

Supporting Information for

Synthesis, characterization and selective de-esterification of Diorganotinbis(*O*-methylphosphite)s

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Figure S1. IR spectra of (a) $[n\text{-Bu}_2\text{Sn}(\text{OP}(\text{O})(\text{OMe})\text{H})_2]_n$ (**1**) and (b) $[(n\text{-Bu}_2\text{Sn}(\text{OP}(\text{O})(\text{OH})\text{H})_2)]_n$

(1a)

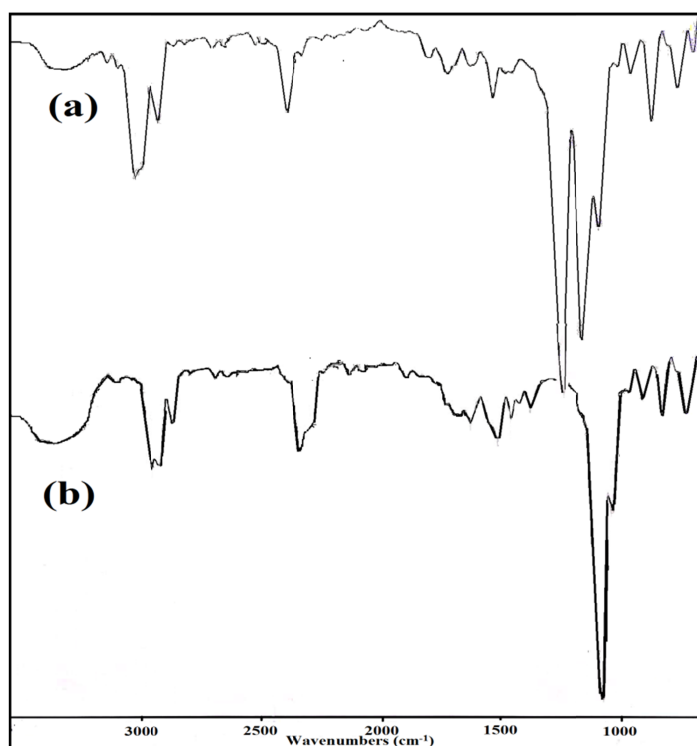
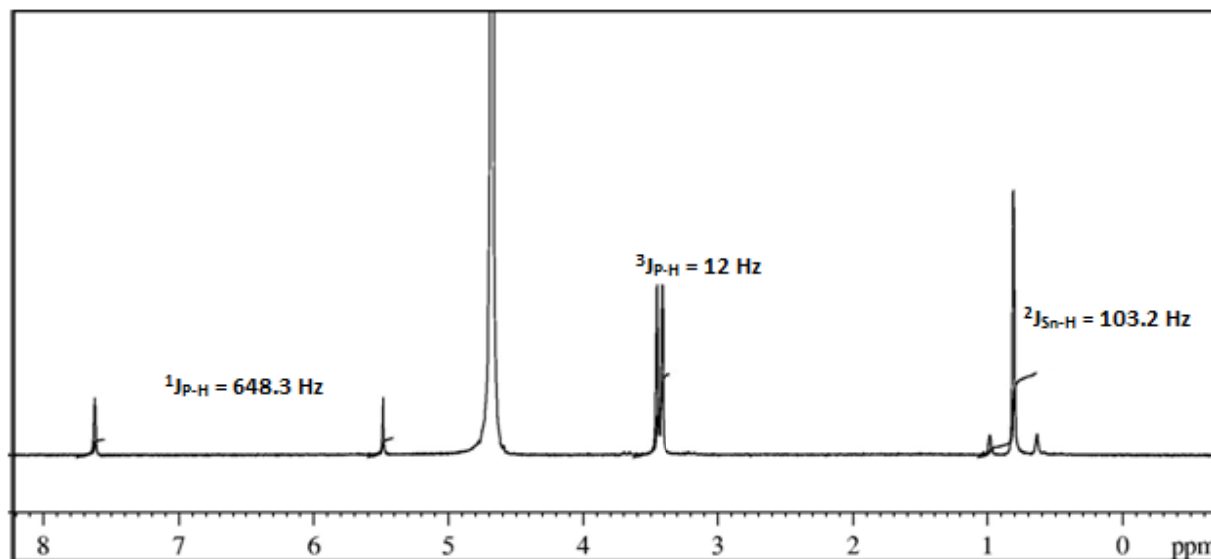


