

Electronic Supplementary Information (ESI)

**Using deep eutectic solvents to improve resolution of
racemic 1-(4-methoxyphenyl)ethanol through *Acetobacter*
sp. CCTCC M209061 cells-mediated asymmetric oxidation**

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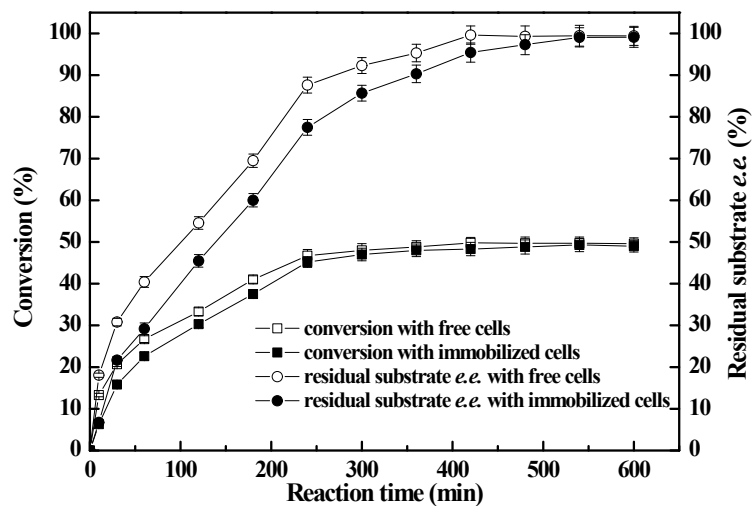


Fig. S1 Time course of asymmetric oxidation of MOPE with free and immobilized *Acetobacter* sp. CCTCC M209061 cells

Reaction conditions: 5.0 mL TEA-HCl buffer (100 mmol/L, pH 6.5), 30 mmol/L MOPE, 0.24 g wet free cells or 1.5 g immobilized cells, 50.0 mmol/L acetone, 30 °C, 200 rpm.

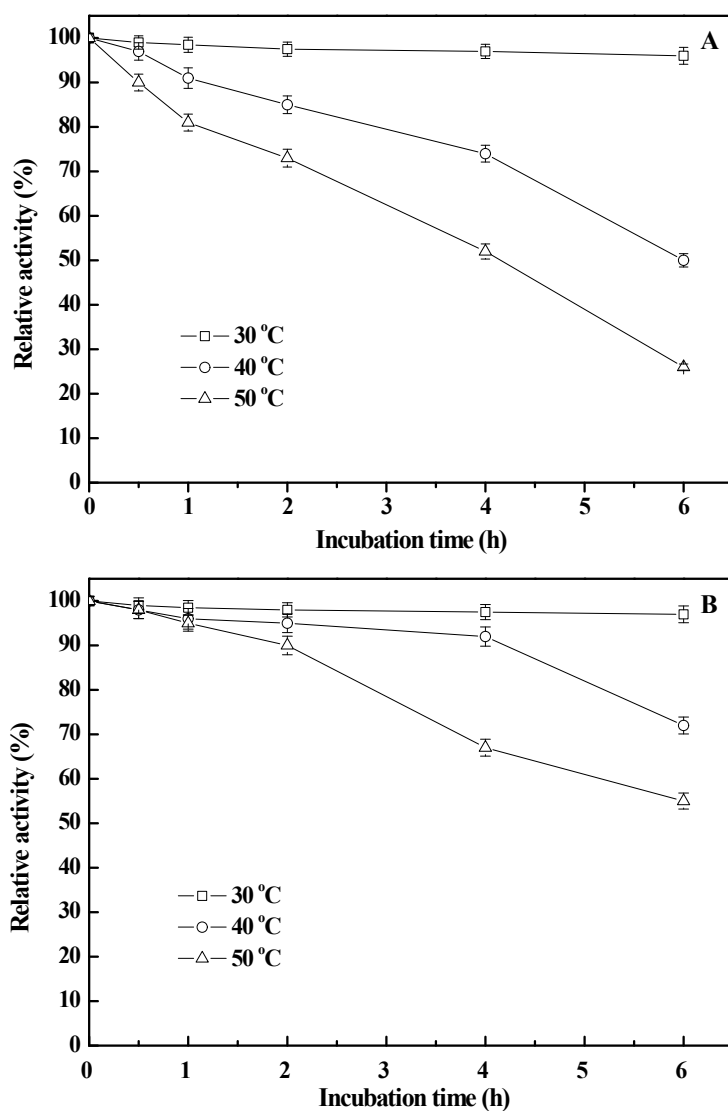


Fig. S2 Thermal stability of free (A) and immobilized (B) *Acetobacter* sp. CCTCC M209061 cells
 Reaction conditions: 5.0 mL TEA-HCl buffer (100 mmol/L, pH 6.5), 30 mmol/L MOPE, 0.24 g wet free cells or
 1.5 g immobilized cells, 50.0 mmol/L acetone, 30 °C, 200 rpm, incubation time 6 h.

