A NEW ROUTE TO SPIROPYRIDINE LIGANDS

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Spirophenols and spirophosphines
SPINOL and SDP are spiranic $C_2$-chiral ligands which have been efficiently used in asymmetric hydrogenation processes.1,2

Spiropyridines
Other member of the chiral spiranic ligands, the spiropyridines, have been recently synthesized in our group using Co(I)-catalyzed [2+2+2] cycloadditions.3 Initial coordination studies with these ligands show promising results.

We are now working on another member of the spiranic family of ligands, the so-called spirobipyridines, that could be synthesized using a combination of Körnke’s and Takahashi’s procedures.4,5

Using modified Takahashi conditions we have been able to prepare the intermediate spiranic ketone in moderated yield. Optimization studies of this reaction and conditions for the pyridine formation are in progress.

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References