

SUPPLEMENTARY MATERIAL

Engineered Mesoporous Silica Nanosystems with Organotin(IV) Complexes Containing 1-(quinolin-8-yliminomethyl)naphthalen-2-ol Ligand for Cancer Cell Targeting

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This supplementary material contains:

- 1) ¹H NMR spectra of **L1** (Figure S1)
- 2) ¹H NMR spectra of **L1Sn1** (Figure S2)
- 3) ¹³C{¹H} NMR spectra of **L1Sn1** (Figure S3)
- 4) ¹¹⁹Sn spectra of **L1Sn1** (Figure S4)
- 5) ¹H NMR spectra of **L1Sn2** (Figure S5)
- 6) ¹³C{¹H} NMR spectra of **L1Sn2** (Figure S6)
- 7) ¹¹⁹Sn spectra of **L1Sn2** (Figure S7)
- 8) Additional TEM images of **sMSN** (Figure S8)
- 9) STEM images of **sMSN** and **sMSN-FA-L1Sn1** (Figure S9)
- 10) Particle size of **sMSN** in PBS by dynamic light scattering (Figure S10)
- 11) Particle size of **sMSN** in DMEM by dynamic light scattering (Figure S11)
- 12) Z- potential measurements for some final materials (Table S1)
- 13) ¹¹⁹Sn MAS NMR spectrum of **sMSN-L1Sn1** (Figure S12)
- 14) DR UV-visible spectra of **L1Sn1** and **L1Sn2** (Figure S13)
- 15) FT-IR spectra of the starting material (**sMSN**) and final materials (Figure S14 and S5)
- 16) Comparative tin release in different incubation media (Table S2)

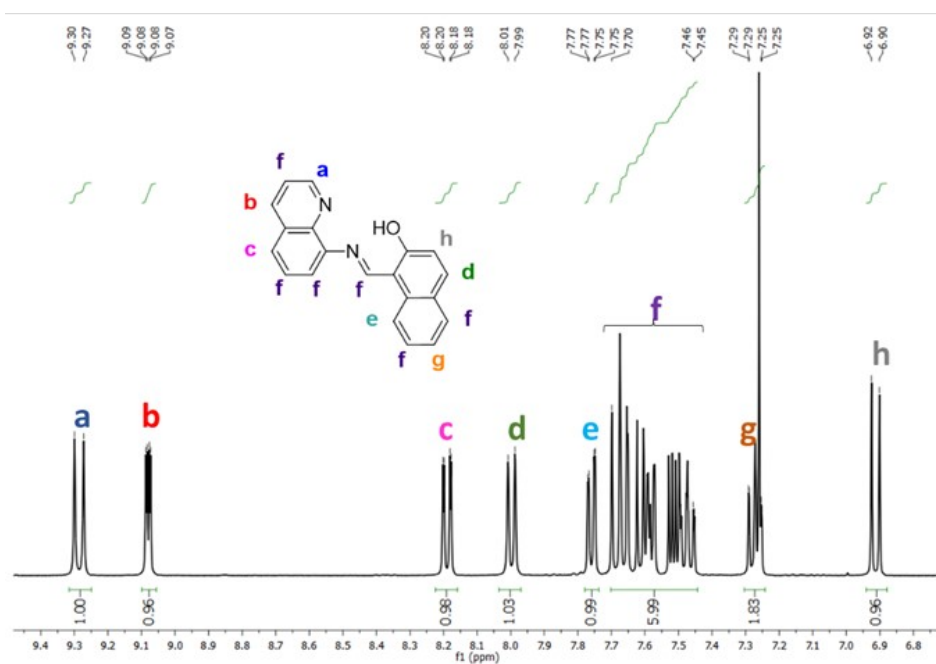


Figure S1. ^1H NMR spectra of the ligand L1.

