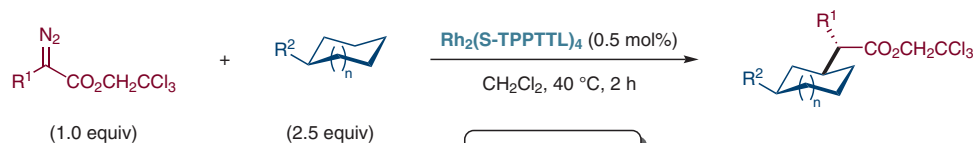


J. FU, Z. REN, J. BACSA, D. G. MUSAEV, H. M. L. DAVIES* (EMORY UNIVERSITY, ATLANTA, USA)

Desymmetrization of Cyclohexanes by Site- and Stereoselective C–H Functionalization

Nature **2018**, 564, 395–399.

Cyclohexane Desymmetrization via Rhodium-Catalyzed C–H Activation



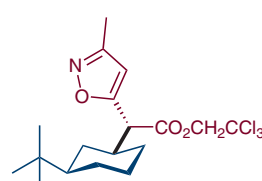
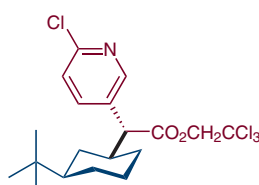
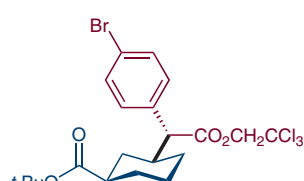
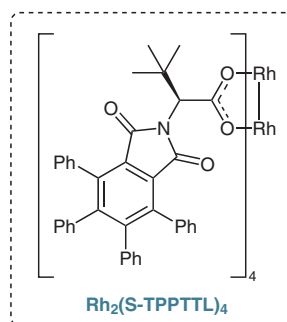
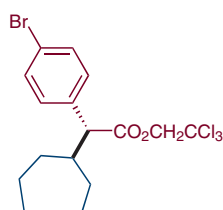
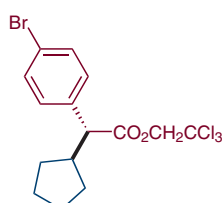
$\text{R}^1 = \text{Ar, Het(Ar)}$

$\text{R}^2 = \text{H, Alk}$

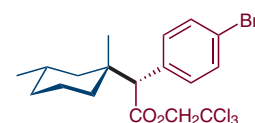
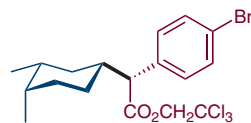
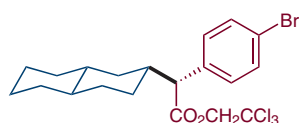
$n = 0, 1, 2$

35 examples
up to 89% yield
up to 99% ee

Selected examples:



Disubstituted cyclohexanes:



Significance: The authors report a site- and stereoselective desymmetrization of cyclohexanes via a rhodium-complex-catalyzed C–H functionalization.

Comment: The method does not require any directing group and can be applied to unactivated C–H bonds, which presents a limitation for similar methods.

SYNFACTS Contributors: Paul Knochel, Simon Graßl
Synfacts 2019, 15(04), 0375 Published online: 19.03.2019
DOI: 10.1055/s-0037-1612309; Reg-No.: P01919SF

2019 © Georg Thieme Verlag Stuttgart · New York

Category

Metals in Synthesis

Key words

desymmetrization

C–H activation

stereoselectivity

Synfact
of the
Month

This document was downloaded for personal use only. Unauthorized distribution is strictly prohibited.