

A new chiral pincer *P,N,N* phosphonite ligand and its Rh(I) complex as a potent catalyst for asymmetric hydrogenation

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Asymmetric catalysis poses a challenging field with numerous applications in the synthesis of very important industrial and pharmaceutical organic substances. Since *P,N*-ligands are among the most important and widely used heterodentate ligands, our group has been actively involved in this particular research area. Specifically, we have synthesized novel catalysts that showed promising activity, such as Rh(I) complexes bearing the phosphine–phosphoramidite ligand “Me-AnilaPhos” as an excellent catalyst for asymmetric olefin hydrogenation, and also aniline- and pyridine-derived *P,N*-phosphites.¹ Pincer ligands are on the forefront of organometallic chemistry and a particular category of pincer *P,N,N*-ligands derived from 2,6-lutidine were initially reported by Milstein.² In this work, we present the synthesis of the new chiral pincer *P,N,N*-ligand **1**, that bears the *R*-BINOL moiety (Figure 1). The synthesis of its Rh(I) complex as a potent catalyst for asymmetric hydrogenation will be presented.

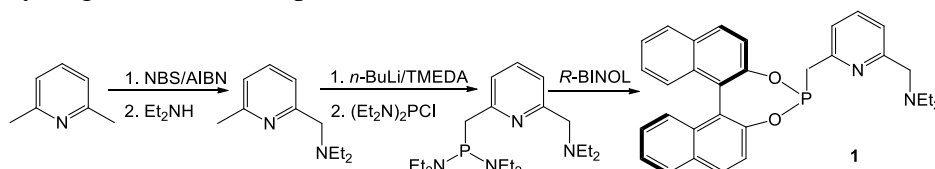


Figure 1. Synthesis of a chiral pincer *P,N,N* phosphonite ligand.

References:

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