

Design and X-ray Structures of New Chiral Ferrocenyl Ligands to be used in Asymmetric Catalysis

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Worldwide sales of chiral drugs in single-enantiomer forms continued growing at a more than 13% annual rate. Then discovery of truly efficient methods of obtaining optically pure chiral substances remains a substantial challenge for synthetic chemists. Since the early 1970s, there is a growing interest in asymmetric catalysis. One of the most powerful general strategies is the use of chiral metal complexes as homogeneous molecular catalysts. Our group is involved in the syntheses of chiral enantiomerically pure modular ligands.

Two efficient syntheses of a chiral enantiomerically pure C₂-symmetry diphosphine-monoether will be presented. The study of the coordination chemistry of this large bite-angle diphosphine proved that this diphosphine can chelate one single metal with the two phosphorus being trans to each other.

