

Electronic Supplementary Information

Chiral Resolution with Frozen Aqueous Amino Acids

Satsuki Takahashi, Makoto Harada, and Tetsuo Okada*

Department of Chemistry, Tokyo Institute of Technology, Meguro-ku, Tokyo 152-8551,
Japan

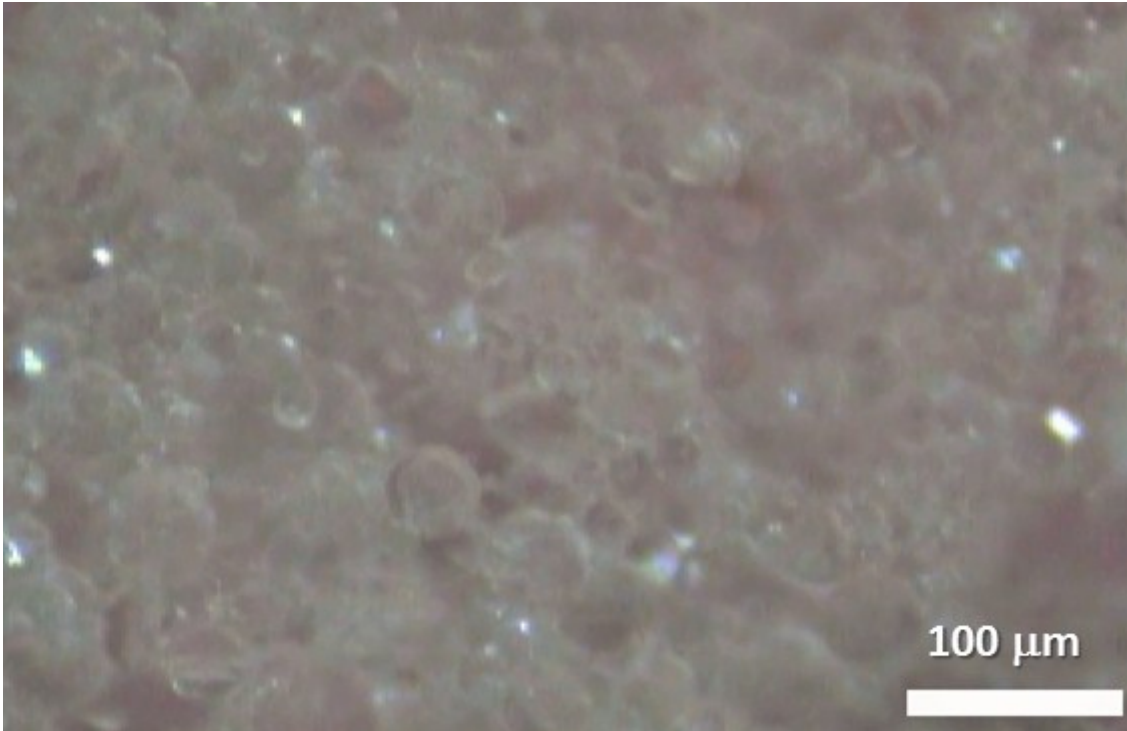


Fig.S1 Micrograph of ice stationary phase

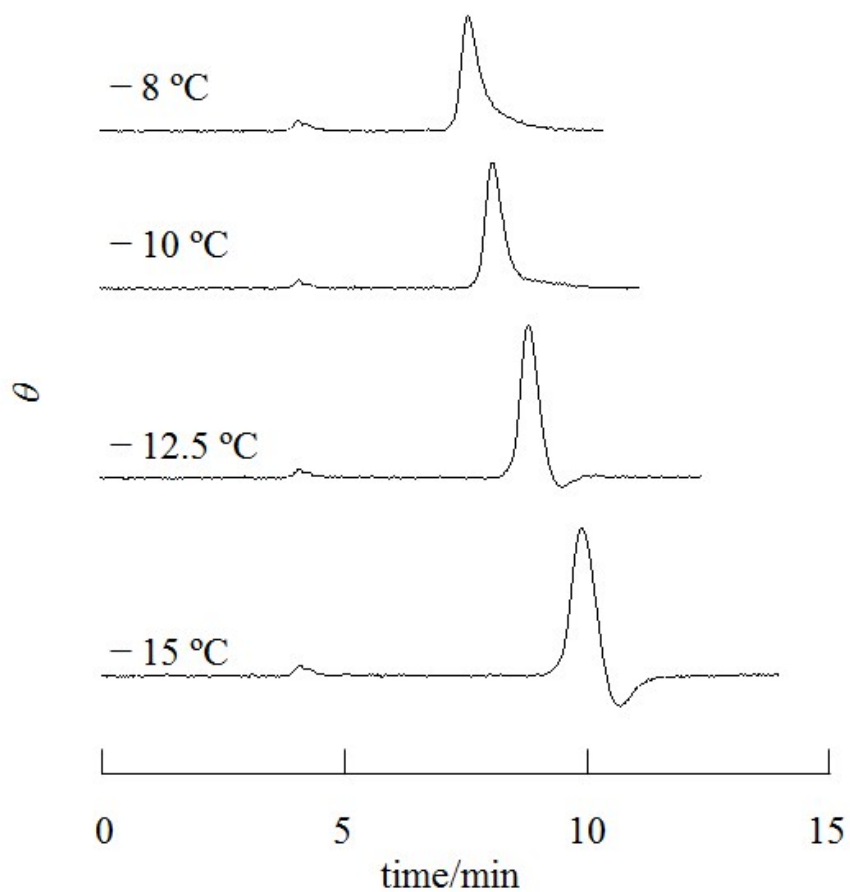


Fig.S2 Temperature effect on the chiral resolution of BINOL with Pro+KCl stationary phase.

Detection, CD. Stationary phase, frozen 5 mM L-Pro+10 mM KCl. Mobile phase, 5%(v/v) diethyl ether / n-hexane. Temperature, - 8.0 °C.

