

## Syntheses and structures of new mono and multinuclear organotin phosphinates

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It is now known that subtle differences in the organic substituents on phosphinic acids can change the cage/cluster structures of isolated monoorganotin (oxo) phosphinates significantly (Kumara Swamy *et al* 1992). In an effort to understand the factors responsible (and the intricacies involved), we have investigated the reactions of (a) *n*-butyltin (dihydroxy)chloride with phosphinic acids in detail and (b) debenzyltin dichloride with silver salts of phosphinic acids. The results which include X-ray structures of mononuclear  $[(\text{PhCH}_2)_2\text{Sn}(\text{O}_2\text{P}(\text{C}_6\text{H}_{11})_2)_2(\text{HO}_2\text{P}(\text{C}_6\text{H}_{11})_2)_2]$  (**1**), trinuclear  $[\{\text{PhCH}_2\text{Sn}(\text{OH})(\text{O}_2\text{P}(\text{C}_6\text{H}_{11})_2)\}_3\text{O}]^+[\text{O}_2\text{P}(\text{C}_6\text{H}_{11})_2]^-$  (**2**) and the unsolvated tetranuclear  $[\textit{n}\text{-BuSn}(\text{O})(\text{O}_2\text{PPh}_2)(\textit{n}\text{-BuSn}(\text{O}_2\text{PPh}_2)\text{Cl}_2)_2]$  (**3**) are discussed.

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### Reference

Kumara Swamy K C, Day R O and Holmes R R 1992 *Inorg. Chem.* **31** 4184

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