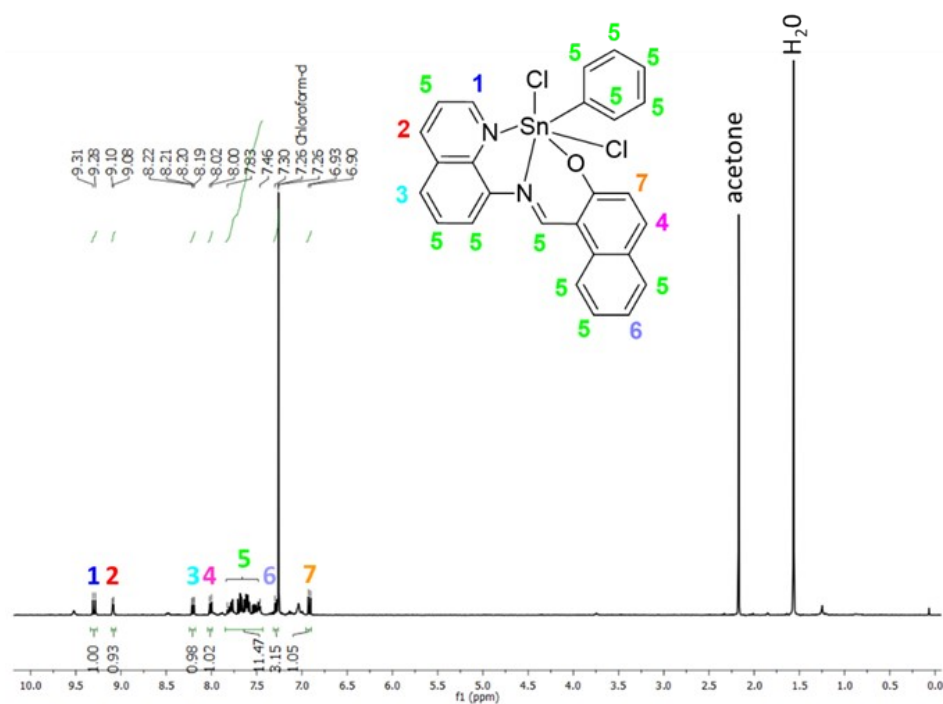


Figure S2. ^1H NMR spectra of L1Sn1.

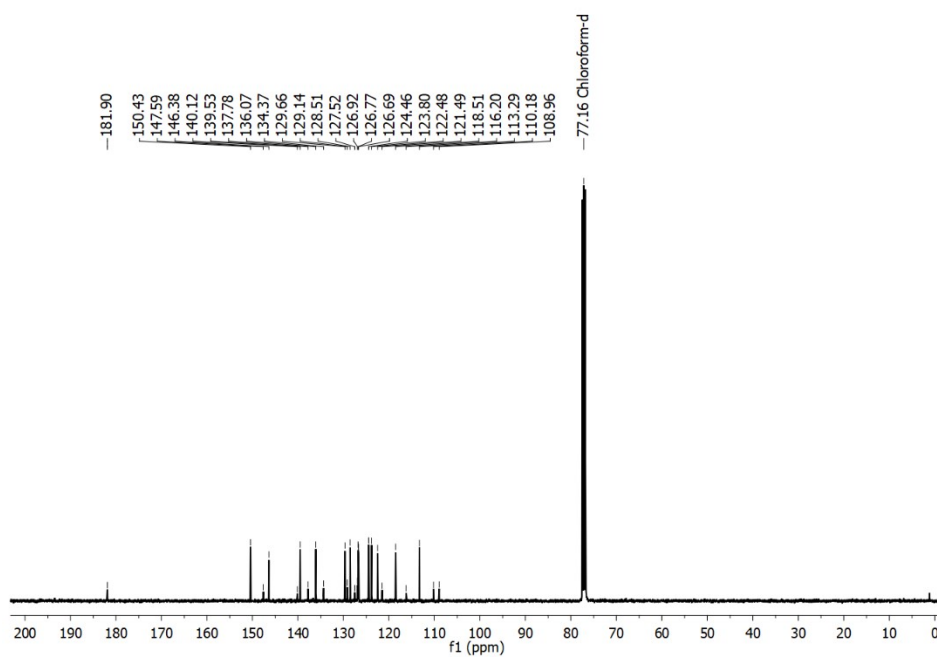


Figure S3. $^{13}\text{C}\{^1\text{H}\}$ NMR spectra of **L1Sn1**.

