

Origin of Difference in the Reactivity of Aliphatic and Aromatic Guanidine-Containing Pharmaceuticals toward [¹⁸F]Fluorination: Coulombic Forces and Hydrogen Bonding

Sung-Sik Lee,[†] Keun Sam Jang,^{*,‡} Byung Chul Lee,^{*,§} Young-Ho Oh,[†] Sung Wook Park,[†] Dong Woo Kim,[†] Gi Hyung Jang,[†] Sungyul Lee^{†,*}

[†] Department of Applied Chemistry, Kyung Hee University, 1732, Deogyong-daero, Giheung-gu, Gyeonggi-do 17140 (Republic of Korea) *Email: sylee@khu.ac.kr

[‡] Division of Nuclear Medicine, Department of Radiology, 2276 Med Sci I Bldg, SPC-5610, University of Michigan Medical School, Ann Arbor, MI-48109 (USA) *Email: ksjang0704@gmail.com

[§] Department of Nuclear Medicine, Seoul National University Bundang Hospital, Seoul National University College of Medicine, 82 Gumi-ro 173 Beon-gil, Bundang-gu, Seongnam-si Gyeonggi-do 13620 (Republic of Korea) *Email: leebc@snu.ac.kr

Quantum chemical analysis is presented to elucidate the origin of difference in the reactivity of aliphatic vs. aromatic guanidine-containing pharmaceuticals toward [¹⁸F]fluorination. We focus on the position (near to or far away from the site of reaction) of F nucleophile in pre-reaction complexes, as determined by intricate interplay of the Coulombic forces between the ionic species and hydrogen bonding with the –Boc protected guanidine. In [¹⁸F]fluorination of aliphatic guanidine compounds, the freely moving nucleophile F is positioned close to the site of fluorination irrespective of the length of side chain, in agreement with the observed similar reaction yields for –CH₂OMs and –CH₂CH₂CH₂OMs side chains. As for the effects of positions of –Boc protection, we predict that the effects would be contrary to the corresponding aromatic case, with the *N*, *N'*-bis-Boc protected guanidine compound being much more reactive than the *N*, *N'*-bis-Boc protected guanidine compound.

Keywords: Guanidine, Density functional, Radiopharmaceutical, Fluorination

Introduction

Guanidine units are gaining much importance in various biologically active substances and as drug targeting molecules in medicinal chemistry.¹ Radiopharmaceuticals containing guanidine units as in arginine-containing peptides are widely used positron emission tomography (PET)²⁻⁴ and single photon emission computed tomography (SPECT)⁵⁻⁷, both *in vitro* and *in vivo* studies.⁸⁻¹³ As a typical guanidine –containing radiopharmaceutical, ¹⁸F-labeled guanidine compounds based on MIBG structure such as *m*-[¹⁸F]fluorobenzylguanidine ([¹⁸F]MFBG), *p*-[¹⁸F]fluorobenzylguanidine ([¹⁸F]PFBG), and 4-[¹⁸F]fluoro-*m*-iodobenzylguanidine ([¹⁸F]4F-FIBG) proved to be potential compounds as a neuroendocrine tumor imaging agents for pheochromocytoma and neuroblastoma.²⁻⁴

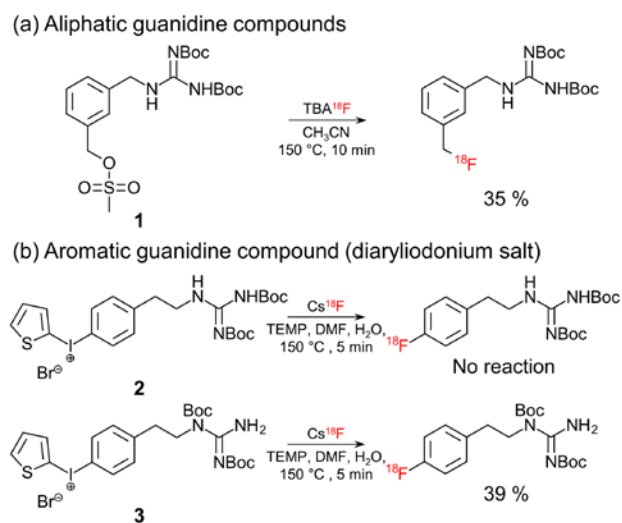
Recently, we carried out¹⁴ a series of synthetic approaches toward facile production of guanidine-containing [¹⁸F]radiopharmaceuticals by employing various scheme of protecting the guanidine diaryliodonium salts by –Boc, in which we found that the reactivity depended highly on the degrees and positions of –Boc protection. Specifically, [¹⁸F]fluorination of the *N*, *N'*-bis-Boc protected guanidine diaryliodonium salt (see Scheme 1) did not proceed at all, whereas the fully (*N*, *N'*, *N''*, *N'''*-*tetrakis*-)-Boc protected diaryliodonium salt exhibited reasonable (with the yield of ~30 % at 120 °C in 5 min) reactivity for [¹⁸F]fluorination. The observed inactivity of *N*, *N'*-bis-Boc protected guanidine diaryliodonium salt is in high contrast with the ready [¹⁸F]fluorination of the corresponding aliphatic guanidine mesylate precursor (**1** in Scheme 1) that gave ~35 % yield in 10 min. described previously.¹⁵ It seems that the roles of the guanidine group in these two reactions are very different,

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1002/bkcs.11842

Origin of Difference in Reactivity of Aliphatic and Aromatic Guanidine-Containing Pharmaceuticals toward [¹⁸F]Fluorination

probably because of the difference in the nature of interactions between the guanidine group, the nucleophile F⁻ and the counter-cation (tetrabutylammonium (TBA⁺) and Cs⁺ in aliphatic and aromatic [¹⁸F]fluorination, respectively).

Here we present a mechanistic study by quantum chemical methods on the origin of these interesting observations, focusing on the position of the nucleophile F⁻. We show that F⁻ is more or less free from the influence of the guanidine unit in high contrast with the corresponding reactions of aromatic guanidine compounds. Therefore, the nucleophile F⁻ may approach the site of reaction (electropositive C atom) with R_{C-F} distances that are favorable for [¹⁸F]fluorination, irrespective of the -Boc protection scheme. We also give discussions for the effects of the length of the side chain on which [¹⁸F]fluorination occurs, showing that the position of F⁻ is similar for -CH₂OMs and -CH₂CH₂CH₂OMs side chains, in agreement with the experimentally observed similar reaction yields.



Scheme 1. Comparison of aliphatic and aromatic [¹⁸F]fluorination of -Boc protected salts. (b) from Ref. (14,15).

Computational Details

We employed the CAM-B3LYP/6-311G** method^{16,17}, including the effects of the solvent (acetonitrile) continuum by the COSMO-PCM^{18,19} method (dielectric constant = 35.68) as implemented in TeraChem 1.94Beta programs.^{20,21}

We modeled the -Moc(methoxycarbonyl) and the TEA⁺(tetraethylammonium) for -Boc and TBA⁺, respectively, to save computational cost.

Results and Discussion

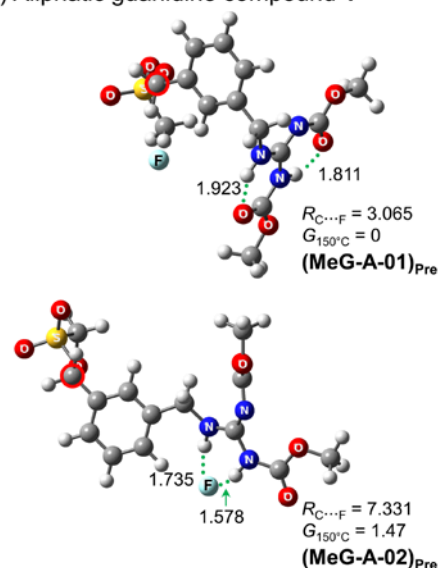
Figure 1 depicts the pre-reaction complexes in aliphatic fluorination of **1** and in aromatic fluorination of **2**. For aliphatic fluorination, two pre-reaction complexes ((MeG-A-01)_{Pre} and (MeG-A-02)_{Pre}) are obtained. The most notable difference between them is the orientation of the guanidine plane with respect to the phenyl ring: The guanidine plane is nearly parallel to the phenyl ring in (MeG-A-02)_{Pre}, whereas it is almost orthogonal in (MeG-A-01)_{Pre}. In the global minimum Gibbs free energy (MeG-A-01)_{Pre} for aliphatic fluorination, intramolecular hydrogen bonds are formed between the guanidine -NH groups and carbonyl O atom in -Moc (R_{N...H} = 1.811, 1.923 Å) in approximately six-membered ring. It can be seen that the nucleophile F⁻ in this pre-reaction complex is situated somewhat far from the guanidine unit, weakly influenced by the bulky counter-cation TEA⁺. Thus, F⁻ seems to be quite free to move around, being finally located nearby the site of reaction (electropositive carbon atom) within a reasonable distance to initiate the reaction (R_{C...F} = 3.065 Å) with the resulting yield of ~35%. In (MeG-A-02)_{Pre}, whose Gibbs free energy G_{150°C} is 1.41 kcal/mol above that for (MeG-A-01)_{Pre}, the two guanidine -NH groups form hydrogen bonds with F⁻. Because of these hydrogen bonds and the Coulombic influence by TEA⁺, F⁻ is located far away from the reaction center (R_{C...F} = 7.331 Å). Thus, this pre-reaction complex can be considered as highly unfavorable toward fluorination, and thus the experimentally observed reasonable yield (~35%) in [¹⁸F]fluorination of **1** is attributed to proceeding from the global minimum Gibbs free energy structure (MeG-A-01)_{Pre}, in which the nucleophile F⁻ is brought to near the site of fluorination.

Figure 1(b) shows the lowest Gibbs free energy pre-reaction complex (IG-A-01)_{Pre} in aromatic fluorination of **2** described in our earlier work.¹⁴ In this structure, the nucleophile F⁻ is influenced by the Coulombic force by the counter-cation Cs⁺ and hydrogen bond with the Guanidine-NH group, far away from the site of fluorination, which is in line with the observed zero reaction yield.¹⁴ Thus, it seems that the difference in reactivity of aliphatic vs. aromatic [¹⁸F]fluorination (35% vs. 0) may be easily understood just by comparing the structures of (MeG-A-01)_{Pre} and (IG-A-

01)_{Pre}, focusing on the location of the nucleophile F⁻. It would be useful to note that this location of F⁻ is determined by intricate influence of the counter-cation (TEA⁺) in aliphatic fluorination of **1**, and by Cs⁺, the guanidine -NH group, and the ionic species Br⁻ and the iodonium in aromatic fluorination of **2**.

Scheme 2 illustrates the experimentally observed effects of length of side chain that is at *meta* position with respect to the guanidine group. Comparing the reaction yields of aliphatic fluorination of the -CH₂OMs vs. -CH₂CH₂CH₂OMs side chain indicates that the chain length exerts essentially insignificant influence on the yield of [¹⁸F]fluorination (35 vs. 38 %).¹⁵ It seems that the nucleophile F⁻ is located near the end of the aliphatic chain irrespective of the chain length, giving very small difference in yield. Figure 2 presents the two pre-reaction complexes that may be feasible for [¹⁸F] fluorination of aliphatic guanidine compound containing the side chain -CH₂CH₂CH₂OMs. (PrG-A-01)_{Pre} is the global minimum free energy structure in which F⁻ is close enough to the site of reaction ($R_{C...F} = 3.278$ Å) probably because of the flexibility of propyl carbon chain. In (PrG-A-02)_{Pre}, whose Gibbs free energy is a bit (1.20 kcal/mol) higher than that of (PrG-A-01)_{Pre}, the $R_{C...F}$ distance (3.173 Å) is also favorable for [¹⁸F]fluorination. However, this pre-reaction complex would contribute much less to reaction because it is less feasible on thermodynamic ground (higher Gibbs free energy) than (PrG-A-01)_{Pre}.