Figure S2. (a) ^1H and (b) ^{13}C NMR of $[\text{Me}_2\text{Sn}(\text{OP}(\text{O})(\text{OMe})\text{H})_2]_n$ (**3**) in D_2O

(a)



(b)

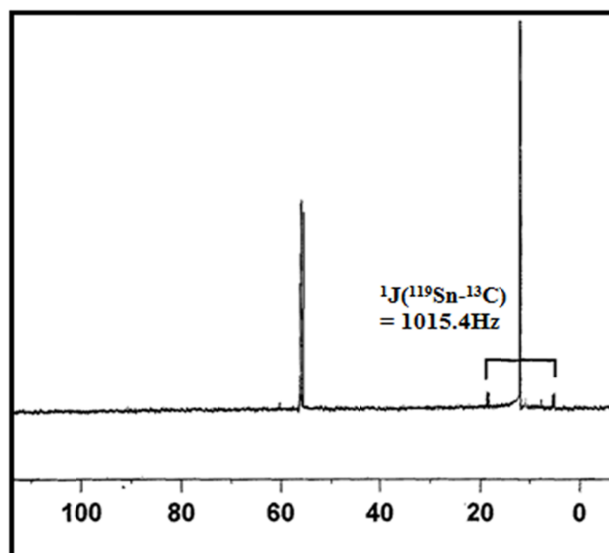
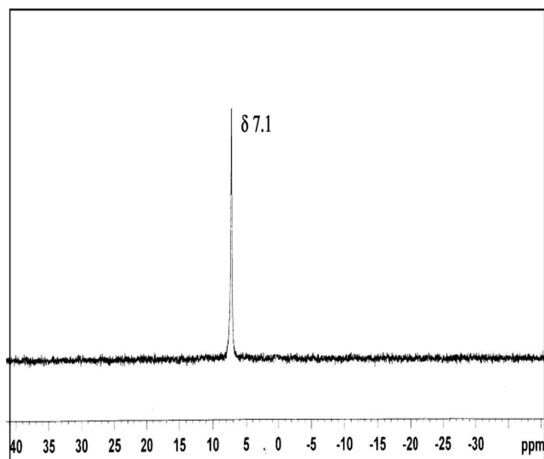


Figure S3. (a) ^{31}P and (b) ^{119}Sn NMR of $[\text{Me}_2\text{Sn}(\text{OP}(\text{O})(\text{OMe})\text{H}_2)_2]_n$ (**3**) in D_2O

(a)



(b)

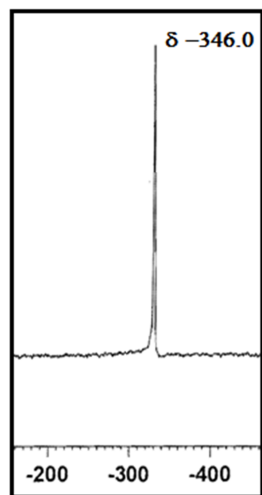


Figure S4. PXRD patterns of $[\text{Et}_2\text{Sn}(\text{OP}(\text{O})(\text{OMe})\text{H}_2)_n]$ (**2**) (a) as-synthesized. Exposed samples: (b) 3 days, (c) 12 days. New 2θ reflections at 11.0° , 22.0° appearing in the new phase are marked by arrows.

