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[Lab. of Pharm. Synthetic Chemistry]

**Synthesis of Axially Dissymmetric Chiral Ammonium Salts by
Quaternization of Secondary Amines with (R)-(+)-2,2'-Bis(bromomethyl)-
6,6'-dinitrobiphenyl and (R)-(+)-2,2'-Bis(bromomethyl)-1,1'-binaphthyl
and an Examination of their Abilities as Chiral Phase-transfer Catalysts.**

MIN SHI, NOBUHIRO ITOH, YUKIO MASAKI*

Chiral quaternary ammonium salts were prepared from the reaction of (R)-(+)-2,2'-bis(bromomethyl)-6,6'-dinitrobiphenyl and (R)-(+)-2,2'-bis(bromomethyl)-1,1'-binaphthyl with some secondary amines and observed to exhibit activity in chiral induction in the epoxidation of chalcone (e.e. = 1.3-7.5%) and the Darzens condensation of benzaldehyde and phenacyl chloride (e.e. = 1.6-2.0%) under phase-transfer conditions.

[J. Chem. Research (S), 1995, 40-41]

[Lab. of Pharm. Synthetic Chemistry]

**A Novel Inclusion Phenomenon of *cis*- and
trans-2,5-Bis(hydroxydiphenylmethyl)pyrrolidines.**

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Recrystallization of *cis*- and *trans*-2,5-bis(hydroxydiphenylmethyl)pyrrolidine in methanol, ethanol, acetonitrile and acetone gives solvent-inclusion compounds as colourless needles, the structures of which were confirmed by thermal analysis, ¹H NMR spectroscopy and elemental analysis.

[Chem. Lett., 1995, 379-380]

[Lab. of Pharm. Synthetic Chemistry]

**Nucleophilic Substitution Reaction of Optically Pure Chloroselenurane
with Active Methylene Compounds.**

Formation of Optically Pure Selenonium Ylides.

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Nucleophilic substitution reaction of (*R*_{se})-chloroselenurane with active methylene compounds proceeded in highly stereoselective manner with retention of configuration to give (*S*_{se})-selenonium ylides. (*S*_{se})- and (*R*_{se})-Ylides were stereospecifically formed from the reaction of (*R*_{se})- and (*S*_{se})-selenoxides with active methylene compounds.