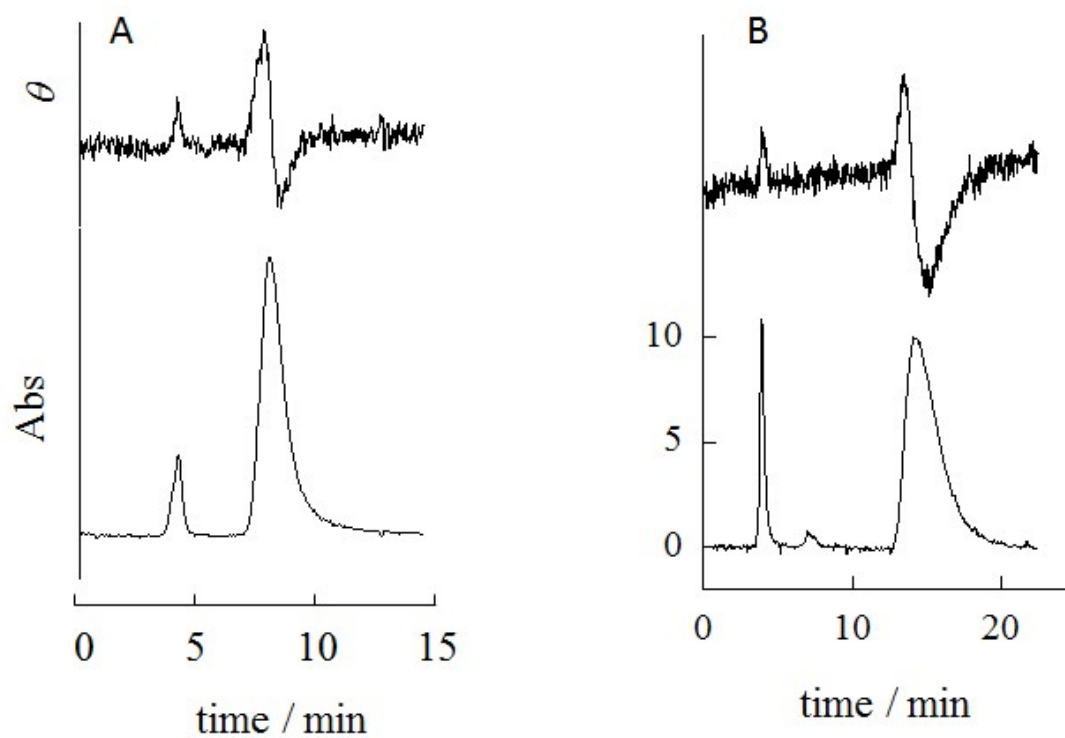


Fig.S3 Resolution of BINOL enantiomers with frozen Pro-Cu²⁺

A, frozen 10 mM Pro+5 mM Cu(NO₃)₂. B, frozen 5 mM Pro+2.5 mM Cu(CH₃COO)₂.

Mobile phase, hexane. Temperature, -8 °C. Upper, CD detection. Lower, UV detection.