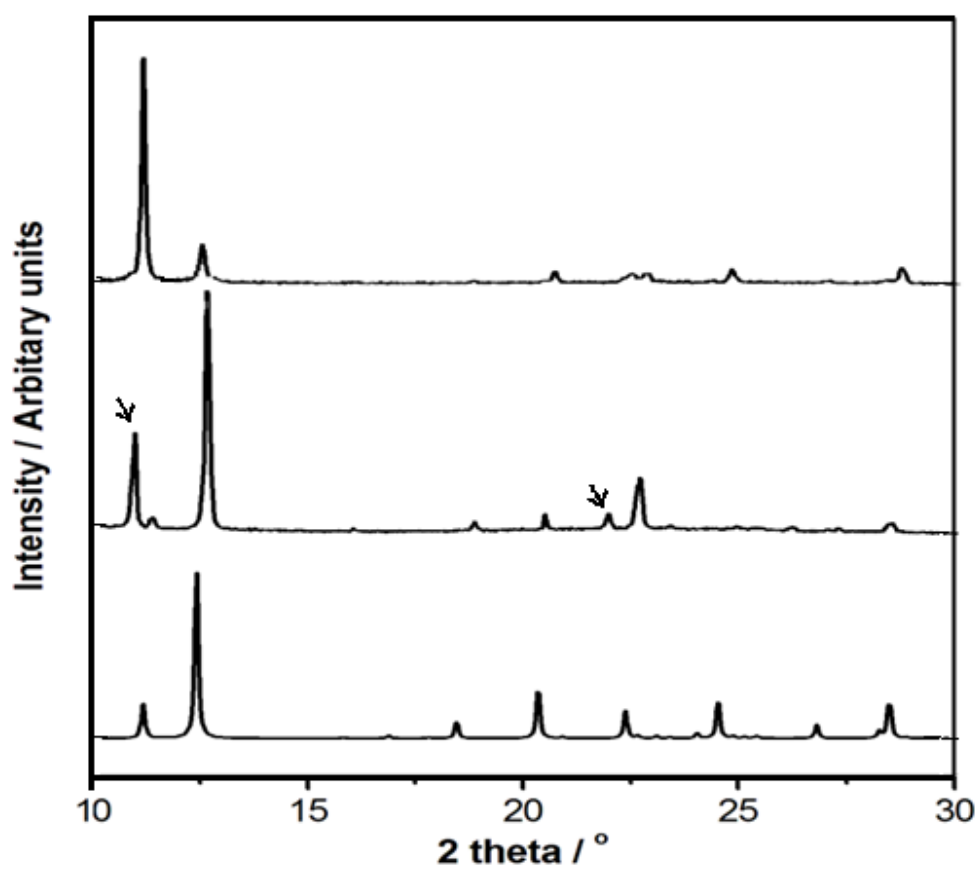


Figure S5. PXRD pattern of $[\text{Me}_2\text{Sn}(\text{OP}(\text{O})(\text{OMe})\text{H})_2]_n$ (**3**) (a) as-synthesized. Exposed samples: (b) 3 days, (c) 12 days. New 2θ reflection at 12.8° appearing in the new phase is marked by arrow.