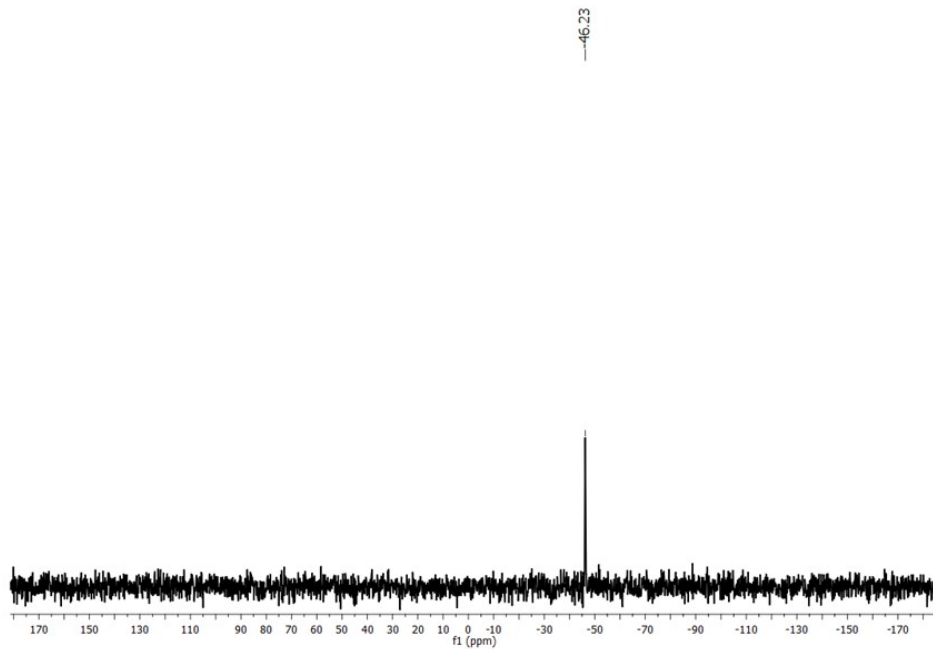


Figure S4. ^{119}Sn spectra of **L1Sn1**.

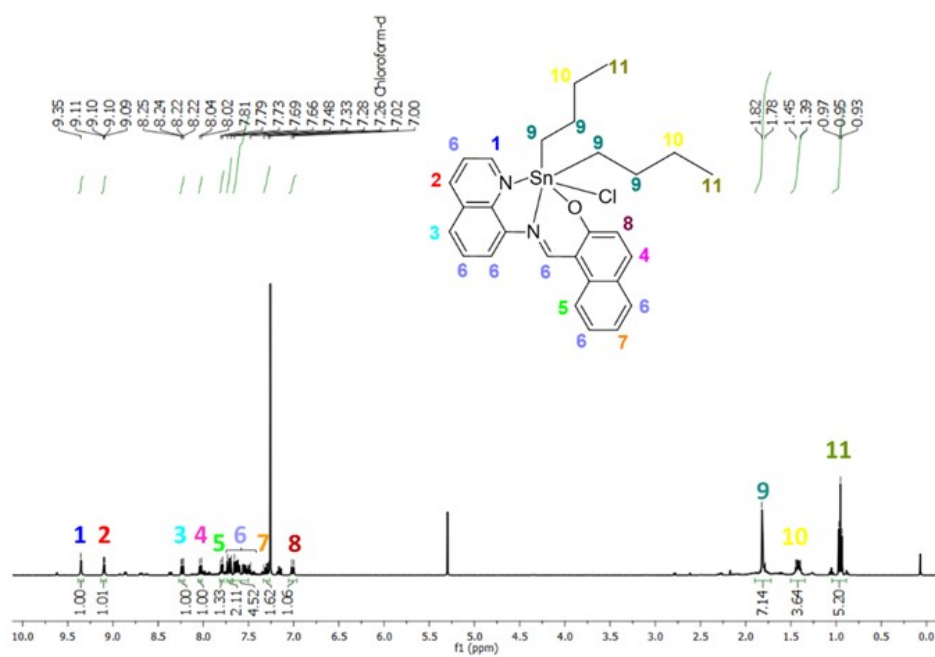
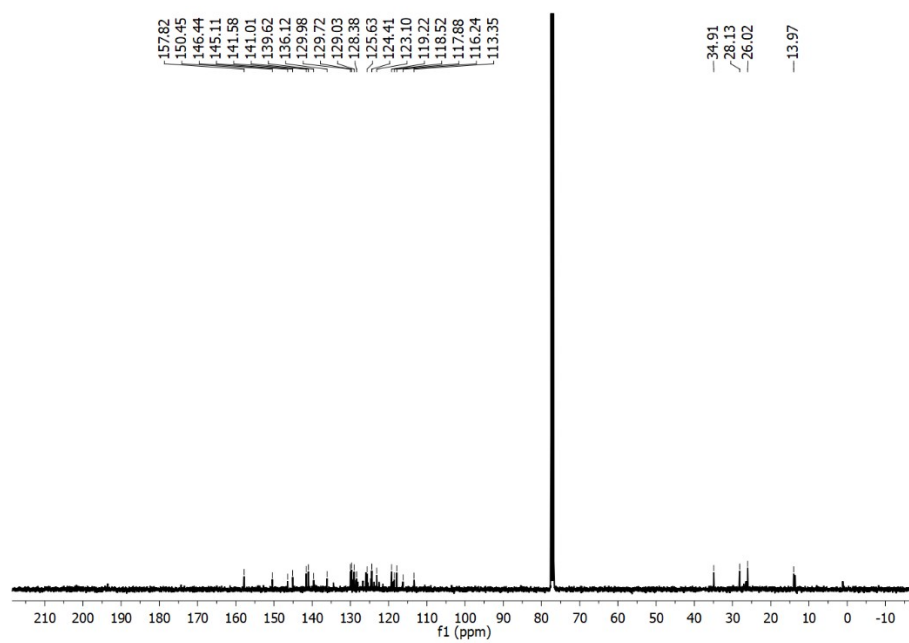