Severe noises in the upper chromatograms imply that the chiral separation is very poor.

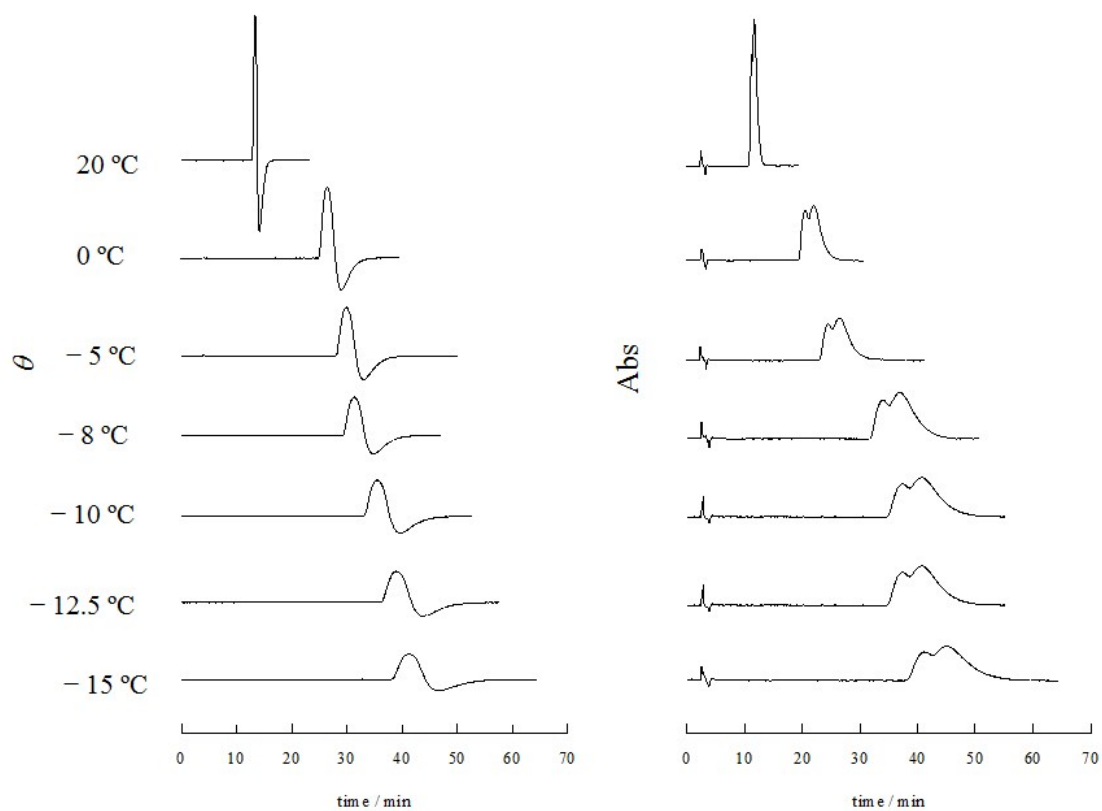


Fig.S4 Chromatograms of racemic BINOL obtained with Daicel CHIRALPAK WH (4.6 mm

i.d. ×250 mm) as the stationary phase

Anchored chiral selector, Pro-Cu²⁺ complex.

