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### Advanced Design of Heterogeneous Catalyst Surfaces

Heterogeneous catalysts play crucial roles in modern chemical processes and the creation of novel heterogeneous catalyst surfaces is one of the most essential subjects in chemical sciences. Advanced molecular-level arrangement of heterogeneous catalyst surfaces using metal complexes and their catalytic performances are introduced.

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### References

- (1) M. Tada, S. Muratsugu, M. Kinoshita, T. Sasaki, Y. Iwasawa, "Alternative Selective Oxidation Pathways for Aldehyde Oxidation and Alkene Epoxidation on a SiO<sub>2</sub>-supported Ru-monomer Complex Catalyst", *J. Am. Chem. Soc.* **132**, 713-724 (2010).
- (2) Z. Weng, S. Muratsugu, N. Ishiguro, S. Ohkoshi, M. Tada, "Preparation of Surface Molecularly Imprinted Ru-complex Catalysts for Asymmetric Transfer Hydrogenation in Water Media", *Dalton Trans.* **40**, 2338-2347 (2011).
- (3) M. Tada, N. Ishiguro, T. Uruga, H. Tanida, Y. Terada, S. Nagamatsu, S. Ohkoshi, Y. Iwasawa, "μ-XAFS of a Single Particle of a Practical NiO<sub>x</sub>/Ce<sub>2</sub>Zr<sub>2</sub>O<sub>y</sub> Catalyst", *Phys. Chem. Chem. Phys.* **13**, 14910-14913 (2011) [Outside Front Cover of Issue 33].
- (4) Y. Yang, Z. Weng, S. Muratsugu, N. Ishiguro, S. Ohkoshi, M. Tada, "Preparation and Catalytic Performances of a Molecularly Imprinted Ru-complex Catalyst with an NH<sub>2</sub> Binding Site on a SiO Surface", *Chem. Eur. J.*, accepted.

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### CV

2004 – 2008	Assistant Professor of Chemistry, The University of Tokyo
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2008	Associate Professor of Chemistry, The University of Tokyo
2008 – present	Associate Professor, Institute for Molecular Science