[J. Chem. Crystallography, **26**, 445-449 (1996)]

[Lab. of Pharm. Synthetic Chemistry]

An Interesting Inclusion Phenomenon with (S)-1-(Hydroxydiphenylmethyl)-5-azoniaspiro [4.4] nonane Bromide and (S)-1-(Hydroxydiphenylmethyl)-5-azoniaspiro [4.5] decane Bromide and Optical Resolution of Binaphthyl and Biphenanthryl Diols by Inclusion Crystallization with These Optically Active Ammonium Salts.

Min Shi, Nobuhiro Itoh, Yukio Masaki,* Motoo Shiro

Recrystallization of the spiro-pyrrolidinium salts (S)-1-(hydroxydiphenylmethyl)-5-azoniaspiro[4.4]nonane bromide or (S)-1-(hydroxydiphenylmethyl)-5-azoniaspiro[4.5]decane bromide from chloroform afforded a crystalline spiro-pyrrolidinium salt including two molecules of chloroform which was determined by ¹H-NMR, elemental analysis, and X-ray analysis. Racemic 2,2'-dihydroxy-1,1'-binaphthyl and 10,10'-dihydroxy-9,9'-biphenanthryl have been resolved effectively by inclusion crystallization using these chiral ammonium salts.

[J. Chem. Research (S), 1996, 352-353; (M), 1996, 1946-1955] [Lab. of Pharm. Synthetic Chemistry]

Axially Dissymmetric Chiral (Diamine)copper- and (Diimine)coppercatalysed Asymmetric Aziridination of Alkenes.

Min Shi, Nobuhiro Itoh, Yukio Masaki*

Axially dissymmetric chiral diamine and diimine ligands having a 1,1'-binaphthyl or 1,1'-biphenyl moiety have been successfully synthesized and their copper complexes have been used to catalyse asymmetric aziridination of alkenes in acetonitrile.

[Tetrahedron Lett., 37, 9321-9324 (1996)]

[Lab. of Pharm. Synthetic Chemistry]

Total Synthesis of Thromboxane B_2 Starting from (R,R)-Tartaric Acid as a Chiral Pool.

Yukio Masaki,* Kazuhiro Yoshizawa, Akichika Itoh

Optically active natural thromboxane B_2 (TXB₂) was synthesized from (R,R)-tartaric acid as only chiral source. The synthesis was achieved through regio- and stereoselective introduction of acetate moiety at the C2-position of the 6,8-dioxabicyclo[3.2.1]octane derivative to provide an acetamide derivative, partial ring opening of the bicylic skeleton to give a pyranoid, and construction of the C15-hydroxyl group of TXB₂ by stereospecific allylic transposition of the inherent chirality of tartaric acid in the *trans*-allylic acetate.