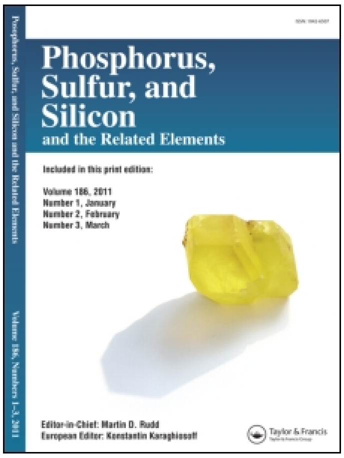

Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

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To cite this Article Aaron, Herbert S. and Rossman, David I.(1987) 'Determination of the Absolute Configuration of the (-)-Me(EtO)(HO)P-Mo(CO)$_5$ Coordination Complex by Decomplexation of the Organophosphorus Ligand', Phosphorus, Sulfur, and Silicon and the Related Elements, 30: 3, 655

To link to this Article: DOI: 10.1080/03086648708079149

URL: http://dx.doi.org/10.1080/03086648708079149

Determination of the Absolute Configuration of the (-)-Me(EtO)(HO)P-Mo(CO)$_5$ Coordination Complex by Decomplexation of the Organophosphorus Ligand

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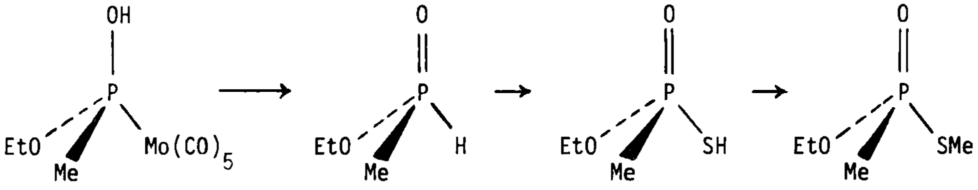
The resolution of a chiral coordination complex (1) was recently carried out in our laboratory, and some stereochemical transformations of the resolved specie have been reported (L.P. Reiff, L.J. Szafraniec, D.I. Rossman and H.S. Aaron, Inorg. Chem. 1986, 25, 0000). Decomplexation studies of its organophosphorus ligand have now been carried out. Thus, treatment of the (-)-1 complex with two molar equivalents of triphenylphosphine yields (+)-ethyl methylphosphinate (2), considerably racemized, however, due to the 120°C temperature required to achieve decomplexation. To determine its optical purity and its absolute configuration, the latter was converted into the known S-(-)-3 thioic acid and S-(-)-4 methyl ester, respectively. While the method does not appear to be of synthetic utility for the preparation of optically active (decomplexed) organophosphorus species, the absolute configuration of the S-(-)-1 coordination complex is established on the basis of these stereochemical relationships.



S-(-)-1 R-(+)-2 S-(-)-3 S-(-)-4