

Supporting information

Three Dimension of Au-MnO₂ Nanostructure as Agent of Synergistic Cancer Therapy: Chemo-/Photodynamic and Photothermal Approaches

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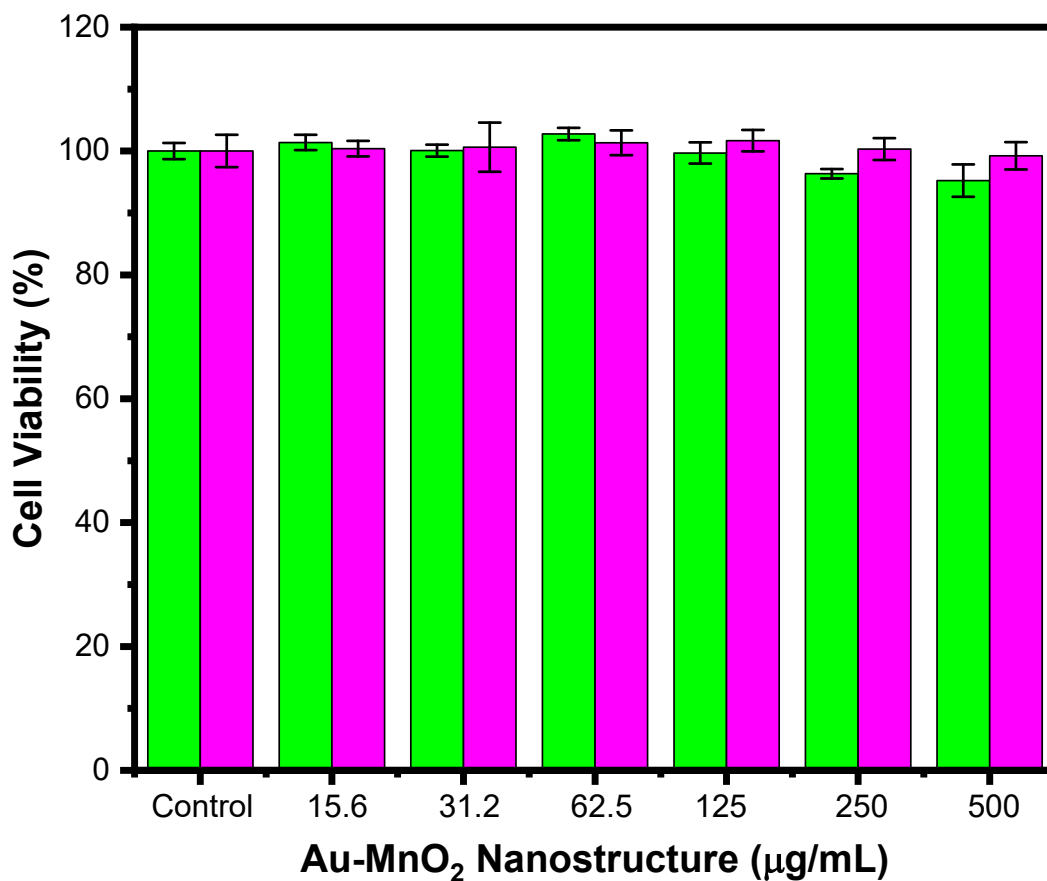


Figure S1. Cell viability of HFB cell using WST-1 assay after 24 h (green) and 72 h (purple) incubated with varied concentration of Au-MnO₂ nanostructures. All data represent as mean \pm SD (n=3).

Table S1. XPS data analysis from Au-MnO₂ spectra provides chemical bond, specific binding energies, FWHM, area, and % concentration of each elements.

Name	Chemical Bond	Binding Energy (eV)	FWHM	Area	%
C 1s	C=C	284,6	1,66	1255	25,8
	C-O-C	286,7	2,13	1335	27,4
	C=O=C	288,9	2,13	1737	35,7
	C-O=C	290,7	2,19	543	11,1
O 1s	O-Mn-O	529,6	1,47	5418	32,8

	C-OH atau O=C-OH	530,9	1,52	6612	40,1
	C=O	532,3	2,44	4471	27,1
Mn 2p 1/2	Mn-O	641,3	2,34	19606	41,8
	O-Mn-O	642,9	3,11	11767	25,1
Mn 2p 3/2	Mn-O	652,6	2,34	8391	17,9
	O-Mn-O	654,1	2,64	7152	15,2
Au 4f 7/2	-	83,4	2,85	1272	61,7
Au 4f 5/2	-	88,8	2,61	789	38,3

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Table S2. Comparison of the viability of HeLa cells upon laser treatment and without laser exposure of Au-MnO₂-nanostructure

Au-MnO ₂ Nanostructure (ppm)	Control (% Viability Cell)	PTT (% Viability Cell)
0	100.000	99.000
16	92.561	98.782
31.2	92.857	66.396
62.5	94.332	56.294
125	92.739	50.152
250	87.780	41.777
500	90.082	38.122

Table S3. t-Test: Two-Sample Assuming Equal Variances

	Control	PTT
Mean	91.72516	58.58714
Variance	5.613772	490.8815
Observations	6	6
Pooled Variance	248.2476	
Hypothesized Mean Difference	0	
df	10	
t Stat	3.642877	
P(T<=t) one-tail	0.002258	
t Critical one-tail	1.812461	
P(T<=t) two-tail	0.004515	
t Critical two-tail	2.228139	