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THE FEATURES OF ORGANOELEMENT COMPOUNDS CONFORMATIONAL ANALYSIS

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Conformational analysis of organoelement compounds (OEC) has a number of features. There are some common characteristics of OEC electronic structure to be of importance:

1. The appearance of polar bonds in OEC. Both the C-E and E(1)-E(2) bonds (e.g. P-N, Si-Hlg, As-O) are polar, in contrast to the C-C and H-C bonds in carbon compounds. Especially, this is about of semipolar bonds N \rightarrow O (3.5D), P \rightarrow O (2.5-3.5D) and others having very strong asymmetry of electron density distribution.

2. The greater element and bond (C-E and E-E) polarizabilities, especially in OEC, containing heavy atoms. Owing to this, fact the direction of bond polarization is not enough to prediction and conversion of bond polarity is often observed with the variation of substituents in OEC.

3. The presence of element lone electron pairs and low-lying unoccupied molecular orbitals in OEC. These factors (along with polar bond specificity) form as a rule the all variety of "conformational effects" connected with mutual lone pairs and polar bonds orientation and hyperconjugation-type interactions.

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