

第75回触媒化学融合研究センター講演会

産総研触媒化学融合研究センターでは、様々な分野で活躍している大学、公的研究機関、企業等の方々をお招きして講演会を開催することで分野の垣根を越えた連携の実現を目指しています。

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Molecular Hydrides of Electropositive Metals: Hydrogen Storage and Homogeneous Catalysis

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日時: 2019年10月1日(火) 14:00~15:30

場所: 産総研第5事業所 第2本館
第4会議室(5-2 6603室)

<講演概要>

Dihydrogen will be the only carbon-free energy carrier in the future and at the same time, a versatile reductant for unsaturated organic substrates. Some insoluble hydrides of highly electropositive metals such as MgH_2 and LaNi_5H_6 are being considered as hydrogen storage materials to allow hydrogen uptake and release. They could also be useful as inexpensive and non-toxic homogeneous catalysts. Using macrocyclic ligands, molecular hydrides of Group 1, 2, 3, 12, and 13 can now be isolated. Owing to their solubility in organic solvents, they are structurally characterized and tested in catalytic reactions such as olefin hydrogenation and hydrosilylation. From the fundamental standpoint of studying the reactivity of electropositive metal hydrides as models for hydrogen storage materials and as reductants, new molecular hydrides of electropositive metals (electronegativity $< \approx 1.6$) will be presented.