

Supplementary Material

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**Synthesis, characterization, protein interaction and antibacterial activity of a lanthanum(III) complex
[La(Trp)₃(OH₂)₂] (Trp = tryptophan) as a new precursor for synthesis of La₂O₂CO₃ nanoparticles**

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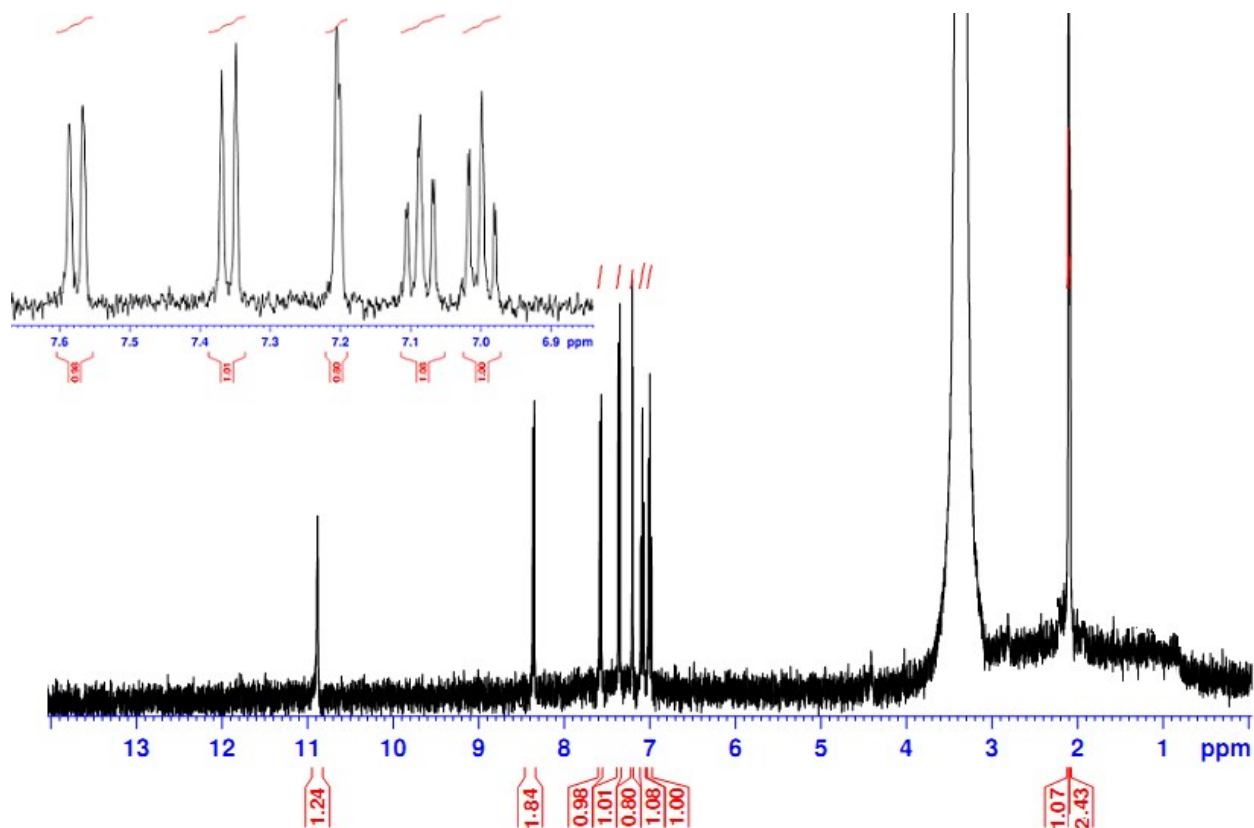


Fig. 1S ¹H NMR spectra of prepared La(III) complex in DMSO-d₆.

