.16
Fe_2O_3	1.02	0.58	0.63	0.57	0.64	0.53	0.55	0.55	0.50
MnO	0.00	0.02	0.02	0.08	0.04	-0.03	-0.04	-0.01	0.01
MgO	0.12	0.07	0.03	0.03	0.03	0.05	0.03	0.06	0.09
CaO	11.51	16.85	16.74	17.23	16.87	17.40	17.65	16.57	16.24
BaO	0.26	0.21	0.16	0.03	0.28	0.03	0.03	-0.03	-0.01
Na_2O	5.11	1.92	2.16	1.92	2.13	2.06	1.75	1.85	2.51
K_2O	0.25	0.07	0.01	0.02	0.01	0.06	0.02	0.01	0.08
sum	100.56	101.29	100.83	100.55	101.33	101.44	99.63	100.35	100.66
mol%An	54.7	82.6	81.0	83.2	81.3	82.0	84.7	83.1	77.8
mol%Ab	43.9	17.0	18.9	16.7	18.6	17.6	15.2	16.8	21.8
mol%Or	1.4	0.4	0.0	0.1	0.0	0.4	0.1	0.1	0.5

Table B.4.23: TAN-13, Plagioclase grain 23

Dist (µm)	0.0	29.2	58.5	87.7	146.1	175.4	204.6	233.8	263.0	292.3	321.5	350.7
SiO_2	51.37	52.94	52.51	47.81	45.94	46.46	46.44	46.49	46.93	51.66	52.24	51.34
TiO_2	0.05	0.03	0.07	-0.02	-0.02	0.01	0.01	0.00	-0.03	-0.01	0.01	0.02
Al_2O_3	29.98	29.17	29.82	33.49	34.10	33.41	33.91	33.73	33.41	30.19	29.88	29.86
Fe_2O_3	0.57	0.56	0.59	0.47	0.40	0.43	0.55	0.39	0.51	0.40	0.42	0.42
MnO	0.00	-0.03	-0.03	-0.04	0.01	-0.02	-0.02	0.00	-0.10	-0.02	-0.04	-0.05
MgO	0.09	0.05	0.07	0.07	0.03	0.03	0.01	0.05	0.05	0.07	0.05	0.08
CaO	13.84	12.46	13.23	16.75	17.69	17.68	17.26	17.26	16.61	13.70	12.94	13.35
BaO	0.10	0.03	-0.10	0.06	0.02	0.11	0.06	0.02	0.02	-0.03	0.06	0.09
Na_2O	3.90	4.31	4.27	1.96	1.44	1.63	1.84	1.62	1.77	4.11	4.22	4.01
K_2O	0.13	0.14	0.13	0.04	-0.01	0.02	0.05	0.03	0.07	0.17	0.18	0.10
sum	100.24	99.70	100.69	100.70	99.69	99.90	100.22	99.76	99.42	100.46	100.13	99.31
mol%An	65.7	61.0	62.7	82.4	87.2	85.6	83.6	85.4	83.5	64.2	62.2	64.4
mol%Ab	33.5	38.2	36.6	17.4	12.9	14.3	16.1	14.5	16.1	34.8	36.8	35.0
mol%Or	0.7	0.8	0.7	0.2	-0.1	0.1	0.3	0.2	0.4	1.0	1.0	0.6

Table B.4.24: TAN-13, Plagioclase grain 24

Dist (µm)	0.0	14.9	29.9	44.8	59.8	74.7	89.7	104.6	119.6	134.5	149.4	164.4	179.3	194.3	209.2	224.2
SiO_2	54.39	54.36	54.40	54.11	53.11	53.37	53.35	52.05	51.58	52.37	52.18	52.91	52.37	52.50	51.18	52.05
TiO_2	0.03	0.05	0.03	0.07	0.03	-0.03	0.00	-0.04	-0.03	-0.02	0.01	0.03	0.00	0.03	-0.01	0.05
Al_2O_3	28.74	28.93	29.14	28.72	29.06	29.04	28.49	30.30	29.71	30.30	30.13	30.04	29.84	29.87	29.77	30.62
Fe_2O_3	1.15	1.03	1.01	0.92	0.86	0.84	1.03	0.61	0.71	0.53	0.54	0.57	0.79	0.57	0.61	0.81
MnO	0.05	0.07	0.01	-0.01	0.10	0.05	-0.01	0.01	0.04	0.03	0.02	0.05	0.00	0.01	-0.02	-0.01
MgO	0.16	0.13	0.12	0.11	0.12	0.08	0.08	0.07	0.04	0.08	0.05	0.04	0.07	0.04	0.05	0.08
CaO	11.82	12.16	11.85	11.72	11.86	12.71	12.29	13.20	13.23	13.48	13.10	12.76	12.79	13.02	12.83	13.58
BaO	-0.12	-0.19	-0.07	-0.06	-0.01	-0.04	-0.06	0.02	-0.02	-0.18	0.12	0.06	0.13	-0.01	0.10	0.06
Na_2O	4.88	4.80	4.71	4.80	4.48	4.61	4.52	4.05	3.93	3.96	4.09	4.25	4.03	4.10	3.82	3.87
K_2O	0.24	0.24	0.21	0.22	0.14	0.14	0.16	0.07	0.11	0.16	0.06	0.11	0.17	0.07	0.11	0.16
sum	101.47	101.77	101.47	100.67	99.77	100.84	99.92	100.38	99.36	100.91	100.42	100.82	100.18	100.28	98.48	101.28
mol%An	56.5	57.6	57.5	56.7	58.9	59.9	59.5	64.1	64.6	64.7	63.7	62.0	63.1	63.4	64.5	65.4
mol%Ab	42.2	41.1	41.3	42.0	40.3	39.3	39.6	35.5	34.8	34.4	36.0	37.4	35.9	36.1	34.8	33.7
mol%Or	1.4	1.3	1.2	1.3	0.8	0.8	0.9	0.4	0.6	0.9	0.4	0.6	1.0	0.4	0.6	0.9

Table B.4.25: TAN-13, Plagioclase grain 25

Dist (µm)	30.1	45.2	60.2	75.3	90.3	105.4	120.5	135.5	150.6
SiO_2	50.87	51.03	51.96	51.65	51.00	51.65	52.18	51.43	53.53
TiO_2	0.08	0.07	0.05	0.06	0.00	0.01	0.00	0.01	0.08
Al_2O_3	29.05	29.05	29.36	28.67	29.56	29.53	29.49	29.09	27.70
Fe_2O_3	0.55	0.56	0.51	0.55	0.52	0.58	0.61	0.52	0.97
MnO	-0.01	0.03	0.04	0.05	0.01	-0.01	0.00	-0.04	0.00
MgO	0.06	0.05	0.07	0.05	0.04	0.05	0.05	0.05	0.11
CaO	12.70	12.42	12.60	12.71	12.91	12.81	12.98	12.92	11.61
BaO	0.09	0.19	0.04	0.11	-0.05	-0.08	-0.06	-0.03	0.03
Na_2O	3.98	4.02	3.96	4.02	3.96	3.98	4.02	4.08	4.15
K_2O	0.14	0.13	0.12	0.10	0.12	0.16	0.12	0.10	0.49
sum	97.52	97.54	98.69	97.96	98.12	98.77	99.46	98.20	98.68
mol%An	63.3	62.6	63.3	63.2	63.8	63.4	63.6	63.2	58.9
mol%Ab	35.9	36.6	36.0	36.2	35.4	35.6	35.7	36.2	38.1
mol%Or	0.9	0.8	0.7	0.6	0.7	0.9	0.7	0.6	3.0

Table B.4.26: TAN-13, Plagioclase grain 26

Dist (µm)	30.8	46.2	61.6	77.0	92.4	107.8	123.2	138.6
SiO_2	46.46	46.97	46.33	47.00	46.26	47.06	47.58	48.17
TiO_2	0.01	0.03	-0.04	-0.01	0.02	0.03	0.02	0.02
Al_2O_3	32.17	31.85	32.63	32.55	31.80	32.34	32.35	31.95
Fe_2O_3	0.63	0.75	0.48	0.61	0.86	0.61	0.55	0.67
MnO	0.01	-0.01	-0.02	-0.03	0.00	0.00	-0.05	-0.01
MgO	0.11	0.14	0.03	0.05	0.19	0.07	0.07	0.07
CaO	16.77	16.44	16.41	16.79	16.91	16.76	16.46	15.72
BaO	0.03	-0.07	-0.06	0.06	-0.04	-0.06	-0.08	0.01
Na_2O	2.02	2.02	2.12	2.01	2.03	2.10	2.39	2.63
K_2O	0.03	0.07	0.03	0.01	0.13	0.10	0.09	0.07
sum	98.25	98.28	98.12	99.07	98.27	99.06	99.51	99.31
mol%An	82.0	81.4	80.9	82.2	81.5	81.0	78.8	76.5
mol%Ab	17.8	18.1	18.9	17.8	17.7	18.3	20.7	23.1
mol%Or	0.2	0.4	0.2	0.1	0.7	0.6	0.5	0.4

Table B.4.27: TAN-13, Plagioclase grain 27

Dist (µm)	0.0	14.3	28.5	42.8	57.1	71.4	99.9	114.2	128.5	142.7	157.0	171.3	185.5
SiO_2	47.58	48.55	46.94	47.34	47.83	46.77	47.58	48.07	47.40	47.29	46.78	48.59	53.74
TiO_2	0.06	0.05	0.07	0.06	0.02	0.02	0.02	0.04	0.05	0.01	0.04	0.06	0.05
Al_2O_3	33.81	31.81	33.20	32.98	33.06	33.94	33.60	32.73	33.24	32.88	33.00	32.32	29.20
Fe_2O_3	0.72	0.57	0.63	0.60	0.49	0.49	0.52	0.59	0.69	0.60	0.59	0.47	0.91
MnO	-0.03	0.01	-0.01	-0.01	0.00	-0.02	0.02	-0.04	-0.07	-0.06	-0.04	-0.01	0.02
MgO	0.03	0.04	0.03	0.02	0.04	0.04	0.08	0.04	0.08	0.09	0.06	0.04	0.08
CaO	16.82	15.63	16.91	16.95	16.69	17.73	16.95	16.15	16.69	16.81	16.56	15.74	12.48
BaO	0.04	-0.06	-0.01	-0.13	-0.12	-0.22	-0.09	-0.04	-0.10	-0.12	-0.13	-0.10	-0.19
Na_2O	2.02	2.80	2.01	1.57	2.02	1.74	1.94	2.16	2.11	1.97	2.02	2.51	4.52
K_2O	0.03	0.11	0.00	0.14	0.07	0.01	0.03	0.03	0.02	0.04	0.06	0.10	0.21
sum	101.12	99.56	99.79	99.66	100.39	100.73	100.82	99.87	100.40	99.78	99.11	99.86	101.22
mol%An	81.9	75.1	82.3	84.9	81.7	84.9	82.7	80.4	81.3	82.3	81.6	77.1	59.7
mol%Ab	17.9	24.3	17.7	14.3	17.9	15.0	17.1	19.4	18.6	17.5	18.0	22.3	39.1
mol%Or	0.2	0.7	0.0	0.8	0.4	0.1	0.2	0.2	0.1	0.2	0.4	0.6	1.2

Table B.4.28: TAN-13, Plagioclase grain 28

Dist (µm)	7.6	15.2	22.7	30.3	37.9	45.5	53.1	60.6	68.2	75.8	83.4	91.0	98.5	106.1	113.7
SiO_2	52.22	51.28	53.34	53.11	51.13	52.80	51.05	51.96	54.12	53.27	53.59	52.92	53.38	51.45	51.28
TiO_2	0.06	0.06	0.05	0.02	0.01	0.01	0.06	0.05	0.05	0.01	0.06	0.05	0.03	-0.03	0.03
Al_2O_3	29.78	30.19	28.92	29.25	31.15	29.68	30.29	30.33	28.16	28.39	29.08	29.59	28.79	30.40	30.70
Fe_2O_3	0.71	0.72	0.67	0.64	0.57	0.48	0.59	0.61	0.63	0.62	0.68	0.56	0.52	0.55	0.73
MnO	0.02	0.04	0.03	0.03	0.04	0.03	0.01	0.05	0.00	0.00	0.00	-0.03	0.00	0.02	0.04
MgO	0.09	0.06	0.06	0.07	0.05	0.05	0.07	0.07	0.09	0.07	0.07	0.08	0.09	0.09	0.10
CaO	13.10	14.07	12.03	12.77	14.57	13.33	13.73	12.92	11.30	11.75	12.02	12.81	12.36	13.10	13.92
BaO	-0.18	-0.12	-0.12	0.09	0.03	0.10	0.15	0.06	0.16	0.15	0.06	0.06	0.03	-0.04	-0.09
Na_2O	4.22	3.60	4.57	4.23	3.55	4.33	3.77	4.00	4.95	4.79	4.57	4.36	4.57	3.87	3.91
K_2O	0.11	0.12	0.17	0.13	0.12	0.16	0.12	0.16	0.18	0.24	0.11	0.10	0.13	0.14	0.13
sum	100.34	100.22	99.88	100.44	101.23	100.97	99.93	100.21	99.75	99.35	100.34	100.52	99.99	99.62	100.84
mol%An	62.8	67.9	58.7	62.1	68.9	62.4	66.3	63.5	55.2	56.8	58.8	61.5	59.4	64.7	65.8
mol%Ab	36.6	31.4	40.3	37.2	30.4	36.7	33.0	35.6	43.8	41.9	40.5	37.9	39.8	34.5	33.5
mol%Or	0.6	0.7	1.0	0.7	0.7	0.9	0.7	0.9	1.0	1.4	0.7	0.6	0.8	0.8	0.7

Table B.4.29: TAN-13, Plagioclase grain 29

Dist (µm)	58.6	117.2	146.5	175.8	234.4	263.8	293.1	322.4	410.3	439.6
SiO_2	46.32	46.27	47.09	48.17	46.82	46.69	47.28	46.95	46.59	51.97
TiO_2	0.03	0.01	0.01	0.02	0.01	0.03	0.01	0.00	0.02	0.02
Al_2O_3	33.58	34.15	33.05	32.42	33.13	32.87	33.13	32.93	33.23	29.18
Fe_2O_3	0.49	0.43	0.61	0.54	0.59	0.63	0.50	0.50	0.55	0.92
MnO	0.03	0.03	0.00	0.00	-0.07	0.05	-0.04	-0.04	-0.04	0.02
MgO	-0.06	-0.06	0.05	0.04	0.04	0.06	0.04	0.03	0.03	0.18
CaO	16.57	16.54	16.08	15.05	16.20	16.24	16.06	16.52	16.36	12.55
BaO	-0.06	-0.11	0.06	0.14	-0.01	0.00	-0.03	0.10	0.05	0.05
Na_2O	1.59	1.72	1.96	2.37	1.88	1.97	1.98	1.89	1.74	3.86
K_2O	0.00	0.02	0.01	0.02	0.03	0.03	0.05	0.06	0.05	0.13
sum	98.63	99.33	98.94	98.84	98.70	98.57	99.04	98.96	98.63	98.91
mol%An	85.2	84.0	81.8	77.7	82.5	81.8	81.5	82.6	83.6	63.7
mol%Ab	14.8	15.9	18.1	22.1	17.3	18.0	18.2	17.1	16.1	35.5
mol%Or	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.8

Table B.4.30: TAN-13, Plagioclase grain 30

Dist (µm)	0.0	15.2	30.3	45.5	60.6	75.8	90.9	121.3	151.6	166.7	181.9	197.1	212.2	227.4	242.5	257.7
SiO_2	54.20	46.83	46.71	47.01	47.44	49.80	47.55	48.03	47.57	48.17	48.10	46.96	49.88	47.10	46.50	48.13
TiO_2	0.04	0.02	-0.02	0.02	0.00	0.03	0.05	0.07	0.04	0.07	0.03	0.00	-0.02	-0.01	-0.03	0.00
Al_2O_3	29.34	33.34	34.02	33.36	33.56	32.05	33.25	32.34	34.10	32.62	32.49	34.01	31.84	33.55	33.35	33.08
Fe_2O_3	0.87	0.49	0.54	0.56	0.62	0.57	0.58	0.42	0.54	0.47	0.54	0.48	0.55	0.53	0.65	0.63
MnO	0.06	0.00	0.05	0.02	0.02	0.07	0.02	0.05	0.05	0.02	0.04	-0.04	0.03	0.05	-0.04	-0.01
MgO	0.10	0.07	0.06	0.04	0.00	0.04	0.05	0.08	0.07	0.09	0.06	0.05	0.07	0.02	0.01	0.05
CaO	12.07	17.04	17.11	16.51	16.12	15.40	16.51	16.78	16.73	16.70	15.63	17.17	14.99	16.50	17.24	17.24
BaO	-0.16	0.06	-0.04	0.03	0.04	-0.01	-0.04	-0.04	0.03	0.06	0.00	-0.03	0.06	0.20	0.07	0.04
Na_2O	4.50	1.57	1.71	2.10	2.30	2.75	2.06	2.03	2.08	2.39	2.55	1.72	3.22	1.93	1.81	2.17
K_2O	0.25	0.10	0.06	-0.02	-0.01	0.02	0.04	0.06	0.07	0.08	0.08	0.08	0.08	0.04	0.07	0.07
sum	101.44	99.50	100.26	99.71	100.22	100.78	100.10	99.86	101.40	100.75	99.54	100.84	100.89	100.04	99.77	101.47
mol%An	58.9	85.2	84.3	81.4	79.6	75.5	81.4	81.8	81.3	79.0	76.9	84.2	71.7	82.3	83.7	81.1
mol%Ab	39.7	14.2	15.3	18.7	20.5	24.4	18.4	17.9	18.3	20.5	22.7	15.3	27.9	17.4	15.9	18.5
mol%Or	1.4	0.6	0.4	-0.1	-0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.4	0.3	0.4	0.4

Table B.4.31: TAN-13, Plagioclase grain 31

Dist (µm)	0.0	14.2	28.5	42.7	56.9	71.2	85.4	99.6	113.9	128.1	142.3	156.6	170.8	185.0	199.3	213.5
SiO_2	52.46	51.71	52.39	52.37	53.09	51.99	52.93	53.18	52.83	52.11	51.81	49.65	52.32	53.31	53.70	55.31
TiO_2	0.08	0.04	0.08	0.07	0.04	0.02	0.04	0.02	0.04	0.02	-0.01	-0.05	-0.01	0.01	-0.01	0.09
Al_2O_3	29.95	30.17	29.43	29.67	29.81	29.39	29.63	29.23	29.21	29.58	30.40	31.57	30.00	29.07	28.20	26.92
Fe_2O_3	0.76	0.67	0.64	0.59	0.60	0.67	0.60	0.78	0.70	0.67	0.56	0.71	0.72	0.75	1.00	0.99
MnO	-0.05	-0.07	-0.01	-0.04	-0.01	-0.02	0.00	0.00	0.01	0.03	-0.01	0.02	-0.05	-0.07	-0.03	0.06
MgO	0.08	0.05	0.05	0.05	0.03	0.06	0.04	0.15	0.10	0.07	0.08	0.08	0.14	0.08	0.14	0.17
CaO	12.64	13.62	13.30	13.46	12.61	12.93	12.40	12.39	12.11	12.79	13.53	14.74	13.12	12.02	11.98	10.74
BaO	0.09	0.05	0.13	0.03	0.05	-0.09	-0.19	-0.12	-0.16	-0.09	0.03	0.08	0.08	-0.06	0.05	-0.13
Na_2O	4.32	3.81	4.25	4.18	4.12	4.19	4.55	4.46	4.53	4.36	3.93	3.25	4.11	4.60	4.58	5.01
K_2O	0.19	0.12	0.09	0.05	0.13	0.12	0.11	0.19	0.17	0.12	0.13	0.10	0.10	0.23	0.20	0.30
sum	100.61	100.25	100.51	100.57	100.48	99.37	100.30	100.41	99.68	99.74	100.47	100.19	100.60	100.10	99.85	99.60
mol%An	61.1	65.9	63.0	63.8	62.4	62.6	59.7	59.9	59.1	61.4	65.1	71.1	63.5	58.3	58.4	53.3
mol%Ab	37.8	33.4	36.5	35.9	36.9	36.7	39.6	39.0	39.9	37.9	34.2	28.3	36.0	40.4	40.4	45.0
mol%Or	1.1	0.7	0.5	0.3	0.7	0.7	0.6	1.1	1.0	0.7	0.7	0.6	0.6	1.3	1.2	1.8

Table B.4.32: TAN-13, Plagioclase grain 32

Dist (µm)	30.1	45.1	60.2	90.3	105.3	120.4	135.4	150.4	165.5	180.5	195.6
SiO_2	49.60	52.68	51.95	52.49	52.13	52.40	51.79	52.45	53.09	54.67	53.87
TiO_2	0.04	0.03	-0.01	0.00	0.03	0.03	0.02	-0.02	0.01	0.02	0.02
Al_2O_3	30.95	29.37	30.18	30.13	29.81	30.60	29.90	30.16	29.92	28.09	28.64
Fe_2O_3	0.75	0.49	0.54	0.35	0.58	0.38	0.64	0.57	0.59	0.93	1.17
MnO	0.02	0.02	0.06	0.04	0.02	0.02	-0.04	-0.02	-0.03	0.02	-0.05
MgO	0.09	0.03	0.03	0.00	0.04	0.06	0.06	0.07	0.05	0.13	0.12
CaO	14.41	12.52	13.16	13.04	12.65	12.97	13.46	12.93	12.47	12.11	12.12
BaO	-0.14	-0.17	0.00	-0.14	-0.08	-0.19	0.03	0.20	-0.09	0.08	0.05
Na_2O	3.37	4.50	4.06	4.08	4.42	3.97	3.92	4.06	3.95	4.58	4.83
K_2O	0.11	0.11	0.09	0.07	0.14	0.10	0.07	0.07	0.09	0.33	0.22
sum	99.33	99.76	100.10	100.25	99.89	100.77	100.01	100.54	100.17	101.05	101.14
mol%An	69.8	60.2	63.9	63.6	60.8	64.0	65.2	63.5	63.2	58.3	57.4
mol%Ab	29.6	39.2	35.6	36.0	38.4	35.4	34.4	36.1	36.3	39.8	41.4
mol%Or	0.6	0.6	0.5	0.4	0.8	0.6	0.4	0.4	0.5	1.9	1.2

Table B.4.33: TAN-13, Plagioclase grain 33

Dist (µm)	0.0	14.9	29.8	44.8	59.7	74.6	89.5	104.5	119.4	134.3	149.2	164.1	179.1	194.0	208.9	223.8	238.8	253.7	268.6	283.5	298.4
SiO_2	52.99	46.03	48.24	47.17	49.06	48.35	48.53	46.47	46.29	50.94	46.64	47.08	47.63	46.93	48.72	47.27	53.79	45.76	46.11	46.34	53.96
TiO_2	0.07	0.05	0.02	0.03	0.07	0.04	0.08	0.06	0.04	0.08	0.01	0.02	0.01	0.01	0.00	0.02	0.05	0.05	0.04	0.02	0.04
Al_2O_3	29.73	34.12	32.47	33.09	32.35	32.99	32.34	34.36	34.37	30.08	33.61	33.32	32.59	33.09	32.28	33.12	28.76	33.83	34.13	33.88	27.99
Fe_2O_3	0.69	0.52	0.47	0.48	0.61	0.58	0.67	0.55	0.47	0.89	0.41	0.35	0.61	0.53	0.50	0.54	1.01	0.55	0.58	0.48	0.92
MnO	0.02	0.04	0.01	0.02	0.01	0.00	0.01	0.00	-0.01	-0.01	-0.02	-0.02	-0.04	-0.03	-0.03	-0.03	-0.02	-0.05	0.05	-0.01	-0.08
MgO	0.13	0.03	0.04	0.04	0.05	0.05	0.03	0.05	0.06	0.23	0.08	0.06	0.06	0.04	0.05	0.04	0.04	0.00	0.05	0.03	0.08
CaO	12.64	17.63	15.91	16.88	15.60	16.60	16.08	17.94	17.62	14.28	17.49	16.80	15.89	16.76	15.69	16.58	11.74	18.09	17.73	17.49	11.38
BaO	-0.09	-0.08	0.00	-0.05	0.03	0.05	-0.02	-0.03	0.00	-0.05	0.00	0.03	-0.14	0.02	0.11	0.00	0.00	0.03	-0.05	-0.02	0.00
Na_2O	4.15	1.49	2.58	2.01	2.72	2.27	2.56	1.62	1.66	3.57	1.55	1.88	2.45	2.03	2.53	2.09	5.09	1.47	1.51	1.48	5.02
K_2O	0.14	0.10	0.07	0.08	0.00	0.05	0.08	0.07	0.05	0.21	0.05	0.03	0.05	0.11	0.09	0.09	0.25	0.08	0.07	0.05	0.22
sum	100.56	100.15	99.81	99.79	100.51	101.02	100.58	101.16	100.71	100.36	99.90	99.56	99.30	99.79	99.97	99.76	100.74	99.87	100.27	99.84	99.67
mol%An	62.2	86.2	77.0	81.9	76.0	79.9	77.3	85.6	85.2	68.1	86.0	83.0	77.9	81.6	77.0	81.0	55.2	86.7	86.3	86.4	54.9
mol%Ab	36.9	13.2	22.6	17.6	24.0	19.8	22.2	14.0	14.5	30.7	13.7	16.8	21.8	17.8	22.5	18.5	43.3	12.8	13.3	13.3	43.9
mol%Or	0.8	0.6	0.4	0.4	0.0	0.3	0.4	0.4	0.3	1.2	0.3	0.2	0.3	0.6	0.5	0.5	1.4	0.5	0.4	0.3	1.2

Table B.4.34: TAN-13, Plagioclase grain 34

Dist (µm)	46.7	62.2	77.8	108.9	124.5	155.6	171.2	186.7	202.3	217.8	295.6
SiO_2	47.12	45.91	46.19	46.44	46.93	46.96	46.17	49.05	48.39	46.81	46.81
TiO_2	0.02	0.01	0.00	0.02	0.03	0.01	0.01	0.07	0.05	0.01	0.03
Al_2O_3	32.32	33.31	33.06	33.15	32.80	32.52	33.29	31.34	31.70	32.64	32.94
Fe_2O_3	0.54	0.53	0.54	0.52	0.63	0.51	0.59	1.09	0.84	0.64	0.66
MnO	-0.05	-0.05	-0.05	0.00	0.01	0.03	-0.01	0.05	0.00	-0.03	-0.03
MgO	0.07	0.08	0.04	0.06	0.11	0.06	0.06	0.37	0.21	0.05	0.08
CaO	16.39	16.94	16.79	16.76	16.83	16.56	17.04	15.70	15.66	16.23	16.39
BaO	-0.14	0.00	-0.08	0.01	0.10	0.04	0.00	0.01	0.07	0.06	-0.03
Na_2O	2.27	1.82	1.80	1.87	1.92	1.95	1.86	2.31	2.18	2.08	1.93
K_2O	0.06	0.04	0.03	0.03	0.08	0.01	0.05	0.24	0.22	0.06	0.07
sum	98.86	98.72	98.58	98.88	99.49	98.67	99.08	100.22	99.32	98.58	99.05
mol%An	79.7	83.6	83.6	83.1	82.5	82.4	83.3	77.8	78.8	80.9	82.1
mol%Ab	19.9	16.2	16.2	16.8	17.0	17.6	16.5	20.7	19.9	18.8	17.5
mol%Or	0.4	0.2	0.2	0.2	0.5	0.0	0.3	1.4	1.3	0.3	0.4

Table B.4.35: TAN-13 Plagioclase Microlites

Microlite #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SiO_2	53.08	54.64	53.58	53.74	54.29	55.18	55.28	53.62	54.27	52.97	52.67	53.51	54.11	54.90	52.66	53.74	52.93	52.79	52.17
TiO_2	0.01	0.00	0.04	0.01	0.05	0.10	0.06	0.10	0.09	0.03	0.03	0.05	0.05	0.10	0.10	0.07	0.08	0.10	0.04
Al_2O_3	28.89	28.70	28.78	28.94	28.63	27.98	27.78	28.65	28.22	28.96	30.24	28.85	28.63	28.25	29.49	29.51	29.32	29.66	30.46
Fe_2O_3	0.92	0.95	0.87	1.09	0.84	0.72	0.95	0.81	1.05	0.95	0.59	1.02	0.97	0.84	0.78	0.83	0.62	0.70	0.79
MnO	0.04	0.06	0.01	0.05	0.02	-0.02	0.09	0.07	0.04	0.04	0.07	-0.03	-0.03	0.12	0.08	0.09	0.07	0.11	-0.03
MgO	0.10	0.05	0.10	0.46	0.07	0.13	0.09	0.14	0.08	0.06	0.09	0.10	0.16	0.07	0.06	0.09	0.05	0.08	0.07
CaO	12.77	11.50	11.65	11.98	11.46	10.85	10.59	13.00	11.09	11.86	12.96	12.44	12.04	11.11	12.73	12.84	12.50	12.98	13.26
BaO	0.03	0.03	0.03	0.03	-0.09	-0.05	0.01	0.05	0.13	0.07	0.11	0.09	0.03	-0.11	-0.03	0.08	-0.09	-0.11	-0.04
Na_2O	4.74	4.82	5.04	4.57	4.98	5.22	5.61	4.56	4.97	4.68	4.20	4.58	4.85	4.99	4.20	4.34	4.32	4.31	3.88
K_2O	0.21	0.25	0.22	0.24	0.27	0.23	0.39	0.18	0.25	0.13	0.16	0.18	0.22	0.21	0.18	0.18	0.14	0.10	0.15
sum	100.78	101.00	100.32	101.11	100.51	100.33	100.86	101.19	100.19	99.74	101.12	100.78	101.03	100.49	100.24	101.76	99.95	100.72	100.75
mol%An	59.1	56.0	55.4	58.3	55.1	52.7	49.9	60.6	54.4	57.9	62.4	59.4	57.1	54.5	62.0	61.4	61.0	62.1	64.8
mol%Ab	39.8	42.5	43.4	40.3	43.3	45.9	47.9	38.4	44.1	41.4	36.6	39.6	41.6	44.3	37.0	37.6	38.2	37.3	34.3
mol%Or	1.1	1.4	1.2	1.4	1.6	1.3	2.2	1.0	1.5	0.7	0.9	1.0	1.2	1.2	1.1	1.1	0.8	0.6	0.9

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
SiO_2	54.31	54.33	53.65	55.89	52.58	54.12	52.03	54.49	54.17	53.52	53.49	54.63	54.85	53.21	55.46	54.81	52.14	52.42	53.61
TiO_2	0.03	0.07	0.09	0.13	0.01	0.06	0.00	0.06	0.04	0.03	0.05	0.06	0.08	0.02	0.02	0.08	0.07	0.01	0.06
Al_2O_3	28.65	29.71	28.80	26.92	30.15	28.19	30.01	28.12	27.73	29.21	28.74	28.34	27.13	28.80	28.46	26.95	29.87	29.81	28.92
Fe_2O_3	0.86	1.14	0.94	1.74	0.88	1.01	0.88	1.16	0.87	0.83	1.07	1.00	1.43	1.12	0.93	1.22	0.87	0.76	1.05
MnO	0.05	0.03	-0.01	0.06	-0.07	-0.03	-0.05	-0.05	-0.07	0.03	-0.01	-0.06	-0.03	0.01	0.04	0.10	0.07	0.01	0.03
MgO	0.05	0.11	0.16	0.16	0.20	0.11	0.08	0.20	0.09	0.17	0.13	0.14	0.19	0.16	0.09	0.07	0.06	0.09	0.14
CaO	12.10	11.91	11.98	10.29	13.16	11.75	13.14	11.32	11.13	12.40	11.80	11.42	11.24	12.27	11.55	10.67	13.17	13.16	11.77
BaO	0.04	-0.10	0.02	0.12	0.09	0.15	0.05	0.19	0.15	-0.01	0.05	0.03	-0.11	-0.17	0.23	0.17	0.19	0.17	0.17
Na_2O	4.90	4.70	4.88	4.75	4.13	4.82	4.39	5.15	4.97	4.49	4.63	4.99	5.00	4.70	4.98	5.45	4.20	4.16	4.77
K_2O	0.24	0.21	0.30	0.54	0.23	0.28	0.20	0.30	0.16	0.15	0.21	0.17	0.40	0.24	0.12	0.30	0.13	0.15	0.17
sum	101.23	102.10	100.81	100.61	101.37	100.47	100.74	100.94	99.24	100.81	100.17	100.72	100.18	100.36	101.88	99.82	100.78	100.75	100.68
mol%An	57.0	57.7	56.6	52.7	62.9	56.5	61.6	53.9	54.8	59.9	57.8	55.3	54.1	58.3	55.8	51.1	62.9	63.1	57.1
mol%Ab	41.7	41.1	41.7	44.0	35.7	41.9	37.3	44.4	44.3	39.3	41.0	43.7	43.6	40.4	43.5	47.2	36.3	36.1	41.9
mol%Or	1.3	1.2	1.7	3.3	1.3	1.6	1.1	1.7	1.0	0.8	1.2	1.0	2.3	1.4	0.7	1.7	0.8	0.9	1.0

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
SiO_2	54.48	53.02	53.12	54.40	52.64	54.12	54.40	54.93	54.61	52.89	54.53	52.71	55.75	53.07	52.56	54.15	53.41	53.29	52.73
TiO_2	0.09	0.06	0.06	0.08	0.08	-0.02	0.00	0.06	-0.02	-0.02	0.08	0.04	0.17	0.06	0.11	0.07	0.17	0.06	0.09
Al_2O_3	28.89	28.99	28.36	28.46	30.06	28.23	28.17	28.94	28.28	29.35	27.51	29.71	27.22	29.38	29.78	29.06	21.64	29.69	29.23
Fe_2O_3	1.04	0.92	0.92	0.91	0.84	1.09	1.98	1.05	1.03	0.87	1.27	1.16	1.27	0.85	0.71	0.85	5.02	0.95	1.11
MnO	0.07	0.08	0.10	0.09	0.04	-0.02	-0.03	0.02	-0.06	-0.05	0.07	0.06	0.07	0.04	0.00	0.03	0.12	0.03	0.04
MgO	0.12	0.10	0.10	0.16	0.06	0.11	1.03	0.17	0.14	0.11	0.37	0.05	0.12	0.10	0.11	0.08	5.16	0.12	0.13
CaO	12.01	13.05	11.99	11.33	13.46	11.55	11.69	11.36	11.65	12.93	11.38	12.71	10.28	12.09	13.24	11.54	9.32	12.31	12.20
BaO	-0.04	0.06	-0.06	0.06	0.02	-0.04	-0.04	-0.10	0.01	-0.02	0.16	0.08	0.06	-0.04	-0.14	-0.16	-0.18	-0.10	-0.16
Na_2O	4.67	4.39	4.86	4.91	4.27	4.87	4.71	4.67	4.76	4.48	4.95	4.37	4.75	4.65	4.19	4.95	4.23	4.55	4.66
K_2O	0.22	0.15	0.30	0.16	0.20	0.26	0.28	0.21	0.21	0.22	0.23	0.20	0.40	0.11	0.18	0.27	0.29	0.18	0.23
sum	101.55	100.82	99.77	100.55	101.65	100.16	102.20	101.32	100.61	100.77	100.55	101.07	100.09	100.31	100.73	100.83	99.16	101.07	100.25
mol%An	58.0	61.6	56.7	55.5	62.9	55.8	56.9	56.6	56.8	60.7	55.2	61.0	53.1	58.6	63.0	55.5	53.8	59.3	58.4
mol%Ab	40.8	37.5	41.6	43.5	36.0	42.6	41.5	42.1	42.0	38.1	43.5	37.9	44.4	40.8	36.0	43.0	44.2	39.7	40.3
mol%Or	1.3	0.8	1.7	1.0	1.1	1.5	1.6	1.3	1.2	1.2	1.4	1.1	2.4	0.6	1.0	1.5	2.0	1.0	1.3

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
SiO_2	54.08	54.80	53.96	53.67	53.63	53.40	54.01	53.84	53.47	55.15	55.13	52.48	53.50	55.17	52.68	56.25	54.90	53.95	51.53
TiO_2	0.05	0.03	0.03	0.05	0.04	0.02	0.00	0.03	0.02	0.05	0.05	0.01	-0.02	-0.02	0.02	0.08	0.04	0.03	0.06
Al_2O_3	28.84	28.10	28.32	29.34	29.18	29.01	29.38	28.68	29.56	28.07	27.93	29.07	28.66	27.95	29.97	27.16	27.84	28.57	29.88
Fe_2O_3	0.81	0.92	0.97	0.81	0.91	1.01	0.73	0.90	0.80	0.97	0.90	0.79	1.06	1.14	1.03	1.46	1.07	1.01	0.88
MnO	0.06	0.07	0.13	0.10	0.04	0.02	0.02	0.03	-0.01	0.01	0.12	0.14	0.08	0.09	0.07	-0.02	0.03	0.01	-0.01
MgO	0.10	0.08	0.10	0.10	0.06	0.08	0.10	0.09	0.08	0.11	0.09	0.14	0.11	0.09	0.09	0.16	0.11	0.17	0.10
CaO	12.41	11.51	11.36	11.88	12.16	12.15	12.04	11.83	11.99	11.00	10.77	12.85	12.34	11.56	12.99	10.72	11.32	11.47	12.50
BaO	-0.02	0.09	0.04	0.06	0.19	-0.17	-0.19	-0.08	-0.12	-0.23	0.11	0.11	0.07	0.17	0.15	0.13	0.03	0.01	0.13
Na_2O	4.86	5.29	4.88	5.05	4.63	4.71	4.63	4.70	4.40	5.37	5.28	4.60	4.70	5.21	4.51	4.85	5.30	4.68	4.36
K_2O	0.12	0.19	0.20	0.17	0.12	0.13	0.19	0.19	0.16	0.30	0.24	0.14	0.23	0.25	0.11	0.46	0.21	0.19	0.10
sum	101.31	101.07	100.01	101.24	100.96	100.36	100.91	100.21	100.35	100.79	100.62	100.33	100.74	101.60	101.62	101.25	100.85	100.08	99.53
mol%An	58.1	54.0	55.6	56.0	58.8	58.3	58.3	57.5	59.5	52.2	52.3	60.2	58.4	54.3	61.0	53.5	53.5	56.9	60.9
mol%Ab	41.2	44.9	43.2	43.0	40.5	40.9	40.6	41.4	39.6	46.1	46.3	39.0	40.3	44.3	38.3	43.8	45.3	42.0	38.5
mol%Or	0.7	1.0	1.1	1.0	0.7	0.8	1.1	1.1	0.9	1.7	1.4	0.8	1.3	1.4	0.6	2.7	1.2	1.1	0.6

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
SiO_2	53.80	54.52	53.41	53.39	53.44	53.39	53.81	54.62	53.65	53.25	54.68	53.48	53.92	53.36	54.70	52.91	52.32	54.04	54.23
TiO_2	0.10	-0.04	-0.04	-0.02	-0.02	-0.02	0.04	0.03	0.04	0.09	0.05	0.07	0.05	0.04	0.06	0.02	0.09	0.07	0.09
Al_2O_3	28.13	28.02	28.11	29.05	28.10	29.75	28.84	28.35	28.69	28.24	27.58	28.98	28.62	28.10	28.25	29.44	28.79	28.38	28.83
Fe_2O_3	0.90	1.26	1.38	0.75	1.07	1.03	1.16	1.23	0.89	2.16	0.84	1.02	0.96	0.79	1.03	0.93	0.81	1.04	0.93
MnO	0.01	-0.04	-0.03	-0.02	-0.04	-0.01	0.12	0.05	0.01	0.05	0.02	0.03	-0.02	0.01	0.03	0.03	0.00	0.00	0.04
MgO	0.16	0.07	0.10	0.11	0.10	0.06	0.15	0.18	0.14	1.23	0.10	0.12	0.12	0.11	0.14	0.10	0.08	0.04	0.10
CaO	11.48	11.68	11.90	12.10	11.29	12.45	11.52	11.84	11.85	11.97	10.76	11.49	11.64	11.66	10.95	12.24	12.31	11.85	11.73
BaO	0.17	-0.10	0.12	-0.04	0.06	-0.02	0.07	0.13	-0.06	-0.02	-0.04	-0.03	-0.03	0.15	0.13	0.07	0.00	-0.02	-0.04
Na_2O	5.21	4.86	4.91	4.52	4.90	4.23	4.72	4.99	4.63	3.91	5.22	4.86	4.78	4.80	5.15	4.43	4.39	4.78	4.85
K_2O	0.20	0.22	0.23	0.15	0.24	0.18	0.19	0.21	0.30	0.27	0.28	0.21	0.19	0.18	0.24	0.10	0.21	0.26	0.18
sum	100.16	100.45	100.09	99.99	99.13	101.05	100.62	101.62	100.14	101.15	99.51	100.23	100.24	99.21	100.69	100.28	99.00	100.44	100.93
mol%An	54.3	56.3	56.5	59.2	55.2	61.3	56.8	56.0	57.6	61.8	52.3	56.0	56.7	56.7	53.3	60.1	60.1	56.9	56.6
mol%Ab	44.6	42.4	42.2	40.0	43.4	37.7	42.1	42.8	40.7	36.6	46.0	42.8	42.2	42.2	45.3	39.3	38.7	41.6	42.4
mol%Or	1.1	1.2	1.3	0.9	1.4	1.1	1.1	1.2	1.7	1.6	1.7	1.2	1.1	1.0	1.4	0.6	1.2	1.5	1.0

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
SiO_2	54.38	54.04	54.31	52.06	54.75	52.69	53.02	53.93	54.12	54.30	53.66	53.18	53.44	54.90	53.87	54.01	53.79	52.36	54.32
TiO_2	0.03	0.04	0.02	-0.02	0.04	0.02	-0.02	0.09	0.06	0.04	0.07	0.01	0.04	0.05	0.05	0.06	0.01	-0.01	0.01
Al_2O_3	28.90	28.68	28.40	29.28	28.39	29.98	29.12	29.30	28.61	28.82	26.78	29.01	29.47	28.08	28.72	28.11	29.18	29.38	28.13
Fe_2O_3	0.77	0.81	1.08	0.82	0.98	0.87	1.13	0.97	0.77	1.02	1.43	1.06	0.80	0.92	0.66	1.03	0.67	0.83	0.95
MnO	0.04	0.04	0.02	0.00	0.01	0.05	0.04	0.07	0.06	0.10	0.09	0.08	-0.02	0.04	-0.02	-0.02	0.00	0.01	0.10
MgO	0.06	0.05	0.09	0.09	0.12	0.14	0.13	0.14	0.08	0.16	0.67	0.10	0.12	0.09	0.10	0.10	0.08	0.09	0.14
CaO	11.59	11.95	11.54	12.20	11.02	13.04	12.30	12.38	11.34	11.63	11.84	12.80	12.56	11.29	12.38	11.86	12.17	13.06	10.80
BaO	0.12	0.04	0.11	-0.01	-0.07	-0.05	-0.09	0.22	0.22	0.12	0.10	0.16	0.17	0.15	0.11	0.23	0.13	0.03	0.17
Na_2O	5.02	4.63	5.02	4.48	5.26	4.19	4.68	4.64	4.75	4.89	4.84	4.63	4.46	5.32	4.74	5.02	4.62	4.37	4.99
K_2O	0.16	0.21	0.26	0.07	0.17	0.14	0.11	0.18	0.22	0.23	0.32	0.22	0.13	0.20	0.13	0.17	0.13	0.13	0.23
sum	101.05	100.49	100.85	98.97	100.66	101.07	100.42	101.91	100.23	101.30	99.81	101.24	101.18	101.03	100.73	100.56	100.77	100.24	99.84
mol%An	55.5	58.0	55.1	59.8	53.2	62.7	58.8	59.0	56.2	56.1	56.4	59.7	60.4	53.4	58.7	56.1	58.8	61.9	53.7
mol%Ab	43.6	40.7	43.4	39.7	45.9	36.5	40.5	40.0	42.5	42.6	41.7	39.1	38.9	45.5	40.6	43.0	40.4	37.4	44.9
mol%Or	0.9	1.2	1.5	0.4	1.0	0.8	0.6	1.0	1.3	1.3	1.8	1.2	0.7	1.1	0.7	0.9	0.8	0.7	1.4

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
SiO_2	55.47	53.40	53.24	53.94	54.56	53.91	52.56	53.03	53.91	54.65	54.05	53.14	56.07	54.33	54.69	54.65	54.43	52.28	53.43
TiO_2	0.01	0.01	0.02	0.07	0.07	0.04	0.08	0.07	0.03	0.07	0.06	0.01	0.05	0.02	0.17	0.05	0.00	0.00	0.11
Al_2O_3	28.24	28.57	29.47	28.56	27.81	28.73	29.59	29.92	29.23	27.95	28.29	28.97	27.97	28.46	23.91	28.99	28.57	29.98	28.65
Fe_2O_3	1.15	0.92	0.91	0.99	1.03	1.04	0.73	0.89	0.86	1.02	1.25	0.74	1.04	1.00	4.13	1.13	1.09	0.73	0.92
MnO	0.05	0.06	0.12	-0.02	0.05	0.03	0.09	0.03	-0.03	-0.11	0.00	-0.04	-0.07	0.05	0.21	0.04	0.04	0.04	0.08
MgO	0.13	0.15	0.07	0.10	0.12	0.12	0.09	0.09	0.08	0.08	0.10	0.10	0.09	0.13	4.59	0.13	0.15	0.12	0.09
CaO	10.61	11.61	12.19	11.73	11.62	11.99	12.70	12.84	12.04	11.32	11.10	12.58	10.33	11.56	9.84	11.48	12.08	12.90	11.56
BaO	0.05	0.03	0.05	-0.24	-0.22	-0.12	-0.06	-0.10	0.10	0.10	0.14	0.00	0.06	0.09	-0.05	-0.07	-0.07	0.01	0.15
Na_2O	5.34	4.96	4.61	4.91	4.89	4.74	4.21	4.15	4.62	5.05	4.86	4.45	5.70	4.86	4.48	4.87	4.71	4.15	4.76
K_2O	0.31	0.21	0.14	0.31	0.33	0.18	0.26	0.22	0.21	0.17	0.25	0.18	0.32	0.37	0.21	0.26	0.18	0.19	0.14
sum	101.36	99.93	100.82	100.35	100.26	100.65	100.22	101.13	101.06	100.31	100.10	100.15	101.56	100.86	102.18	101.51	101.17	100.39	99.87
mol%An	51.4	55.7	58.9	55.9	55.7	57.7	61.6	62.3	58.3	54.8	55.0	60.3	49.2	55.6	54.0	55.7	58.0	62.5	56.8
mol%Ab	46.8	43.1	40.3	42.4	42.4	41.3	36.9	36.4	40.5	44.2	43.6	38.7	49.1	42.3	44.6	42.8	40.9	36.4	42.4
mol%Or	1.8	1.2	0.8	1.7	1.9	1.0	1.5	1.2	1.2	1.0	1.5	1.0	1.8	2.1	1.4	1.5	1.0	1.1	0.8

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152
SiO_2	54.58	54.35	53.96	54.87	53.65	52.92	53.63	53.57	54.47	54.03	53.08	54.46	53.77	54.13	54.10	52.56	53.92	52.13	53.29
TiO_2	0.10	0.11	0.07	0.08	0.07	0.06	0.13	0.09	0.06	0.05	0.03	0.07	0.07	0.06	0.13	0.11	0.09	0.04	0.02
Al_2O_3	28.70	28.47	29.40	27.59	28.81	28.48	28.76	28.70	27.82	28.76	28.40	27.80	29.09	28.08	26.65	29.94	29.45	29.97	28.54
Fe_2O_3	0.91	0.86	0.76	0.86	0.98	1.00	0.88	1.13	1.08	1.00	1.04	1.07	1.05	1.01	2.48	0.92	0.87	0.77	1.05
MnO	0.07	0.08	0.07	0.09	0.04	-0.03	0.03	0.02	0.04	-0.03	-0.12	-0.01	-0.07	-0.08	0.04	0.04	0.03	0.01	0.10
MgO	0.08	0.09	0.12	0.05	0.12	0.15	0.05	0.10	0.10	0.07	0.13	0.12	0.08	0.12	1.44	0.12	0.09	0.13	0.16
CaO	12.13	11.80	11.87	10.59	11.81	12.21	11.50	11.82	11.14	11.57	12.29	11.66	11.79	11.08	11.90	12.51	11.97	12.81	12.87
BaO	-0.06	-0.04	-0.02	-0.04	0.01	0.11	0.09	-0.01	0.15	0.13	0.13	0.03	0.11	0.09	0.30	0.00	0.20	0.08	0.01
Na_2O	4.78	4.86	4.97	5.22	4.73	4.66	4.89	4.72	5.06	5.00	4.57	4.83	4.92	5.00	4.38	4.29	4.82	4.32	4.56
K_2O	0.10	0.10	0.12	0.18	0.06	0.19	0.16	0.11	0.22	0.30	0.19	0.21	0.30	0.25	0.40	0.09	0.11	0.19	0.07
sum	101.39	100.69	101.32	99.50	100.29	99.75	100.14	100.27	100.14	100.88	99.75	100.25	101.11	99.74	101.82	100.58	101.55	100.46	100.68
mol%An	58.1	57.0	56.5	52.3	57.8	58.5	56.0	57.7	54.2	55.2	59.1	56.5	56.0	54.2	58.6	61.4	57.5	61.4	60.7
mol%Ab	41.4	42.5	42.8	46.6	41.9	40.4	43.1	41.7	44.5	43.1	39.8	42.3	42.3	44.3	39.1	38.1	41.9	37.5	38.9
mol%Or	0.6	0.6	0.7	1.1	0.4	1.1	0.9	0.6	1.3	1.7	1.1	1.2	1.7	1.4	2.3	0.6	0.6	1.1	0.4

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
SiO_2	54.72	53.16	53.27	54.19	54.41	54.16	52.69	55.22	52.77	52.75	55.49	53.29	51.82	51.86	54.13	54.31	53.67	54.06	54.27
TiO_2	0.01	-0.04	0.00	0.03	0.06	0.04	0.03	0.10	0.07	0.19	0.08	0.11	0.05	0.06	0.07	0.04	0.11	0.08	0.06
Al_2O_3	27.90	28.90	28.70	27.62	28.70	28.33	30.29	27.40	30.15	19.09	27.83	27.97	29.14	29.77	28.62	28.61	28.14	27.68	29.23
Fe_2O_3	0.95	0.99	0.88	1.11	0.82	0.82	0.84	1.14	0.66	8.51	0.92	0.79	0.84	0.78	0.90	0.99	1.14	0.94	0.92
MnO	0.05	0.01	-0.03	0.02	0.00	0.04	-0.05	0.04	-0.02	0.24	-0.02	0.00	0.03	0.07	0.02	0.07	0.09	0.05	-0.04
MgO	0.11	0.10	0.15	0.10	0.14	0.10	0.11	0.48	0.07	6.58	0.12	0.12	0.09	0.10	0.07	0.12	0.09	0.09	0.14
CaO	11.06	12.72	12.01	11.31	12.42	11.62	13.23	10.67	12.73	9.21	10.91	12.01	12.55	12.78	11.02	11.55	11.48	11.72	11.79
BaO	0.09	0.07	0.07	-0.03	-0.05	0.07	-0.05	-0.03	-0.05	-0.22	-0.05	-0.11	-0.13	0.12	0.00	-0.10	0.02	0.00	0.05
Na_2O	4.97	4.44	4.87	5.10	4.84	4.88	4.17	5.14	4.22	3.08	5.07	4.71	4.49	4.24	4.94	4.93	4.93	5.03	4.97
K_2O	0.22	0.10	0.14	0.25	0.25	0.22	0.20	0.25	0.15	0.15	0.24	0.16	0.13	0.14	0.27	0.27	0.20	0.26	0.24
sum	100.09	100.44	100.05	99.71	101.59	100.29	101.47	100.41	100.75	99.55	100.59	99.06	99.00	99.93	100.04	100.79	99.87	99.89	101.65
mol%An	54.4	60.9	57.2	54.3	57.9	56.1	63.0	52.6	62.0	61.6	53.6	58.0	60.3	62.0	54.3	55.5	55.6	55.5	55.9
mol%Ab	44.3	38.5	42.0	44.3	40.8	42.7	35.9	45.9	37.1	37.3	45.1	41.1	39.0	37.2	44.1	42.9	43.2	43.1	42.7
mol%Or	1.3	0.6	0.8	1.4	1.4	1.3	1.1	1.5	0.8	1.2	1.4	0.9	0.7	0.8	1.6	1.6	1.2	1.4	1.4

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190
SiO_2	54.11	54.72	53.76	54.38	54.38	54.60	59.86	54.87	55.06	52.72	52.99	53.53	54.01	55.40	53.84	54.17	54.75	53.50	53.07
TiO_2	0.01	0.05	0.07	0.03	0.06	0.05	0.27	0.04	0.07	0.08	0.12	0.08	0.14	0.19	0.05	0.06	0.08	0.08	0.04
Al_2O_3	28.31	28.37	28.58	28.63	29.10	28.59	24.16	28.19	27.80	28.66	29.27	28.55	27.55	26.25	28.77	29.61	28.23	28.55	29.77
Fe_2O_3	1.09	0.95	1.03	1.10	1.04	0.91	1.51	1.09	1.11	0.97	0.85	0.93	0.98	1.43	0.94	1.01	1.13	1.09	0.76
MnO	-0.10	-0.04	-0.02	0.01	0.01	0.03	0.09	0.00	-0.07	0.01	-0.03	-0.04	-0.02	0.06	-0.04	0.00	0.01	-0.03	0.02
MgO	0.11	0.08	0.10	0.08	0.06	0.06	0.10	0.07	0.07	0.09	0.10	0.13	0.12	0.15	0.10	0.13	0.11	0.12	0.10
CaO	11.73	11.52	11.91	11.77	11.79	11.73	8.37	10.92	10.90	12.77	12.44	11.62	11.54	10.22	12.11	12.01	11.95	11.23	12.36
BaO	0.07	0.11	0.13	0.09	-0.03	0.05	0.13	-0.07	0.03	-0.16	-0.02	-0.02	0.04	-0.06	-0.22	-0.16	-0.12	-0.32	-0.26
Na_2O	4.95	4.99	4.76	4.92	4.93	4.88	5.69	5.13	5.33	4.38	4.85	4.91	4.86	4.83	4.57	4.59	4.74	4.69	4.42
K_2O	0.19	0.28	0.27	0.33	0.20	0.15	0.92	0.26	0.28	0.19	0.17	0.26	0.34	0.43	0.14	0.16	0.20	0.16	0.08
sum	100.47	101.04	100.57	101.32	101.53	101.04	101.10	100.49	100.57	99.71	100.73	99.94	99.55	98.90	100.26	101.58	101.07	99.09	100.36
mol%An	56.1	55.2	57.2	55.9	56.3	56.5		53.2	52.2	61.0	58.1	55.8	55.7	52.5	58.9	58.6	57.6	56.4	60.4
mol%Ab	42.8	43.2	41.3	42.2	42.6	42.6	52.1	45.3	46.2	37.9	41.0	42.7	42.4	44.9	40.2	40.5	41.3	42.6	39.1
mol%Or	1.1	1.6	1.5	1.9	1.1	0.9	5.5	1.5	1.6	1.1	0.9	1.5	1.9	2.6	0.8	0.9	1.1	1.0	0.5

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209
SiO_2	53.34	54.54	53.28	54.25	54.15	56.86	55.41	58.38	55.32	54.17	53.35	53.62	54.83	53.20	54.91	54.38	54.06	59.19	52.44
TiO_2	0.06	0.07	0.04	0.05	0.04	0.12	0.04	0.03	0.03	0.14	0.05	0.07	0.07	0.02	0.10	0.00	0.12	0.23	-0.01
Al_2O_3	29.39	28.73	30.08	28.75	28.36	27.18	28.29	28.03	29.02	25.39	28.79	28.72	27.67	29.08	27.77	28.22	28.38	23.86	29.91
Fe_2O_3	0.84	1.06	0.81	1.04	1.05	1.23	1.11	1.46	0.81	3.86	0.96	0.98	0.85	0.91	0.92	0.99	1.49	1.65	0.93
MnO	0.06	0.03	0.06	0.01	0.05	0.06	0.02	0.02	0.03	0.17	0.09	-0.04	0.07	-0.04	0.02	0.07	0.10	0.05	0.07
MgO	0.06	0.05	0.05	0.10	0.09	0.13	0.05	0.12	0.08	3.07	0.18	0.14	0.11	0.13	0.08	0.12	0.40	0.49	0.13
CaO	12.44	11.80	13.11	11.75	11.47	10.19	11.31	9.66	12.08	10.48	12.23	11.53	11.11	12.80	11.25	11.46	11.83	8.19	12.70
BaO	-0.09	-0.11	-0.17	-0.09	-0.09	0.13	0.05	-0.07	0.15	0.05	-0.02	0.05	-0.02	-0.02	-0.02	0.04	0.02	0.06	0.14
Na_2O	4.45	4.86	4.26	4.70	4.80	4.71	5.06	4.76	4.69	4.36	4.70	4.86	5.16	4.27	5.13	5.05	4.39	5.25	4.24
K_2O	0.15	0.26	0.14	0.27	0.28	0.55	0.29	0.45	0.17	0.24	0.23	0.27	0.29	0.18	0.23	0.16	0.33	0.82	0.17
sum	100.70	101.29	101.66	100.83	100.20	101.17	101.63	102.84	102.38	101.93	100.54	100.20	100.15	100.53	100.40	100.48	101.12	99.80	100.72
mol%An	60.2	56.4	62.5	57.1	56.0	52.6	54.3	51.4	58.2	56.1	58.2	55.9	53.5	61.7	54.0	55.1	58.6		61.7
mol%Ab	39.0	42.1	36.7	41.3	42.4	44.0	44.0	45.8	40.9	42.3	40.5	42.6	44.9	37.3	44.6	43.9	39.4	50.9	37.3
mol%Or	0.8	1.5	0.8	1.6	1.6	3.4	1.7	2.9	1.0	1.5	1.3	1.5	1.6	1.0	1.3	0.9	2.0	5.3	1.0

Table B.4.35 (cntd): TAN-13 Plagioclase Microlites

Microlite #	210	211	212	213	214	215
SiO_2	53.13	51.82	53.58	53.77	53.12	50.79
TiO_2	0.07	0.04	0.05	0.04	0.08	0.04
Al_2O_3	29.60	29.56	29.33	29.45	28.73	30.88
Fe_2O_3	1.01	0.87	0.98	0.80	1.18	0.79
MnO	0.04	0.08	0.09	0.03	-0.04	-0.03
MgO	0.12	0.10	0.09	0.11	0.09	0.09
CaO	12.69	13.11	12.31	12.55	11.31	13.97
BaO	0.18	-0.07	-0.05	-0.05	0.05	-0.09
Na_2O	4.28	3.91	4.49	4.58	4.80	3.53
K_2O	0.19	0.13	0.15	0.18	0.30	0.09
sum	101.29	99.53	101.01	101.46	99.61	100.06
mol%An	61.4	64.5	59.7	59.6	55.6	68.2
mol%Ab	37.5	34.8	39.4	39.4	42.7	31.2
mol%Or	1.1	0.8	0.8	1.0	1.8	0.5

Table B.5.1: XAL-117, Plagioclase grain 1

Dist (µm)	0.0	29.5	59.0	117.9	147.4	206.4	324.3	383.3	442.2	471.7	501.2	530.7
SiO_2	52.44	52.59	55.19	56.10	55.12	52.24	52.71	52.41	53.34	53.77	54.19	54.39
TiO_2	0.05	0.02	-0.01	0.04	0.04	0.02	0.04	0.07	0.05	0.07	0.05	0.03
Al_2O_3	29.64	29.60	28.97	27.25	27.98	29.88	30.32	30.07	28.81	28.76	28.97	29.50
Fe_2O_3	0.61	0.79	0.63	0.54	0.71	0.64	0.66	0.50	0.47	0.61	0.53	0.71
MnO	-0.01	0.02	0.01	0.04	0.02	0.08	0.06	-0.02	0.01	-0.01	-0.01	0.02
MgO	0.05	0.03	0.06	0.04	0.03	0.02	0.11	0.08	0.10	0.09	0.07	0.10
CaO	12.51	12.40	11.25	10.04	10.23	12.61	13.30	12.75	12.09	11.34	11.71	11.37
BaO	-0.02	0.03	0.03	0.13	0.05	0.03	0.15	0.13	0.02	0.08	0.10	0.15
Na_2O	4.42	4.37	5.36	5.87	5.33	4.24	4.37	4.20	4.47	4.88	5.11	4.85
K_2O	0.14	0.17	0.25	0.31	0.34	0.23	0.25	0.16	0.24	0.19	0.19	0.24
sum	99.89	100.07	101.83	100.35	99.87	100.05	101.96	100.38	99.58	99.78	100.92	101.39
mol%An	60.5	60.4	52.9	47.7	50.4	61.3	61.9	62.1	59.1	55.6	55.3	55.6
mol%Ab	38.7	38.6	45.6	50.5	47.6	37.3	36.7	37.0	39.5	43.3	43.7	43.0
mol%Or	0.8	1.0	1.4	1.8	2.0	1.3	1.4	0.9	1.4	1.1	1.0	1.4

Table B.5.2: XAL-117, Plagioclase grain 2

Dist (µm)	15.4	30.8	61.5	107.6	123.1	138.4	153.8	169.1	200.0	215.3	230.7	246.1
SiO_2	51.43	51.59	51.64	50.27	51.13	51.46	51.25	50.44	52.31	53.06	55.31	55.43
TiO_2	0.01	0.04	0.01	0.02	0.04	0.00	0.03	0.01	0.00	-0.06	-0.02	0.00
Al_2O_3	30.22	30.41	30.20	30.53	30.46	30.07	30.53	30.82	29.20	29.60	27.19	28.28
Fe_2O_3	0.67	0.75	0.65	0.68	0.42	0.65	0.65	0.52	0.63	0.76	0.82	0.75
MnO	0.03	0.05	0.00	-0.03	0.01	0.04	-0.03	-0.03	-0.02	0.02	0.04	0.04
MgO	0.07	0.09	0.06	0.09	0.11	0.09	0.09	0.06	0.11	0.06	0.07	0.06
CaO	13.33	12.57	13.23	14.22	14.00	13.44	14.00	14.53	12.04	11.84	10.85	10.25
BaO	-0.02	-0.02	0.00	0.02	0.08	0.08	0.19	0.02	0.11	0.07	0.16	0.11
Na_2O	4.01	4.07	4.03	3.43	3.70	3.87	3.82	3.45	4.52	4.89	5.48	5.85
K_2O	0.22	0.25	0.18	0.17	0.17	0.07	0.07	0.10	0.16	0.19	0.22	0.29
sum	100.04	99.85	100.00	99.43	100.16	99.79	100.63	99.94	99.09	100.47	100.18	101.07
mol%An	64.0	62.1	63.8	68.9	67.0	65.5	66.7	69.6	59.0	56.6	51.6	48.4
mol%Ab	34.8	36.4	35.1	30.1	32.1	34.1	32.9	29.9	40.1	42.3	47.2	50.0
mol%Or	1.2	1.5	1.1	1.0	0.9	0.4	0.4	0.5	0.9	1.1	1.2	1.6

Table B.5.3: XAL-117, Plagioclase grain 3

Dist (µm)	150.2	180.3	210.3	240.3	270.3	300.4	330.4	390.5	510.7	540.8	570.7	600.8	630.8	721.0
SiO_2	48.61	53.78	52.89	52.28	53.02	52.63	52.50	51.43	49.23	50.99	50.51	50.31	50.18	53.87
TiO_2	0.01	0.01	0.03	0.02	0.02	0.08	0.04	0.01	0.04	0.02	0.03	0.04	0.00	0.00
Al_2O_3	31.54	29.36	29.17	30.10	29.46	29.66	29.45	30.22	32.18	30.44	31.21	31.23	32.00	28.33
Fe_2O_3	0.55	0.60	0.64	0.51	0.53	0.44	0.62	0.52	0.70	0.60	0.71	0.71	0.51	0.67
MnO	-0.01	0.05	0.04	0.05	0.04	0.04	0.00	-0.02	-0.02	-0.01	0.04	-0.01	-0.04	0.06
MgO	0.09	0.07	0.06	0.08	0.08	0.08	0.05	0.05	0.05	0.05	0.04	0.03	0.04	0.03
CaO	14.79	12.56	12.42	12.81	11.72	12.20	12.99	13.10	14.03	13.18	14.64	14.78	15.43	10.74
BaO	0.06	0.01	0.04	0.06	-0.02	-0.01	0.01	-0.01	-0.07	0.10	0.01	0.07	-0.02	0.11
Na_2O	3.18	4.69	4.49	4.10	4.77	4.41	4.44	3.95	3.51	3.98	3.32	3.38	3.08	5.15
K_2O	0.11	0.21	0.19	0.19	0.19	0.26	0.13	0.15	0.10	0.11	0.10	0.09	0.11	0.30
sum	98.98	101.38	100.03	100.24	99.89	99.88	100.28	99.50	99.91	99.51	100.68	100.69	101.40	99.31
mol%An	71.5	59.0	59.8	62.6	57.0	59.6	61.4	64.1	68.4	64.3	70.5	70.4	73.0	52.6
mol%Ab	27.8	39.8	39.1	36.3	41.9	38.9	37.9	35.0	31.0	35.1	28.9	29.1	26.4	45.6
mol%Or	0.7	1.2	1.1	1.1	1.1	1.5	0.7	0.9	0.6	0.7	0.6	0.5	0.6	1.7

Table B.5.4: XAL-117, Plagioclase grain 4

Dist (µm)	0.0	60.4	120.9	181.3	271.9	302.1	332.3	362.5	423.0	453.2	483.4	513.6
SiO_2	54.09	52.31	50.58	52.38	53.11	53.75	54.53	52.87	54.08	48.95	53.91	54.71
TiO_2	0.00	0.04	-0.08	0.04	0.02	0.01	0.01	0.03	0.01	0.02	0.02	0.04
Al_2O_3	28.60	29.05	31.08	28.71	29.92	28.24	26.99	28.53	28.41	30.89	27.39	27.35
Fe_2O_3	0.87	0.60	0.53	0.61	0.71	0.53	0.75	0.63	0.68	0.85	0.75	0.81
MnO	0.01	-0.05	-0.06	0.02	-0.04	0.01	0.01	0.05	0.03	0.00	0.02	-0.01
MgO	0.07	0.10	0.08	-0.02	-0.04	-0.02	-0.04	-0.06	-0.04	-0.06	0.04	0.04
CaO	11.92	11.61	13.82	12.06	12.36	11.18	10.32	11.52	11.59	14.25	10.86	10.25
BaO	0.01	0.07	-0.01	0.09	0.08	0.08	0.11	0.14	0.06	0.16	0.00	0.02
Na_2O	4.69	4.83	3.43	4.46	4.46	5.26	5.49	4.60	5.09	3.23	4.76	5.83
K_2O	0.21	0.13	0.10	0.11	0.13	0.19	0.26	0.24	0.17	0.06	0.27	0.40
sum	100.47	98.76	99.62	98.49	100.79	99.31	98.47	98.67	100.15	98.44	98.08	99.50
mol%An	57.7	56.6	68.6	59.5	60.0	53.4	50.2	57.2	55.2	70.7	54.9	48.2
mol%Ab	41.1	42.6	30.8	39.8	39.2	45.5	48.3	41.3	43.9	29.0	43.5	49.6
mol%Or	1.2	0.8	0.6	0.6	0.8	1.1	1.5	1.4	0.9	0.4	1.6	2.2

Table B.5.5: XAL-117, Plagioclase grain 5

Dist (µm)	0.0	14.8	44.3	59.1	162.5
SiO_2	52.10	52.10	52.44	50.70	50.60
TiO_2	0.04	0.01	0.00	0.01	0.05
Al_2O_3	29.65	29.54	30.49	30.88	30.22
Fe_2O_3	0.57	0.56	0.55	0.52	0.53
MnO	-0.03	-0.04	-0.06	-0.01	-0.03
MgO	0.03	0.05	0.06	0.07	0.07
CaO	12.85	13.08	12.98	13.94	13.83
BaO	0.02	0.00	-0.14	0.05	0.06
Na_2O	4.17	4.25	3.99	3.58	3.98
K_2O	0.12	0.11	0.22	0.13	0.19
sum	99.58	99.75	100.74	99.92	99.57
mol%An	62.6	62.6	63.4	67.8	65.1
mol%Ab	36.7	36.8	35.3	31.5	33.9
mol%Or	0.7	0.6	1.3	0.7	1.1

Table B.5.6: XAL-117, Plagioclase grain 6

Dist (µm)	0.0	57.9	86.9	115.8	144.7	173.7	231.5	260.6	289.5	318.4	347.3	376.3	405.3
SiO_2	53.51	53.27	49.47	48.87	51.67	51.46	49.58	48.74	48.23	53.50	51.30	52.67	53.92
TiO_2	0.06	0.02	0.05	-0.02	0.01	0.03	0.02	0.00	-0.02	0.02	0.02	-0.02	0.04
Al_2O_3	29.21	29.78	32.14	31.75	30.91	30.95	31.25	31.97	31.78	28.66	30.08	28.26	28.10
Fe_2O_3	0.82	0.73	0.58	0.74	0.58	0.57	0.61	0.68	0.50	0.56	0.56	0.54	0.52
MnO	-0.02	0.03	0.08	0.02	-0.02	0.01	0.01	0.00	0.03	0.07	-0.02	0.01	-0.02
MgO	0.03	0.08	0.08	0.04	0.06	0.04	0.05	0.06	0.04	0.07	0.03	0.05	0.04
CaO	12.20	12.58	15.48	15.60	13.27	14.29	14.18	14.95	15.70	11.49	13.12	12.49	11.17
BaO	-0.08	0.02	-0.08	-0.05	-0.09	-0.03	-0.13	-0.13	-0.06	-0.03	-0.08	0.03	0.00
Na_2O	4.48	4.56	3.03	2.87	4.00	3.56	3.43	2.63	2.75	4.86	4.33	4.74	5.13
K_2O	0.31	0.23	0.21	0.11	0.15	0.14	0.17	0.09	0.05	0.21	0.15	0.24	0.30
sum	100.62	101.29	101.11	100.02	100.72	101.09	99.30	99.14	99.13	99.45	99.60	99.06	99.23
mol%An	59.0	59.6	73.0	74.6	64.2	68.4	68.8	75.4	75.7	56.0	62.1	58.5	53.7
mol%Ab	39.2	39.1	25.9	24.8	35.0	30.8	30.2	24.0	24.0	42.8	37.1	40.1	44.6
mol%Or	1.8	1.3	1.2	0.6	0.8	0.8	1.0	0.5	0.3	1.2	0.8	1.3	1.7

Table B.5.7: XAL-117, Plagioclase grain 7

Dist (µm)	30.5	61.1	91.7	152.7	183.4	275.0	305.5	336.1	366.6	397.2	427.7
SiO_2	54.63	53.72	56.04	51.12	52.10	49.98	52.30	53.73	54.01	53.24	56.14
TiO_2	0.04	0.02	0.02	0.02	0.00	0.01	0.00	-0.01	0.00	-0.01	0.02
Al_2O_3	28.69	29.23	27.91	30.88	30.29	30.67	29.95	28.63	28.80	28.66	26.60
Fe_2O_3	0.61	0.72	0.55	0.52	0.51	0.65	0.64	0.64	0.69	0.65	0.69
MnO	0.02	-0.04	-0.05	-0.03	-0.02	0.06	0.06	-0.03	0.02	-0.01	0.01
MgO	0.07	0.08	0.05	0.05	0.06	0.11	0.12	0.10	0.10	0.07	0.04
CaO	10.95	11.75	10.39	14.19	13.03	12.90	13.26	11.42	12.21	11.24	8.91
BaO	0.05	-0.04	0.08	-0.04	0.07	0.08	0.02	0.03	0.03	-0.03	0.03
Na_2O	5.33	4.80	5.63	3.78	3.89	3.97	3.93	5.13	4.71	4.86	6.09
K_2O	0.31	0.21	0.25	0.10	0.18	0.16	0.14	0.27	0.19	0.23	0.41
sum	100.70	100.53	100.93	100.68	100.12	98.70	100.42	99.98	100.78	98.97	98.93
mol%An	52.2	56.8	49.8	67.1	64.2	63.6	64.6	54.3	58.3	55.3	43.6
mol%Ab	46.0	42.0	48.8	32.4	34.7	35.4	34.6	44.2	40.7	43.3	54.0
mol%Or	1.8	1.2	1.4	0.6	1.1	0.9	0.8	1.5	1.1	1.4	2.4

Table B.5.8: XAL-117, Plagioclase grain 8

Dist (µm)	0.0	59.1	147.7	177.2	206.7	265.8	295.3	324.9	354.4	383.9	413.5
SiO_2	55.77	49.93	51.49	52.73	51.35	51.26	50.19	51.86	49.44	49.74	51.73
TiO_2	0.02	0.01	0.02	0.00	0.02	0.02	0.03	-0.02	0.00	0.01	0.00
Al_2O_3	26.41	31.30	29.90	29.43	29.86	29.72	31.70	29.57	30.96	30.77	29.80
Fe_2O_3	0.89	0.63	0.68	0.84	0.64	0.62	0.49	0.52	0.68	0.68	0.59
MnO	0.01	0.02	0.02	0.02	0.06	0.08	0.01	0.06	0.06	-0.03	0.00
MgO	0.07	0.06	0.08	0.08	0.08	0.08	0.05	0.08	0.08	0.09	0.04
CaO	9.73	14.55	12.78	12.19	12.93	13.10	14.12	13.10	14.16	14.22	12.91
BaO	0.03	-0.05	-0.05	-0.12	-0.01	0.03	-0.07	0.07	-0.04	-0.07	-0.02
Na_2O	5.59	3.20	4.14	4.37	4.26	4.17	3.28	4.08	3.34	3.45	4.06
K_2O	0.58	0.10	0.20	0.24	0.14	0.12	0.11	0.15	0.10	0.09	0.13
sum	99.11	99.83	99.30	99.92	99.32	99.19	99.98	99.48	98.81	99.05	99.26
mol%An	47.4	71.1	62.3	59.8	62.2	63.0	70.0	63.4	69.7	69.2	63.3
mol%Ab	49.3	28.3	36.5	38.8	37.0	36.3	29.4	35.7	29.7	30.3	36.0
mol%Or	3.4	0.6	1.1	1.4	0.8	0.7	0.6	0.8	0.6	0.5	0.7

Table B.5.9: XAL-117, Plagioclase grain 9

Dist (µm)	0.0	91.3	273.8	365.1	456.3	638.9	821.4	1003.9	1095.2	1186.5	1277.7	1369.0
SiO_2	54.53	48.33	47.95	48.12	47.34	47.39	50.93	47.56	48.91	46.63	53.24	51.60
TiO_2	0.02	-0.02	-0.01	0.04	0.02	0.01	0.06	0.03	0.06	0.04	0.08	0.04
Al_2O_3	29.40	32.56	33.07	32.71	32.75	33.27	29.97	32.64	31.61	34.78	29.60	29.20
Fe_2O_3	0.63	0.64	0.62	0.70	0.61	0.48	0.60	0.64	0.68	0.58	0.69	0.73
MnO	0.04	-0.01	0.00	0.05	0.00	0.06	-0.06	0.00	0.00	-0.01	0.00	-0.01
MgO	0.05	0.04	0.03	0.04	0.03	0.01	0.08	0.07	0.06	0.06	0.02	0.07
CaO	12.26	16.43	16.70	16.38	16.95	16.38	12.83	14.88	14.19	16.18	12.42	12.20
BaO	0.03	0.04	0.08	0.11	0.12	0.03	-0.04	0.05	0.06	0.03	0.00	0.05
Na_2O	4.66	2.05	2.15	2.29	2.26	2.09	4.06	2.74	3.05	2.14	2.43	4.18
K_2O	0.26	0.01	0.06	0.01	0.01	0.00	0.12	0.13	0.14	0.07	0.19	0.16
sum	101.87	100.10	100.69	100.47	100.17	99.75	98.65	98.77	98.77	100.52	98.72	98.26
mol%An	58.4	81.6	80.8	79.8	80.5	81.2	63.1	74.4	71.4	80.4	72.9	61.1
mol%Ab	40.2	18.4	18.8	20.1	19.5	18.8	36.2	24.8	27.7	19.2	25.8	37.9
mol%Or	1.4	0.1	0.3	0.1	0.1	0.0	0.7	0.8	0.9	0.4	1.3	1.0

Table B.5.10: XAL-117, Plagioclase grain 10

Dist (µm)	0.0	30.6	61.1	91.7	122.2	152.7	183.3	213.9	275.0	305.5	336.0	366.6
SiO_2	54.14	50.84	51.23	52.09	51.93	51.84	51.39	49.32	50.45	49.35	50.98	50.31
TiO_2	0.06	0.07	0.01	0.01	0.03	0.03	0.00	0.03	0.04	0.01	0.05	0.06
Al_2O_3	27.76	30.18	29.76	29.97	30.62	29.98	30.00	32.12	31.05	31.15	31.20	30.74
Fe_2O_3	0.80	0.56	0.65	0.77	0.69	0.50	0.74	0.66	0.65	0.69	0.65	0.60
MnO	-0.01	-0.02	-0.04	-0.03	0.01	0.03	-0.01	-0.05	-0.03	-0.03	0.03	-0.07
MgO	0.05	0.04	0.04	0.07	0.07	0.08	0.07	0.04	0.05	0.07	0.05	0.04
CaO	10.94	14.02	13.18	13.49	13.20	13.18	12.87	13.32	14.14	14.56	13.97	14.01
BaO	0.03	0.00	-0.14	-0.02	-0.18	-0.13	-0.08	-0.05	-0.10	-0.14	0.05	-0.04
Na_2O	4.96	3.58	4.01	3.89	3.97	3.87	3.91	3.47	3.47	3.10	3.61	3.60
K_2O	0.32	0.11	0.10	0.11	0.16	0.15	0.20	0.15	0.15	0.11	0.11	0.16
sum	99.08	99.41	98.99	100.45	100.69	99.67	99.17	99.14	99.99	99.03	100.69	99.51
mol%An	53.9	68.0	64.1	65.3	64.1	64.7	63.8	67.4	68.7	71.7	67.7	67.7
mol%Ab	44.2	31.4	35.3	34.1	34.9	34.4	35.1	31.7	30.5	27.6	31.7	31.4
mol%Or	1.9	0.6	0.6	0.7	0.9	0.8	1.2	0.9	0.9	0.6	0.6	0.9

Table B.5.11: XAL-117, Plagioclase grain 11

Dist (µm)	0.0	90.7	241.8	272.0	332.4	362.6	392.9	423.1
SiO_2	55.78	55.14	50.83	54.45	53.06	55.64	54.82	52.58
TiO_2	0.05	0.01	0.02	-0.03	-0.04	-0.02	-0.02	0.01
Al_2O_3	26.92	28.14	30.39	28.90	29.69	28.71	28.32	29.10
Fe_2O_3	0.69	0.37	0.69	0.50	0.54	0.58	0.64	0.74
MnO	-0.07	-0.06	-0.05	0.05	0.05	0.02	-0.04	0.03
MgO	0.07	0.05	0.05	0.08	0.06	0.04	0.05	0.06
CaO	9.52	10.86	13.81	11.07	11.91	10.78	11.19	12.15
BaO	0.04	0.09	0.02	0.06	-0.03	0.05	0.10	-0.03
Na_2O	6.10	5.38	3.40	4.98	4.84	5.25	5.13	4.54
K_2O	0.46	0.30	0.08	0.16	0.22	0.28	0.26	0.30
sum	99.62	100.33	99.28	100.25	100.43	101.35	100.53	99.50
mol%An	45.1	51.9	68.9	54.6	56.9	52.3	53.9	58.6
mol%Ab	52.3	46.4	30.7	44.4	41.9	46.1	44.7	39.7
mol%Or	2.6	1.7	0.5	1.0	1.3	1.6	1.5	1.7

Table B.5.12: XAL-117, Plagioclase grain 12

Dist (µm)	0.0	179.1	268.7	358.2	626.8	716.4	805.9	895.5	985.0	1253.7
SiO_2	55.34	52.45	52.61	51.47	52.29	51.82	47.33	47.14	47.84	53.41
TiO_2	0.01	-0.05	-0.03	0.05	0.03	0.04	-0.01	0.04	0.03	0.07
Al_2O_3	26.99	29.20	28.96	29.33	29.23	29.57	32.48	32.29	32.66	27.80
Fe_2O_3	0.74	0.53	0.58	0.61	0.46	0.70	0.75	0.69	0.64	0.49
MnO	0.01	-0.02	-0.01	0.06	0.05	0.00	0.05	0.01	0.02	-0.06
MgO	0.04	0.07	0.06	0.04	0.04	0.05	0.01	0.04	0.05	0.04
CaO	9.82	12.28	11.92	12.53	12.19	12.67	16.08	15.57	15.16	11.02
BaO	0.10	-0.10	-0.03	-0.06	0.08	0.08	0.08	0.04	0.08	0.05
Na_2O	5.99	4.50	4.71	4.30	4.35	4.45	2.47	2.51	2.39	4.98
K_2O	0.33	0.16	0.15	0.12	0.19	0.09	0.06	0.09	0.04	0.15
sum	99.40	99.20	99.03	98.59	98.93	99.48	99.40	98.44	98.91	98.09
mol%An	46.7	59.6	57.8	61.2	60.1	60.8	78.0	77.0	77.6	54.5
mol%Ab	51.5	39.5	41.4	38.1	38.8	38.7	21.7	22.5	22.2	44.6
mol%Or	1.9	0.9	0.9	0.7	1.1	0.5	0.4	0.5	0.3	0.9

Table B.5.13: XAL-117, Plagioclase grain 13

Dist (µm)	0.0	29.2	58.5	116.8	146.1	175.3	233.6	262.9	292.1	321.3	350.5	379.7	408.9	438.2	496.5
SiO_2	55.76	53.21	49.26	52.07	50.60	52.26	50.35	52.22	51.71	51.37	51.27	49.88	51.44	51.72	51.93
TiO_2	0.08	0.08	0.04	0.07	0.05	0.05	0.09	0.01	0.02	0.05	0.03	0.04	0.00	0.03	0.04
Al_2O_3	27.26	29.71	31.65	29.75	30.22	30.02	30.54	30.05	30.18	30.24	29.79	30.45	30.10	29.76	29.38
Fe_2O_3	0.62	0.63	0.69	0.55	0.68	0.54	0.70	0.50	0.68	0.61	0.61	0.74	0.49	0.55	0.59
MnO	-0.06	0.02	0.00	-0.02	-0.05	-0.08	-0.02	-0.04	-0.03	-0.07	-0.02	0.01	0.01	-0.02	-0.01
MgO	0.06	0.07	0.06	0.09	0.06	0.07	0.07	0.04	0.03	0.04	0.04	0.06	0.07	0.06	0.02
CaO	9.93	12.41	14.17	13.17	13.64	12.82	13.81	13.03	13.13	13.64	13.59	14.18	13.96	13.31	13.03
BaO	-0.02	0.18	0.05	-0.05	0.07	-0.05	-0.06	-0.11	-0.03	-0.05	-0.11	-0.08	0.00	-0.16	-0.13
Na_2O	6.00	4.24	3.12	3.91	3.82	3.92	3.65	3.99	4.05	3.81	3.70	3.53	3.69	4.20	4.28
K_2O	0.34	0.16	0.14	0.19	0.08	0.19	0.14	0.13	0.10	0.11	0.11	0.11	0.08	0.12	0.14
sum	100.06	100.80	99.23	99.83	99.22	99.92	99.42	100.01	99.89	99.96	99.23	99.04	99.92	99.79	99.44
mol%An	46.9	61.2	71.0	64.3	66.0	63.6	67.1	63.9	63.8	66.0	66.5	68.5	67.3	63.2	62.2
mol%Ab	51.3	37.8	28.2	34.5	33.5	35.2	32.1	35.4	35.6	33.4	32.8	30.8	32.2	36.1	37.0
mol%Or	1.9	0.9	0.8	1.1	0.5	1.1	0.8	0.7	0.6	0.6	0.7	0.7	0.5	0.7	0.8

Table B.5.14: XAL-117, Plagioclase grain 14

Dist (µm)	0.0	29.4	58.9	88.3	147.1	176.6	235.4	323.7	353.2	412.0	441.4	470.9
SiO_2	56.39	53.33	53.27	52.51	47.91	48.37	49.25	46.81	48.88	53.72	54.11	53.24
TiO_2	0.05	0.04	0.04	0.03	0.00	-0.02	0.04	-0.02	0.01	0.03	0.06	0.06
Al_2O_3	26.75	29.25	28.85	28.98	31.66	31.45	32.40	34.06	31.56	28.32	28.09	28.90
Fe_2O_3	0.84	0.65	0.56	0.50	0.61	0.49	0.50	0.64	0.77	0.56	0.63	0.59
MnO	0.09	0.01	0.06	0.00	0.02	0.03	0.03	0.04	0.02	0.04	0.04	0.00
MgO	0.06	0.04	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.04	0.00
CaO	9.85	11.77	11.52	11.85	15.87	15.64	15.40	16.06	15.33	10.70	10.05	12.08
BaO	-0.03	0.08	0.05	0.00	0.02	0.07	0.10	-0.02	-0.09	-0.07	-0.01	-0.06
Na_2O	5.74	4.72	4.77	4.62	2.53	2.58	2.95	2.37	2.83	5.07	5.46	4.93
K_2O	0.26	0.13	0.14	0.20	0.08	0.07	0.02	0.02	0.06	0.17	0.23	0.17
sum	100.10	100.12	99.37	98.83	98.78	98.75	100.78	100.09	99.48	98.67	98.82	100.06
mol%An	48.0	57.5	56.7	57.9	77.3	76.7	74.1	78.8	74.7	53.3	49.7	57.0
mol%Ab	50.6	41.7	42.5	40.9	22.3	22.9	25.7	21.1	24.9	45.7	48.9	42.1
mol%Or	1.5	0.7	0.8	1.2	0.5	0.4	0.1	0.1	0.3	1.0	1.4	0.9

Table B.5.15: XAL-117, Plagioclase grain 15

Dist (µm)	0.0	14.5	29.0	43.5	58.0	87.1	101.5	116.0	145.0	159.5	174.0	203.0
SiO_2	53.13	54.16	53.96	54.67	54.19	53.84	56.07	47.68	53.25	52.40	52.34	53.77
TiO_2	0.03	0.09	0.01	0.02	0.03	-0.01	0.08	0.05	0.00	0.03	0.07	0.04
Al_2O_3	29.19	28.39	28.56	28.53	27.86	28.53	26.29	35.00	29.14	29.40	28.80	28.60
Fe_2O_3	0.66	0.54	0.52	0.47	0.54	0.55	0.55	0.87	0.50	0.50	0.53	0.58
MnO	0.01	0.04	0.04	0.02	0.03	0.00	0.03	0.01	0.05	0.01	0.05	0.08
MgO	0.02	0.05	0.07	0.06	0.05	0.04	0.08	0.11	0.07	0.07	0.08	0.06
CaO	11.89	11.84	11.59	10.80	10.57	10.93	10.34	9.95	12.28	12.22	12.35	11.31
BaO	-0.04	-0.12	-0.15	-0.05	-0.01	-0.17	-0.15	-0.13	-0.13	-0.10	-0.05	0.04
Na_2O	4.66	4.89	5.17	5.34	5.40	5.04	5.01	4.47	4.63	4.66	4.59	5.03
K_2O	0.16	0.17	0.17	0.15	0.29	0.18	0.56	0.21	0.15	0.14	0.18	0.23
sum	99.79	100.17	100.08	100.11	98.96	99.13	99.12	98.47	100.08	99.55	98.99	99.73
mol%An	57.9	56.7	54.8	52.3	51.1	54.0	51.5	54.4	59.0	58.7	59.1	54.7
mol%Ab	41.1	42.4	44.2	46.8	47.3	45.0	45.1	44.2	40.2	40.5	39.8	44.0
mol%Or	0.9	1.0	1.0	0.9	1.7	1.1	3.3	1.4	0.8	0.8	1.0	1.3

Table B.5.16: XAL-117, Plagioclase grain 16

Dist (µm)	0.0	60.8	121.5	243.1	303.9	364.6	425.4	486.2	546.9	607.7	668.5	790.0	911.6	972.3	1033.1
SiO_2	53.21	47.58	47.98	48.56	48.01	47.94	47.10	49.99	53.06	48.77	47.73	47.51	48.07	53.26	52.58
TiO_2	0.04	0.05	0.08	0.06	0.04	0.04	-0.06	-0.02	-0.02	-0.04	-0.07	-0.02	0.01	-0.01	0.02
Al_2O_3	29.48	32.72	33.50	32.92	32.55	32.96	32.80	31.10	29.62	32.68	32.89	33.58	33.23	28.78	29.16
Fe_2O_3	0.61	0.61	0.64	0.44	0.62	0.74	0.61	0.64	0.52	0.53	0.79	0.62	0.56	0.59	0.53
MnO	0.06	0.04	0.02	0.04	0.02	0.07	0.03	0.01	-0.02	0.10	-0.01	0.03	0.05	0.01	-0.01
MgO	0.09	0.06	0.07	0.07	0.06	0.04	0.00	0.02	0.04	0.04	0.05	0.01	0.02	-0.01	0.06
CaO	12.08	15.72	17.08	16.30	16.26	16.46	16.47	13.71	12.31	15.79	15.80	16.61	16.58	11.91	12.42
BaO	-0.09	-0.01	-0.01	0.04	0.01	-0.04	-0.06	-0.07	-0.06	-0.11	-0.03	-0.11	-0.01	-0.14	0.06
Na_2O	4.53	2.29	1.99	2.20	2.34	2.10	2.25	3.38	4.12	2.54	2.27	2.05	2.21	5.02	4.37
K_2O	0.12	0.05	0.06	0.07	0.03	0.07	0.05	0.12	0.16	0.10	0.05	0.07	0.07	0.27	0.15
sum	100.27	99.16	101.42	100.71	99.93	100.42	99.32	98.99	99.84	100.56	99.61	100.47	100.79	99.87	99.42
mol%An	59.1	78.9	82.3	80.0	79.2	80.9	79.9	68.7	61.7	77.0	79.1	81.4	80.3	55.9	60.6
mol%Ab	40.1	20.8	17.3	19.6	20.6	18.7	19.8	30.6	37.3	22.4	20.6	18.2	19.3	42.6	38.5
mol%Or	0.7	0.3	0.4	0.4	0.2	0.4	0.3	0.7	1.0	0.6	0.3	0.4	0.4	1.5	0.9

Table B.5.17: XAL-117, Plagioclase grain 17

Dist (µm)	0.0	15.3	30.5	45.8	61.1	76.3	137.4	152.7	167.9	183.2	198.5	213.7	229.0	244.3	259.5	274.8	290.1
SiO_2	53.48	53.37	53.79	53.93	53.30	53.05	53.26	53.63	52.39	53.75	53.72	53.82	55.17	52.74	52.78	52.10	52.30
TiO_2	0.03	-0.04	-0.04	0.00	0.01	-0.03	0.01	-0.03	0.02	0.03	-0.01	0.01	-0.01	-0.01	0.00	0.05	0.07
Al_2O_3	29.49	29.10	28.76	29.41	29.56	29.76	28.23	29.42	29.27	28.91	29.47	29.10	27.98	29.09	30.00	29.29	29.94
Fe_2O_3	0.63	0.55	0.61	0.56	0.53	0.60	0.64	0.54	0.62	0.55	0.67	0.51	0.47	0.69	0.58	0.67	0.51
MnO	0.01	-0.03	0.02	-0.01	-0.02	-0.04	0.08	0.11	0.04	0.05	0.09	0.07	0.04	0.10	0.04	0.05	0.08
MgO	0.08	0.07	0.08	0.07	0.07	0.09	0.09	0.09	0.10	0.05	0.09	0.06	0.07	0.05	0.06	0.08	0.05
CaO	11.80	11.95	11.44	12.49	12.34	12.35	11.88	12.20	12.52	12.02	11.72	12.17	11.15	12.59	12.87	12.60	12.64
BaO	0.14	0.04	0.06	0.03	-0.01	0.03	0.01	0.05	-0.01	-0.03	0.02	-0.04	0.09	0.04	-0.03	0.07	-0.03
Na_2O	4.50	4.59	4.97	4.53	4.56	4.35	4.52	4.51	4.29	4.75	4.74	4.69	5.28	4.39	4.31	4.50	4.45
K_2O	0.17	0.10	0.16	0.14	0.17	0.14	0.07	0.17	0.19	0.15	0.15	0.19	0.23	0.14	0.16	0.15	0.22
sum	100.43	99.89	99.98	101.17	100.67	100.50	98.83	100.76	99.46	100.34	100.70	100.67	100.49	99.88	100.87	99.65	100.26
mol%An	58.6	58.7	55.5	59.9	59.3	60.6	59.0	59.3	61.1	57.8	57.2	58.2	53.1	60.8	61.7	60.2	60.3
mol%Ab	40.4	40.7	43.6	39.3	39.7	38.6	40.6	39.7	37.8	41.3	41.9	40.7	45.5	38.4	37.4	38.9	38.4
mol%Or	1.0	0.6	0.9	0.8	1.0	0.8	0.4	1.0	1.1	0.8	0.8	1.1	1.3	0.8	0.9	0.9	1.2

Table B.5.18: XAL-117, Plagioclase grain 18

Dist (µm)	0.0	15.3	30.4	45.6	60.9	76.0	91.2	121.6	136.9	152.1	228.1
SiO_2	55.10	52.73	53.43	52.99	53.19	52.86	51.73	52.22	52.42	50.82	52.94
TiO_2	0.04	0.10	0.06	0.06	0.06	0.09	0.07	0.05	-0.01	0.01	-0.01
Al_2O_3	27.83	28.88	29.20	28.68	29.33	29.56	29.60	30.12	30.65	31.67	28.34
Fe_2O_3	0.68	0.48	0.52	0.51	0.55	0.42	0.56	0.51	0.63	0.57	0.70
MnO	0.01	0.07	0.08	0.03	0.04	0.09	0.07	0.06	0.04	-0.03	-0.08
MgO	0.04	0.03	0.06	0.04	0.07	0.04	0.07	0.06	0.06	0.05	0.05
CaO	10.57	12.50	12.55	12.02	12.14	12.08	12.85	13.30	12.67	13.93	11.70
BaO	0.13	-0.02	-0.03	0.06	0.00	0.08	0.03	0.01	-0.14	-0.14	-0.06
Na_2O	5.51	4.54	4.43	4.70	4.55	4.56	3.82	4.15	4.06	3.25	4.72
K_2O	0.35	0.21	0.15	0.20	0.16	0.20	0.16	0.18	0.17	0.11	0.33
sum	100.30	99.54	100.48	99.35	100.13	99.99	98.98	100.66	100.70	100.40	98.78
mol%An	50.4	59.6	60.5	57.9	59.0	58.7	64.4	63.3	62.6	69.8	56.7
mol%Ab	47.6	39.2	38.7	40.9	40.1	40.1	34.7	35.7	36.4	29.5	41.4
mol%Or	2.0	1.2	0.9	1.2	0.9	1.2	0.9	1.0	1.0	0.7	1.9

Table B.5.19: XAL-117, Plagioclase grain 19

Dist (µm)	14.7	29.4	58.9	73.6	88.4	103.0	117.8	132.5	147.2	162.0	176.7	191.4
SiO_2	52.27	52.98	53.61	52.98	53.73	53.69	52.90	53.94	54.46	52.56	52.55	54.21
TiO_2	0.00	0.06	0.02	0.07	0.00	0.05	0.03	0.00	0.03	0.04	0.05	0.02
Al_2O_3	29.36	29.32	29.20	29.24	28.78	28.81	29.07	28.66	28.03	29.15	28.84	28.08
Fe_2O_3	0.67	0.56	0.61	0.51	0.61	0.64	0.55	0.56	0.83	0.59	0.78	0.70
MnO	-0.01	-0.01	-0.06	0.01	0.01	-0.04	-0.08	-0.07	-0.05	-0.04	-0.04	-0.01
MgO	0.05	0.05	0.11	0.12	0.09	0.11	0.10	0.07	0.12	0.12	0.11	0.08
CaO	12.72	12.92	12.60	12.02	11.80	11.94	11.85	12.17	11.72	12.32	11.63	11.25
BaO	-0.14	-0.14	0.07	-0.06	0.02	-0.01	0.00	-0.03	0.10	0.07	-0.03	0.14
Na_2O	4.26	4.48	4.47	4.54	5.01	4.60	4.60	5.00	4.69	4.43	4.84	5.12
K_2O	0.16	0.18	0.20	0.22	0.16	0.21	0.15	0.17	0.21	0.21	0.21	0.29
sum	99.55	100.53	100.88	99.70	100.21	100.04	99.28	100.59	100.21	99.48	99.00	99.95
mol%An	61.7	60.8	60.2	58.7	56.0	58.2	58.2	56.8	57.3	59.9	56.4	54.0
mol%Ab	37.4	38.2	38.7	40.1	43.1	40.5	40.9	42.3	41.5	38.9	42.4	44.4
mol%Or	0.9	1.0	1.1	1.3	0.9	1.2	0.9	0.9	1.2	1.2	1.2	1.6

Table B.5.20: XAL-117, Plagioclase grain 20

Dist (µm)	0.0	14.4	43.3	57.8	72.2	86.6	101.0	115.4	129.9	144.4	158.8	173.2
SiO_2	54.92	51.74	52.50	52.11	52.47	53.93	54.57	56.09	54.16	53.85	53.79	55.99
TiO_2	0.05	0.01	-0.03	0.02	0.00	0.00	-0.02	0.04	0.04	0.01	0.06	0.03
Al_2O_3	27.61	30.86	30.55	30.12	29.15	28.22	27.96	27.55	28.38	29.27	28.33	27.18
Fe_2O_3	0.75	0.66	0.62	0.60	0.58	0.47	0.55	0.52	0.55	0.65	0.65	0.75
MnO	0.00	0.00	0.01	0.01	0.02	0.01	0.04	0.04	0.03	0.04	0.05	0.04
MgO	0.09	0.10	0.11	0.09	0.10	0.14	0.10	0.09	0.08	0.08	0.08	0.07
CaO	9.88	10.14	13.56	13.33	12.12	11.69	10.55	10.40	10.78	11.63	11.28	9.61
BaO	-0.10	0.06	-0.03	0.02	0.05	0.06	0.10	0.00	-0.14	0.10	0.07	0.07
Na_2O	5.78	4.90	3.93	4.09	4.61	5.09	5.38	5.76	5.12	4.94	4.97	5.85
K_2O	0.37	0.23	0.12	0.16	0.17	0.21	0.22	0.27	0.25	0.19	0.22	0.44
sum	99.53	98.76	101.45	100.61	99.32	99.87	99.53	100.81	99.42	100.74	99.49	100.03
mol%An	47.5	52.6	65.1	63.7	58.7	55.3	51.4	49.2	53.0	55.9	54.9	46.4
mol%Ab	50.3	46.0	34.2	35.4	40.4	43.6	47.4	49.3	45.5	43.0	43.8	51.1
mol%Or	2.1	1.4	0.7	0.9	1.0	1.2	1.3	1.5	1.5	1.1	1.3	2.5

Table B.5.21: XAL-117, Plagioclase grain 21

Dist (µm)	0.0	14.8	29.6	44.4	59.2	88.8	103.6	148.1	162.8	192.5	207.2	222.0	236.9	251.6	281.3	296.0	310.9
SiO_2	56.60	54.23	54.89	53.61	55.33	52.21	52.33	50.68	50.55	49.43	51.76	50.68	53.64	54.24	51.91	58.54	55.70
TiO_2	0.07	0.03	0.05	0.10	0.07	0.09	0.05	0.04	0.02	0.07	0.05	0.08	0.03	0.00	0.07	0.09	0.05
Al_2O_3	26.65	27.51	27.75	28.72	27.50	28.81	29.27	31.72	30.91	31.09	30.77	30.96	29.23	29.41	29.60	26.30	26.64
Fe_2O_3	0.83	0.81	0.77	0.68	0.80	0.73	0.74	0.47	0.46	0.52	0.53	0.52	0.57	0.47	0.86	0.70	0.68
MnO	0.02	0.02	0.01	0.03	0.02	0.08	0.06	0.05	0.03	0.05	0.07	0.06	-0.01	0.04	0.02	0.01	-0.02
MgO	0.07	0.07	0.14	0.07	0.09	0.14	0.15	0.12	0.10	0.12	0.14	0.12	0.09	0.11	0.09	0.00	0.04
CaO	9.36	9.43	10.53	12.06	10.63	12.50	12.38	14.54	13.87	13.51	13.90	14.18	11.79	11.74	11.93	9.26	9.35
BaO	0.07	0.13	0.23	0.03	0.08	-0.02	-0.24	-0.16	-0.11	-0.16	-0.03	-0.05	-0.05	0.03	-0.05	-0.04	-0.12
Na_2O	5.87	5.53	5.34	4.83	5.31	4.58	4.25	3.32	3.73	4.04	3.70	3.27	4.66	4.82	4.46	5.76	5.92
K_2O	0.45	0.40	0.40	0.23	0.33	0.22	0.21	0.14	0.17	0.11	0.17	0.15	0.19	0.22	0.19	0.55	0.36
sum	100.03	98.21	100.09	100.41	100.20	99.39	99.46	101.09	99.83	98.97	101.08	100.04	100.20	101.07	99.15	101.21	98.74
mol%An	45.6	47.4	51.0	57.2	51.5	59.4	60.9	70.2	66.6	64.5	66.8	69.9	57.6	56.6	59.0	45.5	45.7
mol%Ab	51.7	50.2	46.7	41.5	46.6	39.4	37.9	29.0	32.4	34.9	32.2	29.2	41.3	42.1	39.9	51.2	52.3
mol%Or	2.6	2.4	2.3	1.3	1.9	1.3	1.2	0.8	0.9	0.6	1.0	0.9	1.1	1.2	1.1	3.2	2.1

Table B.5.22: XAL-117, Plagioclase grain 22

Dist (µm)	0.0	60.0	120.0	180.0	240.0	300.0	360.1	420.1	480.1	540.1	600.2	660.1	720.2	780.1	840.1	960.1	1020.2	1080.2	1140.3	1200.2	1260.3
SiO_2	52.23	54.63	54.66	52.47	51.56	52.22	51.68	53.65	53.13	55.00	51.96	50.66	53.38	52.53	52.03	50.97	51.85	51.49	52.38	52.72	53.90
TiO_2	-0.02	0.01	0.03	0.01	0.06	0.04	0.05	0.03	0.02	0.02	0.07	0.03	-0.04	0.00	-0.04	0.03	0.04	-0.02	0.04	0.01	0.00
Al_2O_3	28.86	27.79	27.30	29.24	30.64	30.24	29.35	28.61	29.03	27.06	29.42	30.69	27.77	29.56	30.45	30.48	30.08	30.99	29.51	29.60	28.68
Fe_2O_3	0.52	0.39	0.42	0.46	0.59	0.51	0.59	0.40	0.56	0.49	0.57	0.60	0.58	0.58	0.47	0.55	0.52	0.63	0.48	0.58	0.44
MnO	0.04	0.05	0.03	-0.02	0.03	0.08	0.06	0.03	0.09	0.07	0.08	0.06	0.09	0.03	-0.03	0.05	-0.01	-0.01	-0.01	0.00	-0.01
MgO	0.04	0.04	0.03	0.04	0.05	0.05	0.05	0.03	0.04	0.02	0.02	0.03	0.04	0.03	0.04	0.03	0.05	0.06	0.03	0.03	0.04
CaO	12.08	10.84	10.93	12.54	13.90	13.12	12.35	11.49	12.33	10.09	13.39	13.52	10.57	12.14	13.29	13.50	12.86	13.84	12.70	12.03	11.85
BaO	-0.07	0.01	-0.02	0.04	-0.03	-0.01	-0.01	-0.01	-0.08	-0.07	-0.08	0.09	0.17	-0.04	-0.03	-0.01	0.02	0.08	-0.05	0.10	-0.01
Na_2O	4.34	5.25	5.36	4.39	4.00	4.28	4.37	4.68	4.69	5.81	4.25	3.84	5.20	4.19	4.23	3.95	4.25	3.70	4.27	4.54	4.86
K_2O	0.19	0.22	0.20	0.18	0.15	0.09	0.16	0.23	0.21	0.26	0.22	0.16	0.23	0.16	0.18	0.14	0.11	0.09	0.09	0.12	0.21
sum	98.30	99.24	98.98	99.36	101.02	100.67	98.73	99.16	100.19	98.87	100.07	99.67	98.09	99.22	100.68	99.73	99.83	100.89	99.50	99.73	99.97
mol%An	59.9	52.6	52.3	60.6	65.2	62.5	60.4	56.8	58.5	48.2	62.7	65.4	52.2	60.9	62.8	64.8	62.1	67.0	61.8	59.0	56.7
mol%Ab	39.0	46.1	46.5	38.4	33.9	36.9	38.7	41.9	40.3	50.3	36.0	33.7	46.5	38.1	36.2	34.4	37.2	32.5	37.6	40.3	42.1
mol%Or	1.1	1.3	1.2	1.0	0.8	0.5	0.9	1.3	1.2	1.5	1.2	0.9	1.3	1.0	1.0	0.8	0.7	0.5	0.5	0.7	1.2

Table B.5.22 (cntd): XAL-117, Plagioclase grain 22

Dist (µm)	1320.3	1380.3	1440.3	1500.3	1560.3
SiO_2	54.85	56.41	56.89	54.34	54.92
TiO_2	0.01	0.01	0.00	0.08	0.06
Al_2O_3	27.99	27.18	26.21	29.16	27.72
Fe_2O_3	0.42	0.46	0.36	0.46	0.36
MnO	0.03	-0.04	-0.01	0.00	0.02
MgO	0.05	0.01	0.00	0.05	0.02
CaO	10.89	10.11	8.92	11.22	10.41
BaO	0.02	0.08	0.06	0.03	0.08
Na_2O	5.56	6.02	5.96	5.14	5.47
K_2O	0.21	0.23	0.31	0.18	0.18
sum	100.03	100.50	98.72	100.72	99.25
mol%An	51.4	47.5	44.4	54.1	50.7
mol%Ab	47.5	51.2	53.7	44.9	48.2
mol%Or	1.2	1.3	1.8	1.0	1.1

Table B.5.23: XAL-117, Plagioclase grain 23

Dist (µm)	0.0	29.4	88.2	117.6	147.0	176.4	205.7	264.6	293.9	323.4	411.5	440.9
SiO_2	53.04	53.15	54.13	53.94	53.96	53.89	53.95	54.57	53.40	48.87	53.96	54.29
TiO_2	0.06	0.06	0.01	0.02	0.11	0.04	0.04	0.01	0.03	-0.03	0.04	-0.01
Al_2O_3	28.74	29.07	28.92	28.63	28.43	28.38	28.74	29.04	29.00	32.58	28.96	29.12
Fe_2O_3	0.41	0.39	0.34	0.54	0.46	0.50	0.56	0.48	0.63	0.55	0.51	0.61
MnO	0.00	-0.01	0.00	-0.03	0.04	-0.02	0.04	0.01	0.01	0.02	-0.01	0.03
MgO	0.07	0.03	0.04	0.04	0.04	0.05	0.06	0.07	0.04	0.05	0.04	0.05
CaO	12.04	11.57	11.50	11.09	11.18	11.70	11.22	11.74	11.79	15.42	11.82	11.73
BaO	0.14	0.02	0.11	-0.05	0.05	0.02	0.11	0.08	0.11	0.11	0.05	0.02
Na_2O	4.58	4.65	4.90	5.07	4.94	4.78	4.86	4.94	4.47	2.64	4.64	4.80
K_2O	0.22	0.26	0.22	0.26	0.22	0.23	0.30	0.19	0.19	0.08	0.23	0.13
sum	99.30	99.19	100.17	99.61	99.42	99.58	99.87	101.13	99.67	100.31	100.25	100.80
mol%An	58.5	57.0	55.7	53.9	54.9	56.7	55.1	56.1	58.7	76.0	57.7	57.0
mol%Ab	40.2	41.4	43.0	44.6	43.9	41.9	43.2	42.8	40.2	23.5	40.9	42.2
mol%Or	1.2	1.5	1.3	1.5	1.3	1.3	1.7	1.1	1.1	0.5	1.4	0.8

Table B.5.24: XAL-117, Plagioclase grain 24

Dist (µm)	0.0	15.2	30.3	45.4	60.6	75.7	90.9	106.0	121.2	136.3	151.5	166.7	196.9
SiO_2	55.16	52.93	53.61	52.61	52.46	51.54	52.56	48.94	52.25	50.24	51.19	52.43	54.14
TiO_2	0.00	0.05	0.09	0.05	0.05	0.06	0.08	0.05	0.08	0.06	0.06	0.10	0.11
Al_2O_3	28.13	28.90	28.84	29.39	30.49	29.86	29.30	31.14	30.12	30.31	29.94	29.29	27.05
Fe_2O_3	0.78	0.69	0.59	0.78	0.67	0.66	0.62	0.52	0.56	0.59	0.67	0.62	0.79
MnO	0.02	0.03	0.02	-0.01	-0.06	0.00	0.00	0.02	0.03	-0.01	-0.01	-0.02	-0.04
MgO	0.05	0.03	0.03	0.03	0.08	0.04	0.04	0.02	0.05	0.05	0.02	0.04	0.04
CaO	10.17	11.93	11.17	11.79	12.91	13.21	12.74	14.67	13.22	14.24	13.61	13.02	10.30
BaO	0.21	-0.05	0.00	0.01	-0.05	0.05	0.03	-0.03	-0.03	0.06	0.03	0.04	0.01
Na_2O	5.55	4.45	4.99	4.61	4.39	4.10	4.20	3.18	4.07	3.49	4.00	4.43	5.51
K_2O	0.38	0.22	0.24	0.13	0.16	0.15	0.13	0.11	0.17	0.15	0.15	0.15	0.28
sum	100.45	99.25	99.57	99.40	101.22	99.65	99.70	98.65	100.55	99.23	99.67	100.13	98.22
mol%An	49.2	58.9	54.6	58.1	61.3	63.5	62.2	71.4	63.6	68.7	64.7	61.4	50.0
mol%Ab	48.6	39.8	44.1	41.1	37.8	35.7	37.1	28.0	35.4	30.5	34.4	37.8	48.4
mol%Or	2.2	1.3	1.4	0.8	0.9	0.9	0.7	0.7	1.0	0.9	0.9	0.8	1.6

Table B.5.25: XAL-117, Plagioclase grain 25

Dist (µm)	0.0	59.3	118.5	177.8	266.7	296.3	355.6	385.3	414.9	444.5	474.1
SiO_2	55.27	52.56	54.79	54.47	53.30	52.97	53.27	53.24	52.71	53.61	55.45
TiO_2	0.08	0.06	0.09	0.05	0.04	0.04	0.06	0.03	0.01	0.08	0.02
Al_2O_3	27.85	29.68	28.00	29.04	29.89	29.61	29.24	29.02	30.01	29.37	27.74
Fe_2O_3	0.69	0.52	0.69	0.51	0.59	0.61	0.61	0.56	0.43	0.56	0.66
MnO	-0.05	-0.03	-0.05	-0.01	0.04	0.05	0.06	0.01	0.03	0.06	0.00
MgO	0.03	0.03	0.11	0.04	0.03	0.04	0.06	0.05	0.06	0.04	0.04
CaO	10.31	12.19	11.43	11.28	12.02	12.20	11.89	11.99	11.88	11.98	10.46
BaO	0.04	0.09	0.19	0.04	0.07	0.13	0.08	0.02	0.05	0.08	0.05
Na_2O	5.61	4.58	4.93	5.04	4.58	4.65	4.64	4.65	4.55	4.73	5.64
K_2O	0.30	0.21	0.45	0.21	0.20	0.16	0.18	0.23	0.14	0.19	0.33
sum	100.17	99.92	100.68	100.70	100.75	100.45	100.14	99.80	99.86	100.71	100.38
mol%An	49.5	58.8	54.7	54.6	58.5	58.7	58.0	58.0	58.6	57.7	49.7
mol%Ab	48.8	40.0	42.7	44.2	40.4	40.4	41.0	40.7	40.6	41.2	48.4
mol%Or	1.7	1.2	2.6	1.2	1.1	0.9	1.0	1.3	0.8	1.1	1.8

Table B.6.1: XAL-109, Plagioclase grain 1

Dist (µm)	0.0	57.9	115.8	231.6	289.5	347.4	463.2	579.0	636.9	694.8	752.7	810.6	868.5
SiO_2	54.91	55.18	51.29	50.93	52.46	51.76	52.21	51.98	53.29	51.34	50.51	52.81	51.10
TiO_2	0.03	0.02	0.04	0.02	0.02	0.03	0.02	0.01	0.03	0.03	0.01	0.01	0.03
Al_2O_3	28.50	28.10	30.67	30.83	29.61	30.27	30.34	29.76	28.49	29.56	30.34	29.20	29.41
Fe_2O_3	0.61	0.61	0.64	0.59	0.55	0.65	0.51	0.54	0.51	0.54	0.64	0.64	0.63
MnO	0.00	-0.03	-0.03	0.04	0.02	0.02	0.05	0.01	0.02	0.03	0.01	0.03	0.03
MgO	0.06	0.08	0.07	0.07	0.06	0.06	0.07	0.07	0.07	0.06	0.06	0.06	0.04
CaO	11.15	11.02	13.45	13.68	12.61	13.37	13.16	12.82	11.47	12.51	13.59	11.87	12.94
BaO	0.05	0.00	0.07	-0.04	0.04	-0.02	0.03	-0.02	0.05	-0.04	0.06	0.05	0.03
Na_2O	5.20	5.27	3.77	3.74	4.32	3.90	4.26	4.22	4.93	4.18	3.69	4.67	4.22
K_2O	0.24	0.23	0.14	0.11	0.17	0.14	0.20	0.17	0.22	0.17	0.13	0.22	0.12
sum	100.79	100.54	100.15	100.03	99.88	100.21	100.89	99.59	99.12	98.42	99.08	99.57	98.55
mol%An	53.5	52.9	65.8	66.5	61.1	64.9	62.3	62.1	55.5	61.7	66.5	57.7	62.4
mol%Ab	45.1	45.8	33.4	32.9	37.9	34.3	36.5	36.9	43.2	37.3	32.7	41.1	36.8
mol%Or	1.4	1.3	0.8	0.6	1.0	0.8	1.1	1.0	1.2	1.0	0.8	1.3	0.7

Table B.6.2: XAL-109, Plagioclase grain 2

Dist (µm)	15.4	61.6	77.0	107.7	123.1	138.5
SiO_2	52.57	52.44	52.39	52.51	52.98	52.36
TiO_2	0.03	0.04	0.03	0.07	0.05	0.05
Al_2O_3	28.50	28.36	28.23	28.21	27.91	28.52
Fe_2O_3	0.76	0.64	0.73	0.62	0.66	0.64
MnO	0.03	0.01	0.04	-0.03	-0.04	-0.04
MgO	0.09	0.08	0.08	0.08	0.08	0.08
CaO	12.01	12.13	11.82	12.00	11.22	11.73
BaO	0.06	0.06	0.04	-0.04	0.05	0.04
Na_2O	4.60	4.67	4.63	4.72	5.00	4.67
K_2O	0.24	0.19	0.22	0.22	0.23	0.25
sum	98.88	98.61	98.22	98.45	98.17	98.37
mol%An	58.3	58.3	57.8	57.7	54.6	57.3
mol%Ab	40.4	40.6	40.9	41.0	44.0	41.3
mol%Or	1.4	1.1	1.3	1.3	1.3	1.5

Table B.6.3: XAL-109, Plagioclase grain 3

Dist (µm)	0.0	29.1	58.1	87.2	116.3	145.3	174.4	203.5	232.6	261.6	290.7	319.8
SiO_2	54.08	53.56	55.45	53.25	54.31	54.37	54.34	55.61	55.14	52.76	54.76	53.90
TiO_2	0.05	0.03	0.06	0.04	0.06	0.06	0.05	0.02	0.03	0.03	0.03	0.01
Al_2O_3	28.66	29.16	28.28	29.38	28.73	28.74	29.09	27.84	27.66	29.29	28.09	29.35
Fe_2O_3	0.74	0.65	0.59	0.58	0.56	0.59	0.55	0.66	0.61	0.65	0.62	0.70
MnO	-0.03	-0.02	-0.02	-0.03	-0.04	-0.04	-0.04	0.01	0.02	0.01	0.01	0.00
MgO	0.09	0.07	0.07	0.06	0.08	0.08	0.06	0.07	0.07	0.06	0.04	0.07
CaO	11.57	11.90	11.00	12.32	11.57	11.36	11.85	10.81	10.44	12.51	11.02	11.94
BaO	-0.02	0.01	0.03	0.05	0.01	-0.02	-0.01	0.13	0.06	0.03	0.09	0.06
Na_2O	4.74	4.66	5.17	4.35	4.89	4.81	4.84	5.35	5.50	4.51	5.29	4.68
K_2O	0.21	0.21	0.24	0.16	0.22	0.24	0.23	0.28	0.28	0.20	0.27	0.20
sum	100.15	100.26	100.89	100.21	100.47	100.27	101.03	100.77	99.83	100.06	100.25	100.92
mol%An	56.7	57.8	53.3	60.5	56.0	55.8	56.8	51.9	50.4	59.8	52.7	57.8
mol%Ab	42.1	41.0	45.3	38.6	42.8	42.8	41.9	46.5	48.0	39.0	45.7	41.0
mol%Or	1.2	1.2	1.4	1.0	1.3	1.4	1.3	1.6	1.6	1.2	1.5	1.1

Table B.6.4: XAL-109, Plagioclase grain 4

Dist (µm)	0.0	29.8	59.6	89.5	119.3	178.9	238.5	298.2	328.0	357.8	387.7	417.5	447.3	477.1	506.9	536.7
SiO_2	52.80	54.57	54.64	53.92	51.77	49.34	48.88	48.44	52.89	51.52	53.36	54.68	54.12	54.03	55.61	53.48
TiO_2	0.05	0.04	0.06	0.03	0.01	0.02	0.05	0.01	0.02	0.04	0.03	0.04	0.03	0.01	0.02	0.01
Al_2O_3	29.20	28.36	28.32	28.86	30.20	32.27	32.38	31.32	29.66	30.55	29.62	28.81	28.81	29.11	27.94	28.77
Fe_2O_3	0.77	0.68	0.59	0.60	0.61	0.67	0.65	0.74	0.57	0.53	0.54	0.58	0.59	0.61	0.56	0.69
MnO	0.01	-0.01	0.01	0.02	0.01	-0.01	-0.03	-0.01	-0.02	-0.01	0.01	0.02	0.01	0.01	0.01	0.03
MgO	0.08	0.05	0.07	0.05	0.05	0.05	0.04	0.07	0.06	0.06	0.05	0.06	0.06	0.07	0.04	0.06
CaO	12.02	11.26	11.29	11.94	13.26	15.46	15.44	14.26	12.75	13.39	12.44	11.20	11.50	11.62	10.45	11.81
BaO	0.06	0.06	0.04	0.09	0.03	0.13	0.05	0.04	0.05	0.06	0.11	0.07	0.06	0.01	0.03	-0.01
Na_2O	4.36	5.02	4.98	4.65	3.93	2.72	2.55	3.20	4.22	3.75	4.48	4.89	4.92	4.78	5.45	4.73
K_2O	0.22	0.26	0.23	0.19	0.14	0.07	0.07	0.09	0.17	0.16	0.19	0.24	0.22	0.26	0.28	0.25
sum	99.57	100.30	100.23	100.34	100.01	100.75	100.15	98.20	100.41	100.05	100.84	100.60	100.33	100.51	100.40	99.82
mol%An	59.6	54.6	54.9	58.0	64.6	75.5	76.7	70.7	61.9	65.7	59.9	55.1	55.6	56.5	50.6	57.2
mol%Ab	39.1	44.0	43.8	40.9	34.6	24.1	22.9	28.7	37.1	33.4	39.0	43.6	43.1	42.0	47.8	41.4
mol%Or	1.3	1.5	1.3	1.1	0.8	0.4	0.4	0.6	1.0	0.9	1.1	1.4	1.2	1.5	1.6	1.4

Table B.6.5: XAL-109, Plagioclase grain 5

Dist (µm)	0.0	15.4	30.8	46.1	61.5	76.9	92.3	107.7	153.8	169.2	184.6	199.9	215.3	230.7	246.1	261.5	276.8	292.2	307.6
SiO_2	55.27	55.37	55.34	56.03	50.73	52.95	52.32	52.31	52.92	54.83	54.63	54.65	52.22	51.63	53.72	54.74	53.26	53.72	54.73
TiO_2	0.02	0.01	-0.01	0.02	0.02	0.01	0.03	0.01	0.01	0.02	0.01	0.03	0.01	0.00	0.05	0.05	0.06	0.06	0.08
Al_2O_3	28.01	28.22	27.92	27.75	31.51	29.70	29.97	30.15	30.09	28.71	28.61	28.44	30.37	31.17	29.09	28.63	28.92	29.25	27.83
Fe_2O_3	0.75	0.72	0.59	0.58	0.58	0.58	0.60	0.62	0.58	0.53	0.64	0.82	0.55	0.56	0.73	0.56	0.72	0.55	0.98
MnO	0.04	0.00	-0.01	-0.02	0.03	-0.02	0.02	0.00	0.01	-0.02	0.01	-0.01	0.03	-0.01	0.03	-0.01	0.01	-0.01	-0.02
MgO	0.07	0.09	0.06	0.04	0.04	0.04	0.06	0.06	0.06	0.04	0.08	0.06	0.05	0.05	0.08	0.06	0.07	0.08	0.11
CaO	10.94	10.74	10.71	10.06	14.24	12.65	13.32	12.52	12.69	11.21	11.70	11.35	13.35	13.91	11.91	11.42	12.16	12.08	10.64
BaO	0.05	0.01	0.07	0.08	0.01	0.02	0.07	0.08	0.10	0.11	0.09	0.12	0.08	0.02	0.10	0.10	0.07	0.06	0.09
Na_2O	5.01	5.22	5.43	5.61	3.27	4.09	3.89	4.06	4.13	4.93	4.78	4.70	3.77	3.48	4.51	5.06	4.57	4.70	5.17
K_2O	0.35	0.25	0.24	0.31	0.11	0.17	0.14	0.15	0.18	0.22	0.20	0.24	0.16	0.12	0.21	0.23	0.20	0.20	0.27
sum	100.53	100.64	100.37	100.50	100.57	100.22	100.43	99.97	100.77	100.61	100.78	100.45	100.61	100.94	100.42	100.86	100.03	100.71	99.92
mol%An	53.6	52.4	51.4	48.9	70.2	62.4	64.9	62.5	62.3	55.0	56.8	56.4	65.6	68.4	58.6	54.8	58.8	58.0	52.4
mol%Ab	44.4	46.1	47.2	49.3	29.2	36.5	34.3	36.6	36.7	43.8	42.0	42.2	33.5	30.9	40.2	43.9	40.0	40.9	46.1
mol%Or	2.0	1.5	1.4	1.8	0.7	1.0	0.8	0.9	1.0	1.3	1.2	1.4	0.9	0.7	1.2	1.3	1.2	1.1	1.6

Table B.6.6: XAL-109, Plagioclase grain 6

Dist (µm)	0.0	29.1	58.2	87.2	116.2	145.3	232.6	261.6	319.7	348.8
SiO_2	56.17	54.69	52.63	53.19	53.91	55.18	53.08	50.45	53.92	55.33
TiO_2	0.07	0.08	0.04	0.05	0.05	0.05	0.01	0.06	0.04	0.06
Al_2O_3	27.29	28.07	29.97	29.57	28.88	27.78	28.95	32.57	29.22	27.24
Fe_2O_3	0.86	0.84	0.68	0.67	0.65	0.70	0.62	0.82	0.72	0.88
MnO	0.00	0.01	0.00	0.01	0.00	0.01	-0.01	0.00	0.01	-0.01
MgO	0.11	0.09	0.06	0.08	0.08	0.09	0.09	0.12	0.10	0.17
CaO	10.38	10.89	12.48	12.31	11.59	10.81	11.87	10.31	11.97	10.03
BaO	0.03	0.03	0.01	0.06	0.01	0.08	-0.01	0.06	0.00	0.00
Na_2O	5.38	4.92	4.25	4.30	4.74	5.24	4.59	4.75	4.52	5.68
K_2O	0.36	0.26	0.17	0.19	0.21	0.24	0.19	0.22	0.17	0.28
sum	100.65	99.88	100.29	100.44	100.12	100.17	99.41	99.35	100.67	99.69
mol%An	50.5	54.2	61.3	60.6	56.7	52.6	58.2	53.8	58.8	48.6
mol%Ab	47.4	44.3	37.8	38.3	42.0	46.1	40.7	44.9	40.2	49.8
mol%Or	2.1	1.6	1.0	1.1	1.2	1.4	1.1	1.4	1.0	1.6

Table B.6.7: XAL-109, Plagioclase grain 7

Dist (µm)	0.0	29.5	59.0	88.6	118.1	147.6	177.1	206.7	236.2	265.7	295.2
SiO_2	55.44	53.65	53.87	51.84	51.61	52.20	53.56	53.20	50.93	52.94	54.69
TiO_2	0.04	0.05	0.05	0.05	0.03	0.00	0.03	0.03	0.03	0.03	0.06
Al_2O_3	28.00	28.66	28.89	30.78	30.43	29.02	29.31	29.37	31.02	30.31	28.36
Fe_2O_3	0.76	1.04	0.66	0.74	0.59	0.66	0.64	0.64	0.71	0.70	0.78
MnO	-0.02	-0.01	0.02	0.00	0.02	0.00	0.00	0.01	-0.01	-0.01	-0.01
MgO	0.09	0.11	0.06	0.08	0.06	0.05	0.05	0.08	0.06	0.07	0.08
CaO	10.82	10.72	11.76	12.98	13.34	12.51	12.12	12.13	14.02	12.71	11.27
BaO	0.03	0.05	0.03	-0.01	0.00	0.05	0.08	0.05	0.02	0.03	0.00
Na_2O	5.31	4.65	4.73	4.00	3.79	4.00	4.65	4.50	3.47	4.25	4.89
K_2O	0.29	0.20	0.19	0.14	0.15	0.18	0.17	0.15	0.12	0.18	0.23
sum	100.80	99.16	100.27	100.65	100.09	98.73	100.65	100.19	100.42	101.25	100.40
mol%An	52.1	55.3	57.2	63.7	65.5	62.7	58.4	59.3	68.6	61.7	55.3
mol%Ab	46.2	43.4	41.6	35.5	33.7	36.3	40.6	39.8	30.7	37.3	43.4
mol%Or	1.7	1.2	1.1	0.8	0.9	1.1	1.0	0.8	0.7	1.0	1.3

Table B.6.8: XAL-109, Plagioclase grain 8

Dist (µm)	0.0	15.0	29.9	44.7	59.7	104.5	119.4	134.3	149.3	194.0
SiO_2	53.09	54.92	55.06	54.72	56.00	54.98	58.73	53.99	55.96	54.57
TiO_2	0.07	0.00	0.03	0.03	0.04	0.02	0.00	0.02	0.05	0.08
Al_2O_3	28.15	27.70	28.29	28.36	27.54	28.06	25.76	29.05	26.49	28.13
Fe_2O_3	0.70	0.69	0.66	0.66	0.68	0.55	0.58	0.63	1.13	0.75
MnO	0.01	-0.04	0.00	-0.01	-0.02	-0.02	-0.03	-0.02	-0.02	0.00
MgO	0.07	0.07	0.08	0.08	0.07	0.06	0.06	0.06	0.12	0.09
CaO	11.95	11.07	11.28	11.20	10.14	11.05	8.06	11.64	9.58	11.20
BaO	0.06	0.05	0.05	0.10	0.13	0.05	0.06	0.10	0.08	0.02
Na_2O	4.54	5.19	5.11	5.08	5.57	5.03	6.63	4.86	5.64	5.14
K_2O	0.21	0.27	0.27	0.26	0.30	0.24	0.42	0.25	0.40	0.26
sum	98.88	99.99	100.84	100.48	100.53	100.04	100.31	100.58	99.47	100.24
mol%An	58.5	53.3	54.1	54.1	49.3	54.1	39.2	56.2	47.3	53.8
mol%Ab	40.2	45.2	44.4	44.4	49.0	44.5	58.3	42.4	50.4	44.7
mol%Or	1.2	1.5	1.5	1.5	1.7	1.4	2.4	1.4	2.3	1.5

Table B.6.9: XAL-109, Plagioclase grain 9

Dist (µm)	0.0	15.1	30.1	45.1	60.2	75.2	90.3	105.3	120.4	135.4	150.4	165.4	180.5	195.5	210.6	225.6	240.7	255.7	270.8	285.8
SiO_2	53.52	54.29	54.31	52.53	53.91	53.52	52.12	54.58	54.57	53.64	54.75	54.25	52.91	54.42	54.61	54.70	54.84	54.39	53.23	52.61
TiO_2	0.07	0.08	0.06	0.13	0.06	0.05	0.05	0.05	0.06	0.04	0.06	0.07	0.04	0.05	0.05	0.06	0.04	0.03	0.05	0.07
Al_2O_3	28.70	27.97	27.82	28.95	28.38	28.71	29.05	27.81	27.99	28.06	27.77	27.40	28.46	27.58	27.21	27.81	27.32	27.60	28.36	28.26
Fe_2O_3	0.78	0.66	0.73	1.61	0.65	0.72	0.63	0.60	0.68	0.75	0.66	0.73	0.62	0.74	0.64	0.71	0.67	0.71	0.77	0.68
MnO	0.03	0.01	-0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.04	0.01	0.03	0.02	0.03	0.04	0.01	0.01	0.01	-0.02	0.03
MgO	0.07	0.07	0.09	0.12	0.09	0.08	0.08	0.07	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.07	0.08	0.09	0.08	0.08
CaO	11.62	11.21	10.91	10.42	11.22	11.44	12.55	10.78	10.82	11.37	10.78	10.45	11.97	10.93	10.55	10.68	10.64	10.98	11.64	11.93
BaO	0.01	-0.05	0.01	0.03	-0.04	-0.04	0.00	0.03	0.09	0.02	-0.01	0.02	0.05	0.03	0.09	0.09	0.02	0.06	0.05	0.06
Na_2O	4.90	5.20	5.22	4.71	5.05	4.87	4.34	5.22	5.28	5.00	5.22	5.34	4.66	5.16	5.41	5.23	5.42	5.13	4.87	4.67
K_2O	0.25	0.24	0.26	0.25	0.24	0.21	0.14	0.24	0.24	0.28	0.27	0.31	0.23	0.26	0.27	0.26	0.33	0.25	0.22	0.23
sum	99.94	99.71	99.40	98.76	99.61	99.63	98.97	99.39	99.80	99.28	99.57	98.70	99.03	99.28	98.94	99.62	99.37	99.27	99.28	98.63
mol%An	55.9	53.6	52.8	54.2	54.4	55.8	61.0	52.6	52.4	54.8	52.5	51.0	57.9	53.1	51.1	52.2	51.1	53.4	56.2	57.8
mol%Ab	42.7	45.0	45.7	44.3	44.2	43.0	38.2	46.1	46.3	43.6	46.0	47.2	40.8	45.4	47.4	46.3	47.1	45.1	42.6	41.0
mol%Or	1.4	1.4	1.5	1.5	1.4	1.2	0.8	1.4	1.4	1.6	1.6	1.8	1.3	1.5	1.5	1.5	1.9	1.4	1.2	1.3

Table B.6.10: XAL-109, Plagioclase grain 10

Dist (µm)	0.0	14.9	29.7	44.6	89.2	104.1	133.9	148.8	178.5	193.4	208.2	223.1	238.0	252.9	267.7	282.6
SiO_2	54.76	53.60	54.14	50.64	54.39	53.74	53.60	53.66	53.25	52.00	52.80	53.89	52.14	54.52	54.08	53.54
TiO_2	0.06	0.07	0.04	0.04	0.07	0.04	0.01	0.01	0.02	0.05	0.07	0.04	0.07	0.04	0.02	0.03
Al_2O_3	28.15	29.29	28.36	31.59	28.92	28.08	28.97	28.89	28.84	29.37	28.21	28.10	28.81	28.27	28.43	28.92
Fe_2O_3	0.82	0.69	0.68	1.82	0.62	0.86	0.64	0.67	0.87	0.85	0.92	0.86	0.99	0.61	0.60	0.68
MnO	0.00	0.00	-0.01	0.01	0.04	0.02	0.00	0.01	0.02	0.00	0.02	0.01	0.00	0.01	0.04	0.03
MgO	0.08	0.07	0.07	0.17	0.08	0.10	0.09	0.07	0.09	0.10	0.08	0.07	0.08	0.10	0.09	0.08
CaO	11.14	11.82	11.40	9.36	11.52	11.36	12.11	11.78	11.77	11.49	12.13	11.20	12.20	11.29	11.44	11.51
BaO	0.03	0.06	0.09	0.08	0.08	0.03	0.03	0.00	0.05	0.04	-0.01	0.01	0.02	0.03	0.04	0.07
Na_2O	5.15	4.57	4.90	5.19	4.77	4.86	4.67	4.71	4.50	4.46	4.63	4.89	4.20	4.98	4.94	4.88
K_2O	0.24	0.19	0.20	0.12	0.19	0.23	0.24	0.21	0.24	0.21	0.24	0.27	0.21	0.19	0.20	0.23
sum	100.44	100.37	99.87	99.01	100.68	99.34	100.39	100.01	99.65	98.58	99.11	99.35	98.75	100.03	99.87	99.99
mol%An	53.7	58.2	55.6	49.6	56.5	55.6	58.1	57.3	58.3	58.0	58.3	55.0	60.8	55.0	55.5	55.8
mol%Ab	45.0	40.7	43.3	49.7	42.4	43.1	40.6	41.4	40.3	40.7	40.3	43.5	37.9	43.9	43.4	42.9
mol%Or	1.4	1.1	1.2	0.8	1.1	1.4	1.4	1.2	1.4	1.2	1.4	1.6	1.2	1.1	1.2	1.3

Table B.6.11: XAL-109, Plagioclase grain 11

Dist (µm)	0.0	15.1	30.3	45.5	60.7	75.8	91.0	106.1	121.3	136.5	151.7	166.8	182.0	212.3	227.5	242.6	257.8	288.1	303.3
SiO_2	53.64	55.25	54.15	53.79	54.05	54.30	53.06	49.39	50.75	48.96	51.50	49.81	52.13	49.32	52.57	51.31	50.92	53.08	53.13
TiO_2	0.00	0.00	-0.01	-0.01	0.01	0.01	0.00	0.01	0.02	0.03	0.03	0.01	0.03	0.02	0.03	0.02	0.02	0.07	0.05
Al_2O_3	29.47	28.03	29.40	29.16	28.96	29.23	28.66	30.66	30.96	32.22	30.66	31.85	30.29	32.16	30.65	30.39	30.72	28.70	29.24
Fe_2O_3	0.65	0.51	0.48	0.47	0.52	0.43	0.49	0.64	0.58	0.61	0.59	0.63	0.60	0.62	0.60	0.63	0.57	1.11	0.71
MnO	0.03	-0.02	0.01	0.01	0.01	0.01	0.00	0.06	0.03	0.04	0.03	0.04	0.04	0.05	0.04	0.03	0.04	-0.01	0.01
MgO	0.09	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.06	0.06	0.03	0.06	0.05
CaO	12.25	10.56	11.47	12.02	11.62	11.59	11.90	13.99	13.94	15.59	13.71	15.05	13.21	14.97	13.09	13.60	13.97	10.54	12.20
BaO	0.08	0.03	0.03	0.05	0.03	0.06	0.11	0.01	0.06	0.03	0.01	0.06	0.05	0.03	0.11	0.11	-0.02	0.01	-0.02
Na_2O	4.49	5.35	4.87	4.70	4.79	4.82	4.48	3.40	3.58	2.65	3.79	2.89	4.01	2.91	3.98	3.77	3.46	4.69	4.46
K_2O	0.17	0.24	0.17	0.17	0.18	0.18	0.17	0.10	0.09	0.06	0.11	0.08	0.12	0.07	0.14	0.12	0.15	0.23	0.18
sum	100.87	100.04	100.65	100.43	100.22	100.66	98.93	98.34	100.10	100.24	100.50	100.51	100.59	100.26	101.29	100.04	99.89	98.49	100.02
mol%An	59.5	51.4	56.0	58.0	56.7	56.5	58.9	69.1	67.9	76.2	66.2	73.8	64.1	73.7	64.0	66.1	68.5	54.6	59.6
mol%Ab	39.5	47.2	43.0	41.1	42.3	42.5	40.1	30.4	31.5	23.4	33.1	25.7	35.2	25.9	35.2	33.2	30.6	44.0	39.4
mol%Or	1.0	1.4	1.0	0.9	1.1	1.1	1.0	0.6	0.5	0.4	0.6	0.5	0.7	0.4	0.8	0.7	0.9	1.4	1.0

Table B.6.12: XAL-109, Plagioclase grain 12

Dist (µm)	0.0	59.8	119.6	179.4	239.2	358.7	418.5	478.3	538.1	597.9	657.7	717.5
SiO_2	53.16	54.44	51.27	51.81	47.17	49.15	52.65	52.48	53.01	52.65	52.96	52.56
TiO_2	0.05	0.04	0.04	0.04	0.01	0.03	0.02	0.02	0.04	0.05	0.04	0.04
Al_2O_3	28.50	28.87	30.77	30.46	32.05	31.76	29.60	29.45	28.58	29.26	30.10	29.13
Fe_2O_3	1.08	0.61	0.59	0.52	0.54	0.64	1.11	0.60	0.64	0.67	0.62	0.67
MnO	0.04	0.00	-0.01	0.00	0.01	0.02	0.01	-0.01	0.13	0.02	0.02	0.02
MgO	0.07	0.04	0.04	0.04	0.02	0.06	0.06	0.09	0.06	0.08	0.07	0.09
CaO	11.56	11.38	13.69	13.39	15.85	15.13	12.33	12.37	11.67	12.37	11.94	12.27
BaO	-0.01	-0.02	-0.01	0.02	-0.04	-0.02	-0.02	-0.03	0.05	0.01	-0.03	-0.03
Na_2O	4.50	4.92	3.56	3.95	2.36	2.94	4.35	4.40	4.60	4.46	3.98	4.46
K_2O	0.21	0.25	0.12	0.20	0.08	0.09	0.23	0.20	0.20	0.20	0.18	0.17
sum	99.16	100.56	100.08	100.44	98.10	99.87	100.39	99.65	98.98	99.79	99.91	99.44
mol%An	57.9	55.3	67.5	64.5	78.4	73.6	60.2	60.1	57.7	59.8	61.7	59.8
mol%Ab	40.8	43.2	31.8	34.4	21.1	25.9	38.4	38.7	41.1	39.0	37.2	39.3
mol%Or	1.3	1.5	0.7	1.1	0.5	0.5	1.3	1.2	1.2	1.2	1.1	1.0

Table B.6.13: XAL-109, Plagioclase grain 13

Dist (µm)	0.0	61.1	122.2	244.5	305.7	366.8	427.9	489.0	550.1	611.2	672.3	733.4	794.7	916.9	978.0
SiO_2	53.76	51.26	52.28	48.66	51.10	50.20	49.65	46.13	46.79	49.04	50.89	46.01	49.90	53.23	53.36
TiO_2	0.04	0.06	0.09	-0.02	0.00	-0.01	0.00	-0.01	0.02	0.01	0.02	-0.01	0.05	0.04	0.34
Al_2O_3	28.97	31.41	29.20	32.59	30.29	31.17	30.82	33.78	32.93	31.56	30.20	33.71	30.68	28.60	12.81
Fe_2O_3	0.59	0.62	0.89	0.70	0.51	0.54	0.57	0.55	0.57	0.59	0.55	0.55	0.62	0.63	10.27
MnO	0.01	0.04	0.02	0.02	0.02	-0.02	-0.01	0.01	-0.01	0.01	0.00	0.01	-0.01	-0.01	0.26
MgO	0.08	0.10	0.08	0.05	0.06	0.04	0.06	0.05	0.04	0.05	0.06	0.04	0.06	0.07	14.12
CaO	12.12	12.87	11.94	15.59	13.48	14.73	14.51	17.65	16.57	14.95	13.96	17.32	14.24	11.33	4.83
BaO	0.03	-0.02	-0.08	-0.05	-0.03	-0.07	-0.09	-0.03	-0.03	-0.04	-0.03	-0.05	0.05	0.04	0.01
Na_2O	4.75	3.89	4.23	2.55	3.77	3.23	3.28	1.65	1.98	3.02	3.68	1.65	3.38	4.91	1.71
K_2O	0.20	0.16	0.18	0.10	0.16	0.10	0.12	0.05	0.05	0.12	0.14	0.06	0.13	0.18	0.79
sum	100.55	100.42	98.93	100.27	99.39	100.02	99.01	99.86	98.97	99.34	99.50	99.37	99.11	99.04	98.57
mol%An	57.9	64.1	60.3	76.7	65.8	71.2	70.5	85.3	82.0	72.7	67.2	85.0	69.4	55.5	54.4
mol%Ab	41.0	35.0	38.6	22.7	33.3	28.2	28.8	14.4	17.7	26.6	32.0	14.7	29.8	43.5	34.9
mol%Or	1.1	0.9	1.1	0.6	0.9	0.6	0.7	0.3	0.3	0.7	0.8	0.3	0.7	1.0	10.6

Table B.6.14: XAL-109, Plagioclase grain 14

Dist (µm)	0.0	14.9	29.7	44.5	59.4	74.2	89.1	104.0	133.6
SiO_2	53.62	52.49	50.78	52.42	54.74	54.84	53.67	52.77	53.28
TiO_2	0.06	0.08	0.04	0.03	0.04	0.08	0.05	0.05	0.07
Al_2O_3	29.04	29.26	30.32	30.27	28.73	28.71	29.15	30.03	28.95
Fe_2O_3	0.67	1.14	0.66	0.68	0.61	0.63	0.60	0.60	0.65
MnO	0.01	0.00	0.00	-0.01	-0.02	-0.01	-0.01	0.02	0.02
MgO	0.08	0.10	0.06	0.06	0.07	0.07	0.08	0.06	0.08
CaO	11.90	11.86	13.67	12.82	11.37	11.61	11.63	12.97	12.17
BaO	0.08	0.05	0.06	0.06	0.04	0.04	0.03	-0.04	0.01
Na_2O	4.52	4.19	3.58	3.92	4.93	4.81	4.74	4.17	4.59
K_2O	0.23	0.20	0.15	0.15	0.23	0.23	0.19	0.18	0.19
sum	100.22	99.37	99.33	100.42	100.75	101.02	100.14	100.86	100.01
mol%An	58.4	60.3	67.2	63.8	55.3	56.4	56.9	62.6	58.8
mol%Ab	40.2	38.5	31.9	35.3	43.4	42.3	41.9	36.4	40.1
mol%Or	1.4	1.2	0.9	0.9	1.3	1.4	1.1	1.0	1.1

Table B.6.15: XAL-109, Plagioclase grain 15

Dist (µm)	0.0	30.1	60.1	90.3	120.3	150.4	180.4	210.5	240.6	270.7	300.7	330.8	360.9	390.9
SiO_2	54.35	53.60	55.05	54.49	53.92	53.51	53.58	52.98	54.53	55.57	55.94	55.54	54.63	54.13
TiO_2	0.07	0.05	0.05	0.09	0.08	0.03	0.03	0.02	0.04	0.02	0.05	0.02	0.03	0.03
Al_2O_3	29.10	29.08	28.59	28.95	28.41	29.57	27.90	29.49	28.75	28.20	27.98	28.53	28.84	29.63
Fe_2O_3	0.60	0.68	0.59	0.55	0.61	0.54	0.95	0.53	0.61	0.66	0.64	0.64	0.66	0.62
MnO	-0.01	0.00	0.00	-0.01	0.02	-0.02	0.11	-0.01	-0.02	-0.02	-0.03	-0.02	-0.04	-0.02
MgO	0.09	0.06	0.09	0.07	0.10	0.06	0.08	0.06	0.05	0.07	0.07	0.06	0.05	0.08
CaO	11.81	12.24	11.11	11.66	10.57	12.06	11.06	12.50	11.19	10.76	10.48	10.86	11.74	12.03
BaO	0.03	-0.03	0.01	0.01	-0.01	0.08	0.10	0.08	0.06	0.09	0.15	0.05	0.08	0.09
Na_2O	4.88	4.51	5.10	4.80	5.58	4.52	4.82	4.32	4.94	5.29	5.46	5.24	4.86	4.65
K_2O	0.21	0.17	0.21	0.22	0.27	0.19	0.19	0.14	0.22	0.25	0.24	0.24	0.21	0.19
sum	101.16	100.38	100.79	100.84	99.56	100.58	98.82	100.11	100.38	100.94	101.02	101.19	101.10	101.44
mol%An	56.5	59.4	54.0	56.6	50.4	58.9	55.3	61.0	54.9	52.2	50.8	52.7	56.5	58.2
mol%Ab	42.3	39.6	44.8	42.2	48.1	40.0	43.6	38.2	43.8	46.4	47.8	45.9	42.3	40.7
mol%Or	1.2	1.0	1.2	1.3	1.5	1.1	1.1	0.8	1.3	1.4	1.4	1.4	1.2	1.1

Table B.6.16: XAL-109, Plagioclase grain 16

Dist (µm)	0.0	28.9	57.9	86.9	115.8	144.8	173.7	202.6	231.6	260.6	289.5	318.5	347.4	405.3	434.3
SiO_2	51.40	55.24	52.07	52.67	56.15	53.91	53.55	54.16	53.57	52.71	52.38	54.83	54.12	53.94	54.49
TiO_2	0.13	0.04	0.03	0.04	0.05	0.01	0.03	0.03	0.03	0.05	0.05	0.07	0.03	0.04	0.05
Al_2O_3	29.76	28.35	29.47	30.01	28.17	29.32	29.52	28.91	29.21	29.42	29.85	28.40	28.67	29.20	28.53
Fe_2O_3	3.11	0.67	0.64	0.57	0.59	0.61	0.54	0.53	0.53	0.52	0.79	0.60	0.64	0.70	0.57
MnO	-0.03	-0.05	-0.02	-0.03	-0.02	-0.02	-0.02	0.00	-0.01	-0.01	-0.01	0.02	0.00	0.01	0.02
MgO	0.16	0.09	0.08	0.08	0.08	0.07	0.08	0.08	0.08	0.07	0.07	0.08	0.06	0.07	0.08
CaO	9.39	10.89	12.51	12.68	10.56	12.24	12.38	11.63	12.02	12.46	12.64	11.13	11.43	11.88	11.38
BaO	0.03	0.09	0.04	0.11	0.03	0.06	0.04	0.04	0.05	0.03	0.05	-0.01	0.01	0.00	-0.01
Na_2O	4.23	5.27	4.06	4.10	5.50	4.51	4.39	4.78	4.53	4.28	3.86	5.07	4.86	4.52	4.92
K_2O	0.21	0.26	0.16	0.16	0.28	0.19	0.21	0.22	0.17	0.17	0.15	0.25	0.25	0.25	0.23
sum	98.44	100.88	99.08	100.43	101.41	100.94	100.74	100.39	100.19	99.71	99.84	100.46	100.07	100.62	100.27
mol%An	54.3	52.5	62.4	62.5	50.7	59.3	60.2	56.6	58.9	61.1	63.8	54.0	55.7	58.4	55.4
mol%Ab	44.2	46.0	36.6	36.6	47.7	39.6	38.6	42.1	40.1	37.9	35.3	44.5	42.8	40.2	43.3
mol%Or	1.4	1.5	1.0	0.9	1.6	1.1	1.2	1.3	1.0	1.0	0.9	1.4	1.5	1.4	1.3

Table B.6.17: XAL-109, Plagioclase grain 17

Dist (µm)	0.0	14.8	29.6	44.4	59.1	73.9	88.8	103.6	118.4	148.0	162.8	177.6	192.3	221.9	236.7	251.6	266.4	281.2	296.0	310.7	325.5
SiO_2	53.84	53.86	52.58	54.23	53.96	53.70	53.16	50.71	53.11	50.50	50.27	50.58	49.96	50.78	49.54	50.03	49.71	52.77	52.53	54.80	53.91
TiO_2	0.04	0.05	0.04	0.04	0.04	0.06	0.07	0.02	0.04	0.04	0.02	0.02	0.04	0.03	0.03	0.03	0.02	0.04	0.03	0.04	0.06
Al_2O_3	28.70	28.46	28.72	28.52	28.77	29.06	28.58	31.27	29.66	31.71	31.55	31.54	31.31	31.54	31.27	31.76	31.25	30.22	30.34	28.33	28.27
Fe_2O_3	0.75	0.69	0.62	0.64	0.64	0.59	1.07	0.58	0.50	0.57	0.59	0.55	0.60	0.53	0.89	0.61	0.67	0.61	0.59	0.57	0.78
MnO	0.01	0.01	-0.01	0.00	0.02	-0.02	-0.02	0.00	-0.01	-0.02	0.00	0.00	0.00	-0.01	0.00	-0.02	-0.01	0.00	0.01	-0.03	-0.02
MgO	0.08	0.08	0.08	0.06	0.07	0.07	0.08	0.05	0.05	0.05	0.04	0.04	0.06	0.05	0.05	0.05	0.05	0.06	0.04	0.06	0.09
CaO	11.41	11.52	11.96	11.48	11.51	12.09	11.17	14.20	12.35	14.59	14.92	14.47	14.31	14.27	14.45	14.92	14.48	12.77	13.28	11.27	11.04
BaO	0.04	0.04	0.02	0.03	0.03	0.01	0.11	0.05	0.03	0.03	0.04	0.07	0.03	0.05	0.05	0.04	0.04	0.09	0.00	0.05	0.06
Na_2O	4.79	4.90	4.43	4.77	4.80	4.60	4.65	3.36	4.38	3.20	3.11	3.20	3.22	3.36	3.01	3.11	3.14	4.21	3.85	4.99	4.76
K_2O	0.23	0.25	0.22	0.23	0.25	0.14	0.20	0.09	0.18	0.08	0.09	0.11	0.09	0.13	0.12	0.10	0.12	0.20	0.13	0.22	0.22
sum	99.92	99.86	98.69	100.00	100.10	100.33	99.11	100.36	100.34	100.80	100.66	100.59	99.64	100.75	99.48	100.70	99.53	100.99	100.86	100.33	99.18
mol%An	56.0	55.7	59.1	56.3	56.2	58.7	56.4	69.7	60.2	71.3	72.2	71.0	70.7	69.6	72.1	72.2	71.3	61.9	65.1	54.8	55.4
mol%Ab	42.6	42.9	39.6	42.3	42.4	40.5	42.5	29.8	38.7	28.3	27.3	28.4	28.8	29.6	27.2	27.2	28.0	37.0	34.1	43.9	43.2
mol%Or	1.4	1.4	1.3	1.3	1.4	0.8	1.2	0.5	1.0	0.5	0.5	0.6	0.5	0.7	0.7	0.6	0.7	1.1	0.8	1.3	1.3

Table B.6.18: XAL-109, Plagioclase grain 18

Dist (µm)	0.0	29.2	58.6	117.0	175.6	204.8	234.1	321.9	351.1	380.4	409.7	438.9
SiO_2	51.91	50.10	49.15	51.69	48.21	49.08	49.81	54.29	52.53	53.68	52.77	52.27
TiO_2	0.01	0.02	0.02	0.04	0.02	0.03	-0.01	0.04	0.04	0.03	0.03	0.04
Al_2O_3	28.98	30.48	31.39	29.75	31.79	31.03	30.74	27.92	28.61	27.93	28.89	29.13
Fe_2O_3	0.61	0.63	0.68	0.88	0.66	0.55	0.62	0.59	0.58	0.57	0.60	0.57
MnO	0.01	-0.02	-0.03	0.00	-0.01	-0.01	-0.03	0.05	-0.03	-0.01	0.00	0.03
MgO	0.05	0.06	0.04	0.06	0.06	0.04	0.06	0.06	0.06	0.07	0.06	0.05
CaO	12.00	13.55	14.18	12.27	14.83	14.45	13.99	10.40	11.76	10.93	11.68	11.96
BaO	0.05	0.05	0.04	0.04	0.06	0.06	0.09	0.08	0.03	0.06	0.03	0.04
Na_2O	4.35	3.71	2.86	3.80	2.59	2.98	3.29	5.30	4.49	5.03	4.50	4.32
K_2O	0.21	0.16	0.11	0.25	0.10	0.12	0.14	0.21	0.19	0.19	0.16	0.16
sum	98.18	98.80	98.49	98.83	98.35	98.36	98.74	98.97	98.33	98.51	98.76	98.58
mol%An	59.7	66.3	72.8	63.1	75.5	72.3	69.6	51.4	58.4	53.9	58.4	59.9
mol%Ab	39.1	32.8	26.5	35.4	23.9	27.0	29.6	47.4	40.4	45.0	40.7	39.2
mol%Or	1.2	0.9	0.7	1.6	0.6	0.7	0.8	1.3	1.1	1.1	0.9	1.0

Table B.6.19: XAL-109, Plagioclase grain 19

Dist (µm)	0.0	29.0	58.0	87.0	116.0	145.0	231.9	289.9	318.9	347.9	376.9	405.9	434.9
SiO_2	53.79	54.43	51.42	51.80	52.42	54.66	48.42	49.40	52.31	54.43	51.09	53.22	52.77
TiO_2	0.04	0.05	0.03	0.02	0.04	0.05	0.04	0.05	0.07	0.04	0.04	0.04	0.06
Al_2O_3	28.24	28.26	30.16	30.36	29.24	28.73	32.46	30.82	29.18	27.53	29.39	28.49	28.40
Fe_2O_3	0.60	0.57	0.57	0.61	0.61	0.54	0.58	0.64	0.61	0.51	0.67	0.60	0.70
MnO	0.02	0.00	0.02	0.01	0.02	0.02	0.02	0.04	0.01	0.01	0.02	-0.01	0.00
MgO	0.08	0.09	0.05	0.07	0.06	0.05	0.06	0.05	0.06	0.05	0.06	0.07	0.09
CaO	10.76	10.78	12.84	12.77	12.11	10.73	15.53	14.50	12.15	10.71	13.03	11.26	11.15
BaO	0.05	0.04	0.00	0.05	0.02	0.02	-0.04	0.04	0.05	-0.03	0.01	-0.04	-0.07
Na_2O	4.91	5.08	3.89	3.92	4.48	5.09	2.38	2.97	4.28	5.29	3.84	4.70	4.86
K_2O	0.19	0.24	0.14	0.15	0.19	0.21	0.08	0.15	0.18	0.22	0.14	0.21	0.23
sum	98.71	99.55	99.15	99.80	99.20	100.12	99.59	98.71	98.92	98.81	98.33	98.59	98.29
mol%An	54.1	53.2	64.0	63.8	59.2	53.2	77.9	72.3	60.4	52.2	64.7	56.2	55.2
mol%Ab	44.7	45.4	35.1	35.4	39.7	45.6	21.6	26.8	38.5	46.6	34.5	42.5	43.5
mol%Or	1.1	1.4	0.8	0.9	1.1	1.3	0.5	0.9	1.1	1.3	0.8	1.3	1.4

Table B.6.20: XAL-109, Plagioclase grain 20

Dist (µm)	0.0	59.2	177.8	237.0	355.6	414.9	474.1	533.4	592.7	651.9
SiO_2	54.91	54.96	51.53	53.17	52.97	52.53	57.04	52.94	53.07	53.44
TiO_2	0.06	0.03	0.04	0.05	0.03	0.01	0.06	0.04	0.03	0.05
Al_2O_3	27.34	27.70	29.81	28.71	28.49	29.00	25.84	28.04	28.21	27.88
Fe_2O_3	0.60	0.63	0.57	0.61	0.56	0.61	0.67	0.56	0.66	0.61
MnO	-0.02	-0.02	-0.01	-0.01	-0.01	0.01	-0.01	0.01	0.00	-0.01
MgO	0.07	0.08	0.07	0.08	0.08	0.07	0.07	0.06	0.07	0.07
CaO	10.15	10.31	12.76	11.40	11.50	11.84	8.44	11.19	11.30	10.99
BaO	-0.07	-0.04	-0.06	-0.06	-0.06	-0.04	0.09	0.09	0.03	0.06
Na_2O	5.38	5.41	3.93	4.58	4.83	4.32	6.12	4.86	4.88	5.08
K_2O	0.25	0.26	0.16	0.20	0.22	0.17	0.82	0.20	0.22	0.25
sum	98.76	99.37	98.86	98.79	98.67	98.57	99.15	98.00	98.50	98.46
mol%An	50.3	50.5	63.6	57.2	56.1	59.6	41.2	55.3	55.4	53.7
mol%Ab	48.2	48.0	35.4	41.6	42.6	39.4	54.0	43.5	43.3	44.9
mol%Or	1.5	1.5	0.9	1.2	1.3	1.0	4.8	1.2	1.3	1.4

Table B.7.1: IXT-21, Plagioclase grain 1

Dist (µm)	0.0	20.1	40.3	60.4	100.7	120.8	140.9	161.1	181.2	201.3	221.5	241.6	261.7	281.9	302.0	322.1	342.3	382.5	523.5	543.6	583.9
SiO_2	56.34	56.55	56.59	56.71	54.27	55.97	56.41	56.09	56.89	56.92	56.26	55.98	55.61	57.51	56.57	56.70	56.93	56.16	55.81	55.97	56.18
TiO_2	0.04	0.02	0.02	-0.01	0.06	0.03	0.03	0.03	0.04	0.02	0.05	-0.01	0.03	0.01	0.03	0.01	0.02	0.04	0.02	0.01	0.00
Al_2O_3	27.33	27.03	27.15	27.47	28.51	27.52	27.44	27.14	27.09	26.95	27.18	27.13	27.49	26.34	26.97	26.90	26.73	26.88	27.93	27.39	27.46
Fe_2O_3	0.40	0.36	0.34	0.33	0.47	0.38	0.34	0.31	0.37	0.36	0.38	0.32	0.39	0.39	0.32	0.32	0.35	0.35	0.40	0.30	0.31
MnO	-0.01	-0.01	0.02	-0.01	-0.01	0.02	0.03	0.01	0.02	-0.02	-0.02	0.02	-0.03	0.03	0.02	-0.01	-0.01	0.01	0.01	0.01	0.03
MgO	0.04	0.02	0.04	0.04	0.06	0.03	0.03	0.03	0.04	0.04	0.06	0.03	0.03	0.04	0.02	0.03	0.05	0.05	0.05	0.04	0.04
CaO	9.28	9.49	9.41	9.21	10.98	9.92	9.73	9.16	9.11	9.09	9.40	9.11	9.76	8.43	8.87	8.95	8.80	9.28	9.51	9.64	9.33
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.14	6.22	6.26	6.29	5.36	5.92	6.03	6.11	6.36	6.37	6.13	6.23	6.11	6.78	6.40	6.37	6.50	6.18	5.90	6.02	6.11
K_2O	0.31	0.26	0.31	0.34	0.31	0.30	0.30	0.31	0.33	0.35	0.28	0.31	0.28	0.36	0.33	0.32	0.39	0.40	0.33	0.31	0.29
sum	99.88	99.95	100.13	100.35	100.01	100.11	100.35	99.18	100.26	100.08	99.73	99.12	99.67	99.90	99.53	99.61	99.76	99.35	99.96	99.69	99.75
mol%An	44.7	45.1	44.6	43.9	52.2	47.3	46.3	44.5	43.4	43.2	45.1	43.9	46.1	39.9	42.5	42.9	41.8	44.3	46.2	46.2	45.0
mol%Ab	53.5	53.5	53.7	54.2	46.1	51.0	52.0	53.7	54.8	54.8	53.2	54.3	52.3	58.1	55.6	55.3	55.9	53.4	51.9	52.1	53.3
mol%Or	1.8	1.5	1.7	1.9	1.7	1.7	1.7	1.8	1.9	2.0	1.6	1.8	1.6	2.0	1.9	1.8	2.2	2.3	1.9	1.7	1.7

Table B.7.1 (cntd): IXT-21, Plagioclase grain 1

Dist (µm)	664.4	684.6	704.7	724.8	745.0	765.1	785.2	805.4	825.5	845.6	865.8	885.9	906.0	926.2	946.3	966.4	1026.8	1107.4	1127.5	1147.6	1167.8
SiO_2	56.12	56.57	55.77	56.52	56.56	57.94	57.35	57.15	57.92	58.22	57.09	57.15	57.67	57.63	57.44	56.78	55.83	55.58	56.78	56.66	56.16
TiO_2	0.04	0.03	0.04	0.02	0.04	0.01	0.00	0.00	0.01	0.00	0.02	0.02	0.03	0.01	0.03	0.02	0.03	0.03	0.03	0.01	0.04
Al_2O_3	27.10	27.10	27.59	26.67	26.92	26.00	26.32	26.23	25.88	25.55	26.24	26.18	25.93	25.85	26.00	26.22	26.44	27.38	26.49	26.59	26.88
Fe_2O_3	0.30	0.36	0.43	0.31	0.33	0.33	0.25	0.30	0.29	0.33	0.32	0.27	0.32	0.33	0.25	0.28	0.30	0.33	0.33	0.32	0.37
MnO	-0.02	0.01	0.01	0.02	0.02	0.00	0.02	-0.03	-0.01	0.03	0.01	0.03	0.00	-0.01	-0.01	-0.02	0.00	-0.01	-0.02	0.03	0.01
MgO	0.02	0.03	0.05	0.04	0.05	0.04	0.03	0.03	0.05	0.03	0.04	0.03	0.02	0.04	0.03	0.03	0.05	0.03	0.03	0.03	0.04
CaO	9.61	9.32	9.91	9.07	8.84	8.21	8.73	8.51	8.02	7.60	8.49	8.30	8.05	8.04	8.16	8.51	9.04	9.81	8.79	9.08	9.37
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.21	6.28	5.89	6.26	6.34	6.80	6.65	6.62	6.78	7.15	6.75	6.63	6.90	6.73	6.88	6.58	6.41	6.10	6.58	6.45	6.29
K_2O	0.30	0.34	0.36	0.43	0.36	0.41	0.40	0.33	0.39	0.46	0.37	0.34	0.43	0.40	0.42	0.42	0.41	0.29	0.36	0.32	0.33
sum	99.68	100.04	100.05	99.33	99.45	99.75	99.77	99.14	99.33	99.37	99.32	98.95	99.34	99.01	99.20	98.82	98.52	99.53	99.38	99.49	99.48
mol%An	45.4	44.2	47.2	43.4	42.6	39.1	41.1	40.7	38.7	36.1	40.1	40.1	38.3	38.8	38.7	40.7	42.8	46.3	41.6	42.9	44.3
mol%Ab	53.0	53.9	50.8	54.2	55.3	58.6	56.6	57.4	59.1	61.4	57.8	58.0	59.3	58.9	58.9	56.9	54.9	52.1	56.4	55.2	53.8
mol%Or	1.7	1.9	2.0	2.5	2.0	2.3	2.3	1.9	2.3	2.6	2.1	2.0	2.4	2.3	2.4	2.4	2.3	1.6	2.0	1.8	1.8

Table B.7.1 (cntd): IXT-21, Plagioclase grain 1

Dist (µm)	1187.9	1208.0	1288.6	1308.7	1328.8	1349.0	1369.1	1389.2	1489.9	1510.1	1590.6
SiO_2	56.95	57.40	54.04	55.03	55.81	56.24	56.72	57.15	57.32	56.78	55.23
TiO_2	0.02	0.01	0.02	0.01	0.04	0.01	0.01	0.01	0.01	0.03	0.02
Al_2O_3	26.34	26.23	27.82	27.11	26.73	26.79	26.21	25.85	25.56	26.18	26.86
Fe_2O_3	0.28	0.31	0.53	0.49	0.34	0.28	0.28	0.33	0.25	0.31	0.37
MnO	0.00	0.02	0.03	0.03	0.02	-0.02	0.00	0.03	0.02	0.00	0.01
MgO	0.03	0.04	0.04	0.02	0.03	0.03	0.05	0.04	0.03	0.03	0.03
CaO	8.77	8.67	10.65	9.47	9.28	9.24	8.50	8.34	8.11	8.37	9.47
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.53	6.64	5.35	5.97	6.16	6.40	6.64	6.86	6.86	6.55	6.15
K_2O	0.34	0.35	0.36	0.42	0.46	0.35	0.38	0.36	0.45	0.36	0.36
sum	99.27	99.65	98.83	98.54	98.87	99.31	98.79	98.97	98.62	98.59	98.50
mol%An	41.8	41.1	51.3	45.6	44.2	43.5	40.5	39.4	38.5	40.6	45.0
mol%Ab	56.3	56.9	46.6	52.0	53.1	54.5	57.3	58.6	58.9	57.4	53.0
mol%Or	1.9	2.0	2.1	2.4	2.6	1.9	2.2	2.0	2.6	2.1	2.0

Table B.7.3: IXT-21, Plagioclase grain 3

Dist (µm)	0.0	20.3	40.5	81.0	101.3	121.5	141.8	162.1
SiO_2	57.21	56.82	55.59	60.13	57.38	56.90	56.39	57.44
TiO_2	0.01	0.03	0.01	0.05	0.00	0.03	0.00	0.03
Al_2O_3	26.78	27.16	27.46	25.73	27.22	26.85	26.82	26.77
Fe_2O_3	0.36	0.35	0.48	0.54	0.36	0.38	0.36	0.29
MnO	0.02	0.01	0.02	0.02	0.01	0.00	0.01	0.00
MgO	0.04	0.04	0.05	0.08	0.03	0.03	0.03	0.03
CaO	9.02	9.42	10.00	7.02	9.24	9.19	9.27	9.04
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.41	6.17	5.70	6.60	6.35	6.37	6.12	6.41
K_2O	0.32	0.33	0.35	1.03	0.31	0.29	0.30	0.29
sum	100.16	100.33	99.66	101.20	100.90	100.04	99.29	100.31
mol%An	43.0	44.9	48.2	34.8	43.8	43.6	44.8	43.1
mol%Ab	55.2	53.2	49.8	59.2	54.5	54.7	53.5	55.3
mol%Or	1.8	1.9	2.0	6.0	1.7	1.6	1.7	1.7

Table B.7.3 (cntd): IXT-21, Plagioclase grain 3

Dist (µm)	182.3	202.6	222.8	243.1	263.4	364.6	384.9	465.9	486.2	506.5	526.7	547.0	567.2	587.5	668.5	688.8	709.0	729.3
SiO_2	57.59	56.18	56.86	57.95	58.24	54.84	57.38	56.47	56.45	57.94	57.86	56.95	56.39	56.15	55.80	56.16	55.16	56.74
TiO_2	0.02	0.04	0.05	0.01	0.00	0.02	0.05	0.03	0.03	0.01	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.01
Al_2O_3	26.54	27.55	26.85	26.11	26.08	27.37	27.19	26.96	27.43	26.17	26.23	26.51	26.94	27.35	27.38	27.11	27.47	26.26
Fe_2O_3	0.30	0.39	0.52	0.26	0.28	0.49	0.40	0.33	0.36	0.31	0.33	0.30	0.28	0.31	0.47	0.47	0.42	0.36
MnO	0.01	0.04	-0.02	0.00	0.01	0.01	0.02	0.04	0.04	0.01	0.00	-0.03	-0.01	0.01	0.00	0.02	0.04	0.02
MgO	0.03	0.05	0.05	0.04	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.02	0.04	0.02	0.05	0.03	0.05	0.03
CaO	8.51	9.81	8.99	8.34	7.84	9.76	8.79	9.30	9.18	8.07	8.03	8.72	9.13	9.22	9.70	9.45	9.76	8.34
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.58	5.90	6.14	6.78	6.88	5.77	6.38	6.24	6.32	6.84	6.82	6.59	6.27	6.26	6.04	6.12	5.82	6.57
K_2O	0.38	0.32	0.58	0.40	0.44	0.37	0.42	0.34	0.29	0.36	0.37	0.35	0.32	0.28	0.40	0.38	0.38	0.58
sum	99.97	100.28	100.03	99.89	99.80	98.66	100.67	99.75	100.12	99.74	99.68	99.44	99.38	99.64	99.86	99.76	99.13	98.91
mol%An	40.8	47.0	43.2	39.6	37.7	47.3	42.2	44.3	43.8	38.7	38.6	41.4	43.8	44.2	46.0	45.1	47.0	39.9
mol%Ab	57.1	51.1	53.4	58.2	59.8	50.6	55.4	53.8	54.6	59.3	59.3	56.6	54.4	54.2	51.8	52.8	50.8	56.8
mol%Or	2.2	1.8	3.3	2.3	2.5	2.2	2.4	1.9	1.6	2.0	2.1	2.0	1.8	1.6	2.2	2.2	2.2	3.3

Table B.7.3: IXT-21, Plagioclase grain 3

Dist (µm)	20.1	40.2	60.4	80.5	100.6	120.7	140.9	161.0	181.1	201.2	221.4	241.5	261.6	281.7	301.9	342.1	402.5	422.6
SiO_2	56.41	56.84	56.32	57.04	56.73	57.47	56.79	56.71	56.48	55.53	55.72	57.60	55.42	56.90	55.77	55.65	55.66	56.79
TiO_2	0.03	0.03	0.04	0.04	0.01	0.03	0.04	0.03	0.02	0.02	0.04	0.02	0.05	0.02	0.04	0.02	0.02	0.04
Al_2O_3	27.23	27.13	26.94	26.80	26.82	26.73	26.80	26.60	26.70	26.91	27.34	26.14	27.36	26.79	27.49	27.55	26.93	26.67
Fe_2O_3	0.41	0.38	0.35	0.34	0.27	0.33	0.36	0.31	0.33	0.40	0.32	0.42	0.41	0.39	0.43	0.39	0.43	0.36
MnO	0.02	0.02	0.01	0.00	-0.01	-0.01	0.00	0.01	-0.02	0.04	0.01	0.00	0.00	-0.02	0.04	0.01	0.00	0.00
MgO	0.04	0.04	0.05	0.03	0.03	0.02	0.05	0.04	0.03	0.03	0.04	0.03	0.04	0.04	0.03	0.04	0.04	0.04
CaO	9.33	9.17	9.24	9.03	8.94	8.65	8.68	8.86	9.13	9.46	9.63	8.30	9.97	9.10	9.83	9.71	9.49	8.82
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.21	6.30	6.30	6.40	6.33	6.49	6.36	6.47	6.29	6.13	6.09	6.72	6.00	6.40	6.05	5.98	6.19	6.44
K_2O	0.30	0.34	0.31	0.32	0.33	0.33	0.35	0.30	0.30	0.27	0.30	0.36	0.31	0.31	0.26	0.36	0.34	0.34
sum	99.98	100.24	99.56	100.00	99.47	100.04	99.43	99.31	99.28	98.80	99.50	99.58	99.56	99.93	99.94	99.70	99.09	99.50
mol%An	44.6	43.7	44.0	43.0	43.0	41.6	42.1	42.4	43.8	45.3	45.8	39.7	47.0	43.2	46.6	46.4	45.0	42.3
mol%Ab	53.7	54.4	54.2	55.2	55.1	56.5	55.9	55.9	54.5	53.1	52.4	58.2	51.2	55.0	51.9	51.6	53.1	55.8
mol%Or	1.7	1.9	1.8	1.8	1.9	1.9	2.0	1.7	1.7	1.6	1.7	2.0	1.8	1.7	1.5	2.0	1.9	1.9

Table B.7.3 (cntd): IXT-21, Plagioclase grain 3

Dist (µm)	462.9	503.1	523.2	543.3
SiO_2	56.82	56.53	56.09	55.83
TiO_2	0.02	0.02	0.02	0.03
Al_2O_3	26.82	27.08	27.35	27.26
Fe_2O_3	0.35	0.36	0.39	0.45
MnO	-0.02	-0.03	-0.01	0.01
MgO	0.03	0.03	0.05	0.04
CaO	8.98	9.31	9.43	9.87
BaO	n.a.	n.a.	n.a.	n.a.
Na_2O	6.43	6.24	6.14	5.95
K_2O	0.30	0.31	0.32	0.31
sum	99.72	99.84	99.78	99.74
mol%An	42.8	44.4	45.1	47.0
mol%Ab	55.4	53.8	53.1	51.3
mol%Or	1.7	1.8	1.8	1.7

Table B.7.4: IXT-21, Plagioclase grain 4

Dist (µm)	0.0	20.3	60.9	81.2	101.5	121.7	142.0	202.9	223.2	324.6	365.2	405.8	426.1	446.4	466.7	507.3	527.5	547.8
SiO_2	56.76	57.02	57.57	57.68	57.85	58.21	57.42	60.05	57.16	58.09	57.23	57.85	58.50	58.44	58.71	57.92	58.70	56.51
TiO_2	0.01	0.03	0.02	0.01	0.02	0.02	0.01	0.01	0.04	0.01	0.01	0.03	0.02	0.02	0.01	0.01	0.05	0.02
Al_2O_3	26.88	26.58	26.62	26.10	26.30	25.70	26.50	24.78	26.51	25.94	26.47	25.89	25.60	25.81	25.65	26.48	25.68	26.63
Fe_2O_3	0.34	0.32	0.33	0.29	0.31	0.28	0.35	0.35	0.31	0.35	0.32	0.53	0.34	0.29	0.24	0.32	0.36	0.34
MnO	0.02	0.00	0.02	0.02	-0.02	0.02	0.01	0.02	0.01	0.01	0.06	0.02	0.01	0.03	0.02	0.03	0.00	-0.01
MgO	0.03	0.03	0.02	0.03	0.04	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03
CaO	8.90	8.86	8.70	8.29	8.25	7.64	8.65	6.73	8.54	8.08	8.71	8.17	7.56	7.95	7.62	8.37	7.55	9.23
BaO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Na_2O	6.44	6.47	6.58	6.71	6.82	7.09	6.61	7.58	6.54	6.79	6.57	6.72	7.00	7.04	6.98	6.66	6.96	6.29
K_2O	0.31	0.35	0.40	0.38	0.42	0.52	0.47	0.54	0.41	0.61	0.46	0.69	0.37	0.47	0.45	0.47	0.59	0.35
sum	99.69	99.66	100.26	99.52	99.98	99.49	100.05	100.08	99.54	99.91	99.86	99.92	99.42	100.07	99.70	100.30	99.93	99.38
mol%An	42.5	42.2	41.3	39.7	39.1	36.2	40.8	31.9	40.9	38.3	41.2	38.6	36.6	37.4	36.7	39.9	36.2	43.9
mol%Ab	55.7	55.8	56.5	58.1	58.5	60.8	56.5	65.0	56.7	58.3	56.2	57.5	61.3	59.9	60.8	57.4	60.4	54.1
mol%Or	1.7	2.0	2.2	2.2	2.3	2.9	2.7	3.0	2.3	3.4	2.6	3.9	2.1	2.6	2.6	2.7	3.4	2.0

Table B.7.5: IXT-21, Plagioclase grain 5

Dist (µm)	30.1	60.3	90.4	120.5	180.8	241.0	301.3	331.5	391.7	421.9	452.0	482.1	512.3	542.4	572.5	632.8	693.0
SiO_2	56.08	56.97	54.63	55.67	55.42	56.67	55.66	56.76	56.20	54.52	55.98	55.84	55.05	56.19	55.93	54.54	55.76
TiO_2	0.02	0.01	0.02	0.02	0.03	0.01	0.05	0.04	0.04	0.04	0.05	0.04	0.07	0.05	0.04	0.02	0.00
Al_2O_3	27.34	26.63	28.05	27.32	27.70	26.45	27.25	27.01	26.64	27.59	27.09	27.17	27.00	26.69	26.81	27.44	27.25
Fe_2O_3	0.51	0.37	0.47	0.38	0.49	0.39	0.45	0.54	0.59	0.66	0.48	0.51	0.66	0.40	0.48	0.58	0.44
MnO	0.01	0.00	0.00	-0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.00	0.04	0.00	0.01	0.02	0.00	0.01
MgO	0.03	0.02	0.04	0.04	0.05	0.03	0.04	0.03	0.03	0.04	0.02	0.05	0.02	0.03	0.04	0.03	0.03
CaO	9.57	8.82	10.57	9.72	9.93	8.80	9.75	9.21	9.09	10.24	9.40	9.58	9.68	8.95	9.33	9.77	9.63
BaO	-0.12	0.01	-0.06	-0.04	-0.10	-0.06	0.01	0.06	0.05	0.02	0.04	0.00	0.04	0.02	0.08	-0.17	-0.18
Na_2O	6.10	6.51	5.56	6.03	5.91	6.44	5.84	6.17	6.26	5.55	6.13	5.87	5.78	6.15	6.12	5.80	6.13
K_2O	0.33	0.42	0.25	0.24	0.32	0.31	0.26	0.29	0.32	0.34	0.29	0.27	0.42	0.28	0.25	0.26	0.32
sum	100.01	99.76	99.59	99.42	99.87	99.12	99.30	100.13	99.23	99.03	99.48	99.37	98.72	98.78	99.10	98.46	99.55
mol%An	45.6	41.8	50.5	46.5	47.2	42.2	47.3	44.5	43.7	49.5	45.1	46.7	46.9	43.8	45.1	47.5	45.7
mol%Ab	52.5	55.8	48.1	52.2	50.9	56.0	51.2	53.9	54.5	48.5	53.2	51.7	50.7	54.5	53.5	51.0	52.6
mol%Or	1.9	2.3	1.4	1.4	1.8	1.8	1.5	1.7	1.8	2.0	1.7	1.6	2.4	1.6	1.5	1.5	1.8

Table B.7.6: IXT-21, Plagioclase grain 6

Dist (µm)	0.0	61.3	91.9	122.6	153.2	183.8	214.5	245.1	275.8	337.0	398.3
SiO_2	55.53	56.47	55.79	55.88	56.35	56.01	56.12	55.86	55.47	57.40	54.81
TiO_2	0.02	0.01	0.00	0.02	0.03	0.03	0.05	0.03	0.04	0.04	0.06
Al_2O_3	27.17	26.77	26.75	26.87	26.90	27.05	26.72	26.44	26.90	26.28	27.08
Fe_2O_3	0.52	0.34	0.37	0.35	0.32	0.36	0.32	0.35	0.33	0.31	0.47
MnO	0.00	0.02	0.02	0.01	0.01	0.03	0.01	0.03	0.03	0.01	0.02
MgO	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.03
CaO	9.72	9.21	9.46	9.45	9.41	9.45	9.14	9.18	9.56	8.74	9.89
BaO	0.03	0.08	0.08	0.04	0.01	0.05	0.08	0.00	0.06	0.03	0.04
Na_2O	5.91	6.20	6.04	5.94	6.05	6.06	6.07	6.11	5.92	6.51	5.69
K_2O	0.34	0.33	0.28	0.28	0.28	0.28	0.33	0.26	0.29	0.37	0.35
sum	99.34	99.48	98.81	98.94	99.38	99.39	98.87	98.28	98.66	99.70	98.53
mol%An	46.7	44.2	45.7	46.0	45.5	45.5	44.5	44.7	46.4	41.7	48.0
mol%Ab	51.4	53.9	52.7	52.3	52.9	52.8	53.5	53.8	52.0	56.2	50.0
mol%Or	2.0	1.9	1.6	1.6	1.6	1.6	1.9	1.5	1.7	2.1	2.0

Table B.7.7: IXT-21, Plagioclase grain 7

Dist (µm)	29.7	59.5	89.2	118.9	148.7	178.4	208.1	237.9
SiO_2	55.59	57.59	57.63	59.24	58.13	59.35	59.06	58.58
TiO_2	0.02	0.03	0.03	0.00	0.00	-0.01	0.01	0.00
Al_2O_3	26.65	26.08	25.81	25.03	25.44	24.94	25.05	25.16
Fe_2O_3	0.58	0.37	0.32	0.28	0.26	0.32	0.30	0.36
MnO	0.02	0.01	-0.01	0.01	0.00	0.01	0.02	0.02
MgO	0.04	0.02	0.02	0.02	0.01	0.02	0.02	0.02
CaO	9.44	8.60	8.15	7.38	7.67	7.38	7.21	7.41
BaO	0.10	0.11	0.07	0.11	0.09	0.11	0.17	0.17
Na_2O	5.98	6.43	6.67	7.25	6.95	7.17	7.22	7.14
K_2O	0.33	0.36	0.38	0.43	0.39	0.42	0.42	0.41
sum	98.82	99.59	99.12	99.75	99.02	99.75	99.47	99.30
mol%An	45.7	41.6	39.4	35.1	37.0	35.4	34.7	35.6
mol%Ab	52.4	56.3	58.4	62.4	60.7	62.2	62.9	62.0
mol%Or	1.9	2.1	2.2	2.4	2.2	2.4	2.4	2.4

Table B.7.7 (cntd): IXT-21, Plagioclase grain 7

Dist (µm)	267.6	297.4	327.1	356.8	386.5	416.2	445.9	475.7	505.4	535.1	564.9	594.6	624.3	654.1	683.8	713.5	743.3	773.0	802.7	832.5	862.2
SiO_2	58.52	58.59	58.98	58.92	59.08	59.20	57.49	57.14	58.06	57.75	57.59	57.78	57.40	56.86	56.68	56.27	56.79	56.90	56.71	55.70	56.47
TiO_2	0.01	0.01	0.04	0.03	0.04	0.04	0.03	0.03	0.03	0.05	0.02	0.04	0.01	0.03	0.01	0.02	0.02	0.02	-0.01	0.02	0.06
Al_2O_3	25.03	25.12	24.92	25.02	25.25	24.84	25.99	25.75	25.63	25.83	25.80	26.06	25.72	26.38	26.27	26.42	26.66	26.18	26.66	27.04	26.07
Fe_2O_3	0.37	0.43	0.39	0.42	0.29	0.32	0.31	0.32	0.28	0.30	0.30	0.31	0.32	0.35	0.37	0.40	0.33	0.33	0.39	0.42	0.65
MnO	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00	-0.01	0.00	0.01	0.00	0.02	0.01	-0.01
MgO	0.02	0.02	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.05	0.05	0.04	0.03	0.05	0.04
CaO	7.57	7.63	7.46	7.58	7.17	7.10	8.55	8.52	8.04	7.98	8.23	8.17	8.42	8.88	8.74	8.90	9.05	8.61	8.84	9.71	8.76
BaO	0.18	0.11	0.06	0.05	0.11	0.08	0.00	0.00	0.04	0.01	0.02	0.06	0.08	0.08	0.06	0.07	0.07	0.04	0.03	0.02	0.06
Na_2O	7.12	7.00	7.10	6.88	7.19	7.22	6.62	6.61	6.76	6.75	6.66	6.75	6.51	6.40	6.30	5.94	6.24	6.32	6.23	5.76	6.23
K_2O	0.38	0.49	0.60	0.65	0.47	0.45	0.33	0.32	0.38	0.38	0.38	0.38	0.38	0.32	0.33	0.45	0.35	0.35	0.33	0.32	0.47
sum	99.30	99.49	99.66	99.56	99.61	99.29	99.39	98.73	99.32	99.11	99.04	99.56	98.90	99.35	98.82	98.55	99.61	98.80	99.26	99.05	98.88
mol%An	36.2	36.5	35.5	36.5	34.6	34.3	40.8	40.9	38.8	38.7	39.7	39.2	40.8	42.6	42.6	44.1	43.6	42.1	43.1	47.3	42.5
mol%Ab	61.7	60.7	61.1	59.9	62.7	63.1	57.3	57.3	59.0	59.2	58.1	58.7	57.0	55.5	55.5	53.3	54.4	55.9	55.0	50.8	54.8
mol%Or	2.1	2.8	3.4	3.7	2.7	2.6	1.9	1.9	2.2	2.2	2.2	2.1	2.2	1.9	1.9	2.6	2.0	2.0	1.9	1.9	2.7

Table B.7.8: IXT-21, Plagioclase grain 8

Dist (µm)	0.0	29.7	59.4	118.8	148.5	178.2	207.8	237.5	267.2	326.7	356.3	386.0
SiO_2	57.46	55.54	59.16	55.04	57.41	53.67	54.47	56.67	56.67	55.86	58.65	55.95
TiO_2	0.05	0.04	0.01	0.02	0.02	0.05	0.03	0.02	0.03	0.03	0.07	0.04
Al_2O_3	25.80	26.93	24.81	27.83	25.96	27.99	27.64	26.23	26.71	27.11	24.92	26.66
Fe_2O_3	0.77	0.36	0.29	0.44	0.36	0.55	0.47	0.37	0.41	0.33	0.67	0.43
MnO	0.01	-0.01	-0.01	-0.03	-0.03	0.00	-0.01	-0.01	-0.03	0.00	0.00	0.00
MgO	0.05	0.04	0.03	0.04	0.03	0.03	0.05	0.03	0.04	0.03	0.04	0.04
CaO	8.69	9.51	7.32	10.33	8.40	11.25	10.42	8.74	9.23	9.50	7.45	9.49
BaO	0.08	0.06	0.08	0.06	0.11	0.07	0.05	0.06	0.01	0.07	0.18	0.08
Na_2O	6.64	6.00	7.35	5.57	6.52	5.08	5.39	6.39	6.24	5.98	7.00	5.90
K_2O	0.51	0.29	0.46	0.25	0.37	0.26	0.27	0.35	0.33	0.27	0.65	0.30
sum	100.14	98.82	99.55	99.61	99.22	99.01	98.86	98.97	99.73	99.23	99.67	98.94
mol%An	40.8	45.9	34.6	49.9	40.7	54.2	50.8	42.2	44.2	46.0	35.7	46.2
mol%Ab	56.3	52.4	62.8	48.7	57.2	44.3	47.6	55.8	54.0	52.4	60.6	52.0
mol%Or	2.9	1.6	2.6	1.5	2.1	1.5	1.6	2.0	1.9	1.6	3.7	1.8

Table B.7.9: IXT-21, Plagioclase grain 9

Dist (µm)	0.0	14.9	59.3	74.1	88.9	103.8	118.6	133.4	148.2	163.1	177.9	192.7	222.3	252.0	266.8	281.6	296.5	311.3	326.1
SiO_2	58.77	57.16	56.21	56.24	56.54	56.29	55.50	56.36	57.01	56.88	56.10	56.26	55.79	56.68	56.17	56.10	55.79	55.74	55.85
TiO_2	0.03	0.04	0.03	0.02	0.03	0.02	0.04	0.03	0.02	0.04	0.03	0.04	0.03	0.02	0.02	0.04	0.04	0.04	0.03
Al_2O_3	25.16	26.15	27.26	26.52	26.47	26.55	27.08	26.74	26.02	26.42	26.45	26.28	26.47	26.17	26.43	26.85	26.84	27.24	27.04
Fe_2O_3	0.30	0.38	0.39	0.32	0.32	0.39	0.39	0.36	0.30	0.29	0.32	0.35	0.45	0.38	0.34	0.38	0.35	0.40	0.41
MnO	-0.01	0.02	-0.01	-0.02	0.01	0.01	0.04	0.00	0.02	0.01	0.02	0.02	0.02	0.00	-0.01	-0.02	-0.02	0.01	-0.02
MgO	0.02	0.03	0.05	0.03	0.03	0.04	0.04	0.05	0.03	0.03	0.04	0.04	0.03	0.04	0.04	0.03	0.04	0.03	0.03
CaO	7.35	8.65	9.52	8.99	9.11	8.89	9.67	9.34	8.63	8.97	8.98	9.03	9.42	8.87	8.97	9.54	9.70	9.61	9.69
BaO	0.08	0.08	0.09	0.09	0.12	-0.05	0.05	0.02	-0.01	0.02	0.02	0.01	-0.01	0.04	0.03	0.08	0.08	0.04	-0.02
Na_2O	7.21	6.59	6.03	6.27	6.36	6.33	5.93	5.97	6.43	6.35	6.25	6.12	5.97	6.38	6.20	6.02	5.83	5.82	5.89
K_2O	0.41	0.35	0.26	0.29	0.34	0.32	0.39	0.34	0.33	0.34	0.34	0.36	0.43	0.37	0.34	0.29	0.30	0.33	0.34
sum	99.38	99.47	99.89	98.84	99.39	98.89	99.13	99.21	98.84	99.37	98.56	98.57	98.64	98.96	98.53	99.36	98.97	99.31	99.29
mol%An	35.2	41.2	45.9	43.5	43.3	42.9	46.4	45.4	41.8	43.0	43.4	44.0	45.5	42.5	43.6	45.9	47.1	46.8	46.7
mol%Ab	62.4	56.8	52.6	54.9	54.7	55.3	51.4	52.6	56.3	55.1	54.7	53.9	52.1	55.4	54.5	52.4	51.2	51.3	51.4
mol%Or	2.3	2.0	1.5	1.7	1.9	1.8	2.2	2.0	1.9	2.0	1.9	2.1	2.4	2.1	2.0	1.7	1.7	1.9	2.0

Table B.7.9 (cntd): IXT-21, Plagioclase grain 9

Dist (µm)	341.0	355.8	370.6	385.4
SiO_2	55.81	56.67	56.26	55.95
TiO_2	0.04	0.04	0.03	0.04
Al_2O_3	26.95	26.53	26.77	27.15
Fe_2O_3	0.41	0.38	0.38	0.44
MnO	0.00	0.00	-0.01	0.00
MgO	0.03	0.03	0.02	0.03
CaO	9.34	8.94	9.21	9.77
BaO	0.00	0.02	-0.02	-0.05
Na_2O	5.92	6.26	5.96	5.87
K_2O	0.39	0.31	0.34	0.34
sum	98.88	99.20	98.97	99.59
mol%An	45.5	43.3	45.1	47.0
mol%Ab	52.2	54.9	52.9	51.1
mol%Or	2.2	1.8	2.0	1.9

Table B.7.10: IXT-21, Plagioclase grain 10

Dist (µm)	58.9	176.7	235.5	353.2	412.2	471.1	529.9	588.8	647.7	706.6	824.3	883.2	942.1
SiO_2	54.30	53.91	54.62	54.29	54.23	55.34	56.21	54.59	53.91	53.85	53.64	56.30	53.71
TiO_2	0.08	0.05	0.04	0.05	0.05	0.06	0.06	0.05	0.05	0.06	0.06	0.03	0.06
Al_2O_3	28.21	28.72	28.26	28.14	28.19	28.06	27.22	27.88	28.59	28.39	28.58	27.06	27.83
Fe_2O_3	0.78	0.53	0.50	0.59	0.53	0.47	0.36	0.53	0.58	0.60	0.64	0.40	0.62
MnO	0.03	0.02	0.03	0.03	0.02	0.01	0.02	0.03	0.03	0.02	0.01	0.04	0.01
MgO	0.08	0.09	0.06	0.06	0.09	0.06	0.05	0.06	0.06	0.08	0.06	0.04	0.05
CaO	11.10	11.23	10.87	11.27	11.28	10.49	9.39	10.39	11.43	11.47	11.61	9.40	11.19
BaO	-0.08	-0.11	-0.04	-0.05	-0.06	-0.11	-0.08	-0.01	0.04	-0.01	0.03	0.04	0.05
Na_2O	5.12	5.12	5.31	5.16	5.26	5.62	6.00	5.35	4.89	4.93	4.87	6.12	5.05
K_2O	0.32	0.24	0.22	0.28	0.21	0.27	0.31	0.25	0.28	0.19	0.22	0.32	0.20
sum	100.08	99.94	99.94	99.93	99.92	100.41	99.62	99.12	99.87	99.59	99.73	99.73	98.78
mol%An	53.5	54.0	52.4	53.8	53.6	50.0	45.6	51.0	55.5	55.6	56.1	45.1	54.4
mol%Ab	44.7	44.6	46.4	44.6	45.2	48.5	52.7	47.6	42.9	43.2	42.6	53.1	44.4
mol%Or	1.8	1.4	1.2	1.6	1.2	1.5	1.8	1.4	1.6	1.1	1.3	1.8	1.1

Table B.7.11: IXT-21, Plagioclase grain 11

Dist (µm)	0.0	29.6	88.8	118.4	177.5	236.8	266.3	295.9	325.5	443.9	503.0	532.7	562.3	591.8	621.4	680.5	710.2	769.4	798.9	828.5
SiO_2	55.14	55.65	54.70	54.94	54.46	55.59	56.65	55.99	54.72	56.93	55.81	54.87	58.35	58.56	56.55	56.69	53.95	54.10	54.51	55.19
TiO_2	0.05	0.02	0.03	0.02	0.02	0.03	0.00	0.01	0.03	0.01	0.02	0.05	0.07	0.08	0.07	0.02	0.04	0.05	0.05	0.03
Al_2O_3	27.85	27.13	27.76	27.65	28.11	27.54	26.76	27.08	28.22	26.62	27.28	27.85	26.72	25.19	26.65	26.72	27.92	27.85	27.98	27.48
Fe_2O_3	0.54	0.49	0.65	0.55	0.60	0.68	0.52	0.53	0.54	0.39	0.49	0.54	0.66	0.64	0.61	0.42	0.57	0.57	0.62	0.58
MnO	0.03	0.02	0.00	-0.02	-0.01	0.01	-0.01	0.00	-0.01	0.04	0.01	0.02	0.03	0.01	0.02	0.00	-0.01	-0.01	0.01	0.00
MgO	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.06	0.05	0.03	0.03	0.04	0.05	0.03	0.05	0.06	0.05	0.04	0.04	0.04
CaO	10.19	9.81	10.54	10.10	10.88	10.21	9.36	9.93	10.54	9.26	9.48	10.58	8.36	7.85	9.53	8.99	10.71	10.69	10.40	10.10
BaO	0.01	0.05	-0.18	-0.16	-0.22	-0.18	-0.21	-0.15	-0.23	0.00	0.03	0.01	0.07	0.08	0.07	0.06	0.01	0.03	0.08	0.02
Na_2O	5.62	5.98	5.53	5.53	5.34	5.65	6.19	5.87	5.37	6.15	5.91	5.38	6.29	6.92	5.78	6.41	5.43	5.09	5.39	5.60
K_2O	0.30	0.29	0.35	0.30	0.29	0.34	0.37	0.33	0.26	0.31	0.38	0.28	0.49	0.64	0.47	0.35	0.31	0.34	0.37	0.29
sum	99.77	99.47	99.64	99.14	99.78	100.08	99.89	99.82	99.75	99.74	99.47	99.64	101.12	100.05	99.83	99.83	99.05	98.83	99.49	99.41
mol%An	49.2	46.8	50.3	49.4	52.1	49.0	44.6	47.4	51.2	44.6	45.9	51.3	41.1	37.2	46.4	42.8	51.2	52.7	50.5	49.1
mol%Ab	49.1	51.6	47.7	48.9	46.3	49.1	53.3	50.7	47.2	53.6	51.9	47.1	56.0	59.3	50.9	55.2	47.0	45.3	47.4	49.2
mol%Or	1.7	1.7	2.0	1.8	1.7	2.0	2.1	1.9	1.5	1.8	2.2	1.6	2.8	3.6	2.7	2.0	1.8	2.0	2.1	1.7

Table B.7.12: IXT-21, Plagioclase grain 12

Dist (µm)	29.9	59.6	89.5	119.3	149.1	178.9	208.8	238.5	268.4	298.3	328.0	357.9	417.5
SiO_2	57.69	59.08	57.44	57.95	55.07	54.35	55.27	57.06	55.82	55.84	59.38	57.96	55.97
TiO_2	0.03	0.03	0.04	0.02	0.05	0.05	0.06	0.04	0.04	0.05	0.10	0.03	0.02
Al_2O_3	26.65	25.18	26.31	26.05	27.98	28.33	27.74	26.61	27.46	27.49	24.20	26.02	27.19
Fe_2O_3	0.37	0.30	0.28	0.36	0.50	0.52	0.62	0.34	0.37	0.43	0.74	0.39	0.42
MnO	-0.01	-0.02	0.00	0.00	0.00	0.02	0.02	0.02	-0.01	0.00	0.01	0.02	-0.02
MgO	0.03	0.04	0.03	0.03	0.05	0.05	0.04	0.03	0.04	0.04	0.12	0.03	0.04
CaO	8.81	7.39	8.56	8.37	10.75	11.00	10.36	8.88	10.08	10.01	7.00	8.30	9.63
BaO	0.04	0.08	0.10	0.11	0.04	0.03	0.02	0.06	0.04	0.04	0.11	0.06	-0.21
Na_2O	6.36	7.27	6.56	6.74	5.40	5.19	5.38	6.33	5.81	5.78	7.11	6.58	6.03
K_2O	0.34	0.49	0.35	0.38	0.26	0.28	0.42	0.34	0.30	0.28	0.72	0.45	0.30
sum	100.38	99.93	99.71	100.02	100.15	99.83	99.95	99.75	99.97	99.99	99.56	99.84	99.60
mol%An	42.5	35.0	41.0	39.8	51.6	53.1	50.3	42.8	48.1	48.1	33.8	40.0	46.1
mol%Ab	55.5	62.3	57.0	58.0	46.9	45.3	47.3	55.2	50.2	50.3	62.1	57.4	52.2
mol%Or	2.0	2.8	2.0	2.2	1.5	1.6	2.4	1.9	1.7	1.6	4.1	2.6	1.7

Table B.7.13: IXT-21, Plagioclase grain 13

Dist (µm)	0.0	15.0	30.0	45.1	60.1	75.1	90.1	105.2	120.2	135.2	150.2	165.2	180.3	195.3	210.4	225.3	240.4	255.4	270.4
SiO_2	54.59	54.46	56.79	57.36	57.38	57.75	57.73	57.59	56.25	58.06	57.74	58.35	57.97	57.90	57.52	57.67	56.35	56.27	54.38
TiO_2	0.03	0.04	0.02	0.03	0.02	0.01	0.01	0.02	0.01	0.05	0.03	0.04	0.04	0.03	0.01	0.03	0.03	0.05	0.06
Al_2O_3	27.44	27.13	26.03	25.68	25.37	25.40	25.73	25.72	25.37	25.69	25.47	25.59	25.94	25.52	25.80	25.48	26.78	26.12	27.39
Fe_2O_3	0.78	0.64	0.56	0.51	0.46	0.44	0.43	0.45	0.41	0.44	0.38	0.42	0.42	0.42	0.36	0.42	0.49	0.51	0.53
MnO	0.03	0.01	0.02	0.01	0.04	0.03	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.00	0.02	0.01	0.01	0.01
MgO	0.06	0.04	0.02	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.03	0.05	0.06
CaO	10.17	10.12	8.36	7.98	8.06	7.80	7.87	8.02	8.02	7.81	7.62	7.63	8.01	8.00	8.23	8.01	9.28	8.91	10.41
BaO	-0.11	-0.12	-0.16	-0.09	0.17	0.12	0.13	0.14	0.10	0.16	0.12	0.16	0.13	0.13	0.09	0.09	0.07	0.08	0.02
Na_2O	5.66	5.91	6.69	7.00	6.86	6.93	6.82	6.86	6.56	6.94	6.85	7.06	6.99	6.92	6.81	6.98	6.16	6.20	5.60
K_2O	0.34	0.28	0.35	0.40	0.39	0.36	0.31	0.36	0.37	0.37	0.40	0.35	0.38	0.41	0.36	0.35	0.28	0.31	0.28
sum	99.11	98.63	98.86	98.99	98.77	98.87	99.08	99.22	97.14	99.61	98.66	99.67	99.94	99.40	99.25	99.06	99.50	98.55	98.82
mol%An	48.9	47.9	40.0	37.8	38.5	37.5	38.2	38.4	39.5	37.5	37.2	36.6	37.9	38.1	39.2	38.0	44.7	43.4	49.8
mol%Ab	49.2	50.6	58.0	60.0	59.3	60.4	60.0	59.5	58.4	60.4	60.5	61.3	59.9	59.6	58.7	60.0	53.7	54.8	48.6
mol%Or	1.9	1.6	2.0	2.3	2.2	2.1	1.8	2.1	2.2	2.1	2.3	2.0	2.2	2.3	2.0	2.0	1.6	1.8	1.6

Table B.7.14: IXT-21, Plagioclase grain 14

Dist (µm)	30.5	60.9	91.4	122.0	152.5	182.9	213.4	243.9	274.3	304.8	335.4	365.8	396.3	548.7
SiO_2	55.98	56.15	57.11	56.25	56.11	55.90	56.35	54.70	54.88	56.12	57.42	58.31	56.84	54.51
TiO_2	0.03	0.04	0.04	0.04	0.03	0.03	0.04	0.04	0.05	0.02	0.04	0.03	0.03	0.04
Al_2O_3	27.40	27.10	26.81	27.11	27.30	27.58	27.47	28.20	27.73	26.92	26.60	26.02	27.43	28.50
Fe_2O_3	0.47	0.36	0.39	0.40	0.45	0.43	0.37	0.47	0.45	0.38	0.28	0.29	0.34	0.49
MnO	0.00	-0.02	-0.01	0.00	-0.01	-0.01	-0.01	0.01	0.00	0.01	-0.01	0.02	0.04	0.02
MgO	0.03	0.04	0.03	0.03	0.04	0.04	0.02	0.05	0.05	0.02	0.02	0.02	0.02	0.04
CaO	9.63	9.59	9.02	9.63	9.92	9.97	9.51	10.95	10.56	9.69	8.77	8.04	9.77	10.23
BaO	-0.06	-0.04	-0.10	-0.10	-0.05	-0.07	-0.10	-0.06	-0.04	0.00	0.06	0.02	-0.04	-0.04
Na_2O	5.98	6.13	6.37	6.05	5.85	5.73	6.04	5.21	5.52	5.86	6.36	6.71	6.02	5.27
K_2O	0.30	0.27	0.30	0.27	0.24	0.22	0.30	0.25	0.26	0.26	0.35	0.40	0.29	0.26
sum	99.85	99.77	100.17	99.78	100.02	99.98	100.17	99.91	99.53	99.30	99.92	99.91	100.81	99.37
mol%An	46.2	45.6	43.1	46.1	47.7	48.4	45.7	53.0	50.7	47.1	42.4	38.9	46.5	50.9
mol%Ab	52.0	52.8	55.1	52.3	50.9	50.3	52.6	45.6	47.9	51.5	55.6	58.8	51.9	47.5
mol%Or	1.7	1.5	1.7	1.6	1.4	1.2	1.7	1.4	1.5	1.5	2.0	2.3	1.6	1.5

Table B.7.15: IXT-21, Plagioclase grain 15

Dist (µm)	0.0	14.8	44.4	59.2	88.8	103.6	118.4	133.2	148.0	162.8	177.6	192.4	207.2
SiO_2	56.00	54.12	57.45	54.70	57.28	58.15	55.96	55.49	56.66	55.94	58.01	58.21	57.45
TiO_2	0.03	0.05	0.01	0.03	0.03	0.01	0.01	0.02	0.03	0.02	0.02	0.03	0.03
Al_2O_3	26.64	27.59	26.20	26.87	25.66	25.09	26.79	26.55	26.30	26.60	25.53	25.61	26.08
Fe_2O_3	0.48	0.56	0.35	0.54	0.39	0.39	0.43	0.43	0.43	0.42	0.32	0.33	0.51
MnO	-0.01	0.03	-0.01	0.01	-0.02	-0.01	-0.03	-0.01	-0.01	0.00	-0.01	0.00	0.00
MgO	0.03	0.05	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.02
CaO	9.30	10.69	8.34	9.91	8.16	7.50	9.29	9.61	8.84	8.93	7.65	7.83	8.51
BaO	0.07	0.06	0.07	0.08	0.07	0.13	0.12	0.07	0.03	-0.02	0.05	0.02	0.00
Na_2O	6.07	5.21	6.61	5.65	6.71	7.09	6.06	5.86	6.31	6.01	6.94	6.93	6.43
K_2O	0.32	0.31	0.36	0.39	0.34	0.37	0.29	0.27	0.39	0.39	0.39	0.40	0.49
sum	98.99	98.70	99.44	98.20	98.68	98.75	99.03	98.33	99.04	98.38	98.95	99.41	99.56
mol%An	45.0	52.2	40.2	48.1	39.4	36.1	45.1	46.8	42.7	44.1	37.0	37.6	41.0
mol%Ab	53.2	46.0	57.7	49.6	58.6	61.8	53.2	51.6	55.1	53.7	60.8	60.2	56.1
mol%Or	1.8	1.8	2.0	2.2	2.0	2.1	1.7	1.6	2.3	2.3	2.2	2.3	2.8

Table B.7.16: IXT-21, Plagioclase grain 16

Dist (µm)	14.7	44.0	58.7	73.4	88.1	102.8	117.5	132.2	146.8	161.5	176.2	220.3	234.9	249.6	264.3
SiO_2	56.56	55.91	56.83	56.68	58.56	56.77	56.70	56.66	56.25	56.68	57.34	55.27	56.69	56.82	56.32
TiO_2	0.04	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.00	0.01	0.03	0.02	0.03	0.02
Al_2O_3	25.86	26.60	26.47	26.48	25.15	26.39	26.17	26.39	26.12	26.46	25.55	26.84	26.35	26.15	26.65
Fe_2O_3	0.55	0.43	0.35	0.28	0.29	0.31	0.33	0.31	0.32	0.37	0.31	0.40	0.33	0.34	0.38
MnO	0.01	0.00	-0.02	0.00	0.02	-0.01	0.01	0.01	0.00	0.00	0.03	-0.01	0.01	-0.01	0.00
MgO	0.02	0.03	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.04
CaO	8.80	9.58	8.98	8.96	7.58	8.71	8.89	8.80	8.89	9.17	8.20	9.60	8.81	8.58	8.89
BaO	0.02	0.03	0.10	0.11	0.19	0.17	0.08	0.11	0.14	0.14	0.08	0.06	0.03	0.08	0.03
Na_2O	6.37	5.92	6.37	6.38	7.13	6.48	6.27	6.27	6.38	6.27	6.67	5.86	6.29	6.32	6.26
K_2O	0.57	0.30	0.32	0.32	0.38	0.32	0.29	0.31	0.28	0.31	0.34	0.34	0.32	0.35	0.35
sum	98.85	98.87	99.44	99.24	99.32	99.20	98.78	98.89	98.43	99.44	98.56	98.47	98.89	98.77	98.97
mol%An	41.9	46.4	43.0	42.9	36.2	41.8	43.2	42.9	42.8	43.9	39.7	46.6	42.8	42.0	43.1
mol%Ab	54.9	51.9	55.2	55.3	61.6	56.4	55.1	55.3	55.6	54.3	58.4	51.4	55.3	56.0	54.9
mol%Or	3.3	1.7	1.8	1.8	2.2	1.8	1.7	1.8	1.6	1.8	1.9	2.0	1.9	2.1	2.0

Table B.7.17: IXT-21, Plagioclase grain 17

Dist (µm)	0.0	29.9	59.8	119.8	149.7	209.5	239.5	269.4	359.3	389.2	419.1	449.0	478.9	509.0	538.9
SiO_2	56.67	57.29	56.28	55.90	57.17	54.67	57.16	56.37	57.11	56.99	55.86	59.46	58.07	57.36	57.76
TiO_2	0.04	0.02	0.01	0.02	-0.01	0.01	0.00	0.00	0.01	0.01	0.04	0.02	0.04	0.05	0.04
Al_2O_3	26.74	26.32	26.54	27.30	26.12	27.13	26.06	26.86	26.14	27.01	26.77	25.10	25.87	26.16	26.20
Fe_2O_3	0.42	0.32	0.41	0.54	0.32	0.48	0.34	0.39	0.30	0.35	0.41	0.24	0.28	0.29	0.37
MnO	0.00	0.01	0.01	0.01	-0.02	0.01	0.01	0.02	0.00	0.02	0.02	0.03	0.03	0.01	-0.01
MgO	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.04	0.01	0.02	0.03	0.02
CaO	8.97	8.59	9.05	9.62	8.51	10.19	8.43	9.13	8.62	9.50	9.67	7.21	8.36	8.42	8.36
BaO	0.15	0.10	0.10	0.06	0.15	0.10	0.10	0.10	0.06	0.08	0.04	0.07	0.02	0.10	0.12
Na_2O	6.23	6.49	6.03	5.91	6.54	5.58	6.45	6.17	6.57	6.15	5.84	7.38	6.73	6.56	6.61
K_2O	0.33	0.35	0.28	0.42	0.36	0.35	0.39	0.32	0.36	0.29	0.26	0.43	0.35	0.33	0.39
sum	99.65	99.55	98.79	99.80	99.19	98.54	99.00	99.39	99.20	100.41	98.97	99.94	99.75	99.37	99.86
mol%An	43.5	41.4	44.6	46.2	41.0	49.2	41.0	44.2	41.1	45.3	47.0	34.2	39.9	40.7	40.2
mol%Ab	54.6	56.6	53.8	51.4	57.0	48.8	56.7	54.0	56.8	53.1	51.4	63.4	58.1	57.4	57.5
mol%Or	1.9	2.0	1.6	2.4	2.1	2.0	2.3	1.8	2.1	1.7	1.5	2.4	2.0	1.9	2.3

Table B.7.18: IXT-21, Plagioclase grain 18

Dist (µm)	14.8	29.6	44.5	59.3	74.1	88.9	103.7	118.6	133.4	148.2	163.0	177.9	192.7	207.5	222.3	237.2	252.0	266.8	281.6	296.4
SiO_2	58.84	56.37	56.95	55.96	56.22	58.02	57.91	59.01	58.74	57.88	56.33	55.95	56.27	56.40	59.91	57.18	58.56	56.14	56.28	56.58
TiO_2	0.04	0.05	0.04	0.04	0.04	0.03	0.02	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.02	0.03
Al_2O_3	24.97	26.58	26.34	26.82	26.21	25.35	25.43	25.07	25.12	25.55	26.63	26.76	26.86	26.84	24.84	27.00	25.84	26.69	26.58	26.48
Fe_2O_3	0.34	0.30	0.38	0.38	0.32	0.29	0.28	0.31	0.31	0.27	0.30	0.39	0.35	0.31	0.27	0.32	0.33	0.37	0.39	0.39
MnO	0.03	0.01	0.01	0.02	0.03	0.02	-0.01	0.02	0.04	0.02	0.01	-0.01	0.00	0.02	-0.02	-0.02	-0.01	-0.03	-0.04	-0.01
MgO	0.02	0.02	0.03	0.04	0.04	0.02	0.03	0.03	0.02	0.03	0.03	0.05	0.03	0.04	0.02	0.02	0.02	0.02	0.03	0.04
CaO	7.05	8.93	8.92	9.58	8.82	7.83	7.77	7.29	7.57	7.93	9.26	9.27	9.31	9.19	7.01	9.08	7.66	9.00	9.17	9.06
BaO	0.09	0.10	0.14	0.00	0.06	0.09	0.10	0.08	0.12	0.08	-0.01	0.06	0.04	-0.02	0.06	0.07	0.13	0.03	0.06	0.06
Na_2O	7.27	6.31	6.36	5.95	6.36	6.88	6.99	7.27	7.10	6.88	6.00	5.89	6.18	6.21	7.50	6.16	7.03	6.16	6.31	6.21
K_2O	0.48	0.32	0.40	0.41	0.29	0.51	0.50	0.44	0.46	0.41	0.44	0.39	0.30	0.27	0.47	0.31	0.44	0.30	0.33	0.34
sum	99.14	99.01	99.59	99.19	98.48	99.04	99.07	99.54	99.55	99.09	99.05	98.83	99.44	99.32	100.12	100.17	100.07	98.76	99.23	99.27
mol%An	33.9	43.1	42.7	46.0	42.7	37.5	37.0	34.8	36.1	38.0	44.9	45.4	44.6	44.3	33.1	44.1	36.6	43.9	43.7	43.8
mol%Ab	63.3	55.1	55.0	51.7	55.6	59.6	60.2	62.8	61.3	59.7	52.6	52.3	53.6	54.1	64.2	54.1	60.9	54.3	54.4	54.3
mol%Or	2.8	1.8	2.3	2.4	1.7	2.9	2.8	2.5	2.6	2.4	2.5	2.3	1.7	1.5	2.6	1.8	2.5	1.8	1.9	1.9

Table B.7.19: IXT-21, Plagioclase grain 19

Dist (µm)	0.0	14.8	29.7	44.5	59.2	74.0	88.9	103.7	118.5	133.3	148.1	162.9	177.7	192.5	207.4	222.2	237.0	251.8	266.6	281.4
SiO_2	54.33	55.82	55.76	56.08	55.35	57.55	55.81	54.40	55.28	57.00	56.89	58.35	58.15	58.63	57.08	56.59	56.76	55.15	58.23	55.63
TiO_2	0.05	0.03	0.02	0.04	0.02	0.02	0.01	0.02	0.04	0.02	0.04	0.02	0.03	0.01	0.02	0.03	0.02	0.02	0.03	0.05
Al_2O_3	27.80	26.38	27.08	26.54	27.17	26.07	26.75	28.08	27.16	26.54	26.23	25.28	25.61	25.06	26.47	26.47	26.78	27.02	25.43	27.10
Fe_2O_3	0.47	0.42	0.37	0.34	0.46	0.35	0.38	0.53	0.41	0.35	0.35	0.22	0.33	0.37	0.30	0.30	0.34	0.37	0.37	0.44
MnO	0.00	-0.01	0.00	-0.02	0.01	0.01	0.01	0.02	0.02	0.01	-0.02	0.00	-0.01	0.02	-0.02	-0.02	-0.01	-0.03	0.00	-0.01
MgO	0.05	0.03	0.05	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.02	0.03	0.04	0.04	0.02	0.04	0.04	0.04	0.05
CaO	10.69	9.25	9.80	9.47	9.67	8.31	9.68	10.71	9.98	8.96	8.78	7.74	7.92	7.22	9.01	8.89	9.60	9.71	7.78	9.65
BaO	0.06	0.03	0.03	0.08	0.06	0.06	-0.01	0.01	0.02	-0.01	0.09	0.08	0.07	0.12	0.06	0.09	0.07	0.06	0.16	0.06
Na_2O	5.40	6.14	5.89	6.14	5.76	6.74	5.98	5.39	5.83	6.47	6.54	7.01	6.96	7.30	6.36	6.43	6.08	5.89	6.99	5.91
K_2O	0.29	0.31	0.30	0.31	0.29	0.39	0.31	0.32	0.33	0.36	0.32	0.40	0.39	0.43	0.31	0.33	0.31	0.30	0.40	0.27
sum	99.20	98.41	99.32	99.04	98.85	99.58	98.99	99.58	99.11	99.74	99.30	99.12	99.52	99.25	99.69	99.16	100.00	98.55	99.42	99.16
mol%An	51.4	44.6	47.1	45.2	47.3	39.6	46.4	51.4	47.7	42.5	41.8	37.1	37.8	34.5	43.1	42.5	45.8	46.9	37.2	46.7
mol%Ab	46.9	53.6	51.2	53.1	51.0	58.2	51.8	46.8	50.4	55.5	56.3	60.7	60.0	63.1	55.1	55.6	52.5	51.4	60.6	51.7
mol%Or	1.7	1.8	1.7	1.8	1.7	2.2	1.8	1.8	1.9	2.0	1.8	2.3	2.2	2.4	1.8	1.9	1.7	1.7	2.3	1.6

