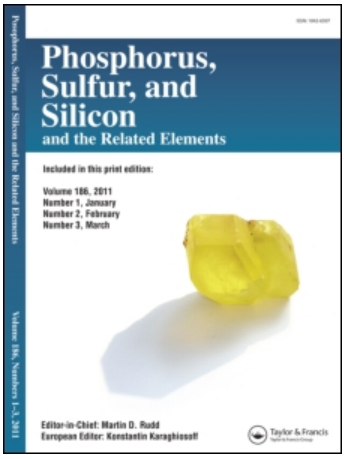

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Synthesis of Azacrown Ethers with P-Functionalized Side Chains

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Synthesis of Azacrown Ethers with P-Functionalized Side Chains

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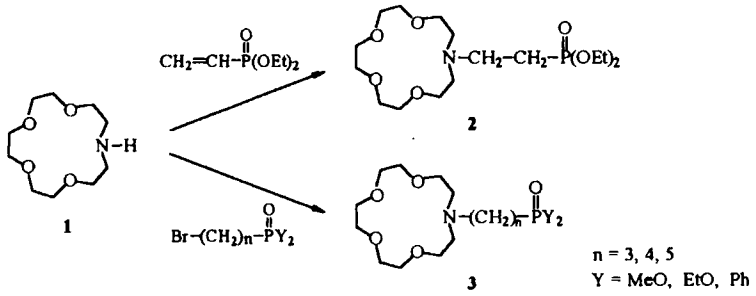
It is well-known that complex forming ability of azacrown ethers can be modified by side chains with electron-donating atoms. We aimed at the synthesis of lariat ethers with phosphonoalkyl side chains. The phosphonoalkyl arms of two to five carbon atoms were introduced into azacrown **1** by alkylation.



The new products (**2** and **3**) were characterized by ^{31}P, ^{13}C and ^{1}H NMR, as well as mass spectroscopical methods. Complex forming ability of **2** and **3** was determined by the picrate extraction method[1]. Introduction of the phosphonoalkyl moiety into the parent azacrown (**1**) decreases the extraction ability, but results in an increase in the selectivity towards the cations examined.

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References

[1] K. Kimura, T. Maeda and T. Shono, *Talanta*, **26**, 945 (1979).