W.-K. AN, M.-Y. HAN, C.-A. WANG, S.-M. YU, Y. ZHANG, S. BAI, W. WANG* (LANZHOU UNIVERSITY AND COLLABORATIVE INNOVATION CENTER OF CHEMICAL SCIENCE AND ENGINEERING, TIANJIN, P. R. OF CHINA)

Insights into the Asymmetric Heterogeneous Catalysis in Porous Organic Polymers: Constructing a TADDOL-Embedded Chiral Catalyst for Studying the Structure–Activity Relationship
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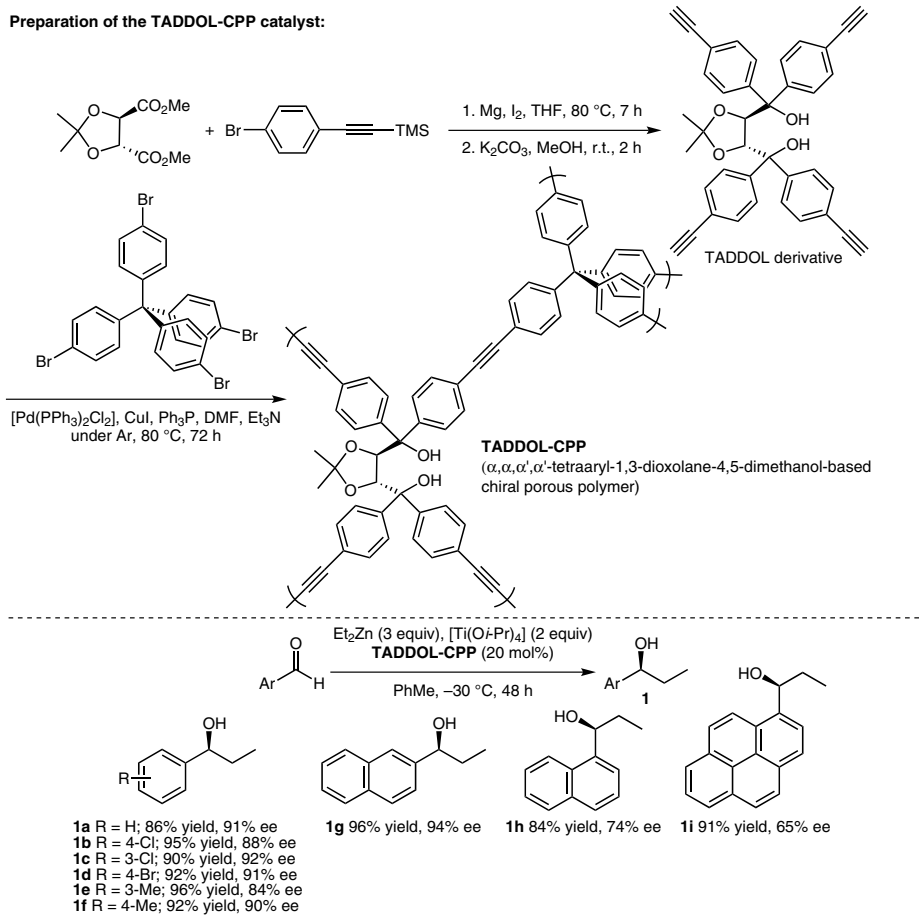
An Organo Porous Polymer Catalyst for Asymmetric Alkylation with Et_2Zn



Significance: A chiral α,α,α′,α′-tetraaryl-1,3-dioxolane-4,5-dimethanol-based chiral porous polymer (TADDOL-CPP) was prepared and applied to the asymmetric alkylation of aromatic aldehydes with Et_2Zn in the presence of [Ti(O*i*-Pr)$_4$] to give the corresponding products **1a–i** in up to 96% yield with up to 94% ee.

Comment: The TADDOL-CPP as well as the TADDOL-CPP/Ti catalysts were characterized by ^{13}C CP/MAS NMR spectroscopy, TGA, BET, XRD, TEM and ICP analyses. TADDOL-CPP was recovered by centrifugation and reused ten times to give **1a** with slight loss of the catalytic activity (91% ee to 75% ee).

SYNFACTS Contributors: Yasuhiro Uozumi, Yoichi M. A. Yamada, Heeyoel Baek
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Polymer-Supported Synthesis

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