Table B.7.20: IXT-21, Plagioclase grain 20

Dist (µm)	15.3	30.6	45.9	61.2	76.5	91.8	107.1	122.4	137.7	153.0	168.3	183.6	199.0	214.3	229.6	244.9	260.2	275.5	290.8
SiO_2	55.95	55.89	55.84	54.70	55.14	54.48	54.46	54.77	54.32	55.09	55.57	55.29	55.14	54.35	55.41	53.71	53.88	54.49	56.42
TiO_2	0.07	0.08	0.07	0.06	0.05	0.04	0.06	0.07	0.07	0.06	0.06	0.06	0.05	0.07	0.08	0.07	0.05	0.07	0.08
Al_2O_3	26.35	26.37	26.46	26.96	27.63	27.85	27.67	27.80	27.74	27.29	27.15	27.29	27.65	27.31	27.70	27.69	27.68	27.79	26.09
Fe_2O_3	0.79	0.68	0.67	0.59	0.66	0.60	0.60	0.64	0.65	0.64	0.58	0.59	0.60	0.63	0.64	0.70	0.58	0.60	0.79
MnO	0.00	0.00	-0.02	0.04	0.04	0.02	0.04	0.04	0.02	0.04	0.01	0.03	0.01	0.01	0.06	0.02	-0.01	0.01	0.04
MgO	0.10	0.09	0.09	0.09	0.09	0.07	0.06	0.07	0.07	0.07	0.07	0.05	0.08	0.07	0.06	0.06	0.07	0.06	0.07
CaO	9.20	9.07	9.42	10.00	10.38	10.72	10.50	10.82	10.76	10.17	9.85	9.82	10.27	10.28	10.56	10.95	10.89	10.66	8.91
BaO	0.14	0.16	0.13	0.06	0.04	0.01	0.05	0.02	0.04	0.09	0.07	0.01	-0.02	0.04	0.04	0.02	0.02	-0.01	0.04
Na_2O	6.07	6.10	5.99	5.79	5.57	5.38	5.40	5.38	5.29	5.61	5.81	5.71	5.69	5.45	5.52	5.15	5.22	5.43	6.24
K_2O	0.43	0.39	0.32	0.27	0.24	0.22	0.22	0.20	0.23	0.28	0.26	0.24	0.26	0.32	0.28	0.34	0.24	0.24	0.43
sum	99.14	98.84	99.04	98.55	99.84	99.42	99.09	99.86	99.20	99.34	99.44	99.11	99.75	98.57	100.40	98.78	98.68	99.36	99.18
mol%An	44.5	44.1	45.6	48.1	50.0	51.8	51.1	52.0	52.2	49.3	47.7	48.0	49.2	50.1	50.6	53.0	52.8	51.3	43.0
mol%Ab	53.1	53.6	52.5	50.4	48.6	47.0	47.6	46.8	46.5	49.1	50.9	50.6	49.3	48.0	47.8	45.1	45.8	47.3	54.5
mol%Or	2.5	2.3	1.8	1.5	1.4	1.2	1.3	1.2	1.3	1.6	1.5	1.4	1.5	1.9	1.6	1.9	1.4	1.4	2.5

Table B.7.21: IXT-21, Plagioclase grain 21

Dist (µm)	0.0	15.1	30.2	45.3	60.4	75.5	90.6	105.7	120.8	135.8	151.0	166.1	181.2	196.3	211.4	226.5	241.5	256.7	271.8
SiO_2	56.30	55.18	54.19	54.15	54.97	54.72	55.02	54.65	55.11	55.09	55.00	55.18	54.40	55.52	54.54	54.69	53.46	54.21	54.46
TiO_2	0.09	0.09	0.08	0.07	0.07	0.07	0.03	0.05	0.05	0.05	0.05	0.06	0.04	0.05	0.04	0.05	0.07	0.05	0.04
Al_2O_3	26.49	27.55	28.27	27.75	27.61	27.67	27.56	27.47	27.42	27.41	27.43	27.19	27.03	26.94	27.64	27.77	27.99	27.68	27.77
Fe_2O_3	0.77	0.74	0.67	0.63	0.66	0.59	0.65	0.54	0.66	0.68	0.66	0.64	0.65	0.57	0.60	0.61	0.64	0.70	0.73
MnO	-0.01	-0.01	0.00	-0.01	-0.02	-0.03	0.02	0.01	0.05	0.01	0.02	0.01	0.02	0.00	0.03	0.01	0.01	0.02	-0.01
MgO	0.07	0.09	0.07	0.08	0.08	0.10	0.05	0.05	0.06	0.04	0.07	0.04	0.05	0.06	0.03	0.04	0.05	0.05	0.07
CaO	9.27	10.12	11.18	10.65	10.11	10.36	10.41	10.51	10.11	10.25	10.17	9.84	10.07	9.58	10.27	10.45	11.02	10.61	10.63
BaO	0.05	0.05	-0.02	0.03	0.01	0.01	0.00	-0.03	0.02	-0.04	-0.04	-0.02	-0.01	-0.02	-0.01	-0.03	0.09	0.08	0.01
Na_2O	6.07	5.60	5.13	5.37	5.73	5.46	5.51	5.48	5.58	5.71	5.65	5.78	5.63	5.97	5.51	5.46	5.16	5.28	5.34
K_2O	0.46	0.26	0.19	0.22	0.28	0.21	0.22	0.25	0.28	0.40	0.27	0.29	0.31	0.28	0.32	0.29	0.27	0.32	0.27
sum	99.59	99.71	99.82	99.03	99.56	99.22	99.47	99.02	99.32	99.63	99.35	99.08	98.20	99.01	98.98	99.38	98.82	99.08	99.34
mol%An	44.6	49.2	54.0	51.6	48.6	50.5	50.4	50.7	49.2	48.7	49.1	47.6	48.8	46.2	49.8	50.5	53.3	51.7	51.6
mol%Ab	52.8	49.3	44.9	47.1	49.8	48.2	48.3	47.9	49.2	49.1	49.4	50.7	49.4	52.1	48.4	47.8	45.2	46.5	46.9
mol%Or	2.6	1.5	1.1	1.3	1.6	1.2	1.3	1.4	1.6	2.3	1.6	1.7	1.8	1.6	1.8	1.7	1.5	1.8	1.6

Table B.7.21 (cntd): IXT-21, Plag grain 21

Dist (µm)	286.9	301.9	317.1
SiO_2	53.35	53.06	55.37
TiO_2	0.06	0.05	0.06
Al_2O_3	28.24	28.21	27.04
Fe_2O_3	0.69	0.75	0.69
MnO	-0.01	0.02	0.01
MgO	0.06	0.08	0.07
CaO	10.99	11.50	10.00
BaO	0.07	0.04	0.07
Na_2O	5.16	5.04	5.85
K_2O	0.24	0.20	0.26
sum	98.88	99.06	99.43
mol%An	53.3	55.1	47.8
mol%Ab	45.3	43.7	50.7
mol%Or	1.4	1.1	1.5

Table B.7.22: IXT-21, Plagioclase grain 22

Dist (µm)	0.0	15.1	30.2	45.4	60.5	75.6	136.1	151.2	196.6	211.7	226.8	241.9	257.1	287.3	317.5	332.7
SiO_2	56.08	56.83	58.98	56.09	57.07	55.59	57.09	56.41	55.98	55.97	54.76	56.79	56.94	55.82	55.65	55.00
TiO_2	0.02	0.01	0.00	0.03	0.02	0.03	0.03	0.04	0.05	0.05	0.02	0.05	0.04	0.04	0.04	0.04
Al_2O_3	26.66	26.04	24.85	26.50	26.13	26.84	26.30	26.83	27.07	26.91	25.56	26.43	26.18	26.95	27.29	27.49
Fe_2O_3	0.45	0.33	0.27	0.30	0.37	0.34	0.31	0.35	0.40	0.37	0.38	0.33	0.53	0.39	0.47	0.46
MnO	0.01	0.00	-0.03	0.02	-0.01	0.02	0.00	0.02	0.01	0.04	0.03	0.02	0.01	0.03	0.03	0.02
MgO	0.02	0.02	0.02	0.04	0.01	0.04	0.02	0.03	0.03	0.03	0.02	0.03	0.04	0.03	0.03	0.05
CaO	9.44	8.61	7.28	9.01	8.63	9.43	8.56	9.13	9.70	9.62	8.84	8.91	8.85	9.46	9.87	9.96
BaO	0.07	0.08	0.12	0.08	0.03	0.10	0.06	0.05	0.05	0.00	0.02	0.03	0.07	0.05	0.02	0.00
Na_2O	6.08	6.52	7.33	6.26	6.49	5.96	6.53	6.16	5.84	6.01	5.84	6.30	6.32	5.96	5.74	5.61
K_2O	0.33	0.36	0.47	0.30	0.34	0.37	0.39	0.36	0.34	0.34	0.31	0.34	0.49	0.29	0.33	0.32
sum	99.16	98.82	99.34	98.67	99.18	98.71	99.34	99.39	99.50	99.37	95.82	99.27	99.49	99.09	99.47	98.98
mol%An	45.3	41.4	34.5	43.5	41.5	45.7	41.0	44.1	46.9	46.0	44.7	43.0	42.4	45.9	47.8	48.6
mol%Ab	52.8	56.6	62.8	54.8	56.5	52.2	56.7	53.8	51.1	52.0	53.4	55.0	54.8	52.4	50.3	49.5
mol%Or	1.9	2.0	2.7	1.7	2.0	2.1	2.2	2.1	1.9	1.9	1.9	2.0	2.8	1.7	1.9	1.9

Table B.7.23: IXT-21, Plagioclase grain 23

Dist (µm)	0.0	30.7	61.3	92.0	122.7	153.3	184.0	214.7	245.3	306.7	337.3
SiO_2	55.40	55.20	55.34	55.24	56.64	54.95	55.63	58.94	55.25	56.75	55.69
TiO_2	0.05	0.03	0.03	0.04	0.03	0.04	0.02	0.01	0.04	0.04	0.03
Al_2O_3	26.91	27.51	27.11	27.27	26.80	27.55	27.05	25.10	27.32	26.76	27.16
Fe_2O_3	0.58	0.43	0.42	0.44	0.32	0.45	0.43	0.26	0.47	0.47	0.45
MnO	0.03	0.01	0.00	0.02	0.02	0.02	-0.01	-0.01	0.02	0.01	-0.02
MgO	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.02	0.04	0.03	0.03
CaO	9.77	10.10	9.89	10.13	9.18	10.16	9.83	7.20	10.17	9.15	9.84
BaO	0.02	0.00	-0.03	0.00	0.03	-0.02	0.01	0.09	0.03	-0.05	0.01
Na_2O	5.78	5.84	5.80	5.86	6.36	5.70	5.89	7.25	5.56	6.15	5.85
K_2O	0.32	0.28	0.27	0.27	0.31	0.27	0.27	0.43	0.24	0.33	0.27
sum	98.92	99.46	98.89	99.31	99.74	99.24	99.21	99.30	99.15	99.69	99.38
mol%An	47.4	48.1	47.8	48.1	43.6	48.9	47.2	34.5	49.6	44.3	47.4
mol%Ab	50.8	50.3	50.7	50.3	54.7	49.6	51.3	63.0	49.1	53.8	51.0
mol%Or	1.8	1.6	1.5	1.5	1.7	1.5	1.5	2.4	1.4	1.9	1.6

Table B.7.24: IXT-21, Plagioclase grain 24

Dist (µm)	0.0	29.4	58.6	88.0	117.2	146.6	175.8	263.8	322.4	351.6	381.0	410.2	439.6	468.8	498.2	527.4	556.8	586.0
SiO_2	54.18	54.95	57.23	55.58	54.57	57.06	57.21	59.04	58.35	55.96	55.32	54.47	57.48	54.45	57.55	57.95	58.02	56.63
TiO_2	0.04	0.04	0.01	0.01	0.02	0.02	0.03	0.00	0.01	0.04	0.02	0.00	0.00	0.02	0.00	0.02	0.04	0.05
Al_2O_3	28.12	27.61	26.02	27.13	27.70	26.36	25.78	25.78	25.30	27.24	27.59	27.98	26.32	28.04	26.32	26.11	25.71	26.66
Fe_2O_3	0.48	0.49	0.35	0.40	0.47	0.33	0.29	0.26	0.22	0.40	0.45	0.44	0.25	0.44	0.29	0.32	0.36	0.38
MnO	-0.01	0.01	0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	-0.01	0.01	-0.01	0.00	0.00	-0.03	0.06	0.03	0.01
MgO	0.05	0.05	0.03	0.04	0.05	0.02	0.01	0.02	0.02	0.05	0.06	0.06	0.03	0.05	0.01	0.01	0.03	0.04
CaO	11.08	10.36	8.07	9.67	10.48	8.61	8.51	7.46	7.52	9.57	10.14	10.68	8.53	10.56	8.35	8.13	7.84	9.10
BaO	0.00	0.04	0.05	0.01	0.01	0.09	0.05	0.09	0.08	0.06	0.00	-0.02	0.10	0.03	0.06	0.07	0.13	0.09
Na_2O	5.34	5.58	6.65	6.05	5.38	6.45	6.66	7.10	7.07	5.90	5.74	5.35	6.58	5.34	6.62	6.84	6.79	6.05
K_2O	0.25	0.25	0.52	0.29	0.27	0.44	0.37	0.39	0.41	0.31	0.25	0.25	0.33	0.23	0.37	0.37	0.36	0.27
sum	99.79	99.43	98.95	99.21	99.03	99.45	98.93	100.20	99.00	99.55	99.58	99.29	99.67	99.16	99.58	99.92	99.32	99.35
mol%An	52.7	49.9	38.9	46.1	51.0	41.4	40.5	35.9	36.2	46.4	48.7	51.7	41.0	51.6	40.2	38.8	38.2	44.7
mol%Ab	45.9	48.7	58.1	52.2	47.4	56.1	57.4	61.8	61.5	51.8	49.9	46.9	57.1	47.1	57.7	59.1	59.8	53.7
mol%Or	1.4	1.5	3.0	1.6	1.5	2.5	2.1	2.2	2.3	1.8	1.4	1.4	1.9	1.3	2.1	2.1	2.1	1.6

Table B.7.25: IXT-21, Plagioclase grain 25

Dist (µm)	0.0	14.8	29.7	59.3	74.2	89.0	103.8	118.7	133.6	148.5	163.3	178.1	193.0	207.8	222.6	237.5	252.3
SiO_2	55.49	55.92	56.61	56.15	56.11	56.58	54.67	54.26	54.12	56.68	56.24	56.56	57.43	57.08	56.38	57.05	56.71
TiO_2	0.04	0.04	0.09	0.05	0.05	0.03	0.05	0.05	0.05	0.02	0.01	0.02	0.02	0.01	0.04	0.03	0.03
Al_2O_3	27.18	27.01	25.96	26.83	26.85	26.75	27.44	28.14	27.72	27.17	26.78	26.38	26.41	26.30	26.78	26.66	26.77
Fe_2O_3	0.49	0.46	0.68	0.35	0.42	0.39	0.59	0.48	0.50	0.34	0.39	0.32	0.43	0.41	0.41	0.47	0.48
MnO	0.01	0.03	0.02	0.02	0.02	0.01	0.02	0.04	0.01	0.00	0.03	0.03	0.01	0.00	0.00	0.02	0.02
MgO	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.06	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.06	0.04
CaO	9.79	9.36	8.70	9.39	9.41	9.19	10.31	10.90	10.92	9.40	9.37	8.92	8.96	8.59	8.93	8.81	9.32
BaO	0.07	0.00	0.07	0.04	0.04	0.11	0.04	0.01	0.06	0.05	0.07	0.02	0.05	0.12	0.06	0.03	0.09
Na_2O	5.87	6.07	6.08	6.07	6.16	6.21	5.56	5.34	5.40	6.17	6.21	6.38	6.48	6.44	6.31	6.57	6.10
K_2O	0.31	0.29	0.58	0.34	0.32	0.33	0.35	0.25	0.24	0.28	0.25	0.33	0.43	0.33	0.31	0.31	0.36
sum	99.38	99.28	98.82	99.34	99.51	99.69	99.07	99.54	99.10	100.15	99.41	99.01	100.27	99.35	99.26	100.01	100.02
mol%An	47.1	45.2	42.7	45.2	45.0	44.2	49.6	52.3	52.1	45.0	44.8	42.7	42.3	41.6	43.1	41.8	44.8
mol%Ab	51.1	53.1	53.9	52.9	53.2	53.9	48.4	46.3	46.6	53.4	53.8	55.3	55.3	56.5	55.1	56.4	53.1
mol%Or	1.8	1.7	3.4	1.9	1.8	1.9	2.0	1.4	1.4	1.6	1.4	1.9	2.4	1.9	1.8	1.7	2.1

Table B.7.26: IXT-21, Plagioclase grain 26

Dist (µm)	0.0	30.4	60.8	91.2	121.6	152.1	182.5	212.9	243.3	304.1	395.3	425.8	517.0
SiO_2	54.95	56.61	55.22	55.31	56.59	55.67	56.81	55.54	58.24	56.40	56.59	56.16	57.23
TiO_2	0.05	0.03	0.05	0.04	0.03	0.05	0.03	0.03	0.03	-0.01	-0.01	0.00	0.00
Al_2O_3	26.98	25.87	27.26	27.23	26.23	26.69	26.48	27.18	25.59	26.83	26.77	27.08	26.08
Fe_2O_3	0.44	0.35	0.39	0.41	0.32	0.35	0.32	0.42	0.36	0.43	0.42	0.40	0.43
MnO	0.02	0.01	-0.02	-0.01	-0.02	-0.01	-0.01	0.00	-0.01	0.00	-0.02	-0.02	-0.02
MgO	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.04	0.02	0.03	0.03	0.03	0.03
CaO	9.60	8.58	9.60	9.96	8.92	9.61	8.82	9.91	7.82	9.09	8.97	9.17	8.35
BaO	0.11	0.16	0.11	0.10	0.09	0.06	0.05	0.08	0.11	-0.15	-0.16	-0.12	-0.14
Na_2O	5.83	6.33	5.87	5.63	6.43	5.97	6.09	5.77	6.89	6.32	6.27	6.14	6.64
K_2O	0.30	0.34	0.34	0.30	0.33	0.29	0.33	0.30	0.43	0.33	0.38	0.31	0.36
sum	98.34	98.35	98.93	99.08	98.98	98.75	98.99	99.29	99.53	99.43	99.42	99.31	99.14
mol%An	46.8	42.0	46.5	48.6	42.6	46.3	43.6	47.9	37.6	43.5	43.2	44.4	40.2
mol%Ab	51.5	56.1	51.5	49.7	55.5	52.0	54.4	50.4	60.0	54.7	54.6	53.8	57.8
mol%Or	1.7	2.0	1.9	1.8	1.9	1.6	2.0	1.7	2.4	1.9	2.2	1.8	2.0

Table B.7.27: IXT-21, Plagioclase grain 27

Dist (µm)	0.0	61.4	122.8	184.2	245.6	307.0	368.4	491.1	552.6	613.9	675.4	736.7	798.2
SiO_2	55.84	55.65	55.99	56.27	58.26	57.26	56.15	55.98	55.66	56.61	56.03	56.94	56.20
TiO_2	0.01	0.02	0.03	0.02	0.02	0.03	0.02	0.04	0.03	0.04	0.03	0.01	0.05
Al_2O_3	27.35	27.11	26.94	26.75	25.73	26.15	26.83	27.10	27.17	26.48	26.83	26.51	26.70
Fe_2O_3	0.48	0.42	0.38	0.36	0.34	0.30	0.41	0.43	0.44	0.35	0.38	0.38	0.40
MnO	-0.02	0.02	0.01	-0.01	0.00	0.00	0.02	0.02	-0.01	0.00	0.00	0.02	0.01
MgO	0.02	0.04	0.05	0.04	0.03	0.04	0.05	0.04	0.05	0.04	0.03	0.02	0.03
CaO	9.76	9.53	9.28	9.13	7.89	8.36	9.47	9.57	9.58	9.07	9.42	9.05	9.38
BaO	-0.15	0.06	0.08	0.05	0.09	0.10	0.05	0.08	0.05	0.11	0.01	0.05	0.06
Na_2O	6.00	5.91	6.41	6.18	7.03	6.63	5.99	5.99	5.96	6.39	6.11	6.32	6.12
K_2O	0.31	0.28	0.30	0.32	0.40	0.36	0.32	0.37	0.30	0.34	0.29	0.35	0.31
sum	99.83	99.05	99.46	99.11	99.81	99.23	99.31	99.62	99.24	99.46	99.16	99.68	99.27
mol%An	46.5	46.4	43.7	44.1	37.4	40.2	45.8	45.9	46.2	43.1	45.2	43.3	45.1
mol%Ab	51.7	52.0	54.6	54.0	60.3	57.7	52.4	52.0	52.1	55.0	53.1	54.7	53.1
mol%Or	1.7	1.6	1.7	1.8	2.3	2.0	1.9	2.1	1.7	1.9	1.7	2.0	1.8

Table B.7.28: IXT-21, Plagioclase grain 28

Dist (µm)	0.0	30.7	61.4	276.6	338.0	368.7	399.5	430.1	460.9	491.6
SiO_2	56.82	54.35	54.95	56.37	53.29	57.02	54.62	54.95	53.62	53.84
TiO_2	0.06	0.03	0.02	0.09	0.05	0.10	0.05	0.05	0.05	0.03
Al_2O_3	26.54	27.44	27.18	26.13	28.59	25.59	27.94	27.54	27.98	28.35
Fe_2O_3	0.74	0.48	0.48	0.78	0.52	0.67	0.55	0.54	0.52	0.55
MnO	0.02	0.04	0.01	0.01	0.00	0.00	0.03	0.02	0.00	0.01
MgO	0.04	0.05	0.04	0.08	0.07	0.06	0.06	0.06	0.05	0.07
CaO	9.27	10.14	9.88	9.02	11.49	8.31	10.56	10.19	10.80	11.38
BaO	0.07	0.03	0.00	-0.03	0.06	0.04	0.00	0.01	0.02	0.03
Na_2O	6.31	5.38	5.73	6.26	4.78	6.73	5.32	5.41	5.07	5.05
K_2O	0.45	0.25	0.27	0.51	0.25	0.54	0.26	0.25	0.23	0.23
sum	100.33	98.20	98.59	99.30	99.13	99.12	99.42	99.04	98.36	99.52
mol%An	43.7	50.3	48.0	43.1	56.2	39.3	51.5	50.2	53.3	54.7
mol%Ab	53.8	48.3	50.4	54.1	42.3	57.6	46.9	48.3	45.3	43.9
mol%Or	2.5	1.5	1.6	2.9	1.5	3.0	1.5	1.5	1.3	1.3

Table B.7.29: IXT-21, Plagioclase grain 29

Dist (µm)	61.7	123.4	185.2	246.9	308.6	370.3	432.1	493.7	555.4	617.1	678.9	740.6	802.3
SiO_2	56.04	55.75	55.83	56.03	56.50	56.79	56.76	57.09	56.09	56.53	55.43	55.17	59.81
TiO_2	0.01	0.03	0.02	0.02	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.01	0.10
Al_2O_3	26.79	26.90	26.82	26.78	26.48	26.47	26.61	26.00	26.76	26.49	26.85	27.47	25.34
Fe_2O_3	0.35	0.37	0.36	0.31	0.30	0.34	0.32	0.25	0.36	0.40	0.43	0.41	0.76
MnO	0.00	-0.01	-0.02	0.01	-0.01	0.01	-0.02	0.01	-0.01	0.01	0.00	0.00	-0.01
MgO	0.03	0.04	0.03	0.03	0.04	0.05	0.04	0.03	0.03	0.03	0.04	0.03	0.03
CaO	9.40	9.55	9.32	9.31	8.84	8.93	8.82	8.38	9.27	9.38	9.89	10.06	7.91
BaO	0.11	0.09	0.06	0.05	0.08	0.09	0.11	0.14	0.09	0.03	0.04	0.05	0.08
Na_2O	6.22	6.13	6.14	6.30	6.39	6.36	6.45	6.60	6.04	6.26	5.83	5.89	6.85
K_2O	0.29	0.28	0.27	0.33	0.30	0.36	0.32	0.34	0.31	0.33	0.27	0.26	0.63
sum	99.27	99.13	98.86	99.21	98.96	99.48	99.50	98.83	98.97	99.50	98.84	99.41	101.54
mol%An	44.8	45.5	44.9	44.1	42.6	42.8	42.2	40.5	45.0	44.4	47.7	47.9	37.5
mol%Ab	53.6	52.9	53.5	54.0	55.7	55.2	55.9	57.6	53.1	53.7	50.8	50.7	58.9
mol%Or	1.6	1.6	1.6	1.9	1.7	2.0	1.8	1.9	1.8	1.8	1.5	1.5	3.6

Table B.7.30: IXT-21, Plagioclase grain 30

Dist (µm)	0.0	29.4	58.9	88.3	117.8	147.2	176.6	206.0	235.5	264.9	294.4	323.8	353.3	382.7	412.2	441.6	500.5	529.9	559.3	588.8
SiO_2	56.26	56.77	57.40	57.75	56.99	58.02	57.42	57.32	57.42	57.49	57.70	57.35	57.63	57.39	55.95	57.00	57.35	57.39	57.32	56.85
TiO_2	0.01	0.01	0.01	0.00	0.01	0.03	0.01	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.03	0.03	0.05	0.02	0.01	0.08
Al_2O_3	26.57	26.09	26.12	26.11	25.92	26.03	25.74	25.84	25.93	26.10	25.94	25.94	26.04	26.17	26.66	26.36	25.98	26.06	26.37	26.25
Fe_2O_3	0.40	0.34	0.37	0.34	0.30	0.32	0.34	0.35	0.32	0.35	0.37	0.35	0.37	0.37	0.63	0.41	0.36	0.38	0.40	0.63
MnO	-0.01	0.00	-0.01	-0.03	0.00	-0.01	0.01	-0.01	-0.01	-0.01	0.02	-0.01	0.00	0.00	-0.01	-0.01	-0.02	-0.01	-0.01	0.01
MgO	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.03	0.04	0.05	0.05	0.04	0.03	0.03	0.03	0.03
CaO	9.00	8.53	8.44	8.29	8.24	8.31	8.38	8.29	8.45	8.18	8.31	8.23	8.29	8.41	9.44	8.66	8.29	8.49	8.62	8.73
BaO	0.07	0.06	0.02	0.11	0.07	0.03	-0.02	0.07	0.04	0.04	0.07	0.08	-0.01	0.02	0.04	0.16	0.13	0.19	0.15	0.09
Na_2O	6.23	6.49	6.61	6.75	6.74	6.78	6.71	6.74	6.65	6.72	6.70	6.67	6.74	6.73	5.82	6.42	6.62	6.64	6.51	6.24
K_2O	0.36	0.30	0.32	0.33	0.37	0.36	0.33	0.33	0.35	0.35	0.34	0.37	0.38	0.36	0.48	0.37	0.37	0.39	0.37	0.31
sum	98.94	98.69	99.35	99.71	98.69	99.91	98.99	98.97	99.20	99.27	99.48	99.03	99.50	99.50	99.09	99.52	99.20	99.62	99.79	99.21
mol%An	43.5	41.3	40.6	39.7	39.5	39.6	40.1	39.7	40.4	39.4	39.9	39.7	39.6	40.0	46.0	41.8	40.0	40.5	41.4	42.8
mol%Ab	54.5	56.9	57.5	58.4	58.4	58.4	58.0	58.4	57.6	58.6	58.2	58.2	58.3	58.0	51.3	56.1	57.8	57.3	56.5	55.4
mol%Or	2.1	1.7	1.8	1.9	2.1	2.0	1.9	1.9	2.0	2.0	1.9	2.1	2.1	2.0	2.8	2.1	2.1	2.2	2.1	1.8

Table B.7.31: IXT-21, Plagioclase grain 31

Dist (µm)	29.9	59.9	89.8	119.6	149.5	179.5	209.4	239.3	269.3	299.2	329.0	359.0	388.9
SiO_2	53.80	54.50	54.49	55.03	54.46	52.59	54.95	54.79	50.57	54.85	54.86	54.56	54.05
TiO_2	0.07	0.08	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.07	0.07	0.06
Al_2O_3	27.83	27.55	27.52	27.70	27.55	26.36	27.72	27.63	25.63	27.52	27.67	27.67	27.91
Fe_2O_3	0.61	0.60	0.61	0.55	0.61	0.57	0.56	0.57	0.55	0.56	0.61	0.59	0.57
MnO	0.01	0.02	0.01	0.00	0.01	-0.01	0.00	-0.01	0.02	-0.01	0.00	0.00	0.00
MgO	0.07	0.09	0.08	0.08	0.07	0.06	0.06	0.07	0.07	0.08	0.07	0.07	0.08
CaO	10.79	10.49	10.48	10.43	10.63	10.08	10.70	10.27	10.03	10.56	10.67	10.52	11.28
BaO	0.11	0.09	0.08	0.03	0.00	0.08	-0.02	0.07	0.04	-0.02	0.02	0.03	0.02
Na_2O	5.20	5.42	5.39	5.47	5.37	5.35	5.41	5.52	4.82	5.47	5.43	5.43	5.08
K_2O	0.23	0.25	0.22	0.25	0.22	0.22	0.25	0.25	0.23	0.25	0.24	0.24	0.22
sum	98.78	99.11	98.98	99.64	99.01	95.38	99.76	99.26	92.01	99.36	99.63	99.18	99.28
mol%An	52.7	51.0	51.1	50.6	51.6	50.3	51.5	49.9	52.7	50.9	51.3	51.0	54.4
mol%Ab	46.0	47.6	47.6	48.0	47.2	48.4	47.1	48.6	45.8	47.7	47.3	47.6	44.3
mol%Or	1.4	1.4	1.3	1.4	1.3	1.3	1.4	1.5	1.4	1.4	1.3	1.4	1.3

Table B.7.32: IXT-21, Plagioclase grain 32

Dist (µm)	0.0	30.0	60.0	90.1	120.2	150.2	180.2	210.3	240.3	270.3	300.3	360.5	390.5	450.5	510.6	540.6	570.6	600.7	630.7	660.8
SiO_2	55.06	56.45	56.37	56.86	57.41	56.35	57.39	57.46	54.84	55.43	57.56	56.58	55.92	56.61	57.68	56.41	57.45	57.06	56.44	56.83
TiO_2	0.04	0.04	0.04	0.04	0.01	0.03	0.02	0.04	0.04	0.03	0.01	0.05	0.03	0.04	0.05	0.04	0.03	0.04	0.06	0.04
Al_2O_3	27.31	26.76	26.64	26.51	26.18	26.96	26.47	26.46	27.97	27.51	25.82	26.01	27.73	26.89	26.19	26.24	26.79	26.58	26.67	26.75
Fe_2O_3	0.45	0.37	0.34	0.34	0.31	0.32	0.29	0.36	0.49	0.47	0.31	0.72	0.42	0.30	0.28	0.27	0.28	0.32	0.36	0.34
MnO	0.00	0.01	-0.02	0.02	0.00	0.00	-0.02	0.00	-0.02	-0.01	-0.03	0.00	0.00	0.00	0.02	0.02	0.03	0.04	0.01	0.03
MgO	0.04	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.04	0.04	0.03	0.07	0.04	0.12	0.12	0.11	0.11	0.11	0.11	0.11
CaO	10.00	9.25	9.10	8.85	8.41	9.32	8.57	8.73	10.50	9.85	8.49	9.05	10.21	9.47	8.56	8.86	8.90	8.70	8.97	9.05
BaO	0.06	0.05	0.04	0.05	0.11	0.08	0.06	0.07	0.05	0.09	0.04	0.05	0.03	0.08	0.00	0.04	0.04	0.02	0.06	0.05
Na_2O	5.75	6.15	6.30	6.49	6.68	6.16	6.50	6.47	5.52	5.74	6.70	6.23	5.66	6.41	6.82	6.51	6.69	6.66	6.59	6.53
K_2O	0.24	0.33	0.32	0.31	0.34	0.29	0.33	0.33	0.27	0.34	0.42	0.54	0.35	0.32	0.41	0.33	0.33	0.36	0.34	0.34
sum	98.97	99.48	99.19	99.56	99.55	99.67	99.74	100.04	99.79	99.62	99.46	99.41	100.48	100.28	100.17	98.83	100.66	99.89	99.66	100.10
mol%An	48.3	44.5	43.6	42.2	40.3	44.8	41.4	41.9	50.4	47.7	40.2	43.2	48.9	44.1	40.0	42.1	41.6	41.1	42.1	42.5
mol%Ab	50.3	53.6	54.6	56.0	57.8	53.6	56.7	56.2	48.0	50.3	57.4	53.7	49.1	54.1	57.7	56.0	56.6	56.9	56.0	55.6
mol%Or	1.4	1.9	1.8	1.8	1.9	1.6	1.9	1.9	1.5	2.0	2.3	3.1	2.0	1.8	2.3	1.9	1.9	2.0	1.9	1.9

Table B.7.33: IXT-21, Plagioclase grain 33

Dist (µm)	120.9	241.7	604.4	725.4	967.1	1088.1	1209.0	1329.8	1450.8	1571.7	1692.5
SiO_2	58.17	53.77	54.94	58.62	56.78	55.29	55.86	56.74	55.70	56.57	56.12
TiO_2	0.01	0.03	0.01	0.05	-0.01	0.00	0.03	0.01	0.03	0.02	0.02
Al_2O_3	25.77	27.95	27.61	24.37	26.54	26.59	26.83	26.25	26.67	26.84	26.25
Fe_2O_3	0.39	0.54	0.45	0.67	0.36	0.42	0.37	0.38	0.32	0.33	0.38
MnO	0.00	0.02	0.01	0.00	0.00	0.00	-0.01	0.01	-0.01	-0.01	0.02
MgO	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.02	0.04	0.04	0.03
CaO	8.05	10.81	10.25	6.91	8.71	9.33	9.37	8.84	9.19	9.18	9.15
BaO	0.03	0.02	0.07	0.06	0.07	0.04	0.02	0.04	0.02	0.06	-0.01
Na_2O	6.81	5.04	5.50	7.32	6.46	5.87	6.19	6.41	6.64	6.29	6.06
K_2O	0.39	0.32	0.28	0.65	0.31	0.31	0.31	0.32	0.31	0.32	0.30
sum	99.67	98.61	99.24	98.74	99.27	97.92	99.07	99.03	98.94	99.64	98.38
mol%An	38.6	53.2	49.9	33.0	41.9	45.9	44.7	42.5	42.6	43.9	44.7
mol%Ab	59.2	44.9	48.5	63.3	56.3	52.3	53.5	55.7	55.7	54.3	53.6
mol%Or	2.2	1.9	1.6	3.7	1.8	1.8	1.8	1.9	1.7	1.8	1.7

Table B.7.34: IXT-21, Plagioclase grain 34

Dist (µm)	0.0	15.5	30.9	46.4	77.3	108.2	123.7	139.2	154.6	170.1	185.5	201.0
SiO_2	56.79	55.65	57.22	56.73	58.63	56.36	56.71	56.15	57.68	57.05	56.58	56.70
TiO_2	0.05	0.01	0.04	0.02	0.05	0.03	0.02	0.02	0.01	0.02	0.02	0.03
Al_2O_3	26.46	25.75	26.77	26.79	25.18	26.63	26.54	26.53	26.45	26.45	26.80	26.85
Fe_2O_3	0.34	0.36	0.34	0.30	0.67	0.34	0.36	0.41	0.35	0.31	0.37	0.37
MnO	0.00	0.01	0.01	0.03	0.02	0.01	0.04	0.04	0.02	0.00	0.03	0.00
MgO	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.02
CaO	8.89	8.59	8.75	9.11	7.81	9.05	8.96	9.08	8.50	8.66	9.03	9.06
BaO	0.06	0.03	0.06	0.00	0.06	0.02	0.03	-0.01	0.06	0.09	0.13	0.08
Na_2O	6.38	6.15	6.38	6.34	6.40	6.38	6.38	6.20	6.66	6.41	6.28	6.35
K_2O	0.34	0.33	0.35	0.29	1.19	0.36	0.33	0.34	0.37	0.32	0.33	0.36
sum	99.40	96.92	99.96	99.63	100.07	99.21	99.39	98.79	100.12	99.34	99.61	99.86
mol%An	42.7	42.7	42.3	43.6	37.5	43.0	42.9	43.9	40.5	42.0	43.4	43.2
mol%Ab	55.4	55.3	55.7	54.8	55.7	54.9	55.2	54.2	57.4	56.2	54.7	54.8
mol%Or	1.9	1.9	2.0	1.6	6.8	2.0	1.9	2.0	2.1	1.8	1.9	2.0

Table B.7.35: IXT-21, Plagioclase grain 35

Dist (µm)	0.0	14.9	29.9	44.7	59.6	74.6	89.5	104.3	119.3	134.2	149.1	164.0	178.9
SiO_2	55.10	56.19	57.54	57.05	55.43	56.02	56.98	56.65	57.07	57.29	56.45	57.03	55.69
TiO_2	0.05	0.03	0.04	0.05	0.04	0.03	0.05	0.04	0.03	0.02	0.02	0.01	0.03
Al_2O_3	27.38	26.89	26.00	26.25	27.60	26.62	26.46	26.63	26.16	26.69	26.39	26.22	26.74
Fe_2O_3	0.51	0.37	0.34	0.31	0.48	0.41	0.45	0.28	0.30	0.39	0.36	0.32	0.47
MnO	0.01	0.01	-0.01	-0.03	-0.01	0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.03	-0.01
MgO	0.04	0.03	0.02	0.03	0.05	0.03	0.03	0.02	0.02	0.04	0.04	0.04	0.03
CaO	10.15	9.36	8.61	8.86	10.29	9.28	9.01	8.89	8.46	8.98	9.00	8.64	9.26
BaO	0.07	0.08	0.07	0.05	0.06	0.08	0.03	0.07	0.13	0.08	0.05	0.09	-0.01
Na_2O	5.75	6.03	6.60	6.32	5.63	6.17	6.29	6.42	6.56	6.47	6.38	6.52	6.08
K_2O	0.34	0.26	0.37	0.35	0.31	0.32	0.34	0.31	0.33	0.33	0.27	0.33	0.37
sum	99.42	99.25	99.70	99.26	99.88	98.99	99.66	99.34	99.10	100.34	98.99	99.23	98.70
mol%An	48.5	45.5	41.0	42.8	49.4	44.6	43.3	42.6	40.8	42.6	43.1	41.5	44.7
mol%Ab	49.6	53.0	56.9	55.2	48.9	53.6	54.7	55.7	57.3	55.5	55.3	56.6	53.1
mol%Or	1.9	1.5	2.1	2.0	1.8	1.8	1.9	1.8	1.9	1.9	1.5	1.9	2.1

Table B.7.36: IXT-21 Plagioclase Microlites

Microlite #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SiO_2	56.51	57.68	56.20	56.54	55.53	56.69	55.11	56.88	57.06	57.42	58.40	55.38	58.03	54.95	58.44	55.82	60.52	56.91	59.79
TiO_2	0.09	0.06	0.06	0.07	0.08	0.08	0.11	0.09	0.07	0.10	0.07	0.09	0.07	0.09	0.05	0.05	0.00	0.06	0.17
Al_2O_3	26.98	25.68	27.29	27.21	27.56	27.00	27.37	26.18	26.27	26.20	26.61	27.47	26.35	28.26	25.79	27.76	24.08	27.15	22.05
Fe_2O_3	0.80	0.36	0.53	0.53	0.88	0.65	0.78	1.02	0.79	0.52	0.71	0.74	0.60	0.75	0.58	0.60	0.55	0.68	1.04
MnO	-0.05	-0.04	-0.02	-0.04	-0.07	-0.01	-0.06	-0.05	-0.09	-0.02	0.03	0.07	0.00	0.04	0.03	0.04	0.03	0.05	0.02
MgO	0.20	0.03	0.03	0.05	0.08	0.08	0.07	0.05	0.03	0.04	0.04	0.06	0.03	0.07	0.03	0.04	0.03	0.05	0.14
CaO	9.13	7.77	9.12	9.71	9.88	9.12	9.53	8.43	8.25	7.57	8.04	9.62	8.21	9.83	8.27	9.65	5.84	8.93	5.15
BaO	0.14	0.29	-0.07	0.12	0.08	0.13	0.18	0.06	0.04	0.16	0.13	0.06	0.21	0.06	0.18	0.05	0.17	0.02	0.17
Na_2O	6.34	7.08	6.24	6.03	5.82	6.39	5.97	6.80	6.76	6.87	6.94	6.04	6.76	5.87	6.92	6.01	7.68	6.44	7.38
K_2O	0.51	0.60	0.41	0.35	0.43	0.47	0.50	0.64	0.56	0.58	0.56	0.51	0.49	0.42	0.61	0.32	1.03	0.44	1.10
sum	100.66	99.50	99.78	100.57	100.26	100.59	99.58	100.10	99.72	99.44	101.52	100.04	100.74	100.33	100.91	100.32	99.93	100.74	97.00
mol%An	43.0	36.5	43.6	46.2	47.2	42.9	45.5	39.2	39.0	36.6	37.8	45.5	39.1	46.9	38.4	46.2	27.9	42.3	26.0
mol%Ab	54.1	60.2	54.0	51.9	50.3	54.5	51.6	57.2	57.9	60.1	59.1	51.7	58.2	50.7	58.2	52.0	66.3	55.2	67.4
mol%Or	2.9	3.3	2.4	2.0	2.4	2.6	2.9	3.6	3.1	3.4	3.1	2.9	2.8	2.4	3.4	1.8	5.9	2.5	6.6

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
SiO_2	58.30	55.51	54.37	57.27	58.56	55.79	57.00	53.68	57.88	55.69	57.49	55.87	57.45	55.98	56.33	56.95	56.52	58.29	54.37
TiO_2	0.11	0.07	0.10	0.08	0.03	0.02	0.05	0.06	0.06	0.11	0.06	0.10	0.11	0.10	0.07	0.07	0.11	0.11	0.09
Al_2O_3	25.69	28.91	27.64	26.37	25.63	26.55	26.65	27.85	26.66	26.65	27.52	27.07	25.98	26.87	27.52	26.79	27.08	26.07	28.35
Fe_2O_3	0.90	0.63	0.65	0.83	0.61	0.58	0.59	0.62	0.38	0.90	0.72	0.75	0.97	0.62	0.72	0.69	0.76	0.77	0.64
MnO	0.04	0.01	0.00	0.00	0.02	0.04	0.01	0.03	0.02	0.05	0.01	0.02	0.04	0.02	0.01	0.04	0.04	0.02	0.02
MgO	0.04	0.06	0.03	0.06	0.02	0.03	0.06	0.08	0.02	0.04	0.02	0.05	0.07	0.08	0.06	0.05	0.08	0.06	0.08
CaO	7.64	10.56	9.96	8.52	6.81	8.56	8.46	10.41	8.42	8.93	8.66	9.27	7.90	9.01	8.61	8.64	9.10	8.24	10.65
BaO	0.05	0.05	-0.01	0.10	0.11	0.14	0.09	-0.03	0.13	0.05	0.06	0.01	0.11	0.19	-0.06	0.22	-0.01	0.10	0.05
Na_2O	7.06	5.61	5.82	6.63	7.35	6.37	6.59	5.39	6.61	6.23	6.38	5.87	6.66	6.00	6.13	6.67	6.21	6.97	5.40
K_2O	0.72	0.32	0.34	0.72	0.78	0.47	0.52	0.31	0.46	0.55	0.60	0.49	0.56	0.44	0.45	0.54	0.56	0.57	0.32
sum	100.54	101.72	98.92	100.57	99.92	98.53	100.01	98.41	100.64	99.19	101.50	99.50	99.84	99.31	99.84	100.66	100.46	101.20	99.95
mol%An	35.9	50.1	47.6	39.9	32.4	41.5	40.3	50.7	40.2	42.8	41.4	45.3	38.3	44.2	42.5	40.5	43.3	38.3	51.2
mol%Ab	60.0	48.1	50.4	56.1	63.2	55.8	56.8	47.5	57.2	54.1	55.2	51.9	58.5	53.3	54.8	56.5	53.5	58.6	46.9
mol%Or	4.1	1.8	1.9	4.0	4.4	2.7	2.9	1.8	2.6	3.2	3.4	2.8	3.2	2.5	2.7	3.0	3.2	3.2	1.8

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
SiO_2	58.28	58.56	56.57	55.10	56.58	56.26	57.12	56.66	58.87	55.58	56.92	57.06	55.06	58.44	58.46	60.01	57.88	57.06	56.02
TiO_2	0.06	0.09	0.06	0.11	0.09	0.10	0.12	0.10	0.08	0.12	0.11	0.07	0.05	0.10	0.12	0.11	0.06	0.06	0.02
Al_2O_3	26.34	25.41	27.58	27.82	26.21	26.90	26.19	23.56	25.34	27.52	26.63	25.87	27.78	25.89	25.06	24.19	25.31	26.67	27.42
Fe_2O_3	0.89	0.89	0.63	0.82	0.82	0.75	0.75	1.06	0.68	0.70	0.97	0.74	0.67	0.83	0.80	0.77	0.83	0.69	0.68
MnO	0.01	0.06	0.03	0.04	0.06	0.06	0.03	0.20	0.07	0.01	0.03	0.02	0.04	0.00	0.07	0.05	0.08	0.06	0.04
MgO	0.06	0.05	0.08	0.17	0.17	0.09	0.05	0.76	0.02	0.07	0.09	0.04	0.09	0.05	0.02	0.03	0.02	0.06	0.08
CaO	8.67	7.35	9.39	10.21	8.74	9.37	8.09	8.84	7.01	9.66	8.75	7.96	10.03	8.16	7.30	6.15	7.26	7.57	9.05
BaO	0.02	-0.03	0.02	-0.02	-0.08	0.10	0.04	-0.04	0.29	0.12	0.03	0.16	0.03	0.04	0.16	0.11	0.14	0.11	0.02
Na_2O	6.78	7.01	6.20	5.65	6.52	6.16	6.70	5.35	7.42	6.02	6.54	6.82	5.78	6.66	7.10	7.72	7.04	6.55	6.08
K_2O	0.62	0.61	0.38	0.35	0.50	0.41	0.49	0.35	0.86	0.41	0.58	0.61	0.38	0.51	0.91	1.00	0.74	0.69	0.48
sum	101.72	100.01	100.95	100.25	99.60	100.20	99.59	96.83	100.64	100.22	100.65	99.34	99.91	100.68	100.00	100.14	99.35	99.53	99.88
mol%An	40.0	35.4	44.6	49.0	41.4	44.6	38.9	46.7	32.6	45.9	41.1	37.8	47.9	39.2	34.4	28.9	34.8	37.4	43.9
mol%Ab	56.6	61.1	53.3	49.0	55.8	53.1	58.3	51.2	62.6	51.8	55.6	58.7	49.9	57.9	60.5	65.6	61.0	58.6	53.3
mol%Or	3.4	3.5	2.1	2.0	2.8	2.3	2.8	2.2	4.8	2.3	3.3	3.5	2.1	2.9	5.1	5.6	4.2	4.0	2.8

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
SiO_2	56.82	56.56	57.79	64.76	56.19	57.60	57.31	56.68	54.48	58.57	57.67	56.44	57.14	55.62	58.17	61.54	57.70	57.16	56.92
TiO_2	0.07	0.09	0.04	0.46	0.03	0.06	0.05	0.07	0.01	0.10	0.00	0.05	0.08	0.06	0.05	0.19	0.07	0.06	0.09
Al_2O_3	27.03	26.74	27.42	18.39	27.20	26.72	25.98	26.25	28.26	26.14	25.77	27.26	26.79	27.21	26.45	23.73	26.78	26.28	25.49
Fe_2O_3	1.04	0.81	0.68	1.17	0.63	0.76	0.63	0.64	0.64	0.96	0.52	0.74	1.04	0.71	0.86	1.10	0.69	0.94	1.31
MnO	0.08	0.03	-0.04	-0.01	0.01	-0.01	-0.02	-0.02	0.00	0.01	-0.03	-0.01	0.01	0.01	-0.02	0.02	-0.03	-0.01	0.03
MgO	0.09	0.26	0.03	0.00	0.03	0.02	0.01	0.03	0.04	0.04	0.00	0.03	0.04	0.09	0.08	0.26	0.09	0.07	1.06
CaO	8.51	8.60	8.86	3.57	9.09	8.24	7.64	8.53	10.36	7.60	7.59	9.26	8.72	9.45	8.70	5.90	8.49	8.91	8.56
BaO	0.10	0.06	0.12	0.05	0.05	0.09	0.18	0.09	0.07	0.17	0.20	0.13	0.08	-0.07	-0.05	0.05	0.04	0.01	-0.07
Na_2O	6.49	6.19	6.34	6.42	6.16	6.62	6.86	6.71	5.59	6.88	7.16	6.34	6.24	6.23	6.54	7.06	6.78	6.28	6.03
K_2O	0.41	0.48	0.46	2.90	0.49	0.63	0.62	0.59	0.32	0.75	0.69	0.41	0.54	0.39	0.55	1.39	0.66	0.58	0.51
sum	100.63	99.83	101.70	97.71	99.88	100.74	99.26	99.59	99.77	101.21	99.57	100.64	100.65	99.70	101.33	101.24	101.26	100.29	99.93
mol%An	41.0	42.2	42.4	19.1	43.7	39.3	36.8	39.9	49.7	36.3	35.5	43.6	42.2	44.6	41.0	29.0	39.4	42.5	42.7
mol%Ab	56.6	55.0	55.0	62.4	53.5	57.1	59.7	56.8	48.5	59.5	60.6	54.1	54.7	53.2	55.9	62.9	56.9	54.2	54.3
mol%Or	2.4	2.8	2.6	18.5	2.8	3.6	3.5	3.3	1.8	4.3	3.8	2.3	3.1	2.2	3.1	8.2	3.7	3.3	3.0

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
SiO_2	57.08	56.40	56.83	56.23	56.22	58.33	57.35	59.48	57.69	57.59	58.02	58.36	56.72	55.43	56.21	56.24	59.25	57.58	57.98
TiO_2	0.06	0.07	0.04	0.07	0.00	0.02	0.11	0.05	0.09	0.06	0.10	0.05	0.07	0.08	0.07	0.05	0.03	0.01	0.05
Al_2O_3	27.50	27.62	27.21	26.70	27.92	25.98	26.43	26.13	25.49	26.10	27.36	25.36	25.91	27.07	26.90	26.76	24.78	26.03	26.14
Fe_2O_3	0.73	0.55	0.59	0.63	0.69	0.72	1.21	0.80	1.09	0.88	0.87	0.62	1.03	0.87	0.71	0.89	0.63	0.47	0.69
MnO	-0.02	0.01	0.04	0.05	-0.01	0.05	0.06	-0.02	0.05	0.05	0.07	0.01	0.05	0.02	-0.02	0.04	-0.01	0.04	0.02
MgO	0.03	0.07	0.03	0.09	0.07	0.06	0.11	0.07	0.46	0.12	0.09	0.06	0.28	0.10	0.03	0.06	0.02	0.04	0.06
CaO	9.28	9.62	9.33	9.45	9.63	7.93	8.53	7.64	8.20	8.28	8.82	7.13	8.90	9.61	9.51	9.45	7.01	8.07	8.55
BaO	-0.10	0.05	0.01	0.16	0.07	0.13	0.05	0.07	0.04	0.20	0.08	0.29	0.21	0.04	0.15	0.17	0.11	0.10	0.14
Na_2O	6.06	6.15	6.12	6.08	6.04	6.92	6.33	6.90	6.46	6.52	6.24	7.11	6.09	6.05	6.24	6.00	7.39	6.90	6.74
K_2O	0.54	0.47	0.48	0.40	0.47	0.70	0.64	0.74	0.68	0.69	0.54	0.73	0.54	0.58	0.46	0.53	0.80	0.58	0.61
sum	101.17	101.02	100.69	99.85	101.11	100.84	100.83	101.86	100.25	100.49	102.18	99.72	99.83	99.84	100.26	100.20	100.01	99.80	100.96
mol%An	44.4	45.1	44.5	45.2	45.6	37.3	41.1	36.4	39.6	39.6	42.5	34.2	43.3	45.2	44.5	45.1	32.8	38.0	39.8
mol%Ab	52.5	52.2	52.8	52.6	51.8	58.8	55.2	59.4	56.5	56.5	54.4	61.7	53.6	51.5	52.9	51.9	62.7	58.8	56.8
mol%Or	3.1	2.6	2.8	2.3	2.6	3.9	3.7	4.2	3.9	3.9	3.1	4.2	3.1	3.2	2.6	3.0	4.5	3.2	3.4

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
SiO_2	57.16	57.25	56.41	56.16	57.12	56.46	56.92	58.21	57.38	55.81	62.41	56.85	56.64	56.73	56.28	57.02	55.79	56.16	55.08
TiO_2	0.08	0.01	0.05	0.07	0.04	0.05	0.03	0.05	0.06	0.04	0.04	0.05	0.09	0.07	0.05	0.06	0.06	0.16	0.06
Al_2O_3	26.34	26.41	26.75	26.93	26.63	26.98	26.25	26.44	26.43	27.47	23.96	26.93	26.02	26.61	26.60	26.35	26.83	25.32	26.29
Fe_2O_3	0.74	0.50	0.96	0.85	0.68	0.47	0.83	0.91	0.61	0.73	0.34	0.48	0.76	0.68	0.65	0.74	0.90	2.21	1.11
MnO	-0.02	0.03	0.09	0.00	0.08	0.04	0.06	0.03	0.02	0.04	0.04	0.02	0.02	0.02	0.04	0.02	0.02	0.08	0.03
MgO	0.03	0.03	0.13	0.09	0.09	0.04	0.05	0.06	0.07	0.10	0.01	0.05	0.08	0.03	0.05	0.05	0.09	1.04	0.49
CaO	8.40	7.93	8.63	9.49	8.88	8.85	8.49	7.93	8.02	9.30	4.19	8.67	8.05	8.07	8.54	8.28	9.10	7.93	8.90
BaO	0.23	0.14	-0.01	0.10	0.03	0.07	0.08	0.13	0.10	0.09	0.12	0.21	0.06	0.08	0.13	0.16	0.18	0.20	0.19
Na_2O	6.66	6.65	6.25	6.00	6.37	6.46	6.80	6.72	7.06	6.20	8.57	6.73	6.48	6.65	6.61	6.38	6.52	6.48	6.17
K_2O	0.58	0.68	0.45	0.56	0.40	0.54	0.57	0.59	0.52	0.44	1.11	0.56	0.53	0.57	0.53	0.60	0.57	0.58	0.47
sum	100.20	99.62	99.70	100.26	100.33	99.95	100.09	101.06	100.28	100.23	100.77	100.54	98.74	99.52	99.47	99.64	100.05	100.15	98.79
mol%An	39.7	38.2	42.2	45.1	42.5	41.8	39.5	38.1	37.5	44.2	19.9	40.3	39.4	38.8	40.4	40.3	42.2	39.0	43.2
mol%Ab	57.0	57.9	55.2	51.7	55.2	55.2	57.3	58.5	59.6	53.3	73.8	56.6	57.5	57.9	56.6	56.2	54.7	57.6	54.1
mol%Or	3.3	3.9	2.6	3.2	2.3	3.0	3.1	3.4	2.9	2.5	6.3	3.1	3.1	3.3	3.0	3.5	3.1	3.4	2.7

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
SiO_2	55.41	59.47	59.05	56.83	57.58	57.58	56.23	56.51	56.33	58.42	55.92	58.03	57.97	58.34	56.95	58.05	56.15	57.85	57.23
TiO_2	0.08	0.19	0.02	0.04	0.06	0.09	-0.01	0.03	0.00	0.04	0.03	0.05	0.02	0.04	0.06	0.05	0.07	0.10	0.09
Al_2O_3	27.33	18.16	24.94	26.57	26.51	24.93	26.68	27.12	27.86	26.23	27.77	25.91	26.74	26.05	27.00	25.95	26.98	26.70	26.24
Fe_2O_3	0.89	7.71	0.75	0.80	0.79	1.83	0.57	0.66	0.60	0.67	0.49	0.72	0.66	0.69	0.59	0.34	0.93	0.69	0.83
MnO	0.05	0.44	-0.02	0.04	0.02	0.05	0.01	-0.04	0.01	0.01	-0.01	0.01	0.01	-0.03	-0.02	-0.04	-0.03	-0.01	-0.01
MgO	0.07	3.43	0.06	0.06	0.10	0.59	0.03	0.06	0.03	0.06	0.05	0.12	0.06	0.04	0.05	0.04	0.07	0.04	0.05
CaO	9.48	4.73	7.01	8.69	7.86	7.87	8.34	9.18	9.60	7.94	9.23	7.47	8.26	7.97	9.07	7.86	9.06	7.90	8.39
BaO	0.16	0.03	-0.16	0.16	-0.05	-0.04	-0.03	-0.07	-0.07	-0.18	0.18	0.17	0.03	0.12	0.13	0.09	0.07	0.11	0.13
Na_2O	5.90	5.64	7.31	6.15	6.53	6.47	6.54	6.23	6.01	7.06	6.20	6.94	6.58	6.98	6.62	6.85	6.07	7.04	6.68
K_2O	0.50	0.87	0.75	0.56	0.59	0.69	0.60	0.47	0.38	0.69	0.36	0.61	0.55	0.70	0.53	0.45	0.48	0.64	0.68
sum	99.87	100.65	99.70	99.91	99.98	100.06	98.96	100.14	100.75	100.93	100.21	100.03	100.87	100.91	100.98	99.65	99.85	101.06	100.32
mol%An	45.7	29.6	33.2	42.4	38.6	38.6	39.9	43.7	45.8	36.8	44.2	36.0	39.7	37.2	41.8	37.8	44.0	36.9	39.4
mol%Ab	51.4	63.9	62.6	54.3	58.0	57.4	56.6	53.7	52.0	59.3	53.7	60.5	57.2	58.9	55.2	59.6	53.3	59.5	56.8
mol%Or	2.9	6.5	4.2	3.3	3.4	4.0	3.4	2.6	2.2	3.8	2.1	3.5	3.1	3.9	2.9	2.6	2.8	3.6	3.8

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152
SiO_2	59.16	57.54	62.50	55.87	58.88	59.92	57.91	58.24	55.09	56.99	55.36	56.75	56.56	56.15	57.66	57.06	59.40	57.88	57.25
TiO_2	0.01	0.07	0.17	0.05	0.05	0.11	0.04	0.09	0.11	0.08	0.06	0.07	0.03	0.10	0.09	0.08	0.16	0.09	0.05
Al_2O_3	25.92	26.19	21.16	26.75	26.01	24.02	26.75	25.18	27.88	26.35	27.10	27.07	27.08	26.92	26.61	26.73	23.70	25.47	25.60
Fe_2O_3	0.46	0.69	1.06	0.62	0.52	0.60	0.86	0.88	0.67	0.78	0.58	0.54	0.62	0.80	0.83	0.69	1.09	0.93	0.93
MnO	-0.04	-0.02	0.01	0.03	-0.02	0.01	-0.01	0.00	0.01	0.02	0.01	-0.02	0.01	-0.01	0.01	0.04	0.05	0.05	0.07
MgO	0.02	0.02	0.02	0.05	0.02	0.03	0.13	0.02	0.09	0.09	0.06	0.04	0.06	0.10	0.11	0.06	0.20	0.05	0.21
CaO	6.95	8.00	4.90	9.06	7.18	5.46	8.04	7.33	9.86	8.71	9.02	8.51	8.64	9.12	7.74	8.01	7.12	6.82	7.71
BaO	0.08	0.11	0.13	0.10	0.11	0.18	-0.01	0.06	0.13	0.10	0.11	0.09	0.05	-0.06	0.16	0.06	-0.01	0.09	0.02
Na_2O	7.42	6.87	6.75	6.29	7.60	8.05	6.81	7.17	6.08	6.69	5.95	6.56	6.82	6.31	6.71	6.72	6.33	7.31	6.91
K_2O	0.70	0.61	2.10	0.44	0.83	0.96	0.61	0.78	0.38	0.64	0.42	0.61	0.48	0.53	0.62	0.64	1.02	0.78	0.73
sum	100.68	100.10	98.78	99.24	101.18	99.33	101.14	99.75	100.28	100.44	98.67	100.21	100.34	99.96	100.53	100.07	99.05	99.46	99.48
mol%An	32.8	37.8	25.0	43.2	32.8	25.8	38.1	34.5	46.3	40.3	44.4	40.3	40.1	43.1	37.6	38.3	36.0	32.5	36.6
mol%Ab	63.3	58.8	62.3	54.3	62.7	68.8	58.4	61.1	51.6	56.1	53.1	56.2	57.3	53.9	58.9	58.1	57.9	63.1	59.3
mol%Or	3.9	3.4	12.7	2.5	4.5	5.4	3.5	4.4	2.1	3.5	2.5	3.4	2.6	3.0	3.6	3.6	6.1	4.4	4.1

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
SiO_2	58.37	55.89	56.00	57.00	57.08	56.41	58.83	57.85	57.62	57.91	57.30	58.66	59.85	55.56	58.17	55.58	58.73	59.47	56.72
TiO_2	0.10	0.10	0.06	0.08	0.06	0.09	0.06	0.10	0.05	0.08	0.07	0.09	0.12	0.07	0.10	0.04	0.07	0.09	0.02
Al_2O_3	25.70	26.73	26.42	26.42	25.79	26.85	25.90	25.94	26.81	26.37	25.63	26.15	24.29	27.64	25.49	27.92	25.96	23.69	27.42
Fe_2O_3	0.73	0.77	1.07	0.89	1.61	0.81	0.74	0.85	0.79	0.81	0.97	0.71	1.06	0.78	0.99	0.66	0.74	1.15	0.57
MnO	0.02	0.03	0.07	0.03	0.09	0.02	0.01	0.03	0.04	0.05	0.02	0.02	0.00	0.07	0.06	0.06	0.04	0.06	0.04
MgO	0.05	0.06	0.08	0.07	0.94	0.06	0.05	0.02	0.03	0.06	0.06	0.04	0.06	0.14	0.06	0.06	0.11	0.09	0.09
CaO	7.47	8.90	8.44	8.22	7.90	8.70	7.58	7.92	8.65	8.32	8.36	7.51	6.23	9.57	7.75	9.80	7.18	6.45	9.34
BaO	0.06	0.04	0.04	-0.06	0.02	0.00	0.04	0.03	0.09	0.11	0.12	0.09	0.03	-0.01	0.20	0.05	0.21	0.20	0.15
Na_2O	7.02	6.32	6.54	6.63	6.34	6.32	7.13	6.81	6.57	6.60	6.66	7.01	7.77	6.01	6.99	6.00	7.17	7.28	6.05
K_2O	0.75	0.56	0.65	0.67	0.65	0.57	0.69	0.58	0.67	0.47	0.56	0.64	0.99	0.44	0.60	0.42	0.78	1.11	0.28
sum	100.28	99.41	99.35	99.94	100.48	99.82	101.01	100.12	101.34	100.76	99.76	100.93	100.39	100.26	100.41	100.60	100.98	99.60	100.66
mol%An	35.5	42.4	40.1	39.1	39.2	41.8	35.6	37.8	40.5	40.0	39.6	35.8	29.0	45.6	36.7	46.3	34.1	30.8	45.3
mol%Ab	60.3	54.5	56.2	57.1	57.0	55.0	60.6	58.9	55.7	57.4	57.2	60.5	65.5	51.9	59.9	51.3	61.6	62.9	53.1
mol%Or	4.2	3.2	3.7	3.8	3.8	3.2	3.8	3.3	3.8	2.7	3.2	3.7	5.5	2.5	3.4	2.4	4.4	6.3	1.6

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190
SiO_2	57.81	58.72	58.76	59.83	58.77	57.34	56.86	58.65	55.61	57.36	59.94	58.66	57.44	58.77	55.99	61.22	56.95	57.69	56.90
TiO_2	0.06	0.04	0.10	0.07	0.09	0.03	0.05	0.03	0.02	0.06	0.05	0.02	0.03	0.01	0.06	0.02	0.05	0.02	0.06
Al_2O_3	26.16	25.39	25.24	24.76	25.31	26.67	27.02	26.00	27.32	26.10	25.04	25.73	26.09	26.25	27.39	24.63	26.49	27.05	27.66
Fe_2O_3	0.77	0.65	0.88	0.79	1.04	0.80	0.93	0.77	0.68	0.68	0.73	0.55	0.96	0.67	0.85	0.69	0.70	0.66	0.68
MnO	0.05	0.01	0.00	0.07	0.03	0.02	-0.01	-0.02	-0.04	-0.03	0.01	-0.03	-0.05	-0.02	-0.01	-0.02	0.01	0.00	0.07
MgO	0.09	0.10	0.10	0.11	0.48	0.10	0.05	0.05	0.09	0.06	0.08	0.03	0.05	0.04	0.08	0.04	0.06	0.04	0.06
CaO	8.05	7.08	7.23	6.34	7.82	8.93	8.60	7.73	9.49	7.96	7.10	7.20	8.12	7.61	9.51	6.04	8.85	8.77	9.15
BaO	0.23	0.12	0.17	0.17	0.17	0.17	0.09	0.17	0.11	0.07	0.05	0.13	0.13	0.20	0.10	0.19	0.16	0.03	0.14
Na_2O	6.85	7.40	7.02	7.73	6.72	6.48	6.61	6.96	5.91	6.71	7.13	7.20	6.64	7.11	5.96	7.87	6.69	6.32	6.35
K_2O	0.60	0.76	0.76	0.97	0.63	0.57	0.54	0.56	0.35	0.60	0.68	0.76	0.69	0.69	0.48	0.88	0.53	0.44	0.58
sum	100.65	100.28	100.26	100.84	101.06	101.12	100.73	100.90	99.54	99.57	100.80	100.24	100.10	101.32	100.41	101.58	100.50	101.01	101.63
mol%An	38.0	33.1	34.7	29.5	37.7	41.9	40.6	36.8	46.1	38.2	34.1	34.1	38.8	35.7	45.6	28.3	41.0	42.3	42.9
mol%Ab	58.6	62.7	60.9	65.1	58.7	55.0	56.4	60.0	51.9	58.3	62.0	61.7	57.3	60.4	51.7	66.8	56.1	55.2	53.9
mol%Or	3.4	4.2	4.4	5.4	3.6	3.2	3.0	3.2	2.0	3.4	3.9	4.3	3.9	3.8	2.7	4.9	2.9	2.5	3.2

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209
SiO_2	57.00	56.14	55.97	61.76	56.37	57.49	56.42	57.21	56.29	58.55	56.72	56.80	55.76	57.58	56.76	57.27	56.79	56.74	56.61
TiO_2	0.04	0.06	0.03	0.19	0.09	0.05	0.02	0.06	0.08	0.03	0.06	0.06	0.01	0.03	0.06	0.02	0.02	0.06	0.04
Al_2O_3	27.80	27.60	27.61	23.79	27.32	26.33	26.98	27.73	27.63	26.38	26.97	26.31	27.42	26.42	27.69	25.77	27.48	26.34	27.82
Fe_2O_3	0.67	0.69	0.52	1.38	0.80	0.93	0.45	0.66	0.59	0.51	0.67	0.34	0.56	0.97	0.68	0.79	0.70	0.92	0.76
MnO	0.04	0.03	0.03	0.01	0.09	0.08	0.02	0.08	0.05	0.02	0.03	0.04	0.07	0.02	-0.02	0.02	0.06	0.02	0.00
MgO	0.06	0.07	0.03	0.07	0.02	0.36	0.03	0.04	0.06	0.06	0.04	0.04	0.06	0.08	0.06	0.07	0.05	0.05	0.05
CaO	8.95	9.74	9.14	5.74	9.37	8.96	7.99	8.93	9.62	8.27	8.78	8.05	9.34	8.46	9.78	8.14	9.04	8.50	9.77
BaO	0.02	0.03	0.09	0.13	0.06	-0.10	-0.03	-0.02	-0.02	0.01	0.14	-0.10	0.06	0.02	0.17	0.25	0.07	0.19	0.16
Na_2O	6.33	6.21	6.33	6.85	5.90	6.55	6.55	6.29	6.25	6.66	6.48	6.94	6.24	6.66	5.80	7.09	6.10	6.60	5.55
K_2O	0.41	0.43	0.47	1.11	0.53	0.54	0.59	0.58	0.47	0.55	0.55	0.43	0.45	0.54	0.29	0.78	0.35	0.65	0.43
sum	101.32	101.00	100.22	101.02	100.55	101.20	99.00	101.55	101.02	101.03	100.45	98.91	99.96	100.79	101.28	100.21	100.65	100.06	101.18
mol%An	42.8	45.3	43.2	29.5	45.3	41.7	38.9	42.5	44.8	39.4	41.5	38.1	44.1	40.0	47.4	37.2	44.1	40.0	48.1
mol%Ab	54.9	52.3	54.2	63.7	51.6	55.3	57.7	54.2	52.6	57.4	55.4	59.5	53.3	56.9	50.9	58.6	53.8	56.3	49.4
mol%Or	2.3	2.4	2.6	6.8	3.1	3.0	3.4	3.3	2.6	3.1	3.1	2.4	2.6	3.1	1.7	4.3	2.1	3.6	2.5

Table B.7.36 (cntd): IXT-21 Plagioclase Microlites

Microlite #	210	211	212	213	214	215	216	217	218	219	220	221	222	223
SiO_2	57.17	56.56	57.04	57.16	58.15	57.52	56.04	58.50	60.09	58.13	60.52	58.55	57.61	55.88
TiO_2	0.01	0.03	0.04	0.03	0.08	0.04	0.04	0.09	0.17	0.07	0.14	0.06	0.07	0.06
Al_2O_3	26.87	27.15	26.65	25.83	25.21	27.52	27.26	26.70	24.18	26.51	24.38	26.33	27.09	27.63
Fe_2O_3	0.66	0.66	0.67	0.61	0.75	0.53	0.64	0.82	0.99	0.88	0.96	0.54	0.72	0.71
MnO	0.06	0.09	0.09	-0.01	-0.01	-0.01	-0.03	-0.05	-0.01	-0.06	-0.02	-0.04	-0.02	-0.01
MgO	0.07	0.05	0.03	0.04	0.06	0.04	0.04	0.07	0.04	0.06	0.03	0.13	0.03	0.08
CaO	8.42	9.10	8.19	8.14	7.53	8.82	9.00	8.32	6.31	8.58	6.53	8.10	9.10	10.03
BaO	0.23	0.16	0.20	0.11	0.05	0.07	0.07	-0.02	0.08	0.16	0.16	-0.10	0.08	-0.05
Na_2O	6.54	6.07	6.72	6.94	6.97	6.28	6.18	6.87	7.42	6.66	7.52	6.73	6.24	5.90
K_2O	0.47	0.57	0.65	0.56	0.71	0.48	0.51	0.69	1.11	0.68	1.01	0.50	0.47	0.49
sum	100.49	100.44	100.28	99.40	99.52	101.30	99.76	102.00	100.39	101.67	101.24	100.79	101.39	100.71
mol%An	40.4	43.8	38.8	38.1	35.9	42.5	43.3	38.6	30.0	40.0	30.6	38.8	43.4	47.1
mol%Ab	56.9	52.9	57.5	58.8	60.1	54.7	53.8	57.6	63.7	56.2	63.7	58.4	53.9	50.2
mol%Or	2.7	3.3	3.7	3.1	4.0	2.8	2.9	3.8	6.3	3.8	5.6	2.8	2.7	2.7

Table B.8.1: IXT-11, Plagioclase grain 1

Dist (µm)	0.0	60.0	119.9	179.9	239.9	299.9	359.8	419.8	479.8	539.7	599.7	659.7
SiO_2	54.77	55.60	56.33	55.81	55.66	55.75	55.94	56.47	54.50	54.37	54.16	56.22
TiO_2	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.05	0.06	0.05	0.03	0.06
Al_2O_3	27.72	27.48	27.24	27.28	27.74	27.73	27.73	27.94	28.85	28.44	28.93	27.71
Fe_2O_3	0.42	0.35	0.46	0.38	0.37	0.47	0.37	0.43	0.43	0.51	0.43	0.57
MnO	0.07	0.06	0.07	0.03	0.06	0.06	0.06	0.05	0.06	0.08	0.04	0.02
MgO	0.06	0.07	-0.01	0.05	0.04	0.03	0.05	0.05	0.07	0.10	0.05	0.05
CaO	10.57	10.09	9.76	9.70	9.89	10.18	10.02	10.01	11.51	11.10	11.31	9.91
BaO	-0.16	-0.03	0.04	0.03	0.07	-0.06	-0.04	0.01	0.12	0.01	0.10	-0.01
Na_2O	5.63	5.75	6.01	5.86	5.86	5.87	5.90	5.61	5.01	5.06	4.99	5.77
K_2O	0.20	0.25	0.25	0.26	0.29	0.24	0.24	0.24	0.12	0.23	0.18	0.31
sum	99.67	99.71	100.16	99.57	100.03	100.46	100.33	100.98	100.84	100.03	100.27	100.63
mol%An	50.4	48.5	46.6	47.0	47.4	48.2	47.7	49.0	55.6	54.1	55.0	47.8
mol%Ab	48.5	50.0	52.0	51.5	50.9	50.4	50.9	49.6	43.7	44.6	43.9	50.4
mol%Or	1.1	1.4	1.4	1.5	1.7	1.4	1.4	1.4	0.7	1.3	1.0	1.8

Table B.8.2: IXT-11, Plagioclase grain 2

Dist (µm)	0.0	60.0	119.9	179.9	239.9	299.9	359.8	419.8	479.8	539.7	599.7	659.7
SiO_2	54.77	55.60	56.33	55.81	55.66	55.75	55.94	56.47	54.50	54.37	54.16	56.22
TiO_2	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.05	0.06	0.05	0.03	0.06
Al_2O_3	27.72	27.48	27.24	27.28	27.74	27.73	27.73	27.94	28.85	28.44	28.93	27.71
Fe_2O_3	0.42	0.35	0.46	0.38	0.37	0.47	0.37	0.43	0.43	0.51	0.43	0.57
MnO	0.07	0.06	0.07	0.03	0.06	0.06	0.06	0.05	0.06	0.08	0.04	0.02
MgO	0.06	0.07	-0.01	0.05	0.04	0.03	0.05	0.05	0.07	0.10	0.05	0.05
CaO	10.57	10.09	9.76	9.70	9.89	10.18	10.02	10.01	11.51	11.10	11.31	9.91
BaO	-0.16	-0.03	0.04	0.03	0.07	-0.06	-0.04	0.01	0.12	0.01	0.10	-0.01
Na_2O	5.63	5.75	6.01	5.86	5.86	5.87	5.90	5.61	5.01	5.06	4.99	5.77
K_2O	0.20	0.25	0.25	0.26	0.29	0.24	0.24	0.24	0.12	0.23	0.18	0.31
sum	99.67	99.71	100.16	99.57	100.03	100.46	100.33	100.98	100.84	100.03	100.27	100.63
mol%An	50.4	48.5	46.6	47.0	47.4	48.2	47.7	49.0	55.6	54.1	55.0	47.8
mol%Ab	48.5	50.0	52.0	51.5	50.9	50.4	50.9	49.6	43.7	44.6	43.9	50.4
mol%Or	1.1	1.4	1.4	1.5	1.7	1.4	1.4	1.4	0.7	1.3	1.0	1.8

Table B.8.3: IXT-11, Plagioclase grain 3

Dist (µm)	0.0	14.7	29.2	43.8	58.5	73.0	102.3	116.9	146.2	190.0	204.6
SiO_2	56.85	56.98	57.32	57.17	56.12	56.23	56.68	57.37	55.40	57.94	56.35
TiO_2	-0.03	-0.02	-0.01	-0.02	-0.07	0.05	0.04	0.06	0.06	0.04	0.03
Al_2O_3	26.86	26.66	26.92	27.32	27.68	27.66	27.28	27.14	27.45	26.49	27.82
Fe_2O_3	0.59	0.50	0.52	0.48	0.39	0.43	0.61	0.70	0.47	0.33	0.50
MnO	0.03	0.01	0.01	0.03	0.07	0.07	0.06	0.01	-0.01	0.00	-0.03
MgO	0.00	0.03	-0.01	0.00	0.01	0.04	0.04	-0.01	0.03	0.03	0.00
CaO	8.76	9.12	8.51	9.20	10.74	9.57	9.74	9.61	10.22	8.39	9.64
BaO	0.04	0.00	0.10	0.15	0.03	0.10	0.04	0.07	0.00	-0.01	-0.03
Na_2O	6.39	6.12	6.35	6.19	5.60	5.96	6.22	5.78	5.76	6.66	6.11
K_2O	0.41	0.43	0.40	0.36	0.36	0.35	0.36	0.48	0.39	0.57	0.35
sum	99.93	99.85	100.14	100.90	101.01	100.71	101.08	101.22	99.76	100.48	100.95
mol%An	42.1	44.0	41.6	44.2	50.4	46.1	45.4	46.6	48.4	39.7	45.7
mol%Ab	55.6	53.5	56.1	53.8	47.6	51.9	52.6	50.7	49.4	57.0	52.4
mol%Or	2.3	2.5	2.4	2.0	2.0	2.0	2.0	2.8	2.2	3.2	2.0

Table B.8.4: IXT-11, Plagioclase grain 4

Dist (µm)	0.0	14.8	29.7	44.5	59.4	74.2	89.0	104.0	118.8	133.6	163.3	193.0	222.7	237.5
SiO_2	58.44	57.39	57.19	55.87	55.83	56.59	56.68	56.89	56.68	57.29	56.34	54.97	55.73	55.72
TiO_2	0.05	0.00	0.04	0.04	0.03	0.05	0.05	0.10	0.05	0.02	0.02	0.03	0.05	0.06
Al_2O_3	26.20	26.90	26.67	27.53	27.83	27.19	26.81	27.21	26.86	27.38	27.61	28.24	27.06	27.47
Fe_2O_3	0.50	0.47	0.41	0.40	0.49	0.54	0.52	0.41	0.51	0.48	0.55	0.54	0.45	0.40
MnO	-0.05	0.01	-0.04	-0.02	-0.02	0.00	-0.04	-0.07	-0.03	0.09	0.02	0.05	0.02	0.03
MgO	0.01	0.03	0.03	0.05	0.04	0.05	0.06	0.04	0.08	0.07	0.06	0.08	0.02	0.00
CaO	7.76	8.66	8.57	9.93	9.92	9.43	9.21	9.27	9.17	9.69	10.17	10.00	9.33	9.97
BaO	-0.06	0.10	-0.03	-0.02	0.04	0.09	0.04	0.04	0.03	-0.04	-0.12	-0.06	-0.06	0.09
Na_2O	7.11	6.63	6.56	5.73	5.87	6.30	6.29	6.07	6.11	6.08	6.04	5.54	6.13	6.02
K_2O	0.53	0.48	0.51	0.39	0.36	0.34	0.41	0.28	0.33	0.35	0.31	0.30	0.38	0.42
sum	100.66	100.69	99.99	99.94	100.42	100.66	100.17	100.37	99.82	101.50	101.19	99.87	99.18	100.18
mol%An	36.5	40.8	40.7	47.8	47.3	44.4	43.7	45.0	44.5	45.9	47.4	49.0	44.7	46.7
mol%Ab	60.5	56.5	56.4	49.9	50.6	53.7	54.0	53.3	53.6	52.1	50.9	49.2	53.1	51.0
mol%Or	3.0	2.7	2.9	2.3	2.0	1.9	2.3	1.6	1.9	2.0	1.7	1.8	2.2	2.3

Table B.8.5: IXT-11, Plagioclase grain 5

Dist (µm)	0.0	14.7	29.4	44.1	58.8	73.4	88.2	102.9	117.5	132.3	147.0	161.6	176.3	191.1	205.7
SiO_2	57.93	56.90	57.07	55.28	57.28	56.76	56.83	57.02	56.51	56.66	56.55	56.89	55.71	57.94	55.91
TiO_2	0.07	0.02	0.04	0.03	0.05	0.01	0.03	0.06	0.04	0.04	0.04	0.05	0.10	0.07	0.09
Al_2O_3	25.91	27.35	27.40	27.81	26.63	27.51	26.78	27.33	27.47	27.61	27.20	26.94	27.56	26.11	27.14
Fe_2O_3	0.62	0.49	0.57	0.59	0.57	0.45	0.54	0.50	0.49	0.58	0.48	0.41	0.63	0.63	0.60
MnO	-0.03	0.01	-0.01	-0.06	0.06	0.04	-0.02	0.00	0.04	0.03	0.02	0.05	0.01	-0.04	-0.04
MgO	0.04	0.04	0.04	0.04	0.06	0.07	0.01	0.02	0.04	0.02	0.02	0.04	0.04	0.03	0.01
CaO	8.31	9.70	9.58	9.71	8.92	9.84	9.17	9.51	9.79	9.63	9.15	9.36	10.54	8.12	9.44
BaO	-0.01	0.17	-0.06	0.00	0.01	0.13	0.14	0.13	-0.05	0.27	0.11	0.03	-0.06	0.00	-0.06
Na_2O	6.50	5.82	6.10	5.81	6.43	6.11	6.23	5.97	5.72	5.80	6.13	6.25	5.56	6.93	5.80
K_2O	0.60	0.38	0.33	0.29	0.46	0.29	0.34	0.39	0.42	0.34	0.36	0.40	0.39	0.43	0.41
sum	99.99	100.91	101.14	99.56	100.47	101.21	100.12	101.06	100.61	101.20	100.09	100.41	100.79	100.26	99.40
mol%An	40.0	46.9	45.6	47.2	42.3	46.3	44.0	45.7	47.5	46.9	44.2	44.3	50.0	38.4	46.2
mol%Ab	56.6	50.9	52.5	51.1	55.1	52.0	54.1	52.0	50.1	51.1	53.7	53.5	47.8	59.2	51.4
mol%Or	3.5	2.2	1.9	1.7	2.6	1.6	1.9	2.2	2.4	2.0	2.1	2.2	2.2	2.4	2.4

Table B.8.6: IXT-11, Plagioclase grain 6

Dist (µm)	0.0	30.3	60.6	90.9	151.5	181.8	212.1	272.7	303.0	333.3	363.6	393.9
SiO_2	55.43	55.18	57.13	55.56	57.70	56.98	56.78	56.03	56.08	56.17	57.81	55.79
TiO_2	0.06	0.04	0.07	0.06	0.05	0.02	0.01	0.04	0.00	-0.01	0.01	0.04
Al_2O_3	27.44	28.13	27.18	26.45	26.90	26.89	26.71	27.68	26.95	26.64	26.39	27.23
Fe_2O_3	0.69	0.59	0.51	0.62	0.65	0.60	0.49	0.48	0.48	0.62	0.42	0.59
MnO	0.08	0.00	-0.02	-0.08	0.03	-0.01	0.02	0.03	0.08	0.07	0.08	0.04
MgO	0.01	0.00	-0.01	-0.01	0.03	0.02	0.03	0.04	0.02	0.00	0.00	0.00
CaO	9.56	10.31	9.41	9.38	9.33	8.99	8.98	10.33	10.14	9.84	8.60	9.75
BaO	0.06	0.02	0.13	0.16	0.03	0.02	0.06	-0.02	0.08	0.11	0.05	0.14
Na_2O	5.94	5.62	6.17	6.15	6.21	6.32	6.24	5.49	5.84	5.84	6.44	5.71
K_2O	0.40	0.40	0.46	0.47	0.45	0.31	0.32	0.23	0.37	0.31	0.32	0.43
sum	99.70	100.54	101.15	98.94	101.39	100.15	99.64	100.47	100.04	99.60	100.12	99.84
mol%An	46.0	49.2	44.5	44.5	44.2	43.2	43.5	50.3	47.9	47.3	41.7	47.3
mol%Ab	51.7	48.5	52.9	52.8	53.3	55.0	54.7	48.4	50.0	50.9	56.5	50.2
mol%Or	2.3	2.3	2.6	2.7	2.5	1.8	1.9	1.3	2.1	1.8	1.9	2.5

Table B.8.7: IXT-11, Plagioclase grain 7

Dist (µm)	0.0	29.0	58.0	87.0	116.1	145.1	174.2	203.1	232.2	261.2	348.3
SiO_2	55.84	55.73	56.63	55.44	56.37	56.95	56.70	56.66	55.75	56.83	57.90
TiO_2	0.05	0.04	0.03	0.10	0.08	0.03	0.02	0.04	0.07	0.08	0.08
Al_2O_3	26.37	26.99	27.16	27.37	27.06	26.54	27.05	26.84	26.81	26.59	26.71
Fe_2O_3	0.70	0.45	0.51	0.51	0.52	0.59	0.62	0.56	0.63	0.54	0.47
MnO	0.09	0.09	0.07	0.08	0.09	0.09	0.07	0.07	0.01	0.02	-0.01
MgO	0.01	0.00	0.01	0.01	0.01	0.03	0.04	0.00	0.00	-0.01	0.04
CaO	9.24	9.35	9.27	9.63	9.42	9.77	9.78	9.26	9.83	9.00	8.41
BaO	0.20	0.09	0.09	0.08	0.08	0.06	-0.02	0.05	0.08	-0.02	0.27
Na_2O	6.22	5.99	6.30	6.15	6.19	6.15	6.05	6.02	5.96	6.39	6.59
K_2O	0.46	0.44	0.38	0.36	0.47	0.48	0.40	0.42	0.44	0.38	0.48
sum	99.34	99.37	100.45	99.72	100.29	100.69	100.75	99.92	99.61	99.84	101.10
mol%An	43.9	45.2	43.9	45.4	44.5	45.5	46.1	44.9	46.5	42.8	40.2
mol%Ab	53.5	52.3	54.0	52.5	52.9	51.8	51.6	52.8	51.0	55.0	57.0
mol%Or	2.6	2.5	2.1	2.0	2.6	2.7	2.2	2.4	2.5	2.2	2.7

Table B.8.8: IXT-11, Plagioclase grain 8

Dist (µm)	0.0	59.9	119.9	239.8	359.7	479.5	539.5	599.4	659.4	719.3	779.2	839.2	899.1	959.1	1019.0
SiO_2	55.97	55.85	54.45	54.47	54.82	54.48	55.75	54.45	57.63	56.86	57.35	55.90	54.94	53.30	55.71
TiO_2	0.10	0.03	0.04	0.05	0.05	0.03	0.06	0.03	-0.02	0.02	0.02	0.01	0.03	0.06	0.03
Al_2O_3	27.51	27.27	28.25	28.90	28.83	28.44	28.15	28.95	26.76	26.79	26.49	27.13	28.81	29.20	27.10
Fe_2O_3	0.49	0.45	0.48	0.56	0.51	0.42	0.42	0.50	0.24	0.18	0.25	0.43	0.46	0.55	0.42
MnO	0.00	-0.01	0.01	-0.03	-0.07	-0.04	-0.03	-0.05	0.01	-0.04	0.00	0.05	0.06	0.05	0.04
MgO	0.04	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.03	0.04	0.03	0.05	0.05	0.07	0.06
CaO	9.96	9.77	10.90	11.11	11.40	10.90	10.60	11.34	8.78	8.99	8.70	9.15	10.73	11.47	10.22
BaO	0.30	0.17	0.10	0.07	0.15	0.00	0.15	-0.07	-0.01	-0.09	-0.03	-0.09	-0.01	-0.03	0.00
Na_2O	5.80	5.99	5.02	5.16	4.93	5.07	5.14	5.03	6.58	6.56	6.07	6.35	5.36	4.80	5.86
K_2O	0.43	0.38	0.28	0.29	0.23	0.22	0.33	0.17	0.32	0.28	0.39	0.26	0.16	0.15	0.35
sum	100.74	99.98	99.74	100.72	101.11	99.61	100.64	100.53	100.40	99.72	99.38	99.39	100.78	99.80	99.78
mol%An	47.5	46.4	53.7	53.4	55.4	53.6	52.2	54.9	41.7	42.4	43.2	43.7	52.0	56.4	48.1
mol%Ab	50.1	51.5	44.7	44.9	43.3	45.1	45.9	44.1	56.5	56.0	54.5	54.8	47.0	42.7	49.9
mol%Or	2.4	2.1	1.6	1.6	1.3	1.3	1.9	1.0	1.8	1.6	2.3	1.5	0.9	0.9	2.0

Table B.8.9: IXT-11, Plagioclase grain 9

Dist (µm)	0.0	28.6	57.1	85.6	114.1	142.6	171.2	199.8	256.8	285.4	313.9	342.4
SiO_2	55.22	56.10	56.06	56.29	56.09	56.16	56.08	55.76	55.80	54.74	55.53	56.44
TiO_2	0.05	0.05	0.04	0.05	0.04	0.09	0.08	0.04	0.08	0.04	0.04	0.05
Al_2O_3	28.44	27.70	27.15	27.33	27.66	27.70	27.29	27.78	27.37	28.59	28.46	27.54
Fe_2O_3	0.47	0.41	0.36	0.37	0.33	0.41	0.33	0.38	0.42	0.39	0.41	0.53
MnO	-0.03	0.00	0.02	0.01	0.00	0.04	-0.01	0.01	0.03	0.00	0.01	0.08
MgO	0.03	0.02	0.02	0.03	0.00	0.03	0.02	0.05	0.05	0.05	0.06	0.06
CaO	11.04	9.59	10.19	9.72	10.05	9.75	9.83	9.96	10.23	11.21	10.14	10.18
BaO	0.01	0.10	-0.02	0.07	-0.03	0.04	0.01	0.02	-0.06	-0.03	0.01	0.01
Na_2O	5.22	5.79	5.90	5.85	5.87	5.66	5.85	5.82	5.76	5.45	5.70	5.62
K_2O	0.23	0.24	0.23	0.30	0.24	0.32	0.32	0.26	0.23	0.17	0.24	0.35
sum	100.71	100.02	100.14	100.02	100.33	100.26	99.92	100.24	100.15	100.70	100.61	100.86
mol%An	53.2	47.1	48.2	47.0	48.0	47.8	47.3	47.9	48.9	52.7	48.9	49.0
mol%Ab	45.5	51.5	50.5	51.2	50.7	50.3	50.9	50.6	49.8	46.4	49.7	49.0
mol%Or	1.3	1.4	1.3	1.8	1.3	1.9	1.8	1.5	1.3	1.0	1.4	2.0

Table B.8.10: IXT-11, Plagioclase grain 10

Dist (µm)	0.0	7.6	15.1	30.4	38.0	45.6	53.1	60.7	68.3	75.9	83.5	91.1	98.7	106.3	113.9	121.4	136.7
SiO_2	57.96	57.52	57.23	56.05	55.49	55.42	55.39	55.59	55.37	54.81	55.20	55.43	54.40	55.55	55.81	55.86	56.90
TiO_2	0.06	0.03	0.09	0.06	0.04	0.07	0.01	0.05	0.00	0.05	0.04	0.06	0.00	0.00	0.03	0.01	0.04
Al_2O_3	26.35	27.00	27.13	27.31	28.16	28.10	27.95	28.17	28.37	28.11	28.15	27.61	27.86	28.29	27.94	27.73	27.10
Fe_2O_3	0.51	0.47	0.52	0.45	0.45	0.41	0.38	0.45	0.50	0.49	0.48	0.54	0.56	0.53	0.57	0.48	0.48
MnO	0.08	0.03	-0.03	-0.03	-0.03	0.00	0.00	0.06	-0.01	0.02	0.06	0.02	-0.06	0.03	0.04	0.02	-0.02
MgO	0.01	0.05	0.02	0.03	0.03	0.01	0.00	0.02	0.03	0.02	0.01	0.10	0.09	0.07	0.06	0.05	0.04
CaO	8.08	8.74	8.79	9.99	10.24	10.32	10.77	10.38	10.47	10.54	10.11	10.22	10.40	10.43	10.47	10.20	9.62
BaO	0.03	0.04	0.07	0.15	0.12	0.03	0.10	0.04	0.06	0.15	0.04	0.20	0.22	0.06	0.07	0.17	0.03
Na_2O	6.71	6.35	6.24	5.88	5.74	5.40	5.55	5.59	5.41	5.43	5.45	5.51	5.73	5.49	5.61	5.74	5.88
K_2O	0.53	0.51	0.43	0.36	0.28	0.26	0.27	0.30	0.21	0.26	0.19	0.29	0.32	0.29	0.32	0.32	0.29
sum	100.32	100.78	100.59	100.28	100.78	100.17	100.45	100.71	100.49	99.97	99.79	99.98	99.60	100.74	100.93	100.60	100.50
mol%An	38.8	41.9	42.7	47.4	48.9	50.6	50.9	49.8	51.1	51.0	50.1	49.8	49.1	50.3	49.8	48.6	46.7
mol%Ab	58.2	55.2	54.8	50.5	49.6	47.9	47.5	48.5	47.7	47.6	48.8	48.6	49.0	48.0	48.3	49.5	51.6
mol%Or	3.0	2.9	2.5	2.1	1.6	1.5	1.5	1.7	1.2	1.5	1.1	1.7	1.8	1.7	1.8	1.8	1.7

Table B.8.11: IXT-11, Plagioclase grain 11

Dist (µm)	0.0	60.2	120.3	180.5	300.8	360.9	421.1	481.3	541.4	601.6	661.7	721.9	782.0	842.2	902.4	1022.7	1082.8	1143.0
SiO_2	55.66	54.72	55.40	54.79	56.11	55.77	56.46	57.41	57.89	58.12	58.27	58.65	58.42	59.24	57.96	56.37	55.43	55.05
TiO_2	0.03	0.02	0.07	0.07	0.11	0.08	0.06	0.03	0.01	-0.01	0.02	0.02	-0.01	0.02	0.01	0.00	0.03	0.02
Al_2O_3	27.66	28.81	28.51	27.78	28.24	28.00	26.76	27.29	26.38	26.46	26.21	26.71	25.76	25.76	25.84	27.03	28.12	28.76
Fe_2O_3	0.37	0.43	0.54	0.41	0.32	0.40	0.33	0.42	0.34	0.23	0.16	0.32	0.13	0.22	0.27	0.34	0.42	0.47
MnO	-0.02	0.00	0.07	0.09	0.10	0.04	0.02	-0.03	-0.04	0.04	-0.03	0.02	-0.01	0.01	-0.01	-0.03	-0.04	-0.04
MgO	0.03	0.04	0.06	0.06	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.05	0.02	0.03	0.01	0.01	0.04	0.04
CaO	10.58	11.13	11.14	10.71	10.41	10.64	9.36	9.26	8.39	8.59	8.55	8.20	7.88	7.82	8.11	9.01	10.36	11.06
BaO	0.12	0.00	0.01	0.06	-0.03	-0.03	-0.01	0.06	0.07	0.03	0.01	0.10	0.09	0.13	0.12	-0.03	-0.03	-0.04
Na_2O	5.40	5.11	5.20	5.42	5.53	5.68	6.03	6.13	6.75	6.80	6.73	6.94	7.02	7.13	7.02	6.20	5.76	5.06
K_2O	0.30	0.25	0.12	0.16	0.28	0.21	0.30	0.24	0.31	0.29	0.26	0.36	0.41	0.29	0.34	0.30	0.17	0.21
sum	100.18	100.63	101.25	99.77	101.17	100.87	99.34	100.89	100.34	100.63	100.22	101.36	99.72	100.66	99.68	99.37	100.44	100.71
mol%An	51.1	53.8	53.8	51.7	50.2	50.3	45.4	44.9	40.0	40.5	40.7	38.7	37.4	37.1	38.2	43.8	49.4	54.0
mol%Ab	47.2	44.7	45.5	47.4	48.2	48.5	52.9	53.7	58.2	57.9	57.9	59.3	60.3	61.3	59.9	54.5	49.6	44.7
mol%Or	1.7	1.4	0.7	0.9	1.6	1.2	1.7	1.4	1.8	1.6	1.5	2.0	2.3	1.6	1.9	1.7	1.0	1.2

Table B.8.12: IXT-11, Plagioclase grain 12

Dist (µm)	0.0	28.8	57.4	114.9	172.2	201.0	258.4	287.1	344.6	373.2	935.9	994.5	1053.0
SiO_2	57.07	54.78	56.62	57.49	57.57	57.20	57.90	54.90	54.24	53.56	53.96	54.74	56.62
TiO_2	0.06	0.07	0.02	0.03	0.01	0.04	0.05	0.02	0.04	0.07	0.01	0.03	0.05
Al_2O_3	26.64	28.40	27.11	26.78	26.99	27.11	26.30	29.00	28.52	28.67	29.16	28.96	28.07
Fe_2O_3	0.50	0.45	0.40	0.27	0.28	0.28	0.42	0.59	0.66	0.48	0.46	0.51	0.63
MnO	-0.06	-0.08	-0.06	0.04	0.00	0.04	-0.02	-0.01	0.01	0.07	-0.01	-0.09	-0.05
MgO	0.05	0.05	0.05	0.03	0.00	0.03	0.03	0.04	0.05	0.04	0.05	0.06	0.05
CaO	9.12	11.01	9.41	9.41	8.78	9.25	8.48	11.17	11.67	11.23	11.86	11.61	10.07
BaO	0.06	0.13	0.04	0.06	0.04	0.15	0.10	0.22	0.06	0.10	0.03	-0.03	0.00
Na_2O	6.18	5.17	5.80	6.37	6.38	6.24	6.66	5.05	4.80	5.11	4.92	5.10	5.83
K_2O	0.37	0.18	0.28	0.32	0.40	0.33	0.33	0.14	0.17	0.20	0.16	0.22	0.24
sum	100.16	100.30	99.78	100.81	100.50	100.69	100.30	101.19	100.45	99.66	100.79	101.21	101.64
mol%An	43.9	53.5	46.5	44.1	42.2	44.2	40.5	54.6	56.7	54.2	56.6	55.0	48.2
mol%Ab	53.9	45.5	51.9	54.1	55.5	53.9	57.6	44.6	42.3	44.6	42.5	43.7	50.5
mol%Or	2.1	1.0	1.6	1.8	2.3	1.9	1.9	0.8	1.0	1.1	0.9	1.2	1.4

Table B.8.13: IXT-11, Plagioclase grain 13

Dist (µm)	0.0	28.8	57.4	114.9	172.2	201.0	258.4	287.1	344.6	373.2
SiO_2	57.07	54.78	56.62	57.49	57.57	57.20	57.90	54.90	54.24	53.56
TiO_2	0.06	0.07	0.02	0.03	0.01	0.04	0.05	0.02	0.04	0.07
Al_2O_3	26.64	28.40	27.11	26.78	26.99	27.11	26.30	29.00	28.52	28.67
Fe_2O_3	0.50	0.45	0.40	0.27	0.28	0.28	0.42	0.59	0.66	0.48
MnO	-0.06	-0.08	-0.06	0.04	0.00	0.04	-0.02	-0.01	0.01	0.07
MgO	0.05	0.05	0.05	0.03	0.00	0.03	0.03	0.04	0.05	0.04
CaO	9.12	11.01	9.41	9.41	8.78	9.25	8.48	11.17	11.67	11.23
BaO	0.06	0.13	0.04	0.06	0.04	0.15	0.10	0.22	0.06	0.10
Na_2O	6.18	5.17	5.80	6.37	6.38	6.24	6.66	5.05	4.80	5.11
K_2O	0.37	0.18	0.28	0.32	0.40	0.33	0.33	0.14	0.17	0.20
sum	100.16	100.30	99.78	100.81	100.50	100.69	100.30	101.19	100.45	99.66
mol%An	43.9	53.5	46.5	44.1	42.2	44.2	40.5	54.6	56.7	54.2
mol%Ab	53.9	45.5	51.9	54.1	55.5	53.9	57.6	44.6	42.3	44.6
mol%Or	2.1	1.0	1.6	1.8	2.3	1.9	1.9	0.8	1.0	1.1

Table B.8.14: IXT-11, Plagioclase grain 14

Dist (µm)	0.0	30.1	45.3	60.4	75.4	90.5	120.7	135.8	150.9	181.1	196.2	211.2	226.3
SiO_2	56.94	54.26	54.09	54.01	54.03	54.29	53.50	56.14	54.66	53.72	54.22	55.49	57.64
TiO_2	0.03	0.06	0.05	0.05	0.06	0.07	0.06	0.05	0.05	0.03	0.05	0.08	0.05
Al_2O_3	27.06	28.91	28.17	28.87	28.44	29.08	28.60	28.04	28.79	28.61	28.85	26.89	26.94
Fe_2O_3	0.55	0.63	0.45	0.44	0.61	0.44	0.51	0.55	0.43	0.45	0.56	0.52	0.43
MnO	0.01	0.05	0.01	0.02	0.07	0.05	0.01	0.00	0.01	0.03	0.08	0.00	0.01
MgO	0.00	0.04	0.07	0.07	0.05	0.05	0.02	0.06	0.05	0.07	0.06	0.04	0.03
CaO	9.19	11.53	11.24	11.38	11.73	11.48	11.44	9.63	11.37	11.91	11.36	9.51	9.53
BaO	0.12	0.00	0.01	-0.03	0.09	0.00	0.06	0.13	0.07	0.00	0.04	0.06	0.12
Na_2O	6.12	5.02	4.97	5.00	5.02	4.68	5.14	6.15	4.92	4.81	5.08	5.95	6.17
K_2O	0.32	0.10	0.23	0.21	0.18	0.23	0.29	0.27	0.16	0.11	0.18	0.43	0.41
sum	100.40	100.60	99.28	100.04	100.37	100.36	99.74	101.03	100.67	99.74	100.49	99.11	101.38
mol%An	44.5	55.6	54.8	55.0	55.8	56.8	54.2	45.7	55.5	57.4	54.7	45.7	45.0
mol%Ab	53.6	43.8	43.9	43.8	43.2	41.9	44.1	52.8	43.5	42.0	44.2	51.8	52.7
mol%Or	1.9	0.6	1.3	1.2	1.0	1.3	1.7	1.5	1.0	0.6	1.0	2.4	2.3

Table B.8.15: IXT-11, Plagioclase grain 15

Dist (µm)	0.0	15.0	30.1	45.1	60.1	75.1	90.2	105.2	120.3	135.3	165.3	180.4	195.4	210.5	225.5	240.5	255.5	270.6	285.6	300.7
SiO_2	55.25	57.45	56.24	54.86	56.47	56.60	56.12	57.03	56.68	57.58	56.31	56.92	56.32	56.81	55.72	55.95	55.40	55.61	56.05	55.86
TiO_2	0.05	0.08	0.03	0.08	0.06	0.03	0.06	0.07	0.06	0.04	0.08	0.00	0.05	0.05	0.00	-0.01	0.05	0.03	0.06	0.06
Al_2O_3	27.71	26.90	27.56	27.47	27.34	27.45	27.55	27.99	27.51	27.14	26.87	27.38	27.39	27.33	27.66	27.72	28.04	28.11	28.09	28.13
Fe_2O_3	0.55	0.40	0.64	0.63	0.49	0.50	0.56	0.57	0.55	0.48	0.58	0.73	0.68	0.67	0.58	0.60	0.68	0.62	0.49	0.54
MnO	0.01	0.00	-0.01	0.04	0.04	0.00	0.03	0.03	0.02	-0.02	0.01	-0.02	-0.06	0.00	-0.01	-0.03	0.01	-0.04	-0.03	0.00
MgO	0.02	0.05	0.06	0.05	0.05	0.06	0.10	0.05	0.03	0.01	0.01	0.04	0.02	0.05	0.03	0.00	0.02	0.04	0.03	0.02
CaO	10.47	9.26	9.86	10.07	9.62	10.02	9.25	9.36	9.95	9.28	10.05	9.18	9.62	9.60	9.85	10.33	9.92	9.78	10.57	10.59
BaO	0.13	0.23	0.00	0.03	-0.03	0.07	-0.09	0.07	0.12	0.07	0.22	0.00	-0.01	-0.07	-0.06	-0.06	0.04	0.26	0.13	0.16
Na_2O	5.63	6.20	5.67	5.91	6.08	5.96	6.12	6.06	5.86	6.19	6.17	6.15	5.84	5.67	5.88	5.77	5.72	5.58	5.61	5.60
K_2O	0.40	0.40	0.26	0.29	0.32	0.32	0.41	0.26	0.40	0.36	0.48	0.35	0.32	0.43	0.34	0.28	0.46	0.34	0.43	0.36
sum	100.26	100.96	100.31	99.43	100.45	101.07	100.20	101.49	101.30	101.30	100.87	100.82	100.32	100.75	100.17	100.80	100.40	100.42	101.58	101.41
mol%An	49.6	44.2	48.2	47.7	45.8	47.3	44.4	45.4	47.3	44.4	46.2	44.3	46.8	47.1	47.2	49.0	47.7	48.2	49.8	50.1
mol%Ab	48.2	53.5	50.3	50.7	52.4	50.9	53.2	53.1	50.4	53.6	51.2	53.7	51.4	50.4	50.9	49.5	49.7	49.8	47.8	47.9
mol%Or	2.3	2.2	1.5	1.6	1.8	1.8	2.4	1.5	2.3	2.1	2.6	2.0	1.8	2.5	1.9	1.6	2.6	2.0	2.4	2.0

Table B.8.16: IXT-11, Plagioclase grain 16

Dist (µm)	0.0	30.0	45.0	75.1	90.1	105.0	120.1	135.0	150.1	165.0	180.0	195.1	210.1	225.1	255.1	270.0	285.1
SiO_2	55.44	55.79	56.17	57.51	56.66	55.65	56.45	56.62	55.61	57.24	56.84	56.14	57.05	55.58	56.26	56.58	57.01
TiO_2	-0.02	0.09	0.06	0.10	0.09	0.04	0.04	0.05	0.05	0.05	0.03	0.04	0.05	0.03	0.01	0.02	0.00
Al_2O_3	27.68	27.86	26.81	26.28	26.78	27.24	27.46	26.93	27.26	26.74	26.94	27.24	26.93	27.56	27.37	26.91	26.49
Fe_2O_3	0.76	0.53	0.56	0.61	0.59	0.65	0.76	0.52	0.74	0.62	0.41	0.56	0.62	0.58	0.54	0.49	0.80
MnO	-0.03	-0.03	-0.04	-0.03	-0.04	-0.02	-0.05	-0.03	-0.06	-0.01	-0.05	-0.05	-0.08	-0.07	-0.07	0.01	-0.02
MgO	0.02	0.00	0.02	0.03	0.04	0.04	0.04	0.05	0.08	0.03	0.01	0.02	0.01	0.04	0.02	0.24	0.20
CaO	9.73	9.74	9.41	9.04	9.10	9.31	9.54	8.58	9.89	9.03	9.37	9.34	9.12	9.51	10.07	9.27	9.97
BaO	0.22	0.00	0.00	0.10	0.09	0.03	0.01	0.09	0.09	0.20	0.07	0.20	0.07	0.07	0.01	0.00	-0.06
Na_2O	5.62	5.88	6.14	6.17	6.15	5.94	6.20	6.21	5.97	6.26	5.98	5.88	6.40	6.11	5.98	5.98	6.00
K_2O	0.39	0.36	0.37	0.43	0.43	0.50	0.45	0.38	0.39	0.50	0.35	0.39	0.46	0.41	0.30	0.47	0.38
sum	99.85	100.34	99.72	100.39	99.95	99.39	101.01	99.48	100.08	100.73	100.24	99.82	100.84	99.95	100.57	100.03	101.35
mol%An	47.8	46.8	44.9	43.6	43.9	45.1	44.8	42.3	46.7	43.1	45.5	45.7	42.9	45.2	47.4	44.9	46.8
mol%Ab	49.9	51.1	53.0	53.9	53.6	52.0	52.7	55.5	51.1	54.1	52.5	52.1	54.5	52.5	50.9	52.4	51.0
mol%Or	2.3	2.1	2.1	2.5	2.4	2.9	2.5	2.2	2.2	2.9	2.0	2.2	2.6	2.3	1.7	2.7	2.1

Table B.8.17: IXT-11, Plagioclase grain 17

Dist (µm)	0.0	14.4	28.8	43.1	57.5	72.0	86.4	100.7	115.1	129.5	143.9	158.3	172.7	201.5	215.9	230.3	244.6	259.0	273.4
SiO_2	56.21	55.38	56.02	56.00	56.26	56.46	57.03	56.67	56.22	56.67	57.44	56.23	56.64	56.61	55.36	56.55	56.80	54.60	56.52
TiO_2	0.00	0.03	0.02	0.07	0.03	0.03	0.07	0.05	0.03	0.03	0.07	0.07	0.09	0.03	0.02	0.06	0.04	0.05	0.04
Al_2O_3	28.11	28.09	27.68	27.76	27.43	27.06	27.43	27.29	27.54	26.43	26.51	27.44	26.88	26.59	27.76	27.15	27.21	27.82	26.96
Fe_2O_3	0.63	0.55	0.59	0.56	0.45	0.35	0.58	0.49	0.55	0.41	0.59	0.60	0.82	0.67	0.51	0.74	0.63	0.65	0.75
MnO	-0.06	0.00	0.00	0.02	-0.04	0.08	0.01	0.03	0.02	0.00	0.03	-0.02	0.04	0.01	0.05	0.00	-0.06	-0.05	-0.02
MgO	0.02	0.05	0.05	0.04	0.05	0.04	0.07	0.06	0.09	0.04	0.04	0.05	0.02	0.06	0.03	0.03	0.01	0.03	0.02
CaO	9.68	10.45	9.46	9.83	9.38	9.45	8.89	9.25	9.56	9.18	9.41	9.74	9.84	8.80	10.05	9.46	9.25	10.05	9.60
BaO	0.00	0.00	0.17	0.07	0.06	0.03	0.15	0.22	0.22	0.19	0.15	0.01	0.00	0.00	0.00	0.06	-0.04	0.00	0.03
Na_2O	5.78	5.43	5.95	5.86	6.14	6.14	6.13	5.93	5.91	6.10	6.10	5.68	5.89	6.00	5.56	5.97	5.96	5.39	5.75
K_2O	0.40	0.32	0.49	0.35	0.38	0.39	0.31	0.24	0.38	0.35	0.43	0.33	0.36	0.34	0.36	0.42	0.46	0.28	0.44
sum	100.83	100.31	100.43	100.56	100.18	100.02	100.66	100.37	100.62	99.42	101.07	100.45	100.61	99.25	99.73	100.52	100.35	98.90	100.11
mol%An	46.9	50.6	45.5	47.1	44.8	44.9	43.7	45.6	46.2	44.5	44.9	47.7	47.0	43.8	48.9	45.6	45.0	49.9	46.8
mol%Ab	50.7	47.5	51.7	50.9	53.1	52.9	54.5	52.9	51.6	53.5	52.6	50.4	50.9	54.1	49.0	52.0	52.4	48.4	50.7
mol%Or	2.3	1.9	2.8	2.0	2.2	2.2	1.8	1.4	2.2	2.0	2.4	1.9	2.0	2.0	2.1	2.4	2.6	1.7	2.5

Table B.8.18: IXT-11, Plagioclase grain 18

Dist (µm)	0.0	61.0	121.9	182.9	244.0	304.9	365.9	426.8	487.8	609.7	670.7	731.7	792.7	853.7	914.6	975.6	1036.6	1097.6	1158.6
SiO_2	57.83	55.22	55.11	56.33	59.60	58.87	58.06	58.74	56.69	57.80	57.78	58.04	57.97	58.37	57.98	58.89	57.94	56.17	57.27
TiO_2	0.00	0.04	0.04	0.02	0.01	-0.01	0.01	0.06	0.06	-0.01	0.01	0.03	0.00	0.02	0.00	0.03	0.03	-0.01	0.01
Al_2O_3	27.00	28.84	28.30	27.94	26.02	25.93	26.00	26.41	26.75	27.52	26.02	26.11	26.24	26.16	25.84	26.20	26.39	28.01	26.33
Fe_2O_3	0.51	0.50	0.40	0.37	0.28	0.31	0.25	0.40	0.33	0.28	0.29	0.37	0.35	0.28	0.27	0.27	0.36	0.35	0.57
MnO	-0.03	0.02	-0.01	0.02	0.02	0.04	0.02	0.01	0.01	0.06	0.04	-0.06	-0.04	-0.02	0.02	-0.03	0.00	0.01	0.00
MgO	0.03	0.03	0.05	0.07	0.02	0.04	-0.01	-0.02	-0.01	0.00	0.02	0.02	0.01	0.04	0.03	0.00	-0.02	0.01	0.05
CaO	8.47	11.32	10.86	10.35	7.63	8.29	8.48	8.12	8.94	8.62	8.13	8.14	7.78	7.80	8.23	8.01	8.53	9.68	8.98
BaO	0.04	-0.17	-0.22	-0.16	-0.15	-0.09	0.07	0.01	0.15	0.04	-0.17	-0.12	-0.13	0.03	0.04	0.04	0.03	0.07	0.04
Na_2O	6.41	4.92	5.65	5.77	6.98	6.89	6.91	7.00	6.42	6.47	6.63	6.86	7.01	6.94	6.93	6.95	6.39	5.97	6.10
K_2O	0.44	0.19	0.15	0.17	0.27	0.26	0.30	0.30	0.27	0.23	0.40	0.31	0.32	0.32	0.35	0.40	0.26	0.35	0.59
sum	100.73	101.15	100.56	101.16	100.84	100.63	100.18	101.15	99.68	101.11	99.38	100.08	99.67	100.27	99.90	100.80	99.93	100.71	99.94
mol%An	41.1	55.3	51.1	49.3	37.0	39.3	39.7	38.4	42.8	41.9	39.5	38.9	37.3	37.6	38.8	38.0	41.8	46.3	43.3
mol%Ab	56.3	43.5	48.1	49.7	61.4	59.2	58.6	59.9	55.6	56.8	58.2	59.3	60.8	60.6	59.2	59.7	56.7	51.7	53.3
mol%Or	2.6	1.1	0.8	1.0	1.6	1.5	1.7	1.7	1.5	1.3	2.3	1.8	1.8	1.8	2.0	2.3	1.5	2.0	3.4

Table B.8.19: IXT-11, Plagioclase grain 19

Dist (µm)	60.1	90.2	150.3	180.4	210.4	240.5	270.6	300.6	330.7	360.7
SiO_2	54.25	54.23	54.64	54.18	54.53	55.70	53.30	54.01	54.15	56.30
TiO_2	0.04	-0.01	0.09	0.01	0.02	0.08	0.05	0.02	0.02	0.04
Al_2O_3	28.90	28.91	28.92	28.46	29.07	27.80	28.80	28.78	28.32	27.27
Fe_2O_3	0.52	0.50	0.43	0.49	0.49	0.63	0.56	0.67	0.55	0.63
MnO	-0.01	0.05	-0.02	-0.05	-0.03	-0.06	0.02	-0.05	0.02	-0.04
MgO	0.07	0.12	0.12	0.06	0.07	0.06	0.05	0.07	0.01	0.00
CaO	11.37	11.40	11.57	11.19	11.48	10.64	11.34	11.51	11.49	8.78
BaO	-0.05	-0.05	-0.02	0.00	0.08	0.08	0.05	0.00	-0.09	-0.05
Na_2O	5.05	5.14	5.32	5.04	4.91	5.39	4.91	4.80	4.91	6.02
K_2O	0.26	0.25	0.23	0.22	0.14	0.17	0.17	0.24	0.23	0.46
sum	100.46	100.67	101.44	99.66	100.85	100.56	99.36	100.18	99.82	99.75
mol%An	54.7	54.3	53.9	54.4	55.9	51.7	55.5	56.2	55.6	43.4
mol%Ab	43.9	44.3	44.9	44.3	43.2	47.3	43.5	42.4	43.0	53.9
mol%Or	1.5	1.4	1.3	1.3	0.8	1.0	1.0	1.4	1.3	2.7

Table B.8.20: IXT-11, Plagioclase grain 20

Dist (µm)	0.0	15.3	30.7	46.0	61.4	76.7	92.1	107.4	122.8	138.1	168.8	184.2	199.5	214.9	230.2	245.6	260.9	276.3
SiO_2	56.06	56.62	56.21	56.31	55.92	55.60	56.35	56.57	55.98	55.27	55.54	55.97	56.20	55.78	56.37	57.05	57.35	57.15
TiO_2	0.02	0.05	0.02	0.02	0.06	0.08	0.04	0.06	0.04	0.01	0.06	0.03	0.05	0.04	0.03	0.05	0.05	0.00
Al_2O_3	27.45	26.68	26.66	27.19	26.61	27.32	27.89	27.61	27.69	27.76	27.21	28.00	27.08	27.24	27.19	27.06	27.27	26.97
Fe_2O_3	0.56	0.72	0.59	0.60	0.62	0.44	0.66	0.55	0.62	0.58	0.54	0.65	0.53	0.55	0.55	0.70	0.60	0.75
MnO	0.02	0.00	0.00	0.05	0.03	0.04	-0.01	0.01	0.01	0.08	-0.02	0.09	-0.03	-0.03	-0.03	-0.06	-0.02	0.01
MgO	0.01	0.00	0.00	0.02	0.03	0.03	0.06	0.06	0.05	0.06	0.04	0.03	0.05	0.06	0.06	0.02	0.04	0.04
CaO	9.42	9.21	8.86	9.22	9.96	10.03	10.09	10.45	9.42	10.20	10.02	9.84	9.62	9.52	8.97	9.60	9.31	9.25
BaO	0.05	0.19	0.09	-0.06	0.02	-0.16	-0.08	-0.02	0.09	0.06	0.17	0.19	-0.05	-0.05	-0.03	0.00	-0.09	-0.05
Na_2O	5.74	6.23	6.08	6.20	5.83	5.81	5.49	5.65	5.67	5.68	5.75	5.79	6.00	6.05	6.27	5.92	6.06	6.31
K_2O	0.47	0.52	0.43	0.42	0.49	0.39	0.29	0.27	0.27	0.34	0.36	0.42	0.32	0.29	0.38	0.39	0.37	0.47
sum	99.87	100.46	99.10	100.10	99.56	99.80	100.87	101.22	99.94	100.17	99.75	101.02	99.85	99.65	99.82	100.79	101.17	100.99
mol%An	46.2	43.7	43.5	44.0	47.2	47.8	49.5	49.8	47.1	48.9	48.1	47.3	46.1	45.7	43.2	46.2	44.9	43.6
mol%Ab	51.0	53.4	54.0	53.5	50.0	50.0	48.8	48.7	51.3	49.2	49.9	50.3	52.1	52.6	54.6	51.6	53.0	53.8
mol%Or	2.8	2.9	2.5	2.4	2.8	2.2	1.7	1.6	1.6	1.9	2.0	2.4	1.8	1.7	2.2	2.2	2.1	2.6

Table B.8.21: IXT-11, Plagioclase grain 21v

Dist (µm)	0.0	29.7	59.5	89.3	119.0	148.8	178.5	208.3	238.0	267.8	297.5	327.3	357.0	386.8	416.6	446.3	476.1	505.8	565.3	595.1	624.8
SiO_2	55.04	53.60	53.76	54.39	56.78	55.70	54.94	57.41	57.47	57.59	57.65	57.13	57.21	57.50	57.57	57.50	57.52	57.74	57.66	58.12	57.75
TiO_2	0.05	0.02	0.04	0.03	0.02	0.05	0.03	0.01	0.02	0.01	0.02	0.03	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.04	0.04
Al_2O_3	27.06	28.15	28.21	27.66	26.36	26.66	27.26	25.96	25.90	25.81	25.88	25.66	26.15	25.41	25.79	25.89	25.90	25.81	25.80	25.75	25.41
Fe_2O_3	0.57	0.51	0.48	0.45	0.33	0.31	0.41	0.30	0.34	0.37	0.31	0.33	0.30	0.30	0.29	0.35	0.29	0.33	0.37	0.28	0.30
MnO	-0.02	0.01	0.00	0.00	0.00	0.01	0.04	0.03	0.05	0.00	0.01	0.00	0.01	-0.02	0.00	0.02	0.00	0.02	0.02	0.02	0.02
MgO	0.02	0.05	0.05	0.05	0.03	0.03	0.05	0.03	0.04	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.01	0.02
CaO	9.60	11.11	10.90	10.35	8.53	9.34	9.70	7.94	8.30	7.98	8.04	8.11	8.33	7.82	7.91	8.08	7.96	8.08	7.80	7.88	7.83
BaO	0.04	0.10	0.05	0.02	0.07	0.05	0.04	0.08	0.08	0.07	0.11	0.06	0.05	0.10	0.09	0.02	0.08	0.05	0.07	0.04	0.05
Na_2O	5.77	5.10	5.22	5.55	6.37	5.95	5.76	6.67	6.61	6.74	6.79	6.61	6.52	6.86	6.76	6.70	6.79	6.67	6.74	6.80	6.77
K_2O	0.36	0.20	0.20	0.24	0.30	0.21	0.24	0.47	0.44	0.34	0.34	0.37	0.37	0.42	0.40	0.42	0.48	0.45	0.50	0.43	0.42
sum	98.50	98.89	98.90	98.78	98.82	98.36	98.46	98.91	99.34	98.95	99.19	98.31	99.05	98.45	98.85	99.03	99.11	99.20	99.05	99.42	98.61
mol%An	46.9	54.0	53.0	50.0	41.8	45.9	47.5	38.6	39.9	38.8	38.8	39.5	40.5	37.7	38.4	39.0	38.2	39.0	37.9	38.1	38.0
mol%Ab	51.0	44.8	45.9	48.5	56.5	52.9	51.0	58.7	57.6	59.3	59.3	58.3	57.4	59.9	59.3	58.6	59.0	58.3	59.3	59.5	59.5
mol%Or	2.1	1.1	1.1	1.4	1.7	1.2	1.4	2.7	2.5	1.9	2.0	2.1	2.1	2.4	2.3	2.4	2.8	2.6	2.9	2.5	2.4

Table B.8.21 (cntd): IXT-11, Plagioclase grain 21v

Dist (µm)	654.6	684.3	714.1	743.8	773.6	803.4	833.1	862.9	892.6	922.4	981.9	1011.6	1041.4	1071.1	1100.9	1130.7	1160.4	1190.2	1219.9	1249.7	1279.4
SiO_2	58.04	57.29	56.60	56.45	56.64	57.32	57.35	57.02	53.44	53.13	55.45	54.32	53.22	53.52	56.29	53.59	53.56	53.63	53.45	53.12	54.77
TiO_2	0.03	0.02	0.00	0.02	0.04	0.02	0.02	0.01	0.04	0.02	0.03	0.03	0.03	0.02	0.02	0.04	0.03	0.03	0.03	0.03	0.04
Al_2O_3	25.33	25.61	26.01	26.06	26.17	26.25	25.97	25.98	28.17	28.06	26.88	28.27	28.32	28.30	26.49	28.19	27.94	28.21	27.96	28.43	27.38
Fe_2O_3	0.29	0.32	0.36	0.31	0.37	0.37	0.33	0.28	0.43	0.48	0.34	0.50	0.54	0.47	0.40	0.46	0.43	0.47	0.44	0.45	0.37
MnO	0.01	0.00	0.00	0.02	0.02	0.00	0.02	-0.01	0.02	0.00	-0.02	-0.01	-0.02	0.01	-0.01	0.01	0.03	0.00	0.01	0.01	-0.01
MgO	0.02	0.01	0.02	0.03	0.02	0.03	0.03	0.03	0.04	0.05	0.03	0.03	0.05	0.04	0.05	0.05	0.05	0.04	0.05	0.03	0.03
CaO	7.57	7.93	8.54	8.50	8.81	8.81	8.39	8.16	11.09	11.11	9.51	10.85	11.00	11.15	9.15	10.96	11.07	10.98	10.55	11.21	10.00
BaO	0.05	0.12	0.03	0.05	0.03	0.07	0.08	0.07	0.01	0.06	0.02	-0.01	0.07	0.02	0.04	0.00	-0.03	0.01	0.04	0.02	0.03
Na_2O	6.87	6.78	6.49	6.48	6.43	6.39	6.51	6.56	5.11	5.06	6.01	5.19	5.17	5.05	6.18	5.16	5.20	5.22	5.25	4.90	5.57
K_2O	0.33	0.34	0.32	0.27	0.28	0.33	0.38	0.31	0.24	0.16	0.26	0.19	0.19	0.21	0.30	0.19	0.18	0.18	0.21	0.20	0.22
sum	98.57	98.44	98.36	98.21	98.84	99.62	99.12	98.52	98.60	98.14	98.54	99.39	98.64	98.79	99.01	98.65	98.49	98.82	98.02	98.47	98.45
mol%An	37.1	38.5	41.3	41.4	42.4	42.4	40.7	40.0	53.8	54.3	46.0	53.0	53.5	54.3	44.2	53.4	53.5	53.2	52.0	55.2	49.2
mol%Ab	61.0	59.5	56.9	57.1	56.0	55.7	57.1	58.2	44.8	44.8	52.6	45.9	45.4	44.5	54.1	45.5	45.5	45.8	46.8	43.7	49.6
mol%Or	1.9	1.9	1.8	1.5	1.6	1.9	2.2	1.8	1.4	0.9	1.5	1.1	1.1	1.2	1.7	1.1	1.0	1.0	1.2	1.1	1.3

Table B.8.21 (cntd): IXT-11, Plagioclase grain 21v

Dist (µm)	1309.2	1338.9	1487.7	1636.5	1666.2	1696.0	1755.5	1785.2
SiO_2	55.55	53.23	53.51	54.42	54.51	53.95	53.36	55.41
TiO_2	0.01	0.03	0.03	0.02	0.05	0.04	0.03	0.04
Al_2O_3	27.21	28.39	28.23	27.42	27.90	27.81	28.32	26.95
Fe_2O_3	0.33	0.47	0.45	0.42	0.44	0.44	0.46	0.57
MnO	0.05	-0.02	0.02	0.05	0.00	0.00	0.00	0.02
MgO	0.05	0.04	0.04	0.02	0.04	0.05	0.05	0.03
CaO	9.79	11.16	10.82	9.95	10.38	10.56	11.18	9.55
BaO	0.07	0.01	0.02	0.07	0.01	0.04	0.01	0.03
Na_2O	5.83	5.05	5.18	5.59	5.40	5.41	5.03	5.84
K_2O	0.27	0.19	0.26	0.26	0.20	0.18	0.19	0.34
sum	99.14	98.58	98.55	98.26	98.94	98.47	98.65	98.83
mol%An	47.4	54.4	52.8	48.9	50.9	51.4	54.5	46.5
mol%Ab	51.1	44.5	45.7	49.6	47.9	47.6	44.4	51.5
mol%Or	1.6	1.1	1.5	1.5	1.2	1.0	1.1	2.0

Table B.8.21: IXT-11, Plagioclase grain 21h

Dist (µm)	0.0	15.2	30.3	45.5	60.6	75.8	91.1	106.2	136.6	151.7	166.9	182.0
SiO_2	53.95	54.28	54.52	54.67	55.74	57.12	56.94	57.48	55.68	54.31	57.12	58.07
TiO_2	0.03	0.03	0.04	0.05	0.01	0.01	0.01	0.04	0.04	0.01	0.05	0.02
Al_2O_3	28.58	28.33	28.02	28.39	26.89	26.28	26.42	26.01	27.00	28.46	26.56	25.98
Fe_2O_3	0.54	0.51	0.43	1.51	0.35	0.26	0.31	0.32	0.43	0.54	0.57	0.30
MnO	-0.02	0.02	0.01	0.01	0.00	0.01	0.01	-0.02	0.01	0.02	-0.01	0.00
MgO	0.06	0.05	0.05	0.09	0.04	0.01	0.03	0.02	0.04	0.03	0.03	0.01
CaO	11.09	11.00	10.72	10.42	9.61	8.45	8.68	8.15	9.27	11.06	8.82	8.35
BaO	0.02	0.08	-0.05	0.02	0.03	0.05	-0.01	0.08	0.04	0.06	0.09	0.03
Na_2O	4.99	5.24	5.35	4.97	5.82	6.60	6.43	6.52	5.87	5.02	6.08	6.66
K_2O	0.22	0.21	0.20	0.19	0.22	0.32	0.34	0.47	0.40	0.30	0.58	0.35
sum	99.48	99.79	99.33	100.35	98.75	99.16	99.17	99.12	98.78	99.81	99.91	99.79
mol%An	54.4	53.0	51.9	53.1	47.1	40.7	41.9	39.7	45.5	53.9	43.0	40.1
mol%Ab	44.3	45.7	46.9	45.8	51.6	57.5	56.2	57.6	52.2	44.3	53.6	57.9
mol%Or	1.3	1.2	1.1	1.1	1.3	1.8	1.9	2.7	2.3	1.7	3.3	2.0

Table B.8.21 (cntd): IXT-11, Plagioclase grain 21h

Dist (µm)	197.2	212.4	227.5	242.8	257.9	273.1	288.3	348.9	364.1	379.2	394.5	409.7	424.8	440.0	455.1	470.3	485.5	500.6	515.8	561.4	576.5
SiO_2	56.85	57.07	57.31	57.94	57.80	57.61	59.07	53.38	53.43	53.87	57.19	54.58	53.39	57.41	58.40	53.47	57.73	57.88	53.89	56.03	57.66
TiO_2	0.03	0.01	0.02	0.02	0.02	0.03	0.01	0.03	0.04	0.04	0.00	0.01	0.03	0.04	0.02	0.04	0.03	0.03	0.04	0.02	0.03
Al_2O_3	26.37	26.13	26.34	26.27	26.23	26.34	26.55	28.47	28.35	28.37	26.25	27.95	28.80	26.27	26.10	28.45	26.20	25.94	28.50	28.48	26.12
Fe_2O_3	0.28	0.31	0.28	0.25	0.28	0.32	0.40	0.51	0.46	0.44	0.32	0.46	0.45	0.28	0.33	0.51	0.34	0.26	0.48	0.49	0.35
MnO	0.01	0.00	-0.03	-0.02	0.01	0.00	0.01	0.01	0.00	0.01	-0.02	0.01	-0.01	0.02	-0.02	-0.01	0.02	0.01	0.01	0.00	0.03
MgO	0.02	0.01	0.03	0.02	0.02	0.01	0.02	0.04	0.02	0.05	0.04	0.05	0.04	0.04	0.03	0.03	0.03	0.01	0.05	0.02	0.02
CaO	8.67	8.63	8.63	8.41	8.26	8.23	8.49	11.25	11.41	11.20	8.60	10.76	11.41	8.45	8.40	11.26	8.52	8.36	11.19	10.45	8.32
BaO	0.04	0.01	0.04	0.02	0.06	0.06	0.01	0.01	0.01	0.03	0.01	0.08	-0.02	0.02	0.05	0.02	0.01	0.09	-0.05	0.02	0.02
Na_2O	6.54	6.47	6.53	6.67	6.67	6.71	5.55	4.94	5.04	5.13	6.41	5.41	4.97	6.59	6.69	4.98	6.60	6.65	5.13	5.50	6.59
K_2O	0.31	0.31	0.30	0.32	0.34	0.39	0.47	0.27	0.21	0.22	0.28	0.21	0.18	0.32	0.35	0.22	0.42	0.40	0.27	0.30	0.38
sum	99.15	99.00	99.48	99.92	99.71	99.71	100.63	98.93	98.97	99.43	99.17	99.53	99.27	99.49	100.36	99.00	99.91	99.62	99.57	101.35	99.51
mol%An	41.5	41.7	41.5	40.3	39.8	39.5	44.5	54.9	54.9	54.0	41.9	51.7	55.3	40.7	40.1	54.8	40.7	40.0	53.8	50.4	40.2
mol%Ab	56.7	56.5	56.8	57.8	58.2	58.2	52.6	43.6	43.9	44.7	56.5	47.1	43.6	57.4	57.9	43.9	57.0	57.7	44.6	47.9	57.6
mol%Or	1.8	1.8	1.7	1.8	2.0	2.3	2.9	1.5	1.2	1.3	1.6	1.2	1.0	1.9	2.0	1.3	2.4	2.3	1.6	1.7	2.2

Table B.8.21 (cntd): IXT-11, Plagioclase grain 21h

Dist (µm)	606.9	622.0	637.2	652.3	667.5	682.8	697.9	713.1	728.2	773.7	788.9	804.0	819.2	834.5	849.6	864.8	880.0	895.1	910.3	925.4	940.6
SiO_2	57.62	58.08	57.71	57.46	58.12	57.78	57.48	54.25	54.41	57.17	58.02	56.98	57.81	57.50	57.83	57.47	56.27	55.85	54.62	54.46	56.71
TiO_2	0.04	0.03	0.01	0.04	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.01	0.01	0.01	0.03	-0.01	0.02	0.03	0.03	0.03	0.02
Al_2O_3	26.22	26.15	26.23	26.25	26.33	26.30	26.06	28.15	28.07	26.23	26.50	26.49	26.29	26.25	26.40	26.69	27.04	27.52	27.83	28.20	26.86
Fe_2O_3	0.31	0.38	0.29	0.36	0.32	0.31	0.34	0.49	0.48	0.32	0.36	0.35	0.31	0.27	0.33	0.28	0.35	0.37	0.44	0.49	0.52
MnO	-0.01	0.01	-0.01	0.01	0.00	0.02	-0.02	-0.01	0.00	0.02	-0.02	0.01	-0.01	0.01	0.00	0.01	-0.01	-0.02	0.01	-0.02	0.02
MgO	0.02	0.03	0.01	0.02	0.03	0.00	0.02	0.04	0.02	0.03	0.03	0.03	0.03	0.01	0.02	0.02	0.03	0.04	0.05	0.03	0.01
CaO	8.44	8.42	8.40	8.38	8.38	8.23	8.41	10.98	10.79	8.65	8.92	8.69	8.69	8.47	8.40	8.88	9.17	9.99	10.55	10.95	9.51
BaO	0.06	0.06	0.03	0.07	0.03	0.11	0.10	-0.01	0.07	0.02	0.07	0.06	0.05	-0.01	0.02	0.07	0.06	0.07	0.03	0.01	0.12
Na_2O	6.56	6.52	6.55	6.67	6.63	6.74	6.65	5.15	5.22	6.51	6.46	6.42	6.56	6.66	6.61	6.46	6.08	5.82	5.46	5.23	6.14
K_2O	0.39	0.44	0.42	0.44	0.44	0.40	0.43	0.29	0.31	0.44	0.34	0.31	0.31	0.28	0.30	0.34	0.30	0.27	0.23	0.25	0.37
sum	99.67	100.15	99.69	99.72	100.33	99.89	99.54	99.40	99.43	99.43	100.77	99.34	100.07	99.45	99.95	100.23	99.33	100.11	99.28	99.65	100.29
mol%An	40.6	40.6	40.5	39.9	40.1	39.4	40.2	53.2	52.4	41.3	42.5	42.1	41.5	40.6	40.6	42.4	44.7	47.9	50.9	52.9	45.2
mol%Ab	57.1	56.9	57.1	57.5	57.4	58.4	57.4	45.1	45.9	56.2	55.6	56.2	56.7	57.8	57.7	55.7	53.6	50.5	47.7	45.7	52.7
mol%Or	2.2	2.5	2.4	2.5	2.5	2.3	2.4	1.7	1.8	2.5	1.9	1.8	1.8	1.6	1.7	1.9	1.7	1.5	1.3	1.4	2.1

Table B.8.22: IXT-11 Plagioclase Microlites

Microlite #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SiO_2	57.05	54.02	55.06	56.17	55.71	58.60	55.64	55.72	57.25	55.86	58.06	56.21	56.22	55.24	58.07	58.14	56.90	56.42	56.22
TiO_2	0.04	0.04	0.05	0.05	0.06	0.07	0.09	0.00	0.08	0.06	0.03	0.04	0.05	0.02	0.01	0.02	0.04	0.03	0.03
Al_2O_3	27.51	27.96	28.08	27.46	27.15	25.94	27.72	27.72	26.76	28.22	27.04	27.38	28.09	27.89	26.73	26.81	27.16	27.36	27.87
Fe_2O_3	0.63	0.61	0.56	0.61	0.72	0.80	0.69	0.55	0.61	0.51	0.56	0.73	0.68	0.62	0.53	0.58	0.67	0.57	0.67
MnO	0.00	-0.01	-0.01	-0.01	-0.02	0.00	-0.01	-0.04	0.02	-0.02	0.02	0.01	0.08	0.02	0.04	0.02	0.02	0.07	-0.01
MgO	0.02	0.02	0.03	0.01	0.02	0.02	0.03	-0.01	0.00	0.03	0.02	0.04	0.04	0.02	0.03	0.00	0.01	0.06	0.02
CaO	9.41	10.72	9.80	8.78	9.33	7.86	8.92	9.52	8.38	9.91	9.35	9.27	10.36	10.09	8.78	8.47	9.74	9.89	9.61
BaO	0.12	0.09	0.08	-0.06	-0.01	0.05	0.02	-0.04	-0.02	0.09	0.20	0.19	0.12	0.16	0.20	0.10	0.19	0.10	0.03
Na_2O	6.13	5.62	5.90	6.27	5.83	7.31	6.00	6.03	6.83	5.78	6.48	6.02	5.76	5.75	6.52	6.75	6.11	6.01	5.76
K_2O	0.50	0.34	0.44	0.46	0.52	0.71	0.47	0.46	0.63	0.44	0.57	0.49	0.46	0.44	0.47	0.58	0.52	0.48	0.42
sum	101.41	99.41	99.99	99.74	99.30	101.37	99.56	99.91	100.53	100.88	102.33	100.39	101.88	100.26	101.37	101.47	101.37	100.99	100.62
mol%An	44.6	50.3	46.7	42.5	45.5	35.8	43.9	45.4	39.0	47.4	43.0	44.7	48.6	48.0	41.6	39.6	45.5	46.3	46.8
mol%Ab	52.6	47.7	50.8	54.9	51.5	60.3	53.4	52.0	57.5	50.1	53.9	52.5	48.9	49.5	55.8	57.1	51.7	51.0	50.7
mol%Or	2.8	1.9	2.5	2.6	3.0	3.9	2.8	2.6	3.5	2.5	3.1	2.8	2.6	2.5	2.6	3.2	2.9	2.7	2.5

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
SiO_2	55.71	55.88	57.52	56.41	57.14	55.80	57.27	58.89	57.54	56.01	56.02	56.08	57.03	56.03	55.25	56.90	58.38	56.68	56.83
TiO_2	0.02	0.03	0.03	0.04	0.04	0.00	0.07	0.05	0.06	0.06	0.05	0.01	0.05	0.06	0.05	0.02	0.04	0.09	0.04
Al_2O_3	28.25	27.88	26.94	27.96	27.54	27.86	26.68	26.17	27.07	27.90	27.43	27.62	27.39	28.03	28.47	27.51	26.41	27.67	27.02
Fe_2O_3	0.57	0.62	0.63	0.56	0.54	0.54	0.65	0.58	0.55	0.52	0.74	0.63	0.70	0.74	0.81	0.55	0.61	0.60	0.65
MnO	0.04	0.01	0.02	0.07	0.08	-0.01	-0.03	0.04	-0.04	0.10	0.07	0.01	0.03	0.08	0.06	0.02	0.03	0.04	0.03
MgO	0.03	0.03	-0.01	0.03	0.02	0.02	0.02	0.03	0.02	0.04	0.07	0.04	0.05	0.05	0.03	0.05	0.03	0.05	0.03
CaO	9.89	10.01	9.07	9.90	9.27	10.11	8.97	7.52	8.21	9.63	9.34	9.60	9.20	9.86	10.15	9.64	8.16	9.40	9.25
BaO	0.14	0.04	0.08	0.11	0.02	0.08	0.06	0.06	0.12	0.04	0.02	0.15	-0.02	0.01	-0.08	0.02	0.06	-0.07	0.08
Na_2O	6.02	5.96	6.49	5.78	6.24	5.87	6.43	7.15	6.53	6.00	5.96	5.98	6.03	5.86	5.63	6.05	6.97	5.93	6.40
K_2O	0.50	0.49	0.47	0.38	0.45	0.44	0.53	0.71	0.60	0.46	0.43	0.40	0.39	0.31	0.38	0.39	0.58	0.38	0.39
sum	101.16	100.94	101.24	101.25	101.34	100.72	100.64	101.19	100.66	100.75	100.13	100.52	100.86	101.03	100.74	101.16	101.25	100.77	100.72
mol%An	46.2	46.8	42.5	47.6	43.9	47.6	42.3	35.3	39.6	45.8	45.3	45.9	44.7	47.3	48.8	45.8	38.0	45.7	43.4
mol%Ab	51.0	50.5	54.9	50.3	53.5	50.0	54.8	60.7	57.0	51.6	52.3	51.8	53.0	50.9	49.0	52.0	58.8	52.1	54.4
mol%Or	2.8	2.7	2.6	2.2	2.6	2.5	3.0	3.9	3.5	2.6	2.5	2.3	2.3	1.8	2.2	2.2	3.2	2.2	2.2

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
SiO_2	55.68	57.67	56.08	57.10	56.78	56.43	53.66	55.81	57.18	56.49	56.57	57.11	55.95	55.86	55.86	55.70	55.12	55.24	57.32
TiO_2	0.05	0.07	0.04	0.02	0.05	0.04	-0.22	-0.23	0.02	0.09	0.08	0.06	0.07	0.05	0.05	0.06	0.06	0.08	0.09
Al_2O_3	28.59	26.55	28.05	26.75	28.53	28.10	26.74	28.29	27.55	27.69	26.45	26.60	27.78	27.54	27.56	27.01	26.93	27.45	26.32
Fe_2O_3	0.43	0.90	0.60	0.60	0.66	0.58	-0.15	-0.15	0.68	0.54	0.72	0.57	0.67	0.64	0.64	0.53	0.61	0.59	0.57
MnO	-0.01	-0.03	0.03	0.04	0.00	-0.03	-0.13	-0.13	0.01	0.02	0.04	0.02	-0.01	-0.01	0.03	0.05	0.05	0.02	0.01
MgO	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.01	0.00	0.02	0.04	0.05	0.04	0.03	0.03	0.02	0.03	0.02	0.03
CaO	10.45	8.45	10.04	9.12	9.39	10.11	9.63	10.13	9.74	9.46	8.16	8.30	9.28	9.20	9.46	9.09	9.62	9.73	7.90
BaO	0.05	0.09	-0.01	-0.03	0.16	0.01	-0.13	-0.16	0.06	0.08	0.12	0.06	0.00	0.12	0.03	0.05	0.01	0.07	0.08
Na_2O	5.73	6.41	5.96	6.21	6.23	5.76	5.60	5.76	6.12	6.28	6.97	6.78	6.19	6.30	6.32	6.14	5.86	6.14	6.98
K_2O	0.47	0.66	0.41	0.42	0.52	0.48	0.52	0.35	0.46	0.47	0.52	0.59	0.47	0.43	0.52	0.40	0.41	0.41	0.60
sum	101.46	100.80	101.23	100.25	102.34	101.49	95.55	99.70	101.82	101.14	99.65	100.14	100.45	100.16	100.50	99.05	98.71	99.73	99.91
mol%An	48.9	40.6	47.1	43.7	44.1	47.9	47.3	48.3	45.6	44.2	38.1	39.0	44.1	43.6	44.0	44.0	46.4	45.6	37.2
mol%Ab	48.5	55.7	50.6	53.9	53.0	49.4	49.7	49.7	51.8	53.2	59.0	57.7	53.2	54.0	53.1	53.8	51.2	52.1	59.5
mol%Or	2.6	3.8	2.3	2.4	2.9	2.7	3.0	2.0	2.6	2.6	2.9	3.3	2.7	2.4	2.9	2.3	2.4	2.3	3.3

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
SiO_2	57.20	60.44	57.54	57.54	57.11	55.56	56.81	56.99	56.60	55.80	55.61	59.49	58.44	56.77	56.75	57.76	55.70	57.62	56.66
TiO_2	0.07	0.46	0.06	0.08	0.05	0.04	0.06	0.03	0.02	0.03	0.05	0.07	0.02	0.08	0.06	0.07	0.07	0.02	0.04
Al_2O_3	27.78	5.12	27.32	27.09	27.31	27.46	27.83	27.51	27.55	28.78	28.19	25.28	25.54	27.85	27.69	26.66	27.91	26.89	27.75
Fe_2O_3	0.59	19.39	0.65	0.63	0.60	0.67	0.73	0.62	0.49	0.67	0.59	0.65	0.65	0.60	0.73	0.70	0.60	0.69	0.69
MnO	0.04	0.98	0.03	0.01	0.02	0.03	0.02	0.02	-0.03	-0.02	-0.02	-0.05	-0.02	-0.04	-0.02	-0.02	-0.07	-0.01	0.00
MgO	0.01	8.85	0.03	0.05	0.01	0.01	0.01	0.01	0.04	0.02	0.04	0.03	0.00	0.02	0.03	0.01	0.01	0.02	0.00
CaO	9.36	1.31	9.55	8.80	9.16	9.29	9.60	9.65	9.60	10.05	10.16	7.61	7.36	9.54	9.32	8.34	10.17	8.12	9.93
BaO	0.16	0.08	0.09	0.16	0.09	0.07	0.15	0.03	0.07	0.09	0.10	0.15	0.09	0.24	0.11	0.15	0.11	0.23	0.04
Na_2O	6.27	0.76	6.24	6.29	6.30	6.05	6.15	6.07	6.05	5.72	5.81	7.25	7.15	6.03	6.26	6.92	6.01	6.65	5.92
K_2O	0.45	2.08	0.46	0.45	0.45	0.34	0.50	0.47	0.37	0.41	0.37	0.74	0.66	0.46	0.55	0.50	0.36	0.63	0.44
sum	101.93	99.47	101.97	101.12	101.12	99.52	101.85	101.41	100.77	101.54	100.90	101.21	99.89	101.56	101.46	101.08	100.87	100.85	101.46
mol%An	44.1	25.4	44.6	42.5	43.4	45.0	45.0	45.5	45.7	48.1	48.1	35.2	34.9	45.4	43.8	38.9	47.4	38.9	46.9
mol%Ab	53.4	26.7	52.8	54.9	54.0	53.1	52.2	51.8	52.2	49.5	49.8	60.7	61.4	52.0	53.2	58.4	50.6	57.6	50.6
mol%Or	2.5	47.9	2.6	2.6	2.5	1.9	2.8	2.6	2.1	2.4	2.1	4.1	3.7	2.6	3.1	2.8	2.0	3.6	2.5

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
SiO_2	56.60	57.16	55.58	56.26	56.28	56.31	57.43	60.70	61.90	55.84	55.43	54.38	56.57	55.98	57.53	60.85	55.95	55.57	57.36
TiO_2	0.01	-0.01	0.00	0.02	0.02	0.06	0.03	0.05	0.11	0.05	0.03	-0.01	-0.06	0.04	0.04	0.04	0.09	0.13	0.09
Al_2O_3	27.26	27.48	28.35	28.41	28.46	27.57	27.61	25.03	22.81	28.37	27.96	28.40	27.55	27.68	26.95	25.60	27.97	27.76	26.82
Fe_2O_3	0.53	0.54	0.59	0.68	0.61	0.60	0.46	0.61	0.80	0.60	0.61	0.61	0.41	0.66	0.62	0.70	0.61	0.55	0.67
MnO	-0.01	-0.03	0.01	-0.01	-0.04	0.02	-0.02	0.01	-0.01	0.00	0.01	0.04	-0.03	0.03	0.02	0.02	0.01	0.00	-0.01
MgO	0.02	0.03	0.02	0.03	0.00	-0.01	0.03	0.03	0.02	0.04	0.04	0.05	0.05	0.04	0.04	0.06	0.02	0.02	0.03
CaO	8.92	9.41	10.27	10.60	10.54	9.65	9.23	6.34	5.50	10.01	10.20	10.76	9.83	9.64	8.66	6.65	10.08	10.02	9.02
BaO	0.02	0.04	0.04	-0.02	0.01	0.01	0.10	0.19	0.30	0.09	0.04	0.08	0.00	0.05	0.12	0.26	0.14	0.09	0.29
Na_2O	6.26	6.17	5.78	5.65	5.49	5.91	6.24	7.90	7.56	5.79	5.70	5.41	6.10	5.89	6.39	7.71	5.76	5.82	6.40
K_2O	0.34	0.47	0.42	0.37	0.36	0.45	0.54	0.73	1.21	0.48	0.39	0.41	0.43	0.54	0.53	0.58	0.39	0.52	0.55
sum	99.95	101.27	101.06	101.98	101.73	100.56	101.65	101.61	100.19	101.28	100.41	100.14	100.86	100.56	100.89	102.46	101.03	100.48	101.22
mol%An	43.2	44.5	48.4	49.9	50.4	46.2	43.6	29.5	26.7	47.6	48.6	51.1	46.0	46.0	41.5	31.3	48.1	47.3	42.4
mol%Ab	54.8	52.8	49.3	48.1	47.5	51.2	53.3	66.5	66.3	49.7	49.1	46.6	51.7	50.9	55.5	65.5	49.7	49.8	54.5
mol%Or	2.0	2.6	2.3	2.1	2.1	2.5	3.0	4.1	7.0	2.7	2.2	2.3	2.4	3.1	3.0	3.2	2.2	2.9	3.1

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
SiO_2	55.26	56.21	56.42	56.97	56.81	55.58	56.03	59.06	57.16	55.22	56.39	56.67	60.52	55.92	55.43	56.40	55.85	55.96	56.48
TiO_2	0.11	0.10	0.13	0.11	0.15	0.14	0.02	0.03	0.03	0.01	0.00	0.00	0.03	0.03	-0.01	0.05	0.05	0.01	0.04
Al_2O_3	27.97	27.39	26.85	27.32	27.44	28.02	28.24	25.68	27.43	28.01	27.54	28.14	24.74	27.62	28.06	27.79	28.01	27.76	28.15
Fe_2O_3	0.66	0.47	0.49	0.49	0.57	0.67	0.61	0.66	0.51	0.45	0.59	0.83	0.61	0.48	0.60	0.47	0.58	0.45	0.54
MnO	0.02	0.01	-0.01	0.05	0.03	0.00	-0.02	0.03	0.00	0.06	0.00	0.01	0.01	0.01	-0.04	0.05	0.07	0.02	0.07
MgO	0.04	0.01	0.01	0.06	0.03	0.01	0.02	0.12	0.04	0.04	0.03	0.04	0.03	0.02	0.02	0.05	0.03	0.03	0.01
CaO	10.40	9.49	8.76	9.04	8.82	9.96	10.29	7.36	9.64	10.02	9.27	10.35	7.07	9.53	9.75	10.07	10.22	9.40	9.82
BaO	0.21	0.24	0.21	0.16	0.12	0.10	0.05	0.20	0.06	-0.04	0.13	-0.05	0.08	-0.01	-0.04	-0.01	-0.10	0.07	0.11
Na_2O	5.79	6.01	6.55	6.38	6.27	5.90	5.90	7.05	6.15	5.84	6.15	5.70	7.57	6.06	6.09	6.11	5.45	5.89	6.00
K_2O	0.46	0.42	0.62	0.53	0.50	0.48	0.45	0.65	0.49	0.41	0.46	0.30	0.68	0.40	0.42	0.48	0.37	0.46	0.49
sum	100.91	100.36	100.02	101.10	100.73	100.86	101.59	100.83	101.51	100.02	100.56	101.99	101.33	100.06	100.30	101.45	100.53	100.06	101.72
mol%An	48.6	45.5	41.0	42.6	42.5	47.0	47.8	35.2	45.2	47.5	44.3	49.3	32.8	45.4	45.8	46.4	49.8	45.6	46.2
mol%Ab	48.9	52.1	55.5	54.4	54.6	50.3	49.7	61.1	52.1	50.1	53.1	49.0	63.5	52.3	51.8	50.9	48.0	51.7	51.1
mol%Or	2.6	2.4	3.5	3.0	2.9	2.7	2.5	3.7	2.7	2.3	2.6	1.7	3.7	2.3	2.4	2.6	2.1	2.7	2.8

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
SiO_2	58.59	56.70	57.26	56.51	55.97	58.31	57.09	55.76	57.07	58.70	57.43	56.33	56.68	58.53	55.60	56.34	57.52	55.38	54.36
TiO_2	0.06	0.04	0.03	0.06	-0.01	0.00	0.01	0.02	-0.04	0.02	0.00	0.02	0.06	0.06	0.03	0.04	0.03	0.02	0.06
Al_2O_3	25.63	24.27	27.27	28.04	27.70	25.85	27.32	28.43	27.95	26.33	27.33	27.60	27.66	26.14	28.53	27.87	26.92	28.46	28.61
Fe_2O_3	0.62	0.45	0.58	0.53	0.64	0.48	0.69	0.56	0.43	0.51	0.57	0.55	0.67	0.66	0.74	0.58	0.59	0.63	0.66
MnO	0.04	0.04	0.03	0.06	0.00	0.00	0.04	0.00	-0.01	0.01	0.05	0.02	0.06	0.04	0.06	0.00	0.00	0.03	0.06
MgO	0.00	0.02	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.04	-0.01	0.02	0.00	0.01	0.00	0.03	0.01	0.01
CaO	7.65	8.57	8.81	9.95	9.48	7.44	9.09	9.53	9.16	8.06	8.78	9.83	9.79	8.07	10.02	9.57	8.47	10.31	10.65
BaO	0.14	0.12	0.01	0.06	0.11	0.14	0.13	0.06	0.13	0.11	0.13	0.00	0.15	0.15	0.07	0.09	0.07	0.00	-0.01
Na_2O	6.94	7.85	6.47	5.93	6.07	6.93	6.07	5.88	6.27	6.82	6.32	5.96	5.97	6.98	5.56	6.03	6.78	5.75	5.53
K_2O	0.79	0.73	0.43	0.47	0.46	0.58	0.45	0.40	0.51	0.56	0.52	0.52	0.51	0.57	0.44	0.43	0.62	0.40	0.40
sum	100.45	98.77	100.91	101.64	100.45	99.77	100.91	100.67	101.50	101.15	101.17	100.83	101.56	101.21	101.05	100.96	101.03	100.99	100.32
mol%An	36.2	36.3	41.9	46.8	45.2	36.0	44.1	46.2	43.4	38.2	42.2	46.3	46.2	37.7	48.6	45.6	39.5	48.7	50.4
mol%Ab	59.4	60.1	55.7	50.5	52.3	60.7	53.3	51.5	53.8	58.6	54.9	50.8	50.9	59.1	48.8	52.0	57.1	49.1	47.3
mol%Or	4.4	3.7	2.5	2.6	2.6	3.3	2.6	2.3	2.9	3.2	3.0	2.9	2.8	3.2	2.5	2.5	3.4	2.2	2.3

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152
SiO_2	56.90	55.64	55.42	53.76	55.58	57.57	54.92	55.55	55.39	54.86	56.22	55.37	57.45	57.62	57.47	55.90	57.14	56.00	60.20
TiO_2	0.05	0.04	0.04	0.02	0.00	0.05	0.02	0.02	0.01	0.03	0.02	0.00	0.06	0.03	0.01	0.04	0.06	0.04	0.03
Al_2O_3	27.38	27.99	28.44	27.32	27.45	27.21	28.02	28.13	27.79	27.09	28.08	28.19	27.36	27.16	27.27	28.36	27.49	27.79	24.86
Fe_2O_3	0.55	0.68	0.55	0.67	0.52	0.55	0.58	0.75	0.75	0.80	0.53	0.51	0.71	0.63	0.78	0.73	0.65	0.69	0.65
MnO	0.03	0.01	0.03	0.03	0.07	0.01	0.09	0.03	0.06	0.07	0.01	-0.02	0.04	0.02	0.01	0.04	0.03	0.05	0.00
MgO	0.02	0.02	0.03	0.02	0.03	0.04	0.03	0.04	0.04	0.03	0.03	0.05	0.05	0.02	0.02	0.04	0.01	0.02	0.05
CaO	8.68	10.18	10.36	11.24	9.97	8.92	10.12	9.69	9.85	8.75	9.23	10.10	9.25	8.92	8.61	9.94	8.93	10.00	7.15
BaO	0.02	0.07	0.00	0.08	0.08	0.00	0.01	0.21	0.07	0.01	0.08	-0.04	-0.06	-0.02	0.00	0.04	0.01	0.04	0.02
Na_2O	6.37	5.73	5.37	5.94	5.76	6.58	6.01	5.81	6.01	6.20	6.36	5.91	6.06	6.42	6.55	5.64	6.39	5.91	7.46
K_2O	0.48	0.59	0.34	0.40	0.36	0.50	0.34	0.36	0.34	0.52	0.42	0.36	0.53	0.50	0.55	0.39	0.52	0.52	0.83
sum	100.48	100.95	100.58	99.49	99.82	101.43	100.14	100.61	100.30	98.37	100.97	100.42	101.44	101.29	101.28	101.13	101.23	101.06	101.24
mol%An	41.7	47.9	50.6	50.1	47.9	41.6	47.3	47.0	46.6	42.5	43.5	47.6	44.4	42.2	40.8	48.2	42.3	46.9	33.1
mol%Ab	55.5	48.8	47.4	47.8	50.1	55.6	50.8	51.0	51.5	54.5	54.2	50.4	52.6	55.0	56.1	49.5	54.8	50.2	62.4
mol%Or	2.8	3.3	2.0	2.1	2.1	2.8	1.9	2.1	1.9	3.0	2.4	2.0	3.0	2.8	3.1	2.3	2.9	2.9	4.6

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
SiO_2	56.25	56.89	57.44	57.62	61.44	56.20	55.69	58.04	56.31	55.32	57.23	55.91	56.16	55.01	55.50	57.50	54.31	56.32	56.70
TiO_2	0.04	0.03	0.06	0.10	0.08	0.02	0.06	0.05	0.09	0.06	0.07	0.03	0.04	0.02	0.07	0.07	0.05	0.05	0.04
Al_2O_3	28.65	27.37	27.21	26.34	24.53	27.65	27.37	26.39	27.60	28.12	26.26	27.53	27.97	27.96	28.35	26.33	27.63	28.08	27.54
Fe_2O_3	0.71	0.65	0.54	0.64	0.52	0.55	0.71	0.38	0.58	0.48	0.58	0.55	0.66	0.57	0.62	0.62	0.78	0.57	0.55
MnO	0.05	0.02	-0.03	0.01	0.04	0.02	0.00	-0.02	-0.01	-0.01	0.00	0.00	0.02	0.09	0.03	0.01	0.01	-0.03	0.04
MgO	0.02	0.03	0.03	0.01	0.04	0.03	0.02	0.03	0.01	0.03	0.03	0.03	0.02	0.04	0.03	0.03	0.05	0.04	0.02
CaO	10.16	9.48	8.83	8.03	6.00	9.34	9.36	8.08	9.27	9.49	8.12	8.86	9.50	9.97	9.92	8.30	10.31	9.26	9.22
BaO	-0.02	0.03	0.17	0.11	0.17	0.05	0.10	0.19	0.11	0.12	0.06	0.10	-0.02	-0.08	-0.03	-0.06	-0.07	0.02	0.02
Na_2O	5.85	6.29	6.42	6.92	7.86	6.05	6.23	6.86	6.18	5.98	6.36	6.38	5.94	5.77	5.72	7.07	5.44	5.88	6.17
K_2O	0.40	0.44	0.45	0.58	0.84	0.44	0.48	0.65	0.48	0.44	0.49	0.52	0.36	0.39	0.28	0.46	0.38	0.36	0.37
sum	102.10	101.24	101.11	100.35	101.51	100.34	100.03	100.64	100.63	100.02	99.19	99.89	100.64	99.73	100.49	100.33	98.90	100.55	100.65
mol%An	47.9	44.3	42.1	37.8	28.3	44.9	44.1	38.0	44.1	45.5	40.2	42.2	45.9	47.8	48.1	38.3	50.0	45.5	44.3
mol%Ab	49.9	53.2	55.4	58.9	67.0	52.6	53.2	58.4	53.2	51.9	56.9	54.9	52.0	50.0	50.3	59.1	47.8	52.4	53.6
mol%Or	2.2	2.5	2.6	3.2	4.7	2.5	2.7	3.6	2.7	2.5	2.9	2.9	2.1	2.2	1.6	2.5	2.2	2.1	2.1

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190
SiO_2	56.21	55.34	55.51	56.65	55.97	55.85	56.35	56.54	55.80	56.44	56.51	58.94	56.72	55.39	56.89	57.60	55.26	55.81	58.78
TiO_2	0.07	0.04	0.03	0.02	0.02	0.01	0.02	0.04	0.02	0.03	0.03	0.08	0.07	0.04	0.06	0.06	0.03	0.04	0.08
Al_2O_3	27.57	28.47	27.76	28.62	28.10	28.10	27.20	27.36	28.48	27.34	27.48	26.11	25.99	28.22	28.42	27.00	28.28	28.15	26.06
Fe_2O_3	0.62	0.59	0.57	0.46	0.67	0.53	0.73	0.76	0.66	0.56	0.65	0.52	0.75	0.46	0.62	0.60	0.57	0.66	0.68
MnO	0.01	-0.02	0.02	-0.03	-0.03	0.00	-0.04	-0.02	0.00	-0.02	-0.06	0.01	0.04	0.02	0.09	0.03	0.00	0.06	0.04
MgO	0.02	0.01	0.01	0.04	0.04	0.01	0.04	0.02	-0.01	0.03	0.02	0.02	0.14	0.13	0.13	0.13	0.12	0.15	0.16
CaO	9.48	9.58	9.98	9.44	9.97	9.63	9.15	9.10	9.39	9.35	8.97	8.01	8.82	9.37	9.54	8.27	10.05	9.81	7.43
BaO	0.07	0.00	0.11	-0.02	0.06	0.12	0.14	0.07	0.06	0.14	0.16	0.08	0.01	0.00	-0.03	-0.02	0.10	-0.02	0.09
Na_2O	5.94	5.95	6.05	6.09	5.82	5.98	5.97	6.33	6.02	6.18	6.21	6.79	7.13	6.05	6.19	6.69	5.76	6.12	7.39
K_2O	0.38	0.37	0.38	0.45	0.38	0.45	0.44	0.50	0.44	0.49	0.41	0.48	0.62	0.46	0.40	0.47	0.40	0.39	0.59
sum	100.38	100.33	100.43	101.71	101.00	100.68	100.00	100.71	100.85	100.53	100.38	101.04	100.28	100.14	102.30	100.82	100.58	101.16	101.29
mol%An	45.8	46.1	46.7	45.0	47.6	45.9	44.6	43.0	45.1	44.3	43.3	38.3	39.3	44.9	44.9	39.5	48.0	46.0	34.5
mol%Ab	51.9	51.8	51.2	52.5	50.2	51.6	52.8	54.1	52.3	53.0	54.3	58.9	57.4	52.5	52.8	57.8	49.8	51.9	62.2
mol%Or	2.2	2.1	2.1	2.6	2.2	2.6	2.6	2.8	2.5	2.7	2.4	2.8	3.3	2.6	2.3	2.7	2.3	2.2	3.3

Table B.8.22 (cntd): IXT-11 Plagioclase Microlites

Microlite #	191	192	193	194	195	196	197	198	199	200	201	202
SiO_2	55.69	60.50	56.42	54.81	57.20	58.20	55.36	56.40	57.03	56.59	56.55	56.90
TiO_2	0.04	0.07	0.04	0.06	0.04	0.05	0.07	0.03	0.02	0.06	0.04	0.04
Al_2O_3	28.33	24.57	27.47	28.42	27.62	26.22	28.17	28.32	27.20	27.17	27.41	27.14
Fe_2O_3	0.76	0.72	0.58	0.62	0.61	0.65	0.68	0.66	0.50	0.48	0.61	0.55
MnO	0.10	-0.01	-0.02	-0.08	0.01	-0.05	-0.04	0.01	-0.03	-0.01	-0.06	0.00
MgO	0.12	0.16	0.02	0.02	0.05	0.01	0.01	0.04	0.01	0.03	0.04	0.01
CaO	9.96	6.92	8.94	10.13	9.27	7.52	10.04	10.03	9.00	8.89	8.98	9.08
BaO	0.01	0.07	0.11	0.09	0.12	0.20	0.05	0.01	0.10	0.20	0.07	0.03
Na_2O	6.12	7.41	6.23	5.69	6.22	7.26	6.01	5.72	6.26	6.21	6.23	6.32
K_2O	0.41	0.78	0.47	0.32	0.41	0.57	0.34	0.36	0.45	0.39	0.44	0.49
sum	101.54	101.20	100.25	100.06	101.55	100.63	100.69	101.58	100.55	99.99	100.32	100.55
mol%An	46.3	32.5	43.0	48.7	44.1	35.3	47.1	48.2	43.1	43.2	43.2	43.0
mol%Ab	51.4	63.1	54.3	49.5	53.6	61.6	51.0	49.8	54.3	54.6	54.3	54.2
mol%Or	2.3	4.4	2.7	1.8	2.3	3.2	1.9	2.0	2.6	2.2	2.5	2.8

Table B.9.1: TEQ-34, Plagioclase grain 1

Dist (µm)	15.1	30.2	45.3	60.5	75.6	90.7	105.8	120.9	136.0	151.1	166.2
SiO_2	57.56	56.29	56.99	56.94	56.22	56.71	55.99	57.22	57.20	58.02	58.16
TiO_2	0.06	0.09	0.07	0.07	0.09	0.07	0.08	0.07	0.07	0.07	0.06
Al_2O_3	26.37	26.75	26.35	26.63	26.90	26.73	26.43	26.66	26.41	26.17	25.86
Fe_2O_3	0.57	0.65	0.61	0.54	0.56	0.53	0.51	0.52	0.54	0.51	0.56
MnO	0.04	0.05	0.02	0.03	0.02	0.01	0.02	0.00	0.03	0.01	0.00
MgO	0.07	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.07	0.06	0.05
CaO	8.50	9.26	8.63	8.71	9.12	9.15	8.84	8.78	8.47	8.14	7.86
BaO	0.23	0.05	-0.07	0.08	0.04	0.05	0.00	0.03	0.10	0.01	0.05
Na_2O	6.40	6.11	6.40	6.28	6.00	6.07	6.02	6.36	6.41	6.64	6.78
K_2O	0.47	0.26	0.26	0.37	0.40	0.43	0.42	0.47	0.48	0.45	0.40
sum	100.29	99.57	99.42	99.75	99.45	99.88	98.44	100.19	99.83	100.08	99.81
mol%An	41.2	44.9	42.0	42.4	44.6	44.3	43.7	42.1	41.0	39.3	38.1
mol%Ab	56.1	53.6	56.4	55.4	53.1	53.2	53.8	55.2	56.2	58.1	59.6
mol%Or	2.7	1.5	1.5	2.2	2.3	2.5	2.5	2.7	2.8	2.6	2.3

Table B.9.2: TEQ-34, Plagioclase grain 2

Dist (µm)	0.0	29.6	59.2	88.8	118.4	148.0	177.6	207.1	236.7	266.3	295.9	325.5	355.1	384.7	414.3	443.9	473.5	503.1	532.7
SiO_2	60.33	60.15	60.25	60.25	60.22	60.30	60.23	60.33	59.85	59.99	59.85	59.57	59.88	60.19	59.92	59.93	59.91	60.28	59.87
TiO_2	0.05	0.03	0.04	0.03	0.04	0.03	0.03	0.02	0.05	0.04	0.06	0.02	0.03	0.05	0.03	0.03	0.02	0.07	0.03
Al_2O_3	24.59	24.75	24.70	24.71	24.85	24.68	24.74	24.80	24.75	24.72	25.01	24.83	24.89	25.00	24.89	24.78	24.96	24.66	24.69
Fe_2O_3	0.43	0.36	0.34	0.36	0.34	0.35	0.31	0.35	0.37	0.35	0.33	0.34	0.41	0.34	0.35	0.37	0.36	0.39	0.40
MnO	0.02	-0.02	0.02	0.00	-0.01	0.01	0.00	0.00	0.04	-0.03	0.00	0.01	0.00	0.05	-0.02	-0.01	0.02	0.01	-0.01
MgO	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.02	0.05	0.03	0.03	0.03	0.03	0.03	0.03
CaO	6.24	6.44	6.16	6.36	6.42	6.40	6.36	6.43	6.48	6.53	6.50	6.53	6.67	6.55	6.53	6.50	6.67	6.47	6.44
BaO	0.03	0.17	0.18	0.08	0.13	0.15	-0.01	0.03	0.15	0.11	-0.01	0.11	0.15	0.18	0.11	0.04	0.14	0.07	0.10
Na_2O	7.48	7.37	7.36	7.38	7.30	7.27	7.30	7.29	7.26	7.23	7.34	7.23	7.36	7.28	7.28	7.24	7.25	7.39	7.34
K_2O	0.80	0.80	0.84	0.81	0.80	0.76	0.79	0.79	0.81	0.74	0.77	0.77	0.34	0.80	0.82	0.74	0.74	0.79	0.78
sum	99.99	100.11	99.91	100.02	100.13	100.01	99.80	100.10	99.80	99.77	99.88	99.42	99.81	100.47	99.96	99.67	100.11	100.15	99.68
mol%An	30.1	31.1	30.1	30.8	31.2	31.3	31.0	31.3	31.5	31.9	31.4	31.8	32.7	31.7	31.6	31.7	32.3	31.1	31.2
mol%Ab	65.3	64.3	65.1	64.6	64.2	64.3	64.4	64.2	63.8	63.8	64.2	63.7	65.3	63.7	63.7	64.0	63.4	64.3	64.3
mol%Or	4.6	4.6	4.9	4.6	4.6	4.4	4.6	4.6	4.7	4.3	4.4	4.4	2.0	4.6	4.7	4.3	4.3	4.5	4.5

Table B.9.3: TEQ-34, Plagioclase grain 3

Dist (µm)	0.0	29.9	59.8	149.5	179.4	209.3	239.2	269.1	299.0	328.9	358.8	388.7	418.6	478.4	538.2	568.1	598.0	627.9	657.8
SiO_2	61.20	61.51	60.90	61.67	61.73	60.87	60.83	60.95	61.25	61.73	61.62	61.29	61.49	61.19	61.42	61.03	61.74	61.32	61.39
TiO_2	0.03	0.03	0.03	0.04	0.04	0.02	0.02	0.03	0.03	0.03	0.02	0.07	0.02	0.03	0.02	0.02	0.03	0.04	0.05
Al_2O_3	23.94	24.05	24.10	23.71	23.82	24.14	24.22	24.14	24.06	23.84	24.28	22.97	23.95	24.02	23.77	24.34	23.96	23.85	23.81
Fe_2O_3	0.36	0.35	0.33	0.33	0.49	0.35	0.32	0.29	0.28	0.31	0.34	0.89	0.30	0.35	0.34	0.29	0.34	0.28	0.46
MnO	0.04	0.02	-0.01	0.00	-0.01	0.00	0.03	0.00	0.02	-0.02	-0.01	0.02	0.00	-0.02	-0.02	-0.01	-0.02	0.01	0.01
MgO	0.02	0.02	0.02	0.02	0.07	0.02	0.02	0.02	0.02	0.02	0.02	0.13	0.03	0.02	0.02	0.03	0.02	0.02	0.06
CaO	5.49	5.53	5.54	5.20	5.61	5.54	5.86	5.59	5.67	5.06	5.53	5.12	5.26	5.24	5.22	5.83	5.51	5.20	5.57
BaO	0.15	0.29	0.29	0.22	0.25	0.22	0.24	0.32	0.27	0.21	0.24	0.20	0.16	0.18	0.25	0.18	0.15	0.16	0.18
Na_2O	7.70	7.82	7.78	7.95	7.85	7.75	7.63	7.74	7.74	7.78	7.74	7.71	7.80	7.81	7.81	7.76	7.93	7.74	7.79
K_2O	0.97	0.97	0.87	0.99	0.68	0.92	0.85	0.92	0.93	1.12	0.93	0.97	1.04	1.05	1.01	0.77	0.75	1.06	0.67
sum	99.93	100.61	99.87	100.17	100.55	99.84	100.05	99.99	100.25	100.12	100.73	99.39	100.08	99.89	99.88	100.25	100.44	99.69	100.00
mol%An	26.7	26.5	26.8	25.1	27.2	26.8	28.3	27.0	27.3	24.7	26.8	25.3	25.5	25.4	25.4	28.0	26.5	25.4	27.2
mol%Ab	67.7	67.9	68.2	69.3	68.9	67.9	66.8	67.7	67.4	68.8	67.9	69.0	68.4	68.5	68.8	67.5	69.1	68.4	68.9
mol%Or	5.6	5.6	5.0	5.7	3.9	5.3	4.9	5.3	5.3	6.5	5.4	5.7	6.0	6.1	5.9	4.4	4.3	6.1	3.9

Table B.9.4: TEQ-34, Plagioclase grain 4

Dist (µm)	61.1	244.3	305.4	427.6	549.8	733.0	794.1	855.2	916.3	1038.4	1099.5	1160.6	1221.7
SiO_2	63.97	66.26	65.16	63.77	64.10	65.85	64.49	64.23	63.95	64.20	65.26	64.29	63.75
TiO_2	0.03	0.10	-0.01	0.01	0.02	0.08	0.01	0.02	0.01	0.01	0.07	0.01	0.02
Al_2O_3	21.81	15.39	20.98	21.97	21.50	20.44	21.87	21.60	21.85	21.77	21.00	21.23	21.80
Fe_2O_3	0.25	8.25	0.16	0.23	0.16	0.73	0.22	0.24	0.25	0.22	0.77	0.26	0.31
MnO	0.00	0.29	0.00	0.01	-0.01	0.02	0.01	0.00	0.00	-0.01	0.02	0.00	0.02
MgO	0.01	1.04	0.00	0.00	0.00	0.06	0.00	0.00	0.01	0.01	0.05	0.01	0.02
CaO	2.65	1.58	2.06	2.75	2.51	2.58	2.64	2.49	2.79	2.62	2.69	2.31	3.05
BaO	1.11	0.54	0.71	1.04	1.04	0.87	0.97	1.18	1.04	1.16	0.94	1.03	0.99
Na_2O	8.22	7.11	8.91	8.50	7.95	8.56	8.91	8.12	8.04	8.53	8.58	8.36	8.65
K_2O	2.41	0.69	2.11	2.01	2.89	1.33	1.26	2.49	2.59	2.11	1.27	2.28	1.20
sum	100.46	101.27	100.09	100.31	100.19	100.55	100.39	100.37	100.53	100.64	100.66	99.79	99.83
mol%An	13.0	10.3	9.9	13.4	12.3	13.1	13.0	12.4	13.6	12.7	13.6	11.5	15.2
mol%Ab	72.9	84.3	77.9	75.0	70.7	78.8	79.6	72.9	71.2	75.0	78.7	75.0	77.8
mol%Or	14.1	5.4	12.1	11.6	16.9	8.1	7.4	14.7	15.1	12.2	7.7	13.5	7.1

Table B.9.5: TEQ-34, Plagioclase grain 5

Dist (µm)	0.0	29.6	59.2	88.8	147.9	177.5	207.1	236.7	266.3	355.1	414.2	443.8	503.0	532.6	562.2	591.8	621.4	651.0	680.5	710.1	739.7
SiO_2	62.14	62.19	62.30	61.96	62.12	62.36	62.80	62.56	61.80	62.28	62.04	62.07	62.30	62.26	62.14	62.35	61.83	62.63	62.08	61.68	62.49
TiO_2	0.02	0.03	0.02	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.03	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.02
Al_2O_3	23.77	23.50	23.65	23.78	23.38	23.50	22.84	23.70	23.96	23.57	23.85	24.17	23.85	23.65	23.38	23.53	23.92	23.64	23.58	24.16	23.39
Fe_2O_3	0.32	0.27	0.26	0.32	0.28	0.30	0.28	0.31	0.33	0.31	0.28	0.29	0.30	0.29	0.26	0.30	0.27	0.28	0.32	0.31	0.33
MnO	0.01	-0.01	-0.01	0.02	-0.01	0.00	0.01	0.01	0.01	0.02	-0.01	-0.02	-0.02	0.00	0.03	-0.01	0.01	-0.02	-0.02	-0.01	0.00
MgO	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02
CaO	5.19	4.64	4.92	4.86	4.61	4.82	4.23	4.78	5.30	4.94	5.18	5.08	5.06	4.87	4.90	4.68	5.33	4.56	4.83	5.48	4.59
BaO	0.23	0.29	0.17	0.39	0.38	0.30	0.46	0.45	0.34	0.27	0.23	0.18	0.20	0.30	0.27	0.29	0.24	0.28	0.36	0.25	0.36
Na_2O	8.20	8.21	8.41	8.21	8.08	8.01	8.15	8.15	8.11	8.08	8.14	8.08	8.08	8.06	7.95	8.02	7.83	8.03	8.06	8.05	8.15
K_2O	0.80	1.20	0.82	0.75	1.25	1.20	1.42	1.14	0.66	1.06	1.03	1.03	1.08	1.05	1.13	1.13	0.97	1.20	1.14	0.71	1.14
sum	100.71	100.35	100.55	100.35	100.14	100.54	100.23	101.16	100.59	100.59	100.81	100.96	100.92	100.52	100.12	100.35	100.45	100.65	100.41	100.69	100.50
mol%An	24.7	22.2	23.3	23.6	22.3	23.2	20.5	22.9	25.5	23.7	24.5	24.3	24.1	23.5	23.8	22.8	25.8	22.2	23.3	26.2	22.2
mol%Ab	70.7	71.0	72.1	72.1	70.5	69.9	71.4	70.6	70.7	70.2	69.7	69.9	69.8	70.4	69.7	70.7	68.6	70.8	70.2	69.7	71.2
mol%Or	4.6	6.8	4.6	4.3	7.2	6.9	8.2	6.5	3.8	6.0	5.8	5.9	6.1	6.0	6.5	6.6	5.6	7.0	6.5	4.0	6.5

Table B.9.6: TEQ-34, Plagioclase grain 6

Dist (µm)	0.0	58.5	117.0	175.4	233.9	409.3	526.3	584.8	818.7
SiO_2	62.62	61.28	62.35	61.75	61.45	61.78	61.35	62.02	62.45
TiO_2	0.08	0.01	0.02	0.01	0.03	0.02	0.03	0.02	0.09
Al_2O_3	22.53	24.04	23.60	23.74	23.59	23.54	23.91	23.62	22.94
Fe_2O_3	0.91	0.36	0.32	0.32	0.51	0.29	0.27	0.34	0.87
MnO	0.03	0.01	0.01	0.03	0.02	0.03	0.01	0.03	0.02
MgO	0.12	0.02	0.03	0.02	0.05	0.01	0.02	0.01	0.17
CaO	4.69	5.30	4.67	5.15	5.30	4.96	5.35	4.80	4.92
BaO	0.20	0.19	0.35	0.22	0.28	0.27	0.24	0.25	0.29
Na_2O	7.89	8.03	8.10	7.97	7.85	7.92	7.79	7.98	7.85
K_2O	0.86	0.78	1.19	0.81	0.82	1.14	0.91	1.08	0.82
sum	99.95	100.01	100.64	100.01	99.91	100.01	99.90	100.14	100.47
mol%An	23.4	25.5	22.5	25.1	25.9	24.0	26.0	23.4	24.5
mol%Ab	71.4	70.0	70.7	70.2	69.4	69.4	68.7	70.3	70.7
mol%Or	5.1	4.5	6.8	4.7	4.8	6.6	5.3	6.3	4.9

Table B.9.7: TEQ-34, Plagioclase grain 7

Dist (µm)	0.0	59.3	89.0	118.6	148.3	237.2	326.2	355.9	385.5	415.2	444.8	504.1	563.4	622.8	652.4
SiO_2	62.16	61.90	62.92	62.36	62.93	61.74	61.91	61.92	62.62	63.07	62.62	62.22	62.08	62.06	62.04
TiO_2	0.03	0.04	0.07	0.04	0.09	0.02	0.03	0.03	0.03	0.04	0.02	0.01	0.05	0.02	0.02
Al_2O_3	23.17	22.61	22.56	23.17	22.14	23.74	23.54	23.51	23.01	22.84	22.91	22.99	23.12	23.53	23.78
Fe_2O_3	0.29	0.28	0.58	0.30	0.94	0.27	0.27	0.34	0.31	0.26	0.29	0.33	0.55	0.27	0.29
MnO	0.00	-0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.02	-0.01	-0.01	-0.01	0.00	-0.02	-0.01
MgO	0.02	0.02	0.10	0.02	0.16	0.02	0.01	0.03	0.01	0.02	0.01	0.01	0.06	0.02	0.02
CaO	4.60	4.17	4.49	4.68	4.55	5.00	4.85	4.94	4.36	4.04	4.29	4.36	4.86	4.87	4.90
BaO	0.36	0.44	0.32	0.38	0.40	0.38	0.28	0.18	0.32	0.51	0.48	0.37	0.27	0.10	0.17
Na_2O	8.08	8.37	8.18	8.16	8.07	8.03	8.11	7.98	8.31	8.48	8.32	8.27	8.01	8.08	8.21
K_2O	1.25	0.91	1.04	1.28	0.83	0.95	1.17	0.99	1.16	1.04	1.25	1.11	0.93	1.12	0.85
sum	99.96	98.73	100.27	100.40	100.13	100.16	100.19	99.94	100.16	100.29	100.21	99.68	99.96	100.09	100.29
mol%An	22.2	20.4	21.9	22.3	22.6	24.2	23.2	24.0	21.0	19.6	20.6	21.1	23.8	23.4	23.6
mol%Ab	70.6	74.3	72.1	70.4	72.5	70.3	70.1	70.2	72.4	74.4	72.3	72.5	70.8	70.2	71.5
mol%Or	7.2	5.3	6.0	7.3	4.9	5.5	6.7	5.7	6.7	6.0	7.2	6.4	5.4	6.4	4.9

Table B.9.8: TEQ-34, Plagioclase grain 8

Dist (µm)	0.0	15.2	30.5	60.9	76.2	91.4	106.6	121.9	137.1	152.3	167.6	182.8	198.0	213.2
SiO_2	61.87	61.68	60.70	61.90	62.24	61.64	61.87	61.18	61.60	62.21	61.73	61.60	62.56	62.68
TiO_2	0.01	0.02	0.03	0.07	0.02	0.04	0.04	0.04	0.04	0.05	0.04	0.03	0.04	0.06
Al_2O_3	23.66	23.82	24.14	23.70	23.30	23.60	23.63	23.87	23.82	23.35	23.64	23.44	22.94	22.27
Fe_2O_3	0.32	0.30	0.34	0.50	0.30	0.29	0.30	0.28	0.32	0.32	0.29	0.30	0.31	0.70
MnO	-0.01	-0.02	0.01	0.02	0.00	0.00	0.03	0.02	0.04	0.02	0.03	-0.01	0.03	0.01
MgO	0.02	0.02	0.03	0.07	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.15
CaO	4.95	5.25	5.67	5.07	4.56	4.86	5.06	5.36	5.27	4.76	4.99	4.93	4.52	4.31
BaO	0.07	0.08	0.22	0.21	0.40	0.32	0.35	0.26	0.20	0.30	0.26	0.26	0.28	0.28
Na_2O	8.15	7.93	7.79	7.95	8.08	8.29	7.97	7.79	7.84	8.23	8.07	8.06	8.13	8.54
K_2O	1.10	0.93	0.86	0.88	1.30	0.70	0.99	0.82	1.04	0.93	0.90	0.88	1.24	0.61
sum	100.19	100.07	99.81	100.37	100.23	99.77	100.29	99.66	100.19	100.20	99.98	99.54	100.07	99.64
mol%An	23.5	25.4	27.3	24.7	22.0	23.5	24.5	26.3	25.5	22.9	24.1	24.0	21.8	21.0
mol%Ab	70.2	69.3	67.8	70.2	70.6	72.5	69.8	69.0	68.6	71.7	70.7	70.9	71.0	75.4
mol%Or	6.2	5.3	4.9	5.1	7.5	4.0	5.7	4.8	6.0	5.3	5.2	5.1	7.1	3.6

Table B.9.9: TEQ-34, Plagioclase grain 9

Dist (µm)	0.0	14.7	29.4	44.1	58.9	73.6	88.3	103.0	132.4	147.1	161.9	176.6	191.3
SiO_2	61.30	61.65	60.78	62.17	62.05	62.04	61.79	60.56	61.81	60.98	62.51	61.62	62.00
TiO_2	0.04	0.04	0.02	0.02	0.03	0.03	0.01	0.01	0.04	0.04	0.03	0.04	0.04
Al_2O_3	23.92	23.38	24.31	23.51	23.49	23.48	23.47	24.54	23.68	23.56	22.79	23.10	23.59
Fe_2O_3	0.33	0.33	0.32	0.33	0.36	0.33	0.31	0.38	0.34	0.39	0.27	0.27	0.31
MnO	0.02	0.01	0.01	0.03	0.03	0.01	-0.01	-0.03	-0.03	-0.02	-0.01	0.01	-0.01
MgO	0.03	0.02	0.03	0.02	0.04	0.02	0.02	0.02	0.01	0.02	0.00	0.02	0.03
CaO	5.48	4.78	5.68	4.95	5.00	4.87	4.86	6.11	5.13	5.37	4.04	4.70	4.90
BaO	0.25	0.27	0.25	0.32	0.25	0.33	0.31	0.15	0.31	0.25	0.47	0.28	0.29
Na_2O	7.71	7.90	7.64	7.91	8.23	7.90	7.95	7.63	7.86	7.92	8.14	8.05	7.97
K_2O	0.97	1.17	0.90	1.07	0.71	1.09	1.12	0.79	1.00	0.72	1.42	1.18	1.08
sum	100.07	99.59	99.98	100.32	100.19	100.09	99.84	100.19	100.19	99.26	99.66	99.26	100.21
mol%An	26.6	23.3	27.6	24.1	24.1	23.8	23.6	29.3	25.0	26.1	19.7	22.7	23.8
mol%Ab	67.8	69.8	67.2	69.7	71.8	69.8	69.9	66.2	69.2	69.7	72.0	70.5	70.0
mol%Or	5.6	6.8	5.2	6.2	4.1	6.4	6.5	4.5	5.8	4.2	8.2	6.8	6.2

Table B.9.10: TEQ-34, Plagioclase grain 10

Dist (µm)	0.0	60.1	120.2	180.3	240.4	300.5	360.6	420.8	480.9	541.0	601.1
SiO_2	58.04	59.34	60.33	59.81	59.74	58.83	59.13	58.09	58.18	58.00	58.39
TiO_2	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.05	0.05
Al_2O_3	25.94	24.92	24.51	24.95	25.11	25.07	25.10	25.92	26.00	25.92	25.86
Fe_2O_3	0.44	0.36	0.36	0.34	0.37	0.39	0.35	0.41	0.43	0.42	0.42
MnO	-0.01	-0.02	-0.02	-0.02	-0.02	0.01	-0.04	0.00	0.02	0.01	0.03
MgO	0.06	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.03
CaO	7.86	6.83	6.29	6.73	7.01	6.96	7.04	7.95	7.97	7.99	7.78
BaO	0.01	0.10	0.06	0.10	-0.04	-0.07	-0.01	0.12	0.07	0.09	0.02
Na_2O	6.54	7.04	7.30	7.19	7.13	7.01	7.01	6.57	6.54	6.65	6.65
K_2O	0.54	0.70	0.83	0.71	0.68	0.64	0.72	0.58	0.55	0.59	0.62
sum	99.48	99.38	99.78	99.92	100.15	99.01	99.45	99.71	99.86	99.76	99.85
mol%An	38.6	33.5	30.7	32.7	33.8	34.1	34.2	38.7	38.9	38.6	37.9
mol%Ab	58.2	62.5	64.5	63.2	62.3	62.1	61.6	57.9	57.9	58.0	58.5
mol%Or	3.2	4.1	4.8	4.1	3.9	3.8	4.2	3.4	3.2	3.4	3.6

Table B.9.11: TEQ-34, Plagioclase grain 11

Dist (µm)	0.0	60.8	121.5	243.1	303.9	364.6	425.4	486.2	607.7	668.5	850.8
SiO_2	62.68	63.30	62.96	63.15	62.95	62.76	63.43	62.85	63.03	63.34	63.10
TiO_2	0.05	0.01	0.01	0.01	0.03	0.02	0.02	0.01	0.01	-0.01	0.00
Al_2O_3	22.63	22.39	22.69	22.23	22.39	22.67	22.59	22.51	22.40	22.28	22.81
Fe_2O_3	0.29	0.29	0.31	0.27	0.27	0.31	0.28	0.24	0.27	0.24	0.28
MnO	0.03	0.00	0.01	0.00	0.01	-0.01	-0.01	0.00	0.03	0.01	0.03
MgO	0.00	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.02
CaO	3.96	3.66	3.75	3.39	3.43	3.98	3.71	3.51	3.72	3.33	3.94
BaO	0.45	0.58	0.62	0.72	0.61	0.57	0.54	0.53	0.50	0.62	0.56
Na_2O	8.28	8.21	8.61	8.06	7.93	8.58	8.44	8.01	8.02	8.00	8.59
K_2O	1.58	1.75	1.16	2.15	2.30	0.87	1.32	2.15	1.85	2.14	1.05
sum	99.94	100.21	100.14	99.98	99.93	99.79	100.33	99.83	99.88	99.99	100.39
mol%An	19.0	17.8	18.1	16.5	16.7	19.4	18.0	17.1	18.2	16.4	19.0
mol%Ab	71.9	72.1	75.2	71.0	70.0	75.6	74.3	70.5	71.0	71.1	75.0
mol%Or	9.0	10.1	6.7	12.5	13.3	5.0	7.6	12.5	10.8	12.5	6.0

Table B.9.12: TEQ-34, Plagioclase grain 12

Dist (µm)	0.0	15.5	31.0	46.5	62.0	77.5	92.9	108.4	123.9	139.4	154.9	170.4	185.9	201.4	216.9	263.3	278.8
SiO_2	60.03	60.19	60.89	60.78	61.02	60.06	59.55	60.47	60.32	60.29	59.76	59.34	59.87	61.15	59.53	59.66	60.31
TiO_2	0.01	0.04	0.03	0.04	0.04	0.03	0.05	0.04	0.04	0.03	0.05	0.07	0.03	0.03	0.04	0.06	0.06
Al_2O_3	24.75	24.61	24.33	24.42	24.23	25.30	25.34	24.86	24.88	24.73	25.11	25.25	25.18	24.34	25.28	25.02	24.56
Fe_2O_3	0.35	0.32	0.33	0.29	0.35	0.37	0.40	0.38	0.36	0.37	0.41	0.57	0.38	0.34	0.39	0.38	0.41
MnO	0.01	-0.02	-0.01	-0.02	-0.04	-0.02	0.01	0.02	0.04	0.03	0.02	0.00	-0.03	-0.01	-0.05	0.04	0.04
MgO	0.04	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.08	0.04	0.02	0.03	0.04	0.04
CaO	6.37	6.42	5.91	5.97	5.79	6.80	7.05	5.93	6.37	6.33	6.79	7.16	6.60	5.82	6.78	6.62	6.14
BaO	0.17	0.09	0.07	0.17	0.19	0.10	0.09	0.15	0.10	0.07	0.08	0.05	0.10	0.23	0.08	0.06	0.15
Na_2O	7.25	7.37	7.53	7.57	7.56	7.24	7.11	7.49	7.18	7.32	7.17	7.07	7.19	7.67	7.19	7.42	7.65
K_2O	0.76	0.75	0.84	0.90	0.87	0.61	0.63	0.78	0.73	0.77	0.59	0.49	0.75	0.88	0.68	0.70	0.85
sum	99.74	99.82	99.96	100.16	100.07	100.56	100.25	100.16	100.06	99.98	100.04	100.14	100.17	100.51	100.00	100.01	100.26
mol%An	31.2	31.1	28.8	28.8	28.2	33.0	34.1	29.1	31.5	30.9	33.2	34.8	32.2	28.0	32.9	31.7	29.2
mol%Ab	64.3	64.6	66.4	66.0	66.7	63.5	62.2	66.4	64.2	64.6	63.4	62.3	63.4	66.9	63.1	64.3	65.9
mol%Or	4.5	4.3	4.9	5.2	5.0	3.5	3.6	4.6	4.3	4.5	3.4	2.8	4.4	5.1	4.0	4.0	4.8

Table B.9.13: TEQ-34, Plagioclase grain 13

Dist (µm)	0.0	29.7	118.9	148.6	178.4	208.1	297.3	327.0	356.7	386.5	416.2	505.4	535.1	594.5	624.3
SiO_2	58.75	59.98	61.54	58.82	60.77	60.50	58.92	60.19	58.84	58.95	58.12	58.30	59.49	60.19	61.88
TiO_2	0.06	0.04	0.03	0.05	0.03	0.06	0.08	0.10	0.03	0.01	0.03	0.03	0.03	0.03	0.05
Al_2O_3	26.00	25.01	24.13	25.64	24.57	24.61	24.96	23.90	25.57	25.42	25.65	25.69	24.98	24.57	23.27
Fe_2O_3	0.44	0.39	0.33	0.42	0.34	0.53	0.69	0.84	0.36	0.38	0.52	0.41	0.35	0.29	0.55
MnO	0.03	-0.03	0.01	0.00	0.02	0.02	0.03	0.02	0.02	0.03	0.00	-0.02	-0.03	-0.03	0.02
MgO	0.05	0.04	0.02	0.03	0.03	0.07	0.14	0.19	0.03	0.04	0.03	0.03	0.01	0.02	0.07
CaO	7.67	6.67	5.52	7.51	6.21	6.46	7.04	6.50	7.36	7.21	7.68	7.68	6.77	6.22	4.98
BaO	0.02	0.15	0.21	0.16	0.20	0.19	0.13	0.01	0.01	0.05	0.08	-0.05	-0.07	0.00	0.16
Na_2O	6.98	7.24	7.98	6.81	7.42	7.38	7.08	7.33	6.98	6.95	6.80	6.91	7.22	7.58	8.19
K_2O	0.61	0.63	0.56	0.62	0.77	0.68	0.53	0.51	0.52	0.65	0.34	0.58	0.67	0.78	0.53
sum	100.63	100.15	100.33	100.06	100.37	100.51	99.61	99.62	99.74	99.71	99.26	99.64	99.53	99.68	99.70
mol%An	36.5	32.5	26.8	36.5	30.2	31.3	34.4	31.9	35.7	35.1	37.7	36.8	32.8	29.8	24.4
mol%Ab	60.1	63.8	70.0	59.9	65.4	64.7	62.6	65.1	61.3	61.2	60.4	59.9	63.3	65.7	72.5
mol%Or	3.4	3.7	3.2	3.6	4.4	3.9	3.1	3.0	3.0	3.7	2.0	3.3	3.9	4.5	3.1

Table B.9.14: TEQ-34, Plagioclase grain 14

Dist (µm)	0.0	29.5	59.1	88.6	118.1	147.6	177.2	206.7	236.2	265.7	295.3	324.8	354.3	383.8	413.4	442.9
SiO_2	58.63	60.57	59.78	57.93	59.28	58.76	58.62	58.75	58.85	58.94	58.69	58.98	58.49	58.72	58.70	58.67
TiO_2	0.02	0.01	0.01	0.03	0.04	0.05	0.05	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.02
Al_2O_3	25.51	24.42	24.51	25.68	24.88	25.60	25.38	25.43	25.62	25.38	25.56	25.33	25.40	25.51	25.58	25.48
Fe_2O_3	0.42	0.30	0.36	0.39	0.36	0.37	0.39	0.38	0.37	0.41	0.43	0.42	0.40	0.37	0.39	0.42
MnO	0.02	0.01	0.02	0.04	-0.01	0.02	0.02	0.02	0.03	0.01	-0.01	0.01	0.00	0.01	0.01	0.03
MgO	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.05	0.04	0.04
CaO	7.70	6.15	6.46	7.50	6.97	7.60	7.43	7.63	7.31	7.35	7.37	7.28	7.55	7.53	7.46	7.63
BaO	0.10	0.11	0.14	0.03	0.06	0.14	0.10	0.08	0.13	0.03	0.05	0.04	0.03	-0.03	0.00	0.03
Na_2O	6.73	7.54	7.19	6.73	7.18	6.81	6.76	6.81	6.81	6.81	6.90	6.91	6.90	6.76	6.83	6.86
K_2O	0.62	0.84	0.80	0.65	0.69	0.65	0.65	0.62	0.62	0.65	0.64	0.62	0.64	0.61	0.66	0.62
sum	99.82	100.00	99.31	99.02	99.49	100.07	99.43	99.81	99.84	99.65	99.73	99.66	99.48	99.59	99.70	99.85
mol%An	37.4	29.6	31.6	36.7	33.5	36.7	36.3	36.9	35.9	36.0	35.7	35.5	36.3	36.7	36.2	36.7
mol%Ab	59.1	65.6	63.7	59.5	62.5	59.6	59.9	59.6	60.5	60.3	60.5	60.9	60.0	59.7	60.0	59.8
mol%Or	3.6	4.8	4.7	3.8	4.0	3.7	3.8	3.6	3.6	3.8	3.7	3.6	3.7	3.6	3.8	3.5

Table B.9.15: TEQ-34, Plagioclase grain 15

Dist (µm)	0.0	29.6	236.4	295.5	325.1	354.6	384.2	413.7	443.3	472.8
SiO_2	61.39	61.47	61.92	61.63	60.98	62.40	61.65	61.25	61.60	61.04
TiO_2	0.02	0.02	0.02	0.02	0.04	0.04	0.03	0.03	0.01	0.05
Al_2O_3	24.01	24.21	23.54	23.49	23.74	23.23	24.09	23.74	23.74	23.97
Fe_2O_3	0.32	0.32	0.32	0.33	0.33	0.31	0.29	0.29	0.31	0.36
MnO	0.00	0.02	-0.01	0.00	-0.02	-0.04	0.03	0.01	0.00	0.02
MgO	0.02	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.03
CaO	5.50	5.42	4.97	4.92	5.37	4.57	5.34	5.02	5.12	5.63
BaO	0.17	0.14	0.35	0.24	0.24	0.40	0.27	0.34	0.33	0.28
Na_2O	7.82	7.77	7.91	7.97	7.78	8.02	7.78	7.88	7.80	7.72
K_2O	1.06	0.95	1.11	1.16	1.00	1.17	1.08	1.04	1.01	0.81
sum	100.32	100.36	100.17	99.82	99.53	100.16	100.58	99.62	99.97	99.95
mol%An	26.3	26.3	24.1	23.8	26.0	22.3	25.8	24.4	25.1	27.4
mol%Ab	67.7	68.2	69.5	69.6	68.2	70.9	68.0	69.5	69.1	67.9
mol%Or	6.0	5.5	6.4	6.7	5.7	6.8	6.2	6.1	5.9	4.7

Table B.9.16: TEQ-34, Plagioclase grain 16

Dist (µm)	15.3	30.6	45.8	61.1	76.4	91.7	106.9	122.2	137.5	152.8	168.0	183.3
SiO_2	62.33	62.55	62.53	62.53	62.18	62.66	62.17	62.11	61.97	62.10	62.41	63.18
TiO_2	0.02	0.03	0.02	0.03	0.02	0.00	0.01	0.02	0.00	0.02	0.02	0.06
Al_2O_3	23.29	23.17	23.04	23.32	23.29	23.10	23.11	23.50	23.12	23.08	23.30	22.41
Fe_2O_3	0.32	0.28	0.29	0.30	0.26	0.25	0.29	0.31	0.30	0.27	0.30	0.44
MnO	-0.02	0.00	0.01	-0.02	0.03	0.02	0.02	0.00	0.01	0.01	0.02	0.01
MgO	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.00	0.02	0.07
CaO	4.57	4.36	4.43	4.40	4.40	4.47	4.50	4.66	4.62	4.62	4.34	3.97
BaO	0.28	0.32	0.27	0.39	0.32	0.32	0.24	0.34	0.34	0.30	0.37	0.43
Na_2O	8.05	8.12	8.15	8.09	8.03	8.09	8.13	7.99	8.12	8.05	8.09	8.64
K_2O	1.28	1.35	1.39	1.38	1.32	1.33	1.29	1.30	1.34	1.34	1.40	0.80
sum	100.17	100.20	100.16	100.46	99.85	100.25	99.80	100.26	99.86	99.81	100.27	100.01
mol%An	22.1	21.1	21.3	21.3	21.4	21.6	21.7	22.5	22.1	22.2	21.0	19.3
mol%Ab	70.5	71.1	70.8	70.8	70.9	70.7	70.9	70.0	70.3	70.1	70.9	76.0
mol%Or	7.4	7.8	8.0	7.9	7.7	7.6	7.4	7.5	7.6	7.7	8.1	4.7

Table B.9.17: TEQ-34, Plagioclase grain 17

Dist (µm)	0.0	28.9	86.8	115.7	173.6	202.5	289.4	318.3	347.2	405.1	434.0	463.0
SiO_2	61.36	61.98	61.39	61.76	61.89	61.86	61.19	61.43	61.13	61.28	61.67	61.44
TiO_2	0.02	0.03	0.04	0.02	0.03	0.03	0.03	0.03	0.02	0.01	0.03	0.04
Al_2O_3	24.13	23.09	23.79	23.34	23.53	23.52	24.36	23.97	23.79	23.91	23.53	23.31
Fe_2O_3	0.34	0.30	0.34	0.30	0.31	0.32	0.31	0.31	0.26	0.29	0.28	0.43
MnO	-0.01	0.00	0.02	0.01	-0.01	0.00	0.02	0.01	0.01	0.01	0.01	0.02
MgO	0.02	0.00	0.02	0.01	0.02	0.02	0.01	0.02	0.00	0.01	0.02	0.05
CaO	5.74	4.54	5.16	4.88	4.80	4.99	5.60	5.36	5.35	5.27	5.01	5.00
BaO	0.21	0.35	0.34	0.30	0.37	0.27	0.10	0.15	0.15	0.20	0.17	0.08
Na_2O	7.74	8.01	7.89	8.01	8.08	7.82	7.88	8.09	8.03	8.02	8.27	8.09
K_2O	0.94	1.19	1.07	1.07	1.12	1.05	0.86	0.94	0.85	0.98	0.78	0.91
sum	100.50	99.50	100.07	99.70	100.17	99.91	100.38	100.33	99.63	99.98	99.77	99.37
mol%An	27.5	22.2	24.9	23.6	23.1	24.5	26.8	25.4	25.6	25.2	24.0	24.1
mol%Ab	67.1	70.9	68.9	70.2	70.5	69.4	68.3	69.3	69.6	69.3	71.6	70.7
mol%Or	5.4	6.9	6.1	6.2	6.4	6.1	4.9	5.3	4.8	5.5	4.5	5.2

Table B.9.18: TEQ-34, Plagioclase grain 18

Dist (µm)	0.0	29.5	59.0	88.5	118.1	147.6	177.1	206.6	236.1	265.6
SiO_2	62.94	63.06	63.27	63.15	63.03	62.54	63.06	63.44	62.72	63.93
TiO_2	0.01	0.01	0.00	0.01	0.02	0.01	0.02	0.02	0.02	0.02
Al_2O_3	22.09	22.52	22.39	22.44	22.31	22.23	22.57	22.44	22.33	21.98
Fe_2O_3	0.33	0.30	0.25	0.26	0.23	0.27	0.27	0.27	0.25	0.33
MnO	0.02	-0.02	-0.02	-0.02	-0.03	-0.01	0.02	0.00	0.00	0.01
MgO	0.02	0.01	0.00	0.01	0.01	0.01	0.02	0.01	0.01	0.02
CaO	3.34	3.84	3.51	3.71	3.46	3.72	3.66	3.72	3.74	3.11
BaO	0.69	0.56	0.75	0.65	0.62	0.48	0.70	0.64	0.62	0.62
Na_2O	8.55	8.13	8.12	8.23	8.12	8.11	8.07	8.02	8.09	9.00
K_2O	1.63	1.80	1.91	1.94	1.85	1.72	1.95	1.86	1.68	1.07
sum	99.61	100.23	100.24	100.41	99.67	99.09	100.37	100.44	99.48	100.12
mol%An	16.1	18.6	17.2	17.7	17.0	18.2	17.8	18.2	18.3	15.1
mol%Ab	74.5	71.1	71.7	71.2	72.2	71.8	70.9	71.0	71.8	78.8
mol%Or	9.3	10.3	11.1	11.1	10.8	10.0	11.3	10.8	9.8	6.2

Table B.9.19: TEQ-34, Plagioclase grain 19

Dist (µm)	0.0	30.4	60.7	91.1	121.4	151.8	182.1	212.5	273.2	303.6	333.9	364.3	394.6	425.0	455.4	485.7	516.1	576.8	607.1
SiO_2	63.02	62.23	62.05	62.75	62.54	65.95	62.82	62.47	62.22	62.54	61.73	62.99	62.73	62.91	62.93	63.04	62.56	62.60	62.56
TiO_2	0.02	0.04	0.03	0.02	0.03	0.21	0.03	0.05	0.04	0.04	0.06	0.02	0.03	0.02	0.03	0.03	0.04	0.02	0.05
Al_2O_3	22.31	23.13	23.32	22.85	23.05	18.93	22.43	22.66	23.17	22.61	21.98	22.67	22.84	22.52	22.84	22.60	23.08	22.97	23.14
Fe_2O_3	0.26	0.27	0.31	0.28	0.29	1.75	0.29	0.30	0.30	0.27	0.73	0.30	0.25	0.25	0.28	0.28	0.30	0.29	0.33
MnO	0.00	-0.01	-0.05	-0.04	-0.04	0.04	-0.02	0.02	-0.04	-0.02	0.04	0.00	-0.01	0.00	0.02	0.01	0.01	0.04	0.02
MgO	0.01	0.01	0.01	0.01	0.01	0.19	0.01	0.02	0.02	0.01	0.05	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.02
CaO	3.56	4.44	4.50	4.08	4.47	2.49	3.74	4.09	4.30	3.91	3.71	4.00	4.10	3.81	3.91	3.81	4.38	4.12	4.36
BaO	0.53	0.37	0.44	0.53	0.36	0.42	0.54	0.51	0.46	0.51	0.44	0.47	0.56	0.52	0.61	0.62	0.50	0.43	0.47
Na_2O	8.31	8.04	8.29	8.19	8.28	7.48	8.15	8.01	7.97	8.32	8.10	8.19	8.56	8.30	8.63	8.14	8.08	8.65	8.62
K_2O	1.66	1.41	1.12	1.52	0.96	2.10	1.72	1.43	1.44	1.51	1.31	1.49	1.05	1.52	0.84	1.75	1.43	0.71	0.54
sum	99.70	99.98	100.08	100.26	100.02	99.59	99.73	99.57	99.92	99.72	98.18	100.19	100.17	99.88	100.11	100.30	100.41	99.85	100.12
mol%An	17.3	21.5	21.6	19.7	21.7	13.4	18.2	20.2	21.0	18.8	18.6	19.4	19.7	18.5	19.1	18.5	21.1	20.0	21.2
mol%Ab	73.1	70.4	72.0	71.6	72.7	73.1	71.8	71.4	70.6	72.5	73.6	71.9	74.3	72.8	76.1	71.4	70.6	75.9	75.7
mol%Or	9.6	8.1	6.4	8.7	5.6	13.5	10.0	8.4	8.4	8.6	7.8	8.6	6.0	8.7	4.9	10.1	8.3	4.1	3.1

Table B.9.20: TEQ-34, Plagioclase grain 20

Dist (µm)	0.0	117.8	294.5	471.2	589.0	824.6	942.4	1060.2
SiO_2	60.09	61.31	60.43	60.54	62.08	62.02	61.76	60.83
TiO_2	0.04	0.02	0.01	0.03	0.03	0.03	0.04	0.08
Al_2O_3	24.48	23.78	24.23	24.22	23.41	23.85	24.19	23.72
Fe_2O_3	0.36	0.33	0.38	0.29	0.31	0.30	0.28	0.72
MnO	0.01	0.00	0.00	0.02	0.02	0.00	-0.01	0.01
MgO	0.03	0.01	0.03	0.03	0.02	0.03	0.01	0.12
CaO	6.21	5.44	5.90	6.03	4.85	5.28	5.26	5.81
BaO	0.19	0.26	0.15	0.12	0.20	0.18	0.18	0.00
Na_2O	7.43	7.88	7.65	7.56	7.93	7.92	7.92	7.56
K_2O	0.84	0.89	0.80	0.76	1.12	0.94	0.97	0.58
sum	99.67	99.94	99.62	99.64	100.01	100.55	100.62	99.43
mol%An	30.1	26.2	28.5	29.2	23.6	25.5	25.4	28.8
mol%Ab	65.1	68.7	66.9	66.4	69.9	69.1	69.1	67.8
mol%Or	4.8	5.1	4.6	4.4	6.5	5.4	5.6	3.4

Table B.9.21: TEQ-34, Plagioclase grain 21

Dist (µm)	0.0	15.0	30.0	45.1	60.1	75.1	90.1	105.1	120.2	135.2	150.2	165.2	180.2	195.2	210.3	225.3	240.3
SiO_2	58.37	58.84	58.88	59.34	59.63	60.46	60.33	60.03	58.89	58.50	59.31	59.86	59.76	58.83	58.40	58.05	58.16
TiO_2	0.04	0.04	0.04	0.04	0.03	0.05	0.04	0.03	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.05
Al_2O_3	25.67	25.66	25.63	25.33	25.10	24.51	24.21	24.76	25.38	25.65	25.16	25.04	25.06	25.30	25.82	26.00	26.00
Fe_2O_3	0.46	0.39	0.39	0.39	0.39	0.34	0.35	0.33	0.41	0.39	0.38	0.37	0.40	0.40	0.44	0.40	0.49
MnO	0.01	0.01	0.00	-0.01	0.01	0.01	0.02	0.00	0.01	-0.01	-0.01	0.01	0.01	0.02	0.00	-0.01	0.00
MgO	0.03	0.03	0.03	0.03	0.04	0.03	0.02	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04
CaO	7.64	7.34	7.39	7.05	6.96	6.28	6.12	6.52	7.16	7.61	6.90	6.89	6.86	7.12	7.73	7.78	8.01
BaO	0.10	0.09	0.01	0.12	0.04	0.06	0.09	0.12	0.10	0.14	0.13	0.16	0.15	0.10	0.02	0.12	0.02
Na_2O	6.79	6.72	6.86	7.01	7.08	7.42	7.39	7.25	6.81	6.86	7.10	7.26	7.07	7.03	6.68	6.67	6.61
K_2O	0.54	0.63	0.68	0.65	0.69	0.77	0.82	0.80	0.65	0.62	0.67	0.57	0.69	0.56	0.60	0.58	0.55
sum	99.71	99.75	99.93	99.99	100.00	99.95	99.41	99.89	99.51	99.87	99.75	100.27	100.14	99.47	99.79	99.69	99.93
mol%An	37.2	36.2	35.9	34.4	33.8	30.4	29.9	31.7	35.4	36.7	33.6	33.3	33.5	34.7	37.7	37.9	38.8
mol%Ab	59.7	60.1	60.2	61.8	62.2	65.1	65.3	63.7	60.8	59.8	62.5	63.4	62.5	62.0	58.9	58.7	58.0
mol%Or	3.1	3.7	3.9	3.8	4.0	4.4	4.8	4.6	3.8	3.5	3.9	3.3	4.0	3.3	3.5	3.4	3.2

Table B.9.22: TEQ-34, Plagioclase grain 22

Dist (µm)	29.3	44.0	58.6	73.3	87.9	102.6	117.3	146.6	161.2	205.2
SiO_2	58.11	58.28	58.24	57.77	58.21	57.99	57.62	56.92	56.92	58.32
TiO_2	0.06	0.07	0.08	0.08	0.07	0.06	0.06	0.06	0.06	0.09
Al_2O_3	25.48	25.85	25.75	25.68	25.83	25.88	26.21	26.46	26.58	25.23
Fe_2O_3	0.62	0.54	0.52	0.56	0.50	0.53	0.59	0.59	0.55	0.66
MnO	0.02	0.01	0.03	0.03	0.05	0.00	-0.02	-0.03	0.02	0.00
MgO	0.09	0.06	0.06	0.08	0.06	0.05	0.05	0.06	0.05	0.09
CaO	7.92	7.73	7.77	8.21	7.75	8.04	8.42	8.85	8.69	8.14
BaO	-0.01	0.08	0.15	0.05	0.03	0.10	0.12	-0.01	0.02	0.01
Na_2O	6.69	6.90	6.69	6.66	6.61	6.54	6.36	6.13	6.15	6.65
K_2O	0.42	0.35	0.49	0.45	0.53	0.57	0.50	0.43	0.47	0.45
sum	99.42	99.88	99.78	99.82	99.64	99.79	99.99	99.55	99.60	100.07
mol%An	38.6	37.5	38.0	39.5	38.1	39.1	41.0	43.3	42.7	39.3
mol%Ab	59.0	60.5	59.2	58.0	58.8	57.5	56.1	54.2	54.6	58.1
mol%Or	2.4	2.0	2.8	2.6	3.1	3.3	2.9	2.5	2.7	2.6

Table B.9.23: TEQ-34, Plagioclase grain 23

Dist (µm)	0.0	14.4	43.3	57.7	72.1	86.5	129.8	144.2	158.6	173.0	187.5	201.9	216.3
SiO_2	61.44	61.79	62.07	61.46	62.21	61.66	61.08	61.04	61.33	62.24	61.96	61.49	60.59
TiO_2	0.02	0.04	0.04	0.04	0.04	0.03	0.06	0.03	0.04	0.03	0.05	0.03	0.04
Al_2O_3	23.88	23.98	23.89	23.81	23.45	23.78	23.74	24.32	23.92	23.56	23.46	23.79	24.46
Fe_2O_3	0.34	0.32	0.31	0.29	0.33	0.34	0.52	0.29	0.31	0.27	0.32	0.30	0.33
MnO	0.02	-0.02	0.02	0.04	0.01	0.00	0.01	0.03	0.01	0.00	-0.03	0.01	-0.03
MgO	0.00	0.02	0.02	0.03	0.02	0.03	0.07	0.03	0.02	0.02	0.02	0.02	0.02
CaO	5.31	5.29	5.23	5.30	4.68	5.22	5.73	5.77	5.14	4.88	4.87	5.19	6.08
BaO	0.19	0.35	0.33	0.28	0.33	0.15	0.13	0.11	0.26	0.43	0.31	0.25	0.16
Na_2O	7.86	7.99	7.88	7.88	8.14	7.99	7.72	7.61	7.96	7.95	8.00	7.90	7.49
K_2O	0.95	0.95	1.00	0.98	1.06	0.83	0.74	0.97	1.00	1.08	1.12	1.05	0.81
sum	100.01	100.76	100.81	100.11	100.32	100.04	99.82	100.23	99.98	100.47	100.12	100.08	99.98
mol%An	25.7	25.3	25.3	25.6	22.6	25.3	27.8	27.9	24.8	23.8	23.6	25.0	29.5
mol%Ab	68.8	69.3	68.9	68.8	71.3	70.0	67.9	66.5	69.5	70.0	70.0	68.9	65.8
mol%Or	5.5	5.4	5.8	5.7	6.1	4.8	4.3	5.6	5.7	6.2	6.5	6.0	4.7

Table B.9.24: TEQ-34, Plagioclase grain 24

Dist (µm)	0.0	15.2	30.4	45.7	60.9	76.1	91.3	106.6	121.8	137.0	167.5	197.9	228.3	243.6	258.8	274.0
SiO_2	62.52	61.88	62.35	62.48	62.84	62.68	61.76	62.84	62.38	62.30	61.88	62.77	62.22	61.89	62.13	62.13
TiO_2	0.04	0.02	0.02	0.02	0.04	0.05	0.03	0.04	0.03	0.03	0.03	0.05	0.03	0.06	0.04	0.04
Al_2O_3	23.44	23.61	23.19	23.57	22.79	22.91	23.87	22.95	23.30	23.40	23.58	22.97	23.64	23.47	23.61	23.85
Fe_2O_3	0.35	0.30	0.31	0.30	0.47	0.52	0.28	0.27	0.27	0.30	0.28	0.50	0.34	0.45	0.28	0.35
MnO	0.04	0.03	0.03	0.03	0.04	0.01	-0.01	0.02	0.01	0.02	0.00	0.00	0.02	0.02	0.02	0.02
MgO	0.03	0.02	0.01	0.02	0.06	0.05	0.01	0.01	0.02	0.02	0.01	0.07	0.01	0.05	0.01	0.01
CaO	4.66	4.86	4.41	4.75	4.29	4.68	5.06	4.20	4.51	4.72	4.89	4.48	5.12	4.92	4.87	4.85
BaO	0.31	0.28	0.35	0.39	0.35	0.19	0.28	0.45	0.42	0.37	0.34	0.28	0.29	0.33	0.27	0.30
Na_2O	8.22	8.18	8.21	8.26	8.44	8.10	8.31	8.20	8.08	8.14	8.13	8.62	8.11	8.01	7.99	8.19
K_2O	0.90	0.96	1.15	0.95	0.85	0.85	0.73	1.41	1.27	1.26	1.13	0.57	0.87	1.00	1.13	1.06
sum	100.51	100.15	100.03	100.77	100.21	100.04	100.33	100.40	100.28	100.55	100.30	100.32	100.72	100.23	100.39	100.83
mol%An	22.6	23.4	21.4	22.8	20.8	23.0	24.1	20.3	21.9	22.5	23.3	21.6	24.6	23.9	23.6	23.2
mol%Ab	72.2	71.2	72.0	71.8	74.2	72.0	71.8	71.6	70.8	70.3	70.2	75.2	70.4	70.3	69.9	70.8
mol%Or	5.2	5.5	6.6	5.4	4.9	5.0	4.1	8.1	7.3	7.2	6.4	3.3	5.0	5.8	6.5	6.0

