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RESEARCH INTERESTS

Synthesis and application of inorganic and organometallic complexes which 1) allow facile access to ^{18}F -labeled PET tracers, from small molecules to supramolecules, in order to study neurosystems and the brain, 2) catalyze small molecules highly efficiently, and 3) show regioselective organic transformations in metal-organic frameworks (MOFs).

EDUCATION

2004 – 2009 **Stanford University**, Stanford, CA, USA
Ph.D. *Inorganic and Organometallic Chemistry*
Advisor: Prof. Dmitry V. Yandulov

1999 – 2001 **POSTECH**, Pohang, Republic of Korea
M.S. *Inorganic Chemistry*
Advisor: Prof. Kimoon Kim

1995 – 1999 **POSTECH**, Pohang, Republic of Korea
B.S. *Inorganic Chemistry*
Advisor: Prof. Kimoon Kim

EXPERIENCE

2013 – current **POSTECH**, Department of Chemistry
Assistant Professor
Institute for Basic Science (IBS) Center for Self-assembly and Complexity (POSTECH Campus)
Research Fellow

2009 – 2013 **Harvard University**, Department of Chemistry and Chemical Biology
MGH (Massachusetts General Hospital), Department of Radiology,
Postdoctoral Scholar
Advisor: Prof. Tobias Ritter

2004 – 2009 **Stanford University**, Department of Chemistry
Teaching/Research Assistant

2004 **Soongsil University**, CAMDRC and Department of Chemistry
Researcher
Advisor: Prof. Jaheon Kim

2002 – 2004 Military Service

2001 **POSTECH**, Center for Smart Supramolecules (CSS)
Researcher
Advisor: Prof. Kimoon Kim

AWARDS

2000 **POSTECH**, Center for Smart Supramolecules: Excellent Research Award

PUBLICATIONS

- (22) **Application of Palladium-Mediated 18F-Fluorination to PET Radiotracer Development: Overcoming Hurdles to Translation**
PLoS One **2013**, 8, e59187.
A. Kamlet, C. Neumann, E. Lee, S. Carlin, C. Moseley, N. Stephenson, J. M. Hooker,* T. Ritter.*
- (21) **Nickel-Mediated Oxidative Fluorination for PET with Aqueous [¹⁸F]Fluoride**
J. Am. Chem. Soc. **2012**, 134, 17456. *Highlight (C&EN 2012*, 90 (43), 34.) Synfacts 2013; 9(1): 0090
E. Lee, J. M. Hooker, T. Ritter.*
- (20) **Connecting Binuclear Pd(III) and Mononuclear Pd(IV) Chemistry by Pd–Pd Bond Cleavage**
J. Am. Chem. Soc. **2012**, 134, 12002.
D. C. Powers, E. Lee, A. Ariaifard, M. S. Sanford, B. F. Yates,* A. J. Canty,* T. Ritter.*
- (19) **Synthesis and Characterization of Pd(IMe)₂ and its Reactivity by C-S Oxidative Addition of DMSO**
J. Organomet. Chem., **2011**, 696, 4095.
E. Lee,* D. V. Yandulov.
- (18) **Synthesis and Structure of Solution-Stable One-Dimensional Palladium Molecular Wires**
Nature Chem., **2011**, 3, 949.
M. G. Campbell, D. C. Powers, J. Raynaud, M. J. Graham, P. Xie, E. Lee, T. Ritter.*
- (17) **A Fluoride-derived Electrophilic Late-Stage Fluorination Reagent for PET Imaging**
Science **2011**, 334, 639. *Highlights (C&EN 2011*, 89 (45), 7. *Nat. Methods* **2012**, 9, 19. *Angew. Chem. Int. Ed.* **2012**, 51, 1106. *Nature Chem.* **2012**, 4, 152)
E. Lee,[‡] A. Kamlet,[‡] D. C. Powers, C. Neumann, G. B. Boursalian, T. Furuya, D. C. Choi, J. M. Hooker,* T. Ritter.*
- (16) **Silver-Mediated Trifluoromethoxylation of Aryl Stannanes and Arylboronic Acids**
J. Am. Chem. Soc. **2011**, 133, 13308.
C. Huang, T. Liang, S. Harada, E. Lee, T. Ritter.*
- (15) **A Dinuclear Palladium Catalyst for α -Hydroxylation of Carbonyls with O₂**
J. Am. Chem. Soc. **2011**, 133, 1760.
G. J. Chuang, W. Wang, E. Lee, T. Ritter.*
- (14) **On the Isolation of Neat Allylic Fluorides**
J. Fluor. Chem. **2009**, 130, 474.
E. Lee, D. V. Yandulov.*
- (13) **Crystal structures of (2-substituted-5-N-tosyl)bicyclo[3.3.0]-5-azacyclooct-2-enone: a pseudo achiral crystal from enantiopure compound and a counter-example of Wallach's rule**
Tetrahedron: Asymmetry **2009**, 20, 1736.
K. S. Jeong, D. E. Kim, E. Lee, Y. H. Jhon, H. Han, J. Kim, N. Jeong.*
- (12) **A Three-dimensional MOF Assembled by Metal-organic Tapes Comprising of Copper(II) Tetranuclear Clusters and 5-Sulfoisophthalates**
Bull. Kor. Chem. Soc. **2008**, 29, 2540.
H. R. Jeon, D. W. Min, Y. Oh, E. Lee, Y.-J. Kim, D.-Y. Jung, J. Kim.*
- (11) **Lanthanitin: A chiral nanoball encapsulating 18 lanthanum ions by ferritin-like assembly**
Angew. Chem. Int. Ed. **2006**, 45, 8134.
K. S. Jeong, Y. S. Kim, Y. J. Kim, E. Lee, J. H. Yoon, W. H. Park, Y. W. Park, S.-J. Jeon, Z. W. Kim, J. Kim, N. Jeong.*
- (10) **Complexation of Ferrocene Derivatives by the Cucurbit[7]uril Host: A Comparative Study of the Cucurbituril and Cyclodextrin Host Families**
J. Am. Chem. Soc. **2005**, 127, 12984.
W. S. Jeon, K. Moon, S. H. Park, H. Chun, Y. H. Ko, J. Y. Lee, E. Lee, S. Samal, N. Selvapalam, M. V. Rekharsky, V. Sindelar, D. Sobransingh, Y. Inoue, A. E. Kaifer, K. Kim.*