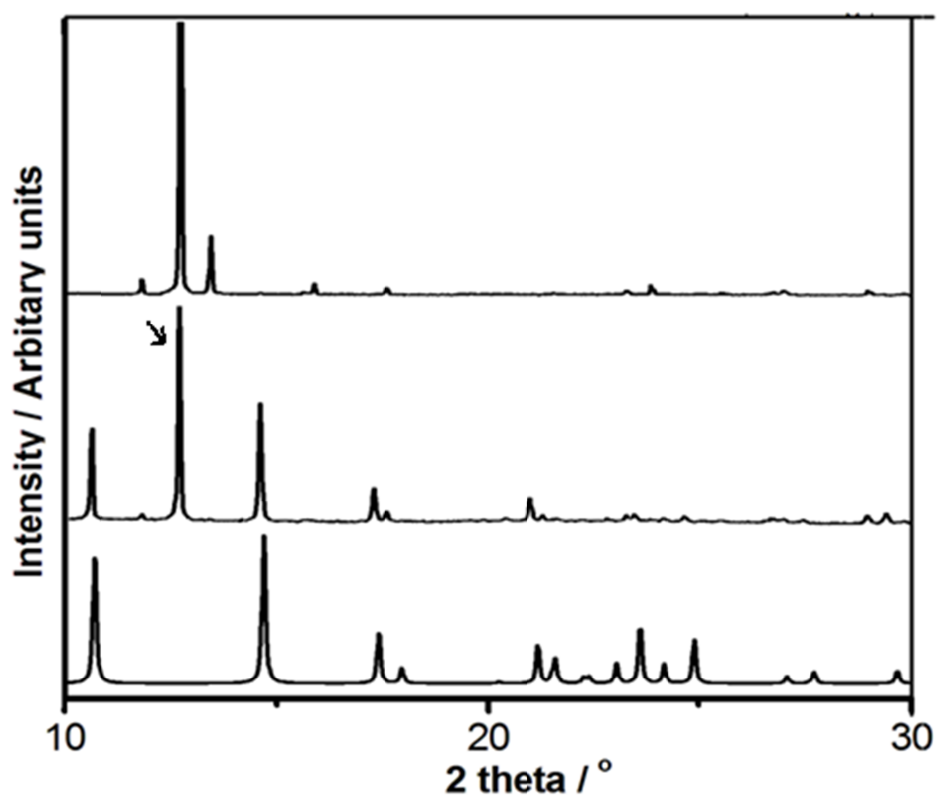
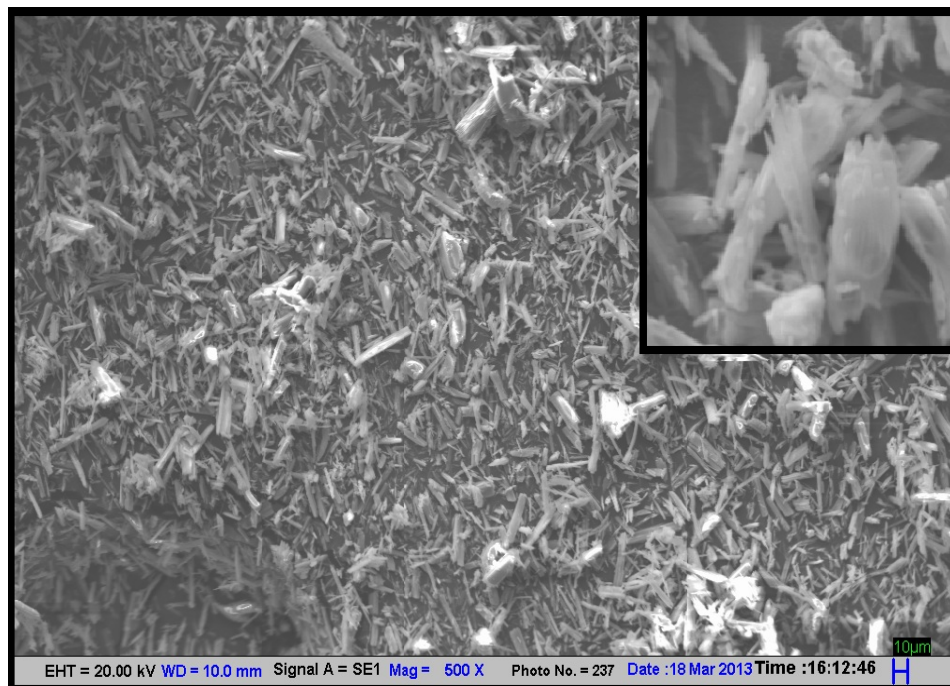


Figure S6. (a) SEM image of $[\text{Me}_2\text{Sn}(\text{OP}(\text{O})(\text{OMe})\text{H}_2)_n]$ (3) (b) SEM image of $[\text{Me}_2\text{Sn}(\text{OP}(\text{O})(\text{OH})\text{H}_2)_n]$ (3a)

(a)



(b)