Figure S5. ^1H NMR spectra of **L1Sn2**.

Figure S6. $^{13}\text{C}\{^1\text{H}\}$ NMR spectra of **L1Sn2**.



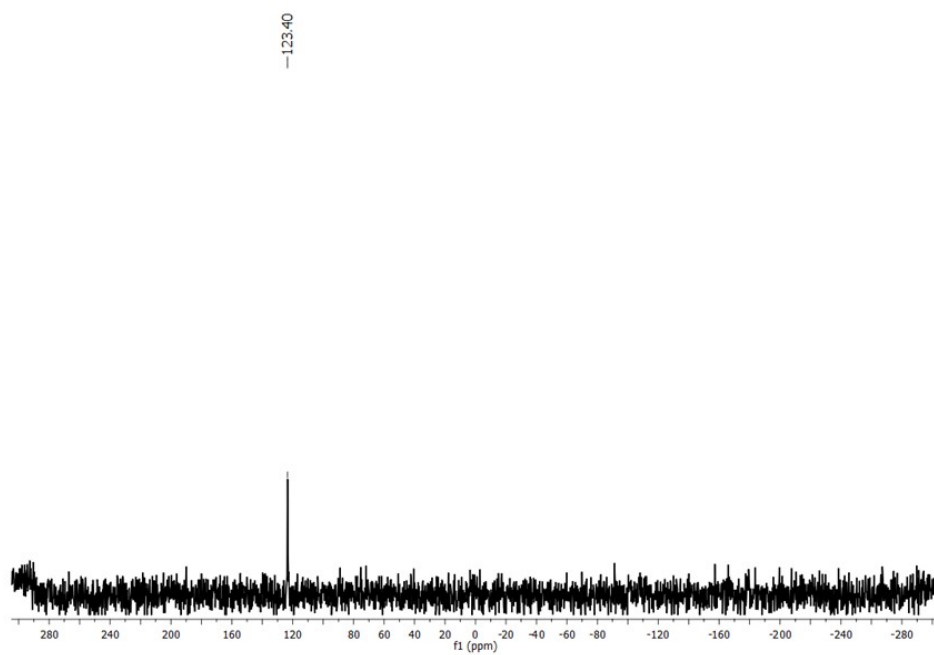


Figure S7. ^{119}Sn spectra of **L1Sn2**.

