mesoporous silica

Synthesis

Key words

metathesis
circulating flow
reactor
ruthenium

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Mesoporous Silica-Supported Catalysts for Metathesis: Application to a Circulating Flow Reactor *Chem. Commun.* **2010**, 806-808.

A Mesoporous Silica-Supported Ruthenium Catalyst for Metathesis

Significance: A mesoporous silica-supported catalyst **6** for metathesis was prepared and applied to a circulating flow reactor system. Thus, the Grubbs II catalyst was immobilized on siliceous mesocellular foam (MCF) microparticles **5** to give the catalyst **6**. The ring-closing metathesis of dienes **7–12** was performed in a circulating flow reactor system filled with **6** (225 mg; reactor size = 4.6 mm x 50 mm) at 50 °C with a flow rate of 5 mL/min to afford the corresponding products **13–18** in 93–99% yield.

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Comment: The mesoporous silica-supported catalyst **6** was recycled nine times without or with loss of catalytic activity in a circulating flow reactor (**15**: 1st use: 99% yield, 4th use: 98% yield, 7th use: 97% yield, 10th use: 96% yield **18**: 1st use: 94% yield, 2nd use: 82% yield, 4th use: 78% yield). The authors mentioned that their circulating flow system was superior to the continuous flow system filled with **6** in terms of recyclability.

10th: 81% yield

products

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5th: 77% yield

SYNFACTS Contributors: Yasuhiro Uozumi, Yoichi M. A. Yamada, Chung Keun Jin Synfacts 2010, 4, 0487-0487 Published online: 22.03.2010 **DOI:** 10.1055/s-0029-1219460; **Reg-No.:** Y01810SF

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