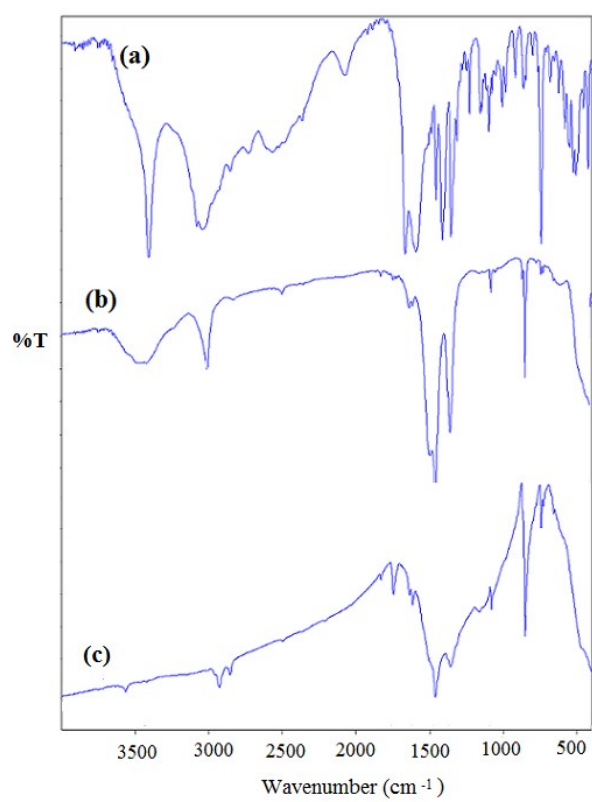


Fig. 2S FT-IR spectra of (A) Trp (B) La(III) complex, and (c) La₂O₂CO₃ nanoparticles.

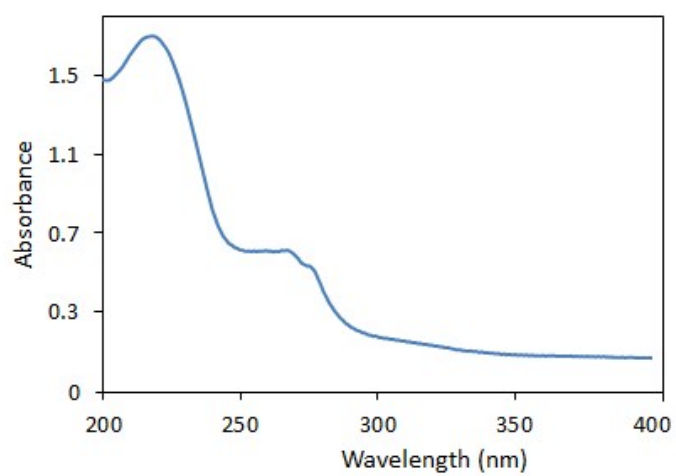


Fig. 3S Electronic spectrum of La(III) complex (5×10^{-3} M) in DMF.

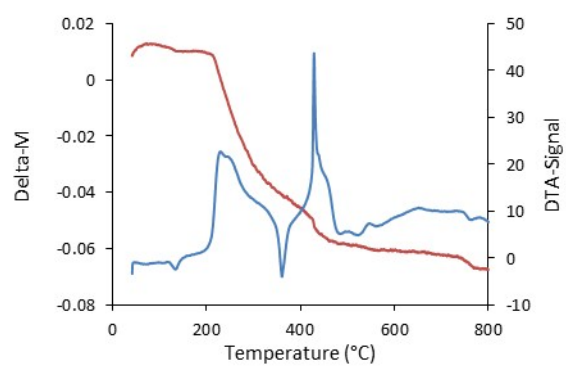


Fig. 4S TG/DTA curves of La(III) complex.

