## Intro
| This excel file contains the MELTS simulation results of 15597 melt and pyroxenes at an oxygen fugacity of FMQ-4. |
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| Volatiles in Melt Inclusions from Lunar Mare Basalts: |
| Bridging the Gap in the H2O/Ce ratio Between Melt Inclusions in Lunar Pyroclastic Sample 74220 and Other Mare Samples |
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## condition
| FMQ-4 (slightly below IW): found liquidus at 1275.78 °C. |
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| Execute the program (mode: fractionate solids) and get melt and solid composition with decreasing temperature from liquidus. Results are in the next two sheets. |
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| FMQ-5: found liquidus at 8068.36 °C. This temperature is too high to be true so we did not proceed with this oxygen fugacity. |

## melt
| Index | T (C) | P (kbars) | log(10) f O2 | liq mass (gm) | liq rho (gm/cc) | wt% SiO2 | wt% TiO2 | wt% Al2O3 | wt% Fe2O3 | wt% Cr2O3 | wt% FeO | wt% MnO | wt% MgO | wt% NiO | wt% CoO | wt% CaO | wt% Na2O | wt% K2O | wt% P2O5 | wt% H2O | wt% CO2 | wt% SO3 | wt% Cl2O-1 | wt% F2O-1 | liq G (kJ) | liq H (kJ) | liq S (J/K) | liq V (cc) | liq Cp (J/K) | activity SiO2 | activity TiO2 | activity Al2O3 | activity Fe2O3 | activity MgCr2O4 | activity Fe2SiO4 | activity MnSi0.5O2 | activity Mg2SiO4 | activity NiSi0.5O2 | activity CoSi0.5O2 | activity CaSiO3 | activity Na2SiO3 | activity KAlSiO4 | activity Ca3(PO4)2 | activity CO2 | activity SO3 | activity Cl2O-1 | activity F2O-1 | activity H2O | liq vis (log 10 poise) | sol mass (gm) | sol rho (gm/cc) | sol G (kJ) | sol H (kJ) | sol S (J/K) | sol V (cc) | sol Cp (J/K) | sys G (kJ) | sys H (kJ) | sys S (J/K) | sys V (cc) | sys Cp (J/K) | sys dVdT (cc/K) | sys dVdP (cc/bar) | sys alpha (1/K) | sys beta (1/bar) | liq dVdT (cc/K) | liq dVdP (cc/bar) | liq alpha (1/K) | liq beta (1/bar) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1.0 | 1275.78 | 0.0 | -11.490 | 99.406289 | 2.8534 | 48.3873 | 1.8809 | 9.3242 | 0.4839 | 0.4869 | 19.8817 | 0.2515 | 9.2339 | 0 | 0 | 9.7479 | 0.3219 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1504.578531 | -1092.713979 | 265.902410 | 34.838363 | 144.632338 | 0.566146 | 0.036830 | 0.007719 | 0.000311 | 0.007570 | 0.180278 | 0.005100 | 0.057527 | 0.0 | 0.0 | 0.096884 | 0.000024 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5594 | 0.011103 | 4.5934 | -0.116371 | -0.080294 | 0.023292 | 0.002417 | 0.010916 | -1504.694903 | -1092.794273 | 265.925702 | 34.840780 | 144.643255 | 0.002417 | -0.000180 | 0.000069 | 0.000005 | 0.002417 | -0.000180 | 0.000069 | 0.000005 |
| 2.0 | 1270.78 | 0.0 | -11.541 | 99.387711 | 2.8542 | 48.3963 | 1.8809 | 9.324 | 0.4848 | 0.4768 | 19.8799 | 0.2515 | 9.2341 | 0 | 0 | 9.7497 | 0.3220 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1503.056787 | -1093.308854 | 265.392603 | 34.821529 | 144.604220 | 0.566800 | 0.036889 | 0.007654 | 0.000309 | 0.007436 | 0.180444 | 0.005107 | 0.057391 | 0.0 | 0.0 | 0.096678 | 0.000024 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5785 | 0.020709 | 4.5927 | -0.216950 | -0.149939 | 0.043403 | 0.004509 | 0.020359 | -1503.368948 | -1093.524597 | 265.455053 | 34.828017 | 144.633517 | 0.002416 | -0.000180 | 0.000069 | 0.000005 | 0.002416 | -0.000180 | 0.000069 | 0.000005 |
| 3.0 | 1265.78 | 0.0 | -11.592 | 99.369415 | 2.8551 | 48.4052 | 1.8808 | 9.3238 | 0.4857 | 0.467 | 19.8782 | 0.2516 | 9.2343 | 0 | 0 | 9.7515 | 0.3220 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1501.540661 | -1093.905372 | 264.882066 | 34.804779 | 144.576555 | 0.567458 | 0.036947 | 0.007590 | 0.000308 | 0.007304 | 0.180609 | 0.005113 | 0.057255 | 0.0 | 0.0 | 0.096471 | 0.000023 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5978 | 0.020428 | 4.5920 | -0.213912 | -0.148084 | 0.042775 | 0.004448 | 0.020082 | -1502.045395 | -1094.254789 | 264.982991 | 34.815278 | 144.623947 | 0.002415 | -0.000180 | 0.000069 | 0.000005 | 0.002415 | -0.000180 | 0.000069 | 0.000005 |
| 4.0 | 1260.78 | 0.0 | -11.644 | 99.351394 | 2.8559 | 48.414 | 1.8807 | 9.3235 | 0.4866 | 0.4573 | 19.8764 | 0.2516 | 9.2345 | 0 | 0 | 9.7533 | 0.3221 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1500.030077 | -1094.503489 | 264.370771 | 34.788112 | 144.549330 | 0.568120 | 0.037006 | 0.007525 | 0.000306 | 0.007175 | 0.180774 | 0.005119 | 0.057119 | 0.0 | 0.0 | 0.096264 | 0.000023 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6172 | 0.020154 | 4.5913 | -0.210957 | -0.146280 | 0.042164 | 0.004390 | 0.019812 | -1500.724249 | -1094.984852 | 264.509506 | 34.802562 | 144.614542 | 0.002414 | -0.000180 | 0.000069 | 0.000005 | 0.002414 | -0.000180 | 0.000069 | 0.000005 |
| 5.0 | 1255.78 | 0.0 | -11.696 | 99.333642 | 2.8568 | 48.4227 | 1.8806 | 9.3233 | 0.4876 | 0.4478 | 19.8746 | 0.2517 | 9.2347 | 0 | 0 | 9.7550 | 0.3221 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1498.524957 | -1095.103163 | 263.858688 | 34.771524 | 144.522536 | 0.568788 | 0.037065 | 0.007461 | 0.000304 | 0.007047 | 0.180938 | 0.005126 | 0.056981 | 0.0 | 0.0 | 0.096056 | 0.000022 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6367 | 0.019887 | 4.5905 | -0.208083 | -0.144526 | 0.041570 | 0.004332 | 0.019549 | -1499.405520 | -1095.714792 | 264.034585 | 34.789868 | 144.605298 | 0.002414 | -0.000180 | 0.000069 | 0.000005 | 0.002413 | -0.000180 | 0.000069 | 0.000005 |
| 6.0 | 1250.78 | 0.0 | -11.749 | 99.316151 | 2.8576 | 48.4312 | 1.8805 | 9.323 | 0.4886 | 0.4385 | 19.8727 | 0.2517 | 9.2349 | 0 | 0 | 9.7567 | 0.3222 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1497.025227 | -1095.704351 | 263.345788 | 34.755014 | 144.496160 | 0.569460 | 0.037123 | 0.007397 | 0.000302 | 0.006922 | 0.181102 | 0.005132 | 0.056843 | 0.0 | 0.0 | 0.095847 | 0.000022 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6564 | 0.019628 | 4.5898 | -0.205289 | -0.142821 | 0.040991 | 0.004277 | 0.019293 | -1498.089215 | -1096.444614 | 263.558215 | 34.777197 | 144.596211 | 0.002413 | -0.000180 | 0.000069 | 0.000005 | 0.002412 | -0.000180 | 0.000069 | 0.000005 |
| 7.0 | 1245.78 | 0.0 | -11.802 | 99.298914 | 2.8585 | 48.4396 | 1.8804 | 9.3227 | 0.4896 | 0.4293 | 19.8708 | 0.2518 | 9.235 | 0 | 0 | 9.7584 | 0.3223 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1495.530812 | -1096.307009 | 262.832042 | 34.738581 | 144.470193 | 0.570138 | 0.037182 | 0.007333 | 0.000301 | 0.006798 | 0.181265 | 0.005138 | 0.056704 | 0.0 | 0.0 | 0.095637 | 0.000022 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6761 | 0.019376 | 4.5889 | -0.202574 | -0.141166 | 0.040429 | 0.004222 | 0.019045 | -1496.775342 | -1097.174324 | 263.080385 | 34.764547 | 144.587277 | 0.002412 | -0.000180 | 0.000069 | 0.000005 | 0.002412 | -0.000180 | 0.000069 | 0.000005 |
| 8.0 | 1240.78 | 0.0 | -11.855 | 99.281924 | 2.8593 | 48.4479 | 1.8803 | 9.3224 | 0.4907 | 0.4203 | 19.8689 | 0.2518 | 9.2352 | 0 | 0 | 9.7601 | 0.3223 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1494.041639 | -1096.911096 | 262.317422 | 34.722222 | 144.444624 | 0.570820 | 0.037241 | 0.007269 | 0.000299 | 0.006677 | 0.181427 | 0.005145 | 0.056565 | 0.0 | 0.0 | 0.095426 | 0.000021 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6960 | 0.019131 | 4.5881 | -0.199939 | -0.139559 | 0.039883 | 0.004170 | 0.018803 | -1495.463911 | -1097.903927 | 262.601082 | 34.751918 | 144.578492 | 0.002411 | -0.000180 | 0.000069 | 0.000005 | 0.002411 | -0.000180 | 0.000069 | 0.000005 |
| 9.0 | 1235.78 | 0.0 | -11.908 | 99.265174 | 2.8602 | 48.4561 | 1.8802 | 9.3221 | 0.4917 | 0.4115 | 19.867 | 0.2519 | 9.2354 | 0 | 0 | 9.7617 | 0.3224 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1492.557636 | -1097.516568 | 261.801900 | 34.705934 | 144.419442 | 0.571507 | 0.037300 | 0.007206 | 0.000297 | 0.006557 | 0.181589 | 0.005151 | 0.056425 | 0.0 | 0.0 | 0.095215 | 0.000021 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7159 | 0.018893 | 4.5872 | -0.197381 | -0.138002 | 0.039352 | 0.004119 | 0.018568 | -1494.154929 | -1098.633427 | 262.120294 | 34.739310 | 144.569853 | 0.002410 | -0.000180 | 0.000069 | 0.000005 | 0.002410 | -0.000180 | 0.000069 | 0.000005 |
| 10.0 | 1230.78 | 0.0 | -11.962 | 98.539550 | 2.8614 | 48.4227 | 1.8932 | 9.3796 | 0.4941 | 0.4021 | 19.8982 | 0.2537 | 9.1094 | 0 | 0 | 9.8223 | 0.3247 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1479.855729 | -1089.755815 | 259.386799 | 34.437779 | 143.264680 | 0.571150 | 0.037476 | 0.007191 | 0.000298 | 0.006382 | 0.182490 | 0.005192 | 0.055270 | 0.0 | 0.0 | 0.095769 | 0.000021 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7407 | 0.727600 | 3.2969 | -11.414543 | -8.756822 | 1.767182 | 0.220689 | 0.903529 | -1492.845045 | -1099.615590 | 261.467707 | 34.691405 | 144.316588 | 0.002401 | -0.000179 | 0.000069 | 0.000005 | 0.002391 | -0.000179 | 0.000069 | 0.000005 |
