

were performed on a Shimadzu GC-14A (3-mm  $\times$  2-m glass column packed with 10% Silicone SE-30 on Chromosorb W or 5% Silicone OV-17 on Chromosorb W) with flame-ionization detector and  $N_2$  as carrier gas. Optical rotations were measured on a JASCO DIP-360 polarimeter.

**Materials.** Carbon tetrachloride and toluene were distilled from  $CaCl_2$  and stored over molecular sieves 4A under nitrogen. Diethyl ether and tetrahydrofuran (THF) were distilled from  $LiAlH_4$  and stored similarly. Commercially available 70% aqueous TBHP and  $Ti(O-i-Pr)_4$  were used without any purification. (*R*)-(+)-1,1'-Binaphthol was purchased from Wako Pure Chemical Ind. Ltd. and used without further purification. The racemic sulfoxides were prepared according to the reported method.<sup>9</sup>

**Typical Experimental Procedure for the Kinetic Resolution of Sulfoxides.** To a  $CCl_4$  (2 mL) solution of binaphthol (0.050 mmol) were introduced  $Ti(O-i-Pr)_4$  (0.025 mmol) and  $H_2O$  (0.50 mmol) using a syringe under ambient atmosphere at room temperature. After the resulting brown solution was stirred magnetically at the same temperature for 1 h, the sulfoxide (0.50 mmol) was introduced using a syringe at 25 °C. After 0.5 h, 70%

(9) Balicki, R.; Kaczmarek, L.; Nantka-Namirski, P. *Liebigs Ann. Chem.* 1992, 883.

aqueous TBHP (0.50 mmol) was introduced using a syringe, and the mixture was stirred for 6–10 h. The reaction mixture was directly submitted to column chromatography with Wakogel C-200 silica gel (eluent: diethyl ether) to afford the solid chiral sulfoxide (sulfone was eluted first). When the obtained sulfoxide showed a pale yellow color, it was purified further by flash column chromatography. The ee and the configuration of the recovered sulfoxides were determined by HPLC using Daicel Chiralcel OB column and by the optical rotation, respectively.

For the experiment of eight times scale using 4.0 mmol (618.8 mg) of racemic methyl *p*-tolyl sulfoxide at 25 °C for 8 h, the corresponding optically pure sulfoxide (>99%) was isolated in 21.1% yield (0.842 mmol, 129.9 mg).

**Monitoring of the Resolution on GLC and HPLC.** An aliquot of the reaction mixture taken out by a microsyringe was submitted to TLC (Kieselgel 60 F<sub>254</sub>), and the band of the sulfoxide was extracted with  $CH_2Cl_2$ . The solution was analyzed by HPLC to determine the ee of the sulfoxide. Another aliquot of the reaction mixture was analyzed by GLC to determine the concentrations of the sulfoxide and the sulfone.

**Acknowledgment.** The present work was supported in part by a Grant-in-Aid for Scientific Research (No. 04453086) from the Ministry of Education, Science and Culture, Japan.

## Additions and Corrections

Vol. 55, 1990

**Yoshinori Yamamoto\* and Naoki Asao.** Copper Azide as a New Reagent for Syn- $S_N2$  Displacement of  $\gamma$ -Sulfonyloxy  $\alpha,\beta$ -Unsaturated Esters.

Page 5304, column 1, line 11. Phosphonate should read phosphate. We thank Professor Bruce H. Lipshutz for bringing this error to our attention.

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**Michele Decouzon, Otto Exner, Jean-François Gal,\* and Pierre-Charles Maria.** The Gas-Phase Basicity of Hydroxamic Acid Derivatives.

Page 1622, column 1, Table I, entry 7. The experimental  $\Delta G$  for  $CH_3CONHCH_3$  (entry 7) relative to cyclopropylamine should read  $\approx -2.2$  kcal mol<sup>-1</sup> (instead of  $-0.22$  kcal mol<sup>-1</sup>). The GB value for entry 7 remains unchanged.

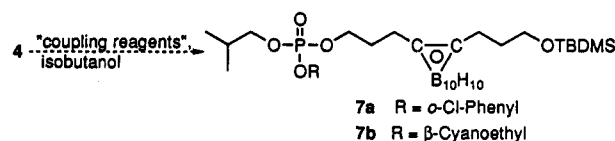
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**George R. Newkome,\* Xiaofeng Lin, Chen Yaxiong, and Gregory H. Escamilla.** Two-Directional Cascade Polymer Synthesis: Effects of Core Variation.

Page 3125, ref 22. The versions of QUANTA and CHARMM used were inadvertently omitted from the paper. The calculated values reported were obtained using QUANTA version 3.2 and CHARMM version 21.4.

**Robert R. Kane, Christine S. Lee, Karin Drechsel, and M. Frederick Hawthorne\*.** Solution-Phase Synthesis of Boron-Rich Phosphates.

Page 3228. Corrected Scheme IV.



**Yumin Liu and Jeffrey Schwartz\*.** The Species Prepared from Sodium Borohydride and *N,N*-Dimethylformamide Reduces or Dimethylaminates Organic Halides.

Page 5006. Corrected Scheme II.

