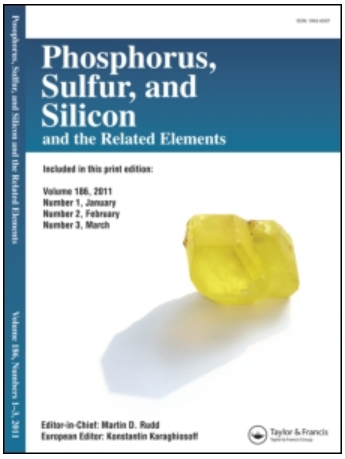

Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

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To cite this Article Kalchenko, V. I. , Visotsky, M. A. , Pirozhenko, V. V. and Markovsky, L. N.(1996) 'Phosphorotropic Isomerization of Diphosphoryl Calix[4]Arenes in Synthesis of Their Chiral Derivatives', Phosphorus, Sulfur, and Silicon and the Related Elements, 111: 1, 101
To link to this Article: DOI: 10.1080/10426509608054730
URL: http://dx.doi.org/10.1080/10426509608054730

Phosphorus, Sulfur, and Silicon, 1996, Vol. 111, p. 101
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PHOSPHOROTROPIC ISOMERIZATION OF DIPHOSPHORYL CALIX[4]ARENES IN SYNTHESIS OF THEIR CHIRAL DERIVATIVES

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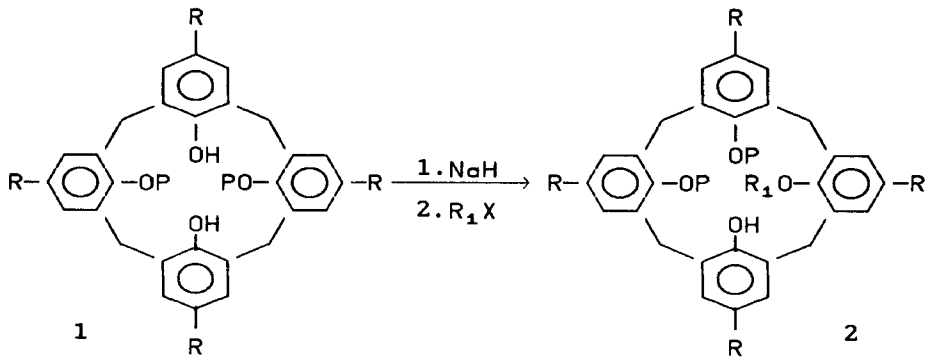
Calixarenes are synthetic macrocycles obtainable by joining phenolic units through methylene bridges. Since they have original molecular architecture, they are considered to be important starting materials in design novel host-molecules for molecular recognition and separation. Introduction of chirality into calixarenes seems to be of great value for development of new class of artificial enzymes. Chiral lower rim trisubstituted calix[4]arenes **2** possessing no plane of symmetry were synthesized with good yields by one-pot procedure consisted in successive treatment of 1,3-diphosphorylcalix[4]arenes **1** in cone conformation with 1 eq. NaH and benzoyl chloride or methyl monobromoacetate.



R = H, t-Bu

P = P(O)(OEt)$_2$

R_1 = PhC(O), $CH_2C(O)OCH_3$

The key step of the reaction is the phosphorotropic rearrangement of the 1,3-diphosphorylcalix[4]arene monoanion into the 1,2-diphosphorylcalix[4]arene monoanion.