(a) Aliphatic guanidine compound **1**



(b) Aromatic guanidine compound **2**

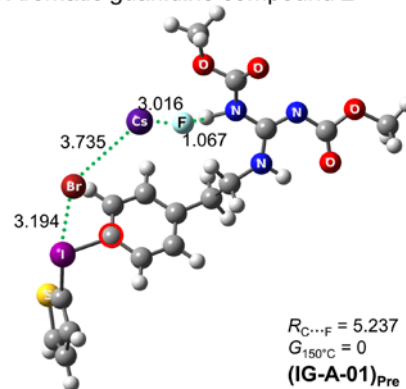
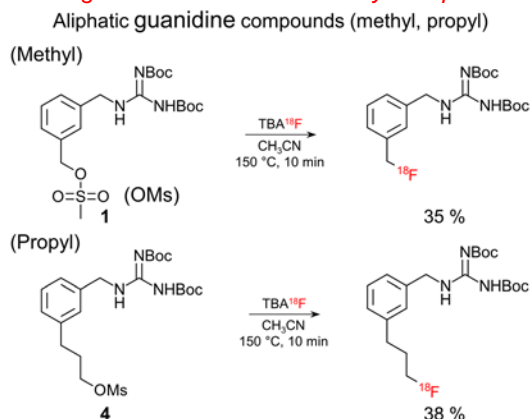


Figure 1. Pre-reaction complexes (a) in aliphatic fluorination of **1** and (b) in aromatic fluorination of **2**. Gibbs free energy in kcal/mol, and bond lengths in Å. (The TEA⁺ is not shown to clarity.)



Scheme 2. Experimentally observed effects of chain length on the reaction yield of aliphatic fluorination at *meta* position.¹⁵

Another observed feature in aliphatic vs. aromatic [¹⁸F]fluorination is the effects of the positions of –Boc protection. It was revealed in our previous work¹⁴ that aromatic [¹⁸F]fluorination of **2** did not proceed at all, whereas the *N, N'*-bis-Boc protected guanidine compound **3** (see scheme 1) exhibited good reactivity (with 39 % yield in 5 min at 150 °C). Detailed quantum chemical analysis¹⁴ described in showed that the origin of this intriguing observation is the results of Coulombic interactions among Cs⁺, F⁻, I⁺ and Br⁻ to position F⁻ near at or far from the site of fluorination in the pre-reaction complexes for [¹⁸F]fluorination of **2** and **3**, respectively. To examine the effects of the position of –Boc protection on aliphatic [¹⁸F]fluorination, we obtained the pre-reaction complexes for aliphatic guanidine compounds protected by *N, N'*-bis-Boc for both methyl and propyl side chain.

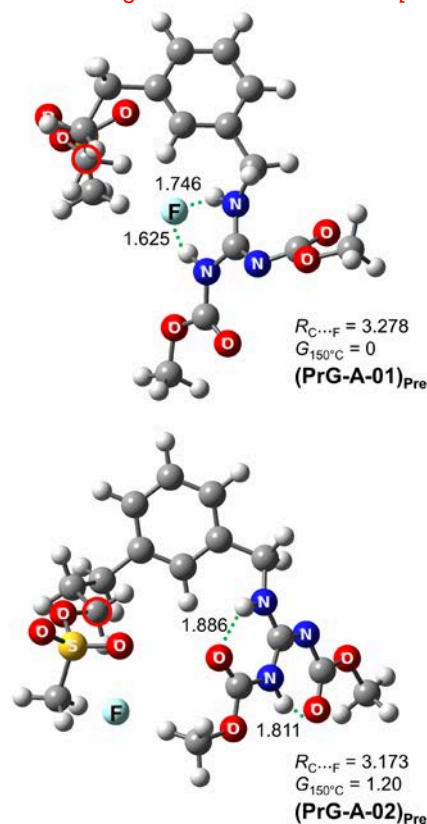


Figure 2. Pre-reaction complexes in aliphatic compound containing –CH₂CH₂CH₂OMs side chain. Gibbs free energy in kcal/mol, and bond lengths in Å. (The TEA⁺ is not shown to clarity.)

Figure 3 shows that the C-F distances in the lowest Gibbs free energy pre-reaction complexes for aliphatic [¹⁸F]fluorination of *N, N'*-bis-Boc protected guanidine compounds for both methyl propyl side chain are slightly larger than that of the compound protected by *N, N'*-bis-Boc (3.938, and 4.008 Å, respectively), The origin of this larger C-F distances is that the –NH group forming hydrogen bond with F⁻ is farther away than in the compound protected by *N, N'*-bis-Boc protected compound. In addition, the –NH₂ group forms hydrogen bond not only with F⁻ ($R_{\text{H}\cdots\text{F}} = 1.513$ Å in (MeG-B-01)_{Pre}, 1.479 Å in (PrG-B-01)_{Pre}), but also with –Boc in approximate six membered ring. Consequently, the nucleophilicity of F⁻ in [¹⁸F]fluorination of *N, N'*-bis-Boc protected guanidine compounds would be smaller than that of the compound protected by *N, N'*-bis-Boc lacking interactions between –NH in guanidine and F⁻. We predict

that in aliphatic [^{18}F]fluorination, the effects of positions of –Boc protection seem to be in reverse, that in contrast with the corresponding aromatic case, in which the *N, N'*-bis-Boc protected guanidine compound **3** in Scheme 1 exhibits much larger reactivity (with larger [^{18}F]fluorination yield) than the *N, N'*-bis-Boc protected guanidine compound **2**.

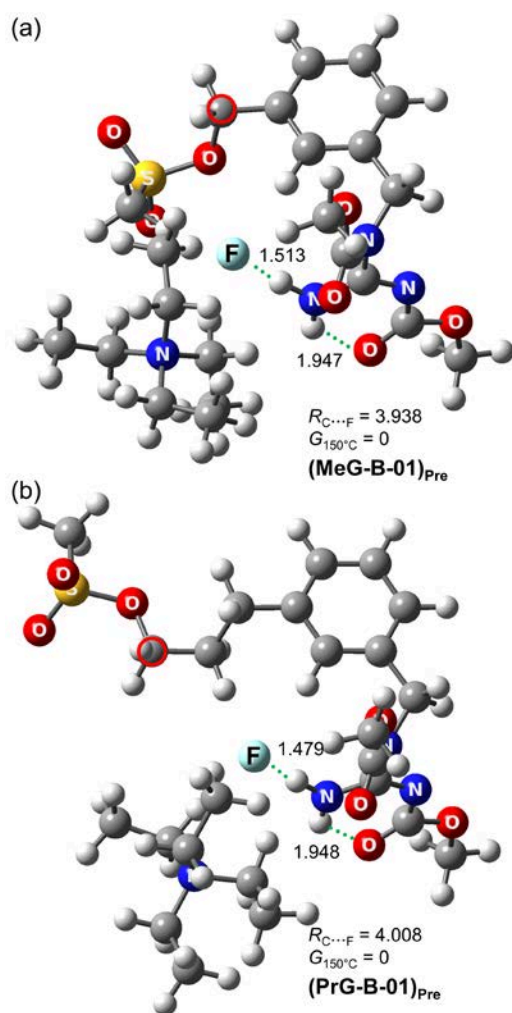


Figure 3. Lowest Gibbs free energy pre-reaction complexes in aliphatic fluorination of guanidine compounds protected by *N, N'*-bis-Boc with (a) –CH₂OMs and with (b) –CH₂CH₂CH₂OMs side chain. Gibbs free energy in kcal/mol, and bond lengths in Å.

Conclusion

We carried out quantum chemical analysis for aliphatic guanidine fluorination in comparison with the corresponding aromatic guanidine fluorination, focusing on the position of F⁻ in pre-reaction complexes. For [^{18}F]fluorination of aliphatic guanidine compounds, the freely moving nucleophile F⁻ positions itself close to the site of fluorination. It is predicted that the effects of positions of –Boc protection seem to be contrary to the corresponding aromatic case, with the *N, N'*-bis-Boc protected guanidine compound being more reactive than the *N, N'*-bis-Boc protected guanidine compound. For –CH₂OMs and –CH₂CH₂CH₂OMs side chains on which the [^{18}F]fluorination occurs, we also showed that the effects of the side chain would be minimal, giving similar positions of F⁻, in agreement with the experimentally observed very similar yields.

Acknowledgments. We thank the Korea Research Foundation (NRF-2016R1D1A1B03931188) for financial support.

References

1. R. G. S. Berlinck, A. E. Trindade-Silva and M. F. C. Santos, *Nat. Prod. Rep.*, **2012**, *29*, 1382-1406.
2. P. K. Garg, S. Garg and M. R. Zalutsky, *Nucl. Med. Biol.*, **1994**, *21*, 97-103.
3. B. C. Lee, J.-Y. Paik, D. Y. Chi, K.-H. Lee and Y. S. Choe, *Bioconjugate chem.*, **2004**, *15*, 104-111.
4. G. Vaidyanathan, D. J. Affleck and M. R. Zalutsky, *J. Med. Chem.*, **1994**, *37*, 3655-3662.
5. D. M. Wieland, J.-I. Wu, L. E. Brown, T. J. Mangner, D. P. Swanson and W. H. Beierwaltes, *J. Nucl. Med.*, **1980**, *21*, 349-353.
6. M. C. Tobes, J. S. Jaques, D. M. Wieland and J. C. Sisson, *J. Nucl. Med.*, **1985**, *26*, 897-907.
7. A. I. McGhie, J. R. Corbett, M. S. Akers, P. Kulkarni, M. N. Sills, M. Kremers, L. M. Buja, M. Durant-Reville, R. W. Parkey and J. T. Willerson, *Am. J. Cardiol.*, **1991**, *67*, 236-242.
8. B. Shapiro and M. Gross, *Med. Pediatr. Oncol.*, **1987**, *15*, 170-177.
9. M. S. Stanton, M. M. Tuli, N. L. Radtke, J. J. Heger, W. M. Miles, B. H. Mock, R. W. Burt, H. N. Wellman and D. P. Zipes, *J. Am. Coll. Cardiol.*, **1989**, *14*, 1519.
10. G. Vaidyanathan, D. J. Affleck and M. R. Zalutsky, *J. Nucl. Med.*, **1995**, *36*, 644-650.
11. G. Vaidyanathan, X.-G. Shao, D. K. Strickland and M. R. Zalutsky, *J. Nucl. Med.*, **1997**, *38*, 330.
12. F. C. Gaertner, T. Wiedemann, B. H. Yousefi, M. Lee, I. Repokis, T. Higuchi, S. G. Nekolla, M. Yu, S. Robinson and M. Schwaiger, *J. Nucl. Med.*, **2013**, *54*, 2111-2117.
13. B. B. Chin, J. F. Kronauge, F. J. Femia, J. Chen, K. P. Maresca, S. Hillier, N. A. Petry, O. G. James, J. D. Oldan and T. Armor, *J. Nucl. Med.*, **2014**, *55*, 765-771.

Article

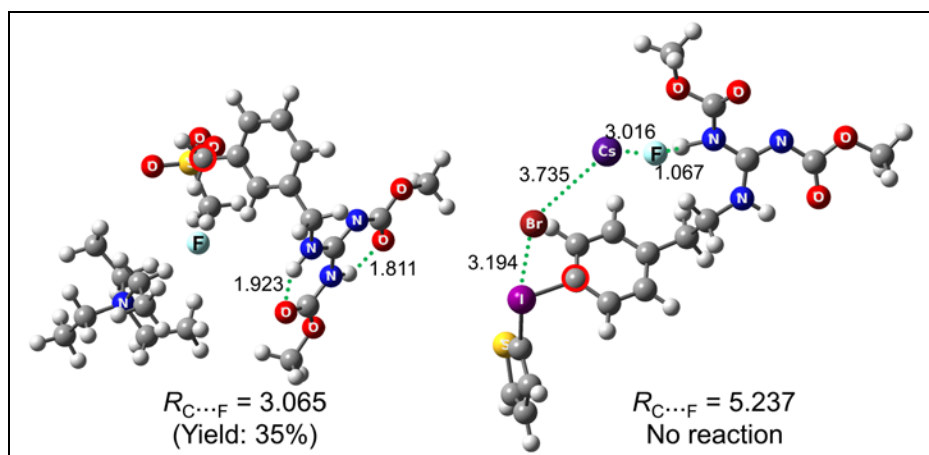
DOI:10.1002/bkcs.2015xxxxx

BULLETIN OF THE
KOREAN CHEMICAL SOCIETY

Origin of Difference in Reactivity of Aliphatic and Aromatic Guanidine-Containing Pharmaceuticals toward [¹⁸F]Fluorination

14. K. S. Jang, S.-S. Lee, Y.-H. Oh, S. H. Lee, J. Yong-Woon, S. E. Kim, D. W. Kim, B. C. Lee, S. Lee and D. M. Raffel, *J. Fluorine Chem.*, **2019** (to be published).
15. B. C. Lee, J.-Y. Paik, D. Y. Chi, K.-H. Lee and Y. S. Choe, *Bioconjugate Chem.*, **2004**, *15*, 104-111.
16. T. Yanai, D. P. Tew and N. C. Handy, *Chem. Phys. Lett.*, **2004**, *393*, 51-57.
17. R. Krishnan, J. S. Binkley, R. Seeger and J. A. Pople, *J. Chem. Phys.*, **1980**, *72*, 650-654.
18. A. Klamt and G. Schüürmann, *J. Chem. Soc., Perk. Trans. 2*, **1993**, 799-805.
19. F. Liu, N. Luehr, H. J. Kulik and T. J. Martínez, *J. Chem. Theory Comput.*, **2015**, *11*, 3131-3144.
20. A. V. Titov, I. S. Ufimtsev, N. Luehr and T. J. Martinez, *J. Chem. Theory Comput.*, **2013**, *9*, 213-221.
21. I. S. Ufimtsev and T. J. Martinez, *J. Chem. Theory Comput.*, **2009**, *5*, 2619-2628.