| 11.0 | 1225.78 | 0.0 | -12.016 | 97.425922 | 2.8627 | 48.3665 | 1.9138 | 9.4702 | 0.4971 | 0.3923 | 19.9455 | 0.2566 | 8.9135 | 0 | 0 | 9.9161 | 0.3284 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1461.072763 | -1077.433757 | 255.941696 | 34.032387 | 141.494841 | 0.570182 | 0.037717 | 0.007203 | 0.000301 | 0.006178 | 0.183784 | 0.005254 | 0.053572 | 0.0 | 0.0 | 0.096753 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7684 | 1.117676 | 3.2923 | -17.540343 | -13.474983 | 2.712172 | 0.339479 | 1.388299 | -1491.536774 | -1100.732674 | 260.721831 | 34.624341 | 143.929947 | 0.002387 | -0.000177 | 0.000069 | 0.000005 | 0.002362 | -0.000177 | 0.000069 | 0.000005 |
| 12.0 | 1220.78 | 0.0 | -12.071 | 96.167427 | 2.8639 | 48.3114 | 1.9374 | 9.5699 | 0.4999 | 0.3823 | 19.979 | 0.26 | 8.714 | 0 | 0 | 10.0137 | 0.3325 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1440.311312 | -1063.643440 | 252.131999 | 33.579052 | 139.521905 | 0.569083 | 0.038005 | 0.007222 | 0.000303 | 0.005976 | 0.184971 | 0.005323 | 0.051881 | 0.0 | 0.0 | 0.097760 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7971 | 1.262499 | 3.2954 | -19.534931 | -14.964136 | 3.059575 | 0.383113 | 1.547635 | -1490.231204 | -1101.877589 | 259.954142 | 34.552895 | 143.498986 | 0.002371 | -0.000176 | 0.000069 | 0.000005 | 0.002330 | -0.000175 | 0.000069 | 0.000005 |
| 13.0 | 1215.78 | 0.0 | -12.126 | 94.881749 | 2.8651 | 48.2547 | 1.9621 | 9.6738 | 0.5028 | 0.3722 | 20.0108 | 0.2635 | 8.5086 | 0 | 0 | 10.1145 | 0.3369 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1419.200554 | -1049.554489 | 248.262682 | 33.116898 | 137.510259 | 0.567900 | 0.038301 | 0.007243 | 0.000306 | 0.005775 | 0.186171 | 0.005396 | 0.050170 | 0.0 | 0.0 | 0.098804 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8263 | 1.289697 | 3.2993 | -19.902939 | -15.259855 | 3.118400 | 0.390898 | 1.578034 | -1488.929305 | -1103.027490 | 259.180412 | 34.480328 | 143.059070 | 0.002355 | -0.000174 | 0.000068 | 0.000005 | 0.002298 | -0.000173 | 0.000069 | 0.000005 |
| 14.0 | 1210.78 | 0.0 | -12.181 | 93.611523 | 2.8662 | 48.1986 | 1.9872 | 9.7788 | 0.5057 | 0.3623 | 20.0397 | 0.2671 | 8.304 | 0 | 0 | 10.2153 | 0.3413 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1398.402874 | -1035.660299 | 244.447023 | 32.660931 | 135.526778 | 0.566694 | 0.038598 | 0.007263 | 0.000309 | 0.005577 | 0.187347 | 0.005469 | 0.048492 | 0.0 | 0.0 | 0.099844 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8558 | 1.274251 | 3.3038 | -19.609137 | -15.047846 | 3.073789 | 0.385698 | 1.556037 | -1487.631301 | -1104.168016 | 258.410412 | 34.408665 | 142.624654 | 0.002339 | -0.000172 | 0.000068 | 0.000005 | 0.002265 | -0.000171 | 0.000069 | 0.000005 |
| 15.0 | 1205.78 | 0.0 | -12.237 | 92.355519 | 2.8672 | 48.1431 | 2.0127 | 9.8847 | 0.5085 | 0.3523 | 20.0657 | 0.2707 | 8.1004 | 0 | 0 | 10.3161 | 0.3458 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1377.897872 | -1021.943474 | 240.683533 | 32.210705 | 130.837192 | 0.565465 | 0.038897 | 0.007283 | 0.000312 | 0.005384 | 0.188500 | 0.005544 | 0.046846 | 0.0 | 0.0 | 0.100877 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8857 | 1.260034 | 3.3082 | -19.335462 | -14.850959 | 3.032260 | 0.380880 | 1.535571 | -1486.337172 | -1105.296776 | 257.645780 | 34.337843 | 139.463001 | 0.002323 | -0.000170 | 0.000068 | 0.000005 | 0.002233 | -0.000169 | 0.000069 | 0.000005 |
| 16.0 | 1200.78 | 0.0 | -12.293 | 91.112105 | 2.8683 | 48.0881 | 2.0385 | 9.9917 | 0.5114 | 0.3424 | 20.0888 | 0.2744 | 7.8974 | 0 | 0 | 10.4168 | 0.3504 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1357.659047 | -1008.377343 | 236.972861 | 31.765632 | 128.940713 | 0.564214 | 0.039197 | 0.007303 | 0.000316 | 0.005195 | 0.189630 | 0.005619 | 0.045231 | 0.0 | 0.0 | 0.101905 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9158 | 1.247449 | 3.3127 | -19.087999 | -14.673927 | 2.994761 | 0.376566 | 1.517119 | -1485.046870 | -1106.406844 | 256.891240 | 34.267781 | 139.075340 | 0.002307 | -0.000169 | 0.000067 | 0.000005 | 0.002202 | -0.000167 | 0.000069 | 0.000005 |
| 17.0 | 1195.78 | 0.0 | -12.349 | 89.879854 | 2.8693 | 48.0337 | 2.0648 | 10.1 | 0.5142 | 0.3326 | 20.1089 | 0.2781 | 7.6951 | 0 | 0 | 10.5175 | 0.3550 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1337.663252 | -994.956098 | 233.303740 | 31.325200 | 127.065010 | 0.562939 | 0.039499 | 0.007322 | 0.000319 | 0.005009 | 0.190737 | 0.005696 | 0.043647 | 0.0 | 0.0 | 0.102926 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9463 | 1.236291 | 3.3172 | -18.863434 | -14.514268 | 2.960769 | 0.372691 | 1.500416 | -1483.760368 | -1107.509687 | 256.139068 | 34.198406 | 138.691092 | 0.002292 | -0.000167 | 0.000067 | 0.000005 | 0.002171 | -0.000165 | 0.000069 | 0.000005 |
| 18.0 | 1190.78 | 0.0 | -12.406 | 88.657485 | 2.8702 | 47.9797 | 2.0915 | 10.2097 | 0.5171 | 0.3228 | 20.1261 | 0.282 | 7.4933 | 0 | 0 | 10.6181 | 0.3597 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1317.889707 | -981.664712 | 229.672667 | 30.888948 | 125.208106 | 0.561641 | 0.039805 | 0.007342 | 0.000322 | 0.004827 | 0.191821 | 0.005774 | 0.042091 | 0.0 | 0.0 | 0.103940 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9771 | 1.226414 | 3.3217 | -18.659437 | -14.370247 | 2.929913 | 0.369211 | 1.485276 | -1482.477656 | -1108.605824 | 255.388928 | 34.129652 | 138.309845 | 0.002276 | -0.000165 | 0.000067 | 0.000005 | 0.002140 | -0.000163 | 0.000069 | 0.000005 |
| 19.0 | 1185.78 | 0.0 | -12.463 | 87.443648 | 2.8711 | 47.9263 | 2.1188 | 10.3208 | 0.5199 | 0.313 | 20.1404 | 0.2859 | 7.2918 | 0 | 0 | 10.7186 | 0.3645 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1298.316718 | -968.487388 | 226.075993 | 30.456392 | 123.367931 | 0.560321 | 0.040115 | 0.007361 | 0.000326 | 0.004649 | 0.192883 | 0.005853 | 0.040563 | 0.0 | 0.0 | 0.104945 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0083 | 1.217886 | 3.3262 | -18.476935 | -14.242644 | 2.902324 | 0.366145 | 1.471768 | -1481.198723 | -1109.695791 | 254.640465 | 34.061451 | 137.931162 | 0.002260 | -0.000163 | 0.000066 | 0.000005 | 0.002109 | -0.000161 | 0.000069 | 0.000005 |
| 20.0 | 1180.78 | 0.0 | -12.521 | 86.236902 | 2.872 | 47.8733 | 2.1465 | 10.4336 | 0.5227 | 0.3033 | 20.1516 | 0.2899 | 7.0907 | 0 | 0 | 10.8189 | 0.3694 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1278.921293 | -955.407254 | 222.509860 | 30.027017 | 121.542285 | 0.558979 | 0.040429 | 0.007380 | 0.000330 | 0.004473 | 0.193924 | 0.005933 | 0.039063 | 0.0 | 0.0 | 0.105941 | 0.000020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0398 | 1.210798 | 3.3308 | -18.317249 | -14.132551 | 2.878196 | 0.363519 | 1.459990 | -1479.923564 | -1110.780151 | 253.893307 | 33.993729 | 137.554574 | 0.002245 | -0.000162 | 0.000066 | 0.000005 | 0.002078 | -0.000159 | 0.000069 | 0.000005 |
| 21.0 | 1175.78 | 0.0 | -12.579 | 85.035680 | 2.8728 | 47.8208 | 2.1749 | 10.5481 | 0.5255 | 0.2937 | 20.1599 | 0.294 | 6.8898 | 0 | 0 | 10.9189 | 0.3744 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1259.678608 | -942.405966 | 218.970115 | 29.600266 | 119.728787 | 0.557614 | 0.040749 | 0.007399 | 0.000334 | 0.004301 | 0.194945 | 0.006016 | 0.037588 | 0.0 | 0.0 | 0.106926 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0717 | 1.205276 | 3.3353 | -18.182225 | -14.041474 | 2.857797 | 0.361371 | 1.450081 | -1478.652173 | -1111.859506 | 253.147047 | 33.926406 | 137.179569 | 0.002230 | -0.000160 | 0.000066 | 0.000005 | 0.002048 | -0.000157 | 0.000069 | 0.000005 |
| 22.0 | 1170.78 | 0.0 | -12.637 | 83.838244 | 2.8736 | 47.7687 | 2.204 | 10.6645 | 0.5282 | 0.2841 | 20.1652 | 0.2982 | 6.6889 | 0 | 0 | 11.0186 | 0.3795 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1240.561298 | -929.463143 | 215.452193 | 29.175521 | 117.924804 | 0.556229 | 0.041077 | 0.007418 | 0.000338 | 0.004132 | 0.195947 | 0.006099 | 0.036139 | 0.0 | 0.0 | 0.107898 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1040 | 1.201494 | 3.3398 | -18.074427 | -13.971494 | 2.841502 | 0.359752 | 1.442231 | -1477.384546 | -1112.934509 | 252.401239 | 33.859393 | 136.805576 | 0.002214 | -0.000158 | 0.000065 | 0.000005 | 0.002018 | -0.000155 | 0.000069 | 0.000005 |