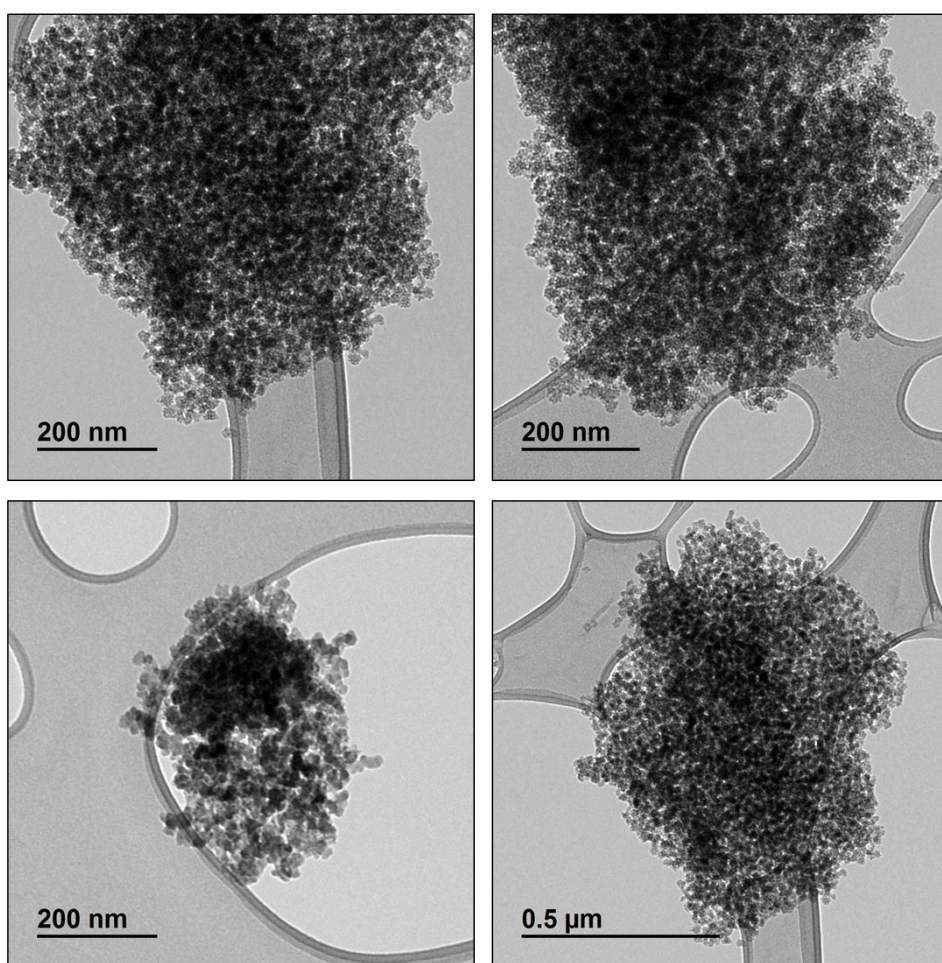


Figure S8. TEM micrographs of starting silica material (*sMSN*).