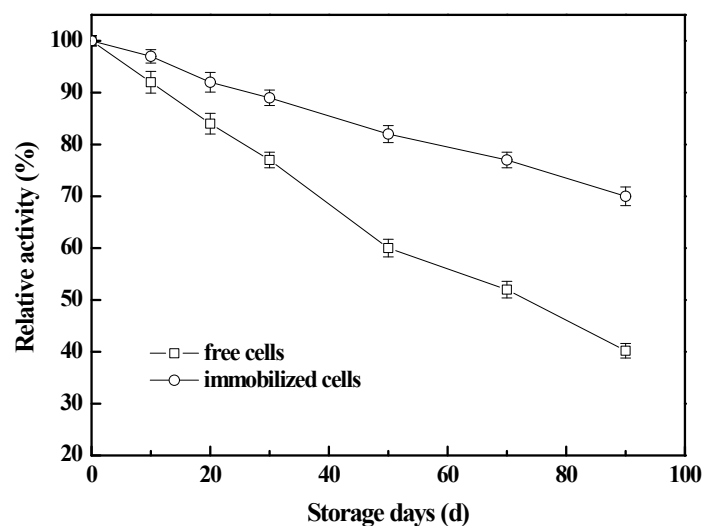


Fig. S3 Storage stability of free and immobilized *Acetobacter* sp. CCTCC M209061 cells at 4 °C
 Reaction conditions: 5.0 mL TEA-HCl buffer (100 mmol/L, pH 6.5), 30 mmol/L MOPE, 0.24 g wet free cells or 1.5 g immobilized cells, 70.0 mmol/L acetone, 30 °C, 180 rpm.

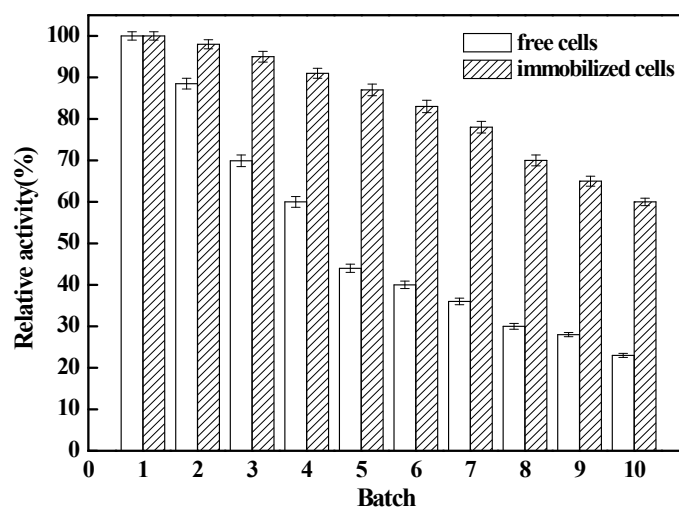


Fig. S4 Operational stability of free and immobilized *Acetobacter* sp. CCTCC M209061 cells.
 Reaction conditions: 5.0 mL TEA-HCl buffer (100 mmol/L, pH 6.5), 30 mmol/L MOPE, 0.24 g wet free cells or 1.5 g immobilized cells, 50.0 mmol/L acetone, 30 °C, 200 rpm, reaction time 2 h per batch

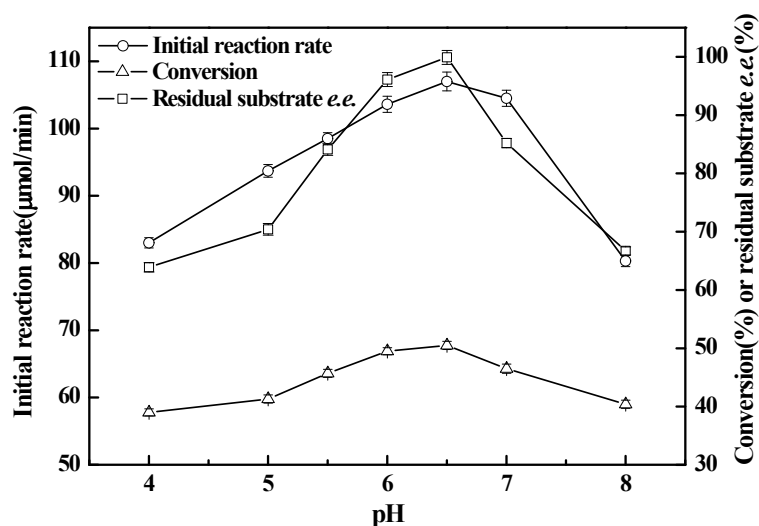


Fig. S5 Effect of buffer pH on the asymmetric oxidation of racemic MOPE with immobilized *Acetobacter* sp. CCTCC M209061 cells

Reaction conditions: 40 mmol/L MOPE, 5 mL TEA-HCl buffer (100 mmol/L, various pHs) containing 10% [ChCl][Gly], 60 mmol/L acetone, 0.3 g/mL immobilized cells, 30 °C, 200 rpm, incubation time 7h.

