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## Phosphorus, Sulfur, and Silicon and the Related Elements

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### Phosphorotropic Isomerization of Diphosphoryl Calix[4]Arenes in Synthesis of Their Chiral Derivatives

V. I. Kalchenko<sup>a</sup>; M. A. Visotsky<sup>a</sup>; V. V. Pirozhenko<sup>a</sup>; L. N. Markovsky<sup>a</sup>

<sup>a</sup> Institute of Organic Chemistry, National Academy of Sciences of Ukraine, KIEV-94, UKRAINE

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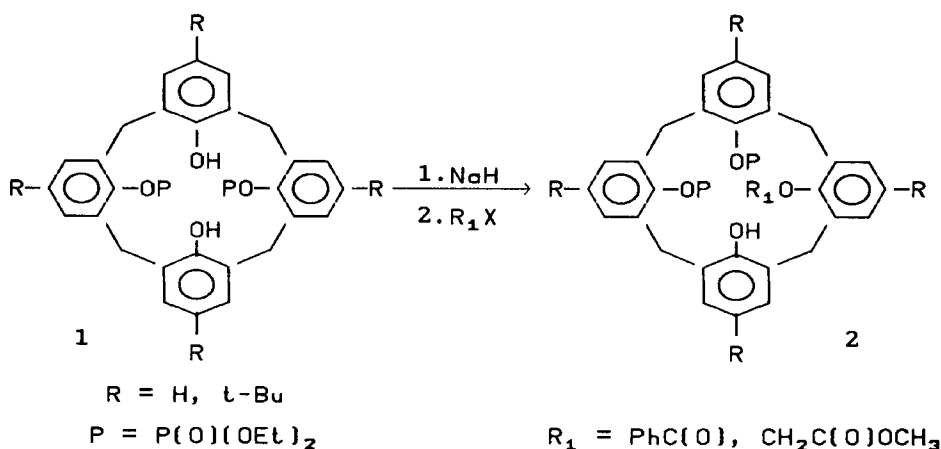
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## V. I. KALCHENKO, M. A. VISOTSKY, V. V. PIROZHENKO, L. N. MARKOVSKY

Institute of Organic Chemistry, National Academy of  
Sciences of Ukraine, 253660, Kiev-94, Ukraine

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.



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.