Table B.9.25: TEQ-34, Plagioclase grain 25

Dist (µm)	0.0	14.6	43.8	58.3	72.9	87.5	116.7	131.3	145.9	160.4	175.0	189.6	204.2
SiO_2	64.54	64.03	63.10	63.02	63.19	63.07	63.71	64.24	64.65	65.60	66.11	63.53	64.67
TiO_2	0.06	0.04	0.01	0.00	0.01	0.04	0.02	0.06	0.05	0.07	0.09	0.00	0.08
Al_2O_3	21.36	21.37	22.48	22.33	22.71	22.30	22.09	21.51	20.96	20.06	19.91	22.08	20.72
Fe_2O_3	0.42	0.36	0.36	0.33	0.33	0.35	0.33	0.39	0.36	0.55	1.02	0.31	1.10
MnO	0.04	-0.01	0.02	-0.03	0.01	0.04	0.04	0.05	0.04	0.05	0.02	0.00	0.03
MgO	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.03	0.10	0.00	0.18
CaO	2.77	2.32	3.63	3.66	3.71	3.50	3.26	2.77	1.69	1.43	2.23	3.07	2.94
BaO	0.56	1.29	0.51	0.43	0.40	0.56	0.66	1.03	1.66	1.55	0.73	0.85	0.60
Na_2O	8.66	8.84	8.16	8.39	8.25	8.26	8.36	8.62	8.88	9.30	8.87	8.72	8.56
K_2O	1.78	1.58	1.78	1.50	1.65	1.75	1.83	1.59	1.82	1.31	1.04	1.36	1.14
sum	100.28	99.85	100.07	99.71	100.31	99.90	100.36	100.31	100.15	99.94	100.12	99.94	100.06
mol%An	13.5	11.5	17.7	17.7	18.0	17.0	15.8	13.7	8.5	7.2	11.4	15.0	14.9
mol%Ab	76.2	79.2	72.0	73.6	72.4	72.8	73.6	77.0	80.6	84.9	82.2	77.1	78.3
mol%Or	10.3	9.3	10.3	8.7	9.6	10.1	10.6	9.3	10.9	7.9	6.3	7.9	6.9

Table B.9.26: TEQ-34, Plagioclase grain 26

Dist (µm)	0.0	15.0	30.0	45.0	60.0	74.9	89.9	149.9	164.9	179.9	194.8	209.8	224.8	239.8	254.8	269.8	284.8
SiO_2	63.05	62.86	62.95	62.84	62.82	63.22	63.21	63.75	63.12	64.06	63.16	62.44	63.03	63.64	63.49	63.24	62.90
TiO_2	0.00	0.02	0.03	0.03	0.02	0.02	0.04	0.02	0.04	0.03	0.04	0.02	0.02	0.01	0.02	0.03	0.01
Al_2O_3	22.67	22.57	22.48	22.64	22.69	22.71	22.01	21.86	22.37	21.97	21.80	22.47	22.64	21.79	21.79	22.45	22.63
Fe_2O_3	0.27	0.27	0.28	0.23	0.27	0.25	0.24	0.22	0.27	0.36	0.45	0.25	0.27	0.24	0.22	0.27	0.26
MnO	-0.01	0.04	0.01	0.01	0.04	0.01	0.00	0.01	0.02	0.01	0.01	-0.02	0.01	-0.02	0.01	0.01	-0.01
MgO	0.01	0.01	0.01	0.00	0.01	0.01	0.02	0.02	0.01	0.03	0.05	0.01	0.00	0.01	0.01	0.01	0.01
CaO	3.81	3.82	3.63	3.72	4.00	3.64	3.02	2.79	3.59	3.22	3.41	3.70	3.77	2.98	2.84	3.21	3.79
BaO	0.66	0.66	0.76	0.60	0.46	0.70	0.95	0.83	0.76	0.90	0.67	0.66	0.54	0.84	0.95	0.85	0.54
Na_2O	8.12	8.14	8.15	8.25	8.11	8.35	7.97	7.90	8.33	9.01	8.69	8.66	8.46	8.23	7.97	8.10	8.31
K_2O	1.69	1.66	1.81	1.66	1.58	1.42	2.30	2.61	1.60	0.82	0.77	0.66	1.15	1.95	2.44	2.09	1.55
sum	100.30	100.08	100.13	100.02	100.00	100.35	99.75	100.02	100.12	100.43	99.05	98.90	99.89	99.69	99.76	100.29	100.01
mol%An	18.6	18.6	17.7	18.0	19.5	17.8	14.9	13.8	17.5	15.7	17.0	18.4	18.4	14.8	14.1	15.8	18.3
mol%Ab	71.6	71.8	71.8	72.4	71.4	73.9	71.5	70.8	73.3	79.5	78.4	77.7	74.8	73.7	71.5	72.0	72.7
mol%Or	9.8	9.6	10.5	9.6	9.1	8.3	13.6	15.4	9.3	4.8	4.6	3.9	6.7	11.5	14.4	12.2	8.9

Table B.9.27: TEQ-34, Plagioclase grain 27

Dist (µm)	0.0	15.0	44.9	59.9	74.9	89.8	104.8	119.8	134.7	149.7	164.7
SiO_2	59.58	58.47	58.53	58.73	59.24	59.18	58.69	57.77	57.74	58.47	58.18
TiO_2	0.07	0.06	0.08	0.08	0.08	0.07	0.06	0.06	0.06	0.10	0.09
Al_2O_3	25.09	25.19	25.39	25.45	25.31	25.23	25.41	25.89	26.04	25.18	25.29
Fe_2O_3	0.55	0.46	0.65	0.54	0.52	0.43	0.50	0.47	0.54	0.56	0.60
MnO	-0.01	0.01	0.02	0.03	0.03	0.01	0.01	-0.01	0.02	0.01	-0.01
MgO	0.04	0.04	0.06	0.05	0.05	0.04	0.06	0.06	0.06	0.06	0.09
CaO	6.82	7.19	7.58	7.45	7.27	6.92	7.61	8.02	8.16	7.72	7.61
BaO	0.11	0.15	0.18	0.14	0.07	0.18	0.08	0.12	0.14	0.07	0.17
Na_2O	7.17	6.83	6.70	6.77	6.92	6.97	6.84	6.43	6.48	6.79	6.71
K_2O	0.62	0.58	0.54	0.55	0.62	0.70	0.64	0.52	0.49	0.59	0.44
sum	100.08	99.03	99.76	99.84	100.11	99.72	100.07	99.35	99.77	99.80	99.20
mol%An	33.2	35.5	37.2	36.6	35.4	34.0	36.7	39.6	39.9	37.3	37.5
mol%Ab	63.2	61.1	59.6	60.2	61.0	61.9	59.6	57.4	57.3	59.4	59.9
mol%Or	3.6	3.4	3.1	3.2	3.6	4.1	3.7	3.1	2.8	3.4	2.6

Table B.9.28: TEQ-34, Plagioclase grain 28

Dist (µm)	0.0	29.1	58.2	87.4	116.5	145.6	174.7	203.8	232.9	262.1	291.2	320.3	349.4
SiO_2	60.43	60.66	62.31	61.44	61.40	61.04	60.40	60.33	60.37	60.56	60.83	59.74	61.48
TiO_2	0.04	0.03	0.07	0.02	0.08	0.01	0.02	0.03	0.04	0.04	0.04	0.03	0.04
Al_2O_3	24.52	24.61	23.02	24.43	23.17	24.30	24.23	24.85	24.49	24.44	24.33	24.65	23.72
Fe_2O_3	0.33	0.29	0.82	0.30	0.91	0.30	0.32	0.31	0.31	0.33	0.30	0.34	0.38
MnO	0.03	0.01	-0.01	-0.03	0.01	0.00	-0.01	0.00	0.02	-0.03	0.01	-0.01	0.04
MgO	0.02	0.01	0.06	0.02	0.17	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.02
CaO	6.24	6.13	5.03	5.46	5.62	5.67	5.76	6.26	5.87	5.86	5.74	6.17	5.24
BaO	0.13	0.14	0.21	0.17	0.16	0.24	0.20	0.13	0.22	0.23	0.14	0.16	0.23
Na_2O	7.53	7.49	7.92	7.68	7.53	7.69	7.62	7.32	7.43	7.54	7.63	7.38	8.06
K_2O	0.84	0.77	0.81	0.97	0.80	0.95	0.93	0.77	0.86	0.85	0.93	0.79	0.73
sum	100.13	100.16	100.28	100.50	99.89	100.24	99.50	100.03	99.62	99.87	99.97	99.27	99.96
mol%An	29.9	29.8	24.8	26.6	27.8	27.4	27.9	30.6	28.9	28.6	27.8	30.1	25.3
mol%Ab	65.3	65.8	70.5	67.7	67.5	67.2	66.8	64.9	66.1	66.5	66.8	65.3	70.5
mol%Or	4.8	4.5	4.8	5.7	4.7	5.5	5.3	4.5	5.0	4.9	5.4	4.6	4.2

Table B.9.29: TEQ-34, Plagioclase grain 29

Dist (µm)	0.0	61.9	123.8	185.7	247.6	309.5	371.4	433.3	495.2	557.1	619.1
SiO_2	60.01	61.14	61.59	61.19	61.33	58.51	61.75	61.35	61.41	60.64	60.58
TiO_2	0.05	0.04	0.04	0.05	0.03	0.02	0.02	0.03	0.03	0.03	0.08
Al_2O_3	24.67	23.80	23.58	23.61	23.98	22.99	23.92	23.73	23.95	24.31	24.12
Fe_2O_3	0.47	0.33	0.33	0.34	0.31	0.27	0.28	0.30	0.33	0.28	0.51
MnO	0.01	0.01	0.03	-0.01	-0.04	-0.03	-0.01	-0.03	-0.01	-0.01	0.00
MgO	0.05	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.07
CaO	6.22	5.32	5.12	5.09	5.28	5.21	5.41	5.36	5.47	5.74	5.67
BaO	0.26	0.29	0.26	0.33	0.21	0.13	0.13	0.25	0.21	0.15	0.13
Na_2O	7.42	7.89	7.90	7.87	7.76	7.62	7.81	7.77	7.80	7.58	7.81
K_2O	0.77	1.01	1.05	1.05	1.04	0.67	0.97	1.00	1.00	0.88	0.59
sum	99.93	99.85	99.92	99.55	99.96	95.44	100.30	99.82	100.25	99.63	99.56
mol%An	30.2	25.6	24.7	24.7	25.7	26.3	26.1	26.0	26.3	28.0	27.7
mol%Ab	65.3	68.6	69.2	69.2	68.3	69.7	68.3	68.2	67.9	66.9	68.9
mol%Or	4.4	5.8	6.0	6.1	6.0	4.0	5.6	5.8	5.7	5.1	3.4

Table B.9.30: TEQ-34, Plagioclase grain 30

Dist (µm)	0.0	60.6	121.3	181.9	242.6	303.2	363.8	424.5	485.1	545.7	606.4
SiO_2	61.20	61.00	60.52	60.33	60.39	60.16	60.24	61.13	61.38	61.48	61.66
TiO_2	0.04	0.04	0.04	0.05	0.04	0.03	0.05	0.05	0.04	0.04	0.05
Al_2O_3	24.04	24.32	24.49	24.58	24.56	24.92	24.41	23.83	23.91	23.67	23.40
Fe_2O_3	0.35	0.34	0.33	0.33	0.30	0.34	0.36	0.31	0.30	0.33	0.36
MnO	-0.01	0.00	-0.01	0.00	0.02	0.00	0.00	0.00	0.00	-0.01	0.01
MgO	0.01	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.03
CaO	5.61	5.78	6.02	6.33	6.01	6.31	5.84	5.47	5.35	5.14	4.72
BaO	0.17	0.18	0.17	0.07	0.08	0.20	0.18	0.18	0.13	0.15	0.27
Na_2O	7.71	7.66	7.54	7.46	7.57	7.37	7.51	7.79	7.80	7.95	8.24
K_2O	0.94	0.89	0.87	0.85	0.84	0.84	0.90	0.98	0.99	1.06	0.77
sum	100.08	100.24	100.03	100.01	99.84	100.21	99.51	99.77	99.95	99.84	99.52
mol%An	27.1	27.9	29.1	30.4	29.0	30.5	28.5	26.4	25.9	24.7	23.0
mol%Ab	67.5	67.0	65.9	64.8	66.2	64.6	66.3	68.0	68.4	69.2	72.6
mol%Or	5.4	5.1	5.0	4.9	4.8	4.8	5.2	5.6	5.7	6.1	4.4

Table B.9.31: TEQ-34, Plagioclase grain 31

Dist (µm)	0.0	60.0	120.1	180.1	240.2	300.2	360.3	420.3	480.4	540.4	600.5	660.5
SiO_2	64.05	63.30	63.58	64.36	64.49	64.72	64.28	64.54	63.88	52.92	64.06	64.20
TiO_2	0.05	0.06	0.04	0.03	0.03	0.02	0.03	0.01	0.01	0.01	0.01	0.01
Al_2O_3	21.56	21.94	22.03	21.09	21.41	21.19	21.25	21.41	21.65	15.73	21.44	22.01
Fe_2O_3	0.29	0.21	0.22	0.17	0.21	0.22	0.23	0.23	0.21	1.54	0.26	0.30
MnO	0.01	-0.02	0.00	0.00	0.00	0.02	-0.01	-0.01	0.00	0.03	-0.03	0.01
MgO	0.01	0.00	0.01	0.01	0.01	0.00	0.02	0.01	0.01	0.20	0.00	0.02
CaO	2.73	2.91	3.01	1.89	2.19	2.07	2.24	2.18	2.64	1.81	2.44	2.88
BaO	1.01	1.07	0.95	1.09	1.00	1.02	0.97	0.96	1.05	0.81	1.09	1.02
Na_2O	8.12	8.01	8.04	7.75	7.84	7.87	7.91	9.05	8.00	7.06	8.27	8.65
K_2O	2.60	2.55	2.48	3.72	3.29	3.39	3.19	1.66	2.81	0.90	2.47	1.69
sum	100.43	100.07	100.37	100.12	100.49	100.52	100.14	100.05	100.28	81.01	100.05	100.77
mol%An	13.3	14.3	14.7	9.3	10.8	10.2	11.0	10.6	12.9	11.6	12.0	14.0
mol%Ab	71.6	70.9	70.9	68.9	69.9	70.0	70.3	79.8	70.7	81.6	73.6	76.2
mol%Or	15.1	14.8	14.4	21.8	19.3	19.9	18.7	9.6	16.4	6.8	14.5	9.8

Table B.9.32: TEQ-34, Plagioclase grain 32

Dist (µm)	0.0	15.2	30.3	45.5	60.7	75.8	91.0	106.1	121.3	136.5	151.6	166.8	182.0	197.1	212.3	227.5	242.6	257.8	273.0
SiO_2	63.25	63.43	63.80	63.90	63.69	63.64	63.17	64.08	64.01	63.62	63.63	63.58	63.73	63.86	63.93	63.47	63.63	63.39	63.47
TiO_2	0.01	0.02	0.02	0.02	0.02	0.00	0.02	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.02	0.02
Al_2O_3	22.06	21.80	21.58	21.60	21.55	21.75	21.91	21.87	21.57	21.78	21.56	21.63	21.31	21.55	21.58	21.68	21.57	22.11	21.94
Fe_2O_3	0.26	0.26	0.23	0.24	0.23	0.22	0.25	0.21	0.21	0.27	0.21	0.25	0.22	0.24	0.26	0.25	0.22	0.25	0.26
MnO	0.03	0.01	0.00	0.01	0.05	-0.03	0.01	-0.03	0.01	-0.01	0.00	0.02	0.01	0.01	0.01	0.00	0.02	0.00	0.01
MgO	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01
CaO	3.01	2.71	2.62	2.65	2.57	2.67	2.81	2.59	2.71	2.70	2.59	2.53	2.36	2.54	2.73	2.68	2.78	2.94	3.05
BaO	0.85	1.21	1.26	1.10	1.35	1.11	1.05	1.09	1.02	1.11	1.01	0.98	0.96	0.99	0.99	1.13	1.17	0.90	1.12
Na_2O	8.51	7.96	8.32	8.43	7.96	7.96	8.04	8.18	8.16	7.93	7.80	7.83	7.68	8.10	8.09	7.88	7.90	7.92	8.16
K_2O	1.60	2.70	2.16	2.06	2.69	2.63	2.38	2.36	2.37	2.74	2.79	2.91	3.33	2.60	2.57	2.73	2.78	2.57	2.00
sum	99.61	100.13	100.04	100.03	100.13	99.99	99.64	100.38	100.06	100.18	99.61	99.74	99.63	99.94	100.19	99.82	100.08	100.13	100.05
mol%An	14.8	13.3	13.0	13.0	12.7	13.2	13.9	12.8	13.3	13.3	12.9	12.5	11.7	12.5	13.3	13.3	13.6	14.5	15.1
mol%Ab	75.8	70.9	74.3	75.0	71.4	71.3	72.0	73.2	72.7	70.6	70.5	70.3	68.7	72.2	71.7	70.6	70.1	70.5	73.1
mol%Or	9.4	15.8	12.7	12.0	15.9	15.5	14.0	13.9	13.9	16.1	16.6	17.2	19.6	15.2	15.0	16.1	16.2	15.1	11.8

Table B.9.33: TEQ-34, Plagioclase grain 33

Dist (µm)	0.0	59.3	118.6	177.9	237.2	296.5	355.7	415.0	474.3	533.6	592.9	652.2	711.5	770.8	830.1	889.4	948.6	1007.9
SiO_2	64.45	64.89	65.05	65.15	64.36	64.74	65.13	64.76	65.05	64.45	64.73	64.80	64.63	65.30	65.25	65.05	63.57	63.39
TiO_2	-0.01	0.00	0.02	0.02	0.02	0.00	0.00	0.01	0.02	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.03	0.01
Al_2O_3	21.02	21.45	21.45	21.25	21.27	21.16	21.26	21.17	21.29	21.34	21.32	21.18	21.11	20.85	20.75	21.12	21.47	21.92
Fe_2O_3	0.19	0.13	0.16	0.16	0.18	0.16	0.14	0.16	0.14	0.16	0.15	0.15	0.17	0.16	0.19	0.16	0.23	0.26
MnO	0.00	0.00	-0.01	-0.01	0.00	0.00	-0.02	-0.01	0.00	0.00	-0.01	0.02	0.00	-0.02	0.01	-0.01	-0.01	0.00
MgO	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01
CaO	2.18	2.42	2.35	2.29	2.32	2.09	2.10	2.20	2.37	2.41	2.33	2.37	2.21	1.87	1.89	2.18	2.47	2.89
BaO	0.74	0.32	0.32	0.42	0.30	0.32	0.55	0.38	0.53	0.48	0.42	0.44	0.48	0.44	0.39	0.37	0.98	0.99
Na_2O	7.90	8.17	8.07	8.14	7.94	8.00	9.20	8.09	7.94	7.93	8.03	8.10	8.05	8.03	8.07	8.07	7.80	8.54
K_2O	3.45	2.99	3.20	3.28	3.23	3.36	1.59	3.14	3.22	3.07	3.06	3.03	3.17	3.49	3.48	3.12	2.98	1.71
sum	99.93	100.42	100.63	100.73	99.63	99.84	100.00	99.95	100.58	99.86	100.06	100.12	99.84	100.15	100.05	100.11	99.55	99.75
mol%An	10.6	11.7	11.3	11.0	11.3	10.1	10.2	10.7	11.5	11.8	11.4	11.5	10.8	9.1	9.2	10.6	12.3	14.2
mol%Ab	69.4	71.2	70.3	70.4	70.0	70.4	80.7	71.1	69.8	70.3	70.9	71.0	70.9	70.7	70.7	71.3	70.1	75.8
mol%Or	20.0	17.2	18.3	18.7	18.7	19.4	9.2	18.2	18.6	17.9	17.8	17.5	18.4	20.2	20.1	18.1	17.6	10.0

Table B.9.34: TEQ-34, Plagioclase grain 34

Dist (µm)	0.0	61.3	122.5	183.8	306.3	367.5	490.0	551.3	612.5	673.8	735.0	796.3
SiO_2	59.37	59.83	58.80	59.83	61.24	60.98	60.21	57.46	60.02	59.21	59.91	61.27
TiO_2	0.01	0.00	0.00	0.03	0.03	0.03	0.04	0.07	0.04	0.05	0.03	0.03
Al_2O_3	25.32	25.01	25.57	24.89	24.02	24.20	24.78	24.88	24.94	25.40	24.51	24.20
Fe_2O_3	0.43	0.39	0.38	0.37	0.29	0.28	0.34	0.68	0.36	0.40	0.35	0.30
MnO	-0.01	-0.01	-0.01	-0.02	-0.03	-0.02	0.02	0.01	0.01	0.00	0.00	0.02
MgO	0.04	0.03	0.04	0.04	0.02	0.04	0.02	0.12	0.03	0.04	0.03	0.03
CaO	7.02	6.70	7.32	6.61	5.34	5.84	6.42	7.24	6.59	7.06	6.26	5.93
BaO	0.10	0.05	0.10	0.12	0.21	0.25	0.13	0.11	0.15	0.12	0.22	0.18
Na_2O	7.16	7.15	6.93	7.20	7.82	7.53	7.25	6.74	7.29	7.00	7.42	7.54
K_2O	0.58	0.73	0.64	0.77	0.95	0.90	0.80	0.41	0.77	0.60	0.84	0.87
sum	100.07	99.95	99.81	99.86	99.93	100.06	100.05	97.77	100.23	99.89	99.59	100.43
mol%An	33.9	32.7	35.5	32.2	25.9	28.4	31.3	36.4	31.8	34.6	30.3	28.8
mol%Ab	62.7	63.1	60.8	63.4	68.6	66.4	64.0	61.2	63.7	62.0	64.9	66.2
mol%Or	3.4	4.3	3.7	4.4	5.5	5.2	4.6	2.4	4.5	3.5	4.8	5.0

Table B.9.35: TEQ-34, Plagioclase grain 35

Dist (µm)	0.0	59.9	119.8	179.7	299.5	539.2	599.1	659.0	718.9	1018.4	1138.2	1198.1	1258.0
SiO_2	62.01	62.41	62.66	62.43	63.64	62.45	62.23	62.92	73.32	62.40	61.65	62.80	62.45
TiO_2	0.04	0.05	0.04	0.03	0.10	0.03	0.04	0.03	0.03	0.09	0.05	0.07	0.04
Al_2O_3	23.30	23.17	23.01	22.98	22.53	23.17	23.25	22.82	16.41	23.57	23.33	22.73	22.92
Fe_2O_3	0.37	0.51	0.41	0.29	0.72	0.31	0.34	0.72	1.01	0.33	0.29	0.36	0.27
MnO	0.01	0.04	0.03	0.00	0.02	0.04	0.04	0.05	0.03	0.05	-0.02	0.01	-0.01
MgO	0.03	0.06	0.06	0.01	0.13	0.02	0.02	0.10	0.18	0.03	0.02	0.04	0.01
CaO	4.74	4.56	4.77	4.36	4.67	4.49	4.57	4.35	2.64	4.49	4.85	4.05	4.31
BaO	0.32	0.31	0.38	0.40	0.28	0.25	0.26	0.49	0.18	0.42	0.32	0.51	0.45
Na_2O	8.09	8.18	8.30	8.13	8.07	8.40	8.14	8.30	6.86	8.56	7.98	8.49	8.27
K_2O	0.89	0.87	0.59	1.23	0.87	0.71	0.93	0.91	0.29	0.86	1.04	0.88	1.12
sum	99.83	100.18	100.25	99.86	101.04	99.89	99.89	100.72	101.00	100.81	99.55	99.97	99.85
mol%An	23.2	22.4	23.3	21.2	23.0	21.8	22.4	21.3	17.1	21.4	23.6	19.8	20.9
mol%Ab	71.6	72.5	73.3	71.6	71.9	74.0	72.2	73.4	80.6	73.7	70.3	75.1	72.6
mol%Or	5.2	5.1	3.4	7.1	5.1	4.1	5.4	5.3	2.3	4.9	6.0	5.1	6.5

Table B.9.36: TEQ-34, Plagioclase grain 36

Dist (µm)	7.8	15.6	23.5	31.3	39.1
SiO_2	62.19	61.23	60.27	62.00	61.39
TiO_2	0.01	0.02	0.01	0.02	0.04
Al_2O_3	23.07	23.57	23.19	23.27	22.99
Fe_2O_3	0.47	0.39	0.43	0.38	0.47
MnO	0.01	0.00	0.00	-0.01	0.04
MgO	0.00	0.00	0.01	-0.01	0.01
CaO	5.22	5.16	5.98	4.96	5.03
BaO	0.08	0.05	0.02	0.00	0.13
Na_2O	8.62	8.29	8.28	8.50	8.26
K_2O	0.45	0.56	0.41	0.78	0.48
sum	100.14	99.42	98.63	99.95	98.83
mol%An	24.5	24.8	27.8	23.3	24.5
mol%Ab	73.1	72.1	69.9	72.3	72.8
mol%Or	2.5	3.2	2.3	4.4	2.8

Table B.9.37: TEQ-34, Plagioclase grain 37

Dist (µm)	0.0	7.5	15.1	22.6	30.0	37.6	45.1	52.6	60.2	67.7	75.2	82.7	90.2	97.7
SiO_2	60.03	60.71	61.97	60.76	61.44	61.13	61.65	61.28	62.19	61.95	61.96	62.19	61.24	60.66
TiO_2	0.04	0.06	0.07	0.07	0.09	0.09	0.06	0.05	0.08	0.06	0.06	0.05	0.06	0.07
Al_2O_3	23.99	23.55	23.48	22.39	22.71	23.33	23.37	22.61	22.71	22.50	23.14	22.97	23.77	23.77
Fe_2O_3	0.66	0.48	0.39	0.44	0.38	0.42	0.44	0.44	0.40	0.35	0.36	0.41	0.48	0.54
MnO	-0.01	0.02	0.02	0.01	0.01	0.00	-0.01	0.01	-0.01	0.02	0.02	0.05	-0.02	0.04
MgO	0.01	-0.01	-0.01	-0.01	0.04	-0.02	0.04	0.02	0.00	0.02	0.01	0.01	0.02	0.04
CaO	6.60	5.95	4.63	4.91	4.92	5.50	5.33	4.65	4.36	4.81	4.87	4.58	5.95	6.16
BaO	0.14	0.09	0.29	0.32	0.23	0.35	0.06	0.28	0.32	0.35	0.32	0.38	0.43	0.29
Na_2O	7.61	7.62	8.45	8.52	8.23	8.17	7.93	8.14	8.21	8.05	8.05	8.11	7.89	7.97
K_2O	0.55	0.83	1.23	0.98	0.97	0.66	1.09	1.20	1.44	1.42	1.22	1.44	0.91	0.49
sum	99.64	99.30	100.65	99.19	99.01	99.66	99.97	98.68	99.83	99.89	100.14	100.19	100.74	100.10
mol%An	31.4	28.7	21.6	22.8	23.5	26.1	25.4	22.3	20.8	22.8	23.3	21.8	27.9	29.1
mol%Ab	65.5	66.5	71.5	71.7	71.0	70.2	68.4	70.8	71.0	69.2	69.7	70.0	67.0	68.1
mol%Or	3.1	4.8	6.9	5.5	5.5	3.7	6.2	6.9	8.2	8.0	7.0	8.2	5.1	2.8

Table B.9.38: TEQ-34, Plagioclase grain 38

Dist (µm)	0.0	14.8	44.4	59.2	74.0	88.8	103.6	118.4
SiO_2	60.76	62.29	62.63	62.69	61.80	61.93	61.96	62.67
TiO_2	0.07	0.05	0.05	0.06	0.01	0.06	0.06	0.04
Al_2O_3	23.44	22.86	21.50	22.07	22.36	23.33	23.07	21.90
Fe_2O_3	0.50	0.29	0.40	0.50	0.42	0.49	0.52	0.50
MnO	-0.02	0.04	0.02	0.01	0.04	0.04	0.03	0.04
MgO	0.05	0.02	0.00	0.03	0.03	0.05	0.05	0.04
CaO	6.23	4.17	3.20	3.78	4.87	4.54	4.33	4.22
BaO	0.05	0.17	0.23	0.39	0.36	0.24	0.48	0.47
Na_2O	7.65	8.87	8.87	8.13	8.21	8.53	8.32	8.56
K_2O	0.40	0.62	1.51	1.32	1.06	1.03	1.36	1.25
sum	99.15	99.56	98.40	98.97	99.23	100.23	100.17	99.75
mol%An	30.3	19.9	15.2	18.9	23.2	21.4	20.6	19.9
mol%Ab	67.4	76.6	76.3	73.3	70.8	72.8	71.7	73.1
mol%Or	2.3	3.5	8.5	7.8	6.0	5.8	7.7	7.0

Table B.9.39: TEQ-34, Plagioclase grain 39

Dist (µm)	0.0	7.5	15.0	22.5	30.0	37.5	45.0	52.5	59.9	67.5	75.1	82.5
SiO_2	59.08	58.97	58.73	59.57	59.93	59.84	59.88	60.05	59.96	59.63	59.36	59.20
TiO_2	0.05	0.07	0.07	0.04	0.06	0.03	0.09	0.05	0.05	0.10	0.04	0.05
Al_2O_3	24.97	25.10	24.85	24.33	24.92	24.84	24.13	24.49	24.35	24.44	24.20	24.41
Fe_2O_3	0.48	0.48	0.47	0.43	0.40	0.38	0.38	0.42	0.50	0.45	0.40	0.47
MnO	0.01	0.00	0.05	0.01	-0.01	0.01	0.00	-0.03	0.05	0.09	0.04	0.07
MgO	0.01	0.03	0.02	0.05	0.06	0.05	0.02	0.04	0.02	0.00	0.01	0.02
CaO	7.08	6.77	6.91	7.27	6.88	6.74	6.84	6.61	6.66	7.11	6.94	6.80
BaO	0.03	0.11	0.08	0.04	0.11	0.01	0.09	0.19	0.20	0.00	0.05	0.10
Na_2O	7.04	7.32	7.21	7.02	7.33	7.38	7.26	7.31	7.45	7.35	7.44	7.30
K_2O	0.66	0.79	0.66	0.75	0.72	0.71	0.79	0.77	0.71	0.73	0.75	0.41
sum	99.41	99.70	99.05	99.51	100.40	100.02	99.47	99.93	99.94	99.90	99.46	98.83
mol%An	34.3	32.3	33.3	34.8	32.8	32.2	32.7	31.9	31.7	33.4	32.6	33.2
mol%Ab	61.8	63.2	62.9	60.9	63.2	63.8	62.8	63.7	64.2	62.5	63.2	64.4
mol%Or	3.8	4.5	3.8	4.3	4.1	4.0	4.5	4.4	4.0	4.1	4.2	2.4

Table B.9.40: TEQ-34, Plagioclase grain 40

Dist (µm)	0.0	7.2	14.4	21.6	28.7	35.9	43.0	57.5	64.6	71.8	78.9	86.1	93.3	100.5
SiO_2	65.29	63.73	64.12	62.63	64.40	63.49	62.87	62.35	62.47	62.87	62.74	63.86	61.12	64.69
TiO_2	0.07	0.03	0.08	0.04	0.03	0.07	0.10	0.08	0.08	0.06	0.07	0.02	0.02	0.03
Al_2O_3	20.19	20.81	21.27	21.64	21.07	21.73	21.57	22.30	22.78	22.43	21.41	21.60	20.06	21.29
Fe_2O_3	0.32	0.49	0.40	0.31	0.40	0.50	0.45	0.42	0.31	0.31	0.43	0.34	0.39	0.23
MnO	0.04	0.04	0.03	0.02	0.07	0.00	-0.01	-0.05	-0.04	0.04	0.06	-0.01	0.06	0.05
MgO	-0.01	-0.01	0.01	0.01	0.01	0.01	0.02	0.04	0.01	0.02	0.00	0.01	0.01	0.01
CaO	1.53	2.47	2.18	3.17	2.45	3.28	3.27	3.51	4.40	3.67	3.28	3.31	5.04	2.69
BaO	1.61	1.03	1.78	0.75	0.73	0.51	0.40	0.72	0.49	0.62	0.91	0.91	0.65	0.31
Na_2O	9.36	8.77	8.61	8.26	8.00	8.28	8.34	8.29	8.28	7.94	7.79	8.10	8.36	9.65
K_2O	1.92	1.33	2.49	2.10	3.23	2.06	1.85	1.70	1.60	1.85	2.14	2.09	1.80	0.82
sum	100.31	98.69	100.99	98.92	100.56	99.90	99.08	99.52	100.45	99.84	98.82	100.33	99.11	99.87
mol%An	7.4	12.4	10.5	15.4	11.8	15.8	15.9	17.1	20.7	18.1	16.5	16.2	22.6	12.7
mol%Ab	81.6	79.7	75.2	72.5	69.7	72.3	73.4	73.0	70.4	71.0	70.7	71.6	67.8	82.7
mol%Or	11.0	8.0	14.3	12.1	18.5	11.8	10.7	9.9	8.9	10.9	12.8	12.2	9.6	4.6

Table B.9.41: TEQ-34, Plagioclase grain 41

Dist (µm)	0.0	15.7	23.6	31.5	47.2	55.1	63.0	70.8	78.7
SiO_2	64.60	62.47	63.67	63.24	63.26	64.43	62.33	62.80	63.21
TiO_2	0.05	0.08	0.05	0.10	0.02	0.07	0.03	0.01	0.05
Al_2O_3	21.21	22.75	22.21	21.91	21.56	20.90	22.41	22.00	22.45
Fe_2O_3	0.31	0.35	0.45	0.41	0.45	0.37	0.37	0.43	0.51
MnO	0.01	-0.07	-0.04	-0.07	0.02	-0.01	0.03	-0.01	-0.01
MgO	-0.01	0.05	0.04	0.01	0.00	0.01	0.04	0.02	0.01
CaO	2.28	4.13	3.81	3.59	3.15	2.42	4.33	3.59	3.38
BaO	0.95	0.37	0.47	0.62	0.59	0.82	0.56	0.73	0.59
Na_2O	9.12	8.66	9.35	9.14	7.81	9.65	8.86	8.52	8.68
K_2O	1.14	0.73	0.49	0.57	1.40	1.11	0.72	1.74	1.35
sum	99.76	99.59	100.52	99.59	98.39	99.78	99.75	99.84	100.30
mol%An	11.3	20.0	17.9	17.2	16.6	11.4	20.4	17.0	16.3
mol%Ab	81.9	75.8	79.4	79.5	74.6	82.4	75.5	73.1	75.9
mol%Or	6.7	4.2	2.7	3.3	8.8	6.2	4.1	9.8	7.8

Table B.9.42: TEQ-34, Plagioclase grain 42

Dist (µm)	0.0	7.3	14.5	21.9	29.2	36.4	51.0	65.6	72.9	80.1	87.4	94.8	102.0	109.3
SiO_2	65.31	64.41	65.06	64.94	65.09	64.20	64.64	64.39	64.96	64.03	64.32	64.44	63.33	64.88
TiO_2	0.09	0.06	0.06	0.01	0.08	0.01	0.00	0.01	0.04	0.06	0.04	0.07	0.08	0.06
Al_2O_3	20.30	21.38	20.21	20.55	20.17	20.91	20.82	21.14	20.59	21.02	21.80	21.07	21.18	20.52
Fe_2O_3	0.33	0.36	0.16	0.23	0.53	0.22	0.24	0.20	0.20	0.29	0.27	0.28	0.29	0.19
MnO	0.08	0.08	-0.01	0.01	0.01	-0.04	0.01	-0.05	0.02	0.02	0.03	-0.02	0.02	-0.04
MgO	0.03	0.01	0.03	0.00	0.04	0.00	0.02	0.01	-0.01	0.00	0.01	-0.02	0.01	-0.02
CaO	2.03	2.25	1.68	1.51	2.01	1.98	2.41	2.34	2.32	2.45	2.92	2.24	2.69	1.49
BaO	0.86	0.84	0.98	1.33	0.85	1.35	0.96	1.00	0.48	0.60	0.26	0.91	1.06	1.69
Na_2O	9.76	8.98	9.00	8.80	9.14	8.87	8.88	9.87	9.25	9.34	8.94	8.77	8.63	8.25
K_2O	0.96	1.57	2.26	2.35	1.38	1.38	0.94	0.78	1.05	0.80	1.59	2.09	1.72	1.81
sum	99.76	99.95	99.43	99.74	99.29	98.92	98.90	99.73	99.00	98.65	100.17	99.89	99.01	98.92
mol%An	9.7	11.0	8.1	7.5	9.9	10.0	12.3	11.1	11.4	12.1	13.9	10.9	13.2	8.0
mol%Ab	84.8	79.8	78.9	78.7	81.9	81.6	82.0	84.5	82.4	83.2	77.1	77.1	76.7	80.3
mol%Or	5.5	9.2	13.0	13.8	8.2	8.3	5.7	4.4	6.2	4.7	9.0	12.1	10.0	11.6

Table B.9.43: TEQ-34, Plagioclase grain 43

Dist (µm)	0.0	15.0	22.6	30.1	37.6	45.1	52.7	60.2	67.7	75.2	82.7	90.3	97.8	105.3
SiO_2	64.78	63.68	62.95	64.40	62.48	62.94	62.68	63.01	59.52	62.85	62.92	62.98	62.72	64.99
TiO_2	0.03	0.02	0.01	0.01	0.02	0.03	0.02	-0.01	0.02	0.06	0.06	0.04	0.07	0.03
Al_2O_3	20.66	21.51	22.70	21.77	22.05	22.12	22.22	22.09	21.65	22.12	21.93	22.08	22.18	21.22
Fe_2O_3	0.18	0.19	0.24	0.26	0.24	0.29	0.33	0.27	0.35	0.38	0.40	0.28	0.39	0.40
MnO	-0.02	-0.04	-0.05	0.03	0.03	-0.04	0.07	-0.03	0.03	0.02	-0.01	0.01	0.03	0.00
MgO	0.00	0.00	-0.01	0.01	0.02	0.00	0.02	0.02	0.00	0.01	0.02	0.02	0.00	0.02
CaO	2.43	2.90	4.15	3.30	3.83	3.68	3.64	3.70	6.07	3.56	3.42	3.58	3.49	3.51
BaO	0.85	0.97	0.46	0.46	0.37	0.49	0.57	0.61	0.35	0.53	0.69	0.55	0.40	0.51
Na_2O	8.56	8.34	8.63	8.85	8.11	8.08	7.94	8.07	7.68	8.08	8.36	8.72	8.31	9.02
K_2O	1.47	2.29	0.81	1.09	1.62	1.71	1.85	2.04	1.49	1.97	1.61	1.25	1.18	0.80
sum	99.16	99.93	99.95	100.18	98.77	99.34	99.34	99.84	98.98	99.85	99.58	99.58	98.83	100.53
mol%An	12.4	14.0	20.0	16.0	18.7	18.1	18.0	17.9	27.9	17.3	16.7	17.2	17.5	16.9
mol%Ab	78.7	72.8	75.3	77.7	71.8	71.9	71.1	70.4	63.9	71.2	73.9	75.7	75.4	78.5
mol%Or	8.9	13.2	4.7	6.3	9.4	10.0	10.9	11.7	8.2	11.4	9.4	7.1	7.1	4.6

Table B.9.44: TEQ-34, Plagioclase grain 44

Dist (µm)	0.0	14.4	28.8	43.1	57.6	86.4	100.7	115.1	129.6	144.0	158.3
SiO_2	55.97	56.82	57.95	56.15	57.33	58.15	59.10	58.64	57.54	57.51	57.18
TiO_2	0.05	0.01	0.04	0.07	0.05	0.09	0.07	0.07	0.07	0.09	0.09
Al_2O_3	25.95	25.36	25.75	25.53	25.11	25.62	24.43	24.47	25.53	25.66	25.77
Fe_2O_3	0.62	0.58	0.56	0.61	0.55	0.55	0.56	0.53	0.61	0.55	0.82
MnO	-0.02	0.06	0.04	0.00	-0.02	-0.05	-0.05	0.00	0.04	0.00	0.05
MgO	0.04	0.04	0.06	0.08	0.06	0.07	0.05	0.03	0.07	0.06	0.09
CaO	8.70	8.16	8.93	9.01	8.00	7.88	7.48	6.94	8.94	8.72	8.63
BaO	-0.03	0.07	-0.01	0.06	-0.01	-0.12	-0.08	-0.12	0.00	-0.01	0.12
Na_2O	6.60	6.45	6.40	6.29	6.69	6.67	7.12	7.15	6.60	6.46	6.47
K_2O	0.48	0.63	0.51	0.30	0.62	0.52	0.60	0.82	0.51	0.50	0.36
sum	98.48	98.20	100.37	98.12	98.44	99.55	99.55	98.68	99.90	99.55	99.58
mol%An	41.0	39.6	42.3	43.4	38.4	38.3	35.5	33.3	41.6	41.5	41.6
mol%Ab	56.3	56.7	54.8	54.8	58.1	58.7	61.1	62.1	55.6	55.7	56.4
mol%Or	2.7	3.6	2.9	1.7	3.5	3.0	3.4	4.7	2.8	2.8	2.0

Table B.9.45: TEQ-34, Plagioclase grains

Lgth (µm)	25.2	48.1	40.0	44.4	6.8	30.3	16.6	32.5
SiO_2	65.09	62.86	65.83	64.33	67.93	64.13	63.55	64.22
TiO_2	0.03	0.00	0.09	0.07	0.23	0.09	0.11	0.08
Al_2O_3	21.47	22.74	20.42	21.52	17.73	21.80	22.95	21.70
Fe_2O_3	0.40	0.38	0.76	0.51	2.28	0.40	0.57	0.99
MnO	0.01	0.14	0.01	0.02	0.09	-0.04	-0.02	0.10
MgO	0.01	0.00	0.05	-0.02	0.42	-0.01	0.03	0.10
CaO	2.46	3.71	2.08	2.66	2.52	3.23	4.11	4.17
BaO	0.75	0.61	1.38	0.63	0.26	0.83	0.26	0.39
Na_2O	9.29	8.42	8.96	9.01	6.89	9.17	8.69	8.73
K_2O	1.50	1.85	1.03	1.60	2.47	0.89	0.91	0.47
sum	101.00	100.70	100.59	100.33	100.82	100.51	101.17	100.95
mol%An	11.7	17.6	10.6	12.7	14.1	15.5	19.7	20.3
mol%Ab	79.9	72.1	83.1	78.1	69.6	79.4	75.1	77.0
mol%Or	8.5	10.4	6.3	9.1	16.4	5.1	5.2	2.7

Table B.9.45: TEQ-34, Plagioclase grains

Lgth (µm)	27.2	29.9	19.0	29.9	20.8	41.7	32.8	20.0	20.8	61.0	61.0	64.1	61.5	57.1	57.1	63.5
SiO_2	62.47	66.19	64.25	61.24	59.86	65.05	60.97	60.42	61.01	65.16	64.33	59.89	64.62	61.36	61.98	65.36
TiO_2	0.17	0.07	0.04	0.04	0.01	0.08	0.01	0.05	0.02	0.08	0.09	0.08	0.04	0.11	0.12	0.04
Al_2O_3	23.26	21.11	22.47	24.01	24.77	22.44	24.14	24.68	23.88	22.15	22.28	25.17	21.37	23.95	23.58	20.80
Fe_2O_3	1.37	0.34	0.41	0.58	0.48	0.79	0.34	0.41	0.33	0.33	0.42	0.49	0.20	0.37	0.68	0.33
MnO	0.04	0.04	0.02	0.03	-0.03	-0.03	-0.03	-0.02	-0.05	-0.04	0.01	0.02	0.00	0.01	0.05	-0.02
MgO	0.21	0.03	0.00	0.03	0.04	0.07	-0.02	0.02	0.02	0.03	0.04	0.03	0.00	0.04	0.02	0.00
CaO	5.51	2.21	2.94	5.49	6.63	4.29	5.66	6.41	5.69	2.71	3.28	6.38	2.70	6.04	5.53	1.62
BaO	0.24	0.42	1.07	0.33	0.08	0.45	0.22	0.23	0.17	0.78	0.50	0.11	0.72	0.14	0.21	1.30
Na_2O	7.74	9.85	9.41	8.19	7.30	8.74	8.01	7.84	8.12	8.75	9.00	7.62	9.53	8.20	8.42	8.60
K_2O	0.64	0.95	0.79	0.65	0.68	0.77	1.04	0.88	0.54	2.12	1.38	0.63	1.03	0.52	0.46	3.23
sum	101.65	101.21	101.38	100.60	99.81	102.66	100.33	100.91	99.72	102.08	101.32	100.43	100.20	100.74	101.04	101.25
mol%An	27.2	10.5	14.0	26.0	32.1	20.4	26.5	29.6	27.0	12.9	15.5	30.5	12.8	28.1	26.0	7.7
mol%Ab	69.1	84.2	81.5	70.3	64.0	75.2	67.8	65.5	69.9	75.1	76.8	65.9	81.4	69.0	71.5	74.0
mol%Or	3.7	5.4	4.5	3.7	3.9	4.4	5.8	4.8	3.0	12.0	7.7	3.6	5.8	2.9	2.5	18.3

Table B.10.1: XAL-115, Plagioclase grain 1

Dist (µm)	0.0	59.6	119.1	178.7	238.3	297.9	357.5	476.6	536.2	595.8	655.3	714.8	774.4	834.0	1012.8	1072.3	1131.9	1191.5	1251.1	1310.6	1370.2
SiO_2	57.04	57.19	54.88	55.44	56.24	57.62	58.24	55.64	55.43	56.73	56.21	57.30	56.72	56.81	56.84	57.21	54.64	56.46	56.91	57.27	58.15
TiO_2	0.05	0.06	0.10	0.02	0.00	0.08	0.03	0.07	0.05	0.09	0.05	0.07	0.03	0.03	0.05	0.05	0.04	0.01	-0.01	0.04	0.03
Al_2O_3	26.89	27.12	28.27	28.08	27.80	26.51	25.82	27.53	28.34	26.87	26.96	26.64	27.12	27.09	26.22	26.48	27.62	26.55	26.53	26.26	26.06
Fe_2O_3	0.49	0.49	0.52	0.56	0.50	0.39	0.52	0.50	0.46	0.41	0.42	0.48	0.39	0.56	0.54	0.54	0.41	0.57	0.41	0.43	0.58
MnO	0.07	0.01	0.00	0.04	0.04	0.02	0.09	0.06	0.03	0.02	0.00	0.00	-0.03	-0.04	0.00	-0.03	-0.02	0.02	0.00	0.01	0.01
MgO	0.02	0.03	0.03	0.04	0.02	0.04	0.06	0.03	0.02	0.01	0.01	0.06	0.02	0.02	0.03	0.04	0.06	0.01	0.01	0.02	0.02
CaO	9.43	9.21	10.49	10.56	10.27	8.74	8.44	10.12	10.88	9.11	9.28	9.08	9.11	9.14	8.58	9.18	10.83	8.87	8.93	8.76	8.28
BaO	-0.06	-0.01	-0.04	0.02	-0.02	-0.01	0.01	0.01	-0.01	-0.12	-0.04	-0.04	0.01	0.02	0.17	0.06	0.09	-0.06	-0.04	-0.04	-0.04
Na_2O	6.29	6.35	5.42	5.65	5.81	6.64	6.71	5.82	5.50	6.34	6.22	6.40	6.28	6.26	6.30	6.22	5.34	6.47	6.36	6.26	6.78
K_2O	0.26	0.21	0.20	0.21	0.17	0.26	0.20	0.19	0.18	0.19	0.18	0.16	0.15	0.21	0.24	0.22	0.11	0.25	0.19	0.20	0.24
sum	100.58	100.69	99.94	100.68	100.96	100.32	100.15	100.03	100.93	99.77	99.35	100.23	99.83	100.18	99.03	99.99	99.17	99.28	99.40	99.36	100.22
mol%An	44.7	44.0	51.1	50.2	48.9	41.5	40.5	48.5	51.7	43.8	44.7	43.5	44.1	44.1	42.4	44.3	52.5	42.5	43.2	43.1	39.7
mol%Ab	53.9	54.9	47.8	48.6	50.1	57.1	58.3	50.5	47.3	55.1	54.3	55.6	55.0	54.7	56.2	54.4	46.9	56.1	55.7	55.7	58.9
mol%Or	1.4	1.2	1.2	1.2	1.0	1.5	1.2	1.1	1.0	1.1	1.0	0.9	0.9	1.2	1.4	1.2	0.6	1.4	1.1	1.1	1.3

Table B.10.2: XAL-115, Plagioclase grain 2

Dist (µm)	0.0	29.6	59.2	88.8	118.4	148.0	177.6	207.2	236.8	266.4	296.0	325.5	355.1	384.7	414.3	443.9
SiO_2	56.53	57.48	58.64	58.43	57.88	58.57	57.17	55.57	54.81	56.00	55.57	57.47	57.50	57.47	58.97	56.89
TiO_2	0.01	0.05	0.02	0.01	0.00	-0.01	0.05	0.03	0.01	0.03	-0.03	0.01	0.01	-0.05	-0.04	-0.02
Al_2O_3	27.11	26.14	26.53	26.04	26.74	26.42	26.45	28.54	28.46	27.45	27.81	26.59	26.72	26.35	26.13	26.34
Fe_2O_3	0.48	0.40	0.38	0.49	0.39	0.45	0.40	0.50	0.52	0.53	0.41	0.53	0.34	0.40	0.34	0.42
MnO	-0.03	0.02	0.01	0.05	0.04	-0.03	-0.04	0.05	-0.03	0.01	-0.01	0.01	0.02	-0.02	-0.01	0.03
MgO	0.02	0.02	0.00	0.01	0.03	0.00	0.01	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.00	0.02
CaO	8.85	7.99	8.40	8.32	8.70	8.70	8.86	10.29	10.90	10.40	10.15	8.54	8.61	8.94	7.66	8.68
BaO	0.07	0.12	-0.11	-0.09	0.06	0.06	0.15	0.10	0.07	0.12	0.09	0.15	0.12	0.20	0.14	0.15
Na_2O	6.26	6.64	7.00	7.10	6.71	6.75	6.32	5.60	5.35	5.77	5.51	6.73	6.74	6.54	7.13	6.51
K_2O	0.17	0.22	0.23	0.30	0.24	0.24	0.12	0.16	0.15	0.15	0.16	0.21	0.24	0.23	0.35	0.24
sum	99.56	99.09	101.27	100.74	100.83	101.26	99.63	100.99	100.34	100.52	99.73	100.33	100.40	100.16	100.72	99.36
mol%An	43.4	39.4	39.3	38.7	41.2	41.1	43.4	49.9	52.5	49.5	50.0	40.7	40.8	42.5	36.5	41.9
mol%Ab	55.6	59.3	59.4	59.7	57.5	57.6	55.9	49.2	46.6	49.6	49.1	58.1	57.8	56.2	61.5	56.8
mol%Or	1.0	1.3	1.3	1.6	1.3	1.3	0.7	0.9	0.8	0.9	0.9	1.2	1.3	1.3	2.0	1.3

Table B.10.3: XAL-115, Plagioclase grain 3

Dist (µm)	15.1	45.2	60.3	75.4	90.4	105.5	135.6	150.7	165.8	180.8	195.9	241.0	256.1	271.3	286.3	301.3	316.4
SiO_2	59.73	57.01	58.46	58.88	57.26	56.56	56.94	57.32	56.79	57.73	57.15	56.39	56.53	58.68	58.79	58.08	59.24
TiO_2	0.10	0.06	0.01	0.04	0.03	0.02	0.04	0.05	0.05	0.03	0.09	0.04	0.04	0.09	0.07	0.04	0.04
Al_2O_3	24.42	26.20	25.37	26.28	26.31	27.03	27.28	26.45	27.14	27.53	26.82	26.55	26.94	26.05	25.27	26.93	25.54
Fe_2O_3	0.58	0.40	0.45	0.41	0.41	0.48	0.46	0.41	0.41	0.33	0.47	0.55	0.46	0.37	0.38	0.38	0.56
MnO	0.04	0.05	0.06	0.06	0.03	0.10	0.04	0.03	0.06	0.01	0.05	-0.02	0.06	0.04	0.06	0.09	0.03
MgO	0.01	0.04	0.03	0.05	0.03	0.01	0.04	0.04	0.03	0.04	0.03	0.03	0.01	0.03	0.04	0.03	0.03
CaO	6.63	8.57	7.75	8.51	8.78	8.99	9.36	8.91	9.31	9.55	9.03	8.62	8.80	8.02	7.48	8.07	7.62
BaO	0.18	0.02	0.15	0.05	0.08	0.07	0.12	0.01	0.03	0.00	0.05	-0.02	0.06	0.17	0.14	0.01	0.10
Na_2O	7.42	6.60	7.23	6.66	6.35	6.52	6.19	6.35	6.32	6.29	6.38	6.63	6.51	7.04	7.38	6.93	7.54
K_2O	0.46	0.30	0.40	0.31	0.31	0.28	0.23	0.20	0.25	0.25	0.22	0.26	0.35	0.32	0.32	0.33	0.33
sum	99.56	99.25	99.90	101.26	99.62	100.05	100.69	99.82	100.41	101.78	100.30	99.12	99.77	100.86	99.95	100.97	101.02
mol%An	32.2	41.1	36.4	40.6	42.5	42.6	44.9	43.2	44.2	45.0	43.3	41.2	41.9	38.0	35.3	38.4	35.2
mol%Ab	65.2	57.2	61.4	57.6	55.7	55.9	53.8	55.7	54.3	53.6	55.4	57.3	56.1	60.3	63.0	59.7	63.0
mol%Or	2.6	1.7	2.3	1.8	1.8	1.6	1.3	1.2	1.4	1.4	1.2	1.5	2.0	1.8	1.8	1.9	1.8

Table B.10.4: XAL-115, Plagioclase grain 4

Dist (µm)	0.0	14.8	29.6	44.3	59.1	73.9	88.7	103.4	118.3	133.1	147.8	162.7	177.4	192.2	207.0	221.8	251.3	266.1
SiO_2	59.07	59.07	57.59	57.82	58.40	57.51	57.94	57.32	56.24	58.49	58.04	58.31	58.58	58.63	58.25	58.56	59.75	60.67
TiO_2	0.03	0.04	0.00	0.03	0.04	0.02	0.06	0.02	-0.01	-0.01	0.00	-0.01	0.01	0.02	0.02	-0.02	0.01	0.06
Al_2O_3	24.97	25.88	25.92	26.03	26.58	26.46	26.22	27.23	26.92	26.65	26.42	26.62	25.27	25.41	25.77	25.49	26.12	24.49
Fe_2O_3	0.46	0.44	0.47	0.38	0.53	0.44	0.47	0.51	0.50	0.49	0.53	0.55	0.49	0.40	0.38	0.46	0.48	0.48
MnO	0.04	-0.01	0.05	0.05	-0.03	-0.03	-0.06	0.04	0.00	-0.02	-0.02	0.02	0.04	-0.05	0.00	-0.01	-0.04	0.03
MgO	0.04	0.03	0.02	0.02	0.04	0.06	0.03	0.03	0.06	0.06	0.02	0.06	0.02	0.06	0.06	0.04	0.03	0.04
CaO	6.86	7.79	7.84	8.11	8.35	9.22	8.13	9.19	9.55	8.87	8.84	7.86	8.17	7.64	8.16	7.87	7.44	6.79
BaO	0.05	0.13	0.09	-0.03	0.10	-0.01	0.02	-0.04	0.18	0.10	0.13	0.13	0.17	-0.01	0.07	0.02	0.23	0.27
Na_2O	7.51	7.09	7.08	6.84	6.74	6.65	6.86	6.41	6.25	6.67	6.50	6.70	6.67	7.09	6.87	6.90	7.38	7.78
K_2O	0.37	0.29	0.26	0.32	0.35	0.27	0.34	0.25	0.20	0.18	0.23	0.33	0.28	0.40	0.29	0.32	0.46	0.55
sum	99.44	100.77	99.36	99.59	101.16	100.67	100.14	101.00	99.91	101.54	100.73	100.58	99.70	99.66	99.89	99.71	101.90	101.23
mol%An	32.8	37.2	37.4	38.9	39.8	42.7	38.8	43.6	45.2	41.9	42.4	38.6	39.7	36.5	38.9	37.9	34.9	31.6
mol%Ab	65.0	61.2	61.2	59.3	58.2	55.7	59.3	55.0	53.6	57.0	56.4	59.5	58.7	61.3	59.4	60.2	62.6	65.4
mol%Or	2.1	1.6	1.5	1.8	2.0	1.5	1.9	1.4	1.1	1.0	1.3	1.9	1.6	2.3	1.7	1.8	2.6	3.0

Table B.10.5: XAL-115, Plagioclase grain 5

Dist (µm)	0.0	14.8	58.9	73.7	117.9	132.7	162.1	176.8	191.6	206.3	221.1	235.8	250.5	265.3	280.0
SiO_2	58.28	57.12	57.61	58.32	57.76	58.12	58.25	58.98	58.07	56.96	57.07	57.75	57.60	56.65	58.58
TiO_2	0.07	0.05	0.08	0.05	0.05	0.04	0.05	0.06	0.04	0.01	0.06	0.06	0.07	0.07	0.03
Al_2O_3	25.80	26.72	26.01	26.20	26.02	25.70	26.39	25.82	25.11	26.47	25.98	26.58	26.45	25.78	25.89
Fe_2O_3	0.53	0.62	0.43	0.50	0.45	0.46	0.44	0.47	0.41	0.48	0.38	0.56	0.68	0.85	0.69
MnO	0.01	0.03	0.01	-0.02	0.07	0.01	0.02	0.00	0.03	-0.04	0.00	-0.04	-0.07	-0.03	-0.01
MgO	0.03	0.03	0.05	0.03	0.04	0.03	0.01	0.03	0.01	0.03	0.03	0.03	0.04	0.06	0.02
CaO	8.15	8.85	8.62	8.36	8.73	8.17	8.44	8.26	7.78	8.63	8.12	8.77	8.60	8.16	7.96
BaO	0.14	0.18	0.14	0.13	0.29	-0.11	0.08	0.05	0.26	0.05	-0.08	0.02	0.03	-0.08	0.02
Na_2O	6.69	6.64	6.74	6.73	6.58	6.83	6.88	6.68	6.71	6.71	6.71	6.55	6.44	6.48	6.75
K_2O	0.32	0.30	0.37	0.28	0.29	0.21	0.27	0.25	0.29	0.17	0.23	0.26	0.32	0.29	0.32
sum	100.02	100.53	100.06	100.58	100.29	99.57	100.84	100.58	98.72	99.50	98.57	100.57	100.27	98.33	100.29
mol%An	39.5	41.7	40.6	40.1	41.6	39.3	39.8	40.0	38.4	41.1	39.6	41.9	41.7	40.3	38.7
mol%Ab	58.6	56.6	57.3	58.4	56.8	59.5	58.7	58.5	59.9	57.9	59.1	56.6	56.5	58.0	59.4
mol%Or	1.9	1.7	2.1	1.6	1.7	1.2	1.5	1.4	1.7	1.0	1.3	1.5	1.8	1.7	1.8

Table B.10.6: XAL-115, Plagioclase grain 6

Dist (µm)	0.0	61.1	122.4	183.5	305.9	367.1	428.2	489.4	550.6	611.7	673.0	734.1	795.3	917.7	978.9	1101.2	1162.4	1223.6	1284.7	1346.0	1407.1
SiO_2	58.51	57.88	56.10	57.69	57.89	54.87	54.84	54.95	55.02	55.47	58.13	57.00	57.96	57.35	56.67	56.88	57.67	56.62	57.43	58.91	57.23
TiO_2	0.03	0.02	0.02	0.02	0.02	0.00	0.03	-0.01	0.00	-0.01	-0.03	-0.04	-0.02	-0.08	-0.06	0.06	0.00	0.04	0.04	0.02	0.04
Al_2O_3	26.22	25.69	26.24	25.96	25.39	26.83	26.97	27.03	28.32	27.95	25.80	26.21	26.22	26.41	27.06	26.67	26.15	26.72	26.22	25.04	26.67
Fe_2O_3	0.44	0.45	0.53	0.50	0.35	0.43	0.60	0.49	0.53	0.49	0.38	0.44	0.43	0.38	0.50	0.34	0.40	0.33	0.27	0.33	0.46
MnO	0.06	-0.04	0.00	0.02	-0.01	0.08	0.02	0.02	-0.02	0.02	-0.02	0.00	0.01	0.03	-0.02	0.04	-0.01	0.07	0.04	0.06	0.06
MgO	0.03	0.02	0.07	0.03	0.02	0.03	0.06	0.06	0.07	0.04	0.06	0.06	0.04	0.05	0.06	0.05	0.04	0.05	0.03	0.01	0.03
CaO	7.89	8.18	8.90	8.81	8.04	10.35	9.94	9.57	10.66	10.47	7.68	8.37	8.68	8.60	9.45	8.45	8.33	9.30	8.32	7.15	9.28
BaO	-0.14	-0.11	0.01	-0.03	-0.07	0.01	-0.12	-0.12	0.02	-0.03	0.04	0.12	0.05	0.07	0.13	0.06	-0.06	0.01	-0.04	-0.03	-0.11
Na_2O	6.77	6.76	6.12	6.55	7.07	5.80	5.79	5.85	5.45	5.57	7.04	6.95	6.81	6.77	6.24	6.73	6.75	6.36	6.76	7.49	6.43
K_2O	0.29	0.33	0.20	0.24	0.35	0.28	0.22	0.16	0.16	0.22	0.28	0.37	0.20	0.23	0.14	0.29	0.26	0.28	0.28	0.41	0.35
sum	100.25	99.36	98.18	99.82	99.14	98.68	98.47	98.13	100.26	100.23	99.41	99.51	100.39	99.90	100.25	99.58	99.60	99.82	99.41	99.47	100.60
mol%An	38.5	39.3	44.0	42.1	37.8	48.9	48.1	47.0	51.5	50.3	37.0	39.1	40.9	40.7	45.2	40.3	40.0	44.0	39.8	33.7	43.5
mol%Ab	59.8	58.8	54.8	56.6	60.2	49.5	50.7	52.0	47.6	48.4	61.4	58.8	58.0	58.0	54.0	58.1	58.6	54.4	58.6	64.0	54.6
mol%Or	1.7	1.9	1.2	1.3	2.0	1.6	1.3	1.0	0.9	1.3	1.6	2.0	1.1	1.3	0.8	1.6	1.5	1.6	1.6	2.3	1.9

Table B.10.7: XAL-115, Plagioclase grain 7

Dist (µm)	0.0	14.9	29.9	44.8	59.8	74.7	89.7	119.6	134.5	149.5	164.4	179.4	194.4	209.4	224.3	239.3
SiO_2	61.29	60.21	59.54	57.98	58.21	57.03	47.88	58.93	56.67	58.58	58.43	57.97	58.73	58.95	55.93	61.11
TiO_2	0.06	0.06	0.03	0.04	0.08	0.04	0.05	0.00	0.06	0.03	0.03	0.03	0.02	0.02	-0.01	0.04
Al_2O_3	23.23	24.50	25.26	26.31	25.41	26.16	36.07	25.52	26.59	25.12	26.23	26.20	26.68	25.93	29.30	23.57
Fe_2O_3	0.54	0.43	0.40	0.41	0.48	0.49	0.49	0.63	0.39	0.54	0.40	0.42	0.44	0.54	0.62	0.65
MnO	0.05	0.05	0.05	0.06	-0.09	-0.11	-0.11	-0.10	-0.13	-0.08	-0.05	-0.13	-0.04	0.01	0.02	-0.01
MgO	0.07	0.05	0.06	0.05	0.00	0.01	0.09	0.01	0.03	0.03	-0.01	0.00	0.04	0.05	0.08	0.05
CaO	5.12	7.16	7.66	8.37	7.74	9.05	7.26	8.00	9.39	8.01	8.25	8.25	8.87	8.04	7.61	5.83
BaO	0.09	0.06	0.10	-0.01	0.12	0.17	0.22	0.15	0.15	0.11	0.15	0.23	0.03	-0.01	0.03	0.07
Na_2O	7.98	7.47	7.30	6.62	7.30	6.24	5.78	6.93	6.38	6.66	6.95	6.80	6.66	6.83	6.86	8.17
K_2O	0.63	0.43	0.28	0.26	0.33	0.27	0.28	0.30	0.19	0.29	0.33	0.30	0.35	0.36	0.24	0.50
sum	99.10	100.48	100.71	100.19	99.69	99.47	98.18	100.49	99.85	99.35	100.85	100.26	101.83	100.81	100.74	100.04
mol%An	25.2	33.8	36.1	40.5	36.3	43.8	40.2	38.3	44.4	39.3	38.9	39.4	41.6	38.6	37.5	27.5
mol%Ab	71.1	63.8	62.3	58.0	61.9	54.6	57.9	60.0	54.6	59.1	59.3	58.9	56.5	59.4	61.1	69.7
mol%Or	3.7	2.4	1.6	1.5	1.9	1.6	1.8	1.7	1.0	1.7	1.8	1.7	2.0	2.0	1.4	2.8

Table B.10.8: XAL-115, Plagioclase grain 8

Dist (µm)	0.0	30.3	45.4	75.8	91.0	121.2	136.4	151.5	166.7	181.9	197.1	212.2	242.5
SiO_2	58.88	59.30	58.65	57.38	57.31	58.53	58.62	58.50	56.89	58.42	58.16	58.44	59.43
TiO_2	-0.01	0.00	-0.03	-0.01	0.00	0.08	0.10	0.06	0.08	0.08	0.11	0.09	0.04
Al_2O_3	25.03	24.70	25.90	26.73	26.28	25.42	26.17	25.70	26.66	26.46	25.74	24.90	25.33
Fe_2O_3	0.46	0.50	0.44	0.49	0.41	0.45	0.50	0.54	0.52	0.53	0.45	0.55	0.55
MnO	0.01	-0.01	-0.03	0.02	0.04	-0.01	0.08	0.04	0.07	0.01	0.03	0.06	0.05
MgO	0.04	0.03	0.06	0.05	0.04	0.04	0.08	0.06	0.06	0.03	0.03	0.05	0.04
CaO	7.11	7.34	8.03	8.98	8.32	7.77	8.05	8.00	7.96	8.55	8.25	7.30	7.26
BaO	0.11	0.11	0.09	0.06	0.15	0.27	0.22	0.24	0.24	0.33	0.24	0.30	0.19
Na_2O	7.47	7.31	6.80	6.55	6.57	6.91	7.02	6.82	6.43	6.84	6.61	7.44	7.36
K_2O	0.41	0.30	0.24	0.20	0.25	0.32	0.31	0.24	0.30	0.26	0.31	0.39	0.45
sum	99.60	99.63	100.29	100.47	99.51	99.83	101.22	100.21	99.23	101.56	99.99	99.59	100.74
mol%An	33.7	35.1	38.9	42.7	40.6	37.6	38.1	38.8	39.9	40.3	40.1	34.4	34.4
mol%Ab	64.0	63.2	59.7	56.2	58.0	60.5	60.1	59.8	58.3	58.3	58.1	63.4	63.1
mol%Or	2.3	1.7	1.4	1.1	1.5	1.9	1.7	1.4	1.8	1.5	1.8	2.2	2.6

Table B.10.9: XAL-115, Plagioclase grain 9

Dist (µm)	0.0	30.3	91.1	121.4	151.7	182.0	212.4	242.7	273.1	303.5	333.9	364.2	394.5	424.9	455.2	485.6	515.9	546.3	576.6
SiO_2	57.64	55.55	59.92	57.60	59.03	57.86	58.31	57.94	57.72	58.73	58.06	58.76	58.23	58.36	59.07	58.61	57.43	56.35	57.23
TiO_2	0.00	0.02	0.00	-0.03	-0.01	-0.01	0.01	-0.03	0.01	0.00	-0.02	-0.02	0.00	-0.01	-0.01	-0.01	0.04	0.04	0.03
Al_2O_3	26.14	27.44	25.50	25.94	25.37	26.27	25.66	25.69	25.73	25.47	26.14	25.57	25.86	25.41	25.33	25.29	26.11	26.97	26.10
Fe_2O_3	0.51	0.46	0.40	0.39	0.27	0.33	0.35	0.34	0.43	0.39	0.40	0.29	0.41	0.41	0.38	0.51	0.45	0.51	0.42
MnO	0.06	0.03	0.05	0.06	0.10	0.00	0.06	-0.03	0.02	-0.02	-0.02	-0.02	-0.06	-0.05	-0.03	0.00	-0.04	0.00	-0.01
MgO	0.02	0.03	0.04	0.04	0.03	0.03	0.05	0.02	0.02	0.03	0.03	0.03	0.00	0.03	0.05	0.03	0.03	0.03	0.03
CaO	8.34	9.36	7.64	8.40	7.42	8.31	8.07	7.90	8.26	7.67	7.67	7.85	7.96	7.66	7.29	7.97	8.53	9.46	8.73
BaO	0.11	0.09	0.24	0.35	0.08	0.14	0.11	0.09	0.04	0.04	0.21	0.02	0.07	-0.01	0.10	0.12	0.13	0.07	-0.03
Na_2O	6.85	5.89	7.25	7.01	7.14	6.77	6.92	6.95	7.08	7.19	6.99	7.17	7.17	7.37	7.09	7.18	6.58	6.02	6.52
K_2O	0.31	0.22	0.30	0.28	0.36	0.29	0.27	0.28	0.37	0.37	0.31	0.29	0.37	0.35	0.35	0.31	0.37	0.28	0.32
sum	100.15	99.13	101.44	100.13	99.91	100.08	99.85	99.26	99.74	99.91	99.86	100.06	100.09	99.62	99.68	100.03	99.73	99.81	99.43
mol%An	39.5	46.1	36.2	39.2	35.7	39.8	38.6	37.9	38.4	36.3	37.1	37.1	37.2	35.8	35.5	37.4	40.9	45.7	41.8
mol%Ab	58.8	52.6	62.1	59.2	62.2	58.6	59.9	60.4	59.6	61.6	61.1	61.3	60.7	62.3	62.5	60.9	57.0	52.7	56.5
mol%Or	1.7	1.3	1.7	1.6	2.0	1.6	1.5	1.6	2.0	2.1	1.8	1.6	2.1	1.9	2.0	1.7	2.1	1.6	1.8

Table B.10.10: XAL-115, Plagioclase grain 10

Dist (µm)	0.0	15.2	45.6	60.9	76.1	91.4	106.5	137.0	152.3	167.4
SiO_2	59.73	57.69	57.41	58.20	59.19	59.20	57.56	58.51	58.26	61.89
TiO_2	0.05	0.04	0.05	0.04	0.07	0.02	0.04	0.03	0.04	0.03
Al_2O_3	25.21	25.68	26.48	25.73	25.01	25.23	25.97	25.50	24.99	23.56
Fe_2O_3	0.43	0.47	0.51	0.40	0.47	0.44	0.46	0.60	0.57	0.57
MnO	0.01	0.02	0.01	-0.02	0.02	-0.02	0.05	0.04	0.00	0.01
MgO	0.04	0.04	0.05	0.03	0.03	0.02	0.06	0.05	0.05	0.07
CaO	6.96	7.98	8.73	7.88	7.39	7.22	9.12	7.43	7.48	6.02
BaO	-0.03	-0.06	-0.04	-0.03	0.21	0.08	0.15	0.08	0.05	0.13
Na_2O	7.34	6.45	6.54	7.10	6.96	7.19	6.51	7.23	7.26	8.23
K_2O	0.39	0.24	0.25	0.32	0.32	0.31	0.33	0.34	0.41	0.63
sum	100.15	98.70	100.09	99.78	99.74	99.71	100.24	99.82	99.11	101.14
mol%An	33.6	40.1	41.9	37.3	36.3	35.0	42.8	35.5	35.4	27.8
mol%Ab	64.1	58.5	56.7	60.8	61.8	63.2	55.3	62.5	62.3	68.8
mol%Or	2.2	1.4	1.4	1.8	1.9	1.8	1.9	1.9	2.3	3.5

Table B.10.11: XAL-115, Plagioclase grain 11

Dist (µm)	44.7	59.6	74.4	104.2	119.1	134.0	148.8	163.8	178.7	193.5	223.3	238.2
SiO_2	60.12	60.63	57.76	58.30	57.13	57.81	57.82	59.91	59.38	59.01	60.49	63.03
TiO_2	0.11	0.07	0.05	0.05	0.08	0.05	0.05	0.01	0.07	0.07	0.06	0.08
Al_2O_3	24.31	24.34	25.99	26.44	25.92	26.24	25.39	25.71	24.38	24.76	23.91	21.86
Fe_2O_3	0.70	0.52	0.63	0.61	0.52	0.49	0.56	0.70	0.67	0.63	0.64	0.61
MnO	0.06	0.01	0.00	-0.03	-0.01	0.02	-0.04	0.01	0.00	-0.02	-0.03	-0.01
MgO	0.05	0.03	0.04	0.04	0.06	0.03	0.05	0.05	0.02	0.03	0.02	0.00
CaO	6.78	5.70	8.07	8.68	8.20	8.29	7.91	7.38	7.07	6.98	5.61	4.07
BaO	0.10	0.10	0.12	0.20	0.09	0.29	0.21	0.10	0.05	0.15	0.07	0.18
Na_2O	7.42	7.87	6.88	6.77	6.57	6.93	7.02	7.37	7.16	7.54	8.18	9.01
K_2O	0.60	0.67	0.30	0.36	0.28	0.38	0.37	0.44	0.46	0.42	0.71	0.93
sum	100.23	99.97	99.91	101.51	98.88	100.61	99.40	101.75	99.39	99.61	99.79	99.84
mol%An	32.4	27.5	38.7	40.7	40.2	38.9	37.6	34.8	34.4	33.1	26.4	18.9
mol%Ab	64.2	68.7	59.6	57.3	58.2	58.9	60.3	62.8	63.0	64.6	69.6	75.9
mol%Or	3.4	3.8	1.7	2.0	1.6	2.1	2.1	2.4	2.7	2.4	4.0	5.1

Table B.10.12: XAL-115, Plagioclase grain 12

Dist (µm)	0.0	58.0	116.1	174.0	232.0	290.1	348.2	406.2	464.2	522.2	580.3	638.3	696.3	754.3	812.3	870.5	928.4	986.4	1102.5
SiO_2	59.30	53.46	57.19	57.35	57.19	56.35	55.92	55.48	55.74	57.68	56.95	57.73	58.36	57.58	56.34	57.18	57.44	57.30	57.99
TiO_2	0.07	0.03	0.07	0.04	0.02	0.03	0.06	0.05	0.10	0.05	0.04	0.08	0.10	0.07	0.09	0.06	0.09	0.05	0.09
Al_2O_3	25.84	29.71	26.73	26.11	26.56	27.68	26.94	27.72	27.16	26.86	25.94	25.94	26.15	27.26	27.20	26.64	27.12	26.93	27.17
Fe_2O_3	0.41	0.48	0.37	0.47	0.26	0.36	0.55	0.36	0.33	0.46	0.42	0.43	0.34	0.45	0.45	0.46	0.42	0.47	0.55
MnO	-0.04	-0.01	0.00	0.00	0.01	-0.01	-0.03	-0.01	0.03	0.00	0.02	0.05	0.03	0.01	0.06	-0.03	0.05	0.05	0.00
MgO	0.04	0.04	0.01	0.03	0.04	0.05	0.03	0.03	0.03	0.02	0.02	0.02	0.00	0.03	0.02	0.01	0.02	0.01	0.06
CaO	7.90	9.79	9.15	8.64	8.75	9.85	9.56	10.00	9.87	8.78	8.43	8.20	8.57	8.92	9.13	9.16	9.11	8.96	8.91
BaO	0.07	-0.01	0.07	-0.12	0.01	-0.01	0.12	-0.09	0.12	0.04	0.10	0.20	0.10	0.17	0.09	0.17	0.14	0.18	0.12
Na_2O	7.22	5.42	6.54	6.66	6.49	6.04	6.06	5.85	6.11	6.48	6.69	6.85	6.56	6.45	6.27	6.55	6.43	6.54	6.29
K_2O	0.32	0.13	0.23	0.21	0.24	0.25	0.17	0.29	0.12	0.23	0.27	0.22	0.29	0.24	0.23	0.24	0.24	0.21	0.18
sum	101.23	99.06	100.36	99.55	99.57	100.67	99.45	99.83	99.60	100.60	98.93	99.73	100.50	101.17	99.90	100.47	101.05	100.71	101.36
mol%An	37.0	49.6	43.0	41.3	42.1	46.7	46.1	47.8	46.9	42.3	40.4	39.3	41.3	42.7	44.0	43.0	43.3	42.6	43.4
mol%Ab	61.2	49.7	55.7	57.5	56.5	51.9	52.9	50.6	52.4	56.5	58.0	59.4	57.1	55.9	54.7	55.7	55.3	56.2	55.5
mol%Or	1.8	0.8	1.3	1.2	1.4	1.4	1.0	1.7	0.7	1.3	1.5	1.3	1.7	1.4	1.3	1.4	1.3	1.2	1.1

Table B.10.13: XAL-115, Plagioclase grain 13

Dist (µm)	14.6	29.1	43.8	73.0	87.5	102.2	116.8	131.3	145.9	160.5	175.1	189.7	204.3	218.9	233.4	248.1
SiO_2	61.52	61.05	59.98	58.31	57.88	56.67	58.83	57.91	57.60	58.01	58.13	58.13	58.49	57.64	58.44	56.97
TiO_2	0.11	0.08	0.12	0.13	0.06	0.03	0.11	0.07	0.09	0.07	0.05	0.08	0.06	0.04	0.04	0.08
Al_2O_3	23.38	24.28	24.79	25.74	26.55	26.74	25.73	26.06	26.53	26.29	26.51	25.88	26.28	26.22	26.06	26.97
Fe_2O_3	0.70	0.46	0.48	0.52	0.41	0.47	0.47	0.42	0.41	0.41	0.60	0.47	0.47	0.64	0.52	0.50
MnO	0.03	0.00	0.03	0.03	0.03	0.05	0.01	-0.02	-0.03	-0.01	-0.04	-0.05	-0.01	0.00	-0.02	0.06
MgO	0.02	0.04	0.05	0.05	0.07	0.07	0.01	0.03	0.03	0.02	0.02	0.02	0.04	0.37	0.01	0.02
CaO	5.24	6.69	6.64	8.04	8.98	9.12	8.18	8.26	8.37	8.38	8.61	8.08	8.10	8.27	8.74	8.91
BaO	0.24	0.02	0.09	0.04	0.05	0.01	0.16	0.27	0.10	0.21	0.05	0.11	0.10	0.13	0.23	0.08
Na_2O	8.05	7.48	7.35	6.99	6.47	6.32	6.71	6.85	6.94	6.61	6.52	6.66	6.56	6.65	6.56	6.33
K_2O	0.78	0.53	0.39	0.28	0.30	0.24	0.20	0.19	0.20	0.30	0.20	0.23	0.24	0.28	0.27	0.26
sum	100.08	100.64	99.92	100.11	100.79	99.71	100.42	100.10	100.27	100.30	100.70	99.66	100.33	100.23	100.94	100.17
mol%An	25.3	32.1	32.5	38.2	42.7	43.7	39.8	39.6	39.5	40.5	41.7	39.6	40.0	40.1	41.8	43.1
mol%Ab	70.3	64.9	65.2	60.2	55.6	54.9	59.0	59.4	59.3	57.8	57.1	59.0	58.6	58.3	56.7	55.4
mol%Or	4.5	3.0	2.3	1.6	1.7	1.4	1.2	1.1	1.1	1.7	1.2	1.3	1.4	1.6	1.5	1.5

Table B.10.14: XAL-115, Plagioclase grain 14

Dist (µm)	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0	135.0	150.0	165.0	180.0	210.0	225.0	240.0	255.0	270.0
SiO_2	59.24	58.27	59.17	58.87	58.81	59.24	59.49	59.37	59.04	59.06	59.79	59.24	58.71	56.98	58.58	56.93	57.96	58.95
TiO_2	0.10	0.06	0.04	0.02	0.04	0.02	0.02	0.07	0.06	0.06	0.05	0.03	0.06	0.08	0.08	0.06	0.11	0.09
Al_2O_3	25.20	26.03	25.59	25.77	25.43	25.49	25.17	25.46	25.52	26.23	25.01	25.33	26.93	26.01	26.00	26.04	25.97	25.71
Fe_2O_3	0.72	0.52	0.54	0.36	0.50	0.45	0.45	0.53	0.48	0.61	0.42	0.47	0.37	0.65	0.44	0.51	0.50	0.44
MnO	0.04	0.01	0.00	-0.02	-0.02	0.03	0.02	-0.03	-0.04	-0.05	-0.01	0.04	0.10	0.02	0.05	0.05	0.08	0.03
MgO	0.05	0.05	0.02	0.04	0.03	0.04	0.05	0.05	0.02	0.02	0.06	0.05	0.05	0.07	0.04	0.05	0.04	0.07
CaO	7.62	8.50	7.33	7.95	7.53	7.25	7.33	7.62	7.84	7.64	7.41	7.54	8.14	7.89	7.87	8.77	8.58	8.01
BaO	0.07	-0.03	0.08	-0.09	0.10	0.10	0.07	0.05	0.00	-0.01	0.14	0.15	0.09	0.14	0.10	0.02	0.07	0.17
Na_2O	6.90	6.66	7.25	7.25	7.05	7.22	7.08	7.04	7.04	7.38	7.12	7.28	6.78	6.65	6.99	6.45	6.62	6.79
K_2O	0.38	0.23	0.31	0.28	0.31	0.25	0.33	0.31	0.24	0.28	0.35	0.32	0.25	0.28	0.26	0.25	0.28	0.26
sum	100.32	100.39	100.37	100.54	99.84	100.15	100.02	100.57	100.28	101.37	100.42	100.47	101.54	98.82	100.49	99.20	100.22	100.64
mol%An	37.1	40.8	35.2	37.2	36.5	35.2	35.7	36.8	37.6	35.8	35.8	35.7	39.3	39.0	37.8	42.3	41.1	38.9
mol%Ab	60.7	57.9	63.0	61.3	61.8	63.4	62.4	61.5	61.1	62.6	62.2	62.4	59.3	59.4	60.7	56.3	57.3	59.6
mol%Or	2.2	1.3	1.8	1.5	1.8	1.4	1.9	1.8	1.3	1.5	2.0	1.8	1.4	1.6	1.5	1.4	1.6	1.5

Table B.10.15: XAL-115, Plagioclase grain 15

Dist (µm)	0.0	14.4	28.9	43.3	57.7	72.2	86.6	101.1	115.5	144.4
SiO_2	59.12	57.55	56.25	57.31	57.13	53.33	53.98	56.46	56.55	61.46
TiO_2	0.09	0.06	0.04	0.06	0.07	0.07	0.06	0.06	0.03	0.09
Al_2O_3	25.07	26.11	26.75	26.65	26.65	29.02	28.86	27.13	26.42	23.90
Fe_2O_3	0.58	0.38	0.59	0.55	0.52	0.87	0.72	0.52	0.51	0.70
MnO	0.10	0.02	-0.01	0.03	-0.03	0.04	0.11	0.05	0.06	0.05
MgO	0.04	0.06	0.03	0.02	0.04	0.06	0.06	0.04	0.04	0.02
CaO	7.24	8.54	9.00	9.63	9.28	11.88	10.89	9.04	8.77	5.39
BaO	0.10	0.15	0.28	0.11	0.23	0.25	-0.01	0.12	0.11	0.36
Na_2O	7.62	6.52	6.40	6.15	6.18	4.90	5.22	6.05	6.27	8.07
K_2O	0.46	0.33	0.25	0.22	0.16	0.12	0.17	0.29	0.20	0.69
sum	100.48	99.85	99.65	100.73	100.31	100.62	100.11	99.79	98.96	100.73
mol%An	33.6	41.2	43.1	45.8	44.9	56.9	53.0	44.5	43.1	25.9
mol%Ab	63.9	56.9	55.5	52.9	54.1	42.4	46.0	53.8	55.8	70.2
mol%Or	2.5	1.9	1.4	1.3	0.9	0.7	1.0	1.7	1.2	3.9

Table B.10.16: XAL-115, Plagioclase grain 16

Dist (µm)	0.0	29.5	88.4	117.9	147.4	176.8	206.3	235.8	324.2	353.7	412.6	442.1	471.6	501.0	530.5	560.0
SiO_2	57.76	57.84	58.17	58.15	58.23	57.78	57.76	57.72	58.12	58.21	58.47	58.46	58.46	58.07	58.29	57.97
TiO_2	-0.02	-0.01	0.02	0.03	-0.02	-0.01	-0.01	0.00	0.15	0.11	0.15	0.11	0.14	0.19	0.17	0.17
Al_2O_3	26.46	26.55	25.75	25.66	26.65	26.05	26.38	25.99	26.33	26.40	26.77	25.85	26.53	26.61	26.57	25.73
Fe_2O_3	0.46	0.35	0.42	0.38	0.46	0.49	0.43	0.43	0.55	0.57	0.46	0.52	0.57	0.52	0.66	0.71
MnO	0.09	0.02	0.05	0.02	0.03	0.02	0.03	0.07	0.05	0.04	0.06	0.06	0.01	0.05	0.02	0.08
MgO	0.04	0.04	0.04	0.04	0.05	0.05	0.04	0.05	0.08	0.08	0.10	0.10	0.08	0.09	0.10	0.11
CaO	9.04	8.47	8.57	8.28	8.63	7.95	8.66	8.03	8.82	8.48	8.42	8.43	8.26	8.47	8.76	8.24
BaO	0.15	0.06	0.07	0.04	0.18	0.12	0.14	0.17	0.08	0.14	0.11	0.19	0.09	0.06	0.17	0.00
Na_2O	6.50	6.70	6.91	6.68	6.68	6.73	6.74	6.82	6.62	6.57	7.02	7.06	7.00	6.79	6.75	6.73
K_2O	0.34	0.26	0.25	0.32	0.28	0.27	0.30	0.23	0.30	0.37	0.32	0.32	0.33	0.32	0.29	0.33
sum	100.84	100.29	100.23	99.60	101.19	99.46	100.54	99.53	101.15	101.05	101.87	101.14	101.52	101.16	101.79	100.12
mol%An	42.6	40.5	40.1	39.9	41.0	38.9	40.8	38.9	41.7	40.8	39.2	39.1	38.8	40.1	41.1	39.6
mol%Ab	55.5	58.0	58.5	58.2	57.4	59.5	57.5	59.8	56.6	57.1	59.1	59.1	59.4	58.1	57.3	58.5
mol%Or	1.9	1.5	1.4	1.9	1.6	1.6	1.7	1.3	1.7	2.1	1.8	1.8	1.9	1.8	1.6	1.9

Table B.10.17: XAL-115, Plagioclase grain 17

Dist (µm)	0.0	59.2	118.3	177.5	236.7	355.0	414.2	473.3	591.7	710.0	769.2	887.5	946.7	1005.8	1065.0
SiO_2	57.00	56.12	56.56	57.33	56.87	58.80	58.16	55.54	57.59	59.68	58.82	57.48	57.18	56.11	57.00
TiO_2	0.05	0.01	0.00	0.03	-0.01	0.00	0.02	0.02	0.04	0.02	0.02	0.01	0.01	0.02	0.03
Al_2O_3	25.01	27.83	26.58	26.74	26.70	25.55	25.95	28.14	26.85	25.44	25.96	26.46	27.74	27.83	25.84
Fe_2O_3	0.43	0.45	0.42	0.49	0.36	0.40	0.42	0.38	0.39	0.37	0.44	0.36	0.37	0.40	0.52
MnO	0.05	0.02	0.03	-0.02	-0.01	-0.06	-0.05	0.04	0.04	0.12	0.07	-0.01	0.10	0.05	-0.02
MgO	0.02	0.02	0.06	0.02	0.02	0.03	0.02	0.02	0.01	0.01	0.03	0.03	0.02	0.03	0.03
CaO	8.21	10.13	9.41	9.43	8.92	7.58	7.77	10.36	8.77	7.32	8.30	8.67	8.98	9.99	8.24
BaO	0.18	0.18	0.07	0.07	0.06	0.09	0.20	0.07	0.04	0.12	0.06	0.17	0.12	0.09	0.18
Na_2O	6.79	5.84	6.37	6.29	6.30	6.85	6.85	5.88	6.59	7.40	6.99	6.43	6.39	6.02	6.47
K_2O	0.26	0.23	0.20	0.26	0.28	0.36	0.29	0.27	0.31	0.31	0.26	0.20	0.16	0.14	0.28
sum	98.09	100.85	99.70	100.65	99.50	99.65	99.72	100.72	100.66	100.80	100.99	99.84	101.11	100.70	98.62
mol%An	39.5	48.3	44.4	44.6	43.2	37.1	37.9	48.6	41.6	34.7	39.0	42.2	43.3	47.5	40.6
mol%Ab	59.0	50.4	54.4	53.9	55.2	60.7	60.4	49.9	56.6	63.5	59.5	56.6	55.8	51.7	57.7
mol%Or	1.5	1.3	1.1	1.5	1.6	2.1	1.7	1.5	1.8	1.8	1.5	1.2	0.9	0.8	1.6

Table B.10.18: XAL-115, Plagioclase grain 18

Dist (µm)	46.0	61.3	76.6	91.9	107.3	122.5	137.9	153.2	168.5	183.8
SiO_2	58.19	57.87	59.18	59.46	58.65	56.94	56.49	58.19	58.86	61.05
TiO_2	0.06	0.09	0.06	0.10	0.04	0.07	0.05	0.06	0.06	0.08
Al_2O_3	26.73	27.04	25.46	25.32	25.57	27.32	26.59	25.55	24.96	23.67
Fe_2O_3	0.46	0.47	0.32	0.56	0.45	0.53	0.43	0.44	0.39	0.48
MnO	0.03	0.06	0.07	0.07	0.09	0.08	0.06	0.06	0.03	0.05
MgO	0.11	0.06	0.06	0.05	0.09	0.10	0.08	0.08	0.03	0.02
CaO	8.44	8.87	7.20	7.52	7.00	8.74	8.84	7.99	7.15	5.24
BaO	-0.03	0.00	-0.07	-0.07	0.03	0.02	-0.05	-0.08	0.17	0.26
Na_2O	6.62	6.45	7.27	7.45	7.37	6.55	6.75	6.87	7.29	8.03
K_2O	0.33	0.31	0.37	0.32	0.35	0.28	0.18	0.35	0.48	0.76
sum	100.99	101.29	100.04	100.92	99.67	100.63	99.47	99.64	99.42	99.65
mol%An	40.6	42.4	34.6	35.2	33.7	41.8	41.6	38.3	34.2	25.4
mol%Ab	57.5	55.8	63.3	63.1	64.3	56.7	57.4	59.7	63.1	70.3
mol%Or	1.9	1.8	2.1	1.8	2.0	1.6	1.0	2.0	2.7	4.4

Table B.10.19: XAL-115, Plagioclase grain 19

Dist (µm)	0.0	59.7	119.4	179.2	238.8	298.6	358.2	418.0	477.6	537.4	597.1	656.8	716.5	776.2	955.4	1074.8	1134.5	1194.2	1253.9	1313.6
SiO_2	57.49	57.02	58.83	57.89	57.51	54.41	58.40	57.74	56.55	56.63	56.36	56.67	57.23	58.13	58.00	57.50	56.72	57.00	56.43	57.09
TiO_2	0.05	0.05	0.02	0.03	0.02	0.07	0.02	0.02	0.02	0.07	0.03	0.05	0.02	0.02	0.03	0.07	0.04	0.04	0.08	0.05
Al_2O_3	26.67	26.55	26.73	26.19	26.57	25.37	26.59	27.13	26.88	26.58	26.73	27.33	26.79	26.16	26.42	26.98	27.47	27.30	27.30	26.70
Fe_2O_3	0.46	0.45	0.44	0.37	0.40	0.74	0.36	0.42	0.34	0.39	0.42	0.40	0.46	0.37	0.42	0.44	0.38	0.38	0.35	0.50
MnO	0.01	0.09	0.05	0.07	0.07	0.04	0.00	0.06	-0.04	-0.01	-0.02	-0.02	-0.04	0.04	-0.03	-0.01	0.00	0.01	-0.01	0.03
MgO	0.01	0.02	0.02	0.04	0.02	0.04	0.01	0.03	0.03	0.02	0.05	0.05	0.06	0.00	0.01	0.03	0.06	0.03	0.05	0.05
CaO	9.50	9.05	8.22	8.75	8.56	8.22	8.66	9.15	9.58	9.01	9.42	9.24	8.84	8.48	8.24	8.97	9.89	9.75	9.51	9.07
BaO	0.15	0.04	0.14	0.17	0.23	0.17	0.12	0.15	-0.04	0.03	0.14	-0.02	-0.02	0.11	-0.02	-0.04	0.03	0.01	0.03	0.06
Na_2O	6.20	6.36	6.85	6.61	6.51	6.12	6.74	6.55	6.14	6.44	6.33	6.56	6.24	6.54	6.74	6.44	6.04	6.27	6.25	6.49
K_2O	0.19	0.19	0.20	0.19	0.15	0.14	0.27	0.18	0.20	0.21	0.21	0.23	0.16	0.30	0.29	0.21	0.20	0.15	0.23	0.21
sum	100.72	99.82	101.50	100.33	100.04	95.34	101.19	101.44	99.74	99.38	99.68	100.53	99.79	100.14	100.17	100.64	100.83	100.98	100.26	100.29
mol%An	45.4	43.6	39.4	41.8	41.7	42.2	40.9	43.1	45.8	43.1	44.6	43.2	43.5	41.0	39.6	43.0	47.0	45.8	45.1	43.1
mol%Ab	53.6	55.4	59.4	57.1	57.4	56.9	57.6	55.9	53.1	55.7	54.2	55.5	55.6	57.3	58.7	55.8	51.9	53.3	53.6	55.8
mol%Or	1.1	1.1	1.2	1.1	0.9	0.8	1.5	1.0	1.1	1.2	1.2	1.3	1.0	1.7	1.7	1.2	1.1	0.8	1.3	1.2

Table B.10.20: XAL-115, Plagioclase grain 20

Dist (µm)	0.0	15.0	29.9	44.8	59.7	74.7	89.7	104.6	119.6	134.5	149.4	164.4	179.3	194.3	209.3	224.1	239.1
SiO_2	59.21	58.61	59.07	58.11	59.52	58.64	58.30	55.37	57.03	57.24	57.74	59.09	57.23	57.71	58.14	58.51	60.82
TiO_2	0.09	0.04	0.06	0.04	0.05	0.03	0.03	0.05	0.05	0.05	0.05	0.06	0.10	0.07	0.09	0.05	0.11
Al_2O_3	24.81	25.05	25.17	26.41	24.78	25.56	26.15	28.23	26.31	26.89	26.85	25.28	26.44	26.40	25.79	25.50	24.46
Fe_2O_3	0.59	0.45	0.55	0.53	0.45	0.38	0.46	0.59	0.61	0.48	0.49	0.36	0.42	0.43	0.47	0.42	0.44
MnO	0.03	0.02	-0.03	0.02	-0.02	-0.02	-0.03	-0.03	0.02	-0.05	-0.01	-0.02	-0.03	-0.01	-0.01	-0.01	0.01
MgO	0.04	0.02	0.01	0.02	0.03	-0.12	-0.11	-0.05	-0.10	-0.08	-0.10	-0.07	-0.09	-0.09	-0.09	0.07	0.05
CaO	6.61	7.17	7.11	8.58	7.08	7.57	8.73	8.56	9.15	8.77	8.66	7.53	8.41	8.70	7.70	7.48	7.06
BaO	0.12	0.12	-0.07	0.14	0.20	0.26	0.08	0.08	0.10	0.10	0.13	0.23	0.05	0.07	0.04	0.04	0.07
Na_2O	7.38	7.34	7.12	6.59	7.36	7.25	6.77	6.08	6.41	6.52	6.56	7.15	6.65	6.55	7.20	6.86	7.66
K_2O	0.56	0.37	0.37	0.27	0.44	0.35	0.25	0.32	0.22	0.16	0.22	0.26	0.29	0.28	0.35	0.25	0.44
sum	99.44	99.19	99.56	100.71	99.95	100.06	100.78	99.32	99.88	100.25	100.72	100.02	99.61	100.21	99.79	99.20	101.12
mol%An	32.0	34.3	34.8	41.2	33.8	35.9	41.0	42.9	43.5	42.3	41.6	36.2	40.4	41.7	36.4	37.0	32.9
mol%Ab	64.7	63.6	63.0	57.3	63.7	62.2	57.6	55.2	55.2	56.8	57.1	62.3	57.9	56.8	61.6	61.5	64.6
mol%Or	3.2	2.1	2.1	1.5	2.5	2.0	1.4	1.9	1.2	0.9	1.3	1.5	1.6	1.6	2.0	1.5	2.4

Table B.10.21: XAL-115, Plagioclase grain 21

Dist (µm)	0.0	58.5	117.0	234.0	292.4	351.0	409.4	468.0	584.9	643.5	701.9	760.4	818.9	877.4	935.9	994.5	1052.9
SiO_2	57.51	55.52	55.96	54.77	56.53	54.93	55.30	56.28	56.56	55.56	57.97	57.41	56.56	56.10	55.13	55.14	55.79
TiO_2	0.07	0.09	0.06	0.07	0.07	0.05	0.03	0.00	0.06	0.06	0.09	0.06	0.07	0.04	0.04	-0.03	-0.02
Al_2O_3	26.19	27.38	26.72	27.80	26.72	27.30	27.53	27.58	26.55	27.23	25.63	26.41	26.69	26.90	29.51	27.00	27.12
Fe_2O_3	0.41	0.35	0.40	0.39	0.42	0.32	0.50	0.60	0.49	0.97	0.50	0.35	0.45	0.42	0.47	0.52	0.41
MnO	0.02	0.02	0.01	0.02	0.04	0.02	0.05	0.04	-0.01	0.33	0.00	-0.01	0.06	0.00	0.00	0.05	0.07
MgO	0.05	0.05	0.07	0.06	0.05	0.03	0.02	0.03	0.02	0.03	0.01	-0.01	0.00	0.01	0.02	0.03	0.04
CaO	8.41	9.87	9.46	10.13	9.16	10.12	10.02	9.77	9.66	8.91	7.75	8.72	8.97	9.87	10.03	10.02	9.41
BaO	-0.07	-0.06	-0.07	0.06	-0.04	0.06	-0.06	0.06	0.06	0.10	0.06	0.04	0.01	0.12	0.01	0.01	0.03
Na_2O	6.97	5.97	6.20	5.67	6.43	5.75	6.07	6.01	6.54	5.15	6.91	6.67	6.36	6.04	5.50	5.91	6.22
K_2O	0.31	0.24	0.22	0.22	0.24	0.24	0.26	0.19	0.35	0.25	0.37	0.28	0.23	0.31	0.18	0.16	0.17
sum	99.94	99.51	99.09	99.26	99.65	98.81	99.79	100.57	100.28	98.62	99.35	99.97	99.44	99.82	100.89	98.84	99.25
mol%An	39.3	47.1	45.2	49.1	43.5	48.6	47.0	46.8	44.1	48.1	37.5	41.3	43.2	46.6	49.6	47.9	45.1
mol%Ab	59.0	51.5	53.6	49.7	55.2	50.0	51.5	52.1	54.0	50.3	60.4	57.1	55.5	51.6	49.3	51.2	53.9
mol%Or	1.7	1.4	1.2	1.2	1.3	1.4	1.4	1.1	1.9	1.6	2.1	1.6	1.3	1.7	1.1	0.9	1.0

Table B.10.22: XAL-115, Plagioclase grain 22

Dist (µm)	0.0	30.2	60.5	90.7	121.0	211.7	241.9	272.1	302.4	332.6	362.9	393.1
SiO_2	57.02	56.07	57.54	55.72	55.32	57.78	55.05	55.49	55.16	56.32	56.23	56.47
TiO_2	0.01	0.00	-0.03	-0.02	-0.01	-0.06	0.01	0.00	-0.02	-0.02	0.05	0.00
Al_2O_3	26.57	27.55	26.48	27.87	27.12	26.67	28.39	27.69	27.82	27.70	26.84	27.66
Fe_2O_3	0.60	0.46	0.57	0.53	0.51	0.44	0.38	0.52	0.45	0.40	0.47	0.58
MnO	0.08	0.09	0.07	0.06	0.03	0.07	0.06	0.04	-0.01	0.01	0.03	0.01
MgO	0.03	0.05	0.02	0.04	0.05	0.03	0.05	0.03	0.06	0.06	0.07	0.01
CaO	8.64	10.16	8.28	9.78	9.77	8.43	9.97	9.74	10.03	9.81	9.50	9.77
BaO	0.04	0.03	-0.06	0.09	0.03	0.03	0.10	0.07	0.07	0.05	0.05	0.05
Na_2O	6.50	5.67	6.56	5.90	5.94	6.72	5.88	5.85	5.62	5.84	6.18	5.84
K_2O	0.24	0.17	0.25	0.17	0.16	0.31	0.14	0.19	0.13	0.23	0.21	0.16
sum	99.74	100.24	99.77	100.16	98.92	100.47	100.01	99.63	99.37	100.43	99.63	100.59
mol%An	41.8	49.3	40.5	47.3	47.2	40.2	48.0	47.4	49.3	47.5	45.4	47.6
mol%Ab	56.8	49.8	58.1	51.7	51.9	58.0	51.2	51.5	50.0	51.2	53.4	51.5
mol%Or	1.4	1.0	1.5	1.0	0.9	1.7	0.8	1.1	0.8	1.3	1.2	0.9

Table B.10.23: XAL-115, Plagioclase grain 23

Dist (µm)	0.0	57.9	115.9	173.8	289.7	405.5	521.4	637.4	695.2	753.1	811.2	869.1
SiO_2	59.28	54.68	57.82	56.11	58.81	57.29	58.95	55.90	56.68	55.95	55.99	57.49
TiO_2	0.03	0.04	0.01	0.04	0.04	0.06	0.07	0.11	0.06	0.11	0.02	0.05
Al_2O_3	24.89	27.45	26.00	27.58	26.05	26.09	25.22	27.15	27.06	27.31	27.34	26.28
Fe_2O_3	0.47	0.50	0.55	0.35	0.44	0.44	0.37	0.46	0.34	0.41	0.39	0.44
MnO	0.02	-0.03	-0.05	0.03	0.01	0.04	0.02	0.02	0.00	0.00	0.05	0.02
MgO	0.03	0.06	0.04	0.06	0.04	0.06	0.06	0.04	0.06	0.07	0.06	0.04
CaO	6.43	10.54	8.65	10.07	7.94	8.25	7.11	10.01	9.07	9.88	10.10	7.93
BaO	0.20	0.13	0.10	0.04	0.16	0.11	0.10	0.06	0.19	0.02	0.08	0.13
Na_2O	7.76	5.55	6.73	5.80	7.07	6.80	7.37	5.77	6.49	6.06	5.91	6.99
K_2O	0.37	0.16	0.19	0.17	0.29	0.28	0.29	0.19	0.29	0.28	0.17	0.25
sum	99.57	99.13	100.09	100.26	100.88	99.45	99.54	99.70	100.32	100.15	100.13	99.64
mol%An	30.8	50.7	41.1	48.5	37.7	39.5	34.2	48.4	42.9	46.6	48.1	38.0
mol%Ab	67.2	48.4	57.9	50.5	60.7	58.9	64.2	50.5	55.5	51.8	50.9	60.6
mol%Or	2.1	0.9	1.1	1.0	1.6	1.6	1.6	1.1	1.6	1.6	1.0	1.4

Table B.10.24: XAL-115, Plagioclase grain 24

Dist (µm)	0.0	15.3	30.6	45.9	61.3	76.6	91.8	122.5	137.9	153.1	168.4	183.8	199.1	214.4	229.7	245.0	260.4	275.6	290.9
SiO_2	54.94	54.71	54.81	54.69	54.86	55.39	55.26	55.47	55.05	54.86	55.27	55.73	55.32	56.75	56.22	54.76	55.12	55.28	55.70
TiO_2	0.03	0.06	0.02	0.03	0.01	0.02	0.03	0.01	-0.02	-0.01	-0.01	0.01	0.02	0.01	-0.03	0.01	-0.01	0.05	0.04
Al_2O_3	27.71	27.93	27.82	27.82	28.12	27.21	27.86	27.72	27.87	27.61	27.77	27.66	27.84	26.73	26.70	27.36	27.75	26.86	27.36
Fe_2O_3	0.47	0.57	0.52	0.50	0.60	0.54	0.43	0.54	0.46	0.48	0.42	0.55	0.69	0.49	0.40	0.52	0.49	0.50	0.50
MnO	0.01	0.00	0.02	0.00	0.03	-0.03	0.04	-0.04	0.03	0.07	-0.03	0.03	-0.05	-0.03	-0.01	-0.03	0.00	0.10	0.04
MgO	0.05	0.06	0.05	0.07	0.05	0.05	0.05	0.04	0.03	0.07	0.04	0.06	0.04	0.03	0.04	0.02	0.04	0.03	0.04
CaO	10.38	10.49	10.14	10.15	9.99	9.95	9.61	9.88	10.03	9.71	10.07	9.67	9.66	9.55	9.75	9.94	10.22	9.63	10.31
BaO	0.09	0.11	0.11	0.11	0.11	0.21	0.24	0.01	0.20	0.11	0.08	0.09	0.12	0.07	0.15	0.07	0.07	0.00	0.08
Na_2O	5.69	5.68	5.65	5.77	5.79	5.79	5.96	5.76	5.80	5.92	5.83	5.92	5.99	6.07	6.12	5.81	5.63	5.91	5.82
K_2O	0.23	0.22	0.19	0.23	0.16	0.23	0.26	0.20	0.19	0.22	0.27	0.27	0.16	0.24	0.27	0.23	0.20	0.19	0.21
sum	99.64	99.91	99.36	99.36	99.76	99.41	99.76	99.64	99.66	99.06	99.76	99.99	99.90	99.95	99.67	98.75	99.56	98.58	100.13
mol%An	49.5	49.9	49.2	48.7	48.4	48.1	46.4	48.1	48.3	47.0	48.1	46.7	46.7	45.8	46.1	48.0	49.5	46.8	48.9
mol%Ab	49.1	48.9	49.7	50.0	50.7	50.6	52.1	50.8	50.6	51.8	50.4	51.8	52.4	52.8	52.4	50.7	49.4	52.1	49.9
mol%Or	1.3	1.3	1.1	1.3	0.9	1.3	1.5	1.2	1.1	1.2	1.6	1.5	0.9	1.4	1.5	1.3	1.1	1.1	1.2

Table B.10.25: XAL-115, Plagioclase grain 25

Dist (µm)	0.0	29.2	58.4	87.6	116.7	146.0	204.3	233.5	262.7	291.9	321.0	350.3	379.5	408.6	437.9	467.0	496.2
SiO_2	57.97	56.45	59.17	57.59	59.22	58.25	57.90	58.45	58.13	58.02	58.32	58.44	57.83	57.43	58.72	57.24	58.24
TiO_2	0.07	0.05	0.01	0.02	0.05	0.06	0.04	-0.03	0.00	0.01	-0.03	-0.05	-0.03	-0.03	-0.02	-0.01	0.05
Al_2O_3	25.32	26.84	25.48	26.09	25.85	25.53	25.65	25.81	26.08	26.38	26.12	25.85	25.96	26.23	26.24	26.12	25.40
Fe_2O_3	0.47	0.48	0.38	0.36	0.38	0.38	0.35	0.34	0.37	0.33	0.30	0.27	0.26	0.31	0.32	0.48	0.58
MnO	0.07	-0.02	0.01	0.02	0.03	0.02	0.01	-0.05	-0.11	-0.04	-0.11	-0.05	-0.08	-0.12	-0.07	-0.09	-0.09
MgO	0.02	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.03	0.04	0.02	0.04	0.01	0.01	0.05	0.04
CaO	7.53	9.31	7.46	8.08	7.69	7.89	7.39	7.86	8.15	8.19	7.72	8.41	7.91	8.33	7.72	8.45	7.57
BaO	0.05	0.16	0.07	0.02	0.05	0.08	0.16	0.17	0.15	0.04	0.12	0.13	0.04	0.07	0.10	0.10	0.29
Na_2O	7.25	6.27	7.12	6.84	7.35	7.13	7.20	7.00	6.93	7.15	7.05	6.86	6.60	6.66	6.96	6.83	6.97
K_2O	0.36	0.20	0.34	0.20	0.22	0.30	0.33	0.30	0.28	0.28	0.35	0.28	0.24	0.29	0.30	0.25	0.28
sum	99.13	99.77	100.11	99.29	100.85	99.72	99.08	99.96	100.18	100.43	100.10	100.30	98.88	99.38	100.40	99.53	99.41
mol%An	35.7	44.6	36.0	39.1	36.2	37.3	35.5	37.6	38.8	38.1	36.9	39.7	39.3	40.2	37.3	40.0	36.9
mol%Ab	62.2	54.3	62.1	59.8	62.6	61.0	62.6	60.6	59.6	60.3	61.1	58.7	59.3	58.1	60.9	58.5	61.5
mol%Or	2.1	1.1	2.0	1.2	1.2	1.7	1.9	1.7	1.6	1.6	2.0	1.6	1.4	1.7	1.7	1.4	1.6

Table B.11.1: XAL-129, Plagioclase grain 1

Dist (µm)	0.0	7.4	14.9	22.3	29.8	37.2	52.2	59.6	67.0	74.5	81.9	89.4	96.8	104.3	111.8
SiO_2	58.62	57.78	55.99	57.94	59.15	60.05	58.89	58.59	58.37	58.05	57.93	57.63	57.20	43.71	56.49
TiO_2	0.05	-0.01	0.06	0.05	0.06	0.00	0.03	0.07	0.04	0.02	-0.03	0.01	0.02	0.08	0.08
Al_2O_3	25.38	25.35	27.38	24.37	23.66	24.68	25.02	24.87	25.10	25.25	25.37	25.13	25.28	39.93	27.67
Fe_2O_3	0.53	0.47	0.59	0.66	0.64	0.73	0.49	0.50	0.55	0.47	0.51	0.59	0.66	0.72	0.39
MnO	0.02	-0.01	0.01	0.01	-0.03	0.08	-0.03	0.01	0.06	-0.02	0.02	-0.01	0.02	0.00	-0.04
MgO	0.03	0.07	0.04	0.04	0.00	0.04	0.06	0.02	0.04	0.04	0.02	0.06	0.02	0.15	0.00
CaO	6.92	7.18	6.85	6.69	6.51	6.54	7.23	7.24	7.05	7.01	7.40	7.27	6.63	5.88	6.99
BaO	0.09	0.23	0.12	0.17	0.13	-0.05	0.16	0.12	0.17	0.05	-0.07	-0.02	-0.02	0.01	0.21
Na_2O	7.08	7.23	6.79	7.40	7.88	7.58	7.34	7.26	7.24	7.19	7.32	7.06	6.89	4.60	6.69
K_2O	0.53	0.45	0.42	0.66	0.53	0.56	0.48	0.55	0.46	0.48	0.59	0.46	0.74	0.46	0.57
sum	99.26	98.75	98.25	98.00	98.53	100.21	99.67	99.23	99.06	98.53	99.04	98.17	97.43	95.53	99.04
mol%An	34.0	34.5	34.9	32.1	30.4	31.3	34.3	34.4	34.1	34.1	34.7	35.3	33.2	39.9	35.3
mol%Ab	62.9	62.9	62.6	64.2	66.7	65.6	63.0	62.5	63.3	63.2	62.1	62.0	62.4	56.4	61.2
mol%Or	3.1	2.6	2.5	3.8	2.9	3.2	2.7	3.1	2.6	2.8	3.3	2.7	4.4	3.7	3.4

Table B.11.2: XAL-129, Plagioclase grain 2

Dist (µm)	0.0	58.4	87.6	116.7	145.9	204.3	233.5	262.6	291.8	321.0	379.4	408.6
SiO_2	56.84	57.29	57.09	56.44	56.00	57.19	57.56	58.60	56.54	56.58	57.51	57.70
TiO_2	0.09	0.09	0.04	0.01	0.04	0.04	-0.02	0.07	0.03	0.07	0.04	0.08
Al_2O_3	25.92	26.03	26.19	25.79	26.28	26.44	26.41	26.15	26.82	27.06	25.28	26.09
Fe_2O_3	0.55	0.44	0.54	0.54	0.69	0.51	0.59	0.47	0.38	0.42	0.53	0.60
MnO	-0.03	-0.01	-0.01	-0.04	0.06	-0.06	-0.02	0.01	0.02	0.02	0.01	-0.03
MgO	0.04	0.02	-0.01	0.04	0.03	0.04	0.01	0.02	0.03	0.01	0.01	0.02
CaO	8.49	8.01	8.42	8.16	7.97	8.57	8.25	7.85	8.35	9.12	7.32	8.75
BaO	0.11	0.08	-0.13	0.11	-0.02	0.10	0.21	0.17	0.13	0.08	0.15	0.18
Na_2O	6.63	6.97	6.53	6.72	6.92	6.53	6.73	6.93	6.51	6.38	6.82	6.52
K_2O	0.49	0.42	0.27	0.29	0.52	0.30	0.28	0.36	0.35	0.36	0.58	0.44
sum	99.13	99.34	98.93	98.05	98.49	99.66	99.99	100.63	99.16	100.10	98.24	100.33
mol%An	40.3	37.9	40.9	39.5	37.7	41.3	39.7	37.7	40.6	43.2	36.0	41.5
mol%Ab	56.9	59.7	57.5	58.9	59.3	57.0	58.7	60.2	57.3	54.7	60.6	56.0
mol%Or	2.7	2.4	1.6	1.6	2.9	1.7	1.6	2.0	2.0	2.0	3.4	2.5

Table B.11.3: XAL-129, Plagioclase grain 3

Dist (µm)	0.0	29.5	88.7	206.9	236.4	266.0	325.1	354.7	413.8	443.4	472.9	502.5	532.0	561.6	620.6	679.8	709.4	738.9	768.5	798.1
SiO_2	57.16	57.19	58.00	58.06	57.43	57.77	58.47	56.96	58.83	57.36	57.04	56.59	58.10	56.18	57.71	58.23	57.98	57.45	57.74	58.22
TiO_2	0.09	0.00	-0.03	0.06	0.01	0.03	0.09	0.08	0.05	0.07	0.07	0.00	0.02	-0.01	0.05	0.04	0.02	0.04	0.10	0.00
Al_2O_3	25.19	26.12	25.77	25.74	26.05	26.22	24.34	25.98	24.97	25.68	26.13	25.88	26.42	26.64	25.82	25.42	26.21	26.13	25.91	25.93
Fe_2O_3	0.36	0.45	0.51	0.43	0.51	0.48	0.70	0.77	0.50	0.55	0.47	0.40	0.46	0.46	0.35	0.57	0.54	0.37	0.39	0.63
MnO	0.00	-0.03	0.03	0.01	-0.03	0.12	0.00	-0.01	0.04	-0.02	-0.03	-0.03	0.04	-0.03	0.01	0.00	0.02	-0.01	0.06	-0.04
MgO	0.03	0.03	0.04	0.05	0.03	0.04	0.12	0.09	0.03	0.01	0.01	0.03	0.01	0.04	0.03	0.02	0.04	0.00	0.06	0.07
CaO	7.79	8.55	7.86	7.54	7.43	8.26	7.37	7.75	7.23	7.67	8.23	7.97	7.66	8.80	7.82	7.76	7.96	8.20	8.13	8.15
BaO	0.09	0.10	-0.01	0.01	-0.07	0.03	0.09	-0.10	0.02	-0.08	0.10	-0.01	-0.02	-0.02	-0.05	0.07	-0.03	0.08	0.22	0.15
Na_2O	6.98	6.94	7.02	6.79	6.61	7.12	6.36	6.72	7.42	7.05	6.77	6.97	6.91	6.63	7.12	7.07	6.95	6.86	6.87	6.89
K_2O	0.37	0.39	0.35	0.33	0.38	0.49	1.00	0.40	0.47	0.42	0.39	0.40	0.43	0.41	0.44	0.35	0.38	0.32	0.41	0.41
sum	98.06	99.74	99.55	99.00	98.34	100.55	98.54	98.64	99.55	98.71	99.16	98.18	100.03	99.10	99.29	99.53	100.07	99.44	99.88	100.41
mol%An	37.3	39.6	37.5	37.3	37.5	38.0	36.7	38.0	34.1	36.6	39.3	37.8	37.0	41.3	36.8	37.0	37.9	39.0	38.6	38.6
mol%Ab	60.6	58.2	60.6	60.8	60.3	59.3	57.4	59.6	63.3	61.0	58.5	59.9	60.5	56.4	60.7	61.0	59.9	59.1	59.1	59.1
mol%Or	2.1	2.1	2.0	1.9	2.3	2.7	5.9	2.3	2.6	2.4	2.2	2.3	2.4	2.3	2.5	2.0	2.1	1.8	2.3	2.3

Table B.11.4: XAL-129, Plagioclase grain 4

Dist (µm)	0.0	58.4	87.6	116.7	145.8	175.0	204.2	233.4	262.6	291.8	350.2	379.3	408.4	466.8	496.0	525.2
SiO_2	52.66	58.28	58.98	57.98	57.75	57.84	57.82	52.85	58.41	58.13	58.79	57.89	58.50	57.17	58.77	56.72
TiO_2	0.06	0.02	0.06	0.02	0.04	0.02	-0.01	0.02	0.09	0.03	0.04	0.05	0.07	0.00	0.01	0.04
Al_2O_3	30.44	25.27	25.32	24.95	25.29	25.56	25.86	23.06	25.29	24.37	25.15	25.75	25.17	25.73	25.33	25.68
Fe_2O_3	0.77	0.44	0.43	0.52	0.40	0.49	0.57	1.45	0.46	0.79	0.45	0.33	0.48	0.47	0.43	0.35
MnO	0.03	-0.03	0.04	0.05	0.02	0.10	-0.02	-0.02	-0.01	0.11	0.03	0.03	-0.02	0.01	-0.02	0.02
MgO	0.03	0.02	0.01	0.04	0.04	0.05	0.01	0.07	0.06	0.04	-0.01	0.03	0.03	0.05	0.03	0.02
CaO	7.83	7.59	7.03	7.75	7.38	7.02	8.04	7.06	7.22	6.75	7.64	8.41	7.63	7.91	7.42	8.42
BaO	-0.01	0.11	0.03	0.12	0.08	-0.03	-0.02	-0.06	0.13	0.28	0.12	0.10	0.11	-0.04	-0.06	0.16
Na_2O	5.89	7.22	7.08	7.23	7.03	6.85	7.00	6.16	7.36	7.09	7.02	6.92	7.08	6.78	7.21	6.74
K_2O	0.34	0.44	0.40	0.31	0.34	0.45	0.44	0.40	0.36	0.58	0.48	0.39	0.42	0.41	0.37	0.35
sum	98.02	99.35	99.39	98.96	98.35	98.36	99.68	90.99	99.35	98.16	99.70	99.91	99.48	98.49	99.49	98.50
mol%An	41.5	35.8	34.6	36.6	36.0	35.2	37.9	37.8	34.4	33.3	36.5	39.3	36.4	38.3	35.5	40.0
mol%Ab	56.4	61.7	63.1	61.7	62.0	62.1	59.7	59.7	63.5	63.3	60.8	58.5	61.2	59.4	62.4	58.0
mol%Or	2.1	2.5	2.3	1.7	2.0	2.7	2.4	2.5	2.1	3.4	2.7	2.2	2.4	2.4	2.1	2.0

Table B.11.5: XAL-129, Plagioclase grain 5

Dist (µm)	0.0	90.1	270.3	360.5	450.5	540.6	630.8	720.8	810.9	901.0	1081.2	1171.3	1261.4	1351.5	1441.7	1531.7	1621.9	1712.0	1802.0	1892.2	1982.3
SiO_2	54.71	52.43	52.14	52.53	52.26	52.67	52.16	51.26	52.33	52.79	52.43	52.51	52.69	51.28	53.29	53.57	52.43	54.14	55.27	55.35	52.18
TiO_2	0.06	0.04	0.09	0.02	0.02	0.03	0.09	0.10	0.06	0.07	0.02	0.04	0.05	0.00	0.02	0.08	0.04	0.05	0.06	0.04	0.06
Al_2O_3	27.21	29.28	29.04	29.68	29.09	29.44	29.18	32.13	29.23	29.33	29.79	29.00	29.28	30.30	28.44	28.14	29.28	28.58	27.09	27.45	29.59
Fe_2O_3	0.39	0.45	0.59	0.58	0.51	0.59	0.56	0.60	0.59	0.49	0.65	0.52	0.43	0.57	0.54	0.54	0.54	0.38	0.56	0.60	0.55
MnO	0.00	0.04	-0.05	0.06	-0.07	0.02	0.02	0.00	0.05	-0.03	0.02	-0.03	0.00	-0.02	0.00	-0.05	-0.03	-0.09	-0.05	0.06	-0.02
MgO	0.03	0.00	0.04	0.02	0.03	0.04	0.04	0.05	0.04	0.05	0.05	0.02	0.02	0.04	0.07	0.02	0.03	0.04	0.05	0.01	0.05
CaO	9.78	11.73	11.81	12.45	12.32	12.24	12.05	11.54	12.06	11.58	12.54	11.68	11.67	12.79	11.20	11.46	12.20	11.02	10.13	10.27	11.81
BaO	0.01	0.05	-0.01	0.03	-0.04	0.14	0.08	0.15	0.10	0.07	0.00	0.10	0.08	0.01	0.06	-0.07	0.16	-0.10	0.05	0.17	0.05
Na_2O	6.15	4.62	4.85	4.82	4.76	4.48	4.53	3.46	4.90	5.05	4.69	4.93	4.85	4.15	5.28	5.03	4.82	5.35	5.89	6.05	4.76
K_2O	0.27	0.25	0.19	0.22	0.16	0.16	0.17	0.13	0.21	0.23	0.14	0.20	0.21	0.13	0.14	0.19	0.17	0.27	0.23	0.28	0.12
sum	98.59	98.88	98.70	100.40	99.03	99.80	98.87	99.41	99.56	99.64	100.32	98.96	99.28	99.25	99.02	98.92	99.64	99.64	99.27	100.26	99.15
mol%An	46.1	57.6	56.8	58.1	58.3	59.6	58.9	64.2	56.9	55.2	59.2	56.0	56.4	62.6	53.5	55.1	57.7	52.4	48.1	47.6	57.4
mol%Ab	52.4	41.0	42.1	40.7	40.8	39.5	40.1	34.9	41.9	43.5	40.0	42.8	42.4	36.7	45.7	43.8	41.3	46.0	50.6	50.8	41.9
mol%Or	1.5	1.5	1.1	1.2	0.9	0.9	1.0	0.9	1.2	1.3	0.8	1.1	1.2	0.7	0.8	1.1	0.9	1.5	1.3	1.5	0.7

Table B.11.5 (cntd): XAL-129, Plagioclase grain 5

Dist (µm)	2072.4	2162.5	2522.9	2612.9	2793.2	2883.3	3063.5	3153.6	3243.7
SiO_2	54.23	53.82	54.94	53.62	52.60	54.27	57.63	55.64	55.82
TiO_2	0.10	0.08	0.03	0.04	0.06	0.07	0.02	0.10	-0.01
Al_2O_3	28.11	28.53	27.54	28.19	29.19	27.74	26.03	26.83	26.00
Fe_2O_3	0.59	0.53	0.51	0.79	0.47	0.43	0.42	0.50	0.50
MnO	-0.02	0.01	0.04	-0.03	-0.01	-0.01	-0.01	-0.07	0.09
MgO	0.04	0.02	0.06	0.12	0.02	0.01	0.05	0.07	0.05
CaO	11.04	11.12	9.78	10.65	11.67	11.16	7.93	9.32	8.82
BaO	0.03	0.09	0.11	0.16	0.04	0.03	0.17	0.03	0.11
Na_2O	5.46	5.55	5.67	5.24	5.08	5.32	6.86	6.35	6.38
K_2O	0.21	0.26	0.22	0.25	0.13	0.24	0.33	0.31	0.25
sum	99.77	99.99	98.89	99.04	99.24	99.25	99.44	99.08	98.01
mol%An	52.2	51.8	48.2	52.1	55.6	53.0	38.2	44.0	42.7
mol%Ab	46.7	46.8	50.5	46.4	43.7	45.7	59.9	54.2	55.9
mol%Or	1.2	1.4	1.3	1.5	0.7	1.4	1.9	1.8	1.4

Table B.11.6: XAL-129, Plagioclase grain 6

Dist (µm)	0.0	7.7	15.5	23.2	30.9	38.7	46.4	54.2	62.0	69.6	85.2	93.0	100.7
SiO_2	58.13	57.77	57.23	56.54	57.43	58.21	57.69	57.15	58.04	58.61	57.49	57.14	63.78
TiO_2	0.04	0.04	0.02	0.04	0.10	0.04	0.03	0.00	-0.03	0.01	-0.01	0.02	0.38
Al_2O_3	25.35	25.54	26.21	25.93	25.53	25.68	26.10	25.86	25.81	25.90	26.34	26.29	20.84
Fe_2O_3	0.58	0.53	0.33	0.50	0.60	0.29	0.42	0.40	0.45	0.37	0.38	0.59	0.79
MnO	0.02	0.00	0.02	-0.05	-0.03	0.08	0.05	-0.04	0.00	0.06	0.00	0.03	-0.07
MgO	0.03	0.03	0.03	0.05	0.02	0.01	0.05	0.02	0.02	0.01	0.05	0.01	0.02
CaO	6.79	7.98	8.15	8.54	7.57	8.23	7.99	7.74	7.56	7.38	8.72	8.41	4.95
BaO	0.06	0.31	-0.09	-0.06	0.04	0.01	0.06	0.14	0.07	-0.03	0.11	-0.07	-0.06
Na_2O	6.91	6.81	6.59	6.57	6.98	6.97	7.03	7.13	6.98	6.97	6.65	6.70	6.45
K_2O	0.46	0.59	0.37	0.41	0.34	0.41	0.48	0.36	0.35	0.45	0.39	0.35	1.65
sum	98.37	99.59	98.85	98.46	98.58	99.92	99.90	98.75	99.25	99.73	100.10	99.47	98.73
mol%An	34.2	38.0	39.7	40.9	36.7	38.6	37.6	36.7	36.7	36.0	41.1	40.2	26.7
mol%Ab	63.0	58.7	58.1	56.8	61.3	59.1	59.8	61.2	61.3	61.4	56.7	57.9	62.8
mol%Or	2.8	3.4	2.1	2.3	1.9	2.3	2.7	2.0	2.0	2.6	2.2	2.0	10.5

Table B.11.7: XAL-129, Plagioclase grain 7

Dist (µm)	29.8	59.6	149.0	178.9	208.6	238.4	298.0	327.8	357.6	417.3	447.0	476.8
SiO_2	57.64	56.08	56.42	56.25	57.44	57.70	57.42	57.22	56.42	55.55	57.25	58.76
TiO_2	-0.01	0.03	0.04	0.02	0.06	0.02	0.05	-0.01	0.08	0.02	0.07	0.04
Al_2O_3	26.17	26.22	26.65	27.05	26.03	26.27	26.03	26.73	26.72	26.94	26.18	25.55
Fe_2O_3	0.42	0.54	0.51	0.47	0.56	0.50	0.50	0.45	0.41	0.50	0.45	0.62
MnO	0.01	-0.07	0.04	-0.02	0.02	-0.05	0.00	-0.03	0.08	-0.05	0.02	0.07
MgO	0.04	0.03	0.05	0.05	0.07	0.07	0.04	0.05	0.03	0.05	0.03	0.06
CaO	8.42	8.66	9.37	9.10	8.49	8.74	8.35	8.74	9.52	8.90	8.28	7.71
BaO	0.11	0.13	0.05	-0.08	-0.03	0.13	0.13	0.13	-0.01	0.08	0.06	0.13
Na_2O	6.66	6.47	6.18	6.10	6.89	6.57	6.51	6.78	6.30	6.10	6.62	7.03
K_2O	0.34	0.30	0.23	0.22	0.43	0.33	0.34	0.32	0.25	0.29	0.38	0.50
sum	99.80	98.39	99.53	99.13	99.97	100.27	99.37	100.39	99.80	98.38	99.34	100.47
mol%An	40.3	41.8	45.0	44.6	39.6	41.6	40.7	40.8	44.9	43.9	40.0	36.6
mol%Ab	57.7	56.5	53.7	54.1	58.1	56.5	57.4	57.4	53.7	54.4	57.8	60.5
mol%Or	1.9	1.7	1.3	1.3	2.4	1.9	1.9	1.8	1.4	1.7	2.2	2.8

Table B.11.8: XAL-129, Plagioclase grain 8

Dist (µm)	0.0	119.9	239.8	299.7	359.6	719.3	1018.9	1078.9	1138.9	1198.8	1258.7	1318.7
SiO_2	57.30	55.43	58.56	56.00	55.70	56.92	57.44	58.26	57.02	58.59	57.40	56.98
TiO_2	0.04	0.05	0.04	0.04	0.09	0.02	0.01	-0.02	0.07	0.05	0.02	0.07
Al_2O_3	26.57	27.11	26.07	27.22	27.58	26.04	26.75	26.03	26.67	26.11	26.43	26.09
Fe_2O_3	0.44	0.50	0.60	0.44	0.36	0.46	0.53	0.44	0.47	0.45	0.51	0.45
MnO	0.03	-0.02	0.00	0.01	0.02	0.01	0.03	-0.03	0.01	0.02	-0.02	-0.03
MgO	0.03	0.02	0.03	0.07	0.06	0.03	0.04	0.03	0.05	0.04	0.04	0.01
CaO	8.16	9.15	8.00	9.62	9.65	8.99	8.80	7.98	9.32	8.27	8.25	7.86
BaO	0.27	-0.01	0.03	-0.03	0.09	0.01	0.03	0.26	0.06	0.07	-0.02	0.13
Na_2O	6.89	6.26	7.07	6.05	6.01	6.76	6.47	7.07	6.42	7.03	6.18	6.78
K_2O	0.37	0.33	0.43	0.36	0.25	0.22	0.34	0.35	0.32	0.35	0.33	0.43
sum	100.08	98.81	100.82	99.78	99.80	99.47	100.44	100.38	100.41	100.98	99.11	98.75
mol%An	38.7	43.9	37.6	45.8	46.4	41.8	42.1	37.6	43.7	38.6	41.6	38.1
mol%Ab	59.2	54.3	60.1	52.1	52.2	56.9	56.0	60.4	54.5	59.4	56.4	59.5
mol%Or	2.1	1.9	2.4	2.1	1.4	1.2	1.9	2.0	1.8	2.0	2.0	2.5

Table B.11.9: XAL-129, Plagioclase grain 9

Dist (µm)	0.0	15.2	30.3	45.5	60.7	75.8	106.1	136.4	166.7	181.9
SiO_2	58.16	58.31	58.54	57.14	57.61	58.63	57.59	57.33	58.06	58.82
TiO_2	0.05	0.02	0.06	0.04	0.01	-0.03	-0.01	0.02	0.03	0.05
Al_2O_3	25.32	25.44	25.41	25.50	25.54	25.76	25.36	25.27	25.49	24.68
Fe_2O_3	0.37	0.47	0.42	0.47	0.44	0.47	0.56	0.66	0.51	0.48
MnO	-0.02	0.01	0.00	0.02	-0.01	0.02	0.00	-0.01	0.06	-0.05
MgO	0.03	0.00	0.05	0.06	0.05	0.03	0.06	0.01	0.03	0.13
CaO	7.85	7.77	7.78	7.76	7.70	7.57	7.87	7.39	8.00	7.04
BaO	0.07	0.02	0.07	0.21	0.07	0.10	0.13	0.05	0.04	0.09
Na_2O	6.90	7.38	7.07	6.98	7.19	7.03	7.14	6.95	7.09	7.16
K_2O	0.46	0.34	0.45	0.30	0.45	0.45	0.39	0.51	0.52	0.62
sum	99.20	99.74	99.84	98.48	99.05	100.02	99.08	98.19	99.83	99.02
mol%An	37.6	36.1	36.8	37.4	36.2	36.4	37.0	35.9	37.3	33.9
mol%Ab	59.8	62.1	60.6	60.9	61.2	61.1	60.8	61.1	59.8	62.5
mol%Or	2.6	1.9	2.6	1.7	2.5	2.6	2.2	3.0	2.9	3.5

Table B.11.10: XAL-129, Plagioclase grain 10

Dist (µm)	0.0	29.3	58.6	87.9	117.2	146.5	175.8	205.1	234.3	322.2	351.5	380.8	410.1	468.7	498.0
SiO_2	60.75	56.67	56.23	56.64	57.10	57.95	57.67	57.84	58.08	57.33	58.02	58.01	57.25	57.14	56.83
TiO_2	0.04	0.08	-0.05	0.02	0.06	0.03	0.03	0.00	0.02	0.01	0.03	0.05	0.01	0.04	0.01
Al_2O_3	24.14	26.48	27.29	26.64	26.96	26.30	26.24	26.45	26.01	26.37	26.34	26.09	26.61	26.44	27.27
Fe_2O_3	0.66	0.48	0.49	0.47	0.37	0.55	0.45	0.51	0.45	0.42	0.55	0.47	0.43	0.45	0.50
MnO	0.02	0.04	-0.01	0.04	0.01	-0.01	0.02	0.06	0.02	-0.05	-0.01	0.02	0.04	-0.01	0.00
MgO	0.03	0.04	0.04	0.07	0.07	0.04	0.07	0.03	0.06	0.04	0.03	0.05	0.03	0.04	0.01
CaO	5.94	8.78	9.68	8.92	9.30	8.40	8.55	8.42	8.03	8.66	8.67	8.06	8.72	8.86	9.30
BaO	0.32	-0.03	0.03	0.01	0.12	0.03	0.15	0.09	0.06	0.06	0.05	-0.06	-0.10	0.14	0.11
Na_2O	7.84	6.37	5.87	6.36	6.43	6.94	6.62	6.56	6.59	6.89	6.66	6.76	6.28	6.39	6.26
K_2O	0.50	0.39	0.25	0.32	0.29	0.31	0.28	0.40	0.38	0.41	0.30	0.34	0.24	0.28	0.35
sum	100.25	99.30	99.83	99.48	100.71	100.54	100.07	100.36	99.70	100.15	100.63	99.79	99.52	99.77	100.66
mol%An	28.6	42.3	47.0	42.9	43.7	39.4	41.0	40.5	39.3	40.1	41.1	39.0	42.8	42.7	44.2
mol%Ab	68.5	55.5	51.6	55.3	54.7	58.9	57.4	57.2	58.4	57.7	57.1	59.1	55.8	55.7	53.8
mol%Or	2.9	2.2	1.5	1.8	1.6	1.7	1.6	2.3	2.2	2.3	1.7	2.0	1.4	1.6	2.0

Table B.11.11: XAL-129, Plagioclase grain 11

Dist (µm)	0.0	29.3	58.6	87.8	117.1	175.7	204.9	234.2	263.5	292.8	322.0	380.6	409.9	439.1	468.4	497.7	527.0	556.2	585.5
SiO_2	57.11	56.72	58.13	57.31	56.78	57.41	57.12	55.44	56.09	56.80	55.30	56.23	57.77	57.30	56.42	57.34	58.45	57.57	58.02
TiO_2	-0.01	0.01	0.08	0.05	0.01	0.05	0.02	0.06	0.01	0.03	0.03	0.03	0.04	0.04	0.02	0.02	0.04	0.05	0.05
Al_2O_3	26.59	27.05	26.31	26.16	26.17	26.97	27.07	27.23	27.98	27.19	27.35	26.85	26.76	26.56	27.01	26.57	26.72	26.79	26.03
Fe_2O_3	0.49	0.42	0.39	0.45	0.28	0.39	0.46	0.45	0.57	0.61	0.52	0.61	0.44	0.66	0.37	0.47	0.50	0.61	0.42
MnO	0.06	0.01	0.01	0.00	-0.05	-0.03	-0.03	-0.03	-0.07	-0.03	-0.05	0.00	-0.04	0.01	-0.01	-0.04	0.01	0.04	0.01
MgO	0.03	0.04	0.02	0.00	0.03	0.04	0.07	0.05	0.05	0.04	0.06	0.06	0.02	0.04	0.00	0.07	0.02	0.02	0.05
CaO	8.52	9.55	8.60	8.78	8.78	9.07	9.02	9.50	10.11	9.55	9.53	8.88	8.35	8.59	9.13	8.37	8.31	8.59	7.80
BaO	0.07	0.07	0.13	0.07	0.02	0.16	0.11	0.01	0.02	0.06	-0.02	0.08	0.11	0.20	0.05	0.06	0.05	0.20	0.09
Na_2O	6.52	6.38	6.58	6.74	6.76	6.39	6.33	6.17	5.84	6.05	6.00	6.16	6.49	6.89	6.35	6.69	6.49	6.63	7.03
K_2O	0.40	0.31	0.28	0.28	0.34	0.28	0.36	0.28	0.28	0.28	0.22	0.26	0.43	0.30	0.26	0.43	0.41	0.36	0.38
sum	99.78	100.55	100.52	99.85	99.11	100.74	100.54	99.16	100.88	100.57	98.94	99.14	100.37	100.58	99.61	99.99	100.98	100.86	99.88
mol%An	41.0	44.5	41.3	41.2	41.0	43.3	43.2	45.3	48.1	45.9	46.2	43.6	40.5	40.1	43.6	39.9	40.4	40.9	37.2
mol%Ab	56.7	53.8	57.1	57.2	57.1	55.1	54.8	53.1	50.3	52.5	52.6	54.8	57.0	58.2	54.9	57.7	57.2	57.1	60.7
mol%Or	2.3	1.7	1.6	1.6	1.9	1.6	2.0	1.6	1.6	1.6	1.3	1.5	2.5	1.7	1.5	2.4	2.4	2.1	2.2

Table B.11.12: XAL-129, Plagioclase grain 12

Dist (µm)	0.0	90.4	180.9	271.3	361.7	452.2	542.6	633.0	723.5	813.9	994.8	1266.1	1446.9	1627.8	1899.1	2170.4	2260.8	2351.2	2984.3	3074.7	3255.6
SiO_2	56.65	58.40	57.16	57.05	56.33	56.16	55.72	54.34	53.68	55.53	54.93	54.75	55.87	53.32	55.74	57.06	56.97	57.45	57.58	58.07	57.91
TiO_2	0.07	0.04	0.03	0.02	0.09	-0.02	-0.04	0.02	0.04	0.02	0.04	0.04	-0.01	0.07	0.02	0.02	0.03	0.03	0.03	0.04	0.03
Al_2O_3	26.05	25.84	27.30	26.69	27.38	27.54	27.62	28.26	29.31	28.02	28.46	27.85	27.11	29.39	27.82	26.86	27.39	26.52	26.53	27.01	26.68
Fe_2O_3	0.40	0.57	0.44	0.45	0.62	0.55	0.56	0.41	0.60	0.54	0.65	0.75	0.72	0.69	0.50	0.37	0.57	0.55	0.41	0.43	0.51
MnO	0.07	0.03	0.09	-0.01	0.05	0.03	-0.01	0.10	0.08	-0.05	-0.02	0.06	-0.03	-0.02	-0.01	0.06	-0.05	-0.02	0.00	-0.03	0.06
MgO	0.02	0.03	0.02	0.06	0.06	0.06	0.07	0.04	0.05	0.03	0.04	0.06	0.06	0.05	0.04	0.03	0.06	0.02	0.07	0.04	0.01
CaO	8.17	8.53	8.96	9.14	9.43	9.50	10.02	11.01	11.73	10.72	10.35	10.23	9.78	11.50	10.33	8.99	9.18	9.22	9.11	8.67	8.72
BaO	-0.01	0.21	0.13	-0.07	0.10	0.01	-0.02	0.21	-0.02	-0.10	0.07	-0.07	-0.06	0.04	0.08	0.08	0.04	0.14	-0.05	-0.09	-0.02
Na_2O	6.47	6.75	6.22	6.49	6.22	5.77	5.83	5.33	4.90	5.41	5.40	5.06	5.66	4.86	5.55	6.22	6.32	6.23	6.45	6.49	6.45
K_2O	0.34	0.29	0.34	0.33	0.30	0.28	0.18	0.29	0.14	0.26	0.20	0.17	0.25	0.13	0.31	0.36	0.35	0.30	0.25	0.37	0.35
sum	98.22	100.69	100.69	100.14	100.59	99.89	99.93	100.01	100.51	100.37	100.10	98.91	99.36	100.03	100.38	100.04	100.84	100.44	100.36	101.00	100.70
mol%An	40.3	40.5	43.5	43.0	44.8	46.8	48.2	52.4	56.5	51.5	50.9	52.2	48.1	56.3	49.8	43.5	43.7	44.2	43.2	41.6	41.9
mol%Ab	57.7	57.9	54.6	55.2	53.5	51.5	50.8	45.9	42.7	47.0	48.0	46.7	50.4	43.0	48.4	54.4	54.4	54.1	55.4	56.3	56.1
mol%Or	2.0	1.6	2.0	1.8	1.7	1.7	1.0	1.7	0.8	1.5	1.1	1.0	1.5	0.7	1.8	2.1	2.0	1.7	1.4	2.1	2.0

Table B.11.13: XAL-129, Plagioclase grain 13

Dist (µm)	0.0	29.5	59.1	88.6	118.1	147.6	206.7	265.7	295.2	324.7	354.3	383.8	413.3
SiO_2	59.03	57.98	57.92	58.72	59.31	60.32	58.87	58.98	57.70	59.31	58.75	58.03	59.53
TiO_2	0.00	-0.01	0.03	0.01	-0.03	0.00	0.09	0.07	0.02	0.04	0.02	0.08	0.02
Al_2O_3	25.67	26.16	26.38	26.04	25.31	24.99	25.41	25.15	25.27	25.85	26.10	26.17	25.11
Fe_2O_3	0.66	0.49	0.36	0.53	0.41	0.36	0.48	0.50	0.52	0.48	0.51	0.49	0.46
MnO	0.00	-0.07	0.00	0.00	-0.01	0.05	0.00	-0.01	0.06	0.03	0.00	-0.01	-0.06
MgO	0.06	0.04	0.06	0.04	0.01	0.05	0.02	0.04	0.00	0.03	0.04	0.05	0.03
CaO	7.83	8.07	8.39	7.74	7.19	6.92	6.90	7.45	8.04	7.88	7.90	7.66	7.17
BaO	0.15	0.05	-0.03	0.20	0.04	0.11	0.02	0.13	0.03	-0.01	0.14	0.12	0.05
Na_2O	7.06	6.92	6.84	7.00	7.52	7.32	7.08	7.30	6.78	6.90	6.77	6.75	7.17
K_2O	0.33	0.30	0.34	0.42	0.44	0.50	0.38	0.39	0.46	0.40	0.27	0.36	0.64
sum	100.80	99.91	100.29	100.71	100.18	100.61	99.25	100.00	98.86	100.90	100.50	99.70	100.13
mol%An	37.3	38.5	39.6	37.0	33.7	33.3	34.2	35.3	38.5	37.8	38.6	37.7	34.3
mol%Ab	60.8	59.8	58.4	60.6	63.8	63.8	63.5	62.5	58.8	59.9	59.8	60.1	62.0
mol%Or	1.9	1.7	1.9	2.4	2.4	2.9	2.2	2.2	2.6	2.3	1.6	2.1	3.7

Table B.11.14: XAL-129, Plagioclase grain 14

Dist (µm)	30.5	45.8	61.0	76.2	91.5	167.7	183.0	198.3	213.5	228.8
SiO_2	55.31	59.71	52.87	60.24	58.03	59.83	59.70	58.11	58.69	57.88
TiO_2	0.04	0.09	0.10	0.06	0.03	0.04	0.06	0.04	0.06	0.05
Al_2O_3	29.14	25.01	30.81	24.44	25.93	25.15	25.24	25.80	26.34	25.50
Fe_2O_3	0.49	0.50	0.86	0.54	0.53	0.46	0.51	0.59	0.71	1.20
MnO	0.02	0.02	0.00	0.00	0.02	0.05	-0.01	-0.05	0.09	-0.08
MgO	0.06	-0.01	0.09	0.05	0.04	0.05	0.04	0.06	0.06	0.05
CaO	6.81	7.15	7.10	6.66	7.77	7.26	6.89	8.37	6.60	6.55
BaO	0.16	0.19	0.11	0.11	0.21	0.04	-0.18	0.28	0.12	0.15
Na_2O	6.80	7.58	5.97	7.36	6.71	7.36	7.29	6.76	7.14	7.02
K_2O	0.46	0.53	0.45	0.48	0.41	0.42	0.47	0.32	0.47	0.66
sum	99.28	100.77	98.36	99.95	99.67	100.64	100.01	100.27	100.29	98.98
mol%An	34.6	33.3	38.5	32.4	38.1	34.4	33.4	39.9	32.8	32.7
mol%Ab	62.6	63.8	58.6	64.8	59.5	63.2	63.9	58.3	64.4	63.4
mol%Or	2.8	2.9	2.9	2.8	2.4	2.4	2.7	1.8	2.8	3.9

Table B.11.15: XAL-129, Plagioclase grain 15

Dist (µm)	0.0	29.4	58.9	88.3	147.1	176.5	205.9	264.8	294.2	323.6	353.0
SiO_2	56.14	56.72	56.58	56.88	58.27	52.62	59.33	57.83	58.42	56.59	56.10
TiO_2	0.05	0.04	0.05	-0.01	0.04	0.01	0.02	0.06	0.08	0.07	0.02
Al_2O_3	26.49	26.60	26.78	27.15	25.76	31.14	25.68	25.14	25.15	26.70	26.27
Fe_2O_3	0.58	0.59	0.51	0.74	0.47	0.65	0.48	0.39	0.45	0.51	0.50
MnO	0.00	0.06	-0.07	-0.01	0.01	0.04	0.01	0.01	0.00	-0.04	0.04
MgO	0.01	0.04	-0.02	0.02	0.04	0.07	0.03	0.02	0.05	0.01	0.05
CaO	9.70	9.64	9.43	9.45	7.71	7.10	7.59	7.94	7.82	8.33	9.00
BaO	0.10	0.03	0.07	0.16	0.11	0.03	-0.07	0.06	0.03	0.18	-0.03
Na_2O	6.14	6.30	6.30	6.12	7.02	6.46	7.11	6.89	7.09	6.68	6.27
K_2O	0.25	0.38	0.34	0.23	0.51	0.34	0.50	0.43	0.35	0.36	0.33
sum	99.44	100.40	99.97	100.73	99.94	98.46	100.67	98.76	99.44	99.38	98.55
mol%An	46.0	44.9	44.4	45.4	36.7	37.0	36.1	37.9	37.1	40.0	43.4
mol%Ab	52.6	53.0	53.7	53.3	60.4	60.9	61.1	59.6	60.9	58.0	54.7
mol%Or	1.4	2.1	1.9	1.3	2.9	2.1	2.8	2.5	2.0	2.0	1.9

Table B.11.16: XAL-129, Plagioclase grain 16

Dist (µm)	30.1	60.3	75.3	90.4	105.5	120.6	135.7	150.7	165.8	180.9
SiO_2	58.93	59.69	57.85	58.80	57.02	58.85	60.68	58.91	58.60	59.22
TiO_2	0.03	0.06	0.03	0.00	0.06	0.08	0.06	0.06	0.05	0.04
Al_2O_3	25.43	25.27	26.78	25.61	26.40	25.21	24.89	24.98	25.83	26.01
Fe_2O_3	0.56	0.51	0.50	0.41	0.48	0.47	0.32	0.53	0.52	0.43
MnO	0.07	0.00	0.02	-0.06	0.01	-0.02	-0.01	0.06	-0.04	0.09
MgO	0.05	0.03	0.02	0.05	0.04	0.03	0.02	0.04	0.04	0.03
CaO	7.63	7.22	7.70	8.01	8.41	7.27	6.46	7.54	7.87	7.30
BaO	0.21	0.03	-0.08	0.23	0.07	0.08	0.12	0.00	0.08	0.15
Na_2O	7.01	7.36	6.70	7.06	6.49	7.05	7.64	7.19	6.87	7.23
K_2O	0.52	0.40	0.25	0.48	0.45	0.50	0.64	0.44	0.46	0.33
sum	100.42	100.58	99.78	100.58	99.43	99.51	100.81	99.74	100.28	100.82
mol%An	36.5	34.3	38.3	37.5	40.7	35.3	30.7	35.8	37.7	35.1
mol%Ab	60.6	63.4	60.2	59.8	56.8	61.9	65.7	61.7	59.6	63.0
mol%Or	2.9	2.3	1.5	2.6	2.6	2.9	3.6	2.5	2.6	1.9

Table B.11.17: XAL-129, Plagioclase grain 17

Dist (µm)	0.0	117.8	176.8	235.7	294.7	353.5	412.5	471.4	530.3	589.2	648.2	707.2	766.0	825.0
SiO_2	59.07	56.33	56.09	55.44	54.81	55.39	56.42	55.41	55.42	54.95	54.54	56.03	55.56	55.74
TiO_2	0.04	0.07	0.05	0.03	0.00	0.07	0.01	0.06	0.00	0.02	0.03	0.05	0.02	0.03
Al_2O_3	25.28	26.92	27.44	27.17	27.58	27.85	26.82	27.47	27.18	27.72	27.60	27.70	27.50	27.36
Fe_2O_3	0.57	0.61	0.53	0.49	0.49	0.58	0.53	0.56	0.65	0.49	0.55	0.53	0.48	0.52
MnO	0.02	-0.08	-0.03	0.02	0.00	0.01	0.02	0.05	0.02	-0.01	-0.02	-0.02	-0.01	0.02
MgO	0.04	0.03	0.06	0.00	0.04	0.06	0.02	0.06	0.04	0.06	0.01	0.03	0.05	0.03
CaO	7.95	9.56	9.95	10.59	9.81	10.12	9.05	9.92	10.15	10.27	10.42	10.10	10.15	9.77
BaO	0.04	0.01	0.07	0.06	0.16	0.19	0.05	0.16	0.03	0.01	-0.02	-0.05	-0.04	0.15
Na_2O	6.88	6.46	5.84	5.59	5.61	5.75	6.22	6.02	5.78	5.95	5.48	5.87	5.80	5.71
K_2O	0.38	0.35	0.31	0.27	0.26	0.28	0.40	0.20	0.27	0.21	0.29	0.20	0.27	0.25
sum	100.27	100.25	100.29	99.66	98.77	100.31	99.54	99.90	99.54	99.67	98.88	100.44	99.77	99.57
mol%An	38.1	44.1	47.6	50.4	48.4	48.5	43.6	47.1	48.5	48.2	50.4	48.2	48.4	47.9
mol%Ab	59.7	54.0	50.6	48.1	50.1	49.9	54.2	51.8	50.0	50.6	48.0	50.7	50.1	50.7
mol%Or	2.2	1.9	1.7	1.5	1.5	1.6	2.3	1.1	1.5	1.2	1.7	1.1	1.5	1.4

Table B.11.18: XAL-129, Plag grain 18

Dist (µm)	58.7	352.1	381.5
SiO_2	57.54	57.11	57.31
TiO_2	0.02	0.02	0.04
Al_2O_3	26.84	26.55	26.73
Fe_2O_3	0.60	0.46	0.68
MnO	0.06	0.03	0.07
MgO	0.03	0.01	0.05
CaO	8.81	8.84	8.44
BaO	0.13	-0.01	-0.06
Na_2O	6.63	6.33	6.48
K_2O	0.33	0.34	0.35
sum	100.99	99.69	100.08
mol%An	41.5	42.7	41.0
mol%Ab	56.6	55.3	57.0
mol%Or	1.8	2.0	2.0

Table B.11.19: XAL-129, Plagioclase grain 19

Dist (µm)	0.0	61.8	92.6	123.5	154.4	185.3	370.6	401.4	463.2
SiO_2	58.39	57.22	58.31	58.70	57.77	57.97	57.85	57.63	58.70
TiO_2	0.01	0.04	0.03	0.07	0.05	-0.02	-0.01	0.02	0.02
Al_2O_3	26.01	26.55	26.11	25.62	26.40	25.82	26.32	26.82	26.41
Fe_2O_3	0.57	0.43	0.46	0.51	0.59	0.59	0.30	0.46	0.41
MnO	0.00	-0.03	0.06	-0.04	-0.01	0.02	0.05	-0.03	0.00
MgO	0.05	0.02	0.04	0.07	0.00	0.05	0.04	0.06	0.05
CaO	8.01	8.97	8.01	8.21	8.03	8.65	8.44	9.08	7.88
BaO	0.04	0.11	0.21	0.12	-0.01	-0.16	0.00	0.04	0.13
Na_2O	6.83	6.46	6.82	6.92	6.80	6.76	6.75	6.33	6.64
K_2O	0.43	0.22	0.38	0.42	0.34	0.30	0.36	0.35	0.52
sum	100.35	99.98	100.41	100.61	99.97	99.98	100.11	100.74	100.76
mol%An	38.4	42.9	38.5	38.7	38.7	40.7	40.0	43.4	38.4
mol%Ab	59.2	55.8	59.3	59.0	59.3	57.6	57.9	54.7	58.6
mol%Or	2.5	1.3	2.1	2.3	2.0	1.7	2.0	2.0	3.0

Table B.11.20: XAL-129, Plagioclase grain 20

Dist (µm)	0.0	123.8	154.7	216.7	247.6	309.5	340.5	371.4	402.4
SiO_2	57.26	55.95	56.28	56.00	55.59	55.90	55.55	55.02	56.51
TiO_2	0.03	0.05	0.08	0.01	0.08	0.00	0.04	0.07	0.07
Al_2O_3	27.19	27.32	27.05	27.81	27.76	27.58	27.64	27.32	27.66
Fe_2O_3	0.43	0.46	0.61	0.50	0.59	0.47	0.91	0.45	0.50
MnO	0.01	0.02	0.02	-0.01	-0.01	-0.05	0.04	-0.02	0.00
MgO	0.03	0.06	0.05	0.05	0.03	0.02	0.25	0.07	0.02
CaO	8.88	9.87	9.54	9.29	10.43	9.08	9.37	10.44	9.57
BaO	0.00	0.09	0.21	0.11	0.13	-0.03	-0.03	-0.05	0.12
Na_2O	6.41	6.01	6.03	6.03	5.86	6.48	6.08	5.81	5.99
K_2O	0.38	0.26	0.30	0.25	0.28	0.30	0.21	0.26	0.30
sum	100.62	100.08	100.15	100.02	100.72	99.74	100.06	99.38	100.73
mol%An	42.4	46.9	45.8	45.3	48.8	42.9	45.4	49.1	46.1
mol%Ab	55.4	51.7	52.5	53.3	49.6	55.4	53.3	49.4	52.2
mol%Or	2.2	1.4	1.7	1.4	1.5	1.7	1.2	1.5	1.7

Table B.11.21: XAL-129, Plagioclase grain 21

Dist (µm)	29.2	58.4	87.6	116.9	175.3	321.4	379.8
SiO_2	57.93	57.60	56.64	56.93	55.94	57.80	58.22
TiO_2	0.06	0.10	0.07	0.06	0.07	0.05	0.02
Al_2O_3	25.16	26.75	26.44	27.17	27.17	26.82	26.33
Fe_2O_3	0.89	0.72	0.67	0.66	0.50	0.55	0.53
MnO	-0.02	0.05	0.00	0.00	-0.06	0.00	0.01
MgO	0.05	0.05	0.06	0.03	0.04	-0.01	0.04
CaO	7.50	8.97	8.82	9.49	9.84	8.29	8.33
BaO	0.05	-0.13	-0.04	0.15	-0.03	-0.01	0.13
Na_2O	7.06	6.40	6.45	6.21	6.14	6.48	6.67
K_2O	0.57	0.31	0.36	0.29	0.17	0.29	0.30
sum	99.24	100.82	99.46	100.98	99.78	100.26	100.59
mol%An	35.8	42.9	42.2	45.0	46.5	40.7	40.1
mol%Ab	61.0	55.4	55.8	53.3	52.5	57.6	58.2
mol%Or	3.2	1.7	2.1	1.6	1.0	1.7	1.7

Table B.11.22: XAL-129, Plagioclase grain 22

Dist (µm)	0.0	59.8	89.7	119.6	149.5	179.5	209.4	239.3	269.2	299.1	329.0	388.8	418.8	448.6	478.6	508.5	598.2
SiO_2	57.34	58.96	57.69	57.78	56.50	57.41	57.27	57.18	58.01	56.85	57.02	56.63	56.58	57.10	57.92	57.79	58.05
TiO_2	0.07	0.09	-0.01	0.08	0.06	0.03	0.05	0.08	0.03	0.06	0.02	0.07	0.05	0.08	-0.01	0.01	0.05
Al_2O_3	26.28	25.41	25.85	26.27	27.11	26.60	26.57	26.56	26.32	27.06	27.11	27.33	27.40	27.00	26.52	25.91	25.84
Fe_2O_3	0.56	0.59	0.45	0.55	0.62	0.51	0.50	0.45	0.45	0.60	0.43	0.64	0.54	0.52	0.46	0.65	0.63
MnO	-0.02	0.04	0.07	-0.05	-0.03	-0.02	-0.08	-0.02	0.00	0.02	0.04	0.02	0.03	0.04	-0.06	-0.08	-0.02
MgO	0.04	0.04	0.05	0.05	0.04	0.04	0.02	0.03	0.02	0.04	0.04	0.07	0.05	0.06	0.02	0.04	0.05
CaO	8.64	7.89	8.26	8.87	9.43	8.56	9.18	9.27	8.61	9.25	9.18	9.62	9.21	8.46	8.61	8.32	8.11
BaO	0.05	0.05	0.11	0.10	-0.09	-0.01	-0.02	0.03	0.00	0.03	0.18	-0.01	0.03	0.02	-0.04	0.07	0.01
Na_2O	6.50	7.02	6.89	6.43	6.00	6.62	6.33	6.13	6.55	6.21	6.12	6.00	6.08	6.33	6.64	6.70	7.01
K_2O	0.24	0.44	0.44	0.29	0.27	0.36	0.36	0.32	0.30	0.32	0.30	0.30	0.33	0.27	0.34	0.40	0.35
sum	99.69	100.53	99.79	100.35	99.91	100.10	100.19	100.03	100.27	100.43	100.43	100.67	100.30	99.87	100.39	99.81	100.08
mol%An	41.8	37.4	38.8	42.5	45.7	40.8	43.6	44.7	41.4	44.3	44.5	46.2	44.7	41.8	40.9	39.8	38.3
mol%Ab	56.8	60.2	58.7	55.8	52.7	57.1	54.4	53.5	56.9	53.8	53.7	52.1	53.4	56.6	57.2	57.9	59.8
mol%Or	1.4	2.5	2.4	1.6	1.6	2.0	2.1	1.8	1.7	1.8	1.7	1.7	1.9	1.6	1.9	2.3	1.9

Table B.11.23: XAL-129, Plagioclase grain 23

Dist (µm)	0.0	14.9	29.9	74.6	89.6	119.4	134.4	149.2	179.0	194.0	208.9	223.8	238.8
SiO_2	57.63	57.56	57.21	55.55	59.19	57.46	56.89	57.90	57.84	58.44	56.86	57.23	58.29
TiO_2	0.05	-0.03	0.00	0.05	0.00	0.04	0.02	0.06	0.04	0.05	0.03	0.03	0.03
Al_2O_3	26.68	26.29	26.70	28.46	25.58	27.46	26.51	26.25	26.58	26.52	26.71	26.58	26.45
Fe_2O_3	0.60	0.38	0.49	0.64	0.40	0.46	0.52	0.44	0.50	0.64	0.54	0.56	0.49
MnO	0.01	-0.02	0.00	-0.07	-0.03	-0.04	-0.05	-0.02	-0.03	-0.01	-0.08	0.03	0.00
MgO	0.02	0.04	0.04	0.06	0.01	0.01	0.08	0.06	0.02	0.03	0.08	0.04	0.01
CaO	8.66	8.81	9.17	7.17	7.69	8.85	8.61	8.77	8.40	8.22	9.01	8.15	8.15
BaO	-0.13	0.07	0.05	0.07	0.06	-0.06	0.01	0.19	-0.05	0.17	0.07	-0.03	-0.04
Na_2O	6.58	6.45	6.48	6.73	6.73	6.33	6.51	6.56	6.62	6.76	6.32	6.35	6.79
K_2O	0.44	0.29	0.25	0.38	0.47	0.30	0.32	0.31	0.38	0.31	0.35	0.30	0.32
sum	100.53	99.83	100.39	99.05	100.11	100.81	99.42	100.53	100.31	101.12	99.88	99.24	100.49
mol%An	41.1	42.3	43.2	36.2	37.7	42.8	41.4	41.7	40.3	39.5	43.2	40.8	39.2
mol%Ab	56.5	56.1	55.3	61.5	59.6	55.5	56.7	56.5	57.5	58.8	54.8	57.5	59.0
mol%Or	2.5	1.6	1.4	2.3	2.7	1.7	1.9	1.8	2.1	1.8	2.0	1.8	1.8

Table B.11.24: XAL-129, Plagioclase grain 24

Dist (µm)	57.4	114.8	143.4	172.2	200.9	229.6	258.3	287.0	315.7	373.1
SiO_2	58.33	43.32	56.88	57.01	57.39	57.43	56.93	58.57	58.39	57.94
TiO_2	0.01	0.05	-0.01	0.02	0.02	0.00	0.02	0.08	0.03	0.05
Al_2O_3	26.43	41.48	26.27	26.33	26.66	26.13	27.20	25.76	26.08	26.15
Fe_2O_3	0.50	0.79	0.45	0.49	0.56	0.39	0.46	0.46	0.42	0.48
MnO	0.00	0.00	0.03	-0.01	0.06	-0.02	0.05	-0.03	0.00	0.06
MgO	0.03	0.11	0.06	0.04	0.03	0.01	0.01	0.04	0.04	0.05
CaO	7.63	6.49	8.58	8.81	8.65	8.99	9.33	7.79	8.26	7.79
BaO	0.07	-0.02	0.19	0.01	0.16	0.07	-0.09	0.00	0.08	0.09
Na_2O	6.75	4.99	6.53	6.54	6.52	6.34	6.29	6.94	6.75	7.20
K_2O	0.35	0.34	0.33	0.34	0.31	0.34	0.34	0.41	0.34	0.34
sum	100.09	97.55	99.30	99.58	100.36	99.67	100.54	100.03	100.39	100.15
mol%An	37.7	40.7	41.3	41.9	41.5	43.1	44.2	37.4	39.5	36.7
mol%Ab	60.3	56.7	56.8	56.2	56.7	55.0	53.9	60.3	58.5	61.4
mol%Or	2.0	2.5	1.9	1.9	1.8	1.9	1.9	2.3	1.9	1.9

Table B.11.25: XAL-129, Plagioclase grain 25

Dist (µm)	29.8	59.5	74.5	119.1	163.7	178.7	193.5	208.4	223.4	238.2	253.1	282.9	297.7	312.6
SiO_2	58.63	59.74	58.77	57.93	59.48	57.66	58.12	59.16	58.50	59.13	58.50	58.30	58.66	58.83
TiO_2	0.03	0.06	0.05	0.03	0.06	0.07	0.01	0.08	0.00	0.10	0.02	0.03	0.04	0.04
Al_2O_3	26.01	25.49	26.52	25.28	25.30	26.50	25.76	25.53	25.81	26.37	25.94	26.36	25.03	25.70
Fe_2O_3	0.48	0.42	0.53	0.49	0.44	0.47	0.61	0.49	0.37	0.42	0.45	0.42	0.74	0.52
MnO	0.03	-0.02	-0.03	0.05	0.02	-0.04	-0.01	0.01	0.05	0.02	0.01	0.02	-0.03	0.01
MgO	0.04	0.00	0.00	0.04	0.05	0.01	0.03	0.03	0.01	0.04	0.00	0.05	0.07	0.02
CaO	7.63	7.19	7.64	7.22	7.68	8.23	7.80	7.76	7.96	7.59	8.27	7.93	8.08	7.75
BaO	-0.03	-0.08	0.08	0.07	0.01	-0.03	-0.04	0.12	0.13	-0.11	0.01	0.12	0.20	0.18
Na_2O	6.92	7.20	6.63	6.87	7.19	6.78	7.07	7.07	6.72	6.82	6.86	6.24	6.45	6.71
K_2O	0.50	0.47	0.41	0.40	0.46	0.51	0.37	0.44	0.40	0.44	0.39	0.46	0.36	0.50
sum	100.25	100.48	100.60	98.38	100.69	100.15	99.73	100.68	99.93	100.83	100.46	99.92	99.61	100.25
mol%An	36.8	34.6	38.0	35.8	36.2	39.0	37.1	36.8	38.6	37.1	39.1	40.1	40.1	37.8
mol%Ab	60.4	62.7	59.6	61.8	61.2	58.1	60.8	60.7	59.0	60.3	58.7	57.1	57.8	59.3
mol%Or	2.9	2.7	2.4	2.4	2.6	2.9	2.1	2.5	2.3	2.6	2.2	2.8	2.1	2.9

Table B.11.26: XAL-129, Plagioclase grain 26

Dist (µm)	0.0	30.4	76.1	91.3	182.6	197.8	213.0	228.2	273.8	289.1	304.3
SiO_2	56.98	56.35	57.52	57.57	57.82	58.63	57.92	57.66	57.93	58.28	58.46
TiO_2	0.05	-0.01	0.00	0.05	0.00	0.04	0.01	0.07	0.05	0.01	0.05
Al_2O_3	26.59	27.71	26.98	26.75	26.56	25.83	26.66	25.81	26.62	25.50	25.79
Fe_2O_3	0.52	0.46	0.33	0.46	0.53	0.46	0.49	0.45	0.48	0.35	0.48
MnO	-0.01	-0.07	-0.02	0.02	0.00	-0.03	0.02	-0.01	0.02	-0.01	0.04
MgO	0.04	0.05	0.04	0.00	0.05	0.02	0.01	0.02	0.03	0.03	0.03
CaO	8.66	8.45	8.98	8.63	8.47	8.20	8.41	8.08	8.18	7.49	7.89
BaO	0.14	0.10	0.00	-0.06	0.25	0.01	0.01	-0.05	0.08	0.14	-0.05
Na_2O	6.30	6.41	6.35	6.65	6.39	6.66	6.52	6.81	6.67	6.77	6.73
K_2O	0.43	0.27	0.42	0.24	0.29	0.28	0.36	0.46	0.30	0.43	0.51
sum	99.69	99.73	100.60	100.31	100.37	100.10	100.39	99.31	100.36	99.00	99.92
mol%An	42.1	41.5	42.8	41.2	41.6	39.8	40.8	38.6	39.7	37.0	38.2
mol%Ab	55.4	56.9	54.8	57.5	56.8	58.5	57.2	58.8	58.5	60.5	58.9
mol%Or	2.5	1.6	2.4	1.3	1.7	1.6	2.1	2.6	1.7	2.5	2.9

Table B.11.27: XAL-129, Plagioclase grain 27

Dist (µm)	0.0	15.2	30.3	45.5	60.7	75.9	91.0	121.4	136.5	151.8	197.3	212.5	242.9	258.0	273.2	288.4
SiO_2	59.19	59.16	59.67	58.51	58.98	61.42	60.56	60.10	60.39	59.67	60.16	60.00	60.36	59.49	56.30	57.16
TiO_2	0.05	0.10	0.00	0.06	0.02	0.04	0.03	0.02	0.03	0.06	0.05	-0.02	0.04	0.05	0.04	0.07
Al_2O_3	25.48	25.42	25.53	26.16	25.27	23.97	24.48	24.70	24.37	25.10	24.91	24.31	24.73	25.23	26.76	26.37
Fe_2O_3	0.49	0.48	0.50	0.54	0.53	0.49	0.56	0.45	0.44	0.38	0.59	0.56	0.57	0.58	0.77	0.51
MnO	0.03	-0.01	0.01	0.01	-0.01	0.03	0.03	0.01	-0.06	0.01	0.04	0.01	0.00	0.01	0.03	0.04
MgO	0.05	0.01	0.04	0.01	0.03	0.03	0.05	0.04	0.03	0.04	0.04	0.05	0.04	0.01	0.04	0.03
CaO	7.38	7.02	7.34	7.80	7.89	6.19	5.94	6.35	6.82	6.08	6.48	6.19	6.50	6.74	8.37	8.17
BaO	-0.08	-0.02	-0.12	0.08	0.05	0.17	0.29	0.18	0.12	0.06	0.17	0.18	0.04	0.04	-0.03	0.10
Na_2O	7.14	7.24	7.31	6.66	7.01	7.93	7.60	7.77	7.67	7.43	7.56	7.58	7.45	7.45	6.42	6.68
K_2O	0.54	0.59	0.52	0.52	0.56	0.66	0.61	0.61	0.48	0.48	0.66	0.54	0.52	0.52	0.31	0.29
sum	100.28	99.99	100.80	100.35	100.31	100.92	100.15	100.23	100.28	99.32	100.66	99.40	100.24	100.13	99.02	99.41
mol%An	35.2	33.7	34.6	38.1	37.2	29.0	29.1	30.0	32.1	30.2	30.9	30.1	31.5	32.3	41.1	39.6
mol%Ab	61.7	62.9	62.4	58.9	59.7	67.3	67.4	66.5	65.3	66.9	65.3	66.7	65.5	64.7	57.1	58.7
mol%Or	3.1	3.4	2.9	3.0	3.1	3.7	3.6	3.4	2.7	2.8	3.7	3.1	3.0	3.0	1.8	1.7

Table B.11.28: XAL-129, Plagioclase grain 28

Dist (µm)	0.0	7.6	15.3	22.9	38.2	45.9	61.1	68.8	76.4	84.1	91.7	99.4	107.0
SiO_2	60.71	60.01	59.01	59.17	57.96	58.58	57.71	59.05	57.62	58.11	58.58	58.29	57.73
TiO_2	0.05	0.04	-0.02	0.05	0.02	0.08	0.04	0.02	0.00	0.02	0.02	0.08	0.06
Al_2O_3	23.93	24.68	24.89	25.64	25.96	25.36	28.01	25.45	25.81	26.23	25.82	25.25	26.62
Fe_2O_3	0.49	0.54	0.56	0.37	0.47	0.53	0.36	0.47	0.40	0.45	0.55	0.60	0.44
MnO	-0.02	0.06	-0.01	-0.01	0.06	-0.02	0.01	0.00	-0.01	0.01	-0.02	-0.04	0.00
MgO	0.01	0.02	0.04	0.06	0.02	0.02	0.06	0.06	0.05	0.02	0.05	0.02	0.02
CaO	6.06	6.98	7.15	7.74	7.69	7.54	6.63	7.53	8.51	8.40	7.87	7.75	8.08
BaO	0.08	0.30	0.07	0.06	0.01	0.05	0.10	0.12	0.13	0.07	0.00	-0.01	0.16
Na_2O	7.65	7.50	7.35	7.02	6.94	7.02	7.02	7.50	6.61	6.74	6.97	7.16	6.67
K_2O	0.81	0.48	0.48	0.49	0.38	0.53	0.36	0.49	0.36	0.35	0.42	0.38	0.28
sum	99.77	100.63	99.51	100.60	99.51	99.68	100.29	100.69	99.49	100.40	100.26	99.48	100.04
mol%An	29.0	33.0	34.0	36.8	37.2	36.1	33.5	34.7	40.7	40.0	37.5	36.6	39.5
mol%Ab	66.3	64.2	63.3	60.4	60.7	60.9	64.3	62.6	57.2	58.0	60.1	61.2	58.9
mol%Or	4.6	2.7	2.7	2.8	2.2	3.0	2.2	2.7	2.1	2.0	2.4	2.1	1.6

Table B.11.29: XAL-129, Plagioclase grain 29

Dist (µm)	0.0	14.9	29.8	59.5	74.4	89.3	104.2	119.1	133.9	148.8	178.6	193.5	208.4
SiO_2	58.76	59.26	59.84	59.26	57.82	58.99	58.49	58.32	59.31	58.45	58.93	59.14	59.74
TiO_2	0.08	0.05	0.06	0.03	0.01	-0.03	0.05	0.05	0.02	0.08	0.07	-0.01	0.03
Al_2O_3	25.47	25.76	25.17	25.67	25.78	25.86	25.52	25.67	25.51	25.63	26.15	25.81	24.93
Fe_2O_3	0.56	0.49	0.43	0.45	0.50	0.53	0.49	0.47	0.34	0.46	0.52	0.39	0.54
MnO	-0.01	0.00	-0.07	-0.04	-0.04	0.01	-0.02	0.02	0.01	0.06	-0.02	0.00	-0.05
MgO	0.05	0.05	0.02	0.04	0.03	0.04	0.04	0.05	0.05	0.02	0.00	0.02	0.04
CaO	7.61	8.11	7.07	7.73	7.63	7.88	7.99	7.78	7.84	8.35	7.80	7.38	6.99
BaO	0.15	0.01	0.01	0.31	0.07	0.02	-0.05	0.07	0.09	0.01	0.26	0.27	0.17
Na_2O	7.13	6.73	7.10	7.10	6.90	7.00	7.02	6.92	7.02	6.84	7.00	7.03	7.32
K_2O	0.45	0.28	0.46	0.28	0.34	0.33	0.38	0.37	0.36	0.35	0.22	0.40	0.63
sum	100.25	100.73	100.09	100.83	99.04	100.61	99.89	99.72	100.53	100.24	100.93	100.42	100.33
mol%An	36.2	39.3	34.6	37.0	37.2	37.6	37.8	37.5	37.4	39.5	37.6	35.9	33.3
mol%Ab	61.3	59.0	62.8	61.5	60.8	60.5	60.1	60.4	60.6	58.5	61.1	61.8	63.1
mol%Or	2.5	1.6	2.6	1.6	2.0	1.8	2.1	2.1	2.0	2.0	1.3	2.3	3.6

Table B.12.1: XAL-106, Plagioclase grain 1

Dist (µm)	30.0	60.0	90.0	120.0	150.0	180.0	210.0	240.0	270.1	300.0	330.0	360.0	390.0	420.1	450.0	480.0	510.1	540.0
SiO_2	55.79	55.36	56.31	55.91	55.57	55.72	56.48	56.30	57.01	56.48	56.00	55.10	55.50	56.09	55.43	55.81	54.77	55.72
TiO_2	0.02	0.02	0.03	0.02	0.02	0.01	0.03	0.03	0.03	0.05	0.03	0.02	0.02	0.04	0.03	0.01	0.04	0.02
Al_2O_3	27.09	27.22	26.45	26.71	27.40	27.33	26.49	26.05	26.31	26.94	26.86	27.16	27.40	27.49	27.20	27.68	27.78	27.13
Fe_2O_3	0.44	0.46	0.47	0.40	0.42	0.47	0.47	0.46	0.44	0.40	0.39	0.38	0.41	0.43	0.45	0.52	0.38	0.41
MnO	0.00	0.01	0.00	0.00	0.02	0.02	0.01	0.02	0.01	0.01	-0.01	0.01	0.02	0.00	0.00	-0.01	-0.01	0.00
MgO	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.05	0.05
CaO	9.47	9.66	8.36	8.90	9.17	9.05	8.35	8.38	8.35	8.99	9.01	9.16	8.99	9.27	9.51	9.12	9.78	9.16
BaO	0.08	0.12	0.14	0.06	0.09	0.13	0.08	0.10	0.08	0.05	0.16	0.02	0.10	0.05	0.02	0.07	0.08	0.01
Na_2O	6.06	5.95	6.54	6.36	6.07	6.14	6.54	6.70	6.59	6.39	6.22	6.23	6.09	6.06	6.14	6.37	5.79	6.14
K_2O	0.27	0.27	0.31	0.27	0.25	0.26	0.29	0.32	0.32	0.30	0.28	0.26	0.28	0.30	0.26	0.29	0.25	0.25
sum	99.26	99.11	98.67	98.69	99.05	99.19	98.80	98.42	99.22	99.65	99.00	98.38	98.87	99.79	99.11	99.93	98.90	98.90
mol%An	45.6	46.5	40.7	42.9	44.8	44.2	40.7	40.1	40.4	43.0	43.7	44.2	44.2	45.0	45.4	43.4	47.6	44.5
mol%Ab	52.8	51.9	57.5	55.5	53.7	54.3	57.6	58.0	57.7	55.3	54.6	54.4	54.2	53.2	53.1	54.9	50.9	54.0
mol%Or	1.6	1.6	1.8	1.6	1.5	1.5	1.7	1.9	1.8	1.7	1.6	1.5	1.6	1.7	1.5	1.7	1.4	1.5

Table B.12.1 (cntd): XAL-106, Plagioclase grain 1

Dist (µm)	570.0	600.0	630.0	660.1
SiO_2	55.99	56.39	56.59	54.75
TiO_2	0.04	0.03	0.02	0.02
Al_2O_3	26.91	27.01	26.34	27.54
Fe_2O_3	0.42	0.44	0.41	0.41
MnO	-0.02	-0.01	0.01	0.01
MgO	0.05	0.05	0.05	0.06
CaO	8.95	8.70	8.63	9.36
BaO	0.07	0.08	0.06	0.08
Na_2O	6.20	6.31	6.56	5.91
K_2O	0.26	0.25	0.29	0.24
sum	98.87	99.25	98.94	98.37
mol%An	43.7	42.6	41.4	46.0
mol%Ab	54.8	56.0	56.9	52.6
mol%Or	1.5	1.4	1.7	1.4

Table B.12.2: XAL-106, Plagioclase grain 2

Dist (µm)	32.4	64.7	97.1	129.5	161.9	194.2	226.6	259.0	291.4	323.7	356.1	388.5
SiO_2	55.08	55.36	55.43	54.75	55.78	55.72	55.17	55.91	55.41	55.68	56.18	55.38
TiO_2	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.14	0.04	0.05	0.04	0.05
Al_2O_3	27.27	27.48	27.18	27.23	27.67	26.83	27.07	25.29	26.65	27.46	26.70	26.68
Fe_2O_3	0.47	0.50	0.46	0.44	0.45	0.47	0.43	1.00	0.46	0.42	0.52	0.52
MnO	0.03	0.01	0.04	0.00	0.00	-0.02	0.00	0.03	0.00	0.01	0.00	0.00
MgO	0.05	0.04	0.04	0.04	0.05	0.05	0.04	0.14	0.04	0.05	0.05	0.04
CaO	9.63	9.63	9.18	9.42	9.53	9.08	9.12	8.29	8.98	9.56	8.63	8.94
BaO	-0.06	0.01	0.04	-0.01	-0.06	-0.01	0.00	0.00	0.04	-0.03	0.02	0.01
Na_2O	5.96	5.86	6.05	5.93	6.07	6.23	6.03	5.47	6.08	5.82	6.29	6.20
K_2O	0.23	0.23	0.26	0.26	0.26	0.26	0.22	0.68	0.23	0.23	0.24	0.27
sum	98.71	99.16	98.74	98.12	99.79	98.66	98.12	96.95	97.95	99.25	98.67	98.10
mol%An	46.5	47.0	44.9	46.0	45.8	44.0	45.0	43.6	44.3	46.9	42.5	43.7
mol%Ab	52.2	51.7	53.6	52.5	52.7	54.6	53.8	52.1	54.3	51.7	56.0	54.8
mol%Or	1.3	1.3	1.5	1.5	1.5	1.5	1.3	4.2	1.3	1.4	1.4	1.6

Table B.12.3: XAL-106, Plagioclase grain 3

Dist (µm)	0.0	31.2	62.4	93.6	124.8	187.2	218.4	249.5	280.8	311.9	343.1	374.3	405.4	436.6	467.9	499.0	530.2	561.4
SiO_2	55.25	55.03	56.02	55.72	56.45	56.47	57.48	55.39	56.19	54.70	55.93	55.74	55.96	56.28	56.38	57.21	56.39	56.85
TiO_2	0.04	0.04	0.03	0.03	0.02	0.03	0.02	0.03	0.04	0.04	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04
Al_2O_3	27.45	27.26	26.49	27.15	26.47	26.42	27.20	27.11	26.74	27.19	27.15	26.76	27.31	26.26	27.14	25.93	26.76	26.57
Fe_2O_3	0.51	0.42	0.44	0.40	0.41	0.46	0.54	0.46	0.52	0.44	0.44	0.47	0.46	0.37	0.47	0.44	0.52	0.41
MnO	0.02	-0.02	0.02	-0.01	-0.02	-0.03	0.02	-0.01	-0.03	-0.01	0.00	-0.01	0.02	0.01	0.00	-0.01	0.02	0.01
MgO	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.06	0.05
CaO	9.55	9.63	8.92	9.25	8.52	8.62	8.04	9.37	8.91	9.33	9.17	9.10	9.65	8.74	9.13	7.96	8.72	8.63
BaO	0.03	0.09	0.03	0.00	0.11	0.07	0.04	0.03	0.06	0.04	0.03	0.01	0.05	0.04	0.07	0.06	0.01	0.02
Na_2O	5.67	5.85	6.19	6.27	6.34	6.38	6.25	5.99	5.90	6.01	5.98	6.11	5.88	6.16	5.92	6.79	6.22	6.45
K_2O	0.30	0.24	0.29	0.27	0.30	0.35	0.34	0.26	0.34	0.30	0.24	0.33	0.26	0.28	0.27	0.35	0.30	0.29
sum	98.86	98.59	98.49	99.12	98.66	98.82	100.00	98.70	98.72	98.08	99.02	98.59	99.67	98.21	99.46	98.80	99.02	99.31
mol%An	47.3	47.0	43.6	44.2	41.8	41.9	40.7	45.7	44.6	45.4	45.2	44.3	46.9	43.2	45.3	38.5	42.9	41.8
mol%Ab	50.9	51.6	54.8	54.2	56.4	56.1	57.2	52.8	53.4	52.9	53.3	53.8	51.7	55.1	53.1	59.5	55.3	56.5
mol%Or	1.8	1.4	1.7	1.5	1.8	2.0	2.0	1.5	2.1	1.7	1.4	1.9	1.5	1.6	1.6	2.0	1.8	1.7

Table B.12.3 (cntd): XAL-106, Plagioclase grain 3

Dist (µm)	592.6	623.8	655.0	686.2
SiO_2	56.72	55.20	54.53	55.15
TiO_2	0.03	0.04	0.04	0.03
Al_2O_3	26.44	26.85	27.67	27.48
Fe_2O_3	0.40	0.50	0.51	0.49
MnO	-0.01	0.00	-0.01	-0.01
MgO	0.06	0.06	0.06	0.06
CaO	9.14	8.98	9.55	9.66
BaO	0.01	0.02	0.02	0.02
Na_2O	6.17	6.29	5.86	5.87
K_2O	0.26	0.30	0.29	0.25
sum	99.21	98.23	98.52	99.01
mol%An	44.4	43.3	46.6	46.9
mol%Ab	54.2	54.9	51.7	51.6
mol%Or	1.5	1.7	1.7	1.5

Table B.12.4: XAL-106, Plagioclase grain 4

Dist (µm)	0.0	30.3	60.5	121.0	151.2	181.5	211.6	272.2	423.4	483.8	514.1	544.4	574.6	635.1	665.3
SiO_2	54.96	55.46	55.22	56.83	56.48	57.14	57.11	55.77	55.83	56.24	55.77	56.30	56.24	56.77	57.53
TiO_2	0.05	0.04	0.05	0.06	0.03	0.05	0.03	0.04	0.03	0.04	0.03	0.05	0.06	0.04	0.03
Al_2O_3	27.03	27.26	26.79	27.14	27.01	26.29	26.16	27.09	26.86	26.58	27.00	26.81	26.61	25.89	27.11
Fe_2O_3	0.50	0.43	0.50	0.41	0.47	0.49	0.45	0.42	0.42	0.42	0.41	0.44	0.40	0.35	0.47
MnO	0.00	0.03	0.02	0.00	-0.01	0.03	0.01	0.01	0.02	0.00	-0.02	0.02	0.00	0.02	0.01
MgO	0.05	0.05	0.06	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05
CaO	9.38	9.56	9.35	8.90	8.58	8.73	8.07	8.70	8.76	9.04	8.69	8.47	8.61	8.43	7.99
BaO	0.01	-0.04	0.05	-0.02	0.02	-0.02	0.02	0.00	-0.02	0.02	-0.01	0.01	0.02	0.00	0.01
Na_2O	5.89	5.91	5.94	6.37	6.44	6.32	6.57	6.11	6.16	6.28	6.07	6.30	6.22	6.37	6.86
K_2O	0.25	0.24	0.29	0.27	0.27	0.32	0.29	0.28	0.25	0.28	0.25	0.29	0.28	0.30	0.28
sum	98.11	98.93	98.26	100.01	99.35	99.40	98.74	98.47	98.35	98.94	98.22	98.71	98.48	98.21	100.33
mol%An	46.1	46.5	45.7	42.9	41.7	42.5	39.7	43.3	43.4	43.6	43.5	41.9	42.6	41.5	38.5
mol%Ab	52.4	52.1	52.6	55.6	56.7	55.7	58.6	55.1	55.2	54.8	55.0	56.4	55.7	56.7	59.8
mol%Or	1.4	1.4	1.7	1.5	1.6	1.9	1.7	1.6	1.5	1.6	1.5	1.7	1.7	1.8	1.6

Table B.12.4 (cntd): XAL-106, Plagioclase grain 4

Dist (µm)	725.8	756.0	786.3	846.8	907.3	937.5	967.8	998.0	1028.2	1058.5
SiO_2	54.99	55.30	55.84	56.70	55.75	55.29	55.67	55.30	55.37	55.64
TiO_2	0.04	0.04	0.03	0.04	0.03	0.03	0.05	0.05	0.05	0.05
Al_2O_3	27.23	27.65	26.56	26.41	27.07	27.45	27.40	26.90	26.88	27.45
Fe_2O_3	0.46	0.45	0.44	0.46	0.37	0.42	0.39	0.40	0.42	0.43
MnO	-0.01	-0.01	0.01	0.02	0.01	0.05	0.02	0.02	0.01	0.01
MgO	0.04	0.04	0.05	0.06	0.04	0.05	0.05	0.06	0.04	0.05
CaO	9.51	9.40	9.16	8.47	9.01	9.39	9.68	9.20	9.20	9.05
BaO	-0.05	-0.01	-0.02	0.06	0.00	0.01	0.01	0.04	-0.01	-0.02
Na_2O	5.80	5.89	6.29	6.51	5.98	5.77	5.87	6.10	5.86	5.98
K_2O	0.23	0.24	0.27	0.30	0.24	0.25	0.25	0.25	0.23	0.24
sum	98.23	98.99	98.64	99.05	98.51	98.70	99.40	98.32	98.04	98.87
mol%An	46.9	46.2	43.9	41.1	44.8	46.7	47.0	44.8	45.8	44.9
mol%Ab	51.8	52.4	54.5	57.2	53.8	51.9	51.6	53.8	52.8	53.7
mol%Or	1.4	1.4	1.6	1.7	1.4	1.5	1.4	1.5	1.4	1.4

Table B.12.5: XAL-106, Plagioclase grain 5

Dist (µm)	0.0	30.7	61.5	92.3	153.9	184.6	215.4	246.2	276.9	307.7	338.5	369.3	400.0	430.8	461.6	553.9	584.7	615.5
SiO_2	55.99	56.10	55.56	55.49	56.28	55.40	55.16	55.23	56.05	56.06	56.09	55.55	55.84	55.26	55.48	55.46	56.17	56.83
TiO_2	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.04	0.05	0.05	0.05	0.04	0.06	0.05	0.04	0.04	0.04
Al_2O_3	26.98	27.03	26.75	26.86	27.17	26.97	27.55	27.17	26.93	27.06	27.23	26.66	26.75	27.29	27.12	27.54	26.94	27.84
Fe_2O_3	0.43	0.43	0.41	0.42	0.45	0.43	0.39	0.43	0.44	0.41	0.41	0.37	0.41	0.49	0.39	0.46	0.44	0.54
MnO	0.01	-0.01	0.02	0.01	0.02	0.01	0.02	0.00	0.02	0.03	0.01	0.01	0.03	0.01	0.02	0.01	0.03	0.01
MgO	0.04	0.04	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.05	0.05	0.04	0.04	0.05	0.05
CaO	8.96	9.24	9.20	8.98	8.91	9.26	9.32	9.32	9.32	9.16	9.02	8.94	8.98	9.47	9.31	9.16	9.16	9.02
BaO	-0.02	0.01	0.03	0.03	0.02	0.00	0.03	0.03	0.00	0.04	0.03	0.04	0.05	0.00	0.01	0.02	-0.03	0.03
Na_2O	6.09	5.93	5.87	5.96	6.11	5.99	5.91	5.66	6.14	6.09	6.09	6.20	6.25	5.81	6.05	5.92	6.01	5.63
K_2O	0.28	0.25	0.25	0.25	0.23	0.24	0.26	0.23	0.24	0.22	0.26	0.22	0.26	0.24	0.25	0.25	0.24	0.26
sum	98.81	99.09	98.18	98.10	99.30	98.38	98.74	98.16	99.23	99.17	99.23	98.09	98.67	98.67	98.72	98.91	99.05	100.24
mol%An	44.1	45.6	45.7	44.7	44.0	45.5	45.8	47.0	45.0	44.8	44.3	43.7	43.6	46.7	45.3	45.4	45.0	46.2
mol%Ab	54.3	52.9	52.8	53.8	54.6	53.2	52.6	51.7	53.6	53.9	54.2	55.0	54.9	51.9	53.2	53.1	53.5	52.2
mol%Or	1.6	1.4	1.5	1.5	1.4	1.4	1.5	1.4	1.4	1.3	1.5	1.3	1.5	1.4	1.5	1.4	1.4	1.6

Table B.12.6: XAL-106, Plagioclase grain 6

Dist (µm)	0.0	30.4	60.8	91.3	121.8	152.2	182.6	304.4	334.8	365.3	395.7	426.1	456.6	487.0	517.4	547.8	608.8	639.2
SiO_2	54.34	55.76	54.36	54.11	54.09	54.05	56.22	58.59	56.35	55.84	56.38	56.48	54.91	55.37	55.28	54.99	55.05	55.50
TiO_2	0.02	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.04
Al_2O_3	28.24	26.95	28.07	27.89	28.41	28.12	26.07	26.32	26.43	26.75	26.98	26.35	27.09	27.52	27.09	27.46	27.36	27.07
Fe_2O_3	0.50	0.46	0.48	0.45	0.45	0.48	0.43	0.41	0.39	0.45	0.39	0.45	0.45	0.49	0.46	0.49	0.49	0.50
MnO	0.03	0.01	0.03	-0.01	0.01	-0.02	-0.01	0.00	-0.02	0.01	0.01	0.02	-0.01	-0.01	0.02	0.02	-0.01	-0.01
MgO	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.03	0.05	0.04	0.04	0.04	0.04	0.04
CaO	10.15	9.00	10.31	10.38	10.32	10.51	8.57	7.91	8.29	9.04	9.07	8.69	9.29	9.43	9.39	9.48	9.51	9.43
BaO	0.07	0.11	0.07	0.02	0.10	0.07	0.08	0.15	0.07	0.12	0.11	0.04	0.07	0.11	0.05	0.06	0.04	0.06
Na_2O	5.29	6.21	5.39	5.41	5.42	5.36	6.63	6.80	6.36	6.14	6.17	6.42	5.92	5.90	6.04	5.93	5.80	6.15
K_2O	0.20	0.26	0.18	0.19	0.21	0.19	0.27	0.33	0.30	0.26	0.29	0.30	0.26	0.22	0.27	0.24	0.23	0.21
sum	98.88	98.83	98.98	98.52	99.07	98.81	98.30	100.55	98.23	98.68	99.47	98.81	98.04	99.11	98.67	98.75	98.53	98.97
mol%An	50.9	43.8	50.8	50.9	50.6	51.4	41.0	38.4	41.1	44.2	44.1	42.0	45.8	46.3	45.5	46.3	46.9	45.3
mol%Ab	48.0	54.7	48.1	48.0	48.2	47.5	57.5	59.7	57.1	54.3	54.2	56.2	52.8	52.4	52.9	52.4	51.7	53.5
mol%Or	1.2	1.5	1.1	1.1	1.2	1.1	1.5	1.9	1.8	1.5	1.7	1.7	1.5	1.3	1.5	1.4	1.3	1.2

Table B.12.7: XAL-106, Plagioclase grain 7

Dist (µm)	0.0	30.2	120.7	150.9	211.3	241.4	271.7	332.0	362.2	422.5	452.8	513.1	543.3	603.6	633.8	664.0	754.6	784.8	815.0	845.1	965.8
SiO_2	56.34	56.58	55.03	54.96	56.16	55.19	54.52	55.14	56.06	56.29	56.15	55.33	55.09	56.56	56.02	55.83	55.48	56.25	57.00	57.82	55.65
TiO_2	0.04	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.04	0.02	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.01	0.00	0.03
Al_2O_3	26.62	26.79	27.79	27.92	28.48	27.61	27.59	27.52	26.88	27.83	26.62	28.03	27.35	26.99	26.75	26.81	27.00	27.29	25.85	25.43	27.38
Fe_2O_3	0.49	0.46	0.47	0.48	0.45	0.42	0.49	0.48	0.46	0.46	0.47	0.47	0.44	0.45	0.48	0.57	0.43	0.42	0.47	0.49	0.40
MnO	0.00	-0.01	0.00	0.01	0.01	0.04	0.01	0.02	0.00	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.03	-0.01	0.02	0.02	0.02
MgO	0.05	0.05	0.06	0.04	0.05	0.05	0.06	0.06	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.07	0.05	0.04	0.06	0.06	0.06
CaO	8.62	8.38	9.83	9.42	9.60	9.70	9.49	9.04	8.89	9.58	8.72	9.92	9.61	8.51	8.84	8.82	9.09	9.01	7.88	7.33	9.34
BaO	0.00	0.01	-0.04	-0.05	-0.01	-0.02	0.01	0.00	-0.02	-0.02	-0.01	0.02	0.03	0.00	-0.04	-0.02	-0.03	0.01	-0.05	-0.05	0.03
Na_2O	6.30	6.32	5.72	5.76	5.78	5.77	5.69	6.05	6.23	5.90	6.21	5.60	5.78	6.39	6.14	6.05	5.96	6.08	6.55	6.81	6.23
K_2O	0.32	0.27	0.19	0.23	0.22	0.22	0.22	0.26	0.27	0.23	0.40	0.32	0.25	0.30	0.27	0.39	0.27	0.25	0.36	0.43	0.22
sum	98.78	98.88	99.07	98.82	100.78	99.01	98.12	98.59	98.85	100.34	98.65	99.77	98.63	99.27	98.55	98.57	98.33	99.37	98.15	98.33	99.37
mol%An	42.2	41.6	48.2	46.8	47.2	47.5	47.3	44.5	43.4	46.7	42.7	48.5	47.2	41.7	43.6	43.6	45.0	44.4	39.1	36.4	44.7
mol%Ab	55.9	56.8	50.7	51.8	51.5	51.2	51.4	54.0	55.0	52.0	55.0	49.6	51.3	56.6	54.8	54.1	53.4	54.2	58.8	61.1	54.0
mol%Or	1.9	1.6	1.1	1.4	1.3	1.3	1.3	1.5	1.6	1.3	2.3	1.9	1.5	1.7	1.6	2.3	1.6	1.5	2.1	2.5	1.3

Table B.12.7 (cntd): XAL-106, Plagioclase grain 7

Dist (µm)	996.1	1026.2	1086.6	1116.7	1207.3	1237.5	1267.7	1388.4
SiO_2	55.72	55.41	55.70	55.93	55.57	55.71	54.18	55.75
TiO_2	0.04	0.02	0.03	0.03	0.05	0.03	0.04	0.02
Al_2O_3	27.93	27.51	27.55	27.00	27.68	28.27	28.37	27.54
Fe_2O_3	0.48	0.48	0.41	0.43	0.53	0.46	0.48	0.45
MnO	0.02	0.00	0.02	0.02	0.03	0.01	0.01	0.03
MgO	0.05	0.05	0.04	0.05	0.06	0.05	0.05	0.04
CaO	9.60	9.43	9.73	9.31	8.72	9.95	10.14	9.52
BaO	0.01	-0.03	-0.02	-0.01	-0.04	0.01	-0.06	-0.02
Na_2O	5.81	5.80	5.82	5.92	5.75	5.56	5.47	5.97
K_2O	0.25	0.24	0.26	0.23	0.25	0.19	0.19	0.26
sum	99.90	98.92	99.54	98.92	98.61	100.24	98.85	99.57
mol%An	47.1	46.7	47.3	45.9	44.9	49.2	50.0	46.1
mol%Ab	51.5	51.9	51.2	52.8	53.6	49.7	48.9	52.3
mol%Or	1.4	1.4	1.5	1.3	1.6	1.1	1.1	1.5

Table B.12.8: XAL-106, Plagioclase grain 8

Dist (µm)	31.5	63.0	94.5	126.1	157.5	189.0	220.6	252.1	283.6	315.1	346.6	378.2	441.2	472.7
SiO_2	54.18	55.31	54.37	54.70	55.47	55.23	55.14	54.38	55.51	55.44	54.30	54.43	54.11	55.75
TiO_2	0.04	0.05	0.04	0.03	0.03	0.05	0.03	0.05	0.05	0.03	0.03	0.05	0.03	0.03
Al_2O_3	27.98	28.71	27.81	27.92	27.54	27.55	27.36	27.78	27.42	27.79	27.49	27.64	27.79	26.57
Fe_2O_3	0.47	0.42	0.45	0.49	0.43	0.47	0.40	0.51	0.48	0.43	0.44	0.47	0.54	0.49
MnO	0.04	0.03	0.03	0.01	0.03	0.00	0.00	-0.01	0.00	0.01	-0.01	0.00	0.04	0.03
MgO	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06
CaO	10.29	10.14	10.15	10.23	9.68	9.44	9.51	10.52	9.68	9.78	9.87	10.01	9.95	8.84
BaO	0.03	0.02	0.07	0.06	0.07	0.05	0.08	0.01	0.06	0.04	0.06	0.05	0.01	-0.01
Na_2O	5.44	5.35	5.53	5.49	5.88	5.90	5.92	5.49	5.95	5.74	5.61	5.65	5.39	6.05
K_2O	0.20	0.18	0.18	0.20	0.18	0.20	0.19	0.20	0.21	0.19	0.20	0.19	0.19	0.25
sum	98.73	100.26	98.68	99.19	99.36	98.94	98.69	98.97	99.42	99.51	98.05	98.53	98.09	98.07
mol%An	50.5	50.6	49.8	50.1	47.1	46.3	46.5	50.8	46.8	48.0	48.7	48.9	49.9	44.0
mol%Ab	48.3	48.3	49.1	48.7	51.8	52.5	52.4	48.0	52.0	50.9	50.1	50.0	48.9	54.5
mol%Or	1.2	1.1	1.0	1.2	1.0	1.2	1.1	1.1	1.2	1.1	1.2	1.1	1.1	1.5

Table B.12.9: XAL-106, Plagioclase grain 9

Dist (µm)	30.3	60.6	121.2	212.0	363.5	393.7	424.0	454.3	484.6	514.9	545.2	575.4	636.0	696.6	787.5	848.1	999.5	1090.4	1120.6	1150.9	1241.8
SiO_2	55.00	54.57	55.45	54.27	54.65	55.74	55.86	56.13	55.81	56.08	55.70	56.46	56.98	55.42	55.38	54.15	54.39	55.49	55.78	55.47	54.59
TiO_2	0.04	0.04	0.04	0.02	0.04	0.04	0.03	0.04	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.00	0.01	0.02	0.01	0.03	0.03
Al_2O_3	27.43	27.31	27.18	27.66	27.61	27.39	26.71	26.58	26.94	26.57	26.89	26.74	27.50	26.94	27.39	27.87	27.38	27.20	27.54	27.04	27.42
Fe_2O_3	0.51	0.51	0.44	0.46	0.45	0.47	0.49	0.48	0.40	0.35	0.33	0.34	0.34	0.36	0.32	0.32	0.39	0.35	0.39	0.54	0.55
MnO	0.00	0.00	0.00	0.02	0.00	0.00	0.01	-0.01	0.01	0.00	-0.01	-0.01	0.01	-0.01	-0.01	0.00	0.00	0.00	-0.01	-0.01	0.01
MgO	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.05	0.03	0.04	0.04	0.05
CaO	9.13	9.57	9.36	9.59	9.86	9.18	8.58	8.43	8.86	9.02	8.59	8.70	9.19	9.12	8.91	9.64	9.59	9.36	9.11	8.92	9.14
BaO	-0.02	-0.03	-0.03	-0.02	-0.05	-0.01	-0.05	-0.04	-0.01	-0.01	-0.03	-0.06	-0.04	-0.05	-0.03	-0.01	-0.04	-0.04	0.00	-0.07	-0.01
Na_2O	5.97	5.77	6.07	5.76	5.70	5.92	6.44	6.42	6.16	6.31	6.31	6.21	6.22	6.14	5.99	5.80	6.04	5.96	5.95	5.66	6.04
K_2O	0.24	0.24	0.27	0.25	0.26	0.25	0.29	0.28	0.28	0.29	0.30	0.32	0.30	0.29	0.28	0.27	0.24	0.25	0.27	0.29	0.28
sum	98.35	98.03	98.81	98.05	98.55	99.02	98.40	98.35	98.50	98.65	98.12	98.74	100.53	98.27	98.27	98.09	98.05	98.63	99.09	97.93	98.10
mol%An	45.1	47.2	45.3	47.2	48.1	45.5	41.7	41.4	43.6	43.4	42.2	42.8	44.2	44.3	44.4	47.1	46.1	45.8	45.1	45.7	44.8
mol%Ab	53.4	51.4	53.1	51.3	50.4	53.0	56.6	57.0	54.8	54.9	56.0	55.3	54.1	54.0	54.0	51.3	52.6	52.7	53.3	52.5	53.6
mol%Or	1.4	1.4	1.6	1.4	1.5	1.5	1.7	1.6	1.6	1.7	1.8	1.9	1.7	1.7	1.6	1.6	1.4	1.5	1.6	1.8	1.6

Table B.12.10: XAL-106, Plagioclase grain 10

Dist (µm)	0.0	60.2	180.6	240.9	271.0	301.1	331.2	361.2	421.5	541.9	572.1	602.1	632.2	662.3	692.4	752.7	782.7	812.9	903.2	933.3
SiO_2	55.49	54.86	55.22	55.11	55.72	55.07	55.91	55.45	55.08	55.10	55.46	55.79	54.73	55.41	55.17	55.16	55.20	54.94	55.09	55.61
TiO_2	0.05	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.05	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Al_2O_3	26.59	27.03	27.15	27.14	27.32	27.05	27.28	26.93	26.97	27.31	26.64	26.79	27.13	26.74	27.52	26.94	27.43	27.61	27.03	26.65
Fe_2O_3	0.44	0.43	0.38	0.40	0.38	0.42	0.40	0.44	0.42	0.38	0.42	0.43	0.43	0.44	0.45	0.45	0.45	0.41	0.47	0.48
MnO	0.00	-0.01	-0.01	0.02	0.01	0.00	0.00	0.02	0.01	0.00	0.02	0.02	0.01	0.01	0.02	0.00	0.00	0.02	0.00	0.00
MgO	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.06	0.05	0.04	0.05	0.05	0.05	0.06
CaO	8.78	9.67	8.94	9.27	9.39	9.63	9.35	9.37	9.30	9.23	9.26	9.17	9.62	9.31	9.52	9.32	9.41	9.61	9.24	8.77
BaO	0.02	0.03	0.08	0.02	0.04	0.06	0.04	0.00	-0.01	0.04	0.06	0.06	0.00	0.03	-0.04	0.10	0.04	0.01	0.03	0.05
Na_2O	6.29	5.99	6.07	5.96	5.92	5.95	5.93	5.93	6.02	6.00	5.83	6.11	5.79	6.07	5.95	5.88	5.97	5.91	5.95	6.19
K_2O	0.29	0.24	0.29	0.26	0.26	0.25	0.27	0.28	0.26	0.22	0.26	0.28	0.26	0.28	0.25	0.26	0.29	0.25	0.27	0.29
sum	98.00	98.32	98.20	98.26	99.10	98.50	99.24	98.50	98.15	98.38	98.03	98.71	98.05	98.38	98.94	98.20	98.88	98.85	98.18	98.13
mol%An	42.8	46.5	44.1	45.5	46.0	46.6	45.8	45.9	45.4	45.4	46.0	44.6	47.2	45.1	46.2	46.0	45.8	46.7	45.4	43.2
mol%Ab	55.5	52.1	54.2	52.9	52.5	52.0	52.6	52.5	53.1	53.3	52.4	53.8	51.3	53.2	52.3	52.5	52.5	51.9	53.0	55.1
mol%Or	1.7	1.4	1.7	1.5	1.5	1.4	1.6	1.6	1.5	1.3	1.5	1.6	1.5	1.6	1.5	1.5	1.7	1.4	1.6	1.7

Table B.12.11: XAL-106, Plagioclase grain 11

Dist (µm)	30.2	60.4	181.2	211.4	332.3	362.5	392.8	422.9	483.3	513.5	543.8	604.2
SiO_2	55.11	55.01	56.17	55.94	56.20	55.86	56.22	55.91	56.35	56.63	56.58	56.11
TiO_2	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.04
Al_2O_3	27.22	27.20	26.28	26.51	26.61	26.38	26.83	26.48	26.34	26.10	26.38	26.45
Fe_2O_3	0.62	0.62	0.46	0.54	0.48	0.43	0.47	0.51	0.48	0.45	0.44	0.46
MnO	-0.02	0.00	-0.02	0.00	-0.02	-0.02	-0.01	-0.03	-0.03	-0.02	0.01	0.00
MgO	0.05	0.06	0.04	0.06	0.04	0.04	0.04	0.05	0.05	0.04	0.05	0.05
CaO	9.33	9.46	8.76	8.50	8.58	8.72	8.75	8.71	8.44	8.25	8.27	8.70
BaO	-0.01	-0.02	0.01	-0.06	0.02	-0.01	-0.03	-0.01	-0.01	-0.08	0.00	-0.03
Na_2O	6.02	5.89	6.41	6.32	6.27	6.36	6.31	6.24	6.48	6.39	6.35	6.49
K_2O	0.23	0.24	0.29	0.31	0.28	0.31	0.28	0.28	0.29	0.31	0.32	0.30
sum	98.57	98.49	98.42	98.14	98.51	98.10	98.89	98.17	98.42	98.10	98.44	98.58
mol%An	45.5	46.4	42.3	41.8	42.4	42.4	42.7	42.8	41.1	40.9	41.0	41.8
mol%Ab	53.1	52.2	56.0	56.3	56.0	55.9	55.7	55.5	57.2	57.3	57.1	56.4
mol%Or	1.3	1.4	1.7	1.8	1.6	1.8	1.6	1.6	1.7	1.8	1.9	1.7

Table B.12.12: XAL-106, Plagioclase grain 12

Dist (µm)	30.1	60.1	90.3	120.4	150.4	180.5	210.6	270.8	330.9	451.3	571.6	631.8	661.9	692.0
SiO_2	55.14	54.97	54.60	55.45	55.49	55.47	55.82	55.75	55.28	55.14	54.96	55.47	56.06	54.82
TiO_2	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.05
Al_2O_3	27.17	27.39	27.19	26.90	26.79	26.70	27.04	26.84	27.20	27.08	27.10	26.82	27.06	27.47
Fe_2O_3	0.46	0.45	0.42	0.43	0.39	0.43	0.42	0.44	0.38	0.37	0.38	0.45	0.43	0.63
MnO	-0.01	-0.02	-0.03	-0.01	0.01	-0.01	0.00	0.00	0.00	-0.02	-0.01	-0.02	-0.04	0.00
MgO	0.04	0.03	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.04	0.03	0.03	0.03
CaO	9.08	9.68	9.67	9.31	9.20	9.02	9.15	9.19	9.06	9.16	9.52	8.97	9.09	9.55
BaO	0.07	0.05	0.03	0.02	0.04	0.03	0.02	0.07	0.05	0.01	0.00	0.02	-0.03	0.00
Na_2O	5.87	5.78	5.80	6.25	6.02	6.18	6.09	6.02	6.11	5.94	6.04	6.08	6.25	5.92
K_2O	0.26	0.25	0.23	0.27	0.24	0.27	0.26	0.25	0.26	0.26	0.26	0.27	0.26	0.24
sum	98.12	98.61	97.98	98.69	98.22	98.14	98.86	98.61	98.40	98.00	98.32	98.13	99.14	98.71
mol%An	45.4	47.4	47.3	44.5	45.1	43.9	44.7	45.1	44.3	45.3	45.9	44.2	43.9	46.5
mol%Ab	53.1	51.2	51.3	54.0	53.4	54.5	53.8	53.5	54.2	53.2	52.6	54.2	54.6	52.1
mol%Or	1.5	1.4	1.3	1.5	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.6	1.5	1.4

Table B.12.13: XAL-106, Plagioclase grain 13

Dist (µm)	0.0	29.3	58.6	87.9	117.3	146.6	175.9	205.2	234.5	263.8	293.2	322.5	351.9	381.2	410.5	439.8	469.1
SiO_2	56.65	56.48	55.99	56.72	56.61	55.89	57.04	55.81	55.96	55.97	56.01	56.19	55.45	55.60	55.83	55.80	56.27
TiO_2	0.04	0.02	0.04	0.03	0.02	0.03	0.04	0.03	0.02	0.02	0.02	0.01	0.04	0.03	0.05	0.05	0.04
Al_2O_3	27.08	26.68	27.27	26.69	26.63	27.15	26.75	27.42	27.29	27.21	27.17	27.19	27.21	26.84	27.07	26.97	27.20
Fe_2O_3	0.59	0.60	0.50	0.47	0.49	0.42	0.46	0.50	0.48	0.51	0.42	0.47	0.44	0.45	0.43	0.45	0.54
MnO	0.03	0.01	-0.02	0.00	-0.03	-0.02	-0.01	0.01	0.00	0.01	-0.02	0.00	0.01	-0.01	0.00	0.02	0.02
MgO	0.06	0.06	0.03	0.03	0.04	0.04	0.04	0.04	0.05	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
CaO	9.33	9.37	9.59	9.25	9.21	9.86	8.91	9.69	9.69	9.80	9.88	9.80	10.08	9.71	9.91	9.49	9.82
BaO	0.06	0.00	0.04	0.05	0.01	0.07	0.01	0.08	0.01	0.05	0.06	0.03	-0.03	-0.01	-0.09	0.00	-0.02
Na_2O	6.11	6.12	5.99	6.24	6.17	5.97	6.30	5.98	5.89	6.00	5.96	6.04	5.91	5.88	6.01	5.90	5.89
K_2O	0.25	0.28	0.24	0.27	0.31	0.23	0.30	0.27	0.26	0.23	0.25	0.24	0.23	0.21	0.24	0.23	0.24
sum	100.20	99.62	99.67	99.74	99.44	99.63	99.83	99.81	99.65	99.82	99.78	99.99	99.37	98.75	99.49	98.96	100.04
mol%An	45.1	45.1	46.3	44.3	44.4	47.1	43.1	46.5	46.9	46.8	47.1	46.6	47.9	47.1	47.1	46.4	47.3
mol%Ab	53.5	53.3	52.4	54.1	53.8	51.6	55.2	51.9	51.6	51.9	51.5	52.0	50.8	51.6	51.6	52.2	51.3
mol%Or	1.4	1.6	1.4	1.5	1.8	1.3	1.7	1.5	1.5	1.3	1.4	1.3	1.3	1.2	1.4	1.4	1.4

Table B.12.14: XAL-106, Plagioclase grain 14

Dist (µm)	0.0	30.2	60.4	90.7	120.9	151.1	181.3	211.6	241.8	272.1	302.3	332.5	362.8	393.0	423.2	453.4	483.6	513.9	544.1	574.3
SiO_2	56.32	56.03	55.97	55.69	56.04	55.52	56.11	56.72	56.25	56.40	56.34	56.88	56.93	57.05	57.49	55.88	55.43	56.05	56.63	56.74
TiO_2	0.04	0.05	0.04	0.03	0.03	0.04	0.04	0.01	0.03	0.03	0.04	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.03	0.02
Al_2O_3	26.95	27.07	27.49	27.31	27.33	27.50	27.64	26.98	27.00	26.89	26.54	26.59	26.71	26.63	26.77	27.10	27.03	26.90	27.68	27.11
Fe_2O_3	0.51	0.48	0.45	0.49	0.39	0.39	0.42	0.45	0.44	0.46	0.48	0.47	0.42	0.45	0.47	0.43	0.44	0.45	0.47	0.52
MnO	0.01	0.00	0.02	0.03	0.01	-0.01	-0.03	-0.03	-0.02	-0.03	-0.01	-0.01	0.01	0.00	-0.02	0.00	0.01	0.00	-0.01	0.00
MgO	0.03	0.02	0.03	0.04	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.02	0.04	0.03	0.03	0.04	0.03	0.03	0.04	0.05
CaO	9.77	10.12	10.13	10.01	10.05	10.11	9.89	9.40	9.34	9.49	9.36	9.27	9.27	9.21	9.09	10.11	9.86	9.77	9.93	9.14
BaO	0.03	0.05	0.03	-0.03	-0.01	0.04	0.07	0.03	0.02	0.04	0.05	0.05	0.09	0.02	0.05	-0.03	-0.02	-0.01	-0.01	-0.02
Na_2O	5.86	5.82	5.83	5.83	5.72	5.75	5.92	6.11	6.09	6.10	6.05	6.21	6.14	6.31	6.34	5.78	5.76	5.93	5.83	6.23
K_2O	0.32	0.24	0.23	0.24	0.25	0.22	0.24	0.24	0.24	0.25	0.24	0.27	0.28	0.28	0.27	0.24	0.22	0.24	0.22	0.26
sum	99.84	99.88	100.22	99.63	99.85	99.59	100.33	99.94	99.42	99.64	99.13	99.79	99.89	100.01	100.50	99.58	98.76	99.36	100.80	100.05
mol%An	47.1	48.3	48.3	48.0	48.6	48.6	47.3	45.3	45.2	45.6	45.5	44.5	44.8	44.0	43.5	48.5	48.0	47.0	47.9	44.1
mol%Ab	51.1	50.3	50.3	50.6	50.0	50.1	51.3	53.3	53.4	53.0	53.1	53.9	53.7	54.5	54.9	50.1	50.7	51.6	50.8	54.4
mol%Or	1.8	1.4	1.3	1.4	1.5	1.3	1.4	1.4	1.4	1.4	1.4	1.5	1.6	1.6	1.5	1.4	1.3	1.4	1.2	1.5