| 23.0 | 1165.78 | 0.0 | -12.696 | 82.642613 | 2.8743 | 47.717 | 2.2338 | 10.7832 | 0.531 | 0.2745 | 20.1676 | 0.3025 | 6.4879 | 0 | 0 | 11.1177 | 0.3848 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1221.538432 | -916.555584 | 211.950952 | 28.752080 | 116.127354 | 0.554825 | 0.041413 | 0.007438 | 0.000342 | 0.003966 | 0.196931 | 0.006185 | 0.034714 | 0.0 | 0.0 | 0.108854 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1367 | 1.199690 | 3.3442 | -17.997438 | -13.925501 | 2.829835 | 0.358733 | 1.436708 | -1476.120682 | -1114.005895 | 251.655378 | 33.792592 | 136.431940 | 0.002199 | -0.000157 | 0.000065 | 0.000005 | 0.001988 | -0.000153 | 0.000069 | 0.000005 |
| 24.0 | 1160.78 | 0.0 | -12.755 | 81.446472 | 2.875 | 47.6657 | 2.2644 | 10.9043 | 0.5337 | 0.265 | 20.1672 | 0.307 | 6.2865 | 0 | 0 | 11.2161 | 0.3902 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1202.574022 | -903.656102 | 208.460426 | 28.329126 | 114.332962 | 0.553402 | 0.041760 | 0.007459 | 0.000346 | 0.003802 | 0.197902 | 0.006273 | 0.033311 | 0.0 | 0.0 | 0.109791 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1699 | 1.200201 | 3.3486 | -17.956345 | -13.907582 | 2.823540 | 0.358415 | 1.433891 | -1474.860582 | -1115.074506 | 250.908875 | 33.725884 | 136.057892 | 0.002183 | -0.000155 | 0.000065 | 0.000005 | 0.001957 | -0.000151 | 0.000069 | 0.000005 |
| 25.0 | 1155.78 | 0.0 | -12.815 | 80.247021 | 2.8757 | 47.6147 | 2.2959 | 11.0281 | 0.5364 | 0.2555 | 20.1641 | 0.3115 | 6.0845 | 0 | 0 | 11.3136 | 0.3957 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1183.624704 | -890.731731 | 204.973453 | 27.905670 | 112.537431 | 0.551962 | 0.042121 | 0.007481 | 0.000350 | 0.003641 | 0.198864 | 0.006363 | 0.031929 | 0.0 | 0.0 | 0.110706 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2035 | 1.203512 | 3.3529 | -17.958545 | -13.923674 | 2.823699 | 0.358944 | 1.434331 | -1473.604247 | -1116.141350 | 250.161019 | 33.659127 | 135.682491 | 0.002168 | -0.000154 | 0.000064 | 0.000005 | 0.001927 | -0.000149 | 0.000069 | 0.000005 |
| 26.0 | 1150.78 | 0.0 | -12.875 | 79.040727 | 2.8763 | 47.5638 | 2.3285 | 11.1552 | 0.539 | 0.2461 | 20.1584 | 0.3163 | 5.8815 | 0 | 0 | 11.4097 | 0.4014 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1164.635968 | -877.740787 | 201.481062 | 27.480465 | 110.735484 | 0.550509 | 0.042498 | 0.007504 | 0.000355 | 0.003483 | 0.199821 | 0.006456 | 0.030566 | 0.0 | 0.0 | 0.111591 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2377 | 1.210353 | 3.3571 | -18.015219 | -13.982730 | 2.831941 | 0.360540 | 1.438856 | -1472.351683 | -1117.207684 | 249.410917 | 33.592141 | 135.304547 | 0.002152 | -0.000152 | 0.000064 | 0.000005 | 0.001897 | -0.000147 | 0.000069 | 0.000005 |
| 27.0 | 1145.78 | 0.0 | -12.936 | 77.822900 | 2.8768 | 47.5131 | 2.3624 | 11.286 | 0.5416 | 0.2366 | 20.1506 | 0.3212 | 5.6771 | 0 | 0 | 11.5039 | 0.4074 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1145.535512 | -864.627709 | 197.971398 | 27.051858 | 108.920116 | 0.549047 | 0.042898 | 0.007529 | 0.000360 | 0.003326 | 0.200785 | 0.006552 | 0.029220 | 0.0 | 0.0 | 0.112438 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2724 | 1.221883 | 3.3610 | -18.144196 | -14.099020 | 2.850861 | 0.363552 | 1.448787 | -1471.102896 | -1118.275167 | 248.657381 | 33.524689 | 134.922462 | 0.002136 | -0.000150 | 0.000064 | 0.000004 | 0.001866 | -0.000145 | 0.000069 | 0.000005 |
| 28.0 | 1140.78 | 0.0 | -12.997 | 76.586862 | 2.8773 | 47.4622 | 2.3977 | 11.4214 | 0.5441 | 0.2272 | 20.1413 | 0.3264 | 5.4707 | 0 | 0 | 11.5953 | 0.4135 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1126.220267 | -851.312961 | 194.427632 | 26.617489 | 107.081353 | 0.547584 | 0.043326 | 0.007557 | 0.000364 | 0.003170 | 0.201771 | 0.006651 | 0.027887 | 0.0 | 0.0 | 0.113234 | 0.000019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3077 | 1.240089 | 3.3645 | -18.376291 | -14.297206 | 2.884924 | 0.368583 | 1.466397 | -1469.857891 | -1119.346154 | 247.898713 | 33.456428 | 134.533941 | 0.002120 | -0.000149 | 0.000063 | 0.000004 | 0.001835 | -0.000143 | 0.000069 | 0.000005 |
| 29.0 | 1135.78 | 0.0 | -13.058 | 75.322055 | 2.8778 | 47.411 | 2.4349 | 11.5627 | 0.5466 | 0.2178 | 20.1318 | 0.3319 | 5.261 | 0 | 0 | 11.6823 | 0.4200 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1106.526705 | -837.669928 | 190.823205 | 26.173620 | 105.203395 | 0.546134 | 0.043794 | 0.007588 | 0.000369 | 0.003015 | 0.202807 | 0.006756 | 0.026563 | 0.0 | 0.0 | 0.113954 | 0.000018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3437 | 1.268850 | 3.3673 | -18.772022 | -14.625750 | 2.942849 | 0.376812 | 1.496124 | -1468.616672 | -1120.424391 | 247.132202 | 33.386816 | 134.135306 | 0.002104 | -0.000147 | 0.000063 | 0.000004 | 0.001804 | -0.000141 | 0.000069 | 0.000005 |
| 30.0 | 1130.78 | 0.0 | -13.120 | 74.008366 | 2.8782 | 47.3585 | 2.4747 | 11.7123 | 0.5489 | 0.2083 | 20.1249 | 0.3378 | 5.0464 | 0 | 0 | 11.7612 | 0.4269 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1086.140773 | -823.454722 | 187.107488 | 25.713092 | 103.256026 | 0.544731 | 0.044326 | 0.007627 | 0.000374 | 0.002858 | 0.203954 | 0.006866 | 0.025238 | 0.0 | 0.0 | 0.114548 | 0.000018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3806 | 1.317715 | 3.3688 | -19.481986 | -15.205440 | 3.046123 | 0.391157 | 1.548917 | -1467.379213 | -1121.517127 | 246.352581 | 33.314808 | 133.719419 | 0.002087 | -0.000145 | 0.000063 | 0.000004 | 0.001771 | -0.000139 | 0.000069 | 0.000005 |
| 31.0 | 1125.78 | 0.0 | -13.182 | 72.379104 | 2.8793 | 47.2949 | 2.5239 | 11.8962 | 0.5506 | 0.1988 | 20.1997 | 0.3454 | 4.8153 | 0 | 0 | 11.7400 | 0.4353 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1060.653199 | -805.203422 | 182.603525 | 25.137724 | 100.827352 | 0.544442 | 0.045321 | 0.007709 | 0.000374 | 0.002676 | 0.206561 | 0.006998 | 0.023887 | 0.0 | 0.0 | 0.113769 | 0.000018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4185 | 1.633176 | 3.3411 | -24.599925 | -19.365309 | 3.741868 | 0.488815 | 1.905967 | -1466.143839 | -1122.740517 | 245.475481 | 33.225527 | 133.178674 | 0.002066 | -0.000143 | 0.000062 | 0.000004 | 0.001729 | -0.000137 | 0.000069 | 0.000005 |
| 32.0 | 1120.78 | 0.0 | -13.245 | 70.561069 | 2.8808 | 47.2262 | 2.5793 | 12.1031 | 0.5516 | 0.189 | 20.3377 | 0.3543 | 4.5773 | 0 | 0 | 11.6367 | 0.4448 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1032.097906 | -784.482684 | 177.638045 | 24.493393 | 98.110770 | 0.545094 | 0.046691 | 0.007821 | 0.000370 | 0.002478 | 0.210339 | 0.007145 | 0.022551 | 0.0 | 0.0 | 0.111883 | 0.000017 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4571 | 1.824146 | 3.3286 | -27.723707 | -21.933947 | 4.153548 | 0.548021 | 2.118238 | -1464.910930 | -1124.045718 | 244.535167 | 33.125719 | 132.558579 | 0.002043 | -0.000141 | 0.000062 | 0.000004 | 0.001683 | -0.000134 | 0.000069 | 0.000005 |
| 33.0 | 1115.78 | 0.0 | -13.308 | 68.803304 | 2.8822 | 47.1627 | 2.6349 | 12.3093 | 0.5525 | 0.179 | 20.4657 | 0.3634 | 4.3435 | 0 | 0 | 11.5347 | 0.4544 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1004.600368 | -764.531085 | 172.844612 | 23.871899 | 95.491409 | 0.545713 | 0.048084 | 0.007931 | 0.000366 | 0.002287 | 0.214062 | 0.007295 | 0.021258 | 0.0 | 0.0 | 0.110025 | 0.000017 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4965 | 1.763912 | 3.3366 | -26.691152 | -21.126989 | 4.006076 | 0.528661 | 2.043253 | -1463.682244 | -1125.324680 | 243.610016 | 33.029292 | 131.959479 | 0.002020 | -0.000139 | 0.000061 | 0.000004 | 0.001638 | -0.000131 | 0.000069 | 0.000006 |
| 34.0 | 1110.78 | 0.0 | -13.371 | 67.100955 | 2.8834 | 47.1045 | 2.6905 | 12.5152 | 0.5532 | 0.1687 | 20.5833 | 0.3726 | 4.1138 | 0 | 0 | 11.4341 | 0.4641 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -978.081551 | -745.290428 | 168.210034 | 23.271486 | 92.961788 | 0.546303 | 0.049501 | 0.008038 | 0.000363 | 0.002103 | 0.217725 | 0.007447 | 0.020006 | 0.0 | 0.0 | 0.108193 | 0.000016 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5367 | 1.708532 | 3.3448 | -25.736756 | -20.380739 | 3.870147 | 0.510803 | 1.974065 | -1462.458863 | -1126.578445 | 242.700219 | 32.935976 | 131.380000 | 0.001997 | -0.000137 | 0.000061 | 0.000004 | 0.001595 | -0.000129 | 0.000069 | 0.000006 |
| 35.0 | 1105.78 | 0.0 | -13.435 | 65.449526 | 2.8844 | 47.0519 | 2.7463 | 12.7208 | 0.5538 | 0.1582 | 20.6901 | 0.382 | 3.8883 | 0 | 0 | 11.3348 | 0.4740 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -952.468684 | -726.707121 | 163.722131 | 22.690534 | 90.515005 | 0.546865 | 0.050943 | 0.008141 | 0.000360 | 0.001925 | 0.221323 | 0.007601 | 0.018794 | 0.0 | 0.0 | 0.106386 | 0.000016 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5777 | 1.657647 | 3.3533 | -24.854324 | -19.690408 | 3.744868 | 0.494330 | 1.910222 | -1461.240736 | -1127.808999 | 241.804468 | 32.845544 | 130.818601 | 0.001976 | -0.000135 | 0.000060 | 0.000004 | 0.001553 | -0.000126 | 0.000068 | 0.000006 |