Author Manuscript



Graphical Abstract

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC	Issue	No.	Remarks
1	B-19-PCB-020-A	Survival Probability Dynamics of Scaled Brownian M	성재영 Jaeyoung Sung	A	5/29/2019	6/12/2019		O	BKCS 40-9	1	
2	B-19-M-016-N	Study on the 2-phenylchroman-4-one derivatives a	김형래 Hyoung Rae Kim	N	5/2/2019	6/12/2019		O	BKCS 40-9	2	
3	B-19-SC-003-A	One-Pot Synthesis of Highly Monodisperse Poly(lac	이재승 Jae-Seung Lee	A	5/21/2019	6/14/2019		O	BKCS 40-9	3	
4	B-19-EC-010-A	NaCrO ₂ /Coffee Waste Derived Nitrogen-Doped Car	성영은 Yung-Eun Sung	A	4/17/2019	6/14/2019	O	O	BKCS 40-9	4	
5	B-19-OSA-011-A	Synthesis of Enantiopure 2-Alkyl-1,3,3-Trinitroazeti	조창우 CHANG-WOO CH	A	5/4/2019	6/20/2019	O	O	BKCS 40-9	5	
6	B-19-OSA-012-N	Chiral Resolution of Racemic 2-Pyrone Diels-Alder C	조천규 Cheon-Gyu Cho	N	6/12/2019	6/22/2019	O	O	BKCS 40-9	6	
7	B-19-MC-003-N	Mechanochemical Synthesis of Polydiphenylamine	박치영 Chiyoung Park	N	5/27/2019	6/22/2019		O	BKCS 40-9	7	
8	B-19-AC-020-A	Development of an argon gas cluster ion beam for	최명철 Myoung Choul C	A	5/13/2019	6/25/2019		O	BKCS 40-9	8	
9	B-19-PCB-016-A	Effects of the substituents on the energy flow of to	이종백 Ree Jongbaik	A	4/25/2019	6/26/2019		O	BKCS 40-9	9	
10	B-19-M-019-A	Development of QSAR Model for Subchronic Inhala	이성광 Sung Kwang Lee	A	6/15/2019	7/1/2019	O	O	BKCS 40-8	17	40-9 --> 40-8
11	B-19-AC-022-A	Development and Validation of an HPLC Method us	김경호 Kyeong Ho Kim	A	5/22/2019	7/2/2019	O	O	BKCS 40-9	10	
12	B-19-PCB-022-A	Origin of Difference in Reactivity of Aliphatic and A	이성렬 Lee Sungyul	A	6/7/2019	7/3/2019		O	BKCS 40-9	11	
13	B-19-M-013-N	Construction of near-infrared irradiation-controlled	Yong Kong	N	3/17/2019	7/4/2019		O	BKCS 40-9	12	
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC	Issue	No.	Remarks
1	B-19-BC-008-N	Tandem Promoters for Expression of Cnu, a Nucleo	이영훈 Younghoon Lee	N	4/30/2019	5/13/2019		O	BKCS 40-8	1	
2	B-19-PCB-012-A	Density Functional Theory Calculations of Geometr	배균택 Gyun-Tack Bae	A	3/8/2019	5/17/2019	O	O	BKCS 40-8	2	
3	B-19-M-003-A	Synthesis and biological evaluation of Decursinol de	유국현 yu kook hyun	A	1/21/2019	5/17/2019		O	BKCS 40-8	3	
4	B-19-AC-019-A	The performance investigation of bimodal cation ex	김기훈 Ki Hun Kim	A	5/13/2019	5/22/2019	O	O	BKCS 40-8	4	
5	B-19-OSA-007-A	Novel Rhodamine B and 2H-benzo[b][1,4]oxazin-3(신동수 Dong-Soo Shin	A	2/18/2019	5/25/2019	O	O	BKCS 40-8	5	
6	B-19-OSA-010-H	Stereoselective Construction of N,O- and O,O-Aceta	하현준 Hyun-Joon Ha	H	4/4/2019	5/25/2019		O	BKCS 40-8	6	
7	B-19-MC-002-A	PLGA microsphere addition to 1-hydroxy-2-naphtho	한희동 HEE DONG HAN	A	2/25/2019	5/29/2019		O	BKCS 40-8	7	
8											
9	B-19-PCB-017-A	A combined molecular docking and 3D-QSAR studie	조승주 Seung Joo Cho	A	5/6/2019	5/29/2019	O	O	BKCS 40-8	8	
10	B-19-AC-015-N	Photoelectrochemical Coulometric Sensing of Anab	김성현 Kim Sunghyun	N	4/24/2019	5/30/2019		O	BKCS 40-8	9	
11	B-19-IC-008-A	Highly Sensitive Detection of Malathion Based on F	An Iijuan	A	3/9/2019	5/31/2019		O	BKCS 40-8	10	
12	B-19-M-014-A	Synthesis and Biological Assay of Hybrids between	이정태 Jeong Tae Lee	A	4/1/2019	5/10/2019	O	O	BKCS 40-8	11	40-7 --> 40-8 (DOI: 10.1002/bkcs.11814)
13	B-19-PCB-019-N	Effects of Non-Poisson Transcription Dynamics on M	성재영 Jaeyoung Sung	N	5/29/2019	6/3/2019		O	BKCS 40-8	12	
14	B-19-POC-006-A	A quencher-fluorophore-type probe for detection a	배세원 Se Won Bae	A	5/10/2019	6/7/2019	O	O	BKCS 40-8	13	
15	B-19-M-017-A	Synthesis of Clitocybins A, B, C and their Biological	이상구 Sangku Lee	A	5/8/2019	6/7/2019		O	BKCS 40-8	14	
16	B-19-OSB-011-N	Cooperative Stereocontrol by Proximal and Distal C	정원진 Won-jin Chung	N	5/21/2019	6/7/2019	O	O	BKCS 40-8	15	
17	B-19-PCA-015-N	Formation, Stability, and Replacement of Thiol Self	윤상운 Sangwoon Yoon	N	3/12/2019	6/9/2019		O	BKCS 40-8	16	
18	B-19-M-019-A	Development of QSAR Model for Subchronic Inhala	이성광 Sung Kwang Lee	A	6/15/2019	7/1/2019	O	O	BKCS 40-8	17	40-9 --> 40-8
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC	Issue	No.	Remarks
1	B-19-PCA-012-C	Formation of a Highly-Ordered Thiophene Monolayer	노재근 Jaegeun Noh	C	2/7/2019	3/29/2019		O	BKCS 40-7	1	
2	B-19-PCA-002-A	Relationship between Protein Expression Pattern and	채영기 Chae Young Kee	A	1/12/2019	3/9/2019	O	O	BKCS 40-7	2	DOI: 10.1002/bkcs.11743 (from 40-5)
3	B-19-IC-009-A	Colorimetric detection of Co ²⁺ , Cu ²⁺ and Zn ²⁺ by a	김철 Cheal Kim	A	3/9/2019	4/11/2019	O	O	BKCS 40-7	3	
4	B-19-M-006-A	Discovery of (E)-5,5-difluoro-1-[2-[5-(3-fluorophenyl)	이선경 Sunkyung Lee	A	2/19/2019	4/11/2019		O	BKCS 40-7	4	
5	B-19-POC-005-N	Biological synthesis of chiral p-coumaroyl glycerol	안중훈 Ahn Joong-Hoon	N	3/26/2019	4/11/2019		O	BKCS 40-7	5	
6	B-19-POC-004-A	Studies of NMR Chemical Shifts of Chalcone Derivatives	한인숙 In-Sook Han Lee	A	3/1/2019	4/12/2019	O	O	BKCS 40-7	6	
7	B-19-IE-005-A	Poly(butylene adipate-co-terephthalate)(PBAT)/air	유국현 Yu Kook Hyun	A	3/5/2019	4/13/2019	O	O	BKCS 40-7	7	
8	B-19-BC-004-A	Isolation of single chain antibodies specific to lysosomal	유연규 Yeon Gyu Yu	A	2/26/2019	4/13/2019		O	BKCS 40-7	8	
9	B-18-MC-014-A	Visible to near-infrared-absorbing polymers containing	진영읍 Youngeup Jin	A	11/16/2018	4/13/2019		O	BKCS 40-7	9	
10	B-19-AC-008-A	Selective and fast-response fluorescent probes for	Shi lei	A	2/4/2019	4/15/2019	O	O	BKCS 40-7	10	
11	B-19-OSA-006-A	Copper(I)-Catalyzed Cyclization Reactions of Ethyl	이필호 Phil Ho Lee	A	3/5/2019	4/17/2019	O	O	BKCS 40-7	11	
12	B-19-OSA-003-A	The First Synthesis of Baphicacanthin A, a Natural	한영택 Young Taek Han	N	2/7/2019	4/23/2019	O	O	BKCS 40-7	12	
13	B-19-BC-007-A	Structure and Mechanism of Surfactin Peptide from	이철원 Chul Won Lee	A	4/11/2019	4/24/2019		O	BKCS 40-7	13	
14	B-19-OSB-009-N	Enantioselective Catalytic [3+3] Cycloaddition of Diene	김성곤 Sung-Gon Kim	N	4/9/2019	4/24/2019	O	O	BKCS 40-7	14	
15	B-18-OSA-028-N	Efficient Synthesis of (Z)-Aurones by the Thallium(I)	이재인 Jae in Lee	N	12/13/2018	4/30/2019	O	O	BKCS 40-7	15	
16	B-19-BC-006-C	NMR Analysis of the Interaction between Cyclophosphamide	최병석 Byong Seok Choi	C	4/11/2019	5/1/2019	O	O	BKCS 40-7	16	
17	B-19-IC-011-A	Synthesis of novel palladium complexes containing	이익모 Lee Ik Mo	A	3/27/2019	5/4/2019		O	BKCS 40-7	17	
18	B-19-AC-007-A	Determination of Famphur in Honey by Solid Phase	명승운 Myung Seung-W	A	1/28/2019	5/4/2019		O	BKCS 40-7	18	
19	B-19-PCB-015-A	Dynamic behavior of C60 fullerenes in carbon nanotubes	이기학 Lee Kee Hag	A	4/11/2019	5/8/2019		O	BKCS 40-7	19	
20	B-19-M-012-A	Hydroxyl and halogen containing chalcones for inhibition	이응석 Eung-Seok Lee	A	3/8/2019	5/10/2019	O	O	BKCS 40-7	20	
21	B-19-M-014-A	Synthesis and Biological Assay of Hybrids between	이정태 Jeong Tae Lee	A	4/1/2019	5/10/2019	O	O	BKCS 40-8		40-7 → 40-8 (DOI: 10.1002/bkcs.11814)
22	B-19-EC-007-A	RuO ₂ -coated MoS ₂ nanosheets as cathode catalysts	이윤정 Yun Jung Lee	A	3/9/2019	4/11/2019	O	O	BKCS 40-7	21	
23	B-18-AC-026-A	Application of a Quality by Design (QbD) Approach	김찬화 Chan-Wha Kim	A	4/19/2018	2/28/2019		O	BKCS 40-7	22	DOI: 10.1002/bkcs.11737
24	B-19-PCB-018-A	A Density Functional Theory Study of an Exciplex II	김동욱 Dongwook Kim	A	5/20/2019	5/29/2019		O	BKCS 40-7	23	
25											
26											
27											
28											
29											

