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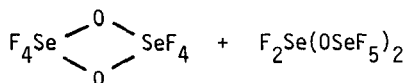
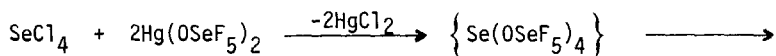
LIGAND PROPERTIES OF THE -OSeF₅ AND -OTeF₅ GROUPS IN PSEUDO-TRIGONAL-BIPYRAMIDAL MOLECULES

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The compounds F₂Te(OTeF₅) and F₂Se(OTeF₅)₂ are generated by ligands exchange starting with TeF₄ (SeF₄) and B(OTeF₅)₃.

F₂Se(OSeF₅)₂ has been prepared by reactions of Hg(OSeF₅)₂ and SeCl₄



All three compounds are structurally related to SeF₄ and TeF₄. There is a pair of axial and a pair of equatorial ligands and a no-bonding electron pair.

The structures have been investigated by ⁷⁷Se and ¹²⁵Te n.m.r. spectroscopy. All three materials have the expected pseudo-trigonal-bipyramidal structures with axial -OSeF₅ (-OTeF₅) ligands, and the fluorine ligands in equatorial positions.

This behaviour is discussed in terms of the extreme electronegativity of these ligands.