| 36.0 | 1100.78 | 0.0 | -13.500 | 63.844823 | 2.8853 | 47.0052 | 2.8021 | 12.9263 | 0.5542 | 0.1474 | 20.7858 | 0.3916 | 3.6669 | 0 | 0 | 11.2365 | 0.4840 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -927.694325 | -708.731485 | 159.369576 | 22.127541 | 88.144640 | 0.547403 | 0.052412 | 0.008242 | 0.000357 | 0.001754 | 0.224851 | 0.007759 | 0.017622 | 0.0 | 0.0 | 0.104605 | 0.000015 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6195 | 1.610957 | 3.3622 | -24.038589 | -19.051926 | 3.629485 | 0.479143 | 1.851344 | -1460.027822 | -1129.018191 | 240.921539 | 32.757781 | 130.273843 | 0.001954 | -0.000133 | 0.000060 | 0.000004 | 0.001512 | -0.000124 | 0.000068 | 0.000006 |
| 37.0 | 1095.78 | 0.0 | -13.565 | 62.282876 | 2.886 | 46.9648 | 2.8578 | 13.132 | 0.5544 | 0.1365 | 20.8699 | 0.4014 | 3.4498 | 0 | 0 | 11.1392 | 0.4942 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -903.695272 | -691.316951 | 155.141700 | 21.581098 | 85.844643 | 0.547919 | 0.053907 | 0.008340 | 0.000355 | 0.001589 | 0.228304 | 0.007920 | 0.016488 | 0.0 | 0.0 | 0.102847 | 0.000015 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6624 | 1.568238 | 3.3714 | -23.285375 | -18.462060 | 3.523417 | 0.465166 | 1.797133 | -1458.820095 | -1130.207773 | 240.050275 | 32.672493 | 129.744358 | 0.001933 | -0.000131 | 0.000059 | 0.000004 | 0.001473 | -0.000122 | 0.000068 | 0.000006 |
| 38.0 | 1090.78 | 0.0 | -13.630 | 60.759820 | 2.8865 | 46.9312 | 2.9134 | 13.3381 | 0.5545 | 0.1254 | 20.9418 | 0.4115 | 3.2369 | 0 | 0 | 11.0428 | 0.5046 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -880.410976 | -674.418897 | 151.028198 | 21.049850 | 83.609167 | 0.548418 | 0.055429 | 0.008435 | 0.000353 | 0.001429 | 0.231676 | 0.008085 | 0.015392 | 0.0 | 0.0 | 0.101111 | 0.000014 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7062 | 1.529383 | 3.3809 | -22.592085 | -17.918786 | 3.426345 | 0.452354 | 1.747418 | -1457.617543 | -1131.379441 | 239.189550 | 32.589492 | 129.228801 | 0.001913 | -0.000129 | 0.000059 | 0.000004 | 0.001434 | -0.000120 | 0.000068 | 0.000006 |
| 39.0 | 1085.78 | 0.0 | -13.696 | 59.271662 | 2.8867 | 46.905 | 2.9686 | 13.5449 | 0.5544 | 0.114 | 21.0008 | 0.4218 | 3.0283 | 0 | 0 | 10.9470 | 0.5152 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -857.780531 | -657.992434 | 147.018547 | 20.532430 | 81.432227 | 0.548905 | 0.056976 | 0.008528 | 0.000352 | 0.001274 | 0.234962 | 0.008255 | 0.014333 | 0.0 | 0.0 | 0.099396 | 0.000014 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7513 | 1.494524 | 3.3911 | -21.959139 | -17.422394 | 3.338465 | 0.440725 | 1.702276 | -1456.420174 | -1132.534932 | 238.338210 | 32.508597 | 128.725767 | 0.001892 | -0.000127 | 0.000058 | 0.000004 | 0.001396 | -0.000117 | 0.000068 | 0.000006 |
| 40.0 | 1080.78 | 0.0 | -13.763 | 57.813649 | 2.8867 | 46.8876 | 3.0229 | 13.7531 | 0.5541 | 0.1023 | 21.0461 | 0.4324 | 2.8239 | 0 | 0 | 10.8515 | 0.5260 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -835.734872 | -641.986678 | 143.100467 | 20.027278 | 79.306820 | 0.549384 | 0.058543 | 0.008618 | 0.000350 | 0.001123 | 0.238156 | 0.008431 | 0.013310 | 0.0 | 0.0 | 0.097701 | 0.000013 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7977 | 1.464424 | 3.4020 | -21.394771 | -16.979139 | 3.261341 | 0.430461 | 1.662435 | -1455.228035 | -1133.676268 | 237.494900 | 32.429616 | 128.233548 | 0.001872 | -0.000126 | 0.000058 | 0.000004 | 0.001359 | -0.000115 | 0.000068 | 0.000006 |
| 41.0 | 1075.78 | 0.0 | -13.830 | 56.377921 | 2.8864 | 46.8816 | 3.0751 | 13.9636 | 0.5535 | 0.0901 | 21.0757 | 0.4434 | 2.6237 | 0 | 0 | 10.7561 | 0.5372 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -814.168228 | -626.323832 | 139.254240 | 19.531973 | 77.221654 | 0.549864 | 0.060115 | 0.008706 | 0.000350 | 0.000973 | 0.241257 | 0.008615 | 0.012322 | 0.0 | 0.0 | 0.096025 | 0.000013 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8460 | 1.442192 | 3.4147 | -20.935817 | -16.617119 | 3.201570 | 0.422348 | 1.631025 | -1454.041273 | -1134.806677 | 236.657425 | 32.352282 | 127.749264 | 0.001852 | -0.000124 | 0.000057 | 0.000004 | 0.001322 | -0.000113 | 0.000068 | 0.000006 |
| 42.0 | 1070.78 | 0.0 | -13.897 | 54.944459 | 2.8856 | 46.8951 | 3.1208 | 14.1801 | 0.5526 | 0.0765 | 21.0847 | 0.455 | 2.4266 | 0 | 0 | 10.6598 | 0.5489 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -792.828194 | -610.818541 | 135.430777 | 19.040683 | 75.148579 | 0.550366 | 0.061629 | 0.008794 | 0.000350 | 0.000815 | 0.244273 | 0.008812 | 0.011366 | 0.0 | 0.0 | 0.094369 | 0.000012 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8973 | 1.440006 | 3.4326 | -20.729257 | -16.448698 | 3.185103 | 0.419505 | 1.620458 | -1452.860350 | -1135.934201 | 235.820210 | 32.276031 | 127.265529 | 0.001831 | -0.000122 | 0.000057 | 0.000004 | 0.001284 | -0.000111 | 0.000067 | 0.000006 |
| 43.0 | 1065.78 | 0.0 | -13.965 | 53.485352 | 2.884 | 46.9414 | 3.153 | 14.4075 | 0.5511 | 0.0607 | 21.0647 | 0.4674 | 2.2313 | 0 | 0 | 10.5615 | 0.5614 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -771.370536 | -595.217848 | 131.562160 | 18.545444 | 73.048687 | 0.550930 | 0.062983 | 0.008883 | 0.000352 | 0.000640 | 0.247214 | 0.009031 | 0.010439 | 0.0 | 0.0 | 0.092740 | 0.000012 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9538 | 1.465770 | 3.4578 | -20.867291 | -16.544823 | 3.228297 | 0.423899 | 1.638648 | -1451.686050 | -1137.070054 | 234.975467 | 32.200136 | 126.771892 | 0.001809 | -0.000120 | 0.000056 | 0.000004 | 0.001245 | -0.000109 | 0.000067 | 0.000006 |
| 44.0 | 1060.78 | 0.0 | -14.033 | 51.997997 | 2.8815 | 47.0259 | 3.1682 | 14.6475 | 0.549 | 0.0441 | 21.0118 | 0.4808 | 2.0382 | 0 | 0 | 10.4598 | 0.5748 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -749.767754 | -579.502235 | 127.641900 | 18.045701 | 70.918745 | 0.551579 | 0.064114 | 0.008973 | 0.000356 | 0.000463 | 0.250060 | 0.009277 | 0.009539 | 0.0 | 0.0 | 0.091140 | 0.000011 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0163 | 1.494140 | 3.4837 | -21.033105 | -16.662686 | 3.276345 | 0.428899 | 1.659156 | -1450.518683 | -1138.215648 | 234.122287 | 32.124646 | 126.267049 | 0.001784 | -0.000119 | 0.000056 | 0.000004 | 0.001205 | -0.000107 | 0.000067 | 0.000006 |
| 45.0 | 1055.78 | 0.0 | -14.102 | 50.495416 | 2.878 | 47.148 | 3.1655 | 14.8994 | 0.5462 | 0.0288 | 20.9253 | 0.4951 | 1.8488 | 0 | 0 | 10.3539 | 0.5891 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -728.184541 | -563.793938 | 123.701360 | 17.545385 | 68.777212 | 0.552322 | 0.064999 | 0.009065 | 0.000362 | 0.000302 | 0.252774 | 0.009550 | 0.008671 | 0.0 | 0.0 | 0.089568 | 0.000011 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0848 | 1.509465 | 3.5067 | -21.034296 | -16.654360 | 3.295834 | 0.430449 | 1.665867 | -1449.357909 | -1139.366709 | 233.263534 | 32.050044 | 125.755814 | 0.001758 | -0.000117 | 0.000055 | 0.000004 | 0.001163 | -0.000105 | 0.000066 | 0.000006 |
| 46.0 | 1050.78 | 0.0 | -14.172 | 48.992880 | 2.8737 | 47.3053 | 3.1455 | 15.1617 | 0.5427 | 0.0163 | 20.8062 | 0.5103 | 1.6647 | 0 | 0 | 10.2431 | 0.6042 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -706.810184 | -548.233243 | 119.777324 | 17.048988 | 66.645343 | 0.553161 | 0.065632 | 0.009157 | 0.000370 | 0.000172 | 0.255325 | 0.009852 | 0.007835 | 0.0 | 0.0 | 0.088025 | 0.000010 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1589 | 1.509506 | 3.5269 | -20.846076 | -16.500538 | 3.282299 | 0.427995 | 1.656661 | -1448.203304 | -1140.518335 | 232.402527 | 31.976820 | 125.243996 | 0.001732 | -0.000115 | 0.000054 | 0.000004 | 0.001121 | -0.000103 | 0.000066 | 0.000006 |
| 47.0 | 1045.78 | 0.0 | -14.242 | 47.502636 | 2.8685 | 47.4964 | 3.1089 | 15.4328 | 0.5386 | 0.0074 | 20.655 | 0.5263 | 1.4874 | 0 | 0 | 10.1273 | 0.6200 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -685.794072 | -532.930993 | 115.899202 | 16.560071 | 64.539921 | 0.554098 | 0.066011 | 0.009249 | 0.000380 | 0.000079 | 0.257688 | 0.010181 | 0.007035 | 0.0 | 0.0 | 0.086510 | 0.000010 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2386 | 1.497287 | 3.5452 | -20.508225 | -16.231597 | 3.242495 | 0.422344 | 1.634824 | -1447.054665 | -1141.666753 | 231.541949 | 31.905342 | 124.736067 | 0.001704 | -0.000113 | 0.000053 | 0.000004 | 0.001078 | -0.000101 | 0.000065 | 0.000006 |