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC	Issue	No.	Remarks
1	B-19-IC-007-A	Evidences for different reaction sites for dehydroge	류설 SEOL RYU	A	2/26/2019	3/11/2019		O	BKCS 40-6	1	
2	B-19-AC-006-N	Disposable microcolumn with a welded metal frit an	정원조 Won Jo Cheong	N	1/21/2019	3/11/2019		O	BKCS 40-6	2	
3	B-19-EC-001-A	Mo/CIGS/CdS Structures by E-ALD	이치우 Chi-Woo Lee	A	12/25/2018	3/12/2019	O	O	BKCS 40-6	3	
4	B-19-BC-002-A	Crystal Structure of the Fab Fragment of an Anti-CT	허용석 Yong-Seok Heo	N	2/3/2019	3/14/2019		O	BKCS 40-6	4	
5	B-19-PCA-010-A	Light Absorption Enhancement by Employing A Plas	정기남 Kinam Jung	A	1/28/2019	3/16/2019	O	O	BKCS 40-6	5	
6	B-19-POC-003-N	A Fluorescent Optode Membrane Covalently Immob	김형진 Hyung Jin Kim	N	2/27/2019	3/18/2019	O	O	BKCS 40-6	6	
7	B-19-PCB-008-N	Theoretical comparison of the stabilities of Hoogste	한상윤 Sang Yun Han	N	2/25/2019	3/18/2019		O	BKCS 40-6	7	
8	B-19-IE-002-A	Design and synthesis of acid-resistant zeolite T/NaY	Zhihui Zhou	A	12/19/2018	3/18/2019		O	BKCS 40-6	8	
9	B-19-M-004-N	Redispersible freeze-dried quercetin-loaded liposom	이재휘 Jaehwi Lee	N	1/29/2019	3/22/2019		O	BKCS 40-6	9	
10	B-18-EC-020-A	A Sulfur-Layered Separator Enabling an Innovative F	정용주 Yongju Jung	A	12/13/2018	3/22/2019	O	O	BKCS 40-6	10	
11	B-18-OSA-024-C	Noncovalent immobilization of palladium complex o	진명종 Myung-Jong Jin	C	10/9/2018	3/23/2019	O	O	BKCS 40-6	11	
12	B-19-OSB-006-C	Synthesis and Spectral Characterization of Impuritie	정재경 Jung Jae-Kyung	C	3/13/2019	3/25/2019	O	O	BKCS 40-6	12	
13	B-19-PCA-006-C	Effect of Linear Chain Lengths of 1-Alkanethiols on P	하지원 Ji Won Ha	C	1/21/2019	3/26/2019	O	O	BKCS 40-6	13	
14	B-19-PCB-009-N	Facile Production of Hydrogen-Bonded Dimeric Frag	한상윤 Sang Yun Han	N	2/28/2019	3/26/2019	O	O	BKCS 40-6	14	
15	B-19-EC-004-A	Shape-controlled Electrodeposition of Standing Pt N	김규원 Kyuwon Kim	A	2/19/2019	3/26/2019		O	BKCS 40-6	15	
16	B-19-EC-006-A	Nanoneedle structured anode catalyst for low-temp	윤영수 Young Soo Yoon	A	3/14/2019	3/26/2019		O	BKCS 40-6	16	
17	B-18-EC-019-A	Nanocellulose-modified Nafion 212 membrane for i	최진섭 Jinsub Choi	A	12/19/2018	3/26/2019		O	BKCS 40-6	17	
18	B-19-M-007-N	Synthesis of substituted farnesyl acetone derivative	이석준 Seokjoon Lee	N	2/21/2019	3/26/2019		O	BKCS 40-6	18	
19	B-19-AC-010-C	Detection of toxic chemicals on ground by stand-off	정영수 Young-Su Jeong	C	2/25/2019	3/27/2019		O	BKCS 40-6	19	
20	B-19-OSA-002-A	Acrylamide-coumarin-benzaldehyde as a turn-on flu	이민희 Min Hee Lee	A	1/12/2019	3/27/2019	O	O	BKCS 40-6	20	
21	B-19-M-010-A	Tryptamine-Triazole Hybrid Compounds for Selectiv	박정호 Park Jeong Ho	A	2/23/2019	3/29/2019		O	BKCS 40-6	21	
22	B-19-POC-002-C	Deep Learning Algorithm of Graph Convolutional Ne	최인성 Insung S Choi	C	2/21/2019	3/29/2019	O	O	BKCS 40-6	22	
23	B-19-OSB-005-N	Asymmetric Phosphoric Acid-Catalyzed Aza-Friedel	김성곤 Sung-Gon Kim	N	2/26/2019	3/31/2019	O	O	BKCS 40-6	23	
24	B-18-POC-013-N	An Unusual Homoisoflavanone from Portulaca olera	서영완 Seo Youngwan	N	7/25/2018	4/1/2019	O	O	BKCS 40-6	24	
25	B-19-PCA-011-A	Synthesis and Studies on Photophysical Properties o	이기환 Lee Ki Hwan	A	1/30/2019	4/5/2019	O	O	BKCS 40-6	25	
26	B-19-IC-010-A	Facile preparation of ionic liquid coated Copper nan	윤민영 Minyoung Yoon	A	3/10/2019	4/7/2019		O	BKCS 40-6	26	
27	B-19-OSB-007-C	Decarboxylative Heck-Type Reactions of Thioacrylic	이선우 Sunwoo Lee	C	3/25/2019	4/8/2019		O	BKCS 40-6	27	
28	B-19-EC-002-A	Essential Features of Electrolyte Solvents that Enab	정용주 Yongju Jung	A	1/10/2019	4/8/2019	O	O	BKCS 40-6	28	
29	B-19-AC-017-A	Glycoproteomics Method to Discover Reliable Biom	조원련 Wonryeon Cho	A	5/1/2019	5/8/2019		O	BKCS 40-6	29	Earlyview must be published by May 31

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC	Issue	No.	Remarks
1	B-18-EC-017-A	Mesoporous Carbon-Dispersed Carbon Nanotube Fi	정용주 Yongju Jung	A	12/4/2018	2/18/2019	O	O	BKCS 40-5	1	
2	B-19-M-002-N	Characterization of Linagliptin – Ferulic Acid Cocryst	윤성화 Sung-Hwa Yoon	N	1/17/2019	2/19/2019	O	O	BKCS 40-5	2	
3	B-19-AC-002-A	Development of triglyceride certified reference mat	강덕진 Dukjin Kang	A	1/9/2019	2/20/2019		O	BKCS 40-5	3	
4	B-19-M-005-N	Benzoxazoles as selective monoamine oxidase B (M	추현아 Hyunah Choo	N	2/7/2019	2/20/2019		O	BKCS 40-5	4	
5	B-19-AC-004-N	Single-Particle Study: Chemical Effect on Surface Pla	하지원 Ji Won Ha	N	1/14/2019	2/21/2019	O	O	BKCS 40-5	5	References are missing in the file named B-19-AC-004-N. So, please use references in the file 'B-19-AC-004-N_reference'
6	B-19-OSB-003-A	5-Bromo-2,9-bis(5,6-diphenyl-1,2,4-triazin-3-yl)-1,10	이대성 Dae Sung Lee	A	1/28/2019	2/25/2019		O	BKCS 40-5	6	
7	B-19-BC-001-H	Recent Advances in In Vitro Translation and Selectio	권선범 Sunbum Kwon	H	1/12/2019	2/26/2019		O	BKCS 40-5	7	
8	B-19-OSB-002-N	Chemically Modified-Chitosan as a Biopolymer Supp	김승희 Seung-Hoi Kim	N	1/24/2019	2/27/2019	O	O	BKCS 40-5	8	Scheme 1 has been revised.
9	B-18-AC-026-A	Application of a Quality by Design (QbD) Approach f	김찬화 Chan-Wha Kim	A	4/19/2018	2/28/2019		O	BKCS 40-5	9	
10	B-19-BC-003-A	Improving Cell Selectivity of Fowlicidin-1 by Swappi	신송엽 Shin Song Yub	A	2/18/2019	3/1/2019		O	BKCS 40-5	10	
11	B-19-POC-001-A	A Nonfullerene Acceptor Containing Rhodanine and	임은희 Eunhee Lim	A	2/7/2019	3/4/2019	O	O	BKCS 40-5	11	
12	B-19-PCA-003-N	Complex Thermal Fluctuation of Agglomerated Mag	김학진 Hackjin Kim	N	1/16/2019	3/5/2019		O	BKCS 40-5	12	
13	B-19-MC-001-A	Redox and CD44 dual-responsive nanophotosensitiz	정영일 Young-IL Jeong	A	1/29/2019	3/5/2019		O	BKCS 40-5	13	
14	B-18-M-049-A	Microwave-assisted transition metal-catalyzed coup	염을균 Yum Eul Kgun	A	12/13/2018	2/7/2019	O	O	BKCS 40-5	14	40-4 -> 40-5
15	B-19-PCB-011-A	DFT study on the interaction of subnanometer coba	김찬경 Kim Chan Kyung	A	3/4/2019	3/8/2019	O	O	BKCS 40-5	15	
16	B-19-PCA-002-A	Relationship between Protein Expression Pattern an	채영기 Chae Young Kee	A	1/12/2019	3/9/2019	O	O	BKCS 40-5	16	
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											

Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC				
1	B-18-POC-021-A	Differential Recognition of Various Anions Utilizing	강종민 Kang Jongmin	A	11/1/2018	11/22/2018	O	O	DOI: 10.1002/bkcs.11646	BKCS 40-4	1
2	B-18-POC-030-A	Synthesis and Band-Gap Analysis of Designed Porp	황광진 Kwang Jin Hwan	A	12/20/2018	1/11/2019		⊖		BKCS 40-2	
3	B-18-M-035-A	Improved Drug Loading and Sustained Release of E	강명주 Myung Joo Kang	A	9/4/2018	1/16/2019		O		BKCS 40-4	2
4	B-18-M-040-N	Effect of Polymer Type on the Dissolution Profile of	김민수 Kim Min-Soo	N	9/27/2018	1/16/2019		O		BKCS 40-4	3
5	B-18-SC-028-C	M13 Viruses as a Dimension-directing Agent for Fa	김규원 Kyuwon Kim	C	11/9/2018	1/17/2019	O	O		BKCS 40-4	4
6	B-19-PCB-003-A	A New Computational Method for Protein-Ligand B	함시현 Ham Sihyun	A	1/10/2019	1/19/2019		⊖	DOI: 10.1002/bkcs.11681	BKCS 40-2	
7	B-19-AC-003-A	Determination of Water Content in Bioethanol Usi	최기환 Kihwan Choi	A	1/13/2019	1/22/2019		O		BKCS 40-4	5
8	B-19-PCB-004-N	Coherence Transfer by Radiation Damping Combin	안상두 Sangdooh Ahn	N	1/14/2019	1/23/2019		O		BKCS 40-4	6
9	B-18-SC-025-A	MnOx-carbon black-embedded LiFePO4 (MnOx/C-	김지영 Ji-Young Kim	A	11/3/2018	1/25/2019		O		BKCS 40-4	7
10	B-18-SC-023-A	Study on Nano-Metal Oxide and Carbon Nanotube	Pingan Liu	A	8/29/2018	1/25/2019		O		BKCS 40-4	8
11	B-19-AC-001-A	Determination of Chemical and Enantiomeric Purit	이원재 Lee Wonjae	A	1/2/2019	1/26/2019		O		BKCS 40-4	9
12	B-18-PCA-036-A	Optical Characteristics of micro-sized biological aer	정영수 Young-Su Jeong	A	11/26/2018	1/27/2019		O		BKCS 40-4	10
13	B-18-PCA-034-A	Interaction of bovine serum albumin with propyl g	정병서 Byeong-Seo Chee	A	11/20/2018	1/27/2019		O		BKCS 40-4	11
14	B-19-PCA-007-A	Ring Closure Reaction Pathway of a Diarylethene in	주태하 Taiha Joo	A	1/23/2019	1/28/2019		O		BKCS 40-4	12
15	B-19-PCA-008-C	Negative Thermal Effects on the Structural Order o	노재근 Jaegun Noh	C	1/22/2019	1/28/2019		O		BKCS 40-4	13
16	B-18-M-048-A	The Cytotoxic Activity of Honokiol-Triazole Derivat	박정호 Park Jeong Ho	A	12/12/2018	1/29/2019		O		BKCS 40-4	14
17	B-19-IC-002-N	Synthesis and Structure of a New One-dimensional	윤호섭 Hoseop Yun	N	12/28/2018	1/30/2019	O	O		BKCS 40-4	15
18	B-18-MC-011-N	The graft-polymerization of polystyrene using 3-iso	전병철 Byoung Chul Chu	N	10/23/2018	1/30/2019		O		BKCS 40-4	16
19	B-19-PCA-001-N	Photocatalytic degradation of methylene blue on R	최현철 HYUN CHUL CHO	N	1/5/2019	2/2/2019		O		BKCS 40-4	17
20	B-18-M-049-A	Microwave-assisted transition metal-catalyzed cou	염을근 Yum Eul Kgun	A	12/13/2018	2/7/2019	⊖	⊖		BKCS 40-5	
21	B-19-IC-003-N	Hetero-Multinuclear Co2Pt8 Supramolecular Cages	이준승 Junseong Lee	N	1/7/2019	2/9/2019	O	O		BKCS 40-4	18
22	B-19-PCA-009-A	Acid-Base Chemistry of Porphyrin/Graphene Oxide	심상덕 Sangdeok Shim	A	1/27/2019	2/9/2019	O	O		BKCS 40-4	19
23											
24											
25											
26											
27											
28											
29											

