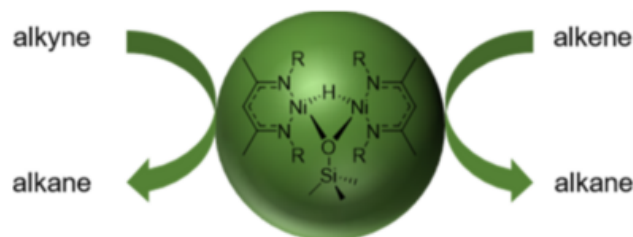


First joint work of UniSysCat teams with the ETH Zürich on a new nickel hydrogenation catalyst

Start Time: Friday, April 2, 2021

End Time:



Well-Defined, Silica-Supported Homobimetallic Nickel Hydride Hydrogenation Catalyst

Frank Czerny, Keith Searles, Petr Šíř, Johannes F. Teichert, Prashanth W. Menezes, Christophe Copéret, and Matthias Driess

In an interdisciplinary approach, the two UniSysCat research groups of Johannes F. Teichert and Matthias Driess studied together with the team around Christophe Copéret from ETH Zürich the synthesis of a well-defined supported nickel hydrogenation catalyst prepared by surface organometallic chemistry. The immobilized catalyst was capable of hydrogenating alkenes and alkynes at low temperatures without prior activation, e.g. ethene can be hydrogenated with an initial turnover frequency of 25.5 min^{-1} at room temperature. The researchers follow up the increasing demand to replace precious metal-based catalysts with higher costs, toxicity, and declining availability by earth-abundant non precious metals.

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