| 48.0 | 1040.78 | 0.0 | -14.312 | 45.501852 | 2.8606 | 47.922 | 2.937 | 15.6207 | 0.5352 | 0.0051 | 20.5426 | 0.5494 | 1.2791 | 0 | 0 | 9.9649 | 0.6440 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -657.318511 | -511.765893 | 110.776434 | 15.906214 | 61.692384 | 0.557459 | 0.064160 | 0.009202 | 0.000396 | 0.000056 | 0.262523 | 0.010755 | 0.006091 | 0.0 | 0.0 | 0.085244 | 0.000009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3457 | 2.007570 | 3.5701 | -27.981459 | -22.327562 | 4.303039 | 0.562334 | 2.195468 | -1445.905694 | -1143.055924 | 230.491336 | 31.808830 | 124.046036 | 0.001664 | -0.000111 | 0.000052 | 0.000003 | 0.001017 | -0.000098 | 0.000064 | 0.000006 |
| 49.0 | 1035.78 | 0.0 | -14.383 | 43.577042 | 2.8523 | 48.372 | 2.7594 | 15.8085 | 0.5313 | 0.0037 | 20.4098 | 0.5737 | 1.0833 | 0 | 0 | 9.7892 | 0.6692 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -630.024919 | -491.460964 | 105.860377 | 15.278005 | 58.962513 | 0.560959 | 0.062136 | 0.009154 | 0.000413 | 0.000041 | 0.267368 | 0.011375 | 0.005203 | 0.0 | 0.0 | 0.083884 | 0.000009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4571 | 1.931622 | 3.5763 | -26.825828 | -21.428344 | 4.123581 | 0.540115 | 2.106401 | -1444.770702 | -1144.368061 | 229.502231 | 31.715273 | 123.382411 | 0.001625 | -0.000108 | 0.000051 | 0.000003 | 0.000959 | -0.000095 | 0.000063 | 0.000006 |
| 50.0 | 1030.78 | 0.0 | -14.455 | 41.800000 | 2.8437 | 48.8223 | 2.5888 | 15.9961 | 0.527 | 0.0028 | 20.2451 | 0.5981 | 0.906 | 0 | 0 | 9.6192 | 0.6945 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -604.964346 | -472.843128 | 101.325294 | 14.699139 | 56.454595 | 0.564258 | 0.060073 | 0.009108 | 0.000431 | 0.000032 | 0.271712 | 0.012014 | 0.004393 | 0.0 | 0.0 | 0.082575 | 0.000008 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.5695 | 1.783872 | 3.5846 | -24.616845 | -19.669695 | 3.794027 | 0.497642 | 1.939282 | -1443.636480 | -1145.623810 | 228.549373 | 31.628521 | 122.772661 | 0.001590 | -0.000106 | 0.000050 | 0.000003 | 0.000905 | -0.000092 | 0.000062 | 0.000006 |
| 51.0 | 1025.78 | 0.0 | -14.527 | 40.158924 | 2.835 | 49.2719 | 2.4255 | 16.1835 | 0.5223 | 0.0023 | 20.0496 | 0.6225 | 0.7471 | 0 | 0 | 9.4553 | 0.7199 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -581.950197 | -455.771952 | 97.140049 | 14.165634 | 54.150041 | 0.567368 | 0.057979 | 0.009066 | 0.000450 | 0.000027 | 0.275524 | 0.012671 | 0.003661 | 0.0 | 0.0 | 0.081319 | 0.000008 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.6826 | 1.647923 | 3.5932 | -22.592624 | -18.057206 | 3.491654 | 0.458620 | 1.785838 | -1442.505543 | -1146.830319 | 227.629618 | 31.548071 | 122.212067 | 0.001558 | -0.000104 | 0.000049 | 0.000003 | 0.000857 | -0.000090 | 0.000060 | 0.000006 |
| 52.0 | 1020.78 | 0.0 | -14.600 | 38.643064 | 2.826 | 49.7199 | 2.2694 | 16.3707 | 0.5174 | 0.002 | 19.8244 | 0.6469 | 0.6062 | 0 | 0 | 9.2978 | 0.7454 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -560.813751 | -440.120657 | 93.276280 | 13.673887 | 52.031963 | 0.570296 | 0.055858 | 0.009026 | 0.000471 | 0.000025 | 0.278772 | 0.013345 | 0.003004 | 0.0 | 0.0 | 0.080117 | 0.000007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.7964 | 1.522729 | 3.6022 | -20.735454 | -16.576732 | 3.214021 | 0.422727 | 1.644821 | -1441.378945 | -1147.990723 | 226.741739 | 31.473446 | 121.696160 | 0.001528 | -0.000102 | 0.000049 | 0.000003 | 0.000812 | -0.000087 | 0.000059 | 0.000006 |
| 53.0 | 1015.78 | 0.0 | -14.673 | 37.242653 | 2.817 | 50.1657 | 2.1201 | 16.5576 | 0.5121 | 0.0019 | 19.5704 | 0.6713 | 0.4828 | 0 | 0 | 9.1473 | 0.7708 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -541.402438 | -425.774694 | 89.708233 | 13.220642 | 50.085056 | 0.573049 | 0.053709 | 0.008990 | 0.000492 | 0.000025 | 0.281430 | 0.014034 | 0.002422 | 0.0 | 0.0 | 0.078972 | 0.000007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.9108 | 1.407302 | 3.6115 | -19.029322 | -15.215573 | 2.958846 | 0.389668 | 1.515077 | -1440.257060 | -1149.108065 | 225.884038 | 31.404221 | 121.220909 | 0.001501 | -0.000100 | 0.000048 | 0.000003 | 0.000771 | -0.000085 | 0.000058 | 0.000006 |
| 54.0 | 1010.78 | 0.0 | -14.747 | 35.948721 | 2.8079 | 50.6085 | 1.9776 | 16.7444 | 0.5065 | 0.002 | 19.2892 | 0.6954 | 0.3762 | 0 | 0 | 9.0042 | 0.7960 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -523.576415 | -412.628998 | 86.412273 | 12.802905 | 48.295302 | 0.575629 | 0.051532 | 0.008956 | 0.000516 | 0.000027 | 0.283479 | 0.014736 | 0.001912 | 0.0 | 0.0 | 0.077888 | 0.000007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0257 | 1.300846 | 3.6214 | -17.461626 | -13.963835 | 2.724282 | 0.359213 | 1.395685 | -1439.139994 | -1150.185273 | 225.054667 | 31.340008 | 120.782655 | 0.001476 | -0.000099 | 0.000047 | 0.000003 | 0.000733 | -0.000083 | 0.000057 | 0.000007 |
| 55.0 | 1005.78 | 0.0 | -14.821 | 34.752825 | 2.7986 | 51.0476 | 1.8414 | 16.9312 | 0.5006 | 0.0022 | 18.982 | 0.7194 | 0.2856 | 0 | 0 | 8.8690 | 0.8210 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -507.204413 | -400.584729 | 83.366235 | 12.417851 | 46.649575 | 0.578037 | 0.049329 | 0.008924 | 0.000540 | 0.000031 | 0.284904 | 0.015450 | 0.001470 | 0.0 | 0.0 | 0.076869 | 0.000006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.1409 | 1.202835 | 3.6316 | -16.023899 | -12.814989 | 2.509055 | 0.331210 | 1.286026 | -1438.027728 | -1151.225193 | 224.251722 | 31.280434 | 120.378018 | 0.001453 | -0.000097 | 0.000046 | 0.000003 | 0.000699 | -0.000081 | 0.000056 | 0.000007 |
| 56.0 | 1000.78 | 0.0 | -14.896 | 33.646756 | 2.7893 | 51.4822 | 1.7117 | 17.1179 | 0.4943 | 0.0024 | 18.6507 | 0.743 | 0.21 | 0 | 0 | 8.7420 | 0.8458 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -492.159083 | -389.545568 | 80.548707 | 12.062712 | 45.135213 | 0.580276 | 0.047105 | 0.008895 | 0.000566 | 0.000036 | 0.285701 | 0.016174 | 0.001095 | 0.0 | 0.0 | 0.075916 | 0.000006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2564 | 1.113033 | 3.6422 | -14.712311 | -11.766328 | 2.312513 | 0.305597 | 1.185815 | -1436.920174 | -1152.230650 | 223.473225 | 31.225123 | 120.003803 | 0.001432 | -0.000096 | 0.000046 | 0.000003 | 0.000667 | -0.000080 | 0.000055 | 0.000007 |
| 57.0 | 995.78 | 0.0 | -14.972 | 32.622609 | 2.7799 | 51.9129 | 1.5874 | 17.3056 | 0.4878 | 0.0025 | 18.2946 | 0.7663 | 0.1482 | 0 | 0 | 8.6246 | 0.8702 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -478.328420 | -379.428773 | 77.939327 | 11.735010 | 43.740440 | 0.582337 | 0.044846 | 0.008868 | 0.000594 | 0.000039 | 0.285837 | 0.016908 | 0.000783 | 0.0 | 0.0 | 0.075044 | 0.000006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3724 | 1.028973 | 3.6525 | -13.492645 | -10.790525 | 2.129445 | 0.281715 | 1.092430 | -1435.817354 | -1153.204336 | 222.717360 | 31.173789 | 119.657031 | 0.001412 | -0.000095 | 0.000045 | 0.000003 | 0.000638 | -0.000078 | 0.000054 | 0.000007 |
| 58.0 | 990.78 | 0.0 | -15.048 | 31.671579 | 2.7706 | 52.3374 | 1.4697 | 17.4936 | 0.481 | 0.0026 | 17.9182 | 0.7894 | 0.099 | 0 | 0 | 8.5148 | 0.8943 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -465.565915 | -370.119482 | 75.515526 | 11.431503 | 42.451675 | 0.584240 | 0.042596 | 0.008844 | 0.000622 | 0.000042 | 0.285362 | 0.017650 | 0.000530 | 0.0 | 0.0 | 0.074230 | 0.000005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.4886 | 0.955877 | 3.6624 | -12.437407 | -9.946999 | 1.970366 | 0.260999 | 1.011384 | -1434.718939 | -1154.149501 | 221.981566 | 31.125900 | 119.334537 | 0.001394 | -0.000094 | 0.000045 | 0.000003 | 0.000611 | -0.000077 | 0.000053 | 0.000007 |
| 59.0 | 985.78 | 0.0 | -15.125 | 30.784380 | 2.7612 | 52.7559 | 1.3587 | 17.6827 | 0.4739 | 0.0027 | 17.5225 | 0.8121 | 0.0613 | 0 | 0 | 8.4121 | 0.9182 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -453.734495 | -361.512740 | 73.254004 | 11.149076 | 41.255311 | 0.585993 | 0.040371 | 0.008822 | 0.000653 | 0.000045 | 0.284281 | 0.018399 | 0.000332 | 0.0 | 0.0 | 0.073467 | 0.000005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6050 | 0.892064 | 3.6718 | -11.518290 | -9.212439 | 1.831594 | 0.242953 | 0.940751 | -1433.624797 | -1155.069371 | 221.263414 | 31.081009 | 119.033143 | 0.001378 | -0.000092 | 0.000044 | 0.000003 | 0.000586 | -0.000076 | 0.000053 | 0.000007 |
| 60.0 | 980.78 | 0.0 | -15.202 | 29.947278 | 2.7517 | 53.1723 | 1.2539 | 17.8747 | 0.4664 | 0.0023 | 17.1039 | 0.8348 | 0.0338 | 0 | 0 | 8.3161 | 0.9420 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -442.647254 | -353.465906 | 71.121401 | 10.883318 | 40.132076 | 0.587613 | 0.038176 | 0.008803 | 0.000684 | 0.000041 | 0.282561 | 0.019164 | 0.000184 | 0.0 | 0.0 | 0.072752 | 0.000005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.7225 | 0.841985 | 3.6815 | -10.785304 | -8.626033 | 1.722002 | 0.228706 | 0.885015 | -1432.534914 | -1155.968842 | 220.559199 | 31.038506 | 118.748494 | 0.001362 | -0.000091 | 0.000044 | 0.000003 | 0.000562 | -0.000074 | 0.000052 | 0.000007 |