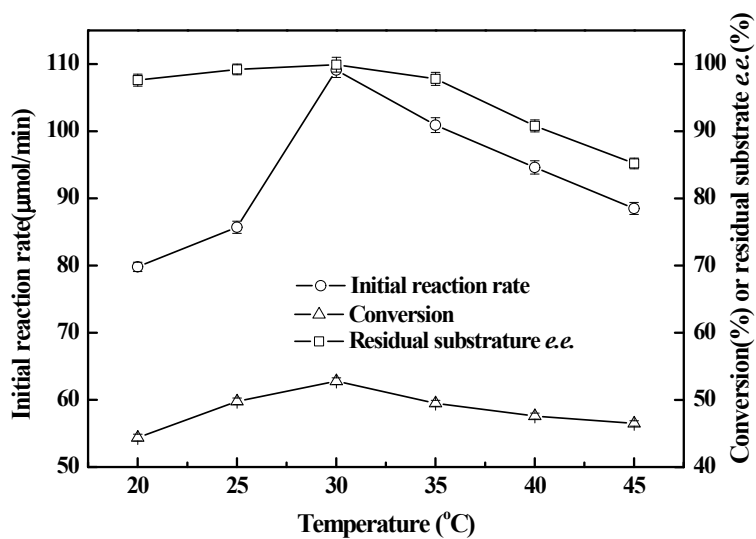


Fig. S6 Effect of temperature on the asymmetric oxidation of racemic MOPE with immobilized *Acetobacter* sp. CCTCC M209061 cells

Reaction conditions: 40 mmol/L MOPE, 5 mL TEA-HCl buffer (100 mmol/L, pH 6.5) containing 10% [ChCl][Gly], 60 mmol/L acetone, 0.3 g/mL immobilized cells, various reaction temperatures, 200 rpm, incubation time 7h.

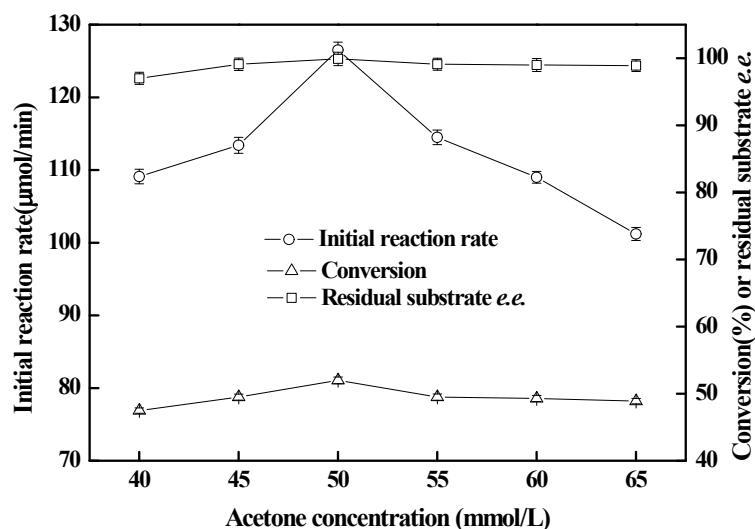


Fig. S7 Effect of acetone concentration on the asymmetric oxidation of racemic MOPE with immobilized *Acetobacter* sp. CCTCC M209061 cells
 Reaction conditions: 40 mmol/L MOPE, 5 mL TEA-HCl buffer (100 mmol/L, pH 6.5) containing 10% [ChCl][Gly], various acetone concentrations, 0.3 g/mL immobilized cells, 30 °C, 200 rpm, incubation time 7h.

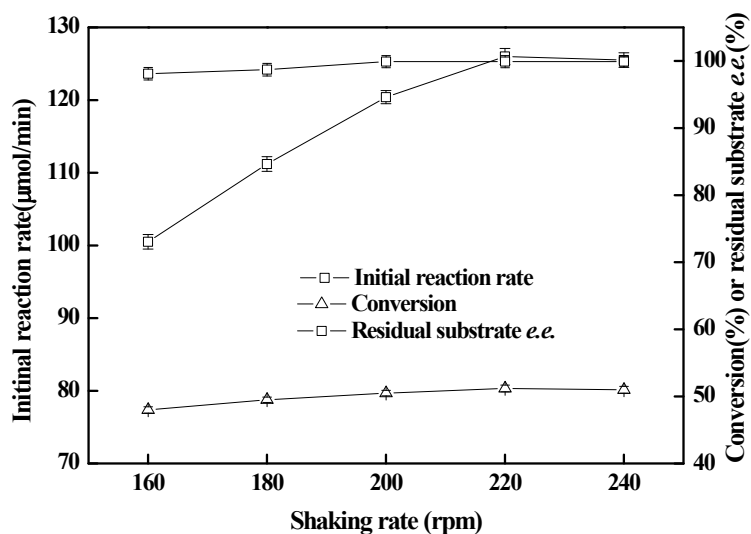


Fig. S8 Effect of shaking rate on the asymmetric oxidation of racemic MOPE with immobilized *Acetobacter* sp. CCTCC M209061 cells
 Reaction conditions: 40 mmol/L MOPE, 5 mL TEA-HCl buffer (100 mmol/L, pH 6.5) containing 10% [ChCl][Gly], 50 mM acetone, 0.3 g/mL immobilized cells, 30 °C, various shaking rates.