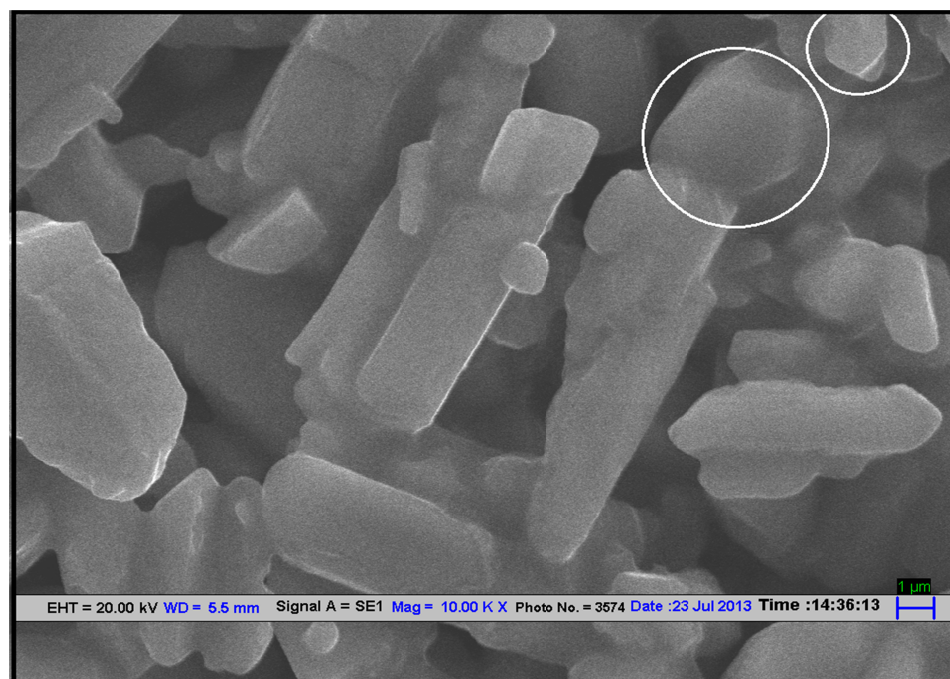
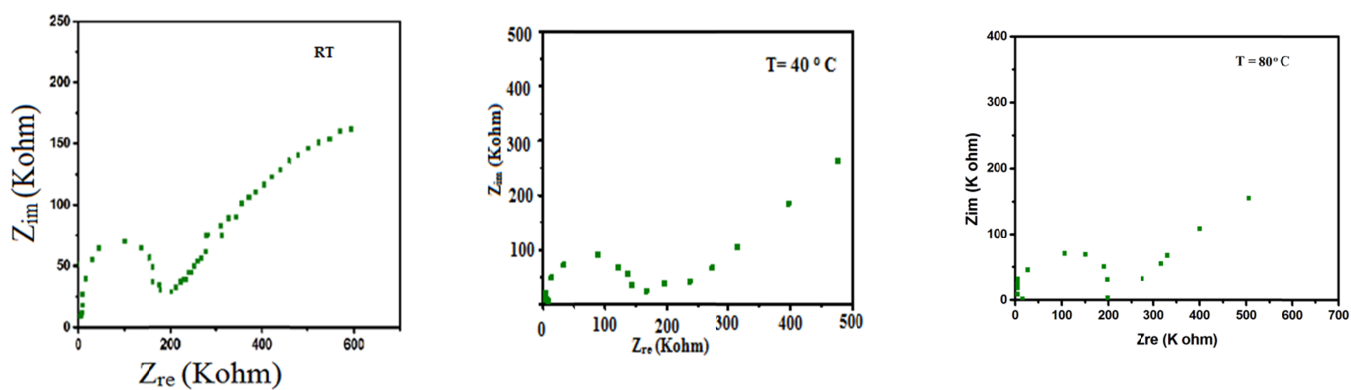
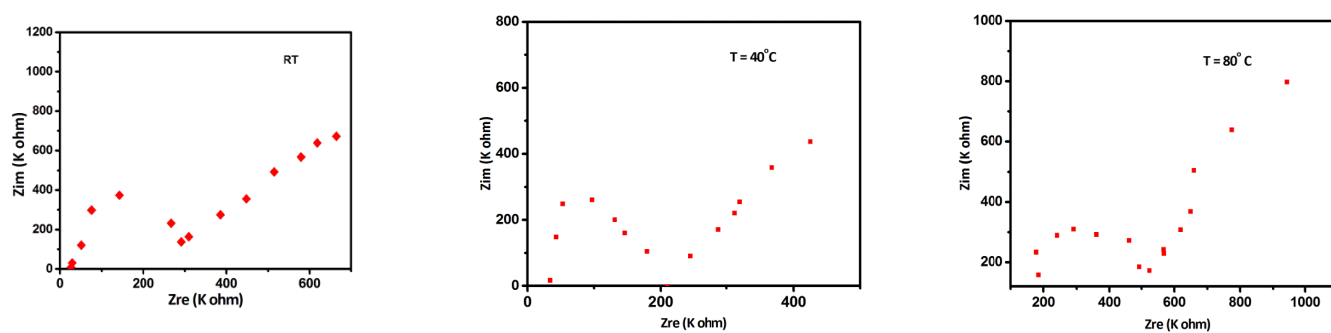