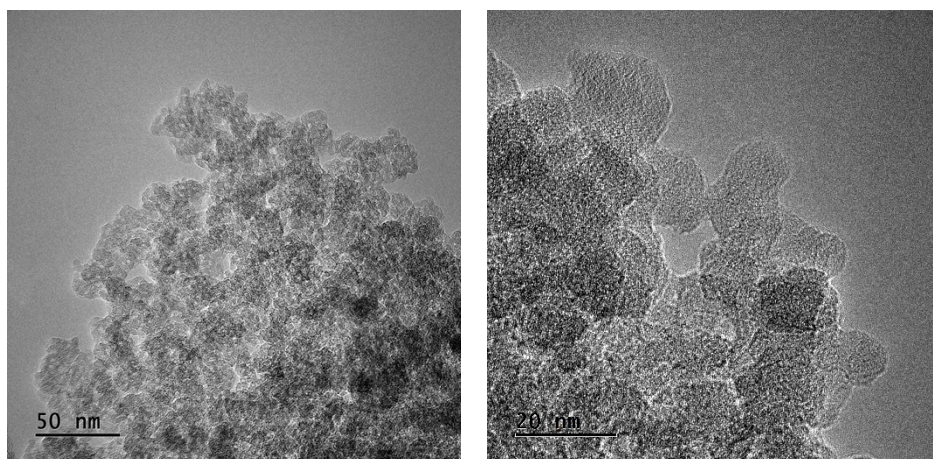


Figure S9. STEM micrographs of the starting material **sMSN** (left) and the final material **sMSN-FA-L1Sn1** (right).

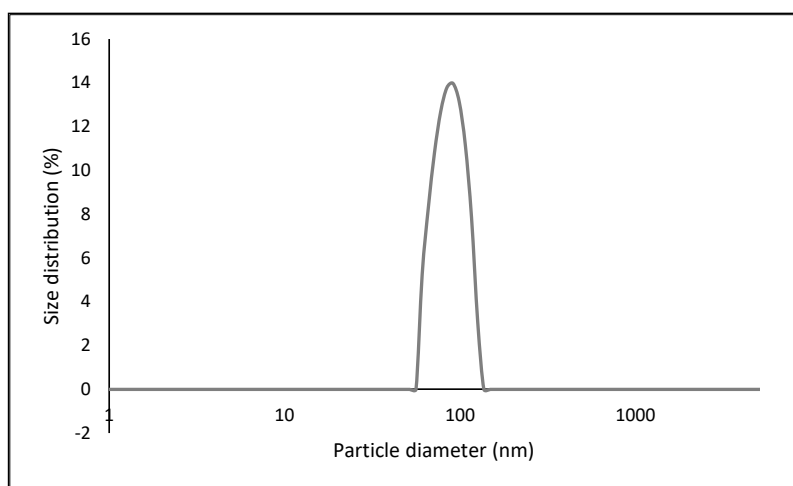


Figure S10. Particle size of **sMSN** in PBS by dynamic light scattering.

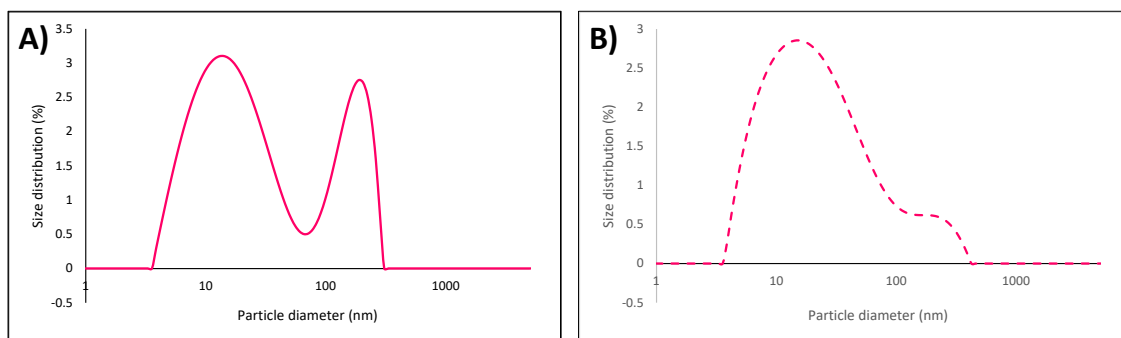


Figure S11. Particle size of **sMSN** in DMEM by dynamic light scattering (A) and the measurement of only DMEM (B).

Table S1. Z-potential measurements for three final materials in PBS and DMEM media.