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC			
1	B-18-PCB-015-A	Receptor-guided 3D-QSAR study of anilinoquinazolin	조승주 Seung Joo Cho	A	5/26/2018	7/4/2018	O	O	DOI: 10.1002/bkcs.11547	BKCS 40-3	1
2	B-18-POC-023-A	Highly selective fluorescent probe based on 2-(2'-di	김홍석 Kim Hong-Seok	A	11/14/2018	12/11/2018	O	O	This should be included in BKCS 40-2	BKCS 40-2	
3	B-18-EC-016-A	Enhancement of Dye-Sensitized Solar Cells Efficiency	황성원 Sungwon Hwang	A	12/3/2018	12/12/2018		O	(Author request) Please send the proof file by December	BKCS 40-1	
4	B-18-PCB-033-C	Dimerization of HCN in interstellar icy grain mantle	최종철 Joong Chul Choe	C	11/28/2018	12/13/2018		O		BKCS 40-3	2
5	B-18-AC-034-A	UV-light photoelectrochemical sensor based on the	Peng Jinyun	A	8/6/2018	12/17/2018		O		BKCS 40-3	3
6	B-18-IE-023-A	Pervaporation dehydration of azeotropic water/ac	손민영 Minyoung Shon	A	9/27/2018	12/18/2018		O		BKCS 40-3	4
7	B-18-MC-009-A	Langmuir Blodgett Monolayers of Carborane Poly(e	손대원 Daewon Sohn	A	8/11/2018	12/27/2018		O		BKCS 40-3	5
8	B-18-M-046-A	Virtual Screening and Biochemical Evaluation to Ide	박활서 Hwangseo Park	A	11/23/2018	12/27/2018		O		BKCS 40-3	6
9	B-18-M-044-N	Ionic liquid-based in situ film forming sublingual sp	이재휘 Jaehwi Lee	N	10/23/2018	12/27/2018		O		BKCS 40-3	7
10	B-18-POC-029-A	Guanidinium-based organocatalyst for CO2 utilizati	김해조 Hae-Jo Kim	A	12/20/2018	1/3/2019		O		BKCS 40-3	8
11	B-18-OSA-027-A	Synthesis of E/Z N-(1-chlorovinyl)formamide using	신동수 Dong-Soo Shin	A	11/24/2018	1/3/2019	O	O		BKCS 40-3	9
12	B-18-EC-015-A	Real-time Dilation Observation of Si-alloy Electrode	김한수 Hansu Kim	A	11/16/2018	1/3/2019		O		BKCS 40-3	10
13	B-18-SC-027-A	Triple-mode Bi2WO6/pg-C3N4@rGO core-shell syn	Hongbo Wang	A	11/2/2018	1/3/2019		O		BKCS 40-3	11
14	B-18-OSB-027-A	Silica gel mediated synthesis of β -enamino esters a	송민수 Minsoo Song	A	12/13/2018	1/7/2019	O	O		BKCS 40-3	12
15	B-18-OSB-028-A	Succinct syntheses of methopholine, (\pm)-homolau	김필호 Pilho Kim	A	12/19/2018	1/8/2019	O	O		BKCS 40-3	13
16	B-18-MC-012-N	Studies on Poly α -Olefin Synthesis by AlCl3 Catalyze	김정곤 Jeung Gon Kim	N	11/7/2018	1/9/2019		O		BKCS 40-3	14
17	B-18-AC-045-A	Analysis of Raman Spectral Characteristics of chemi	정영수 Young-Su Jeong	A	11/19/2018	1/10/2019	O	O		BKCS 40-3	15
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											

Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC			
1	B-18-PCB-015-A	Receptor-guided 3D-QSAR study of anilinoquinazolin	손승주 Seung-Joo Cho	A	5/26/2018	7/4/2018	⊖	⊖	DOI: 10.1002/bkcs.11547 This should be included in BKCS 40-3	BKCS 40-3
2	B-18-POC-022-N	Microwave-assisted efficient H/D exchange method	임훈우 Choon Woo Lim	N	11/7/2018	11/21/2018				BKCS 40-2 1
3	B-18-PCB-029-A	Temperature dependence of the reaction HCl + OH	이종백 Ree Jongbaek	A	10/31/2018	11/21/2018				BKCS 40-2 2
4	B-18-PCB-030-A	Anharmonic Stretching Frequencies of Local OH Bo	양민오 Mino Yang	A	11/4/2018	11/21/2018				BKCS 40-2 3
5	B-18-POC-021-A	Differential Recognition of Various Anions Utilizing	관종민 Kang Jongmin	A	11/1/2018	11/22/2018	⊖	⊖	This should be included in BKCS 40-4	BKCS 40-4
6	B-18-M-045-C	Novel Chiral 1,3,4-Oxadiazole Derivatives Inducing	민경훈 Kyung Hoon Min	C	11/19/2018	11/26/2018				BKCS 40-2 4
7	B-18-PCB-025-N	Density Functional Theory Study on the Oxidative A	황승구 Sungu Hwang	N	9/30/2018	11/26/2018				BKCS 40-2 5
8	B-18-EC-014-A	A Novel Design of Sulfur Cathode Integrating a Sulf	정용주 Yongju Jung	A	10/27/2018	11/26/2018	⊖	⊖		BKCS 40-2 6
9	B-18-IE-024-A	Synthesis of Cu-doped MOF-235 for the degradatio	유계상 Kye Sang Yoo	A	11/7/2018	11/26/2018				BKCS 40-2 7
10	B-18-BC-010-A	PTP inhibitor XIX inhibits DUSP22 by conformation	조사연 Sayeon Cho	A	9/10/2018	11/27/2018	⊖	⊖		BKCS 40-2 8
11	B-18-AR-003-H	Functional Amyloid as a Potential Encoder of Melan	강경태 Kyungtae Kang	H	10/16/2018	11/28/2018				BKCS 40-2 9
12	B-18-AC-044-A	Determining Collision Cross Sections of Aromatic C	김성환 Sunghwan Kim	A	10/31/2018	11/28/2018	⊖	⊖		BKCS 40-2 10
13	B-18-IC-020-A	Complementary chromophore decoration in NU-10	이창연 Chang Yeon Lee	A	9/5/2018	12/1/2018	⊖	⊖		BKCS 40-2 11
14	B-18-PCA-031-A	Experimental and Computational Studies of Dissoci	Joong-Won Shin	A	10/31/2018	12/3/2018				BKCS 40-2 12
15	B-18-POC-024-A	Al ³⁺ -morpholine-appended anthracene ensemble	김홍석 Kim Hong-Seok	A	11/14/2018	12/4/2018	⊖	⊖		BKCS 40-2 13
16	B-18-IC-022-N	Cooligomers of 1,1-Diethyl- or Diisopropyl-2,5-dibr	박영태 Park Young Tae	N	10/14/2018	12/5/2018	⊖	⊖		BKCS 40-2 14
17	B-18-AC-046-C	Gradient irradiation of ultrasound in Chiral Separat	류재정 Jae Jeong Ryoo	C	11/21/2018	12/5/2018				BKCS 40-2 15
18	B-18-SC-026-A	Cycle-dependent Microstructural Changes of Silicor	김한수 Hansu Kim	A	11/3/2018	12/7/2018				BKCS 40-2 16
19	B-18-AC-041-A	Chemical Characterization of Precipitation by Air Pd	강창희 Kang Chang Hee	A	9/5/2018	12/7/2018				BKCS 40-2 17
20	B-18-BC-009-N	Homoharringtonine induces apoptosis in human co	김성환 Kim Seong Hwan	A	8/17/2018	12/8/2018	⊖	⊖		BKCS 40-2 18
21	B-18-POC-023-A	Highly selective fluorescent probe based on 2-(2'-d	김홍석 Kim Hong-Seok	A	11/14/2018	12/11/2018	⊖	⊖	This should be included in BKCS 40-2	BKCS 40-2 19
22	B-18-PCA-038-C	Plasmonic Nanocavity Array for Enhanced Upconve	Kinam Jung	C	11/30/2018	12/15/2018	⊖	⊖	This should be included in BKCS 40-2	BKCS 40-2 20
23	B-18-POC-030-A	Synthesis and Band Gap Analysis of Designed Porph	황광진 Kwang-Jin Hwang	A	12/20/2018	1/11/2019			This should be included in BKCS 40-2	BKCS 40-2 21
24										
25										
26										
27										
28										
29										