Figure S-7. (a) Nyquist plots for (a) **1a** (b) **2a** (c) **3a** at variable temperatures (RH = 70-75 %)

(a)



(b)



(c)

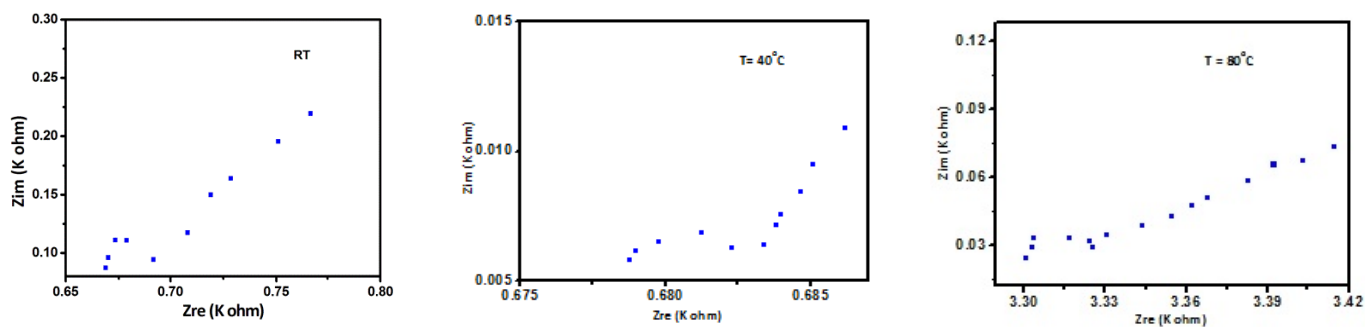


Table S1: Conductivity data for **1a-3a** at variable temperatures (30-80 °C)

Temp (°C)	Conductivity(Scm ⁻¹)		
	1a	2a	3a
30	1.0 X 10 ⁻⁵	3.7 X 10 ⁻⁶	1.3 X 10 ⁻⁴
40	8.2 X 10 ⁻⁶	2.7 X 10 ⁻⁶	1.2X 10 ⁻⁴
50	4.5X 10 ⁻⁶	2.3 X 10 ⁻⁶	6.3X 10 ⁻⁵
60	3.2 X 10 ⁻⁶	8.9 X 10 ⁻⁷	4.4 X 10 ⁻⁵
70	2.5 X 10 ⁻⁶	5.1X 10 ⁻⁷	3.0 X 10 ⁻⁵
80	1.8 X 10 ⁻⁶	4.7 X 10 ⁻⁷	2.6 X 10 ⁻⁵