Table B.12.15: XAL-106, Plagioclase grain 15

Dist (µm)	0.0	31.0	61.9	92.9	123.9	154.9	185.9	216.9	247.9	278.8	309.8	340.8	371.8	402.7	433.7
SiO_2	56.60	55.96	56.34	57.21	57.94	59.28	57.84	59.63	58.96	56.80	56.13	56.43	55.59	56.22	55.95
TiO_2	0.05	0.04	0.03	0.03	0.03	0.02	0.02	0.04	0.02	0.03	0.02	0.02	0.01	0.04	0.03
Al_2O_3	26.42	27.56	27.27	26.06	25.61	25.01	25.76	25.01	25.25	26.32	26.96	27.20	27.51	27.13	27.57
Fe_2O_3	0.57	0.52	0.44	0.43	0.42	0.43	0.40	0.39	0.37	0.44	0.41	0.39	0.41	0.49	0.50
MnO	-0.01	0.02	-0.02	-0.02	-0.02	0.02	0.00	-0.03	0.00	0.02	0.03	0.03	0.04	0.03	0.02
MgO	0.04	0.05	0.03	0.03	0.03	0.06	0.05	0.04	0.05	0.05	0.04	0.04	0.03	0.04	0.03
CaO	9.27	10.17	9.77	8.83	8.49	7.27	8.57	7.40	7.65	8.94	9.78	9.50	9.97	9.60	9.93
BaO	0.07	0.04	0.06	0.06	0.01	0.09	0.07	0.12	0.06	0.08	0.04	0.05	0.02	0.06	0.04
Na_2O	6.17	5.91	5.97	6.49	6.74	7.26	6.65	7.24	7.11	6.23	6.00	6.05	5.76	6.03	5.83
K_2O	0.30	0.24	0.21	0.30	0.33	0.41	0.31	0.37	0.38	0.27	0.26	0.24	0.25	0.25	0.31
sum	99.48	100.50	100.10	99.41	99.58	99.84	99.65	100.21	99.85	99.17	99.67	99.97	99.59	99.88	100.22
mol%An	44.6	48.1	46.9	42.2	40.3	34.8	40.9	35.3	36.5	43.5	46.7	45.8	48.2	46.1	47.6
mol%Ab	53.7	50.6	51.9	56.1	57.9	62.9	57.4	62.6	61.4	54.9	51.8	52.8	50.4	52.5	50.6
mol%Or	1.7	1.4	1.2	1.7	1.9	2.4	1.7	2.1	2.1	1.5	1.5	1.4	1.5	1.4	1.8

Table B.12.16: XAL-106, Plagioclase grain 16

Dist (µm)	0.0	29.9	59.8	89.7	119.6	149.5	179.3	209.2	239.1	269.0	298.9	328.8	358.7	388.6	418.5	448.3	478.2	508.1	538.0
SiO_2	55.76	56.18	56.73	56.27	56.44	56.95	56.55	56.50	57.02	56.30	57.02	57.73	57.03	56.97	56.02	55.89	55.51	56.01	57.06
TiO_2	0.06	0.05	0.06	0.05	0.07	0.04	0.05	0.04	0.03	0.04	0.04	0.01	0.04	0.04	0.02	0.01	0.02	0.01	0.05
Al_2O_3	27.19	27.54	26.88	26.87	26.85	26.96	26.80	26.83	26.95	26.45	26.55	26.60	26.52	26.69	27.33	27.45	27.31	27.07	25.94
Fe_2O_3	0.44	0.51	0.54	0.48	0.44	0.45	0.41	0.38	0.46	0.43	0.38	0.42	0.40	0.39	0.41	0.43	0.46	0.46	0.58
MnO	0.00	-0.02	0.00	0.01	-0.01	0.03	0.04	0.01	0.03	0.02	0.03	0.02	0.03	0.03	0.03	0.00	0.00	0.02	0.01
MgO	0.04	0.04	0.03	0.03	0.01	0.04	0.03	0.04	0.04	0.03	0.05	0.04	0.04	0.05	0.05	0.03	0.04	0.04	0.06
CaO	9.92	9.91	9.26	9.47	9.38	9.33	9.42	9.41	9.33	9.27	9.07	8.71	8.87	9.12	9.97	9.77	9.76	10.01	8.67
BaO	0.02	0.04	0.03	0.07	0.06	0.09	0.05	0.01	0.01	0.02	0.00	0.04	0.08	0.06	0.01	0.01	0.06	0.03	0.06
Na_2O	5.90	5.87	6.12	6.10	6.19	6.26	6.09	6.19	6.25	6.34	6.33	6.42	6.31	6.30	5.99	5.90	5.93	5.83	6.59
K_2O	0.24	0.25	0.26	0.27	0.27	0.29	0.26	0.26	0.27	0.28	0.30	0.30	0.28	0.28	0.26	0.26	0.25	0.24	0.34
sum	99.57	100.37	99.90	99.61	99.68	100.43	99.71	99.66	100.37	99.18	99.76	100.29	99.60	99.91	100.08	99.76	99.32	99.71	99.35
mol%An	47.5	47.6	44.9	45.5	44.9	44.4	45.4	45.0	44.5	44.0	43.4	42.1	43.0	43.7	47.2	47.1	47.0	48.0	41.3
mol%Ab	51.1	51.0	53.6	53.0	53.6	53.9	53.1	53.5	53.9	54.4	54.9	56.2	55.4	54.7	51.3	51.4	51.6	50.6	56.8
mol%Or	1.4	1.4	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.6	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.9

Table B.12.17: XAL-106, Plagioclase grain 17

Dist (µm)	0.0	61.1	183.1	244.2	305.2	366.3	427.2	488.3	549.4	610.5	671.4	732.5	793.5	854.6	915.5	976.6
SiO_2	57.94	56.16	57.00	55.60	56.61	55.62	55.77	55.95	56.40	56.65	56.33	55.42	56.55	56.69	57.07	55.37
TiO_2	0.05	0.02	0.04	0.02	0.04	0.03	0.02	0.04	0.02	0.03	0.02	0.01	0.02	0.06	0.06	0.05
Al_2O_3	26.45	27.27	27.33	27.32	26.58	27.43	26.99	27.03	26.48	26.32	26.93	27.07	26.52	25.98	25.77	27.30
Fe_2O_3	0.60	0.51	0.47	0.38	0.44	0.43	0.48	0.47	0.52	0.45	0.41	0.43	0.40	0.51	0.52	0.51
MnO	0.02	0.00	0.02	0.01	-0.01	0.01	0.01	0.01	0.01	0.00	0.01	-0.01	0.02	0.01	0.02	0.02
MgO	0.15	0.15	0.15	0.03	0.03	0.02	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.04	0.04	0.04
CaO	8.47	9.64	9.69	10.06	9.27	9.96	9.68	9.91	9.19	9.16	9.59	9.83	9.34	8.79	8.66	9.82
BaO	-0.10	-0.08	-0.08	0.06	0.09	0.10	0.06	0.06	0.09	0.02	0.05	0.01	0.03	0.09	0.02	0.02
Na_2O	6.83	6.15	6.22	5.73	6.14	5.88	5.88	5.95	6.25	6.20	5.98	5.77	6.14	6.46	6.50	5.77
K_2O	0.30	0.24	0.26	0.21	0.25	0.19	0.21	0.24	0.34	0.32	0.23	0.26	0.28	0.29	0.34	0.29
sum	100.72	100.06	101.10	99.42	99.44	99.67	99.14	99.70	99.34	99.17	99.59	98.83	99.35	98.91	98.99	99.19
mol%An	40.0	45.8	45.6	48.6	44.8	47.8	47.1	47.3	44.0	44.1	46.4	47.8	44.9	42.2	41.6	47.7
mol%Ab	58.4	52.8	53.0	50.1	53.7	51.1	51.7	51.4	54.1	54.1	52.3	50.8	53.5	56.1	56.5	50.7
mol%Or	1.7	1.4	1.5	1.2	1.4	1.1	1.2	1.3	1.9	1.8	1.3	1.5	1.6	1.7	1.9	1.7

Table B.12.18: XAL-106, Plagioclase grain 18

Dist (µm)	0.0	59.9	119.8	179.7	239.6	299.5	359.4	419.3	479.2	539.1	599.1	659.0	718.9	778.8	838.7	898.6	958.5	1018.4
SiO_2	58.01	56.18	56.35	56.69	57.21	56.28	56.64	57.11	56.91	58.11	57.46	57.60	57.83	56.54	57.74	56.28	56.94	57.35
TiO_2	0.07	0.04	0.05	0.04	0.04	0.04	0.04	0.05	0.04	0.03	0.04	0.04	0.05	0.05	0.05	0.03	0.04	0.05
Al_2O_3	26.23	27.08	27.29	27.10	27.18	27.77	27.32	27.08	26.97	26.40	26.48	26.15	25.99	26.79	26.79	27.28	26.77	27.01
Fe_2O_3	0.52	0.43	0.46	0.45	0.43	0.45	0.46	0.46	0.46	0.40	0.44	0.42	0.41	0.42	0.52	0.45	0.45	0.44
MnO	0.02	0.01	-0.02	0.01	0.00	-0.02	0.01	0.04	0.01	0.02	0.01	0.03	0.00	0.01	-0.01	0.01	0.01	0.01
MgO	0.03	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.03	0.04	0.03	0.02	0.03
CaO	8.67	9.82	9.80	9.37	9.35	9.84	9.44	9.15	9.58	8.27	9.21	8.64	8.35	9.33	9.09	9.82	9.51	9.24
BaO	0.05	0.00	0.05	0.10	0.10	0.09	0.07	0.08	0.02	0.06	0.05	0.02	0.01	-0.01	0.10	0.00	0.01	0.04
Na_2O	6.53	5.87	5.94	6.07	6.22	5.87	6.07	6.20	6.09	6.78	6.29	6.46	6.61	6.06	6.34	5.85	5.74	4.85
K_2O	0.36	0.23	0.26	0.24	0.23	0.26	0.33	0.27	0.25	0.30	0.31	0.30	0.32	0.25	0.38	0.28	0.26	0.26
sum	100.49	99.71	100.21	100.10	100.78	100.62	100.43	100.48	100.35	100.39	100.34	99.70	99.60	99.47	101.03	100.03	99.74	99.29
mol%An	41.4	47.4	47.0	45.4	44.8	47.4	45.4	44.2	45.8	39.6	43.9	41.8	40.4	45.3	43.2	47.3	47.1	50.4
mol%Ab	56.5	51.3	51.5	53.2	53.9	51.1	52.7	54.2	52.7	58.7	54.3	56.5	57.8	53.2	54.6	51.1	51.4	47.9
mol%Or	2.1	1.3	1.5	1.4	1.3	1.5	1.9	1.5	1.4	1.7	1.8	1.7	1.8	1.5	2.2	1.6	1.5	1.7

Table B.12.19: XAL-106, Plagioclase grain 19

Dist (µm)	0.0	61.6	123.3	184.9	246.6	308.2	369.9	431.5	493.1	554.8	616.4	678.1	739.7	801.4	863.0
SiO_2	55.57	55.71	55.63	55.66	56.31	56.39	56.14	57.16	55.89	55.98	56.06	56.34	56.01	55.34	56.10
TiO_2	0.05	0.06	0.07	0.04	0.03	0.03	0.02	0.02	0.03	0.04	0.05	0.04	0.03	0.03	0.03
Al_2O_3	27.22	27.14	27.38	26.72	26.81	27.00	27.14	26.58	26.97	26.87	26.71	26.84	26.98	26.92	27.07
Fe_2O_3	0.50	0.42	0.46	0.46	0.44	0.46	0.49	0.44	0.42	0.44	0.45	0.48	0.47	0.43	0.48
MnO	0.00	0.01	0.01	0.01	-0.02	-0.01	0.00	-0.03	0.00	0.01	0.01	0.02	0.02	0.00	0.03
MgO	0.02	0.04	0.05	0.04	0.04	0.05	0.04	0.04	0.03	0.04	0.03	0.05	0.03	0.03	0.05
CaO	9.87	9.93	10.22	9.66	9.51	9.68	9.93	9.22	9.64	9.71	9.49	9.68	9.82	9.83	9.72
BaO	0.02	0.07	0.06	0.08	0.03	0.08	0.03	0.03	0.00	0.02	0.01	0.07	0.04	0.06	0.06
Na_2O	5.67	5.87	5.64	5.92	6.05	6.13	5.91	6.20	5.86	5.87	5.96	5.95	5.83	5.91	5.91
K_2O	0.29	0.22	0.22	0.27	0.26	0.29	0.25	0.25	0.24	0.21	0.25	0.23	0.22	0.21	0.24
sum	99.20	99.45	99.73	98.84	99.46	100.11	99.95	99.92	99.08	99.18	99.01	99.69	99.44	98.75	99.69
mol%An	48.2	47.7	49.4	46.7	45.8	45.9	47.5	44.4	47.0	47.2	46.1	46.7	47.6	47.3	47.0
mol%Ab	50.1	51.0	49.4	51.8	52.7	52.5	51.1	54.1	51.6	51.6	52.5	52.0	51.2	51.5	51.7
mol%Or	1.7	1.2	1.3	1.6	1.5	1.6	1.4	1.5	1.4	1.2	1.4	1.3	1.3	1.2	1.4

Table B.12.20: XAL-106, Plagioclase grain 20

Dist (µm)	60.0	120.0	180.1	240.0	300.0	360.0	420.0	480.1	540.1	600.1	660.0	780.1	840.1
SiO_2	56.68	55.89	56.43	56.13	56.52	56.48	56.50	56.31	58.11	59.43	58.13	55.53	56.53
TiO_2	0.03	0.05	0.03	0.01	0.03	0.00	0.01	0.04	0.02	0.03	0.03	0.04	0.05
Al_2O_3	26.69	26.77	26.86	27.00	26.84	27.19	27.25	27.15	25.99	25.02	26.05	27.33	27.40
Fe_2O_3	0.49	0.44	0.43	0.44	0.41	0.45	0.49	0.44	0.45	0.45	0.43	0.45	0.52
MnO	0.00	0.00	0.03	0.05	0.03	0.04	0.04	0.03	0.02	0.02	0.00	0.02	0.00
MgO	0.04	0.03	0.05	0.06	0.06	0.05	0.05	0.04	0.04	0.05	0.04	0.04	0.04
CaO	9.61	9.72	9.43	9.81	9.34	9.34	9.54	9.74	8.62	7.52	8.27	9.90	9.90
BaO	0.05	-0.01	0.04	0.04	0.04	0.03	-0.01	0.03	0.07	0.06	0.06	0.00	0.03
Na_2O	6.06	5.88	6.09	6.04	6.07	6.20	6.09	6.00	6.60	7.22	6.73	5.76	5.83
K_2O	0.24	0.21	0.22	0.24	0.27	0.30	0.24	0.26	0.27	0.36	0.30	0.19	0.28
sum	99.87	98.98	99.60	99.82	99.61	100.07	100.18	100.04	100.19	100.14	100.04	99.27	100.57
mol%An	46.1	47.1	45.5	46.7	45.2	44.6	45.8	46.6	41.3	35.8	39.7	48.2	47.6
mol%Ab	52.6	51.6	53.2	52.0	53.2	53.7	52.9	51.9	57.2	62.2	58.5	50.7	50.8
mol%Or	1.4	1.2	1.3	1.3	1.6	1.7	1.4	1.5	1.5	2.0	1.7	1.1	1.6

Table B.12.21: XAL-106, Plagioclase grain 21

Dist (µm)	0.0	59.2	118.3	177.5	236.7	295.9	355.0	414.2	473.4	532.5	591.7	710.1	769.2	828.4	887.6	946.8	1005.9
SiO_2	55.70	55.88	55.97	56.24	57.46	57.05	57.29	55.64	56.23	55.85	56.54	58.16	57.45	55.68	56.91	56.26	55.92
TiO_2	0.03	0.05	0.05	0.04	0.03	0.03	0.04	0.04	0.03	0.01	0.05	0.03	0.02	0.04	0.04	0.04	0.04
Al_2O_3	27.38	26.95	26.54	26.92	26.48	26.42	26.45	27.71	26.92	27.33	27.07	26.33	26.55	27.54	26.92	27.66	27.50
Fe_2O_3	0.43	0.51	0.46	0.44	0.45	0.41	0.41	0.41	0.42	0.48	0.47	0.36	0.43	0.43	0.45	0.45	0.44
MnO	0.01	0.00	-0.01	0.02	0.01	0.00	0.03	0.00	-0.02	0.00	-0.01	0.01	0.00	0.03	0.02	0.00	0.01
MgO	0.04	0.05	0.04	0.04	0.03	0.04	0.04	0.05	0.03	0.03	0.04	0.02	0.04	0.04	0.04	0.04	0.05
CaO	9.98	9.78	9.41	9.66	8.83	9.04	8.77	10.20	9.75	9.94	9.58	8.63	8.84	10.03	9.49	9.97	9.77
BaO	0.07	0.03	0.02	-0.02	0.01	-0.03	-0.03	-0.01	0.00	0.00	0.03	0.02	0.07	0.01	0.01	0.01	0.03
Na_2O	5.77	5.91	6.07	6.17	6.57	6.41	6.47	5.76	5.97	5.90	6.13	6.62	6.33	5.76	6.06	5.84	5.84
K_2O	0.23	0.19	0.22	0.26	0.28	0.26	0.25	0.23	0.25	0.25	0.24	0.31	0.27	0.23	0.27	0.24	0.23
sum	99.61	99.35	98.77	99.77	100.14	99.64	99.72	100.03	99.57	99.81	100.12	100.50	100.00	99.78	100.20	100.53	99.83
mol%An	48.2	47.3	45.6	45.7	42.0	43.1	42.2	48.8	46.8	47.5	45.7	41.1	42.9	48.4	45.7	47.9	47.4
mol%Ab	50.5	51.6	53.2	52.8	56.4	55.4	56.3	49.9	51.8	51.1	52.9	57.1	55.6	50.3	52.8	50.7	51.3
mol%Or	1.3	1.1	1.3	1.5	1.6	1.5	1.4	1.3	1.4	1.4	1.4	1.8	1.6	1.3	1.5	1.4	1.3

Table B.12.22: XAL-106, Plagioclase grain 22

Dist (µm)	0.0	29.7	59.4	89.1	118.8	148.5	178.2	207.9	237.6	267.3	297.0	326.7	356.4	386.1	415.8	445.5
SiO_2	57.93	56.66	55.93	56.30	57.19	56.92	56.02	58.57	56.05	55.77	56.25	55.98	55.96	56.22	55.80	55.15
TiO_2	0.04	0.05	0.03	0.03	0.03	0.02	0.01	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.06
Al_2O_3	26.24	26.69	26.75	26.77	26.23	26.14	26.90	25.38	27.58	27.15	26.30	27.04	27.36	26.78	27.04	26.85
Fe_2O_3	0.53	0.48	0.43	0.44	0.45	0.44	0.38	0.44	0.43	0.43	0.40	0.42	0.49	0.50	0.56	0.73
MnO	0.00	-0.03	-0.01	-0.02	-0.03	0.00	0.00	0.00	0.00	-0.01	0.01	0.02	0.02	0.03	0.02	0.02
MgO	0.04	0.03	0.03	0.04	0.03	0.03	0.05	0.04	0.04	0.05	0.03	0.04	0.03	0.04	0.03	0.03
CaO	8.43	9.63	9.53	9.55	8.73	8.89	9.39	8.00	9.71	10.04	9.34	9.60	9.52	9.50	9.59	9.71
BaO	0.05	-0.06	-0.01	0.02	0.00	0.02	0.08	0.08	0.05	0.06	0.03	-0.01	0.04	0.03	0.03	-0.02
Na_2O	6.59	6.14	5.99	6.13	6.42	6.39	6.01	6.93	5.98	5.88	6.15	6.01	6.03	6.04	6.05	5.82
K_2O	0.40	0.27	0.27	0.24	0.29	0.25	0.29	0.34	0.23	0.24	0.26	0.26	0.27	0.25	0.26	0.24
sum	100.24	99.87	98.93	99.51	99.34	99.09	99.13	99.79	100.11	99.63	98.79	99.38	99.73	99.41	99.40	98.58
mol%An	40.5	45.7	46.1	45.6	42.2	42.8	45.5	38.2	46.7	47.9	45.0	46.2	45.9	45.8	46.0	47.3
mol%Ab	57.3	52.8	52.4	53.0	56.2	55.7	52.8	59.9	52.0	50.7	53.6	52.3	52.6	52.7	52.5	51.3
mol%Or	2.3	1.5	1.5	1.4	1.6	1.5	1.7	1.9	1.3	1.4	1.5	1.5	1.5	1.5	1.5	1.4

Table B.12.23: XAL-106, Plagioclase grain 23

Dist (µm)	0.0	29.7	59.2	88.9	118.5	148.2	177.7	207.4	237.0	296.2	325.8	355.5	385.1	414.7	444.4	473.9	503.6
SiO_2	58.93	56.33	56.22	57.53	57.14	57.27	57.11	55.55	55.57	56.61	56.92	56.68	57.31	56.23	56.28	56.08	56.97
TiO_2	0.04	0.02	0.03	0.03	0.02	0.03	0.03	0.02	0.01	0.04	0.05	0.03	0.05	0.03	0.05	0.04	0.03
Al_2O_3	25.25	27.18	27.00	26.53	26.37	26.07	26.42	27.64	27.62	26.81	26.58	26.67	26.36	27.18	27.46	27.19	26.68
Fe_2O_3	0.59	0.43	0.47	0.43	0.48	0.50	0.47	0.49	0.48	0.47	0.44	0.40	0.45	0.45	0.41	0.45	0.58
MnO	0.02	0.00	0.00	-0.01	0.00	-0.01	-0.01	0.00	0.00	-0.01	0.01	0.00	-0.01	0.01	0.01	0.01	-0.01
MgO	0.01	0.04	0.04	0.03	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.03	0.03	0.04	0.04	0.03	0.06
CaO	7.47	9.57	9.51	9.09	8.84	8.83	8.74	10.09	10.04	9.56	9.11	9.08	9.17	9.75	9.65	9.57	9.10
BaO	0.05	-0.05	-0.03	-0.01	0.03	0.07	0.02	-0.04	0.06	0.04	0.02	0.04	0.03	0.09	0.08	0.03	0.07
Na_2O	7.11	6.00	6.00	6.27	6.28	6.45	6.26	5.67	5.58	6.07	6.29	6.20	6.29	5.95	5.91	5.91	6.31
K_2O	0.47	0.26	0.25	0.29	0.27	0.26	0.27	0.22	0.23	0.23	0.30	0.28	0.32	0.25	0.24	0.23	0.29
sum	99.96	99.76	99.50	100.18	99.46	99.49	99.36	99.69	99.65	99.85	99.75	99.41	99.99	99.99	100.14	99.55	100.08
mol%An	35.7	46.2	46.0	43.7	43.1	42.4	42.9	48.9	49.2	45.9	43.7	44.0	43.8	46.8	46.8	46.6	43.6
mol%Ab	61.6	52.4	52.5	54.6	55.4	56.1	55.6	49.8	49.5	52.8	54.6	54.4	54.4	51.7	51.9	52.1	54.7
mol%Or	2.7	1.5	1.5	1.7	1.6	1.5	1.6	1.3	1.3	1.3	1.7	1.6	1.8	1.4	1.4	1.3	1.7

Table B.12.24: XAL-106, Plagioclase grain 24

Dist (µm)	0.0	29.0	58.2	87.2	116.2	145.4	174.4	203.4	232.6	261.6	290.6	319.8	348.8	407.0	436.0
SiO_2	57.88	57.12	56.93	56.47	55.80	56.77	56.47	56.35	56.52	55.74	56.39	56.34	55.48	56.05	56.98
TiO_2	0.05	0.04	0.03	0.04	0.02	0.05	0.05	0.02	0.04	0.02	0.04	0.02	0.05	0.02	0.04
Al_2O_3	25.84	26.54	26.91	27.05	27.63	27.42	27.11	27.01	27.22	27.25	26.88	26.36	26.77	27.43	26.71
Fe_2O_3	0.78	0.48	0.48	0.49	0.43	0.41	0.47	0.37	0.44	0.43	0.48	0.43	0.44	0.46	0.58
MnO	0.02	0.04	0.03	0.03	0.02	0.02	0.04	0.00	0.00	0.01	-0.01	0.00	0.03	0.02	0.01
MgO	0.05	0.05	0.04	0.05	0.05	0.04	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.05	0.03
CaO	8.10	9.41	9.71	9.52	9.93	9.34	9.72	9.54	9.59	9.79	9.53	9.07	9.65	10.10	9.32
BaO	0.06	0.02	0.07	0.10	0.11	0.08	0.05	0.04	0.05	-0.01	0.03	0.05	0.04	0.05	0.03
Na_2O	6.75	6.20	6.17	5.94	5.78	6.24	6.02	5.99	6.04	5.88	6.04	6.25	5.72	5.84	6.25
K_2O	0.44	0.24	0.28	0.25	0.22	0.23	0.20	0.23	0.24	0.22	0.26	0.25	0.21	0.22	0.30
sum	99.98	100.15	100.65	99.91	99.98	100.59	100.16	99.58	100.16	99.37	99.69	98.80	98.42	100.24	100.23
mol%An	38.9	45.0	45.8	46.3	48.1	44.7	46.6	46.2	46.1	47.3	45.9	43.9	47.6	48.2	44.4
mol%Ab	58.6	53.6	52.6	52.2	50.7	54.0	52.2	52.5	52.6	51.4	52.6	54.7	51.1	50.5	53.9
mol%Or	2.5	1.4	1.6	1.4	1.3	1.3	1.2	1.3	1.4	1.3	1.5	1.4	1.2	1.3	1.7

Table B.12.25: XAL-106, Plagioclase grain 25

Dist (µm)	0.0	14.8	29.6	44.3	59.2	74.0	88.7	103.5	118.3	133.1	147.9	162.7	177.5	192.3	207.0	221.8	236.6
SiO_2	56.24	55.79	56.70	57.67	58.08	57.73	57.76	57.09	57.80	56.17	56.84	56.53	56.69	57.65	58.00	57.89	57.94
TiO_2	0.03	0.02	0.03	0.03	0.03	0.01	0.04	0.04	0.03	0.05	0.03	0.02	0.02	0.02	0.04	0.06	0.06
Al_2O_3	27.18	26.99	26.93	25.48	26.23	26.17	26.29	26.32	26.49	27.39	27.03	26.89	26.24	26.13	25.61	25.82	25.13
Fe_2O_3	0.51	0.49	0.47	0.46	0.45	0.47	0.45	0.58	0.44	0.46	0.47	0.48	0.48	0.54	0.53	0.49	0.58
MnO	0.00	0.02	0.06	0.00	0.02	-0.03	0.00	0.00	0.00	-0.01	0.00	0.02	-0.01	0.00	0.00	0.01	0.00
MgO	0.04	0.04	0.05	0.04	0.06	0.03	0.03	0.05	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.04
CaO	9.69	9.73	9.32	7.96	8.46	8.51	8.33	8.79	8.69	9.77	9.49	9.37	9.00	8.75	8.04	8.45	7.98
BaO	0.06	0.04	0.03	0.03	0.04	0.08	0.03	0.05	0.11	0.05	0.03	0.00	0.08	-0.01	0.06	0.01	0.09
Na_2O	5.88	5.92	6.16	6.84	6.70	6.55	6.59	6.28	6.46	5.89	6.10	5.95	6.25	6.56	6.82	6.58	6.75
K_2O	0.23	0.23	0.26	0.31	0.29	0.32	0.32	0.35	0.34	0.23	0.29	0.29	0.29	0.32	0.41	0.38	0.44
sum	99.85	99.25	100.00	98.82	100.35	99.84	99.83	99.55	100.39	100.02	100.33	99.59	99.09	100.03	99.55	99.73	99.00
mol%An	47.0	47.0	44.8	38.4	40.4	41.1	40.4	42.7	41.8	47.2	45.5	45.8	43.6	41.7	38.5	40.6	38.5
mol%Ab	51.6	51.7	53.7	59.8	57.9	57.1	57.8	55.2	56.3	51.5	52.9	52.6	54.7	56.5	59.1	57.2	59.0
mol%Or	1.3	1.3	1.5	1.8	1.6	1.8	1.8	2.0	1.9	1.3	1.6	1.7	1.7	1.8	2.3	2.2	2.5

Table B.12.26: XAL-106, Plagioclase grain 26

Dist (µm)	29.6	59.3	88.9	118.6	148.2	177.8	207.5	237.1	296.4
SiO_2	58.44	58.34	56.64	56.29	57.02	56.39	56.63	56.60	57.96
TiO_2	0.05	0.06	0.04	0.04	0.06	0.04	0.04	0.04	0.04
Al_2O_3	25.78	26.08	27.05	26.70	26.28	26.49	25.87	27.03	25.65
Fe_2O_3	0.51	0.50	0.51	0.48	0.45	0.47	0.53	0.48	0.53
MnO	-0.01	0.00	-0.01	0.02	-0.01	0.00	0.00	0.01	0.00
MgO	0.05	0.05	0.05	0.04	0.03	0.05	0.04	0.03	0.03
CaO	8.23	8.45	9.68	9.71	8.84	9.40	8.42	9.51	8.09
BaO	0.09	0.02	0.14	0.05	0.04	0.03	0.01	0.05	0.08
Na_2O	6.84	6.59	6.01	5.96	6.25	6.10	6.39	6.12	6.62
K_2O	0.39	0.35	0.26	0.25	0.29	0.25	0.31	0.29	0.42
sum	100.37	100.42	100.36	99.52	99.24	99.23	98.24	100.15	99.42
mol%An	39.1	40.7	46.4	46.7	43.2	45.3	41.4	45.4	39.3
mol%Ab	58.7	57.4	52.1	51.9	55.2	53.3	56.8	52.9	58.3
mol%Or	2.2	2.0	1.5	1.4	1.7	1.4	1.8	1.6	2.4

Table B.12.27: XAL-106, Plagioclase grain 27

Dist (µm)	0.0	58.0	116.0	174.0	232.0	290.0	348.0	406.0	464.0	522.0	580.0	638.0	696.0
SiO_2	55.88	55.80	55.41	56.45	55.87	56.20	55.76	55.98	56.77	56.46	55.47	56.28	57.51
TiO_2	0.05	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.00	0.03	0.02	0.04
Al_2O_3	27.43	26.12	27.08	27.56	27.58	26.98	27.31	27.05	26.92	26.85	27.03	26.85	26.10
Fe_2O_3	0.48	0.45	0.48	0.48	0.49	0.44	0.44	0.44	0.44	0.46	0.47	0.45	0.54
MnO	-0.01	0.01	0.01	-0.03	0.01	0.00	0.00	0.02	0.01	0.02	0.00	-0.01	0.01
MgO	0.03	0.04	0.04	0.04	0.05	0.04	0.03	0.04	0.04	0.05	0.04	0.05	0.04
CaO	10.07	9.41	9.94	9.81	10.05	9.67	9.94	9.86	9.48	9.42	9.81	9.58	8.73
BaO	0.09	0.04	0.03	0.02	0.01	0.05	0.00	0.01	0.00	-0.01	0.01	-0.01	0.03
Na_2O	5.78	5.90	5.65	5.98	5.80	5.91	5.87	5.84	6.10	6.08	5.81	6.00	6.52
K_2O	0.27	0.24	0.21	0.22	0.24	0.22	0.27	0.23	0.25	0.25	0.21	0.26	0.37
sum	100.06	98.03	98.88	100.55	100.11	99.53	99.65	99.48	100.04	99.57	98.88	99.46	99.88
mol%An	48.3	46.2	48.7	46.9	48.2	46.9	47.6	47.6	45.5	45.5	47.7	46.2	41.6
mol%Ab	50.2	52.4	50.1	51.8	50.4	51.8	50.8	51.1	53.0	53.1	51.1	52.3	56.3
mol%Or	1.5	1.4	1.2	1.3	1.4	1.3	1.6	1.3	1.4	1.4	1.2	1.5	2.1

Table B.12.28: XAL-106, Plagioclase grain 28

Dist (µm)	0.0	29.6	59.2	88.8	118.3	147.9	207.1	266.3	325.5	355.1	384.7	443.9	473.4	503.0	532.6
SiO_2	55.95	56.06	56.73	57.54	55.73	55.64	55.50	55.80	56.41	56.02	56.13	57.10	56.11	55.92	55.80
TiO_2	0.03	0.04	0.03	0.06	0.03	0.04	0.05	0.03	0.02	0.03	0.04	0.04	0.05	0.03	0.03
Al_2O_3	26.99	26.78	26.49	26.38	26.87	27.41	27.51	27.33	27.07	27.00	27.17	26.35	27.21	27.10	27.14
Fe_2O_3	0.50	0.47	0.47	0.51	0.46	0.54	0.43	0.41	0.39	0.45	0.44	0.47	0.46	0.43	0.51
MnO	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.00	-0.01	0.00	0.01	0.01
MgO	0.04	0.05	0.05	0.04	0.04	0.04	0.03	0.05	0.04	0.05	0.03	0.04	0.03	0.03	0.04
CaO	9.71	9.78	9.26	9.13	9.90	10.26	10.15	10.28	9.85	9.80	9.96	9.17	9.87	9.78	9.90
BaO	-0.02	-0.02	0.02	0.03	-0.03	0.01	-0.01	0.08	0.04	0.06	0.00	-0.04	-0.01	0.04	-0.02
Na_2O	5.84	5.95	6.10	6.31	5.78	5.78	5.72	5.71	5.81	5.90	5.82	6.30	5.85	5.95	5.86
K_2O	0.25	0.28	0.26	0.28	0.33	0.32	0.23	0.24	0.27	0.22	0.30	0.28	0.22	0.24	0.25
sum	99.30	99.39	99.42	100.31	99.13	100.04	99.60	99.95	99.92	99.55	99.90	99.70	99.79	99.53	99.50
mol%An	47.2	46.8	44.9	43.7	47.7	48.6	48.9	49.2	47.6	47.2	47.8	43.9	47.6	46.9	47.6
mol%Ab	51.3	51.6	53.6	54.7	50.4	49.6	49.8	49.5	50.8	51.5	50.5	54.6	51.1	51.7	51.0
mol%Or	1.5	1.6	1.5	1.6	1.9	1.8	1.3	1.4	1.5	1.3	1.7	1.6	1.3	1.4	1.4

Table B.12.29: XAL-106, Plagioclase grain 29

Dist (µm)	0.0	59.1	118.2	177.4	236.5	295.6	354.8	413.9	473.1	532.2	591.3	650.4	709.5	768.7	827.8	886.9	946.0	1005.2
SiO_2	58.24	57.55	56.09	55.96	56.08	55.84	56.17	56.24	56.03	55.91	55.72	55.63	55.79	55.66	55.84	56.66	56.31	57.18
TiO_2	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.06	0.04	0.04	0.03	0.06	0.02	0.04	0.04	0.02	0.05
Al_2O_3	25.81	26.18	27.12	27.26	27.15	27.14	26.99	27.10	27.11	27.10	27.52	27.39	27.48	27.55	27.39	27.23	26.62	26.50
Fe_2O_3	0.55	0.52	0.47	0.46	0.42	0.42	0.41	0.40	0.44	0.44	0.42	0.46	0.47	0.44	0.44	0.38	0.40	0.40
MnO	0.00	0.01	0.00	0.00	0.01	-0.01	0.01	0.01	-0.01	0.01	0.02	0.02	0.00	0.06	0.04	0.03	0.01	0.04
MgO	0.05	0.05	0.04	0.04	0.05	0.04	0.03	0.05	0.03	0.04	0.04	0.04	0.04	0.02	0.03	0.02	0.02	0.04
CaO	8.03	8.87	9.85	10.03	9.83	9.66	9.92	9.97	9.70	9.77	10.07	9.91	10.12	10.22	10.16	9.78	9.42	9.12
BaO	0.04	-0.03	0.01	0.05	0.04	0.00	0.01	0.02	0.12	0.12	0.05	0.13	0.08	0.09	0.02	0.06	0.06	0.06
Na_2O	6.84	6.48	5.86	5.86	5.95	5.92	5.86	5.84	5.96	5.98	5.79	5.74	5.70	5.76	5.69	6.06	5.99	6.21
K_2O	0.33	0.27	0.21	0.21	0.20	0.21	0.23	0.21	0.24	0.21	0.24	0.22	0.21	0.24	0.25	0.23	0.29	0.27
sum	99.93	99.94	99.68	99.91	99.76	99.27	99.68	99.88	99.67	99.62	99.91	99.56	99.96	100.04	99.88	100.49	99.14	99.85
mol%An	38.6	42.4	47.6	48.0	47.2	46.8	47.7	48.0	46.7	46.9	48.3	48.2	48.9	48.9	49.0	46.5	45.7	44.1
mol%Ab	59.5	56.1	51.2	50.8	51.7	51.9	51.0	50.8	51.9	51.9	50.3	50.5	49.9	49.8	49.6	52.2	52.6	54.4
mol%Or	1.9	1.5	1.2	1.2	1.1	1.2	1.3	1.2	1.4	1.2	1.4	1.3	1.2	1.3	1.4	1.3	1.7	1.5

Table B.12.29 (cntd): XAL-106, Plag grain 29

Dist (µm)	1064.3	1123.5	1182.6	1241.7
SiO_2	56.73	56.45	56.21	57.62
TiO_2	0.05	0.04	0.04	0.05
Al_2O_3	26.97	26.59	27.11	26.05
Fe_2O_3	0.50	0.46	0.38	0.50
MnO	-0.01	-0.02	-0.01	0.01
MgO	0.03	0.04	0.04	0.05
CaO	9.61	9.30	9.68	8.42
BaO	0.05	-0.08	-0.03	-0.02
Na_2O	6.07	6.04	5.98	6.62
K_2O	0.25	0.23	0.23	0.29
sum	100.24	99.02	99.63	99.59
mol%An	46.0	45.4	46.6	40.6
mol%Ab	52.6	53.3	52.1	57.7
mol%Or	1.4	1.3	1.3	1.7

Table B.12.30: XAL-106, Plagioclase grain 30

Dist (µm)	0.0	58.4	116.7	175.0	233.3	350.0	408.4	466.6	525.0	641.7	700.0	758.3	816.6	875.0	933.3
SiO_2	56.44	56.69	56.29	55.63	55.88	56.62	56.72	56.91	55.58	56.56	56.16	56.38	56.69	56.99	56.52
TiO_2	0.05	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.01	0.04	0.04	0.04	0.03	0.04	0.02
Al_2O_3	27.21	26.81	26.95	27.54	27.29	26.71	27.04	26.78	26.39	26.89	27.37	26.97	27.11	27.08	26.86
Fe_2O_3	0.54	0.47	0.48	0.53	0.43	0.46	0.44	0.43	0.56	0.38	0.42	0.45	0.47	0.37	0.58
MnO	0.02	-0.01	-0.01	-0.01	0.04	0.00	0.01	0.00	0.01	0.02	0.03	0.01	0.02	0.02	0.00
MgO	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.05
CaO	9.48	9.49	9.75	10.55	9.95	9.49	9.72	9.34	9.32	9.40	9.58	9.69	9.69	9.38	9.61
BaO	-0.01	0.00	0.03	0.09	0.07	0.02	0.05	0.02	-0.01	-0.02	0.04	0.05	-0.02	0.09	0.05
Na_2O	5.93	6.10	5.95	5.53	5.79	6.13	5.98	6.09	5.96	6.11	6.03	5.84	5.96	6.21	6.01
K_2O	0.30	0.28	0.29	0.25	0.27	0.26	0.24	0.23	0.22	0.27	0.27	0.25	0.24	0.23	0.30
sum	100.00	99.90	99.80	100.17	99.79	99.75	100.27	99.90	98.09	99.69	99.98	99.72	100.24	100.45	100.00
mol%An	46.1	45.5	46.7	50.6	48.0	45.4	46.7	45.3	45.8	45.2	46.0	47.2	46.7	44.9	46.1
mol%Ab	52.2	52.9	51.6	48.0	50.5	53.1	51.9	53.4	52.9	53.2	52.5	51.4	52.0	53.8	52.2
mol%Or	1.8	1.6	1.7	1.4	1.5	1.5	1.4	1.3	1.3	1.6	1.5	1.4	1.4	1.3	1.7

Table B.12.31: XAL-106, Plagioclase grain 31

Dist (µm)	0.0	60.7	121.4	182.1	242.8	303.6	364.2	424.9	485.6	546.3	607.0	667.7	728.4	789.1	849.8	910.5	971.2	1031.9
SiO_2	56.10	55.89	56.34	55.98	56.33	55.50	57.24	57.21	56.75	57.09	57.61	56.08	55.02	56.03	56.13	56.31	55.61	55.73
TiO_2	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.03	0.04	0.03	0.04	0.02	0.03	0.04	0.03	0.04	0.05	0.04
Al_2O_3	27.20	27.72	26.91	26.61	27.09	28.10	26.82	26.46	26.20	26.71	26.54	26.58	27.95	27.18	27.10	27.16	27.16	27.30
Fe_2O_3	0.53	0.45	0.43	0.45	0.46	0.43	0.44	0.43	0.47	0.46	0.46	0.43	0.50	0.51	0.49	0.47	0.49	0.55
MnO	0.02	-0.02	-0.01	0.00	-0.01	0.00	-0.01	0.02	0.03	0.00	0.02	-0.01	-0.01	0.02	0.02	0.00	0.02	0.02
MgO	0.04	0.04	0.05	0.04	0.04	0.05	0.03	0.04	0.04	0.05	0.05	0.05	0.06	0.04	0.03	0.04	0.04	0.03
CaO	9.74	10.10	9.79	9.49	10.06	10.43	8.96	9.04	8.89	9.41	9.04	9.50	10.63	9.84	9.95	9.40	9.86	9.69
BaO	0.11	0.07	0.07	0.05	0.10	0.09	0.01	0.06	0.02	0.02	0.02	0.03	0.02	0.01	0.02	0.09	0.04	0.05
Na_2O	5.88	5.76	5.92	5.91	5.81	5.58	6.42	6.29	6.34	6.15	6.31	6.10	5.44	5.78	5.86	6.00	5.94	5.87
K_2O	0.27	0.24	0.27	0.27	0.23	0.19	0.27	0.22	0.26	0.27	0.26	0.25	0.19	0.24	0.26	0.26	0.24	0.34
sum	99.92	100.28	99.78	98.81	100.12	100.39	100.21	99.79	99.03	100.19	100.34	99.03	99.83	99.68	99.89	99.76	99.43	99.62
mol%An	47.1	48.5	47.0	46.3	48.3	50.3	42.9	43.7	43.0	45.1	43.5	45.6	51.4	47.8	47.7	45.7	47.2	46.8
mol%Ab	51.4	50.1	51.4	52.2	50.4	48.6	55.6	55.0	55.5	53.3	55.0	53.0	47.5	50.8	50.8	52.8	51.4	51.2
mol%Or	1.6	1.4	1.5	1.5	1.3	1.1	1.5	1.3	1.5	1.6	1.5	1.4	1.1	1.4	1.5	1.5	1.3	2.0

Table B.12.32: XAL-106, Plagioclase grain 32

Dist (µm)	0.0	30.4	60.7	91.1	121.5	152.0	182.4	212.7	243.1	273.5	303.9	334.2	364.7	395.1	425.5	455.8	486.2	516.6
SiO_2	56.17	55.98	56.77	56.17	57.25	58.06	57.62	59.14	56.70	57.19	56.17	56.73	57.43	57.26	56.84	56.47	53.97	56.28
TiO_2	0.03	0.02	0.02	0.01	0.03	0.01	0.02	0.02	0.03	0.02	0.03	0.05	0.04	0.03	0.03	0.03	0.05	0.06
Al_2O_3	27.65	27.66	26.61	27.47	26.50	26.12	26.56	25.76	26.60	26.64	26.87	26.94	25.92	26.46	26.34	26.99	25.64	27.21
Fe_2O_3	0.47	0.46	0.44	0.50	0.45	0.46	0.40	0.46	0.43	0.44	0.42	0.42	0.44	0.45	0.41	0.44	0.42	0.48
MnO	0.01	0.02	0.00	-0.02	0.00	0.01	-0.02	-0.02	0.00	0.00	-0.02	0.00	-0.01	0.01	0.00	0.01	-0.01	0.00
MgO	0.05	0.04	0.04	0.05	0.04	0.02	0.03	0.05	0.04	0.04	0.03	0.04	0.04	0.03	0.03	0.04	0.04	0.03
CaO	9.89	10.02	9.38	9.80	8.75	8.40	8.80	7.94	9.33	9.26	9.39	9.35	8.49	8.82	9.14	9.58	9.28	9.90
BaO	0.07	0.04	0.05	0.02	0.07	0.04	-0.01	0.06	0.08	0.06	0.05	0.01	0.06	0.09	0.09	0.12	0.07	0.07
Na_2O	5.85	5.86	6.25	5.90	6.46	6.65	6.43	6.89	6.12	6.28	6.08	6.14	6.40	6.46	6.13	5.97	5.71	5.90
K_2O	0.26	0.21	0.30	0.24	0.29	0.28	0.29	0.36	0.30	0.28	0.26	0.30	0.27	0.29	0.30	0.25	0.24	0.25
sum	100.45	100.30	99.86	100.14	99.83	100.03	100.12	100.65	99.63	100.21	99.28	99.97	99.07	99.90	99.32	99.90	95.40	100.19
mol%An	47.5	48.0	44.6	47.2	42.1	40.4	42.3	38.1	44.9	44.2	45.4	44.9	41.7	42.3	44.4	46.3	46.6	47.4
mol%Ab	51.0	50.8	53.8	51.4	56.2	57.9	56.0	59.9	53.3	54.2	53.1	53.4	56.8	56.1	53.8	52.2	51.9	51.1
mol%Or	1.5	1.2	1.7	1.4	1.7	1.6	1.7	2.1	1.7	1.6	1.5	1.7	1.6	1.6	1.7	1.4	1.4	1.4

Table B.12.33: XAL-106, Plagioclase grain 33

Dist (µm)	0.0	60.4	121.0	181.4	241.8	302.3	362.8	423.2	483.7	544.2	604.6	665.0	725.5	846.4
SiO_2	55.77	55.94	57.41	57.31	57.53	56.42	57.33	57.51	57.51	57.91	58.21	57.14	55.58	55.74
TiO_2	0.05	0.03	0.06	0.03	0.03	0.01	0.02	0.03	0.02	0.02	0.01	0.03	0.02	0.05
Al_2O_3	27.38	26.77	26.19	26.27	25.95	26.82	26.26	25.89	25.86	25.90	25.52	26.03	26.83	26.95
Fe_2O_3	0.49	0.43	0.42	0.40	0.43	0.41	0.42	0.45	0.42	0.37	0.39	0.40	0.42	0.48
MnO	0.00	0.01	-0.02	0.00	0.00	0.02	-0.01	0.01	0.00	-0.03	-0.01	0.02	0.01	0.00
MgO	0.05	0.04	0.04	0.03	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.03
CaO	9.97	9.65	9.06	8.76	8.74	9.42	9.01	8.40	8.53	8.42	8.17	8.58	9.83	9.99
BaO	0.03	0.07	0.05	0.01	-0.01	-0.06	-0.03	-0.03	0.03	0.11	0.04	0.06	0.03	0.02
Na_2O	5.78	5.92	6.45	6.52	6.49	6.00	6.32	6.52	6.48	6.54	6.71	6.46	5.81	5.82
K_2O	0.23	0.26	0.30	0.29	0.30	0.26	0.29	0.29	0.30	0.30	0.32	0.31	0.28	0.25
sum	99.75	99.11	99.95	99.61	99.49	99.33	99.66	99.10	99.20	99.59	99.39	99.05	98.82	99.33
mol%An	48.2	46.7	43.0	41.9	41.9	45.8	43.3	40.9	41.4	40.8	39.5	41.6	47.6	48.0
mol%Ab	50.5	51.8	55.4	56.4	56.3	52.7	55.0	57.4	56.9	57.4	58.7	56.7	50.8	50.6
mol%Or	1.3	1.5	1.7	1.6	1.7	1.5	1.7	1.7	1.8	1.7	1.8	1.8	1.6	1.4

Table B.12.34: XAL-106, Plagioclase grain 34

Dist (µm)	0.0	30.1	60.3	90.4	120.6	150.7	180.9	211.1	241.3	271.4	301.5	331.7	361.8	392.0	422.1	452.2	482.4	512.6	542.8	572.9
SiO_2	56.01	56.17	55.82	55.83	56.65	55.79	55.27	55.42	56.66	56.55	56.11	56.47	57.16	56.39	56.03	56.98	56.90	56.89	56.79	55.90
TiO_2	0.04	0.05	0.04	0.04	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.06	0.04	0.05	0.02	0.04	0.03	0.03	0.03	0.02
Al_2O_3	26.92	27.28	27.27	27.31	26.73	26.52	26.71	27.14	26.88	27.25	26.93	26.94	27.38	26.98	27.70	26.85	26.63	26.96	27.05	27.28
Fe_2O_3	0.45	0.44	0.43	0.43	0.44	0.46	0.43	0.41	0.46	0.46	0.41	0.41	0.43	0.47	0.46	0.38	0.44	0.42	0.39	0.47
MnO	0.00	0.00	-0.01	0.01	-0.02	0.00	-0.01	0.00	0.04	0.04	0.02	0.03	0.04	0.02	0.02	0.02	0.01	-0.02	0.03	0.01
MgO	0.03	0.04	0.04	0.03	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04
CaO	9.91	10.02	9.85	9.86	9.53	9.69	9.79	9.95	9.66	9.92	9.52	9.67	9.68	9.85	9.85	9.29	9.07	9.74	9.51	9.88
BaO	0.02	0.04	0.03	0.04	0.03	0.03	0.04	0.01	0.02	0.06	0.00	0.00	-0.01	0.05	0.09	-0.02	0.02	0.02	0.06	0.09
Na_2O	5.74	5.81	5.77	5.68	6.05	6.06	5.80	5.75	5.97	5.82	5.93	5.99	6.00	5.96	5.84	6.17	6.24	5.99	6.02	5.83
K_2O	0.33	0.23	0.23	0.23	0.28	0.27	0.25	0.24	0.26	0.24	0.25	0.25	0.28	0.24	0.24	0.25	0.29	0.23	0.25	0.22
sum	99.44	100.08	99.47	99.45	99.75	98.88	98.34	98.99	100.03	100.42	99.25	99.83	101.04	100.06	100.29	100.01	99.64	100.29	100.17	99.75
mol%An	47.9	48.2	47.9	48.3	45.8	46.2	47.6	48.2	46.5	47.8	46.3	46.5	46.4	47.1	47.5	44.7	43.8	46.7	45.9	47.7
mol%Ab	50.2	50.5	50.7	50.4	52.6	52.3	51.0	50.4	52.0	50.8	52.2	52.1	52.0	51.6	51.1	53.8	54.5	52.0	52.6	51.0
mol%Or	1.9	1.3	1.4	1.3	1.6	1.5	1.4	1.4	1.5	1.4	1.4	1.4	1.6	1.4	1.4	1.5	1.7	1.3	1.4	1.3

Table B.12.34 (cntd): XAL-106, Plag grain 34

Dist (µm)	603.0	633.2	663.4	693.5
SiO_2	55.60	56.82	56.50	58.84
TiO_2	0.03	0.04	0.06	0.05
Al_2O_3	27.58	27.24	27.34	25.55
Fe_2O_3	0.47	0.39	0.44	0.50
MnO	0.02	0.03	0.03	0.00
MgO	0.06	0.03	0.04	0.05
CaO	10.11	9.42	9.75	7.83
BaO	0.07	0.10	0.10	-0.01
Na_2O	5.79	6.09	5.97	6.79
K_2O	0.25	0.29	0.25	0.53
sum	99.96	100.46	100.46	100.13
mol%An	48.4	45.3	46.8	37.7
mol%Ab	50.2	53.0	51.8	59.2
mol%Or	1.4	1.6	1.4	3.0

Table B.12.35: XAL-106, Plagioclase grain 35

Dist (µm)	0.0	61.2	122.3	183.6	244.7	305.9	367.0	428.3	489.4	550.6	611.8	672.9	734.2	795.3
SiO_2	56.11	55.51	56.36	55.82	56.29	56.69	56.85	57.26	57.11	57.74	56.32	56.38	56.04	58.19
TiO_2	0.03	0.05	0.04	0.04	0.03	0.02	0.03	0.04	0.03	0.04	0.02	0.03	0.04	0.06
Al_2O_3	26.75	26.81	26.70	27.08	26.34	26.52	26.51	26.39	26.61	26.50	27.10	27.00	27.30	25.88
Fe_2O_3	0.53	0.42	0.42	0.44	0.46	0.44	0.43	0.43	0.44	0.50	0.50	0.51	0.49	0.69
MnO	-0.01	0.00	-0.01	-0.02	0.00	-0.01	0.01	0.01	0.00	0.03	0.02	0.04	0.04	0.02
MgO	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.05	0.03	0.04	0.05	0.05	0.05
CaO	9.47	9.78	9.56	9.77	9.51	9.23	8.99	8.69	8.85	8.78	9.54	9.39	9.72	7.88
BaO	0.05	0.02	-0.01	0.04	-0.01	-0.03	0.04	0.01	0.03	0.04	0.07	0.09	0.08	0.11
Na_2O	5.94	5.81	5.92	5.86	6.19	6.25	6.24	6.54	6.41	6.43	6.02	6.05	6.04	6.82
K_2O	0.24	0.26	0.28	0.24	0.29	0.25	0.30	0.27	0.27	0.27	0.26	0.23	0.23	0.42
sum	99.16	98.70	99.30	99.32	99.12	99.38	99.42	99.66	99.80	100.34	99.88	99.77	100.02	100.12
mol%An	46.2	47.5	46.4	47.3	45.2	44.3	43.6	41.7	42.6	42.3	46.0	45.6	46.5	38.0
mol%Ab	52.4	51.0	52.0	51.3	53.2	54.3	54.7	56.8	55.8	56.1	52.5	53.1	52.2	59.5
mol%Or	1.4	1.5	1.6	1.4	1.6	1.4	1.7	1.6	1.6	1.6	1.5	1.3	1.3	2.4

Table B.12.36: XAL-106, Plagioclase grain 36

Dist (µm)	0.0	29.4	59.0	88.4	117.9	147.4	176.9	235.8	265.3	294.7	324.2	353.7	383.2	412.6	442.2	471.6	501.1	530.5
SiO_2	56.68	56.26	56.06	55.85	55.72	56.66	56.57	56.44	56.45	56.36	56.35	56.46	56.64	56.48	56.20	56.36	56.56	55.98
TiO_2	0.03	0.02	0.02	0.02	0.04	0.03	0.04	0.04	0.03	0.04	0.05	0.06	0.05	0.05	0.02	0.05	0.04	0.06
Al_2O_3	26.28	26.91	27.03	27.07	27.30	26.30	26.57	26.47	26.74	27.39	26.77	26.83	26.91	27.17	27.02	27.16	26.82	26.96
Fe_2O_3	0.49	0.44	0.44	0.45	0.41	0.45	0.46	0.45	0.51	0.42	0.38	0.44	0.43	0.44	0.46	0.47	0.49	0.50
MnO	0.01	0.03	0.02	0.03	0.01	-0.04	-0.01	-0.02	-0.03	-0.01	-0.01	0.01	0.00	0.03	-0.01	0.02	0.01	0.02
MgO	0.04	0.06	0.04	0.05	0.05	0.02	0.02	0.04	0.05	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.04	0.04
CaO	9.25	9.88	9.92	9.65	9.99	9.32	9.25	9.50	9.57	9.74	9.40	9.35	9.46	9.66	9.67	9.65	9.49	9.67
BaO	0.03	0.06	0.06	0.04	-0.01	0.01	0.07	0.02	0.05	0.04	0.03	0.00	0.02	0.04	0.04	0.06	0.04	0.04
Na_2O	6.10	5.94	5.95	5.88	5.76	6.27	6.20	6.12	5.94	6.08	6.10	6.16	6.11	6.04	5.99	5.92	6.02	5.93
K_2O	0.25	0.22	0.21	0.23	0.18	0.25	0.21	0.25	0.26	0.28	0.25	0.22	0.26	0.26	0.24	0.22	0.22	0.32
sum	99.16	99.82	99.75	99.28	99.46	99.27	99.39	99.30	99.57	100.37	99.36	99.57	99.92	100.20	99.67	99.95	99.73	99.53
mol%An	44.9	47.3	47.4	46.9	48.4	44.5	44.6	45.5	46.4	46.2	45.3	45.1	45.4	46.2	46.5	46.8	46.0	46.5
mol%Ab	53.6	51.5	51.4	51.8	50.5	54.1	54.2	53.1	52.1	52.2	53.2	53.7	53.1	52.3	52.1	52.0	52.7	51.6
mol%Or	1.4	1.2	1.2	1.3	1.1	1.4	1.2	1.4	1.5	1.6	1.4	1.3	1.5	1.5	1.4	1.3	1.3	1.8

Table B.12.37: XAL-106, Plagioclase grain 37

Dist (µm)	0.0	61.8	123.6	185.4	247.4	309.2	432.8	494.6	556.4	618.2	680.1	742.0	803.8	865.6
SiO_2	56.79	56.28	55.78	55.86	56.06	57.42	58.33	58.21	56.33	56.40	56.52	55.66	56.50	57.38
TiO_2	0.04	0.01	0.03	0.02	0.02	0.02	0.03	0.05	0.04	0.02	0.05	0.04	0.04	0.05
Al_2O_3	26.13	27.33	27.46	26.95	26.72	26.12	25.70	25.85	27.07	26.57	26.85	26.87	26.47	25.55
Fe_2O_3	0.60	0.55	0.48	0.47	0.42	0.40	0.45	0.44	0.42	0.42	0.47	0.46	0.44	0.54
MnO	0.01	-0.01	-0.01	-0.02	0.01	-0.01	-0.01	-0.02	0.00	0.02	0.02	0.01	0.01	0.00
MgO	0.04	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04
CaO	8.71	9.57	9.97	9.83	9.92	8.80	8.18	8.28	9.52	9.56	9.34	9.67	9.17	8.45
BaO	0.03	-0.05	-0.06	0.00	0.00	0.00	0.08	0.03	0.03	0.02	0.06	0.00	0.01	0.05
Na_2O	6.35	5.99	5.78	5.96	5.85	6.37	6.85	6.66	6.06	6.11	6.19	5.92	6.17	6.65
K_2O	0.29	0.26	0.25	0.26	0.26	0.27	0.33	0.30	0.26	0.26	0.27	0.27	0.28	0.39
sum	98.99	99.98	99.72	99.36	99.28	99.43	99.97	99.85	99.77	99.42	99.81	98.92	99.13	99.10
mol%An	42.4	46.2	48.1	47.0	47.7	42.6	39.0	40.0	45.8	45.7	44.8	46.7	44.4	40.3
mol%Ab	55.9	52.3	50.5	51.5	50.9	55.8	59.1	58.3	52.8	52.8	53.7	51.7	54.0	57.4
mol%Or	1.7	1.5	1.4	1.5	1.5	1.5	1.9	1.7	1.5	1.5	1.6	1.5	1.6	2.2

Table B.12.38: XAL-106, Plagioclase grain 38

Dist (µm)	0.0	29.8	59.5	89.3	119.0	148.7	178.5	208.2	238.0	267.7	297.5	327.2	357.0	386.7	416.5	446.2	476.0	505.7	535.4	565.2	594.9
SiO_2	58.48	56.88	56.51	56.84	57.18	56.50	58.29	58.00	56.72	55.58	55.89	57.21	57.12	56.73	56.47	56.23	56.58	56.37	58.37	57.26	57.83
TiO_2	0.07	0.02	0.04	0.01	0.03	0.03	0.03	0.04	0.03	0.05	0.03	0.04	0.05	0.03	0.03	0.05	0.06	0.07	0.04	0.04	0.05
Al_2O_3	25.74	27.48	27.38	27.28	26.52	27.06	25.88	26.15	26.67	27.10	27.49	27.19	27.09	27.30	27.66	27.30	27.15	27.08	25.47	26.33	26.07
Fe_2O_3	0.60	0.51	0.40	0.48	0.48	0.43	0.41	0.39	0.45	0.40	0.41	0.46	0.41	0.44	0.44	0.47	0.47	0.46	0.59	0.55	0.55
MnO	0.01	0.00	0.00	-0.01	-0.01	0.00	0.00	0.02	-0.02	0.02	0.01	0.01	0.00	0.01	0.04	0.03	0.03	0.01	0.01	0.03	0.03
MgO	0.03	0.04	0.05	0.03	0.05	0.04	0.04	0.03	0.05	0.03	0.03	0.05	0.04	0.04	0.05	0.04	0.05	0.05	0.03	0.04	0.05
CaO	8.01	9.86	9.65	9.72	8.99	9.52	8.39	8.56	8.93	10.07	9.98	9.46	9.28	9.66	10.03	9.88	9.77	9.63	7.98	8.93	8.39
BaO	0.05	0.00	0.03	0.02	0.03	0.08	0.03	0.04	0.03	0.01	0.01	0.02	0.08	0.03	0.04	0.06	0.14	0.07	0.13	0.16	0.16
Na_2O	6.79	5.93	5.99	6.05	6.25	5.91	6.58	6.52	6.17	5.64	5.68	6.05	6.10	5.90	5.64	5.79	5.91	5.86	6.73	6.25	6.60
K_2O	0.44	0.23	0.22	0.26	0.25	0.23	0.28	0.27	0.25	0.23	0.24	0.28	0.26	0.24	0.18	0.22	0.24	0.24	0.47	0.40	0.40
sum	100.22	100.93	100.27	100.68	99.78	99.82	99.93	100.02	99.27	99.13	99.76	100.76	100.44	100.39	100.58	100.06	100.40	99.83	99.81	99.98	100.12
mol%An	38.5	47.2	46.5	46.4	43.6	46.5	40.7	41.4	43.8	49.0	48.6	45.6	45.0	46.9	49.0	47.9	47.1	46.9	38.5	43.1	40.3
mol%Ab	59.0	51.5	52.2	52.2	54.9	52.2	57.7	57.0	54.7	49.6	50.1	52.8	53.5	51.8	49.9	50.9	51.5	51.7	58.8	54.6	57.4
mol%Or	2.5	1.3	1.3	1.4	1.5	1.3	1.6	1.6	1.5	1.3	1.4	1.6	1.5	1.4	1.0	1.2	1.4	1.4	2.7	2.3	2.3

Table B.12.39: XAL-106, Plagioclase grain 39

Dist (µm)	0.0	60.7	121.3	181.9	242.5	303.2	363.8	424.5	485.1	545.8	606.4	667.0	727.6	788.3	848.9	909.6	970.2
SiO_2	56.13	56.46	55.75	55.96	56.21	55.90	55.83	55.87	56.18	55.85	56.00	55.91	56.15	58.29	57.46	57.90	55.77
TiO_2	0.05	0.04	0.02	0.03	0.03	0.04	0.03	0.05	0.02	0.02	0.04	0.03	0.04	0.03	0.02	0.03	0.04
Al_2O_3	26.76	26.87	27.36	27.13	27.31	27.15	26.83	27.25	27.28	27.56	27.64	27.39	27.07	25.54	25.44	25.70	27.26
Fe_2O_3	0.60	0.49	0.47	0.45	0.50	0.46	0.38	0.42	0.42	0.42	0.48	0.44	0.48	0.45	0.41	0.37	0.48
MnO	0.02	0.01	0.04	0.01	0.03	-0.02	0.00	0.02	0.00	-0.01	0.02	-0.02	0.02	-0.02	-0.01	0.00	-0.02
MgO	0.04	0.04	0.03	0.03	0.04	0.03	0.02	0.03	0.02	0.03	0.03	0.03	0.04	0.03	0.03	0.05	0.06
CaO	9.72	9.23	9.95	9.85	10.07	9.73	9.87	10.02	9.88	9.89	10.25	10.16	9.75	8.06	8.08	8.46	10.00
BaO	0.04	0.03	0.10	0.06	0.07	0.05	0.06	0.03	0.04	0.07	0.09	0.09	0.09	0.09	0.11	0.00	0.02
Na_2O	5.81	6.16	5.84	5.85	5.86	5.88	5.80	5.73	5.86	5.92	5.71	5.71	6.06	7.00	6.54	6.64	5.81
K_2O	0.30	0.24	0.22	0.21	0.20	0.23	0.17	0.23	0.28	0.23	0.25	0.22	0.25	0.30	0.32	0.31	0.18
sum	99.47	99.56	99.78	99.58	100.32	99.44	98.99	99.65	99.99	99.97	100.48	99.96	99.95	99.76	98.40	99.46	99.60
mol%An	47.2	44.7	47.9	47.6	48.2	47.2	48.0	48.5	47.4	47.4	49.1	48.9	46.4	38.2	39.8	40.6	48.3
mol%Ab	51.0	53.9	50.8	51.2	50.7	51.5	51.0	50.2	50.9	51.3	49.5	49.8	52.2	60.1	58.3	57.7	50.7
mol%Or	1.8	1.4	1.3	1.2	1.1	1.3	1.0	1.3	1.6	1.3	1.4	1.3	1.4	1.7	1.9	1.8	1.0

Table B.12.40: XAL-106, Plagioclase grain 40

Dist (µm)	0.0	15.4	30.6	45.9	61.1	76.5	91.8	107.1	122.4	137.6	153.0	168.3	183.6	198.8	214.1	229.5	244.8	260.1	275.3	290.7
SiO_2	55.96	55.77	55.91	55.47	55.93	56.06	56.23	56.27	55.89	56.82	56.51	56.54	55.84	56.41	56.59	56.62	56.56	56.33	57.19	55.99
TiO_2	0.07	0.04	0.04	0.02	0.03	0.02	0.05	0.05	0.01	0.03	0.02	0.02	0.02	0.03	0.04	0.03	0.04	0.03	0.02	0.01
Al_2O_3	26.65	27.13	26.92	27.34	27.38	27.38	26.97	27.09	27.29	26.39	26.26	27.12	26.71	26.59	26.37	26.67	26.92	26.96	26.35	26.63
Fe_2O_3	0.54	0.48	0.48	0.48	0.49	0.44	0.43	0.43	0.47	0.42	0.41	0.39	0.46	0.42	0.42	0.45	0.42	0.46	0.47	0.44
MnO	0.00	0.02	0.02	0.00	0.01	0.01	-0.01	0.00	-0.01	0.00	0.01	-0.01	0.02	0.00	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02
MgO	0.03	0.04	0.04	0.05	0.04	0.05	0.05	0.03	0.03	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
CaO	9.81	9.97	9.78	10.24	10.06	9.80	9.67	9.80	9.76	9.19	9.32	9.56	9.59	9.31	8.99	9.15	9.37	9.46	8.63	9.50
BaO	0.06	0.08	-0.03	0.02	0.05	0.04	-0.01	0.06	0.05	0.09	0.08	0.12	0.06	0.09	0.05	0.02	0.06	0.05	0.07	0.04
Na_2O	5.90	5.83	5.81	5.77	5.88	5.89	6.09	6.00	5.98	6.17	6.18	6.02	5.98	6.27	6.19	6.21	6.22	6.02	6.39	6.10
K_2O	0.27	0.26	0.27	0.21	0.25	0.23	0.23	0.24	0.24	0.22	0.25	0.26	0.22	0.25	0.28	0.24	0.26	0.27	0.28	0.27
sum	99.30	99.61	99.25	99.58	100.13	99.91	99.69	99.96	99.70	99.36	99.07	100.06	98.94	99.42	98.95	99.41	99.86	99.61	99.42	99.00
mol%An	47.1	47.9	47.4	48.9	47.9	47.3	46.1	46.8	46.8	44.6	44.8	46.0	46.4	44.4	43.8	44.3	44.8	45.8	42.0	45.6
mol%Ab	51.3	50.7	51.0	49.9	50.7	51.4	52.5	51.9	51.9	54.1	53.8	52.5	52.3	54.2	54.6	54.4	53.8	52.7	56.3	52.9
mol%Or	1.6	1.5	1.6	1.2	1.4	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.3	1.4	1.6	1.4	1.5	1.6	1.6	1.6

Table B.12.40 (cntd): XAL-106, Plagioclase grain 40

Dist (µm)	305.9	321.2	336.5	351.8
SiO_2	56.21	55.94	55.68	55.11
TiO_2	0.01	0.02	0.02	0.03
Al_2O_3	26.70	26.05	27.06	26.95
Fe_2O_3	0.52	0.44	0.52	0.44
MnO	-0.02	-0.01	-0.01	-0.01
MgO	0.04	0.05	0.05	0.02
CaO	9.63	9.47	10.04	10.10
BaO	0.04	0.05	0.09	0.03
Na_2O	6.08	5.98	5.73	5.75
K_2O	0.28	0.25	0.27	0.29
sum	99.47	98.24	99.44	98.70
mol%An	45.9	46.0	48.4	48.5
mol%Ab	52.5	52.6	50.0	49.9
mol%Or	1.6	1.4	1.6	1.7

Table B.12.41: XAL-106, Plagioclase grain 41

Dist (µm)	0.0	14.8	29.7	44.5	59.4	74.2	89.0	103.9	118.7	133.6	148.4
SiO_2	57.96	58.65	56.11	58.69	57.72	56.86	56.29	56.57	56.20	57.93	59.76
TiO_2	0.04	0.07	0.06	0.05	0.03	0.05	0.03	0.07	0.05	0.06	0.04
Al_2O_3	26.58	25.61	27.55	25.38	26.28	26.75	27.47	26.71	27.06	27.35	25.39
Fe_2O_3	0.63	0.60	0.51	0.59	0.70	0.64	0.46	0.49	0.51	0.42	0.63
MnO	0.05	0.03	0.09	0.07	0.07	-0.02	0.01	-0.01	0.04	-0.01	-0.02
MgO	0.07	0.02	0.03	0.05	0.04	0.03	0.06	0.03	0.03	0.03	0.03
CaO	8.17	8.05	9.79	7.57	8.26	9.64	9.69	9.36	10.17	9.12	7.07
BaO	-0.05	0.01	-0.08	0.04	0.01	0.11	0.08	0.08	0.12	0.11	-0.02
Na_2O	6.77	6.87	6.01	7.25	6.94	6.31	5.92	5.96	6.00	6.29	7.42
K_2O	0.46	0.35	0.22	0.37	0.37	0.30	0.21	0.31	0.23	0.30	0.56
sum	100.75	100.26	100.36	100.05	100.42	100.68	100.30	99.57	100.50	101.68	100.92
mol%An	39.0	38.5	46.8	35.8	38.8	45.0	46.9	45.6	47.7	43.7	33.4
mol%Ab	58.4	59.5	52.0	62.1	59.1	53.3	51.9	52.6	50.9	54.6	63.5
mol%Or	2.6	2.0	1.2	2.1	2.1	1.7	1.2	1.8	1.3	1.7	3.1

Table B.12.42: XAL-106, Plagioclase grain 42

Dist (µm)	0.0	14.7	29.4	44.1	58.9	73.6	88.3	117.7
SiO_2	59.48	58.96	56.27	57.77	56.32	57.63	57.76	60.49
TiO_2	0.01	0.00	-0.03	0.02	-0.01	0.01	0.01	0.06
Al_2O_3	24.77	25.81	26.29	26.53	27.32	25.40	26.29	24.36
Fe_2O_3	0.56	0.65	0.54	0.44	0.43	0.50	0.49	0.65
MnO	-0.03	-0.03	0.01	-0.09	0.02	0.01	0.02	0.02
MgO	0.04	0.05	0.06	0.04	0.06	0.01	0.04	0.01
CaO	6.89	8.16	9.40	9.05	9.57	7.82	8.95	6.35
BaO	0.05	0.03	-0.06	0.05	0.18	-0.02	0.06	0.05
Na_2O	7.53	7.04	6.03	6.48	6.33	6.56	6.56	7.63
K_2O	0.62	0.39	0.35	0.36	0.33	0.25	0.28	0.64
sum	100.08	101.09	99.00	100.77	100.54	98.18	100.46	100.24
mol%An	32.4	38.2	45.4	42.7	44.7	39.1	42.3	30.4
mol%Ab	64.1	59.6	52.6	55.3	53.5	59.4	56.1	66.0
mol%Or	3.5	2.2	2.0	2.0	1.8	1.5	1.6	3.6

Table B.12.43: XAL-106, Plagioclase grain 43

Dist (µm)	0.0	21.6	43.2	64.8	86.4	108.0	129.6	151.2	172.8
SiO_2	58.20	57.65	57.75	58.03	56.52	56.66	58.60	58.47	58.88
TiO_2	0.05	0.05	0.06	0.05	0.03	0.00	0.00	0.03	0.05
Al_2O_3	26.09	27.01	26.56	26.43	27.41	27.10	26.13	25.86	25.44
Fe_2O_3	0.64	0.64	0.63	0.57	0.71	0.61	0.59	0.59	0.54
MnO	-0.02	0.01	0.02	-0.02	0.03	-0.04	-0.04	-0.03	0.03
MgO	0.04	0.02	0.01	0.01	0.02	0.03	0.02	0.04	0.04
CaO	8.64	9.45	9.19	8.53	9.74	9.24	8.07	7.83	7.28
BaO	-0.21	0.02	-0.16	-0.10	-0.03	-0.03	0.10	0.05	0.03
Na_2O	6.66	6.20	6.58	6.51	6.08	6.31	6.98	7.05	7.04
K_2O	0.44	0.26	0.26	0.34	0.37	0.37	0.31	0.44	0.42
sum	100.82	101.42	101.07	100.45	100.90	100.40	101.00	100.51	99.93
mol%An	40.7	45.0	42.9	41.2	46.0	43.8	38.3	37.1	35.5
mol%Ab	56.8	53.5	55.6	56.9	51.9	54.1	60.0	60.4	62.1
mol%Or	2.5	1.5	1.5	1.9	2.1	2.1	1.7	2.5	2.4

Table B.12.44: XAL-106, Plagioclase grain 44

Dist (µm)	0.0	15.5	23.3	31.0	38.7	46.5	54.2	61.9	69.7	77.4	85.2	92.9
SiO_2	59.21	57.54	58.45	55.99	58.76	58.20	56.34	57.01	57.87	58.43	57.20	58.91
TiO_2	0.06	0.08	0.04	0.07	0.07	0.08	0.09	0.02	0.05	0.04	0.05	0.08
Al_2O_3	25.27	25.81	26.37	27.17	25.67	26.50	26.54	26.01	26.22	25.84	25.17	25.68
Fe_2O_3	0.67	0.51	0.61	0.53	0.62	0.59	0.63	0.56	0.46	0.64	0.55	0.48
MnO	-0.02	-0.02	0.01	0.00	0.05	0.01	-0.02	0.01	0.04	-0.02	0.03	0.04
MgO	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.01	0.02	0.03	0.01	0.03
CaO	7.62	8.80	8.59	9.62	8.68	8.35	9.10	8.63	8.58	8.34	8.10	7.41
BaO	0.13	0.08	0.09	0.02	0.11	0.13	0.07	0.15	0.02	0.00	-0.08	0.07
Na_2O	7.19	6.39	6.65	6.21	6.64	6.70	6.48	6.62	6.40	6.37	6.80	7.25
K_2O	0.49	0.28	0.36	0.22	0.39	0.35	0.23	0.32	0.32	0.33	0.35	0.52
sum	100.68	99.76	101.31	99.97	101.09	101.09	99.72	99.56	100.01	100.21	98.29	100.54
mol%An	35.9	42.5	40.8	45.6	41.0	40.0	43.1	41.1	41.8	41.2	38.9	35.1
mol%Ab	61.4	55.9	57.2	53.2	56.8	58.0	55.6	57.1	56.4	56.9	59.1	62.0
mol%Or	2.7	1.6	2.0	1.2	2.2	2.0	1.3	1.8	1.9	1.9	2.0	2.9

Table B.12.45: XAL-106, Plagioclase grain 45

Dist (µm)	14.8	29.4	44.2	58.9	73.6	88.4	103.1	117.8
SiO_2	57.96	57.21	56.75	58.10	57.22	57.62	57.34	57.81
TiO_2	0.07	0.05	0.04	0.03	0.01	0.05	0.04	0.02
Al_2O_3	26.38	26.02	27.75	26.24	26.31	26.29	26.68	26.13
Fe_2O_3	0.56	0.60	0.57	0.54	0.63	0.53	0.58	0.57
MnO	0.03	-0.01	0.05	-0.04	0.03	0.03	-0.02	0.08
MgO	0.02	0.02	0.03	0.06	0.03	0.04	0.03	0.03
CaO	8.51	8.59	9.52	8.17	8.60	8.44	8.90	7.97
BaO	-0.03	-0.06	-0.03	0.14	-0.02	0.11	0.00	0.05
Na_2O	6.84	6.55	6.24	6.75	6.58	6.70	6.61	6.86
K_2O	0.37	0.35	0.26	0.36	0.25	0.36	0.31	0.46
sum	100.80	99.39	101.19	100.37	99.67	100.17	100.48	99.97
mol%An	39.9	41.2	45.1	39.3	41.3	40.2	41.9	38.1
mol%Ab	58.1	56.8	53.5	58.7	57.3	57.8	56.3	59.3
mol%Or	2.0	2.0	1.4	2.0	1.4	2.0	1.7	2.6

Table B.12.46: XAL-106, Plagioclase grain 46

Dist (µm)	0.0	14.4	28.8	43.2	57.6	72.0	86.5	100.9	115.3	129.7
SiO_2	59.40	57.47	56.46	58.21	58.19	58.30	57.92	57.72	57.76	58.98
TiO_2	-0.01	-0.02	-0.01	0.01	0.07	0.04	0.01	0.07	0.04	0.05
Al_2O_3	24.97	25.92	26.71	25.97	25.89	25.95	26.28	27.48	26.31	25.39
Fe_2O_3	0.48	0.54	0.47	0.43	0.53	0.61	0.65	0.60	0.53	0.64
MnO	0.08	0.05	0.13	0.01	0.04	-0.01	-0.04	0.08	0.02	0.04
MgO	0.05	0.03	0.04	0.04	0.03	0.04	0.04	0.07	0.05	0.02
CaO	7.10	8.00	9.38	7.78	8.10	8.38	8.37	9.09	8.55	7.71
BaO	0.16	0.15	0.18	0.25	0.08	0.10	0.05	-0.05	0.08	-0.05
Na_2O	7.22	6.79	6.45	6.68	6.87	6.82	6.74	6.03	6.64	6.86
K_2O	0.54	0.44	0.31	0.38	0.29	0.32	0.33	0.29	0.42	0.48
sum	99.99	99.41	100.19	99.79	100.24	100.76	100.41	101.51	100.48	100.27
mol%An	34.1	38.4	43.8	38.3	38.8	39.7	39.9	44.7	40.6	37.2
mol%Ab	62.8	59.1	54.5	59.5	59.5	58.5	58.2	53.6	57.0	60.0
mol%Or	3.1	2.5	1.7	2.2	1.7	1.8	1.9	1.7	2.4	2.8

Table B.12.47: XAL-106, Plagioclase grain 47

Dist (µm)	0.0	14.2	28.4	42.5	56.7	70.9	85.1	99.2	113.4	127.6	141.8
SiO_2	59.39	58.93	58.74	57.09	58.17	58.61	58.97	57.62	58.65	58.44	55.96
TiO_2	0.03	0.03	0.04	0.08	0.04	0.05	0.05	0.00	0.02	0.00	0.03
Al_2O_3	25.22	25.69	25.91	27.04	26.53	25.41	25.76	26.21	25.39	26.18	27.35
Fe_2O_3	0.75	0.60	0.55	0.54	0.50	0.47	0.53	0.59	0.62	0.59	0.72
MnO	0.04	0.06	0.02	0.04	0.04	-0.01	0.01	-0.04	0.00	0.04	0.02
MgO	0.03	0.02	0.04	0.04	0.02	0.02	0.04	0.06	0.04	0.08	0.05
CaO	7.37	7.53	8.11	8.84	8.54	8.20	7.69	8.14	7.69	8.23	9.72
BaO	0.13	0.18	0.09	0.21	0.03	0.00	0.13	0.12	-0.01	0.00	-0.09
Na_2O	7.26	6.93	6.63	6.47	6.73	6.74	6.89	6.73	6.78	6.53	5.95
K_2O	0.73	0.53	0.39	0.28	0.29	0.32	0.28	0.35	0.34	0.30	0.27
sum	101.08	100.57	100.51	100.61	100.98	99.81	100.34	99.92	99.65	100.38	100.10
mol%An	34.5	36.4	39.4	42.3	40.6	39.5	37.5	39.3	37.8	40.4	46.7
mol%Ab	61.5	60.6	58.3	56.1	57.8	58.7	60.9	58.7	60.3	57.9	51.8
mol%Or	4.0	3.1	2.2	1.6	1.6	1.8	1.6	2.0	2.0	1.8	1.5

Table B.12.48: XAL-106, Plagioclase grain 48

Dist (µm)	14.9	29.8	44.7	59.6	74.5	89.5	104.4	119.2	134.2	149.1
SiO_2	56.32	57.35	56.76	57.46	55.43	57.67	57.81	56.91	56.81	58.13
TiO_2	0.03	0.03	0.05	0.05	0.04	0.05	0.07	0.01	0.04	0.02
Al_2O_3	26.85	26.05	26.10	26.24	26.46	26.95	26.25	26.55	26.18	26.09
Fe_2O_3	0.47	0.63	0.51	0.56	0.35	0.51	0.35	0.42	0.42	0.43
MnO	-0.04	0.01	-0.02	-0.04	-0.01	0.02	-0.03	0.04	0.05	-0.04
MgO	0.06	0.06	0.04	0.05	0.08	0.03	0.05	0.02	0.03	0.05
CaO	9.41	8.50	8.55	8.68	8.90	8.53	8.66	8.35	8.91	8.20
BaO	0.15	0.12	-0.02	0.02	0.02	0.05	-0.06	0.07	0.03	-0.12
Na_2O	6.27	6.78	6.20	6.81	6.47	6.60	6.54	6.59	6.35	6.83
K_2O	0.27	0.26	0.28	0.32	0.24	0.37	0.30	0.43	0.32	0.47
sum	99.96	100.02	98.67	100.42	98.07	100.76	100.06	99.47	99.14	100.22
mol%An	44.7	40.3	42.5	40.6	42.6	40.8	41.5	40.2	42.9	38.8
mol%Ab	53.8	58.2	55.8	57.6	56.0	57.1	56.8	57.4	55.3	58.5
mol%Or	1.5	1.5	1.7	1.8	1.4	2.1	1.7	2.5	1.9	2.6

Table B.12.49: XAL-106, Plagioclase grain 49

Dist (µm)	0.0	15.6	31.2	46.8	78.0	93.6	109.2	124.8
SiO_2	58.65	57.70	58.14	58.59	56.53	57.42	57.68	58.03
TiO_2	0.03	0.02	0.06	0.03	0.03	0.05	0.05	0.06
Al_2O_3	25.31	26.45	26.00	26.42	26.87	26.39	26.16	25.33
Fe_2O_3	0.77	0.53	0.49	0.72	0.42	0.49	0.43	0.37
MnO	0.05	0.05	0.11	0.03	0.02	0.02	-0.01	-0.01
MgO	0.03	0.05	0.04	0.05	0.03	0.03	0.05	0.04
CaO	7.20	8.20	8.10	8.52	9.46	8.94	8.19	7.77
BaO	0.16	0.15	0.10	0.18	0.05	0.02	-0.01	-0.03
Na_2O	7.26	6.81	6.75	6.65	5.82	6.64	6.68	7.08
K_2O	0.54	0.39	0.38	0.43	0.29	0.22	0.33	0.29
sum	100.02	100.34	100.17	101.61	99.67	100.30	99.65	99.07
mol%An	34.3	39.1	39.0	40.5	46.5	42.1	39.6	37.1
mol%Ab	62.6	58.7	58.8	57.1	51.7	56.6	58.5	61.2
mol%Or	3.1	2.2	2.2	2.4	1.7	1.2	1.9	1.7

Table B.12.50: XAL-106, Plagioclase grain 50

Dist (µm)	0.0	14.2	28.4	42.7	56.9	71.2	85.4	99.7	113.9
SiO_2	55.48	56.58	57.30	57.52	57.57	56.02	57.68	57.03	59.12
TiO_2	0.03	0.09	0.07	0.08	0.03	0.04	0.06	0.06	0.04
Al_2O_3	26.71	27.07	26.69	26.20	26.29	27.43	27.09	26.38	25.32
Fe_2O_3	0.37	0.60	0.52	0.44	0.57	0.55	0.50	0.50	0.62
MnO	-0.02	-0.07	-0.03	-0.01	0.02	0.01	0.07	0.01	-0.01
MgO	0.06	0.06	0.04	0.07	0.03	0.00	0.05	0.04	0.03
CaO	8.78	9.83	8.66	8.53	8.34	9.35	8.93	8.54	7.88
BaO	0.09	0.15	0.19	0.15	0.08	0.18	0.06	0.05	0.03
Na_2O	6.22	6.32	6.55	6.77	6.78	6.19	6.31	6.62	6.99
K_2O	0.45	0.27	0.30	0.33	0.37	0.23	0.24	0.30	0.32
sum	98.18	101.00	100.34	100.15	100.09	100.00	100.97	99.55	100.41
mol%An	42.7	45.5	41.5	40.3	39.6	44.9	43.3	40.9	37.7
mol%Ab	54.7	53.0	56.8	57.8	58.3	53.8	55.3	57.4	60.5
mol%Or	2.6	1.5	1.7	1.9	2.1	1.3	1.4	1.7	1.8

Table B.12.51: XAL-106, Plagioclase grain 51

Dist (µm)	31.1	46.6	62.1	93.2	108.7
SiO_2	57.78	56.49	56.22	56.36	59.72
TiO_2	0.05	0.02	0.05	0.02	0.08
Al_2O_3	26.00	26.99	27.51	27.00	24.83
Fe_2O_3	0.40	0.39	0.58	0.66	0.68
MnO	-0.01	0.02	-0.01	-0.01	0.03
MgO	0.02	0.05	0.04	0.03	0.04
CaO	8.37	8.84	9.87	9.26	6.43
BaO	0.05	-0.05	0.08	0.11	0.25
Na_2O	6.56	6.39	6.07	5.99	7.65
K_2O	0.33	0.39	0.28	0.44	0.62
sum	99.72	99.64	100.67	99.98	100.41
mol%An	40.6	42.4	46.6	44.9	30.6
mol%Ab	57.5	55.4	51.9	52.6	65.9
mol%Or	1.9	2.2	1.5	2.5	3.5

Table B.12.52: XAL-106, Plagioclase grain 52

Dist (µm)	0.0	7.7	15.3	23.0	30.7	38.4	53.7	61.4	69.0	76.7	84.4	92.1	99.8	107.4
SiO_2	58.17	56.83	57.00	57.48	57.68	58.71	58.68	58.58	57.45	57.72	58.21	56.70	58.30	59.33
TiO_2	0.04	0.04	-0.01	0.07	0.02	0.06	0.08	0.09	0.05	0.06	0.06	0.02	0.00	0.05
Al_2O_3	25.49	26.79	26.79	26.32	26.27	25.24	26.52	25.86	26.47	25.81	26.49	27.22	26.51	24.66
Fe_2O_3	0.59	0.57	0.55	0.39	0.58	0.53	0.48	0.45	0.46	0.72	0.61	0.52	0.65	0.77
MnO	-0.01	-0.02	0.01	0.03	-0.01	-0.01	-0.02	-0.01	-0.02	0.03	0.06	0.08	0.05	0.01
MgO	0.04	0.07	0.06	0.06	0.05	0.03	0.06	0.06	0.02	0.06	0.05	0.05	0.05	0.05
CaO	8.01	9.11	9.32	8.43	8.52	8.42	8.22	7.58	8.27	8.49	8.67	9.53	8.25	7.07
BaO	0.12	0.06	0.00	0.06	-0.05	0.19	0.24	0.21	0.16	0.13	-0.02	0.00	0.06	0.09
Na_2O	7.00	6.48	6.32	6.69	6.80	7.14	6.82	7.09	6.70	6.77	6.55	6.10	6.47	7.26
K_2O	0.55	0.39	0.27	0.34	0.36	0.53	0.39	0.37	0.24	0.36	0.32	0.34	0.44	0.60
sum	100.02	100.34	100.31	99.88	100.28	100.88	101.67	100.29	99.82	100.15	101.02	100.58	100.78	99.88
mol%An	37.5	42.8	44.2	40.3	40.1	38.3	39.1	36.3	40.0	40.1	41.5	45.4	40.3	33.8
mol%Ab	59.4	55.1	54.3	57.8	57.9	58.8	58.7	61.5	58.6	57.9	56.7	52.6	57.2	62.8
mol%Or	3.1	2.2	1.5	1.9	2.0	2.9	2.2	2.1	1.4	2.0	1.8	1.9	2.5	3.4

Table B.12.53: XAL-106, Plagioclase grain 53

Dist (µm)	0.0	7.9	15.7	23.6	31.4	39.3	47.1	55.0	62.9	70.7	78.6	86.4	94.3	102.1	110.0
SiO_2	59.12	57.66	58.27	57.38	57.36	57.80	59.96	57.39	55.38	58.12	58.57	58.66	58.09	57.11	59.50
TiO_2	-0.01	0.02	0.01	0.04	-0.02	0.06	0.06	0.06	-0.02	0.04	0.12	0.07	0.05	0.06	0.08
Al_2O_3	25.38	25.35	26.37	26.16	26.17	26.54	25.54	26.43	27.68	26.41	25.51	25.79	26.14	26.46	25.04
Fe_2O_3	0.64	0.60	0.62	0.56	0.53	0.57	0.47	0.45	0.59	0.72	0.63	0.62	0.66	0.59	0.74
MnO	0.03	0.04	0.01	-0.05	0.02	0.05	0.02	0.03	0.06	0.01	-0.02	0.01	0.00	-0.01	0.02
MgO	0.02	0.02	0.03	0.01	0.04	0.02	0.01	0.03	0.04	0.04	0.05	0.06	0.05	0.05	0.01
CaO	7.42	7.90	8.47	8.54	8.23	8.64	7.95	8.63	9.95	8.10	7.93	7.99	8.04	8.78	7.21
BaO	-0.02	-0.08	-0.02	-0.12	0.05	0.00	0.05	0.02	0.02	-0.02	-0.02	0.12	0.09	0.13	0.00
Na_2O	6.96	6.87	6.74	6.88	6.74	6.55	7.10	6.30	5.71	6.86	6.93	6.95	6.71	6.25	7.27
K_2O	0.53	0.43	0.30	0.24	0.31	0.39	0.51	0.37	0.21	0.36	0.31	0.45	0.38	0.33	0.49
sum	100.10	98.96	100.89	99.81	99.50	100.63	101.65	99.81	99.68	100.65	100.04	100.70	100.23	99.76	100.37
mol%An	36.0	37.9	40.3	40.1	39.6	41.2	37.2	42.2	48.5	38.7	38.1	37.9	39.0	42.9	34.4
mol%Ab	61.0	59.7	58.0	58.5	58.7	56.6	60.0	55.7	50.3	59.3	60.2	59.6	58.9	55.3	62.8
mol%Or	3.0	2.4	1.7	1.4	1.8	2.2	2.8	2.2	1.2	2.0	1.8	2.5	2.2	1.9	2.8

Table B.12.54: XAL-106, Plagioclase grain 54

Dist (µm)	0.0	14.6	29.1	43.7	58.2	72.8	87.3
SiO_2	58.04	57.33	57.07	55.95	57.27	57.44	56.63
TiO_2	0.04	0.02	0.03	0.08	0.04	0.09	0.09
Al_2O_3	25.55	26.81	27.52	27.33	27.37	26.68	27.12
Fe_2O_3	0.55	0.57	0.60	0.51	0.48	0.56	0.55
MnO	-0.02	0.03	-0.02	-0.05	0.09	0.05	0.04
MgO	0.02	0.05	0.04	0.05	0.04	0.05	0.03
CaO	7.88	8.95	9.50	10.02	9.68	8.87	9.02
BaO	0.09	-0.03	-0.05	0.02	-0.07	0.09	-0.05
Na_2O	6.97	6.35	6.19	5.79	5.78	6.33	5.83
K_2O	0.44	0.28	0.30	0.25	0.33	0.31	0.18
sum	99.65	100.38	101.33	100.18	101.17	100.52	99.48
mol%An	37.5	43.1	45.1	48.2	47.1	42.9	45.6
mol%Ab	60.0	55.3	53.2	50.4	51.0	55.4	53.3
mol%Or	2.5	1.6	1.7	1.4	1.9	1.8	1.1

Table B.12.55: XAL-106, Plagioclase grain 55

Dist (µm)	0.0	7.3	14.8	22.1	29.5	36.9	44.2	51.6	59.0	66.4	73.7	88.5	95.8	103.3	110.6
SiO_2	59.74	59.41	59.10	57.26	57.82	57.62	56.46	57.84	56.53	57.87	58.28	59.03	58.04	59.87	60.36
TiO_2	0.08	0.08	0.05	0.05	0.08	0.03	0.05	0.03	0.00	0.02	0.05	0.05	0.04	0.04	0.06
Al_2O_3	24.65	26.03	26.16	26.88	26.73	26.10	27.40	26.78	27.30	26.49	25.83	25.57	25.78	24.84	24.46
Fe_2O_3	0.72	0.56	0.48	0.60	0.60	0.57	0.55	0.65	0.56	0.70	0.57	0.71	0.64	0.67	0.51
MnO	0.00	-0.06	-0.07	-0.03	0.01	-0.05	-0.02	0.03	0.02	0.01	-0.02	-0.03	-0.04	-0.04	-0.03
MgO	0.05	0.04	0.06	0.06	0.05	0.06	0.07	0.07	0.06	0.04	0.03	0.03	0.02	0.03	0.02
CaO	6.86	7.34	7.91	9.02	8.57	8.96	9.37	8.30	9.30	8.83	7.97	7.55	8.18	6.94	6.16
BaO	0.00	0.05	0.06	-0.02	0.02	0.05	0.03	0.12	0.06	0.08	-0.05	-0.06	0.03	0.06	0.25
Na_2O	7.72	7.11	6.91	6.41	6.51	6.72	6.03	6.73	6.00	7.06	6.95	7.31	6.94	7.36	7.87
K_2O	0.59	0.59	0.50	0.40	0.27	0.33	0.29	0.34	0.21	0.25	0.42	0.46	0.48	0.68	0.63
sum	100.39	101.30	101.23	100.68	100.63	100.50	100.28	100.99	100.05	101.41	100.22	100.77	100.17	100.48	100.32
mol%An	31.9	35.1	37.6	42.8	41.5	41.6	45.4	39.7	45.6	40.3	37.9	35.4	38.4	33.0	29.1
mol%Ab	64.9	61.5	59.5	55.0	57.0	56.5	52.9	58.3	53.2	58.3	59.8	62.0	59.0	63.2	67.3
mol%Or	3.2	3.4	2.8	2.3	1.6	1.8	1.7	2.0	1.2	1.4	2.4	2.6	2.7	3.8	3.6

Table B.12.56: XAL-106, Plagioclase grains

Lgth (µm)	33.1	38.5	41.7	35.1
SiO_2	59.30	59.73	58.12	59.11
TiO_2	0.05	0.08	0.04	-0.02
Al_2O_3	26.19	26.03	25.73	25.55
Fe_2O_3	0.52	0.58	0.93	0.59
MnO	0.01	-0.03	-0.04	0.04
MgO	0.04	0.04	0.56	0.01
CaO	7.86	7.32	7.70	7.92
BaO	-0.04	-0.07	-0.06	0.12
Na_2O	7.11	7.05	6.96	7.16
K_2O	0.43	0.67	0.30	0.52
sum	101.48	101.39	100.24	101.00
mol%An	37.0	35.1	37.3	36.9
mol%Ab	60.6	61.1	61.0	60.3
mol%Or	2.4	3.8	1.7	2.9

Table B.12.56: XAL-106, Plagioclase grains

Lgth (µm)	48.2	37.4	42.1	39.6	47.6	48.2	48.2	41.2	40.4	41.2	46.0	42.1	48.8	41.7	40.8	35.4	52.6	58.0	71.4	73.5	52.1
SiO_2	58.32	59.65	56.90	59.04	58.45	58.50	58.14	57.51	58.95	58.70	58.51	60.11	58.24	58.14	59.44	59.11	58.72	59.42	60.32	58.21	57.76
TiO_2	0.02	-0.01	0.00	0.08	0.04	0.06	0.07	0.01	0.07	0.02	0.09	0.04	0.04	0.04	0.03	0.06	0.00	0.05	0.08	0.03	0.02
Al_2O_3	26.15	26.35	27.15	26.19	26.20	26.43	26.31	27.08	26.31	26.16	25.44	25.34	26.74	26.41	26.33	26.31	25.84	26.32	25.71	25.99	26.46
Fe_2O_3	0.60	0.62	0.52	0.56	0.59	0.68	0.73	0.53	0.68	0.53	0.61	0.50	0.64	0.49	0.61	0.68	0.68	0.61	0.74	0.50	0.61
MnO	0.01	0.00	0.01	0.06	0.06	0.05	0.02	0.06	0.03	0.02	0.05	0.01	0.09	0.01	0.03	0.03	-0.03	0.14	0.02	0.04	0.01
MgO	0.04	0.00	0.03	-0.01	0.03	0.00	0.03	0.02	0.03	0.04	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.06	0.03	0.05
CaO	8.36	7.57	9.52	7.82	8.22	8.73	8.49	9.07	7.87	8.15	7.71	7.47	8.30	8.02	7.93	7.53	7.74	7.29	6.86	7.90	8.74
BaO	-0.01	0.01	-0.17	0.09	0.04	0.15	0.17	0.12	-0.03	0.07	0.00	0.06	0.19	0.11	0.00	-0.04	0.02	-0.01	0.10	0.19	0.10
Na_2O	6.48	6.98	6.32	7.04	6.88	6.59	6.63	6.43	6.92	6.85	6.88	7.19	6.80	6.78	7.01	7.14	6.84	7.23	7.29	7.07	6.62
K_2O	0.43	0.57	0.27	0.49	0.41	0.38	0.40	0.29	0.40	0.34	0.47	0.56	0.55	0.45	0.48	0.55	0.45	0.42	0.51	0.56	0.27
sum	100.40	101.73	100.54	101.37	100.91	101.57	100.97	101.14	101.23	100.88	99.79	101.33	101.64	100.50	101.88	101.40	100.30	101.51	101.68	100.51	100.63
mol%An	40.6	36.3	44.7	37.0	38.8	41.4	40.5	43.1	37.7	38.9	37.2	35.3	39.0	38.5	37.4	35.7	37.5	34.9	33.2	37.0	41.5
mol%Ab	56.9	60.5	53.8	60.3	58.9	56.5	57.2	55.3	60.0	59.2	60.1	61.5	57.9	58.9	59.9	61.2	60.0	62.7	63.9	59.9	56.9
mol%Or	2.5	3.2	1.5	2.8	2.3	2.1	2.2	1.7	2.3	1.9	2.7	3.2	3.1	2.6	2.7	3.1	2.6	2.4	2.9	3.1	1.5

Table B.12.57: XAL-106 Plagioclase Microlites

Microlite #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SiO_2	59.61	57.95	58.97	58.15	58.58	57.85	58.28	59.98	60.23	59.78	57.76	57.25	55.84	56.19	58.10	56.93	59.20	57.78	57.90
TiO_2	0.05	0.05	0.03	0.05	0.03	0.01	-0.01	0.01	0.02	0.04	0.04	0.05	0.07	0.06	-0.01	0.01	0.03	0.03	0.01
Al_2O_3	25.25	24.20	25.04	25.99	25.73	25.39	25.75	25.02	24.49	24.84	26.32	25.98	27.65	26.71	25.75	26.03	25.69	26.14	26.33
Fe_2O_3	0.58	0.75	0.66	0.52	0.50	0.56	0.56	0.58	0.56	0.65	0.59	0.57	0.64	0.52	0.57	0.62	0.72	0.60	0.50
MnO	0.05	0.05	0.02	0.07	0.07	0.02	0.03	0.06	0.03	0.02	0.02	0.01	-0.07	-0.03	0.03	-0.03	-0.01	-0.02	0.04
MgO	0.02	0.04	0.01	0.03	0.04	0.03	0.06	0.04	0.02	0.02	0.05	0.05	0.04	0.02	0.06	0.03	0.01	0.02	0.03
CaO	7.10	6.91	7.24	8.26	7.63	7.88	7.58	7.00	6.35	6.63	8.66	8.63	9.56	9.67	7.85	8.06	6.93	8.23	8.39
BaO	0.16	0.05	0.06	0.07	0.06	0.15	0.13	0.09	0.28	0.15	0.12	0.12	0.06	0.03	0.01	0.07	0.10	0.11	0.01
Na_2O	7.44	7.33	7.04	6.78	6.94	6.83	7.02	7.36	7.81	7.48	6.75	6.62	6.02	6.25	6.87	6.63	7.26	6.55	6.62
K_2O	0.51	0.60	0.51	0.40	0.44	0.44	0.46	0.59	0.65	0.76	0.33	0.26	0.24	0.27	0.52	0.88	0.56	0.41	0.35
sum	100.77	97.93	99.60	100.32	100.03	99.16	99.85	100.74	100.42	100.36	100.63	99.54	100.06	99.69	99.75	99.24	100.49	99.86	100.16
mol%An	33.5	33.1	35.1	39.3	36.8	37.9	36.4	33.3	29.9	31.5	40.7	41.2	46.1	45.4	37.6	38.2	33.5	40.0	40.4
mol%Ab	63.6	63.5	61.9	58.4	60.6	59.5	61.0	63.4	66.5	64.2	57.5	57.3	52.5	53.1	59.5	56.9	63.4	57.6	57.6
mol%Or	2.9	3.4	3.0	2.3	2.6	2.5	2.6	3.3	3.6	4.3	1.8	1.5	1.4	1.5	3.0	5.0	3.2	2.4	2.0

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
SiO_2	57.75	58.81	58.04	56.64	58.18	58.33	57.50	59.02	58.30	58.33	59.18	58.97	57.94	59.10	58.89	58.02	58.45	59.31	57.03
TiO_2	0.07	0.06	0.06	0.06	0.08	0.03	0.10	0.02	0.05	0.12	0.07	0.07	0.09	-0.19	0.05	0.15	0.17	0.19	0.06
Al_2O_3	26.15	25.36	25.90	26.56	24.96	25.13	26.49	24.51	24.85	23.64	24.86	24.87	25.22	24.63	24.99	26.04	26.10	25.37	26.02
Fe_2O_3	0.51	0.61	0.62	0.38	0.54	0.56	0.68	0.71	0.64	1.94	0.53	0.57	0.61	-0.11	0.30	0.58	0.60	0.68	0.60
MnO	0.03	0.04	0.00	-0.02	0.02	0.04	0.08	0.07	0.05	0.17	-0.01	0.00	0.02	-0.13	0.02	0.04	0.03	0.06	0.03
MgO	0.04	0.04	0.05	0.06	0.02	0.05	0.05	0.03	0.05	1.70	0.02	0.02	0.02	0.02	0.01	0.04	0.04	0.03	0.03
CaO	7.95	7.61	8.09	8.84	7.46	7.94	8.86	6.57	7.15	6.36	6.92	7.04	8.04	6.78	6.97	8.17	7.51	7.37	7.65
BaO	0.09	0.14	0.18	0.02	0.13	0.12	0.11	0.17	0.26	-0.01	-0.05	-0.01	-0.08	-0.30	0.19	0.20	0.12	0.20	-0.04
Na_2O	6.73	7.11	6.91	6.42	7.16	7.07	6.51	7.17	7.17	7.20	7.46	7.01	6.88	7.52	7.20	6.94	6.94	7.18	6.84
K_2O	0.50	0.54	0.56	0.40	0.56	0.24	0.25	0.56	0.57	0.61	0.70	0.64	0.43	0.70	0.61	0.45	0.47	0.58	0.39
sum	99.81	100.33	100.42	99.37	99.09	99.50	100.62	98.83	99.09	100.06	99.67	99.19	99.18	98.03	99.24	100.62	100.42	100.98	98.60
mol%An	38.4	36.0	38.1	42.2	35.4	37.8	42.3	32.5	34.4	31.6	32.5	34.4	38.3	31.9	33.6	38.4	36.4	35.0	37.3
mol%Ab	58.8	60.9	58.8	55.5	61.5	60.9	56.2	64.2	62.4	64.8	63.5	61.9	59.3	64.1	62.9	59.1	60.9	61.7	60.4
mol%Or	2.9	3.0	3.1	2.3	3.1	1.4	1.4	3.3	3.3	3.6	3.9	3.7	2.4	3.9	3.5	2.5	2.7	3.3	2.3

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
SiO_2	58.59	57.72	57.29	55.42	58.82	59.57	55.89	59.01	60.30	56.58	58.45	58.50	57.62	57.23	58.50	58.58	58.62	58.17	60.31
TiO_2	0.07	0.06	0.02	0.02	0.07	0.04	0.09	0.02	0.11	0.10	0.11	0.09	0.08	0.06	0.08	0.06	-0.20	-0.19	0.09
Al_2O_3	25.78	25.78	26.26	26.28	25.97	24.64	25.89	25.64	24.46	27.26	25.28	24.73	25.41	25.94	25.69	25.36	24.80	24.76	24.21
Fe_2O_3	0.51	0.56	0.52	0.50	0.69	0.64	0.62	0.57	0.66	0.61	0.60	0.63	0.52	0.64	0.53	0.59	-0.17	-0.10	0.67
MnO	0.02	0.03	0.05	0.04	-0.04	0.00	0.01	0.00	0.03	0.04	0.01	0.00	0.04	0.03	-0.04	-0.01	-0.13	-0.12	-0.01
MgO	0.03	0.04	0.03	0.05	0.02	0.02	0.06	0.05	0.04	0.06	0.03	0.03	0.04	0.04	0.04	0.03	0.05	-0.01	0.03
CaO	7.68	8.11	8.09	9.14	7.20	6.62	8.62	7.82	6.74	9.74	7.41	7.04	7.62	8.28	7.75	7.88	7.04	7.23	6.12
BaO	-0.06	0.11	-0.10	0.00	0.13	0.10	0.04	0.05	0.30	0.08	0.24	0.21	0.22	0.25	0.22	0.22	-0.10	-0.11	-0.04
Na_2O	6.95	6.44	6.70	6.06	7.07	7.27	6.70	6.90	7.35	5.84	6.87	7.27	6.98	6.76	6.93	6.84	7.15	7.28	7.72
K_2O	0.43	0.31	0.41	0.24	0.45	0.67	0.48	0.48	0.75	0.27	0.74	0.81	0.60	0.41	0.49	0.55	0.62	0.63	0.72
sum	100.01	99.15	99.27	97.76	100.37	99.57	98.39	100.54	100.73	100.57	99.74	99.30	99.13	99.63	100.18	100.10	97.69	97.52	99.81
mol%An	37.0	40.3	39.1	44.8	35.1	32.2	40.4	37.5	32.2	47.2	35.8	33.3	36.3	39.4	37.2	37.7	34.0	34.2	29.2
mol%Ab	60.5	57.9	58.5	53.8	62.3	63.9	56.9	59.8	63.5	51.2	60.0	62.2	60.3	58.3	60.1	59.2	62.4	62.3	66.7
mol%Or	2.5	1.8	2.4	1.4	2.6	3.9	2.7	2.7	4.3	1.6	4.2	4.6	3.4	2.3	2.8	3.2	3.6	3.5	4.1

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
SiO_2	59.12	57.93	57.62	58.32	59.87	58.66	57.91	59.71	58.83	55.82	59.17	58.62	59.00	57.73	58.29	57.80	61.36	57.88	58.93
TiO_2	0.08	0.07	0.05	0.05	0.09	0.08	0.07	0.03	0.05	0.05	0.03	0.03	0.07	0.06	0.03	0.07	-0.04	0.02	0.02
Al_2O_3	24.63	25.37	26.25	25.93	24.52	25.02	25.30	24.25	25.25	27.58	24.28	25.12	25.55	25.71	25.59	26.51	23.38	25.79	25.47
Fe_2O_3	0.51	0.60	0.54	0.55	0.78	0.85	0.50	0.63	0.65	0.56	1.16	0.61	0.59	0.51	0.59	0.52	0.43	0.58	0.53
MnO	0.03	0.04	0.09	0.03	-0.05	-0.06	-0.02	-0.02	-0.01	-0.02	0.06	-0.03	0.02	0.02	0.05	0.02	-0.02	0.00	-0.02
MgO	0.03	0.04	0.04	0.02	0.13	0.04	0.03	0.02	0.05	0.04	0.59	0.03	0.05	0.05	0.06	0.06	0.01	0.01	0.05
CaO	6.91	7.57	8.00	7.35	6.38	6.98	7.52	6.55	7.23	9.64	6.22	7.08	7.11	7.70	7.83	8.01	5.56	8.00	7.24
BaO	0.07	-0.10	-0.05	0.15	0.19	0.15	0.23	0.12	0.04	-0.01	0.16	0.08	0.12	0.20	0.02	0.09	0.13	-0.08	0.06
Na_2O	7.40	7.29	6.75	7.26	7.65	7.22	7.19	7.56	7.23	5.84	7.04	7.10	7.03	7.01	6.96	6.79	8.04	7.10	7.01
K_2O	0.66	0.55	0.50	0.59	0.66	0.65	0.56	0.66	0.58	0.31	0.63	0.59	0.58	0.66	0.43	0.44	0.94	0.56	0.53
sum	99.44	99.36	99.78	100.25	100.21	99.58	99.29	99.52	99.88	99.82	99.34	99.23	100.13	99.65	99.84	100.29	99.80	99.85	99.81
mol%An	32.8	35.3	38.5	34.7	30.4	33.5	35.5	31.2	34.4	46.9	31.5	34.3	34.6	36.4	37.4	38.5	26.2	37.2	35.2
mol%Ab	63.5	61.6	58.7	62.0	65.9	62.7	61.4	65.1	62.3	51.4	64.7	62.3	62.0	59.9	60.2	59.0	68.5	59.7	61.7
mol%Or	3.7	3.1	2.9	3.3	3.7	3.7	3.2	3.7	3.3	1.8	3.8	3.4	3.4	3.7	2.4	2.5	5.3	3.1	3.1

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
SiO_2	58.38	57.31	57.69	58.57	58.96	59.07	55.68	57.68	57.22	57.29	57.87	59.15	58.75	56.58	58.29	60.02	57.90	57.86	56.89
TiO_2	0.04	0.01	0.03	0.04	0.02	0.02	-0.03	0.06	0.08	0.06	0.06	0.06	-0.01	-0.02	0.00	0.03	0.09	0.05	0.05
Al_2O_3	25.90	26.06	25.26	25.22	25.91	25.36	27.41	25.71	27.03	26.54	25.35	24.33	25.15	26.22	24.38	24.80	25.27	25.62	25.72
Fe_2O_3	0.54	0.48	0.54	0.59	0.57	0.70	0.42	0.51	0.60	0.52	0.71	0.68	0.70	0.54	0.79	0.72	0.50	0.51	0.61
MnO	-0.01	-0.01	0.00	-0.06	0.02	-0.06	0.03	0.01	-0.01	0.01	0.06	0.06	0.02	0.03	-0.02	0.02	-0.01	0.00	0.00
MgO	0.04	0.07	0.02	0.04	0.03	0.05	0.01	0.05	0.04	0.05	0.26	0.20	0.05	0.06	0.32	0.05	0.02	0.01	0.01
CaO	7.31	8.58	7.62	7.20	7.43	7.45	9.52	8.28	8.53	8.62	7.41	6.53	7.03	9.19	7.06	6.53	7.61	7.99	8.06
BaO	0.07	0.02	-0.14	0.18	0.15	0.13	0.12	0.06	-0.08	0.14	-0.02	0.12	0.18	0.12	0.10	0.12	0.21	0.30	0.21
Na_2O	7.13	6.52	7.19	7.18	7.04	7.14	6.11	6.76	6.60	6.44	6.80	7.37	7.08	6.39	6.80	7.41	7.08	6.95	6.81
K_2O	0.54	0.29	0.49	0.45	0.55	0.66	0.32	0.36	0.36	0.35	0.61	0.65	0.63	0.43	0.65	0.66	0.56	0.55	0.48
sum	99.94	99.33	98.71	99.41	100.67	100.52	99.59	99.48	100.37	100.01	99.09	99.14	99.56	99.54	98.37	100.37	99.21	99.84	98.85
mol%An	35.1	41.4	35.9	34.7	35.7	35.2	45.4	39.5	40.8	41.7	36.3	31.6	34.2	43.2	35.0	31.5	36.1	37.7	38.5
mol%Ab	61.9	57.0	61.3	62.7	61.2	61.1	52.7	58.4	57.2	56.3	60.2	64.7	62.2	54.4	61.1	64.7	60.8	59.3	58.8
mol%Or	3.1	1.7	2.8	2.6	3.1	3.7	1.8	2.0	2.1	2.0	3.5	3.7	3.6	2.4	3.8	3.8	3.2	3.1	2.7

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
SiO_2	57.63	59.16	59.53	57.22	56.61	58.29	60.40	57.43	59.58	59.53	57.88	60.75	58.63	57.24	58.69	58.22	58.14	59.27	58.15
TiO_2	0.06	0.02	0.02	0.01	0.05	0.05	0.12	0.06	0.11	0.02	0.05	0.09	0.06	0.06	0.07	0.08	0.05	0.07	0.06
Al_2O_3	25.36	24.74	25.06	26.29	27.17	25.54	24.07	26.39	24.54	25.69	25.21	23.48	25.37	25.45	25.72	25.09	25.65	24.97	26.27
Fe_2O_3	0.53	0.74	0.63	0.54	0.69	0.56	0.81	0.62	0.72	0.36	0.57	0.49	0.66	0.59	0.70	0.48	0.61	0.53	0.50
MnO	-0.05	0.05	0.04	0.02	0.07	0.00	0.05	0.01	0.02	-0.02	0.01	0.00	0.03	-0.03	0.01	-0.01	0.01	0.04	0.02
MgO	0.04	0.03	0.03	0.02	0.06	0.06	0.09	0.04	0.11	0.03	0.04	0.04	0.03	0.04	0.02	0.05	0.05	0.03	0.04
CaO	7.91	6.47	6.83	8.33	9.25	7.23	6.52	8.44	6.70	7.31	7.68	5.76	6.95	7.92	7.60	7.67	8.08	6.59	7.69
BaO	0.22	0.06	0.06	-0.06	-0.03	-0.01	0.08	0.03	0.00	-0.02	-0.09	0.12	0.12	0.03	0.08	0.07	0.13	0.04	-0.07
Na_2O	7.00	7.48	7.18	6.62	6.28	6.84	7.04	6.46	7.39	7.17	6.93	7.96	7.22	6.98	7.01	7.25	6.72	7.39	6.67
K_2O	0.39	0.75	0.52	0.41	0.40	0.40	0.80	0.39	0.67	0.56	0.62	0.69	0.65	0.50	0.44	0.46	0.44	0.63	0.35
sum	99.11	99.51	99.90	99.40	100.55	98.95	99.99	99.88	99.85	100.63	98.91	99.38	99.72	98.77	100.33	99.37	99.88	99.57	99.69
mol%An	37.6	31.0	33.4	40.0	43.9	36.0	32.2	41.0	32.1	34.9	36.6	27.4	33.4	37.5	36.5	36.0	38.9	31.8	38.1
mol%Ab	60.2	64.8	63.5	57.6	53.9	61.6	63.0	56.8	64.1	61.9	59.8	68.6	62.9	59.7	60.9	61.5	58.6	64.6	59.8
mol%Or	2.2	4.3	3.1	2.3	2.3	2.4	4.7	2.3	3.8	3.2	3.5	3.9	3.7	2.8	2.5	2.6	2.5	3.6	2.1

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
SiO_2	59.16	58.08	58.14	58.34	62.39	59.10	58.85	58.53	57.97	57.73	61.14	59.65	57.49	58.71	58.47	57.70	57.28	58.55	57.93
TiO_2	0.06	0.06	0.04	0.04	-0.17	-0.19	0.04	0.06	0.10	0.02	0.09	0.07	0.05	0.06	0.08	0.05	0.04	0.05	0.05
Al_2O_3	24.74	25.50	25.75	25.53	23.01	24.97	25.44	24.94	24.85	26.25	23.88	24.97	26.33	25.59	26.06	25.84	25.68	25.30	25.24
Fe_2O_3	0.60	0.51	0.55	0.50	-0.07	-0.18	0.71	0.69	0.49	0.42	0.54	0.57	0.63	0.55	0.43	0.59	0.65	0.62	0.61
MnO	0.00	0.01	0.03	0.01	-0.09	-0.10	0.07	0.05	-0.01	-0.06	0.01	-0.02	0.02	0.02	-0.01	-0.03	0.03	0.02	-0.01
MgO	0.03	0.03	0.03	0.05	0.06	0.04	0.06	0.31	0.03	0.03	0.04	0.05	0.04	0.01	0.02	0.03	0.02	0.05	0.07
CaO	6.49	7.88	7.70	7.94	5.08	6.77	7.66	7.14	7.45	8.35	5.55	6.91	8.66	7.46	7.61	8.08	7.95	6.86	7.43
BaO	0.22	0.01	-0.03	0.07	-0.15	-0.19	0.13	0.11	-0.05	0.12	0.12	0.12	-0.03	-0.04	0.20	0.10	-0.02	0.03	0.01
Na_2O	7.10	6.97	6.88	7.00	8.12	7.50	7.16	6.95	7.00	6.75	8.09	7.25	6.47	7.09	6.99	6.74	6.77	7.28	7.03
K_2O	0.65	0.38	0.42	0.51	0.88	0.81	0.64	0.67	0.60	0.45	0.69	0.55	0.32	0.52	0.38	0.43	0.58	0.54	0.41
sum	99.04	99.41	99.50	99.98	99.08	98.53	100.75	99.44	98.42	100.06	100.15	100.11	99.97	99.97	100.23	99.52	98.98	99.30	98.76
mol%An	32.3	37.6	37.3	37.4	24.4	31.8	35.8	34.8	35.8	39.6	26.4	33.4	41.7	35.7	36.7	38.9	38.1	33.2	36.0
mol%Ab	63.9	60.2	60.3	59.7	70.6	63.7	60.6	61.3	60.8	57.9	69.7	63.4	56.4	61.3	61.1	58.7	58.6	63.7	61.6
mol%Or	3.9	2.1	2.4	2.9	5.0	4.5	3.6	3.9	3.4	2.5	3.9	3.2	1.8	3.0	2.2	2.5	3.3	3.1	2.4

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152
SiO_2	56.20	58.19	57.96	57.99	58.41	58.93	56.34	59.36	60.45	58.78	58.31	59.99	59.72	58.27	58.77	57.10	58.86	56.34	58.95
TiO_2	0.07	0.07	0.11	0.06	0.10	0.07	0.03	0.07	0.03	0.03	0.10	0.07	0.04	0.06	0.03	0.09	0.02	0.03	0.06
Al_2O_3	27.00	25.89	25.81	25.58	25.10	24.50	24.06	24.43	24.04	25.38	24.73	24.91	25.22	25.57	24.89	26.01	24.36	27.29	25.67
Fe_2O_3	0.45	0.68	0.77	0.49	0.53	0.46	0.62	0.77	0.63	0.59	0.65	0.51	0.73	0.72	0.64	0.59	0.77	0.56	0.67
MnO	0.06	0.08	-0.04	-0.02	0.06	-0.03	0.00	-0.01	0.02	0.08	-0.02	0.02	0.01	0.00	0.00	0.00	-0.02	-0.05	-0.05
MgO	0.06	0.07	0.07	0.04	0.02	0.02	-0.05	0.00	0.05	0.02	0.28	0.03	0.04	0.06	0.05	0.06	0.03	0.04	0.02
CaO	9.02	7.85	7.67	7.99	7.33	7.18	6.92	6.61	6.77	7.16	7.07	6.89	6.88	7.55	6.82	8.11	6.95	9.26	7.61
BaO	0.07	-0.09	0.08	0.01	0.00	0.13	-0.09	0.13	0.07	0.06	0.04	0.18	0.03	0.04	-0.04	-0.09	-0.06	-0.02	0.07
Na_2O	6.14	6.71	6.73	6.72	6.96	7.34	4.63	7.54	7.31	7.16	7.12	7.37	7.12	6.75	7.37	6.94	7.33	6.04	6.84
K_2O	0.34	0.48	0.51	0.49	0.58	0.70	0.63	0.61	0.74	0.65	0.73	0.72	0.61	0.53	0.51	0.43	0.61	0.30	0.54
sum	99.42	99.92	99.68	99.35	99.07	99.30	93.08	99.51	100.12	99.91	99.01	100.70	100.38	99.54	99.05	99.23	98.85	99.79	100.39
mol%An	43.9	38.2	37.5	38.5	35.6	33.7	43.1	31.5	32.4	34.3	33.9	32.7	33.6	37.0	32.9	38.3	33.2	45.1	36.9
mol%Ab	54.1	59.0	59.6	58.7	61.1	62.4	52.2	65.0	63.4	62.0	61.9	63.2	62.9	59.9	64.2	59.3	63.4	53.2	60.0
mol%Or	1.9	2.8	3.0	2.8	3.4	3.9	4.7	3.5	4.2	3.7	4.2	4.1	3.5	3.1	2.9	2.4	3.5	1.7	3.1

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
SiO_2	58.54	58.02	57.35	57.65	58.77	59.36	56.49	58.48	58.11	59.33	57.38	57.80	57.16	57.19	61.22	59.91	56.36	60.23	58.48
TiO_2	0.07	0.04	0.05	0.10	0.00	0.08	0.06	0.05	0.07	0.09	0.01	0.03	0.04	0.02	0.05	0.04	0.05	0.03	0.02
Al_2O_3	25.50	25.18	25.48	25.95	25.00	25.31	25.82	25.38	25.21	24.74	26.72	25.82	26.83	26.55	23.84	25.04	23.56	24.56	25.94
Fe_2O_3	0.66	0.55	0.56	0.76	-0.01	0.66	0.50	0.60	0.60	0.50	0.58	0.77	0.68	0.65	0.66	0.55	0.58	0.50	0.49
MnO	-0.03	-0.03	-0.01	-0.01	0.00	0.03	-0.01	-0.02	0.01	-0.03	-0.01	-0.01	-0.03	-0.02	-0.03	-0.02	0.00	-0.03	0.01
MgO	0.01	0.17	0.03	0.00	0.02	0.04	0.02	0.02	0.05	0.03	0.02	0.04	0.06	0.06	0.01	0.02	-0.04	0.02	0.03
CaO	7.40	7.64	7.34	8.08	7.09	7.26	8.23	7.61	7.39	7.19	8.50	7.85	8.64	7.91	5.93	7.07	6.50	5.92	7.60
BaO	0.03	0.21	0.00	0.09	0.01	0.22	0.15	-0.03	0.09	0.08	-0.10	-0.06	-0.06	0.00	0.07	0.02	0.07	0.07	0.08
Na_2O	7.09	7.01	7.03	6.74	7.30	7.23	6.65	7.03	7.09	7.19	6.47	6.94	6.35	6.73	8.11	7.50	4.69	7.67	6.88
K_2O	0.63	0.55	0.64	0.46	0.54	0.63	0.39	0.53	0.54	0.58	0.34	0.51	0.34	0.46	0.65	0.50	0.60	0.67	0.50
sum	99.90	99.33	98.46	99.81	98.72	100.81	98.30	99.66	99.15	99.71	99.90	99.69	100.02	99.55	100.51	100.63	92.36	99.63	100.03
mol%An	35.3	36.4	35.3	38.8	33.8	34.4	39.7	36.3	35.4	34.4	41.3	37.4	42.1	38.3	27.8	33.3	41.4	28.8	36.8
mol%Ab	61.2	60.5	61.1	58.6	63.1	62.0	58.1	60.7	61.5	62.3	56.8	59.7	55.9	59.0	68.6	63.9	54.0	67.4	60.3
mol%Or	3.6	3.1	3.6	2.6	3.1	3.6	2.2	3.0	3.1	3.3	2.0	2.9	2.0	2.7	3.6	2.8	4.6	3.9	2.9

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190
SiO_2	59.36	58.23	58.17	55.43	57.32	59.96	57.85	58.38	57.22	60.19	57.65	57.37	59.34	60.06	57.79	60.64	59.59	55.15	55.73
TiO_2	0.09	0.11	0.06	0.09	0.05	0.06	0.04	0.06	0.08	0.06	0.04	-0.19	0.01	0.05	0.04	0.09	0.03	0.00	0.05
Al_2O_3	24.82	25.49	26.07	27.12	26.65	25.19	26.61	24.95	25.57	24.92	24.41	26.18	23.87	24.35	26.00	22.84	24.79	27.07	27.06
Fe_2O_3	0.51	0.33	0.51	0.42	0.40	0.52	0.33	0.57	0.60	0.71	1.24	-0.02	0.62	0.75	0.58	0.92	0.70	0.49	0.52
MnO	0.03	0.07	0.07	0.04	-0.01	0.04	0.08	0.03	0.03	0.04	0.06	-0.10	-0.03	0.02	0.06	0.03	0.01	0.04	0.03
MgO	0.01	0.04	0.00	0.05	0.04	0.04	0.05	0.04	0.08	0.04	0.65	0.06	0.02	0.03	0.04	0.07	0.03	0.03	0.03
CaO	6.82	7.51	7.97	9.65	8.74	6.86	8.78	7.18	7.72	6.84	7.05	8.05	6.04	6.54	8.07	5.10	6.64	9.82	9.53
BaO	0.04	-0.07	0.02	-0.11	0.27	0.26	0.04	0.14	0.24	0.04	0.13	-0.05	0.03	0.11	0.00	0.14	0.21	0.03	0.10
Na_2O	7.16	7.23	6.89	5.87	6.51	7.17	6.47	7.06	6.84	7.38	6.97	6.68	7.75	7.29	6.68	7.86	7.44	5.78	6.11
K_2O	0.67	0.60	0.40	0.23	0.37	0.61	0.42	0.55	0.47	0.66	0.44	0.38	0.64	0.66	0.51	1.03	0.65	0.33	0.29
sum	99.50	99.54	100.15	98.78	100.35	100.70	100.67	98.96	98.84	100.89	98.66	98.37	98.28	99.85	99.77	98.72	100.08	98.74	99.45
mol%An	33.1	35.2	38.1	47.0	41.7	33.4	41.8	34.8	37.4	32.6	34.9	39.1	29.0	31.9	38.9	24.8	31.8	47.5	45.6
mol%Ab	63.0	61.4	59.6	51.7	56.2	63.1	55.8	62.0	59.9	63.6	62.5	58.7	67.3	64.3	58.2	69.3	64.5	50.6	52.8
mol%Or	3.9	3.4	2.3	1.3	2.1	3.5	2.4	3.2	2.7	3.8	2.6	2.2	3.7	3.8	2.9	5.9	3.7	1.9	1.6

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209
SiO_2	58.31	57.90	58.77	57.53	56.48	57.03	58.19	57.96	57.70	59.41	57.70	57.98	59.13	58.04	59.62	58.49	59.86	58.14	57.13
TiO_2	0.07	0.06	0.02	0.04	0.07	0.03	0.06	0.04	0.05	0.09	0.07	0.03	0.08	0.05	0.08	0.06	0.05	0.07	0.07
Al_2O_3	24.68	26.33	25.37	25.91	26.59	27.03	25.10	25.34	26.08	25.12	25.82	25.93	24.92	24.75	25.20	25.41	25.17	25.96	26.08
Fe_2O_3	0.56	0.58	0.55	0.51	0.39	0.62	0.55	0.43	0.51	0.58	0.72	0.56	0.60	0.65	0.57	0.65	0.60	0.55	0.49
MnO	0.02	-0.03	-0.05	-0.04	0.00	-0.05	0.05	-0.03	0.00	0.03	0.03	-0.02	-0.01	-0.03	-0.01	0.01	0.02	-0.04	0.03
MgO	0.05	0.06	0.03	0.04	0.06	0.04	0.04	0.05	0.06	0.03	0.05	0.05	0.03	0.03	0.02	0.02	0.02	0.03	0.02
CaO	7.15	9.01	7.46	8.45	9.20	8.92	7.23	7.43	8.43	7.27	7.78	7.68	7.14	7.31	7.04	7.30	6.70	7.77	7.95
BaO	0.01	0.15	0.10	0.04	0.07	0.11	0.09	0.12	0.08	0.02	0.29	0.03	0.37	0.01	0.01	0.12	0.12	0.17	0.16
Na_2O	7.00	6.22	7.06	6.64	6.28	6.42	6.90	6.88	6.65	7.30	7.05	6.82	7.34	6.92	7.33	6.86	7.38	7.06	6.84
K_2O	0.54	0.29	0.50	0.43	0.34	0.29	0.62	0.53	0.36	0.64	0.43	0.48	0.63	0.47	0.60	0.59	0.58	0.47	0.55
sum	98.38	100.57	99.80	99.55	99.47	100.44	98.83	98.75	99.91	100.48	99.93	99.53	100.24	98.20	100.46	99.51	100.50	100.16	99.32
mol%An	35.0	43.7	35.8	40.3	43.9	42.7	35.3	36.2	40.4	34.2	37.0	37.3	33.7	35.9	33.5	35.8	32.3	36.8	37.9
mol%Ab	61.9	54.6	61.3	57.3	54.2	55.6	61.1	60.7	57.6	62.2	60.6	59.9	62.8	61.4	63.1	60.8	64.4	60.5	59.0
mol%Or	3.1	1.7	2.9	2.5	1.9	1.6	3.6	3.1	2.0	3.6	2.4	2.8	3.5	2.8	3.4	3.4	3.3	2.6	3.1

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228
SiO_2	59.52	58.99	57.67	57.54	57.21	58.15	56.22	55.44	57.17	58.43	59.25	57.66	60.35	60.15	58.49	57.16	59.05	57.82	57.51
TiO_2	0.05	0.00	0.09	0.07	0.05	0.08	0.08	0.06	0.03	0.03	0.05	0.03	0.08	0.05	0.04	0.02	0.06	0.04	0.05
Al_2O_3	24.88	24.79	25.83	26.17	26.69	25.99	26.68	27.27	26.05	25.87	25.23	25.70	23.23	24.36	24.84	26.61	25.27	25.69	26.78
Fe_2O_3	0.63	0.01	0.62	0.51	0.60	0.55	0.70	0.45	0.44	0.53	0.53	0.56	0.63	0.59	0.50	0.42	0.57	0.53	0.56
MnO	0.01	0.00	-0.01	-0.07	0.01	-0.04	-0.03	0.05	0.06	0.03	0.05	0.05	0.01	0.00	0.03	0.01	0.03	0.03	0.03
MgO	0.03	0.04	0.04	0.02	0.01	0.06	0.04	0.03	0.05	0.04	0.04	0.06	0.04	0.02	0.05	0.06	0.07	0.08	0.06
CaO	7.13	6.76	7.57	8.47	8.17	7.92	8.68	9.61	8.35	8.28	6.97	7.66	5.75	7.14	7.27	8.35	6.87	7.88	8.54
BaO	0.26	-0.01	0.20	0.16	0.13	0.10	0.22	-0.02	0.09	0.10	0.13	0.08	0.17	0.15	0.15	0.08	0.12	-0.01	0.02
Na_2O	7.31	7.29	7.08	6.73	6.76	6.76	6.22	5.93	6.43	6.97	7.25	6.81	7.90	7.35	7.03	6.40	7.24	7.04	6.77
K_2O	0.65	0.55	0.54	0.34	0.36	0.35	0.41	0.28	0.38	0.43	0.53	0.33	0.91	0.65	0.69	0.37	0.68	0.40	0.29
sum	100.50	98.40	99.64	99.93	99.98	99.92	99.23	99.11	99.05	100.72	100.03	98.92	99.07	100.47	99.10	99.47	99.97	99.51	100.62
mol%An	33.7	32.8	36.0	40.2	39.2	38.5	42.5	46.5	40.8	38.7	33.6	37.6	27.2	33.7	34.9	41.0	33.0	37.4	40.4
mol%Ab	62.6	64.0	60.9	57.9	58.7	59.5	55.1	51.9	56.9	58.9	63.3	60.5	67.7	62.7	61.1	56.9	63.0	60.4	58.0
mol%Or	3.7	3.2	3.1	1.9	2.1	2.0	2.4	1.6	2.2	2.4	3.1	1.9	5.1	3.7	4.0	2.2	3.9	2.2	1.6

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247
SiO_2	60.83	56.75	59.20	58.48	58.55	57.45	57.98	58.68	58.21	58.93	57.72	58.12	56.17	59.15	59.85	58.71	62.36	58.70	59.12
TiO_2	0.09	0.10	0.05	0.10	0.09	0.11	0.11	-0.24	0.00	0.02	0.03	0.07	0.06	0.08	0.08	0.03	0.11	0.04	0.06
Al_2O_3	20.66	25.56	24.46	25.64	24.75	26.16	25.42	25.43	25.28	25.49	25.86	25.09	26.05	25.93	26.01	26.09	22.93	26.02	26.40
Fe_2O_3	3.27	0.53	0.63	0.61	0.79	0.61	0.60	-0.17	0.43	0.66	0.62	0.45	0.52	0.46	0.66	0.56	1.08	1.11	0.56
MnO	0.16	0.03	-0.02	0.02	0.03	-0.01	-0.03	-0.09	0.11	0.03	0.03	0.01	-0.03	-0.01	0.02	-0.02	-0.01	0.02	0.08
MgO	1.30	0.06	0.02	0.03	0.03	0.04	0.01	0.03	0.01	0.03	0.05	0.06	0.05	0.05	0.07	0.01	0.13	0.50	0.00
CaO	4.49	7.96	6.91	7.72	7.37	8.26	7.62	7.41	7.45	7.22	7.55	7.07	8.49	7.67	7.47	7.88	5.49	7.61	8.29
BaO	0.01	0.01	0.13	0.04	0.18	0.17	0.08	-0.14	0.27	0.03	0.26	0.16	0.04	0.00	0.11	0.09	0.22	0.08	0.21
Na_2O	7.62	6.76	7.12	6.94	6.96	6.80	7.17	6.89	7.01	7.22	7.00	7.16	6.62	7.24	7.52	7.01	8.16	6.99	6.81
K_2O	0.76	0.48	0.54	0.57	0.58	0.51	0.48	0.53	0.53	0.59	0.49	0.63	0.29	0.54	0.58	0.62	0.83	0.51	0.50
sum	99.18	98.23	99.04	100.16	99.33	100.09	99.44	98.35	99.29	100.22	99.61	98.83	98.25	101.12	102.35	100.99	101.30	101.58	102.02
mol%An	23.4	38.3	33.8	36.9	35.7	39.0	36.0	36.1	35.9	34.4	36.3	34.0	40.8	35.8	34.3	37.0	25.9	36.5	39.1
mol%Ab	71.9	58.9	63.0	59.9	61.0	58.1	61.3	60.8	61.1	62.3	60.9	62.4	57.5	61.2	62.5	59.5	69.5	60.6	58.1
mol%Or	4.7	2.8	3.1	3.2	3.4	2.8	2.7	3.1	3.0	3.4	2.8	3.6	1.7	3.0	3.2	3.5	4.6	2.9	2.8

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266
SiO_2	58.89	60.91	60.47	58.70	60.09	59.97	57.43	59.57	59.89	56.33	59.04	59.45	60.40	60.57	57.38	59.53	60.29	59.80	59.66
TiO_2	0.06	0.07	0.04	0.10	0.07	0.07	0.05	0.09	0.07	0.01	0.01	0.07	0.06	0.12	0.06	0.08	0.04	0.02	0.03
Al_2O_3	26.40	24.77	26.00	26.59	25.71	26.12	26.90	26.15	25.55	28.07	26.07	25.35	26.67	24.45	27.54	26.60	25.27	26.11	26.12
Fe_2O_3	0.55	0.61	0.72	0.83	0.53	0.62	0.57	0.53	0.67	0.53	0.65	0.58	0.49	0.49	0.38	0.57	0.52	0.48	0.46
MnO	-0.04	0.02	-0.11	-0.04	-0.02	-0.06	0.00	-0.02	-0.04	-0.03	-0.06	-0.04	-0.03	-0.02	-0.04	-0.04	0.05	0.03	0.00
MgO	0.02	0.03	0.02	0.04	0.03	0.06	0.05	0.04	0.04	0.03	0.01	0.00	0.00	0.01	0.02	0.00	0.05	0.06	0.04
CaO	7.82	6.78	7.59	8.45	7.28	7.49	9.36	7.72	7.25	9.86	7.93	7.55	7.96	6.51	9.93	8.04	7.67	7.26	7.83
BaO	0.18	0.02	-0.01	-0.09	-0.03	0.16	0.01	0.01	-0.04	-0.10	-0.05	-0.01	0.07	0.02	0.14	0.16	0.21	0.09	0.07
Na_2O	6.94	7.56	7.14	6.84	7.38	7.19	6.55	7.22	7.47	6.04	7.08	7.32	7.22	7.91	6.08	7.02	7.20	7.14	6.92
K_2O	0.50	0.62	0.47	0.51	0.72	0.65	0.36	0.46	0.58	0.24	0.37	0.56	0.45	0.74	0.61	0.43	0.60	0.45	0.37
sum	101.33	101.39	102.32	101.93	101.75	102.28	101.27	101.77	101.44	100.99	101.04	100.82	103.31	100.79	102.10	102.37	101.89	101.43	101.49
mol%An	37.3	32.0	36.0	39.4	33.9	35.2	43.3	36.2	33.8	46.8	37.4	35.2	36.9	30.0	45.9	37.8	35.8	35.0	37.6
mol%Ab	59.9	64.5	61.3	57.7	62.2	61.2	54.8	61.3	63.0	51.9	60.5	61.7	60.6	66.0	50.8	59.8	60.9	62.4	60.2
mol%Or	2.8	3.5	2.7	2.8	4.0	3.7	2.0	2.6	3.2	1.4	2.1	3.1	2.5	4.0	3.4	2.4	3.3	2.6	2.1

Table B.12.57 (cntd): XAL-106 Plagioclase Microlites

Microlite #	267	268	269	270	271	272	273
SiO_2	59.96	57.93	60.37	59.28	57.45	58.77	59.82
TiO_2	0.03	0.06	0.02	0.07	0.05	0.07	0.07
Al_2O_3	25.72	25.15	24.74	26.11	26.96	26.74	25.70
Fe_2O_3	0.58	0.71	0.51	0.44	0.48	0.43	0.61
MnO	-0.05	-0.04	-0.04	0.04	-0.01	0.00	0.03
MgO	0.05	0.31	0.02	0.03	0.04	0.04	0.01
CaO	6.77	7.76	6.93	8.06	8.92	8.50	7.16
BaO	-0.10	0.27	0.17	-0.01	-0.03	-0.05	0.12
Na_2O	7.30	6.82	7.56	7.00	6.49	6.77	7.26
K_2O	0.55	0.46	0.76	0.42	0.33	0.44	0.76
sum	100.81	99.43	101.02	101.44	100.68	101.72	101.54
mol%An	32.8	37.6	32.2	37.9	42.4	39.9	33.8
mol%Ab	64.0	59.8	63.6	59.7	55.8	57.6	61.9
mol%Or	3.2	2.7	4.2	2.3	1.9	2.5	4.3

Table B.13.1: TEQ-66, Plagioclase grain 1

Dist (µm)	0.0	30.0	45.0	75.0	104.9	119.9	149.9	179.9	194.9	209.9	224.9
SiO_2	56.73	56.62	55.80	56.66	56.28	56.97	56.46	57.07	56.45	57.06	56.23
TiO_2	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.05	0.06	0.03
Al_2O_3	26.83	26.95	26.52	26.72	26.57	26.66	26.83	26.63	26.81	26.58	26.49
Fe_2O_3	0.62	0.61	0.65	0.68	0.68	0.76	0.63	0.55	0.59	0.52	0.53
MnO	-0.02	0.01	-0.02	0.01	-0.02	0.02	-0.01	-0.01	-0.01	0.02	0.00
MgO	0.06	0.06	0.07	0.06	0.11	0.07	0.07	0.06	0.06	0.06	0.06
CaO	8.93	9.24	9.22	9.04	9.19	9.04	9.08	8.75	9.14	8.67	9.20
BaO	0.07	0.00	0.02	0.03	0.08	0.00	0.04	0.02	-0.04	0.07	-0.03
Na_2O	5.89	5.87	5.60	5.95	5.84	5.87	5.89	6.15	5.82	6.05	6.04
K_2O	0.44	0.41	0.40	0.46	0.40	0.41	0.41	0.43	0.41	0.46	0.46
sum	99.67	99.82	98.33	99.73	99.31	99.87	99.50	99.73	99.39	99.55	99.35
mol%An	44.4	45.4	46.5	44.4	45.4	44.9	44.9	42.9	45.3	43.0	44.5
mol%Ab	53.0	52.2	51.1	52.9	52.2	52.7	52.7	54.6	52.3	54.3	52.9
mol%Or	2.6	2.4	2.4	2.7	2.4	2.5	2.4	2.5	2.4	2.7	2.6

Table B.13.2: TEQ-66, Plagioclase grain 2

Dist (µm)	0.0	30.4	60.8	91.2	121.6	152.0	182.4	212.8	243.2	273.5	303.9	334.3	364.7
SiO_2	58.02	56.37	54.58	56.94	56.63	56.69	57.04	56.60	56.71	56.46	55.58	55.79	56.22
TiO_2	0.05	0.05	0.05	0.03	0.05	0.03	0.06	0.05	0.06	0.07	0.05	0.05	0.03
Al_2O_3	25.38	27.29	25.75	26.79	26.78	26.94	27.06	26.71	26.83	26.58	27.10	27.21	24.77
Fe_2O_3	0.55	0.51	0.53	0.53	0.55	0.54	0.52	0.61	0.54	0.55	0.50	0.53	0.56
MnO	0.01	0.01	0.01	-0.02	0.02	0.01	0.02	-0.01	0.01	0.00	0.01	0.03	0.00
MgO	0.04	0.07	0.06	0.07	0.07	0.06	0.07	0.06	0.07	0.07	0.05	0.05	0.09
CaO	7.61	9.41	8.96	9.07	9.20	9.18	8.93	9.05	9.01	8.86	9.35	9.45	7.31
BaO	0.07	0.04	0.09	0.06	0.08	0.02	0.09	0.04	0.11	0.07	0.02	-0.03	0.09
Na_2O	6.54	5.74	5.62	5.92	5.84	5.87	5.96	5.93	5.94	5.99	5.67	5.71	6.22
K_2O	0.58	0.41	0.41	0.41	0.42	0.44	0.41	0.41	0.42	0.41	0.41	0.37	0.58
sum	98.86	99.91	96.05	99.81	99.67	99.79	100.16	99.47	99.78	99.09	98.75	99.20	95.92
mol%An	37.8	46.4	45.7	44.7	45.4	45.2	44.2	44.6	44.5	43.9	46.5	46.7	38.0
mol%Ab	58.8	51.2	51.8	52.9	52.1	52.3	53.4	52.9	53.0	53.7	51.0	51.1	58.4
mol%Or	3.4	2.4	2.5	2.4	2.5	2.6	2.4	2.4	2.5	2.4	2.4	2.2	3.6

Table B.13.3: TEQ-66, Plagioclase grain 3

Dist (µm)	0.0	15.3	30.6	46.0	61.3	76.6	91.9	107.2	122.6	137.9	153.2	168.5	183.9	199.2	214.5	229.8	245.1	260.5	275.8
SiO_2	54.81	57.83	58.82	58.60	58.90	58.57	58.48	59.10	58.24	58.75	58.95	59.06	58.07	58.35	57.97	57.95	57.93	58.03	58.11
TiO_2	0.02	0.01	0.04	0.04	0.03	0.03	0.02	0.05	0.04	0.04	0.03	0.03	0.01	0.04	0.04	0.03	0.02	0.03	0.03
Al_2O_3	24.49	26.21	25.79	25.96	25.64	25.92	25.89	25.76	25.66	25.75	25.54	25.33	25.66	25.89	25.94	26.05	26.16	26.04	26.18
Fe_2O_3	0.36	0.40	0.37	0.33	0.34	0.35	0.43	0.39	0.44	0.42	0.43	0.40	0.37	0.42	0.42	0.35	0.38	0.39	0.40
MnO	0.03	-0.03	-0.01	0.00	0.04	0.03	0.05	-0.01	0.00	0.01	0.02	-0.01	0.03	0.00	0.04	0.02	0.02	0.00	0.02
MgO	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.05	0.03	0.03	0.03	0.02	0.03	0.03	0.04
CaO	7.60	7.89	7.54	7.48	7.56	7.82	7.44	7.43	7.38	7.45	7.13	7.09	7.40	7.73	7.68	7.71	7.80	7.88	8.10
BaO	0.06	0.12	0.10	-0.05	0.09	0.10	0.05	0.07	0.13	0.11	0.11	0.15	0.12	0.06	0.03	0.10	0.01	0.08	0.00
Na_2O	6.00	6.64	6.74	6.85	6.82	6.65	6.74	6.80	6.79	6.71	6.87	6.92	6.81	6.72	6.64	6.66	6.64	6.59	6.53
K_2O	0.46	0.52	0.54	0.55	0.52	0.51	0.48	0.52	0.54	0.54	0.54	0.56	0.55	0.53	0.52	0.52	0.48	0.48	0.51
sum	93.87	99.66	99.97	99.84	99.98	100.02	99.64	100.15	99.24	99.82	99.71	99.57	99.07	99.78	99.31	99.44	99.48	99.57	99.94
mol%An	40.0	38.4	37.0	36.4	36.8	38.2	36.8	36.5	36.3	36.8	35.3	35.0	36.3	37.7	37.8	37.8	38.3	38.7	39.5
mol%Ab	57.1	58.5	59.8	60.4	60.1	58.8	60.3	60.4	60.5	60.0	61.5	61.8	60.5	59.3	59.1	59.1	58.9	58.5	57.6
mol%Or	2.9	3.0	3.2	3.2	3.0	3.0	2.9	3.1	3.1	3.2	3.2	3.3	3.2	3.1	3.1	3.1	2.8	2.8	2.9

Table B.13.4: TEQ-66, Plagioclase grain 4

Dist (µm)	0.0	29.9	59.8	119.6	149.5	179.3	209.2	239.1	298.9	328.8	358.7	388.6	418.5	448.4	478.3	508.1	538.0	597.8	627.7
SiO_2	55.91	58.29	57.90	54.35	54.80	55.12	55.37	55.47	54.05	57.03	54.71	54.51	55.20	55.94	54.89	54.57	55.27	55.21	56.24
TiO_2	0.05	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.05	0.16	0.06	0.06	0.04	0.02	0.04	0.02	0.04	0.03	0.03
Al_2O_3	27.73	25.82	26.15	28.53	28.30	27.69	27.65	27.65	28.36	25.95	28.20	28.30	27.91	26.97	28.04	28.22	27.78	27.83	27.35
Fe_2O_3	0.57	0.44	0.48	0.58	0.56	0.56	0.55	0.53	0.58	0.75	0.57	0.59	0.62	0.53	0.56	0.59	0.62	0.50	0.50
MnO	-0.01	-0.02	-0.01	0.04	-0.02	-0.02	0.01	-0.03	0.03	0.02	-0.01	0.04	0.00	-0.01	-0.03	-0.01	-0.02	0.01	-0.03
MgO	0.08	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.10	0.07	0.09	0.07	0.07	0.07	0.07	0.08	0.06	0.07
CaO	9.87	8.16	8.18	10.76	10.71	10.16	9.98	9.96	10.78	8.84	10.43	10.47	10.00	9.30	10.25	10.38	10.04	9.83	9.61
BaO	-0.01	0.01	0.01	0.07	0.01	-0.01	0.02	0.01	0.09	0.02	-0.03	0.04	0.08	-0.03	0.03	0.08	0.05	0.06	-0.03
Na_2O	5.58	6.47	6.42	5.04	5.09	5.41	5.52	5.49	5.02	5.24	5.22	5.12	5.53	5.77	5.32	5.15	5.41	5.45	5.70
K_2O	0.39	0.54	0.55	0.32	0.30	0.34	0.36	0.35	0.31	0.79	0.33	0.33	0.38	0.42	0.35	0.33	0.39	0.36	0.44
sum	100.18	99.83	99.79	99.80	99.87	99.40	99.59	99.57	99.35	98.96	99.59	99.55	99.83	99.04	99.59	99.46	99.67	99.35	99.94
mol%An	48.3	39.8	40.0	53.1	52.8	49.9	48.9	49.0	53.3	45.9	51.4	52.0	48.9	46.0	50.5	51.7	49.5	48.8	47.0
mol%Ab	49.4	57.1	56.8	45.0	45.4	48.1	49.0	48.9	44.9	49.2	46.6	46.0	48.9	51.6	47.4	46.4	48.2	49.1	50.5
mol%Or	2.2	3.1	3.2	1.9	1.8	2.0	2.1	2.1	1.8	4.9	1.9	1.9	2.2	2.4	2.0	1.9	2.3	2.1	2.5

Table B.13.5: TEQ-66, Plagioclase grain 5

Dist (µm)	0.0	29.7	59.5	89.2	119.0	148.7	178.5	208.2	238.0	267.7	297.5	327.2	357.0	386.7	416.5
SiO_2	58.83	56.78	57.34	57.15	57.16	56.78	56.92	56.75	56.22	56.74	56.60	56.83	57.10	56.86	54.06
TiO_2	0.05	0.03	0.03	0.04	0.03	0.04	0.05	0.04	0.05	0.04	0.02	0.04	0.03	0.03	0.05
Al_2O_3	26.06	26.97	26.84	26.92	26.55	27.06	27.06	27.21	27.03	26.87	26.99	27.02	26.90	26.65	28.15
Fe_2O_3	0.49	0.43	0.47	0.51	0.51	0.56	0.52	0.54	0.52	0.49	0.52	0.51	0.47	0.48	0.60
MnO	0.01	0.03	0.01	0.01	0.00	0.03	0.02	0.01	0.00	-0.01	0.03	0.01	-0.01	-0.01	0.03
MgO	0.05	0.05	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.06	0.07	0.07	0.07
CaO	8.01	9.01	8.84	8.97	9.07	9.00	9.23	9.46	9.47	9.17	9.23	9.05	9.11	8.91	10.96
BaO	0.07	0.03	-0.02	0.03	0.05	0.03	0.08	0.03	0.05	0.12	0.00	0.08	0.09	0.12	-0.01
Na_2O	6.51	6.04	6.10	6.01	5.93	5.99	5.86	5.78	5.82	5.96	5.92	6.01	5.96	6.03	4.93
K_2O	0.55	0.44	0.44	0.46	0.45	0.43	0.42	0.39	0.41	0.44	0.41	0.42	0.46	0.42	0.29
sum	100.65	99.81	100.18	100.14	99.82	99.98	100.24	100.30	99.65	99.88	99.80	100.07	100.18	99.58	99.14
mol%An	39.2	44.0	43.3	44.0	44.6	44.2	45.4	46.4	46.2	44.8	45.2	44.3	44.6	43.8	54.2
mol%Ab	57.6	53.4	54.1	53.3	52.8	53.3	52.1	51.3	51.4	52.7	52.5	53.2	52.8	53.7	44.1
mol%Or	3.2	2.6	2.6	2.7	2.6	2.5	2.4	2.3	2.4	2.6	2.4	2.5	2.7	2.5	1.7

Table B.13.6: TEQ-66, Plagioclase grain 6

Dist (µm)	0.0	59.3	118.5	177.8	237.0	296.3	355.5	414.8	474.0	533.3	592.5	651.8	711.0	770.3	829.5	888.8	948.0	1007.3	1066.5
SiO_2	56.20	56.24	55.80	57.40	55.48	54.98	55.89	56.43	55.09	54.03	55.77	55.03	55.84	56.98	56.10	55.55	55.53	54.59	55.45
TiO_2	0.06	0.04	0.04	0.05	0.03	0.03	0.04	0.05	0.04	0.05	0.06	0.04	0.03	0.06	0.04	0.03	0.04	0.05	0.05
Al_2O_3	27.49	27.51	27.48	26.83	27.64	28.36	27.25	27.15	28.01	28.22	27.08	27.61	27.40	26.66	27.32	27.77	27.62	28.07	27.33
Fe_2O_3	0.82	0.63	0.63	0.55	0.54	0.62	0.52	0.48	0.61	0.63	0.58	0.52	0.56	0.54	0.59	0.59	0.55	0.64	0.65
MnO	0.00	0.00	0.03	0.02	0.04	0.00	0.03	0.01	0.00	-0.02	0.01	-0.02	-0.01	0.02	0.02	0.01	0.01	0.04	0.03
MgO	0.08	0.07	0.07	0.06	0.07	0.07	0.05	0.06	0.07	0.09	0.07	0.07	0.06	0.07	0.06	0.06	0.07	0.08	0.07
CaO	9.83	9.72	9.92	9.13	9.70	10.51	9.50	9.26	10.38	10.84	9.55	10.02	9.62	8.89	9.79	10.10	9.89	10.50	9.55
BaO	0.08	0.01	0.06	0.03	0.09	0.02	0.08	0.00	-0.01	0.05	0.00	0.08	0.07	0.03	0.03	0.02	-0.07	0.03	0.05
Na_2O	5.62	5.58	5.61	6.04	5.60	5.16	5.66	5.89	5.28	5.03	5.74	5.47	5.70	6.06	5.57	5.47	5.46	5.20	5.58
K_2O	0.41	0.39	0.40	0.43	0.37	0.33	0.41	0.41	0.33	0.31	0.41	0.37	0.39	0.46	0.35	0.35	0.39	0.34	0.37
sum	100.61	100.20	100.07	100.54	99.56	100.09	99.44	99.76	99.81	99.25	99.30	99.23	99.70	99.76	99.89	99.97	99.59	99.61	99.20
mol%An	48.0	47.9	48.3	44.4	47.9	51.9	47.0	45.4	51.1	53.4	46.8	49.2	47.2	43.6	48.3	49.5	48.9	51.7	47.6
mol%Ab	49.7	49.8	49.4	53.1	50.0	46.2	50.6	52.3	47.0	44.8	50.8	48.6	50.6	53.7	49.7	48.5	48.8	46.3	50.2
mol%Or	2.4	2.3	2.3	2.5	2.1	1.9	2.4	2.4	1.9	1.8	2.4	2.2	2.2	2.7	2.0	2.1	2.3	2.0	2.2

Table B.13.7: TEQ-66, Plagioclase grain 7

Dist (µm)	14.9	29.8	44.7	59.6	74.5	89.4	104.3	119.2	134.1	149.0	163.8	178.7	193.6	208.5	223.4	238.3	253.2
SiO_2	58.28	58.29	58.40	58.10	56.28	55.77	55.90	56.34	56.38	56.51	56.62	56.68	56.89	57.16	57.20	58.12	58.53
TiO_2	0.04	0.05	0.06	0.03	0.04	0.05	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.06	0.03	0.05
Al_2O_3	25.97	25.53	25.90	25.76	27.30	27.24	27.23	26.94	27.09	26.89	26.94	26.97	26.82	26.70	26.72	25.91	25.63
Fe_2O_3	0.56	0.63	0.65	0.62	0.57	0.58	0.56	0.57	0.53	0.56	0.55	0.51	0.52	0.58	0.57	0.58	0.63
MnO	-0.03	-0.01	-0.03	0.01	0.02	0.03	-0.01	0.01	-0.02	-0.01	-0.02	-0.03	0.03	0.00	0.05	0.00	0.01
MgO	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.07	0.06	0.06	0.05	0.05	0.05	0.06	0.06	0.06	0.07
CaO	7.91	7.57	7.72	8.05	9.35	9.50	9.46	9.36	9.34	9.26	9.26	9.29	9.04	8.85	9.07	8.07	7.86
BaO	0.03	0.05	0.04	0.05	0.07	0.09	-0.03	0.05	0.02	0.00	0.06	0.03	0.10	0.09	-0.02	0.03	0.10
Na_2O	6.51	6.58	6.63	6.42	5.80	5.68	5.76	5.87	5.81	5.90	5.91	5.91	5.95	6.05	6.04	6.47	6.65
K_2O	0.61	0.66	0.64	0.62	0.43	0.44	0.42	0.48	0.42	0.41	0.47	0.46	0.50	0.50	0.49	0.58	0.64
sum	99.99	99.43	100.10	99.72	99.96	99.42	99.46	99.74	99.73	99.66	99.92	99.97	99.95	100.04	100.26	99.86	100.19
mol%An	38.7	37.3	37.7	39.5	45.9	46.8	46.4	45.6	45.9	45.3	45.1	45.2	44.3	43.4	44.0	39.4	38.0
mol%Ab	57.7	58.8	58.6	56.9	51.6	50.6	51.1	51.7	51.6	52.3	52.2	52.1	52.8	53.7	53.1	57.2	58.3
mol%Or	3.6	3.9	3.7	3.6	2.5	2.6	2.5	2.8	2.5	2.4	2.7	2.7	2.9	2.9	2.8	3.3	3.7

Table B.13.8: TEQ-66, Plagioclase grain 8

Dist (µm)	0.0	29.3	58.6	87.8	117.1	146.4	175.7	205.0	234.2	263.5	292.8	322.1	351.4	380.7	409.9	439.2	468.5	497.8
SiO_2	54.38	54.63	54.95	55.00	54.37	55.58	55.09	55.27	54.87	55.29	55.25	54.94	55.05	55.41	55.81	55.43	55.50	57.56
TiO_2	0.05	0.04	0.06	0.04	0.03	0.05	0.06	0.06	0.06	0.05	0.06	0.04	0.05	0.05	0.04	0.06	0.04	0.02
Al_2O_3	27.74	27.43	28.01	28.10	27.51	27.57	27.72	27.50	27.77	28.05	27.92	27.82	27.86	27.75	27.75	28.12	27.82	26.30
Fe_2O_3	0.64	0.54	0.59	0.60	0.58	0.59	0.60	0.63	0.64	0.63	0.57	0.57	0.59	0.52	0.57	0.54	0.56	0.44
MnO	0.05	-0.02	0.00	0.00	0.01	0.01	-0.03	0.00	0.02	-0.01	0.03	-0.01	0.00	0.01	0.00	-0.02	-0.01	0.04
MgO	0.07	0.07	0.06	0.07	0.07	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.07	0.07	0.06	0.07	0.07	0.06
CaO	10.10	10.12	10.60	10.53	10.38	10.09	10.10	10.04	10.38	10.26	10.38	10.22	10.21	10.22	9.81	10.38	10.18	8.33
BaO	0.06	0.02	0.09	0.08	-0.01	0.05	0.06	-0.01	0.03	0.03	0.02	0.06	0.06	0.05	0.02	0.06	0.08	-0.01
Na_2O	5.20	5.26	5.19	5.20	5.17	5.50	5.46	5.44	5.35	5.26	5.38	5.38	5.32	5.41	5.62	5.30	5.30	6.29
K_2O	0.33	0.34	0.35	0.33	0.32	0.35	0.38	0.38	0.32	0.33	0.34	0.32	0.34	0.33	0.39	0.34	0.30	0.43
sum	98.67	98.51	99.91	100.02	98.45	99.91	99.57	99.42	99.54	100.01	100.03	99.42	99.56	99.85	100.10	100.31	99.88	99.49
mol%An	50.7	50.5	51.9	51.8	51.6	49.3	49.4	49.4	50.8	50.9	50.6	50.3	50.4	50.1	48.0	50.9	50.6	41.2
mol%Ab	47.3	47.5	46.0	46.3	46.5	48.6	48.4	48.4	47.4	47.2	47.4	47.9	47.6	48.0	49.7	47.1	47.6	56.3
mol%Or	2.0	2.0	2.1	1.9	1.9	2.1	2.2	2.2	1.8	1.9	2.0	1.9	2.0	1.9	2.3	2.0	1.8	2.5

Table B.13.9: TEQ-66, Plagioclase grain 9

Dist (µm)	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0	135.0	150.0	165.0	180.0	195.0	210.0
SiO_2	57.17	57.67	58.03	58.14	58.42	58.10	58.12	58.21	58.16	58.63	58.61	58.75	56.24	57.33
TiO_2	0.05	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.04	0.03
Al_2O_3	26.91	26.05	26.20	25.99	26.20	25.94	25.95	26.05	26.07	25.95	25.77	25.66	27.69	26.56
Fe_2O_3	0.61	0.55	0.61	0.62	0.57	0.58	0.58	0.57	0.58	0.55	0.60	0.53	0.58	0.62
MnO	-0.01	0.00	0.00	0.02	0.01	0.02	0.01	0.01	0.03	0.05	-0.01	0.01	-0.01	0.00
MgO	0.06	0.06	0.06	0.06	0.06	0.05	0.06	0.05	0.07	0.05	0.06	0.05	0.05	0.08
CaO	8.85	8.28	8.28	8.15	8.10	8.20	8.16	8.28	8.13	8.01	7.86	7.60	9.44	8.63
BaO	0.06	0.05	0.10	0.02	-0.01	0.07	0.12	0.11	0.05	-0.01	0.05	0.09	0.02	0.14
Na_2O	6.03	6.42	6.43	6.48	6.54	6.48	6.46	6.51	6.56	6.49	6.59	6.71	5.72	6.21
K_2O	0.46	0.54	0.51	0.55	0.53	0.55	0.53	0.53	0.52	0.55	0.56	0.58	0.42	0.46
sum	100.19	99.65	100.25	100.09	100.52	100.03	100.06	100.41	100.25	100.33	100.15	100.05	100.25	100.09
mol%An	43.6	40.3	40.3	39.7	39.4	39.8	39.8	40.0	39.4	39.3	38.4	37.2	46.5	42.3
mol%Ab	53.7	56.6	56.7	57.1	57.5	57.0	57.1	56.9	57.6	57.5	58.3	59.4	51.0	55.1
mol%Or	2.7	3.1	3.0	3.2	3.1	3.2	3.1	3.1	3.0	3.2	3.2	3.4	2.5	2.7

Table B.13.10: TEQ-66, Plagioclase grain 10

Dist (µm)	0.0	60.2	120.4	180.7	240.9	301.1	361.3	421.6	481.8	542.0	602.2
SiO_2	56.97	55.30	55.64	55.62	55.09	55.51	54.32	54.99	54.48	54.43	54.74
TiO_2	0.04	0.06	0.06	0.06	0.07	0.06	0.04	0.06	0.08	0.04	0.06
Al_2O_3	26.67	27.83	27.78	27.70	26.91	27.37	27.91	27.82	27.59	27.73	27.86
Fe_2O_3	0.69	0.63	0.58	0.62	0.61	0.64	0.65	0.57	0.60	0.59	0.55
MnO	0.00	-0.01	0.00	0.01	-0.02	0.01	-0.01	0.00	-0.01	0.00	0.03
MgO	0.07	0.07	0.06	0.08	0.08	0.08	0.07	0.07	0.08	0.07	0.08
CaO	9.05	10.19	9.79	9.73	9.55	9.82	10.14	10.01	9.95	9.66	9.90
BaO	-0.02	0.06	0.04	0.08	-0.03	0.02	0.05	0.04	0.09	-0.01	0.10
Na_2O	6.04	5.40	5.58	5.53	5.51	5.48	5.27	5.31	5.42	5.60	5.38
K_2O	0.43	0.32	0.32	0.30	0.34	0.32	0.32	0.33	0.31	0.35	0.31
sum	100.02	99.88	99.87	99.77	98.24	99.33	98.80	99.19	98.61	98.50	99.02
mol%An	44.2	50.1	48.3	48.4	47.9	48.8	50.5	50.0	49.4	47.8	49.5
mol%Ab	53.3	48.0	49.8	49.8	50.0	49.3	47.5	48.0	48.7	50.2	48.7
mol%Or	2.5	1.9	1.9	1.8	2.1	1.9	1.9	2.0	1.8	2.0	1.9

Table B.13.11: TEQ-66, Plagioclase grain 11

Dist (µm)	30.0	60.1	90.1	120.1	180.2	210.2	240.3	300.3	330.4	360.4	390.4	420.4	450.5	480.5	510.5	540.6	570.6	600.6	630.7
SiO_2	55.94	58.18	57.67	57.34	57.26	57.84	55.77	57.83	58.02	58.17	58.43	57.85	58.24	58.31	57.37	58.08	57.11	57.79	59.41
TiO_2	0.05	0.04	0.05	0.04	0.04	0.19	0.04	0.03	0.03	0.04	0.05	0.06	0.04	0.05	0.04	0.05	0.05	0.05	0.04
Al_2O_3	24.26	26.01	26.23	26.29	25.95	24.92	25.30	26.09	25.87	25.97	26.15	25.98	26.08	26.17	26.32	25.94	26.60	26.02	25.33
Fe_2O_3	2.14	0.61	0.58	0.50	0.54	0.90	0.55	0.59	0.55	0.56	0.52	0.55	0.57	0.53	0.57	0.53	0.59	0.61	0.59
MnO	0.08	0.00	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.03	0.00	0.01	0.03	-0.02	0.01	0.00	-0.03	0.02	0.02
MgO	1.27	0.05	0.06	0.05	0.05	0.08	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.06	0.05	0.05	0.05	0.07	0.04
CaO	7.96	8.10	8.66	8.48	8.32	8.31	7.90	8.19	8.32	8.24	8.14	8.16	8.09	8.05	8.56	8.08	9.01	8.44	7.23
BaO	0.00	0.01	0.06	0.05	0.12	-0.03	0.05	0.09	0.05	0.03	0.10	0.03	0.00	-0.01	0.04	0.01	-0.02	0.05	0.19
Na_2O	5.78	6.45	6.19	6.30	6.34	6.19	5.99	6.43	6.41	6.34	6.49	6.39	6.42	6.45	6.19	6.44	6.17	6.20	6.88
K_2O	0.47	0.57	0.55	0.56	0.52	0.76	0.50	0.55	0.55	0.58	0.54	0.51	0.56	0.55	0.51	0.55	0.45	0.57	0.68
sum	97.98	100.03	100.10	99.61	99.20	99.85	96.20	99.90	99.89	100.03	100.50	99.62	100.12	100.20	99.66	99.76	100.02	99.82	100.46
mol%An	41.9	39.6	42.2	41.3	40.8	40.7	40.9	40.0	40.4	40.4	39.7	40.1	39.7	39.5	42.0	39.6	43.5	41.5	35.3
mol%Ab	55.1	57.1	54.6	55.5	56.2	54.9	56.0	56.8	56.4	56.2	57.2	56.9	57.0	57.3	55.0	57.2	53.9	55.2	60.7
mol%Or	3.0	3.3	3.2	3.2	3.0	4.4	3.1	3.2	3.2	3.4	3.1	3.0	3.3	3.2	3.0	3.2	2.6	3.3	4.0

Table B.13.12: TEQ-66, Plagioclase grain 12

Dist (µm)	0.0	57.4	114.8	172.3	229.7	287.1	344.5	401.9	459.3	516.8	574.2	631.6	689.0	746.4
SiO_2	56.35	56.74	57.19	56.68	57.04	57.02	57.28	56.77	57.53	56.24	56.41	56.40	56.39	57.91
TiO_2	0.06	0.04	0.05	0.05	0.05	0.05	0.04	0.05	0.06	0.05	0.05	0.05	0.04	0.06
Al_2O_3	27.01	27.01	26.89	26.78	26.57	26.63	26.62	26.55	26.59	26.74	27.10	27.13	27.26	26.09
Fe_2O_3	0.69	0.53	0.50	0.49	0.53	0.52	0.52	0.59	0.50	0.55	0.53	0.51	0.47	0.64
MnO	0.00	0.01	-0.01	-0.01	-0.02	0.00	0.02	0.02	-0.02	0.01	0.04	0.00	-0.03	0.01
MgO	0.08	0.04	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.05	0.06	0.06	0.05	0.07
CaO	9.53	9.18	9.01	8.87	8.70	8.94	8.94	8.72	8.69	9.08	9.37	9.23	9.53	8.15
BaO	0.07	0.09	0.08	0.04	0.04	0.06	0.08	0.06	0.01	0.06	0.05	0.06	-0.02	0.02
Na_2O	5.68	5.98	6.11	6.03	6.14	6.08	6.09	6.07	6.28	5.98	5.83	5.85	5.76	6.31
K_2O	0.38	0.41	0.41	0.41	0.41	0.40	0.44	0.41	0.42	0.40	0.37	0.34	0.37	0.48
sum	99.90	100.03	100.31	99.42	99.55	99.77	100.09	99.35	100.21	99.18	99.85	99.65	99.89	99.75
mol%An	47.0	44.8	43.8	43.7	42.9	43.8	43.7	43.2	42.3	44.5	46.0	45.6	46.7	40.5
mol%Ab	50.7	52.8	53.8	53.8	54.7	53.9	53.8	54.4	55.3	53.1	51.8	52.4	51.1	56.7
mol%Or	2.2	2.4	2.4	2.4	2.4	2.3	2.6	2.4	2.5	2.3	2.2	2.0	2.2	2.8

Table B.13.13: TEQ-66, Plagioclase grain 13

Dist (µm)	0.0	60.2	120.5	180.7	240.9	301.1	361.4	421.6	481.8	542.1	602.3	662.5	722.7	783.0	843.2
SiO_2	57.50	57.47	58.23	58.10	58.42	58.19	57.99	57.60	57.91	58.31	58.21	58.14	57.27	57.79	55.95
TiO_2	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.03	0.04
Al_2O_3	26.60	26.28	25.99	25.78	26.13	25.80	25.87	26.33	25.89	25.68	25.94	26.07	26.27	26.26	26.86
Fe_2O_3	0.48	0.42	0.41	0.37	0.41	0.38	0.44	0.39	0.38	0.41	0.41	0.40	0.44	0.35	0.41
MnO	0.01	-0.01	0.00	-0.01	0.00	0.01	0.00	0.01	-0.01	0.01	-0.02	0.02	0.00	-0.01	0.02
MgO	0.04	0.04	0.03	0.04	0.04	0.04	0.05	0.04	0.04	0.03	0.03	0.04	0.04	0.03	0.04
CaO	8.44	8.27	7.83	7.90	7.72	7.72	7.60	8.09	7.74	7.42	7.54	7.78	8.17	7.85	8.55
BaO	0.04	0.05	0.09	0.04	0.16	0.08	0.10	0.08	0.10	0.15	0.09	-0.04	0.10	0.11	0.05
Na_2O	6.17	6.42	6.66	6.61	6.66	6.73	6.70	6.39	6.63	6.75	6.66	6.61	6.49	6.54	6.23
K_2O	0.48	0.46	0.49	0.51	0.48	0.49	0.54	0.50	0.53	0.52	0.50	0.48	0.45	0.45	0.46
sum	99.80	99.44	99.80	99.42	100.08	99.46	99.33	99.47	99.25	99.33	99.42	99.61	99.29	99.41	98.61
mol%An	41.8	40.5	38.3	38.6	37.9	37.7	37.3	39.9	38.0	36.7	37.4	38.3	40.0	38.8	42.0
mol%Ab	55.3	56.9	58.9	58.4	59.3	59.4	59.6	57.1	58.9	60.3	59.7	58.9	57.4	58.5	55.4
mol%Or	2.8	2.7	2.8	3.0	2.8	2.9	3.1	3.0	3.1	3.0	2.9	2.8	2.6	2.6	2.7

Table B.13.14: TEQ-66, Plagioclase grain 14

Dist (µm)	0.0	30.4	60.7	91.1	121.4	151.8	182.2	212.5	242.9	273.3	303.6	334.0	364.3	394.7
SiO_2	58.83	57.97	57.90	58.37	58.47	56.96	58.41	58.47	58.36	58.78	58.27	58.81	58.23	58.32
TiO_2	0.05	0.03	0.06	0.06	0.06	0.03	0.04	0.07	0.06	0.07	0.05	0.04	0.04	0.05
Al_2O_3	25.93	26.21	25.86	25.75	25.71	26.56	25.83	25.82	25.87	25.65	25.71	25.87	25.97	25.76
Fe_2O_3	0.52	0.42	0.46	0.40	0.38	0.43	0.40	0.38	0.39	0.40	0.38	0.42	0.38	0.43
MnO	0.02	0.05	0.01	0.00	0.00	0.00	-0.02	0.03	-0.01	-0.03	0.00	0.01	0.00	-0.02
MgO	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.06	0.03	0.04
CaO	7.77	8.14	7.77	7.61	7.37	8.52	7.53	7.47	7.50	7.36	7.50	7.56	7.76	7.67
BaO	0.10	0.04	0.11	0.03	0.10	0.11	0.06	0.06	0.14	0.16	0.14	0.05	0.11	0.05
Na_2O	6.63	6.45	6.55	6.75	6.83	6.24	6.71	6.68	6.73	6.70	6.76	6.75	6.56	6.66
K_2O	0.55	0.50	0.52	0.52	0.58	0.46	0.56	0.57	0.56	0.56	0.56	0.55	0.53	0.51
sum	100.48	99.87	99.29	99.55	99.57	99.38	99.63	99.61	99.67	99.76	99.46	100.14	99.62	99.52
mol%An	38.0	39.9	38.4	37.2	36.1	41.9	37.0	36.9	36.9	36.5	36.8	37.0	38.3	37.7
mol%Ab	58.8	57.2	58.6	59.8	60.5	55.4	59.7	59.7	59.8	60.1	60.0	59.8	58.6	59.3
mol%Or	3.2	2.9	3.1	3.0	3.4	2.7	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.0

Table B.13.15: TEQ-66, Plagioclase grain 15

Dist (µm)	0.0	29.2	58.3	87.5	116.7	145.9	175.0	204.2	233.4	262.6	291.7	320.9
SiO_2	59.28	56.35	56.59	56.45	56.65	56.63	56.23	56.41	56.80	56.42	56.47	58.74
TiO_2	0.03	0.04	0.05	0.07	0.05	0.04	0.06	0.04	0.03	0.04	0.04	0.03
Al_2O_3	25.10	26.89	27.04	27.08	27.19	27.07	27.08	26.75	26.76	26.74	26.86	25.74
Fe_2O_3	0.45	0.54	0.52	0.51	0.52	0.52	0.50	0.52	0.55	0.53	0.52	0.45
MnO	0.03	-0.01	0.01	0.00	0.01	-0.01	-0.01	0.02	-0.01	-0.03	0.00	-0.02
MgO	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.04
CaO	6.87	9.05	9.23	9.28	9.14	9.18	9.17	8.96	8.79	8.86	8.93	7.65
BaO	0.10	-0.01	-0.02	0.07	-0.01	0.05	0.07	-0.04	-0.04	0.05	0.05	0.07
Na_2O	7.03	5.89	5.95	5.92	5.85	5.97	5.91	5.95	6.13	6.18	6.08	6.64
K_2O	0.58	0.39	0.41	0.38	0.38	0.35	0.40	0.39	0.39	0.43	0.43	0.56
sum	99.54	99.26	99.85	99.83	99.87	99.88	99.50	99.12	99.50	99.32	99.43	99.95
mol%An	33.9	44.9	45.1	45.4	45.3	45.0	45.1	44.4	43.2	43.1	43.7	37.6
mol%Ab	62.7	52.8	52.5	52.4	52.4	53.0	52.6	53.3	54.5	54.4	53.8	59.1
mol%Or	3.4	2.3	2.4	2.2	2.3	2.0	2.4	2.3	2.3	2.5	2.5	3.3

Table B.13.16: TEQ-66, Plagioclase grain 16

Dist (µm)	29.8	44.8	59.7	74.6	89.5	134.3	149.2	164.2	179.1	194.0	208.9	268.6
SiO_2	59.61	57.71	57.53	57.59	58.62	58.03	58.64	58.36	57.40	57.32	58.67	58.02
TiO_2	0.09	0.06	0.03	0.06	0.07	0.04	0.05	0.04	0.04	0.04	0.07	0.03
Al_2O_3	24.99	26.26	26.48	26.13	25.89	26.25	25.85	25.74	26.37	26.89	25.33	26.20
Fe_2O_3	0.70	0.51	0.49	0.53	0.54	0.44	0.42	0.49	0.40	0.44	0.58	0.44
MnO	-0.05	0.02	0.00	0.03	0.02	0.01	0.02	0.01	-0.02	-0.01	0.01	0.00
MgO	0.10	0.04	0.05	0.05	0.05	0.02	0.06	0.04	0.05	0.04	0.06	0.05
CaO	7.79	8.52	8.43	8.37	8.21	8.02	7.58	7.74	8.51	8.84	8.28	8.06
BaO	-0.03	0.05	0.12	0.06	0.08	0.10	0.16	0.07	0.06	0.04	0.02	0.04
Na_2O	6.31	6.29	6.28	6.42	6.35	6.57	6.75	6.63	6.24	6.13	5.91	6.57
K_2O	0.73	0.47	0.46	0.45	0.53	0.50	0.51	0.56	0.45	0.45	0.81	0.49
sum	100.37	99.97	99.90	99.73	100.39	100.01	100.05	99.67	99.55	100.22	99.74	99.90
mol%An	38.8	41.6	41.5	40.8	40.4	39.1	37.2	37.9	41.8	43.2	41.5	39.3
mol%Ab	56.9	55.7	55.8	56.6	56.5	58.0	59.9	58.8	55.5	54.2	53.6	57.9
mol%Or	4.3	2.7	2.7	2.6	3.1	2.9	3.0	3.3	2.6	2.6	4.9	2.9

Table B.13.17: TEQ-66, Plagioclase grain 17

Dist (µm)	29.9	59.8	89.7	119.6	149.5	179.4	239.2	269.1	299.0	328.9	358.8	388.7	418.6	448.5	478.4	508.4	538.3	568.2	598.1
SiO_2	57.11	56.45	56.20	55.98	56.10	55.76	56.56	51.21	51.52	51.03	51.88	53.43	54.98	55.19	54.90	55.43	56.14	56.01	56.94
TiO_2	0.04	0.03	0.05	0.03	0.04	0.04	0.03	0.06	0.05	0.05	0.03	0.03	0.05	0.03	0.04	0.05	0.03	0.06	0.05
Al_2O_3	26.77	27.06	27.28	27.49	27.29	27.61	27.27	29.90	29.96	29.77	30.10	29.01	27.42	27.49	27.53	27.33	27.36	27.02	26.59
Fe_2O_3	0.58	0.59	0.67	0.61	0.66	0.63	0.59	0.74	0.80	0.68	0.70	0.63	0.60	0.66	0.60	0.60	0.59	0.56	0.55
MnO	0.02	-0.01	-0.02	0.00	-0.01	0.01	0.02	0.02	-0.02	0.03	0.00	0.01	-0.03	-0.02	0.01	0.01	0.02	0.00	0.00
MgO	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.08	0.04	0.09	0.07	0.06	0.07	0.07	0.07	0.07	0.05	0.06	0.06
CaO	8.93	9.12	9.46	9.62	9.56	9.64	9.13	12.63	12.58	12.31	12.57	11.41	9.42	9.73	9.73	9.34	9.18	8.86	8.54
BaO	0.02	0.03	0.01	0.03	-0.01	-0.04	0.00	0.04	0.04	-0.04	0.02	0.05	0.02	0.08	-0.05	-0.01	0.06	0.01	0.00
Na_2O	5.92	5.85	5.79	5.72	5.63	5.70	5.89	3.79	3.73	4.02	3.94	4.66	5.71	5.57	5.60	5.76	5.77	5.96	6.24
K_2O	0.48	0.46	0.46	0.44	0.39	0.39	0.44	0.19	0.77	0.22	0.19	0.26	0.36	0.41	0.43	0.41	0.41	0.44	0.50
sum	99.93	99.66	99.98	100.02	99.76	99.87	100.05	98.68	99.55	98.24	99.49	99.55	98.63	99.25	98.91	99.01	99.63	98.97	99.47
mol%An	44.2	45.0	46.2	46.9	47.3	47.2	44.9	64.0	62.2	62.0	63.1	56.6	46.7	47.9	47.8	46.1	45.7	43.9	41.8
mol%Ab	53.0	52.3	51.2	50.5	50.4	50.5	52.5	34.8	33.3	36.6	35.8	41.9	51.2	49.6	49.7	51.5	51.9	53.5	55.3
mol%Or	2.8	2.7	2.7	2.6	2.3	2.3	2.6	1.2	4.5	1.3	1.2	1.6	2.1	2.4	2.5	2.4	2.4	2.6	2.9

Table B.13.18: TEQ-66, Plagioclase grain 18

Dist (µm)	0.0	30.1	60.2	90.3	120.4	150.5	180.6	210.8	240.9	271.0	301.1
SiO_2	54.94	55.36	55.13	55.41	57.62	56.16	55.53	55.00	55.57	55.38	56.87
TiO_2	0.05	0.03	0.05	0.05	0.05	0.03	0.04	0.05	0.05	0.04	0.06
Al_2O_3	28.12	27.69	28.12	27.73	26.27	27.48	27.74	27.94	27.74	27.74	26.87
Fe_2O_3	0.64	0.57	0.62	0.53	0.51	0.56	0.55	0.59	0.56	0.55	0.59
MnO	0.03	0.00	0.01	-0.02	-0.01	0.00	-0.01	0.02	0.00	0.05	0.04
MgO	0.06	0.07	0.07	0.06	0.05	0.07	0.07	0.06	0.07	0.07	0.06
CaO	10.19	10.15	10.33	9.86	8.42	9.72	10.07	10.12	10.08	10.09	9.03
BaO	0.01	-0.01	0.04	0.04	0.06	0.16	0.03	0.03	-0.01	0.01	0.07
Na_2O	5.35	5.41	5.31	5.54	6.31	5.61	5.48	5.33	5.41	5.43	5.94
K_2O	0.33	0.36	0.31	0.40	0.48	0.40	0.37	0.33	0.35	0.34	0.47
sum	99.72	99.66	99.99	99.67	99.78	100.23	99.91	99.48	99.83	99.75	100.01
mol%An	50.3	49.8	50.9	48.4	41.3	47.8	49.3	50.2	49.7	49.7	44.4
mol%Ab	47.8	48.1	47.3	49.2	55.9	49.9	48.6	47.9	48.2	48.3	52.9
mol%Or	1.9	2.1	1.8	2.3	2.8	2.3	2.2	2.0	2.1	2.0	2.7

Table B.13.19: TEQ-66, Plagioclase grain 19

Dist (µm)	29.3	58.5	87.8	117.1	146.3	175.6	204.9	234.2	263.4	292.7	322.0	351.2	380.5
SiO_2	56.56	55.90	56.95	56.67	55.79	56.28	57.17	56.85	56.78	56.43	56.90	56.35	56.95
TiO_2	0.04	0.03	0.06	0.04	0.06	0.03	0.06	0.04	0.04	0.04	0.06	0.03	0.03
Al_2O_3	26.92	27.34	27.02	27.04	27.01	27.16	26.97	26.85	26.79	27.65	26.89	26.33	27.23
Fe_2O_3	0.53	0.51	0.47	0.48	0.47	0.51	0.51	0.52	0.50	0.49	0.47	0.49	0.46
MnO	-0.01	0.03	0.02	0.00	-0.01	0.01	-0.01	0.01	0.02	0.03	-0.01	0.00	-0.03
MgO	0.06	0.05	0.05	0.04	0.04	0.06	0.05	0.04	0.05	0.04	0.05	0.04	0.05
CaO	9.28	9.56	8.90	8.90	9.27	9.43	8.87	9.03	9.22	9.48	9.01	8.78	9.09
BaO	-0.01	0.06	0.14	0.07	0.04	0.01	0.07	-0.03	-0.01	0.04	0.08	0.08	0.05
Na_2O	5.95	5.74	6.09	6.08	5.92	5.74	6.09	6.10	6.00	5.88	6.04	5.97	5.99
K_2O	0.41	0.37	0.44	0.44	0.41	0.36	0.41	0.42	0.39	0.37	0.44	0.43	0.44
sum	99.77	99.60	100.19	99.76	99.01	99.58	100.22	99.86	99.82	100.47	99.93	98.51	100.31
mol%An	45.2	46.9	43.5	43.6	45.3	46.6	43.5	43.9	44.9	46.1	44.0	43.7	44.4
mol%Ab	52.5	51.0	53.9	53.9	52.4	51.3	54.1	53.7	52.8	51.8	53.4	53.8	53.0
mol%Or	2.4	2.1	2.6	2.5	2.4	2.1	2.4	2.4	2.3	2.2	2.5	2.5	2.6

Table B.13.20: TEQ-66, Plagioclase grain 20

Dist (µm)	0.0	15.0	29.9	44.9	59.9	74.9	89.8	104.8	119.8	134.7	149.7	164.7	179.7	194.6	209.6
SiO_2	54.15	54.07	54.79	55.17	54.84	54.43	54.10	54.72	54.26	53.51	54.14	55.20	54.57	54.01	55.28
TiO_2	0.05	0.04	0.04	0.07	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.04	0.05	0.06
Al_2O_3	28.80	28.34	28.29	27.80	28.26	28.27	28.46	28.05	28.58	28.36	28.57	27.79	27.98	28.17	27.48
Fe_2O_3	0.66	0.64	0.66	0.63	0.61	0.60	0.61	0.57	0.57	0.63	0.62	0.59	0.60	0.68	0.61
MnO	0.03	0.03	-0.01	0.02	0.01	0.00	0.00	-0.01	0.01	0.01	0.00	0.02	-0.01	-0.02	0.03
MgO	0.09	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.08	0.09	0.09	0.08	0.08	0.07
CaO	11.25	11.04	10.64	10.36	10.87	10.96	11.08	10.75	10.93	10.92	11.04	10.47	10.42	10.69	9.85
BaO	0.00	0.08	0.07	0.00	0.03	0.00	0.05	-0.02	0.07	0.05	0.06	0.02	0.02	0.00	0.01
Na_2O	4.79	4.91	5.08	5.25	5.07	4.96	4.92	5.19	5.01	4.92	4.92	5.25	5.16	5.09	5.51
K_2O	0.28	0.32	0.32	0.31	0.31	0.27	0.28	0.28	0.30	0.29	0.26	0.32	0.32	0.33	0.37
sum	100.11	99.54	99.97	99.72	100.16	99.66	99.63	99.68	99.90	98.86	99.74	99.82	99.18	99.14	99.29
mol%An	55.6	54.4	52.7	51.2	53.2	54.1	54.6	52.5	53.7	54.1	54.5	51.4	51.7	52.7	48.6
mol%Ab	42.8	43.8	45.5	46.9	45.0	44.3	43.8	45.8	44.5	44.1	43.9	46.7	46.4	45.4	49.2
mol%Or	1.6	1.9	1.9	1.9	1.8	1.6	1.6	1.6	1.8	1.7	1.6	1.9	1.9	1.9	2.2

Table B.13.21: TEQ-66, Plagioclase grain 21

Dist (µm)	0.0	15.0	30.1	45.1	60.1	75.2	90.2	105.2	120.2	135.3	150.3	165.3	180.4	195.4	210.4	225.5	240.5
SiO_2	55.07	54.18	54.61	54.10	54.14	54.17	53.99	53.95	54.46	54.58	54.70	54.01	54.37	54.43	54.37	54.18	53.70
TiO_2	0.05	0.03	0.04	0.06	0.07	0.04	0.06	0.05	0.05	0.02	0.06	0.04	0.04	0.04	0.06	0.03	0.06
Al_2O_3	28.05	28.53	28.30	28.70	28.90	28.62	28.53	28.46	28.08	28.54	28.47	28.48	28.32	28.37	28.07	28.31	28.59
Fe_2O_3	0.66	0.70	0.67	0.61	0.61	0.64	0.58	0.63	0.66	0.58	0.67	0.64	0.59	0.67	0.64	0.66	0.67
MnO	0.02	0.02	0.03	0.03	0.02	0.02	0.00	0.01	0.04	-0.01	0.00	0.00	-0.04	-0.03	-0.03	-0.01	-0.02
MgO	0.08	0.07	0.09	0.08	0.09	0.08	0.10	0.08	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.08	0.07
CaO	10.38	11.23	10.85	11.35	11.34	11.20	11.18	11.10	10.64	10.93	10.88	10.69	10.89	10.99	10.97	10.89	10.98
BaO	0.04	-0.03	0.05	0.04	-0.05	0.00	-0.03	-0.06	-0.02	0.08	0.10	0.00	0.00	0.15	0.02	0.04	0.09
Na_2O	5.42	4.92	5.04	4.87	4.84	4.91	4.89	4.77	5.15	4.95	5.02	5.02	5.00	5.06	5.07	5.04	4.97
K_2O	0.31	0.27	0.31	0.26	0.27	0.28	0.28	0.28	0.34	0.31	0.31	0.28	0.28	0.30	0.31	0.29	0.29
sum	100.09	100.00	100.01	100.10	100.29	99.95	99.68	99.39	99.51	100.11	100.30	99.25	99.55	100.13	99.58	99.54	99.44
mol%An	50.5	54.9	53.3	55.4	55.5	54.8	54.9	55.3	52.3	54.0	53.5	53.2	53.7	53.6	53.5	53.5	54.0
mol%Ab	47.7	43.5	44.8	43.1	42.9	43.5	43.5	43.0	45.7	44.2	44.7	45.2	44.6	44.7	44.7	44.8	44.3
mol%Or	1.8	1.6	1.8	1.5	1.6	1.6	1.6	1.7	2.0	1.8	1.8	1.7	1.7	1.7	1.8	1.7	1.7

Table B.13.22: TEQ-66, Plagioclase grain 22

Dist (µm)	244.0	427.0	488.0	610.1	671.1
SiO_2	56.54	56.97	58.26	58.26	56.10
TiO_2	0.02	0.05	0.04	0.04	0.01
Al_2O_3	27.19	27.05	26.34	25.96	27.45
Fe_2O_3	0.42	0.48	0.37	0.43	0.48
MnO	-0.02	0.01	0.01	0.03	0.03
MgO	0.05	0.05	0.03	0.05	0.05
CaO	9.23	8.88	8.04	8.05	9.28
BaO	0.11	0.00	0.07	0.03	0.06
Na_2O	5.98	6.02	6.50	6.52	5.92
K_2O	0.38	0.41	0.47	0.48	0.38
sum	99.92	99.93	100.14	99.86	99.82
mol%An	45.0	43.8	39.5	39.4	45.4
mol%Ab	52.8	53.7	57.7	57.8	52.4
mol%Or	2.2	2.4	2.8	2.8	2.2

Table B.13.23: TEQ-66, Plagioclase grain 23

Dist (µm)	0.0	29.1	58.2	87.4	116.5	145.6	174.7	203.8	232.9	262.1	291.2	320.3	349.4	378.5	407.7	436.8	465.9
SiO_2	57.75	56.18	56.28	56.27	56.18	56.60	56.27	56.81	59.10	56.04	55.53	55.98	55.90	56.51	56.86	56.65	56.70
TiO_2	0.04	0.04	0.06	0.04	0.05	0.04	0.03	0.04	0.22	0.05	0.02	0.05	0.06	0.06	0.04	0.07	0.06
Al_2O_3	26.23	27.62	27.55	27.42	27.47	27.35	27.07	26.99	24.66	27.40	27.04	27.54	27.60	26.75	26.78	26.91	26.89
Fe_2O_3	0.51	0.51	0.53	0.51	0.49	0.51	0.54	0.54	1.00	0.50	0.57	0.54	0.54	0.53	0.49	0.47	0.48
MnO	0.00	0.01	0.01	-0.01	0.01	0.02	0.04	-0.01	0.00	0.01	0.00	0.01	0.01	-0.03	0.01	-0.01	0.00
MgO	0.05	0.06	0.06	0.07	0.06	0.05	0.07	0.06	0.20	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.05
CaO	8.36	9.63	9.59	9.53	9.62	9.65	9.18	9.30	8.15	9.72	9.56	9.91	9.84	8.97	8.74	9.01	8.96
BaO	0.00	0.00	0.02	0.07	0.03	0.08	0.07	0.04	0.04	0.02	0.13	0.06	0.03	0.11	0.06	0.07	-0.04
Na_2O	6.34	5.69	5.74	5.72	5.68	5.80	5.94	5.89	5.54	5.69	5.61	5.68	5.66	6.07	6.09	5.97	6.02
K_2O	0.49	0.37	0.39	0.37	0.36	0.41	0.43	0.40	0.80	0.38	0.41	0.38	0.38	0.43	0.43	0.44	0.42
sum	99.81	100.14	100.24	100.02	99.94	100.56	99.63	100.13	99.77	99.87	98.95	100.26	100.08	99.53	99.57	99.64	99.62
mol%An	40.9	47.3	46.9	46.9	47.3	46.8	44.9	45.5	42.6	47.5	47.3	48.0	47.9	43.8	43.1	44.3	44.0
mol%Ab	56.2	50.6	50.8	51.0	50.6	50.9	52.6	52.2	52.4	50.3	50.3	49.8	49.9	53.7	54.4	53.1	53.5
mol%Or	2.9	2.2	2.3	2.2	2.1	2.4	2.5	2.3	5.0	2.2	2.4	2.2	2.2	2.5	2.5	2.6	2.5

Table B.13.24: TEQ-66, Plagioclase grain 24

Dist (µm)	0.0	29.8	59.7	89.5	119.4	149.2	179.1	208.9	238.7	268.6	298.4
SiO_2	55.93	55.89	54.34	55.91	54.70	54.83	55.58	55.34	55.49	55.44	55.94
TiO_2	0.05	0.04	0.04	0.06	0.05	0.06	0.06	0.07	0.06	0.05	0.05
Al_2O_3	27.77	27.48	26.65	27.67	27.95	28.31	27.71	27.72	27.98	27.44	27.57
Fe_2O_3	0.63	0.62	0.61	0.59	0.66	0.65	0.61	0.62	0.59	0.56	0.61
MnO	0.03	0.03	0.00	0.02	0.01	-0.01	-0.02	-0.01	0.03	-0.03	0.01
MgO	0.06	0.08	0.08	0.08	0.08	0.08	0.07	0.08	0.08	0.08	0.06
CaO	10.20	9.88	9.53	9.80	10.26	10.38	9.86	9.72	10.09	9.67	9.68
BaO	0.09	0.06	0.08	0.00	0.08	0.06	0.04	0.06	-0.05	0.03	0.00
Na_2O	5.49	5.60	5.36	5.61	5.27	5.31	5.41	5.50	5.42	5.60	5.63
K_2O	0.35	0.38	0.36	0.35	0.30	0.31	0.36	0.33	0.32	0.37	0.34
sum	100.61	100.06	97.05	100.13	99.38	100.02	99.74	99.45	100.11	99.29	99.89
mol%An	49.6	48.3	48.5	48.1	50.9	51.0	49.1	48.5	49.7	47.8	47.7
mol%Ab	48.4	49.5	49.3	49.9	47.3	47.2	48.8	49.6	48.3	50.1	50.2
mol%Or	2.0	2.2	2.2	2.0	1.8	1.8	2.2	1.9	1.9	2.2	2.0

Table B.13.25: TEQ-66, Plagioclase grain 25

Dist (µm)	0.0	15.5	31.1	46.6	62.1	77.6	93.2	108.7	124.2	139.7	155.3	170.8	186.3
SiO_2	59.43	57.84	59.06	58.71	57.99	58.20	57.85	57.37	57.44	58.79	58.63	58.74	57.71
TiO_2	0.08	0.04	0.04	0.03	0.03	0.02	0.05	0.03	0.00	0.03	0.02	0.02	0.04
Al_2O_3	24.99	26.33	25.67	25.81	24.72	25.95	26.30	26.56	26.68	25.76	25.91	25.92	26.41
Fe_2O_3	0.60	0.34	0.43	0.39	0.40	0.45	0.43	0.42	0.41	0.40	0.37	0.42	0.43
MnO	-0.01	0.00	-0.01	0.03	0.01	0.00	0.00	-0.03	0.01	0.02	0.02	-0.01	-0.01
MgO	0.05	0.04	0.03	0.04	0.03	0.04	0.05	0.03	0.04	0.03	0.03	0.03	0.05
CaO	7.44	8.31	7.48	7.47	7.16	8.00	8.24	8.59	8.56	7.56	7.65	7.72	8.66
BaO	0.12	0.03	0.13	0.12	0.11	0.07	0.05	0.05	0.05	0.07	0.09	0.10	0.06
Na_2O	6.53	6.41	6.81	6.86	6.97	6.59	6.41	6.25	6.38	6.78	6.67	6.73	6.32
K_2O	0.72	0.48	0.53	0.58	0.57	0.49	0.49	0.45	0.45	0.53	0.51	0.52	0.49
sum	99.97	99.82	100.21	100.05	98.02	99.82	99.90	99.77	100.07	99.97	99.93	100.22	100.21
mol%An	37.0	40.6	36.6	36.3	35.0	39.0	40.4	42.0	41.5	37.0	37.7	37.6	41.9
mol%Ab	58.7	56.6	60.3	60.3	61.6	58.2	56.8	55.4	55.9	59.9	59.4	59.4	55.3
mol%Or	4.3	2.8	3.1	3.4	3.3	2.8	2.8	2.6	2.6	3.1	3.0	3.0	2.8

Table B.13.26: TEQ-66, Plagioclase grain 26

Dist (µm)	14.8	29.5	44.3	59.1	73.9	103.4	118.2	132.9	147.7	162.5
SiO_2	56.39	58.66	58.38	58.12	58.56	58.10	58.25	57.54	57.44	56.50
TiO_2	0.05	0.05	0.06	0.06	0.03	0.04	0.02	0.06	0.05	0.03
Al_2O_3	26.68	25.53	25.63	25.94	25.72	26.08	25.74	25.93	25.98	26.83
Fe_2O_3	0.67	0.57	0.58	0.61	0.61	0.58	0.56	0.61	0.60	0.59
MnO	-0.05	0.00	0.02	-0.01	-0.02	0.00	0.00	0.02	0.01	0.03
MgO	0.06	0.05	0.05	0.05	0.04	0.05	0.06	0.06	0.04	0.07
CaO	9.31	7.79	7.81	8.07	7.98	8.46	8.23	8.44	8.50	9.25
BaO	0.02	0.06	0.01	0.02	0.09	-0.05	0.15	0.13	-0.02	0.02
Na_2O	5.72	6.59	6.58	6.42	6.51	6.32	6.41	6.27	6.20	5.74
K_2O	0.43	0.64	0.61	0.60	0.63	0.55	0.58	0.56	0.58	0.46
sum	99.35	99.94	99.75	99.91	100.21	100.18	100.03	99.68	99.46	99.54
mol%An	46.2	38.0	38.2	39.6	38.9	41.2	40.1	41.3	41.6	45.8
mol%Ab	51.3	58.2	58.2	56.9	57.4	55.6	56.5	55.5	55.0	51.4
mol%Or	2.6	3.7	3.6	3.5	3.7	3.2	3.3	3.3	3.4	2.7

Table B.13.27: TEQ-66, Plagioclase grain 27

Dist (µm)	0.0	7.5	14.9	22.4	29.9	37.4	44.8	52.3	59.8	67.3	74.7	82.2	89.7	104.6	112.2	119.6
SiO_2	59.16	59.16	58.63	57.99	58.58	58.07	58.29	57.67	56.59	57.81	57.25	57.94	57.06	58.36	57.99	61.05
TiO_2	0.06	0.08	0.04	0.05	0.06	0.05	0.05	0.08	0.04	0.06	0.04	0.04	0.08	-0.01	0.03	0.09
Al_2O_3	24.22	24.54	25.29	24.46	25.06	25.08	25.80	25.16	25.67	25.83	25.33	25.32	25.54	25.05	25.30	23.09
Fe_2O_3	0.59	0.51	0.52	0.51	0.55	0.48	0.52	0.52	0.47	0.40	0.56	0.52	0.54	0.72	0.59	0.68
MnO	0.06	0.06	0.06	-0.02	-0.03	-0.01	0.02	0.00	-0.05	-0.01	-0.06	-0.03	-0.06	-0.05	-0.04	-0.01
MgO	0.06	0.04	0.06	0.04	0.01	0.05	0.05	0.04	0.02	0.03	0.00	0.05	0.05	0.02	0.04	0.02
CaO	7.01	7.35	7.28	7.59	7.64	8.24	7.80	8.26	8.66	8.84	8.49	8.28	8.48	7.23	8.60	7.00
BaO	0.12	0.20	0.14	0.09	0.04	-0.08	0.08	-0.05	0.08	0.07	0.10	0.09	0.03	0.22	0.18	0.15
Na_2O	7.00	6.87	6.97	7.01	6.62	6.48	6.56	6.53	6.51	6.33	6.73	6.48	6.29	6.85	6.46	6.12
K_2O	0.75	0.69	0.69	0.59	0.64	0.59	0.58	0.53	0.60	0.47	0.57	0.52	0.48	0.60	0.57	1.01
sum	99.02	99.49	99.77	98.42	99.35	99.21	99.78	98.91	98.63	99.85	99.10	99.24	98.55	99.05	99.87	99.37
mol%An	34.1	35.7	35.1	36.2	37.5	39.8	38.3	39.9	40.9	42.4	39.8	40.1	41.5	35.5	41.0	36.3
mol%Ab	61.6	60.3	60.9	60.5	58.8	56.7	58.3	57.0	55.7	54.9	57.0	56.8	55.7	61.0	55.7	57.4
mol%Or	4.3	4.0	3.9	3.3	3.7	3.4	3.4	3.0	3.4	2.7	3.2	3.0	2.8	3.5	3.2	6.2

Table B.13.28: TEQ-66, Plagioclase grain 28

Dist (µm)	0.0	7.6	15.3	23.0	30.6	38.3	45.9	53.7	61.3	76.6	84.3	99.6	107.2	114.9	122.6
SiO_2	58.41	56.88	57.39	57.73	57.07	56.95	53.18	55.83	59.45	56.83	57.60	57.47	57.81	58.33	58.10
TiO_2	0.03	0.08	0.06	0.03	0.09	0.02	0.04	0.02	0.05	0.01	0.00	0.04	0.01	0.01	0.04
Al_2O_3	25.63	26.14	25.81	26.31	25.06	25.79	25.96	27.01	25.00	26.22	25.52	26.02	24.93	25.41	25.57
Fe_2O_3	0.58	0.67	0.52	0.51	0.44	0.61	0.67	0.62	0.65	0.52	0.51	0.55	0.51	0.42	0.57
MnO	-0.05	-0.02	0.02	0.01	0.00	0.03	0.05	0.05	0.02	0.03	0.07	0.04	0.03	0.05	0.02
MgO	0.03	0.07	0.08	0.04	0.04	0.07	0.06	0.05	0.09	0.05	0.02	0.05	0.02	0.03	0.05
CaO	8.25	8.72	8.60	8.10	8.37	9.18	11.64	9.75	8.70	9.53	8.19	9.00	7.86	7.75	8.36
BaO	0.08	0.18	0.01	0.05	0.19	0.14	0.06	0.04	0.11	0.02	-0.01	-0.04	0.07	0.20	-0.06
Na_2O	6.83	6.34	6.59	6.48	6.66	6.45	5.71	5.61	5.89	6.13	6.68	6.27	6.80	6.96	6.89
K_2O	0.48	0.56	0.59	0.55	0.52	0.49	0.44	0.42	0.68	0.42	0.52	0.55	0.63	0.62	0.53
sum	100.33	99.76	99.82	99.84	98.87	99.82	99.98	99.40	100.63	99.77	99.30	100.18	98.71	99.85	100.12
mol%An	39.0	41.8	40.5	39.5	39.8	42.8	51.8	47.8	43.1	45.1	39.2	42.9	37.6	36.8	39.0
mol%Ab	58.3	55.0	56.2	57.3	57.3	54.4	45.9	49.8	52.9	52.5	57.9	54.0	58.8	59.7	58.1
mol%Or	2.7	3.2	3.3	3.2	3.0	2.7	2.3	2.4	4.0	2.4	2.9	3.1	3.6	3.5	2.9

Table B.13.29: TEQ-66, Plagioclase grain 29

Dist (µm)	0.0	7.4	14.9	22.2	37.1	44.4	51.8	59.3	66.6	74.0	81.5	88.8	96.2	103.7	111.0
SiO_2	60.23	60.20	61.07	60.32	60.21	59.18	59.32	57.04	56.73	57.09	57.58	57.84	58.76	60.90	59.43
TiO_2	0.05	0.03	0.06	0.05	0.06	0.01	0.04	0.06	0.07	0.09	0.08	0.10	0.06	0.10	0.05
Al_2O_3	24.12	23.63	23.40	23.58	23.84	23.92	23.87	26.05	25.55	25.34	25.66	25.63	24.94	23.05	23.83
Fe_2O_3	0.60	0.52	0.47	0.48	0.50	0.48	0.49	0.62	0.68	0.55	0.59	0.66	0.50	0.71	0.62
MnO	-0.01	0.06	0.01	0.01	-0.05	-0.04	-0.05	-0.08	0.02	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01
MgO	0.06	0.04	0.03	0.03	0.00	0.00	-0.01	0.01	0.04	0.04	0.09	0.06	0.03	0.07	0.03
CaO	6.69	6.19	5.59	6.25	6.42	6.57	6.81	8.84	9.39	8.22	8.45	9.01	7.76	6.29	6.74
BaO	-0.01	0.19	0.21	-0.03	0.21	0.13	0.20	0.24	0.07	0.05	0.13	0.00	0.04	0.05	0.08
Na_2O	7.26	7.74	7.52	7.49	7.35	7.18	7.06	6.29	6.20	6.35	6.43	6.38	6.83	7.04	7.48
K_2O	0.78	1.01	0.95	0.84	0.90	0.72	0.72	0.62	0.39	0.62	0.63	0.61	0.63	0.94	0.70
sum	99.82	99.60	99.34	99.21	99.52	98.18	98.51	99.91	99.26	98.42	99.87	100.32	99.57	99.23	99.00
mol%An	32.2	28.9	27.5	30.0	30.9	32.2	33.3	42.2	44.6	40.2	40.5	42.3	37.2	31.2	31.9
mol%Ab	63.3	65.4	66.9	65.1	64.0	63.7	62.5	54.3	53.2	56.2	55.9	54.2	59.2	63.2	64.1
mol%Or	4.5	5.6	5.6	4.8	5.2	4.2	4.2	3.5	2.2	3.6	3.6	3.4	3.6	5.6	3.9

Table B.13.30: TEQ-66, Plagioclase grain 30

Dist (µm)	0.0	7.4	14.7	22.1	29.3	36.8	44.1	51.4	58.7	66.1	73.4	80.8	88.2
SiO_2	59.31	58.19	56.33	56.86	56.18	56.59	57.89	57.18	58.42	57.63	57.11	57.21	58.86
TiO_2	0.08	0.07	0.03	0.04	0.05	0.05	0.06	0.05	0.04	0.02	0.06	0.08	0.05
Al_2O_3	24.17	25.53	25.92	26.53	26.27	25.91	25.35	25.79	25.93	25.71	26.55	24.39	25.24
Fe_2O_3	0.56	0.56	0.66	0.63	0.66	0.53	0.52	0.59	0.56	0.62	0.71	1.34	0.68
MnO	0.04	-0.01	0.02	-0.02	0.00	0.04	-0.01	0.01	0.03	0.01	-0.03	-0.02	-0.03
MgO	0.06	0.05	0.07	0.07	0.06	0.05	0.06	0.05	0.04	0.04	0.16	1.08	0.19
CaO	6.39	8.32	9.00	8.91	9.25	8.40	8.27	8.70	8.04	8.64	8.72	8.51	7.90
BaO	0.26	0.23	0.10	0.11	0.06	0.12	0.01	-0.01	0.28	0.17	0.25	0.07	0.14
Na_2O	7.37	6.64	6.14	6.12	5.95	6.68	6.44	6.42	6.46	6.19	6.13	6.13	6.55
K_2O	0.72	0.48	0.47	0.52	0.47	0.60	0.49	0.54	0.57	0.48	0.44	0.56	0.63
sum	98.99	100.10	98.85	99.77	98.94	98.97	99.09	99.34	100.37	99.57	100.13	99.37	100.23
mol%An	31.0	39.8	43.5	43.2	45.0	39.6	40.3	41.5	39.4	42.3	42.9	42.0	38.6
mol%Ab	64.8	57.5	53.8	53.8	52.3	57.0	56.8	55.4	57.3	54.9	54.6	54.7	57.8
mol%Or	4.2	2.7	2.7	3.0	2.7	3.4	2.9	3.1	3.3	2.8	2.6	3.3	3.6

Table B.1	TEQ-66	TEQ-66	TEQ-66	TEQ-66	TEQ-66	TEQ-66
Dist (µm)	0.0	62.6	78.2	93.8	109.4	125.1
SiO_2	59.52	58.00	58.30	58.56	60.05	59.74
TiO_2	0.08	0.03	0.04	0.02	0.02	0.06
Al_2O_3	25.31	25.44	25.10	24.62	24.70	24.49
Fe_2O_3	0.64	0.58	0.60	0.41	0.53	0.53
MnO	0.00	0.02	0.02	0.07	0.05	0.02
MgO	0.02	0.03	0.05	0.03	0.03	0.03
CaO	7.44	8.03	7.73	7.05	6.61	7.17
BaO	0.11	0.12	0.07	0.03	0.03	0.13
Na_2O	7.25	6.11	6.75	6.76	7.26	7.37
K_2O	0.56	0.55	0.72	0.80	0.79	0.75
sum	100.93	98.91	99.38	98.58	100.15	100.42
mol%An	35.1	40.7	37.2	34.9	32.0	33.5
mol%Ab	61.8	56.0	58.7	60.4	63.5	62.3
mol%Or	3.1	3.3	4.1	4.7	4.5	4.2

Table B.13.31: TEQ-66, Plagioclase grain 31

Dist (µm)	60.1	75.2	90.3	105.3	120.4	150.4	165.5
SiO_2	59.19	58.93	58.43	58.52	57.15	61.00	57.24
TiO_2	0.06	0.04	0.04	0.00	0.02	0.10	0.09
Al_2O_3	25.02	24.96	24.96	25.59	24.96	23.99	25.51
Fe_2O_3	0.54	0.44	0.59	0.54	0.56	0.73	0.59
MnO	-0.02	-0.03	0.00	0.02	-0.01	-0.04	-0.03
MgO	0.07	0.04	0.04	0.03	0.07	0.11	0.07
CaO	7.21	7.84	7.85	8.25	8.51	7.10	8.28
BaO	0.22	0.20	0.24	0.21	0.18	0.03	-0.01
Na_2O	7.00	7.02	6.75	6.60	6.31	6.29	6.44
K_2O	0.61	0.70	0.45	0.55	0.51	0.86	0.55
sum	100.02	100.24	99.62	100.41	98.37	100.20	98.84
mol%An	35.0	36.7	38.1	39.6	41.4	36.4	40.2
mol%Ab	61.5	59.4	59.3	57.3	55.6	58.4	56.6
mol%Or	3.5	3.9	2.6	3.1	3.0	5.2	3.2

Table B.13.32: TEQ-66, Plagioclase grain 32

Dist (µm)	0.0	7.7	15.3	22.9	30.5	38.1	61.0	68.7	76.3	84.0	91.5	99.2	122.1
SiO_2	60.19	58.76	56.51	57.89	58.39	58.93	57.46	58.12	58.13	58.05	57.32	58.31	61.17
TiO_2	0.07	0.06	0.07	0.07	0.07	0.06	0.02	0.04	0.04	0.04	0.06	0.08	0.06
Al_2O_3	24.11	25.22	25.48	26.26	25.29	24.79	25.16	25.24	25.43	26.35	25.78	25.39	23.34
Fe_2O_3	0.56	0.52	0.34	0.41	0.48	0.47	0.29	0.31	0.42	0.52	0.47	0.52	0.49
MnO	-0.06	0.01	-0.02	0.02	-0.01	0.03	0.05	0.08	0.04	0.00	0.00	0.02	-0.02
MgO	0.04	0.03	0.05	0.05	0.04	0.03	0.02	0.04	0.02	0.06	0.03	0.02	0.03
CaO	6.62	8.17	9.00	8.52	8.18	7.18	7.88	8.20	8.17	8.05	8.26	8.04	6.01
BaO	-0.07	0.18	0.18	0.17	0.24	0.22	-0.04	-0.04	0.11	0.14	-0.05	-0.11	0.05
Na_2O	7.56	6.55	6.32	6.47	6.38	7.09	6.67	6.52	6.66	6.57	6.61	6.63	7.70
K_2O	0.67	0.62	0.42	0.51	0.55	0.71	0.60	0.60	0.65	0.63	0.55	0.56	0.59
sum	99.81	100.19	99.26	100.57	99.69	99.72	98.32	99.29	99.68	100.41	99.07	99.57	99.47
mol%An	31.4	39.3	43.0	40.9	40.1	34.5	38.1	39.6	38.9	38.9	39.6	38.8	29.1
mol%Ab	64.8	57.1	54.6	56.2	56.7	61.5	58.4	56.9	57.4	57.5	57.3	57.9	67.5
mol%Or	3.8	3.6	2.4	2.9	3.2	4.0	3.4	3.5	3.7	3.6	3.1	3.2	3.4

Table B.13.33: TEQ-66, Plagioclase grain 33

Dist (µm)	23.4	46.7	54.5	62.3	70.1	77.9
SiO_2	61.95	57.91	57.69	58.69	57.29	58.89
TiO_2	0.07	0.02	0.04	0.05	0.02	0.06
Al_2O_3	23.89	25.62	25.66	25.61	25.69	24.38
Fe_2O_3	0.52	0.46	0.55	0.47	0.50	0.63
MnO	0.02	0.02	0.05	0.05	0.02	-0.02
MgO	0.04	0.04	0.05	0.04	0.02	0.03
CaO	5.80	7.93	8.28	8.35	8.09	6.52
BaO	-0.04	0.10	0.04	0.06	-0.04	0.11
Na_2O	7.78	6.67	6.61	6.57	6.43	7.60
K_2O	0.57	0.53	0.57	0.50	0.57	0.56
sum	100.85	99.29	99.57	100.39	98.67	98.94
mol%An	28.2	38.4	39.6	40.1	39.7	31.1
mol%Ab	68.5	58.5	57.2	57.1	57.0	65.7
mol%Or	3.3	3.0	3.2	2.9	3.3	3.2

Table B.13.34: TEQ-66, Plagioclase grain 34

Dist (µm)	0.0	15.3	30.7	46.1	61.4	76.7	92.2	107.5	122.8	138.2
SiO_2	57.32	58.89	58.89	56.38	57.28	57.40	58.23	59.53	57.14	58.19
TiO_2	0.00	0.03	0.04	0.05	0.04	-0.01	0.04	0.00	0.01	0.03
Al_2O_3	25.81	24.60	25.09	25.86	25.48	25.14	24.53	24.93	25.58	25.20
Fe_2O_3	0.49	0.40	0.56	0.61	0.59	0.46	0.48	0.41	0.43	0.64
MnO	-0.03	0.00	-0.02	0.05	0.01	0.08	0.05	0.09	0.03	-0.02
MgO	0.04	0.01	0.04	0.07	0.06	0.04	0.05	0.02	0.03	0.01
CaO	8.18	6.25	7.65	8.54	8.83	8.77	7.02	6.82	8.74	7.96
BaO	0.10	-0.01	0.07	-0.01	0.00	0.05	-0.06	0.05	0.07	0.11
Na_2O	6.52	7.40	7.06	6.31	6.48	6.78	6.92	7.29	6.36	6.53
K_2O	0.61	0.66	0.69	0.49	0.49	0.60	0.75	0.71	0.49	0.63
sum	99.20	98.43	100.32	98.35	99.26	99.76	98.16	99.85	98.90	99.29
mol%An	39.5	30.6	36.0	41.6	41.7	40.3	34.3	32.7	42.0	38.8
mol%Ab	57.0	65.5	60.2	55.6	55.5	56.4	61.3	63.3	55.2	57.6
mol%Or	3.5	3.9	3.8	2.8	2.8	3.3	4.3	4.1	2.8	3.7

Table B.13.35: TEQ-66, Plagioclase grain 35

Dist (µm)	7.5	14.8	22.3	29.7	37.2	44.5	52.0	59.4	66.9	74.2	81.7	89.2
SiO_2	59.42	60.05	58.51	57.18	56.72	55.99	55.59	56.80	58.65	59.33	59.21	59.18
TiO_2	0.07	0.03	0.07	0.08	0.07	0.09	0.07	0.06	0.06	0.03	0.04	0.03
Al_2O_3	24.86	24.06	24.87	25.62	26.93	26.75	27.64	26.50	25.50	24.14	24.48	24.68
Fe_2O_3	0.45	0.44	0.57	0.57	0.55	0.52	0.64	0.48	0.44	0.43	0.55	0.45
MnO	0.00	0.00	0.03	-0.02	0.00	0.06	0.03	0.05	-0.01	0.04	-0.02	-0.06
MgO	0.02	0.02	0.03	0.06	0.07	0.09	0.07	0.07	0.06	0.07	0.04	0.05
CaO	7.02	6.49	7.09	8.46	9.57	10.00	9.63	8.81	7.63	7.64	6.53	7.01
BaO	0.20	0.04	0.19	0.07	0.20	0.05	0.00	0.04	0.07	0.05	0.06	0.13
Na_2O	7.03	7.37	6.89	6.44	6.12	5.80	5.79	6.22	6.71	7.01	7.20	6.90
K_2O	0.77	0.60	0.76	0.46	0.43	0.42	0.48	0.47	0.57	0.60	0.78	0.72
sum	99.82	99.13	99.12	99.03	100.78	99.79	99.97	99.68	99.74	99.86	98.87	99.14
mol%An	34.0	31.6	34.6	41.0	45.2	47.6	46.6	42.7	37.3	36.3	31.9	34.5
mol%Ab	61.6	64.9	60.9	56.4	52.4	50.0	50.7	54.6	59.4	60.3	63.6	61.4
mol%Or	4.4	3.5	4.4	2.6	2.4	2.4	2.7	2.7	3.3	3.4	4.5	4.2

