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AUTHORITY
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The synthesis and properties of the following are described: 

\[(CH_3)(iso-C_4H_9)(C_6H_5)SiOSn(iso-C_4H_9)_3, [(iso-C_4H_9)_3Sn]_2 Si(C_2H_5)_2, [(CH_3)(iso-C_4H_9)(C_6H_5)SiO]_2 Sn(n-C_4H_9)_2 \]

The ir spectra of these compounds and of the hexaalkylstannoxides \(R_3SnOSnR_3\) where \(R = iso-C_4H_9, n-C_7H_{15}\) and the dialkylstannones \(R_2SnO\) where \(R = C_2H_5, n-C_3H_7, iso-C_5H_{11}, n-C_7H_{15}\) are given in order to study the spectroscopic characteristics of the \(\rightarrow SnO, \rightarrow SiO,\) and \(\rightarrow SnOSi \leftarrow \) bonds. The organosilicotin compounds were synthesized, respectively, by the reaction of the appropriate hexaalkylstannoxide with the appropriate silanol and silanediol and of the appropriate dialkylstannone with the appropriate silanol. By comparing the ir spectra of all these compounds and those of stannic oxide and tetra-iso-butylstannane, assignments of the main bands are made. The absorption frequency of the \(Sn-O\) bond in the \(Sn-O-Sn\) group is about 780 cm\(^{-1}\). In the \(Si-O-Sn\) group, the \(Sn-O\) frequency is lowered to 720 cm\(^{-1}\) and that of \(Si-O\) to 980 cm\(^{-1}\). In the case of the dialkylstannones, strong bands at 570 ± 5 and 415 ± 10 cm\(^{-1}\) are assigned to the \(Sn-O-Sn\) group, confirming their polymeric nature, \([R_2SnO]_x\). There are 3 figures and 1 table.

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