	Z-potential (mV)	
	PBS pH 7.4	DMEM
sMSN-L1Sn2	-4.4 ± 2.5	-9.4 ± 1.8
sMSN-FA-L1Sn2	-4.2 ± 3.2	0.2 ± 0.5
sMSN-BIO-L1Sn2	-2.2 ± 1.5	-9.6 ± 3.1

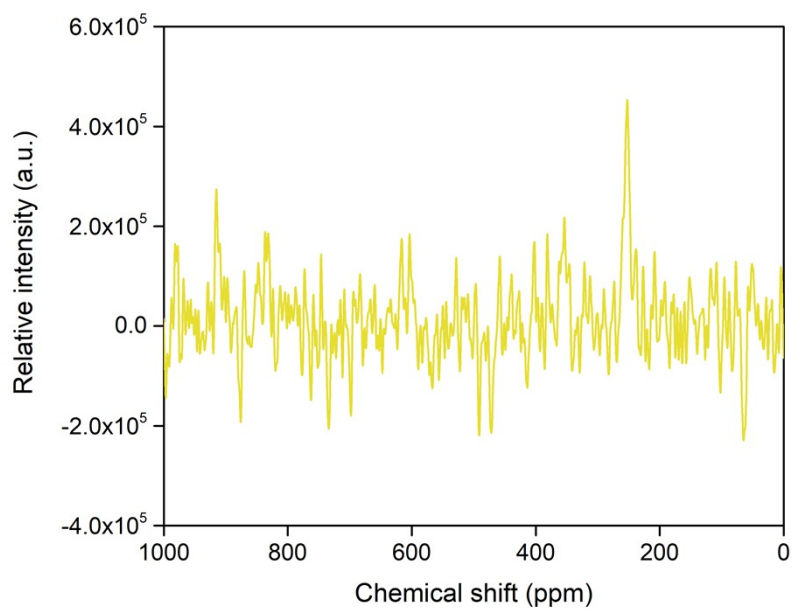


Figure S12. ^{119}Sn MAS NMR spectrum of **sMSN-L1Sn1**.

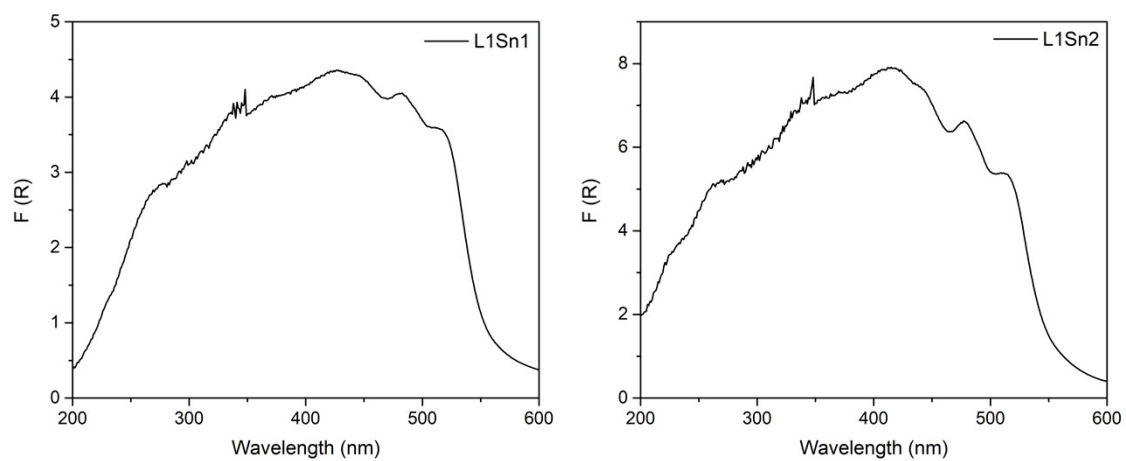


Figure S13. Diffuse reflectance UV-visible spectra of tin complexes **L1Sn1** and **L1Sn2**.

