

# Tetrakis(4-carboxyphenyl)stannane - a Versatile Building Block for Heterometallic Coordination Polymers

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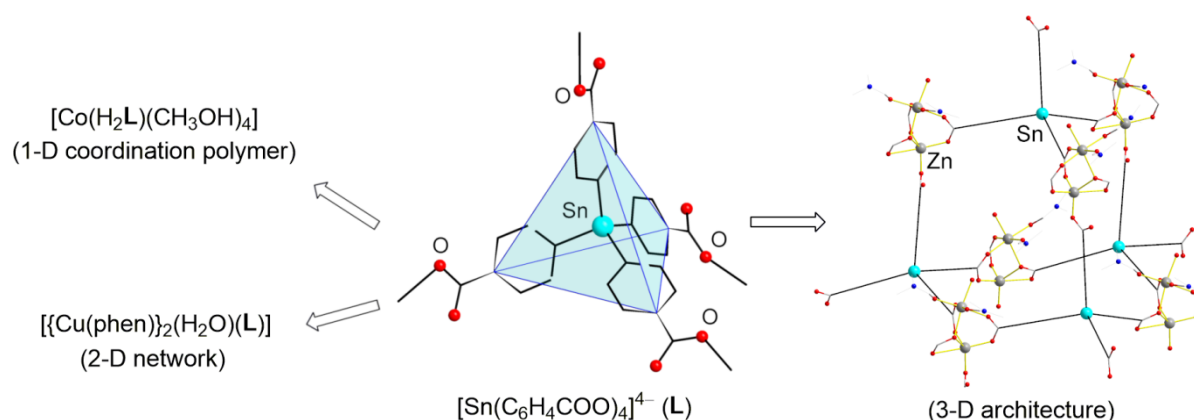
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In spite of limitations mainly due to air or moisture sensitivity, organometallic species can be used as *exo-bi-* or multidentate spacers in coordination chemistry to result in heterometallic polymers.<sup>1</sup> However, the use of main group organometallics as building blocks is largely undeveloped. We have reported recently on the use of bis(4-pyridyl)mercury(II)<sup>2,3</sup> and triphenylbismuth(V) derivatives of isonicotinic and nicotinic acids<sup>1</sup> as neutral organometallic ditopic linkers to build coordination polymers.

As an extension of our work on heterometallic coordination polymers we investigated the potential of the tetrahedral organometallic tecton  $[\text{Sn}(\text{C}_6\text{H}_4\text{CO}_2-4)_4]^{4-}$  (**L**) as building block. We report here on several new coordination polymers of different dimensionalities obtained by reacting metal salts or complexes with  $\text{Sn}[\text{C}_6\text{H}_4\text{C}(\text{O})\text{OH}-4]_4$  in basic or acidic media, *i.e.*  $[\text{Co}(\text{H}_2\text{L})(\text{CH}_3\text{OH})_4]$  (1-D),  $[\{\text{Zn}(\text{cyclam})\}_2(\text{L})]$  and  $[\{\text{Cu}(\text{phen})\}_2(\text{H}_2\text{O})(\text{L})]$  (2-D), or  $[\text{M}_2(\text{L})(\text{DMF})_2(\text{H}_2\text{O})]$  ( $\text{M} = \text{Zn}, \text{Cd}$ ),  $[\text{M}_2(\text{L})(\text{CH}_3\text{OH})_3]$  ( $\text{M} = \text{Co}, \text{Zn}$ ),  $[\{\text{Cu}_2(\text{H}_2\text{O})_2\}(\text{L})]$  and  $[\text{Na}_2\text{M}(\text{L})]$  (3-D) (see Figure 1).



**Figure 1** Types of coordination polymers based on the organometallic tecton  $[\text{Sn}(\text{C}_6\text{H}_4\text{CO}_2-4)_4]^{4-}$ .

1 A. Ben Kiran, T. Mocanu, A. Pöllnitz, S. Shova, M. Andruh, C. Silvestru, *Dalton Trans.*, **2018**, 47, 2531, and references cited therein.

2 T. Mocanu, C. I. Raţ, C. Maxim, S. Shova, V. Tudor, C. Silvestru, M. Andruh, *CrystEngComm*, **2015**, 17, 5474.

3 T. Mocanu, L. Kiss, A. Sava, S. Shova, C. Silvestru, M. Andruh, *Polyhedron*, **2019**,

<https://doi.org/10.1016/j.poly.2019.03.020>.