Table B.13.36: TEQ-66, Plagioclase grains

Dist (µm)	37.4	27.6	31.3	39.6	24.4
SiO_2	58.45	56.52	59.99	58.65	62.94
TiO_2	0.04	0.04	0.06	0.06	0.15
Al_2O_3	26.43	27.81	25.43	26.57	23.33
Fe_2O_3	0.42	0.56	0.33	0.56	0.78
MnO	0.04	-0.01	0.04	0.02	0.01
MgO	0.07	0.06	0.06	0.03	0.03
CaO	7.83	9.92	7.54	9.24	6.10
BaO	0.15	0.17	0.12	-0.04	0.04
Na_2O	6.70	5.83	6.86	6.18	6.93
K_2O	0.55	0.40	0.57	0.48	0.97
sum	100.68	101.28	101.00	101.74	101.28
mol%An	38.0	47.4	36.5	44.0	30.8
mol%Ab	58.8	50.4	60.2	53.3	63.3
mol%Or	3.2	2.2	3.3	2.7	5.8

Table B.13.36 (cntd): TEQ-66, Plagioclase grains

Dist (µm)	40.4	42.6	42.6	34.8	40.4	27.4	40.8	40.4	40.4	34.5	44.4	37.7	38.5	27.0	40.4	38.8	87.0	52.6
SiO_2	60.29	57.73	57.38	58.51	58.81	58.58	60.27	59.18	58.16	61.00	58.51	59.55	57.79	61.01	58.56	58.04	58.17	61.08
TiO_2	0.01	0.01	0.04	0.00	0.00	0.00	-0.03	0.07	0.07	0.07	0.09	0.05	0.10	0.06	0.05	0.06	0.02	0.05
Al_2O_3	25.41	26.71	26.23	25.87	25.20	26.49	25.46	26.15	25.85	25.10	25.86	25.82	26.59	24.79	25.57	26.49	26.31	24.36
Fe_2O_3	0.52	0.83	0.49	0.59	0.42	0.48	0.40	0.51	0.58	0.40	0.48	0.42	0.42	0.46	0.60	0.70	0.56	0.40
MnO	-0.03	0.02	0.00	-0.03	-0.05	0.01	-0.03	-0.05	-0.03	-0.02	-0.02	0.06	0.01	0.02	0.07	-0.01	0.04	0.00
MgO	0.04	0.03	0.07	0.05	0.06	0.05	0.02	0.03	0.03	0.01	0.01	0.05	0.06	0.04	0.03	0.10	0.06	0.04
CaO	7.20	9.37	9.04	8.34	7.66	7.91	7.40	7.77	8.01	6.92	8.24	7.38	9.23	6.53	8.62	9.41	8.37	6.73
BaO	0.01	0.07	-0.04	-0.06	0.01	0.07	-0.03	0.06	0.26	0.10	0.06	0.26	0.18	0.22	0.23	0.04	0.07	0.16
Na_2O	7.01	6.07	6.31	6.58	6.98	6.60	6.91	6.62	6.62	7.17	6.76	6.88	6.52	7.34	6.54	6.04	6.11	7.17
K_2O	0.71	0.50	0.46	0.48	0.62	0.52	0.73	0.56	0.63	0.74	0.57	0.67	0.45	0.75	0.44	0.48	0.43	0.74
sum	101.15	101.36	99.97	100.33	99.69	100.70	101.11	100.90	100.16	101.50	100.55	101.15	101.35	101.21	100.70	101.34	100.13	100.71
mol%An	34.7	44.7	43.1	40.1	36.4	38.6	35.6	38.1	38.6	33.3	39.0	35.8	42.8	31.5	41.1	45.0	42.0	32.7
mol%Ab	61.2	52.4	54.4	57.2	60.1	58.4	60.2	58.7	57.8	62.5	57.8	60.4	54.7	64.2	56.4	52.3	55.4	63.0
mol%Or	4.1	2.8	2.6	2.7	3.5	3.0	4.2	3.2	3.6	4.3	3.2	3.8	2.5	4.3	2.5	2.8	2.6	4.3

Table B.13.37: TEQ-66 Plagioclase Microlites

Microlite #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SiO_2	57.65	58.98	57.86	57.52	58.35	59.31	59.36	60.17	65.64	59.30	59.38	54.22	60.69	57.67	56.05	58.53	60.15	60.64	57.12
TiO_2	0.08	0.09	0.04	0.06	0.07	0.05	0.03	0.04	0.22	0.06	0.06	0.11	0.09	0.05	0.08	0.02	0.07	0.03	0.01
Al_2O_3	27.18	25.04	25.74	25.31	26.27	25.07	26.27	24.32	20.93	24.12	25.34	23.52	24.93	26.07	27.68	25.85	25.49	25.14	27.10
Fe_2O_3	0.73	0.55	0.35	0.41	0.52	0.46	0.41	0.37	1.09	0.51	0.46	0.42	0.42	0.53	0.67	0.48	0.49	0.41	0.67
MnO	-0.01	0.06	-0.04	-0.04	-0.05	0.08	0.05	0.05	0.09	0.07	-0.05	-0.01	-0.07	-0.04	-0.03	-0.06	-0.07	-0.04	-0.06
MgO	0.05	0.07	0.05	0.05	0.03	0.02	0.02	0.03	0.03	0.04	0.01	0.06	0.04	0.03	0.10	0.03	0.03	0.01	0.07
CaO	8.89	6.87	7.96	7.52	8.64	6.93	7.46	6.31	4.41	6.69	7.03	11.39	6.60	9.33	9.90	7.98	6.98	6.49	8.97
BaO	0.00	0.24	0.17	0.24	0.16	0.21	0.03	0.23	0.04	0.14	0.02	0.28	0.06	-0.07	0.02	0.09	0.06	0.00	0.06
Na_2O	6.27	7.16	6.54	6.63	6.81	6.94	6.79	7.49	6.33	7.36	7.22	6.42	7.33	6.56	5.86	6.61	7.32	7.64	6.07
K_2O	0.46	0.58	0.58	0.65	0.57	0.89	0.43	0.87	1.91	0.64	0.61	0.68	0.77	0.40	0.43	0.68	0.71	0.79	0.48
sum	101.31	99.64	99.25	98.35	101.36	99.94	100.84	99.87	100.70	98.93	100.09	97.07	100.86	100.54	100.77	100.22	101.23	101.10	100.49
mol%An	42.8	33.5	38.8	37.1	39.9	33.7	36.8	30.2	24.3	32.2	33.8	47.8	31.8	43.0	47.1	38.4	33.1	30.5	43.7
mol%Ab	54.6	63.2	57.8	59.1	56.9	61.1	60.7	64.9	63.2	64.1	62.7	48.8	63.8	54.8	50.5	57.6	62.8	65.1	53.5
mol%Or	2.6	3.4	3.4	3.8	3.2	5.1	2.5	4.9	12.6	3.7	3.5	3.4	4.4	2.2	2.4	3.9	4.0	4.4	2.8

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
SiO_2	59.58	58.60	60.04	58.35	60.25	56.92	59.13	57.40	59.49	59.58	57.62	58.52	59.12	65.88	62.93	62.34	62.21	61.10	59.50
TiO_2	0.04	0.07	0.05	0.04	0.03	0.05	0.04	0.10	0.04	0.07	0.10	0.06	0.04	0.23	0.16	0.06	0.06	0.03	0.02
Al_2O_3	24.90	25.62	25.23	26.14	24.79	27.35	25.55	26.61	24.92	24.35	26.44	25.16	25.24	21.39	23.31	24.14	24.36	23.76	25.21
Fe_2O_3	0.37	0.38	0.37	0.49	0.47	0.70	0.46	0.44	0.52	0.36	0.63	0.70	0.45	0.97	0.78	0.47	0.41	0.57	0.45
MnO	-0.03	-0.04	-0.02	-0.07	-0.03	-0.04	-0.02	0.00	-0.04	-0.03	-0.04	0.02	-0.08	0.03	0.02	-0.01	0.00	0.04	-0.02
MgO	0.00	0.02	-0.02	0.02	-0.01	0.04	0.05	0.06	0.03	0.04	0.08	0.07	0.02	0.08	0.03	-0.01	-0.02	-0.01	0.05
CaO	6.34	7.20	6.94	7.97	6.65	9.32	7.74	7.98	7.09	6.89	8.79	7.74	7.04	4.57	5.69	6.05	5.89	5.88	7.27
BaO	0.06	0.15	0.16	0.15	0.19	0.17	0.01	0.00	0.10	-0.04	0.21	-0.01	0.03	-0.06	0.05	0.18	0.16	0.13	0.22
Na_2O	7.42	6.77	7.32	6.62	7.26	5.99	7.09	6.60	7.31	7.06	6.51	6.71	7.23	7.11	7.18	7.74	7.66	7.47	7.04
K_2O	0.64	0.73	0.89	0.52	0.92	0.45	0.66	0.44	0.60	0.70	0.53	0.58	0.55	1.50	0.89	0.77	0.87	0.80	0.51
sum	99.31	99.50	100.97	100.25	100.51	100.95	100.71	99.63	100.07	98.98	100.86	99.55	99.64	101.70	101.03	101.74	101.62	99.77	100.26
mol%An	30.9	35.4	32.7	38.7	31.8	45.1	36.2	39.0	33.7	33.6	41.5	37.6	33.9	23.8	28.8	28.8	28.3	28.9	35.3
mol%Ab	65.4	60.3	62.3	58.2	62.9	52.4	60.1	58.4	62.9	62.3	55.5	59.0	63.0	66.9	65.8	66.8	66.7	66.4	61.8
mol%Or	3.7	4.3	5.0	3.0	5.2	2.6	3.7	2.6	3.4	4.1	3.0	3.4	3.1	9.3	5.3	4.3	5.0	4.7	2.9

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
SiO_2	57.67	57.67	57.02	58.56	57.78	60.68	56.48	58.48	59.34	56.28	57.90	58.14	57.58	58.97	60.30	60.52	60.91	58.03	55.26
TiO_2	0.01	0.07	0.08	0.07	0.06	0.09	0.06	0.08	0.05	0.10	0.04	0.07	0.08	0.08	0.11	0.08	0.13	0.05	0.10
Al_2O_3	26.97	26.31	26.93	26.24	26.58	24.72	26.93	25.77	25.76	26.74	26.20	25.57	25.92	24.90	25.67	24.27	23.84	26.06	23.82
Fe_2O_3	0.59	0.53	0.48	0.59	0.48	0.32	0.56	0.47	0.68	0.64	0.66	0.53	0.66	0.56	0.73	0.32	1.25	0.54	0.42
MnO	0.03	0.03	0.05	0.03	-0.01	0.05	-0.04	0.01	0.00	0.02	-0.02	-0.03	-0.05	-0.02	0.02	-0.02	-0.01	0.01	0.02
MgO	0.05	0.02	0.05	0.05	0.03	-0.01	0.07	0.04	0.03	0.03	0.09	0.08	0.09	0.03	0.03	0.01	0.26	0.04	0.05
CaO	8.82	7.98	9.13	7.89	8.30	6.57	9.11	8.24	8.24	9.08	8.43	8.23	9.16	6.65	7.85	6.26	7.00	8.55	10.58
BaO	0.13	0.11	0.04	-0.03	-0.02	0.17	0.06	0.15	0.15	0.06	0.03	0.08	0.03	0.10	0.17	0.21	0.17	0.03	0.05
Na_2O	6.39	6.74	5.85	6.92	6.31	7.38	6.11	6.83	6.63	6.35	6.60	6.67	6.36	7.28	6.59	7.40	6.51	6.34	6.48
K_2O	0.52	0.58	0.39	0.49	0.45	0.82	0.47	0.64	0.71	0.58	0.58	0.67	0.53	0.77	0.58	0.92	0.87	0.49	0.68
sum	101.18	100.03	100.00	100.81	99.96	100.80	99.82	100.71	101.58	99.87	100.50	100.01	100.35	99.30	102.05	99.97	100.94	100.15	97.44
mol%An	42.0	38.3	45.2	37.6	41.0	31.4	44.0	38.6	39.1	42.7	40.0	39.0	43.0	32.1	38.4	30.2	35.3	41.5	45.8
mol%Ab	55.1	58.4	52.5	59.6	56.4	63.9	53.4	57.9	56.9	54.0	56.7	57.2	54.0	63.5	58.3	64.5	59.4	55.7	50.7
mol%Or	2.9	3.3	2.3	2.8	2.6	4.7	2.7	3.5	4.0	3.2	3.3	3.8	3.0	4.4	3.4	5.3	5.2	2.8	3.5

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
SiO_2	58.81	59.41	58.31	62.73	58.16	57.29	58.31	55.45	59.90	59.28	59.94	57.93	59.50	59.92	59.61	59.16	60.00	60.07	59.27
TiO_2	0.08	0.08	0.03	0.12	0.07	0.03	0.03	-0.24	0.04	0.03	0.05	0.05	0.03	0.06	0.04	0.03	0.07	0.06	0.03
Al_2O_3	25.16	25.34	26.27	23.16	26.34	25.29	24.79	27.11	25.26	24.49	24.26	26.13	25.58	24.45	24.96	25.27	24.70	25.17	25.45
Fe_2O_3	0.41	0.42	0.65	0.65	0.49	0.51	0.45	-0.15	0.58	0.40	1.62	0.54	0.49	0.59	0.53	0.47	0.44	0.58	0.45
MnO	-0.02	0.02	0.02	-0.03	0.01	-0.05	-0.05	-0.14	0.06	0.13	0.06	0.06	0.05	-0.05	-0.12	-0.05	-0.11	0.01	-0.03
MgO	0.02	0.00	0.03	0.03	0.03	0.04	0.03	0.06	0.05	0.00	1.21	0.05	0.04	0.03	0.04	0.06	0.04	0.06	0.02
CaO	7.61	7.10	7.85	5.64	8.19	7.90	7.51	9.61	7.19	6.92	7.46	9.09	7.43	6.70	7.49	7.21	6.77	6.72	7.37
BaO	-0.08	0.12	0.19	-0.15	-0.04	0.03	-0.11	-0.30	-0.06	0.07	-0.03	0.20	0.16	0.11	0.24	0.20	0.22	0.18	-0.05
Na_2O	6.85	7.02	7.05	7.03	6.49	6.84	6.77	5.76	7.25	7.29	6.79	6.53	6.97	7.19	7.08	7.02	7.49	7.38	7.20
K_2O	0.68	0.80	0.41	1.15	0.61	0.77	0.76	0.41	0.73	0.77	0.70	0.63	0.73	0.74	0.55	0.77	0.67	0.79	0.70
sum	99.51	100.30	100.81	100.33	100.33	98.64	98.48	97.58	101.00	99.37	102.05	101.21	100.97	99.74	100.42	100.13	100.28	101.02	100.41
mol%An	36.5	34.2	37.2	28.6	39.6	37.3	36.3	46.8	33.9	32.9	36.2	42.0	35.5	32.5	35.7	34.6	32.1	32.0	34.7
mol%Ab	59.6	61.2	60.5	64.5	56.9	58.4	59.3	50.8	61.9	62.8	59.7	54.5	60.3	63.2	61.1	61.0	64.2	63.5	61.4
mol%Or	3.9	4.6	2.3	7.0	3.5	4.3	4.4	2.4	4.1	4.3	4.0	3.5	4.1	4.3	3.1	4.4	3.8	4.5	3.9

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
SiO_2	59.52	58.53	59.86	56.12	61.18	60.19	60.34	59.66	58.30	59.70	59.86	58.20	60.10	60.30	57.80	58.46	58.23	59.18	59.28
TiO_2	0.05	0.04	0.08	0.08	0.01	0.03	0.04	0.07	0.00	0.04	0.02	0.06	0.06	0.09	0.13	0.02	0.10	0.08	0.01
Al_2O_3	25.84	26.19	24.91	26.59	24.19	25.28	25.46	25.48	25.66	23.85	25.20	26.20	25.23	23.56	26.76	25.94	26.70	25.82	25.75
Fe_2O_3	0.48	0.54	0.53	0.70	0.49	0.51	0.52	0.48	0.42	0.44	0.45	0.43	0.51	0.55	0.75	0.60	0.62	0.62	0.44
MnO	-0.02	-0.03	-0.04	-0.06	-0.07	-0.05	-0.06	-0.06	0.00	-0.01	0.03	0.00	0.01	0.03	0.03	0.00	0.01	0.02	0.07
MgO	0.05	0.03	0.04	0.08	0.03	0.00	0.02	0.01	0.05	0.03	0.05	0.04	0.05	0.01	0.06	0.02	0.02	0.02	0.03
CaO	7.84	8.20	6.94	9.28	5.98	6.54	7.04	7.24	7.92	7.22	7.00	8.36	7.30	5.92	8.65	7.80	8.53	8.21	7.64
BaO	0.20	0.11	0.13	0.08	0.17	0.08	0.20	0.11	0.01	0.12	0.08	0.10	0.37	0.12	0.30	0.08	0.15	0.17	0.15
Na_2O	6.91	6.52	7.28	5.98	7.64	7.25	7.02	6.95	6.74	7.23	7.27	6.66	7.27	7.86	6.38	6.85	6.66	7.02	7.00
K_2O	0.55	0.86	0.73	0.46	0.99	0.74	0.60	0.81	0.66	0.78	0.62	0.52	0.78	0.81	0.55	0.65	0.53	0.71	0.63
sum	101.42	100.99	100.47	99.30	100.61	100.57	101.20	100.77	99.76	99.39	100.56	100.58	101.68	99.25	101.39	100.41	101.56	101.84	101.00
mol%An	37.3	39.0	33.1	44.9	28.5	31.8	34.4	34.8	37.9	34.0	33.5	39.8	34.1	28.1	41.5	37.2	40.2	37.7	36.3
mol%Ab	59.5	56.1	62.8	52.4	65.9	63.9	62.1	60.5	58.4	61.6	63.0	57.3	61.5	67.4	55.4	59.1	56.8	58.4	60.1
mol%Or	3.1	4.9	4.1	2.6	5.6	4.3	3.5	4.6	3.8	4.4	3.5	2.9	4.4	4.6	3.1	3.7	3.0	3.9	3.5

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
SiO_2	59.32	61.22	58.35	58.56	59.51	57.65	58.17	59.45	61.05	60.63	58.77	57.00	57.65	60.18	61.29	59.71	60.86	59.38	59.01
TiO_2	0.09	0.01	0.06	0.00	0.04	0.04	0.11	0.11	0.05	0.08	0.04	0.07	0.06	0.05	0.01	0.04	0.04	0.09	0.02
Al_2O_3	24.16	24.61	26.10	26.37	25.55	26.28	26.00	26.49	24.54	25.40	26.02	26.64	26.34	24.93	24.11	25.36	25.00	25.69	25.83
Fe_2O_3	0.62	0.52	0.47	0.65	0.43	0.45	0.87	0.65	0.38	0.44	0.56	0.70	0.58	0.66	0.53	0.41	0.46	0.45	0.45
MnO	0.00	-0.01	0.04	-0.02	-0.01	-0.02	-0.06	-0.04	-0.04	0.00	0.02	-0.02	0.04	0.01	0.05	0.08	0.06	0.04	0.12
MgO	0.04	0.03	0.01	0.02	0.02	0.04	0.14	0.10	0.09	0.07	0.03	0.06	0.04	0.06	0.02	0.03	0.03	0.01	0.03
CaO	6.73	6.30	8.57	7.60	7.00	8.77	9.26	8.10	6.25	6.86	8.10	9.04	8.32	7.50	6.03	6.72	6.56	7.11	7.81
BaO	0.21	0.15	0.26	-0.01	-0.03	-0.10	-0.03	-0.06	0.08	0.03	0.14	0.05	0.22	0.16	0.27	-0.03	0.19	0.05	0.10
Na_2O	7.35	7.49	6.53	6.79	6.99	6.61	5.88	6.89	7.52	7.15	6.46	6.28	6.84	7.02	7.53	7.03	7.32	7.26	6.79
K_2O	1.04	0.82	0.43	0.53	0.70	0.51	0.83	0.65	0.77	0.76	0.59	0.48	0.67	0.49	0.84	0.64	0.80	0.68	0.58
sum	99.55	101.14	100.82	100.48	100.20	100.23	101.18	102.32	100.69	101.42	100.74	100.28	100.75	101.06	100.68	100.00	101.33	100.75	100.75
mol%An	31.6	30.3	41.0	37.0	34.1	41.1	44.4	37.9	30.1	33.1	39.5	43.1	38.7	36.1	29.2	33.3	31.6	33.8	37.6
mol%Ab	62.5	65.1	56.5	59.9	61.8	56.0	50.9	58.4	65.5	62.5	57.0	54.2	57.6	61.1	66.0	63.0	63.8	62.4	59.1
mol%Or	5.8	4.7	2.5	3.1	4.1	2.9	4.7	3.6	4.4	4.4	3.5	2.7	3.7	2.8	4.9	3.8	4.6	3.8	3.3

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
SiO_2	58.72	59.65	58.14	57.55	61.39	59.46	56.33	59.82	56.82	59.25	58.78	63.76	58.16	56.63	58.18	59.80	60.03	57.29	60.02
TiO_2	0.03	0.05	0.07	0.08	-0.20	0.00	0.16	0.22	0.27	0.03	0.04	0.10	0.01	0.06	0.01	0.02	0.06	0.06	0.08
Al_2O_3	26.46	25.04	26.68	24.86	25.53	25.74	26.77	25.83	27.01	25.50	26.11	23.12	26.44	26.40	25.61	25.10	25.22	27.32	24.78
Fe_2O_3	0.53	0.49	0.54	0.66	-0.11	-0.02	0.54	0.71	0.98	0.51	0.43	0.63	0.48	0.51	0.49	0.43	0.59	0.67	0.52
MnO	0.05	-0.03	-0.05	-0.08	-0.18	0.00	0.10	0.14	0.14	-0.04	-0.04	-0.03	0.02	0.00	-0.01	-0.02	0.01	0.01	0.03
MgO	0.03	0.04	0.06	0.03	0.02	0.05	0.09	0.03	0.11	0.04	0.06	0.04	0.05	0.05	0.04	0.03	0.02	0.06	0.03
CaO	8.10	7.34	8.60	8.03	6.16	7.39	9.53	7.73	9.20	7.35	7.85	5.30	8.22	8.18	8.32	7.17	6.53	9.14	7.33
BaO	0.10	0.09	-0.18	-0.07	-0.27	0.04	0.13	0.30	0.23	0.29	0.11	0.15	0.04	0.02	0.06	0.09	0.03	0.01	0.17
Na_2O	6.98	7.20	6.81	6.79	7.48	7.08	6.06	7.26	6.16	7.11	6.77	7.22	6.88	6.16	6.60	7.15	7.34	6.25	7.11
K_2O	0.46	0.73	0.51	0.55	0.97	0.62	0.44	0.65	0.53	0.69	0.56	1.09	0.55	0.50	0.53	0.68	0.70	0.51	0.75
sum	101.46	100.59	101.18	98.39	100.78	100.35	100.13	102.70	101.45	100.73	100.68	101.39	100.85	98.50	99.82	100.45	100.53	101.30	100.83
mol%An	38.1	34.6	39.9	38.3	29.5	35.3	45.3	35.7	43.9	34.9	37.8	27.0	38.6	41.1	39.8	34.3	31.6	43.4	34.7
mol%Ab	59.4	61.3	57.2	58.6	64.9	61.2	52.2	60.7	53.1	61.2	59.0	66.4	58.4	56.0	57.1	61.8	64.3	53.7	61.0
mol%Or	2.6	4.1	2.8	3.1	5.6	3.5	2.5	3.6	3.0	3.9	3.2	6.6	3.0	3.0	3.0	3.9	4.1	2.9	4.3

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152
SiO_2	57.58	59.00	57.73	58.91	56.63	60.85	59.96	56.80	61.15	58.77	57.35	57.29	57.21	59.61	60.89	58.90	58.00	61.18	58.92
TiO_2	0.06	0.09	0.05	0.05	0.05	0.06	0.04	0.05	0.07	0.05	0.01	0.03	0.02	-0.02	0.05	0.03	0.01	0.05	-0.01
Al_2O_3	25.04	25.66	27.43	26.23	27.34	24.62	25.38	26.79	24.21	25.35	27.60	27.48	26.30	24.86	24.49	25.46	26.14	24.92	26.42
Fe_2O_3	0.67	0.52	0.59	0.59	0.52	0.33	0.41	0.41	0.51	0.40	0.52	0.51	0.59	0.52	0.37	0.55	0.78	0.79	0.73
MnO	0.04	0.03	0.01	0.05	0.06	-0.02	0.00	0.01	-0.03	0.03	-0.02	-0.07	-0.03	-0.05	-0.04	0.01	0.03	-0.01	0.07
MgO	0.03	0.00	0.07	0.03	0.03	0.04	0.06	0.02	0.04	0.00	0.04	0.06	0.07	0.04	0.04	0.09	0.07	0.07	0.07
CaO	9.30	7.87	9.51	7.65	9.28	6.52	6.39	8.83	6.16	7.42	9.61	9.52	9.20	7.21	6.85	7.81	8.34	7.26	7.89
BaO	0.10	0.10	-0.01	0.07	0.05	0.05	0.35	0.09	0.23	0.11	0.07	0.09	0.00	0.07	0.16	0.13	0.13	0.10	0.05
Na_2O	6.53	6.86	5.93	6.85	6.14	7.48	7.19	6.28	7.35	6.98	6.07	5.96	6.47	7.03	7.46	6.60	6.53	7.26	6.67
K_2O	0.53	0.50	0.46	0.61	0.55	0.83	0.84	0.56	0.83	0.57	0.42	0.55	0.45	0.67	0.61	0.63	0.68	0.62	0.49
sum	99.87	100.63	101.78	101.05	100.65	100.76	100.62	99.83	100.51	99.68	101.67	101.41	100.27	99.95	100.88	100.22	100.72	102.23	101.29
mol%An	42.7	37.7	45.7	36.8	44.1	31.0	31.3	42.3	30.1	35.8	45.6	45.4	42.9	34.8	32.5	38.1	39.8	34.3	38.4
mol%Ab	54.4	59.4	51.6	59.7	52.8	64.3	63.8	54.5	65.1	60.9	52.1	51.5	54.6	61.4	64.0	58.2	56.4	62.2	58.8
mol%Or	2.9	2.9	2.7	3.5	3.1	4.7	4.9	3.2	4.8	3.3	2.4	3.1	2.5	3.9	3.5	3.7	3.9	3.5	2.8

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
SiO_2	60.50	59.36	58.74	59.03	58.34	61.11	60.41	59.44	58.95	59.30	59.21	60.99	59.65	59.03	57.23	58.39	58.71	59.19	59.06
TiO_2	0.01	-0.01	0.01	0.01	0.05	0.05	0.08	0.10	0.12	0.10	0.13	0.12	0.10	0.14	0.12	0.16	0.02	0.02	-0.23
Al_2O_3	24.74	25.90	25.36	26.11	25.77	25.04	25.00	25.76	25.95	25.85	25.47	25.11	24.60	26.04	26.80	25.68	25.35	24.95	25.26
Fe_2O_3	0.50	0.44	0.43	0.62	0.57	0.72	0.45	0.51	0.48	0.43	0.52	0.53	0.55	0.55	0.49	0.57	0.54	0.49	-0.23
MnO	0.02	-0.04	-0.01	-0.01	-0.01	0.04	-0.01	0.00	-0.01	0.02	0.01	0.05	-0.05	-0.01	-0.07	-0.01	-0.01	-0.02	-0.16
MgO	0.04	0.04	0.05	0.03	0.08	0.08	0.04	0.03	0.04	0.03	0.05	0.07	0.05	0.09	0.05	0.07	0.06	0.02	0.04
CaO	6.65	7.74	7.61	8.05	8.08	6.88	6.76	8.05	7.55	7.34	7.51	6.74	6.96	7.86	8.66	7.77	7.60	6.52	7.71
BaO	0.23	-0.01	-0.01	0.08	0.07	0.16	0.20	-0.02	0.09	0.14	0.32	0.10	0.26	0.17	0.16	0.03	0.13	0.22	-0.11
Na_2O	7.29	6.86	7.01	6.94	6.79	7.26	7.02	6.80	6.84	7.08	6.94	7.29	7.56	6.66	6.55	7.23	6.90	7.04	7.11
K_2O	0.80	0.65	0.63	0.48	0.62	0.68	0.76	0.54	0.56	0.73	0.69	0.59	0.63	0.58	0.44	0.51	0.73	0.66	0.54
sum	100.79	100.93	99.83	101.34	100.34	102.01	100.71	101.21	100.56	101.02	100.85	101.59	100.32	101.10	100.42	100.40	100.04	99.09	98.98
mol%An	32.0	37.0	36.2	38.0	38.3	33.0	33.2	38.3	36.7	34.9	36.0	32.7	32.5	38.1	41.2	36.2	36.2	32.5	36.4
mol%Ab	63.4	59.3	60.3	59.3	58.2	63.1	62.3	58.6	60.1	60.9	60.1	63.9	63.9	58.5	56.3	61.0	59.6	63.5	60.6
mol%Or	4.6	3.7	3.6	2.7	3.5	3.9	4.5	3.1	3.2	4.2	3.9	3.4	3.5	3.4	2.5	2.8	4.2	3.9	3.0

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190
SiO_2	59.29	57.99	60.16	57.27	57.97	61.87	59.70	62.65	56.97	59.54	59.89	59.80	58.64	55.82	64.93	62.67	58.53	58.22	59.66
TiO_2	0.06	0.08	0.00	0.09	0.05	0.03	0.06	0.09	0.11	0.04	0.09	0.07	0.03	0.01	0.31	0.12	0.04	0.08	0.05
Al_2O_3	25.31	26.84	25.01	26.47	26.64	24.46	24.57	24.20	25.98	25.06	25.01	25.52	25.87	26.67	20.22	22.60	25.62	25.86	25.16
Fe_2O_3	0.38	0.60	0.48	0.86	0.60	0.48	0.63	0.40	0.74	0.35	0.63	0.40	0.59	0.62	1.31	0.91	0.47	0.59	0.58
MnO	-0.03	-0.01	-0.02	0.01	0.01	-0.03	0.03	0.04	0.03	0.01	0.03	0.05	-0.03	-0.04	0.02	0.00	-0.01	0.05	0.06
MgO	0.03	0.01	0.02	0.20	0.04	0.01	0.05	0.02	0.11	0.03	0.07	0.02	0.02	0.03	0.15	0.05	0.01	0.06	0.03
CaO	7.73	9.07	6.48	9.44	8.14	6.27	6.78	5.76	8.93	7.55	6.99	6.89	8.28	9.53	5.32	5.50	7.87	8.51	6.77
BaO	0.16	0.27	0.06	0.03	0.19	0.04	0.22	0.21	0.09	0.29	0.18	0.09	0.11	-0.09	0.16	0.14	0.12	0.08	0.00
Na_2O	6.59	6.24	7.30	6.06	6.32	7.57	7.39	7.72	6.15	7.02	6.90	6.93	6.56	5.96	4.88	6.68	6.65	6.51	7.30
K_2O	0.75	0.51	0.77	0.43	0.42	0.82	0.87	1.02	0.62	0.68	0.63	0.85	0.62	0.44	2.04	1.27	0.68	0.57	0.84
sum	100.27	101.60	100.26	100.83	100.37	101.52	100.31	102.11	99.72	100.57	100.42	100.60	100.69	98.95	99.33	99.92	99.99	100.54	100.45
mol%An	37.6	43.3	31.4	45.1	40.5	29.9	32.0	27.5	42.9	35.8	34.6	33.7	39.6	45.7	32.1	28.8	38.0	40.6	32.3
mol%Ab	58.0	53.9	64.1	52.5	57.0	65.4	63.1	66.7	53.5	60.3	61.7	61.3	56.8	51.8	53.2	63.3	58.1	56.2	63.0
mol%Or	4.3	2.9	4.4	2.4	2.5	4.7	4.9	5.8	3.5	3.8	3.7	5.0	3.6	2.5	14.7	7.9	3.9	3.2	4.8

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209
SiO_2	59.57	58.99	57.49	59.54	60.46	57.88	57.62	66.42	61.13	58.14	58.02	58.94	58.09	67.50	56.45	58.63	60.09	57.49	60.71
TiO_2	0.04	0.05	0.02	0.02	0.01	0.04	0.01	0.21	0.08	0.04	0.05	0.01	0.01	0.29	0.10	0.01	0.00	0.05	0.06
Al_2O_3	25.74	26.18	27.03	25.51	24.65	26.94	27.24	20.98	25.22	27.30	25.55	24.43	26.46	18.83	26.86	25.53	25.54	26.70	24.89
Fe_2O_3	0.59	0.50	0.69	0.55	0.45	0.49	0.56	0.97	0.59	0.62	0.49	0.43	0.50	1.19	0.82	0.57	0.50	0.68	0.59
MnO	0.08	0.06	0.04	-0.09	-0.03	0.03	-0.08	-0.09	0.04	0.01	0.00	0.04	0.02	0.04	0.02	0.06	0.05	0.02	0.02
MgO	0.05	0.05	0.07	0.00	0.00	0.04	0.02	0.02	0.05	0.04	0.00	0.05	0.04	0.04	0.14	0.06	0.06	0.07	0.05
CaO	7.69	7.89	8.94	7.25	6.68	8.37	9.30	4.10	7.13	8.22	8.03	6.82	8.38	3.28	9.43	8.17	7.25	8.93	7.15
BaO	0.01	-0.08	0.02	0.14	0.18	0.10	0.10	0.12	-0.18	-0.20	-0.09	-0.14	-0.22	0.18	0.07	0.09	0.33	0.20	0.10
Na_2O	6.97	6.72	6.26	6.94	7.55	6.50	6.11	6.76	7.49	6.70	6.75	7.03	6.78	5.60	5.87	6.75	7.29	6.20	6.70
K_2O	0.52	0.53	0.53	0.67	0.67	0.55	0.40	1.64	0.59	0.55	0.57	0.81	0.59	2.13	0.40	0.63	0.73	0.58	0.76
sum	101.24	100.89	101.08	100.53	100.63	100.94	101.29	101.13	102.13	101.43	99.37	98.43	100.65	99.06	100.16	100.50	101.84	100.91	101.03
mol%An	36.8	38.1	42.8	35.2	31.6	40.3	44.6	22.4	33.3	39.2	38.4	33.3	39.2	20.6	45.9	38.7	34.0	42.9	35.4
mol%Ab	60.3	58.8	54.2	60.9	64.6	56.6	53.1	66.9	63.4	57.7	58.4	62.0	57.5	63.5	51.7	57.8	61.9	53.8	60.1
mol%Or	2.9	3.1	3.0	3.9	3.8	3.2	2.3	10.7	3.3	3.1	3.3	4.7	3.3	15.9	2.3	3.6	4.1	3.3	4.5

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228
SiO_2	58.87	59.50	59.44	58.16	59.29	59.09	58.94	56.97	58.79	61.66	60.11	58.52	55.75	58.79	59.71	58.03	61.59	59.66	61.19
TiO_2	0.04	0.06	0.04	0.08	0.04	0.08	0.05	0.07	0.06	0.04	0.10	0.05	0.07	0.09	0.03	0.07	0.03	0.08	0.03
Al_2O_3	25.90	25.49	26.44	26.43	25.49	25.41	25.15	26.98	25.08	23.89	24.50	26.33	25.94	25.12	25.57	26.61	24.10	26.02	24.73
Fe_2O_3	0.65	0.57	0.44	0.99	0.53	0.57	0.61	0.56	0.49	0.25	0.34	0.45	0.50	0.57	0.52	0.53	0.37	0.58	0.44
MnO	-0.05	-0.05	-0.05	-0.01	0.03	0.12	0.02	0.06	0.10	0.02	0.07	0.01	0.05	-0.04	-0.04	0.01	0.00	0.00	0.00
MgO	0.05	0.04	0.06	0.07	0.04	0.04	0.01	0.07	0.03	0.02	0.02	0.03	0.05	0.07	0.03	0.04	0.04	0.05	0.03
CaO	8.31	6.82	7.38	9.13	6.98	7.70	7.45	9.16	7.18	5.79	7.21	8.27	9.88	7.32	7.31	8.25	5.56	7.58	6.75
BaO	0.11	0.13	-0.01	0.00	0.20	0.25	0.15	0.09	-0.01	0.17	0.11	0.08	-0.12	0.10	0.05	-0.01	-0.15	-0.08	0.19
Na_2O	6.66	7.02	6.87	6.10	7.36	6.81	6.74	5.94	7.06	7.58	7.35	6.75	5.70	6.82	6.75	6.39	7.67	6.78	7.39
K_2O	0.58	0.83	0.60	0.46	0.79	0.58	0.60	0.38	0.55	0.93	0.73	0.61	0.42	0.53	0.82	0.44	1.07	0.66	0.72
sum	101.11	100.40	101.22	101.41	100.74	100.65	99.72	100.29	99.31	100.34	100.53	101.09	98.25	99.37	100.74	100.37	100.28	101.33	101.48
mol%An	39.5	33.3	35.9	44.1	32.9	37.2	36.6	45.0	34.8	28.1	33.7	39.0	47.7	36.1	35.7	40.5	26.9	36.7	32.2
mol%Ab	57.3	61.9	60.6	53.3	62.7	59.5	59.9	52.8	62.0	66.5	62.2	57.6	49.8	60.8	59.6	56.9	67.0	59.5	63.7
mol%Or	3.3	4.8	3.5	2.6	4.4	3.3	3.5	2.2	3.2	5.4	4.1	3.4	2.4	3.1	4.8	2.6	6.1	3.8	4.1

Table B.13.37 (cntd): TEQ-66 Plagioclase Microlites

Microlite #	229	230	231	232
SiO_2	58.86	56.63	61.08	57.27
TiO_2	0.09	0.03	0.05	0.05
Al_2O_3	25.23	26.68	24.55	26.31
Fe_2O_3	0.58	0.63	0.44	0.61
MnO	-0.07	-0.04	-0.04	0.00
MgO	0.06	0.05	0.03	0.05
CaO	7.07	8.56	5.96	8.53
BaO	0.16	0.07	0.31	-0.02
Na_2O	7.14	6.11	7.28	6.55
K_2O	0.71	0.51	0.78	0.50
sum	99.84	99.23	100.44	99.84
mol%An	33.9	42.3	29.7	40.7
mol%Ab	62.0	54.7	65.6	56.5
mol%Or	4.1	3.0	4.6	2.8

APPENDIX C

COMPOSITIONAL ANALYSES OF ORTHOPYROXENE CRYSTALS

Table C.1.1: XAL-132, Orthopyroxene grain 1

Dist (µm)	0.0	15.1	45.3	90.7	105.7	151.0	181.3	211.5	226.5	241.7
SiO_2	53.61	53.81	54.23	55.11	54.60	52.39	53.47	54.05	53.98	52.64
TiO_2	0.31	0.26	0.28	0.21	0.16	0.23	0.18	0.18	0.29	0.34
Al_2O_3	1.37	1.64	1.56	0.81	0.49	6.40	1.03	0.81	1.12	1.62
Cr_2O_3	0.05	-0.03	-0.01	-0.01	0.00	0.01	-0.02	-0.02	-0.01	-0.02
FeO	17.42	16.80	16.79	17.30	17.14	16.99	17.68	16.95	17.00	18.27
MnO	0.51	0.51	0.43	0.52	0.67	0.72	0.78	0.62	0.45	0.53
MgO	26.17	27.03	26.66	26.27	26.97	23.02	26.87	26.95	26.92	25.83
CaO	1.61	1.32	1.44	1.10	1.09	1.04	0.99	1.24	1.07	1.55
Na_2O	0.01	0.00	0.03	0.02	0.03	0.05	0.07	0.03	0.05	0.05
K_2O	0.01	-0.04	0.01	-0.01	0.01	0.01	-0.02	-0.04	-0.02	0.01
Total	101.06	101.29	101.40	101.33	101.17	100.84	101.03	100.76	100.84	100.81
Mg#	72.8	74.1	73.9	73.0	73.7	70.7	73.0	73.9	73.8	71.6

Table C.1.2: XAL-132, Orthopyroxene grain 2

Dist (µm)	0.0	148.0	177.6	207.2	296.0
SiO_2	54.04	54.46	54.52	54.30	53.91
TiO_2	0.29	0.23	0.17	0.21	0.22
Al_2O_3	1.41	0.91	0.98	1.17	0.92
Cr_2O_3	-0.04	-0.07	-0.04	-0.06	0.01
FeO	16.94	16.95	17.49	17.47	16.64
MnO	0.39	0.48	0.51	0.60	0.62
MgO	26.34	26.63	26.32	26.31	27.00
CaO	1.39	1.11	1.11	1.09	0.99
Na_2O	0.03	0.05	0.01	0.04	0.01
K_2O	-0.02	-0.01	0.00	-0.01	0.00
Total	100.75	100.74	101.06	101.12	100.32
Mg#	73.5	73.7	72.8	72.9	74.3

Table C.1.3: XAL-132, Orthopyroxene grain 3

Dist (µm)	0.0	14.6	29.2	58.5	73.1	87.7	102.3	116.9	131.6	146.2	160.8	175.4
SiO_2	53.95	53.22	54.36	53.55	54.02	54.32	53.50	52.42	54.01	52.99	53.70	53.20
TiO_2	0.32	0.39	0.23	0.17	0.27	0.22	0.14	0.30	0.25	0.35	0.34	0.34
Al_2O_3	1.27	1.67	0.94	1.04	1.07	0.99	0.86	2.43	0.95	1.54	1.35	1.26
Cr_2O_3	-0.04	0.08	-0.05	0.02	-0.02	0.00	-0.01	0.29	-0.01	-0.01	0.00	0.02
FeO	17.03	16.62	16.80	17.08	16.75	17.17	17.28	16.69	16.70	17.55	16.88	17.32
MnO	0.43	0.40	0.56	0.52	0.59	0.45	0.56	0.51	0.54	0.52	0.53	0.46
MgO	26.41	26.50	26.98	26.85	26.25	26.66	26.90	26.20	26.81	26.24	26.40	25.89
CaO	1.42	1.54	1.31	1.14	1.38	1.36	1.06	1.41	1.23	1.50	1.48	1.84
Na_2O	0.03	0.01	0.02	0.04	0.02	0.00	0.00	0.01	0.01	0.07	0.05	0.04
K_2O	0.04	0.06	0.00	0.01	0.01	0.01	0.01	0.01	-0.01	0.05	0.04	0.02
Total	100.85	100.47	101.14	100.41	100.33	101.16	100.29	100.27	100.48	100.80	100.77	100.40
Mg#	73.4	74.0	74.1	73.7	73.6	73.5	73.5	73.7	74.1	72.7	73.6	72.7

Table C.1.4: XAL-132, Orthopyroxene grain 4

Dist (µm)	0.0	7.5	37.1	44.4	51.9	59.2	66.7	74.0	88.8	96.3	111.1	118.5
SiO_2	54.64	53.53	53.91	54.31	53.54	53.68	54.60	54.40	53.49	53.83	54.15	51.54
TiO_2	0.23	0.31	0.30	0.28	0.36	0.33	0.24	0.21	0.38	0.33	0.22	0.30
Al_2O_3	1.08	1.54	1.19	1.25	2.46	2.19	1.19	1.26	1.83	2.93	1.46	3.58
Cr_2O_3	0.01	0.01	0.11	0.11	0.17	0.14	0.09	0.13	0.17	0.04	-0.03	0.09
FeO	16.96	17.29	17.13	16.30	16.64	15.88	15.61	15.84	15.52	15.63	16.59	17.66
MnO	0.39	0.43	0.46	0.52	0.44	0.45	0.33	0.46	0.45	0.36	0.46	0.47
MgO	26.22	26.61	26.81	27.09	26.39	26.94	27.49	27.08	26.40	26.26	26.44	25.93
CaO	1.38	1.62	1.22	1.38	1.27	1.53	1.48	1.36	2.44	1.69	1.18	1.62
Na_2O	0.03	0.03	0.03	0.01	0.04	0.06	0.02	0.05	0.02	0.02	0.01	0.00
K_2O	0.02	0.03	-0.04	-0.03	-0.01	0.01	-0.01	0.02	-0.05	0.02	0.04	0.03
Total	100.95	101.40	101.11	101.22	101.29	101.21	101.04	100.80	100.64	101.11	100.53	101.22
Mg#	73.4	73.3	73.6	74.8	73.9	75.1	75.8	75.3	75.2	75.0	74.0	72.4

Table C.1.5: XAL-132, Orthopyroxene grain 5

Dist (µm)	0.0	30.6	76.4	91.6	183.2	198.5	213.8	244.2	259.5	274.8
SiO_2	54.78	55.36	54.92	53.37	53.78	54.20	52.78	53.80	53.40	53.70
TiO_2	0.21	0.21	0.23	0.28	0.29	0.31	0.30	0.36	0.32	0.33
Al_2O_3	0.73	0.72	0.71	1.49	1.01	1.23	2.07	1.78	1.62	1.38
Cr_2O_3	0.02	0.11	0.04	0.00	-0.05	-0.01	0.02	-0.01	-0.03	-0.03
FeO	16.96	16.18	16.12	16.82	17.97	17.50	17.30	17.17	17.06	17.32
MnO	0.46	0.38	0.37	0.38	0.54	0.38	0.52	0.48	0.37	0.38
MgO	26.31	26.80	26.73	26.69	25.83	26.09	25.84	25.24	25.65	26.03
CaO	1.64	1.60	1.51	1.47	1.72	1.56	1.48	1.64	1.60	1.49
Na_2O	0.00	0.01	-0.01	0.02	0.00	0.00	0.03	0.05	0.04	0.03
K_2O	0.06	-0.01	0.04	0.03	0.01	0.05	0.03	0.01	0.05	0.03
Total	101.17	101.36	100.67	100.55	101.09	101.29	100.35	100.51	100.07	100.64
Mg#	73.4	74.7	74.7	73.9	71.9	72.7	72.7	72.4	72.8	72.8

Table C.1.6: XAL-132, Orthopyroxene grain 6

Dist (µm)	0.0	15.2	30.5	45.6	60.8	76.0	91.3	106.5	121.7	152.1	167.3	182.5	197.7	212.9	228.2	243.4
SiO_2	54.68	54.04	53.84	54.05	54.40	53.88	52.96	53.76	54.00	53.92	53.82	53.91	53.12	53.43	53.83	54.09
TiO_2	0.14	0.14	0.17	0.23	0.16	0.20	0.20	0.17	0.22	0.27	0.26	0.30	0.25	0.27	0.31	0.27
Al_2O_3	0.93	1.03	1.04	0.94	0.62	0.71	1.28	0.77	0.71	0.96	1.00	0.98	0.86	1.02	0.93	0.69
Cr_2O_3	0.11	0.04	-0.01	0.01	0.01	-0.01	0.11	0.03	0.01	-0.03	-0.01	0.02	0.00	-0.01	-0.01	-0.03
FeO	16.32	16.32	16.54	17.24	16.39	16.84	17.24	16.52	16.85	16.53	16.75	16.81	17.13	17.07	16.95	16.94
MnO	0.39	0.43	0.49	0.60	0.54	0.59	0.66	0.66	0.51	0.53	0.54	0.47	0.49	0.41	0.45	0.46
MgO	26.81	27.14	26.78	27.17	27.03	26.93	26.80	27.28	27.07	26.51	26.40	26.36	26.16	26.46	26.27	25.96
CaO	1.51	1.31	1.24	1.11	1.35	1.23	1.29	1.17	1.12	1.28	1.28	1.30	1.47	1.61	1.39	1.76
Na_2O	0.03	0.06	0.02	0.04	0.04	0.04	0.04	0.04	0.01	0.05	0.06	0.03	0.03	0.06	0.07	0.06
K_2O	0.00	0.06	0.01	0.03	0.00	0.05	0.03	0.00	0.02	-0.01	0.01	-0.03	0.01	0.00	0.00	0.00
Total	100.91	100.56	100.12	101.40	100.52	100.48	100.60	100.40	100.53	100.01	100.09	100.14	99.52	100.31	100.18	100.20
Mg#	74.5	74.8	74.3	73.7	74.6	74.0	73.5	74.6	74.1	74.1	73.8	73.6	73.1	73.4	73.4	73.2

Table C.1.7: XAL-132, Orthopyroxene grain 7

Dist (µm)	0.0	15.5	30.8	46.3	61.7	77.1	92.5	108.0	123.3	138.8	154.2	169.6	185.0	200.5	215.8	231.3	246.7	262.1	277.5
SiO_2	54.27	53.80	53.17	53.03	54.17	54.05	54.04	54.34	54.67	53.71	54.61	54.13	53.63	54.13	53.51	53.80	53.32	53.53	53.43
TiO_2	0.27	0.23	0.26	0.31	0.21	0.22	0.23	0.21	0.22	0.17	0.19	0.19	0.21	0.19	0.27	0.18	0.24	0.23	0.25
Al_2O_3	1.01	1.16	1.07	1.19	1.03	0.99	0.95	0.86	0.72	0.70	0.61	0.71	0.69	0.65	0.91	0.74	0.63	0.78	0.99
Cr_2O_3	-0.05	-0.07	-0.02	0.00	-0.02	-0.01	-0.02	-0.03	-0.03	0.02	0.03	0.00	0.03	0.03	0.01	0.04	0.00	-0.01	0.04
FeO	17.24	17.19	16.38	16.75	15.94	16.45	16.74	16.65	16.57	15.85	16.82	16.76	16.37	17.11	17.08	16.95	16.68	17.06	17.29
MnO	0.47	0.53	0.49	0.47	0.46	0.46	0.51	0.42	0.48	0.46	0.44	0.61	0.56	0.41	0.45	0.55	0.63	0.45	0.40
MgO	26.20	26.36	26.70	26.64	27.21	26.75	26.98	27.23	27.34	27.28	27.50	27.14	26.96	26.77	26.51	26.33	26.92	26.37	26.06
CaO	1.44	1.44	0.97	1.32	1.17	1.21	1.32	1.17	1.22	1.11	1.20	1.19	1.30	1.26	1.13	1.28	1.32	1.27	1.30
Na_2O	0.04	0.01	0.00	0.01	0.02	0.03	0.02	0.01	0.01	0.00	0.00	0.02	0.01	0.02	0.02	0.02	-0.01	0.00	-0.01
K_2O	-0.01	-0.05	-0.03	-0.05	0.01	-0.04	-0.03	-0.03	-0.04	0.00	0.01	-0.01	0.03	0.02	0.03	0.01	-0.02	-0.02	0.01
Total	100.87	100.60	98.98	99.66	100.19	100.10	100.73	100.83	101.16	99.32	101.41	100.76	99.79	100.58	99.92	99.88	99.70	99.65	99.75
Mg#	73.0	73.2	74.4	73.9	75.3	74.3	74.2	74.5	74.6	75.4	74.5	74.3	74.6	73.6	73.5	73.5	74.2	73.4	72.9

Table C.1.8: XAL-132, Orthopyroxene grain 8

Dist (µm)	0.0	30.4	60.7	91.2	121.5	151.9	182.2	212.7	243.1	273.4	303.8	334.2	364.6	394.9	425.3
SiO_2	54.91	55.27	54.28	53.34	54.43	53.43	54.13	53.77	54.21	53.75	53.69	54.29	53.01	54.17	51.37
TiO_2	0.24	0.20	0.27	0.38	0.30	0.45	0.35	0.29	0.35	0.36	0.39	0.27	0.32	0.28	0.17
Al_2O_3	1.37	0.61	0.75	1.83	1.11	1.55	1.21	1.21	1.31	1.30	1.12	1.36	1.11	0.97	0.81
Cr_2O_3	0.09	0.03	0.01	0.07	-0.04	-0.07	-0.04	-0.04	-0.05	-0.01	-0.05	-0.05	-0.07	-0.01	0.02
FeO	15.52	16.83	16.38	16.99	17.15	17.26	16.98	17.72	17.30	17.90	17.47	17.31	18.00	17.50	17.86
MnO	0.40	0.49	0.47	0.49	0.51	0.53	0.54	0.44	0.54	0.50	0.50	0.41	0.45	0.49	0.65
MgO	27.24	26.21	26.49	25.59	26.04	25.77	26.27	26.25	25.86	26.20	26.28	26.15	26.50	26.53	29.33
CaO	1.24	1.56	1.37	2.02	1.67	2.06	1.44	1.47	1.69	1.38	1.48	1.56	1.54	1.42	1.12
Na_2O	0.01	0.04	0.02	0.02	0.04	0.03	0.00	-0.01	0.13	0.02	-0.01	0.00	0.06	0.02	0.03
K_2O	0.02	-0.02	-0.01	0.00	0.01	-0.01	0.02	0.01	-0.01	-0.03	-0.02	0.05	-0.03	0.03	-0.02
Total	101.04	101.22	100.01	100.72	101.22	101.00	100.90	101.08	101.32	101.36	100.83	101.35	100.87	101.39	101.33
Mg#	75.8	73.5	74.2	72.9	73.0	72.7	73.4	72.5	72.7	72.3	72.8	72.9	72.4	73.0	74.5

Table C.1.9: XAL-132, Orthopyroxene grain 9

Dist (µm)	0.0	58.1	87.1	145.2	174.1	203.2	232.2	290.2	319.3	348.2	377.3	406.3	435.3	464.3
SiO_2	54.38	54.22	54.03	54.05	53.51	53.68	53.90	53.31	53.13	53.55	53.89	53.89	53.94	53.26
TiO_2	0.18	0.38	0.31	0.29	0.31	0.25	0.26	0.18	0.29	0.28	0.24	0.39	0.26	0.33
Al_2O_3	0.81	1.54	1.40	1.48	1.14	1.77	1.18	1.49	2.60	1.88	1.66	1.73	1.54	1.19
Cr_2O_3	-0.02	-0.05	-0.03	0.01	0.01	0.14	-0.01	0.11	0.12	0.12	0.15	0.03	0.03	0.06
FeO	17.15	17.33	17.71	17.67	17.46	17.53	17.27	16.30	16.86	15.73	16.36	16.98	17.02	17.46
MnO	0.47	0.47	0.48	0.46	0.58	0.36	0.37	0.47	0.48	0.40	0.43	0.51	0.61	0.49
MgO	25.94	25.11	25.42	25.88	26.12	25.64	25.76	26.85	26.16	26.84	26.45	25.63	25.70	25.85
CaO	1.36	2.07	1.74	1.44	1.45	1.37	1.42	1.58	1.30	1.58	1.14	1.81	1.79	1.79
Na_2O	0.03	0.03	0.05	0.00	0.04	0.02	0.01	0.01	0.04	0.02	0.03	0.01	0.05	-0.01
K_2O	-0.01	-0.04	0.01	-0.03	0.02	-0.02	0.00	0.00	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02
Total	100.29	101.06	101.11	101.25	100.62	100.74	100.15	100.30	100.97	100.37	100.33	100.95	100.91	100.39
Mg#	72.9	72.1	71.9	72.3	72.7	72.3	72.7	74.6	73.4	75.3	74.2	72.9	72.9	72.5

Table C.1.10: XAL-132, Orthopyroxene grain 10

Dist (µm)	15.3	46.0	107.3	138.0	153.3	184.0
SiO_2	53.98	52.96	54.04	54.80	53.70	54.20
TiO_2	0.34	0.36	0.36	0.28	0.31	0.39
Al_2O_3	1.62	4.69	1.21	1.15	1.45	1.05
Cr_2O_3	0.07	0.06	0.01	-0.06	0.01	0.05
FeO	17.10	15.93	17.24	16.25	17.42	17.28
MnO	0.43	0.39	0.50	0.44	0.48	0.38
MgO	25.46	24.03	26.49	27.22	26.32	26.06
CaO	1.60	1.36	1.28	1.32	1.36	1.59
Na_2O	0.04	0.04	0.03	0.02	0.02	0.03
K_2O	0.00	0.04	-0.07	0.00	-0.02	0.05
Total	100.64	99.86	101.08	101.44	101.04	101.06
Mg#	72.6	72.9	73.3	74.9	72.9	72.9

Table C.1.11: XAL-132, Orthopyroxene grain 11

Dist (µm)	0.0	29.3	87.8	117.0	146.3	175.5	204.8	234.0	263.3	292.6
SiO_2	53.64	53.36	55.10	54.91	54.64	53.90	55.04	53.59	54.62	54.39
TiO_2	0.19	0.31	0.22	0.28	0.27	0.30	0.19	0.18	0.21	0.23
Al_2O_3	2.26	2.49	1.21	1.18	0.90	1.11	0.76	0.65	0.63	0.79
Cr_2O_3	0.06	0.10	0.04	0.06	0.05	0.06	0.00	0.02	0.04	0.01
FeO	17.37	16.38	16.08	16.08	16.37	16.88	16.32	16.44	16.49	17.37
MnO	0.47	0.41	0.39	0.39	0.42	0.55	0.42	0.40	0.44	0.45
MgO	25.54	26.05	26.83	27.07	27.23	26.59	26.79	26.72	26.77	26.25
CaO	1.18	1.63	1.33	1.18	1.26	1.23	1.55	1.49	1.46	1.18
Na_2O	-0.01	0.04	0.01	0.01	0.04	0.01	0.01	0.04	0.01	0.02
K_2O	-0.02	0.02	0.03	0.02	0.02	0.05	0.03	0.06	0.04	0.06
Total	100.68	100.77	101.23	101.17	101.20	100.69	101.10	99.59	100.72	100.76
Mg#	72.4	73.9	74.8	75.0	74.8	73.7	74.5	74.3	74.3	72.9

Table C.1.12: XAL-132, Orthopyroxene grain 12

Dist (µm)	0.0	14.6	43.8	58.5	73.1	87.7	102.3	116.9	146.1	160.7	233.8	263.0
SiO_2	53.47	54.36	52.07	54.21	54.49	53.75	53.18	53.05	53.73	53.76	51.04	53.75
TiO_2	0.31	0.31	0.26	0.17	0.14	0.14	0.00	0.12	0.08	0.08	0.34	0.34
Al_2O_3	2.26	1.44	3.88	0.91	0.90	0.72	0.39	0.63	1.06	0.79	6.83	1.27
Cr_2O_3	0.11	0.03	0.08	0.00	0.03	0.00	0.03	-0.01	0.02	0.01	0.06	0.05
FeO	16.84	16.39	15.92	17.20	17.49	18.05	18.32	17.90	18.80	19.36	16.27	17.54
MnO	0.37	0.40	0.46	0.73	0.78	0.85	0.90	1.05	1.01	0.97	0.25	0.40
MgO	25.63	27.00	24.39	26.75	26.52	26.56	25.42	24.74	24.95	25.19	23.14	26.01
CaO	1.46	1.19	1.25	0.84	0.59	0.72	0.74	0.73	0.69	0.81	1.71	1.43
Na_2O	0.04	0.06	0.03	0.03	0.02	0.00	0.03	0.05	0.04	0.05	0.04	0.07
K_2O	0.05	0.04	0.03	0.06	0.03	0.05	0.03	0.03	0.06	0.02	0.05	0.05
Total	100.53	101.23	98.36	100.89	100.99	100.85	99.04	98.30	100.43	101.04	99.72	100.89
Mg#	73.1	74.6	73.2	73.5	73.0	72.4	71.2	71.1	70.3	69.9	71.7	72.5

Table C.1.13: XAL-132, Orthopyroxene grain 13

Dist (µm)	0.0	28.7	57.4	86.1	114.8	143.5	172.2	201.0	229.6	258.3	287.1	315.7
SiO_2	54.09	53.70	53.81	54.34	53.99	53.78	54.12	53.90	53.84	53.85	54.71	54.25
TiO_2	0.29	0.29	0.24	0.24	0.35	0.33	0.26	0.32	0.30	0.20	0.28	0.22
Al_2O_3	1.01	0.93	0.87	0.91	2.14	1.09	1.00	1.21	1.01	1.02	1.06	0.55
Cr_2O_3	-0.04	-0.02	-0.05	-0.07	-0.03	-0.04	0.01	0.01	-0.04	-0.02	0.04	0.02
FeO	16.70	17.26	17.19	17.04	16.50	16.70	16.55	16.08	16.50	17.10	16.69	17.39
MnO	0.54	0.44	0.48	0.51	0.53	0.55	0.47	0.52	0.64	0.56	0.52	0.46
MgO	26.21	26.33	26.43	26.41	25.16	26.94	26.68	26.51	27.06	26.37	26.12	25.91
CaO	1.59	1.43	1.51	1.26	1.31	1.06	1.31	1.14	1.10	1.31	1.33	1.64
Na_2O	0.05	0.05	0.04	0.02	0.06	0.05	0.03	0.03	0.04	-0.01	0.03	-0.01
K_2O	0.00	-0.02	-0.05	0.01	-0.02	0.00	-0.03	-0.06	-0.07	-0.06	0.00	-0.02
Total	100.43	100.40	100.47	100.65	100.00	100.46	100.40	99.66	100.37	100.31	100.78	100.42
Mg#	73.7	73.1	73.3	73.4	73.1	74.2	74.2	74.6	74.5	73.3	73.6	72.6

Table C.1.14: XAL-132, Orthopyroxene grain 14

Dist (µm)	0.0	7.6	15.1	30.2	37.8	45.3	52.8	60.4	68.0	75.5	83.1	90.6	98.2	113.3	120.8	128.4	136.0
SiO_2	53.75	53.37	52.82	54.21	53.74	53.02	52.96	53.02	53.77	53.15	53.96	54.23	54.03	53.91	53.68	53.41	54.06
TiO_2	0.34	0.15	0.27	0.28	0.38	0.40	0.40	0.29	0.34	0.31	0.34	0.34	0.22	0.29	0.15	0.26	0.31
Al_2O_3	1.08	0.83	1.43	1.37	1.66	1.63	2.48	1.56	1.66	1.53	1.28	1.46	1.42	1.28	0.91	1.21	1.46
Cr_2O_3	0.03	-0.04	-0.02	0.02	0.00	0.00	-0.01	0.00	-0.02	-0.01	-0.02	0.00	-0.02	-0.03	-0.01	0.04	0.03
FeO	17.19	17.00	17.40	16.79	17.24	17.17	16.75	16.82	17.34	16.35	17.00	16.85	16.63	17.75	17.30	16.34	17.20
MnO	0.50	0.57	0.53	0.55	0.54	0.47	0.52	0.51	0.54	0.43	0.48	0.48	0.42	0.54	0.75	0.42	0.34
MgO	26.55	26.47	26.19	26.27	26.19	26.27	25.80	26.04	26.42	26.62	26.26	26.12	26.61	26.01	26.94	26.41	26.09
CaO	1.74	1.11	1.22	1.64	1.43	1.37	1.33	1.39	1.33	1.59	1.40	1.30	1.49	1.20	1.10	1.25	1.56
Na_2O	0.03	0.02	0.02	0.04	0.00	0.04	-0.01	0.00	0.02	-0.01	0.02	0.04	-0.02	-0.01	-0.01	0.02	0.02
K_2O	-0.02	-0.04	0.02	-0.05	-0.05	-0.03	-0.01	-0.01	0.01	0.01	0.01	-0.02	-0.01	0.00	-0.01	0.01	0.02
Total	101.17	99.44	99.89	101.11	101.12	100.33	100.22	99.62	101.41	99.98	100.74	100.79	100.77	100.93	100.80	99.38	101.06
Mg#	73.4	73.5	72.8	73.6	73.0	73.2	73.3	73.4	73.1	74.4	73.4	73.4	74.0	72.3	73.5	74.2	73.0

Table C.1.15: XAL-132, Orthopyroxene grain 15

Dist (µm)	0.0	14.7	29.4	44.1	58.8	117.6	132.2	147.0	161.6	176.3	191.0	205.7	220.4	249.8	264.5
SiO_2	54.32	54.24	54.77	54.93	54.56	53.07	54.54	53.96	54.06	54.27	54.36	54.61	52.89	53.42	54.39
TiO_2	0.28	0.21	0.16	0.12	0.16	0.20	0.27	0.15	0.18	0.10	0.12	0.17	0.26	0.28	0.26
Al_2O_3	1.43	1.03	1.12	0.41	0.75	1.24	1.04	1.36	1.43	0.71	1.11	1.25	1.30	1.86	1.02
Cr_2O_3	0.01	-0.01	-0.01	0.01	-0.02	0.02	0.05	0.05	0.02	0.01	0.06	0.04	0.04	0.18	0.00
FeO	16.01	16.79	17.68	18.03	16.78	17.11	16.98	15.54	16.52	18.88	19.09	16.92	17.25	17.20	17.48
MnO	0.41	0.49	0.85	1.08	0.82	0.50	0.41	0.45	0.68	1.21	0.98	0.40	0.55	0.46	0.40
MgO	26.64	26.51	26.18	26.08	26.40	25.75	26.55	27.31	26.50	25.40	25.09	26.65	26.31	26.13	26.19
CaO	1.36	1.12	0.65	0.55	0.76	1.35	1.29	1.15	0.88	0.62	0.63	1.08	1.23	1.65	1.48
Na_2O	0.01	0.01	-0.01	-0.01	-0.02	0.03	0.01	0.02	-0.02	0.00	-0.01	0.01	0.01	0.01	0.00
K_2O	-0.01	-0.02	-0.03	0.01	0.00	-0.03	-0.02	-0.02	-0.03	0.03	-0.01	0.01	-0.02	-0.02	-0.05
Total	100.45	100.37	101.37	101.20	100.19	99.24	101.11	99.95	100.21	101.22	101.42	101.13	99.81	101.18	101.17
Mg#	74.8	73.8	72.5	72.0	73.7	72.8	73.6	75.8	74.1	70.6	70.1	73.7	73.1	73.0	72.8

Table C.1.16: XAL-132, Orthopyroxene grain 16

Dist (µm)	0.0	29.4	58.9	117.7	176.6	206.0	235.4	353.1	382.6	411.9
SiO_2	54.22	54.77	54.25	54.87	52.91	53.64	53.30	53.38	54.22	54.47
TiO_2	0.29	0.31	0.32	0.30	0.37	0.32	0.24	0.38	0.31	0.29
Al_2O_3	1.34	1.24	1.23	1.35	3.18	2.98	2.92	1.90	1.38	1.07
Cr_2O_3	-0.01	-0.03	-0.03	0.03	0.14	0.22	0.16	0.01	0.03	0.04
FeO	16.13	16.35	17.60	16.64	15.54	14.43	14.43	17.23	17.15	16.66
MnO	0.59	0.42	0.50	0.43	0.47	0.39	0.40	0.58	0.41	0.46
MgO	26.66	26.39	26.02	26.24	26.30	26.61	27.04	26.04	26.10	25.98
CaO	1.49	1.61	1.31	1.46	1.64	2.00	1.86	1.47	1.33	1.43
Na_2O	0.05	0.00	0.02	0.04	0.00	0.02	0.04	0.02	0.00	0.00
K_2O	-0.02	-0.06	-0.02	-0.03	-0.06	-0.06	-0.05	-0.07	-0.03	-0.04
Total	100.73	101.01	101.19	101.31	100.49	100.55	100.32	100.95	100.90	100.35
Mg#	74.7	74.2	72.5	73.8	75.1	76.7	77.0	72.9	73.1	73.5

Table C.1.17: XAL-132, Orthopyroxene grain 17

Dist (µm)	0.0	29.0	58.1	87.1	116.2	145.3	174.3	232.4	348.6	406.7	435.8	464.8
SiO_2	54.52	55.06	54.77	55.76	54.23	54.20	54.14	54.52	54.47	54.45	54.49	54.31
TiO_2	0.21	0.25	0.15	0.24	0.28	0.26	0.21	0.34	0.31	0.27	0.33	0.37
Al_2O_3	0.78	0.92	0.68	0.74	1.20	1.00	1.33	1.38	1.13	1.29	1.21	1.38
Cr_2O_3	0.01	0.00	0.01	0.00	-0.01	0.02	0.05	0.05	0.03	-0.05	-0.03	-0.04
FeO	17.40	16.76	16.59	16.20	16.64	16.45	16.28	16.59	16.78	16.67	17.02	16.35
MnO	0.44	0.49	0.51	0.48	0.47	0.52	0.51	0.49	0.57	0.59	0.49	0.37
MgO	26.28	26.14	26.91	26.86	26.74	27.11	27.02	26.73	25.76	26.23	26.05	26.33
CaO	1.46	1.37	1.30	1.21	1.04	1.22	1.45	1.18	1.30	1.48	1.31	1.37
Na_2O	-0.02	0.01	-0.02	-0.02	0.00	0.02	0.01	0.02	0.02	-0.01	0.02	0.01
K_2O	-0.03	-0.01	-0.05	-0.05	-0.02	-0.03	-0.03	-0.01	-0.05	0.01	0.09	0.06
Total	101.03	101.00	100.85	101.41	100.56	100.77	100.96	101.27	100.31	100.94	100.98	100.52
Mg#	72.9	73.5	74.3	74.7	74.1	74.6	74.7	74.2	73.2	73.7	73.2	74.2

Table C.1.18: XAL-132, Orthopyroxene grain 18

Dist (µm)	0.0	60.4	120.9	392.8	423.0	453.3
SiO_2	54.16	54.34	54.70	55.20	55.13	54.94
TiO_2	0.28	0.25	0.28	0.14	0.14	0.20
Al_2O_3	1.21	1.51	1.41	1.05	0.78	0.75
Cr_2O_3	-0.02	0.00	-0.02	0.03	-0.02	-0.03
FeO	17.06	16.08	15.82	15.11	15.62	16.81
MnO	0.51	0.54	0.49	0.32	0.46	0.55
MgO	26.29	27.33	26.43	27.74	27.31	26.81
CaO	1.42	1.30	1.15	1.34	1.58	1.24
Na_2O	0.01	0.00	0.00	0.01	0.01	0.01
K_2O	0.01	0.02	0.01	0.03	0.05	0.01
Total	100.95	101.36	100.27	100.97	101.05	101.29
Mg#	73.3	75.2	74.9	76.6	75.7	74.0

Table C.1.19: XAL-132, Orthopyroxene grain 19

Dist (µm)	120.2	180.2	210.2	240.2	300.3	330.3	360.3	420.4	450.5	480.5	510.5
SiO_2	54.27	54.01	53.61	54.42	54.37	54.08	54.62	54.14	54.91	53.52	54.28
TiO_2	0.31	0.26	0.25	0.18	0.22	0.26	0.18	0.18	0.21	0.24	0.24
Al_2O_3	1.27	1.22	1.21	0.79	0.77	0.84	0.80	1.07	0.97	0.74	0.76
Cr_2O_3	-0.05	-0.04	-0.03	-0.02	0.03	0.05	0.02	0.00	0.13	0.01	0.09
FeO	17.00	17.66	17.37	17.29	17.91	17.49	16.90	16.51	15.44	17.39	16.83
MnO	0.50	0.55	0.53	0.73	0.41	0.50	0.41	0.47	0.33	0.45	0.36
MgO	26.70	26.13	26.15	26.31	26.01	26.75	26.86	26.83	27.22	26.46	26.32
CaO	1.47	1.58	1.19	1.07	1.52	1.34	1.53	1.43	1.41	1.33	1.54
Na_2O	0.00	0.03	0.00	0.01	-0.02	0.03	0.04	0.01	0.03	0.02	0.00
K_2O	0.03	0.03	0.03	0.01	0.01	0.01	-0.01	0.00	0.01	0.03	-0.02
Total	101.50	101.43	100.32	100.78	101.23	101.33	101.34	100.64	100.65	100.17	100.39
Mg#	73.7	72.5	72.8	73.1	72.1	73.2	73.9	74.3	75.9	73.1	73.6

Table C.1.20: XAL-132, Orthopyroxene grain 20

Dist (µm)	0.0	15.2	30.5	76.2	91.3	197.9	213.2	228.4	243.6	258.8	274.1
SiO_2	54.58	54.45	54.10	53.63	53.27	53.17	54.58	53.63	54.34	54.91	51.89
TiO_2	0.26	0.15	0.14	0.11	0.07	0.17	0.21	0.42	0.30	0.30	0.31
Al_2O_3	1.37	1.07	0.79	0.70	0.93	1.03	1.10	1.63	1.53	1.33	4.00
Cr_2O_3	-0.02	0.03	0.05	0.01	0.04	0.00	0.00	0.00	0.04	0.08	0.18
FeO	16.76	18.36	20.12	21.03	21.05	18.41	17.07	16.21	16.47	16.04	15.19
MnO	0.40	0.78	0.82	1.10	1.15	0.71	0.58	0.42	0.39	0.44	0.29
MgO	26.40	25.88	24.78	23.63	23.70	25.95	26.59	26.55	26.60	26.43	25.73
CaO	1.43	0.77	0.68	0.64	0.61	0.70	1.32	1.89	1.60	1.41	1.88
Na_2O	0.02	-0.03	0.03	0.02	0.02	0.04	0.02	0.04	0.02	0.04	0.08
K_2O	-0.02	0.03	-0.04	-0.04	0.02	0.01	-0.07	-0.01	-0.04	-0.03	-0.02
Total	101.17	101.48	101.48	100.82	100.87	100.19	101.40	100.78	101.23	100.94	99.52
Mg#	73.7	71.5	68.7	66.7	66.7	71.5	73.5	74.5	74.2	74.6	75.1

Table C.1.21: XAL-132, Orthopyroxene grain 21

Dist (µm)	29.5	59.1	118.1	177.1	206.6	236.2	265.7	295.2	324.8	354.3
SiO_2	54.27	55.00	53.96	54.42	54.53	53.79	53.73	54.65	54.50	54.18
TiO_2	0.27	0.25	0.18	0.17	0.22	0.25	0.11	0.19	0.23	0.20
Al_2O_3	0.93	1.08	1.51	1.53	1.48	1.14	0.63	0.57	0.89	0.84
Cr_2O_3	0.02	0.02	0.01	0.03	0.01	0.05	0.03	0.03	0.07	0.00
FeO	16.76	16.59	17.61	17.48	17.52	17.60	17.37	16.72	16.64	16.56
MnO	0.50	0.49	0.69	0.77	0.68	0.66	0.65	0.52	0.43	0.44
MgO	26.39	26.79	25.71	25.73	25.62	25.85	25.99	26.40	26.02	26.58
CaO	1.36	0.95	1.28	1.05	1.10	1.11	1.38	1.18	1.68	1.54
Na_2O	0.03	0.04	0.03	-0.03	0.02	0.00	-0.02	-0.01	0.00	0.01
K_2O	-0.04	-0.03	0.06	0.02	0.06	0.01	0.02	0.03	0.05	0.04
Total	100.50	101.16	101.02	101.15	101.23	100.45	99.88	100.26	100.52	100.37
Mg#	73.7	74.2	72.2	72.4	72.3	72.4	72.7	73.8	73.6	74.1

Table C.2.1: XAL-134, Orthopyroxene grain 1

Dist (µm)	29.3	58.4	87.7	116.9	146.2	175.3	204.6	233.8	263.1	292.2	321.5	350.7	380.0	409.1	438.4	467.6	496.9	526.0	555.3	584.5
SiO_2	54.76	47.84	54.50	54.68	54.73	54.42	54.02	53.84	54.43	54.32	54.41	54.15	54.59	54.23	54.00	54.47	54.06	54.30	54.38	54.03
TiO_2	0.27	0.31	0.30	0.34	0.30	0.38	0.36	0.37	0.40	0.35	0.39	0.40	0.39	0.37	0.40	0.43	0.41	0.43	0.42	0.41
Al_2O_3	0.80	0.89	1.11	1.02	1.08	1.40	1.41	1.47	1.35	1.32	1.48	1.59	1.50	1.52	1.68	1.63	1.64	1.71	1.69	1.70
Cr_2O_3	0.02	0.06	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.03	0.02	0.03	-0.02	-0.01	0.01	0.01	0.01	0.02	0.02	0.03
FeO	15.82	15.79	16.26	16.27	16.34	16.24	16.41	16.32	16.38	16.33	16.29	16.38	16.37	16.11	16.24	16.23	16.17	16.17	16.10	16.21
MnO	0.47	0.42	0.51	0.56	0.47	0.50	0.50	0.51	0.51	0.52	0.51	0.47	0.51	0.52	0.44	0.51	0.49	0.42	0.44	0.44
MgO	27.55	25.63	26.73	26.97	26.77	26.82	26.61	26.67	26.75	26.79	26.84	26.53	26.67	26.92	26.82	26.89	26.84	26.93	26.88	26.71
CaO	1.46	1.43	1.53	1.49	1.47	1.46	1.57	1.46	1.50	1.42	1.43	1.44	1.45	1.45	1.48	1.47	1.41	1.53	1.49	1.54
Na_2O	0.00	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.02	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.01	0.04
K_2O	-0.01	-0.01	-0.02	-0.02	-0.04	-0.02	-0.03	0.00	0.03	-0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.00	0.00	0.01
Total	101.15	92.37	100.97	101.37	101.21	101.25	100.94	100.71	101.41	101.11	101.41	101.01	101.52	101.15	101.10	101.68	101.08	101.54	101.42	101.11
Mg#	75.6	74.3	74.6	74.7	74.5	74.6	74.3	74.4	74.4	74.5	74.6	74.3	74.4	74.9	74.6	74.7	74.7	74.8	74.9	74.6

Table C.2.2: XAL-134, Orthopyroxene grain 2

Dist (µm)	14.6	29.2	43.7	58.3	72.9	87.5	102.0	145.7	189.5	218.6	233.2	247.8	262.4	277.0	291.5	306.1	320.7
SiO_2	54.32	54.37	54.39	54.50	54.02	53.67	53.86	53.39	52.60	53.99	54.30	54.34	54.52	54.41	53.55	54.48	54.47
TiO_2	0.42	0.41	0.40	0.38	0.33	0.27	0.29	0.30	0.39	0.42	0.40	0.33	0.38	0.36	0.42	0.44	0.42
Al_2O_3	1.53	1.51	1.43	1.28	1.06	0.93	0.89	0.96	0.86	0.76	0.95	1.15	1.21	1.23	1.58	1.62	1.56
Cr_2O_3	0.01	0.01	0.02	-0.01	0.00	0.01	0.00	0.01	0.03	0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.01
FeO	16.21	16.25	16.28	16.20	18.97	19.46	19.86	18.37	19.22	18.84	17.01	15.94	15.82	15.84	16.06	16.06	16.05
MnO	0.47	0.52	0.49	0.52	0.73	0.83	0.86	0.77	0.63	0.80	0.53	0.48	0.47	0.49	0.48	0.51	0.48
MgO	27.21	26.85	26.83	26.74	24.89	24.04	24.22	24.95	25.79	25.52	26.70	26.99	26.88	27.17	26.48	27.16	27.00
CaO	1.47	1.50	1.56	1.56	1.47	1.41	1.37	1.37	1.48	1.40	1.48	1.39	1.52	1.45	1.48	1.46	1.62
Na_2O	0.01	0.03	0.03	0.01	0.02	0.02	0.04	0.03	0.00	-0.01	-0.02	0.02	0.03	0.03	0.04	0.02	0.02
K_2O	0.01	-0.01	0.01	0.01	-0.01	-0.01	-0.01	0.01	-0.01	0.00	-0.01	0.02	0.02	0.02	0.03	0.01	0.01
Total	101.66	101.46	101.44	101.22	101.48	100.65	101.38	100.17	100.99	101.76	101.38	100.66	100.86	100.99	100.14	101.79	101.64
Mg#	74.9	74.7	74.6	74.6	70.1	68.8	68.5	70.8	70.5	70.7	73.7	75.1	75.2	75.4	74.6	75.1	75.0

Table C.2.3: XAL-134, Orthopyroxene grain 3

Dist (µm)	29.0	58.1	87.1	116.2	145.3	232.4	261.5	290.5	319.6	348.6	377.7	406.7
SiO_2	53.79	53.68	53.11	53.58	53.71	54.06	54.74	54.79	54.61	55.05	55.35	53.36
TiO_2	0.38	0.27	0.30	0.29	0.27	0.25	0.28	0.26	0.25	0.28	0.27	0.43
Al_2O_3	1.31	0.85	1.44	1.37	1.16	0.68	0.81	0.82	0.84	0.81	0.81	1.82
Cr_2O_3	0.01	0.01	0.00	0.01	0.03	0.01	0.01	0.01	0.00	0.02	0.00	0.01
FeO	16.02	20.06	21.20	19.11	18.27	20.30	15.98	15.81	15.46	15.41	15.81	16.50
MnO	0.49	0.90	0.94	0.94	1.05	0.91	0.53	0.47	0.48	0.45	0.51	0.48
MgO	26.58	23.80	22.77	24.37	24.79	23.85	27.00	27.22	26.83	27.34	27.30	25.52
CaO	1.59	1.36	1.44	1.29	1.32	1.33	1.55	1.54	1.44	1.54	1.49	2.29
Na_2O	0.02	0.00	0.00	0.00	0.02	0.03	0.02	0.02	0.02	0.03	0.01	0.04
K_2O	0.00	-0.01	0.00	0.01	-0.01	0.00	-0.01	0.01	0.00	0.01	0.00	0.03
Total	100.20	100.92	101.21	100.96	100.62	101.42	100.91	100.94	99.93	100.95	101.57	100.49
Mg#	74.7	67.9	65.7	69.5	70.7	67.7	75.1	75.4	75.6	76.0	75.5	73.4

Table C.2.4: XAL-134, Orthopyroxene grain 4

Dist (µm)	0.0	15.4	30.9	46.2	61.6	77.0	92.4	107.8	123.2	138.7	154.0	184.8	200.2
SiO_2	52.37	52.87	52.40	52.02	51.76	51.97	52.52	52.67	52.61	52.52	52.17	52.91	53.10
TiO_2	0.44	0.42	0.34	0.30	0.27	0.29	0.30	0.31	0.28	0.25	0.31	0.47	0.62
Al_2O_3	1.51	1.51	1.13	1.05	0.96	0.97	0.99	1.10	0.99	1.10	0.86	1.23	1.60
Cr_2O_3	-0.01	0.00	0.00	0.02	0.03	0.03	0.04	0.03	0.04	0.03	0.01	-0.01	-0.01
FeO	16.10	16.49	18.97	19.71	19.99	19.84	20.03	20.10	19.82	19.62	19.69	16.03	16.15
MnO	0.49	0.47	0.71	0.77	0.84	0.79	0.78	0.88	0.79	0.80	0.80	0.48	0.47
MgO	26.32	26.32	24.34	23.02	23.00	23.41	23.45	23.33	23.66	23.74	23.59	26.43	26.93
CaO	1.48	1.64	1.45	1.41	1.45	1.39	1.40	1.35	1.39	1.33	1.36	1.58	1.63
Na_2O	0.03	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.04
K_2O	0.00	0.01	0.02	0.00	0.02	0.01	0.02	0.01	-0.01	0.01	0.02	-0.01	0.01
Total	98.75	99.76	99.36	98.33	98.35	98.71	99.57	99.80	99.61	99.43	98.83	99.15	100.57
Mg#	74.4	74.0	69.6	67.6	67.2	67.8	67.6	67.4	68.0	68.3	68.1	74.6	74.8

Table C.3.1: XAL-103, Orthopyroxene grain 1

Dist (µm)	15.0	44.9	59.7	74.7	89.7	104.6	119.6	134.5
SiO_2	53.83	54.01	54.31	55.00	53.56	54.11	53.55	54.72
TiO_2	0.35	0.39	0.20	0.22	0.38	0.30	0.37	0.46
Al_2O_3	1.99	1.10	0.55	0.45	1.18	0.73	1.71	2.45
Cr_2O_3	0.08	-0.01	-0.01	0.00	-0.01	-0.02	0.08	0.01
FeO	16.78	18.79	18.62	18.67	19.13	18.43	17.38	17.83
MnO	0.40	0.53	0.58	0.54	0.51	0.49	0.41	0.42
MgO	26.25	24.63	25.07	25.00	24.38	25.16	25.93	21.97
CaO	1.48	1.64	1.47	1.55	1.71	1.63	1.59	1.96
Na_2O	0.03	0.02	0.02	0.03	0.03	0.03	0.02	0.21
K_2O	0.02	0.03	0.02	0.01	0.05	0.02	0.02	0.51
Total	101.22	101.12	100.83	101.47	100.92	100.86	101.06	100.53
Mg#	73.6	70.0	70.6	70.5	69.4	70.9	72.7	68.7

Table C.3.2: XAL-103, Orthopyroxene grain 2

Dist (µm)	0.0	88.8	118.5	177.8	207.4	325.9	355.5	385.1
SiO_2	54.47	54.82	55.00	54.65	53.92	54.38	54.25	54.60
TiO_2	0.32	0.28	0.27	0.23	0.27	0.34	0.33	0.33
Al_2O_3	1.07	0.81	0.89	0.91	1.05	1.25	1.49	1.20
Cr_2O_3	0.01	0.02	0.00	0.03	0.02	0.01	0.08	0.02
FeO	17.14	17.77	17.41	17.44	17.32	17.82	17.86	17.39
MnO	0.41	0.45	0.43	0.39	0.42	0.43	0.42	0.43
MgO	26.46	25.74	25.90	25.74	25.66	25.43	25.17	25.51
CaO	1.50	1.55	1.53	1.48	1.53	1.72	1.66	1.59
Na_2O	0.02	0.03	0.04	0.02	0.02	0.02	0.02	0.02
K_2O	0.00	-0.01	-0.01	0.00	0.01	-0.01	0.00	0.00
Total	101.40	101.43	101.46	100.89	100.22	101.39	101.27	101.09
Mg#	73.4	72.1	72.6	72.5	72.5	71.8	71.5	72.3

Table C.3.3: XAL-103, Orthopyroxene grain 3

Dist (µm)	0.0	14.9	29.7	44.6	59.4	74.3	89.2	118.9	148.6	163.5	178.3	193.2	208.1
SiO_2	53.63	53.87	54.26	54.72	54.37	54.27	54.23	54.52	54.21	54.11	53.91	53.85	55.51
TiO_2	0.37	0.34	0.25	0.24	0.24	0.30	0.26	0.31	0.31	0.30	0.28	0.30	0.29
Al_2O_3	1.26	1.14	0.85	0.76	0.75	1.04	0.99	0.98	1.04	1.03	1.02	1.12	7.51
Cr_2O_3	0.00	0.02	-0.03	0.01	0.03	0.04	-0.01	0.00	0.01	0.03	0.02	0.00	-0.01
FeO	18.16	19.12	18.45	18.15	18.55	18.26	18.19	17.91	18.19	18.62	18.96	19.11	15.04
MnO	0.42	0.46	0.44	0.45	0.45	0.41	0.38	0.41	0.42	0.38	0.40	0.43	0.33
MgO	25.09	24.60	25.10	25.23	25.38	25.42	25.58	25.48	25.38	25.16	24.74	24.45	17.31
CaO	1.77	1.56	1.56	1.59	1.52	1.50	1.59	1.58	1.57	1.63	1.56	1.56	3.42
Na_2O	0.02	0.04	0.02	0.01	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.03	1.62
K_2O	0.02	0.01	-0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	-0.01	0.00	0.13
Total	100.74	101.16	100.89	101.17	101.31	101.26	101.25	101.22	101.15	101.27	100.89	100.85	101.14
Mg#	71.1	69.6	70.8	71.2	70.9	71.3	71.5	71.7	71.3	70.7	69.9	69.5	67.2

Table C.3.4: XAL-103, Orthopyroxene grain 4

Dist (µm)	0.0	15.1	30.2	60.3	75.4	105.6	120.7	135.7	150.8	165.9
SiO_2	54.12	54.10	53.27	54.37	54.31	54.40	54.35	54.29	54.45	53.74
TiO_2	0.38	0.35	0.34	0.30	0.31	0.30	0.28	0.32	0.27	0.28
Al_2O_3	0.98	0.85	0.89	0.88	0.93	0.88	0.78	0.85	0.87	0.87
Cr_2O_3	0.01	0.04	0.02	0.02	0.01	0.00	0.00	0.02	0.01	0.00
FeO	18.40	19.62	19.04	19.06	18.68	18.77	18.84	18.51	18.65	18.42
MnO	0.54	0.49	0.42	0.42	0.44	0.44	0.48	0.51	0.47	0.46
MgO	24.70	24.17	24.12	24.56	24.73	24.81	24.71	24.84	24.47	24.56
CaO	1.62	1.65	1.61	1.69	1.58	1.65	1.59	1.59	1.59	1.60
Na_2O	0.05	0.03	0.02	0.03	0.02	0.04	0.03	0.03	0.05	0.04
K_2O	0.00	-0.01	-0.02	0.00	-0.02	0.00	-0.01	-0.01	-0.01	0.02
Total	100.79	101.27	99.72	101.32	100.99	101.28	101.07	100.93	100.84	100.00
Mg#	70.5	68.7	69.3	69.7	70.2	70.2	70.0	70.5	70.0	70.4

Table C.3.5: XAL-103, Orthopyroxene grain 5

Dist (µm)	30.4	45.5	60.7	75.9	91.1	121.5	136.6	151.8	167.0	182.2	197.4	212.6	227.7	258.1	273.3	288.4	303.7	318.8	349.1
SiO_2	54.60	55.02	54.83	55.09	54.10	54.76	54.60	54.28	53.83	54.90	54.52	54.66	54.66	54.32	53.79	54.17	52.80	53.62	54.40
TiO_2	0.16	0.24	0.26	0.29	0.31	0.24	0.27	0.27	0.26	0.25	0.25	0.25	0.24	0.30	0.41	0.36	0.44	0.38	0.34
Al_2O_3	1.08	0.78	1.06	1.69	1.02	0.74	0.84	0.90	1.07	0.71	0.72	0.65	0.64	1.04	1.57	1.34	1.51	1.50	1.31
Cr_2O_3	0.05	-0.01	-0.02	-0.01	0.01	0.03	0.04	0.06	0.05	0.04	0.02	0.01	0.04	0.01	0.03	0.03	0.02	0.05	0.04
FeO	15.84	15.99	16.12	16.09	17.91	16.58	16.39	16.37	16.97	16.84	16.53	16.40	16.77	16.63	16.60	17.31	19.60	18.28	16.43
MnO	0.32	0.42	0.43	0.34	0.45	0.38	0.44	0.40	0.39	0.42	0.43	0.41	0.40	0.37	0.39	0.41	0.53	0.43	0.42
MgO	27.40	26.92	26.88	26.10	25.35	26.67	26.16	25.99	25.71	26.74	26.46	26.46	26.53	26.65	26.33	25.46	23.67	25.24	26.63
CaO	1.64	1.58	1.67	1.48	1.39	1.61	1.48	1.58	1.54	1.55	1.45	1.57	1.56	1.58	1.84	1.58	1.93	1.63	1.48
Na_2O	0.04	0.04	0.04	0.05	0.04	0.02	0.04	0.05	0.04	0.03	0.03	0.02	0.02	0.02	0.03	0.05	0.06	0.04	0.04
K_2O	0.03	0.01	0.01	0.01	0.00	-0.02	0.02	0.02	0.01	0.00	0.00	-0.01	0.02	0.02	0.00	0.02	0.00	0.01	0.00
Total	101.16	100.99	101.27	101.14	100.57	101.01	100.28	99.91	99.87	101.48	100.41	100.42	100.87	100.92	101.00	100.74	100.55	101.18	101.09
Mg#	75.5	75.0	74.8	74.3	71.6	74.1	74.0	73.9	73.0	73.9	74.0	74.2	73.8	74.1	73.9	72.4	68.3	71.1	74.3

Table C.3.6: XAL-103, Orthopyroxene grain 6

Dist (µm)	29.6	237.4	267.0	296.8	326.4	356.0	445.0	474.8
SiO_2	53.82	37.81	37.14	37.63	37.51	38.03	37.82	38.17
TiO_2	0.38	0.01	0.05	0.03	0.06	-0.02	-0.01	-0.01
Al_2O_3	2.29	0.05	0.17	0.05	0.13	-0.03	0.02	0.00
Cr_2O_3	0.06	0.05	0.06	0.05	0.07	0.02	0.00	-0.01
FeO	15.60	26.80	26.86	26.87	27.45	27.02	26.78	26.36
MnO	0.35	0.47	0.41	0.52	0.44	0.38	0.38	0.35
MgO	27.04	35.42	34.79	35.53	35.16	35.78	35.70	35.73
CaO	1.60	0.19	0.19	0.16	0.19	0.15	0.16	0.13
Na_2O	0.04	0.00	0.01	-0.01	0.02	0.02	0.02	0.01
K_2O	-0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.01
Total	101.17	100.81	99.68	100.84	101.03	101.36	100.86	100.75
Mg#	75.5	70.2	69.8	70.2	69.5	70.2	70.4	70.7

Table C.3.7: XAL-103, Orthopyroxene grain 7

Dist (µm)	0.0	30.5	61.0	122.1	152.6	183.0	213.5	244.0	274.6	305.1
SiO_2	54.54	53.42	53.20	54.37	52.67	54.19	54.68	54.58	54.31	53.69
TiO_2	0.30	0.38	0.29	0.25	0.29	0.21	0.21	0.23	0.33	0.35
Al_2O_3	1.77	1.35	1.24	1.02	1.31	0.73	0.83	0.88	1.29	1.27
Cr_2O_3	0.06	0.00	0.00	0.04	0.03	0.01	0.02	0.01	0.01	0.03
FeO	14.63	20.17	18.45	18.11	19.44	17.85	17.46	17.53	18.25	19.52
MnO	0.33	0.50	0.45	0.52	0.48	0.46	0.49	0.50	0.50	0.55
MgO	27.71	23.58	24.22	25.21	23.75	25.61	25.87	26.00	24.97	24.04
CaO	1.88	1.79	1.74	1.47	1.56	1.39	1.39	1.54	1.72	1.82
Na_2O	0.03	0.04	0.04	0.04	0.04	0.02	0.04	0.03	0.03	0.03
K_2O	-0.01	0.01	-0.01	0.00	0.02	0.00	0.02	0.00	-0.01	0.01
Total	101.24	101.25	99.61	101.03	99.57	100.48	101.00	101.30	101.39	101.29
Mg#	77.1	67.6	70.1	71.3	68.5	71.9	72.5	72.6	70.9	68.7

Table C.3.8: XAL-103, Orthopyroxene grain 8

Dist (µm)	0.0	30.2	60.3	90.4	120.5	150.7	180.8	211.0	241.1	271.2	301.4	331.5	361.7
SiO_2	53.94	55.00	54.96	54.55	54.63	54.46	54.61	54.08	54.75	54.52	54.19	53.78	53.88
TiO_2	0.26	0.23	0.28	0.24	0.24	0.28	0.29	0.24	0.29	0.27	0.36	0.34	0.38
Al_2O_3	0.64	0.98	1.08	0.67	0.83	0.93	0.91	0.71	0.87	0.97	1.66	1.54	1.20
Cr_2O_3	0.02	0.01	0.00	0.01	0.01	-0.01	-0.01	-0.02	-0.02	-0.01	0.06	-0.01	0.01
FeO	19.89	16.32	16.96	17.65	17.87	17.61	17.80	18.01	17.77	17.74	17.64	16.76	18.91
MnO	0.63	0.41	0.40	0.51	0.46	0.42	0.44	0.49	0.42	0.41	0.43	0.46	0.54
MgO	23.89	26.70	26.27	26.10	25.77	25.42	25.54	25.69	25.50	25.55	25.46	26.21	24.12
CaO	1.67	1.47	1.47	1.54	1.53	1.55	1.60	1.51	1.58	1.62	1.52	1.55	1.70
Na_2O	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.04
K_2O	0.02	0.00	0.00	0.00	0.01	0.01	-0.01	0.00	-0.01	0.00	0.00	-0.01	0.01
Total	100.99	101.14	101.44	101.31	101.38	100.70	101.19	100.73	101.18	101.09	101.34	100.67	100.78
Mg#	68.2	74.5	73.4	72.5	72.0	72.0	71.9	71.8	71.9	72.0	72.0	73.6	69.5

Table C.3.9: XAL-103, Orthopyroxene grain 9

Dist (µm)	15.4	30.8	61.6	77.0	92.4	123.2	153.9	169.4	184.8	215.6	231.0
SiO_2	54.16	53.37	55.12	55.08	54.91	55.73	55.21	55.18	54.80	54.66	55.53
TiO_2	0.47	0.41	0.31	0.17	0.19	0.19	0.18	0.17	0.28	0.30	0.18
Al_2O_3	1.68	2.78	1.12	0.81	0.78	0.82	0.90	0.96	0.92	0.96	0.80
Cr_2O_3	0.00	0.01	-0.01	0.03	-0.01	0.02	0.07	0.05	0.04	0.02	0.08
FeO	17.05	16.60	16.39	15.97	14.79	14.74	15.46	15.98	16.43	16.07	14.55
MnO	0.43	0.42	0.43	0.44	0.32	0.37	0.35	0.40	0.42	0.38	0.32
MgO	25.92	24.95	26.66	27.35	27.71	27.99	27.54	27.12	26.93	26.84	28.07
CaO	1.74	1.97	1.43	1.39	1.52	1.37	1.31	1.40	1.40	1.48	1.44
Na_2O	0.02	0.24	0.01	0.02	0.02	0.02	0.03	0.04	0.02	0.02	0.02
K_2O	0.00	0.02	0.01	-0.01	-0.01	-0.01	0.02	0.02	0.01	0.01	0.01
Total	101.46	100.79	101.47	101.24	100.23	101.23	101.06	101.31	101.23	100.73	100.98
Mg#	73.0	72.8	74.4	75.3	77.0	77.2	76.0	75.2	74.5	74.9	77.5

Table C.3.10: XAL-103, Orthopyroxene grain 10

Dist (µm)	0.0	30.9	61.8	92.6	123.5	154.4	185.3	247.0	277.9	308.8	339.7	370.6	401.4	432.3
SiO_2	53.60	54.29	53.35	53.82	53.39	53.80	54.35	54.45	54.44	54.29	54.55	54.08	54.52	55.45
TiO_2	0.32	0.28	0.27	0.30	0.37	0.36	0.28	0.24	0.24	0.26	0.26	0.35	0.31	0.25
Al_2O_3	1.01	1.20	1.41	1.49	1.72	1.37	1.08	0.83	0.84	0.83	0.85	1.22	1.21	2.54
Cr_2O_3	0.02	0.03	0.05	0.06	0.07	0.04	0.03	0.00	0.02	0.06	0.02	0.03	0.04	0.14
FeO	18.18	17.37	17.68	17.53	17.72	17.84	17.40	17.56	17.36	17.38	16.90	17.05	16.46	15.36
MnO	0.45	0.44	0.39	0.45	0.40	0.46	0.44	0.39	0.42	0.45	0.39	0.39	0.35	0.33
MgO	24.87	25.76	25.47	25.30	25.21	25.15	25.73	26.03	26.06	26.10	26.34	25.97	26.90	24.76
CaO	1.53	1.35	1.39	1.41	1.61	1.48	1.44	1.46	1.46	1.56	1.63	1.47	1.43	1.51
Na_2O	0.03	0.03	0.02	0.01	0.02	0.03	0.01	0.01	0.03	0.02	0.02	0.02	0.02	0.24
K_2O	0.01	0.01	0.02	0.02	-0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.10
Total	100.02	100.77	100.05	100.37	100.50	100.54	100.75	100.97	100.85	100.95	100.96	100.58	101.23	100.68
Mg#	70.9	72.5	72.0	72.0	71.7	71.5	72.5	72.6	72.8	72.8	73.5	73.1	74.4	74.2

Table C.3.11: XAL-103, Orthopyroxene grain 11

Dist (µm)	0.0	29.8	59.4	118.9	148.5	178.3	208.0	237.7	267.4	297.2	326.8	356.5	386.3	415.9	505.1	534.8
SiO_2	54.00	54.74	54.68	54.01	54.03	54.21	54.08	54.47	54.36	54.25	53.94	54.05	54.27	54.00	54.33	54.24
TiO_2	0.25	0.29	0.22	0.26	0.25	0.27	0.23	0.22	0.28	0.23	0.29	0.28	0.26	0.35	0.35	0.30
Al_2O_3	0.67	0.86	1.12	0.88	0.72	0.83	0.70	0.77	0.87	0.85	1.05	1.02	1.10	1.23	1.14	1.25
Cr_2O_3	0.02	0.00	0.03	0.01	-0.01	0.02	0.02	0.02	0.04	0.00	0.04	0.01	0.06	0.01	0.00	0.01
FeO	18.57	16.33	15.75	18.14	17.99	17.78	17.58	17.60	17.58	17.44	17.38	17.38	17.55	17.80	17.78	16.91
MnO	0.46	0.36	0.39	0.47	0.48	0.44	0.43	0.45	0.40	0.40	0.44	0.40	0.43	0.46	0.43	0.39
MgO	24.70	27.02	27.01	25.17	25.46	25.55	25.80	25.88	25.91	25.98	25.84	25.79	25.79	25.52	25.76	26.16
CaO	1.46	1.50	1.46	1.61	1.51	1.67	1.54	1.59	1.64	1.48	1.48	1.45	1.51	1.65	1.65	1.57
Na_2O	0.01	0.02	0.02	0.01	0.01	0.03	0.02	0.04	0.02	0.03	0.03	0.02	0.02	0.03	0.03	0.02
K_2O	0.01	0.01	0.00	0.00	0.00	-0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	-0.01	-0.01
Total	100.14	101.11	100.68	100.57	100.44	100.78	100.39	101.02	101.11	100.67	100.49	100.43	100.97	101.05	101.45	100.84
Mg#	70.3	74.7	75.4	71.2	71.6	71.9	72.3	72.4	72.4	72.6	72.6	72.6	72.4	71.9	72.1	73.4

Table C.3.12: XAL-103, Orthopyroxene grain 12

Dist (µm)	0.0	15.4	46.3	61.6	77.1	92.5	107.9	123.3	138.7	154.1	169.5	184.9	200.4	215.7	231.2	262.0	277.4	292.8	308.2
SiO_2	53.47	52.83	53.86	53.79	53.50	54.56	54.51	54.32	54.29	54.15	54.26	54.11	53.76	54.05	54.28	54.37	54.26	54.02	53.23
TiO_2	0.35	0.36	0.34	0.30	0.26	0.25	0.23	0.26	0.24	0.24	0.22	0.26	0.26	0.23	0.26	0.30	0.25	0.27	0.32
Al_2O_3	0.82	1.37	1.07	1.17	1.04	0.81	0.85	0.82	0.93	0.88	0.80	0.82	0.95	0.84	0.84	1.16	0.89	0.85	0.49
Cr_2O_3	0.01	-0.02	0.02	0.02	0.00	-0.01	0.02	0.00	-0.02	-0.01	-0.01	0.00	0.00	-0.02	-0.03	-0.01	0.01	0.02	0.01
FeO	19.46	16.23	18.68	18.57	18.60	18.10	18.10	18.18	18.24	17.97	18.35	18.36	18.65	18.76	18.46	17.89	17.53	18.91	21.15
MnO	0.57	0.37	0.45	0.40	0.44	0.41	0.48	0.46	0.45	0.43	0.47	0.45	0.46	0.47	0.49	0.52	0.44	0.45	0.66
MgO	23.88	25.80	24.85	24.97	24.66	25.37	25.59	25.21	25.22	25.41	25.20	25.18	25.14	25.13	25.23	25.40	25.99	24.51	22.25
CaO	1.62	1.69	1.55	1.59	1.59	1.53	1.46	1.45	1.49	1.53	1.57	1.56	1.52	1.49	1.59	1.51	1.55	1.71	2.30
Na_2O	0.03	0.03	0.04	0.03	0.04	0.04	0.02	0.02	0.00	0.02	0.02	0.01	0.03	0.02	0.02	0.02	0.02	0.03	0.03
K_2O	-0.01	-0.02	-0.01	-0.02	-0.02	0.00	-0.01	0.01	-0.01	-0.02	0.00	-0.01	0.00	0.01	0.00	0.01	0.01	0.02	0.02
Total	100.22	98.63	100.85	100.83	100.11	101.07	101.24	100.73	100.83	100.61	100.86	100.73	100.75	100.99	101.15	101.17	100.95	100.79	100.46
Mg#	68.6	73.9	70.3	70.6	70.3	71.4	71.6	71.2	71.1	71.6	71.0	71.0	70.6	70.5	70.9	71.7	72.5	69.8	65.2

Table C.3.13: XAL-103, Orthopyroxene grain 13

Dist (µm)	0.0	29.9	59.7	89.6	149.2	179.0	208.9	238.8	268.5	298.4	328.2	358.1	387.9	417.7
SiO_2	54.12	54.18	54.15	54.10	54.05	54.10	53.61	54.23	54.47	54.19	54.75	54.58	54.40	53.67
TiO_2	0.28	0.31	0.34	0.34	0.27	0.28	0.28	0.29	0.30	0.25	0.29	0.25	0.30	0.33
Al_2O_3	1.18	1.18	1.27	1.29	1.16	1.22	5.85	0.99	0.99	0.85	0.90	0.77	1.00	1.01
Cr_2O_3	0.01	0.03	0.04	0.01	0.02	0.04	0.00	-0.01	-0.02	0.00	0.01	0.01	0.02	0.00
FeO	17.46	17.92	17.78	17.92	17.52	17.78	15.82	17.66	17.69	17.86	17.92	18.01	18.07	18.75
MnO	0.43	0.41	0.46	0.42	0.41	0.43	0.42	0.49	0.45	0.55	0.48	0.48	0.51	0.48
MgO	25.52	25.20	25.48	25.63	25.66	25.74	21.83	25.92	25.64	25.70	25.61	25.52	25.34	24.67
CaO	1.46	1.66	1.59	1.52	1.54	1.57	1.43	1.45	1.38	1.53	1.49	1.54	1.53	1.46
Na_2O	0.03	0.02	0.01	0.01	0.03	0.03	0.05	0.04	0.02	0.03	0.02	0.03	0.03	0.03
K_2O	0.02	0.02	-0.01	0.03	0.01	0.02	0.09	-0.01	-0.01	-0.01	-0.02	-0.01	0.00	0.00
Total	100.51	100.93	101.12	101.27	100.66	101.19	99.37	101.05	100.91	100.95	101.47	101.17	101.20	100.41
Mg#	72.3	71.5	71.9	71.8	72.3	72.1	71.1	72.3	72.1	72.0	71.8	71.6	71.4	70.1

Table C.3.14: XAL-103, Orthopyroxene grain 14

Dist (µm)	0.0	15.0	29.8	44.8	59.8	119.6	134.5	179.3
SiO_2	54.25	53.91	54.02	53.98	54.42	53.64	53.75	54.18
TiO_2	0.34	0.32	0.26	0.38	0.31	0.30	0.33	0.33
Al_2O_3	1.60	1.27	1.10	1.38	1.23	1.46	1.52	1.33
Cr_2O_3	0.02	0.02	0.02	0.01	0.06	0.06	0.01	0.03
FeO	16.93	17.78	18.08	18.35	18.12	17.61	18.07	17.03
MnO	0.44	0.45	0.46	0.40	0.42	0.42	0.43	0.46
MgO	25.37	25.44	25.29	25.00	25.24	25.62	25.52	25.98
CaO	1.55	1.62	1.49	1.54	1.48	1.49	1.52	1.51
Na_2O	0.05	0.00	0.04	0.02	0.04	0.03	0.02	0.03
K_2O	0.01	0.01	0.02	0.01	0.02	0.01	0.00	0.01
Total	100.56	100.82	100.78	101.07	101.33	100.63	101.18	100.89
Mg#	72.8	71.8	71.4	70.8	71.3	72.2	71.6	73.1

Table C.3.15: XAL-103, Orthopyroxene grain 15

Dist (µm)	0.0	15.3	30.6	45.8	91.6	107.0	122.2	137.5	152.8	168.0	183.3	213.9	229.2	244.4	259.7	275.0
SiO_2	54.08	54.50	54.43	54.42	54.58	53.93	53.87	54.17	54.13	53.96	54.19	54.55	54.59	55.22	53.97	54.11
TiO_2	0.32	0.29	0.31	0.25	0.30	0.31	0.33	0.35	0.31	0.27	0.21	0.28	0.23	0.23	0.26	0.32
Al_2O_3	1.38	1.23	1.06	1.06	1.11	1.15	1.25	1.19	1.12	0.94	0.92	0.99	0.73	1.25	1.22	0.95
Cr_2O_3	0.01	0.03	0.03	0.02	0.01	0.04	0.06	0.05	0.04	0.04	0.03	0.05	0.05	0.03	0.03	-0.01
FeO	17.89	17.70	17.60	17.45	18.15	18.35	18.30	17.94	18.26	17.69	17.47	17.43	17.57	17.38	18.04	17.54
MnO	0.43	0.46	0.46	0.46	0.45	0.47	0.44	0.45	0.48	0.41	0.41	0.47	0.40	0.41	0.47	0.48
MgO	25.47	25.65	25.81	25.45	25.10	25.47	25.26	25.16	25.39	25.71	25.65	25.65	25.99	26.00	25.09	25.85
CaO	1.52	1.61	1.49	1.61	1.47	1.57	1.54	1.63	1.63	1.51	1.57	1.72	1.69	1.53	1.45	1.47
Na_2O	0.01	0.02	0.01	0.02	0.03	0.00	0.04	0.03	0.03	0.02	0.02	0.03	0.02	0.04	0.04	0.02
K_2O	0.00	0.00	0.01	-0.01	0.01	0.01	0.02	-0.01	0.00	0.00	0.01	0.03	-0.01	0.00	0.01	-0.01
Total	101.13	101.49	101.20	100.71	101.20	101.30	101.11	100.94	101.39	100.54	100.48	101.19	101.26	102.09	100.58	100.73
Mg#	71.7	72.1	72.3	72.2	71.1	71.2	71.1	71.4	71.3	72.2	72.4	72.4	72.5	72.7	71.3	72.4

Table C.3.16: XAL-103, Orthopyroxene grain 16

Dist (µm)	0.0	57.5	172.5	229.9	287.4	344.9	402.4	459.9	517.4	574.9	632.3	689.8	747.3
SiO_2	55.04	54.36	54.32	54.12	54.09	53.55	54.28	54.45	53.78	54.27	53.41	54.09	53.89
TiO_2	0.21	0.28	0.32	0.37	0.39	0.34	0.31	0.36	0.31	0.27	0.26	0.27	0.28
Al_2O_3	0.93	0.97	1.23	1.27	1.27	1.19	1.10	1.10	2.02	0.99	1.95	1.03	1.20
Cr_2O_3	0.07	0.02	0.01	0.02	0.01	0.01	0.01	0.03	-0.03	0.00	0.19	0.00	0.02
FeO	17.22	17.31	17.21	17.35	17.56	17.19	17.67	18.04	16.82	17.35	17.75	17.08	17.10
MnO	0.41	0.46	0.47	0.46	0.44	0.36	0.45	0.45	0.38	0.41	0.35	0.38	0.38
MgO	25.43	25.75	25.72	25.50	25.66	25.34	25.78	25.33	25.25	25.74	25.27	25.87	26.02
CaO	1.48	1.67	1.61	1.78	1.69	1.61	1.46	1.57	1.45	1.45	1.45	1.55	1.61
Na_2O	0.02	0.03	0.02	0.02	0.03	0.01	0.02	0.03	0.03	0.03	0.01	0.02	0.03
K_2O	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.03	0.00	0.00	0.01	0.00
Total	100.82	100.87	100.90	100.90	101.15	99.61	101.08	101.35	100.05	100.52	100.66	100.29	100.53
Mg#	72.5	72.6	72.7	72.4	72.3	72.4	72.2	71.5	72.8	72.6	71.7	73.0	73.1

Table C.3.17: XAL-103, Orthopyroxene grain 17

Dist (µm)	0.0	14.6	43.7	58.3	72.9	87.5	102.0	116.6	131.1	145.7	160.3	174.8
SiO_2	53.67	54.01	54.22	53.39	54.04	54.50	54.70	54.10	54.14	53.21	53.20	53.91
TiO_2	0.23	0.28	0.24	0.34	0.26	0.23	0.25	0.29	0.28	0.27	0.27	0.28
Al_2O_3	0.89	0.97	1.26	2.33	1.22	1.09	1.01	1.20	1.19	1.11	2.38	1.06
Cr_2O_3	0.01	-0.03	0.02	0.08	0.02	-0.01	0.01	0.02	-0.01	0.02	-0.01	0.01
FeO	17.53	18.46	18.04	18.07	17.51	17.53	17.59	18.10	17.98	18.08	17.73	18.25
MnO	0.42	0.47	0.40	0.45	0.44	0.48	0.46	0.47	0.56	0.49	0.42	0.46
MgO	25.55	25.14	25.83	25.23	25.96	26.43	25.98	25.70	25.58	25.10	23.59	25.50
CaO	1.51	1.41	1.30	1.32	1.18	1.24	1.25	1.33	1.28	1.41	1.31	1.47
Na_2O	0.03	0.03	0.03	0.05	0.03	0.02	0.03	0.01	0.04	0.02	0.03	0.03
K_2O	0.02	0.00	0.01	0.00	0.01	0.00	-0.01	0.00	-0.02	-0.01	0.01	0.01
Total	99.86	100.74	101.35	101.27	100.65	101.50	101.27	101.21	101.02	99.69	98.92	100.96
Mg#	72.2	70.8	71.8	71.3	72.5	72.9	72.5	71.7	71.7	71.2	70.3	71.3

Table C.4.1: TAN-13, Orthopyroxene grain 1

Dist (µm)	7.5	22.2	37.0	44.5	51.9	59.3	66.7
SiO_2	58.92	53.71	54.85	55.37	54.67	54.96	54.92
TiO_2	0.47	0.50	0.28	0.25	0.15	0.13	0.21
Al_2O_3	4.41	0.31	0.58	1.69	0.94	0.63	0.69
Cr_2O_3	0.03	0.04	0.01	0.00	-0.01	0.00	0.00
FeO	12.93	17.87	17.52	16.67	18.86	17.68	17.15
MnO	0.44	0.57	0.58	0.53	0.57	0.55	0.58
MgO	21.86	26.22	25.97	25.02	25.47	25.97	26.59
CaO	1.50	1.00	1.52	1.52	1.08	1.37	1.35
Na_2O	0.40	-0.25	0.05	0.36	0.03	0.05	0.04
K_2O	0.86	0.03	0.04	0.14	0.02	0.05	0.04
Total	101.81	100.23	101.41	101.56	101.80	101.39	101.57
Mg#	75.1	72.3	72.5	72.8	70.6	72.4	73.4

Table C.4.2: TAN-13, Orthopyroxene grain 2

Dist (µm)	7.5	14.8	22.3	29.8	37.2	44.6	59.5	67.0
SiO_2	52.45	53.54	53.57	52.88	53.96	55.42	55.50	53.80
TiO_2	0.38	0.29	0.28	0.29	0.25	0.15	0.18	0.34
Al_2O_3	3.56	2.80	3.05	3.06	2.17	1.02	1.36	1.62
Cr_2O_3	0.01	0.01	0.03	0.01	0.01	0.01	0.00	0.01
FeO	18.12	15.74	16.23	15.76	15.74	15.09	14.77	18.43
MnO	0.47	0.38	0.41	0.34	0.38	0.39	0.33	0.57
MgO	24.90	26.95	26.81	26.56	26.81	28.15	28.12	24.47
CaO	1.74	1.43	1.34	1.37	1.59	1.51	1.69	1.71
Na_2O	0.04	0.02	0.03	0.05	0.03	0.03	0.03	0.04
K_2O	0.03	0.01	0.02	0.00	0.01	0.00	0.01	0.01
Total	101.67	101.18	101.75	100.31	100.94	101.80	102.00	100.97
Mg#	71.0	75.3	74.6	75.0	75.2	76.9	77.2	70.3

Table C.4.3: TAN-13, Orthopyroxene grain 3

Dist (µm)	29.4	44.2	58.9	73.6	88.3	103.0	117.8	132.5	161.9	176.7
SiO_2	54.90	54.57	53.95	53.96	53.77	52.93	53.32	53.43	55.25	55.76
TiO_2	0.20	0.19	0.24	0.24	0.28	0.29	0.31	0.31	0.19	0.15
Al_2O_3	1.32	1.72	2.91	2.97	2.61	3.10	3.67	2.88	1.33	0.96
Cr_2O_3	0.03	0.00	0.01	0.01	0.00	0.01	0.02	0.01	0.00	0.01
FeO	15.00	15.22	15.69	15.14	17.03	16.18	15.08	15.15	14.40	14.86
MnO	0.36	0.40	0.34	0.36	0.42	0.37	0.33	0.34	0.33	0.34
MgO	28.31	27.11	27.29	27.32	26.10	26.59	27.42	26.95	28.60	28.45
CaO	1.56	1.50	1.40	1.35	1.57	1.35	1.39	1.84	1.60	1.43
Na_2O	-0.14	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
K_2O	0.01	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Total	101.69	100.74	101.87	101.37	101.82	100.83	101.56	100.94	101.73	101.98
Mg#	77.1	76.0	75.6	76.3	73.2	74.6	76.4	76.0	78.0	77.3

Table C.4.4: TAN-13, Orthopyroxene grain 4

Dist (µm)	14.5	21.7	29.0	36.2	43.5	58.0	65.2	72.5
SiO_2	54.34	54.50	54.68	55.14	54.13	53.86	54.21	54.74
TiO_2	0.26	0.27	0.27	0.24	0.26	0.30	0.30	0.29
Al_2O_3	1.28	1.32	1.37	1.07	1.64	2.00	1.37	1.35
Cr_2O_3	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
FeO	16.86	16.37	16.46	16.31	16.37	16.69	16.53	16.58
MnO	0.53	0.49	0.47	0.56	0.49	0.40	0.48	0.50
MgO	26.23	26.61	26.90	26.70	26.57	26.61	26.89	26.91
CaO	1.59	1.56	1.48	1.90	1.67	1.67	1.52	1.43
Na_2O	0.02	0.02	0.02	0.02	0.03	0.04	0.04	0.04
K_2O	0.01	0.01	0.00	0.01	0.00	0.02	0.01	0.01
Total	101.14	101.16	101.66	101.97	101.17	101.58	101.35	101.85
Mg#	73.5	74.3	74.4	74.5	74.3	74.0	74.4	74.3

Table C.4.5: TAN-13, Orthopyroxene grain 5

Dist (µm)	7.3	14.6	21.9	29.2	43.8	51.2	58.5	65.7	73.1	87.7	95.0
SiO_2	52.98	55.16	55.24	53.53	53.37	53.45	53.78	53.71	53.45	52.96	53.32
TiO_2	0.33	0.16	0.15	0.27	0.27	0.25	0.26	0.25	0.27	0.27	0.26
Al_2O_3	3.38	0.79	1.02	2.96	2.59	2.39	2.86	3.00	2.99	3.27	2.50
Cr_2O_3	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
FeO	15.48	15.19	14.93	15.63	15.36	16.82	15.50	15.70	15.71	15.72	15.59
MnO	0.33	0.41	0.39	0.37	0.36	0.46	0.35	0.38	0.37	0.33	0.38
MgO	26.91	27.95	28.00	27.33	27.09	26.20	27.20	27.15	27.31	26.97	27.04
CaO	1.47	1.50	1.49	1.45	1.50	1.33	1.35	1.30	1.43	1.36	1.44
Na_2O	0.02	0.03	0.03	0.03	0.04	0.03	0.02	0.01	0.03	0.03	0.02
K_2O	-0.01	-0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.01
Total	100.92	101.19	101.24	101.57	100.58	100.95	101.34	101.50	101.56	100.93	100.58
Mg#	75.6	76.6	77.0	75.7	75.9	73.5	75.8	75.5	75.6	75.4	75.6

Table C.5.1: XAL-117, Orthopyroxene grain 1

Dist (µm)	0.0	14.5	28.9	43.4	58.0	72.5	86.9	101.4	115.9	130.3	144.9	159.4
SiO_2	55.32	54.44	55.29	54.83	54.79	54.78	54.61	54.90	53.95	53.28	53.88	54.39
TiO_2	0.19	0.25	0.26	0.25	0.27	0.24	0.25	0.25	0.30	0.38	0.31	0.28
Al_2O_3	0.68	1.34	1.14	1.16	1.20	1.15	1.29	1.14	2.24	3.37	2.85	2.52
Cr_2O_3	0.03	0.00	0.04	0.01	0.01	0.04	0.06	0.00	0.06	0.16	0.17	0.21
FeO	16.13	16.76	16.31	16.73	16.56	16.36	15.70	15.81	15.22	14.17	14.27	14.97
MnO	0.48	0.46	0.50	0.45	0.44	0.47	0.42	0.43	0.33	0.34	0.34	0.33
MgO	27.61	27.42	27.27	27.31	27.34	27.54	27.90	27.77	27.70	27.95	28.21	28.09
CaO	1.54	1.27	1.31	1.23	1.21	1.15	1.17	1.23	1.77	1.74	1.53	1.42
Na_2O	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
K_2O	0.03	0.00	-0.02	0.00	-0.03	-0.01	-0.02	-0.03	0.01	0.00	-0.01	-0.02
Total	102.02	101.95	102.09	101.98	101.81	101.74	101.39	101.52	101.60	101.40	101.56	102.20
Mg#	75.3	74.5	74.9	74.4	74.6	75.0	76.0	75.8	76.4	77.9	77.9	77.0

Table C.5.2: XAL-117, Orthopyroxene grain 2

Dist (µm)	0.0	59.6	149.1	178.9	208.7	328.0	387.6	477.1	536.7	566.5	596.3
SiO_2	54.57	54.44	54.29	54.71	54.75	54.41	54.79	54.93	54.20	54.88	54.81
TiO_2	0.24	0.22	0.25	0.20	0.22	0.36	0.33	0.32	0.33	0.27	0.28
Al_2O_3	0.85	1.21	1.35	1.23	1.40	2.02	1.32	1.38	1.33	1.30	1.33
Cr_2O_3	0.02	0.02	0.03	0.02	0.03	0.11	0.04	0.06	0.04	-0.02	-0.03
FeO	18.40	17.91	18.02	18.17	17.79	15.31	16.67	16.71	16.96	16.33	16.32
MnO	0.54	0.71	0.65	0.64	0.67	0.37	0.45	0.55	0.49	0.51	0.48
MgO	25.33	25.72	25.86	26.12	26.10	27.61	26.91	26.66	27.08	27.22	27.16
CaO	1.49	1.01	1.12	1.12	1.09	1.96	1.44	1.53	1.51	1.34	1.28
Na_2O	0.01	0.00	-0.01	-0.01	-0.01	0.05	0.06	0.04	0.04	0.02	0.01
K_2O	0.02	0.01	-0.01	0.02	-0.01	0.02	0.01	0.01	0.01	-0.01	-0.02
Total	101.46	101.26	101.56	102.21	102.03	102.20	102.03	102.20	101.98	101.84	101.63
Mg#	71.0	71.9	71.9	71.9	72.3	76.3	74.2	74.0	74.0	74.8	74.8

Table C.5.3: XAL-117, Orthopyroxene grain 3

Dist (µm)	0.0	15.6	46.7	62.2	93.3	108.9	124.5	140.0	155.6	171.1	186.7
SiO_2	54.83	54.93	55.15	54.95	55.22	55.47	55.05	54.87	55.34	54.88	54.51
TiO_2	0.25	0.26	0.20	0.18	0.17	0.18	0.23	0.25	0.22	0.21	0.24
Al_2O_3	1.39	1.34	1.10	1.03	0.80	1.04	1.17	1.47	1.26	1.05	0.99
Cr_2O_3	0.00	-0.02	0.00	0.00	0.00	0.02	0.02	0.01	0.03	0.00	0.00
FeO	15.60	15.42	16.64	17.18	17.26	16.47	16.10	15.62	16.37	16.65	19.16
MnO	0.43	0.36	0.56	0.63	0.81	0.62	0.55	0.43	0.48	0.66	0.60
MgO	27.70	28.10	27.38	26.84	26.91	27.07	27.77	27.99	27.69	27.13	24.87
CaO	1.23	1.25	1.11	1.08	0.79	1.16	1.22	1.28	1.27	1.09	1.48
Na_2O	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.02	0.02	0.01
K_2O	0.00	-0.01	-0.01	-0.01	-0.01	0.02	0.01	-0.01	0.00	-0.01	0.02
Total	101.44	101.63	102.14	101.88	101.95	102.05	102.11	101.94	102.66	101.67	101.87
Mg#	76.0	76.5	74.6	73.6	73.5	74.6	75.5	76.2	75.1	74.4	69.8

Table C.5.4: XAL-117, Orthopyroxene grain 4

Dist (µm)	14.7	22.1	29.4	36.8	51.5	58.8	66.2	80.9	88.2	95.6	102.9	110.3	125.0
SiO_2	55.33	55.10	54.90	55.02	54.83	55.58	55.53	55.33	55.43	55.21	54.84	55.44	55.07
TiO_2	0.16	0.18	0.22	0.20	0.20	0.16	0.19	0.13	0.18	0.21	0.24	0.17	0.22
Al_2O_3	0.87	1.04	1.25	1.32	1.50	1.07	1.06	1.02	1.03	1.17	1.20	0.85	0.71
Cr_2O_3	-0.01	0.02	0.03	-0.01	0.01	-0.01	0.02	0.03	0.03	0.02	0.00	0.00	-0.02
FeO	16.76	16.35	15.67	15.21	15.43	15.30	15.40	15.64	15.68	15.91	16.15	15.99	17.26
MnO	0.65	0.58	0.39	0.35	0.36	0.37	0.33	0.37	0.38	0.47	0.47	0.55	0.50
MgO	27.21	27.37	28.11	28.44	27.74	28.45	28.45	28.31	27.99	27.84	27.48	27.61	26.65
CaO	1.23	1.16	1.17	1.29	1.25	1.23	1.22	1.27	1.27	1.23	1.14	1.04	1.48
Na_2O	0.00	0.00	0.02	0.02	0.03	0.03	0.01	0.03	0.02	0.02	0.02	0.01	0.01
K_2O	0.01	0.01	0.00	0.02	0.03	0.02	0.00	0.02	0.01	0.02	0.02	0.01	0.04
Total	102.21	101.81	101.75	101.86	101.38	102.19	102.20	102.15	102.02	102.08	101.56	101.67	101.93
Mg#	74.3	74.9	76.2	76.9	76.2	76.8	76.7	76.3	76.1	75.7	75.2	75.5	73.3

Table C.5.5: XAL-117, Orthopyroxene grain 5

Dist (µm)	0.0	14.8	29.6	44.4	73.9	88.7	118.3	147.8	207.0	221.8	236.5	251.3	266.1
SiO_2	54.64	54.36	54.52	54.53	54.86	55.14	54.89	53.86	54.72	54.82	54.90	54.45	54.80
TiO_2	0.29	0.29	0.27	0.28	0.21	0.21	0.15	0.18	0.27	0.27	0.30	0.26	0.31
Al_2O_3	1.18	1.30	1.08	1.09	0.88	0.90	0.73	2.68	0.93	1.02	1.05	1.09	1.21
Cr_2O_3	-0.01	-0.04	-0.02	0.00	0.01	-0.01	0.02	0.01	-0.02	-0.01	0.04	0.04	0.01
FeO	16.46	16.74	17.14	17.54	17.74	17.98	19.04	19.77	18.06	17.84	17.41	17.38	16.88
MnO	0.43	0.48	0.52	0.49	0.59	0.72	0.81	0.75	0.59	0.53	0.58	0.65	0.54
MgO	27.23	27.03	27.05	26.85	26.57	25.82	25.32	23.18	26.07	26.38	26.71	26.51	26.91
CaO	1.30	1.32	1.21	1.22	1.18	1.21	0.99	1.02	1.22	1.29	1.25	1.26	1.27
Na_2O	0.01	0.01	0.03	0.02	0.01	0.03	0.02	0.03	0.03	0.04	0.03	0.02	0.03
K_2O	0.03	0.03	0.02	0.04	0.05	0.00	-0.01	0.01	-0.01	0.01	0.00	-0.01	0.01
Total	101.54	101.50	101.81	102.06	102.09	102.00	101.95	101.49	101.84	102.20	102.27	101.66	101.97
Mg#	74.7	74.2	73.8	73.2	72.7	71.9	70.3	67.6	72.0	72.5	73.2	73.1	74.0

Table C.5.6: XAL-117, Orthopyroxene grain 6

Dist (µm)	122.0	152.5	183.1	244.1	396.7
SiO_2	55.48	54.90	55.10	56.64	55.20
TiO_2	0.27	0.29	0.30	0.29	0.18
Al_2O_3	1.33	1.22	1.37	1.19	0.71
Cr_2O_3	0.02	-0.01	0.02	0.03	-0.01
FeO	16.78	17.02	17.38	17.04	17.51
MnO	0.49	0.61	0.52	0.58	0.51
MgO	26.72	26.70	26.37	25.13	26.22
CaO	1.26	1.19	1.27	1.31	1.49
Na_2O	0.02	0.01	0.02	0.01	0.01
K_2O	-0.01	0.02	0.01	0.01	0.03
Total	102.37	101.95	102.36	102.23	101.86
Mg#	73.9	73.7	73.0	72.4	72.7

Table C.5.7: XAL-117, Orthopyroxene grain 7

Dist (µm)	0.0	88.3	147.1	235.4	294.3	323.7	412.0
SiO_2	54.04	55.09	55.01	54.92	53.64	55.51	54.20
TiO_2	0.37	0.19	0.27	0.19	0.37	0.17	0.29
Al_2O_3	2.14	0.86	1.26	1.09	2.40	0.72	1.01
Cr_2O_3	0.00	0.09	0.06	0.05	0.18	0.02	0.02
FeO	16.37	17.01	16.78	17.10	17.03	17.17	19.53
MnO	0.43	0.69	0.57	0.64	0.56	0.75	0.60
MgO	26.47	27.00	27.04	27.25	26.08	27.19	24.62
CaO	1.62	1.27	1.35	1.05	1.77	0.88	1.45
Na_2O	0.03	-0.03	-0.03	-0.04	-0.02	0.02	0.04
K_2O	0.02	-0.01	-0.01	0.00	0.01	0.01	0.02
Total	101.50	102.16	102.31	102.26	102.00	102.43	101.79
Mg#	74.2	73.9	74.2	74.0	73.2	73.8	69.2

Table C.5.8: XAL-117, Orthopyroxene grain 8

Dist (µm)	0.0	28.9	57.9	86.8	115.8	202.6	231.5	260.5	289.4	405.2
SiO_2	54.12	55.19	55.48	55.07	55.55	52.72	55.13	49.31	55.60	54.45
TiO_2	0.40	0.23	0.20	0.17	0.20	0.23	0.25	0.23	0.16	0.30
Al_2O_3	1.75	0.91	0.78	0.77	0.89	5.65	1.19	10.20	0.58	1.69
Cr_2O_3	0.02	0.03	0.01	-0.03	0.02	0.03	0.04	0.05	0.03	0.05
FeO	17.26	17.07	17.01	16.88	17.21	16.14	16.84	15.58	16.83	17.32
MnO	0.50	0.70	0.60	0.66	0.63	0.54	0.61	0.58	0.68	0.46
MgO	25.95	26.93	27.14	26.83	26.86	24.86	27.09	24.64	27.25	26.17
CaO	1.48	1.05	1.13	1.18	1.05	1.28	1.28	1.14	1.10	1.56
Na_2O	0.04	0.04	0.01	0.02	0.02	0.00	0.00	0.01	-0.01	0.00
K_2O	0.03	0.00	0.02	0.03	0.02	0.02	0.00	-0.01	-0.01	0.01
Total	101.55	102.17	102.37	101.57	102.44	101.45	102.43	101.74	102.22	101.99
Mg#	72.8	73.8	74.0	73.9	73.6	73.3	74.1	73.8	74.3	72.9

Table C.5.9: XAL-117, Orthopyroxene grain 9

Dist (µm)	0.0	122.6	275.9	306.4	367.8	398.4	490.4	521.0
SiO_2	52.38	55.36	54.61	54.67	55.11	55.08	55.17	55.47
TiO_2	0.22	0.13	0.17	0.17	0.00	0.04	0.03	0.07
Al_2O_3	1.08	0.46	0.72	0.71	0.61	0.69	0.98	1.03
Cr_2O_3	0.04	0.00	-0.02	-0.01	-0.24	-0.24	-0.23	-0.23
FeO	16.16	17.60	18.62	18.79	17.32	17.94	16.99	16.33
MnO	0.58	0.79	0.84	0.83	0.66	0.67	0.53	0.41
MgO	28.38	26.19	23.58	25.43	26.08	26.19	26.75	27.42
CaO	1.39	1.19	1.06	1.16	0.96	1.02	1.06	1.22
Na_2O	0.07	0.08	0.05	0.07	0.01	0.03	0.02	0.02
K_2O	0.05	0.01	-0.01	-0.02	-0.04	-0.05	-0.05	-0.06
Total	100.34	101.80	99.62	101.80	100.47	101.37	101.25	101.69
Mg#	75.8	72.6	69.3	70.7	72.9	72.2	73.7	75.0

Table C.5.10: XAL-117, Orthopyroxene grain 10

Dist (µm)	0.0	30.4	60.7	91.0	121.3	151.7	212.3	242.6	273.0	333.7	363.9
SiO_2	55.77	55.89	55.16	55.38	55.50	55.23	55.65	54.99	53.49	55.03	50.86
TiO_2	0.08	0.12	0.10	0.24	0.26	0.28	0.23	0.29	0.30	0.25	0.90
Al_2O_3	1.28	1.02	1.14	1.15	1.18	1.13	1.24	2.12	3.43	1.09	3.90
Cr_2O_3	-0.25	-0.24	-0.23	0.02	0.02	0.03	0.07	0.04	0.08	0.01	0.02
FeO	16.35	16.35	16.35	16.38	16.20	15.92	14.74	14.92	15.93	15.86	9.84
MnO	0.39	0.33	0.34	0.45	0.43	0.49	0.40	0.38	0.39	0.48	0.30
MgO	27.04	27.47	27.60	27.61	27.61	27.83	28.67	27.52	26.59	27.75	14.33
CaO	1.13	1.20	1.21	1.22	1.14	1.15	1.34	1.45	1.74	1.28	19.51
Na_2O	0.00	0.02	0.03	-0.01	0.01	0.02	0.00	0.00	0.02	0.00	0.36
K_2O	-0.06	-0.06	-0.06	0.01	0.01	0.00	0.02	0.02	0.00	0.03	0.12
Total	101.74	102.09	101.63	102.44	102.37	102.07	102.35	101.72	101.97	101.76	100.13
Mg#	74.7	75.0	75.0	75.0	75.2	75.7	77.6	76.7	74.8	75.7	72.2

Table C.5.11: XAL-117, Orthopyroxene grain 11

Dist (µm)	61.1	427.8	611.3	855.8	916.9	978.1
SiO_2	51.24	54.93	54.18	55.30	55.13	55.05
TiO_2	0.35	0.24	0.35	0.25	0.29	0.30
Al_2O_3	6.96	1.51	2.25	1.32	1.46	1.67
Cr_2O_3	0.05	-0.02	0.04	0.02	0.00	0.10
FeO	15.27	15.01	13.91	15.06	15.43	14.81
MnO	0.43	0.38	0.36	0.48	0.47	0.31
MgO	25.30	27.82	27.09	28.24	28.31	28.25
CaO	1.46	1.19	3.31	1.16	1.20	1.52
Na_2O	0.04	0.04	0.06	0.01	0.01	0.01
K_2O	0.02	-0.01	0.01	0.00	0.00	-0.02
Total	101.10	101.09	101.56	101.84	102.30	102.00
Mg#	74.7	76.8	77.6	77.0	76.6	77.3

Table C.5.12: XAL-117, Orthopyroxene grain 12

Dist (µm)	0.0	15.3	30.5	45.8	76.3	167.8	183.0	213.5	244.0
SiO_2	55.51	55.09	55.20	55.77	55.53	55.08	55.04	55.22	54.92
TiO_2	0.26	0.19	0.15	0.18	0.16	0.19	0.22	0.21	0.26
Al_2O_3	2.14	1.04	0.92	0.91	0.87	1.12	1.38	1.02	1.86
Cr_2O_3	0.07	0.00	0.01	0.02	0.02	0.06	0.07	0.04	0.13
FeO	13.78	16.88	16.03	15.05	14.86	14.92	15.46	16.71	13.64
MnO	0.34	0.64	0.51	0.36	0.39	0.35	0.39	0.56	0.34
MgO	28.29	27.11	27.72	28.90	28.93	29.03	27.99	27.44	29.41
CaO	1.59	1.13	1.04	1.32	1.26	1.23	1.28	1.08	1.56
Na_2O	0.00	0.00	0.01	0.00	0.01	0.02	0.02	0.01	0.02
K_2O	0.01	0.00	0.01	-0.01	0.00	-0.01	-0.02	0.01	0.00
Total	101.99	102.09	101.61	102.50	102.03	101.97	101.83	102.28	102.14
Mg#	78.5	74.1	75.5	77.4	77.6	77.6	76.3	74.5	79.4

Table C.5.13: XAL-117, Orthopyroxene grain 13

Dist (µm)	0.0	90.4	120.5	150.6	180.7	210.9	240.9	301.3	331.3	391.7	421.7	451.9
SiO_2	53.53	55.13	54.00	55.06	55.11	54.66	54.73	53.78	55.03	55.08	55.16	55.51
TiO_2	0.21	0.21	0.22	0.19	0.17	0.16	0.12	0.13	0.14	0.20	0.22	0.24
Al_2O_3	1.00	0.66	2.46	0.60	0.74	0.49	0.53	0.93	0.60	0.79	1.01	1.21
Cr_2O_3	0.00	0.02	0.03	0.03	0.00	0.04	0.01	0.01	0.00	-0.01	0.01	0.01
FeO	16.36	17.17	16.18	18.32	19.19	19.68	18.76	19.42	19.35	17.83	17.09	15.70
MnO	0.57	0.70	0.61	0.84	0.94	1.05	0.99	1.03	0.95	0.74	0.64	0.47
MgO	25.91	26.62	24.96	26.28	25.10	24.82	25.31	24.51	25.25	26.26	27.04	27.65
CaO	1.20	1.10	2.03	1.05	1.08	1.05	1.03	1.04	1.08	1.07	1.17	1.29
Na_2O	-0.01	0.02	0.04	0.03	0.00	0.02	0.01	0.01	0.02	0.04	0.03	0.01
K_2O	-0.03	0.02	0.02	0.03	0.01	0.02	0.02	0.01	0.03	0.00	0.02	0.01
Total	98.73	101.63	100.54	102.42	102.36	101.99	101.49	100.88	102.44	102.01	102.39	102.08
Mg#	73.8	73.4	73.3	71.9	70.0	69.2	70.6	69.2	69.9	72.4	73.8	75.8

Table C.5.14: XAL-117, Orthopyroxene grain 14

Dist (µm)	0.0	30.1	60.2	90.4	120.5	150.6	180.7	301.2	331.4	391.6	482.0
SiO_2	54.96	55.68	54.88	55.25	54.33	54.29	50.19	38.55	54.70	54.78	56.18
TiO_2	0.16	0.20	0.26	0.16	0.29	0.23	0.28	0.28	0.30	0.32	0.26
Al_2O_3	0.78	1.67	1.50	0.67	1.05	0.80	4.25	24.57	1.50	1.48	2.61
Cr_2O_3	-0.01	0.05	0.02	-0.02	-0.01	0.01	0.01	0.15	0.04	0.01	0.01
FeO	16.08	13.97	15.81	18.04	19.15	19.11	18.16	14.54	16.35	16.43	15.88
MnO	0.48	0.29	0.34	0.71	0.68	0.79	0.75	0.56	0.52	0.57	0.46
MgO	27.23	28.79	27.53	26.07	25.05	24.93	25.12	22.09	27.18	26.72	25.08
CaO	1.24	1.30	1.17	1.16	1.16	1.04	1.01	1.05	1.26	1.17	1.54
Na_2O	0.01	0.01	0.02	0.01	0.02	0.02	0.03	0.05	0.02	0.03	0.25
K_2O	0.01	0.03	0.01	0.02	0.02	0.01	0.02	0.00	-0.01	0.00	0.09
Total	100.93	101.99	101.53	102.07	101.75	101.21	99.81	101.84	101.85	101.50	102.36
Mg#	75.1	78.6	75.6	72.0	70.0	69.9	71.1	73.0	74.8	74.4	73.8

Table C.5.15: XAL-117, Orthopyroxene grain 15

Dist (µm)	0.0	14.7	59.0	73.7	88.4	103.2	118.0	132.6	147.4	162.1
SiO_2	52.92	54.16	55.41	56.22	55.79	55.96	54.97	55.52	55.89	55.33
TiO_2	0.26	0.33	0.17	0.14	0.15	0.19	0.28	0.26	0.26	0.22
Al_2O_3	5.73	2.76	0.88	0.87	1.03	1.02	1.39	1.69	1.23	1.23
Cr_2O_3	0.02	0.11	0.00	0.03	0.04	0.02	0.02	0.03	0.01	0.01
FeO	14.53	13.97	15.01	14.95	15.17	15.01	15.38	15.10	15.08	16.26
MnO	0.30	0.26	0.33	0.33	0.36	0.33	0.35	0.41	0.38	0.50
MgO	26.81	28.05	28.10	28.36	28.53	28.50	28.16	27.98	28.41	27.60
CaO	1.69	2.55	1.46	1.38	1.46	1.36	1.25	1.35	1.26	1.16
Na_2O	0.02	0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.00
K_2O	0.01	0.00	0.01	0.02	-0.01	0.02	-0.01	0.01	0.00	-0.01
Total	102.30	102.21	101.39	102.31	102.55	102.42	101.80	102.36	102.53	102.31
Mg#	76.7	78.2	76.9	77.2	77.0	77.2	76.5	76.8	77.1	75.2

Table C.5.16: XAL-117, Orthopyroxene grain 16

Dist (µm)	0.0	15.1	30.3	45.4	75.7	90.9	106.0	121.1	136.3	151.4	166.6	181.8	212.1
SiO_2	55.22	55.48	55.08	55.47	55.13	55.46	55.34	55.37	54.95	55.45	55.92	55.38	55.55
TiO_2	0.22	0.25	0.23	0.24	0.22	0.19	0.25	0.22	0.19	0.18	0.13	0.13	0.16
Al_2O_3	1.19	1.28	1.20	1.28	1.26	1.25	1.32	1.18	1.00	0.99	0.66	0.73	1.12
Cr_2O_3	0.03	0.00	0.00	-0.01	0.02	0.01	0.02	0.00	0.02	0.03	0.01	0.04	0.05
FeO	16.60	15.54	15.42	15.68	15.68	15.49	15.59	15.58	15.76	15.93	16.23	17.26	13.52
MnO	0.53	0.41	0.42	0.50	0.43	0.46	0.42	0.41	0.42	0.48	0.56	0.70	0.33
MgO	27.08	27.99	28.19	27.79	27.88	27.86	27.90	27.88	27.75	27.60	27.54	26.64	29.18
CaO	1.22	1.18	1.29	1.23	1.21	1.17	1.15	1.24	1.19	1.31	1.15	1.09	1.71
Na_2O	0.00	0.01	0.00	0.02	0.02	0.02	0.01	0.02	0.01	0.03	0.01	0.00	0.01
K_2O	0.00	-0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
Total	102.07	102.11	101.84	102.20	101.86	101.90	102.00	101.90	101.30	102.00	102.19	101.97	101.65
Mg#	74.4	76.2	76.5	76.0	76.0	76.2	76.1	76.1	75.8	75.5	75.2	73.3	79.4

Table C.5.17: XAL-117, Orthopyroxene grain 17

Dist (µm)	0.0	30.2	60.5	90.7	121.0	181.4	211.6	272.1	302.3	393.0	453.5	483.8	544.2	574.4	604.6	634.9	695.4
SiO_2	52.97	54.21	52.28	41.14	53.95	54.49	54.58	54.50	54.80	54.66	53.33	54.05	54.27	54.42	51.74	52.01	53.56
TiO_2	0.39	0.29	0.29	0.17	0.26	0.29	0.25	0.28	0.27	0.31	0.37	0.27	0.30	0.29	0.86	0.60	0.34
Al_2O_3	2.49	1.72	2.80	24.35	2.29	2.22	1.82	1.96	1.06	1.44	2.26	2.04	1.82	1.92	3.64	2.91	2.22
Cr_2O_3	0.02	0.03	0.14	0.10	0.30	0.09	0.12	0.13	-0.01	0.01	0.01	0.13	0.08	0.16	0.23	0.18	0.09
FeO	17.92	15.95	14.51	10.13	13.47	14.65	14.98	15.95	16.74	16.85	16.68	15.19	15.49	15.11	8.24	8.41	15.25
MnO	0.47	0.40	0.31	0.17	0.31	0.36	0.30	0.38	0.54	0.44	0.50	0.36	0.35	0.34	0.22	0.22	0.35
MgO	25.30	27.48	27.21	22.73	28.65	27.87	28.42	27.18	26.86	26.57	26.51	27.49	27.49	27.77	15.71	15.83	27.71
CaO	1.47	1.22	1.43	1.28	1.45	1.50	1.39	1.46	1.20	1.35	1.42	1.77	1.47	1.38	20.80	20.72	1.48
Na_2O	0.02	0.01	0.02	0.02	0.00	0.01	0.02	0.03	0.03	0.01	0.03	0.03	0.03	0.04	0.38	0.34	0.02
K_2O	0.02	0.03	0.02	0.01	0.02	0.02	0.02	-0.01	0.00	-0.01	0.00	-0.01	0.00	0.03	0.01	0.02	0.03
Total	101.06	101.34	99.01	100.10	100.70	101.49	101.89	101.84	101.47	101.64	101.12	101.30	101.30	101.44	101.83	101.23	101.04
Mg#	71.6	75.4	77.0	80.0	79.1	77.2	77.2	75.2	74.1	73.8	73.9	76.3	76.0	76.6	77.3	77.1	76.4

Table C.5.18: XAL-117, Orthopyroxene grain 18

Dist (µm)	60.3	180.8	301.3	421.8	542.4	602.6	662.9	723.1	783.4
SiO_2	44.48	55.06	55.57	55.51	55.00	55.15	54.74	54.46	54.73
TiO_2	0.24	0.25	0.22	0.29	0.23	0.23	0.26	0.31	0.29
Al_2O_3	20.05	2.29	1.09	1.35	1.82	1.95	2.04	1.60	1.24
Cr_2O_3	0.04	0.24	0.08	0.05	0.13	0.27	0.10	0.05	0.04
FeO	13.28	13.24	14.85	15.56	14.00	13.47	13.85	16.42	16.34
MnO	0.34	0.27	0.41	0.35	0.31	0.31	0.34	0.42	0.45
MgO	18.85	29.56	28.74	27.70	28.93	29.20	28.57	27.06	27.12
CaO	1.33	1.33	1.27	1.45	1.44	1.39	1.91	1.50	1.43
Na_2O	0.01	0.02	0.04	0.02	0.02	0.01	0.03	0.00	0.02
K_2O	0.04	0.00	-0.01	-0.01	0.01	0.01	0.00	0.00	0.00
Total	98.66	102.25	102.26	102.26	101.89	101.99	101.83	101.81	101.65
Mg#	71.7	79.9	77.5	76.0	78.7	79.4	78.6	74.6	74.7

Table D.5.19: XAL-117, Clinopyroxene grain 19

Dist (µm)	0.0	60.2	150.6	241.0	361.4
SiO_2	53.28	55.35	54.10	54.25	55.28
TiO_2	0.57	0.23	0.32	0.30	0.26
Al_2O_3	2.59	1.21	2.86	2.08	1.15
Cr_2O_3	-0.01	-0.01	0.16	0.13	0.00
FeO	8.22	16.02	15.38	15.56	15.92
MnO	0.23	0.38	0.34	0.39	0.43
MgO	15.96	27.49	27.10	27.28	27.78
CaO	21.00	1.25	1.52	1.49	1.11
Na_2O	0.36	0.02	0.03	0.02	0.01
K_2O	-0.01	0.01	0.01	0.01	0.00
Total	102.20	101.95	101.79	101.50	101.94
Mg#	77.6	75.4	75.9	75.8	75.7

Table C.6.1: XAL-109, Orthopyroxene grain 1

Dist (µm)	0.0	30.7	61.5	76.8	122.8	138.3	184.3	245.8	307.2
SiO_2	54.22	53.43	55.04	54.78	54.47	54.55	54.45	54.44	54.55
TiO_2	0.33	0.21	0.13	0.13	0.29	0.22	0.17	0.12	0.19
Al_2O_3	1.41	1.07	0.69	0.92	1.45	0.78	1.02	0.82	0.76
Cr_2O_3	0.05	0.00	0.01	0.00	0.00	-0.01	0.04	0.01	-0.01
FeO	16.92	17.75	17.82	18.54	17.38	17.83	17.95	18.88	17.66
MnO	0.48	0.69	0.87	1.01	0.65	0.81	1.03	1.00	0.59
MgO	25.95	24.96	26.06	25.34	25.91	25.85	25.59	25.29	26.15
CaO	1.71	1.06	0.77	0.74	1.31	1.13	1.08	0.71	1.17
Na_2O	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
K_2O	0.00	0.02	-0.01	-0.01	0.00	0.00	0.00	-0.01	-0.01
Total	101.08	99.21	101.40	101.47	101.46	101.16	101.36	101.29	101.08
Mg#	73.2	71.5	72.3	70.9	72.7	72.1	71.8	70.5	72.5

Table C.6.2: XAL-109, Orthopyroxene grain 2

Dist (µm)	44.1	88.1	102.8	117.5	132.2	146.9	220.3
SiO_2	52.54	46.59	55.07	53.43	54.33	54.64	47.28
TiO_2	0.29	0.25	0.22	0.33	0.28	0.23	0.24
Al_2O_3	2.63	13.00	1.72	3.16	1.81	1.13	12.75
Cr_2O_3	0.02	0.14	0.06	0.09	-0.01	-0.01	-0.01
FeO	17.28	15.04	15.58	16.09	16.34	16.50	14.72
MnO	0.48	0.38	0.39	0.41	0.41	0.50	0.34
MgO	25.22	22.43	26.58	26.00	26.91	26.98	24.70
CaO	1.38	1.37	1.48	1.76	1.34	1.30	1.37
Na_2O	0.02	0.04	0.02	0.02	0.02	0.03	0.04
K_2O	0.01	0.00	0.00	0.00	0.01	0.00	0.03
Total	99.86	99.22	101.12	101.31	101.43	101.30	101.47
Mg#	72.2	72.7	75.3	74.2	74.6	74.5	74.9

Table C.6.3: XAL-109, Orthopyroxene grain 3

Dist (µm)	60.5	90.7	120.9	151.2	181.3	211.6	241.8	302.3	332.5	362.7	393.0	423.2	453.4	483.6	513.8
SiO_2	55.57	54.36	54.81	54.38	55.22	54.49	54.34	53.32	54.93	54.86	55.02	53.85	54.53	54.38	54.07
TiO_2	0.17	0.24	0.24	0.32	0.22	0.20	0.26	0.21	0.21	0.20	0.15	0.30	0.22	0.21	0.28
Al_2O_3	0.92	1.71	1.01	1.50	0.85	1.10	1.18	1.02	1.10	0.98	0.82	1.64	1.28	1.30	2.10
Cr_2O_3	0.05	0.07	0.02	0.03	0.03	0.04	0.03	0.00	-0.01	0.05	0.01	0.04	-0.02	0.09	0.15
FeO	15.63	16.66	16.82	16.83	16.33	16.83	16.92	16.45	17.15	16.83	16.82	16.49	16.23	16.62	16.89
MnO	0.48	0.47	0.44	0.46	0.51	0.48	0.52	0.51	0.47	0.43	0.50	0.48	0.48	0.44	0.45
MgO	27.08	26.38	26.73	26.10	26.59	26.34	26.21	26.10	26.34	26.68	26.76	26.48	27.01	26.62	25.95
CaO	1.51	1.39	1.33	1.47	1.49	1.28	1.31	1.12	1.19	1.26	1.19	1.32	1.16	1.42	1.41
Na_2O	0.03	0.02	0.03	0.01	0.03	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.00	0.00	0.03
K_2O	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Total	101.45	101.31	101.44	101.12	101.29	100.77	100.79	98.75	101.43	101.30	101.31	100.61	100.88	101.10	101.34
Mg#	75.5	73.8	73.9	73.4	74.4	73.6	73.4	73.9	73.2	73.9	73.9	74.1	74.8	74.1	73.2

Table C.6.4: XAL-109, Orthopyroxene grain 4

Dist (µm)	0.0	7.7	15.3	23.0	30.6	46.0	53.7	61.4	69.0	76.7	84.3	92.0	107.4	115.1
SiO_2	54.65	54.48	53.85	52.72	53.87	54.82	54.25	53.13	54.82	54.36	53.94	54.09	53.76	54.78
TiO_2	0.33	0.32	0.34	0.33	0.36	0.23	0.26	0.34	0.29	0.24	0.30	0.34	0.31	0.27
Al_2O_3	1.42	1.25	1.30	1.11	1.45	0.84	1.06	4.17	1.03	1.36	2.36	1.42	1.28	1.24
Cr_2O_3	-0.01	-0.01	0.00	0.01	0.05	0.01	0.00	-0.01	0.00	-0.01	0.13	0.02	0.00	0.05
FeO	16.64	17.32	17.54	17.65	17.03	16.63	17.14	16.51	16.85	16.78	16.18	17.54	17.53	16.94
MnO	0.44	0.45	0.45	0.53	0.51	0.53	0.51	0.43	0.56	0.56	0.41	0.55	0.51	0.47
MgO	26.26	26.00	25.53	24.55	25.98	26.29	26.32	23.96	26.30	25.61	26.00	25.24	25.81	26.09
CaO	1.65	1.40	1.69	3.43	1.82	1.58	1.34	1.44	1.42	1.64	1.88	1.84	1.49	1.46
Na_2O	0.01	0.01	0.01	0.04	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.04	0.03	0.02
K_2O	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.02	0.01	0.01	0.01	-0.02
Total	101.41	101.22	100.72	100.37	101.09	100.95	100.90	100.04	101.30	100.60	101.25	101.08	100.73	101.30
Mg#	73.8	72.8	72.2	71.3	73.1	73.8	73.2	72.1	73.6	73.1	74.1	71.9	72.4	73.3

Table C.6.5: XAL-109, Orthopyroxene grain 5

Dist (µm)	0.0	7.6	22.7	45.5	53.0	68.2	75.9	83.4	98.5	113.7	121.4
SiO_2	54.77	54.39	53.65	54.92	54.67	55.24	54.42	54.24	53.31	54.89	54.03
TiO_2	0.31	0.28	0.31	0.25	0.24	0.18	0.27	0.30	0.32	0.26	0.33
Al_2O_3	1.16	1.24	2.70	1.11	1.27	1.17	1.26	1.62	2.60	1.16	1.37
Cr_2O_3	0.03	0.02	0.15	0.01	0.05	0.09	0.03	0.03	0.09	0.03	0.02
FeO	16.50	17.15	16.90	16.21	16.04	15.85	16.18	16.93	16.73	16.62	16.50
MnO	0.46	0.48	0.48	0.45	0.47	0.41	0.43	0.43	0.46	0.48	0.47
MgO	26.39	26.09	25.61	26.99	27.09	26.85	27.03	26.45	25.87	26.53	26.38
CaO	1.55	1.40	1.65	1.22	1.22	1.40	1.34	1.35	1.62	1.37	1.58
Na_2O	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.02	0.02	0.01	0.01
K_2O	-0.01	0.00	0.01	-0.02	-0.01	-0.01	-0.01	-0.02	0.00	0.00	0.02
Total	101.18	101.07	101.49	101.16	101.07	101.19	100.97	101.36	101.01	101.36	100.71
Mg#	74.0	73.1	73.0	74.8	75.1	75.1	74.9	73.6	73.4	74.0	74.0

Table C.6.6: XAL-109, Orthopyroxene grain 6

Dist (µm)	0.0	29.0	36.4	43.6	50.8	58.2	65.4	80.0	87.2	94.4	101.8
SiO_2	54.93	55.20	54.72	54.77	54.90	54.78	53.81	54.47	54.29	54.50	54.43
TiO_2	0.31	0.18	0.23	0.28	0.29	0.26	0.24	0.33	0.25	0.33	0.34
Al_2O_3	1.04	1.31	2.11	1.08	1.08	1.04	2.98	1.66	1.71	1.65	1.36
Cr_2O_3	0.03	0.18	0.26	-0.02	0.02	-0.02	0.10	0.03	0.13	0.00	-0.02
FeO	16.80	14.03	14.27	16.45	17.05	16.65	15.16	15.99	15.21	16.60	16.99
MnO	0.47	0.37	0.36	0.48	0.44	0.44	0.34	0.45	0.35	0.40	0.42
MgO	26.19	28.16	27.56	26.28	26.12	26.16	26.17	26.64	27.30	26.34	26.16
CaO	1.48	1.74	1.72	1.55	1.52	1.38	1.73	1.56	1.45	1.58	1.56
Na_2O	0.00	0.02	0.01	0.04	0.01	0.02	0.04	0.02	0.02	0.03	0.03
K_2O	0.03	0.00	0.00	0.02	0.00	0.01	-0.02	0.01	0.01	0.01	0.00
Total	101.26	101.19	101.25	100.91	101.42	100.72	100.55	101.16	100.72	101.44	101.28
Mg#	73.5	78.2	77.5	74.0	73.2	73.7	75.5	74.8	76.2	73.9	73.3

Table C.6.7: XAL-109, Orthopyroxene grain 7

Dist (µm)	0.0	90.3	120.4	150.5	165.5	180.7	225.8	240.9	255.9	271.0	286.0	316.1	331.2	346.2
SiO_2	55.13	54.90	54.80	54.70	54.84	54.70	54.96	54.05	54.67	54.58	54.90	54.46	53.88	54.15
TiO_2	0.22	0.22	0.22	0.24	0.18	0.23	0.19	0.24	0.25	0.22	0.22	0.23	0.28	0.24
Al_2O_3	0.72	0.85	1.39	1.06	0.70	1.16	1.12	1.49	1.12	1.14	1.12	1.27	1.56	1.00
Cr_2O_3	-0.03	0.00	0.04	0.01	0.04	0.04	0.00	0.05	0.00	0.03	0.00	0.01	0.03	0.03
FeO	16.38	16.58	16.36	16.56	16.40	16.46	16.44	16.40	16.28	16.55	16.45	16.46	17.21	16.83
MnO	0.46	0.47	0.50	0.54	0.53	0.51	0.55	0.54	0.52	0.55	0.50	0.53	0.54	0.44
MgO	26.93	27.09	26.90	26.85	26.89	26.60	26.79	26.42	26.69	27.10	26.82	26.45	26.30	26.62
CaO	1.55	1.22	1.24	1.20	1.20	1.17	1.25	1.26	1.20	1.13	1.18	1.24	1.37	1.36
Na_2O	0.03	0.01	0.04	0.02	0.02	0.02	0.02	0.03	0.00	0.02	0.01	0.02	0.05	0.02
K_2O	0.02	0.01	0.01	0.03	0.00	0.01	0.00	-0.02	-0.01	0.00	-0.01	-0.01	0.01	0.00
Total	101.40	101.35	101.49	101.20	100.80	100.89	101.32	100.45	100.71	101.32	101.19	100.65	101.24	100.69
Mg#	74.6	74.4	74.6	74.3	74.5	74.2	74.4	74.2	74.5	74.5	74.4	74.1	73.1	73.8

Table C.6.8: XAL-109, Orthopyroxene grain 8

Dist (µm)	44.2	88.4	117.9	132.6	147.3	191.5	206.3	221.0
SiO_2	54.39	54.94	55.12	55.08	55.01	54.25	54.83	53.76
TiO_2	0.25	0.27	0.24	0.23	0.22	0.28	0.29	0.61
Al_2O_3	1.35	1.04	0.99	1.01	0.96	1.46	1.08	3.54
Cr_2O_3	0.05	0.02	0.02	-0.01	-0.02	0.01	-0.01	0.02
FeO	16.34	16.59	16.44	16.70	16.24	16.79	17.12	16.76
MnO	0.47	0.53	0.60	0.56	0.58	0.48	0.49	0.40
MgO	26.66	26.80	26.91	26.81	26.88	26.56	26.42	22.69
CaO	1.26	1.23	1.19	1.10	1.16	1.30	1.24	1.56
Na_2O	0.04	0.05	0.00	0.01	0.00	0.01	0.01	0.14
K_2O	0.01	-0.01	-0.02	-0.01	0.00	-0.01	-0.02	0.43
Total	100.83	101.47	101.49	101.50	101.02	101.10	101.44	99.90
Mg#	74.4	74.2	74.5	74.1	74.7	73.8	73.3	70.7

Table C.6.9: XAL-109, Orthopyroxene grain 9

Dist (µm)	0.0	117.0	234.0	292.6	351.0	409.6	468.0	526.6	643.6	702.0	760.6	819.0	936.1	994.6
SiO_2	53.94	54.22	54.43	54.40	54.49	54.72	53.86	54.03	54.87	54.75	54.31	55.64	55.28	54.55
TiO_2	0.36	0.38	0.29	0.32	0.30	0.26	0.28	0.44	0.34	0.39	0.32	0.22	0.23	0.32
Al_2O_3	1.51	1.69	1.16	1.54	2.05	1.31	1.66	1.79	1.76	1.93	1.72	0.78	0.69	1.71
Cr_2O_3	0.03	0.02	-0.01	0.00	0.02	0.01	-0.02	-0.02	0.05	0.02	0.00	0.00	0.03	0.08
FeO	16.78	16.62	16.71	16.70	16.17	16.49	17.05	12.72	14.79	15.31	16.27	16.46	17.06	15.57
MnO	0.42	0.44	0.50	0.54	0.47	0.46	0.47	0.41	0.46	0.42	0.44	0.51	0.46	0.38
MgO	25.91	25.85	26.45	26.45	26.80	26.24	25.37	20.82	27.32	27.07	26.76	27.05	26.32	26.65
CaO	1.82	1.72	1.26	1.37	1.35	1.50	1.44	11.40	1.79	1.82	1.40	1.25	1.46	1.69
Na_2O	0.02	0.03	0.04	0.03	0.03	0.10	0.04	0.19	0.05	0.03	0.02	0.01	0.03	0.02
K_2O	0.02	0.00	-0.02	0.00	-0.01	0.03	0.00	0.01	0.00	-0.01	-0.01	-0.01	-0.01	-0.01
Total	100.81	100.95	100.80	101.35	101.67	101.11	100.15	101.79	101.43	101.71	101.23	101.90	101.56	100.96
Mg#	73.3	73.5	73.8	73.8	74.7	73.9	72.6	74.5	76.7	75.9	74.6	74.5	73.3	75.3

Table C.6.10: XAL-109, Orthopyroxene grain 10

Dist (µm)	0.0	29.0	58.0	86.9	115.9	144.9	173.9	202.9	231.9	260.8	289.8	318.9	347.8
SiO_2	54.13	54.52	54.94	53.78	54.46	54.21	54.43	54.33	54.80	52.98	54.82	54.47	54.68
TiO_2	0.28	0.30	0.29	0.33	0.29	0.34	0.27	0.27	0.20	0.26	0.30	0.34	0.22
Al_2O_3	0.92	1.08	1.11	2.41	1.46	1.64	1.24	1.11	0.93	2.53	1.92	1.46	0.88
Cr_2O_3	0.03	0.03	0.02	0.14	0.04	-0.01	0.02	0.02	0.02	0.09	0.04	0.03	0.08
FeO	18.47	16.78	16.59	16.39	16.49	16.75	16.67	16.88	16.68	16.97	16.72	17.58	16.39
MnO	0.50	0.52	0.42	0.41	0.53	0.51	0.49	0.55	0.53	0.49	0.56	0.53	0.44
MgO	25.04	26.07	26.33	25.62	26.40	26.14	26.44	26.34	26.44	25.63	25.29	25.46	26.28
CaO	1.64	1.71	1.42	1.72	1.46	1.40	1.28	1.35	1.40	1.45	1.24	1.38	1.67
Na_2O	0.02	0.01	0.02	0.02	0.01	0.03	0.00	0.03	0.02	0.04	0.01	0.01	0.01
K_2O	-0.02	0.00	-0.02	-0.01	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.03	0.01
Total	101.00	101.02	101.12	100.80	101.15	101.02	100.88	100.89	101.02	100.45	100.91	101.28	100.67
Mg#	70.7	73.5	73.9	73.6	74.1	73.6	73.9	73.5	73.9	72.9	72.9	72.1	74.1

Table C.6.11: XAL-109, Orthopyroxene grain 11

Dist (µm)	44.7	59.6	74.4	89.3	104.1	119.1	148.8	163.7	178.6	193.4	208.3	223.2	238.1
SiO_2	55.28	55.60	55.26	55.38	55.24	54.80	55.26	55.13	55.64	54.55	54.72	54.50	54.40
TiO_2	0.22	0.19	0.19	0.16	0.17	0.16	0.23	0.18	0.17	0.22	0.24	0.28	0.25
Al_2O_3	1.16	0.78	0.96	0.62	0.67	0.78	0.90	0.88	0.75	1.22	1.13	1.31	1.02
Cr_2O_3	-0.01	0.00	-0.01	0.01	0.00	0.03	0.00	0.00	-0.02	-0.01	0.00	-0.03	-0.02
FeO	16.98	16.96	17.34	17.22	17.40	17.59	17.29	17.08	17.30	17.38	16.59	16.99	17.27
MnO	0.54	0.57	0.68	0.66	0.71	0.76	0.63	0.70	0.78	0.73	0.54	0.52	0.54
MgO	26.55	26.30	26.36	26.32	26.26	26.08	26.42	26.24	26.12	26.08	26.37	26.11	25.86
CaO	1.21	1.06	1.09	0.97	1.04	1.05	1.11	1.08	1.11	1.09	1.27	1.33	1.25
Na_2O	0.02	0.03	0.02	0.01	0.01	0.02	0.02	-0.01	-0.02	0.01	0.01	0.00	0.00
K_2O	0.01	0.03	0.02	0.00	0.02	0.00	0.00	-0.01	-0.01	0.01	0.01	0.01	0.00
Total	101.96	101.51	101.92	101.33	101.51	101.26	101.86	101.26	101.81	101.27	100.87	101.01	100.56
Mg#	73.6	73.4	73.1	73.1	72.9	72.6	73.1	73.3	72.9	72.8	73.9	73.3	72.7

Table C.6.12: XAL-109, Orthopyroxene grain 12

Dist (µm)	0.0	29.8	59.6	89.3	119.1	148.9	178.7	208.5	268.0	297.8	327.6	357.4	387.1	416.9	446.7
SiO_2	54.60	55.32	52.97	54.54	54.81	54.85	55.44	55.28	54.64	50.61	55.02	55.35	55.02	54.74	55.43
TiO_2	0.30	0.30	0.30	0.31	0.26	0.26	0.31	0.23	0.30	0.34	0.23	0.18	0.24	0.23	0.22
Al_2O_3	1.49	1.41	1.67	1.25	1.11	1.02	1.09	1.04	1.78	6.46	1.36	1.08	1.08	0.75	0.78
Cr_2O_3	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.01	-0.01	0.15	0.04	0.05	0.01	0.00	0.04
FeO	17.15	16.11	16.01	17.19	16.97	16.36	16.42	16.54	16.23	16.54	16.76	16.24	15.95	17.09	16.94
MnO	0.41	0.45	0.43	0.49	0.58	0.55	0.57	0.53	0.43	0.48	0.46	0.55	0.48	0.53	0.43
MgO	26.12	26.63	25.68	26.28	26.74	26.83	26.87	27.13	26.53	25.54	26.72	26.95	26.79	26.84	26.51
CaO	1.50	1.50	1.49	1.26	1.25	1.22	1.29	1.14	1.40	1.58	1.35	1.40	1.20	1.24	1.52
Na_2O	0.02	0.00	0.01	0.01	0.04	0.03	0.03	0.03	0.03	0.07	0.02	0.02	0.04	0.02	0.03
K_2O	0.01	0.03	0.00	0.01	0.01	0.01	-0.01	0.01	0.00	0.00	0.02	0.00	0.01	0.00	-0.01
Total	101.60	101.78	98.55	101.33	101.77	101.12	102.00	101.95	101.33	101.75	101.98	101.81	100.82	101.43	101.91
Mg#	73.1	74.7	74.1	73.1	73.7	74.5	74.5	74.5	74.4	73.3	74.0	74.7	75.0	73.7	73.6

Table C.6.13: XAL-109, Orthopyroxene grain 13

Dist (µm)	0.0	15.4	30.8	61.5	76.9	92.2	107.7	123.0	138.4	153.7	169.2	184.5
SiO_2	54.78	54.61	54.02	54.72	54.87	54.87	54.76	53.40	49.98	55.06	55.36	54.99
TiO_2	0.32	0.28	0.28	0.15	0.16	0.26	0.26	0.28	0.27	0.20	0.23	0.28
Al_2O_3	1.10	1.02	2.54	0.95	0.96	1.20	1.13	1.41	2.92	0.67	0.66	0.89
Cr_2O_3	0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.02	-0.01	0.06	-0.04	0.00	-0.01
FeO	16.83	16.92	16.00	17.87	17.93	16.81	16.14	16.68	17.00	16.49	16.32	16.64
MnO	0.48	0.48	0.53	0.95	0.83	0.51	0.54	0.46	0.49	0.49	0.45	0.41
MgO	26.22	26.52	25.17	25.42	25.91	26.05	26.86	25.44	28.75	26.75	26.64	26.59
CaO	1.57	1.27	1.18	0.84	0.80	1.26	1.23	1.28	1.30	1.51	1.34	1.45
Na_2O	0.03	0.03	0.03	0.02	0.03	0.04	0.03	0.02	0.05	0.04	0.03	0.02
K_2O	-0.01	-0.01	0.01	0.00	-0.01	0.00	0.00	-0.02	-0.01	-0.02	0.02	0.01
Total	101.34	101.11	99.75	100.91	101.47	100.98	100.93	98.95	100.81	101.15	101.06	101.27
Mg#	73.5	73.6	73.7	71.7	72.0	73.4	74.8	73.1	75.1	74.3	74.4	74.0

Table C.6.14: XAL-109, Orthopyroxene grain 14

Dist (µm)	0.0	58.6	73.3	87.9	102.5	278.4
SiO_2	55.72	49.55	51.30	52.60	53.29	52.18
TiO_2	0.26	0.54	0.52	0.65	0.61	0.62
Al_2O_3	0.88	4.80	3.01	2.43	2.14	2.35
Cr_2O_3	0.00	0.04	0.08	0.03	0.02	0.07
FeO	16.60	8.00	8.29	8.57	7.92	8.15
MnO	0.43	0.24	0.27	0.30	0.27	0.32
MgO	26.57	14.48	15.00	15.56	15.62	15.49
CaO	1.32	20.38	20.76	20.69	21.53	21.72
Na_2O	0.03	0.31	0.30	0.38	0.36	0.34
K_2O	0.00	0.01	0.02	0.00	0.00	0.01
Total	101.82	98.35	99.55	101.21	101.76	101.24
Mg#	74.0	76.3	76.3	76.4	77.9	77.2

Table C.6.15: XAL-109, Orthopyroxene grain 15

Dist (µm)	0.0	30.2	60.4	90.6	120.8	151.1	211.4	241.6	271.8	332.3	362.5	422.8
SiO_2	54.56	54.72	54.65	54.98	53.76	56.64	55.33	53.89	55.07	55.06	54.58	54.24
TiO_2	0.32	0.32	0.28	0.22	0.32	0.15	0.26	0.28	0.19	0.23	0.28	0.34
Al_2O_3	1.50	1.26	1.97	2.04	2.59	1.28	1.01	1.68	1.27	1.31	1.41	1.37
Cr_2O_3	0.09	0.06	0.13	0.30	0.14	0.08	0.04	0.11	0.11	0.04	0.03	0.04
FeO	17.25	16.42	15.27	13.71	14.45	15.17	16.30	16.33	15.26	16.06	16.58	17.21
MnO	0.49	0.49	0.44	0.34	0.37	0.44	0.55	0.43	0.44	0.42	0.45	0.47
MgO	25.55	26.55	27.03	28.50	27.24	29.50	27.08	25.97	27.91	27.25	26.67	25.59
CaO	1.46	1.39	1.42	1.38	2.19	1.59	1.20	1.24	1.28	1.26	1.30	1.52
Na_2O	0.00	-0.01	-0.01	0.00	0.01	0.00	0.00	0.02	0.02	0.01	0.02	0.02
K_2O	0.00	-0.01	0.01	0.00	-0.01	0.00	-0.01	0.00	0.00	-0.02	-0.01	-0.01
Total	101.22	101.18	101.18	101.48	101.06	104.87	101.77	99.94	101.54	101.61	101.31	100.79
Mg#	72.5	74.2	75.9	78.7	77.1	77.6	74.8	73.9	76.5	75.2	74.1	72.6

Table C.6.16: XAL-109, Orthopyroxene grain 16

Dist (µm)	0.0	30.6	61.2	91.8	122.4	152.9	183.5	214.1	244.7	275.3	305.9
SiO_2	54.61	54.72	55.05	54.86	54.44	55.33	54.83	54.50	54.81	54.78	54.82
TiO_2	0.24	0.25	0.23	0.16	0.14	0.11	0.12	0.17	0.20	0.24	0.25
Al_2O_3	1.10	1.28	1.18	1.12	1.15	0.95	1.10	0.97	0.98	1.15	1.29
Cr_2O_3	0.00	0.02	0.03	0.02	0.03	0.03	0.02	0.06	0.02	0.04	0.02
FeO	16.81	16.73	16.76	17.18	17.39	17.19	17.02	17.20	16.70	16.23	16.80
MnO	0.48	0.49	0.60	0.67	0.66	0.69	0.66	0.68	0.66	0.54	0.46
MgO	26.33	26.83	26.67	26.39	26.30	26.55	26.39	26.31	26.88	26.48	26.51
CaO	1.24	1.26	1.30	1.09	1.15	1.11	1.13	1.42	1.09	1.50	1.24
Na_2O	0.02	0.01	0.02	0.01	0.00	0.01	0.02	0.02	0.00	0.01	0.01
K_2O	-0.01	0.01	0.00	0.00	-0.02	-0.01	0.00	-0.02	0.00	-0.03	0.00
Total	100.83	101.60	101.84	101.50	101.24	101.97	101.28	101.31	101.33	100.93	101.39
Mg#	73.6	74.1	73.9	73.3	72.9	73.4	73.4	73.2	74.2	74.4	73.8

Table C.6.17: XAL-109, Orthopyroxene grain 17

Dist (µm)	0.0	59.6	178.7	238.3	297.8	357.4	417.0	476.5	536.1	595.7
SiO_2	55.05	55.15	54.12	53.89	54.37	55.36	54.66	54.97	54.35	54.60
TiO_2	0.24	0.19	0.28	0.34	0.23	0.16	0.21	0.21	0.21	0.21
Al_2O_3	1.21	1.11	2.91	2.70	2.01	0.93	1.24	1.08	1.24	0.89
Cr_2O_3	0.03	0.05	0.29	0.17	0.12	0.08	0.01	-0.02	0.02	0.00
FeO	16.25	15.45	14.35	13.49	13.39	13.94	14.94	15.44	15.85	16.61
MnO	0.48	0.47	0.31	0.33	0.33	0.35	0.48	0.41	0.44	0.50
MgO	26.72	27.21	27.41	27.63	28.14	28.30	27.34	27.70	26.98	26.88
CaO	1.22	1.31	1.51	2.30	1.83	1.54	1.55	1.32	1.28	1.19
Na_2O	0.02	0.00	0.03	0.05	0.03	0.03	0.03	0.02	0.03	0.02
K_2O	-0.02	0.00	0.00	-0.02	-0.01	0.00	0.00	0.02	0.00	0.00
Total	101.19	100.94	101.21	100.87	100.45	100.68	100.44	101.15	100.39	100.90
Mg#	74.6	75.8	77.3	78.5	78.9	78.3	76.5	76.2	75.2	74.3

Table C.7.1: IXT-21, Orthopyroxene grain 1

Dist (µm)	89.2	118.9	133.8	148.7	178.4	193.3	208.1	223.0
SiO_2	53.81	51.88	53.95	53.67	53.21	53.33	53.47	53.77
TiO_2	1.34	2.71	1.40	1.31	1.36	1.36	1.30	1.73
Al_2O_3	0.56	0.70	0.58	0.67	1.13	1.04	1.08	1.83
Cr_2O_3	0.00	-0.01	0.00	0.00	0.00	0.01	-0.01	0.00
FeO	22.73	21.28	22.86	23.05	23.22	22.92	22.15	21.86
MnO	1.24	1.13	1.21	1.21	1.23	1.22	1.17	1.09
MgO	22.08	21.55	22.07	21.82	21.47	21.52	22.33	20.84
CaO	0.15	0.18	0.18	0.18	0.25	0.26	0.27	0.38
Na_2O	0.03	0.12	0.02	0.03	0.02	0.03	0.03	0.21
K_2O	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.17
Total	101.93	99.55	102.27	101.94	101.90	101.69	101.81	101.87
Mg#	63.4	64.3	63.2	62.8	62.2	62.6	64.2	63.0

Table C.7.2: IXT-21, Orthopyroxene grain 2

Dist (µm)	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	119.9	149.9	165.0	179.9	195.0	209.9	224.9	239.9	254.9	269.9	284.9	299.9
SiO_2	53.93	53.61	53.83	53.37	53.75	53.63	53.70	53.59	53.42	53.42	53.23	53.28	53.57	53.44	53.41	53.15	53.37	53.43	53.45	53.08
TiO_2	1.41	1.35	1.35	1.31	1.35	1.37	1.35	1.34	1.32	1.36	1.40	1.38	1.37	1.35	1.32	1.32	1.59	1.50	1.44	1.93
Al_2O_3	1.23	0.84	0.81	0.87	0.87	0.85	0.87	0.85	0.84	0.82	0.85	0.84	0.84	0.84	0.85	0.89	1.37	1.21	1.20	1.62
Cr_2O_3	-0.02	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	0.01	0.00	0.00
FeO	19.13	21.32	21.62	21.56	21.63	21.46	21.54	21.71	21.57	21.53	21.59	21.56	21.55	21.48	21.51	21.28	18.97	19.36	19.05	21.17
MnO	0.93	1.12	1.20	1.15	1.12	1.08	1.09	1.14	1.15	1.12	1.13	1.12	1.11	1.12	1.09	1.07	0.86	0.93	0.95	1.03
MgO	24.74	22.90	22.82	22.74	22.83	22.81	22.76	22.74	22.78	22.72	22.74	22.67	22.85	22.84	22.90	22.93	24.51	24.52	24.45	21.79
CaO	0.33	0.22	0.24	0.21	0.21	0.22	0.22	0.22	0.23	0.21	0.23	0.21	0.22	0.22	0.22	0.22	0.34	0.31	0.29	0.33
Na_2O	0.03	0.03	0.02	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.04	0.03	0.13
K_2O	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	-0.01	-0.02	-0.02	-0.02	0.01	0.01	0.01	0.00	0.00	-0.01	0.00	0.06
Total	101.74	101.38	101.89	101.24	101.80	101.46	101.56	101.63	101.34	101.20	101.19	101.09	101.54	101.31	101.34	100.88	101.05	101.29	100.85	101.14
Mg#	69.7	65.7	65.3	65.3	65.3	65.5	65.3	65.1	65.3	65.3	65.2	65.2	65.4	65.5	65.5	65.8	69.7	69.3	69.6	64.7

Table C.7.3: IXT-21, Orthopyroxene grain 3

Dist (µm)	14.3	28.7	43.0	57.3	71.7	86.0	100.3	114.7	129.0
SiO_2	51.43	52.67	54.49	50.53	53.02	52.71	50.78	51.04	52.34
TiO_2	20.39	17.75	13.84	19.47	17.37	17.95	19.62	19.33	19.98
Al_2O_3	2.96	2.16	3.54	3.08	1.96	1.93	3.76	3.78	3.68
Cr_2O_3	0.00	-0.02	-0.01	-0.01	-0.02	-0.02	0.02	0.00	0.01
FeO	8.56	9.74	11.27	9.12	10.00	9.79	9.36	9.32	8.76
MnO	0.30	0.42	0.51	0.33	0.41	0.42	0.37	0.34	0.31
MgO	15.29	16.97	15.01	15.26	17.33	17.04	15.19	15.27	15.42
CaO	0.90	0.64	0.83	0.98	0.65	0.64	1.22	1.13	1.06
Na_2O	0.40	0.35	0.37	0.39	0.32	0.33	0.40	0.40	0.51
K_2O	0.01	0.03	0.56	0.00	0.00	0.00	0.00	0.01	0.10
Total	100.24	100.71	100.41	99.15	101.06	100.82	100.72	100.63	102.18
Mg#	76.1	75.6	70.4	74.9	75.5	75.6	74.3	74.5	75.8

Table C.7.4: IXT-21, Orthopyroxene grain 4

Dist (µm)	15.0	30.1	45.1	60.1	75.1	90.2	105.2	120.2	135.3	150.3	165.3	180.4	195.4	210.4	225.4	255.5	270.5	285.6	300.6
SiO_2	52.86	52.78	52.91	52.37	52.56	52.32	52.29	52.58	52.58	52.65	52.46	52.65	52.67	52.87	53.00	53.10	52.69	53.32	51.81
TiO_2	1.28	1.37	1.35	1.47	1.47	1.47	1.37	1.41	1.46	1.52	1.34	1.36	1.31	1.33	1.32	1.35	1.30	1.31	1.46
Al_2O_3	1.08	1.08	1.10	1.21	1.21	1.26	1.20	1.21	1.17	1.17	1.16	1.18	1.18	1.12	1.07	1.12	1.13	1.10	2.14
Cr_2O_3	0.01	0.00	0.00	-0.01	0.00	-0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	-0.01	-0.01	0.00	-0.01	-0.01	0.01
FeO	22.24	22.47	22.81	22.88	23.16	23.10	23.23	23.42	23.30	23.63	23.17	23.19	23.00	22.76	23.04	22.40	22.36	22.29	24.42
MnO	1.18	1.14	1.20	1.19	1.22	1.17	1.14	1.20	1.18	1.20	1.18	1.18	1.20	1.16	1.19	1.12	1.15	1.08	1.27
MgO	22.43	21.85	21.68	21.45	21.55	21.29	21.41	21.27	21.06	21.09	21.17	21.47	21.63	21.66	21.95	22.24	21.80	22.58	20.18
CaO	0.26	0.25	0.26	0.27	0.29	0.27	0.26	0.26	0.27	0.27	0.26	0.28	0.26	0.26	0.25	0.25	0.25	0.27	0.42
Na_2O	0.00	0.03	0.03	0.04	0.04	0.04	0.03	0.04	0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.02	0.03	0.04
K_2O	0.00	0.00	0.01	0.01	0.00	0.00	-0.01	0.00	0.01	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	0.00	0.01	0.01
Total	101.34	100.97	101.35	100.87	101.50	100.90	100.94	101.40	101.03	101.56	100.77	101.35	101.28	101.19	101.83	101.60	100.71	101.98	101.74
Mg#	64.3	63.4	62.9	62.6	62.4	62.2	62.2	61.8	61.7	61.4	62.0	62.3	62.6	62.9	62.9	63.9	63.5	64.4	59.6

Table C.7.5: IXT-21, Orthopyroxene grain 5

Dist (µm)	0.0	15.4	30.7	46.0	61.3	76.7	92.0	122.7	138.0	153.3	168.7	199.4	214.6	230.0	276.0	291.4	306.6
SiO_2	53.88	52.79	52.99	52.71	52.47	52.84	52.40	51.86	52.08	52.33	51.36	52.92	52.93	52.83	52.46	52.79	52.66
TiO_2	1.81	1.33	1.34	1.32	1.39	1.39	1.40	1.54	1.40	1.40	2.73	1.39	1.39	1.29	1.44	1.27	1.36
Al_2O_3	1.20	0.99	1.01	1.01	1.00	1.01	1.08	1.42	1.11	0.68	0.64	0.50	0.52	0.49	1.19	0.97	1.07
Cr_2O_3	-0.02	0.00	0.00	0.00	0.01	-0.01	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
FeO	19.05	23.19	24.02	24.16	24.13	24.47	24.68	25.81	25.50	25.57	24.88	25.43	25.45	25.38	25.05	24.60	24.27
MnO	0.89	1.16	1.22	1.22	1.28	1.29	1.23	1.36	1.33	1.43	1.38	1.39	1.36	1.36	1.32	1.29	1.26
MgO	24.24	21.55	21.14	20.98	20.88	20.72	20.27	19.24	19.89	19.72	19.28	19.96	20.11	20.02	20.12	20.60	20.87
CaO	0.31	0.25	0.25	0.24	0.24	0.23	0.23	0.28	0.25	0.20	0.19	0.18	0.17	0.16	0.27	0.24	0.24
Na_2O	0.06	0.03	0.04	0.03	0.03	0.03	0.02	0.04	0.03	0.03	0.06	0.02	0.02	0.02	0.03	0.03	0.03
K_2O	0.03	0.01	0.00	0.00	0.00	0.01	-0.01	-0.01	0.00	0.00	0.03	0.02	0.01	0.01	0.01	0.00	0.01
Total	101.47	101.29	102.00	101.66	101.42	101.98	101.33	101.54	101.58	101.35	100.53	101.80	101.94	101.55	101.90	101.81	101.78
Mg#	69.4	62.4	61.1	60.7	60.7	60.1	59.4	57.1	58.2	57.9	58.0	58.3	58.5	58.4	58.9	59.9	60.5

Table C.7.6: IXT-21, Orthopyroxene grain 6

Dist (µm)	87.2	116.1	203.3	261.4	290.5	319.4	348.5	377.5	406.6
SiO_2	52.92	53.07	53.30	52.80	53.05	52.72	52.79	52.90	53.00
TiO_2	1.32	1.31	1.35	1.33	1.36	1.39	1.32	1.30	1.29
Al_2O_3	0.92	0.63	0.63	0.89	0.76	0.96	0.98	0.90	0.99
Cr_2O_3	0.03	0.04	0.01	0.00	0.00	0.00	-0.01	0.00	0.00
FeO	23.00	23.28	23.38	24.26	23.61	23.83	23.45	23.05	22.76
MnO	1.21	1.21	1.23	1.19	1.23	1.26	1.23	1.17	1.18
MgO	22.16	21.99	21.79	20.77	21.09	21.05	21.38	21.83	21.73
CaO	0.27	0.23	0.18	0.23	0.20	0.26	0.27	0.28	0.28
Na_2O	-0.11	-0.12	0.02	0.02	0.03	0.03	0.03	0.04	0.03
K_2O	0.01	0.01	0.01	0.01	0.00	0.00	-0.01	0.00	0.00
Total	101.83	101.75	101.88	101.50	101.35	101.49	101.44	101.48	101.26
Mg#	63.2	62.7	62.4	60.4	61.4	61.2	61.9	62.8	63.0

Table C.7.7: IXT-21, Orthopyroxene grain 7

Dist (µm)	0.0	15.1	30.2	45.3	75.5	105.7	120.8	135.9	151.1	166.2	181.3	196.4	211.5	226.6	256.9	272.0
SiO_2	52.90	53.04	52.86	52.83	53.15	52.79	52.50	52.49	52.42	52.92	52.58	52.76	52.47	53.00	52.73	53.20
TiO_2	1.40	1.44	1.39	1.36	1.30	1.43	1.48	1.48	1.57	1.48	1.33	1.35	1.41	1.34	1.29	1.34
Al_2O_3	1.16	1.20	1.16	1.16	0.66	1.37	1.75	1.41	1.23	1.13	1.05	1.05	1.15	1.15	1.14	1.17
Cr_2O_3	0.00	-0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.00	0.01	-0.01	-0.01	-0.01
FeO	22.44	23.01	22.90	22.88	23.14	23.30	23.13	23.26	23.05	23.57	22.96	23.17	23.00	23.17	22.95	22.51
MnO	1.16	1.16	1.16	1.16	1.22	1.19	1.16	1.18	1.25	1.20	1.19	1.14	1.13	1.18	1.24	1.12
MgO	22.01	21.76	21.71	21.81	21.65	21.48	21.46	21.43	21.21	21.33	21.76	21.72	21.69	21.71	21.50	22.32
CaO	0.27	0.28	0.27	0.29	0.20	0.29	0.32	0.29	0.29	0.28	0.25	0.28	0.28	0.28	0.25	0.28
Na_2O	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.04	0.03	0.03	0.03
K_2O	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00
Total	101.40	101.92	101.49	101.51	101.37	101.90	101.86	101.58	101.06	101.97	101.15	101.49	101.18	101.88	101.13	101.98
Mg#	63.6	62.8	62.8	63.0	62.5	62.2	62.3	62.1	62.1	61.7	62.8	62.6	62.7	62.5	62.5	63.9

Table C.7.8: IXT-21, Orthopyroxene grain 8

Dist (µm)	0.0	29.3	58.6	87.9	117.3	146.5	175.9	205.2	234.5	263.8	293.1	322.4	351.7
SiO_2	53.17	52.64	52.47	52.61	52.78	52.59	52.97	52.36	52.68	52.43	52.81	52.72	53.13
TiO_2	2.10	1.34	1.39	1.44	1.37	1.36	1.36	1.46	1.37	1.41	1.36	1.36	1.43
Al_2O_3	1.29	0.97	1.03	1.10	0.77	0.76	0.85	0.93	1.05	1.08	1.05	1.11	1.09
Cr_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05
FeO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.90	3.49	6.34
MnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.18	0.35
MgO	20.23	18.45	18.05	17.83	17.90	17.85	19.22	17.52	17.75	18.16	18.39	18.99	20.46
CaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.10
Na_2O	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.03
K_2O	0.01	0.01	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.01	-0.01	-0.01	-0.01
Total	76.84	73.44	72.98	73.01	72.85	72.61	74.43	72.32	72.88	73.14	74.59	77.94	82.96
Mg#	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	97.3	90.7	85.2

Table C.7.9: IXT-21, Orthopyroxene grain 9

Dist (µm)	7.7	15.4	23.2	30.9	38.6	46.3	54.1	61.7	77.2	84.9	92.6	100.3
SiO_2	52.15	52.60	52.00	51.77	51.89	52.31	53.07	53.10	52.41	51.86	52.86	58.51
TiO_2	1.78	1.93	2.07	2.21	1.53	1.52	1.33	1.32	1.47	1.45	1.38	4.77
Al_2O_3	1.28	1.35	1.44	1.58	2.00	1.83	0.95	1.03	1.80	1.48	1.24	11.49
Cr_2O_3	0.28	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.02	0.01	-0.03
FeO	23.98	24.10	24.02	24.13	24.26	23.99	22.92	22.96	24.18	24.06	23.73	10.26
MnO	1.44	1.31	1.27	1.28	1.23	1.25	1.21	1.22	1.29	1.24	1.24	0.63
MgO	20.31	20.23	19.71	19.49	20.23	20.61	21.72	21.63	20.33	19.98	20.81	7.47
CaO	0.50	0.31	0.34	0.33	0.32	0.28	0.22	0.22	0.33	0.30	0.26	0.30
Na_2O	0.03	0.03	0.04	0.05	0.04	0.04	0.02	0.02	0.04	0.03	0.02	4.11
K_2O	0.00	0.01	0.00	0.00	-0.01	-0.01	0.00	0.00	0.01	0.01	0.00	0.75
Total	101.73	101.87	100.88	100.85	101.52	101.82	101.46	101.51	101.87	100.45	101.55	98.28
Mg#	60.2	59.9	59.4	59.0	59.8	60.5	62.8	62.7	60.0	59.7	61.0	56.5

Table C.7.10: IXT-21, Orthopyroxene grain 10

Dist (µm)	0.0	15.3	30.7	46.0	61.3	76.7	107.3	122.7	138.0	153.3	168.7	184.0	199.3	214.7	230.0	245.3	260.7	276.0	291.3	306.7	322.0
SiO_2	52.97	52.58	52.84	53.13	52.72	52.54	52.86	52.84	52.87	52.74	52.29	53.19	53.36	53.11	53.05	53.14	52.72	52.88	53.16	53.26	53.38
TiO_2	1.35	1.36	1.34	1.33	1.33	1.38	1.36	1.33	1.33	1.37	1.34	1.29	1.37	1.32	1.31	1.35	1.35	1.31	1.32	1.32	1.37
Al_2O_3	1.09	1.12	1.01	0.96	0.96	0.93	0.51	0.55	0.54	0.56	0.59	0.58	0.61	0.59	0.76	0.74	0.74	0.79	0.76	0.77	0.86
Cr_2O_3	0.01	0.00	0.01	0.01	0.01	0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.01	0.00	0.00	0.00	-0.01	0.00	0.01	0.00	0.00	0.01
FeO	22.99	23.03	23.36	23.76	24.03	24.89	25.55	25.33	25.14	24.60	24.22	23.86	23.74	23.57	23.56	23.46	23.10	23.34	22.64	22.68	22.21
MnO	1.22	1.21	1.19	1.25	1.31	1.34	1.40	1.35	1.41	1.33	1.25	1.25	1.26	1.23	1.21	1.29	1.24	1.20	1.16	1.18	1.14
MgO	21.80	21.64	21.40	21.23	20.98	20.25	19.88	20.09	19.97	20.16	20.77	21.04	21.30	21.38	21.18	21.55	21.45	21.60	21.74	21.77	22.14
CaO	0.25	0.24	0.25	0.26	0.23	0.24	0.16	0.17	0.16	0.18	0.17	0.17	0.16	0.16	0.19	0.20	0.19	0.19	0.19	0.21	0.24
Na_2O	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.03
K_2O	-0.01	-0.01	-0.01	0.00	-0.01	-0.01	0.00	-0.02	0.00	-0.01	-0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.03
Total	101.72	101.22	101.43	101.96	101.59	101.58	101.74	101.68	101.46	100.96	100.65	101.43	101.83	101.39	101.28	101.74	100.80	101.36	101.01	101.23	101.41
Mg#	62.8	62.6	62.0	61.4	60.9	59.2	58.1	58.6	58.6	59.4	60.5	61.1	61.5	61.8	61.6	62.1	62.3	62.3	63.1	63.1	64.0

Table C.7.11: IXT-21, Orthopyroxene grain 11

Dist (µm)	0.0	15.3	30.7	46.0	61.4	76.7	92.0	107.4	122.7	138.1	153.4
SiO_2	52.93	52.00	51.75	53.69	53.30	53.86	53.04	52.41	52.33	53.07	53.84
TiO_2	1.42	1.45	1.54	1.46	1.44	1.58	1.58	1.53	1.47	1.33	1.43
Al_2O_3	1.10	1.82	2.09	0.55	0.56	0.68	0.87	1.60	1.49	0.95	1.00
Cr_2O_3	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.02	0.02	0.01	0.01
FeO	21.66	22.61	23.16	22.43	22.16	21.71	22.33	22.97	23.08	21.80	20.71
MnO	1.13	1.18	1.14	1.18	1.14	1.21	1.25	1.17	1.20	1.15	1.08
MgO	22.31	21.25	21.06	22.16	22.14	22.55	21.84	21.17	21.14	22.27	23.34
CaO	0.25	0.31	0.32	0.17	0.16	0.19	0.25	0.32	0.28	0.25	0.25
Na_2O	0.04	0.04	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.03
K_2O	0.00	-0.01	-0.01	-0.01	0.00	0.02	0.02	0.00	0.00	0.00	0.01
Total	100.83	100.65	101.12	101.70	100.94	101.83	101.22	101.20	101.03	100.84	101.68
Mg#	64.7	62.6	61.8	63.8	64.0	64.9	63.5	62.2	62.0	64.5	66.8

Table C.7.12: IXT-21, Orthopyroxene grain 12

Dist (µm)	15.3	30.7	46.0	61.4	76.7	107.4	122.8	138.0	153.4	168.7	184.0	199.4	214.7	230.1	245.4	260.8
SiO_2	52.93	53.08	52.43	52.94	53.12	52.10	53.07	52.99	53.11	53.46	53.48	52.85	52.97	52.77	52.95	53.06
TiO_2	1.39	1.37	1.35	1.34	1.35	1.39	1.35	1.37	1.35	1.42	1.41	1.41	1.36	1.36	1.36	1.34
Al_2O_3	1.01	0.73	1.03	0.85	1.04	1.02	0.88	1.00	0.95	1.27	2.38	0.71	0.81	0.97	1.03	1.06
Cr_2O_3	0.00	0.02	0.01	0.00	0.00	0.00	-0.01	0.00	0.01	0.02	0.02	0.01	0.02	0.00	0.01	0.00
FeO	21.93	22.00	21.86	22.31	20.80	22.68	22.23	21.87	20.97	20.80	20.21	23.51	23.04	22.56	22.34	21.13
MnO	1.16	1.14	1.13	1.19	1.06	1.17	1.16	1.14	1.12	1.09	1.04	1.28	1.24	1.17	1.16	1.04
MgO	22.44	22.43	21.59	22.27	23.29	22.35	22.52	22.55	23.27	22.90	22.63	21.37	21.82	22.07	22.30	22.83
CaO	0.25	0.19	0.23	0.21	0.26	0.62	0.24	0.25	0.26	0.27	0.26	0.21	0.19	0.24	0.22	0.24
Na_2O	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.18	0.26	0.03	0.03	0.03	0.03	0.03
K_2O	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11	0.24	0.02	0.00	0.00	-0.01	0.01
Total	101.13	100.98	99.65	101.15	100.94	101.35	101.48	101.20	101.07	101.54	101.92	101.39	101.49	101.16	101.40	100.73
Mg#	64.6	64.5	63.8	64.0	66.6	63.7	64.4	64.8	66.4	66.2	66.6	61.8	62.8	63.6	64.0	65.8

Table C.7.13: IXT-21, Orthopyroxene grain 13

Dist (µm)	7.6	15.3	22.9	30.4	38.1	45.7	53.3	61.0	68.6	76.1	83.8	91.4
SiO_2	52.87	53.06	53.06	53.33	52.88	52.48	52.38	52.87	52.67	53.01	52.77	53.26
TiO_2	1.35	1.34	1.38	1.45	1.40	1.41	1.43	1.44	1.41	1.36	1.34	1.38
Al_2O_3	1.02	0.68	0.66	0.95	1.06	1.03	1.07	1.07	1.04	0.97	0.92	1.09
Cr_2O_3	0.01	-0.01	0.01	0.01	0.00	0.04	0.00	-0.01	0.01	0.00	-0.01	0.00
FeO	21.68	21.57	21.58	21.58	22.07	21.46	22.12	21.97	21.92	21.89	21.83	20.66
MnO	1.10	1.12	1.14	1.04	1.15	1.09	1.18	1.13	1.13	1.11	1.14	1.08
MgO	22.28	22.50	22.37	22.60	22.50	21.80	21.92	22.14	22.30	22.29	22.32	23.24
CaO	0.24	0.19	0.17	0.25	0.25	0.32	0.27	0.26	0.26	0.25	0.24	0.26
Na_2O	0.04	0.02	0.04	0.04	0.02	0.06	0.02	0.03	0.04	0.03	0.03	0.04
K_2O	0.01	0.00	0.01	0.00	-0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.01
Total	100.60	100.48	100.41	101.25	101.33	99.70	100.38	100.90	100.78	100.92	100.59	101.02
Mg#	64.7	65.0	64.9	65.1	64.5	64.4	63.9	64.2	64.5	64.5	64.6	66.7

Table C.7.14: IXT-21, Orthopyroxene grain 14

Dist (µm)	0.0	15.0	30.0	45.0	60.0	75.0	90.1	105.1	120.1	135.2	165.2	180.2	210.2	225.2	240.2	255.2
SiO_2	53.23	52.99	53.07	53.14	53.42	52.81	54.08	52.87	52.68	52.84	57.61	53.99	52.87	52.96	53.17	53.44
TiO_2	1.39	1.33	1.38	1.39	1.31	1.37	1.38	1.36	1.39	1.51	1.77	1.42	1.42	1.66	1.66	1.52
Al_2O_3	0.99	0.96	0.96	0.95	1.02	0.96	1.16	0.97	0.96	0.97	5.95	1.07	0.78	0.58	0.51	0.52
Cr_2O_3	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	0.03	0.03	0.03	0.02
FeO	21.29	22.35	22.34	21.60	22.16	22.36	20.44	22.26	22.59	21.13	17.04	20.06	22.18	22.32	22.90	20.94
MnO	1.09	1.14	1.18	1.12	1.14	1.14	1.00	1.12	1.20	1.12	0.73	1.04	1.18	1.28	1.33	1.14
MgO	23.08	22.20	22.25	22.75	22.44	22.07	23.38	22.15	21.89	22.18	12.44	23.89	22.68	22.16	22.05	23.52
CaO	0.24	0.24	0.26	0.24	0.27	0.26	0.26	0.25	0.26	0.25	0.76	0.29	0.27	0.31	0.31	0.29
Na_2O	0.03	0.03	0.03	0.04	0.03	0.01	0.08	0.03	0.03	0.04	0.53	0.03	-0.08	-0.08	-0.07	-0.07
K_2O	0.00	0.00	0.00	-0.01	0.01	0.00	0.09	0.00	0.00	0.01	1.70	0.02	0.01	0.01	0.00	0.01
Total	101.33	101.25	101.46	101.22	101.78	100.98	101.88	101.01	100.98	100.04	98.52	101.80	101.44	101.30	101.96	101.40
Mg#	65.9	63.9	64.0	65.3	64.3	63.8	67.1	63.9	63.3	65.2	56.6	68.0	64.6	63.9	63.2	66.7

Table C.7.15: IXT-21, Orthopyroxene grain 15

Dist (µm)	0.0	14.7	43.9	58.5	73.2	87.8	102.5	117.1	131.7	146.4	161.0	175.7	190.2	204.9
SiO_2	53.10	53.45	52.98	53.01	52.86	53.10	53.28	52.96	53.38	53.18	53.65	53.21	53.66	52.31
TiO_2	1.28	1.29	1.36	1.31	1.28	1.30	1.34	1.30	1.38	1.50	1.53	1.53	1.36	1.36
Al_2O_3	1.08	1.16	1.10	1.15	1.05	1.13	1.11	1.17	0.87	0.81	0.79	0.73	0.69	0.99
Cr_2O_3	-0.01	-0.01	-0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
FeO	21.43	21.42	22.23	22.31	22.34	22.21	22.24	22.11	22.02	21.72	21.84	22.51	22.12	21.49
MnO	1.04	1.10	1.18	1.16	1.18	1.16	1.14	1.12	1.23	1.15	1.19	1.22	1.18	1.12
MgO	22.89	22.79	22.13	22.01	22.00	22.22	22.44	22.21	22.31	22.40	22.48	21.78	22.60	24.08
CaO	0.25	0.27	0.25	0.26	0.25	0.27	0.28	0.26	0.26	0.25	0.25	0.20	0.20	0.26
Na_2O	0.03	0.03	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.03	0.05
K_2O	0.00	0.00	-0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.02
Total	101.10	101.50	101.27	101.25	101.00	101.44	101.85	101.16	101.49	101.06	101.77	101.23	101.86	101.68
Mg#	65.6	65.5	64.0	63.8	63.7	64.1	64.3	64.2	64.4	64.8	64.7	63.3	64.5	66.6

Table C.7.16: IXT-21, Orthopyroxene grain 16

Dist (µm)	0.0	15.5	31.0	46.6	62.1	77.6	93.1
SiO_2	54.18	53.69	53.03	53.42	52.71	53.07	52.84
TiO_2	1.38	1.34	1.39	1.64	1.72	1.77	1.35
Al_2O_3	0.89	0.77	0.95	0.40	0.56	0.74	1.02
Cr_2O_3	0.01	0.01	0.02	0.02	0.01	0.00	-0.02
FeO	20.05	21.83	22.38	22.75	23.72	23.29	22.04
MnO	1.02	1.12	1.15	1.32	1.40	1.24	1.12
MgO	23.45	22.22	21.98	21.35	20.49	20.99	22.15
CaO	0.23	0.20	0.26	0.20	0.28	0.29	0.28
Na_2O	0.04	0.04	0.04	0.04	0.03	0.03	0.03
K_2O	0.02	0.01	0.01	0.01	0.01	0.00	-0.01
Total	101.28	101.22	101.19	101.14	100.93	101.42	100.82
Mg#	67.6	64.5	63.6	62.6	60.6	61.6	64.2

Table C.7.17: IXT-21, Orthopyroxene grain 17

Dist (µm)	15.1	45.3	60.4	75.5	90.5	105.6	120.7	135.8	150.9
SiO_2	53.21	52.76	53.33	52.69	53.09	53.47	53.24	52.96	53.32
TiO_2	1.50	1.32	1.43	1.42	1.45	1.53	1.44	1.47	1.38
Al_2O_3	0.75	1.03	1.00	1.01	0.74	0.59	0.71	0.76	0.72
Cr_2O_3	-0.01	0.00	-0.01	-0.01	0.00	0.01	0.01	-0.01	0.01
FeO	22.61	21.96	22.04	22.03	22.50	22.77	22.76	22.31	21.68
MnO	1.19	1.12	1.14	1.13	1.21	1.23	1.24	1.21	1.07
MgO	21.99	22.22	22.55	22.02	21.98	21.70	21.57	21.60	22.50
CaO	0.27	0.26	0.28	0.28	0.23	0.28	0.23	0.25	0.21
Na_2O	0.04	0.02	0.01	0.02	0.02	0.03	0.04	0.04	0.03
K_2O	0.00	0.01	0.01	0.01	0.00	0.01	0.02	0.02	0.02
Total	101.56	100.70	101.80	100.61	101.23	101.62	101.25	100.62	100.94
Mg#	63.4	64.3	64.6	64.1	63.5	62.9	62.8	63.3	64.9

Table C.7.18: IXT-21, Orthopyroxene grain 18

Dist (µm)	0.0	7.9	15.8	23.7	31.7	39.5	47.5	55.4
SiO_2	53.46	53.64	53.21	54.03	53.72	53.47	53.03	53.60
TiO_2	1.33	1.37	1.35	1.32	1.31	1.35	1.36	1.42
Al_2O_3	0.97	0.91	0.72	0.74	0.76	0.73	1.08	1.12
Cr_2O_3	0.00	0.00	0.01	0.01	0.01	-0.01	0.00	0.00
FeO	21.32	22.27	21.96	21.99	22.00	21.84	22.23	21.51
MnO	1.09	1.15	1.10	1.10	1.10	1.11	1.09	1.09
MgO	22.60	22.35	22.39	22.51	22.58	22.46	22.12	22.64
CaO	0.26	0.23	0.21	0.20	0.21	0.20	0.27	0.28
Na_2O	0.03	0.04	0.04	0.02	0.03	0.03	0.03	0.03
K_2O	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Total	101.09	101.97	100.99	101.93	101.72	101.19	101.23	101.71
Mg#	65.4	64.1	64.5	64.6	64.7	64.7	63.9	65.2

Table C.7.19: IXT-21, Orthopyroxene grain 19

Dist (µm)	29.9	59.7	89.6	119.6	149.4	179.3	209.1	239.0	268.9	298.7	328.7	388.4	418.3	448.2	478.0	508.0	537.7	567.7	597.6	627.4	657.3
SiO_2	54.63	53.29	53.27	49.99	53.79	53.87	52.87	52.71	52.60	52.56	52.52	52.50	52.66	52.32	52.58	53.80	52.78	52.81	53.29	54.16	54.43
TiO_2	1.49	1.33	1.31	1.33	1.40	1.43	1.32	1.29	1.31	1.28	1.30	1.33	1.30	1.49	1.31	1.50	1.38	1.35	1.61	1.60	1.75
Al_2O_3	0.79	0.68	0.65	0.66	1.09	0.98	0.99	1.07	1.07	1.01	0.98	1.14	1.02	1.12	1.04	1.22	1.08	1.09	0.94	1.09	3.05
Cr_2O_3	0.00	0.01	0.00	0.01	-0.01	-0.01	0.00	0.01	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.00	-0.01	-0.01	-0.02	0.00
FeO	17.95	21.79	22.17	20.52	18.89	18.60	22.05	22.58	22.83	22.98	22.98	23.41	23.33	23.27	23.17	19.74	22.90	22.80	21.11	17.96	18.67
MnO	0.81	1.20	1.14	1.02	0.86	0.89	1.14	1.15	1.21	1.21	1.19	1.18	1.25	1.21	1.22	0.98	1.21	1.18	1.08	0.80	0.84
MgO	25.93	22.56	22.50	24.56	24.95	25.13	22.22	21.95	21.64	21.56	21.48	21.60	21.53	21.07	21.39	23.83	21.69	21.87	22.83	25.45	21.49
CaO	0.25	0.18	0.18	0.20	0.26	0.27	0.26	0.27	0.26	0.24	0.24	0.26	0.25	0.26	0.24	0.22	0.26	0.26	0.26	0.29	0.57
Na_2O	0.03	0.02	0.03	0.04	0.03	0.03	0.04	0.06	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.18	0.03	0.03	0.06	0.03	0.19
K_2O	0.01	0.00	0.01	0.02	0.01	0.01	-0.02	0.00	0.00	-0.01	0.00	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.39
Total	101.88	101.06	101.26	98.34	101.27	101.20	100.87	101.08	100.95	100.87	100.74	101.49	101.40	100.82	101.01	101.48	101.33	101.39	101.19	101.37	101.38
Mg#	72.0	64.9	64.4	68.1	70.2	70.7	64.2	63.4	62.8	62.6	62.5	62.2	62.2	61.7	62.2	68.3	62.8	63.1	65.9	71.6	67.2

Table C.7.20: IXT-21, Orthopyroxene grain 20

Dist (µm)	0.0	7.7	15.3	23.0	30.6	38.3	45.9	53.6	61.2	68.9
SiO_2	53.96	53.57	53.36	53.45	53.76	53.88	53.73	53.60	54.12	53.10
TiO_2	1.44	1.45	1.55	1.65	1.52	1.50	1.52	1.59	1.46	1.68
Al_2O_3	1.37	1.47	1.61	1.53	1.32	1.30	1.30	1.41	1.34	1.92
Cr_2O_3	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01
FeO	18.40	18.32	18.71	18.60	18.55	18.53	18.59	18.51	18.51	18.64
MnO	0.86	0.86	0.90	0.87	0.88	0.86	0.86	0.89	0.89	0.89
MgO	25.43	25.11	25.09	24.97	24.89	25.13	25.09	24.92	25.23	24.52
CaO	0.31	0.31	0.32	0.34	0.32	0.32	0.33	0.33	0.32	0.36
Na_2O	0.02	0.02	0.03	0.02	0.03	0.04	0.03	0.03	0.02	0.04
K_2O	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total	101.79	101.14	101.59	101.44	101.29	101.58	101.46	101.30	101.90	101.17
Mg#	71.1	71.0	70.5	70.5	70.5	70.7	70.6	70.6	70.8	70.1

Table C.7.21: IXT-21, Orthopyroxene grain 21

Dist (µm)	0.0	15.3	30.6	45.9	61.2	76.6	91.9	107.2	122.5	153.1
SiO_2	53.75	53.79	53.10	52.50	52.54	52.60	52.78	52.78	53.62	54.29
TiO_2	1.86	1.52	1.44	1.44	1.51	1.42	1.35	1.33	1.53	2.01
Al_2O_3	1.52	1.47	1.12	1.12	1.07	1.30	1.21	1.10	1.28	6.17
Cr_2O_3	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
FeO	17.63	18.14	22.89	23.22	23.49	23.61	23.42	23.38	18.61	18.58
MnO	0.75	0.78	1.15	1.23	1.25	1.25	1.20	1.18	0.90	0.93
MgO	25.58	25.56	21.90	21.38	21.21	21.44	21.47	21.58	25.36	15.69
CaO	0.38	0.35	0.29	0.27	0.24	0.27	0.26	0.24	0.38	0.42
Na_2O	0.04	0.04	0.03	0.03	0.06	0.04	0.04	0.02	0.03	2.23
K_2O	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.42
Total	101.52	101.67	101.94	101.20	101.37	101.95	101.73	101.63	101.70	100.74
Mg#	72.1	71.5	63.0	62.1	61.7	61.8	62.0	62.2	70.8	60.1

Table C.7.22: IXT-21, Orthopyroxene grain 22

Dist (µm)	0.0	14.7	29.5	58.9	73.6	88.3	103.1	117.8	132.5	147.3	161.9	176.7	191.4
SiO_2	53.11	53.18	52.80	52.76	52.92	52.63	52.20	52.96	52.63	52.35	52.75	52.44	52.35
TiO_2	1.36	1.35	1.35	1.35	1.38	1.41	1.32	1.38	1.43	1.72	1.64	1.39	1.45
Al_2O_3	0.81	0.69	0.67	1.13	1.16	1.14	1.15	1.05	1.05	1.24	0.86	1.06	1.10
Cr_2O_3	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.00	0.00
FeO	22.03	22.44	22.34	22.57	22.89	23.29	23.12	23.56	23.56	23.16	23.00	23.36	23.44
MnO	1.16	1.17	1.16	1.14	1.17	1.23	1.20	1.25	1.24	1.26	1.21	1.21	1.18
MgO	22.42	22.41	22.10	21.93	21.92	21.68	21.33	21.45	21.16	20.98	21.47	21.23	21.20
CaO	0.22	0.20	0.19	0.26	0.28	0.27	0.26	0.27	0.26	0.29	0.23	0.26	0.27
Na_2O	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.02	0.03	0.02	0.04	0.03
K_2O	0.01	0.00	0.01	-0.01	-0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Total	101.16	101.48	100.66	101.18	101.76	101.67	100.62	101.95	101.36	101.05	101.19	100.98	101.02
Mg#	64.5	64.0	63.8	63.4	63.1	62.4	62.2	61.9	61.6	61.8	62.5	61.8	61.7

Table C.7.23: IXT-21, Orthopyroxene grain 23

Dist (µm)	0.0	15.7	31.3	47.0	62.6	93.9	109.6	140.9	156.5
SiO_2	54.31	52.49	53.18	53.02	52.93	52.66	52.51	53.33	53.33
TiO_2	1.99	1.31	1.33	1.30	1.32	1.38	1.98	1.36	1.34
Al_2O_3	6.18	0.99	0.99	0.99	1.04	1.12	1.02	1.06	1.09
Cr_2O_3	-0.01	-0.01	0.01	0.01	0.01	0.01	-0.01	0.00	0.00
FeO	19.80	22.25	22.86	23.34	23.33	23.32	23.18	22.71	22.31
MnO	0.79	1.14	1.19	1.17	1.25	1.19	1.23	1.16	1.20
MgO	14.97	22.17	22.03	21.86	21.60	21.28	21.46	21.97	22.15
CaO	1.13	0.24	0.24	0.25	0.25	0.26	0.25	0.25	0.26
Na_2O	1.07	0.03	0.03	0.04	0.05	0.03	0.03	0.03	0.03
K_2O	1.09	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01
Total	101.32	100.63	101.85	101.97	101.78	101.24	101.67	101.88	101.71
Mg#	57.4	64.0	63.2	62.5	62.3	61.9	62.3	63.3	63.9

Table C.7.24: IXT-21, Orthopyroxene grain 24

Dist (µm)	0.0	15.0	45.1	60.2	75.2	90.2	105.3	120.3	135.3	150.3	165.5	180.5	195.5
SiO_2	53.69	53.26	54.48	53.13	53.91	54.04	53.32	53.65	53.19	54.50	54.22	54.36	53.66
TiO_2	1.43	1.81	1.58	1.66	1.65	1.57	1.53	1.55	1.48	1.62	1.58	1.55	1.47
Al_2O_3	1.37	1.67	0.74	1.46	1.22	0.81	1.49	1.47	1.44	0.81	1.05	1.08	1.56
Cr_2O_3	-0.01	-0.01	-0.01	0.00	-0.01	0.01	0.01	0.02	0.02	0.01	0.00	-0.02	-0.01
FeO	18.52	18.82	18.82	18.92	19.18	18.83	19.13	19.35	19.23	18.85	18.88	18.99	18.99
MnO	0.82	0.81	0.81	0.82	0.84	0.79	0.77	0.81	0.79	0.79	0.82	0.79	0.80
MgO	24.95	24.42	25.19	24.18	24.80	24.89	24.57	24.64	24.50	25.04	24.76	24.93	24.73
CaO	0.32	0.35	0.22	0.33	0.28	0.24	0.36	0.33	0.34	0.24	0.25	0.24	0.33
Na_2O	0.03	0.03	0.02	0.03	0.04	0.03	0.03	0.02	0.02	0.03	0.04	0.04	0.04
K_2O	0.02	0.01	0.01	0.02	0.00	0.02	0.01	0.01	0.01	0.03	0.01	0.01	0.01
Total	101.14	101.18	101.87	100.54	101.93	101.23	101.23	101.86	101.02	101.92	101.60	102.00	101.60
Mg#	70.6	69.8	70.5	69.5	69.7	70.2	69.6	69.4	69.4	70.3	70.0	70.1	69.9