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC
1	B-18-M-041-N	Synthesis of (S,S)-Reboxetine	고수영 soo young ko	N	8/5/2018	10/9/2018	O	O
2	B-18-OSB-023-N	Ligand-Free Hydrosilylation of Aldehydes Mediated	김승희 Seung-Hoi Kim	N	9/13/2018	10/11/2018		O
3	B-18-SC-022-A	Fabrication of Remarkably Bright QD-Densely-Embe	전봉현 Bong-Hyun Jun	A	8/30/2018	10/11/2018		O
4	B-18-AC-042-A	Single-molecule nanocatalysis via the support effec	강성호 Seong Ho Kang	A	9/30/2018	10/21/2018	O	O
5	B-18-POC-019-A	Non-fullerene Small Molecule Acceptors Containing	임은희 Eunhee Lim	A	10/2/2018	10/25/2018	O	O
6	B-18-M-039-C	Comparison of Plasma and Brain Exposure Levels of	정영식 Young-Sik Jung	C	9/23/2018	10/30/2018		O
7	B-18-EC-013-A	A New Concept of a Porous Carbon Interlayer Impr	정용주 Yongju Jung	A	9/18/2018	10/30/2018		O
8	B-18-IC-008-A	Characterization and photoluminescence property	Ping Li	A	5/13/2018	11/8/2018	O	O
9	B-18-OSA-021-A	n-Butyllithium (1 mol%)-catalyzed hydroboration of	안덕근 An Duk Keun	A	8/23/2018	11/12/2018		O
10	B-18-POC-020-C	Developing Low Fouling on PET Film via Surface-Init	홍대화 Daewha Hong	C	10/29/2018	11/13/2018		O
11	B-18-OSB-024-N	Novel Synthesis of Thioaurones by the Regioselectiv	이재인 Jae in Lee	N	9/29/2018	11/14/2018	O	O
12	B-18-PCB-028-A	PyQSAR : A Fast QSAR modeling platform using Ma	조광휘 Cho Kwang-Hwi	A	10/18/2018	11/15/2018		O
13	B-18-BC-011-N	Crystal Structure of the YAP-binding Domain of Hur	구본수 Bonsu Ku	N	11/5/2018	11/15/2018	O	O
14	B-18-MC-010-A	Suspension polymerization of thermally expandable	안덕근 An Duk Keun	A	10/14/2018	11/19/2018		O
15	B-18-SC-024-N	Controlled Synthesis of Pd Nanocube-Polyaniline Hy	홍종욱 Jong Wook Hong	N	9/9/2018	11/21/2018		O
16	B-18-BC-012-A	3,6-dihydroxyflavone: A potent inhibitor with anti-i	김양미 yangmee kim	A	11/6/2018	11/22/2018		O
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC
1	B-18-PCA-027-C	ZnO-CNT nanostructures as potential materials for	최현철 HYUN CHUL CHO	C	7/27/2018	9/11/2018		O
2	B-18-IC-014-A	Carbon-wrapped bimetallic Co/Ni catalysts (C@Cox	박경세 Gyungse Park	A	7/11/2018	9/11/2018	O	O
3	B-18-AC-039-N	Efficient Conversion Method of Bulk Silicon Powder	이영복 Youngbok Lee	N	8/31/2018	9/12/2018	O	O
4	B-18-IE-019-N	Marine Fouling Resistance of Ulvan-Grafted Solid S	강성민 Sung Min Kang	N	8/9/2018	9/13/2018		O
5	B-18-AC-028-A	Use of powdered cockle shell as a bio-sorbent mate	유건상 Keon Sang Ryoo	A	7/9/2018	9/13/2018		O
6	B-18-AC-029-A	GC- MS Method for the Quantitative Analysis of Lim	오한빈 Oh Han Bin	A	7/18/2018	9/16/2018		O
7	B-18-IC-017-A	Detection of zinc(II) by a fluorescence chemosensor	김철 Cheal Kim	A	8/17/2018	9/16/2018	O	O
8	B-18-OSA-023-N	Total Synthesis of Ningalin C	조천규 Cheon-Gyu Cho	N	9/4/2018	9/18/2018	O	O
9	B-18-AC-031-A	Fast and simple qualitative/semi-quantitative analy	신영근 Young Shin	A	8/1/2018	9/19/2018		O
10	B-18-M-033-A	Preparation of a Camptothecin-Conjugated Molecu	임정균 Jungkyun Im	A	8/7/2018	9/21/2018		O
11	B-18-AC-035-A	Validation of Monosaccharide Composition Assay u	권오석 Ohseok Kwon	A	8/19/2018	9/22/2018		O
12	B-18-AC-037-A	Lipase functionalization of silica-coated biotemplat	장창현 Chang-Hyun Jang	A	8/27/2018	9/22/2018		O
13	B-18-POC-017-C	Development of A Selective Fluorescent Probe for H	윤주영 Juyoung Yoon	C	9/11/2018	9/26/2018	O	O
14	B-18-IE-016-A	Influence of nickel layer on electromagnetic interfe	박수진 Soo-Jin PARK	A	6/12/2018	9/27/2018		O
15	B-18-IE-022-A	Fabrication of non-wetting flexible free-standing M	채규운 Chai Kyu-Yun	A	9/3/2018	9/27/2018		O
16	B-18-POC-018-A	Electronically tuned 2-(2'-hydroxyphenyl)-4-pyreny	김홍석 Kim Hong-Seok	A	9/12/2018	10/4/2018	O	O
17	B-18-M-038-A	Design and synthesis of fluorinated and/or hydroxy	이응석 Eung-Seok Lee	A	9/19/2018	10/5/2018		O
18	B-18-M-032-N	Inhibitory effect of phenanthrenes and dihydrostilb	윤구 Goo Yoon	N	7/25/2018	10/5/2018	O	O
19	B-18-OSA-018-A	Enantioselective Organocatalytic Mannich Reaction	김대영 Dae Young Kim	A	6/24/2018	10/8/2018		O
20	B-18-AC-033-A	Metabolomic analysis of organic acids in ginseng ro	백만정 Man-Jeong Paik	A	8/5/2018	10/9/2018		O
21								
22								
23								
24								
25								
26								
27								
28								
29								

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC
1	B-18-BC-006-A	Backbone Dynamics and Model-free Analysis of the	박진주 Chin-Ju Park	A	6/26/2018	8/15/2018		O
2	B-18-PCA-025-N	Blue Photoluminescence of Au Nanoclusters Synthe	송재규 Jae Kyu Song	N	7/23/2018	8/16/2018	O	O
3	B-18-BC-007-A	Peptidyl prolyl isomerase Cpr7p of yeast prevents p	임하나 Hana Im	A	7/18/2018	8/19/2018		O
4	B-18-OSB-020-C	Synthesis of isoindolobenzo[c]azepine skeleton via	김건철 Kim Guncheol	C	7/16/2018	8/22/2018	O	O
5	B-18-POC-014-A	Anti-Melanogenic Effects of Raphanus sativus L. var	이남호 Nam Ho Lee	A	7/30/2018	8/22/2018	O	O
6	B-18-PCA-028-C	Photoexcitation Dynamics of Thiocyanate-bound H	임만호 Manho Lim	C	8/1/2018	8/23/2018		O
7	B-18-M-029-A	Introduction of diverse functional groups to isoquin	염을균 Yum Eul Kgun	A	7/9/2018	8/23/2018	O	O
8	B-18-SC-011-A	Effects of Ti doping on the structure stability and er	류광선 Kwang-Sun Ryu	A	4/8/2018	8/26/2018		O
9	B-18-SC-018-A	Optical anisotropy of core-shell or yolk-shell type	이재범 Jaebeom Lee	A	7/5/2018	8/26/2018	O	O
10	B-18-PCB-022-A	Trigraphene and Its Derivates: A Novel Carbon Allot	이진용 JIN YONG LEE	A	8/20/2018	8/27/2018		O
11	B-18-M-015-N	Synthesis and biological evaluation of amide-type p	노호식 Rho Ho Sik	N	4/15/2018	8/28/2018		O
12	B-18-PCB-021-A	Theoretically Predicted New Multicyclic Compound	이진용 JIN YONG LEE	A	8/20/2018	8/29/2018		O
13	B-18-EC-009-N	Development and Electrochemical Characterization	정장훈 Jang-Hoon Chung	N	5/31/2018	8/30/2018		O
14	B-18-POC-015-N	Photochromism and Colorimetric Ion Sensing of a S	신은주 Shin Eun Ju	N	8/2/2018	9/3/2018	O	O
15	B-18-OSA-017-N	Enantioselective Aza-Friedel–Crafts Reaction of Pyr	김성곤 Sung-Gon Kim	N	6/27/2018	9/3/2018	O	O
16	B-18-M-030-A	Enhanced chemical stability of hirsutenone incorpo	최영욱 Young Wook Cho	A	7/17/2018	9/3/2018		O
17	B-18-IC-016-A	Quinolinol-based Al/Triarylborane Dyad Assembly:	이강문 Kang Mun Lee	A	7/26/2018	9/3/2018	O	O
18	B-18-SC-021-A	Template-assisted morphological evolution of Cu ₂ S	허영덕 Young-Duk Huh	A	7/15/2018	9/3/2018		O
19	B-18-POC-012-A	Turn-on Fluorescent Photochromic Disulfonylarylth	안광현 Kwang-Hyun Ahr	A	7/11/2018	9/6/2018		O
20	B-18-POC-016-N	Facile Preparation of Functional Group Gradient Su	여운석 Woon-Seok Yeo	N	8/29/2018	9/10/2018	O	O
21	B-18-AC-030-A	Quantitative Analysis of Artificial Sweeteners by Ca	이용일 LEE YONG-ILL	A	7/29/2018	9/10/2018		O
22	B-18-PCA-021-A	Water Molecules on the Epoxide Groups of Graphene	주상우 Sang-Woo Joo	A	6/12/2018	9/11/2018		O
23								
24								
25								
26								
27								
28								
29								

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC
1	B-18-PCB-017-N	Rigorous Simulation Methods for Reversible Bimole	김효준 Hyojoon Kim	N	6/11/2018	7/21/2018		O
2	B-18-M-022-N	Preparation of Spray-dried Emulsion of Sirolimus fo	김민수 Kim Min-Soo	N	5/9/2018	7/23/2018		O
3	B-18-M-026-A	Novel Indazole-Based MKK7-TIPRL Interaction Inhib	전문국 Moon-Kook Jeon	A	5/31/2018	7/26/2018		O
4	B-18-IC-013-A	Copper(I) Complexes Based on Pentamethylene Sul	김진은 Jineun Kim	A	6/27/2018	7/26/2018	O	O
5	B-18-PCA-024-A	Surface-Directed Heterogeneous 1-D Assembly of N	손상준 Sang Jun SON	A	7/20/2018	7/27/2018	O	O
6	B-18-SC-013-A	Solid-state NMR study on phosphorus species in ph	김철 Chul Kim	A	4/18/2018	7/27/2018	O	O
7	B-18-EC-003-A	Reactivity of Li7P3S11 as a potential solid electrolyt	도철훈 Chil-Hoon Doh	A	1/30/2018	7/28/2018		O
8	B-18-OSB-018-N	Highly Diastereo- and Enantioselective Organocatal	김대영 Dae Young Kim	N	6/24/2018	7/30/2018		O
9	B-18-AC-027-N	Reversed-Phase High-Performance Liquid Chromat	나동희 Dong Hee Na	N	7/9/2018	7/30/2018		O
10	B-18-PCB-018-N	A Numerical Study on the Dynamics of Distant Dipol	안상두 Sangdoo Ahn	N	7/11/2018	7/30/2018		O
11	B-18-SC-019-A	One-pot Photochemical Synthesis of Gold Nanoplat	이재승 Jae-Seung Lee	A	7/7/2018	7/31/2018		O
12	B-18-SC-015-A	Porosity engineered hard carbons hybridized with c	배준호 Joonho Bae	A	5/12/2018	7/31/2018		O
13	B-18-PCA-022-A	Substrate Dependence of Charged Exciton (Trion) f	권혁상 Hyuksang Kwon	A	7/2/2018	8/2/2018	O	O
14	B-18-AC-022-A	Development of Helium Isotope Reference Material	김정은 Jeong Eun Kim	A	5/8/2018	8/4/2018		O
15	B-18-PCB-019-N	Understanding dimerization process of cyclohexyl b	정재훈 Jaehoon Jung	N	7/18/2018	8/6/2018		O
16	B-18-PCA-017-A	Fabrication of high transparent electrochromic mirr	아철성 Chil Seong Ah	A	4/17/2018	8/6/2018		O
17	B-18-EC-012-A	Monitoring Plant Health using a Plant Microbial Fue	김형주 Hyung Joo Kim	A	7/11/2018	8/7/2018		O
18	B-18-IE-017-A	An Efficient Spraying Method with Eco-friendly Aqu	김용성 Young Sung Kim	A	6/27/2018	8/8/2018		O
19	B-18-SC-020-N	Simultaneous Etching-Galvanic Replacement Mediat	장홍제 Hongje Jang	N	7/23/2018	8/10/2018	O	O
20	B-18-PCA-026-A	Adsorptive removal of Cd(II) ions on a pyrolyzed tir	유건상 Keon Sang Ryoo	A	7/9/2018	8/11/2018		O
21								
22								
23								
24								
25								
26								
27								
28								
29								

