Development and Analysis of Functional Molecular Assemblies

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Born in 1963. He graduated from the Department of Chemistry, Faculty of Science and Technology, Sophia University in 1986 and received his Doctor of Science from the University of Tokyo in 1991. From 1991 to 1995, he was a teaching and technical staff at the Faculty of Science, Kyoto University. From 1995 to 2002, he was a research associate at the Graduate School of Science, Kyoto University. From 2002 to 2007, he was a research associate at Research Center for Low Temperature and Materials Sciences, Kyoto University. From 2007 to 2014, he was an assistant professor at Research Center for Low Temperature and Materials Sciences, Kyoto University. From 2014 to 2016, he has been an associate professor at Research Center for Low Temperature and Materials Sciences, and then an associate professor in the Division of Chemistry, Graduate School of Science, Kyoto University. During this period, he was a visiting scholar at Temple

University, U.S.A. for one year from 1998 and at the University of Alabama, U.S.A. for three months from 2003. He received a BCSJ Award in 2005.

We are interested in synthesis, structures and physical (electrical, magnetic and optical) properties of molecular assemblies including single crystals, powders, LB films, liquids of single component and/or charge transfer complexes of organic molecules, and ionic liquids.

Selected Publications

- Synthesis and Physical Properties of C₆S₈ Compounds with their Formation of Monolayers and LB Films at Air-water Interface, A. Otsuka, G. Saito, T. Nakamura, M. Matsumoto, Y. Kawabata, K. Honda, M. Goto, M. Kurahashi, *Synthetic Metals*, 27, B575-B580 (1988)
- 2. C₁TET-TTF and its Related Compounds as Single Component Molecular Conductors, A. Otsuka, G. Saito, K. Ohfuchi, M. Konno, *Phosphorus, Sulfur, and Silicon*, **67**, 333-338 (1992)
- 3. Superconducting Characteristics of M₃C₆₀ (M=K, Rb) under Magnetic Field, A. Otsuka, T. Ban, G. Saito, H. Ito, T. Ishiguro, N. Hosoito, T. Shinjo, *Synthetic Metals*, **56**(2-3), 3148-3153 (1993)
- 4. Preparation and Physical Properties of Some C₆₀ Charge Transfer Complexes, A. Otsuka, T. Teramoto, Y. Sugita, T. Ban, and G. Saito, *Synthetic Metals*, **70**(1-3), 1423-1424 (1995)
- 5. Preparation of C₆₀ Charge Transfer Complexes with Organic Donor Molecules and Alkali Doping, A. Otsuka, G. Saito, S. Hirate, S. Pac, T. Ishida, A. A. Zakhidov, K. Yakushi, *Mater. Res. Soc. Symp. Proc.*, **488**, 495-500 (1998)
- Synthesis and Crystal Structure of New C₆₀ Complexes with Asymmetric Tetrathiafulvalenes, D. V. Konarev, I. S. Neretin, Y. L. Slovokhotov, A. L. Litvinov, A. Otsuka, R. N. Lyubovskaya, G. Saito, Synthetic Metals, 131(1-3), 87-92 (2002)
- Formation of Single-Bonded (C₆₀⁻)₂ and (C₇₀⁻)₂ Dimers in Crystalline Ionic Complexes of Fullenes,
 D. V. Konarev, S. S. Khasanov, G. Saito, A. Otsuka, Y. Yoshida, R. N. Lyubovskaya, *J. Am Chem. Soc.*, 125(33), 10074-10083 (2003)
- 8. Crystal Structure and Magnetic Properties of an Ionic Multi-Component Complex of Fullerene (OMTTF·I₃)·C₆₀ Comparison with OMTTF·I₃ Salts, D. V. Konarev, S. S. Khasanov, A. Otsuka, G. Saito, R. N. Lyubovskaya, *Synthetic Metals*, **151**, 231-238 (2005)
- 9. Negatively Charged π - $(C_{60}^-)_2$ Dimer with Biradical State at Room Temperature, D. V. Konarev, S. S. Khasanov, A. Otsuka, G. Saito, R. N. Lyubovskaya, *J. Am Chem. Soc.*, **128**(29), 9292-9293 (2006)
- 10. Polarization of Charge-Transfer Bands and Rectification in Hexadecylquinolinium 7,7,8-Tricyanoquinodimethanide and Its Tetrafluoro Analog, A. Honciuc, A. Otsuka, Y-H. Wang, S.

K. McElwee, S. A. Woski, G. Saito, R. M. Metzger, *J. Phys. Chem.*, **110**(31), 15085-15093 (2006)

11. A Two Dimensional Organic Metal Based on Fullerene, D. V. Konarev, S. S. Khasanov, A. Otsuka, M. Maesato, G. Saito, R. N. Lyubovskaya, *Angew. Chem. Int. Ed.*, **49**(28), 4829-4832 (2010)

