ACYCLIC DIFLUOROMETHYLENE-BRIDGED DIPHOSPHORUS COMPOUNDS

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The chemistry of $Cl_2PCF_2PCl_2 \ 1$ ^[1] has been investigated in detail. Substitution reactions led to a series of compounds of the type X_2PCFPX_2 $(X = H, F, OR, NR_2, SR)$. Transformation of 1 to fourcoordinated derivatives $Cl_2P(Z)CF_2P(Z)Cl_2 \ (Z = 0, S)$ has been performed. Various reactions of these compounds will be presented, e.g. the isolation of the first adamantane type of structure containing CF_2 -bridging groups, $P_4O_4S_4(CF_2)_2$, from reaction of $Cl_2P(O)CF_2P(O)Cl_2$ with P_4S_{10} .

The complexing properties of symmetrical substituted trivalent phosphorus derivatives, $X_2PCF_2PX_2$, (X = F, OR, NR₂), towards metal carbonyls have been studied; these ligands formed chelates of the type $LM(CO)_4$ (M = Cr, Mo, W).

In case of thiol-substituted derivatives $(RS)_2PCF_2P(SR)_2$ different forms (A, B) of complexation in reaction with NorMo(CO)₄ have been observed; an equilibrium is obtained depending on the nature of substituent R on sulfur:



[1] M. Fild, K.-H. Reichert; Chem. Ztg. 111 (1987), 176