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## New Cyclopentand Organophosphorus Ligands

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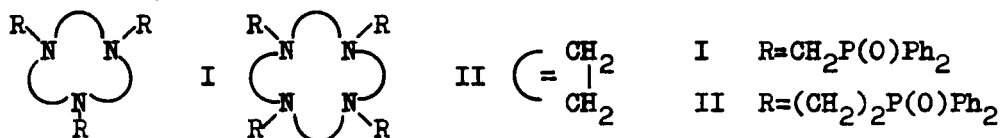
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## New Cyclopentadienyl Organophosphorus Ligands

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New cyclopentandant orgsnophosphorus neutral ligands were synthesized from cyclic polyamines. N,N',N''-Tris-(diphenylphosphorylmethyl) 1,4,7-triazacyclononane(I) was obtained by the reaction of triazacyclononane with diphenylphosphine oxide and formaldehyde. Interaction of 1,4,7,10-tetraazacyclododecane with diphenylvinylphosphine oxide N,N',N'',N'''-tetra( $\beta$ -diphenylphosphorylethyl)-1,4,7,10-tetraazacyclododecane(II) was obtained.



Complexformation properties of I and II were investigated by the electroconductivity method. It was shown that these ligands are highly efficient towards ions of alkaline metals. (I) forms more stable complexes with small radius cations(Li). (II) forms more stable complexes with sodium cations than dibenzo-18-crown-6(III)

Ligand	log K (THF:CHCl <sub>3</sub> =4:1)			
	Li <sup>+</sup>	Na <sup>+</sup>	K <sup>+</sup>	Cs <sup>+</sup>
I	5.6	4.5	3.2	2.2
II	5.9	6.3	5.0	3.6
III	4.0	5.6	4.7	3.3

The work was carried out in collaboration with K.B.Yatsimirsky, E.I.Sinyavskaya, L.V.Tsimbal, Kiev.