| 61.0 | 975.78 | 0.0 | -15.280 | 29.143466 | 2.7419 | 53.5922 | 1.1548 | 18.0729 | 0.4582 | 0.0014 | 16.6553 | 0.8578 | 0.0152 | 0 | 0 | 8.2259 | 0.9662 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -432.080169 | -345.807138 | 69.077486 | 10.628819 | 39.058960 | 0.589116 | 0.036020 | 0.008788 | 0.000718 | 0.000026 | 0.280118 | 0.019953 | 0.000084 | 0.0 | 0.0 | 0.072080 | 0.000005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8424 | 0.810635 | 3.6924 | -10.296262 | -8.233719 | 1.651446 | 0.219540 | 0.849253 | -1431.449309 | -1156.853867 | 219.864337 | 30.997639 | 118.475676 | 0.001347 | -0.000091 | 0.000043 | 0.000003 | 0.000540 | -0.000073 | 0.000051 | 0.000007 |
| 62.0 | 970.78 | 0.0 | -15.359 | 28.348926 | 2.7317 | 54.0234 | 1.0607 | 18.2866 | 0.449 | 0.0007 | 16.1621 | 0.8819 | 0.0047 | 0 | 0 | 8.1393 | 0.9914 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -421.722335 | -338.297301 | 67.065631 | 10.377850 | 38.004081 | 0.590490 | 0.033899 | 0.008783 | 0.000754 | 0.000014 | 0.276747 | 0.020787 | 0.000026 | 0.0 | 0.0 | 0.071431 | 0.000005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.9668 | 0.801345 | 3.6995 | -10.096922 | -8.073750 | 1.626434 | 0.216610 | 0.837077 | -1430.368148 | -1157.732643 | 219.172486 | 30.957337 | 118.208264 | 0.001332 | -0.000090 | 0.000043 | 0.000003 | 0.000518 | -0.000072 | 0.000050 | 0.000007 |
| 63.0 | 965.78 | 0.0 | -15.438 | 27.471444 | 2.7197 | 54.5064 | 0.9715 | 18.5523 | 0.437 | 0.0002 | 15.5603 | 0.91 | 0.0006 | 0 | 0 | 8.0409 | 1.0208 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -410.402889 | -330.031366 | 64.871657 | 10.100953 | 36.845920 | 0.591809 | 0.031886 | 0.008809 | 0.000797 | 0.000004 | 0.271698 | 0.021754 | 0.000003 | 0.0 | 0.0 | 0.070649 | 0.000004 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.1057 | 0.884253 | 3.6986 | -11.067979 | -8.850973 | 1.789450 | 0.239080 | 0.921588 | -1429.291717 | -1158.636973 | 218.458243 | 30.913540 | 117.921455 | 0.001317 | -0.000089 | 0.000043 | 0.000003 | 0.000495 | -0.000071 | 0.000049 | 0.000007 |
| NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | NaN | SiO2 (wt%) | TiO2 | Al2O3 | Cr2O3 | FeO | MnO | MgO | CaO | Na2O | K2O | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | 15597 PHMI (bst-24-py1) | 50.9016 | 2.1482 | 18.8286 | 0.0144 | 17.6886 | 0.1685 | 0.155 | 9.1002 | 0.8109 | 0.1909 | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| NaN | NaN | NaN | NaN | NaN | melt composition from MELTs | 51.9129 | 1.5874 | 17.3056 | 0.0025 | 18.2946 | 0.7663 | 0.1482 | 8.6246 | 0.8702 | not modeled | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN |

## cpx
| Index | T (C) | P (kbars) | log(10) f O2 | mass (gm) | rho (gm/cc) | wt% SiO2 | wt% TiO2 | wt% Al2O3 | wt% Fe2O3 | wt% Cr2O3 | wt% FeO | wt% MnO | wt% MgO | wt% NiO | wt% CoO | wt% CaO | wt% Na2O | wt% K2O | wt% P2O5 | wt% H2O | wt% CO2 | wt% SO3 | wt% Cl2O-1 | wt% F2O-1 | G (kJ) | H (kJ) | S (J/K) | V (cc) | Cp (J/K) | diopside | clinoenstatit | hedenbergite | alumino-buffo | buffonite | essenite | jadeite |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | 1220.78 | 0 | -12.071 | 1.2321 | 3.2725 | 53.8015 | 0.0466 | 1.6366 | 0.0928 | 0 | 17.3486 | 0 | 24.5447 | 0 | 0 | 2.5192 | 0.0100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -19.219 | -14.742 | 2.996 | 0.376 | 1.518 | -0.468172 | 0.900834 | 0.529252 | 0.034834 | -0.032275 | 0.034823 | 0.000705 |
| 13 | 1215.78 | 0 | -12.126 | 1.2593 | 3.2770 | 53.6891 | 0.0479 | 1.6807 | 0.0952 | 0 | 17.5970 | 0 | 24.2506 | 0 | 0 | 2.6290 | 0.0104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -19.588 | -15.039 | 3.055 | 0.384 | 1.548 | -0.473194 | 0.896352 | 0.537661 | 0.035825 | -0.033190 | 0.035809 | 0.000739 |
| 14 | 1210.78 | 0 | -12.181 | 1.2443 | 3.2815 | 53.5745 | 0.0493 | 1.7267 | 0.0978 | 0 | 17.8453 | 0 | 23.9503 | 0 | 0 | 2.7453 | 0.0109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -19.300 | -14.830 | 3.012 | 0.379 | 1.527 | -0.478025 | 0.891594 | 0.546106 | 0.036858 | -0.034143 | 0.036835 | 0.000774 |
| 15 | 1205.78 | 0 | -12.237 | 1.2306 | 3.2860 | 53.4575 | 0.0508 | 1.7745 | 0.1004 | 0 | 18.0932 | 0 | 23.6433 | 0 | 0 | 2.8688 | 0.0114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -19.031 | -14.637 | 2.971 | 0.374 | 1.507 | -0.482625 | 0.886531 | 0.554576 | 0.037934 | -0.035135 | 0.037905 | 0.000813 |
| 16 | 1200.78 | 0 | -12.293 | 1.2184 | 3.2906 | 53.3381 | 0.0523 | 1.8244 | 0.1032 | 0 | 18.3401 | 0 | 23.3294 | 0 | 0 | 3.0004 | 0.0120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.789 | -14.463 | 2.935 | 0.370 | 1.489 | -0.486954 | 0.881132 | 0.563058 | 0.039059 | -0.036171 | 0.039023 | 0.000854 |
| 17 | 1195.78 | 0 | -12.349 | 1.2077 | 3.2953 | 53.2161 | 0.0539 | 1.8766 | 0.1062 | 0 | 18.5856 | 0 | 23.0081 | 0 | 0 | 3.1410 | 0.0126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.569 | -14.307 | 2.902 | 0.366 | 1.473 | -0.490960 | 0.875356 | 0.571533 | 0.040236 | -0.037254 | 0.040191 | 0.000898 |
| 18 | 1190.78 | 0 | -12.406 | 1.1982 | 3.2999 | 53.0914 | 0.0556 | 1.9311 | 0.1092 | 0 | 18.8288 | 0 | 22.6790 | 0 | 0 | 3.2916 | 0.0133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.370 | -14.166 | 2.872 | 0.363 | 1.458 | -0.494581 | 0.869159 | 0.579979 | 0.041469 | -0.038387 | 0.041414 | 0.000946 |
| 19 | 1185.78 | 0 | -12.463 | 1.1901 | 3.3046 | 52.9639 | 0.0575 | 1.9883 | 0.1125 | 0 | 19.0688 | 0 | 22.3415 | 0 | 0 | 3.4535 | 0.0140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.192 | -14.041 | 2.845 | 0.360 | 1.445 | -0.497740 | 0.862486 | 0.588369 | 0.042764 | -0.039574 | 0.042696 | 0.000998 |
| 20 | 1180.78 | 0 | -12.521 | 1.1833 | 3.3093 | 52.8335 | 0.0595 | 2.0484 | 0.1159 | 0 | 19.3046 | 0 | 21.9951 | 0 | 0 | 3.6283 | 0.0147 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.036 | -13.934 | 2.822 | 0.358 | 1.433 | -0.500342 | 0.855270 | 0.596667 | 0.044126 | -0.040820 | 0.044043 | 0.001055 |
| 21 | 1175.78 | 0 | -12.579 | 1.1782 | 3.3140 | 52.6999 | 0.0616 | 2.1116 | 0.1195 | 0 | 19.5347 | 0 | 21.6389 | 0 | 0 | 3.8181 | 0.0156 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.905 | -13.845 | 2.802 | 0.356 | 1.424 | -0.502268 | 0.847429 | 0.604831 | 0.045562 | -0.042130 | 0.045460 | 0.001117 |
| 22 | 1170.78 | 0 | -12.637 | 1.1747 | 3.3187 | 52.5631 | 0.0640 | 2.1784 | 0.1234 | 0 | 19.7573 | 0 | 21.2721 | 0 | 0 | 4.0254 | 0.0165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.801 | -13.778 | 2.786 | 0.354 | 1.416 | -0.503368 | 0.838857 | 0.612802 | 0.047080 | -0.043510 | 0.046954 | 0.001185 |
| 23 | 1165.78 | 0 | -12.696 | 1.1732 | 3.3234 | 52.4226 | 0.0666 | 2.2490 | 0.1275 | 0 | 19.9700 | 0 | 20.8933 | 0 | 0 | 4.2535 | 0.0175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.728 | -13.734 | 2.775 | 0.353 | 1.411 | -0.503441 | 0.829417 | 0.620509 | 0.048689 | -0.044968 | 0.048533 | 0.001261 |
| 24 | 1160.78 | 0 | -12.755 | 1.1740 | 3.3281 | 52.2784 | 0.0695 | 2.3241 | 0.1319 | 0 | 20.1698 | 0 | 20.5009 | 0 | 0 | 4.5068 | 0.0186 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.690 | -13.718 | 2.770 | 0.353 | 1.408 | -0.502218 | 0.818924 | 0.627850 | 0.050403 | -0.046512 | 0.050207 | 0.001346 |
| 25 | 1155.78 | 0 | -12.815 | 1.1775 | 3.3326 | 52.1299 | 0.0728 | 2.4043 | 0.1367 | 0 | 20.3521 | 0 | 20.0927 | 0 | 0 | 4.7915 | 0.0199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.695 | -13.736 | 2.770 | 0.353 | 1.409 | -0.499323 | 0.807125 | 0.634685 | 0.052237 | -0.048153 | 0.051988 | 0.001442 |
| 26 | 1150.78 | 0 | -12.875 | 1.1846 | 3.3371 | 51.9769 | 0.0766 | 2.4905 | 0.1419 | 0 | 20.5105 | 0 | 19.6656 | 0 | 0 | 5.1166 | 0.0214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.754 | -13.797 | 2.779 | 0.355 | 1.414 | -0.494204 | 0.793646 | 0.640807 | 0.054212 | -0.049905 | 0.053893 | 0.001552 |
| 27 | 1145.78 | 0 | -12.936 | 1.1963 | 3.3413 | 51.8185 | 0.0812 | 2.5839 | 0.1476 | 0 | 20.6349 | 0 | 19.2145 | 0 | 0 | 5.4963 | 0.0232 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.885 | -13.914 | 2.798 | 0.358 | 1.424 | -0.485997 | 0.777911 | 0.645891 | 0.056358 | -0.051788 | 0.055944 | 0.001681 |
| 28 | 1140.78 | 0 | -12.997 | 1.2146 | 3.3452 | 51.6540 | 0.0868 | 2.6866 | 0.1539 | 0 | 20.7077 | 0 | 18.7313 | 0 | 0 | 5.9544 | 0.0253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.118 | -14.113 | 2.833 | 0.363 | 1.442 | -0.473222 | 0.758937 | 0.649380 | 0.058723 | -0.053830 | 0.058174 | 0.001838 |
| 29 | 1135.78 | 0 | -13.058 | 1.2433 | 3.3485 | 51.4817 | 0.0940 | 2.8021 | 0.1612 | 0 | 20.6945 | 0 | 18.2003 | 0 | 0 | 6.5382 | 0.0279 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.514 | -14.442 | 2.891 | 0.371 | 1.471 | -0.452955 | 0.734799 | 0.650169 | 0.061393 | -0.056081 | 0.060639 | 0.002036 |
