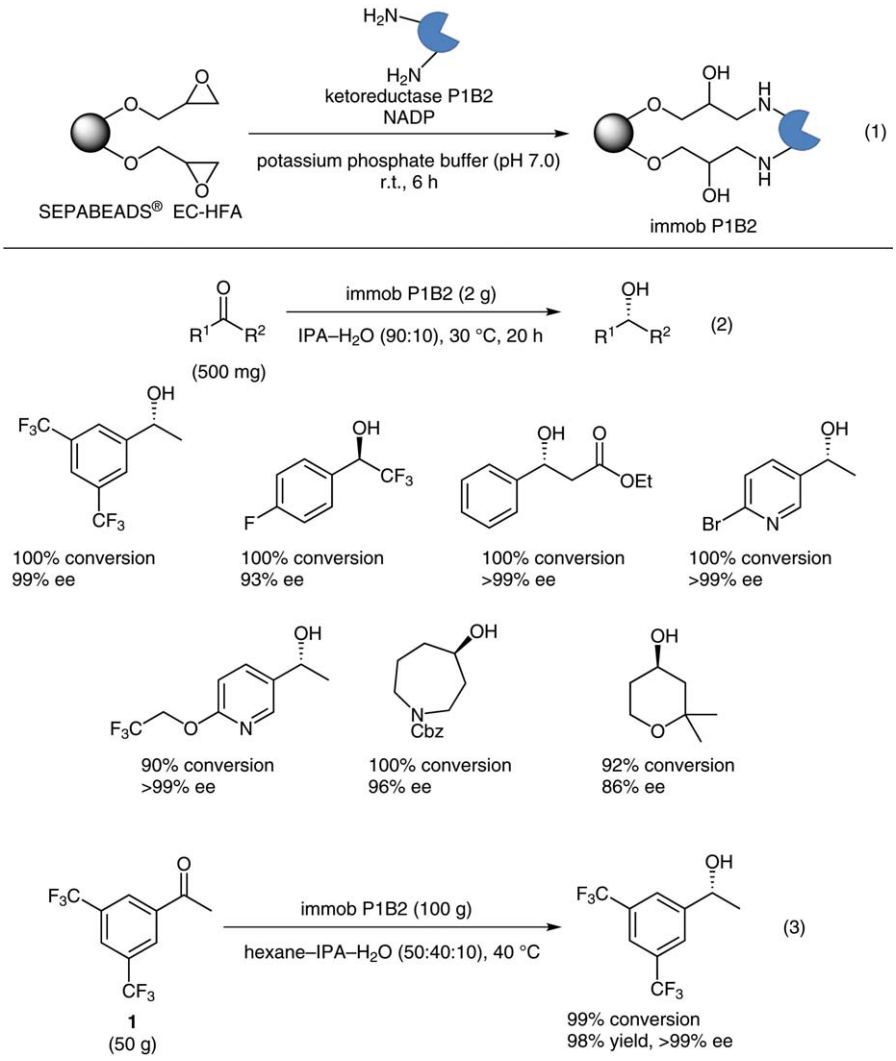
H. LI,* J. MONCECCHI, M. D. TRUPPO (MERCK & CO., RAHWAY, USA)
Development of an Immobilized Ketoreductase for Enzymatic (*R*)-1-(3,5-Bis(trifluoromethyl)phenyl)ethanol Production
Org. Process Res. Dev. **2015**, *19*, 695–700.

Asymmetric Carbonyl Reduction with a Supported Ketoreductase



Significance: Immobilized ketoreductase P1B2 (immob P1B2), prepared as shown in eq. 1, catalyzed the asymmetric transfer-hydrogenation of ketones in 90:10 propan-2-ol–water to give the corresponding alcohols in up to 100% conversion and up to >99% ee (eq. 2). This reaction was used in a 50 g scale reduction of 3,5-[bis(trifluoromethyl)phenyl]ethanone (**1**) (eq. 3).

Comment: Immob P1B2 was recovered and reused nine times without any loss of its catalytic performance. The catalyst was also used in a flow transfer hydrogenation of ketone **1**.

SYNFACTS Contributors: Yasuhiro Uozumi, Kotaro Yamamura
Synfacts 2015, 11(10), 1105 Published online: 18.09.2015
DOI: 10.1055/s-0035-1560273; **Reg-No.:** Y10915SF

Category
Polymer-Supported Synthesis

Key words
enzymes
biocatalysis
hydrogenation
ketones