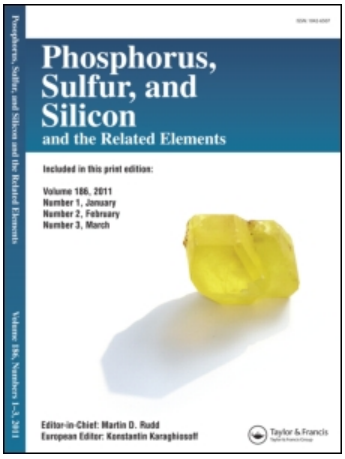


Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

^{31}P NMR Studies of Rhodium Complexes Containing Chelating Diphosphine

J. Bakos[a]; G. Szalontai[a]; I. Tóth[b]; B. Heil[b]
[a] Research Institute for Heavy Chemical Industries, Veszprém, Hungary [b] Institute of Organic Chemistry, University of Chemical Engineering, Veszprém, Hungary

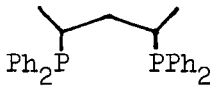
To cite this Article Bakos, J. , Szalontai, G. , Tóth, I. and Heil, B.(1987) '^{31}P NMR Studies of Rhodium Complexes Containing Chelating Diphosphine', Phosphorus, Sulfur, and Silicon and the Related Elements, 30: 3, 658
To link to this Article: DOI: 10.1080/03086648708079152
URL: http://dx.doi.org/10.1080/03086648708079152

^{31}P NMR Studies of Rhodium Complexes Containing Chelating Diphosphine

J.BAKOS*, I.TÓTH, G.SZALONTAI* and B.HEIL
Institute of Organic Chemistry, University of Chemical Engineering, H-8201 Veszprém, Hungary

* Research Institute for Heavy Chemical Industries, H-8201 Veszprém, Hungary

Among the chiral phosphines prepared up to now BDPP appears to be unique in the sense that its rhodium(I)complexes serve as effective homogeneous asymmetric hydrogenation catalysts not only for the reduction of (Z)-α-acylaminoacrylic acids [1] but also for the reduction of α-ethylstyrene, acetophenone, and acetophenonebenzylimine [2].



BDPP

Composition of the solvent mixture, the amount of the added base, the temperature, and the pressure has a decisive influence on the enantioselectivity. ^{31}P NMR spectroscopy was utilized to determine the nature of the catalyst present in solution.

The $[Rh(S,S\text{-}BDPP)_2]X$ complexes (1) (X = Cl, ClO_4, BPh_4) have been synthesized and characterized by spectroscopy. In solution (1) is reactive towards CO at ambient condition and oxidatively adds HCl, I_2 to give trans-$[RhHCl(S,S\text{-}BDPP)_2]^+$ and trans-$[RhI_2(S,S\text{-}BDPP)_2]^+$ species, respectively.

[1] MacNeil,P.A.; Roberts,N.K.; Bosnich,B. J.Am.Chem.Soc. 1981, 103, 2273.

[2] Bakos,J.; Tóth,I.; Heil,B.; Markó,L. J.Organomet.Chem. 1985, 279, 23.