An Organo Porous Polymer Catalyst for Asymmetric Alkylation with Et$_2$Zn

**Significance:** A chiral $\alpha,\alpha,\alpha',\alpha'$-tetraryl-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$_2$Zn 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).

**Preparation of the TADDOL-CPP catalyst:**

$$\text{BrTMS}$$

1. Mg, I$_2$, THF, 80 °C, 7 h
2. K$_2$CO$_3$, MeOH, r.t., 2 h

$$\text{[(Pd(PPh$_3$)$_2$Cl$_2$), CuI, Ph$_3$P, DMF, Et$_3$N under Ar, 80 °C, 72 h}$$

$$\text{TADDOL derivative}$$

$$\text{TADDOL-CPP}$$

($\alpha,\alpha,\alpha',\alpha'$-tetraryl-1,3-dioxolane-4,5-dimethanol-based chiral porous polymer)

$$\text{OH}$$

1a $R = \text{H}; 86$% yield, 91% ee
1b $R = \text{4-Cl}; 95$% yield, 88% ee
1c $R = \text{3-Cl}; 90$% yield, 92% ee
1d $R = \text{4-Br}; 92$% yield, 91% ee
1e $R = \text{3-Me}; 96$% yield, 84% ee
1f $R = \text{4-Me}; 92$% yield, 90% ee
1g $96$% yield, 94% ee
1h $84$% yield, 74% ee
1i $91$% yield, 65% ee