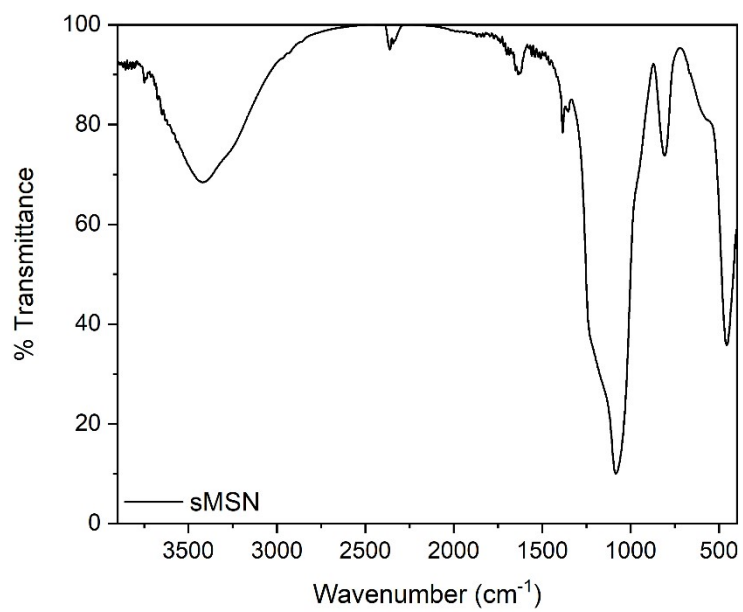


Figure S14. FT-IR of the starting material sMSN.

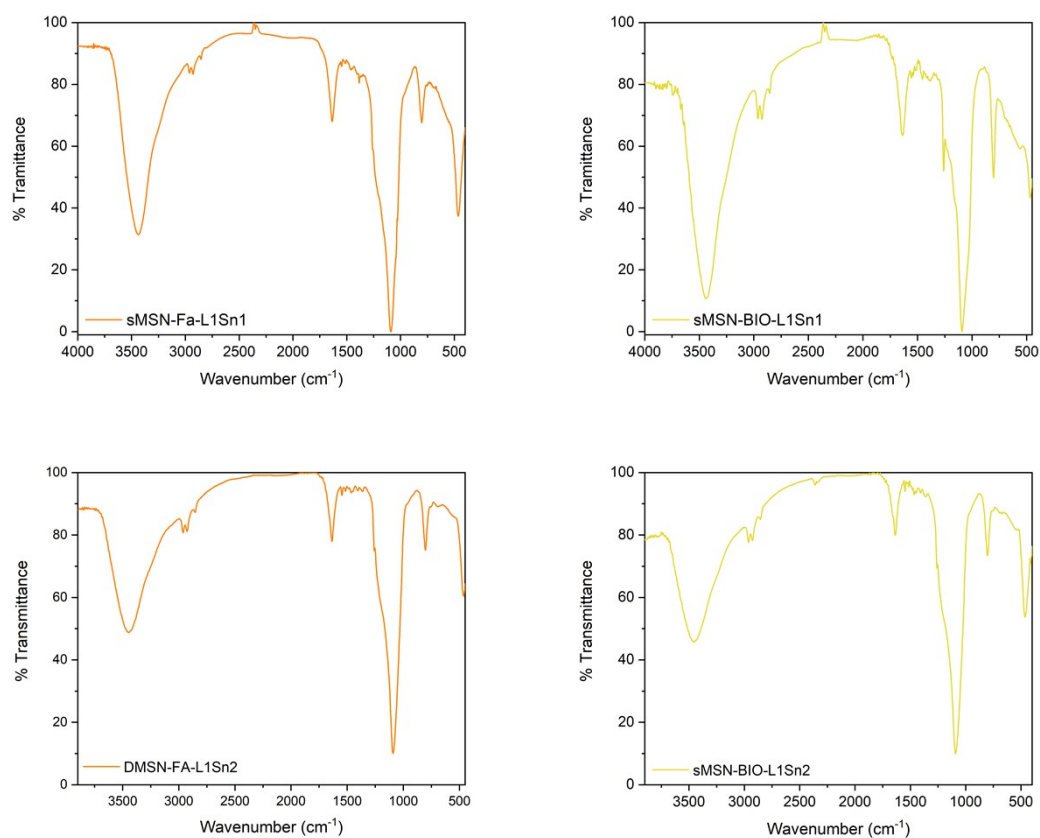


Figure S15. FT-IR spectra of the final materials.

Table S2. Comparative tin release at different biological medium at 7 days of incubation.

MATERIAL	%Sn release		
	PBS buffer pH 7.4	PBS buffer pH 7.4 with BSA and Glu	PBS buffer pH 5.5
sMSN-FA-L1Sn1	0.33	1.12	8.28
sMSN-FA-L1Sn2	1.00	2.74	11.43