Table C.7.25: IXT-21, Orthopyroxene grain 25

Dist (µm)	0.0	30.5	61.2	91.7	122.2	152.8	183.4	213.9	244.5	275.1	305.6	336.2	397.4	427.9	458.5	489.1
SiO_2	53.59	52.77	52.36	52.65	52.40	52.55	52.51	52.54	52.67	52.66	52.75	52.29	52.99	53.18	53.23	53.11
TiO_2	1.45	1.36	1.32	1.33	1.34	1.33	1.33	1.31	1.34	1.34	1.31	1.34	1.31	1.31	1.28	1.31
Al_2O_3	0.74	1.20	1.06	1.12	1.09	1.12	1.01	1.07	1.03	1.03	1.05	1.04	0.77	0.68	0.61	0.63
Cr_2O_3	0.00	0.02	0.00	0.02	0.01	0.00	0.00	0.02	0.01	0.01	0.02	0.00	0.02	0.02	0.02	0.00
FeO	21.09	23.52	23.50	23.77	23.45	23.52	23.50	23.41	23.59	23.39	23.70	23.50	23.36	23.38	23.15	23.15
MnO	1.11	1.21	1.19	1.18	1.22	1.21	1.20	1.23	1.22	1.25	1.27	1.25	1.29	1.24	1.24	1.23
MgO	23.06	21.30	21.15	21.32	21.25	21.31	21.17	21.20	21.31	21.10	21.16	21.10	21.34	21.54	21.53	21.73
CaO	0.33	0.25	0.25	0.25	0.24	0.24	0.24	0.23	0.23	0.22	0.25	0.24	0.19	0.20	0.18	0.19
Na_2O	0.04	0.05	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.04	0.05	0.05	0.06	0.05
K_2O	0.01	0.01	-0.01	-0.01	0.00	-0.01	-0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Total	101.43	101.67	100.84	101.66	101.02	101.31	100.97	101.05	101.46	101.04	101.56	100.82	101.33	101.60	101.30	101.42
Mg#	66.1	61.7	61.6	61.5	61.8	61.8	61.6	61.8	61.7	61.7	61.4	61.5	61.9	62.2	62.4	62.6

Table C.8.1: IXT-11, Orthopyroxene grain 1

Dist (µm)	0.0	15.0	30.1	45.1	60.1	75.1	90.1	105.1	120.2	135.2	150.2	165.3	180.3
SiO_2	53.40	53.33	52.74	53.09	52.86	52.62	52.77	53.44	52.66	52.27	53.23	52.78	51.28
TiO_2	0.29	0.31	0.26	0.23	0.25	0.29	0.28	0.22	0.30	0.31	0.28	0.27	0.38
Al_2O_3	1.36	1.54	1.52	1.14	1.32	1.60	1.27	0.99	1.66	1.61	1.31	1.20	2.73
Cr_2O_3	0.00	-0.02	0.00	-0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	-0.01	-0.01
FeO	18.74	19.84	20.14	20.61	20.32	19.57	20.05	19.68	20.24	20.54	20.37	19.37	21.22
MnO	0.82	0.86	0.94	1.02	0.97	0.87	0.99	0.93	0.98	0.97	0.90	0.86	0.96
MgO	25.11	24.54	23.74	24.17	24.01	24.31	23.79	24.69	24.10	23.89	24.00	24.32	22.43
CaO	1.31	1.28	1.26	1.34	1.27	1.37	1.68	1.26	1.29	1.30	1.33	1.23	1.41
Na_2O	0.02	0.02	0.03	0.04	0.01	0.02	0.04	0.05	0.05	0.02	0.02	0.03	0.04
K_2O	-0.01	0.00	0.01	0.01	0.01	0.01	-0.01	-0.01	0.00	0.01	0.00	0.02	0.03
Total	101.04	101.70	100.62	101.66	101.02	100.67	100.88	101.26	101.29	100.93	101.45	100.08	100.48
Mg#	70.5	68.8	67.8	67.6	67.8	68.9	67.9	69.1	68.0	67.5	67.7	69.1	65.3

Table C.8.2: IXT-11, Orthopyroxene grain 2

Dist (µm)	0.0	14.6	29.2	43.8	58.4	73.0	87.6	102.3	116.9	131.4	146.0	160.7
SiO_2	52.36	53.25	53.30	53.24	52.51	52.79	51.58	53.45	52.32	53.55	53.84	53.29
TiO_2	0.35	0.27	0.26	0.27	0.26	0.25	0.24	0.25	0.23	0.26	0.22	0.26
Al_2O_3	2.09	1.28	1.13	1.20	1.13	0.98	1.47	1.15	0.94	1.26	0.83	1.24
Cr_2O_3	0.00	0.00	-0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.01	-0.01	0.02
FeO	18.82	18.34	19.60	20.20	22.55	21.26	22.77	19.81	18.86	19.37	18.98	18.34
MnO	0.80	0.75	0.86	1.02	1.10	0.97	1.15	0.88	0.80	0.88	0.82	0.77
MgO	24.42	25.38	24.88	24.33	22.27	23.35	21.74	24.70	24.40	24.88	25.35	25.62
CaO	1.50	1.27	1.23	1.19	1.22	1.37	1.18	1.26	1.20	1.31	1.27	1.22
Na_2O	0.04	0.01	0.04	0.03	0.03	0.03	0.02	0.04	0.03	0.01	0.01	0.02
K_2O	-0.01	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	-0.02	0.01	0.02
Total	100.37	100.57	101.31	101.48	101.09	100.99	100.14	101.54	98.78	101.53	101.32	100.80
Mg#	69.8	71.2	69.4	68.2	63.8	66.2	63.0	69.0	69.8	69.6	70.4	71.3

Table C.8.3: IXT-11, Orthopyroxene grain 3

Dist (µm)	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0	135.0	150.0	165.0	180.0
SiO_2	51.80	51.67	51.47	52.39	52.52	51.85	51.98	52.23	51.79	51.72	51.09	52.39	52.28
TiO_2	0.41	0.26	0.21	0.22	0.24	0.27	0.25	0.25	0.23	0.22	0.17	0.19	0.36
Al_2O_3	2.38	1.27	1.08	1.11	1.19	1.19	1.22	1.29	1.21	1.23	0.92	0.90	2.13
Cr_2O_3	0.02	0.01	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00
FeO	19.33	22.63	25.09	23.61	22.51	23.02	22.76	23.50	23.95	25.46	26.25	25.22	18.70
MnO	0.76	1.02	1.19	1.16	1.06	1.13	1.16	1.18	1.24	1.27	1.38	1.25	0.78
MgO	24.03	21.58	20.34	21.23	22.33	22.05	22.04	21.49	20.98	20.06	18.94	20.31	24.48
CaO	1.66	1.30	0.96	0.95	1.03	1.06	1.10	1.07	0.93	0.93	0.86	0.95	1.64
Na_2O	0.04	0.03	0.02	0.03	0.01	0.03	0.01	0.03	0.02	0.04	0.03	0.04	0.04
K_2O	-0.01	0.02	-0.01	0.00	0.03	-0.01	-0.02	-0.02	-0.01	0.00	0.01	0.00	0.01
Total	100.42	99.79	100.38	100.70	100.93	100.60	100.52	101.04	100.35	100.94	99.65	101.26	100.42
Mg#	68.9	63.0	59.1	61.6	63.9	63.1	63.3	62.0	61.0	58.4	56.2	58.9	70.0

Table C.8.4: IXT-11, Orthopyroxene grain 4

Dist (µm)	0.0	29.5	44.2	59.0	73.7	88.4	103.2	117.9	132.6	147.4	162.1	176.8	191.6	206.3	221.1	235.8	250.5	265.3
SiO_2	53.57	53.42	53.76	53.13	52.85	53.25	52.31	54.00	53.19	53.32	53.38	53.86	53.09	53.09	53.28	53.14	52.29	51.78
TiO_2	0.31	0.27	0.27	0.28	0.25	0.23	0.23	0.22	0.26	0.24	0.25	0.24	0.26	0.28	0.28	0.26	0.28	0.25
Al_2O_3	1.22	1.04	1.15	1.34	1.05	0.99	1.01	0.98	1.02	1.01	1.05	1.13	1.15	1.20	1.20	1.19	1.02	1.08
Cr_2O_3	0.00	0.01	-0.01	0.00	0.02	0.00	-0.01	0.01	-0.02	0.00	0.00	-0.01	0.01	-0.01	0.01	0.01	0.00	0.00
FeO	19.38	18.73	19.01	19.60	20.14	19.50	21.36	19.27	20.11	20.16	19.37	20.00	19.65	19.57	19.67	19.97	22.79	22.87
MnO	0.81	0.83	0.82	0.91	0.90	0.80	1.02	0.84	0.87	0.93	0.85	0.86	0.92	0.85	0.85	0.90	1.16	1.21
MgO	25.01	25.36	25.39	24.16	25.86	24.54	23.21	25.11	24.25	24.18	24.92	24.59	25.04	24.84	24.58	24.32	22.35	21.93
CaO	1.29	1.27	1.24	1.44	1.39	1.35	1.37	1.29	1.29	1.30	1.22	1.33	1.33	1.41	1.33	1.32	1.26	1.21
Na_2O	0.02	0.02	0.02	0.02	0.00	0.03	0.03	0.04	0.03	0.04	0.02	0.02	0.03	0.03	0.02	0.03	0.01	0.02
K_2O	0.03	0.00	0.00	0.01	0.01	0.00	0.01	0.01	-0.02	0.00	0.00	-0.01	-0.02	0.00	0.01	0.01	0.00	-0.01
Total	101.65	100.94	101.64	100.88	102.46	100.70	100.55	101.76	101.02	101.18	101.05	102.04	101.48	101.27	101.22	101.16	101.16	100.36
Mg#	69.7	70.7	70.4	68.7	69.6	69.2	66.0	69.9	68.2	68.1	69.6	68.7	69.4	69.3	69.0	68.5	63.6	63.1

Table C.8.4 (cntd): IXT-11, Orthopyroxene grain 4

Dist (µm)	280.0	294.7	309.5	324.2
SiO_2	52.56	51.91	52.85	53.11
TiO_2	0.25	0.27	0.29	0.31
Al_2O_3	1.03	1.02	1.30	1.39
Cr_2O_3	0.00	0.01	0.02	0.00
FeO	22.76	22.14	21.28	19.11
MnO	1.08	1.05	0.93	0.81
MgO	22.35	22.39	23.20	24.56
CaO	1.16	1.23	1.23	1.32
Na_2O	0.04	0.03	0.03	0.04
K_2O	0.02	0.01	0.01	0.02
Total	101.25	100.07	101.13	100.66
Mg#	63.6	64.3	66.0	69.6

Table C.8.5: IXT-11, Orthopyroxene grain 5

Dist (µm)	0.0	7.6	15.0	22.6	30.0	37.6	45.0	52.6	60.1	67.6	75.1	82.6	90.1	97.6	105.1
SiO_2	52.29	52.68	52.75	52.51	52.95	52.28	52.80	52.58	52.84	54.49	53.41	52.60	52.87	53.35	52.31
TiO_2	0.23	0.31	0.25	0.32	0.32	0.31	0.29	0.29	0.27	0.28	0.31	0.29	0.25	0.27	0.32
Al_2O_3	1.04	1.58	1.25	1.46	1.54	1.48	1.39	1.45	1.42	1.24	1.25	1.33	1.26	1.35	1.91
Cr_2O_3	0.00	0.01	0.02	-0.01	0.02	0.01	0.00	-0.01	0.02	-0.01	0.03	0.01	0.01	-0.02	0.01
FeO	19.54	18.53	18.33	18.35	18.36	19.13	18.81	19.26	18.86	19.01	18.73	18.53	18.63	18.00	18.48
MnO	0.81	0.73	0.74	0.80	0.74	0.77	0.82	0.80	0.78	0.83	0.83	0.75	0.75	0.77	0.72
MgO	24.10	24.76	25.36	25.42	25.31	24.61	25.02	24.84	24.67	25.49	25.36	25.14	25.35	25.52	24.75
CaO	1.45	1.63	1.25	1.18	1.25	1.21	1.24	1.22	1.19	1.26	1.28	1.24	1.16	1.25	1.42
Na_2O	0.04	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.04	0.06	0.02	0.04	0.02	0.03	0.02
K_2O	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.00	0.00	0.01	0.01	0.00	0.01	0.01
Total	99.51	100.27	99.97	100.06	100.50	99.83	100.41	100.47	100.10	102.66	101.23	99.94	100.31	100.55	99.94
Mg#	68.7	70.4	71.1	71.2	71.1	69.6	70.3	69.7	70.0	70.5	70.7	70.7	70.8	71.6	70.5

Table C.8.6: IXT-11, Orthopyroxene grain 6

Dist (µm)	7.7	15.3	23.0	30.7	38.3	46.1	53.7	61.4	69.1	76.7	84.4	92.1	99.7
SiO_2	53.18	53.63	53.68	53.68	54.26	53.52	53.39	53.84	53.90	53.44	52.93	52.72	52.53
TiO_2	0.23	0.28	0.25	0.30	0.34	0.48	0.50	0.43	0.26	0.27	0.31	0.36	0.41
Al_2O_3	0.88	1.41	0.97	1.09	0.95	0.95	0.67	0.82	0.64	1.05	1.26	1.85	2.08
Cr_2O_3	0.00	0.00	0.01	0.00	0.01	0.02	0.01	0.03	0.01	0.00	-0.01	-0.01	0.01
FeO	20.21	19.57	18.41	18.51	18.27	18.93	19.19	19.64	19.80	20.26	20.26	18.85	21.00
MnO	0.91	0.84	0.79	0.80	0.78	0.78	0.89	0.97	0.94	0.96	0.94	0.75	0.97
MgO	23.78	24.36	25.48	25.53	25.59	24.93	24.59	24.52	24.19	23.76	23.50	24.17	22.38
CaO	1.38	1.28	1.59	1.28	1.29	1.29	1.38	1.30	1.21	1.28	1.32	1.69	1.97
Na_2O	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.02	0.02	0.03	0.02	0.04	0.16
K_2O	0.02	0.01	0.00	0.02	0.02	0.00	0.01	0.00	0.02	0.00	0.02	0.01	0.04
Total	100.61	101.43	101.20	101.23	101.54	100.92	100.67	101.57	100.98	101.06	100.56	100.44	101.54
Mg#	67.7	68.9	71.2	71.1	71.4	70.1	69.5	69.0	68.5	67.6	67.4	69.6	65.5

Table C.9.1: TEQ-34, Orthopyroxene grain 1

Dist (µm)	0.0	14.5	29.1	43.6	58.2	72.7	87.3	101.8	116.4	130.9	145.5	160.0	174.6	189.1	203.7
SiO_2	51.34	52.84	52.21	52.46	51.72	52.13	51.99	52.40	53.15	52.57	52.03	51.65	51.52	51.62	52.11
TiO_2	0.11	0.12	0.12	0.12	0.17	0.09	0.07	0.11	0.10	0.12	0.09	0.11	0.16	0.11	0.15
Al_2O_3	0.68	0.56	0.47	0.42	0.39	0.42	0.47	0.36	0.42	0.40	0.51	0.37	0.85	0.94	0.71
Cr_2O_3	-0.04	0.00	0.02	-0.02	-0.03	0.03	0.01	-0.03	0.01	-0.01	0.03	-0.03	-0.02	-0.02	0.00
FeO	23.28	24.16	24.32	25.34	25.01	25.13	25.05	24.79	24.37	23.92	23.30	23.78	24.03	24.53	23.60
MnO	1.09	1.05	1.26	1.22	1.42	1.28	1.31	1.37	1.28	1.34	1.20	1.15	1.33	1.02	1.27
MgO	20.41	20.39	20.14	19.64	19.34	19.58	19.60	19.91	19.92	20.30	20.19	20.33	19.91	19.60	20.34
CaO	1.78	1.56	1.66	1.53	1.62	1.60	1.63	1.53	1.65	1.57	1.62	1.60	1.78	1.65	1.62
Na_2O	0.03	0.03	0.04	0.03	0.06	0.05	0.06	0.06	0.02	0.04	0.09	0.05	0.04	0.05	0.03
K_2O	0.01	-0.02	-0.02	-0.04	0.03	0.01	0.05	-0.02	0.01	-0.01	0.01	0.00	-0.01	-0.03	0.03
Total	98.72	100.71	100.22	100.76	99.74	100.32	100.23	100.53	100.94	100.25	99.06	99.04	99.62	99.54	99.86
Mg#	61.0	60.1	59.6	58.0	58.0	58.1	58.3	58.9	59.3	60.2	60.7	60.4	59.6	58.8	60.6

Table C.9.2: TEQ-34, Orthopyroxene grain 2

Dist (µm)	0.0	61.0	122.0	183.0	244.0	304.9	365.9	426.9	487.9	548.9	609.9	670.9	731.9	792.9	853.8	914.8	975.8	1036.8	1097.8
SiO_2	52.66	51.89	52.82	53.13	52.82	52.13	52.74	52.86	52.33	52.63	51.90	52.65	51.67	52.69	51.93	52.49	52.73	53.41	52.04
TiO_2	0.13	0.17	0.16	0.20	0.16	0.19	0.15	0.12	0.14	0.14	0.14	0.20	0.13	0.14	0.13	0.18	0.17	0.18	0.13
Al_2O_3	0.90	0.76	0.78	0.73	0.78	0.71	0.66	0.78	0.71	0.52	0.85	0.74	0.78	0.82	0.79	0.85	0.79	0.73	0.75
Cr_2O_3	-0.02	-0.01	0.00	0.01	0.00	-0.02	0.01	-0.01	-0.01	-0.03	-0.03	0.03	-0.02	-0.03	-0.03	-0.01	0.01	0.03	0.01
FeO	21.74	21.70	21.32	21.52	21.98	21.71	21.61	22.17	21.93	22.86	22.42	22.85	23.18	21.98	21.49	22.65	22.11	21.54	21.73
MnO	1.10	1.04	1.19	0.88	0.99	1.15	1.02	1.11	1.08	1.11	1.24	1.14	1.08	1.08	0.98	1.00	0.92	1.05	0.95
MgO	21.43	21.88	21.82	21.80	21.75	21.62	21.70	21.82	21.62	21.16	20.48	20.63	21.15	21.53	21.52	21.81	21.52	21.52	21.65
CaO	1.76	1.56	1.76	1.61	1.75	1.54	1.55	1.52	1.69	1.88	2.06	2.07	1.82	1.80	1.74	1.64	1.76	1.78	1.64
Na_2O	0.07	0.03	0.07	0.03	0.04	0.06	0.03	0.03	0.04	0.06	0.08	0.05	0.08	0.00	0.02	0.04	0.06	0.03	0.07
K_2O	0.05	0.02	0.00	0.01	0.03	0.02	0.08	0.01	0.02	0.06	0.02	0.04	0.02	-0.02	-0.07	0.00	-0.03	0.03	-0.02
Total	99.84	99.05	99.92	99.91	100.30	99.11	99.53	100.42	99.55	100.41	99.18	100.41	99.90	100.04	98.59	100.66	100.06	100.31	98.97
Mg#	63.7	64.3	64.6	64.4	63.8	64.0	64.2	63.7	63.7	62.3	61.9	61.7	61.9	63.6	64.1	63.2	63.4	64.0	64.0

Table C.9.3: TEQ-34, Orthopyroxene grain 3

Dist (µm)	0.0	15.3	30.5	45.8	61.0	76.3	122.1	137.3	152.6	167.8	183.1	198.4	228.9	244.1	274.6	289.9	305.2
SiO_2	50.39	50.94	51.16	50.95	50.27	50.12	49.20	49.41	49.22	50.09	49.28	49.52	49.96	50.71	50.04	50.62	50.85
TiO_2	0.09	0.07	0.07	0.12	0.05	0.05	0.05	0.08	0.08	0.08	0.04	0.07	0.07	0.12	0.12	0.12	0.11
Al_2O_3	0.29	0.20	0.28	0.21	0.21	0.19	0.20	0.23	0.26	0.22	0.18	0.19	0.30	0.33	0.23	0.32	0.27
Cr_2O_3	0.00	0.03	0.00	0.01	0.01	0.00	0.04	-0.01	0.02	-0.03	-0.04	-0.04	-0.01	-0.01	-0.02	-0.04	-0.02
FeO	28.59	28.91	29.42	30.11	30.99	31.99	32.80	32.91	33.65	32.77	33.47	33.79	29.57	28.11	28.82	28.54	28.18
MnO	1.50	1.73	1.74	1.70	1.75	1.61	1.94	1.81	1.83	1.89	1.77	1.87	1.76	1.40	1.50	1.54	1.51
MgO	16.69	16.56	15.67	14.99	14.69	14.17	13.44	13.26	13.05	12.79	13.22	13.19	15.60	16.93	16.45	16.44	16.42
CaO	1.56	1.75	1.72	1.63	1.59	1.68	1.58	1.46	1.57	1.52	1.52	1.45	1.67	1.64	1.80	1.60	1.60
Na_2O	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.07	-0.01	0.04	0.04	0.04	0.07	0.05	0.01	0.05	0.04
K_2O	-0.01	-0.02	-0.05	-0.01	-0.03	-0.01	0.04	0.05	0.01	0.02	0.05	0.03	0.05	0.02	0.04	0.02	0.02
Total	99.15	100.23	100.09	99.74	99.59	99.84	99.33	99.27	99.69	99.41	99.55	100.14	99.05	99.31	99.00	99.26	99.01
Mg#	51.0	50.5	48.7	47.0	45.8	44.1	42.2	41.8	40.9	41.0	41.3	41.0	48.5	51.8	50.4	50.7	51.0

Table C.9.4: TEQ-34, Orthopyroxene grain 4

Dist (µm)	0.0	59.1	118.2	177.3	236.3	295.4	531.8	590.9	650.0	709.0	768.1	827.2	886.3	945.4	1004.5	1063.6	1122.7	1181.7	1240.8	1299.9	1359.0
SiO_2	51.86	50.70	51.30	51.26	50.04	49.99	51.12	50.72	51.18	50.83	51.63	51.15	50.98	51.00	50.49	51.00	50.87	51.72	51.45	51.31	50.87
TiO_2	0.11	0.13	0.09	0.16	0.12	0.07	0.07	0.08	0.10	0.09	0.07	0.05	0.10	0.09	0.14	0.09	0.08	0.09	0.15	0.09	0.12
Al_2O_3	0.33	0.32	0.37	0.40	0.35	0.38	0.29	0.36	0.44	0.58	0.23	0.24	0.36	0.26	0.31	0.32	0.31	0.36	0.29	0.28	0.62
Cr_2O_3	0.00	0.03	0.03	-0.01	-0.01	-0.03	0.00	-0.02	-0.02	-0.01	-0.02	0.02	-0.01	0.05	0.04	0.02	-0.02	0.05	0.03	0.02	0.03
FeO	27.16	27.72	28.09	28.27	28.52	27.62	28.14	27.74	28.06	27.43	28.24	28.03	28.98	28.48	28.78	28.91	28.98	28.97	28.70	28.85	27.48
MnO	1.44	1.52	1.67	1.62	1.61	1.50	1.39	1.43	1.30	1.46	1.52	1.44	1.62	1.48	1.53	1.45	1.68	1.61	1.59	1.69	1.50
MgO	17.67	17.62	17.24	17.11	17.00	16.31	16.98	16.92	16.77	17.39	16.98	16.77	16.36	16.04	16.37	16.00	16.04	16.12	16.57	16.82	16.84
CaO	1.59	1.53	1.57	1.74	1.89	3.63	1.65	1.78	1.57	1.68	1.75	1.71	1.87	1.73	1.75	1.82	1.88	1.81	1.74	1.71	1.48
Na_2O	0.05	0.05	0.06	0.07	0.04	0.12	0.10	0.06	0.08	0.05	0.04	0.05	0.05	0.06	0.05	0.03	0.06	0.06	0.04	0.08	0.20
K_2O	0.00	0.00	0.00	0.00	0.01	0.09	-0.01	0.01	0.03	0.01	0.02	0.02	0.01	0.02	0.04	0.02	0.02	0.05	0.03	0.01	0.11
Total	100.22	99.62	100.44	100.65	99.58	99.71	99.74	99.11	99.53	99.51	100.48	99.47	100.33	99.21	99.51	99.65	99.92	100.84	100.59	100.86	99.23
Mg#	53.7	53.1	52.2	51.9	51.5	51.3	51.8	52.1	51.6	53.1	51.7	51.6	50.2	50.1	50.3	49.7	49.7	49.8	50.7	51.0	52.2

Table C.9.5: TEQ-34, Orthopyroxene grain 5

Dist (µm)	0.0	15.5	30.9	46.4	77.3	92.7	123.6	139.1	154.5	185.4	200.9	216.4	231.8	247.3
SiO_2	51.82	51.92	52.13	51.97	52.47	52.05	51.90	51.91	51.86	51.65	51.58	51.48	51.31	53.34
TiO_2	0.11	0.15	0.14	0.14	0.14	0.06	0.12	0.15	0.12	0.15	0.13	0.12	0.19	0.18
Al_2O_3	0.73	0.46	0.44	0.51	0.54	0.39	0.49	0.51	0.35	0.47	0.47	0.44	0.58	1.65
Cr_2O_3	0.00	-0.01	0.00	0.01	-0.02	-0.01	-0.01	-0.02	0.02	0.01	0.02	0.02	0.03	0.04
FeO	23.50	24.36	24.35	23.43	23.80	23.89	24.99	24.77	24.59	25.11	27.15	26.00	24.77	22.42
MnO	1.12	1.23	1.25	1.29	1.23	1.33	1.29	1.38	1.33	1.40	1.48	1.36	1.20	1.09
MgO	21.15	19.99	20.10	20.88	20.71	19.95	19.39	19.65	19.80	19.56	18.04	18.69	19.41	19.83
CaO	1.67	1.71	1.68	1.70	1.58	1.55	1.62	1.55	1.89	1.67	1.56	1.76	1.58	1.71
Na_2O	0.04	0.03	0.02	0.05	0.04	0.01	0.04	0.05	0.05	0.04	0.05	0.03	0.00	0.39
K_2O	0.02	-0.01	0.02	0.01	-0.02	-0.04	0.00	-0.03	0.01	0.00	0.01	0.02	0.02	0.29
Total	100.16	99.86	100.14	99.97	100.51	99.25	99.84	99.98	100.02	100.07	100.50	99.91	99.08	100.94
Mg#	61.6	59.4	59.5	61.4	60.8	59.8	58.0	58.6	58.9	58.1	54.2	56.2	58.3	61.2

Table C.9.6: TEQ-34, Orthopyroxene grain 6

Dist (µm)	0.0	30.6	61.2	91.8	122.4	152.9	183.5	214.1	244.7	275.3	305.9	336.5	367.1	397.7
SiO_2	51.98	51.94	50.82	51.22	51.48	50.85	51.01	51.26	51.00	50.89	50.87	50.88	51.01	51.78
TiO_2	0.16	0.13	0.16	0.13	0.16	0.12	0.14	0.10	0.09	0.14	0.10	0.14	0.11	0.16
Al_2O_3	0.55	0.48	0.45	0.38	0.34	0.33	0.30	0.27	0.33	0.43	0.40	0.39	0.36	0.54
Cr_2O_3	0.01	0.03	0.02	-0.02	-0.01	-0.01	-0.03	-0.03	-0.03	-0.01	0.00	0.01	0.01	-0.01
FeO	25.02	26.49	27.61	26.88	27.43	27.96	29.34	29.88	29.32	28.56	27.22	27.43	27.07	25.06
MnO	1.26	1.32	1.47	1.51	1.48	1.59	1.68	1.67	1.40	1.54	1.33	1.44	1.47	1.39
MgO	19.23	18.47	17.68	17.70	17.27	16.76	16.22	15.81	15.82	16.81	17.34	17.60	18.19	19.03
CaO	1.75	1.65	1.76	1.58	1.75	1.68	1.53	1.56	1.65	1.62	1.47	1.42	1.49	1.66
Na_2O	0.03	0.01	0.04	0.06	0.07	0.04	0.05	0.07	0.05	0.06	0.04	0.04	0.06	0.03
K_2O	0.03	-0.03	-0.02	-0.01	0.02	0.02	0.01	0.01	-0.01	-0.04	0.02	0.01	-0.02	0.03
Total	100.03	100.51	99.99	99.45	99.98	99.36	100.29	100.62	99.66	100.04	98.78	99.36	99.77	99.67
Mg#	57.8	55.4	53.3	54.0	52.9	51.7	49.6	48.5	49.0	51.2	53.2	53.3	54.5	57.5

Table C.9.7: TEQ-34, Orthopyroxene grain 7

Dist (µm)	0.0	29.3	58.5	87.8	117.0	146.3	175.5	234.0	263.3	321.8	351.0	380.3	409.5	468.0
SiO_2	51.84	51.52	52.10	50.94	50.96	51.76	52.76	50.12	50.71	50.57	50.78	50.96	51.29	51.55
TiO_2	0.10	0.08	0.12	0.13	0.12	0.10	0.12	0.10	0.08	0.07	0.11	0.10	0.09	0.08
Al_2O_3	0.54	0.31	0.50	0.40	0.23	0.40	0.46	0.27	0.27	0.27	0.40	0.37	0.36	0.46
Cr_2O_3	-0.02	-0.02	-0.03	-0.03	-0.01	0.00	-0.03	-0.03	0.03	0.00	-0.02	-0.01	0.03	-0.01
FeO	25.44	28.54	25.28	28.85	28.04	26.39	27.05	29.83	30.06	29.22	27.90	27.48	27.30	25.52
MnO	1.35	1.57	1.32	1.60	1.65	1.55	1.55	1.78	1.67	1.73	1.55	1.54	1.47	1.23
MgO	18.85	16.68	19.05	16.51	17.26	18.13	17.42	15.10	15.01	15.80	16.84	17.28	17.43	18.68
CaO	1.64	1.49	1.67	1.55	1.75	1.63	1.68	1.49	1.66	1.64	1.83	1.56	1.67	1.68
Na_2O	0.10	0.04	0.04	0.01	0.02	0.03	0.04	0.03	0.04	0.05	0.06	0.06	0.03	0.05
K_2O	0.04	0.01	0.00	0.01	-0.03	-0.01	-0.01	0.02	-0.01	-0.05	-0.08	-0.06	-0.02	-0.03
Total	99.90	100.25	100.08	100.00	100.04	99.98	101.09	98.73	99.53	99.34	99.46	99.34	99.67	99.26
Mg#	56.9	51.0	57.3	50.5	52.3	55.0	53.5	47.4	47.1	49.1	51.8	52.9	53.2	56.6

Table C.9.8: TEQ-34, Orthopyroxene grain 8

Dist (µm)	0.0	30.0	60.0	150.1	180.1	240.1	270.2	300.2	330.2	360.2
SiO_2	51.92	52.91	51.50	52.27	51.60	50.51	51.88	51.31	52.03	51.45
TiO_2	0.06	0.06	0.08	0.12	0.12	0.10	0.14	0.13	0.17	0.10
Al_2O_3	0.48	0.43	0.25	0.45	0.39	0.41	0.36	0.68	0.33	0.44
Cr_2O_3	0.05	-0.01	0.00	-0.01	0.00	0.00	0.00	0.01	0.03	0.05
FeO	24.73	23.65	27.37	25.04	25.76	25.54	25.10	25.78	25.74	25.15
MnO	1.31	1.13	1.39	1.23	1.26	1.41	1.29	1.29	1.22	1.29
MgO	19.50	20.70	17.53	19.20	18.58	18.38	19.31	18.01	18.69	19.35
CaO	1.61	1.63	1.88	1.69	1.65	1.76	1.73	1.67	1.94	1.62
Na_2O	0.03	0.04	0.08	0.05	0.05	0.02	0.03	0.13	0.01	0.04
K_2O	-0.01	0.01	-0.02	-0.03	-0.01	0.04	0.03	0.10	0.00	0.04
Total	99.68	100.55	100.08	100.04	99.41	98.17	99.88	99.12	100.15	99.52
Mg#	58.4	60.9	53.3	57.7	56.3	56.3	57.8	55.5	56.4	57.8

Table C.9.9: TEQ-34, Orthopyroxene grain 9

Dist (µm)	0.0	60.2	90.2	120.3	150.4	180.5	210.6	240.6	300.8	361.0	391.1	421.1	481.3
SiO_2	52.20	52.28	51.31	52.07	52.70	52.26	52.19	52.34	52.13	51.99	51.86	52.47	52.35
TiO_2	0.13	0.10	0.03	0.08	0.04	0.06	0.09	0.08	0.14	0.07	0.06	0.09	0.11
Al_2O_3	0.67	0.35	0.33	0.56	0.35	0.62	0.61	0.55	0.61	0.45	0.42	0.81	0.27
Cr_2O_3	-0.03	-0.01	0.01	-0.04	0.01	0.04	0.01	-0.01	0.02	0.00	0.01	0.03	-0.01
FeO	23.04	25.20	25.81	23.71	24.88	22.84	23.58	23.64	23.31	24.50	25.70	22.72	24.03
MnO	1.12	1.46	1.31	1.27	1.41	1.06	1.18	1.25	1.06	1.39	1.46	1.15	1.29
MgO	20.74	19.25	18.68	20.68	19.41	21.03	20.42	20.00	20.50	19.50	18.61	20.21	20.18
CaO	2.09	1.70	1.55	1.72	1.57	1.74	1.69	1.48	1.56	1.69	1.52	1.60	1.70
Na_2O	0.06	0.02	0.04	0.04	0.08	0.05	0.04	0.07	0.04	0.01	0.03	0.11	0.02
K_2O	0.03	0.01	0.03	0.00	0.00	0.03	0.02	0.00	0.01	0.03	0.03	0.02	0.02
Total	100.07	100.38	99.11	100.12	100.45	99.74	99.81	99.41	99.38	99.64	99.69	99.20	99.97
Mg#	61.6	57.7	56.3	60.9	58.2	62.1	60.7	60.1	61.0	58.7	56.3	61.3	60.0

Table C.9.10: TEQ-34, Orthopyroxene grain 10

Dist (µm)	30.7	92.1	122.8	153.5	184.2	245.7	276.4	307.1
SiO_2	51.72	52.27	51.29	51.86	52.64	51.76	52.39	53.09
TiO_2	0.11	0.05	0.10	0.09	0.07	0.10	0.08	0.12
Al_2O_3	0.47	0.38	0.46	0.41	0.56	0.54	0.52	0.53
Cr_2O_3	-0.01	-0.02	-0.02	-0.01	-0.03	-0.05	-0.02	-0.04
FeO	25.19	24.78	24.12	24.32	23.37	24.27	23.96	21.82
MnO	1.37	1.35	1.30	1.26	1.20	1.25	1.24	1.06
MgO	19.19	19.23	19.90	19.52	21.10	19.46	20.20	21.57
CaO	1.71	1.61	1.62	1.55	1.67	1.70	1.58	1.70
Na_2O	-0.02	0.07	0.05	0.02	0.06	0.04	0.02	0.02
K_2O	0.04	0.02	0.03	0.01	0.00	0.04	0.01	0.07
Total	99.79	99.77	98.88	99.03	100.65	99.16	100.00	99.98
Mg#	57.6	58.0	59.5	58.9	61.7	58.8	60.0	63.8

Table C.9.11: TEQ-34, Orthopyroxene grain 11

Dist (µm)	0.0	14.8	44.5	59.3	74.1	118.6	148.2	163.0	177.8	192.6	207.5
SiO_2	51.54	50.84	51.74	51.85	51.86	51.43	51.57	51.45	51.05	50.91	51.75
TiO_2	0.13	0.06	0.04	0.06	0.04	0.00	0.04	0.02	0.06	0.03	0.07
Al_2O_3	0.26	0.38	0.34	0.42	0.30	0.20	0.38	0.25	0.34	0.29	0.39
Cr_2O_3	-0.04	-0.02	0.00	-0.01	-0.01	-0.02	0.01	0.00	0.00	0.00	0.01
FeO	26.69	27.43	27.48	27.41	29.05	29.27	28.62	28.53	27.46	27.42	27.06
MnO	1.59	1.74	1.50	1.57	1.59	1.72	1.59	1.47	1.43	1.35	1.46
MgO	17.71	17.00	17.33	17.62	17.06	16.60	16.40	16.65	17.51	17.50	17.68
CaO	1.50	1.71	1.86	1.57	1.52	1.55	1.58	1.73	1.73	1.62	1.43
Na_2O	0.17	0.03	0.02	0.02	0.00	0.03	0.04	0.04	0.06	0.05	0.04
K_2O	0.02	0.01	-0.01	-0.02	0.03	0.00	-0.02	-0.02	0.01	0.00	-0.01
Total	99.60	99.18	100.31	100.51	101.44	100.80	100.22	100.16	99.66	99.16	99.87
Mg#	54.2	52.5	52.9	53.4	51.1	50.3	50.5	51.0	53.2	53.2	53.8

Table C.9.12: TEQ-34, Orthopyroxene grain 12

Dist (µm)	0.0	7.5	15.1	30.0	37.5	45.0	52.5	60.0	67.6	75.1	82.5	90.1	97.6
SiO_2	52.36	52.23	54.08	54.25	53.09	53.84	52.17	53.41	54.07	53.17	52.04	53.37	52.52
TiO_2	0.56	0.57	0.43	0.39	0.47	0.51	0.43	0.43	0.54	0.57	0.59	0.50	0.56
Al_2O_3	2.08	1.81	1.24	1.23	1.39	2.70	1.31	1.42	1.75	2.09	1.97	1.74	2.14
Cr_2O_3	-0.02	-0.01	-0.04	-0.01	0.01	-0.01	0.01	-0.03	-0.02	-0.02	-0.01	-0.01	-0.03
FeO	19.30	17.47	17.55	18.62	18.87	17.06	17.71	16.96	17.25	17.47	17.32	18.44	19.97
MnO	0.67	0.58	0.58	0.68	0.64	0.61	0.66	0.54	0.59	0.58	0.60	0.67	0.79
MgO	23.63	23.63	24.28	24.24	23.64	21.38	24.05	24.76	24.95	24.20	23.55	24.17	22.51
CaO	2.00	2.83	3.27	1.86	2.70	3.45	3.47	2.68	2.35	2.88	3.31	1.85	2.05
Na_2O	0.05	0.08	0.09	0.11	0.07	0.42	0.05	0.11	0.08	0.09	0.06	0.04	0.08
K_2O	0.02	0.00	0.02	0.05	0.03	0.27	0.02	0.10	0.05	0.04	0.01	0.05	0.07
Total	100.66	99.20	101.54	101.44	100.91	100.23	99.87	100.39	101.62	101.09	99.45	100.83	100.69
Mg#	68.6	70.7	71.2	69.9	69.1	69.1	70.8	72.2	72.1	71.2	70.8	70.0	66.8

Table C.9.13: TEQ-34, Orthopyroxene grain 13

Dist (µm)	0.0	7.5	15.0	22.5	30.0	37.5	45.0	52.6	60.1	75.1
SiO_2	52.51	52.58	52.07	51.41	51.96	50.91	51.37	51.10	52.12	50.96
TiO_2	0.40	0.64	0.77	0.78	0.79	0.96	1.09	0.97	0.53	0.74
Al_2O_3	0.94	1.62	2.22	2.12	2.10	2.42	2.28	2.15	1.06	2.02
Cr_2O_3	0.00	0.01	-0.01	0.01	0.02	0.00	0.02	0.02	-0.02	0.02
FeO	21.90	15.77	14.62	13.53	17.34	16.60	15.16	17.15	21.98	13.86
MnO	1.25	0.88	0.81	0.80	0.98	0.89	0.83	0.89	1.14	0.78
MgO	18.67	15.25	14.27	14.13	15.62	15.13	14.61	15.38	18.40	14.06
CaO	5.50	14.45	16.08	17.54	11.95	13.18	14.52	12.83	5.86	17.03
Na_2O	0.13	0.34	0.42	0.44	0.29	0.40	0.40	0.31	0.09	0.40
K_2O	0.03	0.05	0.06	0.07	0.05	0.02	0.07	0.04	0.05	0.03
Total	101.31	101.59	101.32	100.84	101.11	100.50	100.35	100.84	101.22	99.89
Mg#	60.3	63.3	63.5	65.1	61.6	61.9	63.2	61.5	59.9	64.4

Table C.9.14: TEQ-34, Orthopyroxene grain 14

Dist (µm)	15.4	23.1	30.9	38.5	46.3	54.0	61.7	69.4	77.2	84.8	92.6	100.3	115.7
SiO_2	54.38	53.20	46.61	51.68	51.84	52.12	52.14	51.55	51.39	51.50	51.09	51.60	51.33
TiO_2	0.34	0.32	0.37	0.65	0.56	0.61	0.69	0.78	0.76	0.71	0.74	0.36	0.58
Al_2O_3	1.38	1.43	1.40	1.77	1.35	1.88	1.84	1.95	2.39	1.78	1.74	1.03	1.14
Cr_2O_3	0.00	0.00	-0.03	-0.01	-0.02	0.00	0.02	0.03	0.01	0.01	0.03	0.04	0.03
FeO	22.72	22.67	22.16	16.83	16.58	17.28	17.34	17.37	17.84	19.27	19.78	23.47	21.65
MnO	1.06	1.05	1.09	1.01	0.92	0.92	1.10	0.99	1.15	1.08	1.09	1.31	1.10
MgO	19.05	19.23	16.42	15.76	15.73	15.85	15.99	15.94	15.77	16.34	15.61	17.57	15.78
CaO	2.35	1.97	10.56	11.21	13.19	12.54	11.57	11.40	10.66	9.43	9.92	4.76	9.23
Na_2O	0.10	0.17	0.22	0.31	0.35	0.30	0.28	0.31	0.29	0.26	0.30	0.10	0.21
K_2O	0.15	0.20	0.20	0.04	0.04	0.02	0.02	-0.02	0.16	0.01	0.05	0.02	0.04
Total	101.53	100.25	99.02	99.26	100.55	101.52	101.00	100.33	100.41	100.38	100.34	100.27	101.09
Mg#	59.9	60.2	56.9	62.5	62.8	62.0	62.2	62.1	61.2	60.2	58.5	57.2	56.5

Table C.9.15: TEQ-34, Orthopyroxene grain 15

Dist (µm)	7.3	14.7	22.0	29.5	36.8	44.2	51.5	58.9	66.2	80.9	88.2	95.6
SiO_2	50.84	49.45	50.70	49.67	49.94	50.08	49.81	50.96	53.80	50.69	51.75	50.70
TiO_2	0.46	0.90	0.79	1.13	1.17	0.79	0.82	0.77	0.54	0.84	0.62	0.28
Al_2O_3	0.97	2.28	1.84	2.63	3.04	1.79	2.40	1.98	3.52	2.90	1.92	1.14
Cr_2O_3	-0.01	0.05	0.00	0.05	0.00	-0.02	0.00	0.02	-0.01	0.00	0.01	0.01
FeO	21.70	17.34	15.66	17.05	16.85	21.04	18.18	16.37	15.06	16.20	17.02	23.43
MnO	1.25	0.98	0.97	0.93	0.96	1.24	1.01	1.00	0.97	1.01	0.99	1.45
MgO	14.73	13.19	13.49	12.95	12.69	15.34	13.34	13.61	12.23	12.44	13.34	14.48
CaO	8.41	14.46	15.43	14.70	15.28	9.16	12.70	15.14	14.69	13.61	14.64	6.65
Na_2O	0.20	0.36	0.38	0.38	0.45	0.23	0.42	0.34	0.69	0.47	0.39	0.16
K_2O	0.12	0.11	0.03	0.07	0.01	0.02	0.02	0.03	0.50	0.25	0.05	0.19
Total	98.68	99.13	99.29	99.57	100.37	99.70	98.70	100.20	102.00	98.40	100.71	98.48
Mg#	54.7	57.5	60.6	57.5	57.3	56.5	56.7	59.7	59.1	57.8	58.3	52.4

Table C.9.16: TEQ-34, Orthopyroxene grain 16

Dist (µm)	0.0	7.2	21.5	28.6	35.8	43.0	50.1
SiO_2	50.77	51.79	52.45	51.70	50.91	52.21	51.03
TiO_2	0.44	0.33	0.33	0.40	0.28	0.47	0.72
Al_2O_3	1.12	0.85	1.25	0.89	0.55	0.87	1.57
Cr_2O_3	0.02	0.02	0.02	0.03	0.05	0.02	0.01
FeO	21.58	26.56	26.19	25.13	25.11	22.26	17.22
MnO	1.38	1.62	1.66	1.55	1.58	1.37	0.99
MgO	13.92	15.59	14.80	14.92	16.15	15.38	13.10
CaO	9.69	4.61	4.83	6.15	5.71	8.95	15.33
Na_2O	0.23	0.16	0.29	0.18	0.11	0.19	0.37
K_2O	0.08	0.08	0.14	0.07	0.04	0.07	0.04
Total	99.22	101.61	101.95	101.02	100.50	101.80	100.37
Mg#	53.5	51.1	50.2	51.4	53.4	55.2	57.6

Table C.10.1: XAL-115, Orthopyroxene grain 1

Dist (µm)	30.0	37.5	45.1	52.6	60.0	67.6	75.1	82.5	90.1	97.5	105.1	112.6	120.1	127.6	135.1
SiO_2	53.73	54.27	53.85	53.64	53.53	53.72	53.76	54.20	54.21	53.88	53.67	54.42	54.26	53.63	53.21
TiO_2	0.21	0.24	0.25	0.24	0.24	0.29	0.28	0.21	0.19	0.21	0.24	0.25	0.24	0.27	0.28
Al_2O_3	1.05	1.02	1.24	1.33	1.36	1.16	1.08	0.99	0.93	1.29	1.42	1.09	1.27	1.75	1.72
Cr_2O_3	-0.02	0.00	-0.01	0.01	0.01	0.02	0.00	0.00	0.01	-0.01	0.02	0.00	0.01	0.01	0.02
FeO	17.60	17.70	18.04	18.57	18.70	18.40	18.57	17.91	17.83	17.88	18.09	17.61	17.78	17.81	18.03
MnO	1.06	1.05	1.06	1.13	1.08	1.16	1.18	1.10	1.02	1.00	1.03	0.98	1.01	0.97	1.11
MgO	25.87	26.36	25.57	25.19	24.97	25.04	24.98	25.93	25.90	25.80	26.02	26.02	26.09	26.01	25.39
CaO	1.03	1.13	1.18	1.21	1.31	1.67	1.54	1.16	1.24	1.29	1.19	1.05	1.15	1.22	1.29
Na_2O	0.04	0.02	0.04	0.03	0.02	0.05	0.03	0.03	0.03	0.03	0.03	0.02	0.04	0.02	0.04
K_2O	-0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	-0.01	0.01	0.03	0.02	0.01	0.03	0.03
Total	100.55	101.83	101.22	101.35	101.23	101.50	101.44	101.51	101.36	101.38	101.74	101.46	101.85	101.72	101.11
Mg#	72.4	72.6	71.6	70.7	70.4	70.8	70.6	72.1	72.1	72.0	71.9	72.5	72.3	72.2	71.5

Table C.10.2: XAL-115, Orthopyroxene grain 2

Dist (µm)	15.2	22.7	30.2	37.9	45.4	60.6	68.1	75.8	83.3	90.8	113.6	121.2
SiO_2	53.33	53.48	53.42	53.00	41.14	53.17	53.81	53.77	54.15	55.13	54.06	55.20
TiO_2	0.19	0.23	0.25	0.24	0.15	0.23	0.20	0.13	0.21	0.17	0.14	0.15
Al_2O_3	1.30	1.01	0.79	1.30	26.43	0.91	0.77	0.43	0.96	0.55	1.08	0.44
Cr_2O_3	0.01	0.02	0.01	0.02	0.02	0.00	0.01	0.04	-0.01	0.00	0.00	0.01
FeO	20.23	20.42	21.59	21.22	14.68	20.02	19.82	20.56	18.55	17.43	17.64	17.74
MnO	1.42	1.57	1.81	1.68	0.99	1.31	1.35	1.70	1.11	0.97	0.98	1.00
MgO	23.81	23.72	22.55	22.76	15.64	24.06	24.15	23.66	25.55	26.54	25.57	25.81
CaO	0.92	1.13	1.19	1.07	1.07	1.09	1.17	0.90	1.22	1.15	1.19	1.11
Na_2O	0.03	0.03	0.02	0.02	0.13	0.04	0.03	0.02	0.04	0.02	0.03	0.02
K_2O	0.01	0.02	0.00	0.02	-0.01	0.00	-0.01	-0.02	-0.01	-0.02	-0.01	0.03
Total	101.25	101.64	101.63	101.33	100.24	100.82	101.29	101.19	101.78	101.96	100.66	101.51
Mg#	67.7	67.4	65.1	65.7	65.5	68.2	68.5	67.2	71.1	73.1	72.1	72.2

Table C.10.3: XAL-115, Orthopyroxene grain 3

Dist (µm)	0.0	7.7	15.4	23.0	46.1	61.5	69.2	76.9
SiO_2	54.19	54.81	54.01	54.51	54.22	53.58	53.88	53.36
TiO_2	0.19	0.17	0.23	0.17	0.25	0.26	0.27	0.33
Al_2O_3	0.58	0.49	0.97	0.51	1.11	1.00	1.05	1.36
Cr_2O_3	0.02	0.01	0.03	-0.01	0.01	0.01	0.00	0.00
FeO	18.22	17.68	17.81	17.50	17.80	18.02	17.84	17.67
MnO	1.14	1.05	1.10	1.13	1.02	1.10	1.08	1.06
MgO	25.22	25.94	25.70	25.92	25.83	25.36	25.44	24.88
CaO	1.39	1.22	1.27	1.31	1.16	1.42	1.46	1.89
Na_2O	-0.01	0.02	0.01	0.00	0.03	0.04	0.03	0.03
K_2O	0.02	0.02	0.02	0.00	0.01	0.01	-0.01	0.02
Total	100.96	101.41	101.15	101.06	101.44	100.81	101.05	100.60
Mg#	71.2	72.3	72.0	72.5	72.1	71.5	71.8	71.5

Table C.10.4: XAL-115, Orthopyroxene grain 4

Dist (µm)	0.0	29.4	44.1	58.9	73.7	162.0	206.2
SiO_2	54.49	53.62	53.92	53.68	53.78	53.90	54.60
TiO_2	0.16	0.21	0.18	0.22	0.21	0.21	0.16
Al_2O_3	0.50	0.81	0.84	0.81	0.85	0.72	0.50
Cr_2O_3	0.00	0.01	0.01	0.02	0.01	0.01	-0.02
FeO	18.60	20.03	19.64	19.47	19.23	18.85	18.41
MnO	1.24	1.28	1.40	1.28	1.27	1.19	1.19
MgO	25.39	24.70	24.58	24.80	25.03	25.04	25.65
CaO	1.15	1.03	1.08	1.01	1.08	1.08	1.26
Na_2O	0.02	0.03	0.01	0.02	0.03	0.03	0.01
K_2O	0.00	0.02	0.00	0.01	0.02	0.02	0.01
Total	101.55	101.73	101.65	101.32	101.51	101.04	101.78
Mg#	70.9	68.7	69.0	69.4	69.9	70.3	71.3

Table C.10.5: XAL-115, Orthopyroxene grain 5

Dist (µm)	0.0	7.8	15.5	23.3	38.7	46.5	54.3	62.0	69.8	77.6	85.3
SiO_2	54.81	54.36	54.13	53.84	54.59	53.95	53.28	53.26	53.82	54.29	53.72
TiO_2	0.22	0.27	0.26	0.34	0.21	0.25	0.25	0.26	0.25	0.22	0.30
Al_2O_3	1.03	0.99	1.31	1.48	1.10	1.52	1.74	1.58	1.42	1.01	1.30
Cr_2O_3	-0.02	0.01	0.00	-0.01	0.02	0.01	-0.01	0.00	0.00	0.01	0.01
FeO	17.20	17.56	17.33	17.21	17.60	17.72	18.05	18.31	18.09	18.17	18.43
MnO	0.91	1.00	0.89	0.87	0.95	0.98	1.01	1.01	1.09	1.06	1.13
MgO	26.41	26.18	25.95	25.36	26.25	25.78	25.47	25.26	25.50	25.68	24.78
CaO	1.09	1.22	1.49	2.26	1.14	1.23	1.29	1.29	1.24	1.19	1.42
Na_2O	-0.01	0.01	0.00	0.01	0.03	0.02	0.03	0.03	0.02	0.02	0.03
K_2O	0.01	0.00	0.01	0.02	0.03	0.00	0.02	0.00	0.04	0.03	0.02
Total	101.67	101.58	101.36	101.38	101.93	101.46	101.15	101.00	101.47	101.68	101.15
Mg#	73.2	72.7	72.7	72.4	72.7	72.2	71.6	71.1	71.5	71.6	70.6

Table C.10.6: XAL-115, Orthopyroxene grain 6

Dist (µm)	7.3	14.7	29.3	36.8	51.4	58.8	66.1	73.4	80.8	88.1	95.4
SiO_2	54.33	54.09	52.78	54.76	54.26	53.79	53.46	53.88	53.77	54.23	54.52
TiO_2	0.25	0.25	0.27	0.24	0.26	0.27	0.27	0.26	0.21	0.29	0.24
Al_2O_3	1.20	1.27	1.40	0.83	0.85	1.23	1.19	1.20	1.08	1.27	1.05
Cr_2O_3	0.00	-0.01	0.00	0.01	0.00	-0.01	0.01	0.04	0.02	-0.01	0.02
FeO	18.00	17.93	18.27	17.59	17.70	18.13	18.13	17.95	17.72	18.09	17.82
MnO	1.03	1.10	0.94	0.93	0.95	0.96	0.99	1.03	0.98	0.97	1.12
MgO	25.84	25.68	25.06	26.31	26.42	25.78	24.40	25.68	25.73	25.72	25.92
CaO	1.11	1.21	1.27	1.21	1.19	1.42	1.58	1.42	1.27	1.16	1.15
Na_2O	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.01	0.03	0.01	0.04
K_2O	0.01	0.00	0.02	0.01	0.00	0.03	0.01	0.03	0.02	0.01	0.01
Total	101.81	101.54	100.03	101.90	101.64	101.61	100.05	101.50	100.84	101.75	101.89
Mg#	71.9	71.9	71.0	72.7	72.7	71.7	70.6	71.8	72.1	71.7	72.2

Table C.10.7: XAL-115, Orthopyroxene grain 7

Dist (µm)	0.0	14.5	29.1	43.6	58.1	72.6	87.2	101.7	116.2	130.7	145.2	159.8	174.3
SiO_2	52.56	53.39	53.71	53.92	53.32	53.00	53.06	53.29	54.15	53.57	53.32	52.84	53.33
TiO_2	0.33	0.27	0.24	0.21	0.27	0.29	0.29	0.30	0.28	0.25	0.35	0.40	0.36
Al_2O_3	2.23	1.54	1.22	0.90	1.67	2.13	2.14	2.10	1.57	1.24	1.93	2.02	1.90
Cr_2O_3	0.02	0.00	0.01	-0.02	0.00	-0.01	0.02	0.00	-0.01	-0.01	0.01	-0.01	0.02
FeO	19.27	18.16	18.13	17.96	17.76	17.70	18.19	18.21	17.95	17.95	18.40	18.49	17.81
MnO	1.12	1.09	1.00	1.03	1.05	1.06	1.01	0.92	0.90	0.98	0.96	0.99	0.88
MgO	24.49	24.88	25.49	26.15	25.44	25.14	25.28	25.30	25.55	25.86	24.91	24.69	24.80
CaO	1.26	1.17	1.10	1.08	1.33	1.47	1.35	1.33	1.27	1.21	1.62	1.89	2.03
Na_2O	0.06	0.02	0.03	0.02	0.03	0.03	0.04	0.02	0.04	0.02	0.03	0.04	0.03
K_2O	0.05	0.00	0.01	0.02	0.02	0.04	0.01	0.01	0.01	-0.01	0.01	0.00	0.01
Total	101.37	100.53	100.94	101.28	100.88	100.84	101.38	101.48	101.71	101.06	101.55	101.35	101.16
Mg#	69.4	70.9	71.5	72.2	71.9	71.7	71.2	71.2	71.7	72.0	70.7	70.4	71.3

Table C.10.8: XAL-115, Orthopyroxene grain 8

Dist (µm)	7.5	15.2	22.7	30.3	37.9	53.1	60.6	68.2	75.7	83.3	90.8	98.4	106.0	113.5
SiO_2	54.04	54.63	53.76	54.21	53.73	53.58	53.52	53.87	54.28	53.85	54.92	54.57	54.59	54.06
TiO_2	0.24	0.20	0.29	0.25	0.28	0.29	0.26	0.29	0.26	0.29	0.17	0.17	0.14	0.15
Al_2O_3	1.19	1.07	1.39	1.29	1.61	1.69	1.48	1.81	1.35	1.40	0.72	0.53	0.53	0.57
Cr_2O_3	0.00	0.02	0.01	0.01	0.00	-0.01	-0.03	-0.01	0.00	0.02	-0.03	-0.03	-0.02	-0.03
FeO	17.83	17.66	18.16	17.95	18.18	18.34	18.08	18.01	18.08	18.06	17.57	17.62	17.33	16.67
MnO	1.04	1.04	1.05	1.03	1.04	1.08	0.96	1.04	1.03	1.00	0.99	0.99	1.02	1.02
MgO	25.89	25.85	25.60	25.52	25.50	25.51	25.64	25.33	25.80	25.71	26.36	26.30	26.19	26.27
CaO	1.03	1.02	1.21	1.14	1.22	1.20	1.15	1.21	1.19	1.21	1.21	1.26	1.27	1.27
Na_2O	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.04	0.03	0.03	0.03	0.03
K_2O	0.01	0.00	0.03	0.01	0.00	0.01	-0.01	0.00	-0.02	0.00	0.00	0.00	-0.01	0.00
Total	101.31	101.54	101.54	101.44	101.58	101.72	101.08	101.58	101.98	101.57	101.93	101.43	101.08	100.01
Mg#	72.1	72.3	71.5	71.7	71.4	71.3	71.7	71.5	71.8	71.7	72.8	72.7	72.9	73.7

Table C.10.9: XAL-115, Orthopyroxene grain 9

Dist (µm)	14.4	28.9	43.3	57.8	72.1	86.6	101.0	115.5	129.9	144.4	158.7	173.2
SiO_2	54.38	53.92	54.18	53.70	53.57	53.62	53.63	53.73	53.65	53.87	53.97	53.78
TiO_2	0.19	0.30	0.26	0.30	0.29	0.30	0.33	0.30	0.28	0.31	0.27	0.25
Al_2O_3	0.93	1.39	1.54	1.57	1.62	1.40	1.31	1.31	1.29	1.22	1.03	1.03
Cr_2O_3	-0.01	-0.01	-0.04	-0.01	0.00	0.01	-0.02	0.02	0.01	0.01	0.01	-0.02
FeO	17.61	17.58	17.79	17.90	18.08	17.67	18.08	18.16	17.88	17.63	17.60	17.68
MnO	1.00	1.01	0.99	1.01	1.10	1.01	1.02	1.04	1.06	1.05	1.07	1.00
MgO	25.81	25.50	25.36	25.41	25.27	25.14	25.00	25.01	25.21	25.49	25.81	26.12
CaO	1.34	1.24	1.19	1.32	1.09	1.32	1.72	1.76	1.62	1.34	1.24	1.22
Na_2O	0.03	0.04	0.04	0.01	0.01	0.01	0.03	0.01	0.02	0.01	0.01	0.01
K_2O	0.00	0.00	0.02	0.03	0.03	0.05	0.02	0.02	0.03	0.03	0.03	0.04
Total	101.28	100.97	101.32	101.23	101.04	100.52	101.11	101.36	101.03	100.94	101.05	101.10
Mg#	72.3	72.1	71.8	71.7	71.4	71.7	71.1	71.1	71.5	72.0	72.3	72.5

Table C.10.10: XAL-115, Orthopyroxene grain 10

Dist (µm)	0.0	7.6	15.1	22.7	30.3	37.8	45.4	53.0	60.5	68.1	75.7	83.2	90.8	98.4
SiO_2	54.49	54.38	53.96	54.39	53.71	53.44	53.71	53.59	53.97	53.69	53.76	53.98	53.92	53.61
TiO_2	0.16	0.18	0.18	0.20	0.21	0.20	0.25	0.24	0.25	0.24	0.23	0.21	0.25	0.23
Al_2O_3	0.55	0.70	0.70	0.66	0.79	0.79	0.77	0.88	0.73	0.74	0.74	0.80	0.62	0.75
Cr_2O_3	0.01	-0.02	0.00	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.01	-0.05	-0.01	-0.03
FeO	17.72	17.99	19.05	19.12	19.47	20.17	19.58	19.89	20.00	19.86	19.76	19.95	19.94	19.31
MnO	1.03	1.19	1.18	1.33	1.31	1.36	1.28	1.34	1.36	1.37	1.36	1.33	1.31	1.22
MgO	25.30	25.43	24.98	24.85	24.57	24.38	24.35	24.28	24.26	24.17	24.41	24.12	24.38	24.27
CaO	1.09	1.16	1.02	0.94	1.14	1.18	1.20	1.17	1.40	1.34	1.17	1.24	1.16	1.08
Na_2O	0.00	0.03	0.03	0.02	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.01	0.03	0.01
K_2O	0.03	0.00	0.01	0.01	0.01	-0.02	0.00	0.00	0.00	0.00	-0.01	-0.02	0.00	-0.01
Total	100.38	101.05	101.10	101.54	101.27	101.53	101.17	101.43	102.00	101.43	101.47	101.57	101.60	100.44
Mg#	71.8	71.6	70.0	69.9	69.2	68.3	68.9	68.5	68.4	68.4	68.8	68.3	68.5	69.1

Table C.10.11: XAL-115, Orthopyroxene grain 11

Dist (µm)	0.0	14.5	29.0	43.5	58.0	87.0	101.5	116.0	130.5
SiO_2	53.33	53.35	53.90	51.47	53.11	52.92	52.79	53.22	52.57
TiO_2	0.28	0.28	0.26	0.42	0.29	0.29	0.32	0.32	0.38
Al_2O_3	1.41	1.24	1.07	3.14	2.26	2.27	2.49	2.15	2.55
Cr_2O_3	-0.03	-0.04	-0.03	-0.03	-0.02	0.02	-0.01	-0.01	0.00
FeO	18.56	18.47	18.54	18.38	17.88	17.74	18.97	19.19	17.81
MnO	1.13	1.02	1.08	1.14	0.91	0.79	0.80	0.80	1.32
MgO	24.67	25.04	25.36	23.76	25.29	25.40	24.70	24.95	23.49
CaO	1.17	1.61	1.41	1.62	1.55	1.46	1.31	1.40	1.52
Na_2O	0.02	0.03	0.04	0.05	0.03	0.05	0.04	0.03	0.05
K_2O	0.00	0.00	-0.03	0.02	0.00	0.01	0.01	0.01	0.05
Total	100.53	100.99	101.60	99.97	101.29	100.95	101.42	102.06	99.72
Mg#	70.3	70.7	70.9	69.7	71.6	71.9	69.9	69.9	70.2

Table C.10.12: XAL-115, Orthopyroxene grain 12

Dist (µm)	0.0	7.5	22.3	29.6	37.1	44.5	51.9	59.4	66.7	74.2	81.5	89.0	96.4
SiO_2	56.66	54.35	53.97	54.15	54.29	53.93	48.28	54.18	53.63	53.81	54.26	54.42	54.04
TiO_2	0.61	0.23	0.25	0.24	0.28	0.27	0.22	0.21	0.26	0.27	0.24	0.23	0.29
Al_2O_3	2.42	1.16	1.39	1.33	1.36	1.07	11.67	0.90	1.42	1.49	1.06	0.87	1.31
Cr_2O_3	0.00	0.00	0.00	-0.01	0.00	0.01	0.00	-0.01	-0.02	-0.01	0.01	0.00	0.01
FeO	16.79	17.98	18.32	17.87	17.88	18.38	16.62	17.80	17.82	18.49	18.47	18.10	18.29
MnO	1.11	0.99	0.95	0.99	0.98	1.20	0.96	1.03	1.07	1.03	1.12	1.11	1.07
MgO	19.70	25.67	25.72	25.60	25.40	24.68	21.83	25.88	25.63	25.21	25.32	25.80	25.15
CaO	1.35	1.13	1.30	1.47	1.70	1.63	1.38	1.49	1.29	1.25	1.01	1.13	1.30
Na_2O	0.25	0.03	0.03	0.05	0.02	0.02	0.04	0.02	0.03	0.02	0.01	0.02	0.01
K_2O	0.52	0.01	0.02	0.00	0.03	0.02	0.03	0.01	0.02	0.04	0.02	0.03	0.03
Total	99.40	101.55	101.95	101.69	101.94	101.20	101.03	101.49	101.13	101.60	101.50	101.71	101.50
Mg#	67.7	71.8	71.4	71.9	71.7	70.5	70.1	72.2	71.9	70.9	71.0	71.7	71.0

Table C.10.13: XAL-115, Orthopyroxene grain 13

Dist (µm)	0.0	7.7	15.3	22.9	30.5	38.2	45.8	53.4	68.7	76.3	84.0	91.6	99.2	106.8	114.5
SiO_2	53.85	54.68	54.36	54.38	54.24	54.07	54.19	54.59	54.02	54.39	53.54	53.80	53.85	53.88	55.43
TiO_2	0.31	0.26	0.23	0.19	0.20	0.19	0.20	0.22	0.22	0.22	0.23	0.25	0.31	0.26	0.35
Al_2O_3	2.63	1.83	1.30	1.04	1.03	0.98	0.95	1.01	1.27	1.12	1.32	0.99	1.27	0.83	2.02
Cr_2O_3	-0.01	0.01	-0.01	0.03	0.02	0.00	0.02	0.02	0.03	-0.01	0.00	0.00	0.01	0.00	0.02
FeO	17.35	17.92	17.44	18.05	17.85	17.85	18.25	17.93	18.22	18.09	17.91	18.01	18.20	18.08	17.47
MnO	1.16	1.02	1.03	1.07	1.15	1.12	1.14	1.10	1.08	1.07	1.06	1.01	1.12	1.13	1.11
MgO	22.78	24.17	24.99	25.57	25.54	25.66	25.61	25.74	25.48	25.30	25.71	25.15	24.42	24.52	22.74
CaO	1.26	1.31	1.22	1.12	1.16	1.11	1.25	1.11	1.12	1.12	1.26	1.50	1.79	1.57	1.97
Na_2O	0.05	0.04	0.03	0.04	0.03	0.03	0.04	0.06	0.05	0.00	0.01	0.02	0.01	0.01	0.24
K_2O	0.02	0.01	0.00	0.02	0.02	0.01	0.01	-0.01	-0.01	0.02	0.00	0.02	0.01	0.01	0.14
Total	99.41	101.23	100.60	101.52	101.25	101.02	101.66	101.76	101.48	101.31	101.05	100.74	100.98	100.29	101.52
Mg#	70.1	70.6	71.9	71.6	71.8	71.9	71.4	71.9	71.4	71.4	71.9	71.3	70.5	70.7	69.9

Table C.10.14: XAL-115, Orthopyroxene grain 14

Dist (µm)	0.0	14.9	29.9	44.8	59.8	74.7	89.6	104.6	119.5	134.5	149.4
SiO_2	53.56	53.42	53.46	53.59	53.66	53.82	54.49	53.39	53.82	53.57	54.24
TiO_2	0.32	0.35	0.34	0.35	0.31	0.27	0.27	0.27	0.26	0.27	0.18
Al_2O_3	5.44	1.66	1.41	1.34	1.60	1.17	1.19	1.40	1.21	1.34	0.48
Cr_2O_3	0.00	0.02	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.03	-0.02
FeO	16.61	19.25	18.51	18.48	18.15	18.52	17.89	18.03	17.82	17.63	17.99
MnO	0.94	1.18	1.09	1.06	1.03	1.13	1.00	0.95	1.01	1.02	1.08
MgO	18.34	23.37	24.54	24.50	25.17	25.01	25.66	25.36	25.79	25.74	25.59
CaO	1.93	1.90	1.90	1.77	1.57	1.17	1.19	1.37	1.16	1.20	1.33
Na_2O	0.71	0.03	0.03	0.02	0.01	0.01	0.03	0.01	0.01	0.01	0.00
K_2O	0.35	0.04	0.02	0.01	0.00	0.02	0.00	-0.01	0.00	0.01	0.01
Total	98.21	101.22	101.30	101.10	101.50	101.11	101.70	100.77	101.07	100.81	100.87
Mg#	66.3	68.4	70.3	70.3	71.2	70.6	71.9	71.5	72.1	72.2	71.7

Table C.10.15: XAL-115, Orthopyroxene grain 15

Dist (µm)	0.0	7.5	15.1	22.7	45.3	60.5	98.3	105.8	113.4
SiO_2	53.83	55.41	53.12	54.29	53.82	54.20	53.90	54.54	54.59
TiO_2	0.18	0.15	0.13	0.21	0.23	0.23	0.23	0.25	0.30
Al_2O_3	1.30	0.43	0.50	1.02	1.19	1.30	1.22	1.18	1.75
Cr_2O_3	0.00	-0.02	-0.03	-0.02	-0.01	-0.01	0.01	0.00	0.00
FeO	16.80	17.56	17.54	17.80	18.07	17.79	17.97	17.45	17.95
MnO	1.09	1.09	0.99	1.07	0.92	0.97	1.06	1.11	1.05
MgO	23.88	25.60	25.36	25.87	25.95	25.92	25.37	25.29	24.72
CaO	2.53	1.29	2.76	1.21	1.28	1.27	1.30	1.24	1.25
Na_2O	0.15	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.07
K_2O	0.35	0.02	0.01	0.02	0.01	0.03	0.03	0.03	0.06
Total	100.12	101.54	100.42	101.51	101.47	101.72	101.13	101.09	101.73
Mg#	71.7	72.2	72.0	72.1	71.9	72.2	71.6	72.1	71.1

Table C.10.16: XAL-115, Orthopyroxene grain 16

Dist (µm)	0.0	15.3	30.6	45.8	61.1	76.4	91.7	106.9	122.2	137.5	152.8	168.1	183.3
SiO_2	54.92	54.61	54.26	54.15	54.03	53.42	53.84	54.04	52.46	54.30	53.85	54.39	56.95
TiO_2	0.17	0.24	0.19	0.26	0.30	0.36	0.33	0.27	0.21	0.26	0.29	0.31	0.36
Al_2O_3	0.87	1.03	1.05	1.12	1.54	1.75	1.49	1.23	0.89	1.03	1.19	2.04	3.79
Cr_2O_3	-0.01	-0.01	0.00	-0.01	-0.01	-0.02	0.01	0.01	0.01	0.01	-0.02	-0.01	-0.03
FeO	17.73	17.48	17.75	17.92	18.41	18.24	18.19	18.44	16.03	17.40	17.41	17.44	16.22
MnO	1.01	1.00	0.95	1.01	1.05	1.05	1.12	1.13	1.04	1.06	1.03	0.98	1.04
MgO	24.07	25.55	25.77	25.75	25.07	24.35	24.23	24.64	24.61	25.53	25.45	22.99	18.61
CaO	1.48	1.15	1.20	1.23	1.35	1.91	1.82	1.47	3.93	1.16	1.30	1.30	1.40
Na_2O	0.03	0.02	0.02	0.04	0.03	0.05	0.04	0.02	0.04	0.04	0.03	0.03	0.37
K_2O	0.06	0.04	0.03	0.04	0.00	-0.01	0.02	0.04	0.03	0.03	0.03	0.09	1.34
Total	100.33	101.10	101.22	101.49	101.79	101.10	101.10	101.28	99.25	100.81	100.55	99.57	100.06
Mg#	70.8	72.3	72.1	71.9	70.8	70.4	70.4	70.4	73.2	72.3	72.3	70.1	67.2

Table C.10.17: XAL-115, Orthopyroxene grain 17

Dist (µm)	0.0	14.8	29.7	74.0	103.7	118.5	133.3	162.9	177.8	192.5	222.2	251.8	281.4	296.2	311.0
SiO_2	54.53	53.99	54.30	53.79	49.68	54.27	54.54	54.07	54.14	54.41	54.35	54.03	54.50	54.08	54.28
TiO_2	0.23	0.17	0.17	0.22	0.20	0.16	0.15	0.19	0.16	0.15	0.17	0.12	0.16	0.17	0.17
Al_2O_3	0.81	0.72	0.75	1.09	3.10	0.67	0.51	0.67	0.62	0.46	0.55	0.56	0.61	1.31	0.52
Cr_2O_3	-0.02	-0.02	-0.01	0.00	-0.03	0.00	-0.01	0.00	-0.04	0.00	0.02	-0.02	-0.01	-0.01	-0.01
FeO	18.80	18.90	19.68	19.29	18.71	19.13	18.92	19.46	19.68	19.42	19.27	19.47	18.81	18.97	18.19
MnO	1.12	1.20	1.28	1.14	0.98	1.15	1.11	1.14	1.13	1.20	1.30	1.29	1.28	1.26	1.17
MgO	25.18	24.93	24.80	24.97	24.44	24.99	25.06	24.93	25.04	25.08	24.94	25.15	25.01	24.67	25.87
CaO	1.05	1.01	0.98	1.10	1.16	1.20	1.16	1.14	1.10	1.06	0.98	0.94	0.99	1.03	1.07
Na_2O	0.00	0.02	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
K_2O	0.01	-0.02	-0.02	-0.02	-0.02	-0.04	-0.02	0.00	0.00	-0.01	-0.01	-0.01	-0.01	0.01	0.00
Total	101.70	100.90	101.95	101.60	98.26	101.56	101.44	101.63	101.86	101.79	101.59	101.56	101.35	101.51	101.28
Mg#	70.5	70.2	69.2	69.8	70.0	70.0	70.2	69.5	69.4	69.7	69.8	69.7	70.3	69.9	71.7

Table C.10.18: XAL-115, Orthopyroxene grain 18

Dist (µm)	0.0	7.6	15.2	22.8	30.5	45.7	53.3	60.9	68.5	76.1	83.8	91.4	99.0	114.2
SiO_2	53.92	53.86	53.64	53.49	52.10	53.69	53.86	53.24	53.86	54.12	54.47	55.21	51.40	26.86
TiO_2	0.24	0.25	0.30	0.31	0.33	0.25	0.24	0.30	0.28	0.29	0.17	0.16	0.15	0.09
Al_2O_3	1.08	1.08	1.24	1.40	3.11	1.01	1.03	1.26	1.29	1.54	0.60	0.57	7.91	53.96
Cr_2O_3	-0.02	-0.02	-0.01	0.00	0.00	-0.02	-0.03	-0.01	-0.02	-0.03	-0.01	-0.03	0.00	-0.03
FeO	17.95	18.25	18.07	18.09	18.25	18.33	18.08	18.52	17.92	18.01	17.50	17.26	16.51	7.77
MnO	0.98	1.05	1.12	1.10	1.04	1.15	1.14	1.17	1.03	1.03	1.07	1.02	0.92	0.47
MgO	25.55	25.45	25.03	24.98	22.45	25.51	25.59	25.04	25.59	25.50	26.26	26.41	23.25	10.58
CaO	1.30	1.33	1.61	1.78	1.34	1.20	1.28	1.66	1.60	1.43	1.26	1.19	1.41	0.91
Na_2O	0.03	0.02	0.03	0.05	0.03	0.01	0.02	0.05	0.03	0.02	0.03	0.05	0.02	0.03
K_2O	0.03	0.01	0.01	0.01	0.05	0.02	0.01	0.01	0.01	0.01	0.00	0.02	0.00	-0.01
Total	101.05	101.28	101.04	101.21	98.69	101.15	101.23	101.21	101.59	101.92	101.36	101.83	101.56	100.63
Mg#	71.7	71.3	71.2	71.1	68.7	71.3	71.6	70.7	71.8	71.6	72.8	73.2	71.5	70.8

Table C.10.19: XAL-115, Orthopyroxene grain 19

Dist (µm)	0.0	15.2	30.4	45.6	76.0	91.2	106.4	121.6	136.8	152.0	167.3
SiO_2	54.66	54.04	53.68	53.20	54.48	54.61	54.52	53.48	54.63	53.97	54.04
TiO_2	0.17	0.25	0.27	0.30	0.22	0.23	0.23	0.23	0.21	0.25	0.27
Al_2O_3	0.78	1.26	1.36	1.71	0.92	0.90	0.93	1.22	1.07	1.11	1.36
Cr_2O_3	-0.01	0.02	-0.01	0.02	0.00	0.03	0.02	0.02	0.03	0.02	-0.01
FeO	18.06	18.40	18.40	18.86	18.04	17.93	18.04	18.04	18.02	18.23	18.33
MnO	1.09	1.01	1.10	1.12	1.08	1.06	1.12	1.09	1.10	1.14	1.07
MgO	25.70	25.36	25.04	24.62	25.55	25.82	25.76	25.06	25.68	25.74	25.23
CaO	1.21	1.20	1.23	1.37	1.12	1.08	1.15	1.12	1.11	1.09	1.12
Na_2O	0.08	0.03	0.02	0.05	0.04	0.02	0.03	0.01	0.04	0.02	0.02
K_2O	0.06	0.03	0.00	0.03	0.02	0.03	0.01	0.03	0.02	-0.01	0.01
Total	101.78	101.58	101.10	101.29	101.46	101.70	101.81	100.30	101.90	101.55	101.45
Mg#	71.7	71.1	70.8	69.9	71.6	72.0	71.8	71.2	71.7	71.6	71.0

Table C.10.20: XAL-115, Orthopyroxene grain 20

Dist (µm)	0.0	14.3	28.6	42.8	57.1	71.4	85.7	99.9	114.2	128.5
SiO_2	55.86	53.89	53.24	54.14	53.36	53.44	53.63	54.01	54.11	54.51
TiO_2	0.18	0.24	0.22	0.23	0.32	0.28	0.29	0.26	0.25	0.25
Al_2O_3	0.67	1.31	1.51	1.04	1.77	1.38	1.04	1.05	1.08	1.35
Cr_2O_3	-0.01	0.00	0.01	-0.02	0.02	0.01	0.01	0.00	-0.01	0.02
FeO	16.82	17.94	18.38	18.05	18.77	18.55	18.53	18.17	17.95	17.57
MnO	1.15	1.15	1.12	1.04	1.11	1.12	1.09	1.13	1.01	0.95
MgO	24.74	24.90	25.37	25.74	24.90	25.35	24.97	25.20	25.06	25.03
CaO	1.26	1.26	1.19	1.10	1.34	1.22	1.37	1.38	1.48	1.26
Na_2O	0.00	0.00	0.00	-0.01	0.01	0.00	0.00	0.01	0.00	0.03
K_2O	0.03	0.01	0.01	-0.01	0.02	0.01	0.03	0.01	-0.01	0.01
Total	100.71	100.69	101.04	101.29	101.62	101.37	100.96	101.22	100.93	100.98
Mg#	72.4	71.2	71.1	71.8	70.3	70.9	70.6	71.2	71.3	71.7

Table C.10.21: XAL-115, Orthopyroxene grain 21

Dist (µm)	0.0	14.9	29.7	59.3	103.9	118.7	148.5	163.2	178.1	192.9
SiO_2	53.81	54.03	54.46	54.55	54.80	54.68	54.49	53.89	54.59	54.53
TiO_2	0.17	0.16	0.16	0.15	0.15	0.12	0.13	0.14	0.15	0.19
Al_2O_3	0.92	0.79	0.80	0.60	0.48	0.43	0.48	0.48	0.47	0.57
Cr_2O_3	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.02	0.00
FeO	19.56	19.48	19.49	18.72	19.14	19.30	19.67	19.48	19.43	19.43
MnO	1.31	1.35	1.28	1.12	1.23	1.25	1.25	1.32	1.37	1.34
MgO	24.67	24.84	24.68	25.35	24.93	24.97	24.68	24.36	24.71	24.79
CaO	0.96	0.99	1.01	1.24	1.01	1.05	1.05	1.91	1.01	1.01
Na_2O	0.01	0.00	0.00	0.02	0.02	0.02	0.01	0.01	0.01	0.01
K_2O	-0.02	0.00	0.00	-0.01	0.03	0.02	0.03	0.04	0.04	0.00
Total	101.40	101.65	101.88	101.73	101.80	101.84	101.81	101.64	101.79	101.86
Mg#	69.2	69.5	69.3	70.7	69.9	69.8	69.1	69.0	69.4	69.5

Table C.10.22: XAL-115, Orthopyroxene grain 22

Dist (µm)	0.0	15.0	30.0	45.0	60.0	75.1	90.1	105.1	120.1	135.1	150.1
SiO_2	54.07	53.90	54.22	54.03	53.66	53.33	53.74	54.27	53.36	53.41	53.59
TiO_2	0.21	0.28	0.26	0.27	0.32	0.29	0.29	0.25	0.31	0.31	0.30
Al_2O_3	1.06	1.40	1.40	1.30	1.54	1.64	1.31	1.00	1.76	1.99	2.06
Cr_2O_3	0.01	0.01	-0.02	-0.01	-0.03	0.00	0.00	-0.02	0.03	0.01	-0.02
FeO	18.08	18.08	17.94	18.02	18.31	18.11	18.07	18.16	18.51	18.69	18.93
MnO	1.04	1.03	1.07	1.02	1.07	1.00	1.06	1.01	1.17	1.09	1.11
MgO	25.67	25.36	25.54	25.76	25.58	25.27	25.81	26.09	24.84	24.49	23.99
CaO	1.33	1.46	1.21	1.17	1.21	1.25	1.18	1.16	1.27	1.19	1.23
Na_2O	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.04	0.03
K_2O	0.03	0.02	0.02	0.02	0.00	0.02	0.03	0.01	0.01	0.00	0.03
Total	101.50	101.55	101.64	101.57	101.66	100.93	101.51	101.95	101.27	101.22	101.24
Mg#	71.7	71.4	71.7	71.8	71.3	71.3	71.8	71.9	70.5	70.0	69.3

Table C.10.23: XAL-115, Orthopyroxene grain 23

Dist (µm)	0.0	15.0	30.0	75.0	134.8	164.8
SiO_2	54.10	54.82	53.60	54.97	54.24	53.41
TiO_2	0.24	0.20	0.19	0.16	0.14	0.20
Al_2O_3	0.85	0.97	0.85	0.73	0.91	2.05
Cr_2O_3	0.03	0.02	0.02	0.00	0.01	0.00
FeO	18.07	17.80	17.92	18.11	18.07	18.40
MnO	1.01	1.09	0.99	1.07	1.06	0.96
MgO	26.04	24.89	25.56	25.29	26.00	23.12
CaO	1.13	1.17	1.25	1.16	1.13	1.43
Na_2O	0.02	0.01	0.01	0.02	0.02	0.04
K_2O	0.00	0.01	0.01	0.03	0.01	0.05
Total	101.48	100.97	100.41	101.56	101.58	99.65
Mg#	72.0	71.4	71.8	71.3	71.9	69.1

Table C.10.24: XAL-115, Orthopyroxene grain 24

Dist (µm)	0.0	15.3	30.6	45.8	61.2	76.5	107.0	122.3	168.2	183.5	198.8	214.1	229.4	244.7
SiO_2	54.81	54.75	52.82	53.01	53.57	53.49	54.68	51.90	53.87	53.74	53.18	52.78	52.42	53.09
TiO_2	0.37	0.26	0.32	0.30	0.30	0.31	0.32	0.30	0.24	0.27	0.31	0.36	0.48	0.81
Al_2O_3	2.71	1.30	2.36	2.24	2.10	2.18	2.12	2.04	1.08	1.36	1.42	1.57	2.88	2.31
Cr_2O_3	0.00	-0.01	0.00	0.01	-0.02	-0.02	0.02	0.00	0.02	0.01	0.01	0.02	0.04	0.03
FeO	18.29	17.34	18.63	17.77	17.93	18.17	17.84	17.61	17.63	18.14	18.32	18.16	18.25	20.57
MnO	1.21	1.10	1.04	1.00	1.01	1.00	1.02	1.07	1.07	1.06	1.12	1.10	1.10	1.24
MgO	21.64	24.11	22.67	23.83	24.41	24.34	23.90	23.89	25.30	24.71	24.60	24.08	21.41	19.65
CaO	1.29	1.38	1.40	1.42	1.34	1.43	1.36	1.34	1.22	1.44	1.83	2.01	1.94	1.56
Na_2O	0.13	0.02	0.03	0.03	0.02	0.02	0.03	0.04	0.03	0.04	0.04	0.04	0.20	0.35
K_2O	0.37	0.04	0.06	0.02	0.04	0.02	0.04	0.04	0.02	0.04	0.06	0.03	0.29	0.54
Total	100.83	100.28	99.33	99.63	100.71	100.96	101.33	98.23	100.49	100.81	100.87	100.16	99.00	100.14
Mg#	67.8	71.2	68.5	70.5	70.8	70.5	70.5	70.7	71.9	70.8	70.5	70.3	67.7	63.0

Table C.10.25: XAL-115, Orthopyroxene grain 25

Dist (µm)	0.0	14.4	28.9	43.4	57.9	72.4	86.8	101.4	115.8	173.7	188.2
SiO_2	53.55	54.25	52.00	54.50	54.17	53.51	53.15	52.81	54.60	53.04	51.29
TiO_2	0.31	0.19	0.19	0.17	0.24	0.22	0.13	0.24	0.16	0.27	0.33
Al_2O_3	1.13	0.74	0.71	0.55	0.79	0.85	0.74	1.16	0.76	1.72	5.81
Cr_2O_3	0.01	-0.03	0.02	-0.01	-0.01	0.01	0.01	0.02	0.00	0.00	0.04
FeO	18.90	17.84	17.07	17.59	19.40	20.69	21.94	22.30	19.14	18.32	18.89
MnO	1.17	1.01	1.03	0.98	1.26	1.45	1.74	1.68	1.38	1.00	0.94
MgO	24.52	25.78	24.20	26.14	24.55	23.62	22.89	22.24	24.85	25.47	19.62
CaO	1.62	1.51	4.66	1.11	1.06	1.12	0.89	0.95	1.02	1.15	1.31
Na_2O	0.01	0.00	0.01	0.00	-0.01	0.01	0.01	0.03	0.02	0.02	0.08
K_2O	0.00	-0.01	0.00	-0.02	-0.02	0.00	0.01	0.01	0.01	0.01	0.12
Total	101.21	101.27	99.89	101.04	101.43	101.47	101.51	101.44	101.92	100.99	98.41
Mg#	69.8	72.0	71.6	72.6	69.3	67.0	65.0	64.0	69.8	71.3	64.9

Table C.10.26: XAL-115, Orthopyroxene grain 26

Dist (µm)	0.0	29.4	88.3	117.7	147.1	176.6	206.0	264.8	323.7	353.1	412.0	441.4
SiO_2	54.84	54.21	52.77	53.90	53.47	57.39	53.78	53.85	54.30	54.17	53.98	53.15
TiO_2	0.15	0.30	0.24	0.23	0.27	0.22	0.18	0.30	0.21	0.23	0.24	0.41
Al_2O_3	0.47	1.17	4.76	1.27	2.00	6.01	1.07	1.25	1.02	1.05	2.69	5.05
Cr_2O_3	0.01	-0.02	0.00	0.00	-0.03	-0.02	-0.02	0.00	0.00	0.01	0.00	0.01
FeO	17.80	18.16	18.53	17.94	18.77	13.51	17.60	18.90	18.39	18.18	18.36	18.49
MnO	1.06	1.13	1.10	1.11	1.04	0.89	1.01	1.13	1.07	1.02	0.99	1.02
MgO	26.02	25.28	23.32	25.62	24.78	19.77	25.16	24.64	25.67	25.72	23.73	21.11
CaO	1.24	1.48	1.22	1.64	1.32	1.26	1.51	1.79	1.14	1.25	1.24	1.72
Na_2O	0.02	0.03	0.01	0.03	0.04	0.75	0.02	0.02	0.02	0.02	0.02	0.03
K_2O	0.01	0.03	0.03	0.02	0.03	0.57	0.01	0.02	0.02	0.00	0.05	0.10
Total	101.63	101.74	101.98	101.76	101.70	100.34	100.32	101.91	101.83	101.66	101.28	101.07
Mg#	72.3	71.3	69.2	71.8	70.2	72.3	71.8	69.9	71.3	71.6	69.7	67.0

Table C.10.27: XAL-115, Orthopyroxene grain 27

Dist (µm)	15.3	30.7	46.0	61.3	76.6	92.0	107.3	122.6	138.0	153.3	168.6	183.9	199.3	214.6	229.9	245.2
SiO_2	52.86	54.31	53.71	52.38	53.60	53.99	53.73	53.81	54.08	53.75	53.67	54.06	54.29	53.61	53.26	52.62
TiO_2	0.32	0.25	0.28	0.30	0.29	0.26	0.28	0.30	0.25	0.26	0.26	0.21	0.21	0.26	0.29	0.32
Al_2O_3	2.15	1.32	1.21	2.14	1.52	1.20	1.43	1.43	1.58	1.73	1.75	1.07	1.08	1.59	1.99	1.91
Cr_2O_3	0.01	-0.01	0.01	0.02	0.00	0.01	-0.01	-0.01	0.00	0.01	0.03	0.00	0.01	-0.01	-0.01	-0.01
FeO	19.18	17.79	18.06	19.11	18.43	17.90	18.31	18.49	18.34	18.63	18.61	17.74	17.92	18.51	19.03	19.59
MnO	1.11	1.09	1.03	1.04	1.07	1.05	1.03	1.05	1.02	1.05	1.09	1.10	1.05	1.08	1.07	1.18
MgO	24.11	25.39	25.83	23.22	25.10	24.94	24.88	24.89	25.28	24.83	25.11	25.92	25.86	25.32	24.32	23.47
CaO	1.24	1.17	1.25	1.29	1.23	1.59	1.62	1.53	1.27	1.58	1.25	1.13	1.15	1.21	1.33	1.44
Na_2O	0.02	0.00	0.00	0.01	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.02	0.02	0.03	0.05	0.03
K_2O	0.02	0.01	0.01	0.03	0.02	0.01	0.01	0.02	0.00	0.00	0.02	0.01	-0.01	0.00	-0.01	0.02
Total	101.02	101.33	101.39	99.52	101.29	100.99	101.32	101.54	101.85	101.88	101.81	101.26	101.58	101.59	101.32	100.58
Mg#	69.1	71.8	71.8	68.4	70.8	71.3	70.8	70.6	71.1	70.4	70.6	72.3	72.0	70.9	69.5	68.1

Table C.11.1: XAL-129, Orthopyroxene grain 1

Dist (µm)	0.0	14.9	29.9	44.8	59.8	74.7	104.7	119.7	134.6	149.5	164.5
SiO_2	53.76	54.05	54.68	54.45	53.72	54.61	54.27	53.75	53.81	54.10	53.47
TiO_2	0.24	0.21	0.18	0.21	0.28	0.22	0.27	0.29	0.18	0.24	0.34
Al_2O_3	0.69	0.72	1.20	0.58	0.86	0.83	0.88	0.72	0.78	0.76	1.65
Cr_2O_3	-0.06	-0.06	-0.05	-0.07	-0.07	-0.12	-0.09	-0.05	-0.03	0.04	0.00
FeO	18.41	18.49	18.38	18.18	18.30	18.08	18.24	18.26	18.59	19.01	19.09
MnO	0.78	1.01	0.88	0.93	0.86	0.79	0.91	0.84	0.88	0.81	0.88
MgO	24.77	24.40	24.49	25.12	25.38	25.08	24.95	25.29	25.12	24.65	22.95
CaO	1.21	1.26	1.22	1.52	1.41	1.43	1.31	1.34	1.27	1.24	1.69
Na_2O	0.04	0.03	0.00	0.05	0.02	0.02	0.02	0.00	0.04	0.00	0.10
K_2O	0.04	0.04	0.06	0.04	0.02	0.02	-0.01	0.02	0.03	-0.08	-0.01
Total	99.89	100.13	101.05	101.02	100.79	100.98	100.74	100.47	100.66	100.76	100.18
Mg#	70.6	70.2	70.4	71.1	71.2	71.2	70.9	71.2	70.7	69.8	68.2

Table C.11.2: XAL-129, Orthopyroxene grain 2

Dist (µm)	0.0	29.6	88.9	118.6	148.2	207.5	237.2	326.1	355.7
SiO_2	53.75	53.42	53.14	53.49	53.18	53.65	53.26	54.01	53.93
TiO_2	0.28	0.33	0.33	0.35	0.35	0.25	0.20	0.29	0.20
Al_2O_3	0.91	0.73	0.90	0.96	1.02	0.65	0.69	0.83	0.75
Cr_2O_3	-0.06	-0.01	0.05	0.03	0.01	0.03	-0.03	0.03	-0.04
FeO	18.90	19.00	19.30	19.35	19.24	19.24	18.76	18.51	19.22
MnO	0.72	0.90	0.89	0.66	0.82	0.85	0.79	0.85	0.84
MgO	25.05	25.14	24.90	24.70	24.36	24.95	25.28	24.47	24.81
CaO	1.32	1.32	1.24	1.32	1.73	1.31	1.24	1.46	1.48
Na_2O	0.02	0.01	0.01	0.01	0.04	0.03	0.00	0.03	0.04
K_2O	-0.06	-0.08	-0.05	-0.05	-0.07	-0.05	-0.05	-0.01	-0.03
Total	100.82	100.75	100.71	100.82	100.68	100.90	100.15	100.48	101.19
Mg#	70.3	70.2	69.7	69.5	69.3	69.8	70.6	70.2	69.7

Table C.11.3: XAL-129, Orthopyroxene grain 3

Dist (µm)	0.0	15.1	30.2	45.3	75.6	151.3
SiO_2	53.56	52.83	53.95	54.52	53.27	54.13
TiO_2	0.26	0.22	0.22	0.24	0.22	0.20
Al_2O_3	0.82	1.33	0.89	0.85	1.88	0.96
Cr_2O_3	0.00	-0.01	0.00	-0.02	-0.01	-0.03
FeO	19.35	19.56	18.98	18.66	19.18	18.21
MnO	0.79	0.84	0.78	0.92	0.92	0.74
MgO	24.26	24.22	25.18	25.00	24.39	25.33
CaO	1.49	1.39	1.44	1.28	1.40	1.49
Na_2O	0.01	0.02	0.00	0.01	0.04	0.04
K_2O	-0.02	0.00	0.02	-0.04	0.00	0.00
Total	100.52	100.39	101.45	101.41	101.28	101.07
Mg#	69.1	68.8	70.3	70.5	69.4	71.3

Table C.11.4: XAL-129, Orthopyroxene grain 4

Dist (µm)	0.0	7.5	15.0	37.6	45.1	52.6	60.1	67.7	75.2	82.6	90.2	105.3	112.7	127.8
SiO_2	54.08	53.81	52.69	54.14	53.48	53.34	45.97	53.53	54.95	54.24	53.38	54.11	53.78	54.35
TiO_2	0.25	0.28	0.26	0.21	0.31	0.19	0.19	0.19	0.18	0.16	0.28	0.20	0.20	0.18
Al_2O_3	0.92	0.75	0.75	0.39	0.70	0.64	14.09	0.42	0.39	0.42	0.50	0.42	0.35	0.50
Cr_2O_3	-0.04	0.01	-0.01	0.02	-0.02	-0.01	-0.05	-0.06	-0.06	-0.03	0.02	0.03	0.01	0.01
FeO	19.28	18.83	19.13	19.61	19.80	19.75	17.72	19.84	19.07	19.45	19.07	19.70	18.99	18.75
MnO	1.02	0.98	0.98	1.02	1.02	0.96	0.86	1.11	0.96	1.11	1.16	1.23	1.14	0.85
MgO	24.28	23.89	24.78	24.08	24.19	23.70	20.11	24.36	24.43	24.66	24.50	24.21	24.66	24.76
CaO	1.44	1.57	1.54	1.27	1.32	2.35	1.46	1.37	1.44	1.34	1.24	1.28	1.43	1.47
Na_2O	0.04	0.03	0.03	-0.03	-0.01	0.05	0.06	0.03	0.02	-0.01	0.04	0.03	0.03	0.00
K_2O	-0.03	-0.02	0.02	-0.04	0.01	0.05	-0.02	0.00	0.00	-0.01	0.03	0.01	0.00	-0.01
Total	101.25	100.13	100.17	100.66	100.80	101.01	100.38	100.79	101.36	101.34	100.21	101.21	100.59	100.85
Mg#	69.2	69.3	69.8	68.6	68.5	68.1	66.9	68.6	69.5	69.3	69.6	68.7	69.8	70.2

Table C.11.5: XAL-129, Orthopyroxene grain 5

Dist (µm)	0.0	14.5	21.8	29.1	36.4	58.2	94.7	109.2	116.5
SiO_2	53.41	53.49	53.57	53.17	53.86	54.05	54.60	53.63	53.23
TiO_2	0.23	0.23	0.24	0.29	0.30	0.26	0.27	0.21	0.25
Al_2O_3	0.66	0.88	0.79	0.75	0.65	0.77	0.66	0.78	0.81
Cr_2O_3	-0.03	0.01	0.02	0.00	0.02	0.00	-0.01	0.05	0.01
FeO	19.18	18.53	19.84	19.74	19.52	19.35	19.45	19.36	19.88
MnO	0.90	0.92	1.02	0.97	0.91	1.02	0.85	0.87	1.03
MgO	24.64	24.31	24.78	24.33	24.47	24.20	24.32	24.60	23.88
CaO	1.39	1.45	1.19	1.52	1.25	1.66	1.15	1.30	1.29
Na_2O	0.06	0.03	0.03	0.02	0.05	0.03	0.02	0.03	0.02
K_2O	0.01	0.01	-0.03	0.03	0.01	0.02	0.05	0.02	0.05
Total	100.46	99.87	101.45	100.83	101.05	101.36	101.35	100.85	100.45
Mg#	69.6	70.0	69.0	68.7	69.1	69.0	69.0	69.4	68.2

Table C.11.6: XAL-129, Orthopyroxene grain 6

Dist (µm)	0.0	15.5	31.0	62.0	77.5	93.0	124.1	139.6
SiO_2	54.22	54.12	53.90	53.65	54.20	53.61	53.16	53.53
TiO_2	0.20	0.15	0.17	0.23	0.17	0.23	0.25	0.31
Al_2O_3	0.63	0.37	0.51	0.69	0.58	0.79	0.87	0.85
Cr_2O_3	0.02	0.06	0.03	0.05	0.06	-0.03	0.08	0.00
FeO	18.80	19.17	18.51	19.44	19.89	19.56	19.62	19.71
MnO	1.07	1.03	1.22	1.13	1.07	1.09	1.06	0.91
MgO	24.41	24.29	24.38	24.21	23.73	23.76	23.65	24.06
CaO	1.61	1.39	1.44	1.45	1.64	1.46	1.69	1.60
Na_2O	0.05	0.03	0.05	0.08	0.04	0.01	0.02	0.03
K_2O	0.02	0.03	0.03	0.01	0.02	0.02	0.03	0.03
Total	101.02	100.63	100.25	100.94	101.40	100.51	100.42	101.02
Mg#	69.8	69.3	70.1	68.9	68.0	68.4	68.2	68.5

Table C.11.7: XAL-129, Orthopyroxene grain 7

Dist (µm)	14.8	29.7	44.5	59.3	103.8	118.6	148.3
SiO_2	52.93	54.23	53.31	52.93	53.85	53.86	53.98
TiO_2	0.25	0.24	0.32	0.24	0.32	0.24	0.21
Al_2O_3	1.92	0.74	0.79	0.69	0.86	0.63	0.70
Cr_2O_3	0.09	0.04	0.12	0.01	-0.02	0.05	-0.03
FeO	18.30	19.98	19.81	19.86	19.57	19.29	19.94
MnO	0.86	0.97	1.05	1.02	1.02	1.03	1.16
MgO	23.52	23.85	23.55	23.90	23.78	23.95	24.05
CaO	1.48	1.28	1.66	1.40	1.39	1.48	1.37
Na_2O	0.03	0.03	0.02	0.04	0.01	0.02	0.07
K_2O	-0.01	-0.01	0.00	0.02	0.02	0.02	0.06
Total	99.37	101.34	100.62	100.11	100.80	100.56	101.50
Mg#	69.6	68.0	67.9	68.2	68.4	68.9	68.2

Table C.11.8: XAL-129, Orthopyroxene grain 8

Dist (µm)	0.0	15.0	30.2	60.3	75.4	90.5	105.5	120.6	135.7	150.8	165.8
SiO_2	53.01	53.66	52.84	52.59	53.13	53.70	53.63	51.31	53.84	53.68	53.24
TiO_2	0.31	0.31	0.27	0.27	0.26	0.28	0.31	0.24	0.33	0.20	0.26
Al_2O_3	1.20	0.91	1.46	0.88	0.72	0.67	0.69	0.69	0.80	0.51	0.93
Cr_2O_3	-0.04	-0.08	-0.10	-0.03	-0.08	-0.09	-0.03	-0.05	-0.04	-0.11	0.02
FeO	19.84	18.39	19.47	19.95	20.29	19.96	19.47	18.94	19.70	19.44	18.41
MnO	1.08	1.00	0.99	1.16	1.12	1.18	1.12	1.15	1.20	1.03	0.99
MgO	24.44	25.03	23.70	23.61	23.09	23.70	23.65	23.24	23.73	24.52	24.74
CaO	1.53	1.55	1.60	1.50	1.76	1.47	1.48	3.80	1.40	1.46	1.19
Na_2O	0.03	0.02	0.02	0.00	0.06	-0.01	0.02	0.10	0.04	0.02	0.02
K_2O	0.05	-0.01	0.03	-0.02	0.00	-0.05	-0.01	0.03	0.02	-0.02	0.02
Total	101.45	100.78	100.27	99.91	100.36	100.83	100.33	99.43	101.00	100.73	99.81
Mg#	68.7	70.8	68.5	67.8	67.0	67.9	68.4	68.6	68.2	69.2	70.5

Table C.11.9: XAL-129, Orthopyroxene grain 9

Dist (µm)	86.5	100.9	115.3	129.7
SiO_2	52.71	53.69	53.34	51.32
TiO_2	0.26	0.29	0.28	0.16
Al_2O_3	0.55	0.68	1.02	5.88
Cr_2O_3	0.05	0.01	0.06	0.07
FeO	19.62	19.53	19.82	18.57
MnO	1.08	1.13	0.90	0.88
MgO	24.04	24.26	24.44	22.74
CaO	1.49	1.51	1.63	1.31
Na_2O	0.04	0.01	0.02	0.03
K_2O	0.03	0.04	-0.01	-0.01
Total	99.87	101.15	101.49	100.95
Mg#	68.6	68.9	68.7	68.6

Table C.11.10: XAL-129, Orthopyroxene grain 10

Dist (µm)	0.0	14.3	28.7	43.0	57.3	71.7	100.3	114.7
SiO_2	54.39	53.74	55.04	54.39	54.67	54.26	54.84	54.14
TiO_2	0.19	0.18	0.13	0.11	0.12	0.11	0.20	0.22
Al_2O_3	0.63	0.39	0.48	0.44	0.29	0.26	0.45	0.96
Cr_2O_3	-0.04	-0.01	0.02	0.01	0.03	0.03	-0.05	-0.06
FeO	18.70	18.93	19.05	18.95	19.42	19.24	18.43	19.08
MnO	0.86	0.87	0.79	0.91	0.80	0.90	0.89	0.92
MgO	25.29	25.15	24.50	24.91	24.84	25.11	24.84	24.55
CaO	1.31	1.42	1.26	1.35	1.34	1.51	1.52	1.47
Na_2O	0.00	0.00	0.03	0.02	0.01	0.01	-0.01	0.02
K_2O	0.02	0.03	-0.01	-0.02	-0.03	0.04	-0.01	-0.02
Total	101.35	100.70	101.28	101.08	101.48	101.49	101.10	101.27
Mg#	70.7	70.3	69.6	70.1	69.5	69.9	70.6	69.6

Table C.11.11: XAL-129, Orthopyroxene grain 11

Dist (µm)	0.0	30.7	61.5	122.9	153.6	184.4	399.5	430.3
SiO_2	54.01	54.25	54.04	52.95	52.93	53.91	51.67	53.82
TiO_2	0.27	0.11	0.20	0.39	0.41	0.24	0.17	0.20
Al_2O_3	0.70	0.50	0.52	1.33	1.17	0.79	5.51	0.58
Cr_2O_3	-0.05	-0.02	-0.05	-0.05	0.00	-0.02	0.00	-0.07
FeO	17.87	18.27	18.20	18.65	19.09	18.58	17.53	18.70
MnO	0.86	0.83	0.96	0.83	0.78	0.90	0.91	0.97
MgO	24.87	24.66	25.22	24.66	24.56	25.08	24.29	24.73
CaO	1.37	1.27	1.35	1.51	1.57	1.44	1.10	1.44
Na_2O	0.01	0.01	0.04	-0.01	0.01	0.01	0.03	0.04
K_2O	0.01	-0.01	-0.06	-0.03	-0.02	0.01	0.00	0.01
Total	99.91	99.86	100.42	100.24	100.52	100.93	101.22	100.44
Mg#	71.3	70.6	71.2	70.2	69.6	70.6	71.2	70.2

Table C.11.12: XAL-129, Orthopyroxene grain 12

Dist (µm)	0.0	30.4	121.5	182.2	273.3
SiO_2	54.22	54.21	53.41	53.82	53.14
TiO_2	0.20	0.20	0.24	0.27	0.21
Al_2O_3	0.48	0.55	0.86	0.80	0.80
Cr_2O_3	-0.06	-0.02	-0.03	0.03	0.00
FeO	19.00	19.56	19.70	19.48	19.17
MnO	1.06	1.01	0.88	0.97	1.06
MgO	24.78	24.81	24.43	24.51	24.78
CaO	1.41	1.19	1.45	1.46	1.43
Na_2O	0.03	-0.03	0.01	0.01	-0.01
K_2O	-0.01	0.01	0.04	0.00	0.00
Total	101.10	101.49	100.98	101.35	100.58
Mg#	69.9	69.3	68.9	69.2	69.7

Table C.11.13: XAL-129, Orthopyroxene grain 13

Dist (µm)	0.0	7.4	14.7	22.1	29.5	44.2	58.9	66.3	73.7	81.0	88.4	103.2	110.5	117.9	132.6	140.0
SiO_2	53.92	54.16	53.88	54.26	51.05	53.70	52.68	53.42	54.07	54.27	54.08	54.42	53.25	54.16	53.99	53.24
TiO_2	0.18	0.20	0.27	0.28	0.25	0.25	0.28	0.31	0.24	0.24	0.29	0.17	0.19	0.23	0.20	0.24
Al_2O_3	0.66	0.71	0.74	0.69	4.26	0.69	0.72	0.62	0.79	0.52	0.69	0.60	0.60	0.65	0.50	0.62
Cr_2O_3	0.04	0.03	0.01	0.02	-0.03	0.02	0.03	0.00	0.07	0.03	0.03	0.11	0.01	0.06	0.06	0.03
FeO	18.75	19.11	19.52	18.83	19.21	19.15	19.77	19.46	19.39	19.25	19.04	18.94	19.46	18.85	19.01	18.67
MnO	0.87	0.97	0.96	0.89	0.87	0.89	0.78	0.92	1.00	0.92	0.89	0.89	0.86	0.91	1.00	0.98
MgO	24.99	24.94	24.52	24.63	23.47	24.38	24.83	24.52	24.43	24.62	24.74	24.58	24.94	24.54	24.79	24.76
CaO	1.26	1.25	1.28	1.38	1.29	1.19	1.18	1.39	1.49	1.34	1.56	1.54	1.41	1.36	1.45	1.35
Na_2O	0.04	0.02	0.04	0.05	0.04	0.03	0.03	0.05	0.00	0.04	0.03	-0.01	0.01	0.02	0.00	0.03
K_2O	0.02	-0.01	-0.01	0.06	0.03	0.05	0.04	0.01	0.02	-0.01	0.02	0.03	-0.01	0.03	0.02	0.01
Total	100.75	101.36	101.21	101.09	100.45	100.36	100.33	100.69	101.49	101.21	101.37	101.25	100.72	100.82	101.02	99.92
Mg#	70.4	69.9	69.1	70.0	68.5	69.4	69.1	69.2	69.2	69.5	69.8	69.8	69.6	69.9	69.9	70.3

Table C.11.14: XAL-129, Orthopyroxene grain 14

Dist (µm)	0.0	28.7	57.2	85.8	114.5	200.4	229.0	257.6	286.3	314.9
SiO_2	53.56	54.18	54.05	54.20	53.70	53.31	54.08	53.60	53.79	53.68
TiO_2	0.26	0.31	0.24	0.25	0.23	0.23	0.25	0.25	0.28	0.25
Al_2O_3	0.78	0.89	0.82	0.79	0.70	0.70	0.94	1.21	0.85	0.76
Cr_2O_3	-0.06	0.05	-0.03	-0.02	0.00	0.03	-0.03	-0.06	0.01	-0.04
FeO	18.65	18.80	18.13	18.53	18.90	19.28	18.76	18.46	19.03	18.76
MnO	0.81	0.81	0.79	0.76	0.90	0.96	0.93	0.85	0.84	0.93
MgO	24.58	24.65	25.00	24.74	24.66	24.62	24.53	24.66	24.68	24.78
CaO	1.19	1.19	1.30	1.42	1.68	1.22	1.60	1.29	1.27	1.47
Na_2O	0.03	-0.01	0.02	0.02	0.02	0.08	0.02	0.05	0.05	0.03
K_2O	-0.02	0.01	0.01	0.00	-0.03	0.05	0.04	-0.02	0.03	0.10
Total	99.77	100.89	100.34	100.68	100.74	100.47	101.12	100.27	100.82	100.71
Mg#	70.1	70.0	71.1	70.4	69.9	69.5	70.0	70.4	69.8	70.2

Table C.11.15: XAL-129, Orthopyroxene grain 15

Dist (µm)	30.3	151.6	212.2	303.3	363.8	394.2
SiO_2	54.58	53.37	53.33	54.24	53.55	53.64
TiO_2	0.29	0.29	0.20	0.23	0.26	0.26
Al_2O_3	1.02	0.82	0.96	0.89	0.86	0.75
Cr_2O_3	0.01	0.00	-0.03	0.00	0.01	0.03
FeO	18.16	19.62	18.66	18.29	19.15	18.79
MnO	0.84	0.91	0.95	0.83	0.90	0.91
MgO	24.89	24.15	24.81	25.18	24.79	24.66
CaO	1.49	1.42	1.46	1.34	1.44	1.17
Na_2O	0.01	0.04	0.04	0.02	0.05	0.01
K_2O	0.01	0.00	0.02	0.03	0.02	0.05
Total	101.28	100.62	100.38	101.06	101.02	100.27
Mg#	71.0	68.7	70.3	71.0	69.8	70.1

Table C.11.16: XAL-129, Orthopyroxene grain 16

Dist (µm)	7.6	23.0	30.7	38.3	53.6	61.4	76.7	84.3	92.0	99.6	107.4
SiO_2	53.06	53.03	52.43	52.15	53.09	55.25	53.73	52.88	53.22	52.57	52.83
TiO_2	0.31	0.31	0.37	0.38	0.29	0.17	0.34	0.35	0.34	0.38	0.33
Al_2O_3	1.39	1.70	2.49	2.51	1.69	0.72	2.01	2.01	2.48	2.35	1.74
Cr_2O_3	0.03	0.02	0.02	0.00	0.01	0.00	-0.05	0.02	0.04	0.04	0.00
FeO	18.75	19.31	19.26	18.53	17.90	17.27	17.26	17.53	18.15	19.11	19.36
MnO	0.91	0.69	0.64	0.80	0.76	0.63	0.69	0.66	0.75	0.80	0.81
MgO	24.29	24.14	23.73	24.07	24.31	25.06	24.91	25.32	23.98	23.95	24.10
CaO	1.46	1.47	1.55	1.50	2.73	1.80	1.61	1.55	1.54	1.53	1.37
Na_2O	0.00	0.02	0.02	-0.01	0.00	0.02	0.02	-0.01	0.01	-0.02	-0.01
K_2O	-0.02	-0.08	-0.07	-0.04	-0.05	-0.06	-0.05	-0.01	0.00	0.02	0.02
Total	100.19	100.60	100.43	99.89	100.73	100.84	100.46	100.31	100.49	100.73	100.54
Mg#	69.8	69.0	68.7	69.8	70.8	72.1	72.0	72.0	70.2	69.1	68.9

Table C.11.17: XAL-129, Orthopyroxene grain 17

Dist (µm)	0.0	30.8	46.2	61.6	92.4	123.2
SiO_2	54.70	53.76	53.07	52.76	53.94	53.46
TiO_2	0.19	0.26	0.24	0.35	0.33	0.26
Al_2O_3	0.61	0.83	0.93	1.57	1.09	0.82
Cr_2O_3	0.02	0.03	0.00	-0.04	-0.01	-0.04
FeO	18.26	19.40	19.46	20.15	19.42	19.84
MnO	1.00	1.06	1.10	0.96	1.06	1.02
MgO	24.64	23.73	23.39	23.39	23.69	24.11
CaO	1.47	1.86	2.27	1.43	1.38	1.65
Na_2O	0.00	0.00	-0.02	0.05	0.02	0.05
K_2O	-0.03	0.05	0.01	0.06	0.01	0.00
Total	100.85	100.97	100.45	100.68	100.93	101.17
Mg#	70.6	68.6	68.2	67.4	68.5	68.4

Table C.11.18: XAL-129, Orthopyroxene grain 18

Dist (µm)	15.4	46.0	91.9	122.6	153.2
SiO_2	54.80	54.01	51.78	54.06	54.71
TiO_2	0.23	0.33	0.29	0.25	0.26
Al_2O_3	0.67	1.09	2.34	0.71	0.85
Cr_2O_3	-0.02	0.03	0.02	0.04	0.05
FeO	18.15	18.87	18.55	18.28	18.10
MnO	0.91	0.84	0.74	1.01	0.92
MgO	25.35	24.15	23.88	24.37	25.10
CaO	1.35	1.76	1.74	1.27	1.43
Na_2O	0.05	0.01	-0.01	-0.01	0.00
K_2O	0.00	0.01	-0.02	-0.03	0.08
Total	101.49	101.09	99.32	99.94	101.49
Mg#	71.3	69.5	69.6	70.4	71.2

Table C.11.19: XAL-129, Orthopyroxene grain 19

Dist (µm)	0.0	15.4	30.8	107.6	138.2	169.0
SiO_2	53.64	53.76	53.82	53.56	54.17	53.68
TiO_2	0.32	0.24	0.17	0.24	0.37	0.41
Al_2O_3	0.62	0.88	0.68	0.70	0.91	0.69
Cr_2O_3	0.06	-0.05	-0.03	0.02	-0.07	0.04
FeO	18.58	19.46	19.68	19.91	19.16	18.98
MnO	0.91	1.09	0.90	1.07	0.93	0.85
MgO	24.57	24.39	24.72	23.70	24.07	23.72
CaO	1.34	1.56	1.52	1.38	1.52	2.49
Na_2O	0.03	0.05	0.04	0.01	0.03	0.05
K_2O	0.05	0.06	-0.02	0.05	0.00	0.03
Total	100.11	101.44	101.48	100.64	101.09	100.92
Mg#	70.2	69.1	69.1	68.0	69.1	69.0

Table C.11.20: XAL-129, Orthopyroxene grain 20

Dist (µm)	0.0	15.3	22.9	38.2	45.9	53.5	61.1	76.5	84.2	91.8
SiO_2	53.89	53.85	53.01	53.34	53.66	53.92	51.92	50.68	53.32	53.31
TiO_2	0.23	0.22	0.24	0.24	0.26	0.26	0.34	0.28	0.28	0.25
Al_2O_3	0.77	0.71	0.71	0.97	1.09	1.09	1.39	0.93	0.73	0.85
Cr_2O_3	-0.01	0.02	0.01	0.04	-0.01	0.05	0.01	0.06	0.03	0.01
FeO	18.30	18.47	19.31	19.14	19.09	19.52	19.08	18.34	19.19	19.16
MnO	0.95	0.85	0.85	0.86	0.94	0.86	0.74	0.89	0.99	0.94
MgO	24.90	25.12	24.73	24.43	24.02	24.30	24.33	22.85	24.52	24.54
CaO	1.26	1.48	1.27	1.60	1.55	1.34	1.51	4.37	1.65	1.43
Na_2O	0.03	0.01	0.02	0.06	0.06	0.03	0.04	0.06	0.05	-0.01
K_2O	0.04	0.02	0.03	0.00	0.02	0.00	0.06	-0.02	-0.06	-0.03
Total	100.34	100.76	100.19	100.69	100.66	101.37	99.42	98.44	100.68	100.43
Mg#	70.8	70.8	69.5	69.5	69.2	68.9	69.4	69.0	69.5	69.5

Table C.11.21: XAL-129, Orthopyroxene grain 21

Dist (µm)	0.0	14.5	29.0	58.0	72.5	101.4	115.9	130.4	144.9	159.3	188.3
SiO_2	53.60	53.34	54.03	53.82	54.11	53.10	53.37	54.71	53.03	54.05	48.23
TiO_2	0.28	0.24	0.29	0.26	0.18	0.22	0.18	0.15	0.17	0.18	0.17
Al_2O_3	0.72	0.93	1.16	0.73	0.62	0.61	1.08	0.54	0.59	0.60	8.97
Cr_2O_3	0.04	0.05	0.03	0.02	-0.02	-0.01	0.01	-0.03	0.03	-0.01	0.07
FeO	18.31	18.40	18.25	18.36	18.57	18.13	17.91	17.64	18.38	18.75	17.19
MnO	0.91	0.86	0.65	0.78	0.70	0.77	0.63	0.84	0.88	0.80	0.65
MgO	25.40	24.76	25.02	25.22	25.77	25.64	25.38	25.39	25.30	25.34	21.54
CaO	1.38	1.40	1.42	1.54	1.44	1.51	1.40	1.38	1.30	1.31	1.50
Na_2O	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.00	0.03	0.01	0.04
K_2O	0.04	0.03	0.02	0.02	0.02	0.00	0.02	0.03	0.03	-0.02	-0.01
Total	100.68	100.03	100.90	100.77	101.42	100.00	100.00	100.66	99.73	101.01	98.34
Mg#	71.2	70.6	71.0	71.0	71.2	71.6	71.6	72.0	71.0	70.7	69.1

Table C.11.22: XAL-129, Orthopyroxene grain 22

Dist (µm)	0.0	29.3	58.5	87.9	117.1	175.7	205.0	234.2	292.8	322.0
SiO_2	54.68	53.63	51.66	54.24	51.57	54.04	53.64	53.79	54.26	52.69
TiO_2	0.29	0.18	0.24	0.23	0.23	0.22	0.26	0.23	0.28	0.29
Al_2O_3	1.37	0.62	3.03	0.67	0.87	0.85	1.05	0.72	0.83	1.90
Cr_2O_3	-0.01	0.04	0.01	-0.01	0.03	0.00	-0.02	-0.04	-0.02	0.00
FeO	18.98	19.23	19.12	19.02	20.12	19.20	18.74	19.13	19.34	19.48
MnO	0.85	0.86	0.80	1.06	0.94	0.95	0.90	0.95	0.82	0.83
MgO	23.67	24.99	23.32	24.38	23.74	24.33	24.91	24.54	24.60	24.19
CaO	1.31	1.43	1.29	1.34	1.33	1.53	1.40	1.28	1.38	1.46
Na_2O	0.07	0.04	0.00	0.01	0.01	0.02	0.02	0.02	0.00	-0.02
K_2O	0.10	0.02	-0.03	-0.05	0.01	0.01	0.02	-0.03	-0.02	0.00
Total	101.32	101.01	99.43	100.90	98.86	101.16	100.90	100.60	101.47	100.82
Mg#	69.0	69.8	68.5	69.6	67.8	69.3	70.3	69.6	69.4	68.9

Table C.11.23: XAL-129, Orthopyroxene grain 23

Dist (µm)	0.0	14.8	29.7	44.5	59.3	118.6	148.3	163.1	178.0	192.8
SiO_2	54.17	54.55	53.66	53.62	54.35	54.30	53.69	54.17	54.36	54.28
TiO_2	0.21	0.28	0.21	0.20	0.24	0.19	0.11	0.18	0.18	0.19
Al_2O_3	0.75	0.76	0.54	0.65	0.58	0.49	0.92	0.54	0.49	0.60
Cr_2O_3	-0.01	-0.01	0.02	-0.01	-0.04	-0.04	0.01	-0.02	-0.02	-0.02
FeO	18.26	18.36	18.88	18.97	18.88	18.84	18.76	19.35	18.92	19.00
MnO	0.99	1.06	0.93	0.99	0.98	0.98	0.92	0.98	1.10	0.91
MgO	25.04	25.01	24.94	24.92	24.80	24.90	24.89	24.70	24.76	24.97
CaO	1.54	1.21	1.22	1.45	1.45	1.47	1.44	1.37	1.37	1.46
Na_2O	0.02	-0.01	0.01	0.03	0.03	0.02	0.02	0.02	0.02	0.02
K_2O	0.03	0.03	0.02	0.01	-0.01	0.03	0.02	0.06	0.02	-0.01
Total	101.01	101.24	100.43	100.84	101.27	101.17	100.78	101.36	101.20	101.40
Mg#	71.0	70.8	70.2	70.1	70.1	70.2	70.3	69.5	70.0	70.1

Table C.11.24: XAL-129, Orthopyroxene grain 24

Dist (µm)	14.7	29.3	73.3	88.0	146.6	234.6	249.3
SiO_2	54.22	54.54	53.76	54.72	53.56	54.81	55.34
TiO_2	0.25	0.18	0.18	0.28	0.28	0.25	0.17
Al_2O_3	0.68	0.58	3.01	0.74	1.33	0.74	0.63
Cr_2O_3	-0.02	0.00	-0.02	0.02	0.00	-0.01	0.00
FeO	18.34	19.15	18.99	18.99	20.19	18.43	18.07
MnO	1.07	1.10	1.10	1.11	0.99	1.07	0.91
MgO	24.77	24.30	23.25	23.91	23.41	24.52	24.88
CaO	1.44	1.32	1.18	1.36	1.46	1.48	1.29
Na_2O	0.01	-0.01	0.01	0.03	0.01	0.07	0.03
K_2O	0.03	0.01	0.02	0.01	-0.02	0.01	0.04
Total	100.79	101.18	101.48	101.17	101.21	101.37	101.36
Mg#	70.7	69.3	68.6	69.2	67.4	70.3	71.1

Table C.11.25: XAL-129, Orthopyroxene grain 25

Dist (µm)	0.0	57.9	173.8	231.8	347.6	376.6
SiO_2	51.19	53.37	53.46	54.34	53.82	54.08
TiO_2	0.23	0.26	0.28	0.20	0.22	0.21
Al_2O_3	1.46	0.89	0.67	0.63	1.17	0.86
Cr_2O_3	0.04	0.00	0.04	-0.02	0.00	0.00
FeO	18.92	19.78	19.81	19.44	19.23	19.94
MnO	1.03	1.03	1.06	1.03	1.02	0.95
MgO	27.03	24.01	24.41	24.18	23.71	23.98
CaO	1.28	1.53	1.39	1.04	1.56	1.37
Na_2O	0.06	0.04	0.03	0.03	0.02	0.01
K_2O	0.05	-0.01	0.01	-0.01	0.01	0.01
Total	101.27	100.89	101.14	100.86	100.74	101.40
Mg#	71.8	68.4	68.7	68.9	68.7	68.2

Table C.11.26: XAL-129, Orthopyroxene grain 26

Dist (µm)	0.0	14.7	29.3	44.0	58.7	73.3	88.0	102.6	117.3	132.0	146.6
SiO_2	55.32	55.39	54.45	54.83	55.22	55.27	54.35	54.10	54.32	54.23	54.04
TiO_2	0.23	0.23	0.24	0.27	0.32	0.24	0.25	0.24	0.23	0.22	0.17
Al_2O_3	0.60	0.68	0.65	0.72	0.73	0.81	0.82	1.22	0.75	0.75	0.63
Cr_2O_3	0.04	0.04	0.02	0.03	-0.02	-0.04	0.01	-0.01	-0.02	-0.01	0.03
FeO	19.54	18.84	19.89	19.69	19.90	19.58	19.45	20.45	19.58	19.76	19.06
MnO	0.83	1.00	1.22	1.02	0.96	1.02	1.10	0.84	1.10	1.08	0.85
MgO	24.71	24.09	24.01	24.19	24.14	23.81	24.30	23.23	24.50	24.47	24.88
CaO	1.65	1.35	1.41	1.26	1.44	1.22	1.21	1.33	1.37	1.34	1.19
Na_2O	-0.02	0.03	0.01	0.00	0.01	0.01	0.03	0.01	0.03	-0.02	0.03
K_2O	0.01	-0.02	-0.01	-0.01	0.05	0.05	0.05	-0.01	0.01	-0.01	0.05
Total	102.91	101.63	101.88	102.00	102.75	101.96	101.56	101.40	101.86	101.81	100.91
Mg#	69.3	69.5	68.3	68.7	68.4	68.4	69.0	66.9	69.0	68.8	69.9

Table C.11.27: XAL-129, Orthopyroxene grain 27

Dist (µm)	14.8	29.6	44.4	59.2	88.8	103.6	162.7	177.5	192.3	207.1
SiO_2	53.48	54.16	54.12	53.81	53.65	53.10	53.39	54.13	49.05	54.08
TiO_2	0.26	0.18	0.21	0.18	0.22	0.24	0.26	0.32	0.24	0.27
Al_2O_3	0.52	0.58	0.63	0.54	0.83	1.39	0.86	0.87	8.42	0.69
Cr_2O_3	0.02	0.03	0.01	0.05	0.05	-0.04	-0.01	0.08	0.07	0.04
FeO	19.31	19.25	19.11	19.22	19.79	19.30	19.16	19.01	18.55	19.25
MnO	0.94	1.00	0.98	1.01	0.99	1.00	0.89	0.92	0.75	0.90
MgO	24.57	24.84	24.70	24.72	24.52	24.40	24.26	24.68	22.18	24.81
CaO	1.38	1.30	1.36	1.30	1.43	1.35	1.43	1.33	1.22	1.28
Na_2O	-0.01	0.02	0.03	0.02	0.01	-0.01	0.04	0.00	0.06	0.00
K_2O	0.05	-0.01	-0.02	0.01	0.00	0.02	0.00	0.01	0.02	0.06
Total	100.51	101.34	101.14	100.86	101.49	100.76	100.27	101.35	100.54	101.36
Mg#	69.4	69.7	69.7	69.6	68.8	69.3	69.3	69.8	68.1	69.7

Table C.11.28: XAL-129, Orthopyroxene grain 28

Dist (µm)	0.0	15.4	46.2	61.6	77.0	92.4	107.9	123.2	138.6	169.4	200.3	231.1	246.5
SiO_2	54.05	53.93	53.89	54.41	53.87	54.21	53.86	53.54	53.64	53.68	53.26	54.28	53.89
TiO_2	0.27	0.22	0.27	0.26	0.19	0.20	0.17	0.19	0.24	0.18	0.20	0.20	0.21
Al_2O_3	0.69	0.60	0.57	0.68	0.64	0.64	0.55	1.08	0.70	0.73	0.54	0.56	0.74
Cr_2O_3	0.09	0.06	0.09	0.04	0.04	0.05	0.02	0.02	0.01	0.03	0.02	0.01	0.01
FeO	18.75	19.71	18.96	18.36	18.79	18.57	18.63	18.04	19.13	18.82	18.69	18.98	18.37
MnO	0.91	0.76	0.84	0.89	0.79	0.76	0.92	1.01	0.81	0.86	0.87	1.02	0.86
MgO	24.52	24.50	25.02	24.80	25.12	24.85	25.20	24.62	25.14	24.78	25.14	25.20	24.97
CaO	1.32	1.37	1.26	1.44	1.20	1.47	1.26	1.55	1.41	1.39	1.30	1.21	1.54
Na_2O	0.00	-0.01	-0.02	0.00	-0.01	-0.01	0.04	0.03	0.06	0.03	0.04	0.03	0.02
K_2O	-0.01	0.03	0.04	0.00	0.02	0.05	0.05	0.04	0.01	0.01	-0.01	0.00	-0.01
Total	100.60	101.18	100.91	100.87	100.64	100.79	100.69	100.11	101.14	100.49	100.04	101.48	100.58
Mg#	70.0	68.9	70.2	70.7	70.4	70.5	70.7	70.9	70.1	70.1	70.6	70.3	70.8

Table C.11.29: XAL-129, Orthopyroxene grain 29

Dist (µm)	0.0	29.7	59.5	89.1	118.9	148.6	178.4	267.5	297.2	356.7
SiO_2	52.95	52.41	52.42	52.71	52.37	52.01	51.43	52.28	52.58	52.93
TiO_2	0.24	0.28	0.21	0.22	0.37	0.35	0.39	0.52	0.25	0.30
Al_2O_3	0.71	0.70	0.54	0.55	1.15	1.61	1.28	0.85	0.76	0.84
Cr_2O_3	-0.03	0.02	-0.01	-0.03	0.00	0.01	0.03	-0.04	0.01	-0.01
FeO	18.12	18.93	18.91	18.66	19.36	19.90	19.95	19.30	19.63	19.59
MnO	0.78	0.89	0.96	0.93	0.84	0.85	0.88	0.79	0.81	0.73
MgO	25.39	24.96	24.85	24.80	24.66	24.32	24.21	24.98	25.09	24.84
CaO	1.57	1.33	1.43	1.52	1.54	1.57	1.39	1.48	1.36	1.27
Na_2O	0.03	0.00	0.02	0.04	0.00	0.01	0.03	0.02	-0.01	0.01
K_2O	-0.05	-0.03	-0.05	0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.06
Total	99.70	99.49	99.27	99.40	100.27	100.60	99.61	100.17	100.46	100.44
Mg#	71.4	70.2	70.1	70.3	69.4	68.5	68.4	69.8	69.5	69.3

Table C.12.1: XAL-106, Orthopyroxene grain 1

Dist (µm)	0.0	30.0	60.0	90.2	120.2	150.3	180.3	210.4	240.5	270.5	300.5	330.6	420.7	480.8	510.9	540.9	571.0	601.1	631.1	661.1	691.1
SiO_2	53.88	53.94	54.04	54.02	53.97	53.64	53.75	53.52	53.66	53.63	53.61	53.90	53.61	53.82	53.51	53.99	52.99	53.91	54.09	53.80	53.82
TiO_2	0.20	0.21	0.28	0.31	0.28	0.25	0.24	0.23	0.24	0.23	0.23	0.26	0.26	0.21	0.26	0.18	0.26	0.19	0.17	0.16	0.16
Al_2O_3	0.67	0.72	0.82	0.85	0.90	0.87	0.89	0.89	0.85	0.82	0.84	0.88	1.07	0.84	0.89	0.54	0.94	0.56	0.48	0.44	0.47
Cr_2O_3	0.04	0.02	0.03	0.02	0.01	0.03	0.02	0.03	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.00	0.00	0.02
FeO	17.70	17.78	17.79	18.08	18.05	17.75	18.16	18.50	18.33	18.34	18.24	18.33	18.29	18.30	18.71	18.65	18.90	18.63	18.71	18.61	18.54
MnO	1.01	1.02	1.03	0.98	0.96	1.03	0.99	1.02	1.06	1.04	1.01	1.05	1.01	1.07	1.03	1.06	1.06	1.02	1.02	1.08	1.03
MgO	25.51	25.48	25.43	25.49	25.37	25.14	25.17	25.10	25.21	25.25	25.49	25.61	25.17	25.29	24.96	25.18	24.91	25.04	25.18	25.14	25.23
CaO	1.20	1.22	1.20	1.21	1.20	1.21	1.16	1.28	1.21	1.26	1.19	1.21	1.43	1.29	1.29	1.33	1.30	1.23	1.26	1.26	1.19
Na_2O	0.03	0.04	0.04	0.02	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.04	0.03
K_2O	0.01	0.00	0.02	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.00	0.04	0.00	0.01	0.02	0.02	0.01	0.01	0.02	0.01
Total	100.24	100.43	100.67	100.99	100.78	99.94	100.42	100.62	100.62	100.61	100.65	101.29	100.89	100.85	100.69	101.00	100.42	100.62	100.96	100.55	100.48
Mg#	72.0	71.9	71.8	71.5	71.5	71.6	71.2	70.7	71.0	71.0	71.4	71.4	71.0	71.1	70.4	70.7	70.1	70.6	70.6	70.6	70.8

Table C.12.1 (cntd): XAL-106, Orthopyroxene grain 1

Dist (µm)	721.3	751.3	781.4	811.4	841.4	871.6	901.6	931.6
SiO_2	53.67	54.09	54.03	53.81	53.92	53.77	54.04	54.35
TiO_2	0.18	0.17	0.20	0.18	0.19	0.20	0.20	0.20
Al_2O_3	0.54	0.51	0.61	0.67	0.71	0.68	0.62	0.63
Cr_2O_3	0.00	0.02	0.01	0.02	0.01	0.01	0.00	0.00
FeO	18.43	18.25	18.29	18.01	17.98	17.95	17.72	17.60
MnO	1.10	1.06	1.04	1.00	1.02	0.99	0.98	0.96
MgO	25.15	25.37	25.43	25.49	25.68	25.67	25.84	25.88
CaO	1.21	1.24	1.21	1.20	1.18	1.19	1.26	1.26
Na_2O	0.04	0.03	0.03	0.03	0.04	0.04	0.05	0.04
K_2O	0.01	0.00	0.02	0.02	0.01	0.02	0.02	0.03
Total	100.34	100.75	100.86	100.42	100.73	100.52	100.72	100.95
Mg#	70.9	71.3	71.3	71.6	71.8	71.8	72.2	72.4

Table C.12.2: XAL-106, Orthopyroxene grain 2

Dist (µm)	0.0	29.2	58.4	87.6	116.7	146.0	175.1	204.4	233.6	262.8	292.0	321.1	350.3	379.5	408.7
SiO_2	53.56	53.73	53.80	54.06	53.71	54.06	53.83	53.89	54.30	54.06	53.88	53.87	53.89	53.57	53.43
TiO_2	0.20	0.19	0.20	0.18	0.20	0.20	0.26	0.23	0.17	0.17	0.21	0.20	0.20	0.24	0.24
Al_2O_3	0.68	0.62	0.67	0.56	0.69	0.63	0.81	0.85	0.49	0.59	0.68	0.62	0.58	0.80	0.84
Cr_2O_3	0.00	0.01	0.02	0.01	0.03	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	-0.01
FeO	17.55	17.80	17.89	17.91	17.63	17.47	17.92	17.27	17.54	18.04	18.49	18.59	18.42	18.28	18.16
MnO	0.99	0.99	1.01	1.01	0.94	1.04	0.98	1.02	1.00	0.98	1.05	1.06	1.04	0.99	1.04
MgO	25.76	25.66	25.73	25.88	25.53	25.82	25.54	25.82	26.06	25.54	25.30	25.02	24.88	25.19	24.98
CaO	1.20	1.18	1.16	1.16	1.19	1.19	1.23	1.35	1.32	1.25	1.17	1.23	1.22	1.22	1.25
Na_2O	0.02	0.04	0.02	0.03	0.03	0.02	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.03
K_2O	0.02	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	-0.01	0.01	0.01	0.01	0.01	0.01
Total	99.97	100.20	100.51	100.80	99.95	100.45	100.61	100.48	100.92	100.66	100.83	100.64	100.27	100.33	99.97
Mg#	72.4	72.0	71.9	72.0	72.1	72.5	71.8	72.7	72.6	71.6	70.9	70.6	70.7	71.1	71.0

Table C.12.3: XAL-106, Orthopyroxene grain 3

Dist (µm)	0.0	28.9	57.7	86.6	115.4	144.3	173.1	202.0	230.9	259.7	288.6	317.4	346.3	375.1	404.0
SiO_2	53.32	53.67	53.66	53.76	53.29	52.88	53.13	52.97	53.61	53.05	53.90	53.37	52.91	52.45	53.87
TiO_2	0.28	0.24	0.23	0.27	0.25	0.19	0.20	0.18	0.12	0.12	0.11	0.13	0.16	0.17	0.20
Al_2O_3	1.05	0.89	0.89	0.98	0.81	0.68	0.67	0.67	0.47	0.50	0.81	0.54	0.61	0.71	0.76
Cr_2O_3	0.01	0.01	-0.01	0.01	0.00	0.02	0.01	0.02	0.02	0.01	0.09	0.00	0.02	0.04	0.01
FeO	17.79	17.86	18.18	18.31	19.17	20.57	20.94	20.64	20.39	20.14	19.21	20.41	19.50	18.38	17.99
MnO	1.01	1.03	0.97	1.00	1.05	1.16	1.18	1.14	1.29	1.17	1.13	1.22	1.15	1.06	1.03
MgO	25.38	25.46	25.50	25.46	24.58	23.46	23.45	23.33	23.61	23.78	22.46	23.67	23.90	24.66	25.63
CaO	1.23	1.19	1.24	1.21	1.27	1.27	1.28	1.21	1.11	1.16	1.18	1.14	1.18	1.27	1.26
Na_2O	0.06	0.04	0.04	0.04	0.05	0.03	0.03	0.03	0.04	0.06	0.47	0.04	0.07	0.08	0.04
K_2O	0.02	0.01	0.00	0.02	0.02	0.00	0.00	0.00	0.00	-0.01	0.24	0.00	0.04	0.06	0.01
Total	100.13	100.40	100.72	101.05	100.49	100.26	100.88	100.18	100.65	99.99	99.59	100.51	99.53	98.89	100.80
Mg#	71.8	71.8	71.4	71.2	69.6	67.0	66.6	66.8	67.4	67.8	67.6	67.4	68.6	70.5	71.8

Table C.12.4: XAL-106, Orthopyroxene grain 4

Dist (µm)	29.0	58.0	87.1	116.1	174.1	203.1	232.1	261.2	290.2
SiO_2	54.01	53.92	53.93	53.83	53.93	53.88	53.67	53.68	54.15
TiO_2	0.16	0.19	0.19	0.25	0.22	0.19	0.22	0.26	0.19
Al_2O_3	0.48	0.59	0.68	0.95	0.79	0.69	0.90	0.80	0.67
Cr_2O_3	0.00	0.01	0.01	-0.01	0.00	0.00	0.00	0.00	-0.01
FeO	17.77	17.75	17.88	18.10	17.92	17.91	17.87	17.85	17.54
MnO	1.02	1.00	0.98	0.95	0.96	0.95	0.93	0.92	0.96
MgO	25.91	25.80	25.75	25.52	25.72	26.00	25.54	25.68	25.77
CaO	1.27	1.18	1.21	1.19	1.22	1.11	1.21	1.06	1.23
Na_2O	0.07	0.06	0.07	0.08	0.05	0.07	0.08	0.07	0.03
K_2O	0.03	0.02	0.00	0.00	0.01	0.01	0.02	0.01	0.01
Total	100.72	100.53	100.70	100.87	100.81	100.82	100.43	100.34	100.54
Mg#	72.2	72.2	72.0	71.5	71.9	72.1	71.8	71.9	72.4

Table C.12.5: XAL-106, Orthopyroxene grain 5

Dist (µm)	0.0	29.9	89.7	119.7	149.6	179.5	209.4	239.4	269.3	299.2	329.1	389.0	418.9	448.8	478.8
SiO_2	53.83	54.24	53.44	53.90	53.27	53.55	53.24	53.33	53.13	53.03	53.39	53.23	54.30	51.11	54.00
TiO_2	0.23	0.22	0.30	0.22	0.20	0.20	0.18	0.19	0.18	0.18	0.18	0.18	0.22	0.23	0.22
Al_2O_3	0.86	0.84	1.27	0.75	0.82	0.67	0.58	0.58	0.66	0.56	0.56	0.75	0.78	0.91	0.87
Cr_2O_3	0.01	-0.01	0.01	0.00	0.01	0.00	0.02	0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02
FeO	17.60	17.83	18.22	18.96	19.79	18.38	20.96	21.17	21.34	21.06	21.21	19.89	18.08	17.37	17.95
MnO	0.99	1.00	1.01	1.04	1.05	1.13	1.17	1.18	1.13	1.17	1.17	1.07	0.98	0.95	0.97
MgO	25.12	25.33	24.85	24.87	23.97	25.03	23.11	22.89	22.87	23.11	22.88	23.99	25.56	24.12	25.85
CaO	1.20	1.21	1.28	1.25	1.17	1.17	1.25	1.18	1.12	1.16	1.20	1.24	1.28	4.04	1.27
Na_2O	0.02	0.02	0.03	0.03	0.03	0.03	0.14	0.07	0.04	0.03	0.04	0.04	0.03	0.05	0.04
K_2O	0.01	0.01	0.00	0.01	0.00	0.01	0.06	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.01
Total	99.87	100.69	100.43	101.03	100.31	100.17	100.71	100.61	100.47	100.31	100.63	100.40	101.23	98.79	101.18
Mg#	71.8	71.7	70.9	70.0	68.3	70.8	66.3	65.8	65.6	66.2	65.8	68.3	71.6	71.2	72.0

Table C.12.6: XAL-106, Orthopyroxene grain 6

Dist (µm)	0.0	15.6	31.1	46.7	62.4	109.0	124.6	155.8	171.4	186.9
SiO_2	53.68	53.84	52.91	53.71	53.36	53.54	54.30	53.91	54.24	54.20
TiO_2	0.23	0.21	0.24	0.18	0.19	0.20	0.20	0.20	0.20	0.23
Al_2O_3	0.85	0.77	0.93	0.82	0.84	0.77	0.70	0.66	0.75	0.84
Cr_2O_3	-0.02	-0.02	0.01	0.03	0.01	0.02	0.01	0.00	0.01	0.01
FeO	17.78	17.90	18.01	18.03	17.85	18.43	17.89	18.33	17.99	17.78
MnO	0.97	1.05	1.07	0.99	1.05	1.08	1.05	1.07	1.00	0.95
MgO	25.72	25.62	25.37	24.46	25.49	25.90	25.92	25.42	25.64	25.74
CaO	1.18	1.26	1.51	1.26	1.29	1.20	1.26	1.21	1.19	1.23
Na_2O	0.05	0.04	0.02	0.04	0.04	0.04	0.03	0.03	0.03	0.04
K_2O	0.03	0.02	0.01	0.02	0.01	0.02	0.00	0.01	0.00	0.03
Total	100.49	100.70	100.08	99.53	100.13	101.18	101.34	100.84	101.06	101.05
Mg#	72.1	71.8	71.5	70.7	71.8	71.5	72.1	71.2	71.8	72.1

Table C.12.7: XAL-106, Orthopyroxene grain 7

Dist (µm)	0.0	29.6	88.8	118.4	148.0	177.6	207.2	236.8	266.5	296.1
SiO_2	53.81	53.87	52.91	53.64	53.74	53.72	53.78	53.82	53.70	53.58
TiO_2	0.24	0.20	0.20	0.23	0.20	0.19	0.19	0.19	0.18	0.18
Al_2O_3	0.88	0.71	0.73	0.87	0.61	0.63	0.70	0.66	0.59	0.61
Cr_2O_3	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.02	-0.01	-0.01
FeO	17.80	18.00	17.89	18.05	17.82	17.84	17.66	17.68	17.66	17.50
MnO	0.97	1.00	0.99	1.01	1.00	1.02	1.01	1.01	1.04	0.99
MgO	25.53	25.66	24.79	25.75	25.68	25.88	25.84	25.91	25.64	25.77
CaO	1.23	1.17	1.19	1.16	1.24	1.24	1.26	1.19	1.23	1.21
Na_2O	0.03	0.03	0.06	0.04	0.03	0.02	0.07	0.03	0.03	0.03
K_2O	0.02	0.01	0.02	0.02	0.01	0.00	0.01	0.01	0.00	0.02
Total	100.50	100.66	98.79	100.78	100.32	100.54	100.51	100.51	100.07	99.88
Mg#	71.9	71.8	71.2	71.8	72.0	72.1	72.3	72.3	72.1	72.4

Table C.12.8: XAL-106, Orthopyroxene grain 8

Dist (µm)	29.7	59.6	89.3	148.8	208.3	238.1	267.9	297.7
SiO_2	53.71	53.58	53.53	53.91	53.56	53.79	53.38	54.02
TiO_2	0.22	0.18	0.22	0.21	0.19	0.21	0.22	0.19
Al_2O_3	0.86	0.67	0.87	0.76	0.70	0.81	0.76	0.64
Cr_2O_3	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00
FeO	17.78	17.92	17.82	17.81	17.89	18.46	18.01	17.81
MnO	1.01	1.00	1.03	1.00	1.04	1.12	0.98	0.99
MgO	25.83	25.83	25.74	25.58	26.00	25.10	25.44	25.60
CaO	1.13	1.20	1.16	1.24	1.24	1.24	1.26	1.24
Na_2O	0.05	0.04	0.03	0.04	0.05	0.04	0.03	0.05
K_2O	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.01
Total	100.61	100.43	100.42	100.56	100.70	100.76	100.05	100.55
Mg#	72.1	72.0	72.0	71.9	72.2	70.8	71.6	71.9

Table C.12.9: XAL-106, Orthopyroxene grain 9

Dist (µm)	0.0	15.4	30.6	46.0	61.4	76.6	92.0	107.3	122.6	153.3	168.6	184.0	199.3	214.6
SiO_2	53.16	53.33	53.17	55.79	52.86	52.61	53.40	53.30	53.68	53.56	51.81	53.67	53.01	53.77
TiO_2	0.24	0.24	0.23	0.21	0.20	0.24	0.20	0.22	0.18	0.20	0.23	0.22	0.22	0.22
Al_2O_3	0.97	0.89	0.85	1.01	0.88	0.96	0.68	0.87	0.66	0.76	0.90	0.85	0.73	0.72
Cr_2O_3	0.00	0.00	-0.01	0.01	-0.01	-0.01	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.01
FeO	17.65	17.72	17.78	17.75	17.95	18.22	17.87	18.02	17.67	17.95	17.41	17.85	17.72	17.85
MnO	0.96	1.01	0.95	0.99	0.93	0.98	0.94	0.98	0.96	0.99	1.01	0.91	0.98	0.99
MgO	25.57	25.60	25.68	24.20	25.58	25.59	25.61	25.28	25.61	25.63	25.49	25.66	25.79	25.45
CaO	1.16	1.21	1.18	1.16	1.18	1.19	1.22	1.20	1.18	1.18	3.01	1.30	1.21	1.25
Na_2O	0.03	0.05	0.03	0.09	0.04	0.05	0.04	0.06	0.03	0.04	0.08	0.03	0.03	0.03
K_2O	0.02	0.02	0.01	0.04	0.01	0.01	0.02	0.04	0.01	0.02	0.03	0.00	0.01	0.02
Total	99.77	100.06	99.87	101.26	99.64	99.83	99.97	99.97	99.97	100.33	99.99	100.51	99.70	100.31
Mg#	72.1	72.0	72.0	70.8	71.8	71.5	71.9	71.4	72.1	71.8	72.3	71.9	72.2	71.8

Table C.12.10: XAL-106, Orthopyroxene grain 10

Dist (µm)	0.0	29.9	59.9	119.7	149.6	179.6	209.4	239.4	269.3	329.1	389.0
SiO_2	53.74	53.59	53.45	53.14	53.40	53.44	53.90	53.33	53.63	54.25	51.81
TiO_2	0.24	0.26	0.24	0.26	0.25	0.22	0.18	0.22	0.19	0.19	0.18
Al_2O_3	0.94	0.98	0.93	1.11	0.82	0.67	0.49	0.66	0.59	0.56	3.46
Cr_2O_3	-0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.04
FeO	17.64	18.08	18.04	18.66	18.80	18.79	18.42	18.37	18.36	18.36	18.13
MnO	0.95	0.98	1.03	1.04	1.07	1.10	1.09	1.03	1.02	1.09	1.00
MgO	25.79	25.86	25.87	25.38	25.07	24.65	25.48	25.17	25.19	25.27	23.56
CaO	1.14	1.17	1.20	1.26	1.19	1.34	1.27	1.23	1.28	1.34	1.28
Na_2O	0.09	0.08	0.09	0.08	0.08	0.04	0.06	0.04	0.07	0.07	0.19
K_2O	0.02	0.03	0.02	0.01	0.03	0.01	0.01	0.03	0.03	0.02	0.21
Total	100.56	101.02	100.87	100.94	100.71	100.27	100.89	100.08	100.37	101.15	99.86
Mg#	72.3	71.8	71.9	70.8	70.4	70.0	71.1	71.0	71.0	71.0	69.8

Table C.12.11: XAL-106, Orthopyroxene grain 11

Dist (µm)	14.3	28.8	57.5	71.9	86.2	100.6	115.0	129.4	143.7	158.1	172.5
SiO_2	53.42	53.21	53.37	53.21	54.01	53.72	53.15	53.08	53.29	52.98	53.08
TiO_2	0.45	0.45	0.25	0.28	0.20	0.19	0.26	0.26	0.27	0.29	0.28
Al_2O_3	1.06	1.17	0.98	1.07	0.48	0.64	1.00	1.03	1.01	1.14	1.04
Cr_2O_3	0.22	0.23	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00
FeO	17.96	18.09	17.93	18.09	17.87	18.03	18.21	18.04	18.06	17.87	17.90
MnO	1.05	1.07	0.98	0.98	1.01	1.00	0.99	0.96	0.98	1.01	1.02
MgO	25.83	25.53	25.34	25.39	25.78	25.48	25.34	25.00	25.54	25.26	25.40
CaO	1.26	1.39	1.30	1.41	1.41	1.29	1.26	1.24	1.20	1.40	1.33
Na_2O	0.07	0.08	0.04	0.03	0.03	0.03	0.04	0.06	0.04	0.05	0.03
K_2O	0.07	0.06	0.00	0.01	0.00	0.00	0.02	0.03	0.00	0.00	0.01
Total	101.39	101.28	100.21	100.48	100.78	100.41	100.28	99.70	100.40	100.01	100.07
Mg#	71.9	71.6	71.6	71.4	72.0	71.6	71.3	71.2	71.6	71.6	71.7

Table C.12.12: XAL-106, Orthopyroxene grain 12

Dist (µm)	0.0	28.6	57.1	85.7	114.2	142.8	171.3	199.9	228.4	257.0	285.5
SiO_2	52.06	52.96	52.86	52.87	52.68	52.55	52.94	52.90	52.76	52.75	52.68
TiO_2	0.27	0.24	0.26	0.22	0.22	0.24	0.24	0.24	0.26	0.25	0.25
Al_2O_3	1.19	0.95	0.96	0.79	0.76	0.94	0.85	0.94	1.02	0.90	0.95
Cr_2O_3	0.02	0.01	0.02	0.02	0.01	0.02	0.03	0.01	0.02	0.02	0.01
FeO	20.49	18.08	18.26	18.61	18.66	18.96	19.09	18.37	18.40	17.99	17.80
MnO	1.23	1.00	0.95	1.09	1.09	1.10	1.11	1.01	1.08	0.95	1.02
MgO	22.62	25.55	25.25	25.04	24.63	24.19	24.63	25.13	24.58	25.45	25.47
CaO	1.25	1.19	1.23	1.24	1.33	1.50	1.26	1.39	1.47	1.15	1.20
Na_2O	0.23	0.08	0.08	0.13	0.05	0.03	0.04	0.03	0.11	0.04	0.05
K_2O	0.03	0.02	0.02	0.04	0.04	0.01	0.01	0.02	0.06	0.01	0.01
Total	99.37	100.07	99.89	100.04	99.47	99.54	100.19	100.03	99.76	99.50	99.44
Mg#	66.3	71.6	71.1	70.6	70.2	69.5	69.7	70.9	70.4	71.6	71.8

Table C.12.13: XAL-106, Orthopyroxene grain 13

Dist (µm)	0.0	29.7	59.4	89.1	118.8	148.5	178.1	207.8	237.5	267.2	296.8
SiO_2	54.03	53.57	52.81	52.68	53.09	53.33	53.46	53.20	53.36	53.31	53.44
TiO_2	0.22	0.23	0.37	0.30	0.27	0.27	0.27	0.25	0.28	0.28	0.26
Al_2O_3	0.98	0.89	1.57	1.30	1.14	1.00	0.87	1.10	0.96	1.11	0.96
Cr_2O_3	0.02	0.00	0.01	0.01	0.00	-0.01	0.02	0.01	0.00	0.00	0.01
FeO	17.69	17.96	18.40	18.56	18.13	18.25	17.85	17.92	18.08	18.02	18.06
MnO	0.95	0.99	1.01	1.06	1.02	0.96	0.98	0.97	0.99	0.99	0.97
MgO	24.61	25.30	23.98	24.09	24.92	25.36	25.51	25.39	25.54	25.13	25.56
CaO	1.58	1.35	2.26	1.85	1.42	1.27	1.19	1.25	1.22	1.38	1.18
Na_2O	0.13	0.10	0.05	0.04	0.08	0.05	0.02	0.05	0.04	0.04	0.02
K_2O	0.06	0.03	0.00	0.01	0.04	0.01	0.01	0.01	0.01	0.03	0.02
Total	100.26	100.41	100.46	99.88	100.10	100.49	100.19	100.14	100.47	100.29	100.47
Mg#	71.3	71.5	69.9	69.8	71.0	71.2	71.8	71.6	71.6	71.3	71.6

Table C.12.14: XAL-106, Orthopyroxene grain 14

Dist (µm)	29.3	58.6	117.1	146.4	380.6	409.9	468.4	497.7	556.3
SiO_2	53.48	52.94	53.44	53.17	53.42	53.29	53.59	52.81	53.56
TiO_2	0.26	0.28	0.31	0.30	0.23	0.26	0.25	0.24	0.24
Al_2O_3	0.93	1.06	1.18	0.90	0.80	0.98	0.93	0.94	0.88
Cr_2O_3	0.02	0.02	0.00	0.01	0.02	0.02	0.02	0.02	-0.01
FeO	17.95	18.08	18.10	18.06	18.87	18.79	18.46	18.37	17.98
MnO	0.98	1.02	1.02	1.01	1.05	1.01	0.96	1.00	1.02
MgO	25.72	25.61	25.10	25.49	24.21	24.70	25.11	25.44	25.78
CaO	1.19	1.20	1.45	1.20	1.20	1.28	1.16	1.18	1.24
Na_2O	0.03	0.03	0.05	0.02	0.02	0.02	0.02	0.03	0.04
K_2O	0.03	0.02	0.03	0.00	0.00	0.02	0.00	0.02	0.00
Total	100.58	100.25	100.67	100.15	99.82	100.36	100.50	100.04	100.74
Mg#	71.9	71.6	71.2	71.6	69.6	70.1	70.8	71.2	71.9

Table C.12.15: XAL-106, Orthopyroxene grain 15

Dist (µm)	0.0	15.5	31.1	46.6	62.2	77.8	93.3	124.4	139.9	155.5	171.0	186.6	202.1	217.7	248.8	264.3
SiO_2	53.01	53.26	53.51	53.46	53.09	53.67	53.33	53.16	53.37	53.48	53.71	53.70	53.56	53.16	53.46	53.29
TiO_2	0.27	0.28	0.28	0.26	0.26	0.25	0.26	0.24	0.24	0.23	0.25	0.26	0.25	0.27	0.25	0.27
Al_2O_3	1.00	1.04	1.01	0.96	1.13	0.92	0.94	0.83	0.93	0.94	0.94	0.96	0.93	1.01	1.02	1.16
Cr_2O_3	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	-0.01	0.01	0.00	0.01	0.00	0.01
FeO	17.77	17.82	17.92	18.07	18.18	18.03	17.99	18.10	18.22	18.25	18.16	18.01	17.95	18.12	18.17	18.12
MnO	0.98	0.97	1.00	0.98	1.04	0.99	1.00	1.01	0.98	0.99	0.99	0.98	1.02	1.01	0.99	0.98
MgO	25.61	25.46	25.29	25.45	25.47	25.63	25.41	25.28	25.50	26.42	25.46	25.70	25.40	25.56	25.53	25.63
CaO	1.19	1.26	1.25	1.16	1.28	1.32	1.45	1.22	1.22	1.16	1.19	1.22	1.16	1.21	1.19	1.25
Na_2O	0.06	0.09	0.08	0.05	0.08	0.33	0.07	0.09	0.04	0.03	0.04	0.03	0.03	0.03	0.09	0.07
K_2O	0.03	0.23	0.02	0.01	0.01	0.03	0.16	0.02	0.01	0.01	0.03	0.02	0.03	0.02	0.03	0.03
Total	99.92	100.41	100.36	100.41	100.54	101.17	100.62	99.94	100.51	101.50	100.77	100.89	100.32	100.41	100.72	100.82
Mg#	72.0	71.8	71.6	71.5	71.4	71.7	71.6	71.3	71.4	72.1	71.4	71.8	71.6	71.5	71.5	71.6

Table C.12.16: XAL-106, Orthopyroxene grain 16

Dist (µm)	0.0	30.2	45.3	60.4	75.5	90.6	105.7	120.8	135.9	151.0	166.1	196.3
SiO_2	53.10	53.06	53.09	53.25	53.30	53.03	52.65	53.11	53.19	54.07	52.68	52.76
TiO_2	0.19	0.22	0.23	0.23	0.23	0.22	0.23	0.24	0.25	0.24	0.17	0.18
Al_2O_3	0.64	0.86	0.86	0.88	0.88	0.86	0.86	0.85	0.86	0.90	0.57	0.53
Cr_2O_3	0.01	0.02	0.01	0.02	0.01	0.00	0.02	0.01	0.01	0.01	0.01	0.01
FeO	17.65	17.94	18.25	18.19	18.44	18.19	18.46	18.20	18.27	18.22	17.87	17.72
MnO	0.99	1.02	1.01	0.98	1.03	1.00	1.05	1.00	1.01	0.99	1.02	0.96
MgO	26.18	24.95	25.25	25.13	25.33	25.18	24.98	25.11	25.21	25.08	25.09	26.18
CaO	1.22	1.23	1.20	1.17	1.18	1.20	1.22	1.25	1.20	1.23	1.31	1.23
Na_2O	0.05	0.04	0.05	0.06	0.04	0.04	0.14	0.04	0.04	0.08	0.41	0.27
K_2O	0.00	0.01	0.00	0.00	-0.01	0.01	0.01	-0.01	0.01	0.01	0.04	0.14
Total	100.01	99.34	99.96	99.91	100.46	99.73	99.62	99.81	100.03	100.83	99.17	99.98
Mg#	72.6	71.3	71.1	71.1	71.0	71.2	70.7	71.1	71.1	71.0	71.5	72.5

Table C.12.17: XAL-106, Orthopyroxene grain 17

Dist (µm)	0.0	14.7	29.5	44.2	58.9	73.7	88.4	103.1	117.9	132.6	162.1	176.8	191.5	206.3	221.0
SiO_2	52.47	52.78	52.95	53.07	52.86	53.14	53.33	53.35	53.87	58.02	53.12	51.90	53.01	53.07	52.82
TiO_2	0.24	0.23	0.18	0.21	0.18	0.16	0.17	0.18	0.16	0.20	0.19	0.29	0.29	0.25	0.25
Al_2O_3	0.95	0.86	0.68	0.66	0.55	0.49	0.49	0.49	0.54	2.23	0.75	1.35	1.27	1.02	0.92
Cr_2O_3	-0.01	0.00	0.00	-0.01	0.01	0.00	-0.02	0.00	0.00	-0.02	-0.01	0.01	0.00	0.01	-0.02
FeO	17.61	17.63	17.54	17.55	17.55	17.61	17.61	17.55	17.68	16.59	17.81	18.20	18.14	17.56	17.48
MnO	0.99	0.93	0.96	1.02	0.98	1.04	1.05	0.97	1.02	0.72	1.03	0.99	1.03	0.96	0.97
MgO	25.47	27.15	25.55	25.54	25.67	25.64	25.54	25.64	25.68	26.09	25.41	24.51	25.06	25.62	25.74
CaO	1.21	1.19	1.26	1.23	1.26	1.31	1.32	1.33	1.39	1.44	1.36	1.34	1.24	1.17	1.15
Na_2O	0.03	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.05	0.37	0.03	0.04	0.04	0.04	0.03
K_2O	0.01	0.02	0.00	0.00	-0.01	0.00	0.01	0.00	0.01	0.61	0.01	0.03	0.02	0.01	0.01
Total	98.98	100.80	99.14	99.31	99.07	99.40	99.53	99.53	100.40	106.25	99.71	98.65	100.09	99.70	99.37
Mg#	72.1	73.3	72.2	72.2	72.3	72.2	72.1	72.3	72.1	73.7	71.8	70.6	71.1	72.2	72.4

Table C.12.18: XAL-106, Orthopyroxene grain 18

Dist (µm)	0.0	15.6	31.2	46.7	62.4	78.0	93.6	109.1	155.9	171.5	187.1	233.9	249.4	265.0
SiO_2	53.28	53.46	53.16	53.00	52.71	54.03	54.00	54.07	52.97	53.92	54.14	53.50	53.64	53.72
TiO_2	0.25	0.23	0.23	0.21	0.19	0.17	0.17	0.17	0.17	0.18	0.22	0.19	0.19	0.20
Al_2O_3	0.88	0.91	0.88	0.92	0.72	0.53	0.53	0.59	0.54	0.53	0.76	0.65	0.59	0.71
Cr_2O_3	0.00	0.01	0.02	0.01	0.02	0.00	0.02	0.00	0.03	0.00	0.02	0.02	0.02	0.01
FeO	17.70	18.04	18.39	18.37	18.45	18.03	18.29	18.14	18.44	18.15	18.32	17.81	17.63	17.94
MnO	0.96	0.93	1.03	1.05	1.00	1.01	1.01	1.01	1.00	1.04	0.96	1.02	0.97	0.95
MgO	25.63	25.44	25.47	24.99	24.51	25.47	25.43	25.83	24.56	25.33	25.13	25.60	25.80	25.74
CaO	1.18	1.21	1.23	1.23	1.31	1.29	1.30	1.34	1.43	1.31	1.27	1.21	1.21	1.19
Na_2O	0.03	0.04	0.03	0.04	0.03	0.03	0.04	0.05	0.06	0.02	0.04	0.03	0.04	0.03
K_2O	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.00	0.01	0.00	0.00
Total	99.92	100.28	100.44	99.85	98.95	100.56	100.80	101.21	99.21	100.49	100.86	100.04	100.08	100.48
Mg#	72.1	71.5	71.2	70.8	70.3	71.6	71.3	71.7	70.4	71.3	71.0	71.9	72.3	71.9

Table C.12.19: XAL-106, Orthopyroxene grain 19

Dist (µm)	0.0	15.1	45.1	60.1	75.2	90.3	105.2	150.4	165.4	195.5	210.5	240.5
SiO_2	53.47	53.66	53.66	52.93	51.99	52.95	53.00	53.31	53.46	53.02	53.20	53.19
TiO_2	0.25	0.23	0.22	0.31	0.29	0.28	0.29	0.31	0.23	0.26	0.22	0.27
Al_2O_3	0.89	0.87	0.84	1.60	1.66	1.42	1.23	1.12	0.86	1.18	0.96	1.00
Cr_2O_3	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.03	0.01
FeO	17.63	17.69	18.17	18.59	18.72	18.50	18.36	18.16	18.00	18.62	18.11	18.05
MnO	0.93	0.97	1.00	1.00	0.92	0.90	0.95	1.01	0.98	0.97	0.99	0.99
MgO	25.58	25.37	25.40	25.00	24.98	24.94	25.31	24.94	25.37	25.19	25.65	25.44
CaO	1.16	1.20	1.25	1.38	1.38	1.35	1.26	1.58	1.19	1.37	1.19	1.11
Na_2O	0.02	0.07	0.01	0.02	0.02	0.02	0.01	0.03	0.02	0.02	0.03	0.03
K_2O	0.01	0.02	0.00	0.01	0.00	0.00	0.00	-0.01	-0.01	0.00	0.01	0.00
Total	99.95	100.09	100.57	100.85	99.98	100.37	100.41	100.48	100.14	100.67	100.39	100.07
Mg#	72.1	71.9	71.4	70.6	70.4	70.6	71.1	71.0	71.5	70.7	71.6	71.5

Table C.12.20: XAL-106, Orthopyroxene grain 20

Dist (µm)	15.2	30.4	45.6	91.2	106.5	121.6	136.9	152.1	167.2	182.5	197.7	212.9	228.1
SiO_2	53.67	54.06	54.15	54.00	54.07	53.65	52.59	53.05	53.46	53.43	53.43	53.46	53.35
TiO_2	0.21	0.19	0.21	0.39	0.33	0.25	0.31	0.29	0.26	0.30	0.30	0.31	0.28
Al_2O_3	0.65	0.54	0.54	0.50	0.54	0.59	1.23	1.33	1.09	1.07	1.03	1.04	0.97
Cr_2O_3	0.02	0.01	-0.01	0.01	-0.01	0.01	0.03	0.01	0.02	0.01	0.02	0.01	0.00
FeO	17.79	17.67	17.98	17.71	17.73	17.85	18.42	18.27	18.25	18.05	17.87	17.76	17.61
MnO	1.02	0.98	1.02	1.02	1.04	1.01	1.05	1.00	1.03	1.02	1.00	0.97	0.96
MgO	25.64	25.78	25.74	25.45	25.67	25.55	24.74	25.06	25.24	25.32	25.42	25.69	25.63
CaO	1.22	1.23	1.31	1.32	1.27	1.32	1.33	1.32	1.23	1.26	1.20	1.15	1.15
Na_2O	0.04	0.08	0.04	0.13	0.03	0.10	0.13	0.15	0.02	0.03	0.04	0.04	0.09
K_2O	0.01	0.02	0.01	0.05	0.01	0.03	0.07	0.05	0.00	0.01	0.02	0.01	0.02
Total	100.25	100.55	100.99	100.57	100.70	100.35	99.89	100.52	100.59	100.50	100.32	100.45	100.05
Mg#	72.0	72.2	71.8	71.9	72.1	71.8	70.5	71.0	71.1	71.4	71.7	72.1	72.2

Table C.12.21: XAL-106, Orthopyroxene grain 21

Dist (µm)	0.0	14.7	29.3	44.0	117.3	132.0	146.7	176.0
SiO_2	53.07	50.69	53.10	52.34	53.31	52.87	53.65	53.61
TiO_2	0.23	0.26	0.27	0.25	0.27	0.26	0.24	0.27
Al_2O_3	0.93	2.48	0.89	0.97	0.97	0.91	0.89	1.14
Cr_2O_3	0.02	0.05	0.02	0.01	0.01	0.00	0.01	0.01
FeO	17.73	17.89	17.93	17.77	18.50	18.22	17.96	18.05
MnO	0.97	0.92	0.95	0.90	1.02	1.04	0.96	0.97
MgO	25.94	24.96	26.12	25.86	25.97	25.93	25.76	25.99
CaO	1.14	1.24	1.21	1.26	1.32	1.27	1.23	1.15
Na_2O	0.02	0.07	0.03	0.03	0.07	0.06	0.09	0.08
K_2O	0.01	0.03	0.01	0.00	0.00	0.00	0.02	0.02
Total	100.05	98.58	100.50	99.38	101.44	100.56	100.80	101.28
Mg#	72.3	71.3	72.2	72.2	71.4	71.7	71.9	72.0

Table C.12.22: XAL-106, Orthopyroxene grain 22

Dist (µm)	29.9	59.7	89.5	149.2	179.0	238.6	268.5	298.4	328.2	358.0	417.7	447.5	477.3	507.2
SiO_2	53.24	52.98	53.00	53.00	52.84	53.51	53.04	52.66	52.88	53.71	53.48	53.28	53.76	53.64
TiO_2	0.20	0.25	0.24	0.26	0.25	0.24	0.25	0.30	0.29	0.25	0.19	0.22	0.23	0.20
Al_2O_3	0.90	0.94	0.83	0.93	0.98	0.88	1.05	1.20	1.10	0.88	0.72	0.85	1.11	0.60
Cr_2O_3	0.00	0.01	0.00	0.01	0.01	0.02	0.00	-0.01	0.00	-0.01	-0.01	0.01	0.03	-0.01
FeO	17.77	17.81	17.86	17.93	17.86	17.91	17.85	17.88	17.95	18.06	17.55	17.95	17.72	17.70
MnO	0.96	1.02	1.04	0.98	0.99	0.95	0.95	0.92	0.91	1.01	0.91	0.99	1.01	1.02
MgO	25.93	25.67	25.43	25.38	25.38	25.54	25.59	25.56	25.71	25.78	25.80	25.74	24.95	25.74
CaO	1.26	1.26	1.38	1.35	1.30	1.23	1.24	1.28	1.21	1.19	1.27	1.20	1.35	1.23
Na_2O	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.03
K_2O	0.02	0.02	0.00	0.01	0.01	0.01	0.01	0.00	-0.01	0.00	-0.02	0.00	0.00	0.01
Total	100.30	99.99	99.79	99.87	99.65	100.30	99.99	99.82	100.07	100.90	99.94	100.24	100.18	100.16
Mg#	72.2	72.0	71.7	71.6	71.7	71.8	71.9	71.8	71.9	71.8	72.4	71.9	71.5	72.2

Table C.12.23: XAL-106, Orthopyroxene grain 23

Dist (µm)	15.8	31.7	47.4	63.3	95.0	110.8	126.7	142.4	158.3	174.1	190.0	205.8	221.6	237.4	253.3	269.1	284.9	300.8
SiO_2	53.22	53.79	53.97	53.49	53.50	53.85	53.65	53.72	53.92	53.90	53.53	53.45	52.85	53.36	53.01	53.23	53.15	52.89
TiO_2	0.18	0.21	0.19	0.17	0.21	0.19	0.21	0.18	0.20	0.18	0.19	0.20	0.30	0.26	0.27	0.26	0.25	0.28
Al_2O_3	0.62	0.60	0.74	0.74	0.79	0.71	0.78	0.73	0.75	0.74	0.75	0.75	1.25	1.00	0.98	1.06	0.95	0.95
Cr_2O_3	-0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.02	0.02	0.01	0.01	0.02	0.00	-0.01	0.01	0.02	0.01	0.00
FeO	17.35	17.69	17.81	17.69	17.72	17.68	17.93	17.83	17.78	18.15	17.91	17.96	18.43	18.17	17.77	17.97	17.83	17.59
MnO	1.02	1.00	0.93	0.98	0.95	1.01	0.95	0.99	0.99	1.02	0.99	1.06	0.97	0.99	1.01	1.04	1.01	1.01
MgO	25.78	25.69	25.67	25.36	25.67	25.70	25.63	25.52	25.42	25.34	25.56	25.21	25.01	25.41	25.35	25.60	25.60	25.73
CaO	1.22	1.20	1.15	1.18	1.20	1.19	1.16	1.24	1.24	1.33	1.24	1.32	1.24	1.14	1.12	1.17	1.13	1.21
Na_2O	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.04	0.04
K_2O	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.02	0.00	0.01	0.02	0.01	0.00	0.02	0.02	0.01
Total	99.44	100.20	100.50	99.66	100.08	100.37	100.35	100.25	100.34	100.72	100.22	100.01	100.12	100.36	99.55	100.38	99.99	99.71
Mg#	72.6	72.1	72.0	71.9	72.1	72.1	71.8	71.8	71.8	71.3	71.8	71.5	70.7	71.4	71.8	71.7	71.9	72.3

Table C.12.24: XAL-106, Orthopyroxene grain 24

Dist (µm)	0.0	15.8	31.6	63.2	94.8	110.5	126.4	142.2	157.9	189.6	205.3	237.0	252.7	268.5	300.1
SiO_2	53.43	53.62	53.42	53.56	53.50	53.35	53.68	53.81	53.07	53.65	52.39	53.23	53.25	53.13	53.41
TiO_2	0.24	0.26	0.23	0.24	0.23	0.23	0.23	0.24	0.23	0.17	0.36	0.23	0.27	0.28	0.29
Al_2O_3	0.93	0.87	0.89	0.92	0.90	0.94	0.93	0.93	0.88	0.54	1.52	0.94	0.87	0.97	0.93
Cr_2O_3	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	-0.01
FeO	17.80	17.83	18.07	17.90	18.10	18.24	18.51	18.58	18.55	18.57	18.94	18.73	18.07	18.21	18.30
MnO	0.99	1.01	0.99	1.00	1.02	1.03	1.03	1.08	1.09	1.02	1.03	1.03	0.96	1.00	0.98
MgO	25.63	25.65	25.66	25.57	25.58	25.39	25.45	25.49	24.81	25.45	24.23	25.19	25.49	25.22	25.75
CaO	1.22	1.19	1.24	1.19	1.19	1.21	1.21	1.19	1.25	1.39	2.14	1.22	1.24	1.29	1.13
Na_2O	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.04	0.02	0.04	0.04	0.03	0.03	0.02
K_2O	0.01	0.02	0.02	0.00	0.01	-0.01	0.00	-0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Total	100.30	100.47	100.55	100.41	100.54	100.42	101.06	101.34	99.93	100.82	100.67	100.61	100.17	100.14	100.81
Mg#	72.0	71.9	71.7	71.8	71.6	71.3	71.0	71.0	70.5	70.9	69.5	70.6	71.5	71.2	71.5

Table C.12.25: XAL-106, Orthopyroxene grain 25

Dist (µm)	0.0	29.4	88.1	117.5	146.9	176.3	205.6	235.0	264.3	323.1	352.4	381.8
SiO_2	54.15	54.14	53.62	54.34	54.41	54.56	54.55	54.66	54.48	54.34	54.05	54.45
TiO_2	0.26	0.26	0.20	0.23	0.21	0.20	0.17	0.16	0.19	0.23	0.23	0.23
Al_2O_3	1.05	0.95	0.48	0.50	0.46	0.52	0.51	0.48	0.69	0.90	0.98	0.89
Cr_2O_3	0.01	0.00	0.02	0.01	0.01	0.01	0.02	0.01	0.00	0.03	0.00	0.01
FeO	17.90	17.96	18.07	18.31	17.91	18.15	18.10	18.15	18.18	18.01	17.83	17.68
MnO	0.98	0.98	1.04	1.02	1.03	1.01	1.07	1.04	1.03	0.96	1.01	0.97
MgO	24.41	25.38	24.93	25.65	25.56	25.36	25.48	25.47	25.32	25.43	25.45	25.69
CaO	1.23	1.13	1.27	1.28	1.32	1.26	1.28	1.26	1.26	1.22	1.17	1.22
Na_2O	0.02	0.02	0.03	0.03	0.02	0.04	0.03	0.03	0.08	0.04	0.05	0.03
K_2O	0.00	0.00	0.00	0.02	0.01	-0.01	-0.01	0.01	0.01	0.01	0.01	0.02
Total	100.02	100.81	99.65	101.37	100.94	101.11	101.20	101.27	101.23	101.16	100.78	101.18
Mg#	70.9	71.6	71.1	71.4	71.8	71.4	71.5	71.4	71.3	71.6	71.8	72.1

Table C.12.26: XAL-106, Orthopyroxene grain 26

Dist (µm)	0.0	15.9	31.8	63.5	79.4	95.3	111.2	127.1	142.9	158.8	174.7	190.6	206.5	222.4	238.2	254.1	270.0
SiO_2	53.18	53.24	53.32	53.35	52.89	52.91	52.67	53.01	53.00	52.96	52.70	52.75	52.71	52.70	52.95	52.68	53.09
TiO_2	0.23	0.22	0.23	0.23	0.25	0.23	0.26	0.25	0.26	0.24	0.27	0.26	0.25	0.25	0.24	0.25	0.25
Al_2O_3	0.92	0.87	0.90	0.86	0.96	0.90	1.07	0.92	0.98	0.86	0.98	0.93	1.00	0.93	0.93	0.92	0.90
Cr_2O_3	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.02	-0.01	0.00	-0.01	0.00	-0.01	-0.02	-0.01	0.00	0.00
FeO	17.91	17.90	18.18	17.98	18.03	18.17	18.39	18.32	18.17	18.20	18.18	18.08	18.08	18.10	18.15	17.96	17.89
MnO	0.99	1.01	1.05	1.05	0.98	1.00	0.99	1.00	1.01	1.02	1.05	1.01	1.03	0.98	0.96	1.01	0.99
MgO	25.59	25.53	25.60	25.59	25.35	25.39	25.22	25.46	25.33	25.39	25.21	25.36	25.23	25.39	25.48	25.43	25.64
CaO	1.21	1.22	1.26	1.17	1.27	1.29	1.27	1.14	1.20	1.22	1.25	1.19	1.19	1.13	1.22	1.14	1.17
Na_2O	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.02	0.03	0.03	0.04	0.04	0.03	0.03	0.05
K_2O	0.01	0.01	0.01	0.01	0.00	0.02	0.01	0.02	0.00	0.00	-0.01	-0.01	-0.01	0.02	0.00	0.01	0.00
Total	100.08	100.05	100.59	100.28	99.78	99.97	99.92	100.17	99.98	99.92	99.67	99.60	99.52	99.53	99.97	99.43	99.98
Mg#	71.8	71.8	71.5	71.7	71.5	71.4	71.0	71.2	71.3	71.3	71.2	71.4	71.3	71.4	71.4	71.6	71.9

Table C.12.27: XAL-106, Orthopyroxene grain 27

Dist (µm)	0.0	29.5	58.9	88.4	117.8	147.3	176.8	206.2	235.7	265.2	294.7	324.1	353.6	383.0	412.5	471.4	500.9	530.4
SiO_2	52.96	53.55	53.60	53.36	53.56	53.35	53.30	52.98	52.57	52.38	52.23	53.34	53.17	53.04	52.85	53.14	52.60	53.15
TiO_2	0.21	0.15	0.16	0.19	0.17	0.17	0.18	0.23	0.28	0.29	0.29	0.23	0.23	0.25	0.25	0.26	0.24	0.33
Al_2O_3	0.62	0.53	0.55	0.57	0.57	0.52	0.59	0.83	1.12	1.30	1.20	0.80	1.01	0.88	0.81	0.85	0.85	0.87
Cr_2O_3	-0.01	-0.01	-0.02	-0.01	-0.02	-0.01	0.00	0.00	0.00	-0.01	0.00	-0.01	0.00	-0.01	-0.01	-0.01	0.00	0.00
FeO	17.40	17.53	17.61	17.79	17.75	17.76	17.96	18.27	18.67	18.81	18.72	18.41	18.67	18.24	18.09	18.62	18.15	18.24
MnO	0.99	0.99	0.98	1.00	1.02	0.97	0.98	1.07	1.08	1.14	1.08	1.07	1.05	1.03	1.04	1.10	1.05	1.03
MgO	25.52	25.82	25.71	25.73	25.64	25.72	25.46	25.04	24.65	24.51	24.50	24.97	24.85	25.03	25.09	25.12	25.37	25.49
CaO	1.40	1.24	1.27	1.24	1.31	1.26	1.23	1.23	1.35	1.33	1.31	1.22	1.21	1.20	1.22	1.26	1.13	1.14
Na_2O	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.06	0.04	0.03	0.04	0.05	0.04	0.14	0.04	0.05	0.03
K_2O	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.02	0.01	0.01	0.01	0.02	0.02	0.00	0.24	0.01	0.01	0.01
Total	99.15	99.84	99.92	99.90	100.05	99.79	99.75	99.70	99.78	99.80	99.36	100.10	100.27	99.71	99.72	100.39	99.44	100.29
Mg#	72.3	72.4	72.2	72.1	72.0	72.1	71.7	71.0	70.2	69.9	70.0	70.7	70.3	71.0	71.2	70.6	71.4	71.4

Table C.12.28: XAL-106, Orthopyroxene grain 28

Dist (µm)	0.0	14.7	29.4	44.1	102.9	117.5	132.3	147.0	176.3	191.1	205.7	220.5	249.9
SiO_2	53.42	52.81	52.99	53.06	52.55	52.57	52.55	53.70	53.26	52.44	52.41	52.51	56.83
TiO_2	0.20	0.17	0.17	0.17	0.22	0.23	0.28	0.29	0.23	0.28	0.25	0.28	0.26
Al_2O_3	0.72	0.51	0.50	0.47	0.66	0.84	0.80	0.88	0.84	1.14	1.11	1.30	2.15
Cr_2O_3	0.00	-0.01	0.00	0.01	0.02	0.02	0.00	0.02	0.00	-0.01	0.00	0.00	0.03
FeO	17.48	17.47	17.80	17.77	17.72	18.11	18.05	18.12	17.88	18.00	17.96	18.24	17.68
MnO	0.96	0.95	1.00	0.98	1.07	1.11	1.08	1.05	0.99	1.00	0.99	0.99	0.95
MgO	25.78	25.83	25.85	25.83	25.68	25.37	24.88	24.93	25.78	25.39	25.48	25.71	21.88
CaO	1.14	1.15	1.24	1.15	1.29	1.25	1.79	1.64	1.25	1.31	1.25	1.61	1.29
Na_2O	0.04	0.02	0.03	0.04	0.03	0.03	0.04	0.02	0.06	0.04	0.05	0.04	0.01
K_2O	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total	99.76	98.93	99.58	99.49	99.23	99.52	99.48	100.64	100.29	99.60	99.50	100.68	101.07
Mg#	72.4	72.5	72.1	72.2	72.1	71.4	71.1	71.0	72.0	71.5	71.7	71.5	68.8

Table C.12.29: XAL-106, Orthopyroxene grain 29

Dist (µm)	29.7	148.8	178.6	238.1	267.9	297.6	327.4	357.1	387.0
SiO_2	52.73	54.54	52.79	52.93	52.64	52.66	52.37	52.97	53.39
TiO_2	0.25	0.00	-0.01	-0.05	-0.02	0.04	0.02	0.04	0.04
Al_2O_3	0.90	0.48	0.50	0.41	0.52	0.75	0.73	0.89	0.91
Cr_2O_3	0.00	-0.18	-0.18	-0.19	-0.19	-0.18	-0.19	-0.18	-0.18
FeO	18.03	17.49	18.29	18.41	17.77	18.18	17.98	18.00	17.85
MnO	1.02	0.95	1.01	1.03	0.99	1.01	1.03	1.01	0.96
MgO	25.68	25.16	25.25	24.88	25.45	25.20	25.21	25.35	25.68
CaO	1.15	1.24	1.15	1.23	1.21	1.22	1.19	1.20	1.21
Na_2O	0.02	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03
K_2O	0.00	-0.03	-0.03	-0.04	-0.04	-0.03	-0.04	-0.05	-0.04
Total	99.78	99.91	99.02	98.92	98.62	99.09	98.56	99.50	100.06
Mg#	71.7	72.0	71.1	70.7	71.9	71.2	71.4	71.5	71.9

Table C.12.30: XAL-106, Orthopyroxene grain 30

Dist (µm)	0.0	29.4	58.9	88.3	147.2	176.6	264.9	294.3	323.8	353.2	382.6	412.1
SiO_2	52.44	52.18	52.42	52.80	51.85	52.55	53.25	53.01	52.56	52.10	52.26	52.27
TiO_2	0.26	0.25	0.26	0.23	0.23	0.23	0.17	0.21	0.24	0.37	0.25	0.25
Al_2O_3	1.00	0.96	1.09	1.00	1.01	0.91	0.57	0.73	0.85	1.44	1.01	1.02
Cr_2O_3	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01
FeO	17.91	18.09	18.28	18.17	18.14	18.46	17.70	17.70	18.06	18.12	17.77	17.83
MnO	1.05	1.02	1.03	1.05	1.01	1.07	1.01	0.94	1.04	1.03	0.99	0.96
MgO	25.41	25.39	25.34	25.49	25.38	25.28	25.89	25.67	25.18	24.33	25.07	25.44
CaO	1.16	1.14	1.26	1.19	1.25	1.24	1.26	1.29	1.25	1.97	1.20	1.15
Na_2O	0.06	0.06	0.05	0.06	0.06	0.13	0.03	0.07	0.02	0.03	0.03	0.03
K_2O	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.01	0.00	0.01	0.01	0.00
Total	99.28	99.11	99.71	100.00	98.94	99.86	99.89	99.61	99.19	99.41	98.60	98.97
Mg#	71.7	71.4	71.2	71.4	71.4	70.9	72.3	72.1	71.3	70.5	71.5	71.8

Table C.12.31: XAL-106, Orthopyroxene grain 31

Dist (µm)	30.0	60.0	90.0	120.0	150.0	180.0	210.0	240.0	270.0	300.0	330.0	360.0	390.0	420.0
SiO_2	55.16	54.18	54.32	54.81	53.69	54.61	54.49	54.42	54.56	53.65	54.16	54.12	54.14	54.44
TiO_2	0.16	0.26	0.28	0.25	0.25	0.26	0.25	0.25	0.24	0.25	0.27	0.25	0.24	0.23
Al_2O_3	0.57	0.89	1.00	0.90	0.90	0.93	1.01	0.91	0.94	0.90	1.01	1.06	0.91	0.92
Cr_2O_3	0.01	0.02	0.01	0.02	0.03	0.02	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01
FeO	17.79	18.35	18.38	18.61	18.18	18.37	18.38	18.13	17.92	18.14	17.94	17.89	17.97	18.01
MnO	1.04	0.96	1.05	1.06	0.98	0.99	1.03	0.99	1.02	1.08	0.94	1.03	0.98	1.05
MgO	25.55	24.97	24.81	24.73	24.58	25.05	25.35	25.21	25.26	24.73	25.14	25.24	25.37	25.47
CaO	1.29	1.38	1.54	1.34	1.22	1.24	1.25	1.21	1.17	1.25	1.28	1.20	1.20	1.23
Na_2O	0.02	0.00	0.01	0.02	0.02	0.02	0.03	0.04	0.02	0.02	0.04	0.01	0.03	0.02
K_2O	0.00	0.00	-0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.02	0.01	-0.01	0.00	0.00
Total	101.59	101.01	101.40	101.75	99.86	101.48	101.81	101.17	101.15	100.06	100.79	100.81	100.86	101.38
Mg#	71.9	70.8	70.6	70.3	70.7	70.8	71.1	71.3	71.5	70.8	71.4	71.5	71.6	71.6

Table C.12.32: XAL-106, Orthopyroxene grain 32

Dist (µm)	0.0	29.6	59.2	88.7	118.3	147.9	207.1	266.2	295.8	325.4
SiO_2	53.87	54.66	54.44	54.46	54.74	54.42	54.80	55.11	54.82	55.01
TiO_2	0.27	0.27	0.27	0.28	0.29	0.27	0.21	0.27	0.25	0.27
Al_2O_3	0.94	1.08	1.20	0.98	0.95	0.87	0.85	0.93	1.01	1.08
Cr_2O_3	0.02	0.01	0.01	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.02
FeO	17.19	17.98	17.98	18.22	18.14	17.97	18.45	18.00	17.59	17.56
MnO	1.00	0.99	0.92	0.97	0.95	1.04	1.08	0.97	0.96	1.03
MgO	25.06	25.32	25.37	25.36	25.38	25.05	24.97	25.35	25.37	25.11
CaO	1.94	1.22	1.25	1.26	1.19	1.19	1.24	1.23	1.27	1.25
Na_2O	0.02	0.00	0.00	0.00	0.03	0.01	0.02	0.01	0.04	0.07
K_2O	-0.01	0.00	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.07
Total	100.30	101.52	101.45	101.54	101.68	100.84	101.65	101.90	101.32	101.45
Mg#	72.2	71.5	71.6	71.3	71.4	71.3	70.7	71.5	72.0	71.8

Table C.12.33: XAL-106, Orthopyroxene grain 33

Dist (µm)	15.3	30.6	45.9	61.2	76.5	91.8	107.1	122.4	137.7	153.0	168.3	183.6	214.2	229.5	244.8
SiO_2	54.36	54.47	53.95	53.73	54.08	54.74	54.39	53.86	54.00	54.46	54.38	53.90	53.97	54.70	53.88
TiO_2	0.22	0.27	0.26	0.29	0.27	0.23	0.25	0.26	0.30	0.26	0.34	0.36	0.35	0.31	0.28
Al_2O_3	0.96	1.08	1.09	1.12	1.19	0.92	0.85	0.90	0.99	0.82	1.01	1.12	1.18	0.94	1.04
Cr_2O_3	0.00	-0.02	-0.01	-0.01	-0.02	-0.01	-0.02	-0.03	0.01	0.03	0.01	0.03	0.02	0.01	0.01
FeO	17.98	17.74	17.94	18.33	18.09	17.85	17.87	17.85	18.07	17.97	18.01	18.28	18.24	17.92	17.77
MnO	1.02	1.00	1.02	0.98	1.01	0.99	0.98	0.97	1.01	0.98	1.09	1.07	0.98	0.96	0.97
MgO	25.74	25.45	25.32	25.51	25.22	25.66	25.37	25.30	25.33	25.50	25.25	25.10	25.25	25.45	25.44
CaO	1.24	1.21	1.16	1.19	1.24	1.31	1.29	1.28	1.44	1.18	1.41	1.43	1.37	1.19	1.33
Na_2O	0.03	0.02	0.02	0.03	0.04	0.03	0.04	0.03	0.01	0.02	0.02	0.03	0.02	0.02	0.03
K_2O	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.02	0.01	0.03	0.01
Total	101.57	101.27	100.79	101.21	101.13	101.73	101.04	100.45	101.19	101.24	101.53	101.34	101.38	101.53	100.76
Mg#	71.8	71.9	71.6	71.3	71.3	71.9	71.7	71.6	71.4	71.7	71.4	71.0	71.2	71.7	71.8

Table C.12.34: XAL-106, Orthopyroxene grain 34

Dist (µm)	14.9	29.7	44.6	59.4	74.3	89.2	104.0	118.9	133.8	148.6	163.5
SiO_2	54.20	54.17	54.06	54.72	54.20	54.34	54.20	54.24	54.71	54.58	54.45
TiO_2	0.27	0.27	0.29	0.26	0.32	0.30	0.32	0.29	0.26	0.27	0.27
Al_2O_3	1.01	0.98	1.35	0.94	1.17	1.03	1.32	1.07	0.97	0.94	1.18
Cr_2O_3	0.00	0.01	0.02	0.00	0.00	0.02	-0.01	0.02	-0.01	0.01	0.02
FeO	17.89	18.23	18.32	18.32	18.39	18.24	18.19	18.39	18.08	18.04	17.98
MnO	0.91	0.92	0.94	0.99	1.00	1.01	0.90	0.93	1.01	0.99	0.94
MgO	25.44	25.36	25.16	25.37	24.79	25.06	24.95	25.19	25.49	25.40	25.27
CaO	1.17	1.21	1.39	1.29	1.41	1.33	1.41	1.23	1.24	1.19	1.31
Na_2O	0.03	0.03	0.04	0.03	0.03	0.03	0.02	0.03	0.02	0.04	0.04
K_2O	0.00	0.01	-0.01	-0.02	0.00	0.00	-0.01	0.01	0.01	0.01	0.00
Total	100.91	101.20	101.56	101.92	101.30	101.36	101.32	101.40	101.80	101.46	101.47
Mg#	71.7	71.3	71.0	71.2	70.6	71.0	71.0	70.9	71.5	71.5	71.5

Table C.12.35: XAL-106, Orthopyroxene grain 35

Dist (µm)	29.6	59.3	88.9	266.7	296.3	326.0	355.6	385.3	414.9	444.5	533.4	592.7	622.3	651.9	681.6	711.2
SiO_2	54.02	55.28	54.67	54.57	54.30	54.78	54.84	55.04	54.60	54.76	54.78	54.43	54.60	54.69	54.63	55.04
TiO_2	0.28	0.21	0.24	0.28	0.31	0.26	0.23	0.26	0.25	0.25	0.23	0.32	0.27	0.30	0.33	0.26
Al_2O_3	1.09	0.61	0.93	1.08	1.03	0.86	0.84	0.90	1.00	1.02	1.03	1.01	1.08	1.12	1.08	1.16
Cr_2O_3	0.02	0.00	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.01	0.02	0.02	0.03	0.02
FeO	18.21	17.71	17.70	18.25	18.11	18.20	17.78	17.72	18.31	18.16	17.76	18.14	18.01	18.02	17.87	17.21
MnO	0.99	1.01	1.06	0.98	1.01	0.97	0.97	0.99	0.94	0.93	0.92	0.95	0.96	0.93	0.97	0.93
MgO	25.30	25.73	25.72	25.13	25.25	25.36	25.36	25.54	25.37	25.47	25.33	25.38	25.21	25.16	25.29	24.65
CaO	1.22	1.28	1.25	1.24	1.31	1.25	1.28	1.16	1.14	1.18	1.23	1.26	1.30	1.34	1.32	1.30
Na_2O	0.02	0.04	0.03	0.04	0.01	0.04	0.03	0.01	0.03	0.03	0.03	0.01	0.03	0.02	0.02	0.26
K_2O	0.00	0.01	0.00	0.02	-0.01	0.01	0.00	0.01	0.00	0.00	-0.02	0.00	0.02	-0.01	0.01	0.03
Total	101.15	101.88	101.62	101.61	101.34	101.73	101.35	101.64	101.65	101.82	101.33	101.53	101.49	101.60	101.56	100.88
Mg#	71.2	72.1	72.1	71.0	71.3	71.3	71.8	72.0	71.2	71.4	71.8	71.4	71.4	71.3	71.6	71.8

Table C.12.36: XAL-106, Orthopyroxene grain 36

Dist (µm)	0.0	7.3	14.7	22.0	29.3	44.0	51.3	73.3	80.7	88.0	95.3	102.7
SiO_2	55.00	55.31	54.91	55.17	55.23	55.54	54.81	54.82	54.33	53.93	54.47	53.98
TiO_2	0.21	0.21	0.21	0.17	0.17	0.15	0.16	0.15	0.20	0.18	0.19	0.18
Al_2O_3	0.68	0.68	0.86	0.84	0.62	0.57	0.64	0.59	0.75	1.19	1.10	0.68
Cr_2O_3	0.04	0.03	0.00	0.04	0.04	0.02	0.03	0.00	0.01	0.03	0.02	0.00
FeO	17.49	17.55	17.54	17.31	17.41	17.42	17.03	17.32	17.59	17.33	17.19	17.37
MnO	0.97	0.94	0.93	0.95	1.00	0.99	0.92	1.02	0.95	0.96	0.98	0.92
MgO	25.57	25.65	25.24	24.65	23.96	24.65	24.45	24.98	24.67	24.41	24.80	24.95
CaO	1.26	1.22	1.23	1.29	1.28	1.26	1.31	1.24	1.22	1.22	1.18	1.25
Na_2O	0.03	0.03	0.02	0.04	0.03	0.04	0.05	0.02	0.03	0.02	0.03	0.02
K_2O	0.01	0.00	0.01	0.03	0.01	0.04	0.02	0.00	0.00	0.00	0.02	0.00
Total	101.27	101.63	100.94	100.49	99.76	100.68	99.42	100.14	99.74	99.28	99.99	99.36
Mg#	72.3	72.3	71.9	71.7	71.0	71.6	71.9	72.0	71.4	71.5	72.0	71.9

Table C.12.37: XAL-106, Orthopyroxene grain 37

Dist (µm)	15.3	68.7
SiO_2	53.90	53.95
TiO_2	0.28	0.27
Al_2O_3	1.18	1.14
Cr_2O_3	0.01	0.00
FeO	18.00	17.96
MnO	1.00	1.00
MgO	22.33	22.40
CaO	1.31	1.29
Na_2O	-0.01	0.03
K_2O	0.01	0.00
Total	98.03	98.04
Mg#	68.9	69.0

Table C.12.38: XAL-106, Orthopyroxene grain 38

Dist (µm)	0.0	30.4	60.9	91.2	121.7	152.1	182.6	213.0	304.3	334.7	365.2	395.6	426.0
SiO_2	54.56	55.08	54.62	54.16	53.68	54.06	54.44	54.09	54.71	54.91	54.39	55.15	55.33
TiO_2	0.17	0.20	0.22	0.23	0.23	0.23	0.25	0.27	0.27	0.22	0.20	0.17	0.17
Al_2O_3	0.58	0.60	0.79	0.96	0.94	1.07	1.07	1.04	0.79	0.66	0.70	0.60	0.55
Cr_2O_3	0.01	0.01	0.00	0.02	0.00	0.01	0.01	0.02	0.02	0.01	0.01	0.02	0.00
FeO	17.63	18.16	18.78	19.26	19.06	18.85	18.88	18.86	18.53	18.13	18.13	17.92	17.77
MnO	0.97	1.07	1.12	1.07	1.14	1.08	1.12	1.08	1.04	1.02	0.96	0.98	1.00
MgO	25.73	25.42	24.98	24.66	24.66	24.60	24.83	24.62	25.27	25.36	25.22	25.84	25.73
CaO	1.27	1.21	1.22	1.27	1.22	1.23	1.24	1.31	1.22	1.25	1.88	1.18	1.23
Na_2O	0.05	0.05	0.02	0.03	0.03	0.04	0.03	0.02	0.04	0.02	0.04	0.04	0.03
K_2O	0.00	0.00	-0.02	-0.01	-0.01	-0.02	0.00	0.01	0.03	0.01	0.00	0.01	0.01
Total	100.97	101.78	101.75	101.66	100.97	101.17	101.87	101.33	101.91	101.60	101.54	101.89	101.83
Mg#	72.2	71.4	70.3	69.5	69.7	69.9	70.1	69.9	70.9	71.4	71.3	72.0	72.1

Table C.12.39: XAL-106, Orthopyroxene grain 39

Dist (µm)	0.0	61.7	123.4	185.1	246.8	308.5	370.2	431.9	493.6	555.2	678.7	740.4	802.0	863.7
SiO_2	53.53	53.64	53.38	53.79	53.91	50.69	53.70	53.35	53.52	53.35	53.89	54.18	53.96	54.41
TiO_2	0.31	0.24	0.28	0.26	0.23	0.21	0.24	0.27	0.26	0.24	0.24	0.25	0.27	0.25
Al_2O_3	0.80	0.89	1.10	0.89	0.82	0.74	0.83	0.77	0.87	0.92	0.99	1.03	0.96	0.98
Cr_2O_3	0.01	0.00	0.01	0.01	0.00	0.03	0.02	0.03	0.01	0.02	0.00	0.01	0.01	0.00
FeO	18.08	18.29	17.90	18.33	18.55	17.31	18.65	18.83	18.72	18.28	18.23	18.17	17.89	17.89
MnO	0.94	1.04	1.02	0.97	1.08	1.02	1.08	1.18	1.06	1.02	0.98	0.92	0.94	0.90
MgO	25.41	25.37	25.19	25.41	24.84	23.60	24.57	24.46	24.78	24.99	25.55	25.53	25.49	25.63
CaO	1.19	1.21	1.27	1.29	1.18	4.48	1.21	1.25	1.26	1.25	1.21	1.14	1.22	1.24
Na_2O	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.01	0.03
K_2O	0.02	0.03	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.00	-0.01	-0.01	0.00	0.00
Total	100.32	100.74	100.17	100.99	100.64	98.10	100.33	100.18	100.52	100.08	101.13	101.26	100.75	101.33
Mg#	71.5	71.2	71.5	71.2	70.5	70.8	70.1	69.8	70.2	70.9	71.4	71.5	71.8	71.9

Table C.12.40: XAL-106, Orthopyroxene grain 40

Dist (µm)	0.0	15.0	30.1	45.1	75.2	90.2	105.3	120.3	135.3	150.4	165.4	180.4	195.5	210.5	225.5	240.6	255.6	270.7	285.7	300.7	315.8
SiO_2	54.73	54.21	54.66	54.65	54.68	54.25	54.97	54.66	54.48	54.24	54.85	54.96	54.30	54.26	54.10	54.70	54.07	54.36	54.34	54.26	54.75
TiO_2	0.28	0.21	0.23	0.22	0.22	0.20	0.18	0.20	0.19	0.19	0.18	0.17	0.19	0.19	0.22	0.22	0.20	0.20	0.24	0.19	0.21
Al_2O_3	1.30	0.75	0.75	0.61	0.61	0.64	0.61	0.69	0.67	0.59	0.54	0.54	0.50	0.68	0.62	0.69	0.60	0.68	0.69	0.58	0.63
Cr_2O_3	0.00	0.02	0.01	0.01	-0.01	-0.01	-0.02	-0.02	0.00	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.00	0.02	0.03
FeO	17.49	17.76	18.13	17.85	17.86	17.81	18.04	17.87	18.02	18.01	18.00	17.93	17.81	17.56	17.93	18.16	17.76	17.83	17.53	17.48	17.42
MnO	0.97	0.97	1.06	0.97	0.99	1.01	1.04	0.93	0.95	0.99	0.94	0.99	1.03	1.04	1.00	0.97	1.03	0.99	0.97	0.97	0.95
MgO	25.16	25.75	25.79	25.80	25.60	25.56	25.63	25.54	25.68	25.71	25.73	25.73	25.66	25.49	25.58	25.79	25.84	25.62	25.52	25.68	25.89
CaO	1.23	1.21	1.15	1.27	1.23	1.23	1.24	1.21	1.19	1.13	1.21	1.22	1.28	1.21	1.16	1.18	1.18	1.16	1.23	1.18	1.25
Na_2O	0.15	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.03	0.02	0.04	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.01	0.03	0.02
K_2O	0.03	-0.01	0.00	-0.02	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.02	0.02	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	0.00
Total	101.35	100.90	101.81	101.41	101.22	100.74	101.75	101.15	101.22	100.92	101.52	101.60	100.83	100.49	100.63	101.74	100.73	100.86	100.53	100.39	101.14
Mg#	71.9	72.1	71.7	72.0	71.9	71.9	71.7	71.8	71.8	71.8	71.8	71.9	72.0	72.1	71.8	71.7	72.2	71.9	72.2	72.4	72.6

Table C.12.41: XAL-106, Orthopyroxene grain 41

Dist (µm)	14.8	29.5	44.3	59.1	73.8	88.6	103.4	118.1	132.9
SiO_2	54.55	54.24	54.70	54.04	54.33	54.24	54.92	53.40	53.58
TiO_2	0.22	0.22	0.21	0.21	0.21	0.22	0.20	0.28	0.24
Al_2O_3	0.79	0.71	0.73	0.80	0.72	0.74	0.71	0.93	0.89
Cr_2O_3	0.03	0.02	0.02	0.01	0.00	0.00	0.01	0.00	0.00
FeO	17.86	17.73	17.96	17.76	17.91	17.68	17.72	18.03	17.54
MnO	0.95	0.97	0.97	1.00	0.95	0.94	1.06	1.00	0.99
MgO	25.57	25.44	25.87	25.32	25.64	25.39	25.42	24.89	24.79
CaO	1.16	1.19	1.24	1.26	1.30	1.26	1.15	1.43	1.65
Na_2O	0.04	0.02	0.02	0.01	0.00	0.02	0.02	0.04	0.07
K_2O	-0.01	0.00	0.00	0.00	0.01	0.00	0.00	-0.01	0.03
Total	101.16	100.55	101.71	100.43	101.07	100.49	101.19	99.99	99.78
Mg#	71.8	71.9	72.0	71.8	71.8	71.9	71.9	71.1	71.6

Table C.12.42: XAL-106, Orthopyroxene grain 42

Dist (µm)	14.6	29.3	43.9	73.2	87.9	102.5	117.2	131.8	146.4	161.1	190.4	205.0	219.7	234.3
SiO_2	54.67	54.84	54.87	54.69	54.63	54.49	53.80	54.24	54.64	54.51	54.08	54.61	54.21	54.46
TiO_2	0.23	0.19	0.18	0.24	0.25	0.26	0.29	0.28	0.23	0.25	0.25	0.27	0.29	0.24
Al_2O_3	0.95	0.74	0.69	1.11	1.08	0.96	1.11	1.06	1.00	1.05	1.11	1.16	1.31	1.06
Cr_2O_3	0.01	-0.02	0.01	0.01	0.02	0.01	0.02	0.00	-0.01	0.01	0.01	0.02	0.02	0.00
FeO	17.97	17.58	17.99	17.88	18.03	18.26	18.11	17.84	17.98	17.84	17.99	18.03	18.29	17.96
MnO	1.02	0.97	0.99	0.94	1.04	1.02	0.97	1.02	1.04	0.95	0.93	0.98	0.98	0.97
MgO	25.65	25.46	25.71	25.46	25.31	25.43	24.99	25.06	25.66	25.45	25.40	25.51	25.22	25.52
CaO	1.34	1.28	1.26	1.31	1.24	1.34	1.79	1.24	1.10	1.23	1.19	1.22	1.21	1.24
Na_2O	0.03	0.04	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.01	0.03	0.04	0.03	0.02
K_2O	0.00	-0.01	0.00	0.00	0.01	0.01	0.01	0.01	-0.02	-0.01	0.00	0.01	0.01	0.01
Total	101.86	101.10	101.72	101.65	101.61	101.81	101.11	100.79	101.65	101.29	100.99	101.86	101.56	101.48
Mg#	71.8	72.1	71.8	71.7	71.4	71.3	71.1	71.5	71.8	71.8	71.6	71.6	71.1	71.7

Table C.12.43: XAL-106, Orthopyroxene grain 43

Dist (µm)	7.8	31.1	38.8	46.6	54.4	62.1	77.7	85.5	93.2
SiO_2	54.39	54.10	54.00	54.03	53.74	51.93	53.08	53.92	54.33
TiO_2	0.24	0.27	0.26	0.29	0.30	0.40	0.37	0.27	0.24
Al_2O_3	0.90	1.06	1.15	1.20	1.29	1.36	1.67	1.17	0.98
Cr_2O_3	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.02
FeO	17.61	17.77	18.31	18.50	18.59	19.51	19.45	18.40	18.17
MnO	0.99	0.96	0.99	1.07	1.12	1.00	1.04	1.04	1.02
MgO	25.64	24.93	24.70	24.76	24.45	24.68	24.04	24.88	25.10
CaO	1.16	1.35	1.40	1.62	1.51	1.47	1.37	1.51	1.39
Na_2O	0.02	0.03	0.04	0.02	0.03	0.04	0.11	0.02	0.01
K_2O	0.03	0.02	0.03	-0.01	0.01	0.02	0.07	0.00	0.01
Total	100.99	100.51	100.90	101.50	101.06	100.43	101.20	101.21	101.26
Mg#	72.2	71.4	70.6	70.5	70.1	69.3	68.8	70.7	71.1

Table C.12.44: XAL-106, Orthopyroxene grain 44

Dist (µm)	14.5	29.0	43.5	57.9	72.4	86.9	101.4	115.9	130.4	144.8	159.3	173.8	188.3
SiO_2	54.91	54.44	53.92	52.84	54.23	52.29	53.53	53.26	53.74	53.98	53.10	54.18	54.23
TiO_2	0.22	0.26	0.26	0.27	0.25	0.24	0.26	0.25	0.22	0.25	0.22	0.24	0.26
Al_2O_3	0.86	0.95	0.99	1.16	0.87	0.88	1.05	1.00	0.85	0.88	0.94	0.84	0.89
Cr_2O_3	0.02	0.00	0.01	0.01	-0.01	0.02	0.03	0.02	0.02	0.01	0.01	0.00	0.00
FeO	17.60	18.07	18.01	17.51	18.18	17.64	18.21	18.10	17.87	18.18	17.68	17.90	17.69
MnO	1.02	0.99	1.03	0.87	1.02	1.03	1.04	1.04	1.04	1.02	0.98	0.96	0.96
MgO	25.93	25.45	25.14	24.32	25.15	24.41	24.71	24.79	24.99	25.23	24.90	25.70	25.51
CaO	1.30	1.25	1.25	3.07	1.32	3.11	1.27	2.29	1.63	1.28	1.22	1.30	1.19
Na_2O	0.01	0.02	0.01	0.12	0.03	0.03	0.02	0.04	0.05	0.02	0.02	0.03	0.03
K_2O	0.01	0.01	0.01	0.04	0.01	-0.01	0.01	0.00	0.01	0.01	-0.02	0.03	0.01
Total	101.87	101.45	100.63	100.21	101.05	99.65	100.11	100.80	100.40	100.86	99.08	101.20	100.77
Mg#	72.4	71.5	71.3	71.2	71.1	71.2	70.7	70.9	71.4	71.2	71.5	71.9	72.0

Table C.12.45: XAL-106, Orthopyroxene grain 45

Dist (µm)	15.2	30.5	45.7	61.0	76.2	91.5	106.7	137.2	152.5	167.7	183.0
SiO_2	53.91	53.76	54.86	54.68	54.74	54.69	54.03	54.47	54.34	54.50	54.87
TiO_2	0.27	0.25	0.21	0.19	0.22	0.20	0.19	0.28	0.30	0.28	0.26
Al_2O_3	0.96	0.92	0.63	0.57	0.64	0.64	0.71	1.03	1.13	1.15	1.09
Cr_2O_3	-0.01	-0.01	0.00	-0.01	0.00	0.00	-0.02	0.00	0.02	0.01	-0.01
FeO	17.98	17.89	17.74	17.39	17.59	17.98	17.79	18.20	18.14	17.75	17.68
MnO	1.00	0.94	1.04	1.00	1.01	1.04	0.95	0.98	1.01	1.01	1.10
MgO	25.33	25.41	25.61	25.53	25.61	25.58	25.10	25.39	25.39	25.17	25.42
CaO	1.21	1.42	1.27	1.30	1.24	1.23	1.27	1.27	1.38	1.42	1.24
Na_2O	0.03	0.02	0.04	0.04	0.04	0.03	0.05	0.02	0.02	0.02	0.01
K_2O	0.02	0.01	0.01	0.02	0.00	0.01	0.01	0.01	0.00	0.02	0.02
Total	100.73	100.63	101.42	100.71	101.08	101.40	100.12	101.66	101.73	101.32	101.69
Mg#	71.5	71.7	72.0	72.3	72.2	71.7	71.5	71.3	71.4	71.7	71.9

Table C.12.46: XAL-106, Orthopyroxene grain 46

Dist (µm)	0.0	15.1	30.2	45.3	60.3	75.4	90.6	105.7	120.7	135.9	151.0	166.0	196.2
SiO_2	54.30	54.78	53.90	54.76	54.04	54.30	53.78	53.66	53.45	53.77	53.67	54.13	53.41
TiO_2	0.23	0.24	0.25	0.26	0.27	0.29	0.26	0.28	0.26	0.22	0.23	0.24	0.25
Al_2O_3	0.92	0.96	1.01	1.02	1.06	0.96	0.93	1.06	1.08	0.94	1.04	0.97	0.91
Cr_2O_3	0.00	0.00	0.00	0.00	-0.02	0.00	0.01	0.00	0.00	0.02	0.02	0.01	0.01
FeO	17.54	17.94	18.10	18.36	18.20	18.28	18.21	18.37	17.92	17.96	17.89	18.15	17.76
MnO	0.99	0.97	1.03	1.04	0.97	0.98	1.00	1.01	1.05	0.96	0.98	0.92	1.00
MgO	25.36	25.42	25.24	25.32	25.19	25.26	25.02	25.10	25.12	25.18	25.12	25.45	25.26
CaO	1.22	1.18	1.20	1.14	1.18	1.22	1.22	1.23	1.16	1.18	1.22	1.21	1.21
Na_2O	0.04	0.02	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.02	0.02
K_2O	0.02	0.00	0.02	0.00	0.00	0.00	0.01	-0.01	0.00	-0.01	0.00	0.00	0.00
Total	100.63	101.51	100.78	101.93	100.94	101.33	100.45	100.74	100.07	100.25	100.17	101.09	99.83
Mg#	72.1	71.6	71.3	71.1	71.2	71.1	71.0	70.9	71.4	71.4	71.4	71.4	71.7

Table C.12.47: XAL-106, Orthopyroxene grain 47

Dist (µm)	0.0	29.7	59.2	88.9	118.5	207.4	237.0	266.6	296.3	325.9	355.6	385.1	444.4	474.0	503.7
SiO_2	53.94	54.40	54.28	53.98	54.50	54.31	54.27	53.92	54.65	54.50	54.48	54.26	54.40	54.69	51.29
TiO_2	0.25	0.21	0.20	0.21	0.21	0.28	0.24	0.25	0.25	0.24	0.26	0.25	0.26	0.27	0.23
Al_2O_3	0.97	0.75	0.76	0.99	0.94	0.98	0.90	0.88	0.90	0.95	1.05	1.04	1.04	1.01	0.71
Cr_2O_3	0.00	0.00	0.01	0.01	0.02	0.01	0.02	0.02	0.03	0.01	0.02	0.02	-0.01	0.01	-0.01
FeO	17.63	18.41	18.16	17.95	18.01	17.93	17.95	17.81	18.10	18.16	18.01	17.89	17.81	17.74	16.46
MnO	0.95	1.12	1.00	1.00	1.03	0.98	0.90	0.95	0.95	0.95	0.96	0.94	0.99	0.98	0.93
MgO	25.39	25.02	25.56	25.51	25.60	25.59	25.54	25.43	25.56	25.68	25.62	25.45	25.28	25.59	23.82
CaO	1.21	1.34	1.40	1.18	1.16	1.27	1.20	1.22	1.30	1.18	1.20	1.22	1.13	1.19	4.93
Na_2O	0.02	0.04	0.04	0.05	0.02	0.02	0.03	0.03	0.02	0.04	0.03	0.04	0.04	0.03	0.04
K_2O	0.00	-0.01	0.01	-0.02	0.00	0.03	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.01
Total	100.36	101.29	101.43	100.89	101.50	101.43	101.08	100.53	101.78	101.74	101.65	101.13	100.97	101.53	98.43
Mg#	72.0	70.8	71.5	71.7	71.7	71.8	71.7	71.8	71.6	71.6	71.7	71.7	71.7	72.0	72.1

Table C.12.48: XAL-106, Orthopyroxene grain 48

Dist (µm)	0.0	15.4	30.7	46.1	61.4	76.8	92.1	107.5	122.9	153.6	168.9	184.3	199.5
SiO_2	54.21	54.21	52.25	54.02	53.97	54.25	53.68	51.59	50.60	53.63	53.86	54.20	54.24
TiO_2	0.23	0.24	0.22	0.24	0.28	0.26	0.31	0.30	0.25	0.27	0.23	0.24	0.24
Al_2O_3	0.95	0.96	0.83	0.90	1.10	0.98	1.16	1.10	0.95	1.14	0.97	0.92	0.82
Cr_2O_3	0.01	0.00	-0.01	-0.01	0.02	0.00	0.00	0.00	-0.01	-0.01	0.02	0.01	-0.03
FeO	17.73	17.93	17.17	18.30	18.90	19.04	19.19	18.11	18.23	18.71	18.09	18.12	17.89
MnO	0.99	1.06	0.98	1.07	1.12	1.10	1.07	1.05	1.16	1.07	0.98	0.93	0.97
MgO	25.58	25.42	24.65	25.23	25.10	24.69	24.25	22.87	22.99	24.66	24.88	25.59	25.40
CaO	1.24	1.24	2.86	1.29	1.34	1.31	1.53	4.66	4.16	1.25	1.80	1.22	1.35
Na_2O	0.01	0.04	0.01	0.03	0.03	0.03	0.05	0.08	0.03	0.02	0.02	0.01	0.01
K_2O	0.04	0.01	0.01	0.03	0.02	0.01	0.02	0.03	0.02	0.00	0.01	0.01	0.00
Total	100.98	101.11	98.98	101.12	101.87	101.68	101.25	99.80	98.39	100.74	100.86	101.25	100.92
Mg#	72.0	71.6	71.9	71.1	70.3	69.8	69.3	69.2	69.2	70.1	71.0	71.6	71.7