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC
1	B-18-M-021-N	Design and synthesis of novel N-cyclohexyl-5-pyrazol	조성윤 Sung Yun Cho	N	4/19/2018	6/26/2018	O	O
2	B-18-SC-016-A	Preparation and photocatalytic activity of ABI2O6/B	정동운 Jung Dongwoon	A	5/23/2018	6/26/2018		O
3	B-18-IC-011-A	C-H activation of the 5-(pyridine-3-yloxy)isophthalic	최 문근 choi Moon Gun	A	6/1/2018	6/30/2018	O	O
4	B-18-IE-007-A	Effect of Functionalized Ionic Liquids on the Stability	이제승 Je Seung Lee	A	3/29/2018	7/2/2018	O	O
5	B-18-OSA-013-N	Copper-Catalyzed C-N Coupling and Cyclization of 2	조찬식 Chan Sik Cho	N	5/15/2018	7/3/2018		O
6	B-18-EC-002-A	The correlation between charge and discharge curra	김동현 Donghyeon Kim	A	1/4/2018	7/3/2018		O
7	B-18-PCB-015-A	Receptor-guided 3D-QSAR study of anilinoquinazoli	조승주 Seung Joo Cho	A	5/26/2018	7/4/2018	O	O
8	B-18-PCB-016-A	Mechanism of Nucleophilic Fluorination Facilitated	이성렬 Lee Sungyul	A	6/7/2018	7/4/2018		O
9	B-18-POC-009-A	Transcription of Unnatural Fluorescent Nucleotides	서영준 Young Jun Seo	A	6/11/2018	7/6/2018	O	O
10	B-18-POC-010-A	Poly(ethylene glycol)-crosslinked poly(vinyl pyridine	김태현 Tae-Hyun Kim	A	6/23/2018	7/9/2018	O	O
11	B-18-IC-012-A	Influence of p-type Double-Doping on the Crystals a	유태수 Tae-Soo You	A	6/21/2018	7/9/2018	O	O
12	B-18-MC-005-A	Redox-responsive nanocomposites composed of gr	정영일 Young-IL Jeong	A	3/12/2018	7/10/2018	O	O
13	B-18-M-027-C	The propionyl ester of lovastatin decreases the leve	민경훈 Kyung Hoon Min	C	6/13/2018	7/11/2018	O	O
14	B-18-POC-011-N	Stability of Non-Biofouling Agarose Film on Glass Sli	이정규 JungKyu Lee	N	6/25/2018	7/17/2018	O	O
15	B-18-M-025-A	Synthesis of N-alkyl-carbazole derivatives as 5-HT7R	추현아 Hyunah Choo	A	5/25/2018	7/17/2018	O	O
16	B-18-OSB-017-A	Synthesis of monodisperse Naphthalene and uretha	오창호 Oh Chang Ho	A	6/16/2018	7/17/2018	O	O
17	B-18-OSB-019-N	Synthesis of Flavones by Thallium(III) p-tosylate-cat	이재인 Jae in Lee	N	6/28/2018	7/18/2018		O
18	B-18-AC-024-N	Single Particle Study: Plasmon Damping of Gold Nan	하지원 Ji Won Ha	N	7/3/2018	7/20/2018	O	O
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

39-9 -> 40-2

	Manuscript ID	Title	Author	Type	Received date	Accepted date	SI	TOC
1	B-18-IE-010-A	Study on the isomerization of maleic acid to fumaric acid	shouzhi Yi	A	4/9/2018	5/28/2018		O
2	B-18-M-017-N	Improvement of Dissolution Rate of Oxcarbazepine	김민수 Kim Min-Soo	N	4/16/2018	5/28/2018		O
3	B-18-AC-021-N	Comparison of Theoretical Calculation Methods for the Adsorption of Methylene Blue on Activated Carbon	김성환 Sunghwan Kim	N	5/8/2018	5/29/2018	O	O
4	B-18-IC-006-A	A phenanthroimidazole-based fluorescent turn-off probe for the detection of lead(II) ions	김철 Cheal Kim	A	4/26/2018	6/6/2018	O	O
5	B-18-PCB-013-A	Refined Alkali Metal Ion Parameters for the OPC Wavelength Calibration	박영상 Youngshang Pak	A	5/9/2018	6/12/2018		O
6	B-18-SC-014-A	SERS Signal Enhancement of Methylene Blue Embedded in Poly(vinylidene fluoride) Nanoparticles	장의순 Eue-Soon Jang	A	4/30/2018	6/12/2018	O	O
7	B-18-AC-023-A	Accurate Measurement of Selenoproteins with Affinity Labeling	박용남 pak yong nam	A	5/27/2018	6/12/2018		O
8	B-18-OSA-012-N	Photocatalyst-free photoredox arylation of quinoxaline	김대영 Dae Young Kim	N	5/10/2018	6/13/2018		O
9	B-18-EC-004-A	The Effects of Surface Modifications on the Electrochemical Properties of Carbon Nanotubes	정연욱 Yeon Uk Jeong	A	2/19/2018	6/14/2018		O
10	B-18-IE-008-A	Fabrication of binary sulfonated poly ether sulfone membranes for desalination	유동진 Yoo Dong Jin	A	3/31/2018	5/8/2018		O
11	B-18-PCA-018-A	Spectroscopic Properties of the Quercetin-Divalent Copper Complex	박기민 Ki-Min Bark	A	5/23/2018	6/15/2018		O
12	B-18-OSA-006-A	Enantioselective Liquid-Liquid Extraction of Underivatives of Quercetin	김관목 Kwan Mook Kim	A	2/7/2018	6/15/2018	O	O
13	B-18-OSA-008-N	Synthesis of 2,4-diaryl-4H-chromenes via decarboxylative cross-coupling	김대영 Dae Young Kim	N	3/7/2018	6/15/2018		O
14	B-18-OSA-011-N	Synthesis of Spirooxindoles Bearing Benzopyrano[2,3-b]pyridine	김재녕 kim jae nyoung	N	4/17/2018	6/15/2018	O	O
15	B-17-SC-032-A	A facile synthesis of WS ₂ /g-C ₃ N ₄ composites with enhanced photocatalytic activity	Vien Vo	A	12/3/2017	6/15/2018		O
16	B-18-IE-015-A	Rhodamine based colorimetric and fluorescent chemosensor for lead(II) ions	손영아 Young-A Son	A	5/10/2018	6/18/2018		O
17	B-18-OSB-016-N	Practical and Efficient Strategy for Synthesis of Ferric Oxide Nanoparticles	박재규 Jae Gyu Park	N	5/31/2018	6/19/2018		O
18	B-18-PCB-012-A	Monolayer and Bilayer structures of mixtures of cerium(IV) ions and poly(vinylidene fluoride)	김준수 Jun Soo Kim	A	5/1/2018	6/19/2018		O
19	B-18-IC-010-A	Helical Inversion of Peptide-based Supramolecular Gels	정종화 Jong Hwa Jung	A	5/30/2018	6/21/2018	O	O
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

0.1002/bkcs.11489

Manuscript ID	Title	Author	E-mail	Type	Received date	Accepted date	SI	TOC	DOI	page r	게재된 color	일체	비고
1	B-18-SC-009-A	Novel AgCl/Ag2SO3 Hybrids as a Visible-Light-Driven	Xiang-feng Wu	wuxiangfeng@st	A	2/27/2018	4/30/2018		O	DOI: 10.1002/bkcs.11473	6	발송	
2	B-18-SC-012-H	Artificial Spores: Bioinspired Architecture of Living Cells	박지훈 Ji HUN PARK	jihunpark@ewha	H	4/11/2018	4/30/2018		O	DOI: 10.1002/bkcs.11474	3	발송	
3	B-18-PCB-007-N	Structure of Ascorbyl Palmitate Bilayers (Aspasomes)	한상화 Sanghwa Han	hansh@kangwon	N	2/21/2018	5/2/2018		O	DOI: 10.1002/bkcs.11475	4	발송	
4	B-18-M-018-A	Design and synthesis of novel 3-(2-aminopyridin-3-yl)	조성윤 Sung Yun Cho	sycho@kricr.re.k	A	4/18/2018	5/8/2018		O	DOI: 10.1002/bkcs.11485	5	발송	
5	B-18-M-011-N	A novel phenylsulfonamide ameliorates the cognitive	이재열 Lee Jae Yeol	ljjy@khu.ac.kr	N	3/27/2018	5/8/2018		O	DOI: 10.1002/bkcs.11486	4	발송	
6	B-18-PCB-009-A	Efficiency tuning of UVA/UVB absorbance through d	이성욱 Sang Uck Lee	sulee@hanyang	A	4/3/2018	5/8/2018		O	DOI: 10.1002/bkcs.11487	6	발송	
7	B-18-AC-010-A	Monitoring of epidermal growth factor degradation	백만경 Man-Jeong Paik	paik815@sunch	A	3/4/2018	5/8/2018		O	DOI: 10.1002/bkcs.11488	3	발송	
8													
9	B-18-SC-010-A	One-step fabrication of hydrophobic hybrid gate die	하영근 Young-geun Ha	ygha@kgu.ac.kr	A	4/2/2018	5/9/2018		O	DOI: 10.1002/bkcs.11490	5	발송	
10	B-18-M-020-N	Allosteric inhibitor TREA-0236 containing non-hydro	Kwangho Lee	kwangho@kricr	N	4/27/2018	5/15/2018		O	DOI: 10.1002/bkcs.11491	4	발송	
11	B-18-POC-006-A	Dopamine-conjugated poly(acrylic acid) blended with	김태현 Tae-Hyun Kim	tkim@incheon.a	A	5/1/2018	5/15/2018		O	DOI: 10.1002/bkcs.11492	6	발송	
12	B-18-M-013-A	Quercetin-pivaloxymethyl conjugate potentiates an	정유훈 Youhoon Chong	chongy@konkuk	A	4/4/2018	5/18/2018		O	DOI: 10.1002/bkcs.11493	3	발송	
13	B-18-POC-008-C	Cation Effect on Fluorescent Sensing of Pyrophosph	홍종인 Jong-In Hong	jihong@snu.ac.k	C	5/8/2018	5/18/2018		O	DOI: 10.1002/bkcs.11494	3	지연	
14	B-18-AC-013-A	Terbium tetra-sulfosalicylate complex as quantitativ	Qiang Li	qli@chem.ecnu	A	3/12/2018	5/21/2018		O	DOI: 10.1002/bkcs.11495	5	발송	
15	B-18-M-016-N	Remarkable Solvent Effects of Structurally Diverse A	문명석 Byung Seok Moon	bsmoon@snu.ac	N	4/16/2018	5/21/2018		O				
16	B-18-PCB-014-A	A Density Functional Theory Study of an Exciplex: P	김동욱 Dongwook Kim	dongwook-kim@	A	5/11/2018	5/22/2018		O	DOI: 10.1002/bkcs.11497	5	발송	
17	B-18-OSB-013-N	Synthesis of methylthiomethyl esters by the reactio	이선우 Sunwoo Lee	sunwoo@chonn	N	5/9/2018	5/25/2018		O	DOI: 10.1002/bkcs.11498	3	발송	
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
8	B-18-IE-008-A	Fabrication of binary sulfonated poly ether sulfone	유동진 Yoo Dong Jin	djyoo@jbnu.ac.k	A	3/31/2018	5/8/2018		O	DOI: 10.1002/bkcs.11489	7	발송	9월호로

분류
AC - Analytical Chemistry
EC - Electrochemistry
IE - Industrial Chemistry
IC - Inorganic Chemistry
BC - Life-Science Chemistry
MC - Macromolecular Chemistry
SC - Materials Chemistry
M - Medicinal Chemistry
POC - Non-Synthetic Organic Chemistry
OSA - Organic Synthesis (A)
OSB - Organic Synthesis (B)
PCA - Physical Chemistry (A: Experiment)
PCB - Physical Chemistry (B: Theory&Computation)
AR - Accounts & Reviews
FE - Festschrift (Prof. Hasuck Kim)
FE2 - Festschrift (Prof. Eun Lee)
FE3 - Festschrift (Prof. Kook Joe Shin)

