**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.

**Selected examples:**

<table>
<thead>
<tr>
<th>R1 = Ar, Het(Ar)</th>
<th>R2 = H, Alk</th>
<th>n = 0, 1, 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2CH2CCl3</td>
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<td>Rh2(S-TPPTTL)4 (0.5 mol%)</td>
</tr>
<tr>
<td>CH2Cl2, 40 °C, 2 h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Disubstituted cyclohexanes:**

- 73% yield 97% ee
- 75% yield 92% ee
- 58% yield 96% ee
- 58% yield 98% ee
- 41% yield 83% ee

**rr = 9.9:1**
**dr = 7.7:1**

**rr > 50:1**
**dr = 25:1**

**rr = 16:1**
**dr = 3.7:1**

**rr > 50:1**
**dr = 2:1**

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