Table C.12.49: XAL-106, Orthopyroxene grain 49

Dist (µm)	0.0	29.0	58.0	87.0	145.0	174.0	203.0	232.0	260.9	290.0	318.9	348.0	376.9
SiO_2	54.69	55.22	54.91	55.06	54.98	54.64	54.74	54.82	54.65	54.64	54.58	54.18	54.65
TiO_2	0.22	0.18	0.20	0.18	0.21	0.18	0.19	0.21	0.24	0.27	0.26	0.24	0.24
Al_2O_3	0.83	0.58	0.75	0.57	0.68	0.54	0.61	0.65	0.63	0.81	1.02	0.92	0.90
Cr_2O_3	0.00	-0.01	0.00	-0.01	-0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.01
FeO	17.45	17.51	17.98	18.07	17.95	18.00	18.08	18.02	18.03	17.96	18.13	17.87	17.64
MnO	0.95	1.02	1.02	0.93	1.06	0.96	1.05	1.10	1.05	1.03	0.98	1.00	0.94
MgO	25.38	25.89	25.69	25.61	25.64	25.61	25.56	25.40	25.49	25.15	25.27	25.42	25.48
CaO	1.22	1.23	1.18	1.24	1.23	1.32	1.26	1.17	1.28	1.52	1.26	1.18	1.25
Na_2O	0.03	0.01	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.01	0.03	0.03	0.03
K_2O	0.02	0.00	0.01	0.02	0.03	0.01	0.00	0.00	-0.01	0.00	0.00	0.00	0.01
Total	100.81	101.62	101.77	101.70	101.79	101.28	101.52	101.38	101.40	101.41	101.53	100.85	101.17
Mg#	72.2	72.5	71.8	71.6	71.8	71.7	71.6	71.5	71.6	71.4	71.3	71.7	72.0

Table C.12.50: XAL-106, Orthopyroxene grain 50

Dist (µm)	0.0	29.8	59.7	89.5	119.4	149.2	179.0	209.0	238.8	268.7	298.5	328.3	388.0	477.5	507.4	537.2	567.1
SiO_2	54.30	53.60	54.29	54.11	53.59	53.78	53.71	53.96	54.01	54.29	53.68	54.13	54.40	54.37	54.73	54.50	53.94
TiO_2	0.27	0.25	0.24	0.24	0.28	0.23	0.22	0.22	0.21	0.22	0.21	0.20	0.17	0.17	0.17	0.20	0.20
Al_2O_3	0.99	0.88	0.78	0.73	1.06	0.93	0.88	0.69	0.78	0.73	0.71	0.67	0.51	0.58	0.60	0.58	0.99
Cr_2O_3	0.03	0.00	0.02	0.01	0.03	0.02	0.00	0.00	0.03	-0.01	0.02	0.01	0.05	0.03	0.03	0.00	0.01
FeO	18.17	18.08	18.59	18.55	19.67	20.14	19.15	18.48	18.61	19.37	19.85	19.99	19.87	19.12	18.81	18.43	18.03
MnO	0.96	0.97	1.00	1.04	1.09	1.15	1.20	1.13	0.97	1.11	1.09	1.17	1.19	1.04	1.04	1.06	0.95
MgO	25.51	25.11	24.72	24.82	23.92	23.96	23.81	25.14	24.86	24.36	23.93	23.74	23.97	24.64	24.73	25.22	24.85
CaO	1.14	1.27	1.19	1.27	1.34	1.28	1.50	1.26	1.28	1.31	1.27	1.25	1.34	1.12	1.22	1.27	1.60
Na_2O	0.03	0.02	0.01	0.02	0.04	0.01	0.11	0.02	0.03	0.01	0.02	0.03	0.02	0.01	0.02	0.02	0.03
K_2O	0.00	0.00	0.00	-0.01	0.01	0.00	0.03	-0.01	0.00	0.01	0.01	0.01	0.02	0.00	0.01	0.00	0.01
Total	101.39	100.18	100.84	100.78	101.03	101.51	100.62	100.91	100.78	101.41	100.79	101.20	101.54	101.08	101.34	101.29	100.61
Mg#	71.4	71.2	70.3	70.5	68.4	68.0	68.9	70.8	70.4	69.1	68.2	67.9	68.3	69.7	70.1	70.9	71.1

Table C.12.50 (cntd): XAL-106, Orthopyroxene grain 50

Dist (µm)	597.0	626.8	656.7	686.5	716.3
SiO_2	54.56	53.88	54.47	54.61	55.02
TiO_2	0.20	0.18	0.17	0.18	0.18
Al_2O_3	0.68	0.67	0.66	0.64	0.70
Cr_2O_3	0.01	0.01	-0.01	-0.01	0.00
FeO	17.99	17.80	17.64	17.57	17.51
MnO	0.95	0.94	1.01	0.96	1.00
MgO	25.32	25.00	25.44	25.67	25.31
CaO	1.25	1.90	1.24	1.19	1.28
Na_2O	0.03	0.02	0.02	0.03	0.04
K_2O	0.00	0.01	0.01	0.00	0.01
Total	100.98	100.42	100.66	100.85	101.05
Mg#	71.5	71.5	72.0	72.3	72.0

Table C.12.51: XAL-106, Orthopyroxene grain 51

Dist (µm)	15.1	30.1	45.2	60.2	75.3	90.4	105.4	120.5	135.5	195.8	210.8	225.9	240.9	256.0	271.1	286.1	301.2	316.2	331.3	346.4	361.4
SiO_2	54.49	54.12	53.78	53.88	53.59	54.00	54.07	54.62	54.46	54.85	54.47	54.35	54.53	54.16	54.32	53.91	54.26	54.19	54.55	54.37	54.28
TiO_2	0.27	0.25	0.28	0.26	0.25	0.24	0.26	0.23	0.25	0.33	0.28	0.29	0.26	0.23	0.27	0.29	0.30	0.33	0.33	0.27	0.25
Al_2O_3	1.09	0.99	1.04	1.00	0.87	0.96	1.01	0.85	0.88	0.93	0.85	1.00	0.96	0.98	1.08	1.02	1.09	1.13	1.14	1.00	0.93
Cr_2O_3	0.00	0.01	0.03	0.01	0.01	0.01	0.02	-0.01	0.01	-0.01	-0.01	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.02	0.01	0.02
FeO	17.95	17.81	17.84	18.10	17.50	17.99	17.77	17.84	18.13	18.03	18.14	18.17	18.19	17.98	17.98	17.78	18.17	18.10	18.13	18.07	17.74
MnO	0.95	0.98	0.96	1.03	0.97	1.05	0.99	1.06	1.02	1.02	1.01	0.99	0.98	1.00	0.99	0.99	1.00	0.99	0.95	0.98	0.99
MgO	25.41	25.25	25.26	25.22	25.06	25.47	25.30	25.49	25.59	25.38	25.24	25.15	25.43	25.25	25.24	25.19	25.45	25.20	25.44	25.56	25.32
CaO	1.33	1.35	1.23	1.24	2.03	1.27	1.30	1.17	1.19	1.35	1.32	1.23	1.19	1.28	1.24	1.19	1.22	1.18	1.24	1.26	1.21
Na_2O	0.05	0.03	0.03	0.03	0.03	0.04	0.01	0.02	0.02	0.04	0.03	0.02	0.02	0.03	0.03	0.05	0.05	0.04	0.04	0.04	0.03
K_2O	0.02	0.02	-0.02	-0.01	-0.01	-0.02	-0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.01	-0.01	-0.01	0.01	0.00	0.02
Total	101.55	100.82	100.45	100.77	100.31	101.02	100.74	101.29	101.55	101.94	101.33	101.22	101.56	100.94	101.16	100.45	101.55	101.19	101.86	101.54	100.78
Mg#	71.6	71.6	71.6	71.3	71.9	71.6	71.7	71.8	71.6	71.5	71.3	71.2	71.4	71.5	71.4	71.6	71.4	71.3	71.4	71.6	71.8

Table C.12.52: XAL-106, Orthopyroxene grain 52

Dist (µm)	0.0	30.4	60.8	91.2	121.7	152.1	182.5	212.9	243.3	304.1	334.5	395.4	456.2
SiO_2	54.07	53.86	54.00	54.00	54.27	53.69	53.89	54.47	54.50	54.76	54.57	54.77	54.12
TiO_2	0.28	0.27	0.25	0.25	0.22	0.22	0.28	0.23	0.22	0.26	0.25	0.26	0.22
Al_2O_3	0.96	1.04	1.00	0.97	0.91	0.96	0.84	0.87	0.84	0.88	0.92	0.85	1.05
Cr_2O_3	0.01	-0.01	0.01	0.02	-0.01	0.01	-0.01	0.01	0.00	0.02	0.00	0.03	0.00
FeO	17.92	18.06	18.03	18.11	17.78	17.99	18.05	18.12	17.83	18.17	18.03	18.09	17.92
MnO	0.99	0.94	1.01	1.00	0.98	1.02	1.00	1.01	0.93	0.97	1.01	0.93	0.98
MgO	25.46	25.32	25.21	25.19	25.15	25.00	25.00	25.43	25.53	25.34	25.36	25.40	24.87
CaO	1.18	1.23	1.30	1.25	1.21	1.22	1.34	1.28	1.20	1.36	1.28	1.23	1.29
Na_2O	0.03	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.05	0.01	0.03
K_2O	0.02	0.01	0.00	0.01	0.01	-0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.01
Total	100.92	100.76	100.84	100.84	100.55	100.16	100.44	101.44	101.09	101.81	101.49	101.58	100.49
Mg#	71.7	71.4	71.4	71.3	71.6	71.2	71.2	71.4	71.8	71.3	71.5	71.5	71.2

Table C.12.53: XAL-106, Orthopyroxene grain 53

Dist (µm)	14.9	29.8	44.7	59.6	74.5	89.4	104.3	119.2	134.1	149.0	163.9	193.7	208.6	223.5	238.4	253.3	268.2	283.1	298.0
SiO_2	54.06	54.37	53.89	53.26	54.16	54.09	54.33	52.84	54.15	53.91	53.80	54.31	54.23	54.27	54.30	54.42	54.03	54.51	54.55
TiO_2	0.28	0.26	0.27	0.26	0.29	0.27	0.29	0.29	0.27	0.25	0.29	0.28	0.29	0.27	0.24	0.26	0.27	0.26	0.24
Al_2O_3	1.00	1.07	1.02	1.04	1.02	1.04	1.00	1.10	1.00	1.10	1.08	0.98	0.93	0.95	0.94	0.97	1.02	0.95	0.95
Cr_2O_3	0.00	0.01	0.01	0.00	0.00	0.03	0.02	0.02	0.00	0.01	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.01	0.01
FeO	17.92	18.03	18.13	17.69	18.02	17.88	18.12	17.91	18.49	18.63	18.68	18.31	18.02	18.16	17.98	17.98	17.95	17.83	17.86
MnO	0.95	1.00	0.94	0.90	1.01	1.01	0.94	0.97	1.03	1.10	1.03	1.10	1.00	1.03	0.97	1.01	0.97	0.99	1.00
MgO	25.47	25.43	25.39	25.00	25.50	25.32	25.42	24.46	25.12	24.88	24.77	25.20	25.33	25.58	25.44	25.57	25.47	25.59	25.33
CaO	1.11	1.21	1.13	1.22	1.25	1.30	1.31	1.26	1.21	1.24	1.19	1.28	1.24	1.21	1.27	1.20	1.23	1.24	1.23
Na_2O	0.02	0.01	0.03	0.01	0.02	0.02	0.04	0.04	0.02	0.03	0.03	0.03	0.01	0.03	0.03	0.02	0.02	0.02	0.04
K_2O	0.02	0.02	0.00	0.02	0.01	-0.01	0.00	-0.01	-0.01	0.00	0.01	0.01	0.01	0.01	-0.02	-0.02	-0.01	-0.02	-0.01
Total	100.81	101.42	100.80	99.40	101.28	100.94	101.48	98.89	101.31	101.15	100.89	101.51	101.10	101.52	101.17	101.44	100.96	101.40	101.22
Mg#	71.7	71.5	71.4	71.6	71.6	71.6	71.4	70.9	70.8	70.4	70.3	71.0	71.5	71.5	71.6	71.7	71.7	71.9	71.7

Table C.13.1: TEQ-66, Orthopyroxene grain 1

Dist (µm)	0.0	14.6	29.1	43.7	58.2	72.8	87.3	116.4	131.0	145.6	160.1
SiO_2	53.24	52.49	53.34	52.73	53.40	52.96	53.57	52.98	52.20	52.61	52.84
TiO_2	0.01	0.05	0.03	0.05	0.02	0.02	0.02	0.01	0.01	0.02	0.01
Al_2O_3	0.36	0.50	0.39	1.08	0.27	0.44	0.35	0.28	0.26	0.23	0.24
Cr_2O_3	-0.02	0.00	0.02	0.00	0.00	0.00	0.02	0.01	0.02	-0.01	0.00
FeO	22.74	24.20	23.37	23.15	23.09	23.41	22.68	22.16	24.08	23.52	21.84
MnO	1.07	1.18	1.06	1.03	1.12	1.09	1.25	1.01	1.22	1.30	1.11
MgO	21.84	20.81	21.44	21.12	21.50	20.72	21.68	22.32	21.14	21.38	22.31
CaO	1.12	0.95	1.04	1.26	1.15	1.10	1.24	1.22	1.01	1.25	1.09
Na_2O	0.04	0.04	-0.03	0.01	-0.01	-0.02	-0.04	-0.10	-0.09	-0.07	-0.07
K_2O	0.01	-0.01	0.04	0.08	0.02	0.02	-0.01	0.00	-0.03	-0.02	-0.02
Total	100.42	100.21	100.72	100.49	100.58	99.75	100.81	99.98	99.94	100.31	99.43
Mg#	63.1	60.5	62.1	61.9	62.4	61.2	63.0	64.2	61.0	61.8	64.5

Table C.13.2: TEQ-66, Orthopyroxene grain 2

Dist (µm)	0.0	30.7	61.4	92.1	122.8	153.5	184.2	214.9	245.6	276.3	307.0	337.7	368.4	429.8
SiO_2	54.34	52.95	53.62	52.95	53.51	53.81	53.61	53.63	53.29	52.99	53.41	53.03	53.40	52.02
TiO_2	0.08	0.08	0.06	0.09	0.09	0.12	0.09	0.08	0.10	0.11	0.09	0.10	0.09	0.08
Al_2O_3	1.15	0.82	0.85	0.93	0.95	0.97	1.03	1.11	1.16	1.02	1.07	0.89	0.88	1.44
Cr_2O_3	-0.03	-0.03	-0.03	0.00	-0.01	0.00	0.00	-0.01	0.01	0.00	-0.01	0.01	0.00	-0.02
FeO	18.36	19.89	19.22	19.12	19.05	18.65	18.69	19.30	19.00	19.36	19.28	19.66	19.24	18.97
MnO	0.64	0.84	0.76	0.79	0.75	0.61	0.65	0.67	0.84	0.78	0.80	0.69	0.90	0.72
MgO	24.81	23.48	23.93	23.93	24.24	24.53	24.26	24.46	24.22	24.37	24.09	24.30	23.77	23.47
CaO	1.80	1.23	1.47	1.54	1.49	1.43	1.47	1.59	1.43	1.54	1.50	1.39	1.43	2.17
Na_2O	0.04	0.02	0.03	0.02	0.01	0.02	0.01	0.02	0.01	0.00	0.02	0.01	0.00	0.03
K_2O	0.03	-0.01	-0.02	0.00	-0.03	-0.03	-0.01	-0.05	-0.04	-0.09	-0.04	-0.04	-0.05	0.06
Total	101.25	99.32	99.95	99.37	100.08	100.14	99.80	100.85	100.04	100.17	100.26	100.08	99.71	98.95
Mg#	70.7	67.8	68.9	69.1	69.4	70.1	69.8	69.3	69.4	69.2	69.0	68.8	68.8	68.8

Table C.13.3: TEQ-66, Orthopyroxene grain 3

Dist (µm)	15.5	31.1	46.6	62.2	77.7	93.3	108.8	124.4	139.9
SiO_2	52.45	51.83	52.99	52.61	53.18	51.64	52.93	52.12	52.80
TiO_2	0.01	0.04	0.07	0.02	0.03	0.06	0.01	0.04	0.04
Al_2O_3	0.39	0.52	0.89	0.30	0.57	0.38	0.50	0.35	0.37
Cr_2O_3	0.00	0.01	0.00	0.01	0.00	-0.02	0.01	0.04	0.01
FeO	23.68	24.46	23.29	23.36	22.28	21.52	21.17	23.05	22.26
MnO	1.42	1.21	1.15	1.34	1.09	1.09	1.16	1.21	1.25
MgO	20.34	20.00	20.61	21.33	22.14	21.63	22.77	20.70	21.59
CaO	1.17	1.16	0.98	1.19	1.61	2.58	1.23	1.07	1.02
Na_2O	0.03	0.02	0.01	0.02	0.05	0.03	0.03	0.03	0.02
K_2O	0.03	0.03	0.02	0.06	0.06	0.01	0.06	-0.04	0.01
Total	99.51	99.27	100.00	100.24	101.00	98.94	99.86	98.59	99.37
Mg#	60.5	59.3	61.2	61.9	63.9	64.2	65.7	61.6	63.4

Table C.13.4: TEQ-66, Orthopyroxene grain 4

Dist (µm)	15.0	29.9	44.9	59.8	89.8	104.7	119.7
SiO_2	52.72	52.12	52.57	52.87	52.36	53.35	53.33
TiO_2	0.06	0.04	0.02	0.03	0.04	0.01	0.02
Al_2O_3	0.47	0.44	0.43	0.43	0.50	0.38	0.83
Cr_2O_3	0.03	0.00	0.02	-0.02	0.00	0.02	0.03
FeO	21.05	23.48	24.31	21.71	22.81	22.04	21.03
MnO	0.98	1.13	1.19	1.13	1.29	1.16	1.01
MgO	23.17	20.87	20.86	22.26	21.12	21.82	22.77
CaO	1.25	1.15	1.19	1.22	1.06	1.22	1.58
Na_2O	0.03	0.05	0.02	0.02	0.01	-0.01	0.06
K_2O	0.02	0.02	0.02	0.00	0.00	0.05	0.09
Total	99.78	99.30	100.62	99.68	99.18	100.05	100.75
Mg#	66.2	61.3	60.5	64.6	62.3	63.8	65.9

Table C.13.5: TEQ-66, Orthopyroxene grain 5

Dist (µm)	0.0	29.8	89.3	148.9	238.2	267.9
SiO_2	53.57	54.68	54.13	53.87	53.18	54.08
TiO_2	0.00	0.02	0.05	0.03	0.05	0.06
Al_2O_3	0.46	0.46	0.63	1.22	0.63	1.05
Cr_2O_3	-0.01	0.00	0.02	0.01	0.01	0.02
FeO	17.46	17.32	18.24	18.46	20.23	18.03
MnO	0.69	0.60	0.75	0.66	0.74	0.47
MgO	25.31	25.73	25.46	24.68	23.39	24.70
CaO	1.22	1.36	1.46	1.29	1.21	1.77
Na_2O	0.02	0.01	0.05	0.04	0.05	0.02
K_2O	0.06	0.04	0.05	0.03	-0.02	0.02
Total	98.79	100.21	100.85	100.27	99.49	100.21
Mg#	72.1	72.6	71.3	70.4	67.3	70.9

Table C.13.6: TEQ-66, Orthopyroxene grain 6

Dist (µm)	0.0	14.8	29.6	44.4	59.2	74.0	88.8	103.6	118.4	133.2	148.0	177.6	192.4	207.2	222.0	236.8
SiO_2	54.10	53.91	53.86	53.63	53.50	53.18	53.32	53.60	53.80	53.49	52.87	53.47	53.96	53.61	53.01	53.12
TiO_2	0.09	0.09	0.06	0.09	0.08	0.13	0.17	0.15	0.13	0.12	0.12	0.09	0.07	0.11	0.08	0.07
Al_2O_3	1.21	0.96	1.10	1.26	1.27	1.72	2.65	1.91	1.69	1.60	1.64	1.29	0.80	0.98	0.83	1.00
Cr_2O_3	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.01	-0.01	0.00	-0.01	0.00	0.02	0.01	0.01	-0.01	-0.03
FeO	17.41	18.59	18.47	18.39	17.03	16.98	15.03	16.30	16.00	15.64	16.08	17.80	18.13	18.93	18.24	18.18
MnO	0.61	0.63	0.64	0.59	0.66	0.48	0.33	0.33	0.48	0.42	0.50	0.61	0.62	0.70	0.60	0.48
MgO	25.06	24.81	24.64	25.02	25.78	25.84	23.48	26.06	26.15	26.90	26.59	24.96	25.28	24.59	24.02	24.75
CaO	1.58	1.58	1.53	1.78	1.58	1.86	4.82	2.23	1.76	1.61	1.65	1.72	1.50	1.69	1.39	1.86
Na_2O	0.05	0.03	0.03	0.03	0.04	0.05	0.23	0.05	0.02	0.03	0.04	0.02	0.05	0.03	0.03	0.02
K_2O	-0.01	-0.02	0.00	-0.04	0.00	0.02	0.06	0.04	0.02	0.02	0.04	0.04	0.02	0.03	0.02	0.04
Total	100.13	100.59	100.34	100.78	99.95	100.26	100.10	100.65	100.04	99.82	99.53	100.00	100.44	100.68	98.21	99.52
Mg#	72.0	70.4	70.4	70.8	73.0	73.1	73.6	74.0	74.4	75.4	74.7	71.4	71.3	69.8	69.8	70.8

Table C.13.7: TEQ-66, Orthopyroxene grain 7

Dist (µm)	0.0	43.4	57.8	72.3	86.8	115.7	130.1	144.6	159.0	173.5	188.0
SiO_2	52.76	52.89	54.07	53.34	52.97	53.53	53.34	53.26	53.16	53.24	54.25
TiO_2	0.03	0.03	0.02	0.02	0.06	0.02	-0.01	0.00	0.00	0.03	0.02
Al_2O_3	0.27	0.33	0.38	0.37	0.45	0.29	0.37	0.38	0.38	0.48	0.51
Cr_2O_3	0.00	0.01	0.00	0.01	0.01	-0.03	-0.01	-0.03	-0.03	-0.03	0.00
FeO	22.73	23.28	22.25	22.81	22.61	24.47	24.15	24.10	23.48	24.07	21.66
MnO	1.20	1.13	1.08	1.32	0.96	1.21	1.32	1.23	1.24	1.00	1.00
MgO	21.01	21.34	22.01	21.00	22.14	20.83	19.97	20.86	21.03	20.84	22.30
CaO	1.04	1.08	1.06	1.15	1.11	1.05	1.21	1.06	1.14	1.07	1.23
Na_2O	-0.01	0.01	0.03	0.03	0.03	0.04	0.00	0.03	0.00	0.00	0.01
K_2O	0.02	0.02	-0.02	0.03	0.01	-0.01	-0.01	0.00	0.00	-0.05	0.01
Total	99.06	100.10	100.89	100.08	100.34	101.43	100.36	100.93	100.44	100.72	101.00
Mg#	62.2	62.0	63.8	62.1	63.6	60.3	59.6	60.7	61.5	60.7	64.7

Table C.13.8: TEQ-66, Orthopyroxene grain 8

Dist (µm)	0.0	15.2	30.5	45.7	76.2	91.5	106.7
SiO_2	53.72	53.04	54.02	53.92	53.17	53.68	52.88
TiO_2	0.05	0.03	0.02	0.02	0.03	0.01	0.04
Al_2O_3	0.61	0.46	0.48	0.37	0.25	0.20	0.28
Cr_2O_3	0.01	0.01	-0.02	-0.01	0.01	0.00	0.02
FeO	19.82	21.89	20.76	21.33	23.27	22.55	22.07
MnO	0.99	0.97	0.94	1.02	1.31	1.36	1.22
MgO	23.28	22.03	22.86	22.46	21.64	22.38	22.31
CaO	1.17	1.03	1.08	1.18	1.09	1.22	1.15
Na_2O	-0.01	-0.01	-0.02	-0.03	-0.08	-0.07	-0.07
K_2O	0.04	0.02	0.02	0.05	-0.03	-0.02	-0.02
Total	99.69	99.49	100.17	100.35	100.76	101.38	99.98
Mg#	67.7	64.2	66.3	65.3	62.4	63.9	64.3

Table C.13.9: TEQ-66, Orthopyroxene grain 9

Dist (µm)	0.0	14.8	29.5	44.3	59.0	73.8	88.6	103.3	118.1	132.8	147.6
SiO_2	52.30	53.27	51.94	52.05	52.72	52.81	52.02	53.16	53.02	52.37	52.78
TiO_2	0.03	0.05	0.04	0.04	0.02	0.03	0.02	0.01	0.02	0.03	0.04
Al_2O_3	0.27	0.35	0.25	0.24	0.31	0.32	0.94	0.35	0.33	0.28	0.36
Cr_2O_3	0.00	0.01	-0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	-0.03
FeO	22.97	23.67	24.85	24.26	23.18	23.65	22.87	22.98	23.97	23.93	23.08
MnO	1.12	1.15	1.46	1.27	1.24	1.18	1.21	1.03	1.17	1.19	1.16
MgO	21.17	21.73	20.54	20.68	21.30	21.49	21.07	21.52	21.24	20.98	21.53
CaO	1.08	1.13	1.16	1.26	1.09	1.14	1.10	1.10	1.22	1.06	1.10
Na_2O	-0.09	-0.10	-0.09	-0.08	0.02	0.00	0.02	0.00	0.01	0.01	0.02
K_2O	-0.01	-0.01	-0.01	-0.04	-0.01	0.02	-0.02	0.00	0.03	0.02	-0.04
Total	98.95	101.36	100.25	99.81	99.88	100.64	99.28	100.17	101.00	99.87	100.06
Mg#	62.2	62.1	59.6	60.3	62.1	61.8	62.2	62.5	61.2	61.0	62.5

Table C.13.10: TEQ-66, Orthopyroxene grain 10

Dist (µm)	7.8	15.7	23.5	31.3	39.1	47.0	70.5	78.3	86.1	93.9	101.8	109.6	117.4
SiO_2	53.06	53.97	53.85	53.38	53.33	53.61	52.39	52.96	53.18	53.22	52.34	53.73	52.50
TiO_2	0.04	0.00	0.04	0.03	0.04	0.03	0.04	0.03	0.02	0.03	0.03	0.00	0.02
Al_2O_3	0.24	0.22	0.16	0.28	0.26	0.18	0.26	0.27	0.21	0.41	0.46	0.41	0.37
Cr_2O_3	0.01	0.01	-0.02	0.00	-0.01	0.01	0.00	0.00	0.00	0.04	0.00	-0.01	0.00
FeO	23.54	22.98	22.71	23.07	23.26	23.84	24.68	23.30	23.18	23.56	22.81	22.68	21.76
MnO	1.07	1.05	1.10	1.19	1.24	1.20	1.45	1.11	1.18	0.97	0.99	1.05	1.01
MgO	21.31	21.24	21.97	21.51	21.42	20.91	20.40	20.99	21.14	21.22	21.43	22.13	22.36
CaO	1.03	1.18	1.05	0.99	0.95	1.16	1.06	1.33	1.13	1.19	1.28	1.17	1.23
Na_2O	0.02	0.01	0.01	0.03	0.00	0.02	0.00	0.00	-0.03	0.00	0.01	0.01	0.02
K_2O	0.00	0.01	0.00	0.03	0.04	-0.01	-0.04	0.02	-0.02	0.02	0.03	0.04	0.04
Total	100.32	100.67	100.88	100.52	100.53	100.96	100.28	100.00	100.03	100.66	99.39	101.22	99.32
Mg#	61.7	62.2	63.3	62.4	62.1	61.0	59.6	61.6	61.9	61.6	62.6	63.5	64.7

Table C.13.11: TEQ-66, Orthopyroxene grain 11

Dist (µm)	15.5	31.0	46.5	62.0	77.5	93.0	108.5	124.0	139.5	155.0
SiO_2	54.69	54.79	54.84	54.46	53.96	53.33	53.41	54.43	54.67	53.83
TiO_2	0.06	0.09	0.09	0.09	0.11	0.08	0.08	0.07	0.05	0.08
Al_2O_3	0.83	0.71	0.73	0.70	0.60	0.67	0.80	0.75	0.80	0.94
Cr_2O_3	-0.01	0.00	-0.02	0.01	0.00	-0.01	0.01	0.03	0.03	0.03
FeO	17.73	17.23	17.71	17.80	16.97	17.68	17.12	17.14	17.35	16.71
MnO	0.53	0.57	0.49	0.56	0.51	0.46	0.64	0.54	0.63	0.54
MgO	25.69	25.68	25.63	25.47	25.55	25.54	25.90	25.70	25.68	25.73
CaO	1.52	1.70	1.65	1.59	1.57	1.78	1.63	1.56	1.67	1.80
Na_2O	0.01	0.01	0.02	0.04	0.01	0.05	0.04	0.02	0.05	0.03
K_2O	0.03	0.03	0.02	0.00	0.03	0.00	-0.01	-0.03	0.00	0.00
Total	101.09	100.81	101.17	100.71	99.30	99.58	99.64	100.25	100.94	99.69
Mg#	72.1	72.7	72.1	71.8	72.9	72.0	72.9	72.8	72.5	73.3

Table C.13.12: TEQ-66, Orthopyroxene grain 12

Dist (µm)	0.0	15.2	30.4	45.6	60.8	76.1	91.3	106.5	121.7	136.9
SiO_2	53.29	53.64	52.73	52.74	52.95	52.14	52.97	53.09	52.65	52.12
TiO_2	0.04	0.05	0.03	0.03	0.03	0.00	0.00	-0.01	0.02	0.02
Al_2O_3	0.46	0.46	0.37	0.45	0.28	0.30	0.23	0.19	0.48	0.29
Cr_2O_3	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.02	0.01	0.00
FeO	22.37	22.04	23.93	24.20	22.73	22.73	23.48	23.19	24.61	23.79
MnO	0.98	1.14	1.11	1.16	1.23	1.17	1.33	1.29	1.30	1.25
MgO	22.35	21.70	20.99	20.48	21.36	22.16	20.96	22.14	20.02	20.62
CaO	1.09	0.97	1.03	1.07	1.14	1.30	1.12	1.24	1.16	1.10
Na_2O	0.02	0.02	0.00	0.02	0.04	0.01	0.01	0.03	0.00	0.02
K_2O	0.02	-0.01	0.03	0.02	0.00	0.03	0.03	0.02	0.03	0.01
Total	100.61	100.01	100.24	100.16	99.76	99.85	100.14	101.19	100.27	99.22
Mg#	64.0	63.7	61.0	60.1	62.6	63.5	61.4	63.0	59.2	60.7

Table C.13.13: TEQ-66, Orthopyroxene grain 13

Dist (µm)	15.1	45.4	60.5	75.6	90.7	136.1	166.3	181.4	196.5	211.7	226.8	241.9	257.0	272.1
SiO_2	54.09	54.14	54.20	53.47	52.61	53.96	53.84	53.96	54.30	54.04	54.20	54.29	54.17	53.58
TiO_2	0.06	0.08	0.09	0.08	0.07	0.08	0.09	0.06	0.03	0.07	0.09	0.09	0.07	0.07
Al_2O_3	0.84	1.04	0.80	0.82	0.75	0.71	0.78	0.58	0.42	0.71	0.70	0.70	0.79	0.85
Cr_2O_3	0.00	0.00	0.01	0.00	0.01	0.01	-0.02	0.00	0.02	0.00	-0.01	0.01	0.01	0.01
FeO	17.80	18.56	19.38	19.41	19.25	18.06	19.11	19.72	19.42	19.18	17.99	18.12	17.92	18.57
MnO	0.81	0.69	0.66	0.76	0.79	0.70	0.66	0.90	0.83	0.71	0.67	0.61	0.64	0.79
MgO	25.02	24.68	24.41	24.13	23.66	24.82	24.63	24.10	24.30	24.21	24.88	25.21	25.26	24.17
CaO	1.49	1.72	1.60	1.60	1.39	1.66	1.62	1.26	1.19	1.46	1.65	1.54	1.54	1.78
Na_2O	0.02	0.01	0.01	0.05	0.04	0.03	-0.01	0.01	0.01	0.01	0.00	0.01	0.04	0.05
K_2O	0.04	0.01	0.01	0.00	0.01	-0.01	0.03	0.04	0.05	0.03	0.06	0.00	0.00	0.02
Total	100.17	100.93	101.17	100.31	98.58	100.03	100.77	100.63	100.56	100.43	100.24	100.58	100.43	99.89
Mg#	71.5	70.3	69.2	68.9	68.7	71.0	69.7	68.5	69.0	69.2	71.1	71.3	71.5	69.9

Table C.13.14: TEQ-66, Orthopyroxene grain 14

Dist (µm)	0.0	29.4	88.2	117.6	147.0	176.3	205.7	235.1	264.5	293.9	323.3	352.7	382.1	411.5	440.9	470.3	499.6	558.4
SiO_2	53.59	53.81	53.57	53.54	53.48	53.32	53.18	53.99	53.04	52.61	53.05	52.51	52.98	53.63	53.28	53.41	53.18	52.99
TiO_2	0.11	0.11	0.06	0.08	0.03	0.11	0.10	0.11	0.08	0.10	0.11	0.08	0.06	0.08	0.08	0.09	0.05	0.12
Al_2O_3	0.99	0.78	0.82	0.68	0.96	1.19	1.44	1.53	1.65	1.77	1.41	1.31	1.47	1.25	1.15	0.88	0.58	0.66
Cr_2O_3	-0.02	0.01	0.00	-0.01	0.00	-0.01	-0.01	-0.03	0.00	0.03	0.01	0.01	0.02	0.00	0.00	-0.01	0.00	0.00
FeO	19.02	19.75	19.88	20.20	20.43	18.64	18.47	18.93	18.76	18.72	18.54	18.23	18.55	18.99	18.55	19.17	19.43	19.98
MnO	0.87	0.77	0.73	0.75	0.77	0.63	0.69	0.61	0.56	0.54	0.57	0.63	0.58	0.73	0.78	0.78	0.90	0.85
MgO	24.15	24.06	24.09	23.38	23.49	24.45	24.42	24.18	24.54	24.58	24.73	24.53	24.45	24.63	24.33	24.12	23.69	23.18
CaO	1.33	1.34	1.24	1.43	1.27	1.31	1.50	1.54	1.50	1.48	1.38	1.54	1.49	1.45	1.41	1.37	1.58	1.62
Na_2O	0.03	0.02	0.03	0.00	0.00	0.05	0.00	0.05	-0.01	0.00	0.03	0.00	-0.02	0.02	0.03	0.03	0.02	0.03
K_2O	0.05	0.00	0.01	-0.01	0.00	0.01	0.03	0.03	-0.02	-0.02	0.01	0.00	-0.01	-0.03	-0.04	-0.03	-0.01	-0.02
Total	100.14	100.66	100.44	100.04	100.44	99.70	99.83	100.96	100.13	99.82	99.84	98.84	99.60	100.78	99.60	99.84	99.43	99.44
Mg#	69.4	68.5	68.4	67.4	67.2	70.0	70.2	69.5	70.0	70.1	70.4	70.6	70.1	69.8	70.0	69.2	68.5	67.4

Table C.13.15: TEQ-66, Orthopyroxene grain 15

Dist (µm)	7.6	15.2	22.8	30.3	37.9	45.5	53.1	60.7	68.3	83.4	91.0	98.6	106.2	113.8	121.4	129.0
SiO_2	53.24	53.58	52.83	53.12	53.29	52.81	54.43	53.02	53.34	53.01	53.16	53.65	52.99	52.78	53.11	52.86
TiO_2	0.00	0.01	0.00	0.05	0.04	0.05	0.05	0.06	0.00	0.02	0.01	0.01	0.02	0.02	0.03	0.01
Al_2O_3	0.49	0.40	0.42	0.31	0.40	0.58	0.33	0.30	0.23	0.25	0.25	0.33	0.44	0.48	0.47	0.36
Cr_2O_3	0.00	-0.01	0.00	-0.02	-0.01	0.00	0.00	-0.01	-0.01	-0.01	0.02	0.00	0.00	-0.01	0.01	-0.01
FeO	22.88	23.90	23.73	23.62	24.07	23.35	22.86	22.67	22.85	23.62	23.72	22.49	23.56	23.71	22.99	21.84
MnO	1.13	1.14	1.10	1.09	1.19	1.27	1.18	1.06	1.35	1.32	1.50	1.27	1.42	1.34	1.15	1.05
MgO	21.75	21.25	21.14	20.61	20.64	20.49	21.85	21.89	21.54	21.26	20.90	21.35	21.33	21.07	21.33	22.09
CaO	1.07	0.96	0.93	1.03	1.05	1.05	1.00	1.01	1.05	1.15	1.21	1.06	1.22	1.23	1.18	1.09
Na_2O	0.01	0.01	0.02	0.01	-0.04	-0.01	-0.02	-0.01	0.05	0.02	0.01	0.03	0.03	-0.01	0.01	0.00
K_2O	0.00	0.03	0.00	-0.02	-0.01	0.01	-0.03	0.03	0.01	-0.01	0.02	0.01	-0.03	0.04	0.02	0.01
Total	100.57	101.28	100.16	99.83	100.67	99.60	101.70	100.04	100.42	100.64	100.79	100.19	101.02	100.66	100.28	99.31
Mg#	62.9	61.3	61.4	60.9	60.4	61.0	63.0	63.2	62.7	61.6	61.1	62.9	61.7	61.3	62.3	64.3

Table C.13.16: TEQ-66, Orthopyroxene grain 16

Dist (µm)	0.0	30.5	45.7	76.1	106.6	121.8	137.0	152.3
SiO_2	53.26	52.89	52.89	52.55	53.40	52.69	52.92	52.52
TiO_2	0.02	0.01	0.01	0.01	0.01	0.02	0.03	0.04
Al_2O_3	0.46	0.40	0.37	0.36	0.35	0.35	0.39	0.36
Cr_2O_3	0.01	-0.02	-0.01	0.00	0.00	-0.01	0.00	0.00
FeO	22.42	24.26	23.33	23.54	23.19	23.16	23.02	23.22
MnO	0.83	1.06	1.08	1.00	1.03	1.16	1.07	0.98
MgO	22.69	20.99	21.18	20.99	21.13	21.45	21.70	21.07
CaO	1.04	1.12	1.23	1.16	1.10	1.09	1.12	1.12
Na_2O	0.00	0.01	0.02	0.04	0.04	0.03	0.04	0.03
K_2O	0.06	-0.04	-0.01	-0.03	-0.01	0.01	0.02	0.03
Total	100.79	100.73	100.11	99.65	100.25	99.95	100.31	99.36
Mg#	64.3	60.7	61.8	61.4	61.9	62.3	62.7	61.8

Table C.13.17: TEQ-66, Orthopyroxene grain 17

Dist (µm)	0.0	15.6	31.1	46.7	62.2	77.8	93.3	108.9	124.5	140.0	155.6
SiO_2	53.56	53.49	52.52	53.09	53.28	53.05	52.11	52.55	61.72	52.16	53.39
TiO_2	0.04	0.03	0.01	0.04	0.03	0.02	0.05	0.01	0.04	0.03	0.04
Al_2O_3	0.36	0.21	0.30	0.35	0.38	0.40	0.36	0.21	6.08	0.37	0.25
Cr_2O_3	0.02	0.03	0.02	0.04	0.02	0.03	0.01	0.02	0.01	0.00	-0.02
FeO	21.79	22.70	23.54	23.61	22.38	22.91	24.32	23.38	12.87	23.26	23.76
MnO	1.16	1.30	1.28	1.18	1.12	1.13	1.11	1.25	0.59	1.20	1.14
MgO	22.04	21.86	20.66	20.32	22.04	21.37	20.87	20.86	11.84	20.76	20.62
CaO	1.26	1.00	1.05	1.02	1.10	0.97	1.09	1.27	1.28	1.24	1.03
Na_2O	0.02	0.02	0.03	0.04	0.06	0.06	0.06	0.04	1.81	0.04	0.02
K_2O	0.03	-0.02	0.01	0.04	0.06	0.04	0.02	0.02	2.36	0.00	0.00
Total	100.27	100.64	99.42	99.72	100.46	99.98	99.99	99.60	98.59	99.06	100.23
Mg#	64.3	63.2	61.0	60.5	63.7	62.4	60.5	61.4	62.1	61.4	60.7

Table C.13.18: TEQ-66, Orthopyroxene grain 18

Dist (µm)	14.3	28.6	42.9	57.2	71.5	85.8	100.1	114.4	128.7
SiO_2	53.16	52.65	53.31	53.52	53.41	53.60	51.99	53.14	52.46
TiO_2	0.07	0.08	0.06	0.07	0.05	0.04	0.07	0.08	0.06
Al_2O_3	0.79	1.00	1.04	0.94	0.87	0.65	1.37	0.84	0.96
Cr_2O_3	0.00	0.02	0.00	-0.01	0.00	0.01	-0.01	-0.02	-0.01
FeO	20.40	19.64	19.95	19.50	21.22	20.94	21.86	21.49	19.47
MnO	0.90	0.71	0.68	0.72	0.85	0.98	0.91	1.08	0.78
MgO	23.18	24.06	23.50	23.72	22.74	22.55	21.69	22.09	23.20
CaO	1.36	1.55	1.53	1.52	1.43	1.46	1.37	1.56	1.37
Na_2O	0.03	0.00	0.01	0.01	0.01	-0.02	0.02	-0.02	0.00
K_2O	-0.01	0.00	0.00	0.02	0.01	0.02	0.03	0.01	0.02
Total	99.88	99.71	100.08	100.02	100.59	100.25	99.31	100.31	98.32
Mg#	67.0	68.6	67.7	68.4	65.6	65.8	63.9	64.7	68.0

Table C.13.19: TEQ-66, Orthopyroxene grain 19

Dist (µm)	0.0	28.5	85.4	113.9	142.4	170.8	199.3	227.8	256.3	284.7	313.2
SiO_2	53.25	53.02	51.94	52.92	52.72	52.79	52.78	52.49	52.78	53.40	52.71
TiO_2	0.13	0.12	0.12	0.15	0.09	0.12	0.09	0.10	0.09	0.07	0.08
Al_2O_3	1.52	1.07	1.45	1.20	1.11	1.25	1.31	1.26	1.18	1.02	1.37
Cr_2O_3	-0.01	-0.02	0.00	0.02	0.01	0.00	0.00	0.00	-0.01	-0.02	-0.01
FeO	19.49	20.51	20.83	20.10	20.17	19.49	20.28	20.48	20.39	20.09	19.23
MnO	0.87	0.75	0.79	0.67	0.57	0.76	0.70	0.85	0.81	0.87	0.74
MgO	23.28	23.47	23.17	22.84	22.66	22.75	22.76	23.02	22.91	23.86	23.28
CaO	1.52	1.54	1.84	1.95	2.01	1.99	1.96	1.54	1.96	1.30	1.69
Na_2O	-0.01	0.01	0.07	0.04	0.06	0.03	0.02	0.02	0.05	0.02	0.02
K_2O	0.03	-0.02	-0.03	-0.03	0.00	-0.02	0.02	0.02	0.01	-0.01	0.07
Total	100.08	100.47	100.20	99.87	99.40	99.18	99.91	99.76	100.18	100.63	99.18
Mg#	68.0	67.1	66.5	66.9	66.7	67.5	66.7	66.7	66.7	67.9	68.3

Table C.13.20: TEQ-66, Orthopyroxene grain 20

Dist (µm)	0.0	14.8	29.6	44.3	59.1	88.7	103.5	118.2	133.0	147.8
SiO_2	53.16	53.81	53.28	52.68	53.14	52.91	52.65	53.01	52.97	53.58
TiO_2	0.30	0.32	0.41	0.38	0.39	0.33	0.45	0.41	0.36	0.32
Al_2O_3	1.20	1.01	1.43	1.51	1.55	1.19	1.72	1.49	1.24	1.17
Cr_2O_3	-0.04	-0.01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.03	-0.02	0.01
FeO	18.48	18.76	19.12	19.40	18.80	18.99	19.16	19.05	18.57	17.41
MnO	0.74	0.72	0.65	0.66	0.67	0.66	0.71	0.74	0.64	0.52
MgO	25.29	25.04	24.36	24.06	24.33	25.01	24.48	24.62	25.05	25.83
CaO	1.55	1.49	1.64	1.60	1.83	1.57	1.86	1.49	1.49	1.61
Na_2O	0.04	0.06	0.05	0.04	0.04	0.05	0.04	0.04	0.02	0.05
K_2O	0.03	0.00	0.00	0.02	-0.01	0.03	0.03	0.00	0.01	0.00
Total	100.78	101.20	100.92	100.35	100.76	100.73	101.09	100.85	100.37	100.48
Mg#	70.9	70.4	69.4	68.9	69.8	70.1	69.5	69.7	70.6	72.6

Table C.13.21: TEQ-66, Orthopyroxene grain 21

Dist (µm)	30.2	45.3	60.4	75.6	90.7	105.8	120.9
SiO_2	52.92	53.51	52.98	52.96	53.35	53.35	53.34
TiO_2	0.09	0.08	0.12	0.09	0.05	0.09	0.10
Al_2O_3	0.34	0.38	0.62	0.43	0.29	0.34	0.36
Cr_2O_3	0.04	0.02	-0.01	0.00	0.01	0.00	0.00
FeO	23.17	21.92	22.05	23.15	22.50	22.41	22.79
MnO	1.04	1.04	0.88	1.20	1.11	1.02	1.04
MgO	22.25	23.12	22.76	21.85	22.18	22.22	22.05
CaO	1.12	1.05	1.14	1.26	1.14	1.08	1.09
Na_2O	-0.01	-0.01	0.03	0.03	-0.01	0.02	0.00
K_2O	-0.01	0.00	0.02	0.00	0.02	0.02	-0.01
Total	100.97	101.12	100.61	100.96	100.65	100.53	100.76
Mg#	63.1	65.3	64.8	62.7	63.7	63.9	63.3

Table C.13.22: TEQ-66, Orthopyroxene grain 22

Dist (µm)	0.0	7.3	14.7	22.0	51.4	58.8	66.1	73.5	80.8	88.2	95.5	102.9	110.2	117.6	124.9	132.3	139.6	147.0
SiO_2	52.81	53.00	51.81	52.88	53.21	53.25	52.48	52.42	52.77	53.64	52.94	54.05	53.48	53.05	52.84	53.37	53.15	53.88
TiO_2	0.12	0.09	0.06	0.11	0.11	0.13	0.12	0.18	0.16	0.15	0.14	0.08	0.11	0.09	0.10	0.04	0.02	0.04
Al_2O_3	0.31	0.33	0.31	0.32	0.26	0.26	0.52	0.63	0.46	0.96	0.30	1.64	0.52	0.27	0.26	0.26	0.24	0.34
Cr_2O_3	0.04	0.04	0.06	-0.02	-0.02	-0.03	-0.03	-0.05	-0.02	0.00	0.03	0.03	0.04	0.02	0.01	-0.03	-0.03	0.00
FeO	23.19	23.21	24.35	23.81	22.46	23.07	22.59	23.62	23.76	22.47	24.56	21.83	22.97	22.48	22.92	22.44	22.19	22.47
MnO	1.13	1.05	1.10	1.17	1.25	1.17	1.28	1.21	1.23	1.11	1.30	1.21	1.16	1.09	1.39	1.18	1.18	1.29
MgO	21.77	21.84	21.31	21.01	21.93	22.34	21.49	21.26	21.38	20.12	20.79	18.69	21.83	22.11	21.81	22.75	22.44	22.22
CaO	1.02	1.01	1.04	1.00	1.14	1.11	1.99	1.07	1.13	1.04	1.15	1.50	1.17	1.04	1.09	1.14	1.18	1.19
Na_2O	-0.01	-0.01	-0.01	0.01	0.00	0.03	0.04	0.02	0.01	0.18	0.01	0.42	0.05	0.02	0.03	0.03	0.02	0.03
K_2O	-0.03	-0.01	0.00	0.03	0.03	0.01	0.05	0.05	0.02	0.26	0.04	0.64	0.05	0.01	0.02	0.00	0.01	0.04
Total	100.40	100.58	100.04	100.33	100.38	101.35	100.55	100.45	100.92	99.91	101.25	100.08	101.37	100.18	100.47	101.21	100.42	101.49
Mg#	62.6	62.6	60.9	61.1	63.5	63.3	62.9	61.6	61.6	61.5	60.2	60.4	62.9	63.7	62.9	64.4	64.3	63.8

Table C.13.23: TEQ-66, Orthopyroxene grain 23

Dist (µm)	0.0	7.4	14.7	22.1	29.4	36.8	44.1	51.5	58.9	66.2
SiO_2	52.65	53.42	53.16	53.91	54.00	54.22	54.14	52.98	53.31	53.46
TiO_2	0.35	0.41	0.46	0.36	0.39	0.44	0.41	0.53	0.45	0.47
Al_2O_3	1.76	1.45	1.87	1.17	1.54	1.83	1.83	2.09	2.00	1.60
Cr_2O_3	0.04	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02	-0.04	-0.01	0.00
FeO	20.99	19.08	17.93	17.69	17.69	17.26	17.08	17.08	18.24	18.25
MnO	0.83	0.61	0.58	0.58	0.55	0.58	0.57	0.54	0.55	0.57
MgO	21.28	23.82	23.44	25.57	25.03	24.24	24.55	23.64	24.34	25.04
CaO	2.10	2.15	2.48	1.97	2.07	2.76	2.32	4.23	2.29	2.17
Na_2O	0.13	0.03	0.04	0.04	0.06	0.08	0.04	0.07	0.04	0.03
K_2O	0.11	0.06	0.04	0.02	0.04	0.04	0.16	-0.07	0.00	-0.02
Total	100.22	101.03	100.00	101.29	101.37	101.45	101.11	101.16	101.20	101.59
Mg#	64.4	69.0	70.0	72.0	71.6	71.5	71.9	71.2	70.4	71.0

Table C.13.24: TEQ-66, Orthopyroxene grain 24

Dist (µm)	0.0	7.2	14.5	21.7	28.9	36.2	43.4	50.6	57.8	65.1	72.3	79.6
SiO_2	52.21	52.95	53.07	53.21	53.69	53.79	53.16	53.52	52.65	52.57	51.82	53.37
TiO_2	0.51	0.36	0.31	0.33	0.34	0.28	0.28	0.24	0.22	0.23	0.42	0.35
Al_2O_3	1.70	0.72	0.57	0.89	0.82	1.04	1.12	0.69	0.72	0.79	1.79	1.17
Cr_2O_3	-0.01	0.02	0.01	0.01	0.02	0.03	0.07	0.01	0.07	0.05	0.01	-0.01
FeO	19.03	21.09	20.53	20.34	20.62	18.72	19.99	19.85	21.21	20.62	18.65	19.07
MnO	0.60	0.85	0.84	0.72	0.79	0.62	0.67	0.79	0.81	0.96	0.54	0.73
MgO	24.49	22.66	23.12	23.28	24.00	23.92	24.22	23.34	22.95	22.42	24.00	24.29
CaO	1.97	1.51	1.52	1.56	1.43	1.73	1.63	1.65	1.39	1.65	2.10	1.70
Na_2O	0.04	0.02	0.04	0.04	0.04	0.05	0.07	0.07	0.09	0.05	0.03	0.01
K_2O	0.02	0.01	0.02	0.01	0.02	0.05	0.01	0.02	0.06	0.04	0.01	0.04
Total	100.57	100.20	100.01	100.38	101.77	100.22	101.22	100.18	100.17	99.38	99.36	100.72
Mg#	69.6	65.7	66.7	67.1	67.5	69.5	68.4	67.7	65.9	66.0	69.6	69.4

Table C.13.25: TEQ-66, Orthopyroxene grain 25

Dist (µm)	0.0	7.6	15.2	22.8	30.4	37.9	60.7	68.3	75.9	83.5	91.1	98.6	113.8	121.4
SiO_2	53.44	54.20	54.04	53.88	53.29	53.59	54.47	53.70	54.34	55.10	53.70	54.02	53.68	54.06
TiO_2	0.15	0.10	0.12	0.13	0.11	0.12	0.11	0.12	0.14	0.15	0.14	0.10	0.14	0.16
Al_2O_3	0.56	0.60	0.49	0.46	0.37	0.39	0.47	0.42	0.44	0.41	0.42	0.37	0.52	0.59
Cr_2O_3	0.03	0.03	0.05	0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.01	0.02	0.02	0.06	0.06
FeO	20.72	20.67	20.83	22.74	23.98	23.97	22.09	21.84	21.74	21.05	22.46	21.99	20.72	20.93
MnO	0.87	0.98	0.94	1.01	1.37	1.28	1.08	1.00	1.01	1.09	1.04	1.13	1.00	0.87
MgO	23.46	23.88	23.63	22.17	21.34	21.20	22.61	22.91	23.10	23.10	22.39	22.39	23.84	23.14
CaO	1.21	1.27	1.10	1.13	1.15	1.19	1.11	1.04	1.00	1.04	1.22	1.07	1.15	1.24
Na_2O	0.03	0.00	0.00	0.01	-0.01	0.01	0.02	0.01	0.01	0.01	0.05	0.02	0.04	0.03
K_2O	0.02	-0.01	0.00	-0.02	-0.02	0.00	-0.03	-0.01	-0.02	-0.05	-0.04	-0.01	0.02	0.01
Total	100.49	101.74	101.19	101.53	101.61	101.75	101.97	101.04	101.78	101.94	101.45	101.10	101.15	101.09
Mg#	66.9	67.3	66.9	63.5	61.3	61.2	64.6	65.2	65.4	66.2	64.0	64.5	67.2	66.3

APPENDIX D

COMPOSITIONAL ANALYSES OF CLINOPYROXENE CRYSTALS

Table D.1.1: XAL-132, Clinopyroxene grain 1

Dist (µm)	0.0	15.3	76.5	91.8	107.1	122.4	137.7	153.0	168.3
SiO_2	53.49	53.69	52.85	52.84	51.47	49.74	51.76	51.62	50.73
TiO_2	0.33	0.36	0.36	0.48	0.81	0.69	0.54	0.61	0.70
Al_2O_3	0.90	1.11	3.26	1.95	2.59	5.40	2.24	2.04	2.83
Cr_2O_3	0.03	0.00	0.06	0.06	0.04	0.07	0.03	0.00	0.04
FeO	19.08	17.53	16.14	8.21	9.26	8.63	8.46	9.13	9.43
MnO	0.48	0.48	0.37	0.31	0.25	0.25	0.18	0.26	0.22
MgO	25.42	26.28	23.54	15.67	15.42	14.54	15.68	15.36	14.94
CaO	1.45	1.93	1.78	20.96	20.33	20.34	21.38	21.27	18.95
Na_2O	0.03	0.05	0.05	0.36	0.36	0.40	0.36	0.35	0.30
K_2O	0.01	0.01	0.03	0.01	0.03	0.01	0.01	0.04	0.07
Total	101.21	101.46	98.43	100.83	100.56	100.05	100.63	100.68	98.22
Mg#	70.4	72.8	72.2	77.3	74.8	75.0	76.8	75.0	73.9

Table D.1.2: XAL-132, Clinopyroxene grain 2

Dist (µm)	0.0	30.5	60.9	121.9	152.4	182.8	213.3	243.8	274.3	304.7	335.2	365.6	396.1	426.6	457.1	487.5	518.0	548.5	579.0	609.4
SiO_2	52.04	52.83	51.43	51.89	52.53	51.56	51.68	51.54	52.40	52.39	52.02	51.74	51.77	52.00	52.75	52.27	52.56	51.89	51.63	51.09
TiO_2	0.52	0.55	0.53	0.45	0.45	0.51	0.44	0.44	0.44	0.53	0.55	0.47	0.41	0.62	0.47	0.47	0.56	0.50	0.54	0.51
Al_2O_3	1.91	1.82	2.31	1.67	1.70	2.02	1.73	1.89	1.80	1.76	2.00	1.66	1.73	2.02	1.72	1.80	1.73	1.81	2.04	1.95
Cr_2O_3	0.04	0.00	0.00	-0.04	0.03	-0.01	0.00	-0.02	0.02	-0.01	0.03	-0.01	0.00	0.03	-0.01	-0.01	-0.02	-0.06	-0.01	-0.05
FeO	8.97	8.57	9.39	7.75	8.44	8.28	8.11	8.60	7.91	7.99	8.35	7.73	7.93	8.07	8.30	8.27	8.90	8.47	8.86	8.44
MnO	0.29	0.27	0.35	0.35	0.28	0.32	0.20	0.27	0.34	0.24	0.28	0.27	0.34	0.24	0.18	0.27	0.33	0.21	0.17	0.26
MgO	15.83	15.64	15.59	15.61	15.63	15.59	15.62	15.63	15.85	15.46	15.47	15.58	15.90	15.74	15.92	15.83	15.84	15.65	15.69	15.58
CaO	21.08	20.36	20.52	21.51	21.43	21.78	20.82	20.73	21.10	21.60	21.13	21.42	21.83	21.90	21.59	20.50	20.13	19.99	20.90	21.10
Na_2O	0.30	0.34	0.34	0.34	0.36	0.32	0.37	0.33	0.33	0.32	0.33	0.28	0.28	0.34	0.33	0.31	0.33	0.30	0.36	0.30
K_2O	0.02	0.01	-0.04	0.00	-0.01	-0.01	-0.01	0.01	-0.02	-0.01	-0.02	-0.03	-0.01	0.02	-0.02	-0.01	-0.02	-0.02	0.01	-0.02
Total	100.98	100.40	100.42	99.54	100.83	100.36	98.96	99.41	100.17	100.27	100.12	99.12	100.18	100.98	101.22	99.69	100.35	98.73	100.18	99.16
Mg#	75.9	76.5	74.7	78.2	76.7	77.0	77.4	76.4	78.1	77.5	76.8	78.2	78.1	77.7	77.4	77.3	76.0	76.7	75.9	76.7

Table D.1.3: XAL-132, Clinopyroxene grain 3

Dist (µm)	0.0	14.9	29.9	59.6	74.6	89.5	104.3	119.2	134.2	149.1	163.9	178.9	193.8	208.7	223.6	238.5
SiO_2	50.48	53.05	51.31	50.80	51.86	51.08	51.32	51.51	50.97	51.35	51.96	50.43	50.66	51.81	51.06	51.19
TiO_2	0.97	0.70	0.74	0.67	0.65	0.48	0.76	0.71	0.75	0.57	0.69	0.67	0.78	0.56	0.69	0.61
Al_2O_3	3.94	2.34	2.33	2.60	2.17	2.00	2.65	2.66	2.57	2.21	2.16	2.66	2.79	2.39	2.46	2.41
Cr_2O_3	0.00	-0.03	0.01	-0.05	0.02	-0.04	0.05	-0.02	-0.01	-0.02	0.02	0.04	0.04	0.04	0.03	0.03
FeO	10.07	8.49	9.05	8.94	8.90	8.46	8.56	8.63	8.15	7.97	8.77	9.57	9.74	9.31	9.25	8.79
MnO	0.34	0.21	0.24	0.30	0.37	0.33	0.33	0.33	0.18	0.32	0.28	0.26	0.27	0.35	0.21	0.21
MgO	13.80	15.29	15.34	15.26	15.27	16.16	15.01	15.17	15.39	15.74	15.54	15.10	15.84	15.33	15.58	15.80
CaO	21.04	21.09	20.67	20.87	20.34	20.80	20.63	21.14	20.80	21.46	20.80	20.29	20.57	20.80	20.79	20.84
Na_2O	0.40	0.34	0.39	0.30	0.35	0.35	0.35	0.38	0.30	0.32	0.40	0.39	0.35	0.32	0.26	0.33
K_2O	0.00	-0.06	-0.01	0.00	-0.06	-0.05	-0.02	-0.06	-0.03	-0.04	-0.03	-0.01	0.00	0.05	0.01	0.03
Total	101.03	101.41	100.07	99.67	99.88	99.58	99.64	100.45	99.06	99.88	100.57	99.41	101.05	100.96	100.32	100.23
Mg#	70.9	76.3	75.1	75.3	75.4	77.3	75.8	75.8	77.1	77.9	76.0	73.8	74.3	74.6	75.0	76.2

Table D.1.4: XAL-132, Clinopyroxene grain 4

Dist (µm)	30.7	45.9	61.2	76.6	107.2	122.4	137.8	153.1	168.4	183.6	199.0	229.7	245.0	260.2	275.5
SiO_2	53.25	53.26	54.16	53.54	52.72	52.70	53.10	51.13	51.29	52.04	54.27	51.25	51.08	51.49	51.33
TiO_2	0.38	0.34	0.40	0.30	0.32	0.28	0.39	0.45	0.53	0.50	0.27	0.52	0.48	0.58	0.69
Al_2O_3	1.21	1.65	1.17	1.23	1.46	2.02	1.95	1.96	2.12	1.92	1.37	2.37	1.91	1.82	1.98
Cr_2O_3	0.00	0.04	0.00	0.04	0.04	0.09	0.07	0.01	0.01	0.01	0.00	0.00	0.03	0.01	-0.02
FeO	17.01	17.96	17.65	17.40	16.90	17.18	14.56	8.87	8.28	8.19	16.94	8.18	8.57	8.78	9.62
MnO	0.52	0.48	0.50	0.68	0.44	0.43	0.32	0.24	0.28	0.23	0.42	0.23	0.23	0.26	0.25
MgO	25.80	25.88	25.83	25.86	25.57	25.92	22.71	15.71	15.49	15.50	26.24	15.34	15.62	15.75	15.24
CaO	1.51	1.45	1.42	1.55	1.30	1.44	6.41	21.12	21.57	21.07	1.34	20.92	20.71	20.50	20.09
Na_2O	0.04	0.06	0.03	0.05	0.05	0.04	0.17	0.38	0.38	0.34	0.03	0.32	0.32	0.39	0.34
K_2O	0.03	0.02	0.03	0.01	0.00	-0.01	-0.02	-0.01	-0.02	0.01	-0.02	0.01	-0.01	-0.04	0.03
Total	99.74	101.14	101.18	100.66	98.79	100.09	99.66	99.86	99.92	99.79	100.85	99.13	98.93	99.52	99.54
Mg#	73.0	72.0	72.3	72.6	73.0	72.9	73.5	76.0	76.9	77.1	73.4	77.0	76.5	76.2	73.8

Table D.1.5: XAL-132, Clinopyroxene grain 5

Dist (µm)	123.7	185.6	247.4	309.3	371.2	433.0	494.9	618.6	680.5	742.4	804.2	866.1
SiO_2	52.08	52.91	52.61	51.76	51.38	51.71	50.97	51.93	50.43	50.39	50.08	50.98
TiO_2	0.46	0.54	0.47	0.54	0.73	0.61	0.70	0.35	0.49	0.59	0.52	0.56
Al_2O_3	1.88	2.01	2.04	2.34	2.56	2.34	2.22	1.26	1.86	2.13	2.68	2.59
Cr_2O_3	0.02	0.06	0.04	0.06	0.08	0.03	0.05	0.02	0.02	0.04	0.17	0.21
FeO	7.45	7.64	7.99	7.74	8.39	8.10	7.62	8.98	8.80	8.74	7.94	7.76
MnO	0.33	0.27	0.33	0.29	0.40	0.31	0.39	0.41	0.29	0.28	0.10	0.20
MgO	15.92	15.90	15.99	15.38	15.29	15.37	15.41	15.24	15.33	15.57	15.67	15.79
CaO	20.77	21.19	21.30	21.13	20.66	21.35	21.38	21.69	20.88	20.76	21.17	20.92
Na_2O	0.34	0.20	0.22	0.30	0.29	0.23	0.27	0.37	0.37	0.36	0.30	0.35
K_2O	0.08	0.04	0.01	-0.01	0.03	-0.01	0.01	-0.08	-0.01	-0.03	-0.01	-0.01
Total	99.32	100.77	101.00	99.54	99.81	100.05	99.00	100.17	98.45	98.83	98.61	99.34
Mg#	79.2	78.8	78.1	78.0	76.5	77.2	78.3	75.2	75.6	76.1	77.9	78.4

Table D.2.1: XAL-132, Clinopyroxene grain 1

Dist (µm)	0.0	60.6	121.3	181.9	242.5	303.3	363.9	424.5	485.2	545.8	606.4	667.2	727.8	788.4	849.1
SiO_2	51.78	52.70	52.08	52.18	52.30	52.53	51.83	52.94	50.96	50.86	50.85	51.53	51.18	51.15	51.21
TiO_2	0.67	0.65	0.64	0.63	0.64	0.62	0.71	0.61	0.99	1.08	1.06	1.08	0.89	0.92	1.01
Al_2O_3	2.18	2.12	2.22	1.89	1.94	2.08	2.44	1.98	3.16	3.18	3.28	3.26	2.90	2.85	2.93
Cr_2O_3	0.02	0.02	0.03	0.01	0.02	0.01	0.00	0.03	0.02	-0.01	0.00	0.00	0.00	-0.01	0.03
FeO	8.21	8.73	8.52	8.38	8.75	8.97	8.89	8.79	8.82	8.87	8.68	8.76	8.59	8.76	8.73
MnO	0.31	0.35	0.32	0.32	0.33	0.40	0.35	0.31	0.32	0.36	0.27	0.31	0.31	0.28	0.31
MgO	15.95	16.28	15.91	15.93	16.38	16.59	16.05	16.26	15.17	15.30	15.12	15.12	15.44	15.48	15.48
CaO	20.53	19.88	19.81	20.41	19.63	19.49	19.60	19.76	20.21	20.77	20.93	21.24	20.56	20.45	20.23
Na_2O	0.36	0.34	0.37	0.35	0.34	0.34	0.41	0.32	0.38	0.39	0.42	0.40	0.37	0.41	0.37
K_2O	0.01	0.01	0.00	0.00	-0.01	-0.01	-0.01	0.01	-0.01	0.01	0.01	0.00	0.00	-0.02	-0.02
Total	100.02	101.06	99.90	100.10	100.32	101.03	100.29	101.01	100.04	100.83	100.61	101.69	100.25	100.29	100.30
Mg#	77.6	76.9	76.9	77.2	76.9	76.7	76.3	76.7	75.4	75.5	75.6	75.5	76.2	75.9	76.0

Table D.2.2: XAL-132, Clinopyroxene grain 2

Dist (µm)	0.0	14.8	29.5	44.3	59.2	74.0	88.7	103.5	118.3	133.1	147.9	162.7	192.2	207.0	221.8	236.7	251.4	266.2	281.0	295.8	310.5
SiO_2	52.32	52.28	51.96	52.01	52.53	52.81	52.33	52.38	52.43	52.98	52.55	52.87	52.53	52.38	52.88	52.27	51.37	50.71	50.54	51.27	50.84
TiO_2	0.64	0.73	0.67	0.74	0.67	0.66	0.64	0.59	0.59	0.60	0.59	0.63	0.57	0.62	0.59	0.57	0.84	1.00	0.97	0.95	0.89
Al_2O_3	1.62	2.19	2.21	2.40	2.14	2.03	2.08	2.01	1.86	1.75	1.82	1.75	1.75	1.77	1.81	1.80	2.64	3.09	3.08	2.90	2.80
Cr_2O_3	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.01	0.01	0.00	0.00
FeO	9.61	8.18	8.37	8.18	8.36	8.39	8.52	8.61	8.74	8.70	8.76	8.57	8.65	8.63	8.60	8.49	8.63	8.42	8.59	8.55	8.36
MnO	0.41	0.30	0.27	0.25	0.32	0.29	0.25	0.32	0.37	0.33	0.31	0.32	0.30	0.31	0.33	0.28	0.26	0.28	0.28	0.28	0.26
MgO	16.58	15.86	15.91	15.76	15.96	16.08	16.19	16.26	16.49	16.55	16.44	16.43	16.27	16.20	16.23	16.10	15.42	15.07	14.89	15.37	15.20
CaO	18.60	20.87	20.63	20.66	20.57	20.31	20.47	19.79	20.12	19.54	19.55	19.89	20.05	19.96	20.42	20.07	20.60	20.30	20.44	20.61	20.72
Na_2O	0.21	0.36	0.35	0.35	0.35	0.34	0.33	0.32	0.31	0.32	0.33	0.31	0.31	0.32	0.29	0.31	0.33	0.40	0.38	0.36	0.38
K_2O	0.01	-0.01	-0.01	-0.01	-0.02	0.00	0.00	-0.01	0.00	-0.01	0.00	0.01	0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.01	0.01
Total	100.01	100.78	100.37	100.36	100.91	100.92	100.84	100.30	100.93	100.77	100.34	100.79	100.44	100.20	101.15	99.91	100.10	99.26	99.20	100.31	99.46
Mg#	75.5	77.6	77.2	77.4	77.3	77.4	77.2	77.1	77.1	77.2	77.0	77.4	77.0	77.0	77.1	77.2	76.1	76.1	75.5	76.2	76.4

Table D.3.1: XAL-103, Clinopyroxene grain 1

Dist (µm)	15.0	29.9	59.8	74.8	104.6	119.6	134.5	149.5	164.4	179.4	194.3	209.3
SiO_2	52.72	52.34	51.58	52.11	52.49	52.23	52.23	52.42	52.96	52.32	51.91	50.78
TiO_2	0.58	0.68	0.71	0.67	0.63	0.62	0.56	0.66	0.59	0.66	0.70	0.79
Al_2O_3	1.48	1.97	2.12	1.98	1.93	1.83	1.90	1.81	1.91	1.91	2.34	3.78
Cr_2O_3	0.02	0.04	0.01	0.02	0.01	0.01	0.00	-0.01	-0.02	0.00	0.01	-0.01
FeO	11.49	10.59	9.84	9.56	9.17	9.10	9.37	9.67	9.51	9.86	9.56	9.25
MnO	0.36	0.29	0.28	0.30	0.28	0.30	0.26	0.25	0.28	0.30	0.31	0.24
MgO	14.63	14.76	14.96	15.30	15.37	15.35	15.27	15.59	15.46	15.24	15.12	14.65
CaO	19.21	20.07	20.49	20.70	20.95	20.77	20.69	20.12	20.18	20.23	20.48	19.28
Na_2O	0.42	0.36	0.36	0.36	0.35	0.35	0.36	0.39	0.35	0.35	0.38	0.33
K_2O	0.00	0.01	0.01	0.02	0.02	0.01	0.03	0.01	0.03	0.01	0.02	0.05
Total	100.92	101.09	100.36	101.01	101.20	100.56	100.68	100.90	101.25	100.88	100.82	99.13
Mg#	69.4	71.3	73.0	74.0	74.9	75.0	74.4	74.2	74.4	73.4	73.8	73.8

Table D.3.2: XAL-103, Clinopyroxene grain 2

Dist (µm)	30.5	183.5	275.3	305.8	336.4	367.0	397.6	428.2	458.7
SiO_2	52.70	54.10	51.87	52.56	52.98	54.04	52.86	53.05	52.88
TiO_2	0.62	0.29	0.55	0.62	0.51	0.61	0.59	0.55	0.57
Al_2O_3	1.86	0.65	1.96	2.24	2.01	2.72	1.93	1.89	1.93
Cr_2O_3	-0.02	0.02	0.06	0.02	0.01	0.06	0.02	0.02	0.02
FeO	9.22	9.37	9.16	8.69	9.31	9.26	9.22	8.88	8.51
MnO	0.26	0.30	0.26	0.25	0.26	0.27	0.24	0.28	0.24
MgO	15.81	16.80	15.58	15.53	16.15	11.53	15.30	16.10	16.16
CaO	20.45	19.16	19.93	21.06	19.50	20.43	20.88	20.21	20.70
Na_2O	0.40	0.31	0.31	0.34	0.32	0.26	0.37	0.32	0.33
K_2O	0.03	-0.01	0.00	-0.02	0.00	0.00	0.00	0.04	0.03
Total	101.32	100.98	99.69	101.30	101.05	99.18	101.41	101.34	101.37
Mg#	75.3	76.2	75.2	76.1	75.6	69.0	74.7	76.4	77.2

Table D.3.3: XAL-103, Clinopyroxene grain 3

Dist (µm)	0.0	15.1	60.1	75.1	105.2	120.2	135.2	150.3	165.3	180.3	195.3
SiO_2	51.78	52.83	52.37	53.18	52.95	51.63	51.75	51.79	52.10	52.05	51.72
TiO_2	0.66	0.65	0.57	0.55	0.55	0.76	0.68	0.82	0.71	0.67	0.82
Al_2O_3	2.32	2.07	1.92	1.79	1.76	2.39	2.67	2.59	2.38	2.53	2.56
Cr_2O_3	0.02	0.04	0.03	0.03	0.07	0.08	0.07	0.07	0.05	0.05	0.04
FeO	8.64	8.80	8.93	8.93	8.61	8.72	9.01	9.33	8.65	8.79	9.21
MnO	0.26	0.27	0.26	0.24	0.23	0.29	0.29	0.28	0.26	0.30	0.31
MgO	15.43	15.57	15.63	15.97	16.11	15.10	14.90	15.61	15.78	15.54	15.62
CaO	20.54	20.79	20.58	20.40	20.29	20.84	20.35	20.28	20.74	20.55	20.48
Na_2O	0.34	0.34	0.29	0.31	0.33	0.35	0.40	0.34	0.39	0.39	0.35
K_2O	0.03	0.04	0.03	0.02	-0.01	-0.01	-0.01	0.00	-0.01	-0.02	0.02
Total	100.03	101.38	100.60	101.43	100.87	100.15	100.11	101.11	101.05	100.85	101.14
Mg#	76.1	75.9	75.7	76.1	76.9	75.5	74.7	74.9	76.5	75.9	75.1

Table D.4.1: TAN-13, Clinopyroxene grain 1

Dist (µm)	0.0	7.3	14.7	29.3	36.7	51.4	73.4	80.8	88.1
SiO_2	52.43	51.56	51.07	51.18	51.17	52.68	52.24	50.83	50.97
TiO_2	1.12	1.25	1.42	1.54	1.55	0.97	1.21	1.51	1.55
Al_2O_3	1.61	1.80	1.93	2.34	2.45	1.30	1.93	2.27	2.41
Cr_2O_3	0.06	0.05	0.05	0.02	0.02	0.01	0.06	0.09	0.09
FeO	11.06	10.59	11.04	10.18	10.08	10.28	9.41	9.90	9.90
MnO	0.37	0.36	0.34	0.30	0.27	0.32	0.28	0.28	0.29
MgO	15.45	15.59	15.65	15.03	15.01	16.50	16.03	15.58	15.38
CaO	18.07	18.90	18.24	19.45	19.63	18.00	19.37	19.54	19.55
Na_2O	0.59	0.43	0.45	0.43	0.42	0.33	0.23	0.26	0.22
K_2O	0.14	0.02	0.01	0.01	0.02	0.01	0.03	0.03	0.02
Total	100.90	100.55	100.21	100.47	100.61	100.41	100.77	100.30	100.38
Mg#	71.4	72.4	71.7	72.5	72.6	74.1	75.2	73.7	73.5

Table D.4.2: TAN-13, Clinopyroxene grain 2

Dist (µm)	0.0	7.3	14.7	22.1	29.5	36.8	44.2	51.5	58.9	66.3	73.6	88.3	95.8
SiO_2	51.70	51.41	51.77	50.51	51.13	51.71	52.76	51.47	51.47	52.63	52.29	52.40	51.58
TiO_2	1.29	1.30	1.17	1.49	1.24	1.21	0.85	1.19	1.22	0.93	0.91	0.84	1.07
Al_2O_3	2.68	2.67	2.39	2.40	3.13	2.70	1.63	2.67	2.70	1.83	1.80	1.75	2.51
Cr_2O_3	0.11	0.14	0.12	0.12	0.20	0.21	0.16	0.25	0.19	0.12	0.14	0.13	0.16
FeO	9.19	9.21	9.21	11.53	8.75	9.30	9.07	9.14	9.16	8.92	9.04	8.71	9.17
MnO	0.22	0.23	0.22	0.27	0.20	0.26	0.28	0.24	0.27	0.25	0.25	0.24	0.23
MgO	15.37	15.49	15.63	15.77	14.96	15.55	16.60	15.54	15.33	16.15	16.31	16.33	15.47
CaO	19.49	19.65	19.63	18.60	18.75	19.60	19.16	19.62	19.83	19.45	19.19	18.79	19.42
Na_2O	0.45	0.42	0.40	0.40	0.56	0.40	0.35	0.41	0.40	0.35	0.37	0.38	0.46
K_2O	0.04	0.00	0.00	0.01	0.13	-0.01	-0.01	0.00	0.01	0.01	-0.01	0.01	0.00
Total	100.55	100.53	100.54	101.10	99.05	100.95	100.86	100.53	100.57	100.64	100.29	99.58	100.08
Mg#	74.9	75.0	75.2	70.9	75.3	74.9	76.5	75.2	74.9	76.3	76.3	77.0	75.0

Table D.4.3: TAN-13, Clinopyroxene grain 3

Dist (µm)	7.4	15.0	22.4	29.8	37.3	44.8	52.3	59.7	67.3	74.7	82.1	89.6	104.5
SiO_2	52.47	52.56	53.23	52.68	52.43	51.09	51.26	51.03	50.64	51.21	51.45	51.38	53.23
TiO_2	0.93	0.95	0.93	0.96	0.90	1.36	1.40	1.34	1.44	1.50	1.31	1.46	1.13
Al_2O_3	1.40	1.47	1.50	1.46	1.74	2.92	2.90	2.87	2.82	2.90	2.45	2.47	2.99
Cr_2O_3	0.15	0.15	0.17	0.16	0.14	0.22	0.20	0.15	0.12	0.09	0.04	0.05	0.02
FeO	8.92	8.95	8.93	8.79	8.68	9.70	9.76	9.90	9.94	10.21	9.49	9.75	9.36
MnO	0.25	0.25	0.27	0.23	0.26	0.24	0.26	0.28	0.27	0.27	0.29	0.26	0.29
MgO	16.39	16.36	16.47	16.33	16.04	15.52	15.56	15.39	15.31	15.66	15.51	15.21	14.93
CaO	19.62	19.53	19.93	19.78	19.70	18.98	19.04	18.68	18.98	18.87	19.32	19.14	18.56
Na_2O	0.15	0.17	0.17	0.18	0.38	0.43	0.43	0.43	0.42	0.44	0.43	0.43	0.60
K_2O	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.04	0.00	0.01	0.02	0.01	0.20
Total	100.30	100.41	101.61	100.57	100.27	100.47	100.80	100.11	99.95	101.17	100.31	100.17	101.30
Mg#	76.6	76.5	76.7	76.8	76.7	74.0	74.0	73.5	73.3	73.2	74.4	73.6	74.0

Table D.4.4: TAN-13, Clinopyroxene grain 4

Dist (µm)	0.0	7.5	15.0	22.5	30.1	37.5	45.1
SiO_2	52.57	53.00	52.45	52.98	52.02	51.68	52.40
TiO_2	0.98	1.00	1.18	0.65	1.15	1.35	1.06
Al_2O_3	1.53	1.50	1.91	2.27	1.72	1.92	2.13
Cr_2O_3	0.03	0.03	0.04	0.01	0.02	0.02	0.02
FeO	9.56	9.73	9.60	9.59	9.89	10.06	9.48
MnO	0.27	0.30	0.28	0.37	0.29	0.28	0.31
MgO	16.13	16.41	15.72	14.62	15.04	14.89	14.77
CaO	18.94	18.73	19.11	17.86	19.34	19.48	18.89
Na_2O	0.38	0.36	0.40	0.71	0.48	0.51	0.55
K_2O	0.04	0.01	0.04	0.12	0.05	0.04	0.16
Total	100.44	101.07	100.73	99.18	100.01	100.23	99.76
Mg#	75.1	75.0	74.5	73.1	73.0	72.5	73.5

Table D.5: XAL-117, Clinopyroxene grain

Dist (µm)	29.5	59.2	118.3	147.9	177.5	207.0	236.6	266.2	295.8	325.3	355.0	414.1	443.7	473.3	502.8	532.5	562.0	591.6
SiO_2	53.11	52.03	52.84	55.05	51.56	54.94	53.81	54.85	54.72	55.29	54.93	55.40	52.67	52.13	52.25	53.54	53.34	59.24
TiO_2	0.42	0.71	0.64	0.29	0.48	0.24	0.31	0.24	0.31	0.24	0.20	0.22	0.60	0.76	0.63	0.42	0.51	0.58
Al_2O_3	1.52	2.94	3.52	1.64	4.58	2.48	3.09	1.97	1.97	1.69	1.68	1.11	2.39	3.01	2.36	1.71	1.98	4.76
Cr_2O_3	0.08	0.00	-0.01	0.02	0.01	0.20	0.26	0.14	0.13	0.06	0.14	0.01	0.02	0.05	0.02	0.03	0.01	0.01
FeO	8.11	9.37	8.49	15.78	15.83	14.13	15.17	14.04	14.84	15.44	14.63	16.16	8.24	8.32	9.07	7.97	8.06	6.98
MnO	0.30	0.26	0.21	0.43	0.31	0.29	0.34	0.30	0.35	0.35	0.38	0.46	0.28	0.25	0.32	0.34	0.25	0.22
MgO	16.56	15.64	15.34	27.63	25.63	28.33	27.16	28.67	27.66	27.95	28.34	27.83	15.82	15.49	15.86	16.56	16.30	12.24
CaO	20.62	19.99	20.13	1.41	1.91	1.57	1.70	1.65	2.24	1.34	1.57	1.28	21.36	20.85	20.39	20.55	21.31	16.41
Na_2O	0.26	0.33	0.34	0.01	0.01	0.01	0.02	0.03	0.04	0.01	-0.01	-0.01	0.30	0.29	0.34	0.26	0.31	1.00
K_2O	0.00	-0.03	0.01	-0.01	-0.04	-0.01	0.00	-0.02	-0.01	-0.01	-0.03	-0.03	-0.02	-0.02	-0.01	-0.02	0.00	0.98
Total	100.99	101.25	101.50	102.25	100.28	102.17	101.83	101.87	102.25	102.35	101.83	102.42	101.66	101.13	101.23	101.35	102.06	102.42
Mg#	78.4	74.8	76.3	75.7	74.3	78.1	76.1	78.5	76.9	76.3	77.5	75.4	77.4	76.8	75.7	78.7	78.3	75.8

Table D.6.1: XAL-109, Clinopyroxene grain 1

Dist (µm)	29.6	59.2	88.8	118.4	148.0	177.6	207.2	236.8	266.4	296.0	355.2	384.8	444.0	473.6	503.2	532.8	562.4	592.0
SiO_2	53.35	52.58	52.61	52.58	52.94	52.04	53.33	53.38	52.34	52.58	55.17	54.65	55.47	55.27	54.41	54.78	54.44	55.19
TiO_2	0.50	0.76	0.68	0.68	0.60	0.77	0.43	0.52	0.68	0.66	0.25	0.24	0.19	0.20	0.30	0.27	0.29	0.27
Al_2O_3	1.86	2.53	2.32	2.26	2.13	2.57	1.38	1.69	2.52	2.27	1.80	1.72	0.86	0.96	0.68	1.17	1.36	0.98
Cr_2O_3	0.03	0.02	0.00	-0.01	-0.01	0.03	0.03	-0.01	-0.01	0.00	0.04	0.06	-0.02	0.04	0.01	0.01	0.00	0.03
FeO	9.07	9.78	9.34	9.01	8.82	9.44	8.65	8.54	9.06	9.43	15.48	15.87	16.01	16.14	17.44	17.41	16.82	16.44
MnO	0.32	0.33	0.36	0.30	0.34	0.34	0.32	0.30	0.32	0.35	0.38	0.43	0.45	0.42	0.55	0.49	0.46	0.39
MgO	16.18	15.23	15.19	15.27	15.30	15.14	15.82	15.72	15.23	15.34	27.28	26.96	26.67	26.73	25.22	25.75	26.08	26.45
CaO	20.20	20.16	20.50	21.18	21.18	20.63	21.10	21.29	20.85	20.77	1.35	1.50	1.50	1.45	2.26	1.36	1.46	1.61
Na_2O	0.33	0.41	0.39	0.40	0.37	0.37	0.34	0.35	0.40	0.40	0.01	0.01	0.03	0.03	0.02	0.05	0.04	0.03
K_2O	0.00	0.00	0.01	0.01	-0.01	-0.01	0.02	-0.02	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
Total	101.82	101.80	101.40	101.68	101.65	101.31	101.42	101.76	101.38	101.82	101.76	101.43	101.16	101.22	100.90	101.29	100.96	101.39
Mg#	76.1	73.5	74.3	75.1	75.6	74.1	76.5	76.6	75.0	74.3	75.9	75.2	74.8	74.7	72.0	72.5	73.4	74.1

Table D.6.2: XAL-109, Clinopyroxene grain 2

Dist (µm)	0.0	60.3	120.7	181.0	241.3	301.7	362.0	422.4	482.7	663.8	724.1	905.1
SiO_2	52.72	52.68	52.62	51.88	51.28	53.01	50.38	52.41	52.69	52.60	53.67	54.95
TiO_2	0.61	0.49	0.54	0.62	0.54	0.49	0.76	0.56	0.53	0.58	0.25	0.27
Al_2O_3	2.35	1.93	2.01	2.30	3.13	1.99	3.14	2.26	2.18	2.19	3.03	1.23
Cr_2O_3	0.01	0.00	0.02	0.01	0.10	0.02	0.04	0.02	0.02	0.02	0.15	0.01
FeO	8.80	8.20	8.41	8.28	8.55	7.92	9.13	8.20	7.88	8.05	16.20	16.21
MnO	0.20	0.29	0.28	0.23	0.25	0.24	0.27	0.23	0.27	0.23	0.43	0.51
MgO	15.07	15.60	15.42	15.50	13.67	15.81	14.77	15.61	15.56	15.52	25.96	27.23
CaO	20.63	21.64	21.28	21.16	21.14	21.54	20.87	21.36	21.68	21.77	1.39	1.28
Na_2O	0.36	0.38	0.36	0.38	0.32	0.38	0.37	0.35	0.33	0.34	0.01	0.02
K_2O	0.04	0.04	0.01	0.01	0.04	0.01	0.01	0.00	0.00	0.00	-0.01	0.00
Total	100.76	101.25	100.95	100.36	99.02	101.41	99.75	101.00	101.11	101.29	101.08	101.71
Mg#	75.3	77.2	76.6	76.9	74.0	78.1	74.2	77.2	77.9	77.5	74.1	75.0

Table D.6.3: XAL-109, Clinopyroxene grain 3

Dist (µm)	0.0	15.3	30.5	45.8	61.1	76.4	122.2	137.5	167.9	183.2	198.5	213.8	229.0	244.3	274.9	290.1
SiO_2	53.55	53.27	52.90	53.57	53.89	53.35	53.54	53.35	52.78	53.19	53.26	53.23	52.00	52.18	53.08	51.85
TiO_2	0.48	0.44	0.43	0.49	0.39	0.42	0.46	0.49	0.52	0.53	0.51	0.53	0.66	0.80	0.56	0.54
Al_2O_3	1.84	1.68	1.67	1.89	1.59	2.10	2.17	2.61	2.20	2.17	2.05	2.08	2.50	2.92	2.17	2.83
Cr_2O_3	0.02	0.00	0.04	-0.02	0.00	0.01	0.00	0.01	0.03	-0.03	-0.02	-0.03	-0.02	0.02	0.00	0.03
FeO	8.38	8.23	7.94	7.67	7.66	7.66	7.55	8.75	7.79	7.94	7.99	7.73	8.24	8.58	7.98	9.27
MnO	0.30	0.29	0.31	0.27	0.28	0.27	0.27	0.28	0.31	0.33	0.31	0.24	0.30	0.26	0.31	0.29
MgO	15.43	15.65	15.91	15.84	15.93	15.76	15.90	15.05	13.42	15.62	15.75	15.63	15.36	15.26	15.59	14.60
CaO	21.29	21.24	21.70	21.74	21.05	21.36	21.69	20.33	21.67	21.73	21.70	21.49	21.12	21.27	21.69	20.00
Na_2O	0.31	0.32	0.35	0.33	0.29	0.31	0.33	0.29	0.33	0.34	0.36	0.33	0.34	0.39	0.34	0.32
K_2O	0.01	-0.03	-0.02	-0.03	-0.01	0.00	-0.01	0.01	-0.01	-0.01	-0.01	0.01	0.00	0.01	0.00	0.01
Total	101.61	101.09	101.22	101.76	101.06	101.25	101.89	101.17	99.04	101.81	101.89	101.24	100.50	101.68	101.72	99.73
Mg#	76.7	77.2	78.1	78.6	78.7	78.6	79.0	75.4	75.4	77.8	77.8	78.3	76.9	76.0	77.7	73.7

Table D.7.1: TEQ-34, Clinopyroxene grain 1

Dist (µm)	0.0	7.3	14.6	21.8	29.1	36.4	43.7	51.0	58.2	65.5	80.1
SiO_2	51.05	50.95	50.57	51.22	50.45	52.06	50.77	50.80	50.82	49.45	50.60
TiO_2	0.90	1.02	0.99	1.10	1.24	0.59	0.96	1.19	1.24	1.56	1.18
Al_2O_3	3.07	2.88	3.10	3.05	3.17	1.79	2.41	3.30	3.29	3.82	3.35
Cr_2O_3	-0.01	-0.02	0.01	0.02	0.00	-0.01	0.02	-0.01	0.04	0.02	0.02
FeO	13.71	13.95	14.56	15.06	12.93	13.93	13.55	15.77	14.09	13.94	13.29
MnO	0.68	0.77	0.68	0.66	0.61	0.74	0.68	0.77	0.72	0.69	0.70
MgO	14.88	15.51	15.72	16.16	14.29	16.31	15.01	15.18	14.00	13.42	13.48
CaO	15.68	14.44	14.79	13.95	17.39	14.52	16.13	14.32	16.63	17.00	18.30
Na_2O	0.46	0.37	0.41	0.32	0.47	0.35	0.40	0.42	0.43	0.45	0.42
K_2O	0.18	0.05	0.07	0.06	0.06	0.04	0.02	0.04	0.01	0.06	0.06
Total	100.60	99.94	100.91	101.58	100.60	100.33	99.94	101.80	101.27	100.41	101.38
Mg#	65.9	66.5	65.8	65.7	66.3	67.6	66.4	63.2	63.9	63.2	64.4

Table D.7.2: TEQ-34, Clinopyroxene grain 2

Dist (µm)	0.0	7.4	14.9	22.3	44.6	59.4	66.9	74.3	89.1	96.6	104.0
SiO_2	52.26	51.26	50.95	51.63	49.47	50.67	51.20	50.47	52.34	48.70	54.61
TiO_2	0.98	0.90	0.99	1.10	1.42	0.97	1.24	1.27	0.86	1.47	0.65
Al_2O_3	3.62	2.36	2.52	2.53	3.58	2.25	2.84	2.72	3.34	3.91	4.97
Cr_2O_3	0.03	-0.03	-0.03	0.04	0.05	0.01	0.03	0.00	0.01	-0.02	-0.03
FeO	10.51	10.70	11.74	11.00	11.94	10.35	10.56	10.30	10.69	12.79	11.50
MnO	0.46	0.53	0.58	0.43	0.52	0.42	0.50	0.35	0.54	0.56	0.52
MgO	13.47	15.16	15.31	15.12	14.31	15.05	15.34	15.11	14.57	14.90	14.38
CaO	18.35	18.76	17.75	18.63	18.30	19.15	19.09	19.11	16.69	17.25	12.88
Na_2O	0.51	0.42	0.33	0.38	0.37	0.38	0.38	0.37	0.87	0.38	0.57
K_2O	0.43	0.05	0.06	0.10	0.07	0.01	0.03	0.00	0.22	0.01	0.57
Total	100.61	100.13	100.23	100.96	100.04	99.27	101.20	99.70	100.11	99.97	100.65
Mg#	69.5	71.6	69.9	71.0	68.1	72.2	72.2	72.3	70.8	67.5	69.0

Table D.7.3: TEQ-34, Clinopyroxene grain 3

Dist (µm)	0.0	15.6	23.4	31.2	39.0
SiO_2	54.38	53.69	51.28	50.25	52.10
TiO_2	0.21	0.41	0.89	0.86	0.89
Al_2O_3	0.93	1.09	2.30	2.28	2.48
Cr_2O_3	-0.03	0.02	0.02	0.02	0.00
FeO	17.19	18.48	10.85	11.20	11.58
MnO	0.69	0.76	0.53	0.46	0.50
MgO	24.46	24.01	15.70	15.75	15.77
CaO	2.24	2.63	17.52	18.28	17.45
Na_2O	0.03	0.00	0.35	0.30	0.38
K_2O	0.07	0.06	0.05	0.06	0.02
Total	100.20	101.14	99.50	99.45	101.18
Mg#	71.7	69.8	72.1	71.5	70.8

Table D.7.4: TEQ-34, Clinopyroxene grain 4

Dist (µm)	0.0	7.8	15.5	23.3	31.1	38.8	46.6	54.4	69.9	77.7	85.4	93.2	101.0	108.7	116.5
SiO_2	50.60	50.22	49.29	50.46	49.93	48.54	48.96	49.54	48.80	48.86	50.09	51.20	50.75	50.00	50.34
TiO_2	0.84	1.06	0.85	0.83	1.21	1.15	1.50	1.23	1.49	1.70	1.42	1.03	0.59	1.42	1.00
Al_2O_3	2.21	3.00	2.22	2.24	3.09	3.08	3.85	2.78	3.39	3.75	3.46	2.26	1.69	3.28	2.47
Cr_2O_3	-0.01	0.03	0.03	0.03	0.02	0.00	0.02	0.01	0.01	0.01	-0.04	0.00	-0.02	-0.02	-0.02
FeO	11.89	12.90	11.68	12.10	12.21	12.36	12.73	12.64	12.11	12.21	13.17	16.30	12.75	12.64	11.70
MnO	0.57	0.65	0.66	0.66	0.60	0.62	0.53	0.71	0.49	0.46	0.54	0.63	0.77	0.57	0.65
MgO	15.63	15.25	15.10	15.96	15.12	14.62	14.42	15.27	14.28	14.14	15.54	19.16	15.81	14.97	15.46
CaO	16.99	16.79	17.83	16.76	17.76	17.67	17.21	15.48	18.02	18.20	16.00	9.45	16.68	16.85	17.49
Na_2O	0.40	0.48	0.37	0.40	0.44	0.40	0.46	0.41	0.43	0.42	0.42	0.28	0.30	0.44	0.37
K_2O	0.02	0.10	0.01	0.03	0.02	0.02	0.05	0.05	0.03	0.02	-0.01	0.02	-0.01	0.00	0.02
Total	99.13	100.47	98.03	99.44	100.38	98.46	99.74	98.10	99.06	99.77	100.64	100.34	99.33	100.19	99.49
Mg#	70.1	67.8	69.7	70.2	68.8	67.8	66.9	68.3	67.8	67.4	67.8	67.7	68.9	67.9	70.2

Table D.8.1: XAL-129, Clinopyroxene grain 1

Dist (µm)	116.7	233.4	291.8	350.1	466.9	525.2	583.5	641.9	700.2
SiO_2	51.80	52.43	52.84	52.81	51.98	52.52	52.71	52.29	52.39
TiO_2	0.51	0.61	0.57	0.48	0.49	0.53	0.62	0.38	0.44
Al_2O_3	1.45	1.99	1.93	1.49	1.74	1.74	2.05	2.53	1.61
Cr_2O_3	-0.02	-0.01	0.05	0.02	-0.03	-0.04	0.03	-0.04	0.02
FeO	9.55	9.01	8.80	9.28	9.54	10.02	9.53	8.83	9.05
MnO	0.45	0.33	0.46	0.43	0.47	0.58	0.45	0.50	0.60
MgO	15.47	15.29	15.34	15.20	15.04	15.16	15.17	15.04	14.96
CaO	20.29	20.73	19.95	20.50	20.88	19.98	20.37	20.84	20.49
Na_2O	0.34	0.39	0.41	0.47	0.45	0.40	0.42	0.45	0.42
K_2O	0.01	0.00	0.03	0.01	0.05	0.02	0.00	0.02	0.05
Total	99.85	100.76	100.38	100.68	100.60	100.91	101.34	100.84	100.01
Mg#	74.3	75.2	75.7	74.5	73.8	72.9	73.9	75.2	74.7

Table D.8.2: XAL-129, Clinopyroxene grain 2

Dist (µm)	0.0	30.7	61.3	92.0	122.6	183.9	214.6	275.9	306.5	337.1	367.8
SiO_2	53.04	52.51	52.65	52.95	53.19	52.64	52.43	51.93	49.96	52.97	52.37
TiO_2	0.31	0.45	0.58	0.38	0.31	0.46	0.44	0.45	0.56	0.42	0.53
Al_2O_3	1.25	2.32	2.10	1.48	1.30	1.41	1.44	1.51	5.10	1.49	1.74
Cr_2O_3	-0.02	-0.04	0.02	-0.02	0.03	0.08	0.06	0.06	0.04	0.04	0.08
FeO	9.13	9.58	9.59	9.08	9.12	9.13	9.31	9.68	9.57	9.09	9.29
MnO	0.60	0.57	0.50	0.44	0.50	0.44	0.44	0.50	0.53	0.56	0.50
MgO	15.29	14.95	15.01	14.90	15.16	15.14	15.27	14.88	14.40	15.22	15.05
CaO	20.99	20.25	20.55	19.92	20.83	20.27	21.29	20.98	20.06	20.30	21.00
Na_2O	0.38	0.39	0.45	0.43	0.37	0.37	0.36	0.44	0.46	0.43	0.38
K_2O	-0.02	-0.04	-0.05	-0.04	-0.01	0.03	0.04	0.04	0.02	-0.02	0.03
Total	100.93	100.93	101.40	99.51	100.79	99.97	101.09	100.48	100.69	100.49	100.96
Mg#	74.9	73.6	73.6	74.5	74.8	74.7	74.5	73.3	72.8	74.9	74.3

Table D.8.3: XAL-129, Clinopyroxene grain 3

Dist (µm)	0.0	60.7	182.0	242.7	303.4	606.7	667.4
SiO_2	51.42	51.40	51.29	50.67	48.34	46.71	51.88
TiO_2	0.49	0.50	0.65	0.78	0.79	0.45	0.69
Al_2O_3	1.52	1.48	2.15	2.47	5.98	10.78	2.40
Cr_2O_3	-0.05	0.04	0.02	0.03	0.05	0.00	0.02
FeO	9.13	9.26	9.24	10.21	9.86	8.78	10.04
MnO	0.45	0.52	0.50	0.53	0.52	0.52	0.52
MgO	15.11	14.94	14.67	14.14	13.37	13.19	14.67
CaO	20.60	20.95	20.56	19.85	19.70	19.14	20.72
Na_2O	0.43	0.44	0.48	0.47	0.42	0.34	0.49
K_2O	0.00	0.02	-0.03	0.02	0.03	0.02	0.02
Total	99.09	99.53	99.52	99.16	99.07	99.93	101.46
Mg#	74.7	74.2	73.9	71.2	70.7	72.8	72.3

Table D.9.1: TEQ-66, Clinopyroxene grain 1

Dist (µm)	0.0	31.3	62.5	125.0	156.3	187.5	250.1	281.3	312.6	343.8
SiO_2	51.02	52.51	51.48	51.35	51.55	51.06	50.62	50.96	50.76	51.86
TiO_2	0.17	0.21	0.19	0.19	0.28	0.25	0.23	0.24	0.22	0.24
Al_2O_3	1.92	1.70	1.71	2.08	2.26	2.69	2.38	2.21	2.12	2.23
Cr_2O_3	0.02	0.00	0.04	0.02	0.02	0.00	-0.01	-0.01	-0.01	-0.02
FeO	11.16	10.84	11.12	11.08	11.59	11.26	10.94	11.43	11.70	10.97
MnO	0.51	0.59	0.54	0.57	0.48	0.52	0.55	0.52	0.58	0.50
MgO	13.88	14.06	13.81	13.60	13.47	13.30	13.73	13.99	14.01	13.79
CaO	20.10	20.58	20.17	20.26	20.83	20.54	20.02	19.88	19.92	19.62
Na_2O	0.43	0.34	0.36	0.39	0.36	0.41	0.42	0.43	0.41	0.50
K_2O	0.01	0.00	0.01	0.01	-0.01	0.00	-0.01	-0.03	-0.01	0.10
Total	99.22	100.83	99.45	99.55	100.84	100.04	98.89	99.66	99.72	99.81
Mg#	68.9	69.8	68.9	68.6	67.4	67.8	69.1	68.6	68.1	69.1

Table D.9.2: TEQ-66, Clinopyroxene grain 2

Dist (µm)	0.0	29.3	58.6	117.2	146.5	175.8	205.1	234.4	293.0	322.3
SiO_2	50.75	51.82	51.89	51.39	50.89	50.93	51.07	50.59	50.74	51.13
TiO_2	0.26	0.24	0.24	0.22	0.28	0.26	0.29	0.23	0.25	0.29
Al_2O_3	2.50	2.32	2.02	2.24	2.23	2.56	2.59	2.09	2.33	2.43
Cr_2O_3	0.00	0.02	-0.01	0.00	-0.01	0.00	0.01	0.00	0.02	0.03
FeO	10.09	9.15	9.15	9.32	9.43	9.79	10.23	10.20	9.81	9.96
MnO	0.30	0.33	0.36	0.31	0.34	0.37	0.53	0.43	0.43	0.38
MgO	14.51	14.72	14.83	15.09	14.66	14.79	15.08	15.05	14.83	14.95
CaO	20.03	20.15	20.82	20.91	20.59	20.00	19.33	19.71	19.94	19.88
Na_2O	0.43	0.38	0.41	0.35	0.41	0.43	0.39	0.36	0.35	0.34
K_2O	-0.01	0.02	0.01	0.01	0.00	0.01	0.03	0.00	0.03	0.05
Total	98.88	99.15	99.73	99.84	98.84	99.14	99.54	98.66	98.73	99.44
Mg#	71.9	74.1	74.3	74.3	73.5	72.9	72.4	72.5	72.9	72.8

Table D.9.3: TEQ-66, Clinopyroxene grain 3

Dist (µm)	0.0	29.4	58.9	117.7	147.2	176.6	206.0	235.5	264.9	294.4	323.8	353.2
SiO_2	51.99	49.91	49.36	48.67	48.74	49.49	49.70	49.23	49.77	49.95	49.95	50.46
TiO_2	0.17	0.24	0.36	0.43	0.63	0.45	0.50	0.47	0.40	0.43	0.35	0.36
Al_2O_3	1.87	3.03	3.32	3.76	4.56	3.75	3.99	3.95	3.74	3.81	3.29	3.05
Cr_2O_3	0.00	-0.01	0.01	0.02	0.04	-0.01	0.03	0.02	-0.02	-0.03	-0.03	0.01
FeO	9.91	9.91	9.97	11.44	11.71	12.09	10.56	10.67	10.47	10.74	10.10	10.05
MnO	0.41	0.37	0.31	0.42	0.45	0.48	0.50	0.36	0.29	0.34	0.36	0.40
MgO	15.34	14.33	13.85	13.88	13.55	14.46	13.63	13.63	13.79	13.73	13.78	14.05
CaO	19.90	19.89	20.66	18.94	19.69	18.23	20.22	20.59	19.85	19.57	20.58	20.38
Na_2O	0.34	0.43	0.42	0.45	0.43	0.39	0.42	0.49	0.40	0.47	0.45	0.38
K_2O	0.04	0.02	0.05	-0.01	0.00	0.00	0.00	0.01	0.04	0.00	0.01	0.07
Total	99.96	98.12	98.30	98.01	99.81	99.35	99.54	99.41	98.75	99.03	98.88	99.21
Mg#	73.4	72.1	71.2	68.4	67.3	68.1	69.7	69.5	70.1	69.5	70.9	71.4

Table D.9.4: TEQ-66, Clinopyroxene grain 4

Dist (µm)	0.0	14.7	29.3	44.0	58.7	73.3	88.0	102.6	117.3	132.0	146.6	161.3	176.0	190.6	205.3	219.9	234.6	249.3
SiO_2	50.70	50.97	50.54	51.08	50.62	51.32	51.79	51.73	52.43	49.78	51.09	51.47	51.34	50.56	50.25	51.33	51.32	50.57
TiO_2	0.29	0.20	0.24	0.21	0.24	0.25	0.21	0.12	0.15	0.19	0.26	0.20	0.27	0.23	0.20	0.20	0.23	0.32
Al_2O_3	2.83	2.22	2.23	2.25	2.08	2.30	1.86	1.70	1.89	2.33	2.43	2.24	2.31	2.25	1.98	2.38	2.31	2.46
Cr_2O_3	0.01	0.04	0.00	0.02	0.00	0.03	0.00	-0.01	-0.03	0.00	-0.01	-0.03	0.00	0.01	0.00	0.02	-0.01	0.00
FeO	10.63	9.16	9.37	9.55	9.19	9.24	9.47	10.24	9.63	9.63	9.71	9.28	9.34	9.31	9.65	9.54	9.14	10.16
MnO	0.39	0.30	0.43	0.41	0.34	0.39	0.38	0.41	0.36	0.39	0.40	0.43	0.28	0.32	0.37	0.42	0.39	0.36
MgO	14.19	14.90	14.81	14.93	14.95	14.90	15.30	15.42	15.16	14.85	15.22	15.05	14.83	14.79	14.94	15.09	14.99	14.77
CaO	20.21	20.20	20.49	20.73	20.61	21.17	20.04	20.51	20.49	20.00	20.82	20.95	20.80	20.33	20.31	20.25	20.84	20.31
Na_2O	0.41	0.41	0.39	0.37	0.39	0.37	0.37	0.35	0.32	0.40	0.35	0.38	0.34	0.39	0.39	0.36	0.33	0.34
K_2O	0.07	0.02	0.01	0.01	0.01	0.01	0.02	-0.02	-0.01	0.01	-0.03	0.02	0.02	0.02	0.03	0.01	0.00	0.04
Total	99.72	98.41	98.50	99.55	98.44	99.98	99.45	100.48	100.43	97.57	100.26	100.02	99.54	98.21	98.12	99.59	99.54	99.33
Mg#	70.4	74.4	73.8	73.6	74.4	74.2	74.2	72.9	73.7	73.3	73.6	74.3	73.9	73.9	73.4	73.8	74.5	72.2

Table D.9.5: TEQ-66, Clinopyroxene grain 5

Dist (µm)	0.0	14.5	28.9	57.9	72.4	86.8	101.3	115.8	130.3
SiO_2	52.68	50.81	52.81	50.95	56.00	51.64	51.19	50.19	50.52
TiO_2	0.87	0.92	0.63	0.78	0.47	0.62	0.76	0.93	0.86
Al_2O_3	3.67	3.07	2.93	2.09	5.63	1.59	2.09	2.81	2.77
Cr_2O_3	0.01	0.02	0.02	0.01	0.05	0.03	0.04	0.04	0.05
FeO	10.23	10.25	9.89	10.75	7.61	11.07	10.78	10.16	10.51
MnO	0.47	0.38	0.41	0.48	0.32	0.44	0.41	0.40	0.33
MgO	12.42	14.17	13.91	14.96	11.23	15.61	15.03	14.35	14.03
CaO	17.90	20.34	18.35	19.32	15.80	18.96	19.52	20.19	20.36
Na_2O	0.67	0.40	0.81	0.39	2.24	0.30	0.34	0.39	0.32
K_2O	0.45	0.01	0.28	0.02	1.12	0.02	0.00	0.00	0.04
Total	99.36	100.36	100.02	99.73	100.46	100.28	100.16	99.46	99.78
Mg#	68.4	71.1	71.5	71.3	72.5	71.5	71.3	71.6	70.4

Table D.9.6: TEQ-66, Clinopyroxene grain 6

Dist (µm)	0.0	14.7	29.4	44.1	58.8	73.5	88.2	102.9	147.1	161.8	176.5	191.2	205.9	220.6	235.3
SiO_2	49.44	49.86	49.52	49.52	49.49	49.14	51.45	51.54	49.85	49.83	49.85	49.38	50.32	50.81	51.59
TiO_2	0.88	1.09	1.08	1.22	1.30	1.30	0.69	0.61	1.01	1.07	1.03	0.99	0.92	0.84	0.58
Al_2O_3	2.82	3.24	3.23	3.63	3.80	3.68	2.07	1.95	3.01	3.14	3.33	3.46	2.62	2.57	2.06
Cr_2O_3	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03	0.03	-0.01	0.01	0.01	0.03	0.03
FeO	10.25	10.77	10.65	10.93	11.66	11.29	9.58	13.29	10.65	10.25	10.47	9.91	10.09	9.46	9.30
MnO	0.39	0.50	0.48	0.42	0.52	0.44	0.46	0.49	0.35	0.43	0.37	0.36	0.41	0.40	0.44
MgO	14.03	14.05	14.09	13.91	14.01	14.11	15.12	18.46	14.34	14.24	14.10	13.81	14.33	14.72	15.23
CaO	20.01	19.79	19.70	19.46	19.35	18.74	20.00	13.06	19.67	19.93	20.13	19.90	20.25	20.26	19.95
Na_2O	0.48	0.46	0.47	0.48	0.48	0.43	0.43	0.24	0.41	0.44	0.41	0.55	0.40	0.44	0.41
K_2O	0.04	0.01	0.01	0.00	-0.02	-0.01	0.00	-0.01	0.00	-0.01	-0.01	0.05	0.02	0.03	0.01
Total	98.33	99.76	99.25	99.57	100.61	99.12	99.82	99.64	99.31	99.36	99.69	98.42	99.37	99.53	99.59
Mg#	70.9	69.9	70.2	69.4	68.2	69.0	73.8	71.2	70.6	71.2	70.6	71.3	71.7	73.5	74.5

Table D.9.7: TEQ-66, Clinopyroxene grain 7

Dist (µm)	0.0	14.3	28.5	42.8	57.0	71.3	85.5	99.8	114.0	128.3	156.8	171.0
SiO_2	54.60	51.37	51.74	51.27	51.95	53.02	51.76	52.23	51.74	50.86	52.95	51.40
TiO_2	0.72	0.74	0.72	0.69	0.60	0.62	0.66	0.62	0.69	0.93	0.52	0.54
Al_2O_3	5.19	2.39	2.41	2.32	1.94	2.83	2.32	1.88	2.26	2.55	1.37	1.76
Cr_2O_3	0.01	-0.01	0.02	0.00	0.00	-0.01	0.01	0.02	0.01	0.01	0.01	0.00
FeO	8.83	9.38	9.66	9.74	10.42	10.80	9.44	9.21	9.60	10.60	10.61	9.93
MnO	0.35	0.34	0.31	0.27	0.32	0.37	0.33	0.35	0.44	0.35	0.51	0.46
MgO	11.16	15.28	15.25	15.19	16.20	16.56	15.32	15.70	15.23	14.53	15.86	15.50
CaO	16.74	20.57	20.43	19.50	18.38	15.69	20.27	20.05	20.08	19.70	19.06	19.25
Na_2O	1.22	0.36	0.44	0.43	0.33	0.58	0.42	0.33	0.41	0.44	0.30	0.32
K_2O	1.01	0.01	0.00	-0.01	0.02	0.17	0.01	0.03	0.02	0.01	0.01	0.02
Total	99.84	100.43	100.98	99.41	100.15	100.64	100.53	100.41	100.48	99.97	101.20	99.19
Mg#	69.3	74.4	73.8	73.6	73.5	73.2	74.3	75.2	73.9	71.0	72.7	73.6

Table D.9.8: TEQ-66, Clinopyroxene grain 8

Dist (µm)	0.0	15.5	31.0	46.4	61.9	77.4	92.9	108.3	123.8	139.3	154.8	170.2	185.7	201.2	216.7	232.1	247.6	263.1	278.6	294.0
SiO_2	50.93	51.43	51.95	51.82	51.77	51.64	51.61	51.71	51.33	51.11	51.45	51.12	51.34	51.73	51.64	51.39	51.76	51.16	51.50	50.19
TiO_2	0.92	0.67	0.72	0.67	0.64	0.77	0.67	0.76	0.78	0.76	0.86	0.80	0.75	0.75	0.73	0.75	0.71	0.73	0.70	1.07
Al_2O_3	4.03	2.12	2.13	2.18	2.20	2.53	2.29	2.37	2.43	2.41	2.69	2.46	2.15	2.26	2.34	2.29	2.17	2.34	2.17	3.23
Cr_2O_3	0.01	0.00	-0.01	0.01	0.02	0.03	0.01	0.04	0.02	-0.02	-0.01	0.02	0.01	-0.02	-0.01	-0.04	-0.01	-0.01	-0.01	-0.01
FeO	10.65	9.40	9.14	9.51	9.60	9.99	9.70	9.37	9.77	9.58	10.12	9.79	9.77	10.50	10.14	9.79	10.11	9.60	9.75	11.00
MnO	0.39	0.38	0.37	0.35	0.43	0.43	0.48	0.41	0.37	0.41	0.40	0.41	0.41	0.40	0.37	0.43	0.38	0.39	0.38	0.42
MgO	13.45	15.06	15.26	15.18	15.38	15.25	15.04	15.06	14.91	14.99	15.04	15.06	15.22	15.20	15.13	15.32	15.30	15.13	15.21	14.12
CaO	19.14	19.96	20.29	20.41	20.29	19.88	20.34	20.17	20.36	20.26	19.61	19.66	19.59	19.43	19.43	19.66	19.12	20.06	20.17	20.09
Na_2O	0.92	0.38	0.35	0.36	0.39	0.36	0.38	0.42	0.39	0.37	0.40	0.38	0.39	0.37	0.39	0.36	0.39	0.39	0.43	0.42
K_2O	0.09	0.01	0.02	0.01	0.00	0.01	0.00	0.00	-0.02	0.02	-0.01	0.00	0.00	0.00	-0.01	0.01	-0.01	0.02	0.02	0.04
Total	100.51	99.41	100.22	100.49	100.70	100.89	100.51	100.30	100.36	99.90	100.57	99.69	99.62	100.64	100.17	100.00	99.94	99.80	100.32	100.57
Mg#	69.3	74.1	74.9	74.0	74.1	73.1	73.4	74.1	73.1	73.6	72.6	73.3	73.5	72.1	72.7	73.6	73.0	73.8	73.6	69.6

Table D.9.9: TEQ-66, Clinopyroxene grain 9

Dist (µm)	0.0	29.7	59.5	89.2	148.7	267.6	297.4	327.1	356.8	416.3	446.1	475.8	505.5	535.3	565.0	594.7
SiO_2	51.28	52.16	51.57	52.18	52.08	51.04	51.17	51.10	50.98	51.47	52.09	51.54	51.32	52.21	51.39	52.11
TiO_2	0.64	0.65	0.66	0.66	0.65	0.77	0.84	0.86	0.87	0.81	0.74	0.78	0.71	0.59	0.69	0.56
Al_2O_3	2.86	2.15	2.34	2.10	2.09	2.57	2.64	2.81	2.82	2.51	2.32	2.31	2.20	1.96	2.40	1.83
Cr_2O_3	-0.01	0.00	-0.02	-0.01	0.01	0.01	0.02	0.00	0.02	-0.04	-0.02	-0.01	-0.01	-0.01	0.02	0.01
FeO	10.76	9.39	9.74	9.36	9.56	9.90	10.05	10.78	10.70	10.10	9.81	10.07	9.76	9.59	9.87	9.54
MnO	0.50	0.36	0.32	0.34	0.40	0.38	0.41	0.47	0.45	0.41	0.34	0.44	0.38	0.43	0.36	0.30
MgO	14.05	15.32	15.02	15.60	15.34	14.76	14.81	14.76	14.93	15.22	15.30	15.49	15.23	15.61	15.24	15.38
CaO	19.89	20.62	20.26	20.76	20.27	20.38	20.41	19.25	19.12	19.77	19.77	19.89	19.94	20.01	20.42	20.11
Na_2O	0.51	0.38	0.38	0.40	0.42	0.40	0.38	0.38	0.43	0.38	0.40	0.40	0.37	0.36	0.39	0.32
K_2O	0.08	0.00	0.00	0.00	-0.01	0.01	0.01	0.01	0.01	-0.01	0.01	-0.01	0.01	0.00	-0.01	-0.01
Total	100.57	101.03	100.30	101.39	100.80	100.22	100.76	100.41	100.33	100.68	100.76	100.91	99.92	100.74	100.78	100.16
Mg#	69.9	74.4	73.3	74.8	74.1	72.7	72.4	70.9	71.3	72.9	73.5	73.3	73.6	74.4	73.4	74.2

Table D.9.10: TEQ-66, Clinopyroxene grain 10

Dist (µm)	0.0	7.5	15.1	22.6	30.1	37.8	45.3	52.8	60.4	67.9
SiO_2	51.46	51.05	51.56	51.22	50.95	51.03	51.07	51.26	51.47	51.40
TiO_2	1.00	1.03	1.04	1.29	1.06	1.07	1.01	0.88	1.06	1.01
Al_2O_3	2.70	2.74	2.82	3.52	2.96	3.13	3.12	2.53	2.73	2.99
Cr_2O_3	-0.02	-0.04	-0.03	-0.06	0.03	-0.02	-0.01	-0.04	0.02	0.02
FeO	11.33	11.73	11.52	11.23	11.33	10.83	10.65	11.06	11.03	10.73
MnO	0.49	0.48	0.35	0.42	0.43	0.44	0.45	0.46	0.54	0.43
MgO	15.06	15.35	15.07	14.33	14.75	14.57	14.77	15.13	14.56	14.31
CaO	18.36	18.13	18.00	19.01	19.06	19.81	18.09	18.33	19.21	19.75
Na_2O	0.33	0.34	0.38	0.36	0.40	0.30	0.41	0.34	0.39	0.41
K_2O	0.07	0.05	0.07	0.02	0.07	0.06	0.19	0.04	0.10	0.05
Total	100.79	100.89	100.80	101.39	101.04	101.23	99.77	100.02	101.09	101.09
Mg#	70.3	70.0	70.0	69.5	69.9	70.6	71.2	70.9	70.2	70.4

Table D.9.11: TEQ-66, Clinopyroxene grain 11

Dist (µm)	0.0	29.3	43.9	58.6	73.2	87.9	102.5	117.1	146.4	161.1	175.7	190.3	205.0	234.3	248.9
SiO_2	52.66	51.45	50.94	50.38	49.59	48.34	49.47	50.49	49.07	49.71	50.05	52.90	51.46	50.74	52.81
TiO_2	0.37	0.97	0.95	1.08	1.46	1.30	1.36	0.99	1.33	1.22	1.11	0.46	0.88	1.08	0.56
Al_2O_3	1.44	2.83	2.83	3.33	3.79	3.50	3.42	2.78	3.77	3.56	3.18	1.48	2.62	3.03	1.71
Cr_2O_3	0.01	0.01	0.07	0.05	-0.01	-0.01	0.02	0.01	-0.02	0.01	-0.05	-0.03	-0.02	0.02	0.02
FeO	17.72	11.19	11.13	11.73	11.40	11.31	12.11	12.42	11.62	11.58	11.73	11.47	11.11	11.72	11.67
MnO	0.63	0.39	0.33	0.40	0.44	0.36	0.28	0.45	0.39	0.40	0.45	0.41	0.52	0.43	0.49
MgO	24.42	14.81	15.29	14.59	14.07	13.98	14.24	15.44	14.45	14.57	14.84	16.61	15.39	15.15	16.97
CaO	2.99	18.77	17.98	19.35	19.58	19.91	18.49	16.68	19.12	19.06	18.63	17.08	18.94	18.32	16.42
Na_2O	0.06	0.35	0.37	0.36	0.39	0.39	0.41	0.32	0.33	0.32	0.36	0.27	0.28	0.35	0.26
K_2O	0.03	-0.01	0.04	0.03	0.01	0.02	0.03	0.04	0.02	0.01	0.00	0.03	0.00	0.05	0.04
Total	100.33	100.77	99.92	101.30	100.73	99.10	99.83	99.61	100.08	100.43	100.35	100.71	101.21	100.89	100.94
Mg#	71.1	70.2	71.0	68.9	68.8	68.8	67.7	68.9	68.9	69.2	69.3	72.1	71.2	69.7	72.2

Table D.9.12: TEQ-66, Clinopyroxene grain 12

Dist (µm)	0.0	7.4	14.6	22.0	29.4	36.7	44.0	51.4	58.7	66.0	73.3	80.7
SiO_2	49.85	50.37	50.53	50.57	50.51	51.19	48.80	51.41	51.58	50.96	51.85	50.36
TiO_2	1.08	1.31	1.20	1.08	1.29	1.07	1.69	1.15	0.93	1.18	0.98	1.00
Al_2O_3	3.37	3.93	3.25	2.90	3.56	3.04	3.51	3.36	3.01	3.42	2.90	3.39
Cr_2O_3	-0.01	0.02	0.02	0.02	0.04	0.00	0.02	-0.02	0.02	0.02	-0.01	0.01
FeO	10.88	11.36	11.11	10.91	10.73	10.80	14.29	10.69	12.16	11.20	11.00	11.05
MnO	0.36	0.33	0.44	0.38	0.36	0.44	0.48	0.38	0.48	0.39	0.37	0.50
MgO	13.85	14.07	14.76	14.88	14.40	15.32	14.75	15.21	16.70	14.62	15.42	14.00
CaO	19.92	19.68	18.39	18.90	19.31	19.13	17.20	18.42	15.68	19.59	18.72	20.00
Na_2O	0.46	0.44	0.35	0.35	0.38	0.33	0.41	0.37	0.33	0.43	0.36	0.44
K_2O	0.09	0.06	0.04	0.01	0.03	0.04	-0.01	0.02	0.00	0.00	0.00	0.02
Total	99.85	101.57	100.10	100.00	100.62	101.36	101.17	100.99	100.89	101.80	101.61	100.75
Mg#	69.4	68.8	70.3	70.9	70.5	71.7	64.8	71.7	71.0	69.9	71.4	69.3

Table D.9.13: TEQ-66, Clinopyroxene grain 13

Dist (µm)	0.0	7.6	15.3	22.8	30.4	38.0	45.6	53.1	60.7
SiO_2	51.76	51.90	50.67	50.84	51.59	50.83	49.83	51.45	51.97
TiO_2	0.71	0.70	0.96	1.01	0.99	0.81	0.64	0.62	0.73
Al_2O_3	2.29	2.18	2.65	2.87	2.65	2.50	2.14	2.13	2.38
Cr_2O_3	-0.01	0.03	-0.02	0.02	-0.01	0.02	0.03	0.05	0.05
FeO	10.23	11.21	12.13	12.18	11.87	13.23	12.31	11.15	10.52
MnO	0.48	0.47	0.51	0.57	0.54	0.56	0.54	0.49	0.37
MgO	15.01	15.25	14.78	14.94	14.85	15.88	15.68	15.50	14.65
CaO	19.64	18.94	18.38	17.75	18.31	15.39	17.51	17.73	19.67
Na_2O	0.32	0.32	0.35	0.39	0.37	0.30	0.30	0.31	0.34
K_2O	0.08	0.02	0.00	0.00	0.02	0.05	0.03	0.08	0.06
Total	100.52	101.01	100.42	100.58	101.17	99.55	99.00	99.50	100.74
Mg#	72.3	70.8	68.5	68.6	69.0	68.2	69.4	71.2	71.3

Table D.9.14: TEQ-66, Clinopyroxene grain 14

Dist (µm)	0.0	7.5	15.1	22.6	30.1	37.7	45.2	52.7	60.3	67.8	75.3	82.9	90.4
SiO_2	51.50	49.97	51.41	50.30	51.11	50.52	48.83	50.64	51.29	50.45	50.50	49.85	51.33
TiO_2	0.79	0.68	0.77	1.30	0.96	1.19	1.74	1.19	0.95	1.07	1.14	1.26	0.81
Al_2O_3	2.58	2.46	2.49	3.44	2.81	3.11	4.03	3.02	3.39	3.20	3.24	3.86	2.65
Cr_2O_3	0.02	-0.01	0.05	0.00	0.01	-0.01	0.00	-0.03	0.00	0.00	-0.01	-0.02	-0.01
FeO	10.72	10.61	11.04	11.65	11.44	12.60	12.20	15.05	15.21	11.16	11.34	11.80	10.84
MnO	0.48	0.43	0.35	0.33	0.40	0.55	0.44	0.56	0.50	0.51	0.56	0.42	0.42
MgO	14.25	14.42	14.33	14.16	15.04	15.39	14.75	18.48	18.10	14.57	14.27	13.30	14.32
CaO	19.28	20.64	20.36	19.14	18.21	17.24	16.93	11.86	11.51	19.09	19.12	19.98	20.52
Na_2O	0.35	0.30	0.35	0.36	0.26	0.26	0.38	0.22	0.25	0.40	0.33	0.38	0.32
K_2O	0.11	0.09	0.05	0.10	0.03	0.08	0.00	0.01	0.01	0.04	0.01	0.03	0.03
Total	100.07	99.58	101.18	100.78	100.26	100.93	99.30	101.02	101.20	100.49	100.50	100.88	101.24
Mg#	70.3	70.8	69.8	68.4	70.1	68.5	68.3	68.6	68.0	69.9	69.2	66.8	70.2

Table D.9.15: TEQ-66, Clinopyroxene grain 15

Dist (µm)	13.5	20.2	27.0	33.7
SiO_2	50.97	51.11	49.88	50.95
TiO_2	0.77	0.92	1.06	1.03
Al_2O_3	2.53	2.96	2.58	2.58
Cr_2O_3	0.03	0.02	-0.01	0.03
FeO	12.54	10.90	9.92	11.44
MnO	0.37	0.40	0.39	0.49
MgO	15.68	14.71	14.72	15.57
CaO	18.31	19.35	19.21	18.67
Na_2O	0.30	0.36	0.32	0.32
K_2O	0.02	0.02	0.00	-0.02
Total	101.51	100.75	98.08	101.07
Mg#	69.0	70.6	72.6	70.8

Table D.9.16: TEQ-66, Clinopyroxene grain 16

Dist (µm)	0.0	7.4	14.8	22.2	29.6	37.0	44.4	51.8	59.2
SiO_2	51.88	51.40	51.30	52.67	50.87	50.42	49.47	51.13	50.37
TiO_2	1.20	1.34	1.22	0.92	1.11	1.55	1.81	1.33	1.30
Al_2O_3	2.58	2.75	2.78	2.59	2.96	3.44	3.79	3.21	3.29
Cr_2O_3	0.03	-0.01	0.03	0.05	0.04	0.02	0.07	0.02	0.03
FeO	11.08	11.09	9.89	11.87	10.23	11.42	10.46	10.63	10.56
MnO	0.40	0.34	0.31	0.42	0.41	0.38	0.35	0.35	0.30
MgO	15.95	15.86	15.35	16.57	15.67	14.88	14.32	14.69	14.70
CaO	18.26	18.12	18.91	16.20	18.97	18.86	20.43	19.55	19.59
Na_2O	0.34	0.32	0.34	0.41	0.31	0.31	0.37	0.38	0.37
K_2O	0.03	0.02	0.05	0.06	0.08	0.02	0.08	0.05	0.05
Total	101.74	101.24	100.18	101.75	100.66	101.29	101.15	101.34	100.57
Mg#	72.0	71.8	73.5	71.3	73.2	69.9	70.9	71.1	71.3

APPENDIX E

COMPOSITIONAL ANALYSES OF ILMENITE CRYSTALS

Table E.1: TAL-7, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5
SiO_2	0.04	0.00	0.01	0.00	0.00
TiO_2	45.53	45.32	45.34	45.82	45.14
Al_2O_3	0.24	0.29	0.26	0.30	0.33
V_2O_3	0.54	0.51	0.60	0.53	0.59
Cr_2O_3	0.03	0.02	0.02	0.01	0.03
FeO^T	46.51	46.28	46.47	46.49	46.72
MnO	0.43	0.48	0.44	0.43	0.49
MgO	3.75	3.83	3.83	3.83	3.64
CaO	0.06	0.06	0.06	0.05	0.02
sum	97.13	96.78	97.03	97.45	96.97
Fe_2O_3	16.98	17.31	17.61	17.12	18.06
FeO	31.24	30.70	30.62	31.09	30.47
corr. sum	98.83	98.51	98.80	99.17	98.77
mol%Hem	16.0	16.3	16.6	16.1	17.0
mol%Ilm	69.1	68.3	68.2	68.8	68.3
mol%Geik	14.0	14.3	14.3	14.2	13.6
mol%Pyrph	0.9	1.0	0.9	0.9	1.0

Table E.2: TAL-13, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7
SiO_2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TiO_2	45.83	45.59	45.30	45.69	45.20	45.14	45.00
Al_2O_3	0.49	0.52	0.50	0.28	0.50	0.50	0.44
V_2O_3	0.05	0.02	0.05	0.06	0.00	0.00	0.02
Cr_2O_3	0.00	0.00	0.04	0.00	0.05	0.05	0.00
FeO^T	46.12	46.34	46.16	46.31	46.35	46.29	46.41
MnO	0.36	0.34	0.36	0.32	0.34	0.37	0.35
MgO	5.10	5.06	5.07	5.09	5.08	4.99	4.99
CaO	0.04	0.06	0.06	0.05	0.05	0.05	0.01
sum	97.99	97.94	97.53	97.81	97.57	97.38	97.21
Fe_2O_3	18.47	18.94	19.07	17.84	19.19	19.04	18.99
FeO	29.50	29.30	29.00	30.26	29.09	29.15	29.32
corr. sum	99.84	99.84	99.44	99.60	99.49	99.29	99.12
mol%Hem	17.0	17.5	17.7	16.5	17.8	17.7	17.7
mol%Ilm	63.6	63.3	63.0	64.2	62.9	63.2	63.2
mol%Geik	18.6	18.5	18.6	18.6	18.6	18.3	18.4
mol%Pyrph	0.8	0.7	0.8	0.7	0.7	0.8	0.7

Table E.3: XAL-132, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4
SiO_2	0.03	0.03	0.02	0.05
TiO_2	48.33	47.40	47.63	47.17
Al_2O_3	0.18	0.18	0.19	0.20
V_2O_3	0.04	0.02	0.02	0.05
Cr_2O_3	0.00	0.04	0.00	0.02
FeO^T	45.19	45.77	45.95	46.25
MnO	0.46	0.45	0.45	0.45
MgO	4.31	4.28	4.24	4.20
CaO	0.07	0.03	0.04	0.04
sum	98.60	98.18	98.54	98.42
Fe_2O_3	11.98	13.38	13.36	14.15
FeO	34.41	33.73	33.93	33.51
corr. sum	99.80	99.52	99.88	99.84
mol%Hem	11.1	12.4	12.4	13.1
mol%Ilm	72.2	70.9	71.1	70.5
mol%Geik	15.8	15.7	15.6	15.4
mol%Pyrph	0.9	0.9	0.9	0.9

Table E.4: XAL-134, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10
SiO_2	0.00	0.03	0.00	0.00	0.04	0.02	0.00	0.02	0.01	0.07
TiO_2	43.98	44.01	44.15	44.12	44.60	44.30	44.75	44.61	44.68	44.82
Al_2O_3	0.24	0.51	0.37	0.20	0.45	0.39	0.43	0.46	0.48	0.45
V_2O_3	0.19	0.14	0.19	0.18	0.14	0.16	0.16	0.16	0.18	0.11
Cr_2O_3	0.00	0.03	0.02	0.03	0.01	0.00	0.01	0.00	0.01	0.00
FeO^T	48.95	49.18	48.87	48.76	49.12	49.36	48.02	48.40	48.76	48.77
MnO	0.44	0.46	0.48	0.43	0.42	0.41	0.41	0.39	0.45	0.47
MgO	3.57	3.57	3.56	3.56	3.59	3.56	3.60	3.63	3.70	3.68
CaO	0.04	0.06	0.01	0.00	0.01	0.03	0.00	0.02	0.00	0.01
sum	97.40	97.99	97.64	97.29	98.38	98.25	97.37	97.69	98.26	98.38
Fe_2O_3	19.79	21.13	20.12	19.15	20.13	20.48	18.76	19.50	20.14	19.61
FeO	31.14	30.17	30.76	31.53	31.00	30.93	31.14	30.85	30.63	31.12
corr. sum	99.38	100.10	99.65	99.21	100.40	100.30	99.25	99.65	100.28	100.34
mol%Hem	18.6	19.7	18.8	18.0	18.7	19.0	17.6	18.2	18.7	18.2
mol%Ilm	67.2	66.2	67.0	67.8	67.2	67.0	68.1	67.5	66.8	67.3
mol%Geik	13.3	13.2	13.2	13.3	13.2	13.1	13.4	13.4	13.6	13.5
mol%Pyrph	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.9	1.0

Table E.5: XAL-103, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12
SiO_2	0.03	0.02	0.00	0.04	0.03	0.05	0.03	0.01	0.05	0.03	0.06	0.04
TiO_2	45.33	45.40	45.68	45.29	45.37	45.26	44.68	45.32	45.18	45.59	45.14	45.62
Al_2O_3	0.22	0.20	0.22	0.20	0.21	0.23	0.19	0.14	0.18	0.19	0.20	0.18
V_2O_3	0.22	0.17	0.17	0.18	0.18	0.15	0.24	0.20	0.20	0.19	0.21	0.23
Cr_2O_3	0.03	0.05	0.04	0.02	0.03	0.06	0.03	0.00	0.02	0.00	0.00	0.00
FeO^T	48.21	48.09	48.15	48.27	48.16	48.45	48.37	48.28	48.48	48.49	48.52	48.45
MnO	0.46	0.47	0.52	0.51	0.48	0.49	0.49	0.52	0.54	0.53	0.49	0.48
MgO	3.01	3.06	2.99	3.05	3.05	3.05	2.90	2.92	2.95	2.89	2.92	2.93
CaO	0.06	0.07	0.03	0.04	0.03	0.04	0.04	0.04	0.02	0.02	0.06	0.08
sum	97.56	97.54	97.79	97.59	97.54	97.76	96.96	97.43	97.60	97.93	97.58	98.01
Fe_2O_3	16.51	16.21	15.96	16.49	16.32	16.75	17.06	16.06	16.59	16.10	16.75	16.24
FeO	33.35	33.50	33.79	33.43	33.47	33.37	33.01	33.82	33.56	34.00	33.44	33.84
corr. sum	99.22	99.16	99.39	99.24	99.18	99.44	98.67	99.04	99.26	99.54	99.26	99.64
mol%Hem	15.6	15.3	15.0	15.5	15.4	15.7	16.2	15.2	15.6	15.1	15.8	15.2
mol%Ilm	72.2	72.3	72.8	72.0	72.2	71.9	71.9	72.8	72.2	73.0	72.3	72.8
mol%Geik	11.2	11.4	11.1	11.4	11.4	11.4	10.9	10.9	11.0	10.8	10.9	10.9
mol%Pyrph	1.0	1.0	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.0

Table E.6: XAL-117, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6
SiO_2	0.00	0.01	0.00	0.05	0.02	0.00
TiO_2	45.89	45.06	46.26	46.43	46.12	46.96
Al_2O_3	0.21	0.38	0.20	0.13	0.14	0.13
V_2O_3	0.08	0.07	0.04	0.05	0.11	0.11
Cr_2O_3	0.00	0.00	0.01	0.04	0.02	0.02
FeO^T	48.55	48.12	48.06	48.23	48.37	47.93
MnO	0.48	0.53	0.53	0.60	0.58	0.64
MgO	3.11	3.07	3.16	2.27	2.29	2.35
CaO	0.03	0.03	0.05	0.04	0.01	0.01
sum	98.35	97.26	98.30	97.85	97.65	98.14
Fe_2O_3	16.04	17.11	15.15	13.15	13.85	12.66
FeO	34.11	32.73	34.42	36.40	35.90	36.53
corr. sum	99.96	98.97	99.82	99.17	99.04	99.41
mol%Hem	15.0	16.2	14.2	12.5	13.1	12.0
mol%Ilm	72.5	71.2	73.0	77.7	77.0	77.9
mol%Geik	11.5	11.5	11.7	8.5	8.6	8.8
mol%Pyrph	1.0	1.1	1.1	1.3	1.2	1.4

Table E.7: TAL-12, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10
SiO_2	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TiO_2	43.69	44.61	44.42	44.75	45.48	45.30	45.23	45.29	45.67	45.01
Al_2O_3	0.46	0.38	0.38	0.48	0.38	0.33	0.37	0.33	0.35	0.33
V_2O_3	0.06	0.08	0.08	0.10	0.01	0.03	0.01	0.00	0.00	0.00
Cr_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06
FeO^T	48.38	48.48	48.47	48.49	48.82	48.84	48.76	48.71	48.21	48.91
MnO	0.39	0.39	0.36	0.41	0.47	0.49	0.49	0.48	0.50	0.47
MgO	3.64	3.56	3.64	3.60	3.40	3.35	3.47	3.47	3.55	3.30
CaO	0.05	0.06	0.02	0.03	0.05	0.04	0.02	0.01	0.04	0.07
sum	96.74	97.56	97.39	97.85	98.61	98.38	98.34	98.29	98.35	98.16
Fe_2O_3	20.06	18.91	19.12	19.34	17.95	17.90	18.18	17.84	17.24	18.11
FeO	30.33	31.46	31.26	31.08	32.66	32.73	32.41	32.65	32.70	32.62
corr. sum	98.75	99.45	99.30	99.78	100.41	100.18	100.16	100.07	100.07	99.97
mol%Hem	18.9	17.7	17.9	18.1	16.7	16.7	16.9	16.6	16.0	16.9
mol%Ilm	66.7	68.2	67.8	67.8	69.8	69.9	69.3	69.6	69.8	69.9
mol%Geik	13.6	13.2	13.5	13.3	12.5	12.4	12.8	12.8	13.1	12.2
mol%Pyrph	0.8	0.8	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.0

Table E.8: XAL-109, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8
SiO_2	0.03	0.01	0.01	0.04	0.03	0.05	0.04	0.03
TiO_2	42.47	42.47	42.34	42.17	42.44	41.90	42.31	42.45
Al_2O_3	0.32	0.36	0.39	0.44	0.35	0.37	0.36	0.33
V_2O_3	0.08	0.09	0.17	0.24	0.27	0.22	0.22	0.15
Cr_2O_3	0.04	0.04	0.00	0.01	0.01	0.05	0.01	0.01
FeO^T	51.78	51.51	51.10	50.54	50.72	50.77	50.37	50.46
MnO	0.37	0.34	0.35	0.33	0.35	0.35	0.34	0.36
MgO	2.58	2.58	2.73	2.72	2.76	2.76	2.78	2.78
CaO	0.05	0.06	0.06	0.05	0.07	0.06	0.04	0.08
sum	97.71	97.46	97.15	96.53	97.00	96.53	96.44	96.66
Fe_2O_3	22.39	22.33	22.70	22.60	22.37	22.87	21.96	21.67
FeO	31.64	31.42	30.68	30.20	30.59	30.19	30.60	30.96
corr. sum	99.95	99.69	99.42	98.79	99.24	98.82	98.64	98.83
mol%Hem	21.1	21.1	21.5	21.5	21.2	21.7	20.9	20.6
mol%Ilm	68.5	68.5	67.6	67.5	67.7	67.1	67.9	68.2
mol%Geik	9.6	9.7	10.2	10.3	10.3	10.4	10.5	10.4
mol%Pyrph	0.8	0.7	0.7	0.7	0.8	0.8	0.7	0.8

Table E.9: IXT-21, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4
SiO_2	0.06	0.08	0.08	0.07
TiO_2	47.63	47.39	47.19	47.65
Al_2O_3	0.14	0.22	0.14	0.15
V_2O_3	0.00	0.00	0.00	0.00
Cr_2O_3	0.01	0.00	0.02	0.00
FeO^T	46.71	46.50	46.80	46.66
MnO	1.12	1.04	1.07	1.15
MgO	2.10	2.15	2.11	2.06
CaO	0.07	0.08	0.06	0.10
sum	97.84	97.46	97.46	97.84
Fe_2O_3	10.39	10.77	10.85	10.35
FeO	37.36	36.81	37.04	37.35
corr. sum	98.88	98.53	98.55	98.87
mol%Hem	9.9	10.3	10.3	9.8
mol%Ilm	79.8	79.4	79.4	80.0
mol%Geik	7.9	8.1	8.0	7.8
mol%Pyrph	2.4	2.2	2.3	2.5

Table E.10: IXT-11, Ilmenite grains

Analysis ID	Ilm1	Ilm2
SiO_2	0.12	0.14
TiO_2	47.24	46.91
Al_2O_3	0.08	0.07
V_2O_3	0.00	0.00
Cr_2O_3	0.02	0.00
FeO^T	46.21	46.31
MnO	0.96	0.97
MgO	2.18	2.17
CaO	0.19	0.16
sum	97.01	96.73
Fe_2O_3	10.03	10.32
FeO	37.19	37.02
corr. sum	98.01	97.76
mol%Hem	9.6	9.9
mol%Ilm	80.1	79.8
mol%Geik	8.3	8.2
mol%Pyrph	2.1	2.1

Table E.11: TAL-8, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12	Ilm13
SiO_2	0.00	0.05	0.00	0.07	0.08	0.00	0.00	0.03	0.04	0.00	0.01	0.03	0.02
TiO_2	44.85	45.19	44.64	44.68	44.79	45.66	43.97	44.62	43.52	44.65	46.50	45.73	43.86
Al_2O_3	0.19	0.05	0.00	0.11	0.20	1.18	0.00	0.00	0.35	0.33	0.26	0.28	0.33
V_2O_3	0.54	0.44	0.46	0.52	0.48	0.42	0.42	0.49	0.23	0.18	0.13	0.15	0.22
Cr_2O_3	0.00	0.02	0.04	0.01	0.00	0.03	0.04	0.03	0.01	0.01	0.00	0.01	0.02
FeO^T	48.00	48.04	48.48	48.33	48.72	47.14	49.03	48.79	50.12	49.10	47.64	47.70	49.99
MnO	0.59	0.55	0.58	0.54	0.55	0.59	0.53	0.52	0.36	0.38	0.41	0.43	0.33
MgO	2.66	2.66	2.62	2.60	2.61	2.62	2.91	2.90	3.17	3.35	3.58	3.55	3.18
CaO	0.06	0.05	0.07	0.07	0.08	0.06	0.04	0.03	0.06	0.01	0.05	0.06	0.00
sum	96.89	97.04	96.88	96.92	97.50	97.69	96.93	97.40	97.86	98.01	98.58	97.94	97.94
Fe_2O_3	17.16	15.76	16.66	16.96	17.62	19.57	18.29	17.50	21.32	19.14	15.71	16.68	20.61
FeO	32.56	33.86	33.49	33.07	32.86	29.53	32.57	33.05	30.94	31.88	33.50	32.69	31.44
corr. sum	98.61	98.62	98.55	98.61	99.26	99.65	98.77	99.16	100.00	99.93	100.15	99.61	100.00
mol%Hem	16.3	15.0	15.9	16.2	16.7	18.4	17.4	16.5	20.0	17.9	14.6	15.6	19.3
mol%Ilm	72.4	73.8	73.0	72.9	72.4	70.6	70.5	71.5	67.5	68.9	71.4	70.4	68.2
mol%Geik	10.0	10.0	9.9	9.8	9.8	9.8	11.0	10.9	11.8	12.4	13.2	13.1	11.8
mol%Pyrph	1.3	1.2	1.2	1.1	1.2	1.2	1.1	1.1	0.8	0.8	0.9	0.9	0.7

Table E.12: TAL-9, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3
SiO_2	0.00	0.00	0.00
TiO_2	46.04	45.39	45.46
Al_2O_3	0.40	0.54	0.50
V_2O_3	0.00	0.03	0.00
Cr_2O_3	0.03	0.02	0.04
FeO^T	44.39	44.83	44.32
MnO	0.33	0.35	0.33
MgO	6.09	6.20	6.12
CaO	0.05	0.05	0.10
sum	97.33	97.42	96.87
Fe_2O_3	17.70	19.85	18.81
FeO	28.46	26.97	27.40
corr. sum	99.10	99.40	98.75
mol%Hem	16.3	18.2	17.4
mol%Ilm	60.8	58.5	59.5
mol%Geik	22.2	22.6	22.4
mol%Pyrph	0.7	0.7	0.7

Table E.13: ETZ-11, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12
SiO_2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.05	0.00	0.00
TiO_2	42.74	43.17	42.77	42.67	42.58	42.70	42.78	42.64	43.07	42.95	42.59	42.42
Al_2O_3	0.32	0.33	0.14	0.46	0.35	0.28	0.34	0.37	0.30	0.00	0.38	0.38
V_2O_3	0.07	0.13	0.12	0.08	0.09	0.08	0.05	0.13	0.08	0.10	0.12	0.13
Cr_2O_3	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.03
FeO^T	50.23	50.31	50.49	50.39	50.62	49.94	50.37	50.32	50.48	50.64	50.46	50.30
MnO	0.50	0.52	0.52	0.52	0.51	0.49	0.51	0.51	0.51	0.45	0.51	0.55
MgO	3.21	3.20	3.22	3.22	3.24	3.26	3.27	3.24	3.24	3.19	3.18	3.18
CaO	0.06	0.02	0.00	0.02	0.00	0.00	0.02	0.02	0.02	0.03	0.01	0.01
sum	97.13	97.71	97.26	97.36	97.39	96.78	97.34	97.28	97.70	97.40	97.26	96.99
Fe_2O_3	21.82	21.67	21.37	22.79	22.61	21.38	22.06	22.40	21.72	20.46	22.57	22.60
FeO	30.59	30.81	31.26	29.88	30.28	30.70	30.52	30.16	30.93	32.22	30.15	29.96
corr. sum	99.32	99.88	99.40	99.65	99.66	98.92	99.55	99.52	99.87	99.45	99.52	99.25
mol%Hem	20.6	20.3	20.1	21.4	21.2	20.2	20.7	21.1	20.4	19.3	21.2	21.3
mol%Ilm	66.4	66.7	66.8	65.5	65.6	66.5	66.0	65.8	66.5	67.9	65.8	65.6
mol%Geik	12.0	11.9	12.0	12.0	12.1	12.2	12.2	12.1	12.0	11.9	11.9	11.9
mol%Pyrph	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1	0.9	1.1	1.2

Table E.14: TEQ-34, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10
SiO_2	0.10	0.10	0.08	0.00	0.03	0.00	0.03	0.01	0.01	0.02
TiO_2	48.93	49.84	50.09	49.32	49.28	49.04	49.19	49.34	49.23	48.61
Al_2O_3	0.06	0.04	0.05	0.12	0.13	0.11	0.11	0.09	0.14	0.12
V_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr_2O_3	0.02	0.01	0.01	0.03	0.02	0.00	0.00	0.03	0.02	0.00
FeO^T	45.31	44.69	44.22	46.05	46.17	45.65	45.75	45.43	46.02	46.02
MnO	1.32	1.15	1.18	1.17	1.11	1.11	1.14	1.21	1.22	1.13
MgO	2.09	3.22	3.17	2.04	2.08	2.06	2.06	2.10	2.07	2.04
CaO	0.03	0.00	0.04	0.02	0.01	0.00	0.01	0.01	0.00	0.00
sum	97.87	99.05	98.84	98.75	98.82	97.98	98.28	98.22	98.71	97.93
Fe_2O_3	7.29	7.59	6.87	7.81	7.99	7.57	7.53	7.11	8.05	8.41
FeO	38.75	37.86	38.04	39.02	38.98	38.84	38.97	39.03	38.77	38.45
corr. sum	98.60	99.81	99.52	99.53	99.62	98.74	99.03	98.93	99.51	98.78
mol%Hem	6.9	7.1	6.4	7.4	7.5	7.2	7.1	6.7	7.6	8.0
mol%Ilm	82.4	78.7	79.4	82.5	82.4	82.7	82.7	82.8	82.1	81.9
mol%Geik	7.9	11.9	11.7	7.6	7.8	7.8	7.7	7.9	7.7	7.7
mol%Pyrph	2.8	2.4	2.5	2.5	2.3	2.4	2.4	2.6	2.6	2.4

Table E.15: XAL-115, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12	Ilm13	Ilm14
SiO_2	0.03	0.00	0.01	0.03	0.03	0.00	0.01	0.00	0.03	0.02	0.00	0.02	0.02	0.03
TiO_2	44.43	44.98	44.84	44.70	44.47	44.49	44.19	44.86	44.22	44.34	44.81	44.49	44.63	44.96
Al_2O_3	0.23	0.24	0.25	0.27	0.23	0.27	0.25	0.28	0.27	0.31	0.27	0.27	0.29	0.26
V_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr_2O_3	0.01	0.02	0.01	0.03	0.04	0.02	0.01	0.00	0.01	0.01	0.00	0.02	0.01	0.00
FeO^T	49.84	49.68	49.51	49.70	49.79	49.98	49.88	49.45	49.67	49.61	48.79	48.79	49.12	48.69
MnO	1.03	1.07	1.06	1.00	1.01	0.98	0.98	1.05	1.03	1.02	0.99	0.98	0.99	0.92
MgO	2.34	2.37	2.38	2.35	2.32	2.70	2.66	2.89	2.85	2.87	3.33	3.24	3.26	3.27
CaO	0.01	0.07	0.02	0.02	0.04	0.08	0.08	0.00	0.03	0.02	0.07	0.02	0.03	0.03
sum	97.93	98.43	98.10	98.11	97.92	98.52	98.06	98.52	98.11	98.20	98.26	97.83	98.35	98.16
Fe_2O_3	17.83	17.39	17.32	17.59	17.70	18.90	18.91	18.31	19.06	19.10	18.48	18.54	18.91	17.89
FeO	33.80	34.03	33.93	33.87	33.86	32.98	32.87	32.97	32.52	32.43	32.16	32.10	32.11	32.59
corr. sum	99.71	100.17	99.83	99.87	99.69	100.41	99.96	100.36	100.02	100.12	100.11	99.68	100.24	99.95
mol%Hem	16.8	16.3	16.3	16.6	16.7	17.7	17.8	17.1	17.9	17.9	17.2	17.4	17.6	16.7
mol%Ilm	72.2	72.6	72.6	72.5	72.5	70.3	70.3	70.0	69.4	69.3	68.4	68.5	68.3	69.2
mol%Geik	8.8	8.8	8.9	8.8	8.7	10.0	9.9	10.7	10.6	10.6	12.3	12.0	12.0	12.1
mol%Pyrph	2.2	2.3	2.3	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	1.9

Table E.16: XAL-129, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12	Ilm13	Ilm14	Ilm15	Ilm16	Ilm17
SiO_2	0.02	0.04	0.03	0.01	0.00	0.00	0.04	0.02	0.01	0.01	0.00	0.00	0.03	0.03	0.08	0.02	0.00
TiO_2	46.07	46.10	45.98	44.46	44.37	44.46	43.89	44.07	43.91	45.08	44.21	44.07	45.21	45.36	45.41	44.24	43.69
Al_2O_3	0.20	0.21	0.21	0.32	0.29	0.27	0.24	0.26	0.22	0.15	0.21	0.20	0.18	0.15	0.16	0.29	0.22
V_2O_3	0.05	0.05	0.04	0.05	0.03	0.02	0.04	0.06	0.07	0.05	0.10	0.07	0.00	0.01	0.08	0.05	0.06
Cr_2O_3	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.03	0.02
FeO^T	47.77	47.47	47.50	49.70	49.53	49.29	50.34	49.88	49.86	49.17	50.29	50.09	49.03	49.11	49.45	49.98	49.79
MnO	0.83	0.85	0.86	0.70	0.75	0.70	0.70	0.77	0.74	0.79	0.76	0.76	0.77	0.79	0.81	0.73	0.71
MgO	3.12	3.10	3.12	2.93	2.99	2.99	2.79	2.78	2.78	2.54	2.39	2.37	2.38	2.36	2.34	2.81	2.83
CaO	0.06	0.01	0.04	0.04	0.05	0.02	0.04	0.02	0.04	0.04	0.03	0.06	0.04	0.06	0.06	0.02	0.05
sum	98.10	97.82	97.78	98.21	98.01	97.74	98.07	97.86	97.63	97.83	97.98	97.61	97.65	97.87	98.40	98.17	97.37
Fe_2O_3	15.28	14.85	15.09	19.10	18.99	18.39	19.62	19.15	19.14	16.42	18.61	18.41	15.72	15.58	16.09	19.23	19.37
FeO	34.02	34.10	33.92	32.52	32.44	32.75	32.69	32.64	32.64	34.40	33.54	33.52	34.88	35.09	34.98	32.67	32.36
corr. sum	99.63	99.30	99.29	100.13	99.91	99.58	100.04	99.78	99.55	99.48	99.85	99.46	99.22	99.43	100.01	100.09	99.31
mol%Hem	14.3	14.0	14.2	17.9	17.8	17.3	18.4	18.0	18.0	15.5	17.5	17.4	14.9	14.7	15.1	18.0	18.3
mol%Ilm	72.4	72.7	72.4	69.8	69.5	70.1	69.8	70.0	70.0	73.3	71.9	72.1	74.6	74.8	74.4	70.0	69.6
mol%Geik	11.6	11.6	11.6	10.9	11.1	11.1	10.4	10.3	10.4	9.5	8.9	8.9	8.9	8.8	8.7	10.4	10.6
mol%Pyrph	1.7	1.8	1.8	1.5	1.6	1.5	1.5	1.6	1.6	1.7	1.6	1.6	1.6	1.7	1.7	1.5	1.5

Table E.17: XAL-106, Ilmenite grains,

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12	Ilm13	Ilm14	Ilm15	Ilm16
SiO_2	0.00	0.02	0.00	0.00	0.06	0.04	0.06	0.05	0.02	0.01	0.04	0.02	0.04	0.02	0.00	0.05
TiO_2	43.63	43.96	44.06	43.35	43.21	44.86	45.15	45.94	45.03	44.22	44.23	43.80	43.69	43.52	43.90	44.21
Al_2O_3	0.33	0.25	0.54	0.34	0.38	0.22	0.22	0.23	0.24	0.28	0.31	0.35	0.31	0.27	0.25	0.24
V_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00
Cr_2O_3	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.03	0.00	0.01	0.00	0.01	0.00	0.01	0.03
FeO^T	48.98	48.24	48.81	48.26	48.37	48.69	48.34	48.38	49.16	48.56	48.47	49.15	48.81	50.12	49.44	49.84
MnO	0.84	0.82	0.80	0.79	0.76	0.91	0.88	0.95	0.91	0.78	0.83	0.80	0.78	0.81	0.84	0.83
MgO	3.53	3.65	3.54	3.88	3.92	2.97	2.97	3.16	2.92	3.34	3.34	3.40	3.34	2.37	2.40	2.41
CaO	0.08	0.07	0.10	0.02	0.07	0.04	0.03	0.00	0.01	0.02	0.00	0.00	0.08	0.02	0.04	0.02
sum	97.39	97.02	97.84	96.65	96.77	97.73	97.66	98.72	98.32	97.22	97.24	97.53	97.09	97.12	96.87	97.62
Fe_2O_3	20.42	19.09	20.78	20.50	21.00	17.23	16.46	16.18	17.55	18.62	18.61	20.09	19.67	19.06	18.00	17.97
FeO	30.61	31.07	30.10	29.80	29.47	33.19	33.52	33.81	33.37	31.80	31.72	31.07	31.11	32.97	33.24	33.67
corr. sum	99.44	98.93	99.92	98.70	98.88	99.45	99.30	100.34	100.07	99.08	99.10	99.54	99.06	99.03	98.67	99.42
mol%Hem	19.2	18.0	19.4	19.3	19.8	16.2	15.5	15.1	16.4	17.5	17.5	18.8	18.5	18.1	17.1	17.0
mol%Ilm	65.9	66.7	65.9	64.5	64.0	70.8	71.6	71.3	70.8	68.3	68.3	66.8	67.3	71.2	72.0	72.2
mol%Geik	13.1	13.6	13.1	14.5	14.6	11.1	11.1	11.7	10.8	12.5	12.5	12.6	12.5	8.9	9.0	9.0
mol%Pyrph	1.8	1.7	1.7	1.7	1.6	1.9	1.9	2.0	1.9	1.7	1.8	1.7	1.7	1.7	1.8	1.8

Table E.18: TEQ-66, Ilmenite grains

Analysis ID	Ilm1	Ilm2	Ilm3	Ilm4	Ilm5	Ilm6	Ilm7	Ilm8	Ilm9	Ilm10	Ilm11	Ilm12	Ilm13	Ilm14	Ilm15	Ilm16	Ilm17	Ilm18	Ilm19	Ilm20
SiO_2	0.00	0.00	0.00	0.02	0.03	0.00	0.01	0.05	0.07	0.03	0.03	0.06	0.02	0.01	0.04	0.02	0.06	0.07	0.02	0.06
TiO_2	43.39	43.04	42.42	43.92	43.33	43.58	45.28	45.32	43.95	43.36	43.15	43.33	42.57	43.57	43.28	43.10	43.05	43.04	42.95	43.18
Al_2O_3	0.00	0.00	0.17	0.00	0.35	0.00	0.24	0.29	0.28	0.38	0.37	0.35	0.35	0.37	0.36	0.33	0.34	0.32	0.35	0.35
V_2O_3	0.20	0.19	0.23	0.18	0.11	0.10	0.03	0.01	0.05	0.04	0.08	0.10	0.08	0.08	0.05	0.09	0.13	0.07	0.10	0.12
Cr_2O_3	0.04	0.00	0.00	0.04	0.02	0.00	0.01	0.02	0.00	0.01	0.00	0.07	0.04	0.00	0.01	0.00	0.01	0.01	0.00	0.03
FeO^T	50.85	50.44	50.48	50.32	50.40	50.49	48.68	49.49	48.89	50.02	50.92	50.37	50.76	50.53	50.58	50.73	50.77	50.46	50.96	50.97
MnO	0.49	0.55	0.55	0.52	0.51	0.51	0.63	0.62	0.61	0.53	0.55	0.49	0.52	0.50	0.51	0.56	0.53	0.50	0.59	0.48
MgO	2.75	2.70	2.74	3.00	3.04	2.64	2.96	2.88	2.86	2.94	2.94	2.68	2.70	2.97	2.92	2.95	2.64	2.64	2.60	2.59
CaO	0.02	0.01	0.00	0.02	0.01	0.00	0.06	0.03	0.06	0.03	0.03	0.04	0.00	0.01	0.00	0.00	0.02	0.04	0.03	0.01
sum	97.73	96.92	96.58	98.01	97.79	97.31	97.90	98.71	96.76	97.34	98.08	97.49	97.03	98.04	97.76	97.78	97.55	97.15	97.59	97.78
Fe_2O_3	19.80	19.62	21.25	19.12	21.27	18.67	16.71	17.47	18.19	20.57	21.90	20.49	21.68	21.03	21.09	21.59	21.15	20.55	21.49	21.11
FeO	33.03	32.79	31.36	33.11	31.25	33.69	33.65	33.77	32.52	31.51	31.22	31.93	31.26	31.60	31.60	31.30	31.74	31.98	31.62	31.97
corr. sum	99.71	98.89	98.71	99.92	99.92	99.18	99.57	100.46	98.58	99.40	100.27	99.54	99.20	100.15	99.87	99.94	99.67	99.20	99.75	99.89
mol%Hem	18.7	18.6	20.2	17.9	19.9	17.7	15.7	16.3	17.3	19.4	20.5	19.3	20.5	19.7	19.8	20.3	19.9	19.5	20.3	19.9
mol%Ilm	70.0	70.0	68.3	69.8	67.7	71.3	72.0	71.8	70.7	68.5	67.5	69.6	68.2	68.2	68.3	67.6	69.1	69.6	68.8	69.5
mol%Geik	10.3	10.1	10.3	11.2	11.3	9.9	11.0	10.6	10.8	11.0	10.9	10.0	10.1	11.0	10.9	11.0	9.8	9.9	9.7	9.6
mol%Pyrph	1.0	1.2	1.2	1.1	1.1	1.1	1.3	1.3	1.3	1.1	1.1	1.0	1.1	1.1	1.1	1.2	1.1	1.1	1.2	1.0

APPENDIX F

COMPOSITIONAL ANALYSES OF TITANOMAGNETITE CRYSTALS

Table F.1: TAL-7, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6
SiO_2	0.00	0.00	0.00	0.00	0.00	0.00
TiO_2	18.97	19.32	19.24	19.26	19.29	19.26
Al_2O_3	2.12	2.13	2.19	2.17	2.13	2.14
V_2O_3	0.65	0.67	0.68	0.68	0.68	0.63
Cr_2O_3	0.00	0.00	0.00	0.00	0.00	0.00
FeO^T	71.27	71.16	70.71	71.22	71.04	71.00
MnO	0.48	0.50	0.48	0.47	0.49	0.46
MgO	2.14	2.12	2.46	2.40	2.33	2.29
CaO	0.10	0.10	0.10	0.09	0.10	0.08
sum	95.72	96.00	95.85	96.29	96.05	95.86
Fe_2O_3	29.74	29.17	29.33	29.56	29.38	29.27
FeO	44.51	44.91	44.31	44.61	44.60	44.66
corr. sum	98.70	98.92	98.78	99.25	98.99	98.79
mol%Ulv	53.1	54.0	53.7	53.5	53.8	53.8
mol%Mte	41.7	40.8	40.9	41.1	41.0	40.9

Table F.2: TAL-13, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 10
SiO_2	0.00	0.00	0.00
TiO_2	14.48	14.06	12.32
Al_2O_3	3.43	3.41	3.04
V_2O_3	0.33	0.34	0.31
Cr_2O_3	0.00	0.00	0.00
FeO^T	73.67	74.40	76.05
MnO	0.32	0.30	0.32
MgO	3.43	3.41	2.59
CaO	0.06	0.08	0.09
sum	95.71	95.99	94.71
Fe_2O_3	38.37	39.51	42.24
FeO	39.14	38.85	38.04
corr. sum	99.55	99.95	98.94
mol%Ulv	39.7	38.5	34.4
mol%Mte	52.7	54.1	58.9

Table F.3: XAL-132, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9
SiO_2	0.13	0.11	0.12	0.11	0.11	0.12	0.11	0.08	0.14
TiO_2	13.20	13.00	13.16	15.55	15.70	11.99	12.01	11.46	11.77
Al_2O_3	1.91	1.88	1.79	1.53	1.53	2.19	2.29	3.26	2.78
V_2O_3	0.59	0.60	0.64	0.61	0.62	0.64	0.65	0.63	0.69
Cr_2O_3	0.68	0.70	0.73	0.39	0.39	0.53	0.53	0.25	0.36
FeO^T	76.70	77.02	76.68	76.07	75.68	78.24	78.21	76.96	77.74
MnO	0.33	0.33	0.36	0.43	0.40	0.32	0.36	0.35	0.35
MgO	1.68	1.64	1.69	1.61	1.58	1.79	1.78	2.47	2.04
CaO	0.11	0.11	0.11	0.09	0.14	0.08	0.05	0.03	0.06
sum	95.34	95.37	95.28	96.39	96.14	95.89	95.99	95.48	95.91
Fe_2O_3	40.44	40.92	40.57	37.09	36.70	43.12	42.94	43.23	42.99
FeO	40.31	40.20	40.17	42.70	42.65	39.43	39.57	38.06	39.05
corr. sum	99.39	99.47	99.34	100.10	99.82	100.21	100.29	99.80	100.22
mol%Ulv	37.1	36.5	37.0	43.4	43.9	33.4	33.4	31.7	32.6
mol%Mte	56.8	57.5	57.0	51.8	51.4	60.0	59.7	59.8	59.5

Table F.4: XAL-134, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9
SiO_2	0.06	0.12	0.12	0.09	0.12	0.12	0.13	0.12	0.11
TiO_2	17.51	18.44	17.20	17.82	18.21	17.80	18.69	17.63	17.44
Al_2O_3	1.77	1.64	1.99	1.94	1.88	1.95	1.51	1.98	2.09
V_2O_3	0.35	0.44	0.39	0.42	0.42	0.43	0.41	0.41	0.44
Cr_2O_3	0.03	0.01	0.00	0.00	0.00	0.02	0.01	0.02	0.02
FeO^T	73.55	72.76	74.60	74.61	73.20	73.87	72.97	73.70	74.64
MnO	0.55	0.52	0.50	0.57	0.51	0.53	0.49	0.53	0.51
MgO	1.72	1.68	1.68	1.66	1.67	1.69	1.56	1.80	1.81
CaO	0.08	0.08	0.08	0.09	0.04	0.06	0.05	0.06	0.05
sum	95.61	95.68	96.55	97.20	96.06	96.46	95.80	96.24	97.11
Fe_2O_3	32.96	31.00	31.63	30.97	29.17	30.24	28.56	30.34	31.16
FeO	43.88	44.87	46.14	46.74	46.95	46.65	47.26	46.40	46.60
corr. sum	98.91	98.79	99.72	100.30	98.98	99.49	98.66	99.28	100.23
mol%Ulv	49.2	51.9	49.4	50.8	52.6	51.2	54.2	50.9	49.8
mol%Mte	46.4	43.7	45.4	44.2	42.2	43.5	41.4	43.8	44.5

Table F.5: XAL-103, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10
SiO_2	0.10	0.08	0.08	0.09	0.09	0.08	0.09	0.09	0.09	0.10
TiO_2	13.63	16.68	16.48	16.26	16.34	16.26	16.97	16.13	16.28	15.99
Al_2O_3	1.95	1.49	1.48	1.52	1.55	1.51	1.48	1.54	1.51	1.56
V_2O_3	0.70	0.63	0.60	0.65	0.68	0.72	0.65	0.69	0.65	0.67
Cr_2O_3	0.23	0.09	0.10	0.24	0.26	0.26	0.08	0.28	0.27	0.17
FeO^T	76.88	73.68	74.28	74.32	74.55	74.56	74.86	74.73	75.06	75.29
MnO	0.40	0.48	0.48	0.47	0.49	0.48	0.49	0.41	0.48	0.48
MgO	1.90	2.13	2.10	2.04	2.03	2.04	2.05	2.03	2.03	2.01
CaO	0.00	0.03	0.01	0.04	0.01	0.04	0.02	0.02	0.01	0.01
sum	95.78	95.29	95.60	95.63	96.00	95.95	96.67	95.92	96.37	96.28
Fe_2O_3	40.09	34.47	35.07	35.32	35.23	35.50	34.80	35.63	35.71	36.26
FeO	40.81	42.67	42.71	42.54	42.85	42.62	43.54	42.67	42.92	42.67
corr. sum	99.80	98.74	99.11	99.17	99.53	99.51	100.16	99.49	99.95	99.92
mol%Ulv	38.0	46.9	46.2	45.6	45.7	45.4	47.1	45.1	45.3	44.5
mol%Mte	56.0	48.5	49.2	49.6	49.2	49.6	48.3	49.8	49.7	50.5

Table F.6: XAL-117,Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4
SiO_2	0.08	0.09	0.10	0.09
TiO_2	9.96	11.54	10.88	11.18
Al_2O_3	2.75	2.49	2.62	2.75
V_2O_3	0.36	0.49	0.47	0.48
Cr_2O_3	0.10	0.12	0.17	0.13
FeO^T	80.31	78.87	79.73	79.18
MnO	0.40	0.43	0.40	0.45
MgO	1.61	1.63	1.46	1.65
CaO	0.00	0.02	0.00	0.01
sum	95.56	95.67	95.82	95.91
Fe_2O_3	46.90	43.92	45.04	44.50
FeO	38.10	39.36	39.20	39.14
corr. sum	100.25	100.07	100.33	100.37
mol%Ulv	27.7	32.2	30.3	31.0
mol%Mte	65.3	61.2	62.7	61.8

Table F.7: TAL-12, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10
SiO_2	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TiO_2	14.13	14.14	14.49	14.54	14.65	14.40	13.18	13.43	13.40	13.93
Al_2O_3	2.81	2.71	2.41	2.45	2.60	2.45	3.08	3.26	3.08	3.24
V_2O_3	0.39	0.37	0.43	0.39	0.37	0.41	0.37	0.40	0.40	0.42
Cr_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FeO^T	77.11	77.15	76.91	77.63	76.83	76.70	76.45	75.86	76.22	75.50
MnO	0.36	0.30	0.37	0.31	0.34	0.34	0.33	0.36	0.34	0.34
MgO	1.42	1.46	1.20	1.21	1.25	1.27	2.73	2.67	2.67	2.68
CaO	0.05	0.06	0.06	0.05	0.06	0.06	0.03	0.03	0.05	0.03
sum	96.26	96.24	95.87	96.57	96.10	95.63	96.18	96.00	96.16	96.13
Fe_2O_3	39.02	39.03	38.36	38.72	38.04	38.37	41.29	40.37	40.83	39.44
FeO	41.99	42.03	42.39	42.79	42.60	42.17	39.29	39.53	39.48	40.02
corr. sum	100.17	100.15	99.71	100.44	99.91	99.47	100.31	100.04	100.25	100.08
mol%Ulv	39.2	39.3	40.6	40.4	40.9	40.4	36.2	37.0	36.8	38.3
mol%Mte	54.2	54.3	53.7	53.8	53.1	53.8	56.7	55.6	56.1	54.2

Table F.8: XAL-109, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12	Mte 13	Mte 14	Mte 15	Mte 16	Mte 17	Mte 18	Mte 19	Mte 20	Mte 21
SiO_2	0.07	0.08	0.09	0.08	0.06	0.07	0.08	0.07	0.09	0.07	0.05	0.08	0.07	0.08	0.08	0.08	0.07	0.09	0.08	0.07	0.08
TiO_2	11.12	11.06	11.54	11.15	10.59	11.10	10.96	11.12	10.94	11.15	11.06	10.70	11.06	11.19	11.95	11.04	10.94	11.06	10.90	11.16	11.36
Al_2O_3	3.12	3.09	3.32	3.53	3.03	3.05	3.11	3.13	3.10	3.26	3.05	3.06	2.85	2.88	2.67	2.94	3.19	3.10	3.14	2.85	2.99
V_2O_3	0.54	0.54	0.58	0.63	0.55	0.60	0.61	0.56	0.57	0.62	0.52	0.57	0.51	0.47	0.51	0.56	0.65	0.62	0.63	0.49	0.56
Cr_2O_3	0.18	0.18	0.18	0.24	0.40	0.30	0.33	0.24	0.37	0.18	0.17	0.28	0.18	0.15	0.13	0.20	0.34	0.28	0.24	0.14	0.18
FeO^T	77.23	77.82	77.01	77.44	77.54	77.09	77.36	77.67	78.06	77.24	77.91	78.01	77.89	77.98	77.82	77.62	77.64	77.44	77.47	77.76	77.70
MnO	0.32	0.34	0.32	0.35	0.33	0.35	0.31	0.37	0.39	0.35	0.36	0.34	0.36	0.36	0.34	0.34	0.28	0.31	0.34	0.38	0.35
MgO	2.91	2.86	2.72	2.06	2.19	2.81	2.84	2.35	2.01	2.95	2.76	2.28	2.19	2.20	2.24	2.61	2.75	2.74	2.88	2.52	2.59
CaO	0.01	0.00	0.03	0.05	0.03	0.01	0.02	0.06	0.01	0.04	0.02	0.03	0.04	0.02	0.01	0.01	0.02	0.02	0.04	0.04	0.02
sum	95.50	95.97	95.79	95.53	94.72	95.36	95.62	95.56	95.55	95.85	95.91	95.34	95.14	95.33	95.72	95.38	95.88	95.65	95.73	95.41	95.83
Fe_2O_3	44.52	44.93	43.46	43.41	44.55	44.27	44.67	44.28	44.11	44.57	45.04	44.86	44.45	44.23	43.22	44.57	44.70	44.46	44.99	44.68	44.21
FeO	37.17	37.38	37.90	38.38	37.46	37.25	37.17	37.82	38.37	37.13	37.38	37.64	37.89	38.18	38.93	37.52	37.42	37.43	36.99	37.56	37.92
corr. sum	99.96	100.47	100.14	99.88	99.18	99.79	100.09	99.99	99.97	100.31	100.42	99.83	99.59	99.76	100.05	99.85	100.36	100.11	100.23	99.88	100.26
mol%Ulv	30.6	30.3	31.7	30.9	29.6	30.7	30.2	30.8	30.4	30.6	30.4	29.7	30.8	31.1	33.1	30.5	30.1	30.5	30.0	30.9	31.3
mol%Mte	61.4	61.7	59.8	60.1	62.3	61.2	61.5	61.3	61.2	61.2	61.9	62.2	61.9	61.5	59.9	61.7	61.4	61.3	61.9	61.9	60.9

Table F.9: IXT-21, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12	Mte 13	Mte 14	Mte 15	Mte 16	Mte 17	Mte 18	Mte 19	Mte 20
SiO_2	0.03	0.11	0.13	0.15	0.14	0.12	0.11	0.07	0.12	0.11	0.10	0.11	0.09	0.09	0.07	0.07	0.10	0.13	0.09	0.13
TiO_2	14.83	15.45	15.53	15.95	16.17	14.19	14.21	14.15	14.16	14.07	14.00	14.02	14.45	14.61	14.77	14.66	14.65	15.46	17.64	14.14
Al_2O_3	2.56	2.33	2.26	2.22	2.18	3.67	3.73	3.75	3.16	3.49	3.51	3.54	3.44	3.45	3.03	3.00	2.94	2.81	2.36	3.30
V_2O_3	0.16	0.14	0.12	0.15	0.16	0.26	0.25	0.26	0.10	0.12	0.14	0.10	0.13	0.12	0.10	0.16	0.18	0.17	0.17	0.13
Cr_2O_3	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.03	0.02	0.01	0.00	0.00	0.01	0.00	0.02	0.00
FeO^T	75.27	75.30	76.11	74.57	74.89	75.60	75.19	75.24	75.06	75.49	75.48	75.29	74.86	75.21	75.80	75.66	75.75	74.79	73.60	75.78
MnO	0.78	0.84	0.83	0.82	0.80	0.71	0.69	0.73	0.68	0.68	0.70	0.64	0.67	0.65	0.72	0.70	0.71	0.80	0.86	0.71
MgO	1.93	1.81	1.83	1.85	1.81	2.36	2.34	2.33	2.39	2.53	2.54	2.52	2.93	2.70	2.05	2.05	2.03	2.17	2.07	2.15
CaO	0.05	0.11	0.04	0.04	0.07	0.03	0.01	0.03	0.05	0.04	0.03	0.02	0.01	0.00	0.01	0.03	0.01	0.07	0.00	0.01
sum	95.60	96.09	96.83	95.76	96.21	96.93	96.52	96.57	95.72	96.54	96.50	96.25	96.59	96.84	96.56	96.34	96.39	96.40	96.81	96.34
Fe_2O_3	35.31	34.78	34.98	33.26	33.34	35.52	35.10	35.38	35.54	35.78	35.86	35.58	34.74	34.73	35.31	35.40	35.38	33.93	32.94	38.71
FeO	43.50	44.00	44.63	44.64	44.89	43.64	43.61	43.40	43.07	43.29	43.21	43.27	43.60	43.97	44.02	43.80	43.91	44.26	43.95	40.94
corr. sum	99.14	99.58	100.34	99.09	99.55	100.49	100.04	100.11	99.28	100.12	100.09	99.82	100.07	100.32	100.10	99.88	99.93	99.80	100.11	100.21
mol%Ulv	42.9	44.5	44.4	46.1	46.6	40.4	40.7	40.4	41.0	40.4	40.2	40.3	41.6	41.9	42.3	42.0	42.0	44.4	48.7	38.9
mol%Mte	51.1	50.1	50.0	48.1	48.0	50.6	50.2	50.6	51.5	51.4	51.5	51.2	50.1	49.8	50.5	50.8	50.7	48.8	45.5	53.3

Table F.9 (cntd): IXT-21, Titanomagnetite grains

Analysis ID	Mte 21	Mte 22	Mte 23	Mte 24
SiO_2	0.11	0.14	0.13	0.13
TiO_2	14.25	16.66	14.57	14.62
Al_2O_3	3.12	2.02	3.18	3.02
V_2O_3	0.11	0.18	0.11	0.10
Cr_2O_3	0.01	0.00	0.00	0.01
FeO^T	76.13	74.24	75.94	75.73
MnO	0.73	0.80	0.74	0.78
MgO	1.97	1.76	2.11	2.00
CaO	0.02	0.14	0.00	0.04
sum	96.45	95.94	96.77	96.44
Fe_2O_3	38.76	34.87	38.25	38.16
FeO	41.25	42.86	41.52	41.39
corr. sum	100.33	99.43	100.60	100.26
mol%Ulv	39.3	46.6	40.0	40.3
mol%Mte	53.5	48.8	52.5	52.7

Table F.10: IXT-11, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12	Mte 13
SiO_2	0.09	0.09	0.12	0.14	0.11	0.12	0.12	0.10	0.08	0.12	0.13	0.09	0.11
TiO_2	15.13	15.97	15.95	16.09	15.07	14.24	15.29	13.72	13.94	14.97	15.47	14.29	15.08
Al_2O_3	1.71	1.51	1.55	1.56	1.92	2.19	1.56	2.33	2.49	2.43	1.82	2.25	1.77
V_2O_3	0.09	0.11	0.13	0.15	0.08	0.11	0.09	0.11	0.16	0.16	0.07	0.12	0.09
Cr_2O_3	0.01	0.00	0.00	0.00	-0.01	0.01	0.01	-0.01	-0.01	-0.02	0.00	0.03	-0.01
FeO^T	76.85	75.43	75.37	75.87	75.98	76.06	76.08	77.38	76.79	76.33	76.94	77.11	76.81
MnO	0.64	0.72	0.72	0.74	0.69	0.65	0.70	0.63	0.68	0.75	0.72	0.68	0.68
MgO	1.54	1.49	1.56	1.58	1.58	1.54	1.55	1.57	1.57	1.93	1.59	1.58	1.52
CaO	0.07	0.05	0.08	0.10	0.09	0.07	0.10	0.08	0.15	0.08	0.04	0.04	0.05
sum	96.13	95.36	95.46	96.21	95.51	94.98	95.50	95.89	95.85	96.76	96.76	96.19	96.11
Fe_2O_3	36.44	34.35	34.35	34.58	35.85	36.75	35.85	38.38	37.88	35.93	35.87	37.34	36.36
FeO	44.06	44.53	44.45	44.75	43.72	43.00	43.82	42.85	42.70	44.00	44.65	43.51	44.09
corr. sum	99.78	98.80	98.90	99.67	99.10	98.67	99.09	99.74	99.64	100.36	100.35	99.93	99.75
mol%Ulv	43.5	46.4	46.3	46.3	43.6	41.3	44.3	39.4	40.0	42.8	44.2	41.0	43.4
mol%Mte	52.4	49.9	49.9	49.8	51.9	53.4	52.0	55.1	54.4	51.4	51.3	53.5	52.3

Table F.11: TAL-8, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8
SiO_2	0.04	0.03	0.14	0.15	0.12	0.15	0.12	0.14
TiO_2	13.56	12.71	12.38	13.76	17.78	19.53	19.30	19.52
Al_2O_3	2.44	2.96	2.80	1.86	1.81	1.66	1.62	1.58
V_2O_3	0.38	0.63	0.62	0.11	0.39	0.51	0.57	0.52
Cr_2O_3	0.02	0.03	0.02	0.00	0.01	0.02	0.03	0.03
FeO^T	75.99	76.64	76.94	77.18	73.53	71.88	72.04	72.15
MnO	0.52	0.47	0.43	0.49	0.55	0.56	0.58	0.60
MgO	2.06	2.33	2.39	1.76	1.60	1.45	1.47	1.49
CaO	0.00	0.02	0.00	0.07	0.01	0.11	0.10	0.09
sum	95.02	95.83	95.72	95.39	95.80	95.85	95.85	96.10
Fe_2O_3	39.85	41.50	42.04	40.55	32.05	28.64	29.15	28.92
FeO	40.13	39.30	39.11	40.69	44.69	46.10	45.81	46.13
corr. sum	99.01	99.98	99.93	99.45	99.01	98.72	98.76	98.99
mol%Ulv	38.0	35.1	34.3	38.6	50.0	55.0	54.4	54.9
mol%Mte	55.9	57.4	58.2	56.9	45.1	40.4	41.1	40.7

Table F.12: TAL-9, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12	Mte 13	Mte 14	Mte 15	Mte 16
SiO_2	0.00	0.00	0.01	0.00	0.01	0.00	0.08	0.09	0.08	0.09	0.03	0.07	0.08	0.02	0.00	0.00
TiO_2	13.17	13.18	13.08	13.01	12.64	12.55	12.54	12.40	12.52	12.58	12.43	12.37	12.72	12.58	12.72	12.61
Al_2O_3	3.03	2.45	2.50	2.47	2.72	2.50	2.65	2.70	2.69	2.60	2.62	3.10	2.75	2.55	2.77	2.63
V_2O_3	0.36	0.33	0.32	0.35	0.30	0.29	0.26	0.26	0.31	0.28	0.28	0.22	0.25	0.28	0.26	0.28
Cr_2O_3	0.00	0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00
FeO^T	75.22	75.36	75.84	75.57	76.31	76.32	76.62	76.76	76.83	76.68	76.77	76.39	76.16	76.02	76.72	76.52
MnO	0.42	0.43	0.45	0.44	0.51	0.48	0.47	0.51	0.48	0.45	0.48	0.47	0.45	0.48	0.50	0.50
MgO	3.59	3.60	3.53	3.55	3.28	3.21	3.14	3.04	3.00	2.99	3.09	3.26	3.27	3.31	3.13	3.23
CaO	0.04	0.04	0.05	0.06	0.06	0.04	0.02	0.04	0.05	0.02	0.10	0.02	0.05	0.03	0.01	0.04
sum	95.83	95.39	95.79	95.44	95.82	95.39	95.80	95.81	95.96	95.69	95.80	95.92	95.75	95.28	96.09	95.80
Fe_2O_3	41.69	42.08	42.48	42.45	43.11	43.19	43.03	43.22	43.08	42.81	43.59	43.00	42.65	42.92	42.89	43.22
FeO	37.71	37.49	37.61	37.37	37.52	37.46	37.90	37.87	38.06	38.16	37.55	37.70	37.78	37.40	38.12	37.63
corr. sum	100.00	99.60	100.04	99.69	100.13	99.72	100.11	100.14	100.27	99.98	100.16	100.22	100.02	99.58	100.39	100.13
mol%Ulv	36.0	36.3	35.9	35.8	34.7	34.7	34.5	34.1	34.4	34.7	34.2	33.9	34.9	34.8	34.9	34.7
mol%Mte	57.1	58.0	58.4	58.5	59.2	59.7	59.2	59.5	59.2	59.1	60.0	58.9	58.6	59.3	58.8	59.4

Table F.13: ETZ-11, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12	Mte 13	Mte 14	Mte 15	Mte 16	Mte 17	Mte 18	Mte 19	Mte 20
SiO_2	0.04	0.00	0.08	0.02	-0.01	0.05	0.03	0.08	0.06	0.00	0.00	0.00	0.06	0.01	0.05	0.00	0.00	0.01	0.07	0.06
TiO_2	13.28	13.32	13.20	12.91	13.07	13.19	14.83	14.81	13.47	13.55	13.51	13.37	13.34	13.27	13.52	13.32	13.59	13.26	13.38	15.82
Al_2O_3	2.95	2.96	3.09	2.91	3.04	3.11	2.17	2.25	3.00	3.00	2.90	2.94	3.14	3.49	3.51	3.26	3.30	3.21	3.22	2.22
V_2O_3	0.23	0.21	0.22	0.22	0.23	0.20	0.06	0.06	0.20	0.24	0.23	0.26	0.36	0.37	0.33	0.35	0.36	0.38	0.38	0.09
Cr_2O_3	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.05	0.03	0.00	0.00	0.00	0.02	0.02
FeO^T	75.78	75.83	76.04	76.13	76.15	75.51	75.77	76.20	75.75	75.79	75.94	75.78	75.20	75.17	75.01	75.18	75.13	75.13	75.43	75.52
MnO	0.47	0.51	0.45	0.50	0.51	0.53	0.72	0.74	0.46	0.51	0.49	0.49	0.40	0.45	0.45	0.44	0.47	0.47	0.44	0.61
MgO	2.89	2.91	2.73	2.74	2.74	2.92	2.13	2.09	3.02	2.97	2.99	2.98	3.35	3.33	3.23	3.29	3.20	3.18	3.09	1.78
CaO	0.03	0.02	0.02	0.02	0.02	0.08	0.00	0.03	0.02	0.01	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00
sum	95.67	95.77	95.83	95.46	95.75	95.62	95.71	96.26	95.99	96.06	96.06	95.85	95.84	96.15	96.13	95.85	96.05	95.64	96.05	96.12
Fe_2O_3	41.02	41.11	40.90	41.63	41.44	41.12	38.52	38.82	40.81	40.78	40.99	41.07	40.80	40.77	40.10	40.87	40.28	40.72	40.63	36.39
FeO	38.87	38.84	39.24	38.66	38.86	38.51	41.10	41.27	39.02	39.10	39.06	38.82	38.49	38.48	38.92	38.40	38.89	38.49	38.87	42.78
corr. sum	99.78	99.89	99.93	99.63	99.90	99.74	99.56	100.15	100.07	100.15	100.16	99.96	99.92	100.23	100.15	99.94	100.08	99.72	100.12	99.76
mol%Ulv	36.6	36.7	36.4	35.7	36.0	36.4	41.3	41.1	37.0	37.2	37.1	36.8	36.6	36.2	37.0	36.5	37.2	36.5	36.7	44.1
mol%Mte	56.6	56.7	56.4	57.6	57.2	56.7	53.7	53.8	56.1	56.0	56.3	56.5	56.0	55.7	54.8	56.0	55.2	56.0	55.7	50.7

Table F.13 (cntd): ETZ-11, Titanomagnetite grains

Analysis ID	Mte 21	Mte 22	Mte 23	Mte 24	Mte 25	Mte 26	Mte 27	Mte 28	Mte 29
SiO_2	0.00	0.00	0.09	0.06	0.00	0.04	0.00	0.08	0.08
TiO_2	15.75	15.67	14.35	15.96	15.76	15.49	15.97	15.84	15.78
Al_2O_3	1.87	2.32	2.53	1.90	1.95	2.02	2.19	1.95	2.06
V_2O_3	0.07	0.07	0.17	0.04	0.10	0.01	0.06	0.06	0.05
Cr_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
FeO^T	75.90	75.30	75.68	75.61	75.71	76.05	75.61	75.50	75.57
MnO	0.62	0.58	0.57	0.75	0.78	0.79	0.76	0.71	0.74
MgO	1.81	1.80	2.68	1.88	1.92	1.92	1.84	1.88	1.90
CaO	0.00	0.08	0.06	0.02	0.00	0.02	0.00	0.01	0.00
sum	96.01	95.81	96.12	96.22	96.22	96.36	96.45	96.03	96.17
Fe_2O_3	37.10	36.77	39.59	36.78	37.16	37.78	36.57	36.69	36.79
FeO	42.51	42.21	40.05	42.52	42.27	42.06	42.71	42.49	42.47
corr. sum	99.73	99.50	100.09	99.90	99.94	100.14	100.11	99.70	99.85
mol%Ulv	44.0	43.8	39.6	44.4	43.9	43.0	44.3	44.2	43.9
mol%Mte	51.8	51.4	54.6	51.2	51.7	52.5	50.8	51.2	51.2

Table F.14: TEQ-34, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7
SiO_2	0.070	0.062	0.095	0.060	0.094	0.054	0.085
TiO_2	13.603	10.997	10.811	12.521	12.759	12.672	12.196
Al_2O_3	1.927	2.308	2.395	2.412	2.569	2.563	2.719
V_2O_3	0.040	0.024	0.012	0.020	0.052	0.049	0.055
Cr_2O_3	0.009	0.009	0.005	0.011	0.008	0.000	0.026
FeO^T	78.457	79.071	79.335	77.966	77.347	78.077	78.306
MnO	0.852	0.717	0.719	0.727	0.670	0.720	0.718
MgO	0.974	0.896	0.855	1.089	1.418	1.388	1.358
CaO	0.015	0.017	0.045	0.030	0.013	0.015	0.000
sum	95.947	94.101	94.272	94.836	94.930	95.538	95.463
Fe_2O_3	40.832	44.384	44.783	41.797	41.195	41.936	42.494
FeO	41.714	39.132	39.037	40.356	40.277	40.342	40.068
corr. sum	100.037	98.546	98.757	99.022	99.055	99.738	99.719
mol%Ulv	38.2	31.3	30.7	35.4	35.9	35.5	34.1
mol%Mte	57.3	63.3	63.7	59.1	58.0	58.7	59.5

Table F.15: XAL-115, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10
SiO_2	0.06	0.09	0.10	0.06	0.06	0.04	0.08	0.07	0.07	0.06
TiO_2	10.69	10.30	11.18	15.37	17.97	9.26	18.28	10.36	10.84	10.45
Al_2O_3	2.14	2.24	1.77	2.32	2.29	2.44	1.96	2.09	2.54	2.51
V_2O_3	0.09	0.11	0.12	0.11	0.10	0.09	0.08	0.08	0.12	0.17
Cr_2O_3	0.02	0.05	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.05
FeO^T	80.41	80.42	79.99	74.94	72.46	81.45	72.99	80.58	79.85	79.83
MnO	0.89	0.90	0.98	0.81	0.86	0.78	0.87	0.90	0.76	0.87
MgO	1.26	1.35	1.23	2.21	2.61	1.42	2.62	1.17	1.71	1.47
CaO	0.00	0.04	0.02	0.00	0.01	0.00	0.03	0.05	0.00	0.01
sum	95.56	95.49	95.38	95.81	96.35	95.48	96.92	95.31	95.88	95.42
Fe_2O_3	46.39	47.07	45.66	37.20	32.50	49.09	32.75	47.04	46.04	46.34
FeO	38.66	38.06	38.90	41.46	43.22	37.28	43.52	38.26	38.42	38.13
corr. sum	100.21	100.20	99.95	99.54	99.61	100.40	100.20	100.02	100.49	100.06
mol%Ulv	29.9	28.8	31.4	42.8	49.7	25.8	50.3	29.1	30.1	29.2
mol%Mte	65.0	65.9	64.2	51.8	45.0	68.5	45.1	66.1	63.9	64.8

Table F.16: XAL-129, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12
SiO_2	0.07	0.06	0.10	0.09	0.09	0.09	0.04	0.07	0.08	0.09	0.07	0.06
TiO_2	12.49	12.28	11.48	11.98	11.81	11.87	12.24	12.12	12.07	11.65	11.68	11.73
Al_2O_3	2.23	2.22	2.37	2.18	2.23	2.22	2.32	2.33	2.34	2.34	2.29	2.33
V_2O_3	0.28	0.31	0.27	0.27	0.28	0.28	0.28	0.30	0.31	0.30	0.24	0.30
Cr_2O_3	0.03	0.01	0.00	0.00	0.02	0.04	0.00	0.00	0.02	0.00	0.02	0.01
FeO^T	77.94	78.18	78.85	78.94	78.88	78.88	78.45	77.93	78.68	79.00	79.07	78.66
MnO	0.69	0.66	0.63	0.68	0.67	0.66	0.64	0.67	0.63	0.64	0.69	0.63
MgO	1.94	1.93	1.82	1.71	1.68	1.65	1.98	2.01	1.98	1.78	1.75	1.77
CaO	0.02	0.00	0.03	0.03	0.05	0.01	0.03	0.04	0.00	0.04	0.03	0.08
sum	95.67	95.65	95.53	95.87	95.72	95.70	95.97	95.47	96.09	95.83	95.82	95.56
Fe_2O_3	42.86	43.22	44.60	43.99	44.21	43.89	43.62	43.45	43.82	44.48	44.55	44.30
FeO	39.38	39.29	38.72	39.36	39.10	39.38	39.20	38.83	39.25	38.97	38.98	38.79
corr. sum	99.96	99.98	100.00	100.28	100.14	100.09	100.34	99.82	100.48	100.28	100.28	100.00
mol%Ulv	34.8	34.2	32.0	33.4	32.9	33.1	34.0	33.8	33.4	32.4	32.5	32.7
mol%Mte	59.7	60.2	62.2	61.3	61.6	61.3	60.5	60.6	60.7	61.9	62.0	61.8

Table F.17: XAL-106, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7	Mte 8	Mte 9	Mte 10	Mte 11	Mte 12	Mte 13	Mte 14	Mte 15	Mte 16
SiO_2	0.01	0.07	0.09	0.08	0.10	0.10	0.08	0.10	0.06	0.08	0.08	0.08	0.09	0.10	0.09	0.08
TiO_2	12.02	12.14	11.98	11.64	12.13	11.79	12.04	11.84	11.86	11.70	11.98	11.73	11.89	11.77	11.32	11.37
Al_2O_3	1.59	2.64	2.62	2.54	2.77	2.64	2.65	2.75	2.72	2.78	2.65	2.47	2.65	2.73	2.64	2.49
V_2O_3	0.06	0.13	0.14	0.10	0.15	0.14	0.15	0.17	0.14	0.13	0.14	0.10	0.13	0.11	0.12	0.12
Cr_2O_3	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.01	0.02	0.03
FeO^T	79.00	77.24	78.29	78.25	76.78	78.27	77.81	78.05	77.68	78.08	76.89	79.07	77.68	76.57	78.93	78.75
MnO	0.79	0.73	0.74	0.71	0.76	0.76	0.75	0.72	0.71	0.72	0.77	0.79	0.74	0.74	0.72	0.76
MgO	1.06	1.96	1.62	1.61	2.22	2.01	1.91	1.91	1.88	2.09	2.04	1.49	2.27	2.27	1.43	1.44
CaO	0.03	0.02	0.04	0.04	0.02	0.02	0.04	0.06	0.00	0.02	0.02	0.01	0.01	0.03	0.01	0.01
sum	94.56	94.94	95.53	94.98	94.93	95.75	95.43	95.58	95.05	95.59	94.57	95.76	95.47	94.33	95.27	95.03
Fe_2O_3	43.73	42.73	43.29	43.77	42.63	43.96	43.27	43.65	43.20	43.98	42.78	44.09	43.68	43.05	44.27	44.18
FeO	39.65	38.79	39.34	38.87	38.43	38.71	38.87	38.77	38.81	38.50	38.40	39.40	38.38	37.84	39.09	38.99
corr. sum	98.94	99.22	99.87	99.36	99.20	100.15	99.77	99.95	99.37	99.99	98.85	100.17	99.85	98.64	99.70	99.46
mol%Ulv	34.2	34.0	33.4	32.7	33.9	32.7	33.5	32.9	33.2	32.5	33.6	32.7	33.0	33.1	31.7	31.9
mol%Mte	62.2	59.9	60.4	61.4	59.6	61.0	60.3	60.7	60.5	61.1	60.1	61.5	60.7	60.5	62.0	62.1

Table F.18: TEQ-66, Titanomagnetite grains

Analysis ID	Mte 1	Mte 2	Mte 3	Mte 4	Mte 5	Mte 6	Mte 7
SiO_2	0.00	0.08	0.07	0.07	0.07	0.09	0.09
TiO_2	11.65	11.72	13.19	12.76	13.27	12.48	12.47
Al_2O_3	2.42	2.23	2.46	2.46	2.27	2.71	2.56
V_2O_3	0.31	0.33	0.40	0.31	0.30	0.31	0.35
Cr_2O_3	0.01	0.00	0.00	0.00	0.01	0.01	0.01
FeO^T	78.23	78.37	76.21	77.33	76.21	76.78	76.98
MnO	0.56	0.54	0.53	0.53	0.53	0.53	0.51
MgO	1.26	1.22	1.79	1.84	1.80	2.02	2.02
CaO	0.07	0.06	0.00	0.05	0.02	0.00	0.01
sum	94.51	94.54	94.66	95.35	94.49	94.92	94.99
Fe_2O_3	43.38	43.27	40.09	41.78	40.22	41.64	41.89
FeO	39.20	39.43	40.14	39.73	40.02	39.31	39.28
corr. sum	98.85	98.88	98.67	99.53	98.52	99.10	99.19
mol%Ulv	33.0	33.2	37.2	35.7	37.5	34.9	34.9
mol%Mte	61.4	61.3	56.5	58.4	56.8	58.3	58.7

APPENDIX G

MAJOR AND TRACE ELEMENT CONCENTRATIONS IN PLAGIOCLASE, DEFINED BY LASER-ABLATION ICP-MS

Table G.1: TEQ-66, Plagioclase Major and Trace Element Data

TEQ-66	Plag 2	Plag 3	Plag 5	Plag 6a	Plag 6b	Plag 8	Plag 9	Plag 10a	Plag 10b	Plag 12	Plag 14
SiO_2	56.63	58.75	56.78	57.40	55.53	55.00	58.42	55.64	54.32	57.02	58.78
TiO_2	0.05	0.04	0.04	0.05	0.04	0.04	0.05	0.06	0.04	0.05	0.07
Al_2O_3	26.78	25.75	27.06	26.83	27.62	28.10	26.20	27.78	27.91	26.63	25.65
Fe_2O_3	0.55	0.42	0.56	0.55	0.55	0.60	0.57	0.58	0.65	0.52	0.40
MnO	0.02	0.01	0.03	0.02	0.01	0.00	0.01	0.00	-0.01	0.00	-0.03
MgO	0.07	0.03	0.06	0.06	0.07	0.07	0.06	0.06	0.07	0.06	0.05
CaO	9.20	7.45	9.00	9.13	9.89	10.53	8.10	9.79	10.14	8.94	7.36
Na_2O	5.84	6.71	5.99	6.04	5.46	5.20	6.54	5.58	5.27	6.08	6.70
K_2O	0.42	0.54	0.43	0.43	0.39	0.33	0.53	0.32	0.32	0.40	0.56
sum	99.67	99.82	99.98	100.54	99.59	100.02	100.52	99.87	98.80	99.77	99.76
mol%An	45.4	36.8	44.2	44.4	48.9	51.8	39.4	48.3	50.5	43.8	36.5
mol%Ab	52.1	60.0	53.3	53.1	48.8	46.3	57.5	49.8	47.5	53.9	60.1
mol%Or	2.5	3.2	2.5	2.5	2.3	1.9	3.1	1.9	1.9	2.3	3.3
Li	8.59	10.81	7.77	9.77	11.77	14.51	11.42	10.81	7.21	9.58	---
Cu	---	3.08	---	---	---	---	---	---	---	---	---
Zn	7.76	6.80	6.43	8.19	6.67	5.94	8.13	5.70	8.61	9.35	11.54
Sr	1175.91	1185.14	1094.22	1051.41	1120.48	1261.76	1034.68	1164.25	1142.44	1203.04	1328.95
Ba	347.71	537.56	434.84	373.35	317.60	321.10	447.63	286.75	267.83	367.09	686.78
La	4.59	6.68	5.42	4.57	3.81	3.28	5.04	3.04	3.88	4.23	7.38
Ce	8.28	10.21	9.21	7.07	7.05	6.80	8.26	5.44	5.61	6.43	10.20
Pr	0.29	0.89	0.51	0.59	0.44	0.85	0.93	0.41	0.36	0.67	0.63
Nd	2.36	0.60	2.30	1.29	1.13	1.75	1.77	1.44	2.61	2.20	1.99
Sm	---	0.59	---	0.52	---	0.63	---	---	0.79	0.95	1.46
Eu	0.82	2.07	1.41	1.13	1.30	1.14	1.39	1.10	1.15	1.61	2.58
Pb	2.27	3.43	2.59	3.44	1.97	3.17	1.89	1.91	1.80	2.22	4.05

Table G.1(cntd): TEQ-66, Plagioclase Major and Trace Element Data

TEQ-66	Plag 15	Plag 17a	Plag 17b	Plag 18a	Plag 18b	Plag 19	Plag 21	Plag 22	Plag 23
SiO_2	56.41	51.03	56.14	57.62	55.57	56.85	53.99	56.10	56.65
TiO_2	0.04	0.05	0.03	0.05	0.05	0.04	0.06	0.01	0.07
Al_2O_3	26.75	29.77	27.36	26.27	27.74	26.85	28.53	27.45	26.91
Fe_2O_3	0.52	0.68	0.59	0.51	0.56	0.52	0.58	0.48	0.47
MnO	0.02	0.03	0.02	-0.01	0.00	0.01	0.00	0.03	-0.01
MgO	0.06	0.09	0.05	0.05	0.07	0.04	0.10	0.05	0.06
CaO	8.96	12.31	9.18	8.42	10.08	9.03	11.18	9.28	9.01
Na_2O	5.95	4.02	5.77	6.31	5.41	6.10	4.89	5.92	5.97
K_2O	0.39	0.22	0.41	0.48	0.35	0.42	0.28	0.38	0.44
sum	99.12	98.24	99.63	99.78	99.83	99.86	99.68	99.82	99.64
mol%An	44.4	62.0	45.7	41.3	49.7	43.9	54.9	45.4	44.3
mol%Ab	53.3	36.6	51.9	55.9	48.2	53.7	43.5	52.4	53.1
mol%Or	2.3	1.3	2.4	2.8	2.1	2.4	1.6	2.2	2.6
Li	4.19	7.48	14.35	6.94	12.18	5.86	14.21	10.32	6.34
Cu	---	---	---	---	---	---	---	---	---
Zn	4.78	8.41	4.47	6.80	6.72	10.62	7.42	12.22	3.16
Sr	1202.68	1033.14	993.89	1061.37	1181.88	1282.05	1134.96	1486.26	1209.32
Ba	398.84	195.71	339.18	372.00	311.17	479.23	240.86	675.41	418.46
La	6.02	2.07	5.42	3.92	4.57	7.25	3.61	7.46	4.91
Ce	8.47	3.42	6.60	7.13	8.12	10.13	5.53	10.85	6.16
Pr	0.77	0.45	0.58	0.58	0.80	0.75	0.23	1.09	0.89
Nd	3.62	1.29	1.86	2.47	1.80	2.84	2.00	4.35	2.11
Sm	1.44	0.99	---	1.00	0.52	---	---	---	---
Eu	2.43	0.71	1.47	1.12	1.24	2.71	0.60	2.73	1.58
Pb	2.61	2.26	3.07	2.24	2.16	3.96	2.17	4.82	3.02

Table G.2: TEQ-34, Plagioclase Major and Trace Element Data

TEQ-34	Plag 1	Plag 2a	Plag 2b	Plag 3a	Plag 3b	Plag 4	Plag 5	Plag 6	Plag 7a	Plag 7b	Plag 11
SiO_2	56.94	60.22	59.92	61.51	61.32	64.23	62.36	61.78	61.74	62.22	63.43
TiO_2	0.07	0.04	0.03	0.03	0.04	0.02	0.03	0.02	0.02	0.01	0.02
Al_2O_3	26.63	24.85	24.89	24.05	23.85	21.60	23.50	23.54	23.74	22.99	22.59
Fe_2O_3	0.54	0.34	0.35	0.35	0.28	0.24	0.30	0.29	0.27	0.33	0.28
MnO	0.03	-0.01	-0.02	0.02	0.01	0.00	0.00	0.03	0.02	-0.01	-0.01
MgO	0.08	0.03	0.03	0.02	0.02	0.00	0.01	0.01	0.02	0.01	0.01
CaO	8.71	6.42	6.53	5.53	5.20	2.49	4.82	4.96	5.00	4.36	3.71
Na_2O	6.28	7.30	7.28	7.82	7.74	8.12	8.01	7.92	8.03	8.27	8.44
K_2O	0.37	0.80	0.82	0.97	1.06	2.49	1.20	1.14	0.95	1.11	1.32
sum	99.75	100.13	99.96	100.61	99.69	100.37	100.54	100.01	100.16	99.68	100.33
mol%An	42.4	31.2	31.6	26.5	25.4	12.4	23.2	24.0	24.2	21.1	18.0
mol%Ab	55.4	64.2	63.7	67.9	68.4	72.9	69.9	69.4	70.3	72.5	74.3
mol%Or	2.2	4.6	4.7	5.6	6.1	14.7	6.9	6.6	5.5	6.4	7.6
Li	---	---	0.52	---	8.17	3.46	1.95	---	6.42	---	---
Cu	---	---	---	---	---	0.84	3.43	1.63	3.49	---	---
Zn	7.27	4.42	5.55	4.11	6.10	5.21	15.50	4.85	21.02	5.85	6.28
Sr	1334.13	1265.23	1225.20	1004.58	878.50	549.09	1073.92	1011.20	968.23	931.40	738.43
Ba	662.41	1136.73	1156.40	1914.30	1856.86	8542.84	2997.72	2424.50	2992.16	3147.33	5334.86
La	7.14	7.01	8.21	8.10	7.72	7.39	11.29	8.33	13.18	9.08	8.82
Ce	16.29	11.11	10.36	11.67	10.70	8.79	17.15	11.30	24.36	12.23	13.26
Pr	1.34	0.94	1.01	1.20	0.63	0.54	0.88	1.05	1.90	0.85	0.52
Nd	6.09	2.09	2.72	1.81	1.66	0.48	2.48	3.27	7.17	2.43	1.72
Sm	0.83	---	0.64	---	---	---	1.17	---	0.78	---	---
Eu	2.83	4.32	5.29	5.94	4.47	7.29	7.79	6.35	6.65	5.80	8.22
Pb	1.33	3.54	3.83	4.35	4.77	9.78	5.23	5.41	6.62	7.50	8.39

Table G.2 (cntd): TEQ-34, Plagioclase Major and Trace Element Data

TEQ-34	Plag 12a	Plag 12b	Plag 13	Plag 14	Plag 16	Plag 17	Plag 18	Plag 19	Plag 20	Plag 21	Plag 23
SiO_2	60.03	60.19	58.84	58.49	62.66	61.39	63.15	62.75	60.54	59.63	61.96
TiO_2	0.01	0.04	0.03	0.03	0.00	0.04	0.01	0.02	0.03	0.03	0.05
Al_2O_3	24.75	24.61	25.57	25.40	23.10	23.79	22.44	22.85	24.22	25.10	23.46
Fe_2O_3	0.35	0.32	0.36	0.40	0.25	0.34	0.26	0.28	0.29	0.39	0.32
MnO	0.01	-0.02	0.02	0.00	0.02	0.02	-0.02	-0.04	0.02	0.01	-0.03
MgO	0.04	0.03	0.03	0.04	0.01	0.02	0.01	0.01	0.03	0.04	0.02
CaO	6.37	6.42	7.36	7.55	4.47	5.16	3.71	4.08	6.03	6.96	4.87
Na_2O	7.25	7.37	6.98	6.90	8.09	7.89	8.23	8.19	7.56	7.08	8.00
K_2O	0.76	0.75	0.52	0.64	1.33	1.07	1.94	1.52	0.76	0.69	1.12
sum	99.74	99.82	99.74	99.48	100.25	100.07	100.41	100.26	99.64	100.00	100.12
mol%An	31.2	31.1	35.7	36.3	21.6	24.9	17.7	19.7	29.2	33.8	23.6
mol%Ab	64.3	64.6	61.3	60.0	70.7	68.9	71.2	71.6	66.4	62.2	70.0
mol%Or	4.5	4.3	3.0	3.7	7.6	6.1	11.1	8.7	4.4	4.0	6.5
Li	3.97	---	---	---	4.45	5.03	---	6.05	---	---	5.27
Cu	---	3.65	---	---	---	4.63	---	---	2.51	---	2.03
Zn	9.19	4.42	6.57	6.97	6.57	21.86	4.77	5.71	8.62	10.16	5.15
Sr	1187.67	1290.96	1345.22	1418.01	869.62	1015.65	679.94	873.78	1328.53	1177.56	957.94
Ba	1067.17	1009.94	1138.55	808.77	2538.11	1996.94	4873.30	5368.38	2143.19	792.81	2009.02
La	6.04	7.29	8.52	8.01	7.73	15.67	9.13	10.63	10.23	5.99	8.35
Ce	10.87	10.58	11.63	10.19	8.84	25.76	9.43	11.07	17.27	10.55	9.64
Pr	0.94	1.03	1.10	0.60	0.82	3.14	0.66	1.15	1.30	0.58	0.56
Nd	1.88	1.29	2.67	1.67	1.70	9.17	1.21	2.38	3.72	2.45	1.74
Sm	0.92	---	---	---	---	2.60	---	---	---	1.42	---
Eu	4.19	4.71	3.41	3.18	7.09	4.81	7.59	8.94	7.62	2.77	5.10
Pb	3.52	3.31	2.69	2.79	4.68	5.79	3.97	5.99	6.88	2.95	3.98

Table G.2 (cntd): TEQ-34, Plagioclase Major and Trace Element Data

TEQ-34	Plag 27	Plag 28	Plag 29a	Plag 29b	Plag 30	Plag 31a	Plag 31b	Plag 32	Plag 33a	Plag 33b	Plag 34	Plag 35
SiO_2	59.24	60.83	61.59	61.41	61.38	64.49	52.92	63.93	65.13	63.39	59.91	62.23
TiO_2	0.08	0.04	0.04	0.03	0.04	0.03	0.01	0.02	0.00	0.01	0.03	0.04
Al_2O_3	25.31	24.33	23.58	23.95	23.91	21.41	15.73	21.58	21.26	21.92	24.51	23.25
Fe_2O_3	0.52	0.30	0.33	0.33	0.30	0.21	1.54	0.26	0.14	0.26	0.35	0.34
MnO	0.03	0.01	0.03	-0.01	0.00	0.00	0.03	0.01	-0.02	0.00	0.00	0.04
MgO	0.05	0.02	0.03	0.03	0.03	0.01	0.20	0.02	0.01	0.01	0.03	0.02
CaO	7.27	5.74	5.12	5.47	5.35	2.19	1.81	2.73	2.10	2.89	6.26	4.57
Na_2O	6.92	7.63	7.90	7.80	7.80	7.84	7.06	8.09	9.20	8.54	7.42	8.14
K_2O	0.62	0.93	1.05	1.00	0.99	3.29	0.90	2.57	1.59	1.71	0.84	0.93
sum	100.11	99.97	99.92	100.25	99.95	100.49	81.01	100.19	100.00	99.75	99.59	99.89
mol%An	35.4	27.8	24.7	26.3	25.9	10.8	11.6	13.3	10.2	14.2	30.3	22.4
mol%Ab	61.0	66.8	69.2	67.9	68.4	69.9	81.6	71.7	80.7	75.8	64.9	72.2
mol%Or	3.6	5.4	6.0	5.7	5.7	19.3	6.8	15.0	9.2	10.0	4.8	5.4
Li	---	---	3.21	---	---	---	---	---	2.30	---	---	---
Cu	1.04	---	---	---	---	---	---	3.46	---	6.37	---	---
Zn	19.65	5.92	2.15	6.48	5.88	2.76	0.99	7.38	3.39	6.32	3.08	8.68
Sr	1282.85	1060.22	980.34	1064.70	1155.53	572.75	380.41	609.69	272.01	521.33	1163.46	919.56
Ba	699.19	1221.36	1347.90	1507.41	1467.66	10473.78	6690.50	8705.60	2607.42	13210.88	1532.13	3130.85
La	10.30	7.58	6.96	8.65	6.94	8.44	5.60	7.86	9.95	8.92	8.03	8.99
Ce	20.76	11.41	10.56	9.57	9.56	8.66	6.55	9.85	11.98	9.64	10.35	12.26
Pr	1.90	0.66	0.53	0.76	1.04	0.37	0.34	0.56	0.74	0.81	0.79	0.90
Nd	8.41	2.32	1.43	2.83	1.20	0.30	1.08	1.23	---	2.38	4.21	3.09
Sm	1.40	---	0.17	---	0.22	---	---	---	---	0.39	---	---
Eu	1.99	4.98	4.77	5.09	5.02	6.78	5.35	7.00	3.96	7.50	5.33	6.29
Pb	3.41	4.28	4.28	4.35	3.80	9.90	5.80	8.90	9.77	12.11	4.97	5.97

Table G.3: TAN-13, Plagioclase Major and Trace Element Data

TAN-13	Plag 1	Plag 2	Plag 3a	Plag 3b	Plag 3c	Plag 3d	Plag 7a	Plag 7b	Plag 8a	Plag 8b	Plag 9
SiO_2	49.22	46.73	50.57	46.58	46.16	51.64	51.82	51.55	46.91	47.53	46.35
TiO_2	0.04	0.02	0.04	0.06	-0.01	0.00	0.05	-0.02	0.02	0.04	0.02
Al_2O_3	31.53	33.27	30.51	33.60	33.68	30.12	29.87	29.91	33.41	33.19	32.89
Fe_2O_3	0.54	0.59	0.59	0.67	0.50	0.48	0.45	0.49	0.57	0.66	0.57
MnO	-0.03	0.00	0.03	0.04	0.02	0.01	0.00	0.04	0.02	0.03	0.04
MgO	0.07	0.05	0.06	0.05	0.05	0.06	0.05	0.03	0.03	0.05	0.04
CaO	14.47	16.51	13.30	16.44	17.22	13.17	12.42	12.85	16.78	16.39	16.93
Na_2O	2.86	1.80	3.55	1.62	1.51	3.75	4.09	4.30	1.74	2.14	2.02
K_2O	0.09	0.07	0.06	0.01	0.06	0.10	0.05	0.11	-0.03	0.06	0.05
sum	98.82	99.04	98.84	99.13	99.25	99.34	98.92	99.34	99.53	100.09	98.93
mol%An	73.3	83.2	67.2	84.8	86.0	65.6	62.5	61.9	84.3	80.6	82.0
mol%Ab	26.2	16.4	32.4	15.1	13.6	33.8	37.2	37.5	15.8	19.1	17.7
mol%Or	0.5	0.4	0.3	0.1	0.4	0.6	0.3	0.6	-0.2	0.3	0.3
Li	8.61	10.41	9.45	6.65	6.61	9.43	10.00	15.82	8.38	5.13	11.16
Cu	---	20.76	3.53	1.54	4.67	---	5.93	---	1.77	---	5.12
Zn	2.56	5.12	5.19	2.94	3.55	2.41	9.32	2.84	6.65	2.28	5.78
Sr	1379.58	1383.09	1505.27	1404.80	1389.99	1381.82	1707.86	1652.76	1451.18	1389.77	1414.50
Ba	61.52	43.97	83.82	47.47	42.44	63.85	152.88	98.88	64.21	50.63	48.86
La	0.84	1.09	1.59	1.28	1.50	0.95	3.44	2.32	0.97	1.02	1.04
Ce	2.42	2.16	2.14	2.14	1.78	2.11	5.80	2.59	3.19	2.92	1.97
Pr	0.19	0.21	0.14	0.25	0.10	0.17	0.70	0.30	0.36	0.35	0.40
Nd	1.12	0.27	0.63	0.37	0.62	0.26	2.26	0.24	1.50	1.38	---
Sm	---	---	---	---	---	---	---	0.39	---	0.30	---
Eu	0.35	0.10	0.21	0.14	0.38	0.36	0.41	0.46	0.33	0.30	0.29
Pb	0.46	0.32	0.64	0.75	0.83	0.55	1.41	1.27	0.79	---	1.10

Table G.3 (cntd): TAN-13, Plagioclase Major and Trace Element Data

TAN-13	Plag 10	Plag 13	Plag 14	Plag 19a	Plag 19b	Plag 23a	Plag 23b	Plag 23c	Plag 28a	Plag 28b	Plag 29a
SiO_2	46.93	46.88	46.12	47.24	45.83	45.94	46.49	51.66	52.92	53.11	46.27
TiO_2	-0.01	0.03	-0.01	0.01	-0.02	-0.02	0.00	-0.01	0.05	0.02	0.01
Al_2O_3	32.45	33.45	33.02	32.67	33.46	34.10	33.73	30.19	29.59	29.25	34.15
Fe_2O_3	0.57	0.68	0.59	0.60	0.56	0.40	0.39	0.40	0.56	0.64	0.43
MnO	-0.11	-0.02	0.01	-0.03	-0.01	0.01	0.00	-0.02	-0.03	0.03	0.03
MgO	0.04	0.03	0.05	0.05	0.03	0.03	0.05	0.07	0.08	0.07	-0.06
CaO	16.36	17.46	17.15	15.86	16.62	17.69	17.26	13.70	12.81	12.77	16.54
Na_2O	2.13	1.66	1.75	2.17	1.73	1.44	1.62	4.11	4.36	4.23	1.72
K_2O	0.04	0.10	-0.01	0.07	0.06	-0.01	0.03	0.17	0.10	0.13	0.02
sum	98.59	100.48	98.78	98.76	98.35	99.69	99.76	100.46	100.52	100.44	99.33
mol% An	80.7	84.9	84.4	79.8	83.8	87.2	85.4	64.2	61.5	62.1	84.0
mol% Ab	19.1	14.6	15.6	19.8	15.8	12.9	14.5	34.8	37.9	37.2	15.9
mol% Or	0.2	0.6	-0.1	0.4	0.4	-0.1	0.2	1.0	0.6	0.7	0.1
Li	7.20	7.13	3.24	6.75	9.66	3.83	9.63	9.34	15.16	12.16	7.31
Cu	2.47	---	4.40	---	---	---	1.59	3.37	5.79	1.84	---
Zn	---	12.30	---	4.39	2.53	2.78	2.82	3.57	5.13	4.21	4.27
Sr	1438.50	1595.26	1361.59	1288.99	1432.04	1445.12	1597.09	1688.71	1638.28	1826.89	1340.62
Ba	49.42	51.68	41.26	38.99	42.49	42.45	51.75	87.95	118.26	144.39	44.79
La	1.69	1.51	0.75	1.81	0.88	1.09	1.60	2.18	2.99	2.03	0.92
Ce	2.76	1.89	1.87	1.54	2.03	1.96	1.99	2.99	4.21	2.91	2.48
Pr	0.29	0.00	---	0.22	0.28	0.17	0.35	0.36	0.51	0.24	0.31
Nd	0.49	0.62	0.79	0.75	---	1.18	0.82	1.02	1.58	1.22	0.63
Sm	---	---	---	---	---	---	---	---	---	---	0.39
Eu	0.27	0.55	0.20	---	0.24	---	0.31	0.38	0.13	0.33	0.23
Pb	0.60	1.42	0.75	0.18	0.53	0.13	0.99	1.09	0.88	1.34	0.97

Table G.3 (cntd): TAN-13, Plagioclase Major and Trace Element Data

TAN-13	Plag 29b	Plag 31a	Plag 31b	Plag 33
SiO_2	46.95	52.37	53.31	48.35
TiO_2	0.00	0.07	0.01	0.04
Al_2O_3	32.93	29.67	29.07	32.99
Fe_2O_3	0.50	0.59	0.75	0.58
MnO	-0.04	-0.04	-0.07	0.00
MgO	0.03	0.05	0.08	0.05
CaO	16.52	13.46	12.02	16.60
Na_2O	1.89	4.18	4.60	2.27
K_2O	0.06	0.05	0.23	0.05
sum	98.96	100.57	100.10	101.02
mol% An	82.6	63.8	58.3	79.9
mol% Ab	17.1	35.9	40.4	19.8
mol% Or	0.3	0.3	1.3	0.3
Li	6.29	8.04	9.75	6.48
Cu	---	5.13	5.75	38.95
Zn	1.87	2.93	3.38	6.01
Sr	1339.64	1617.38	1788.25	1454.76
Ba	41.44	100.19	126.17	58.48
La	0.83	2.50	2.14	1.22
Ce	2.18	3.98	2.66	3.14
Pr	0.20	0.21	0.24	0.17
Nd	0.44	2.80	0.32	1.11
Sm	---	---	---	---
Eu	0.21	---	0.28	0.20
Pb	0.82	1.07	1.42	0.90

APPENDIX H

PLOTS OF RESULTS FROM ITERATED PAIRINGS OF FE-TI OXIDES

Figure H.1: Plots of all possible pairings of ilmenite and titanomagnetite compositions relative to $\log_{10}$ X (Mg/Mn) model of Bacon & Hirschman (1988). Calculated wt% FeO_{liq} for each of the four corner end-points of each range of pairings is noted. These corner wt% FeO values show low degrees of deviation from the noted average of all plotted points in each sample. Data from TAN-13 is not displayed due to the lack of ilmenite analyses.