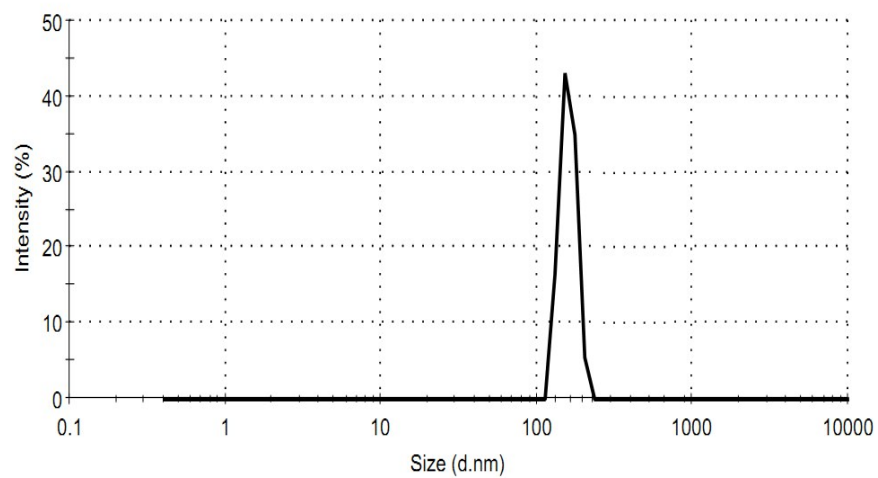
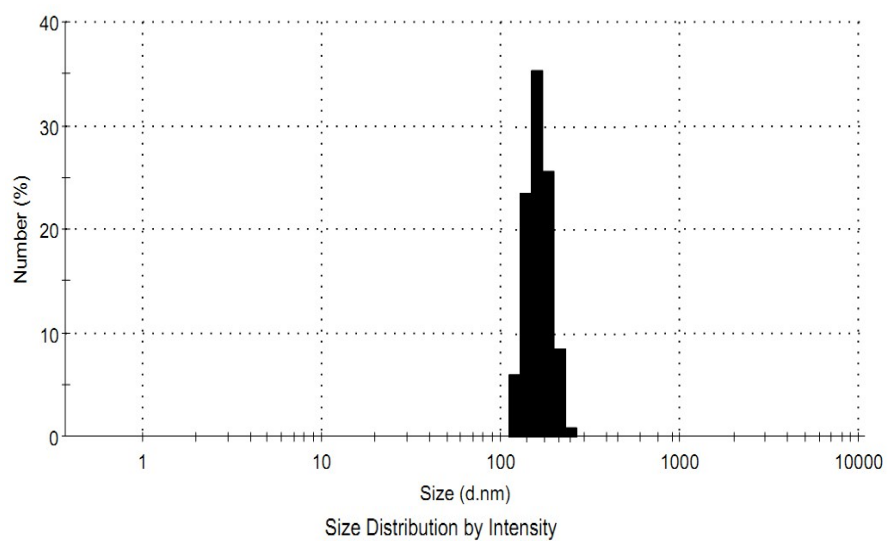


Fig. 55 Histogram of the particle size distribution of $\text{La}_2\text{O}_2\text{CO}_3$ obtained by calcination at 500°C for 3 h.

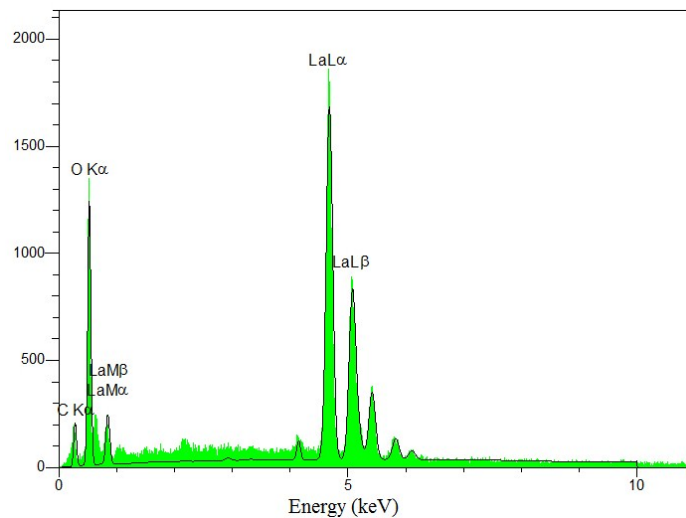


Fig. 6S Energy dispersive X-ray spectroscopy (EDX) spectrum of prepared $\text{La}_2\text{O}_2\text{CO}_3$ nanoparticles.

Table 1S. Energy-dispersive X-Ray spectroscopy (EDX) data of $\text{La}_2\text{O}_2\text{CO}_3$ nanoparticles

Sample	Element	wt%	At%
$\text{La}_2\text{O}_2\text{CO}_3$	C	0.53	4.90
	O	2.68	18.41
	La	96.79	76.69
	total	100.00	100.00