| 30 | 1130.78 | 0 | -13.120 | 1.2920 | 3.3506 | 51.2984 | 0.1046 | 2.9387 | 0.1701 | 0 | 20.5058 | 0 | 17.5818 | 0 | 0 | 7.3688 | 0.0317 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -19.223 | -15.020 | 2.994 | 0.386 | 1.524 | -0.417650 | 0.700557 | 0.645393 | 0.064568 | -0.058646 | 0.063464 | 0.002313 |
| 31 | 1125.78 | 0 | -13.182 | 0.6770 | 3.3549 | 51.0913 | 0.1155 | 3.0845 | 0.1798 | 0 | 20.5666 | 0 | 17.0163 | 0 | 0 | 7.9114 | 0.0348 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -10.049 | -7.862 | 1.563 | 0.202 | 0.796 | -0.402097 | 0.677770 | 0.648678 | 0.068003 | -0.061453 | 0.066555 | 0.002544 |
| 31 | 1125.78 | 0 | -13.182 | 0.9288 | 3.3040 | 50.9202 | 0.2799 | 3.5812 | 0.2212 | 0 | 14.0248 | 0 | 14.3741 | 0 | 0 | 16.5309 | 0.0676 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -14.275 | -11.306 | 2.122 | 0.281 | 1.084 | 0.136845 | 0.329969 | 0.440446 | 0.081569 | -0.065759 | 0.072010 | 0.004920 |
| 32 | 1120.78 | 0 | -13.245 | 0.1311 | 3.3639 | 50.8696 | 0.1211 | 3.2124 | 0.1882 | 0 | 21.1684 | 0 | 16.6267 | 0 | 0 | 7.7780 | 0.0355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1.936 | -1.515 | 0.302 | 0.039 | 0.154 | -0.430700 | 0.682270 | 0.669422 | 0.071048 | -0.064160 | 0.069515 | 0.002605 |
| 32 | 1120.78 | 0 | -13.245 | 1.6643 | 3.3098 | 50.7046 | 0.3064 | 3.7438 | 0.2330 | 0 | 14.3069 | 0 | 14.0075 | 0 | 0 | 16.6272 | 0.0706 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -25.498 | -20.211 | 3.793 | 0.503 | 1.937 | 0.127693 | 0.324627 | 0.450137 | 0.085793 | -0.068456 | 0.075053 | 0.005153 |
| 33 | 1115.78 | 0 | -13.308 | 0.1640 | 3.3731 | 50.6418 | 0.1268 | 3.3437 | 0.1970 | 0 | 21.7850 | 0 | 16.2253 | 0 | 0 | 7.6440 | 0.0363 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -2.409 | -1.885 | 0.377 | 0.049 | 0.192 | -0.460061 | 0.686795 | 0.690794 | 0.074185 | -0.066951 | 0.072572 | 0.002666 |
| 33 | 1115.78 | 0 | -13.308 | 1.5710 | 3.3158 | 50.4819 | 0.3354 | 3.9116 | 0.2455 | 0 | 14.5954 | 0 | 13.6347 | 0 | 0 | 16.7217 | 0.0738 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -23.991 | -19.032 | 3.570 | 0.474 | 1.824 | 0.118048 | 0.319300 | 0.460081 | 0.090214 | -0.071198 | 0.078161 | 0.005395 |
| 34 | 1110.78 | 0 | -13.371 | 0.1931 | 3.3827 | 50.4080 | 0.1327 | 3.4783 | 0.2062 | 0 | 22.4164 | 0 | 15.8120 | 0 | 0 | 7.5095 | 0.0370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -2.819 | -2.207 | 0.442 | 0.057 | 0.225 | -0.490193 | 0.691343 | 0.712808 | 0.077416 | -0.069829 | 0.075730 | 0.002727 |
| 34 | 1110.78 | 0 | -13.371 | 1.4863 | 3.3219 | 50.2515 | 0.3674 | 4.0849 | 0.2587 | 0 | 14.8901 | 0 | 13.2555 | 0 | 0 | 16.8147 | 0.0771 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -22.623 | -17.962 | 3.368 | 0.447 | 1.721 | 0.107901 | 0.313977 | 0.470280 | 0.094845 | -0.073978 | 0.081329 | 0.005646 |
| 35 | 1105.78 | 0 | -13.435 | 0.2187 | 3.3924 | 50.1680 | 0.1385 | 3.6160 | 0.2159 | 0 | 23.0627 | 0 | 15.3866 | 0 | 0 | 7.3746 | 0.0377 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.175 | -2.487 | 0.499 | 0.064 | 0.254 | -0.521110 | 0.695915 | 0.735477 | 0.080739 | -0.072794 | 0.078988 | 0.002786 |
| 35 | 1105.78 | 0 | -13.435 | 1.4094 | 3.3282 | 50.0131 | 0.4026 | 4.2639 | 0.2726 | 0 | 15.1911 | 0 | 12.8696 | 0 | 0 | 16.9067 | 0.0805 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -21.381 | -16.989 | 3.185 | 0.423 | 1.628 | 0.097251 | 0.308644 | 0.480733 | 0.099703 | -0.076791 | 0.084554 | 0.005907 |
| 36 | 1100.78 | 0 | -13.500 | 0.2414 | 3.4025 | 49.9221 | 0.1444 | 3.7569 | 0.2259 | 0 | 23.7239 | 0 | 14.9492 | 0 | 0 | 7.2392 | 0.0384 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.484 | -2.729 | 0.549 | 0.071 | 0.280 | -0.552823 | 0.700509 | 0.758812 | 0.084153 | -0.075844 | 0.082347 | 0.002845 |
| 36 | 1100.78 | 0 | -13.500 | 1.3395 | 3.3347 | 49.7659 | 0.4415 | 4.4489 | 0.2874 | 0 | 15.4978 | 0 | 12.4766 | 0 | 0 | 16.9979 | 0.0840 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -20.252 | -16.105 | 3.018 | 0.402 | 1.543 | 0.086102 | 0.303280 | 0.491434 | 0.104806 | -0.079628 | 0.087828 | 0.006177 |
| 37 | 1095.78 | 0 | -13.565 | 0.2615 | 3.4129 | 49.6701 | 0.1504 | 3.9007 | 0.2365 | 0 | 24.4001 | 0 | 14.4998 | 0 | 0 | 7.1034 | 0.0390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.750 | -2.938 | 0.593 | 0.077 | 0.302 | -0.585338 | 0.705127 | 0.782824 | 0.087658 | -0.078980 | 0.085808 | 0.002903 |
| 37 | 1095.78 | 0 | -13.565 | 1.2761 | 3.3413 | 49.5094 | 0.4847 | 4.6399 | 0.3031 | 0 | 15.8099 | 0 | 12.0764 | 0 | 0 | 17.0889 | 0.0877 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -19.226 | -15.301 | 2.867 | 0.382 | 1.466 | 0.074466 | 0.297863 | 0.502369 | 0.110178 | -0.082479 | 0.091144 | 0.006459 |
| 38 | 1090.78 | 0 | -13.630 | 0.2791 | 3.4235 | 49.4124 | 0.1563 | 4.0474 | 0.2475 | 0 | 25.0909 | 0 | 14.0386 | 0 | 0 | 6.9671 | 0.0397 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.979 | -3.118 | 0.631 | 0.082 | 0.321 | -0.618665 | 0.709770 | 0.807519 | 0.091249 | -0.082200 | 0.089368 | 0.002959 |
| 38 | 1090.78 | 0 | -13.630 | 1.2186 | 3.3481 | 49.2428 | 0.5329 | 4.8375 | 0.3197 | 0 | 16.1267 | 0 | 11.6685 | 0 | 0 | 17.1805 | 0.0914 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -18.295 | -14.572 | 2.730 | 0.364 | 1.396 | 0.062362 | 0.292361 | 0.513520 | 0.115847 | -0.085332 | 0.094492 | 0.006750 |
| 39 | 1085.78 | 0 | -13.696 | 0.2946 | 3.4344 | 49.1489 | 0.1623 | 4.1968 | 0.2591 | 0 | 25.7964 | 0 | 13.5657 | 0 | 0 | 6.8305 | 0.0403 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -4.172 | -3.270 | 0.664 | 0.086 | 0.338 | -0.652806 | 0.714439 | 0.832903 | 0.094923 | -0.085502 | 0.093028 | 0.003014 |
| 39 | 1085.78 | 0 | -13.696 | 1.1669 | 3.3552 | 48.9652 | 0.5868 | 5.0421 | 0.3374 | 0 | 16.4469 | 0 | 11.2529 | 0 | 0 | 17.2734 | 0.0953 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -17.456 | -13.914 | 2.606 | 0.348 | 1.333 | 0.049822 | 0.286736 | 0.524854 | 0.121846 | -0.088171 | 0.097858 | 0.007053 |
| 40 | 1080.78 | 0 | -13.763 | 0.3078 | 3.4456 | 48.8800 | 0.1681 | 4.3487 | 0.2711 | 0 | 26.5163 | 0 | 13.0814 | 0 | 0 | 6.6935 | 0.0408 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -4.330 | -3.394 | 0.691 | 0.089 | 0.352 | -0.687769 | 0.719137 | 0.858984 | 0.098678 | -0.088884 | 0.096786 | 0.003068 |
| 40 | 1080.78 | 0 | -13.763 | 1.1212 | 3.3624 | 48.6754 | 0.6475 | 5.2541 | 0.3562 | 0 | 16.7695 | 0 | 10.8290 | 0 | 0 | 17.3690 | 0.0994 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -16.711 | -13.331 | 2.497 | 0.333 | 1.277 | 0.036886 | 0.280940 | 0.536334 | 0.128221 | -0.090978 | 0.101230 | 0.007367 |
| 41 | 1075.78 | 0 | -13.830 | 0.3180 | 3.4571 | 48.6057 | 0.1738 | 4.5030 | 0.2837 | 0 | 27.2507 | 0 | 12.5856 | 0 | 0 | 6.5561 | 0.0414 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -4.444 | -3.483 | 0.712 | 0.092 | 0.362 | -0.723562 | 0.723863 | 0.885774 | 0.102510 | -0.092349 | 0.100646 | 0.003119 |
| 41 | 1075.78 | 0 | -13.830 | 1.0838 | 3.3698 | 48.3719 | 0.7161 | 5.4744 | 0.3763 | 0 | 17.0929 | 0 | 10.3965 | 0 | 0 | 17.4682 | 0.1035 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -16.094 | -12.849 | 2.406 | 0.322 | 1.231 | 0.023585 | 0.274924 | 0.547920 | 0.135023 | -0.093738 | 0.104592 | 0.007693 |
| 42 | 1070.78 | 0 | -13.897 | 0.3219 | 3.4689 | 48.3256 | 0.1792 | 4.6600 | 0.2968 | 0 | 28.0004 | 0 | 12.0771 | 0 | 0 | 6.4190 | 0.0419 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -4.467 | -3.502 | 0.718 | 0.093 | 0.365 | -0.760213 | 0.728591 | 0.913321 | 0.106423 | -0.095913 | 0.104624 | 0.003167 |
| 42 | 1070.78 | 0 | -13.897 | 1.0640 | 3.3775 | 48.0535 | 0.7935 | 5.7037 | 0.3978 | 0 | 17.4178 | 0 | 9.9545 | 0 | 0 | 17.5714 | 0.1077 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15.741 | -12.576 | 2.354 | 0.315 | 1.205 | 0.009870 | 0.268672 | 0.559635 | 0.142295 | -0.096445 | 0.107947 | 0.008026 |
| 43 | 1065.78 | 0 | -13.965 | 0.3167 | 3.4810 | 48.0391 | 0.1839 | 4.8203 | 0.3106 | 0 | 28.7668 | 0 | 11.5537 | 0 | 0 | 6.2834 | 0.0423 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -4.363 | -3.421 | 0.704 | 0.091 | 0.358 | -0.797747 | 0.733270 | 0.941695 | 0.110422 | -0.099598 | 0.108747 | 0.003211 |
| 43 | 1065.78 | 0 | -13.965 | 1.0679 | 3.3854 | 47.7193 | 0.8794 | 5.9423 | 0.4209 | 0 | 17.7471 | 0 | 9.5016 | 0 | 0 | 17.6775 | 0.1120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15.736 | -12.583 | 2.355 | 0.315 | 1.205 | -0.004409 | 0.262224 | 0.571580 | 0.150045 | -0.099109 | 0.111306 | 0.008363 |