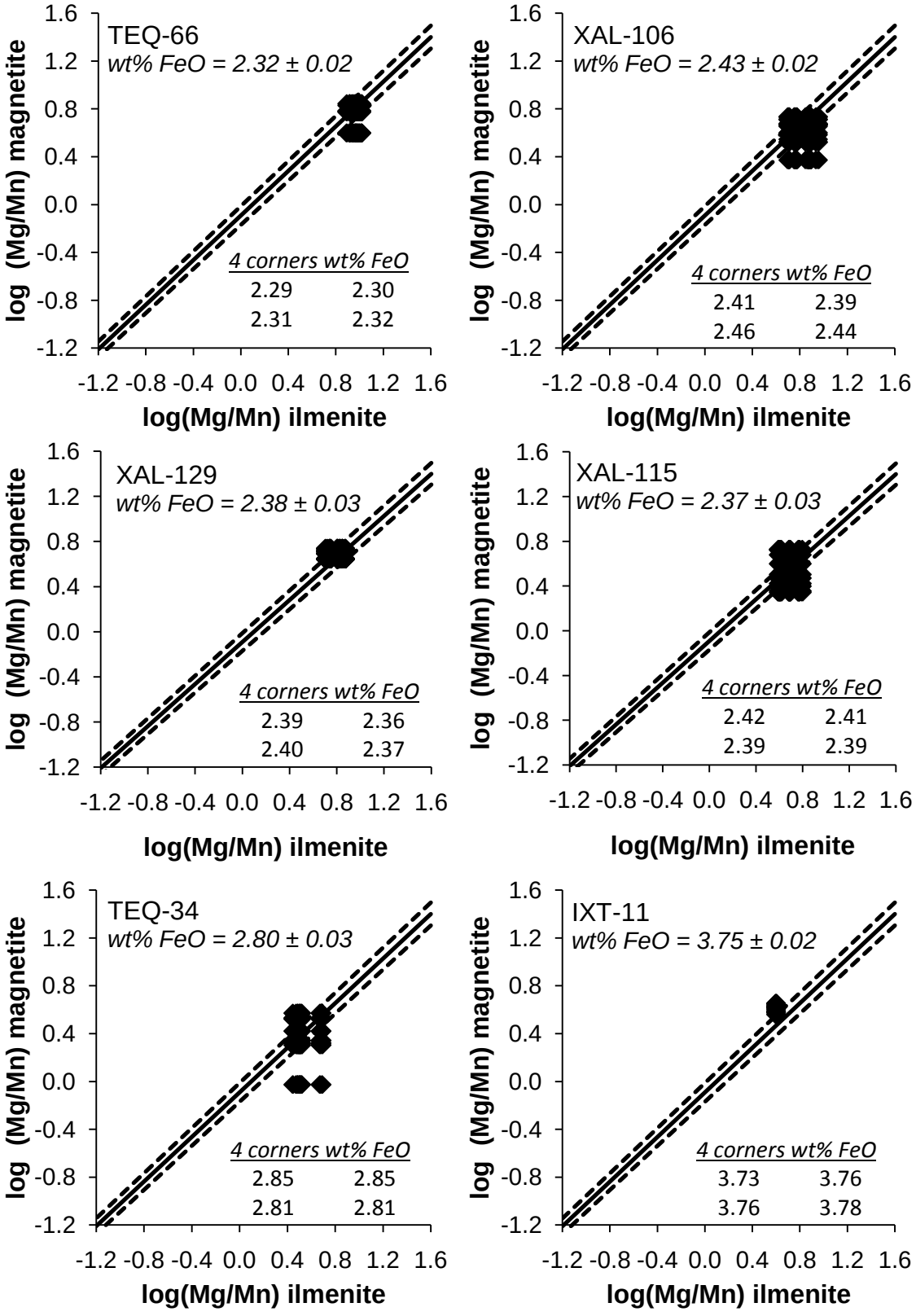
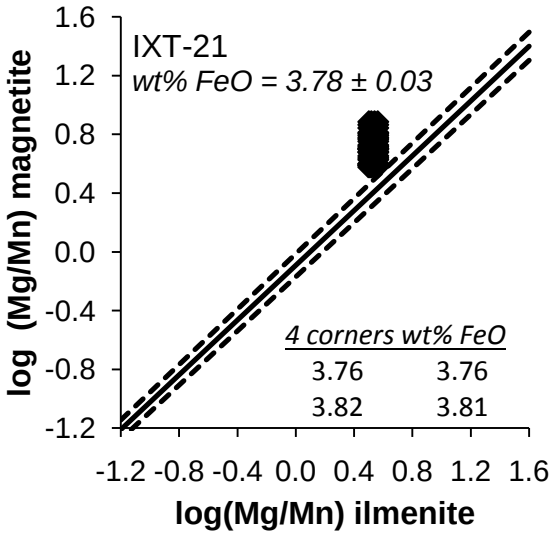
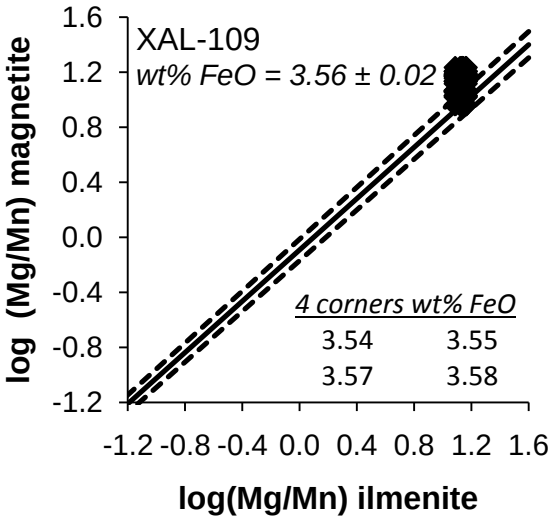
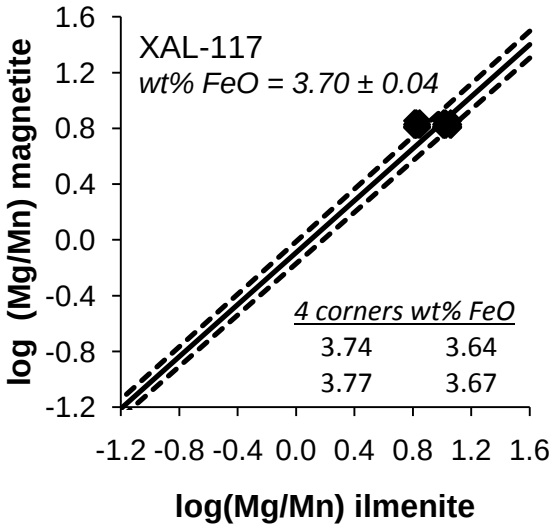
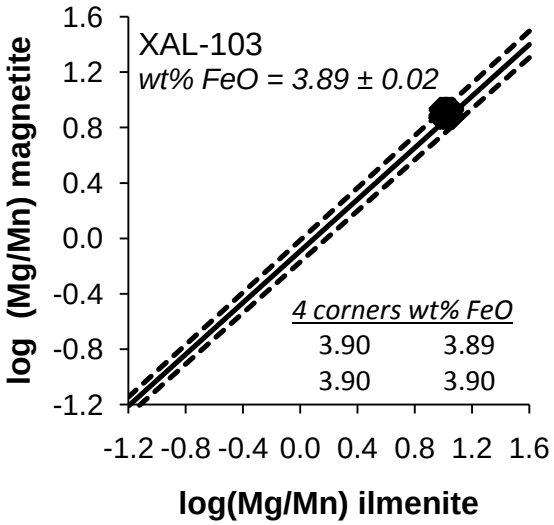

TEQ-66
wt% FeO = 2.32 ± 0.02
4 corners wt% FeO
2.29 2.30
2.31 2.32
XAL-106
wt% FeO = 2.43 ± 0.02
4 corners wt% FeO
2.41 2.39
2.46 2.44
XAL-129
wt% FeO = 2.38 ± 0.03
4 corners wt% FeO
2.39 2.36
2.40 2.37
XAL-115
wt% FeO = 2.37 ± 0.03
4 corners wt% FeO
2.42 2.41
2.39 2.39
TEQ-34
wt% FeO = 2.80 ± 0.03
4 corners wt% FeO
2.85 2.85
2.81 2.81
IXT-11
wt% FeO = 3.75 ± 0.02
4 corners wt% FeO
3.73 3.76
3.76 3.78
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6
1.2
0.8
0.4
0.0
-0.4
-0.8
-1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6

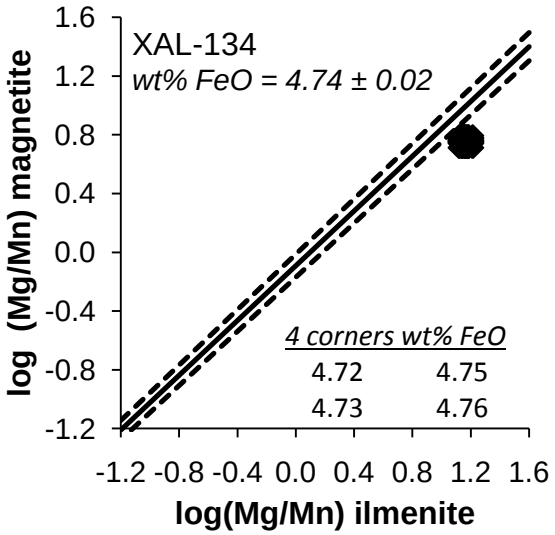
Figure H.1 (cntd): Plots of all possible pairings of ilmenite and titanomagnetite compositions relative to $\log_{10}$ X (Mg/Mn) model of Bacon & Hirschman (1988). Calculated wt% FeO_{liq} for each of the four corner end-points of each range of pairings is noted. These corner wt% FeO values show low degrees of deviation from the noted average of all plotted points in each sample. Data from TAN-13 is not displayed due to the lack of ilmenite analyses.

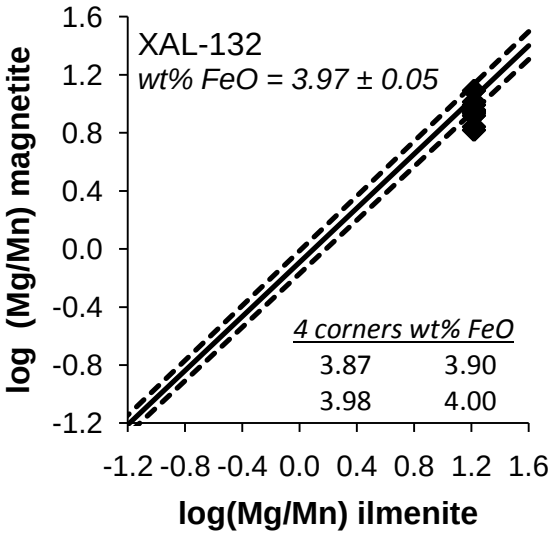

IXT-21
wt% FeO = 3.78 ± 0.03
4 corners wt% FeO
3.76 3.76
3.82 3.81
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6 1.2 0.8 0.4 0.0 -0.4 -0.8 -1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6


XAL-109
wt% FeO = 3.56 ± 0.02
4 corners wt% FeO
3.54 3.55
3.57 3.58
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6 1.2 0.8 0.4 0.0 -0.4 -0.8 -1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6


XAL-117
wt% FeO = 3.70 ± 0.04
4 corners wt% FeO
3.74 3.64
3.77 3.67
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6 1.2 0.8 0.4 0.0 -0.4 -0.8 -1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6


XAL-103
wt% FeO = 3.89 ± 0.02
4 corners wt% FeO
3.90 3.89
3.90 3.90
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6 1.2 0.8 0.4 0.0 -0.4 -0.8 -1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6


XAL-134
wt% FeO = 4.74 ± 0.02
4 corners wt% FeO
4.72 4.75
4.73 4.76
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6 1.2 0.8 0.4 0.0 -0.4 -0.8 -1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6


XAL-132
wt% FeO = 3.97 ± 0.05
4 corners wt% FeO
3.87 3.90
3.98 4.00
log (Mg/Mn) magnetite
log(Mg/Mn) ilmenite
1.6 1.2 0.8 0.4 0.0 -0.4 -0.8 -1.2
-1.2 -0.8 -0.4 0.0 0.4 0.8 1.2 1.6

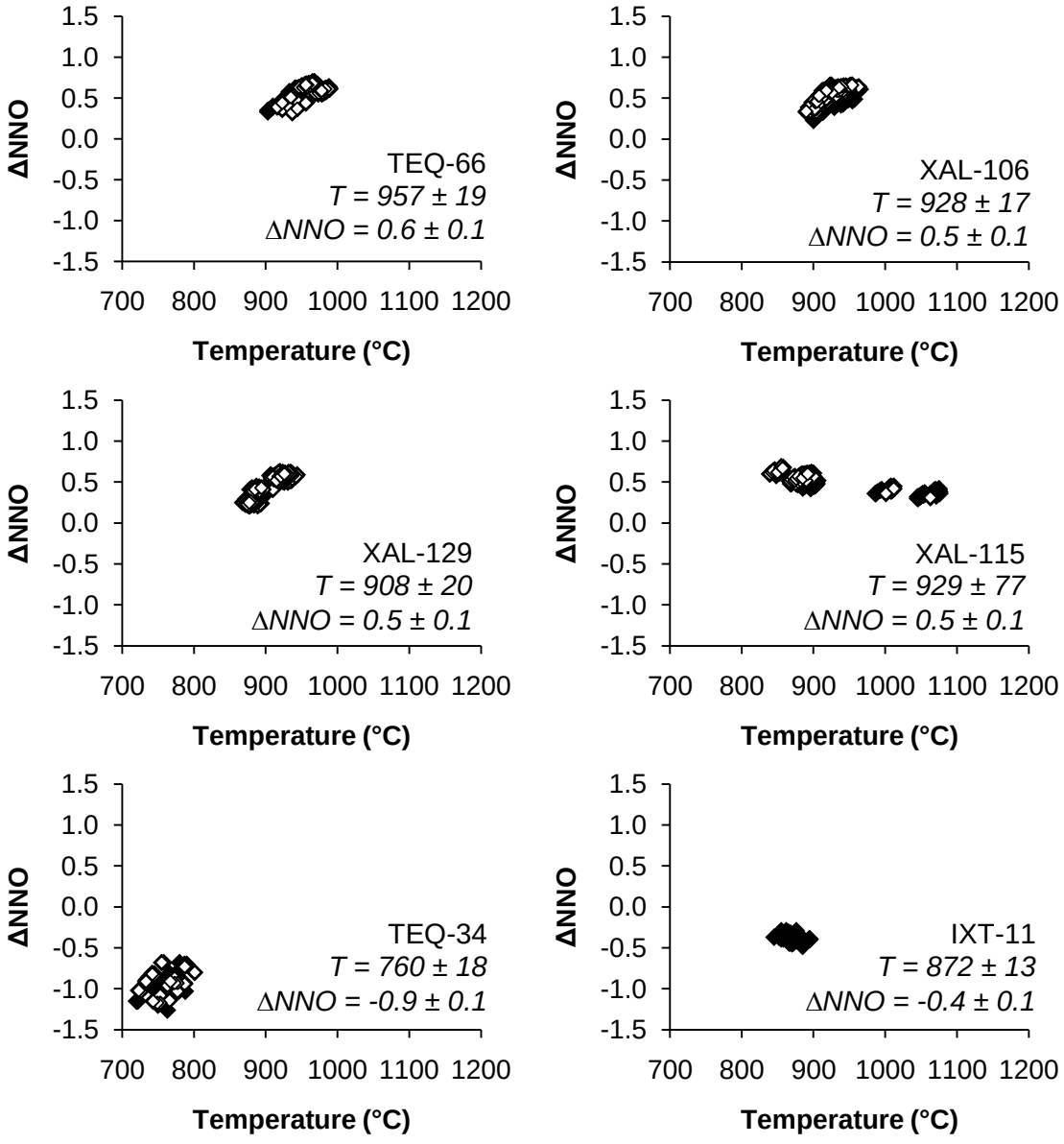


Figure H.2: Plots of temperature and ΔNNO values calculated from all possible pairings of ilmenite and titanomagnetite in each sample. Noted standard deviations are ± 1σ. Data from TAN-13 is not displayed due to the lack of ilmenite analyses.

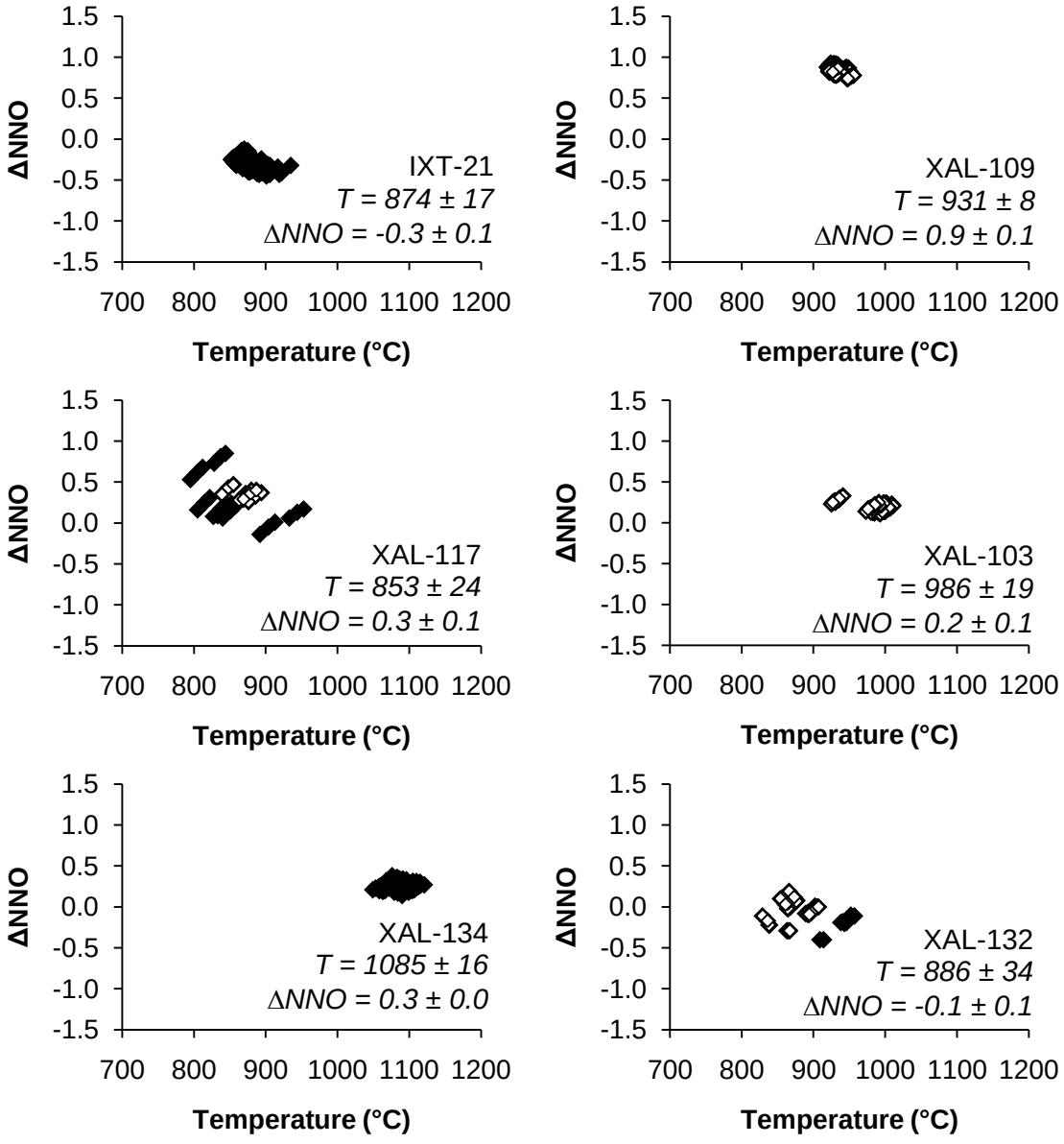


Figure H.2 (cntd): Plots of temperature and ΔNNO values calculated from all possible pairings of ilmenite and titanomagnetite in each sample. Noted standard deviations are ± 1σ. Data from TAN-13 is not displayed due to the lack of ilmenite analyses.

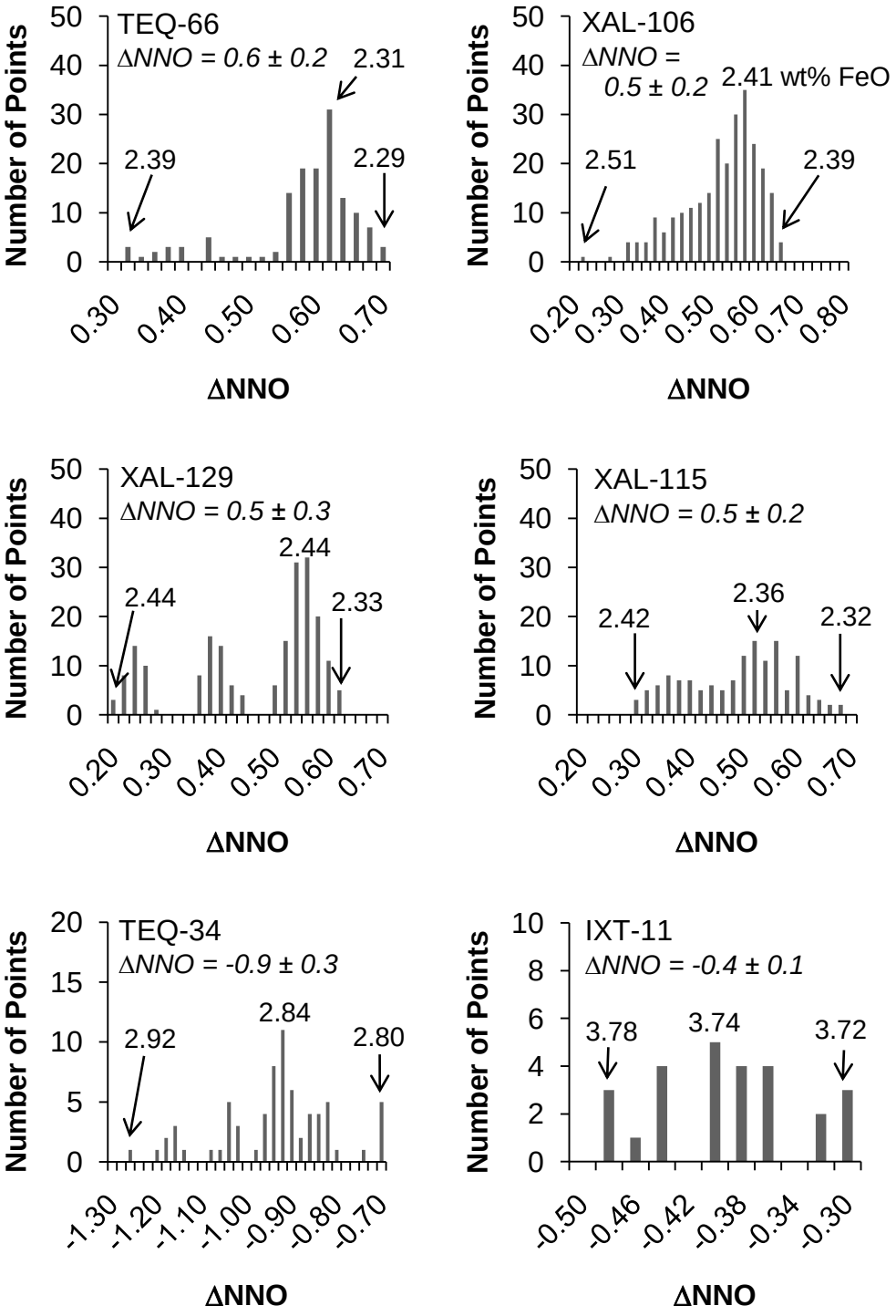


Figure H.3: Histograms of ΔNNO values calculated from all possible pairings of ilmenite and titanomagnetite in each sample are presented. Standard deviations noted are ± 2σ. Corresponding calculated wt% FeO values are superimposed.

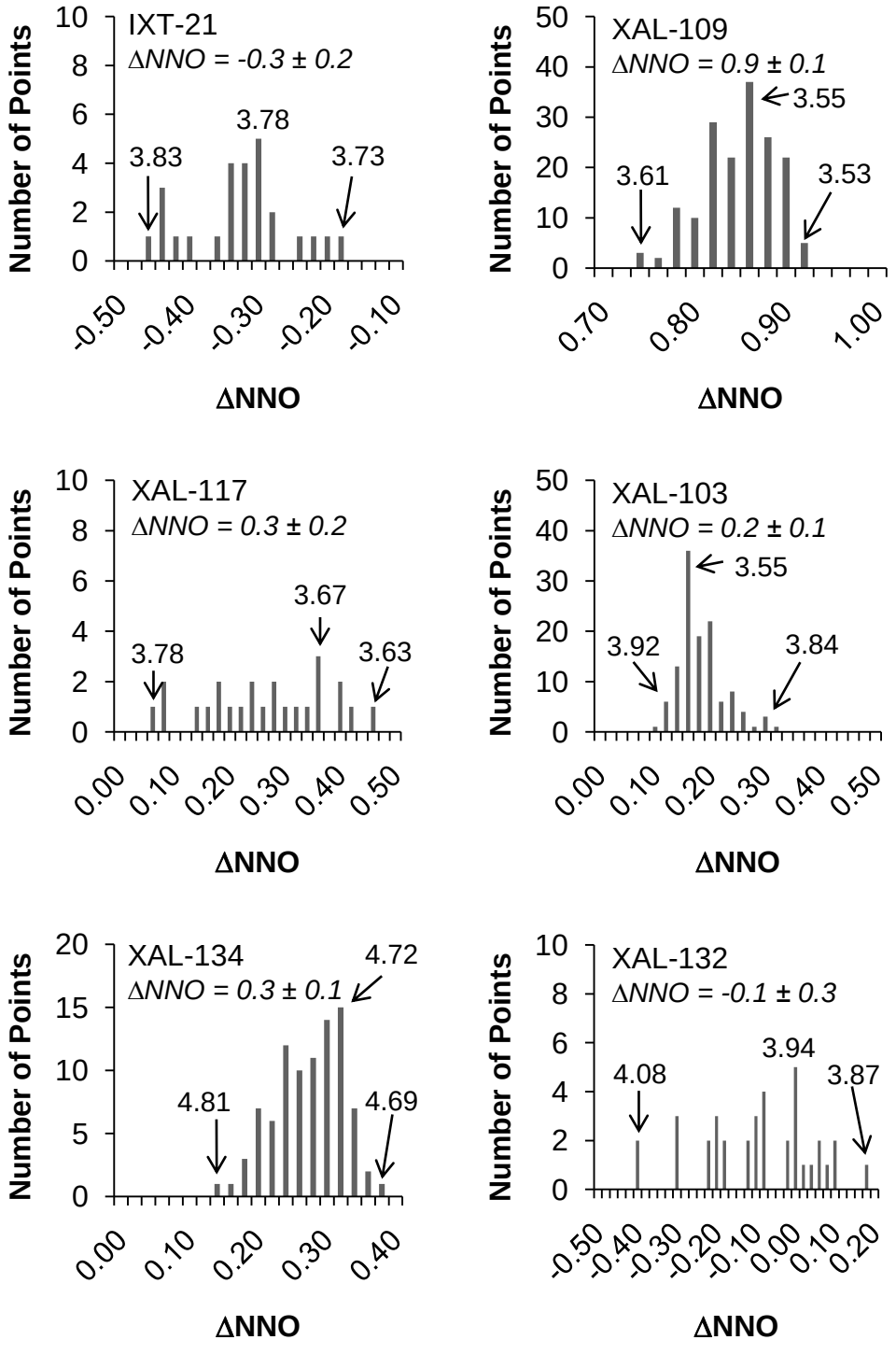


Figure H.3(cntd): Histograms of ΔNNO values calculated from all possible pairings of ilmenite and titanomagnetite in each sample are presented. Standard deviations noted are ± 2σ. Corresponding calculated wt% FeO values are superimposed.

APPENDIX I

COMPOSITIONAL ANALYSES OF PLAGIOCLASE AND PYROXENE CRYSTALS PLOTTED WITH RESPECT TO DISTANCE ACROSS EACH CRYSTAL

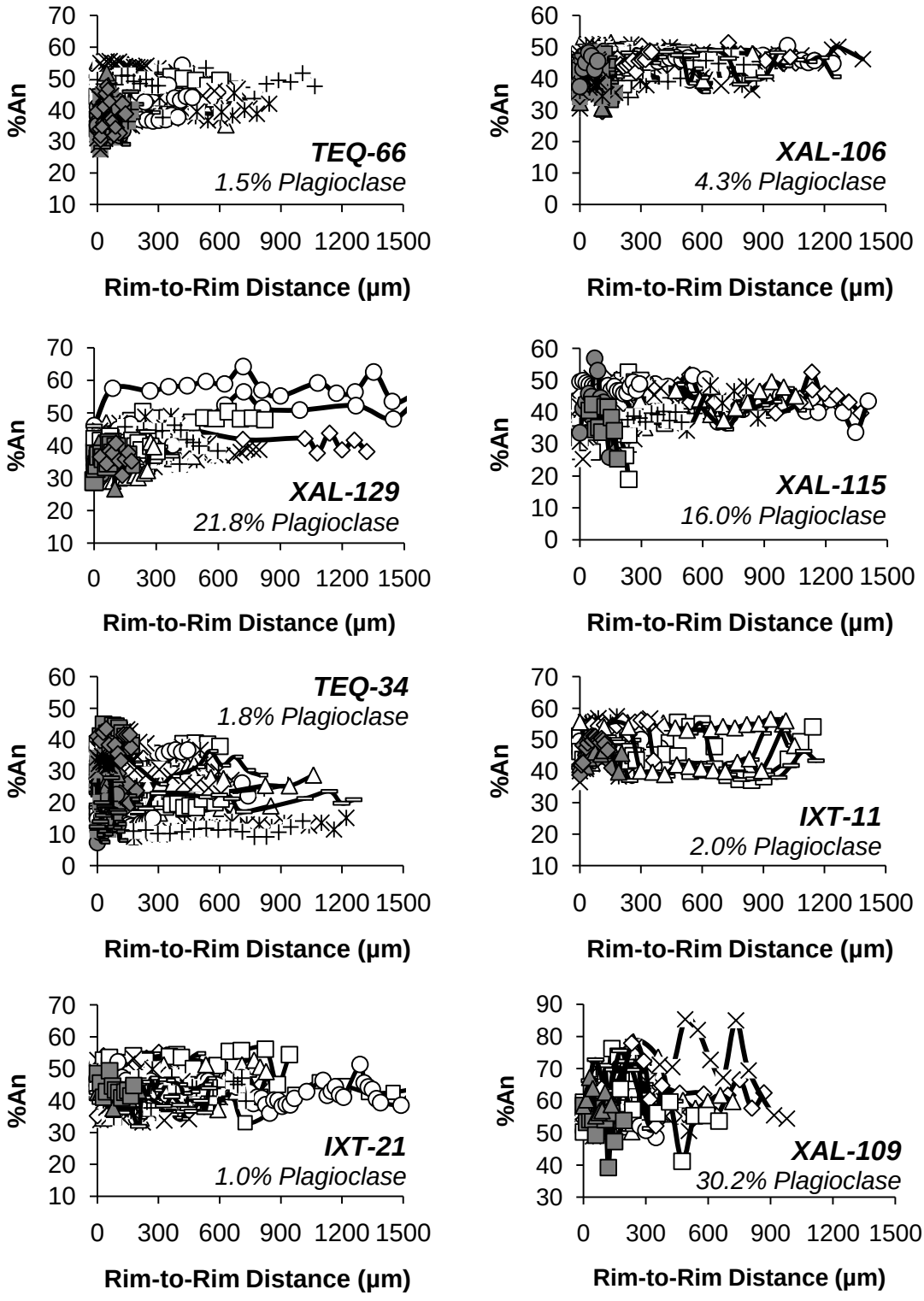


Figure I.1: Compositional analyses of plagioclase (%An) plotted as a function of distance across each crystal (rim to rim). Open symbols denote phenocrysts, whereas shaded symbols denote microphenocrysts.

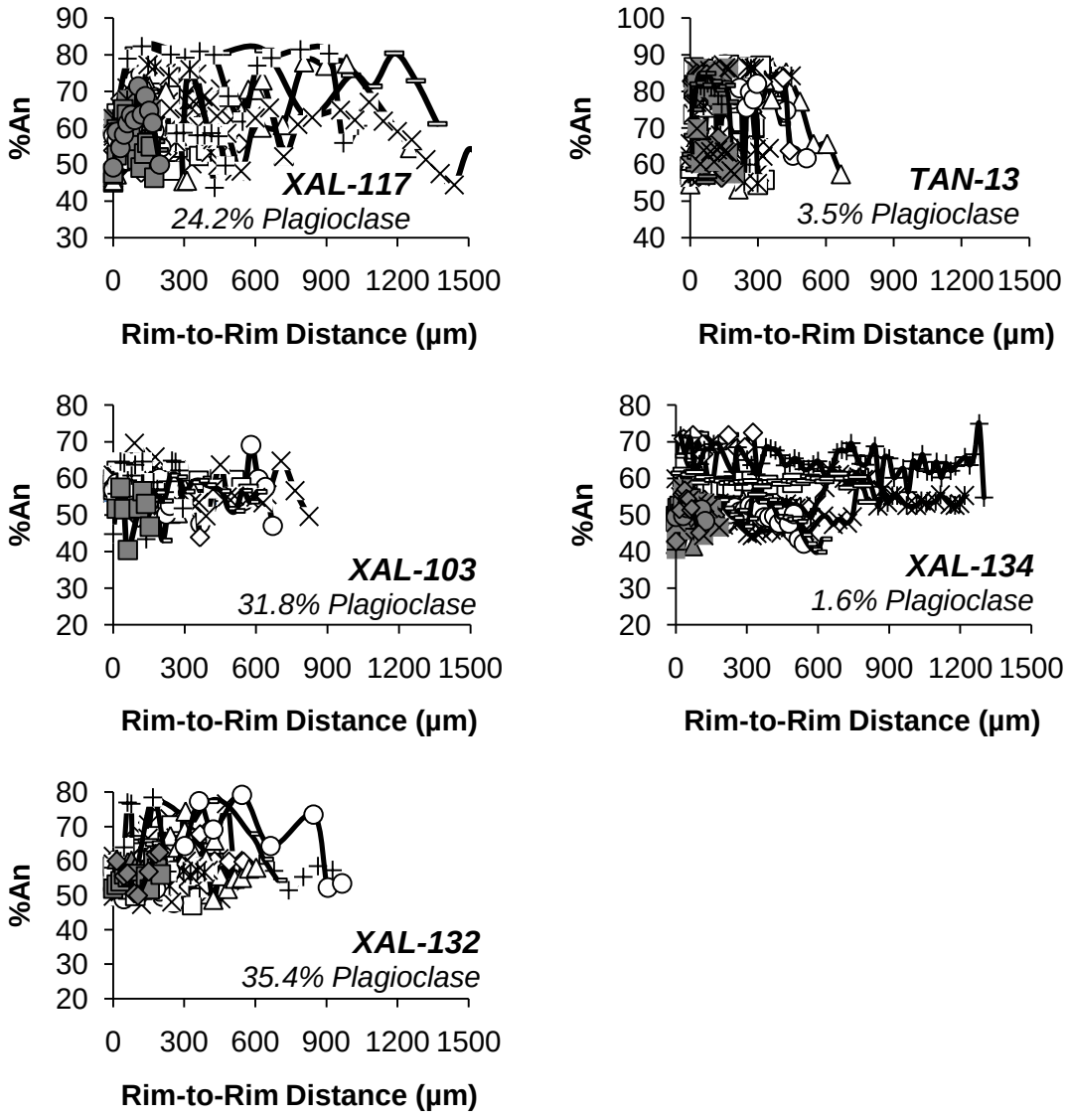


Figure I.1 (cntd): Compositional analyses of plagioclase (%An) plotted as a function of distance across each crystal (rim to rim). Open symbols denote phenocrysts, whereas shaded symbols denote microphenocrysts.

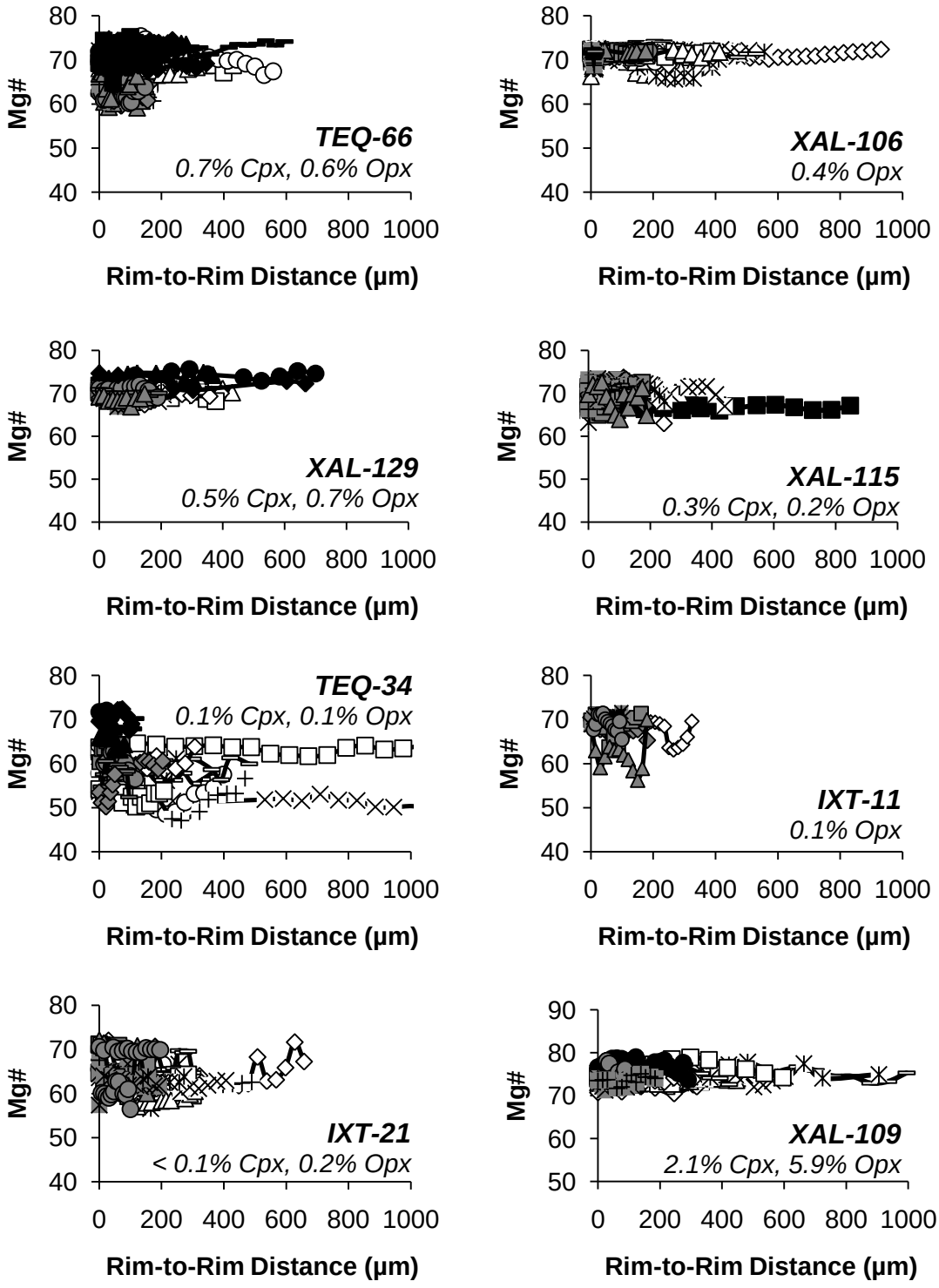


Figure I.2: Compositional analyses of pyroxene (Mg#) plotted as a function of distance across each crystal (rim to rim). Open and shaded symbols denote orthopyroxene phenocrysts and microphenocrysts respectively. Filled symbols denote clinopyroxene, regardless of size.

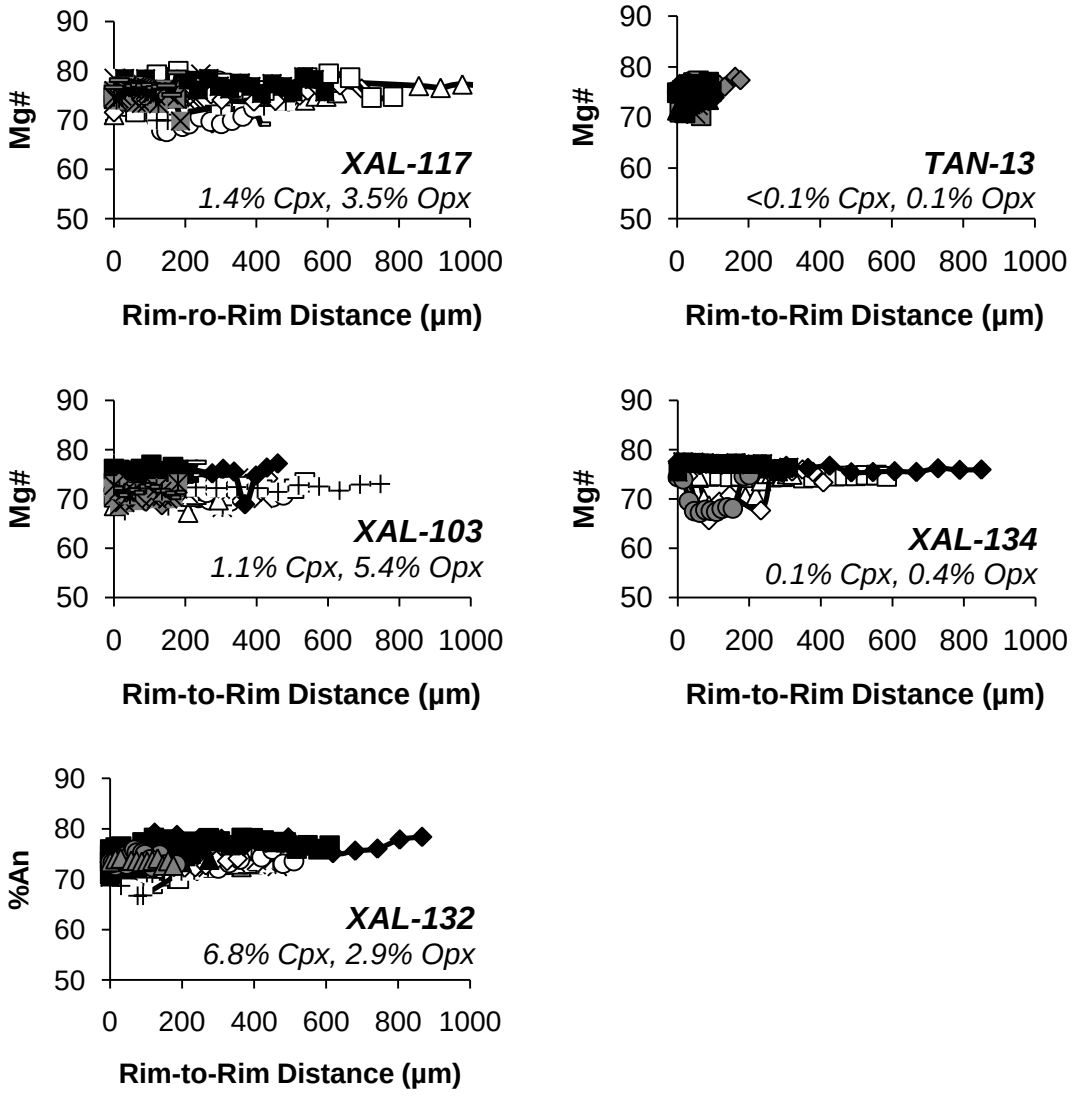


Figure I.2 (cntd): Compositional analyses of pyroxene (Mg#) plotted as a function of distance across each crystal (rim to rim). Open and shaded symbols denote orthopyroxene phenocrysts and microphenocrysts respectively. Filled symbols denote clinopyroxene, regardless of size.

APPENDIX J

BACK-SCATTERED ELECTRON IMAGES OF SELECTED PLAGIOCLASE AND PYROXENE CRYSTALS

Figure J.1: BSE images of six plagioclase crystals (A-F) in TEQ-66, which collectively range from An_{55} to An_{37}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystal A is the most calcic and is homogeneous except for a thin sodic rim (An_{38}). Crystal C is less calcic (An_{48}), also homogeneous, and again displays a thin sodic rim of the same composition (An_{38}) as that seen on crystal A. Crystal E is homogenous, with no rim, and its composition (An_{37}) matches that of the rims on crystals A and C. Crystals B, D and F have similar compositions to crystals C, and E, but display complex textures and zoning patterns.

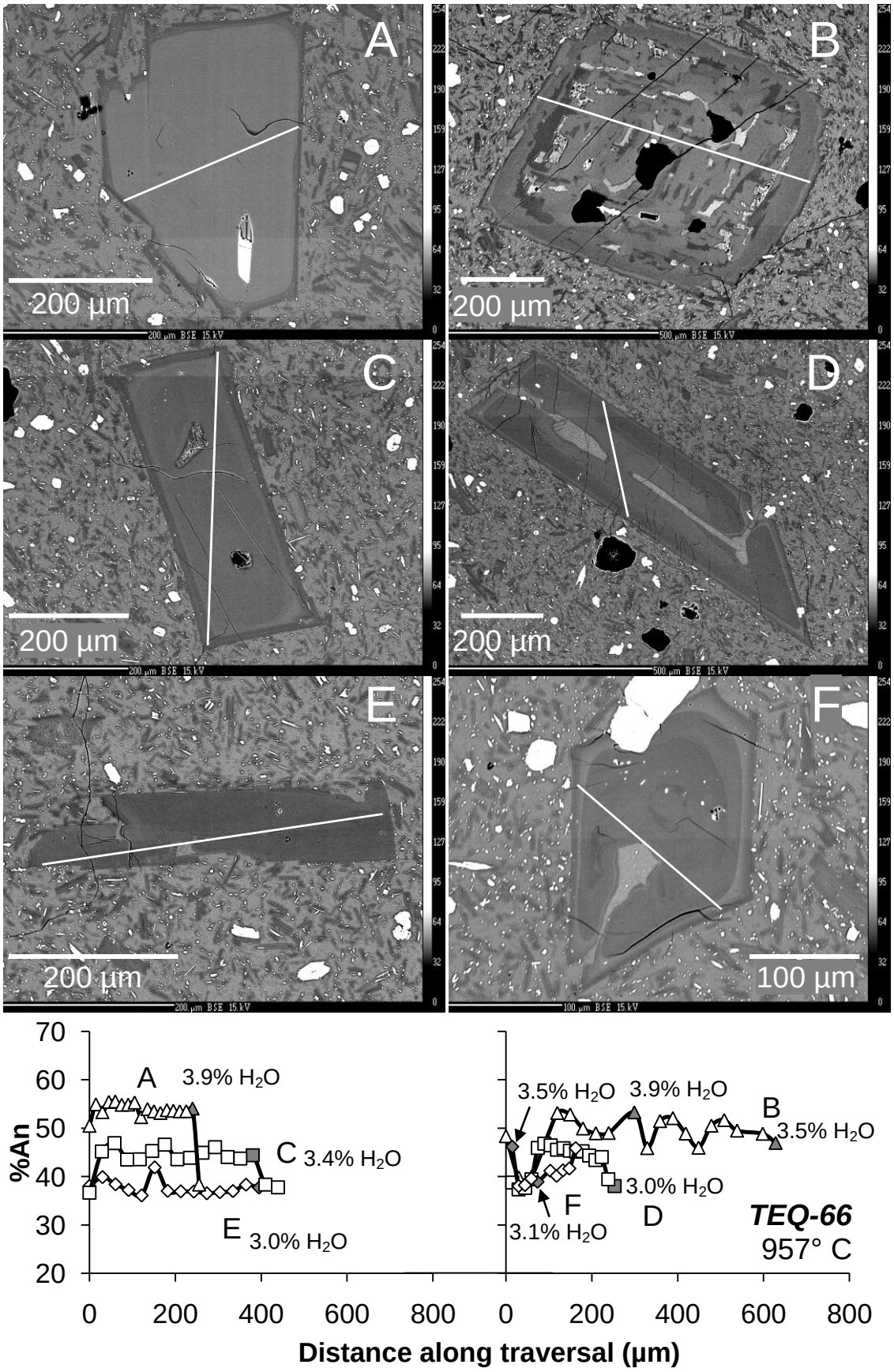
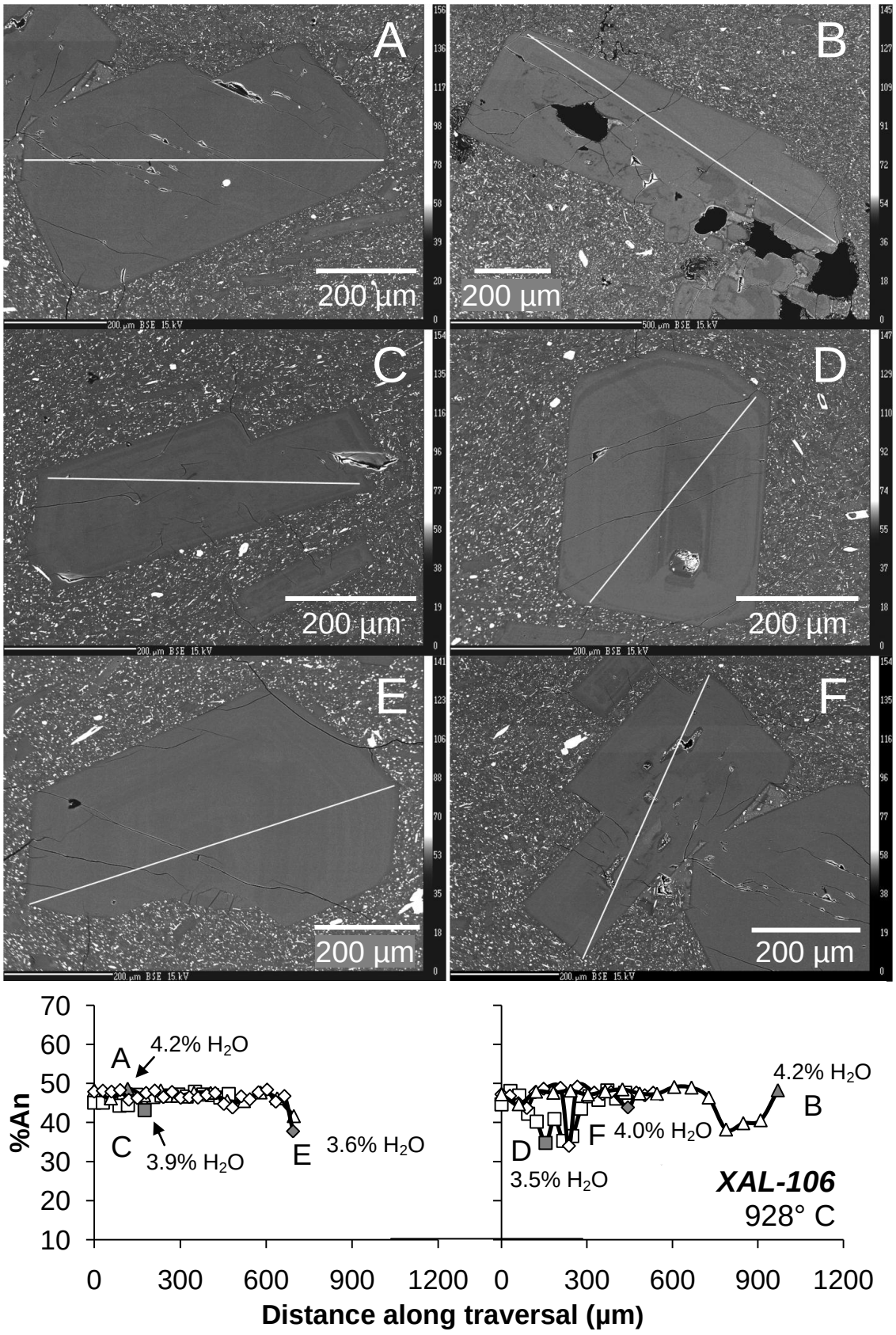

A
200 µm
B
200 µm
C
200 µm
D
200 µm
E
200 µm
F
100 µm
%An
70
60
50
40
30
20
A 3.9% H2O
C 3.4% H2O
E 3.0% H2O
3.5% H2O
3.9% H2O
B
3.5% H2O
3.0% H2O
F
3.1% H2O
D
TEQ-66
957° C
0
200
400
600
800
Distance along traversal (µm)

Figure J.2: BSE images of six plagioclase crystals (A-F) from XAL-106, spanning a somewhat narrow range of composition (An_{50}-An_{45}). White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A, C, and E are all fairly homogenous. All have euhedral, faceted outlines, which are especially sharp in crystal E. Crystal D has a darker (sodic) patch in its interior, but no dissolution/recrystallization texture is observed at the interface. An interior glass inclusion is preserved in crystal F.


A
200 µm
B
200 µm
C
200 µm
D
200 µm
E
200 µm
F
200 µm
%An
70
60
50
40
30
20
10
A
4.2% H2O
C
3.9% H2O
E
3.6% H2O
D
3.5% H2O
F
4.0% H2O
B
4.2% H2O
XAL-106
928° C
0
300
600
900
1200
Distance along traversal (µm)

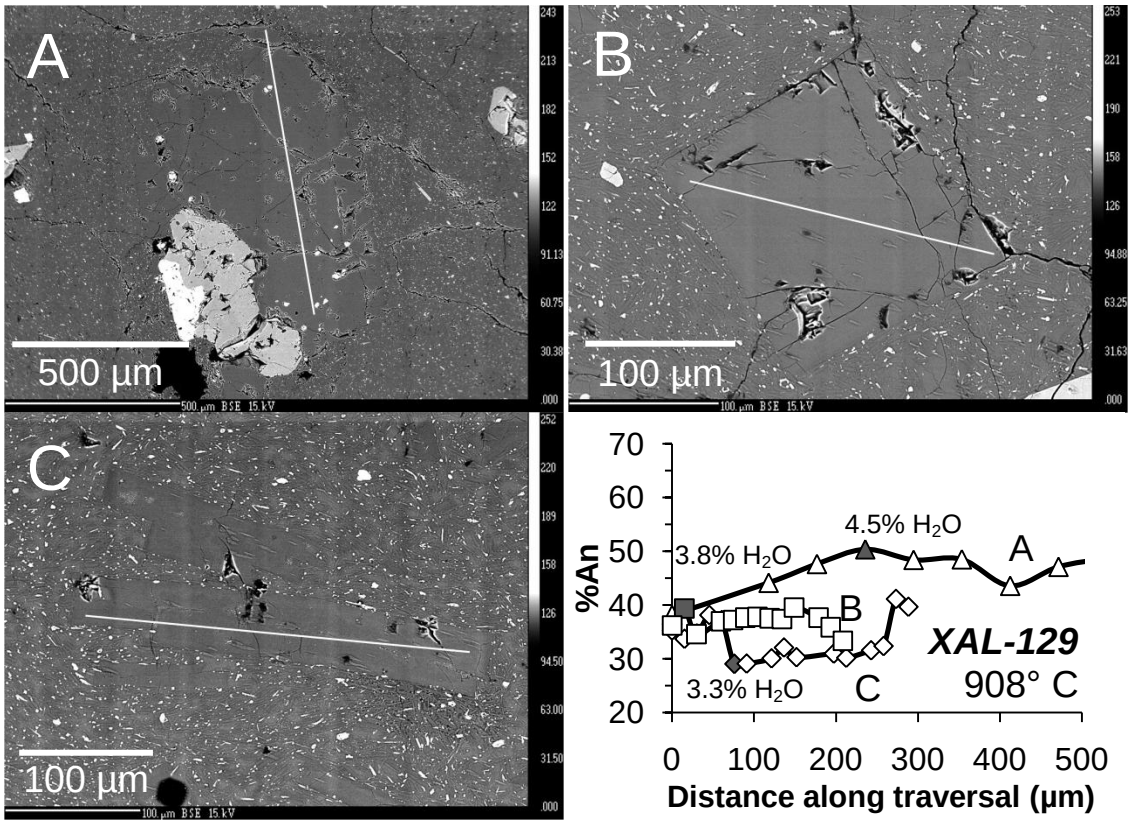


Figure J.3: BSE images of three plagioclase crystals (A-C) from sample XAL-129, ranging up to 77 µm in length. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. All three show euhedral rims, and collectively exhibit the three types of compositional zoning found in XAL-129. Each also features a relatively homogeneous core, though distinct from one grain to the next – An_{48}, An_{39}, and An_{30}. Crystal A shows a calcic core within a subtly more sodic rim. Large pyroxene inclusions, and smaller Fe-Ti oxide inclusions are evident. Crystal B is beautifully euhedral, and has an almost perfectly homogeneous core, with a slightly more calcic band ultimately surrounded by a thin rim of similar composition to the crystal core. Many small, distended inclusions are also present, generally aligned with the analyzed transect of the grain. Crystal C contains a sodic core with a more calcic rim. Inclusions, here aligned roughly with the long-axis of the grain, are larger than in crystal B, and are also evident in the euhedral plagioclase visible above crystal C. The lack of any dissolution texture surrounding the core of crystal C suggests that the sodic core may have crystallized after the growth of the crystal rim (Tsuchiyama, 1985). Notably, crystals A and C exhibit rim compositions similar to that of the core and rim of crystal B, ~An_{39}.

Figure J.4: BSE images of six plagioclase crystals (A-F) from XAL-115. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. All show faceted edges. Crystals A, C, and E are each roughly homogeneous, with compositions of ~49, 40, and 38 mol% An. Crystals B, D, and F all show thin sodic rims (An_{25-33}) surrounding a stable composition ~An_{39-44}. Crystals B and D also contain calcic cores (An_{58} and An_{54} respectively). Crystal F shows a more sodic core (An_{33}). The lack of a dissolution texture suggests that this sodic core may have grown late.

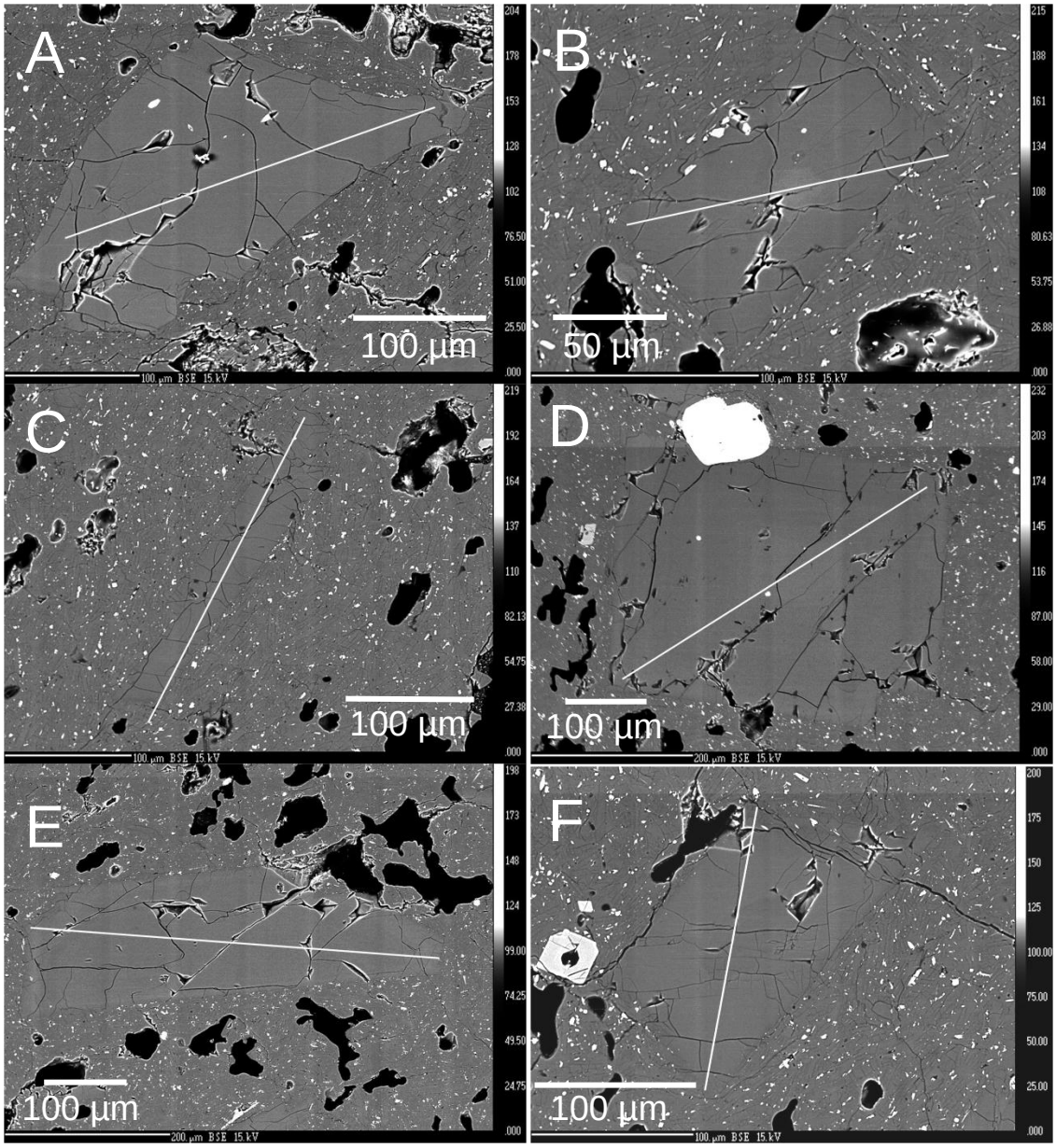

A
100 µm
B
50 µm
C
100 µm
D
100 µm
E
100 µm
F
100 µm
XAL-115
929° C
% An
70
60
50
40
30
20
A
4.9% H2O
C
4.4% H2O
E
4.2% H2O
B
5.3% H2O
D
4.5% H2O
F
3.6% H2O
0
200
400
600
Distance along traversal (µm)

Figure J.5: BSE images of six plagioclase crystals (A-F) in TEQ-34, which span a wide range of composition (~An40-An10), but show less compositional variation within each crystal than between them. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H2O is calculated from the plagioclase-liquid hygrometer. Both crystals A and E have similar "swallow tail" textures, despite a marked difference in their compositions. In contrast, crystals C and D have similar compositions, but display completely different textures.

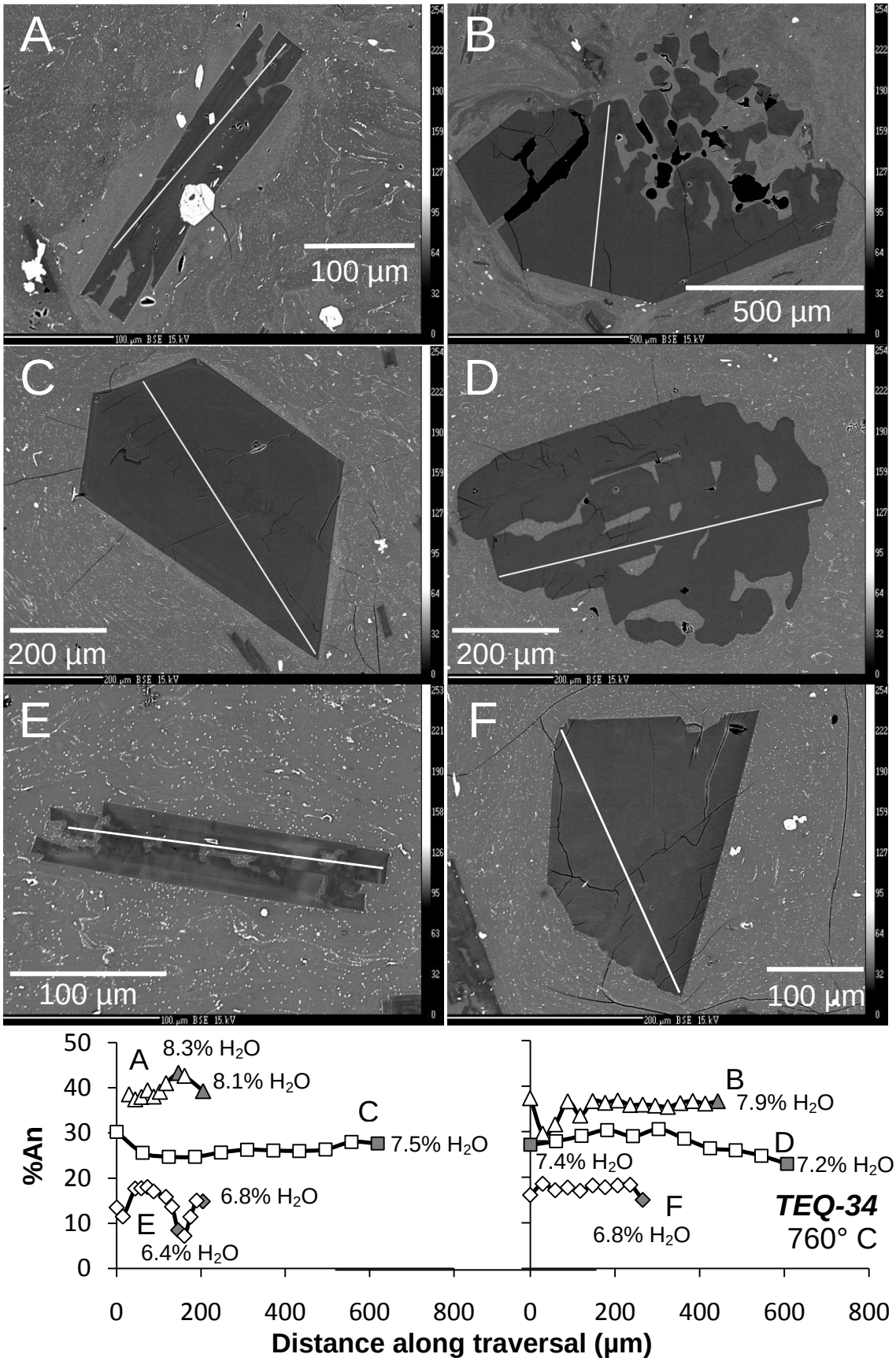

A
100 µm
B
500 µm
C
200 µm
D
200 µm
E
100 µm
F
100 µm
%An
Distance along traversal (µm)
A
8.3% H2O
8.1% H2O
C
7.5% H2O
E
6.8% H2O
6.4% H2O
B
7.9% H2O
D
7.4% H2O
7.2% H2O
F
6.8% H2O
TEQ-34
760° C

Figure J.6: BSE images of six plagioclase crystals (A-F) from IXT-11, mostly ranging from An_{55} to An_{37}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. All crystals display sharp, euhedral rims, with crystal C displaying a swallow-tail texture. Most of the crystals have dark (sodic) interiors, sometimes in a patchy form (crystal D), but this texture bears little resemblance to that of disequilibrium resorption and subsequent recrystallization (Johannes *et al.*, 1994; Nakamura and Shimakita, 1998).

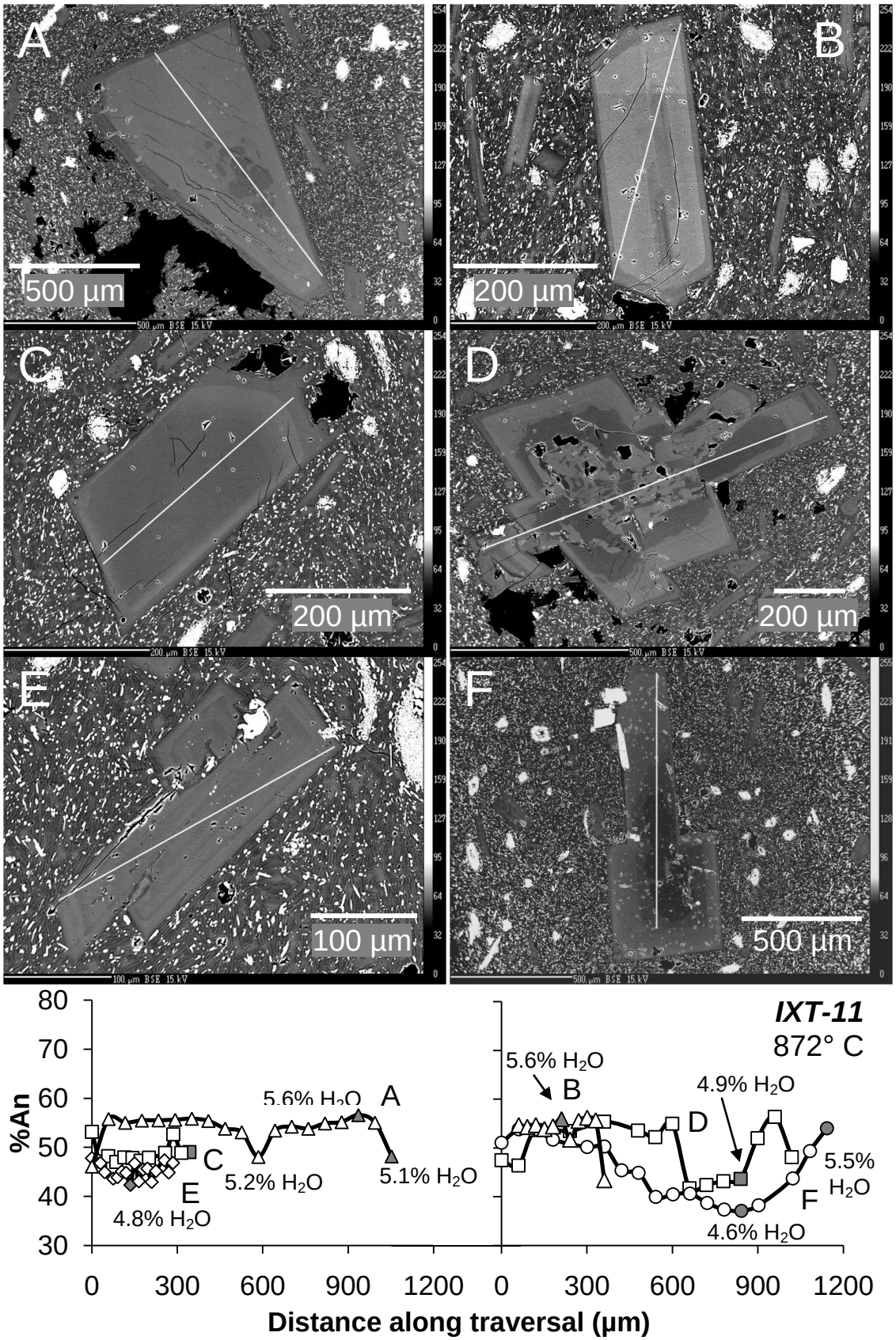

A
500 µm
B
200 µm
C
200 µm
D
200 µm
E
100 µm
F
500 µm
IXT-11
872° C
%An
80
70
60
50
40
30
5.6% H2O
A
5.2% H2O
5.1% H2O
C
E
4.8% H2O
5.6% H2O
B
4.9% H2O
D
5.5% H2O
F
4.6% H2O
0
300
600
900
1200
Distance along traversal (µm)

Figure J.7: BSE images of six plagioclase crystals (A-F) from IXT-21, which mostly span a relatively narrow compositional range from An_{52} to An_{40}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A and E, the most calcic and sodic, respectively, both have euhedral rims, indicative of textural equilibrium. Crystals C, D, E and F all contain melt inclusions. The darker (more sodic) patches in crystals C and E appear to be associated with melt inclusions and may have crystallized from them. Although crystal F has rounded edges, crystal E of similar composition does not.

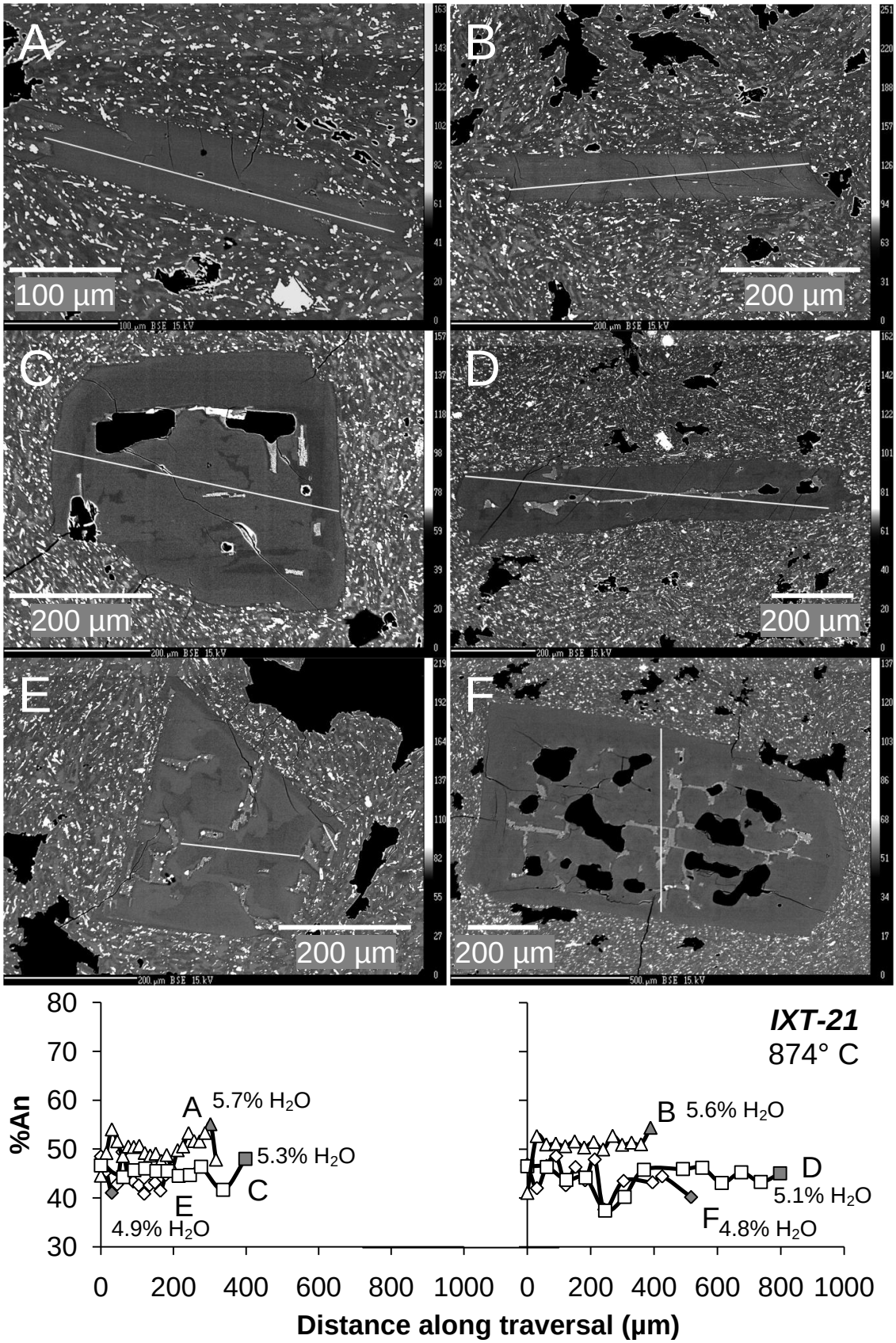
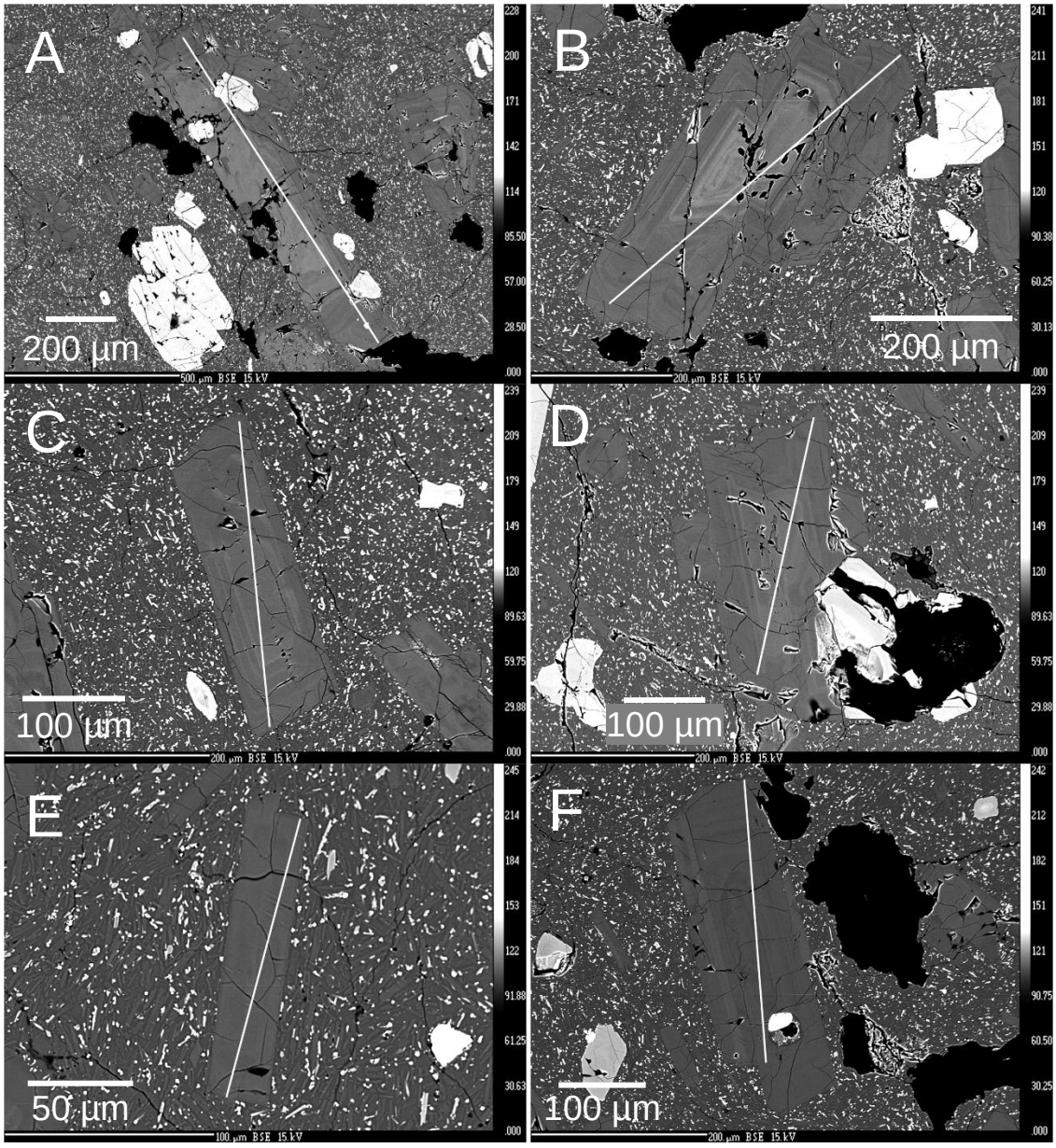

A
100 µm
B
200 µm
C
200 µm
D
200 µm
E
200 µm
F
200 µm
IXT-21
874° C
%An
A 5.7% H2O
B 5.6% H2O
C 5.3% H2O
D 5.1% H2O
E 4.9% H2O
F 4.8% H2O
Distance along traversal (µm)

Figure J.8: BSE images of different plagioclase crystals (A-F) from XAL-109, ranging in size from ~100-1000 μm. All have faceted edges, with rim compositions between An_{53} and An_{60}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A-D also show fine oscillatory zoning surrounding calcic cores. Grains A and B show the most calcic cores, reaching up to An_{85} in grain A. The cores in crystals C and D are more subtle, reaching as high as ~An_{70} in each case. While still showing very fine oscillatory zoning, crystals E and F are generally homogeneous, with overall compositions approximating the rim compositions from grains A-D.


A
200 µm
B
200 µm
C
100 µm
D
100 µm
E
50 µm
F
100 µm

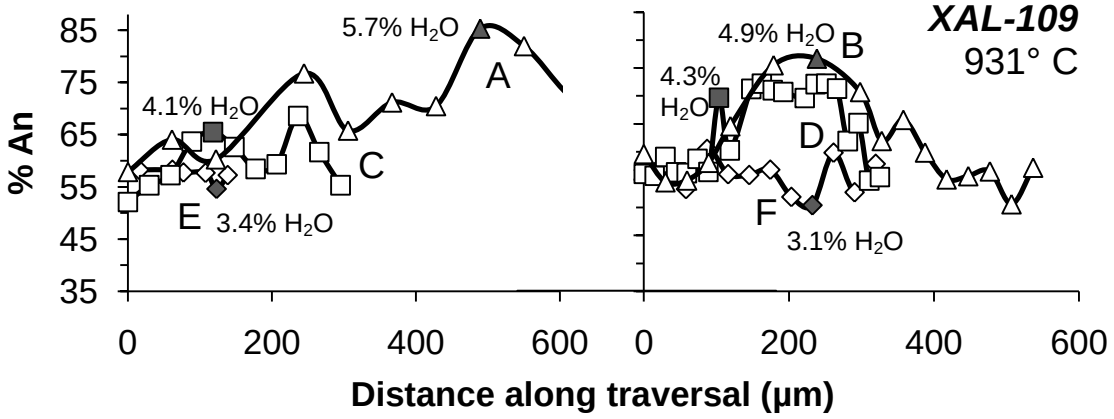

XAL-109
931° C
% An
85
75
65
55
45
35
5.7% H2O
A
4.1% H2O
C
E
3.4% H2O
4.9% H2O
B
4.3% H2O
D
F
3.1% H2O
0
200
400
600
Distance along traversal (µm)

Figure J.9: BSE images of six plagioclase crystals (A-F) from XAL-117. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A and B exhibit strongly calcic cores, ~An_{75-80} and sodic, faceted rims, ~An_{45-55}. Crystal C has a mildly calcic core and subtle oscillatory zoning. More distinctly, this grain contains several large voids and glass inclusions roughly aligned with the long axis of the crystal. Sodic plagioclase has crystallized around the rims of these voids, suggesting late crystallization of these core areas (Tsuchiyama, 1985). Crystal D contains another calcic core, up to ~An_{70}, as well as inclusions of orthopyroxene grains. Crystals E and F are both relatively homogeneous, An_{55-60}, but exhibit fine sodic rims ~An_{50}, the same composition as those rims observed in grains A-D.

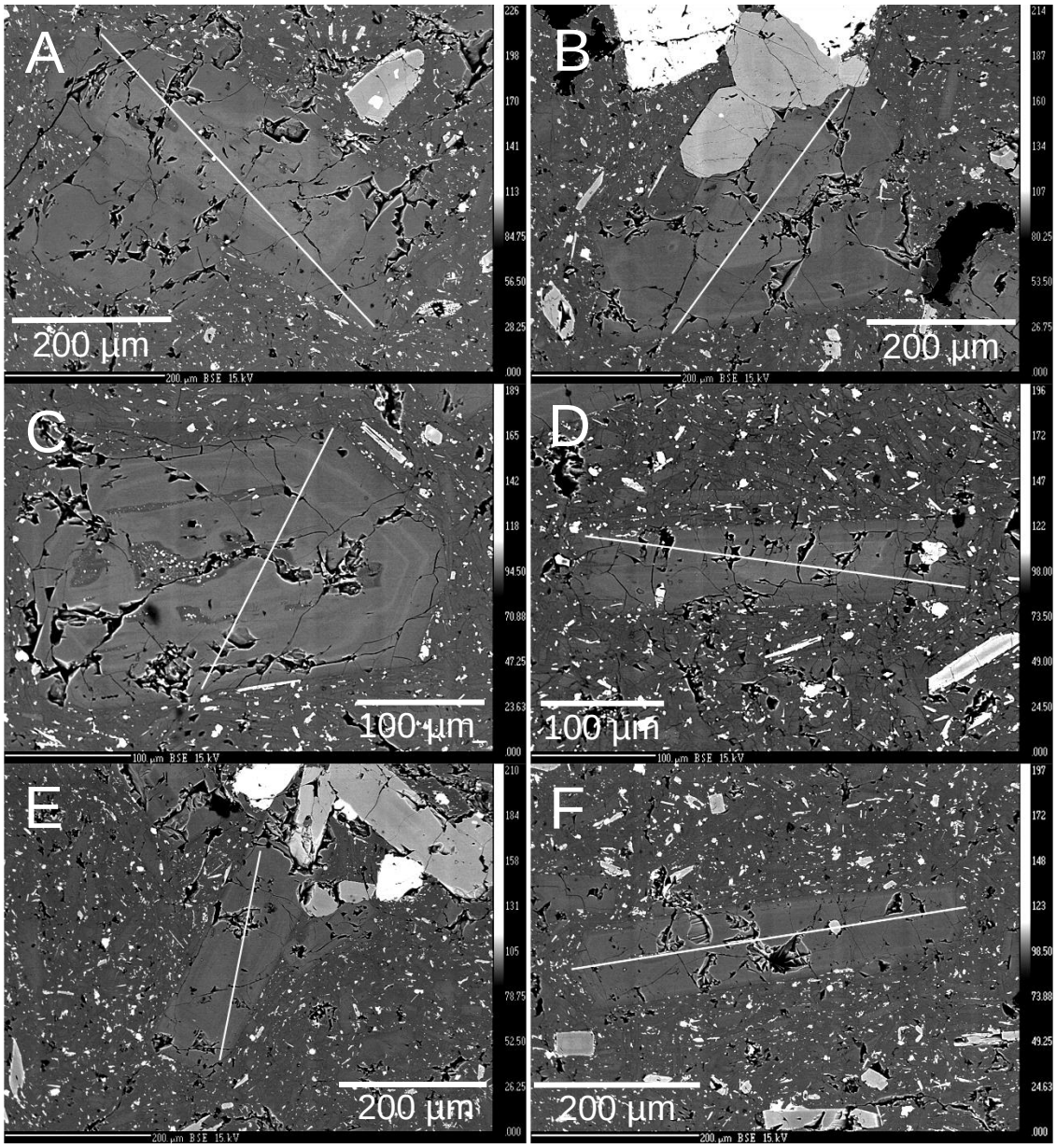

A
200 µm
B
200 µm
C
100 µm
D
100 µm
E
200 µm
F
200 µm
XAL-117
853° C
%An
Distance along traversal (µm)
5.6% H2O
6.7% H2O
4.9% H2O
6.4% H2O
5.4% H2O
4.7% H2O

Figure J.10:BSE images of six plagioclase crystals (A-F) in TAN-13, which largely display a bimodal compositional range between An_{87-82} and An_{65-60}. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. All crystals display sharp, euhedral rims on at least one or more sides, although crystal D displays a complex texture. Crystals A through D all have calcic cores of similar composition (An_{87-82}) that are in sharp compositional contrast with their rims ($\sim An_{60}$). The sodic rim on crystal A is thick (70-200 microns), whereas the rims are much thinner (20-30 microns) on crystals B-D; these rims match the homogeneous composition of crystal E, which has a euhedral, skeletal shape. Crystal F, in contrast to crystals A-D, has a sodic core; in this case, the sodic core matches the rim compositions of crystals A-D, and the homogenous composition of crystal E.

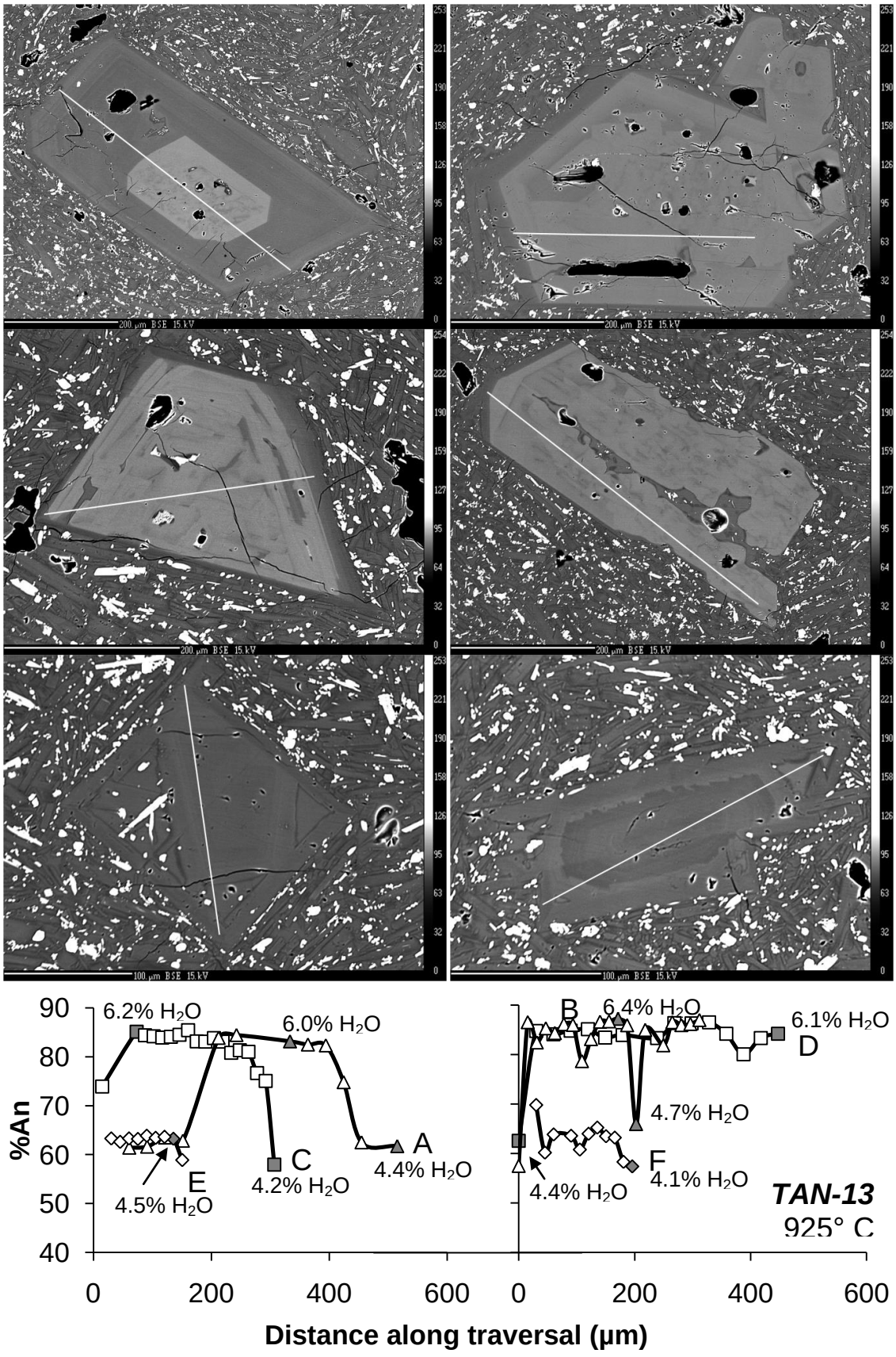

6.2% H2O
6.0% H2O
A
4.4% H2O
C
4.2% H2O
E
4.5% H2O
B
6.4% H2O
6.1% H2O
D
4.7% H2O
F
4.1% H2O
4.4% H2O
TAN-13
925° C
%An
90
80
70
60
50
40
0
200
400
600
Distance along traversal (μm)

Figure J.11: BSE images of six plagioclase crystals (A-F) from XAL-103, ranging from 150 to 700 μm in length. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystal A is strongly zoned, ranging up to An_{70}, with melt inclusions trapped in its more sodic core. Crystal B is also zoned, but more subtly so, up to An_{65} surrounding a more sodic core. This grain is also adjacent to a strikingly-zoned pyroxene. Neither the plagioclase nor the pyroxene depicted show the dissolution reaction textures seen in Fig 4.10. Crystals C, D, and F are faceted, and roughly homogeneous, with dominant compositiong ~An_{55}. Both also show, however, fine oscillatory zoning in the BSE images, with crystals D-F showing sodic cores. Dissolution reaction textures are not observed.

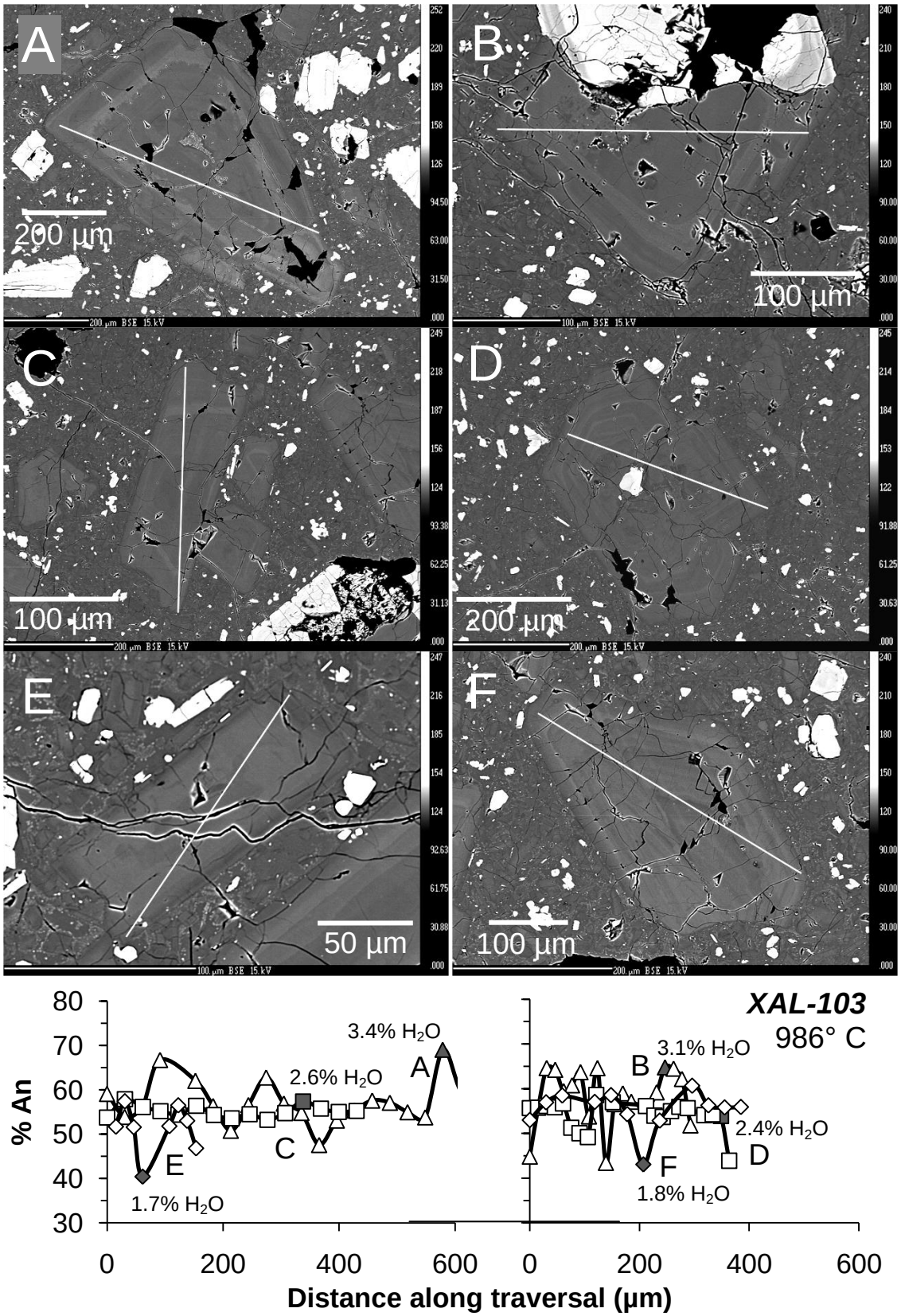

A
200 µm
B
100 µm
C
100 µm
D
200 µm
E
50 µm
F
100 µm
XAL-103
986° C
% An
80
70
60
50
40
30
3.4% H2O
2.6% H2O
1.7% H2O
3.1% H2O
2.4% H2O
1.8% H2O
0
200
400
600
Distance along traversal (µm)

Figure J.12: BSE images of six plagioclase crystals (A-F) from XAL-134 (An_{71}-An_{41}), all with euhedral rims (An_{71}-An_{54}). White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystals A and B are the most calcic crystals (An_{71}) and have interior regions that are more sodic. While both homogeneous, crystal C has faceted rims, whereas crystal D has a "swallow tail" shooting out from its lower right side. Crystals E and F have rim compositions of An_{60}, similar to that of crystal C, and sodic interior compositions (~An_{42}). The "hopper" texture of the titanomagnetite crystal adjacent to crystal E is indicative of rapid growth conditions.

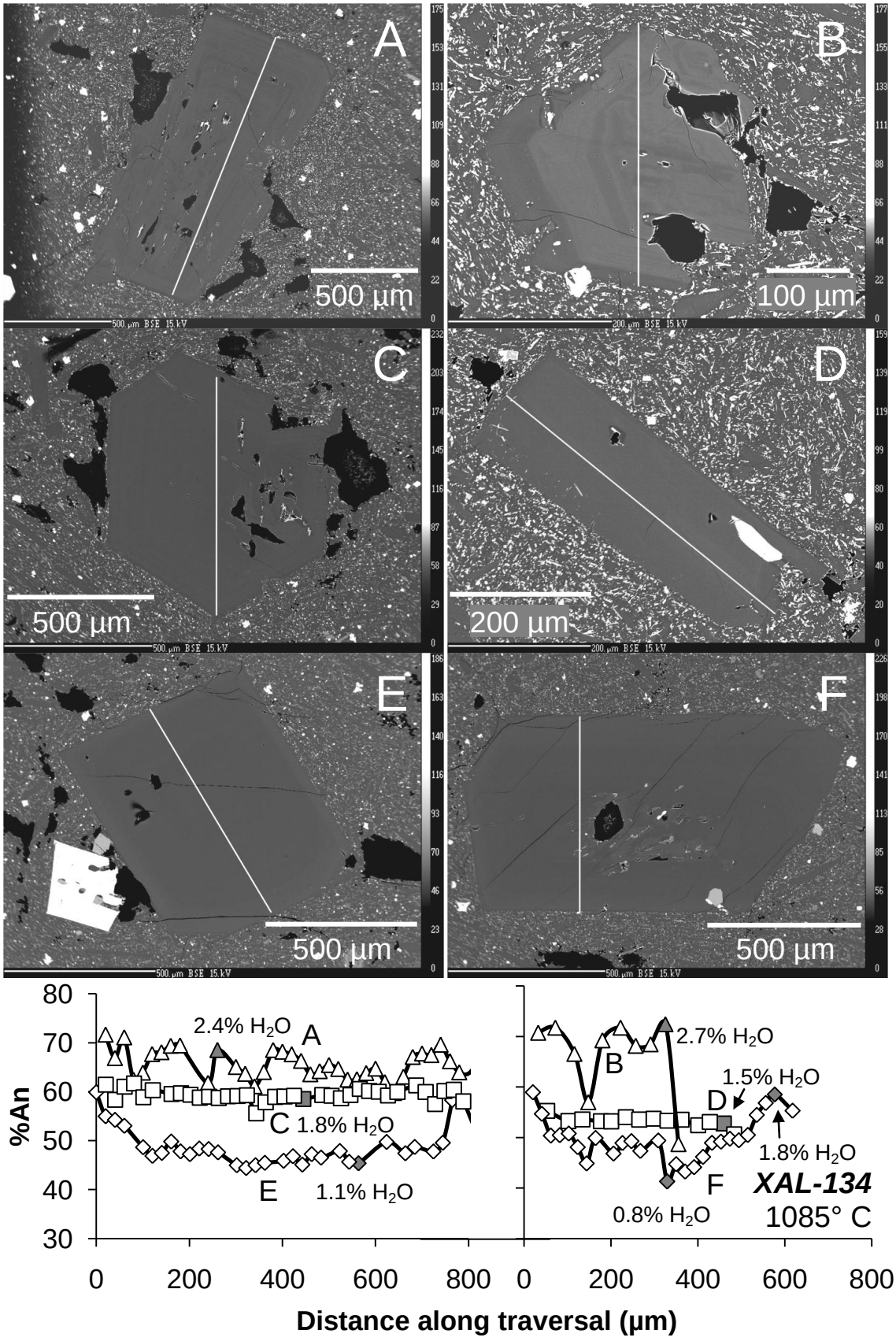

A
500 µm
B
100 µm
C
500 µm
D
200 µm
E
500 µm
F
500 µm
%An
80
70
60
50
40
30
2.4% H2O
A
C 1.8% H2O
E 1.1% H2O
2.7% H2O
B
1.5% H2O
D
1.8% H2O
F
0.8% H2O
XAL-134
1085° C
0
200
400
600
800
Distance along traversal (µm)

Figure J.13: BSE images of six plagioclase crystals (A-F) from XAL-132, ranging up to ~600 μm in length. All these grains show faceted rims. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which wt% H_2O is calculated from the plagioclase-liquid hygrometer. Crystal A shows a great number of sites in its core from which aligned glass inclusions were plucked during polishing, as well as a sparse number of glass inclusions still preserved. Both crystals A and B also show strong compositional zonation, with substantial calcic cores, resching up to ~An_{79}. Crystals C and D also show calcic cores, but here reaching only as high as $An_{67\text{-}70}$. There is a glass inclusion in the innermost core of crystal C. In crystals E and F, the compositional zoning is still more muted, but all six crystals show very fine oscillatory zoning in the BSE's

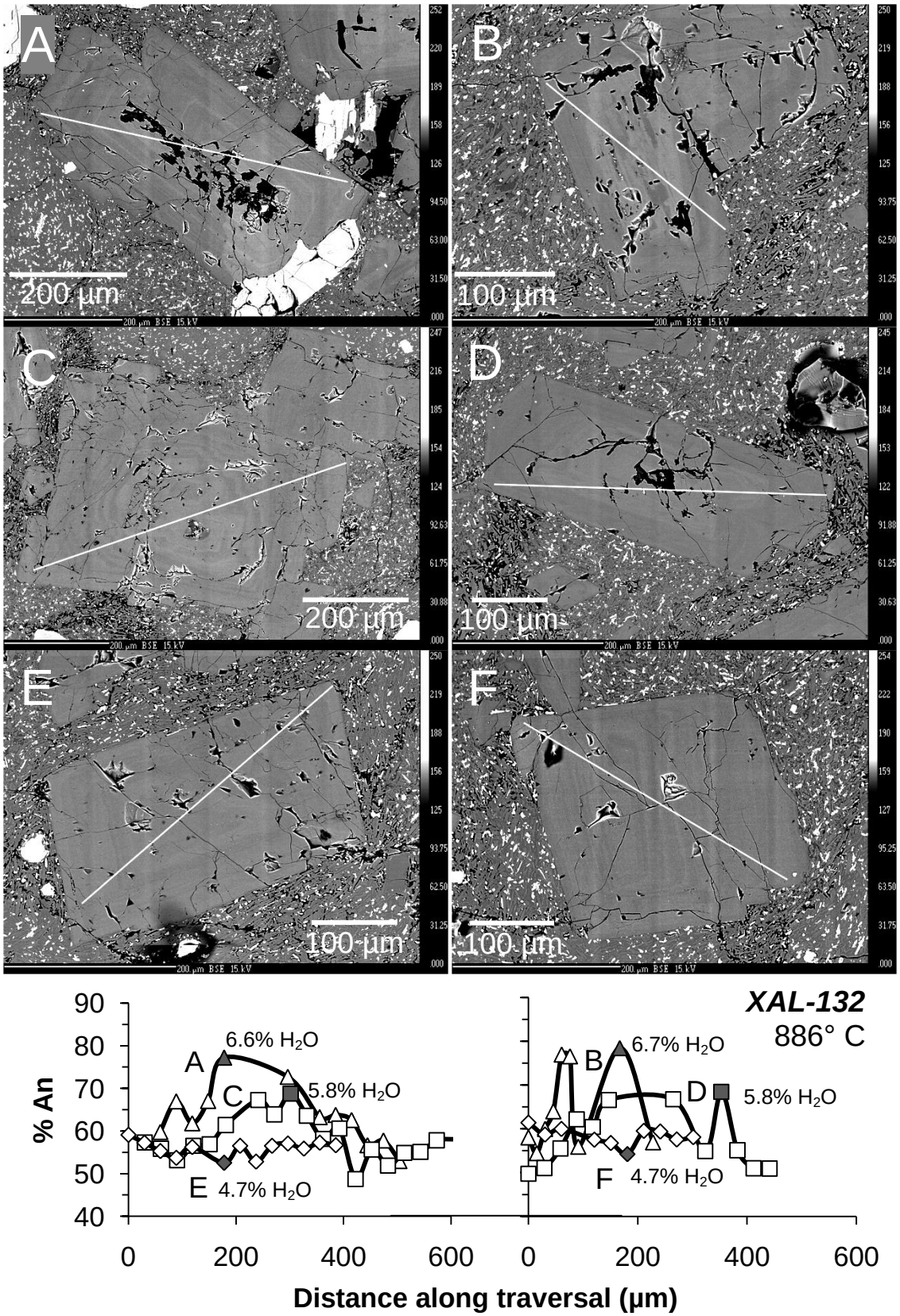
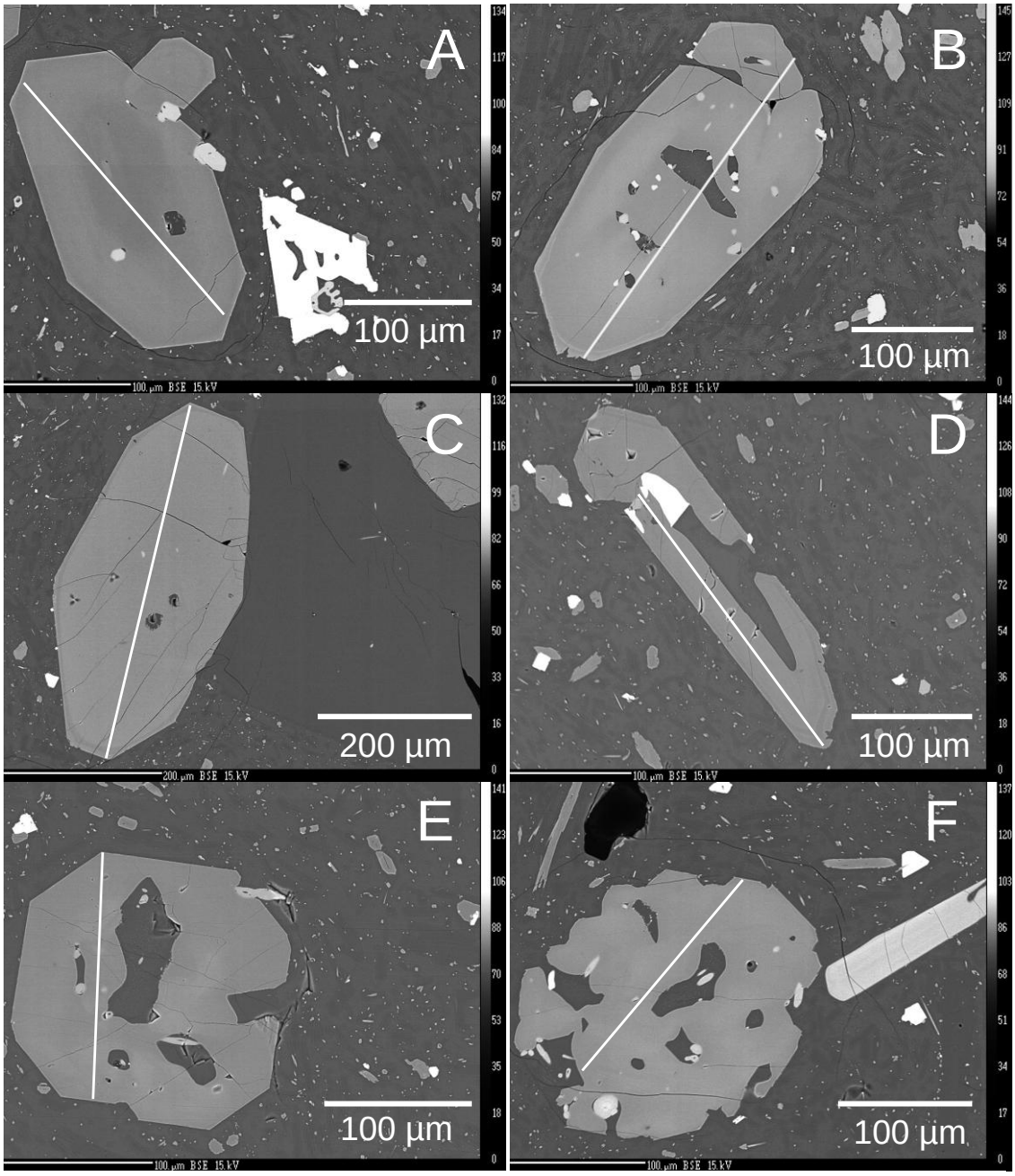

A
200 µm
B
100 µm
C
200 µm
D
100 µm
E
100 µm
F
100 µm
XAL-132
886° C
% An
90
80
70
60
50
40
6.6% H2O
A
C
5.8% H2O
E 4.7% H2O
6.7% H2O
B
D
5.8% H2O
F 4.7% H2O
0
200
400
600
Distance along traversal (µm)

Figure J.14: BSE images of six orthopyroxene crystals (A-F) in TEQ-66, with Mg# values between 60-75. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A thru E all display sharp, faceted euhedral rims, with $^{Fe\text{-}Mg}K_D$ values that range from 0.29 to 0.46, and each shows variable degrees of zoning. Crystal A displays normal zoning, with a distinctly more Mg-rich core (darker) compared to its rim. Crystals C and D display little zoning, whereas crystal E is variably zoned, with large holes in its interior. Crystals B, D and E also have large interior hollows. Crystal F has a similar Fe-rich composition as that of crystal E, but its edges are nobby and rounded, and it contains numerous melt hollows.


A
100 µm
B
100 µm
C
200 µm
D
100 µm
E
100 µm
F
100 µm

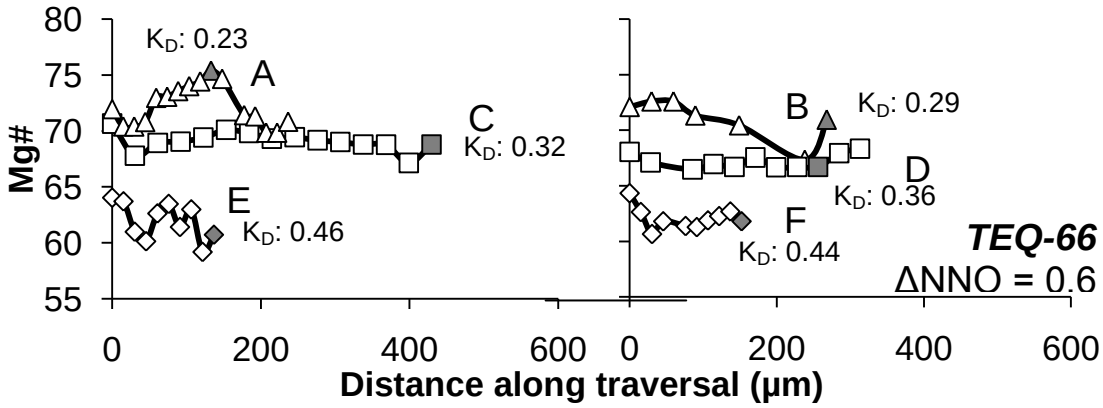
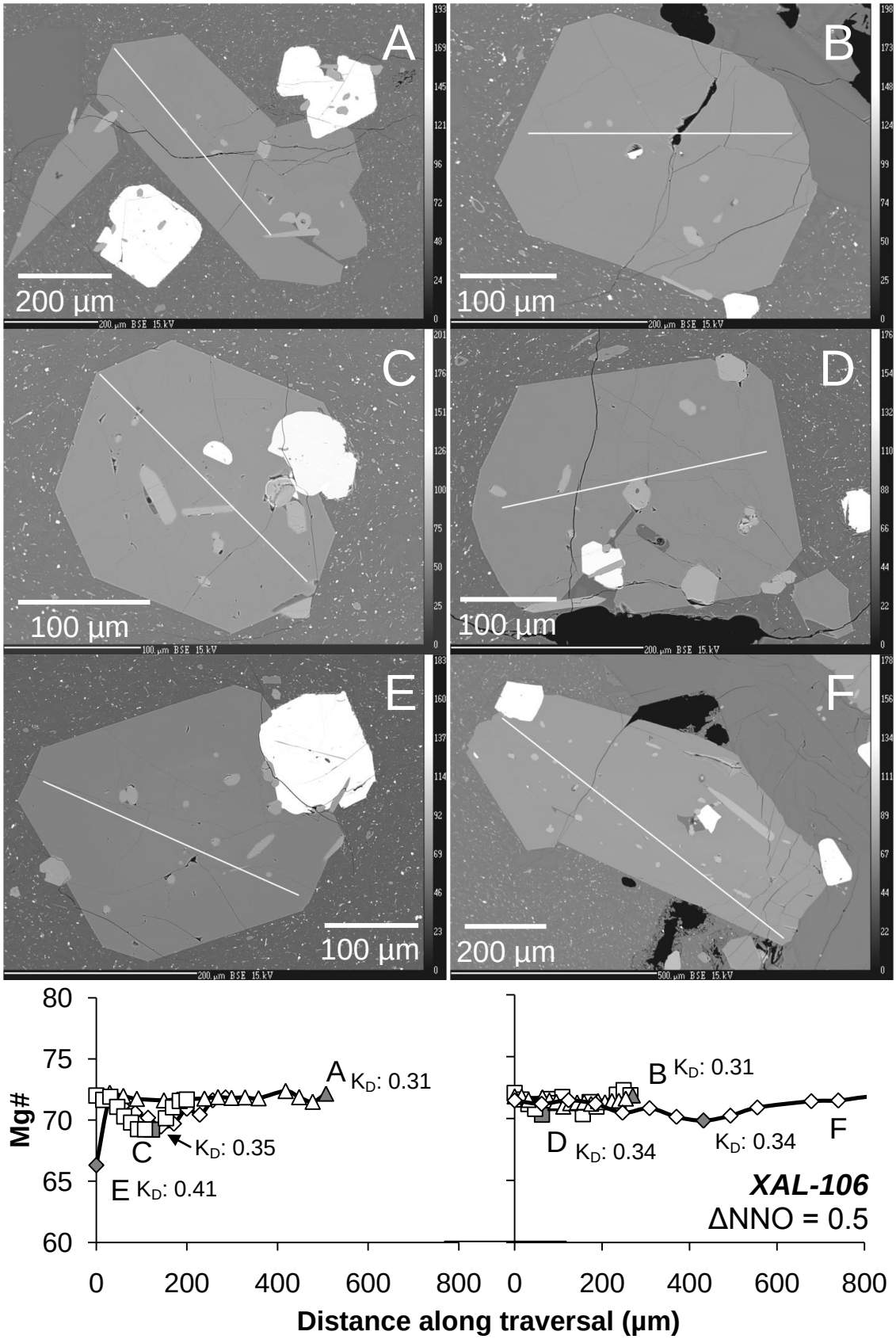

Mg#
80
75
70
65
60
55
0
200
400
600
0
200
400
600
Distance along traversal (µm)
K_D: 0.23
A
C
K_D: 0.32
E
K_D: 0.46
B
K_D: 0.29
D
K_D: 0.36
F
K_D: 0.44
TEQ-66
ΔNNO = 0.6

Figure J.15: BSE images of six orthopyroxene crystals (A-F) from XAL-106, ranging in size from 200-860 microns. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Mg# values that largely cluster between 68-72, and correspond to $^{Fe\text{-}Mg}K_D$ values of 0.31 to 0.35. All six crystals display sharp, faceted euhedral outlines, indicative of textural equilibrium. There are abundant small inclusions of apatite (light gray), as well as Fe-Ti oxides (bright white) in all the orthopyroxene grains.


A
200 µm
B
100 µm
C
100 µm
D
100 µm
E
100 µm
F
200 µm
Mg#
80
75
70
65
60
A K_D: 0.31
B K_D: 0.31
C
K_D: 0.35
D K_D: 0.34
K_D: 0.34
F
E K_D: 0.41
XAL-106
ΔNNO = 0.5
0
200
400
600
800
0
200
400
600
800
Distance along traversal (µm)

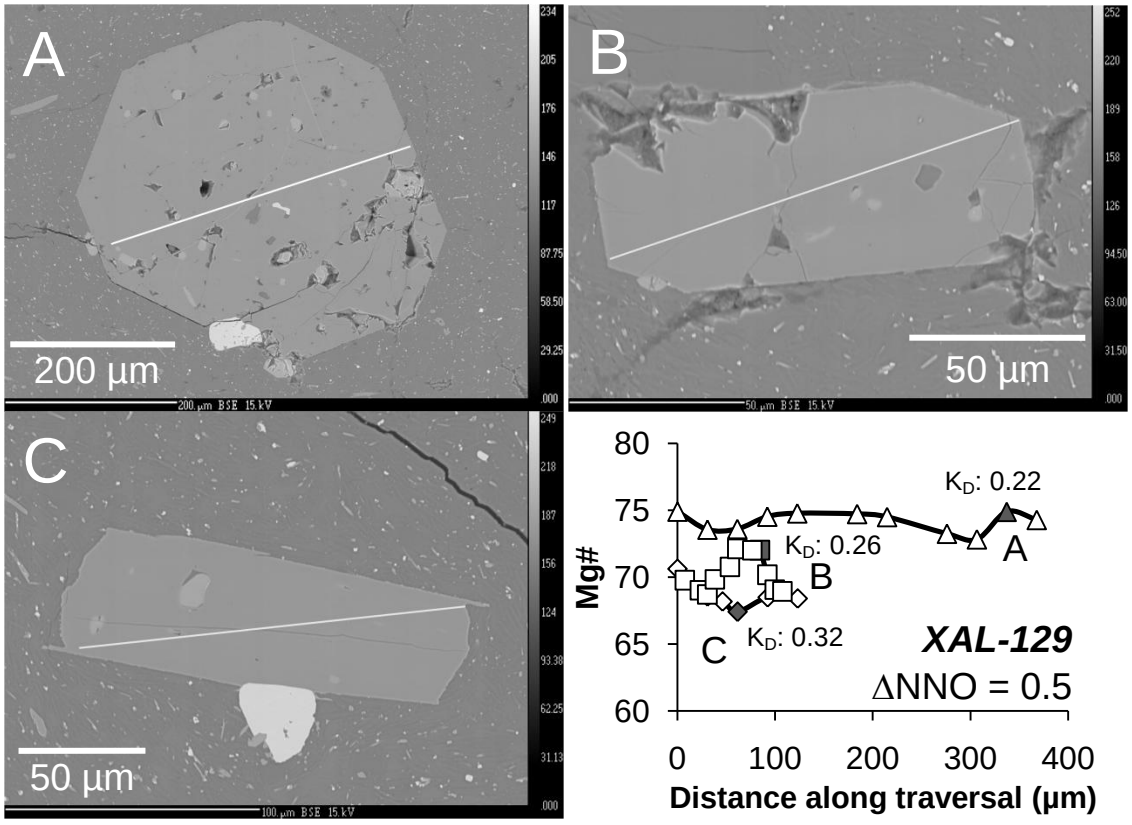


Figure J.16: BSE images of three orthopyroxene crystals (A-C) from XAL-129, each of which has euhedral,faceted rims. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. These facets are most evident on crystal A, which also includes numerous Fe-Ti oxide, apatite, and melt inclusions. Based upon the whole-rock bulk analysis of FeO, the most magnesium-rich point along the traversal in this fairly homogeneous grain yields a $^{Fe\text{-}Mg}K_D$ of 0.22. Crystal B contains a subtle magnesian core, and also several apatite inclusions. Along with several large inclusions of apatite, crystal C exhibits clear swallow-tail features at its lower-left and upper-right corners, as well as faint suggestions of the same at its lower-right corner, strongly indicating rapid-growth (Martel and Schmidt, 2003). The $^{Fe\text{-}Mg}K_D$ for the most Fe-rich point in this traversal, defined using the calculated bulk FeO, is 0.32.

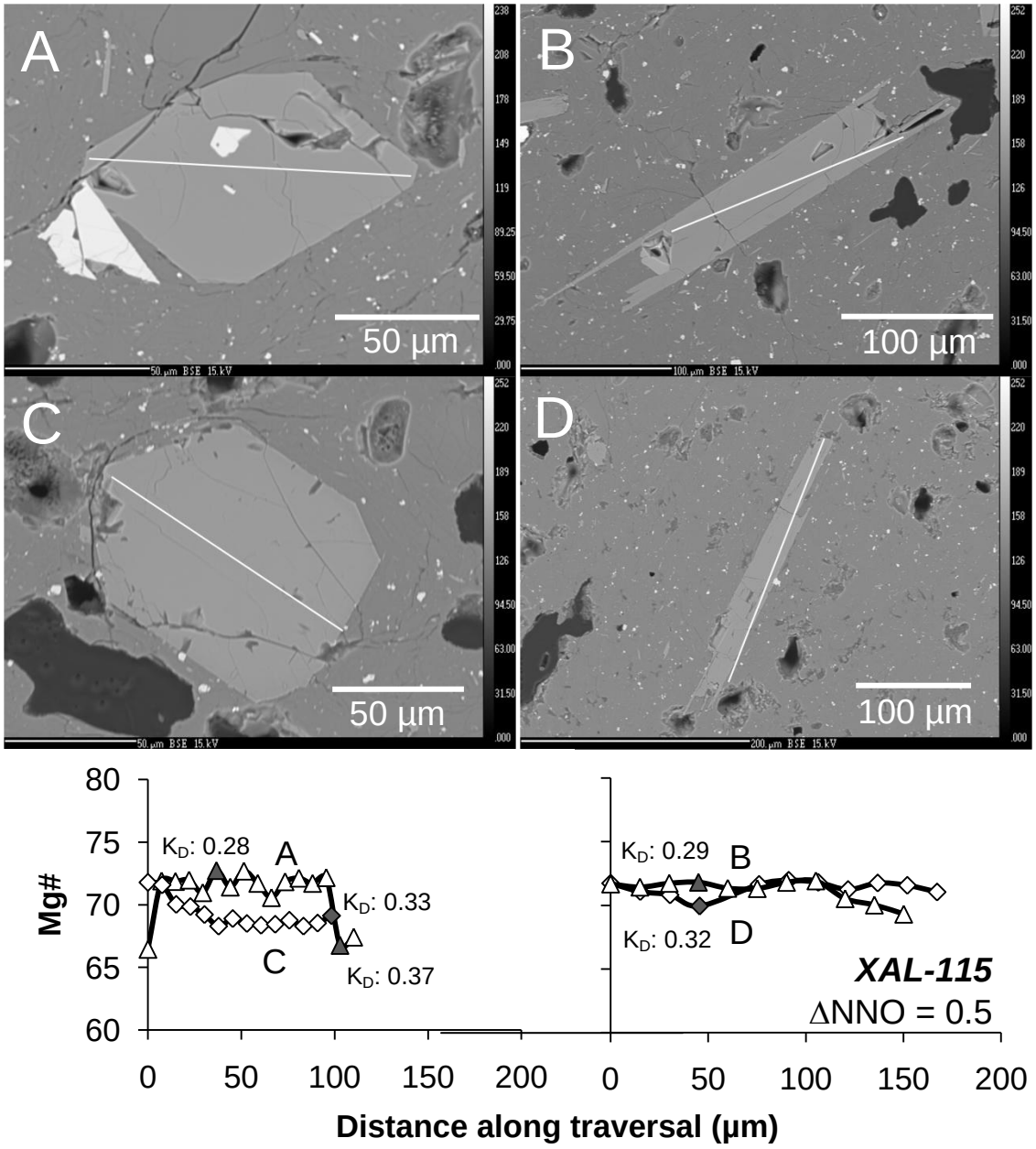
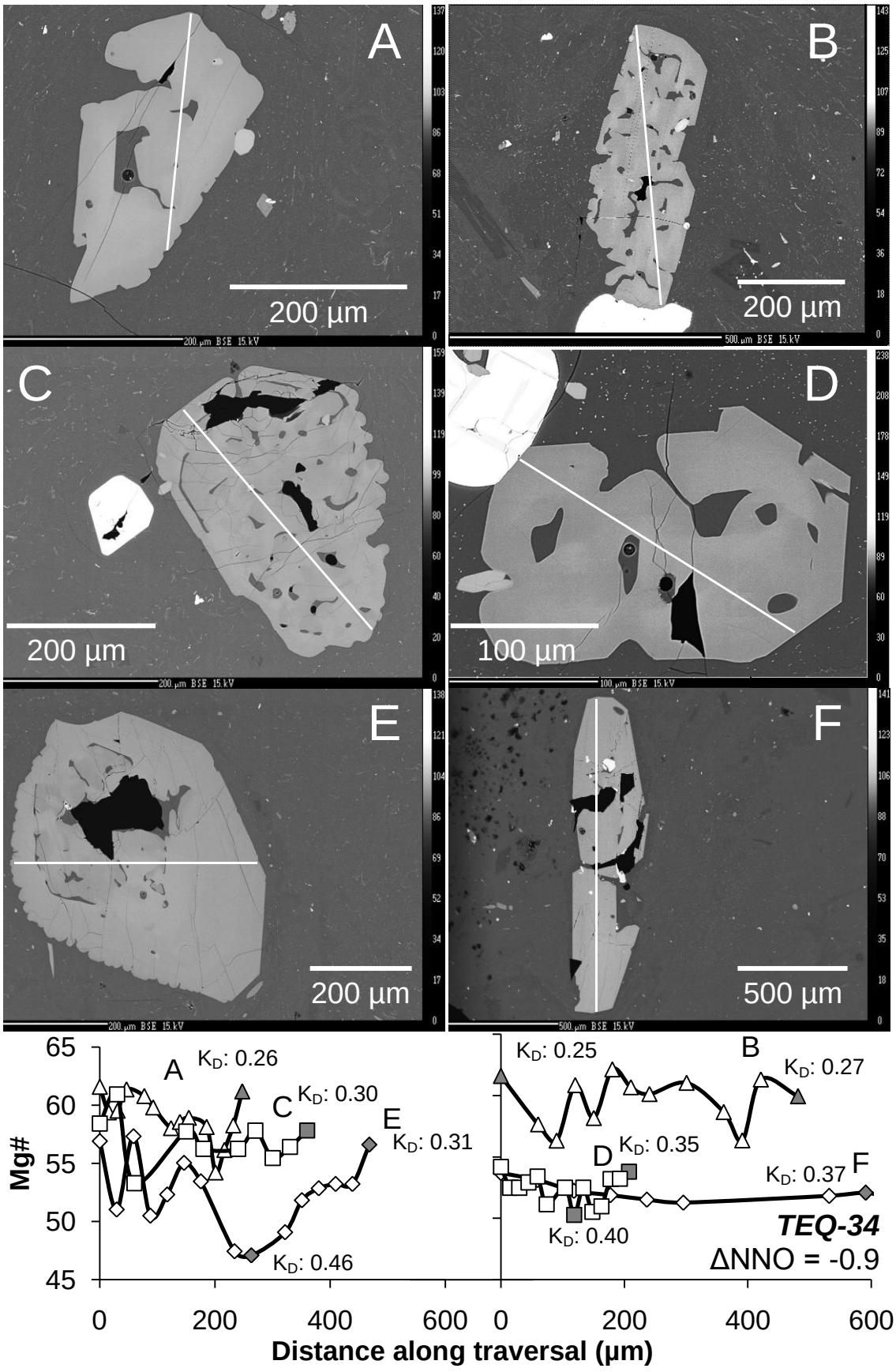


Figure J.17: BSE's of four orthopyroxene crystals (A-D) from XAL-115. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A and C show sharply faceted edges, with dominant compositions of Mg# 72 and 68. The most magnesian analysis from crystal A yields a $^{Fe\text{-}Mg}K_D$ of 0.28, while the grain's thin Fe-rich rim yields a $^{Fe\text{-}Mg}K_D$ of 0.37. Crystals B and D each exhibit striking swallow-tail textures on all four corners, indicating rapid growth (Martel and Schmidt, 2003). The $^{Fe\text{-}Mg}K_D$ values between these two crystals span from 0.29 to 0.33.

Figure J.18: BSE images of six orthopyroxene crystals (A-F) in TEQ-34. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Mg# values collectively span from 61-47, with corresponding $^{Fe\text{-}Mg}K_D$ values of 0.25 to 0.46. Crystals A thru E have rounded, nobby edges and are riddled with melt inclusions. Crystals C, D and E are notable among this group for having one or more sides that are sharp, flat, and faceted. Only crystal F has faceted rims on all sides. Crystal F and D have similar compositions, despite the contrast in their textures. Crystal E shows a clear case of reverse zoning. Crystals A thru D are variably and complexly zoned in composition.


A
200 µm
B
200 µm
C
200 µm
D
100 µm
E
200 µm
F
500 µm
Mg#
65
60
55
50
45
A
K_D: 0.26
C
K_D: 0.30
E
K_D: 0.31
K_D: 0.46
K_D: 0.25
B
K_D: 0.27
D
K_D: 0.35
K_D: 0.40
F
K_D: 0.37
TEQ-34
ΔNNO = -0.9
0
200
400
600
Distance along traversal (µm)

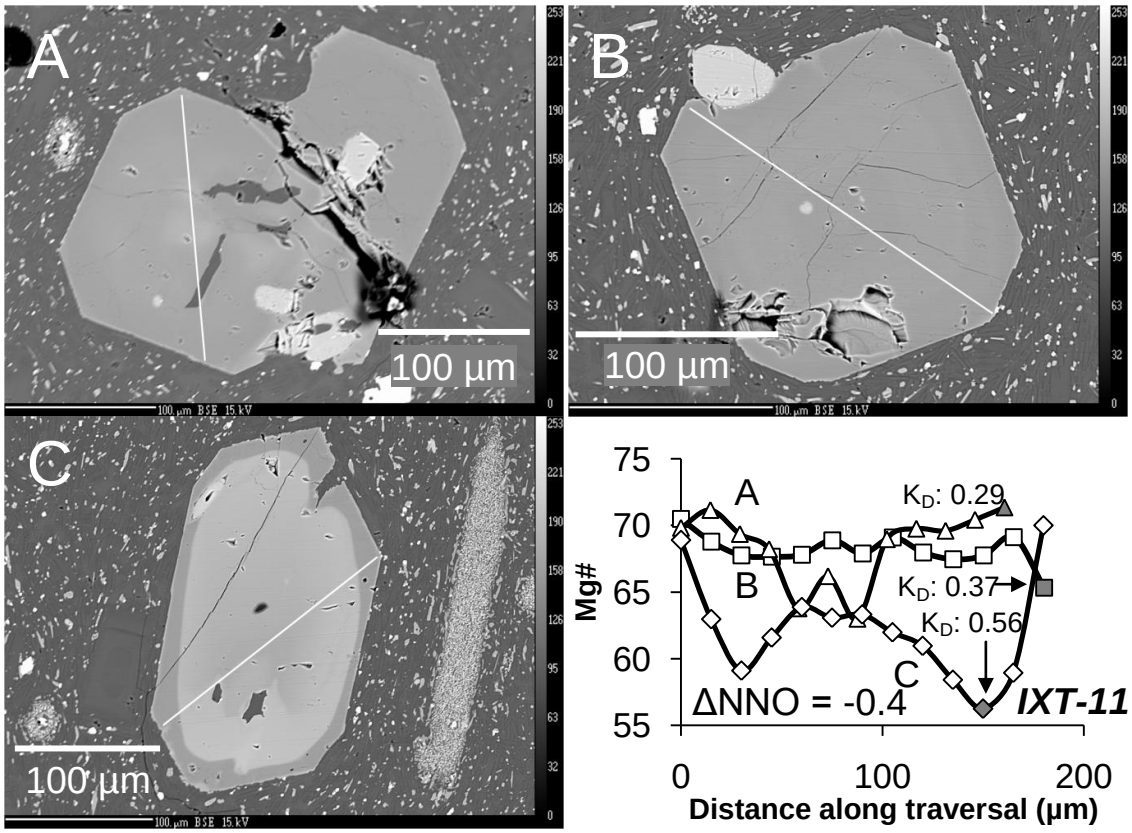


Figure J.19: BSE images (A-C) of three orthopyroxene microphenocrysts from IXT-11, all of which display euhedral, faceted rims. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A and B are relatively homogeneous, with Mg#s at the rims that range from 65-72, which correspond to $^{Fe\text{-}Mg}K_D$ values that range from 0.37-0.29. The interior of crystal A has trapped melt inclusions as well a Fe-rich core (Mg# 63), with a $^{Fe\text{-}Mg}K_D$ of ~0.40. Crystal C has a distinctly Fe-rich core, with corresponding $^{Fe\text{-}Mg}K_D$ values that approach 0.56.

Figure J.20: BSE images of six orthopyroxene crystals (A-F) from IXT-21, ranging in size from 100-650 microns. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Mg# values largely cluster between 58-72, and the corresponding $^{Fe\text{-}Mg}K_D$ values range from 0.28 to 0.49. Crystals A and E are relatively homogenous, display euhedral, faceted rims, and yet their rims each have different compositions (Mg# 71 vs. 64), with $^{Fe\text{-}Mg}K_D$ values of ~0.28 vs. ~0.38. Crystal B has a similar composition to crystal A, and yet displays a skeletal texture. Crystals D and F display hopper textures, with protruding nubs along all crystal edges. Crystal C has an Fe-rich core ($^{Fe\text{-}Mg}K_D$ = 0.40), with a euhedral Mg-rich rim ($^{Fe\text{-}Mg}K_D$ = 0.27), but the Fe-rich core matches the composition of euhedral crystal E (Mg# 63).

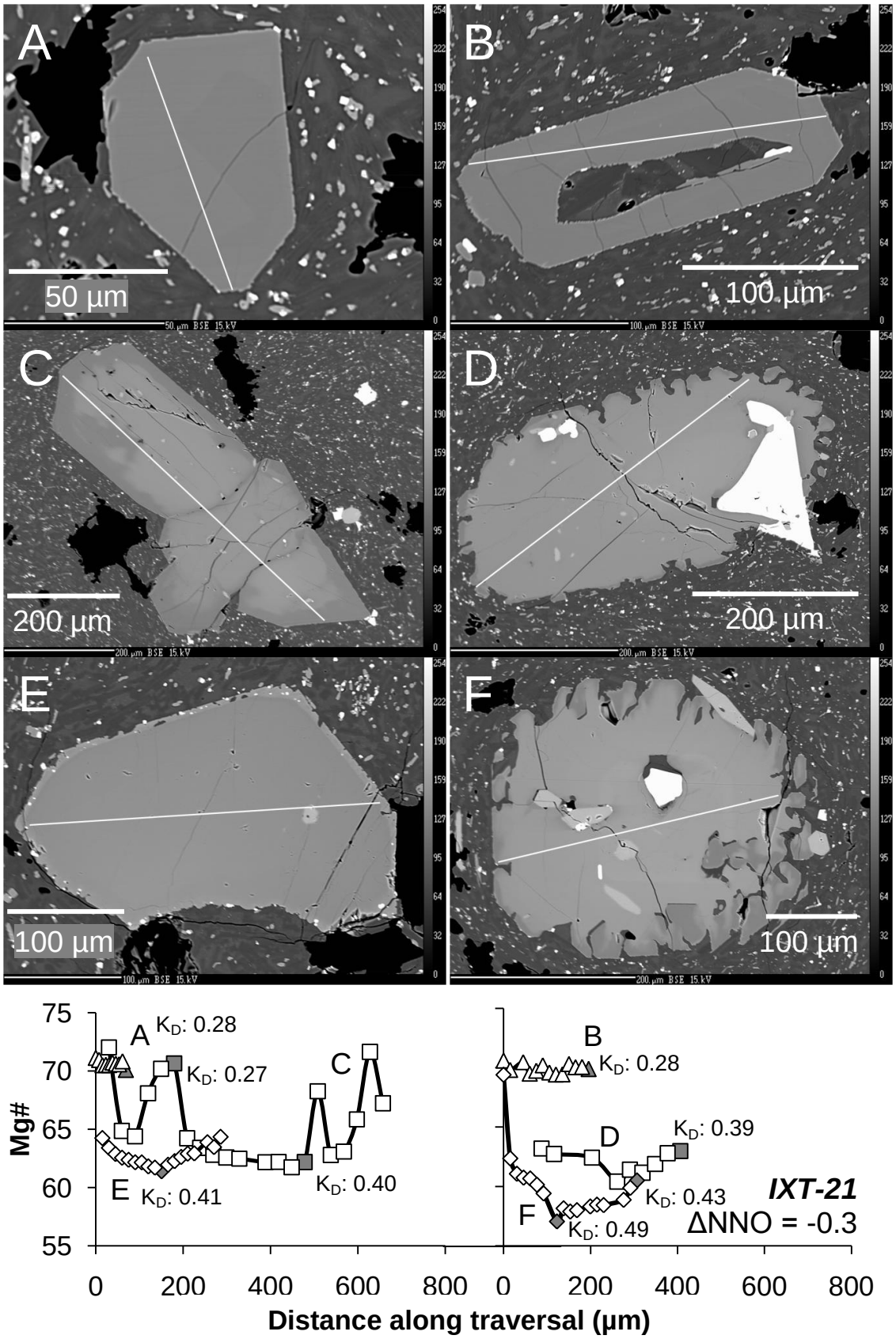
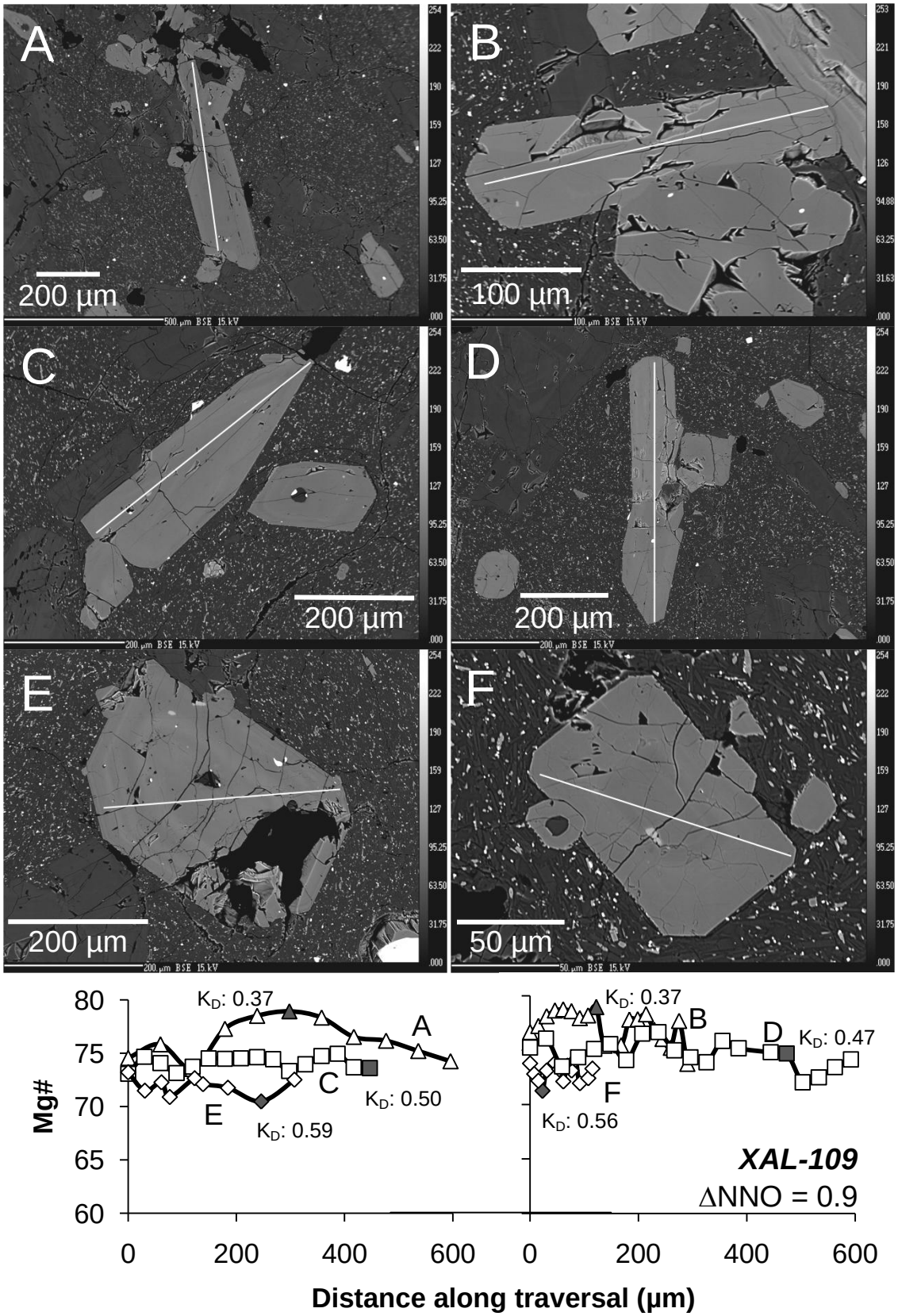

A
50 µm
B
100 µm
C
200 µm
D
200 µm
E
100 µm
F
100 µm
Mg#
75
70
65
60
55
A K_D: 0.28
K_D: 0.27
C
E K_D: 0.41
K_D: 0.40
B
K_D: 0.28
D
K_D: 0.39
K_D: 0.43
F
K_D: 0.49
IXT-21
ΔNNO = -0.3
0
200
400
600
800
Distance along traversal (µm)

Figure J.21: BSE images of six orthopyroxene crystals (A-F) from XAL-109. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Each grain has faceted edges, and all show rim compositions of ~Mg# 73-76. Fe-Ti oxides are visible as inclusions in all six crystals shown. Crystals A and B are among the most magnesian in the sample. Applying the bulk composition as the liquid, the most Mg-rich points in both grains yield $^{Fe\text{-}Mg}K_D$ values 0.37. Crystals C-F are generally homogeneous, but show subtle magnesian cores. $^{Fe\text{-}Mg}K_D$ values for the most Fe-rich analyses in crystals E and F – both plainly euhedral crystals, lacking any dissolution textures – reach as high as 0.56-0.59.


A
200 µm
B
100 µm
C
200 µm
D
200 µm
E
200 µm
F
50 µm
Mg#
80
75
70
65
60
K_D: 0.37
A
C
K_D: 0.50
E
K_D: 0.59
K_D: 0.37
B
D
K_D: 0.47
F
K_D: 0.56
XAL-109
ΔNNO = 0.9
0
200
400
600
0
200
400
600
Distance along traversal (µm)

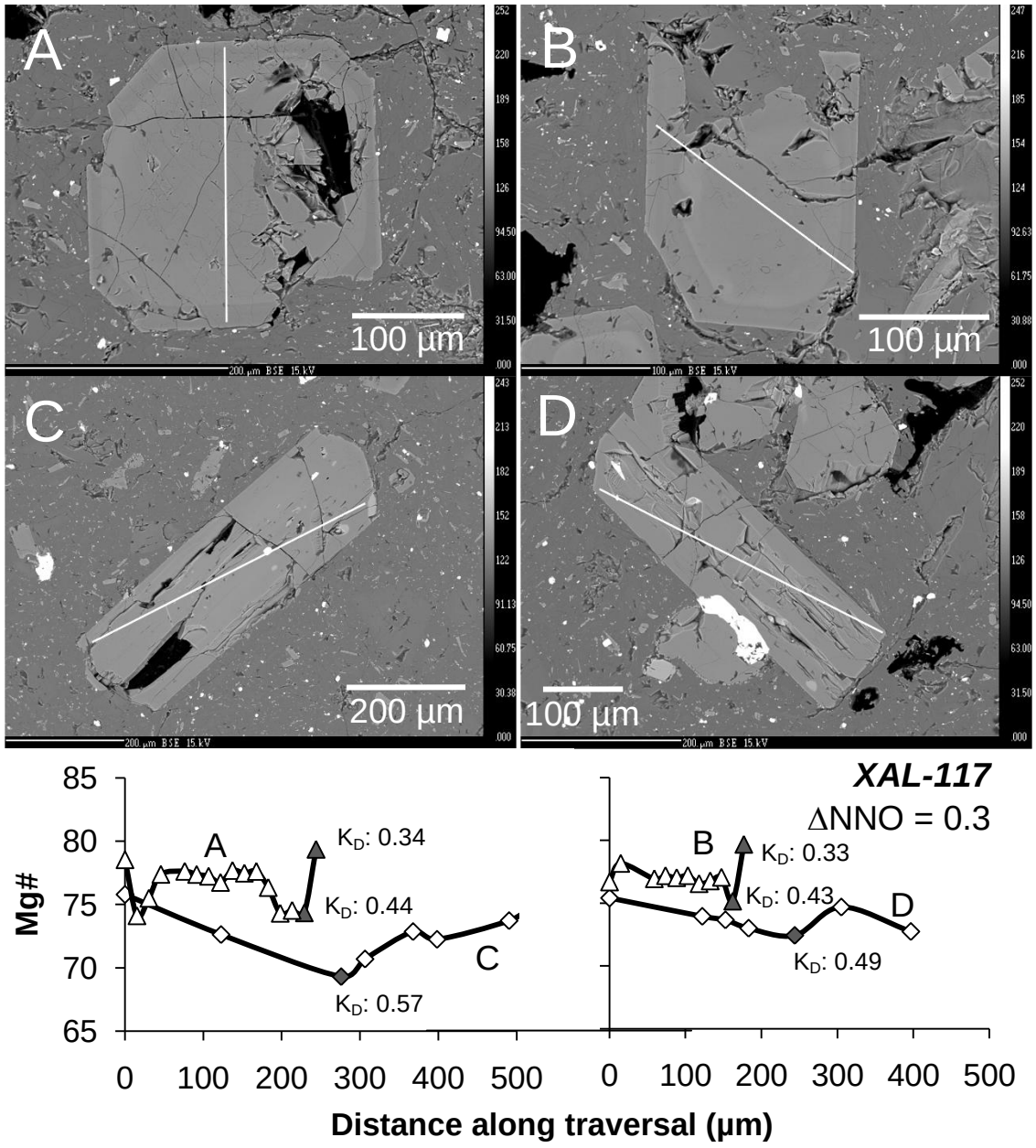


Figure J.22: BSE images of four pyroxene crystals (A-D) from XAL-117. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A and B are strikingly faceted, and yet also show distinct, wide Fe-rich rims (Mg# 74-76) surrounding Mg-rich cores (Mg# 77), then in turn surrounded by very fine, even more Mg-rich rims (Mg# 79-80). Swallow-tail features protruding from the upper ends of crystal B, suggests that these cores may have crystallized late, subsequent to rapid-crystallization of the Fe-rich regions. Application of the bulk lava composition yields $^{Fe\text{-}Mg}K_D$ values of 0.40 for the magnesian cores, 0.44 for the Fe-rich rims, and 0.34 for the thin, late more strongly Mg-rich rims. Crystals C and D are also strongly faceted, and show subtly more Fe-rich cores, where values of $^{Fe\text{-}Mg}K_D$ range from 0.49-0.57. Crystal C also contains melt inclusions aligned parallel to the long-axis of the grain.

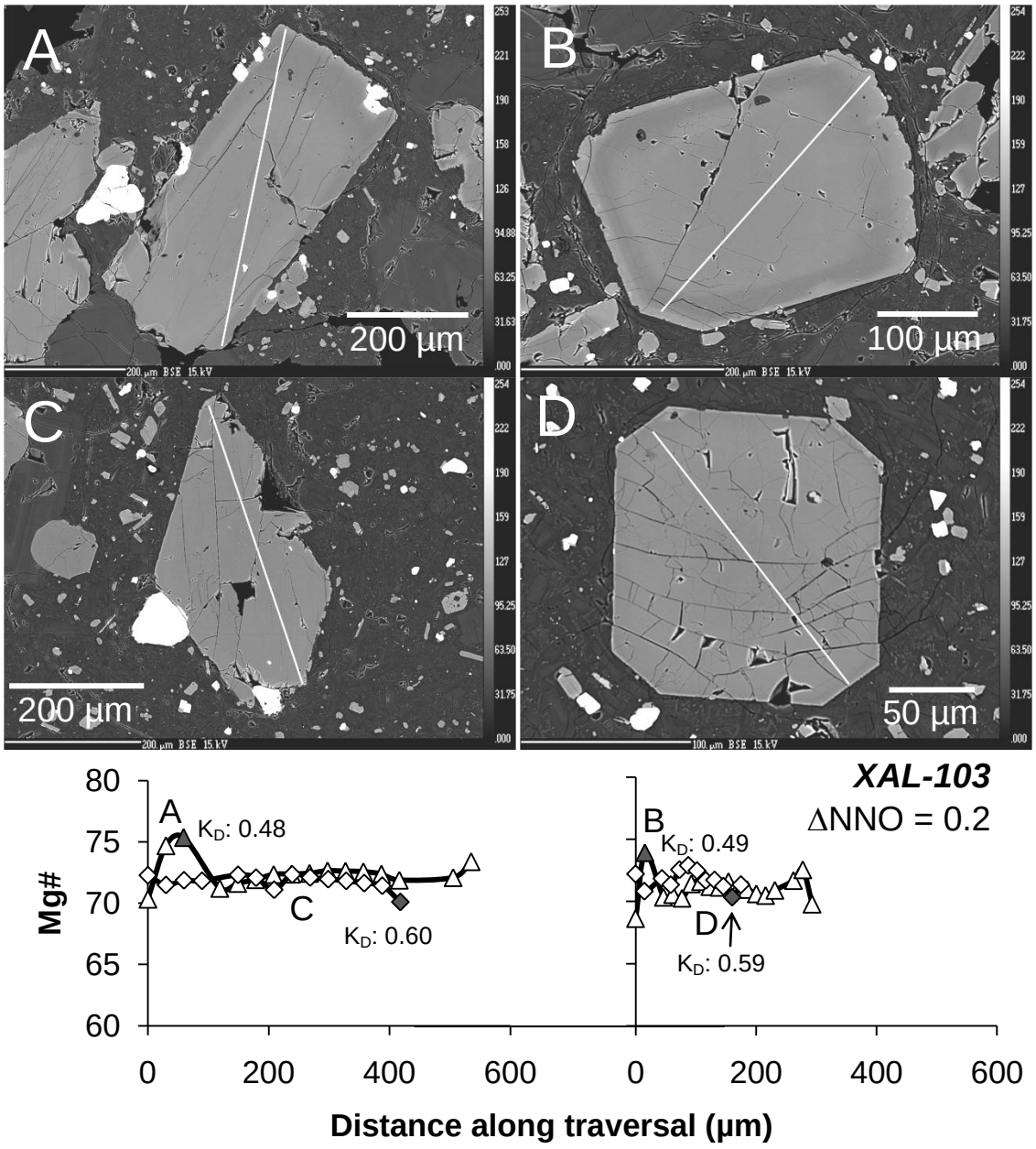


Figure J.23: BSE imagess of four orthopyroxene crystals (A-D) from XAL-103, each of which is plainly faceted. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A and B show subtle Mg-rich regions surrounding Fe-rich cores. Crystals C and D are homogeneous from rim to rim. The dominant composition in all four grains is ~Mg# 71-72, yielding $^{Fe\text{-}Mg}K_D$ values of ~0.6. The Mg-rich regions in grains A and B reach as high as Mg# 75, with $^{Fe\text{-}Mg}K_D$ values of ~0.48. These $^{Fe\text{-}Mg}K_D$ values were calculated using the bulk composition of the lava, and must be considered as maximum values.

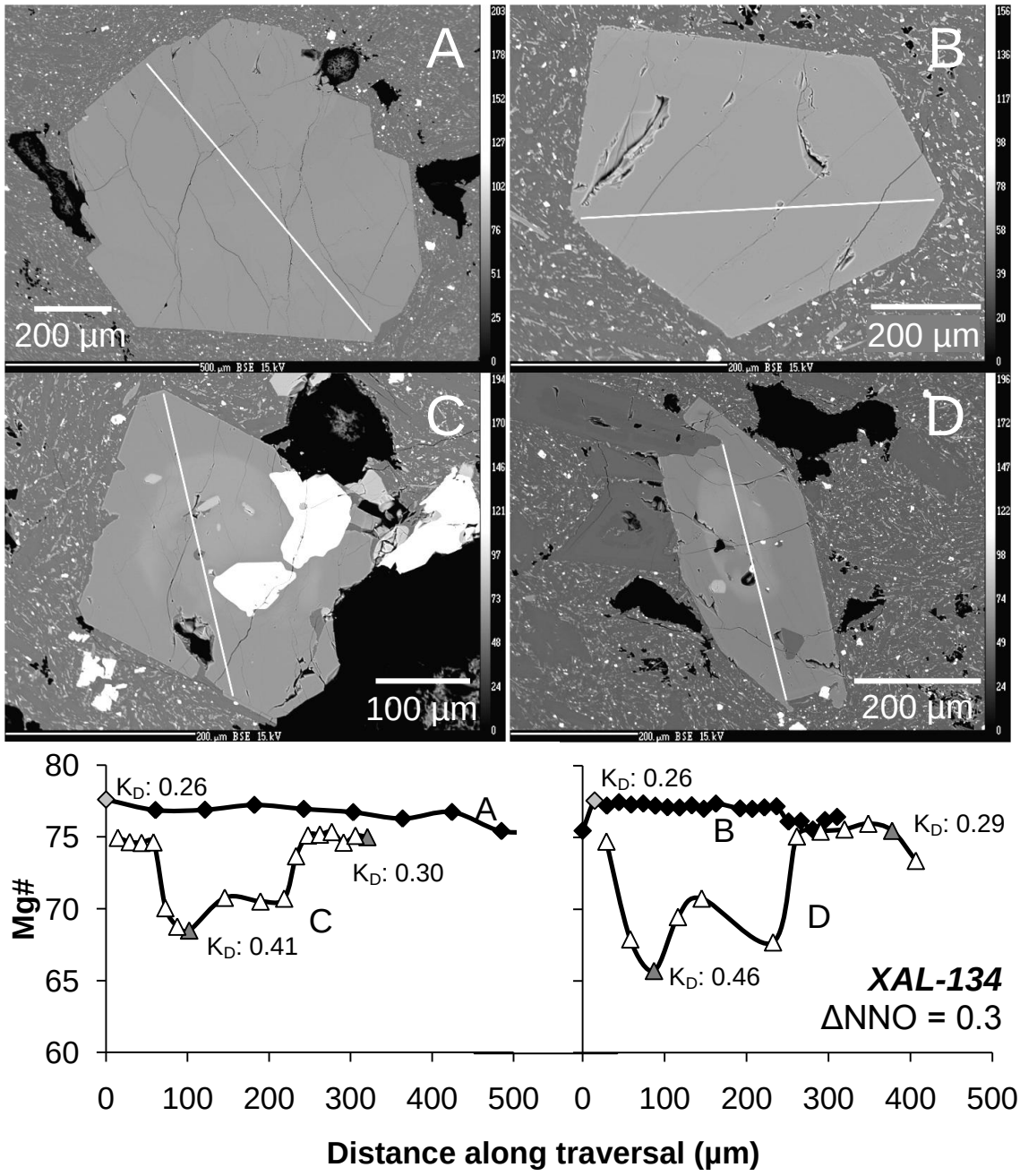


Figure J.24: BSE images (A-D) of four pyroxene crystals from XAL-134, all of which display euhedral, faceted rims. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A and B are clinopyroxenes and have the highest Mg# (~77), corresponding to a $^{Fe\text{-}Mg}K_D$ value of ~0.26. Orthopyroxene crystals C and D each contain a more Fe-rich core surrounding by Mg-rich rims (reverse zoning). The rim compositions (Mg# 75) on the orthopyroxenes have $^{Fe\text{-}Mg}K_D$ values of ~0.30, similar to those for the clinopyroxene crystals (~.26). However, the orthopyroxene cores have Mg# values that extend down to 65, corresponding to $^{Fe\text{-}Mg}K_D$ values as high as ~0.46.

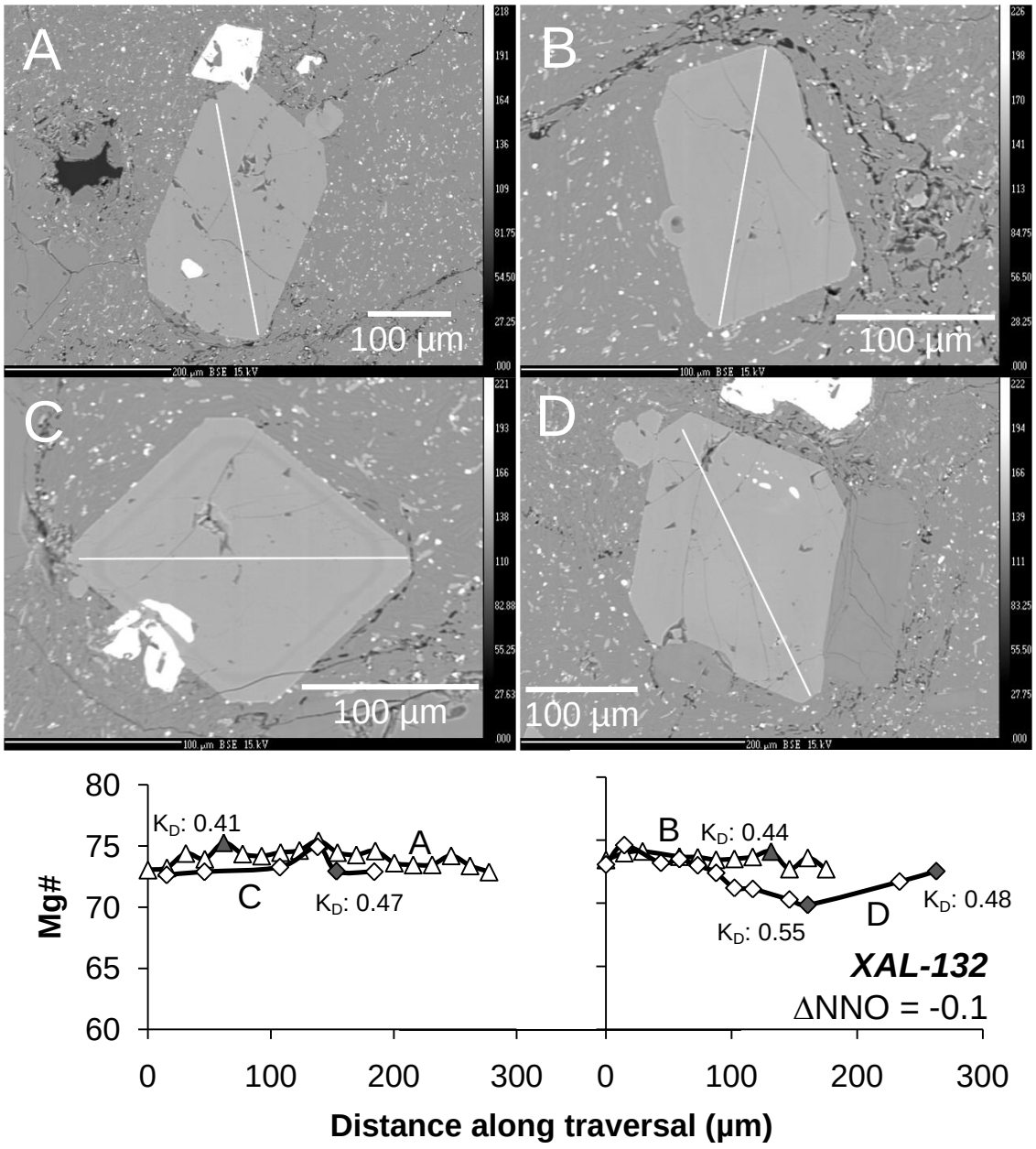
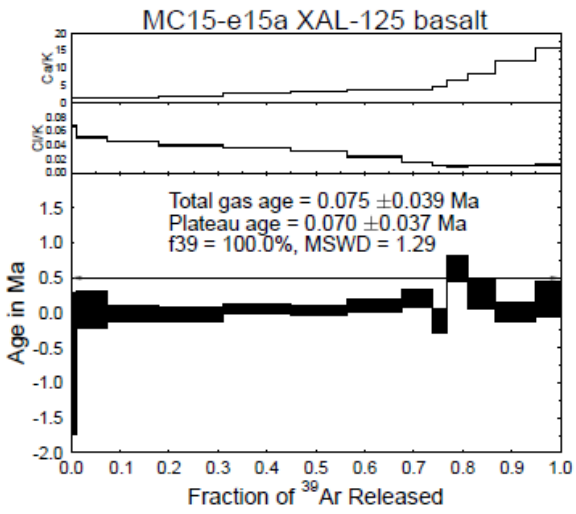
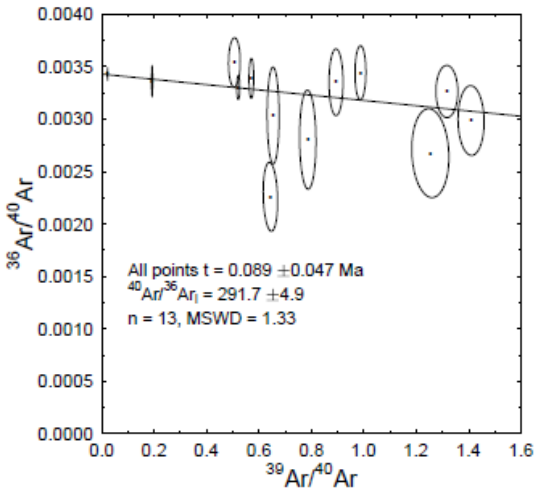


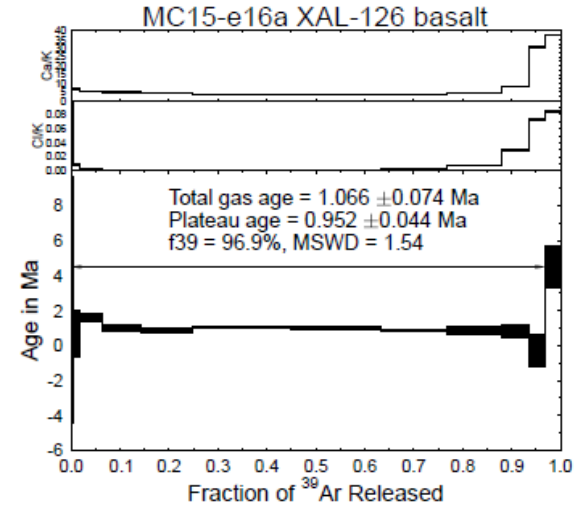
Figure J.25: BSE images of four orthopyroxene crystals (A-D) from XAL-132. All have faceted grain boundaries. White lines correspond to compositional traverses shown below. Shaded symbols correspond to compositions for which the $^{Fe\text{-}Mg}K_D$ value has been calculated. Crystals A and B are homogeneous ~Mg# 74, with $^{Fe\text{-}Mg}K_D$ values of ~0.4. Crystal C is also homogeneous, ~Mg# 72, except for a very fine Fe-rich band visible in the BSE. Crystal D has an ever-so-slightly more Fe-rich core, but still yields a minimum Mg# of 0.70, and a high $^{Fe\text{-}Mg}K_D$ of 0.55. Crystals A, C, and D exhibit inclusions of Fe-Ti oxides.

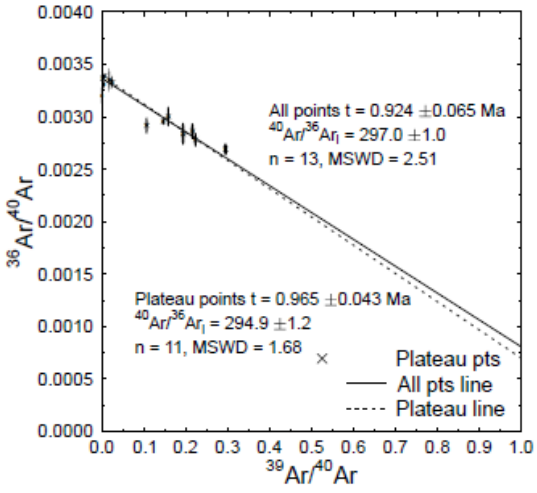
APPENDIX K

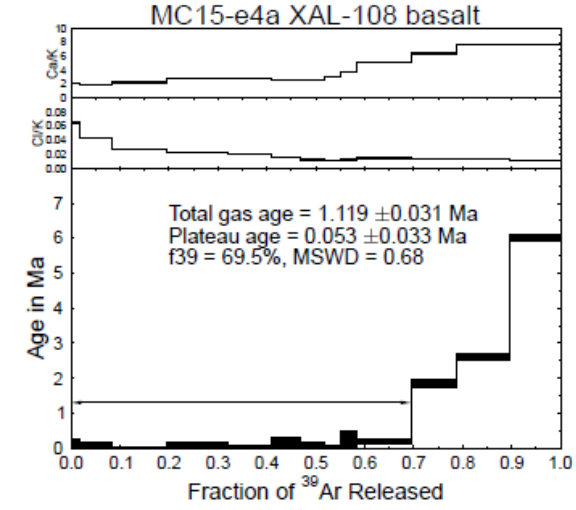
GEOCHRONOLOGY RESULTS FROM THE SANGANGUEY VOLCANIC FIELD, NAYARIT, MEXICO

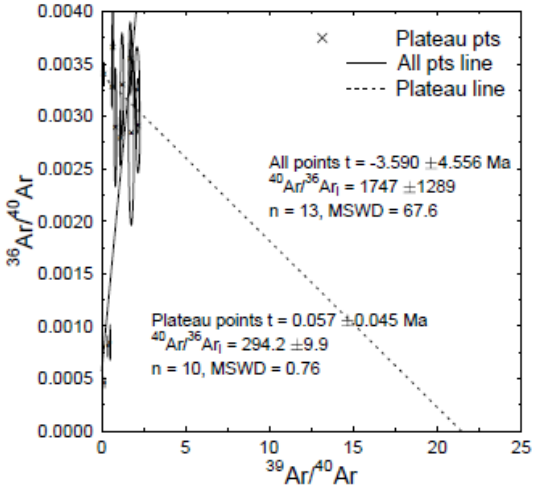

MC15-e15a XAL-125 basalt
Ca/K
Cl/K
Total gas age = 0.075 ±0.039 Ma
Plateau age = 0.070 ±0.037 Ma
f39 = 100.0%, MSWD = 1.29
Age in Ma
Fraction of 39Ar Released

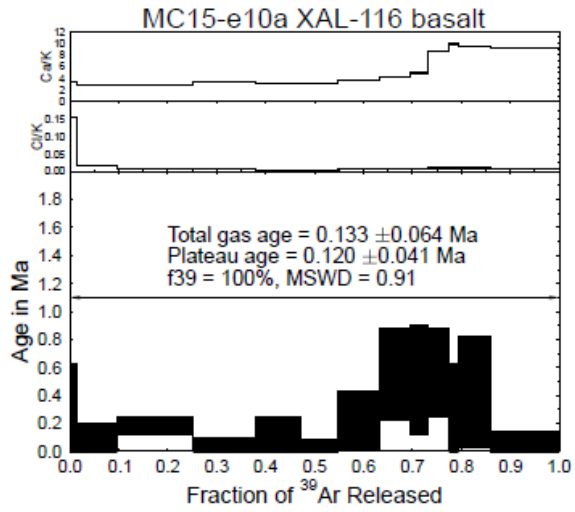

All points t = 0.089 ±0.047 Ma
40Ar/36Ari = 291.7 ±4.9
n = 13, MSWD = 1.33
36Ar/40Ar
39Ar/40Ar

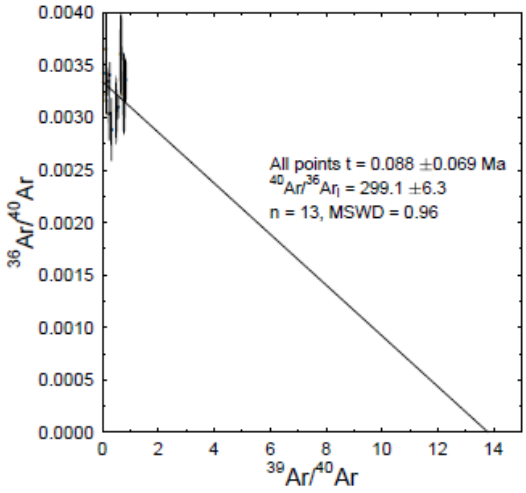

MC15-e16a XAL-126 basalt
Ca/K
Cl/K
Total gas age = 1.066 ±0.074 Ma
Plateau age = 0.952 ±0.044 Ma
f39 = 96.9%, MSWD = 1.54
Age in Ma
Fraction of 39Ar Released

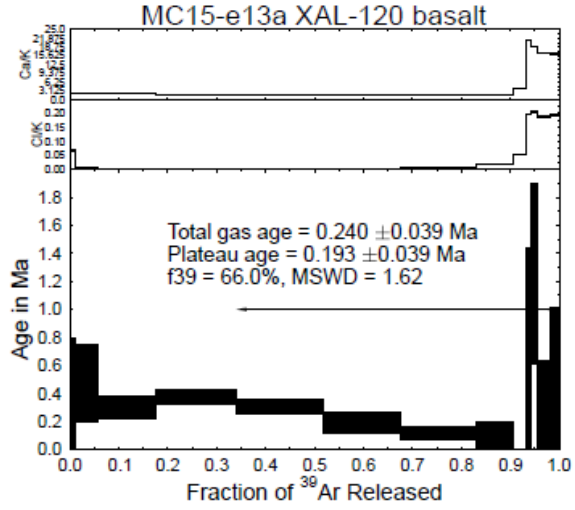

All points t = 0.924 ±0.065 Ma
40Ar/36Ari = 297.0 ±1.0
n = 13, MSWD = 2.51
Plateau points t = 0.965 ±0.043 Ma
40Ar/36Ari = 294.9 ±1.2
n = 11, MSWD = 1.68
Plateau pts
All pts line
Plateau line
36Ar/40Ar
39Ar/40Ar

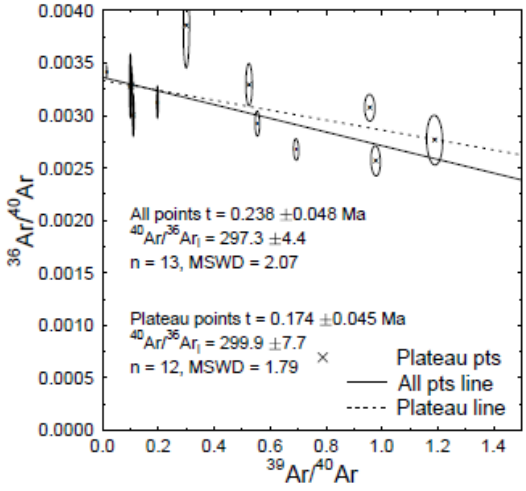

MC15-e4a XAL-108 basalt
Ca/K
Cl/K
Total gas age = 1.119 ±0.031 Ma
Plateau age = 0.053 ±0.033 Ma
f39 = 69.5%, MSWD = 0.68
Age in Ma
Fraction of 39Ar Released

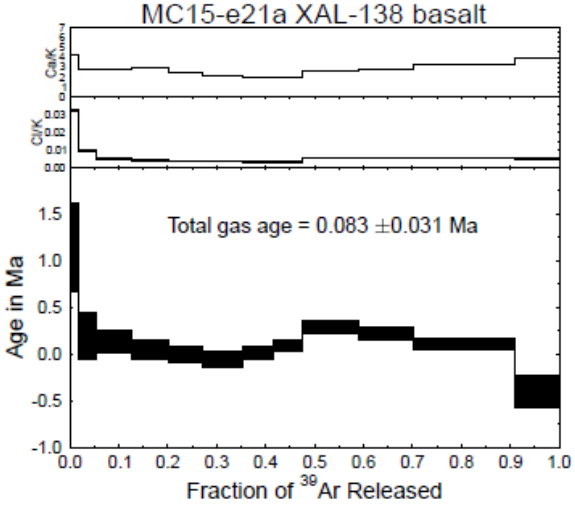

Plateau pts
All pts line
Plateau line
All points t = -3.590 ±4.556 Ma
40Ar/36Ari = 1747 ±1289
n = 13, MSWD = 67.6
Plateau points t = 0.057 ±0.045 Ma
40Ar/36Ari = 294.2 ±9.9
n = 10, MSWD = 0.76
36Ar/40Ar
39Ar/40Ar

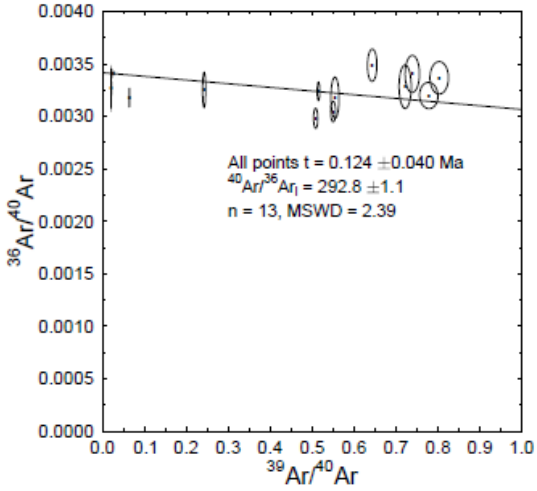

MC15-e10a XAL-116 basalt
Ca/K
Cl/K
Total gas age = 0.133 ±0.064 Ma
Plateau age = 0.120 ±0.041 Ma
f39 = 100%, MSWD = 0.91
Age in Ma
Fraction of 39Ar Released

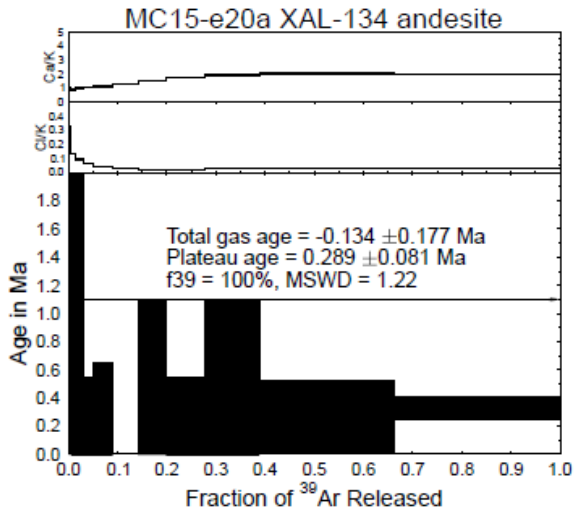

All points t = 0.088 ±0.069 Ma
40Ar/36Ari = 299.1 ±6.3
n = 13, MSWD = 0.96
36Ar/40Ar
39Ar/40Ar

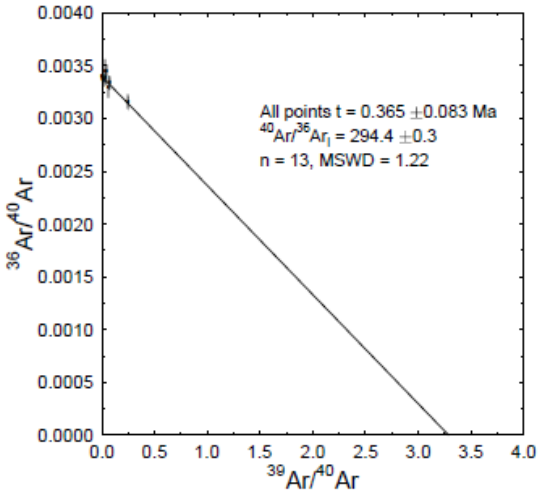

MC15-e13a XAL-120 basalt
Ca/K
Cl/K
Total gas age = 0.240 ±0.039 Ma
Plateau age = 0.193 ±0.039 Ma
f39 = 66.0%, MSWD = 1.62
Age in Ma
Fraction of 39Ar Released

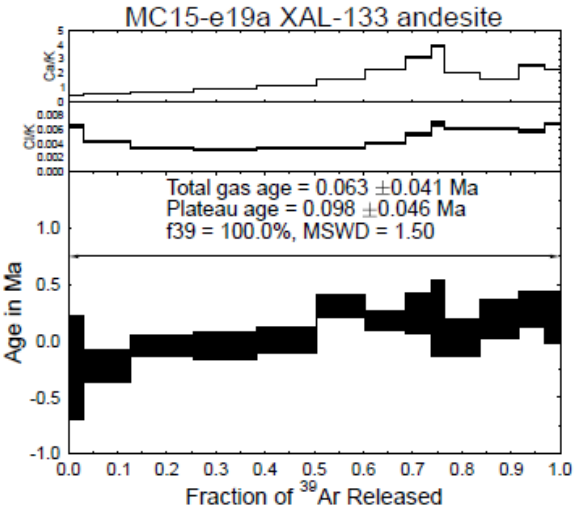

All points t = 0.238 ±0.048 Ma
40Ar/36Ari = 297.3 ±4.4
n = 13, MSWD = 2.07
Plateau points t = 0.174 ±0.045 Ma
40Ar/36Ari = 299.9 ±7.7
n = 12, MSWD = 1.79
Plateau pts
All pts line
Plateau line
36Ar/40Ar
39Ar/40Ar

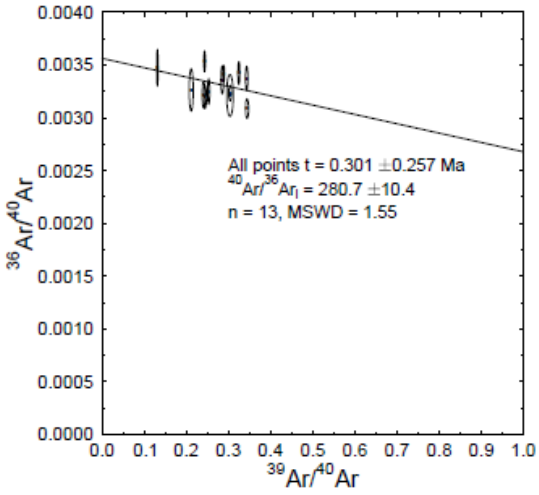

MC15-e21a XAL-138 basalt
Ca/K
Cl/K
Total gas age = 0.083 ±0.031 Ma
Age in Ma
Fraction of 39Ar Released

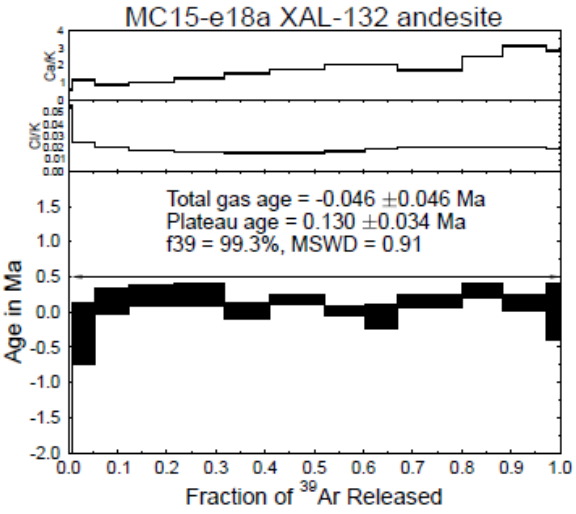

All points t = 0.124 ±0.040 Ma
40Ar/36Ari = 292.8 ±1.1
n = 13, MSWD = 2.39
36Ar/40Ar
39Ar/40Ar

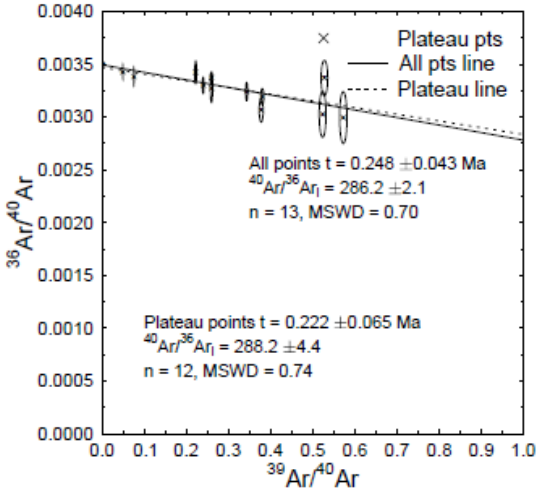

MC15-e20a XAL-134 andesite
Ca/K
Cl/K
Total gas age = -0.134 ±0.177 Ma
Plateau age = 0.289 ±0.081 Ma
f39 = 100%, MSWD = 1.22
Age in Ma
Fraction of 39Ar Released

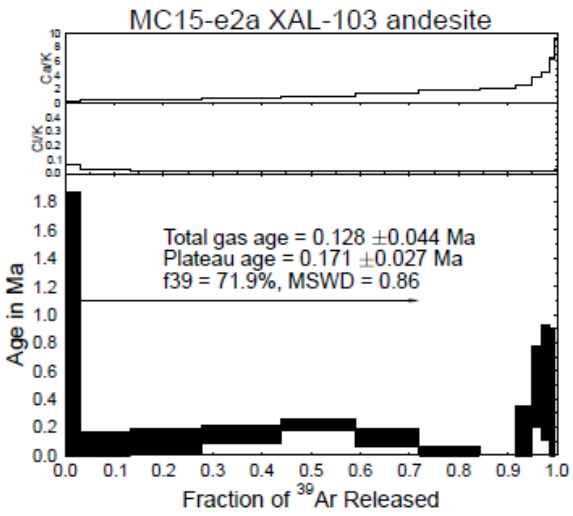

All points t = 0.365 ±0.083 Ma
40Ar/36Ari = 294.4 ±0.3
n = 13, MSWD = 1.22
36Ar/40Ar
39Ar/40Ar

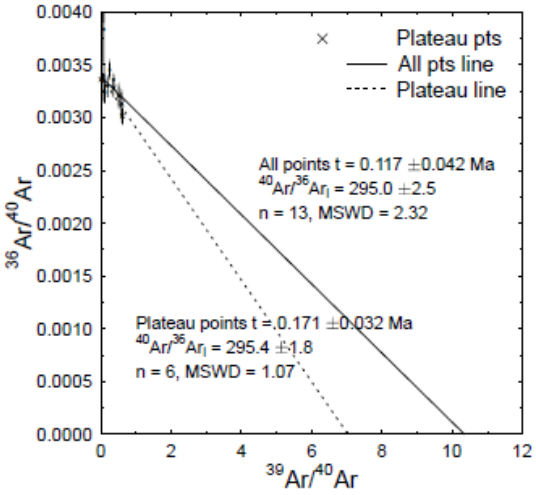

MC15-e19a XAL-133 andesite
Ca/K
Cl/K
Total gas age = 0.063 ±0.041 Ma
Plateau age = 0.098 ±0.046 Ma
f39 = 100.0%, MSWD = 1.50
Age in Ma
Fraction of 39Ar Released

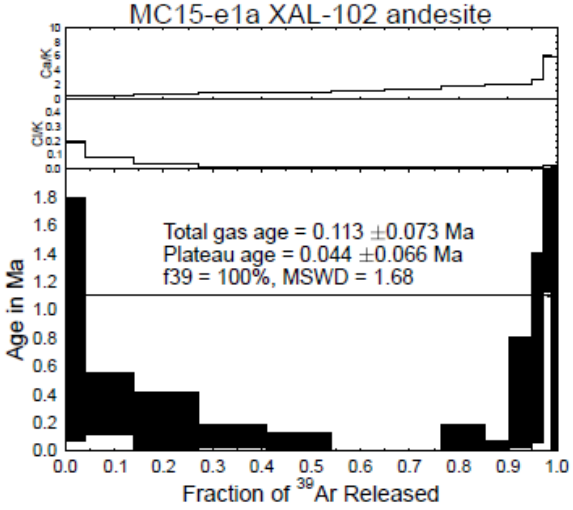

All points t = 0.301 ±0.257 Ma
40Ar/36Ari = 280.7 ±10.4
n = 13, MSWD = 1.55
36Ar/40Ar
39Ar/40Ar

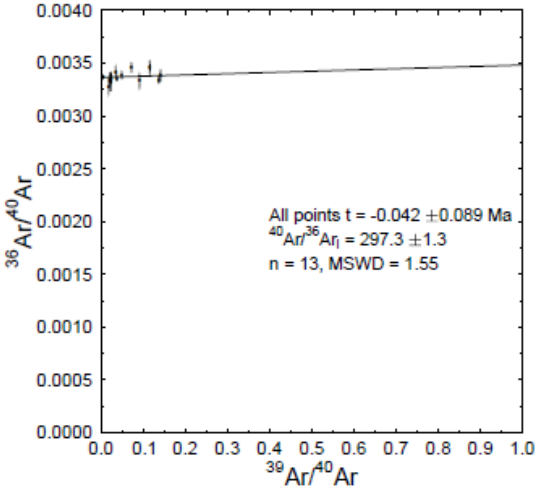

MC15-e18a XAL-132 andesite
Ca/K
Cl/K
Total gas age = -0.046 ±0.046 Ma
Plateau age = 0.130 ±0.034 Ma
f39 = 99.3%, MSWD = 0.91
Age in Ma
Fraction of 39Ar Released

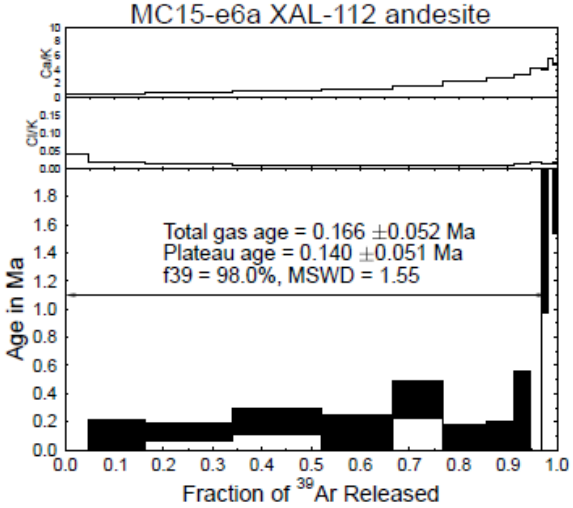

Plateau pts
All pts line
Plateau line
All points t = 0.248 ±0.043 Ma
40Ar/36Ari = 286.2 ±2.1
n = 13, MSWD = 0.70
Plateau points t = 0.222 ±0.065 Ma
40Ar/36Ari = 288.2 ±4.4
n = 12, MSWD = 0.74
36Ar/40Ar
39Ar/40Ar

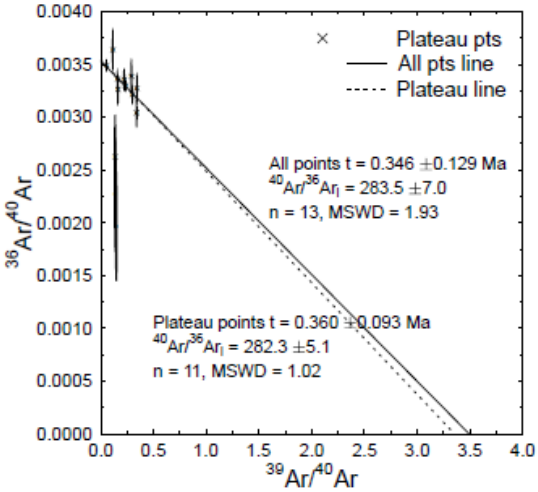

MC15-e2a XAL-103 andesite
Ca/K
Cl/K
Total gas age = 0.128 ±0.044 Ma
Plateau age = 0.171 ±0.027 Ma
f39 = 71.9%, MSWD = 0.86
Age in Ma
Fraction of 39Ar Released

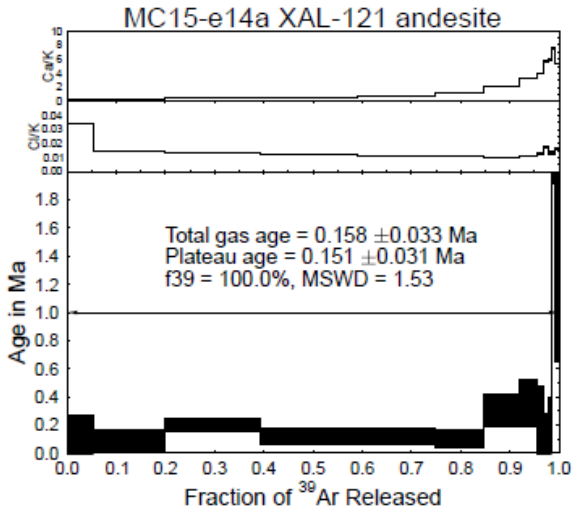

Plateau pts
All pts line
Plateau line
All points t = 0.117 ±0.042 Ma
40Ar/36Ari = 295.0 ±2.5
n = 13, MSWD = 2.32
Plateau points t = 0.171 ±0.032 Ma
40Ar/36Ari = 295.4 ±1.8
n = 6, MSWD = 1.07
36Ar/40Ar
39Ar/40Ar

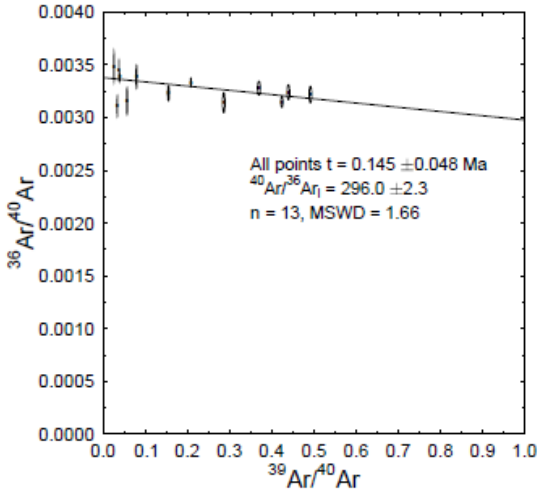

MC15-e1a XAL-102 andesite
Ca/K
Cl/K
Total gas age = 0.113 ±0.073 Ma
Plateau age = 0.044 ±0.066 Ma
f39 = 100%, MSWD = 1.68
Age in Ma
Fraction of 39Ar Released

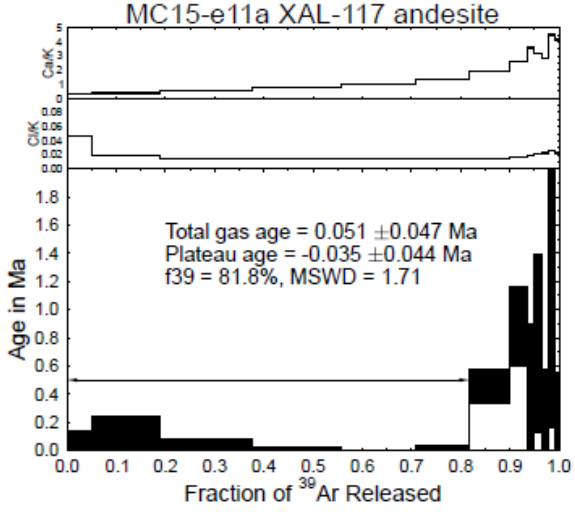

All points t = -0.042 ±0.089 Ma
40Ar/36Ari = 297.3 ±1.3
n = 13, MSWD = 1.55
36Ar/40Ar
39Ar/40Ar

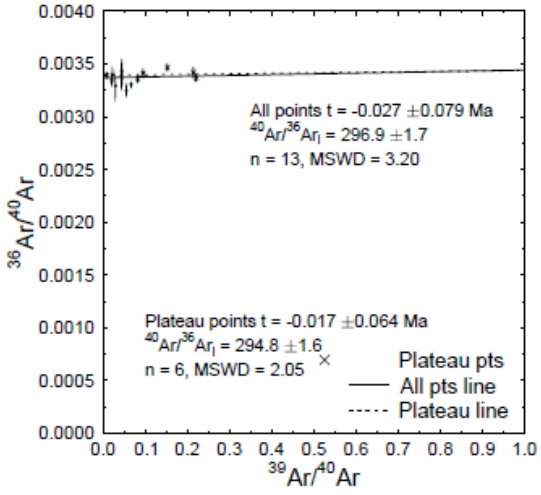

MC15-e6a XAL-112 andesite
Ca/K
Cl/K
Total gas age = 0.166 ±0.052 Ma
Plateau age = 0.140 ±0.051 Ma
f39 = 98.0%, MSWD = 1.55
Age in Ma
Fraction of 39Ar Released

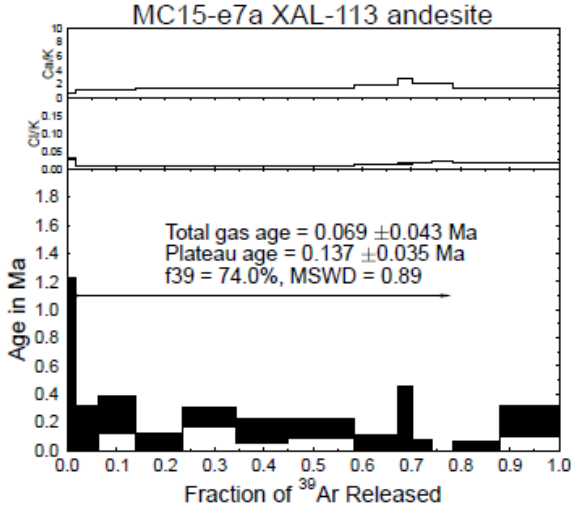

Plateau pts
All pts line
Plateau line
All points t = 0.346 ±0.129 Ma
40Ar/36Ari = 283.5 ±7.0
n = 13, MSWD = 1.93
Plateau points t = 0.360 ±0.093 Ma
40Ar/36Ari = 282.3 ±5.1
n = 11, MSWD = 1.02
36Ar/40Ar
39Ar/40Ar

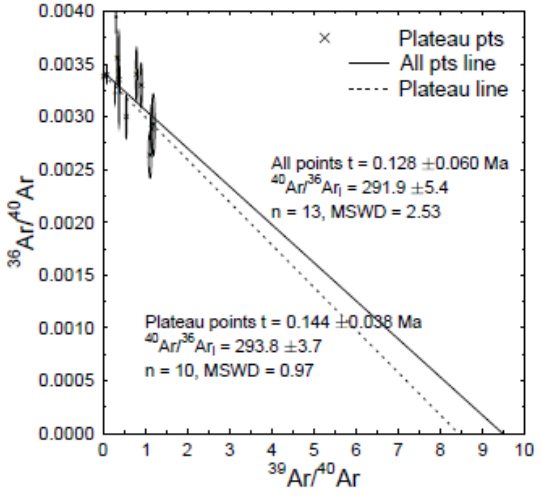

MC15-e14a XAL-121 andesite
Ca/K
Cl/K
Total gas age = 0.158 ±0.033 Ma
Plateau age = 0.151 ±0.031 Ma
f39 = 100.0%, MSWD = 1.53
Age in Ma
Fraction of 39Ar Released

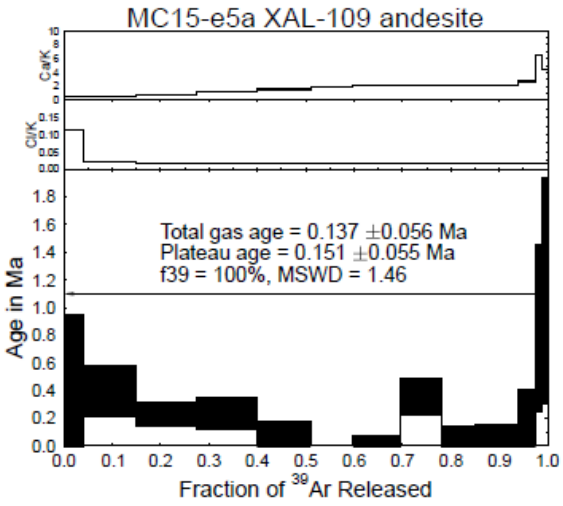

All points t = 0.145 ±0.048 Ma
40Ar/36Ari = 296.0 ±2.3
n = 13, MSWD = 1.66
36Ar/40Ar
39Ar/40Ar

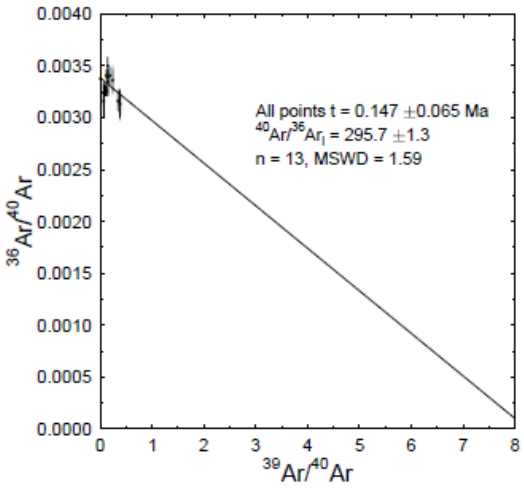

MC15-e11a XAL-117 andesite
Ca/K
Cl/K
Total gas age = 0.051 ±0.047 Ma
Plateau age = -0.035 ±0.044 Ma
f39 = 81.8%, MSWD = 1.71
Age in Ma
Fraction of 39Ar Released

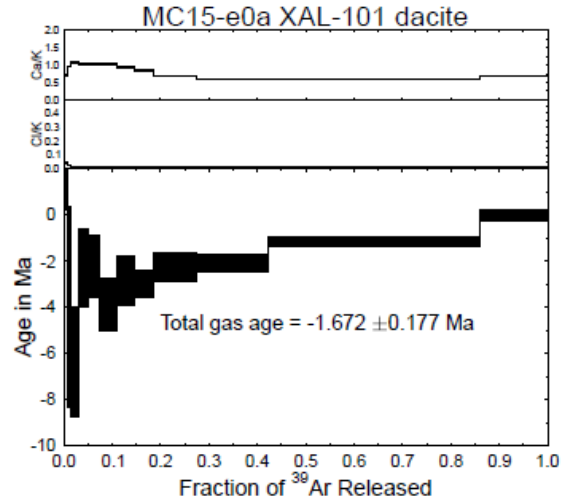

All points t = -0.027 ±0.079 Ma
40Ar/36Ari = 296.9 ±1.7
n = 13, MSWD = 3.20
Plateau points t = -0.017 ±0.064 Ma
40Ar/36Ari = 294.8 ±1.6
n = 6, MSWD = 2.05
Plateau pts
All pts line
Plateau line
36Ar/40Ar
39Ar/40Ar

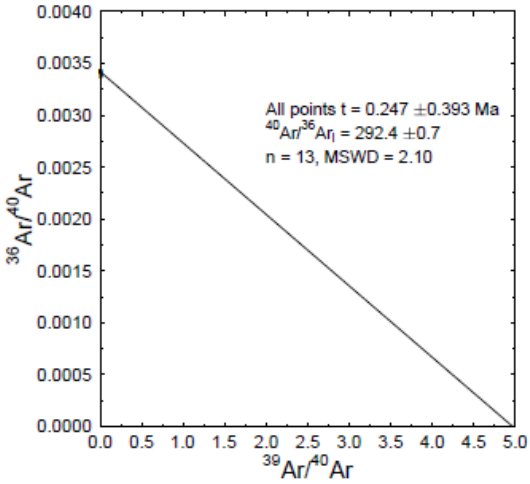

MC15-e7a XAL-113 andesite
Ca/K
Cl/K
Total gas age = 0.069 ±0.043 Ma
Plateau age = 0.137 ±0.035 Ma
f39 = 74.0%, MSWD = 0.89
Age in Ma
Fraction of 39Ar Released

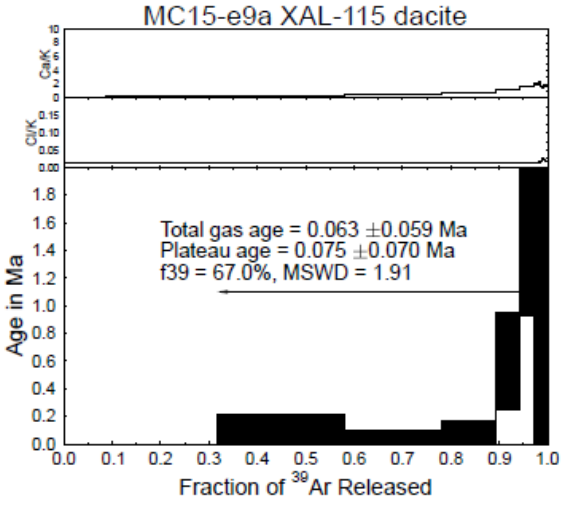

Plateau pts
All pts line
Plateau line
All points t = 0.128 ±0.060 Ma
40Ar/36Ari = 291.9 ±5.4
n = 13, MSWD = 2.53
Plateau points t = 0.144 ±0.038 Ma
40Ar/36Ari = 293.8 ±3.7
n = 10, MSWD = 0.97
36Ar/40Ar
39Ar/40Ar

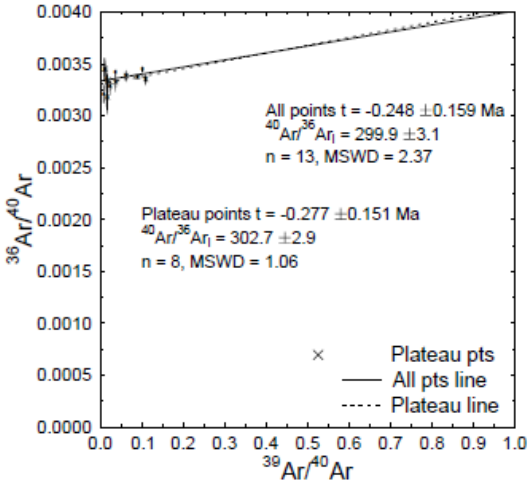

MC15-e5a XAL-109 andesite
Ca/K
Cl/K
Total gas age = 0.137 ±0.056 Ma
Plateau age = 0.151 ±0.055 Ma
f39 = 100%, MSWD = 1.46
Age in Ma
Fraction of 39Ar Released

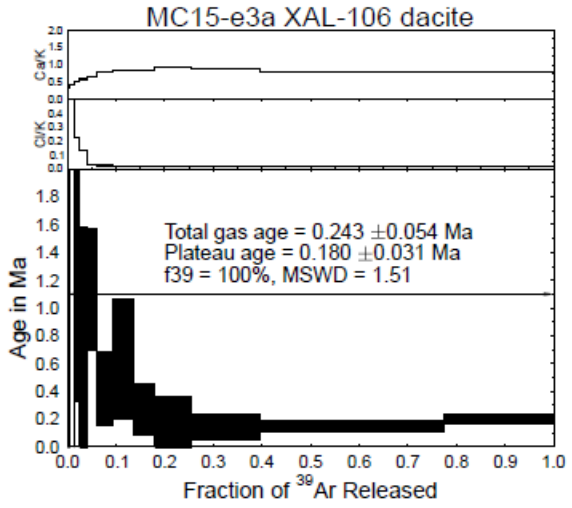

All points t = 0.147 ±0.065 Ma
40Ar/36Ari = 295.7 ±1.3
n = 13, MSWD = 1.59
36Ar/40Ar
39Ar/40Ar

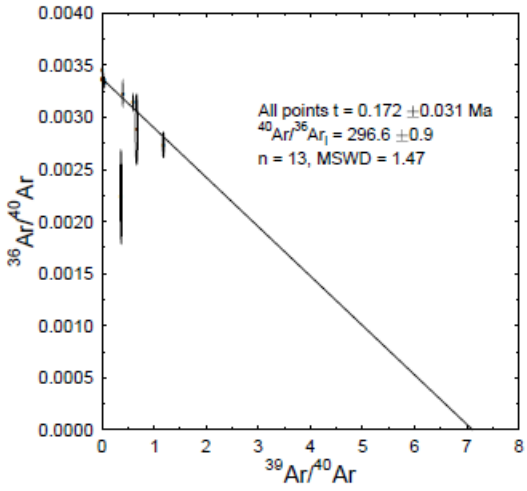

MC15-e0a XAL-101 dacite
Ca/K
Cl/K
Total gas age = -1.672 ±0.177 Ma
Age in Ma
Fraction of 39Ar Released

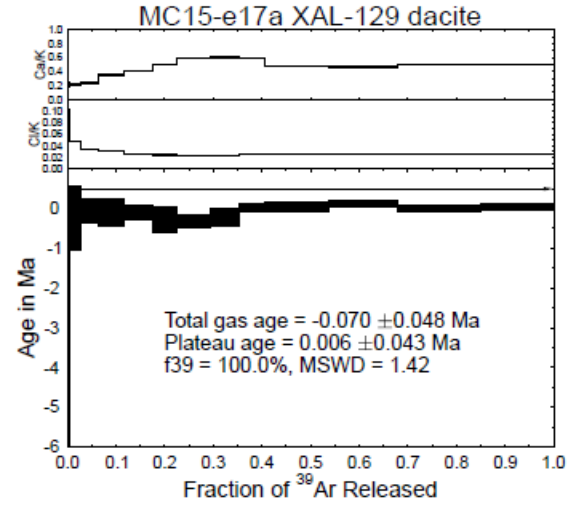

All points t = 0.247 ±0.393 Ma
40Ar/36Ari = 292.4 ±0.7
n = 13, MSWD = 2.10
36Ar/40Ar
39Ar/40Ar

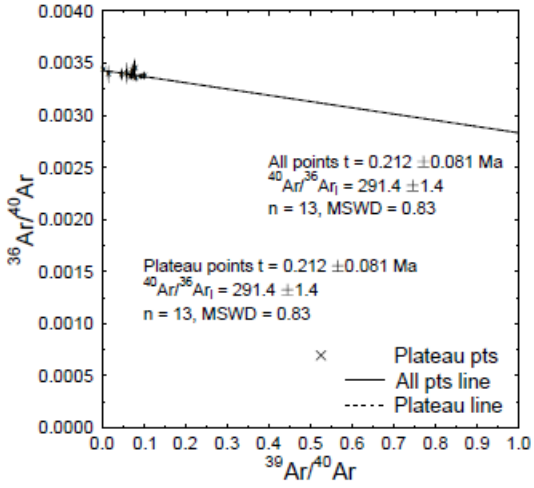

MC15-e9a XAL-115 dacite
Ca/K
Cl/K
Total gas age = 0.063 ±0.059 Ma
Plateau age = 0.075 ±0.070 Ma
f39 = 67.0%, MSWD = 1.91
Age in Ma
Fraction of 39Ar Released

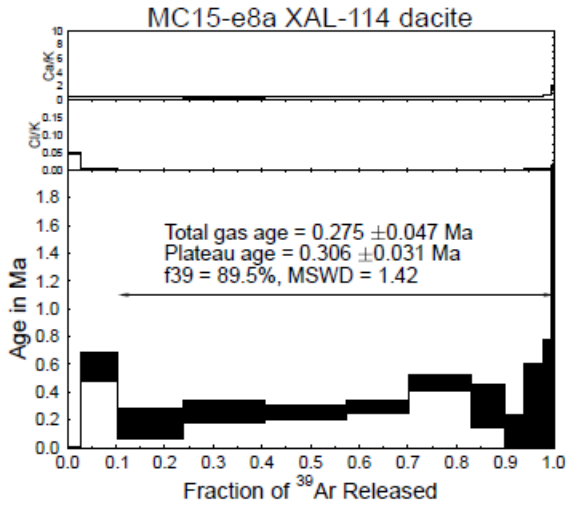

All points t = -0.248 ±0.159 Ma
40Ar/36Ari = 299.9 ±3.1
n = 13, MSWD = 2.37
Plateau points t = -0.277 ±0.151 Ma
40Ar/36Ari = 302.7 ±2.9
n = 8, MSWD = 1.06
Plateau pts
All pts line
Plateau line
36Ar/40Ar
39Ar/40Ar

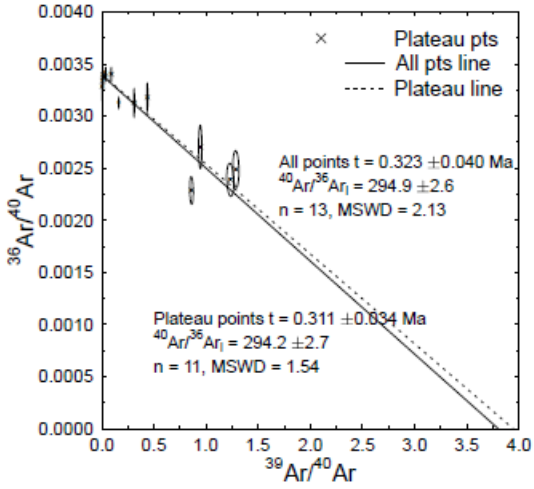

MC15-e3a XAL-106 dacite
Ca/K
Cl/K
Total gas age = 0.243 ±0.054 Ma
Plateau age = 0.180 ±0.031 Ma
f39 = 100%, MSWD = 1.51
Age in Ma
Fraction of 39Ar Released

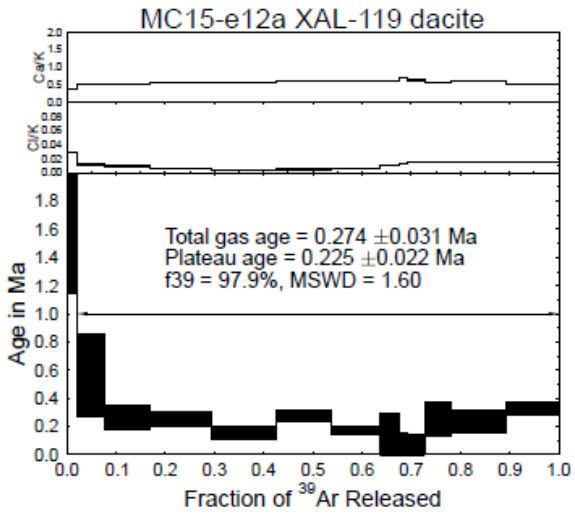

All points t = 0.172 ±0.031 Ma
40Ar/36Ari = 296.6 ±0.9
n = 13, MSWD = 1.47
36Ar/40Ar
39Ar/40Ar

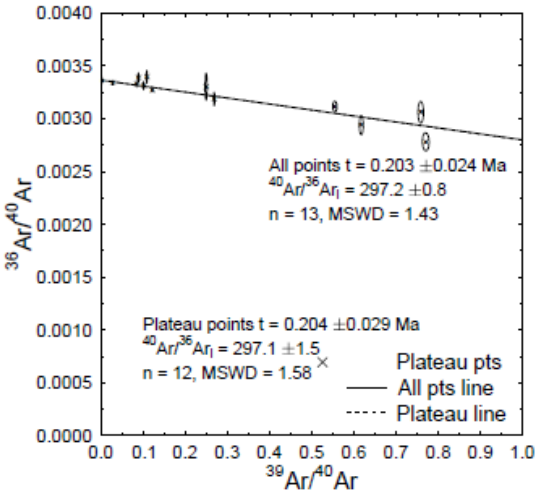

MC15-e17a XAL-129 dacite
Ca/K
Cl/K
Total gas age = -0.070 ±0.048 Ma
Plateau age = 0.006 ±0.043 Ma
f39 = 100.0%, MSWD = 1.42
Age in Ma
Fraction of 39Ar Released


All points t = 0.212 ±0.081 Ma
40Ar/36Ari = 291.4 ±1.4
n = 13, MSWD = 0.83
Plateau points t = 0.212 ±0.081 Ma
40Ar/36Ari = 291.4 ±1.4
n = 13, MSWD = 0.83
Plateau pts
All pts line
Plateau line
36Ar/40Ar
39Ar/40Ar


MC15-e8a XAL-114 dacite
Ca/K
Cl/K
Total gas age = 0.275 ±0.047 Ma
Plateau age = 0.306 ±0.031 Ma
f39 = 89.5%, MSWD = 1.42
Age in Ma
Fraction of 39Ar Released


Plateau pts
All pts line
Plateau line
All points t = 0.323 ±0.040 Ma
40Ar/36Ari = 294.9 ±2.6
n = 13, MSWD = 2.13
Plateau points t = 0.311 ±0.034 Ma
40Ar/36Ari = 294.2 ±2.7
n = 11, MSWD = 1.54
36Ar/40Ar
39Ar/40Ar


MC15-e12a XAL-119 dacite
Ca/K
Cl/K
Total gas age = 0.274 ±0.031 Ma
Plateau age = 0.225 ±0.022 Ma
f39 = 97.9%, MSWD = 1.60
Age in Ma
Fraction of 39Ar Released


All points t = 0.203 ±0.024 Ma
40Ar/36Ari = 297.2 ±0.8
n = 13, MSWD = 1.43
Plateau points t = 0.204 ±0.029 Ma
40Ar/36Ari = 297.1 ±1.5
n = 12, MSWD = 1.58
Plateau pts
All pts line
Plateau line
36Ar/40Ar
39Ar/40Ar