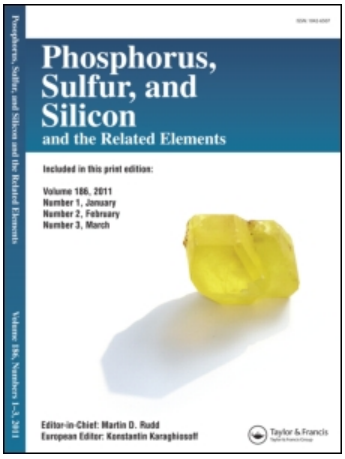

Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

New Ligands: Poly(diphenylphosphorylmethyl)arenes

Yu. M. Polikarpov[a]; T. Ya. Medved[a]; G. V. Bodrim[a]; A. P. Baranov[a]; M. I. Kabachnik[a]; A. N. Nesmeyanov[a]
[a] Institute of Organo-Element Compounds, USSR Academy of Sciences, Moscow, USSR

To cite this Article Polikarpov, Yu. M. , Medved, T. Ya. , Bodrim, G. V. , Baranov, A. P. , Kabachnik, M. I. and Nesmeyanov, A. N.(1987) 'New Ligands: Poly(diphenylphosphorylmethyl)arenes', Phosphorus, Sulfur, and Silicon and the Related Elements, 30: 3, 720
To link to this Article: DOI: 10.1080/03086648708079214
URL: http://dx.doi.org/10.1080/03086648708079214

New Ligands: Poly(diphenylphosphorylmethyl)arenes

Yu.M.Polikarpov*,T.Ya.Medved,G.V.Bodrin,A.P.Baramov,M.I.Kabachnik
A.N.Nesmeyanov Institute of Organo-Element Compounds,
USSR Academy of Sciences, Vavilov Str. 28, Moscow, USSR.

To find out the influence of structure factors on efficincy and selectivity of complexformation the oxides of aromatic tret. di-, tri- and tetraphosphines were synthesized. The molecules contain as conformationaly hard bridges between coordination centres (P=O groups) - fragments of polymethylarenes (isomeric xylenes, mesythylene, durene, dimethylnafthalene, dibenzo-18-crown-6). These compounds were obtained by the Arbusov reaction of Ph_2POEt with corresponding bromomethylarenes. Extraction and complexformation with transplutonium elements, europium, uranium, copper, cobalt were studied. It was found, that among investigated ligands the action selectivity is determined, mainly, by the mutual location of P=O groups. A theoretical conformational analysis using the atom-atom potential function method was applied to the isolated ligands. To reveal conformers suitable for chelating the energy minimisation was carred out with the penalty function constraints keeping the P=O...O=P distance at a specified value. As a result of such analysis the conformers, which are preferable for complexformation with cations of this or that ionic radius, were revealed and the estimation of the selectivity of ligands, which conform with experimental data, was presented.