| 44 | 1060.78 | 0 | -14.033 | 0.3056 | 3.4935 | 47.7465 | 0.1877 | 4.9837 | 0.3250 | 0 | 29.5486 | 0 | 11.0156 | 0 | 0 | 6.1502 | 0.0427 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -4.180 | -3.277 | 0.677 | 0.087 | 0.344 | -0.836086 | 0.737863 | 0.970865 | 0.114499 | -0.103410 | 0.113019 | 0.003250 |
| 44 | 1060.78 | 0 | -14.033 | 1.0778 | 3.3936 | 47.3691 | 0.9742 | 6.1899 | 0.4455 | 0 | 18.0803 | 0 | 9.0384 | 0 | 0 | 17.7865 | 0.1162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15.820 | -12.660 | 2.370 | 0.318 | 1.213 | -0.019258 | 0.255583 | 0.583749 | 0.158284 | -0.101718 | 0.114661 | 0.008699 |
| 45 | 1055.78 | 0 | -14.102 | 0.2925 | 3.5062 | 47.4492 | 0.1905 | 5.1496 | 0.3400 | 0 | 30.3428 | 0 | 10.4649 | 0 | 0 | 6.0199 | 0.0430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.971 | -3.113 | 0.645 | 0.083 | 0.328 | -0.875103 | 0.742352 | 1.000736 | 0.118637 | -0.107340 | 0.117431 | 0.003286 |
| 45 | 1055.78 | 0 | -14.102 | 1.0817 | 3.4021 | 47.0024 | 1.0791 | 6.4466 | 0.4718 | 0 | 18.4142 | 0 | 8.5659 | 0 | 0 | 17.8996 | 0.1204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15.814 | -12.665 | 2.370 | 0.318 | 1.213 | -0.034558 | 0.248698 | 0.596031 | 0.167056 | -0.104238 | 0.117979 | 0.009033 |
| 46 | 1050.78 | 0 | -14.172 | 0.2797 | 3.5191 | 47.1485 | 0.1923 | 5.3173 | 0.3556 | 0 | 31.1463 | 0 | 9.9040 | 0 | 0 | 5.8928 | 0.0432 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.768 | -2.954 | 0.615 | 0.079 | 0.312 | -0.914660 | 0.746729 | 1.031203 | 0.122818 | -0.111370 | 0.121965 | 0.003317 |
| 46 | 1050.78 | 0 | -14.172 | 1.0762 | 3.4108 | 46.6177 | 1.1964 | 6.7132 | 0.4998 | 0 | 18.7433 | 0 | 8.0856 | 0 | 0 | 18.0195 | 0.1245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15.670 | -12.559 | 2.350 | 0.316 | 1.203 | -0.050118 | 0.241469 | 0.608248 | 0.176441 | -0.106617 | 0.121212 | 0.009364 |
| 47 | 1045.78 | 0 | -14.242 | 0.2682 | 3.5323 | 46.8455 | 0.1930 | 5.4857 | 0.3717 | 0 | 31.9563 | 0 | 9.3351 | 0 | 0 | 5.7693 | 0.0434 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3.584 | -2.810 | 0.587 | 0.076 | 0.298 | -0.954626 | 0.750982 | 1.062164 | 0.127019 | -0.115482 | 0.126600 | 0.003344 |
| 47 | 1045.78 | 0 | -14.242 | 1.0621 | 3.4197 | 46.2122 | 1.3295 | 6.9911 | 0.5298 | 0 | 19.0609 | 0 | 7.5983 | 0 | 0 | 18.1498 | 0.1285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15.403 | -12.355 | 2.311 | 0.311 | 1.183 | -0.065700 | 0.233749 | 0.620173 | 0.186577 | -0.108784 | 0.124294 | 0.009692 |
| 48 | 1040.78 | 0 | -14.312 | 0.9618 | 3.5492 | 46.5239 | 0.1822 | 5.5844 | 0.3898 | 0 | 33.0582 | 0 | 8.6200 | 0 | 0 | 5.5988 | 0.0427 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -12.723 | -9.969 | 2.096 | 0.271 | 1.063 | -1.006077 | 0.757016 | 1.104590 | 0.129442 | -0.118492 | 0.130211 | 0.003311 |
| 48 | 1040.78 | 0 | -14.312 | 0.9918 | 3.5450 | 31.3927 | 12.4042 | 16.8594 | 0.6053 | 0 | 11.9937 | 0 | 4.1303 | 0 | 0 | 22.5060 | 0.1083 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -14.770 | -12.016 | 2.096 | 0.280 | 1.083 | -0.208856 | 0.041985 | 0.395057 | 0.745603 | -0.010802 | 0.028742 | 0.008271 |
| 49 | 1035.78 | 0 | -14.383 | 0.9180 | 3.5667 | 46.1993 | 0.1703 | 5.6755 | 0.4083 | 0 | 34.2066 | 0 | 7.8950 | 0 | 0 | 5.4031 | 0.0418 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -12.012 | -9.406 | 1.991 | 0.257 | 1.009 | -1.060689 | 0.764180 | 1.149205 | 0.131702 | -0.121410 | 0.133752 | 0.003259 |
| 49 | 1035.78 | 0 | -14.383 | 0.9761 | 3.5532 | 31.1473 | 12.4913 | 16.9551 | 0.6172 | 0 | 12.3945 | 0 | 3.8029 | 0 | 0 | 22.4844 | 0.1073 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -14.476 | -11.785 | 2.056 | 0.275 | 1.063 | -0.228516 | 0.040743 | 0.409210 | 0.752016 | -0.010329 | 0.028664 | 0.008212 |
| 50 | 1030.78 | 0 | -14.455 | 0.8664 | 3.5838 | 45.8824 | 0.1595 | 5.7644 | 0.4271 | 0 | 35.3067 | 0 | 7.1794 | 0 | 0 | 5.2394 | 0.0411 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -11.216 | -8.778 | 1.870 | 0.242 | 0.947 | -1.112706 | 0.770062 | 1.192508 | 0.133936 | -0.124247 | 0.137228 | 0.003219 |
| 50 | 1030.78 | 0 | -14.455 | 0.8916 | 3.5613 | 30.9209 | 12.5656 | 17.0379 | 0.6292 | 0 | 12.7961 | 0 | 3.4818 | 0 | 0 | 22.4621 | 0.1063 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -13.169 | -10.729 | 1.871 | 0.250 | 0.969 | -0.247634 | 0.039557 | 0.423440 | 0.757744 | -0.009930 | 0.028665 | 0.008159 |
| 51 | 1025.78 | 0 | -14.527 | 0.8175 | 3.6005 | 45.5750 | 0.1495 | 5.8504 | 0.4461 | 0 | 36.3569 | 0 | 6.4783 | 0 | 0 | 5.1033 | 0.0405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -10.473 | -8.193 | 1.756 | 0.227 | 0.889 | -1.162144 | 0.774831 | 1.234375 | 0.136119 | -0.126989 | 0.140617 | 0.003191 |
| 51 | 1025.78 | 0 | -14.527 | 0.8139 | 3.5691 | 30.7118 | 12.6286 | 17.1096 | 0.6413 | 0 | 13.1968 | 0 | 3.1671 | 0 | 0 | 22.4392 | 0.1055 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -11.971 | -9.760 | 1.702 | 0.228 | 0.882 | -0.266224 | 0.038420 | 0.437689 | 0.762865 | -0.009602 | 0.028740 | 0.008111 |
| 52 | 1020.78 | 0 | -14.600 | 0.7711 | 3.6165 | 45.2785 | 0.1403 | 5.9331 | 0.4651 | 0 | 37.3544 | 0 | 5.7960 | 0 | 0 | 4.9925 | 0.0401 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -9.780 | -7.648 | 1.648 | 0.213 | 0.834 | -1.208901 | 0.778573 | 1.274637 | 0.138239 | -0.129626 | 0.143906 | 0.003173 |
| 52 | 1020.78 | 0 | -14.600 | 0.7421 | 3.5767 | 30.5189 | 12.6812 | 17.1711 | 0.6535 | 0 | 13.5953 | 0 | 2.8594 | 0 | 0 | 22.4161 | 0.1047 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -10.870 | -8.869 | 1.547 | 0.207 | 0.802 | -0.284270 | 0.037329 | 0.451908 | 0.767419 | -0.009340 | 0.028886 | 0.008069 |
| 53 | 1015.78 | 0 | -14.673 | 0.7271 | 3.6320 | 44.9942 | 0.1319 | 6.0125 | 0.4839 | 0 | 38.2960 | 0 | 5.1357 | 0 | 0 | 4.9060 | 0.0398 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -9.133 | -7.140 | 1.546 | 0.200 | 0.782 | -1.252802 | 0.781319 | 1.313103 | 0.140286 | -0.132155 | 0.147083 | 0.003165 |
| 53 | 1015.78 | 0 | -14.673 | 0.6755 | 3.5840 | 30.3416 | 12.7237 | 17.2229 | 0.6658 | 0 | 13.9903 | 0 | 2.5589 | 0 | 0 | 22.3929 | 0.1040 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -9.854 | -8.046 | 1.403 | 0.188 | 0.728 | -0.301742 | 0.036279 | 0.466050 | 0.771426 | -0.009148 | 0.029104 | 0.008031 |
| 54 | 1010.78 | 0 | -14.747 | 0.6855 | 3.6467 | 44.7233 | 0.1240 | 6.0885 | 0.5023 | 0 | 39.1783 | 0 | 4.5001 | 0 | 0 | 4.8438 | 0.0397 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -8.531 | -6.669 | 1.451 | 0.188 | 0.734 | -1.293639 | 0.783064 | 1.349579 | 0.142257 | -0.134573 | 0.150143 | 0.003169 |
| 54 | 1010.78 | 0 | -14.747 | 0.6135 | 3.5912 | 30.1799 | 12.7564 | 17.2655 | 0.6782 | 0 | 14.3807 | 0 | 2.2663 | 0 | 0 | 22.3697 | 0.1033 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -8.915 | -7.284 | 1.270 | 0.171 | 0.660 | -0.318603 | 0.035268 | 0.480074 | 0.774891 | -0.009027 | 0.029400 | 0.007997 |
| 55 | 1005.78 | 0 | -14.821 | 0.6465 | 3.6606 | 44.4664 | 0.1168 | 6.1613 | 0.5204 | 0 | 39.9980 | 0 | 3.8913 | 0 | 0 | 4.8062 | 0.0397 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -7.975 | -6.234 | 1.362 | 0.177 | 0.689 | -1.331188 | 0.783774 | 1.383876 | 0.144152 | -0.136881 | 0.153082 | 0.003185 |
| 55 | 1005.78 | 0 | -14.821 | 0.5560 | 3.5981 | 30.0336 | 12.7794 | 17.2992 | 0.6909 | 0 | 14.7654 | 0 | 1.9820 | 0 | 0 | 22.3468 | 0.1027 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -8.046 | -6.579 | 1.147 | 0.155 | 0.597 | -0.334818 | 0.034294 | 0.493943 | 0.777819 | -0.008981 | 0.029777 | 0.007967 |
| 56 | 1000.78 | 0 | -14.896 | 0.6104 | 3.6736 | 44.2240 | 0.1103 | 6.2311 | 0.5380 | 0 | 40.7523 | 0 | 3.3104 | 0 | 0 | 4.7941 | 0.0399 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -7.466 | -5.837 | 1.279 | 0.166 | 0.647 | -1.365225 | 0.783398 | 1.415823 | 0.145971 | -0.139082 | 0.155899 | 0.003215 |
| 56 | 1000.78 | 0 | -14.896 | 0.5027 | 3.6047 | 29.9024 | 12.7930 | 17.3245 | 0.7038 | 0 | 15.1437 | 0 | 1.7062 | 0 | 0 | 22.3242 | 0.1022 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -7.246 | -5.930 | 1.033 | 0.139 | 0.538 | -0.350366 | 0.033356 | 0.507620 | 0.780222 | -0.009012 | 0.030239 | 0.007940 |
| 57 | 995.78 | 0 | -14.972 | 0.5774 | 3.6857 | 43.9973 | 0.1043 | 6.2986 | 0.5550 | 0 | 41.4322 | 0 | 2.7590 | 0 | 0 | 4.8132 | 0.0404 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -7.008 | -5.480 | 1.204 | 0.157 | 0.610 | -1.395085 | 0.781671 | 1.445011 | 0.147724 | -0.141182 | 0.158597 | 0.003263 |
| 57 | 995.78 | 0 | -14.972 | 0.4516 | 3.6110 | 29.7884 | 12.7956 | 17.3401 | 0.7171 | 0 | 15.5150 | 0 | 1.4399 | 0 | 0 | 22.3022 | 0.1017 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -6.485 | -5.311 | 0.925 | 0.125 | 0.483 | -0.365137 | 0.032453 | 0.521082 | 0.782014 | -0.009140 | 0.030811 | 0.007916 |