Mobile phase, 50% (v/v) *i*-PrOH / hexane. Left, CD detection. Right, UV detection.

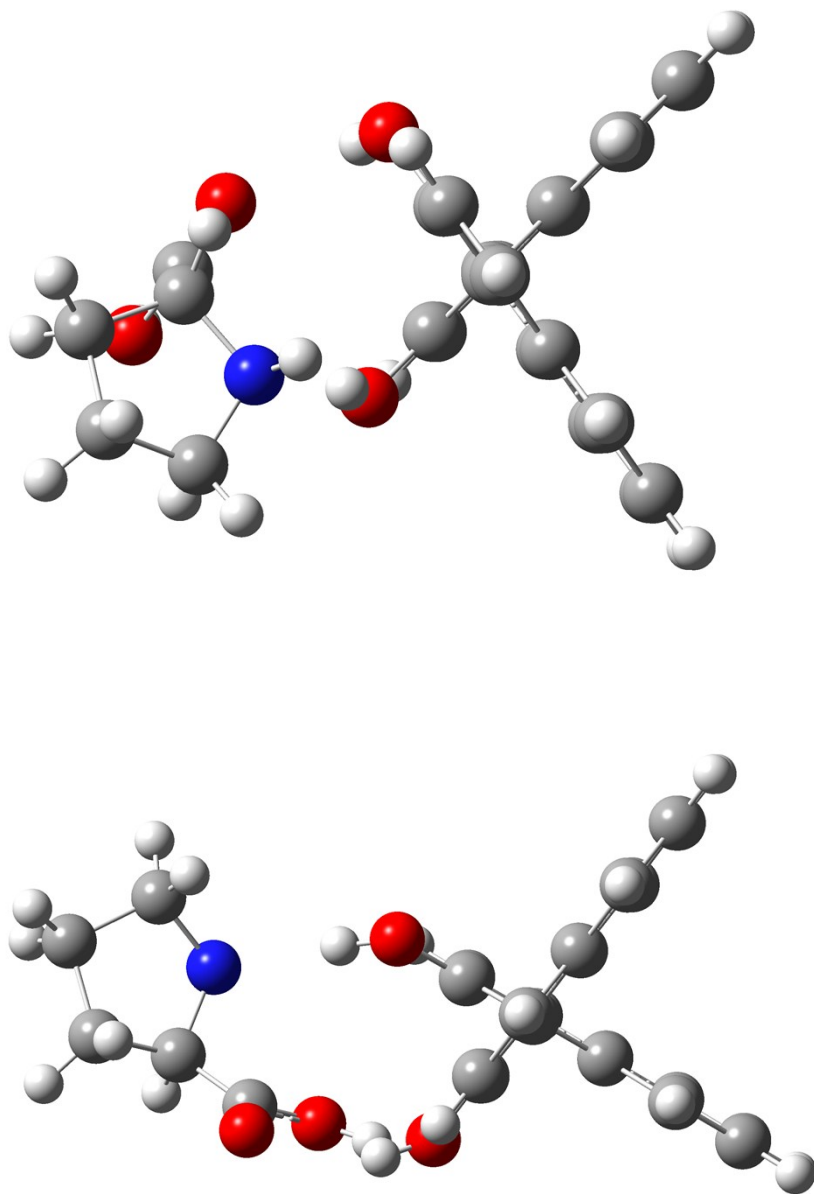


Fig.S5 Optimized geometries of Pro interacting with the R (top) and S (bottom) enantiomers of
BINOL