- (9) ***A Double-chained Polyrotaxane: Cucurbituril ‘Beads’ Threaded onto a Double-chained One-dimensional Coordination Polymer***
Bull. Kor. Chem. Soc. **2004**, 1711.
 K. -M. Park, E. Lee, S. -C. Roh, J. Kim, K. Kim.*
- (8) ***Hydrogen adsorption experiments with IRMOF-3 as a sorbent, and the molecular modeling studies on the functionalized MOFs***
Transactions of the Korean Hydrogen and New Energy Society, **2004**, 15, 105 (Korean).
E. Lee, Y. Oh, J. Kim,* J. Yoon, T.-B. Lee, S.-H. Choi, D. Kim, J. Lee, S. J. Cho
- (7) ***Construction of a Square-wave-shaped One-dimensional Polyrotaxane Using a Preorganized L-shaped Pseudorotaxane***
Supramol. Chem. **2002**, 14, 153.
 K. -M. Park, S. -C. Roh, E. Lee, J. Kim, J. W. Lee, H. -J. Kim, K. Kim.*
- (6) ***Transition Metal Ion-Directed Supramolecular Assembly of One- and Two-dimensional Polyrotaxanes Incorporating Cucurbituril***
Chem. Eur. J. **2002**, 8, 498.
 K. -M. Park, D. Whang, E. Lee, J. Heo, K. Kim.*
- (5) ***Macrocyclic in Macrocyclic: Encapsulation of Metal Cyclen Complex in Cucurbit[8]uril***
Angew. Chem. Int. Ed. **2001**, 40, 2119.
 S. -Y. Kim, I. -S. Jung, E. Lee, J. Kim, S. Sakamoto, K. Yamaguchi, K. Kim.
- (4) ***Selective Inclusion of a Hetero-Guest Pair in a Molecular Host***
Angew. Chem. Int. Ed. **2001**, 40, 1526.
 H. -J. Kim, J. Heo, W. -S. Jeon, E. Lee, J. Kim, S. Sakamoto, K. Yamaguchi, K. Kim.*
- (3) ***A Two-Dimensional Polyrotaxane with Large Cavities and Channels: a Novel Approach to Metal-Organic Open-Frameworks Using Supramolecular Building Blocks***
Angew. Chem. Int. Ed. **2001**, 40, 399.
E. Lee, J. Kim, J. Heo, D. Whang, K. Kim.*
- (2) ***A Three-Dimensional Polyrotaxane Network***
Angew. Chem. Int. Ed. **2000**, 39, 2699.
E. Lee, J. Heo, K. Kim.*
- (1) ***New Cucurbituril Homologues: Syntheses, Isolation, Characterization, and X-ray Crystal Structures of Cucurbit[n]uril (n = 5, 7, and 8)***
J. Am. Chem. Soc. **2000**, 122, 540.
 J. Kim, I.-S. Jung, S.-Y. Kim, E. Lee, J.-K. Kang, S. Sakamoto, K. Yamaguchi, K. Kim*

PATENT

K. Kim, J. Kim, I. -S. Jung, S. -Y. Kim, E. Lee, J. -K. Kang, Japan Patent No. 3,432,483; Europe Patent No.1,094,065; US Patent No. 6,365,734, “Cucurbituril Derivatives, their preparation methods and uses”.

T. Ritter, E. Lee, A. Kamlet, D. C. Powers, T. Furuya, WO/2012/024604, “High-Valent Palladium Fluoride Complexes and Uses Thereof.” October 9, 2009.

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