Cyclohexane Desymmetrization via Rhodium-Catalyzed C–H Activation

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.

Select examples:

Disubstituted cyclohexanes:

- 73% yield, 97% ee
- 75% yield, 92% ee
- 58% yield, 96% ee (rr = 9.9:1, dr = 7.7:1)
- 58% yield, 98% ee (rr > 50:1, dr = 9.8:1)
- 41% yield, 83% ee (rr > 50:1, dr = 25:1)

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