

Metal-free catalyst shielding studied

September 6 2006

U.S. scientists say they've found a simple metal free catalyst that can shield a specific alcohol without modifying another nearby alcohol.

Amir Hoveyda and colleagues at Boston College and Scott Denmark and colleagues at the University of Illinois-Urbana say protecting groups are often needed in organic synthesis to shield one part of a molecule from chemical change while another part of the same molecule is altered.

The catalyst found by the researchers puts a protecting group called a silyl ether onto a class of compounds called secondary alcohols, and by protecting that specific alcohol, a chemist can now selectively modify the remaining "unprotected" alcohol.

Since the catalyst does not contain any metals it is more environmentally friendly -- or "greener" -- than many other catalysts, the researchers said. And it can easily be prepared from commercially available materials.

The research is explained in the current issue of the journal Nature.

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Citation: Metal-free catalyst shielding studied (2006, September 6) retrieved 2 May 2024 from <https://phys.org/news/2006-09-metal-free-catalyst-shielding.html>

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