

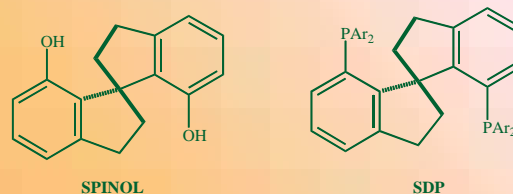
A NEW ROUTE TO SPIROPYRIDINE LIGANDS

*Carlos González-Rodríguez, Jesús A. Varela, Luis Castedo and Carlos Saá**

*Departamento de Química Orgánica y Unidad Asociada al CSIC, Facultad de Química, Universidad de Santiago de Compostela
15782 Santiago de Compostela, Spain*

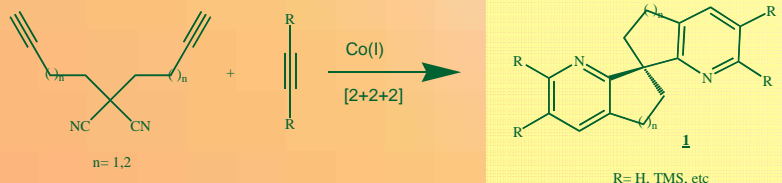
Spirophenols and spirophosphines

SPINOL and SDP are spiranic C_2 -chiral ligands which have been efficiently used in asymmetric hydrogenation processes.^{1,2}



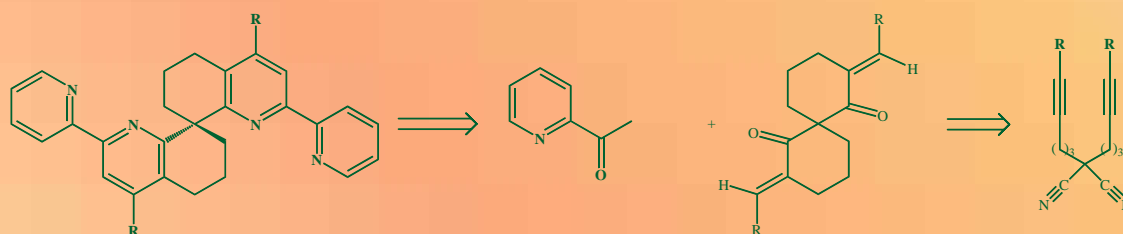
Spiropyridines

Other member of the chiral spiranic ligands, the spiroypyridines, 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.

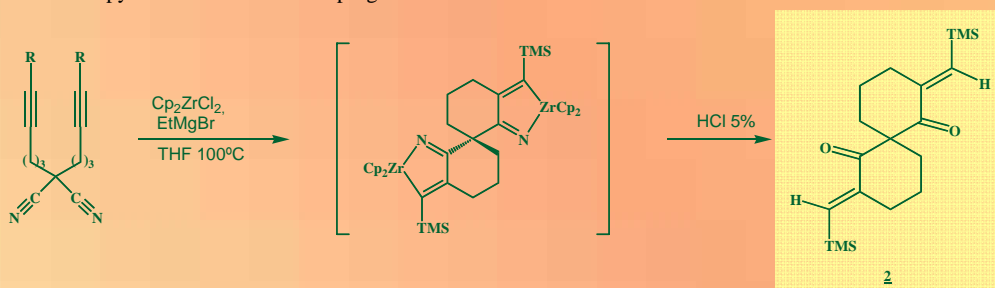


Spirobipyridines

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 kronke'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.



Acknowledgement. This work was supported by the Ministerio de Ciencia y Tecnología (Project BQU2002-02135). C.G.R. and J.A.V. also thank the M.C.Y.T. for a predoctoral grant (BES-2003-0839) and for a research contract under the Ramon y Cajal program, respectively.

References.

1. V.B. Birman, A.L. Rheingold, K.C. Iam *Tetrahedron Assym.* **1999**, *10*, 125.
2. J.H. Xie, L.X. Wang, S.F. Zhu, B.M. Fan, H.F. Duan, Q.L. Zhou *J. Am. Chem. Soc.* **2003**, *125*, 4404.
3. a) J. A. Varela, L. Castedo, C. Saá *Org. Lett.* **1999**, *1*, 2141. b) Unpublished results.
4. F. Kröhnke *Synthesis* **1976**, *1*
5. T. Takahashi, F. Tasai, Y. Li, H. Wang, Y. Kondo, M. Yamanaka, K. Nakajima, M. Kotora *J. Am. Chem. Soc.* **2002**, *124*, 5059- 5067.