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Phosphorus Containing Tri-and Hexamacrocycles

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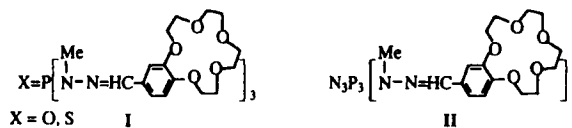
Phosphorus Containing Tri-and Hexamacrocycles

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Multisite receptors containing more than two macrocyclic cavities, despite of the fact that their syntheses, most often, require sophisticated pathways, are of very high interest since they may allow new insights into ion channel transfer, ion conduction^[1].

We report here a method which combine simple reactions, high yields (80%), with easily prepared starting reagents^[2], of two new polymacrocyclic systems, a tri-(I) and an hexamacrocycle(II). They were obtained by a condensation reaction between 4'-formylbenzo-15-crown-5 (3 or 6 equiv. respectively) and phosphotrihydrazide (1 equiv.) or hexahydrazide (1 equiv.) in tetrahydrofuran.



Structural determination are based on NMR, IR and mass spectroscopies. Preliminary studies by ¹³C NMR of the complexation behavior of II have shown that saturation of the binding capability of this compound is achieved after 6 equivalents of NaB(C₆H₅)₄ added to form 1:1 (1 Na⁺:1 crown ether cavity) complexes and stables sandwich complexes (1 K⁺: 2 crown ethers) for KPF₆.

References

- [1] R. Hendriks, O.E. Sielcken, W. Drenth, R.J.M. Nolte, J. Chem. Soc., Chem. Commun., 1986, 1464.
- [2] (a) R. Kraemer, C. Galliot, J. Mitjaville, A.-M. Caminade, and J.P. Majoral, *Heteroatom Chemistry*, (1996) 7, 149. (b) J. Mitjaville, A.-M. Caminade, and J.P. Majoral, *Tetrahedron Lett.*, (1994) 35, 6865.