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Synthesis and Properties of Exo-Phosphorylated Benzocrown-Ethers

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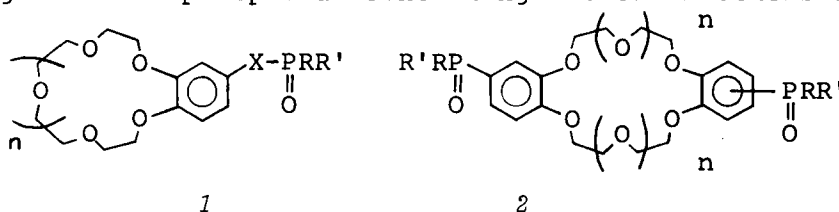
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SYNTHESIS AND PROPERTIES OF EXO-PHOSPHORYLATED BENZOCROWN-ETHERS

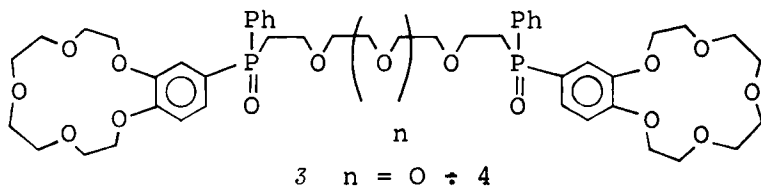
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The crown ethers 1,2, containing exocyclic phosphorus groups, were obtained¹ by the interaction of bromo-, iodo-, and sulpamidoderivatives of mono- and dibenzocrown ethers with esters of trivalent phosphoric acids, alkenylphosphonates and phosphorus pentachloride in presence of metal catalysts. On the basis of these compounds the crown ethers with various substitutes at phosphorus atom (including the polymeric ones) were synthesized. Further reaction of the crown ether 1 (X = "-", R = Ph, R' = H) with glycol dichlorides gave first phosphorus-containing bis-crown ethers 3.



$n = 0 \div 2$, $X = (CH_2)_m$, $m = 0 \div 11$; $CH=CH(CH_2)_m$, $m = 0 \div 9$



Complexing and ionoforic properties of crown ethers 1-3 towards neutral molecules and metal salts were investigated.

1. V.I.Kalchenko, N.A.Parhomenko, L.I.Atamas, L.N.Markovsky
 Zh. Obshch. Khim. 58, 1920 (1988).