Manuscript ID	Title	Author	E-mail	Type	Received date	Accepted date	SI	TOC	DOI	page r	게재료	color	별채
1	B-18-OSB-009-C	The Synthesis of ABNO+BF4- and Its Application to	김진호 Jinho Kim	jinho@inu.ac.kr	C	3/5/2018	3/27/2018	O	O	DOI: 10.1002/bkcs.11458	2	발송	
2	B-18-IE-005-A	Constructing proton-conducting channels within su	유동진 Yoo Dong Jin	djyoo@jbnu.ac.kr	A	3/9/2018	3/27/2018		O	DOI: 10.1002/bkcs.11459	7	발송	
3	B-18-IE-004-A	Solventless Catalytic Etherification of Glycerol Using	이제승 Je Seung Lee	leejs70@gmail.com	A	2/13/2018	3/29/2018		O	DOI: 10.1002/bkcs.11460	4	발송	
4	B-18-OSB-008-N	Highly Active Manganese to C-O Cross-Coupling Rea	김승희 Seung-Hoi Kim	kimsemail@dan	N	2/25/2018	3/29/2018		O	DOI: 10.1002/bkcs.11461	4	발송	
5	B-17-M-044-A	Synthesis of novel 3-N-substituted carbazole deriva	송규용 song gyu yong	gysong@cnu.ac.kr	A	8/1/2017	3/30/2018	O	O	DOI: 10.1002/bkcs.11462	3	발송	O
6	B-18-PCA-011-A	Agglomeration Dynamics of Magnetite Nanoparticl	김학진 Hackjin Kim	hackjin@cnu.ac.kr	A	2/2/2018	4/3/2018		O	DOI: 10.1002/bkcs.11463	7	발송	
7	B-18-SC-008-A	Solid-state MAS NMR study of hydrated/dehydrate	김철 Chul Kim	chulkim@hnu.kr	A	3/13/2018	4/4/2018		O	DOI: 10.1002/bkcs.11464	7	발송	
8	B-18-M-005-A	Facile Synthesis and In Vitro Nitric Oxide Productio	전종갑 Jun Jong-Gab	jjgiun@hallym.ac.kr	A	3/5/2018	4/5/2018		O	DOI: 10.1002/bkcs.11465	7	지원	
9	B-18-AC-016-A	MALDI-MS analysis of sucrose using a charcoal mat	김정권 Jeongkwon Kim	jkim48105@cnu.ac.kr	A	3/10/2018	4/5/2018		O	DOI: 10.1002/bkcs.11466	7	발송	
10	B-17-AR-001-A	Towards versatile continuous-flow chemistry and p	김동표 Dong-Pyo kim	dpkim@postech.ac.kr	A	12/26/2017	4/9/2018		O	DOI: 10.1002/bkcs.11467	15	발송	
11	B-18-AC-011-A	Study of Ultra-Sensitive AMS Method to Identify Dr	유병용 Byung-Yong Yu	yu2997@kist.re.kr	A	3/6/2018	4/9/2018		O	DOI: 10.1002/bkcs.11468	5	발송	
12	B-18-IC-004-N	Synthesis and Structure of a New Two-dimensional	윤호섭 Hoseop Yun	hsyun@ajou.ac.kr	N	3/19/2018	4/14/2018	O	O	DOI: 10.1002/bkcs.11469	4	지원	
13	B-18-M-007-A	Influence of HPMC and SLS on the solubility and dis	진성규 Sung Gyu Jin	sklover777@dan	A	3/9/2018	4/14/2018		O	DOI: 10.1002/bkcs.11470	6	발송	
14	B-17-AC-040-A	Simultaneous Determination and Stability Test of T	양희정 Heejung Yang	heejyang@kang	A	10/31/2017	4/16/2018		O	DOI: 10.1002/bkcs.11471	5	발송	
15	B-18-BC-004-A	Effect of polyvinylpyrrolidone in dissolving microne	심우선 Woo Sun Shim	polysws@lgcare	A	1/22/2018	4/17/2018		O	DOI: 10.1002/bkcs.11476	5	발송	O
16	B-18-POC-005-N	Metal Ion-assisted Fabrication of Hierarchically Stru	안용현 Yonghyun Ahn	yhahn@dankook	N	3/14/2018	4/17/2018		O	DOI: 10.1002/bkcs.11477	3	발송	
17	B-17-M-067-A	Strategic Expansion & Management of Chemical Lib	최인희 Inhee Choi	choii@ip-korea.c	A	10/23/2017	4/18/2018		O	DOI: 10.1002/bkcs.11478	7	발송	
18	B-17-BC-028-A	Selective inhibitory effect of osthonol on human cy	이상규 Sangkyu Lee	sangkyu@knu.ac.kr	A	12/29/2017	4/18/2018		O	DOI: 10.1002/bkcs.11479	5	발송	
19	B-18-MC-002-A	Associative Polymer-Grafted Magnetic Nanoparticl	김진웅 Jin Woong Kim	kjwoong@hanya	A	1/31/2018	4/19/2018		O	DOI: 10.1002/bkcs.11480	6	발송	
20	B-18-PCB-008-A	Analytical correlation rules between states in the u	이천우 Chun-Woo Lee	clew@ajou.ac.kr	A	2/23/2018	4/23/2018		O	DOI: 10.1002/bkcs.11481	6	발송	
21	B-18-AC-012-A	At-line Raman spectroscopy determination of table	김재진 Jaejin Kim	basickj@gmail.com	A	3/6/2018	4/23/2018		O	DOI: 10.1002/bkcs.11482	6	발송	
22	B-18-EC-007-C	Photocurrent Generation from Immobilized Anaba	김성현 Kim Sunghyun	skim100@konku	C	3/22/2018	4/24/2018		O	DOI: 10.1002/bkcs.11483	3	지원	
23	B-18-AC-017-A	Concentration Determination of Volatile Molecular	연제원 Jei-Won Yeon	yeonysy@kaeri.r	A	3/16/2018	4/24/2018		O	DOI: 10.1002/bkcs.11484	5	발송	O
24	Erratum	Bull. Korean Chem. Soc. 2013, Vol. 34, No. 12 pp 38	배준호							DOI: 10.1002/bkcs.11472			
25													
26													
27													
28													
29													

종류
AC - Analytical Chemistry
EC - Electrochemistry
IE - Industrial Chemistry
IC - Inorganic Chemistry
BC - Life-Science Chemistry
MC - Macromolecular Chemistry
SC - Materials Chemistry
M - Medicinal Chemistry
POC - Non-Synthetic Organic Chemistry
OSA - Organic Synthesis (A)
OSB - Organic Synthesis (B)
PCA - Physical Chemistry (A: Experiment)
PCB - Physical Chemistry (B: Theory&Computation)
AR - Accounts & Reviews
FE - Festschrift (Prof. Hasuck Kim)
FE2 - Festschrift (Prof. Eun Lee)
FE3 - Festschrift (Prof. Kook Joe Shin)

표지논문

Manuscript ID	Title	Author	E-mail	Type	Received date	Accepted date	SI	TOC	DOI	page	게재료	color	별책
1 B-18-IC-002-N	A Simple Naphthamido-based Fluorescent Chemoprobe for the	최명룡 Choi Myong Yong	mychoi@gnu.ac	N	2/2/2018	2/14/2018	O	O	DOI: 10.1002/bkcs.11434	4	지원		
2 B-18-OSA-002-C	Stereoselective Synthesis of [4.3.1]Propellane Fragment of Pha	이덕형 Duck-Hyung Lee	dhlee@sogang.a	C	1/10/2018	2/20/2018	O	O	DOI: 10.1002/bkcs.11436	3	발송		
3 B-18-SC-002-A	A phosphonic acid self-assembled monolayer on UV-cured met	하영근 Young-geun Ha	ygha@kgu.ac.kr	A	1/23/2018	2/20/2018		O	DOI: 10.1002/bkcs.11437	4	발송		
4 B-17-EC-016-A	A mild strategy to strengthen three dimensional graphene aerd	Haichao Qin	541844322@qq.	A	7/23/2017	2/20/2018		O	DOI: 10.1002/bkcs.11438	6	발송		
5 B-17-EC-026-A	A Novel Voltammetric Sensor based on Reduced Graphene Oxid	Qi Sun	20170011@cqu.	A	11/27/2017	2/21/2018	O	O	DOI: 10.1002/bkcs.11439	7	발송		
6 B-18-AC-007-A	Efficient purification of human transmembrane protein, mutat	김용애 Yongae Kim	yakim@hufs.ac	A	2/1/2018	3/4/2018		O	DOI: 10.1002/bkcs.11440	7	발송		
7 B-18-AC-001-A	Colorimetric detection of Hg2+ based on enhancement of pero	Cuifeng Jiang	cuifengj123@16	A	1/10/2018	3/5/2018	O	O	DOI: 10.1002/bkcs.11441	6	발송		
8 B-18-PCA-008-A	Discriminating chemosensor for detection of Fe3+ in aqueous	이기환 Lee Ki Hwan	khlee@kongju.a	A	1/17/2018	3/6/2018	O	O	DOI: 10.1002/bkcs.11442	7	발송		
9 B-17-PCA-043-A	Real-time monitoring of the binding/dissociation and redox sta	홍성철 Sungchul Hohng	shohng@snu.ac	A	10/19/2017	3/6/2018	O	O	DOI: 10.1002/bkcs.11443	5	발송		
10 B-17-MC-011-A	Self-Cured Alkyd Resin using Non-Drying Avocado Seed Oil as a	Chigozie Uzoh	cf.uzoh@unizik.	A	9/14/2017	3/7/2018		O	DOI: 10.1002/bkcs.11444	8	지원		
11 B-17-OSA-034-A	Synthesis of Primitive Dendrimer Systems bearing of Bicyclo[3,2	오창호 Oh Chang Ho	changho@hanyu	A	12/1/2018	3/9/2018	O	O	DOI: 10.1002/bkcs.11445	6	발송		
12 B-18-OSA-004-N	Asymmetric Synthesis of Both Diastereomers of α,α' -Disubstitu	박용선 Park Yong Sun	parkyong@konk	N	1/24/2018	3/9/2018	O	O	DOI: 10.1002/bkcs.11446	5	발송		
13 B-17-OSA-038-N	Novel Synthesis of Aurones by 2-PyONa-catalyzed Regioselectiv	이재인 Jae in Lee	jilee@duksung.a	N	12/13/2017	3/9/2018		O	DOI: 10.1002/bkcs.11447	4	발송		
14 B-17-OSA-035-C	Synthesis and properties of 2,2'-oxybis(1,10-phenanthroline) ar	장영동 Y Jahng	ydjahng@yu.ac	C	12/10/2017	3/9/2018		O	DOI: 10.1002/bkcs.11448	3	발송		
15 B-18-AC-008-A	One-pot hydrothermal synthesis of highly fluorescent polyethy	Na Xu	xn_1216@163.c	A	2/17/2018	3/9/2018	O	O	DOI: 10.1002/bkcs.11449	8	발송		
16 B-18-POC-002-N	An efficient protocol for the preparation of ynones from esters	안덕근 An Duk Keun	dkan@kangwon	N	1/29/2018	3/12/2018		O	DOI: 10.1002/bkcs.11450	6	발송		
17 B-18-AC-003-N	New cytotoxic benzonitrile glycosides from Brugmansia arbore	백남인 Nam-In Baek	nibaek@khu.ac	N	1/11/2018	3/13/2018	O	O	DOI: 10.1002/bkcs.11451	4	발송		
18 B-18-SC-006-N	Facile and Robust Anchoring of CaCO3 Crystals on Solid Substra	강성민 Sung Min Kang	smk16@cbnu.ac	N	2/13/2018	3/14/2018	O	O	DOI: 10.1002/bkcs.11452	4	발송		
19 B-18-OSA-007-N	FeCl2-Mediated Nucleophilic Chlorination of Iodoalkanes Accel	강은주 Eun Joo Kang	ejkang24@khu.a	N	2/6/2018	3/16/2018	O	O	DOI: 10.1002/bkcs.11453	4	발송		
20 B-18-M-001-N	2-Bromo-4,5-Dimethoxy Chalcone inhibits Cisplatin-induced LL	이재욱 Jae Wook Lee	jwlee5@kist.re	N	1/4/2018	3/19/2018	O	O	DOI: 10.1002/bkcs.11454	5	발송		
21 B-18-IC-003-N	Blue Phosphorescent Iridium(III) Compounds with the 2',6'-diis	강영진 Kang Youngjin	kangy@kangwor	N	2/7/2018	3/21/2018	O	O	DOI: 10.1002/bkcs.11455	5	발송		
22 B-18-SC-007-A	Effect of Long-range and Local Order of Exfoliated and Proton-t	백승민 Seung-Min Paek	smpaek@knu.ac	A	2/19/2018	3/21/2018		O	DOI: 10.1002/bkcs.11456	6	발송		
23 B-18-AR-002-H	Fluorescent probes for the detection of enzymatic activity for p	임창수 Chang Su Lim	cslim8112@gma	H	3/15/2018	3/21/2018		O	DOI: 10.1002/bkcs.11457	3	발송		
2 B-18-POC-004-A	Synthesis and Characterization of a 2-(1,1-Dicyanomethylene)ri	임은희 Eunhee Lim	ehlim@kyonggi	A	1/30/2018	2/19/2018	O	O	DOI: 10.1002/bkcs.11435	4	발송		39-4 발행, 결제완료

표지논문