diastereoselective syntheses, enantioselective syntheses (incl. cis/trans-isomerism)

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Synthesis of a Bifunctional Ligand for the Sequential Enantioselective Catalysis of Various Reactions. — The new bis(oxazoline) shown in the scheme is found to be a good ligand for the sequential enantioselective cyclopropanation and dihydroxylation of styrene. — (ANNUNZIATA, RITA; BENAGLIA, MAURIZIO; CINQUINI, MAURO; COZZI, FRANCO; Eur. J. Org. Chem. (2001) 6, 1045-1048; Dip. Chim. Org. Ind., Univ. Stud. Milano, CNR, I-20133 Milano, Italy; EN)

$$Ph \leftarrow CH_2 \xrightarrow{K_2OsO_2(OH)_4/CuOTf+benzene/BOX \ (cat.)} Ph \leftarrow CH_2 \xrightarrow{CH_2Ol_2, \ 25^{\circ}C} \xrightarrow{CH_2Ol_2, \ 25^{\circ}C} \xrightarrow{Ph} \qquad Ph \leftarrow Ph \rightarrow OH \qquad (-)-III* \ (R)-(-)-IV \qquad ($$