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An intelligent ZIF-based nanoplatform for photothermal/chemodynamic-induced combination therapy with O_2 evolution property for improved infected wound regeneration

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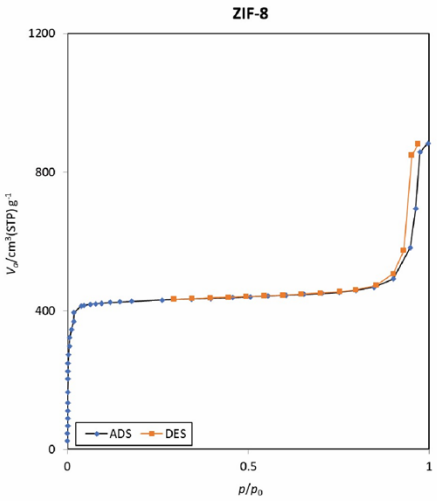
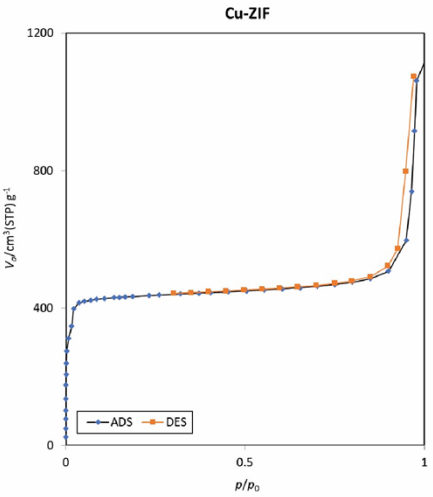
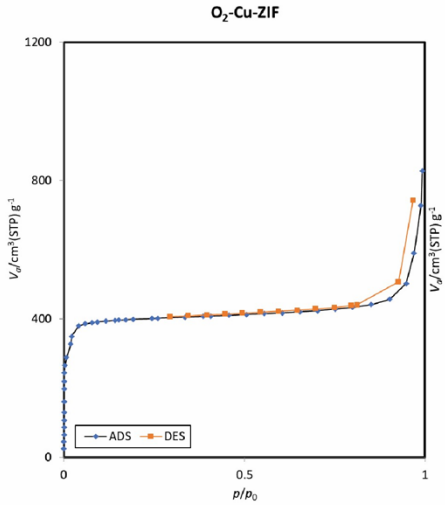
Table S1: BET surface area, pore volume, and hydrodynamic size of the samples

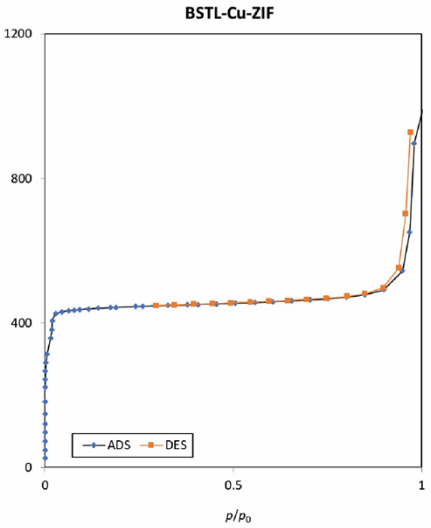
Sample	BET Surface Area (m^2g^{-1})	Pore Volume ($cm^3\ g^{-1}$)	Hydrodynamic size (nm)
ZIF-8	1759.3	1.3542	200.3 ± 2.3
BSTL-ZIF	1766.1	1.339	208.7 ± 1.5
Cu-ZIF	1729.7	1.6857	301.0 ± 1.5
O_2-Cu-ZIF	1584.6	1.1878	191.0 ± 1.0
BSTL-Cu-ZIF	1766.4	1.4551	226.7 ± 8.3
BSTL-O_2-Cu-ZIF	1551.7	0.8153	260.0 ± 3.0

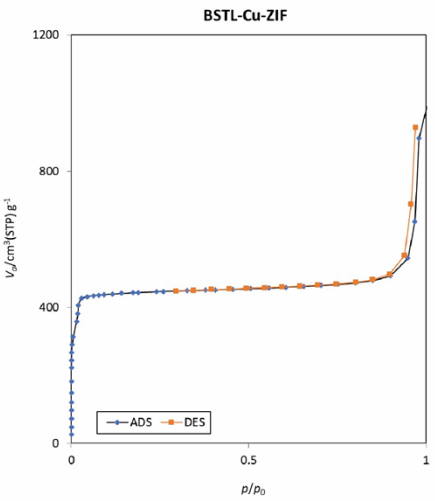
Figure S1: Nitrogen-sorption isotherms of the samples


ZIF-8
1200
800
400
0
0
0.5
1
V_d/cm^3(STP) g^{-1}
p/p_0
ADS
DES


Cu-ZIF
1200
800
400
0
0
0.5
1
V_d/cm^3(STP) g^{-1}
p/p_0
ADS
DES


O_2-Cu-ZIF
1200
800
400
0
0
0.5
1
V_d/cm^3(STP) g^{-1}
p/p_0
ADS
DES


BSTL-Cu-ZIF
1200
800
400
0
0
0.5
1
V_d/cm^3(STP) g^{-1}
p/p_0
ADS
DES


BSTL-Cu-ZIF
1200
800
400
0
0
0.5
1
V_d/cm^3(STP) g^{-1}
p/p_0
ADS
DES

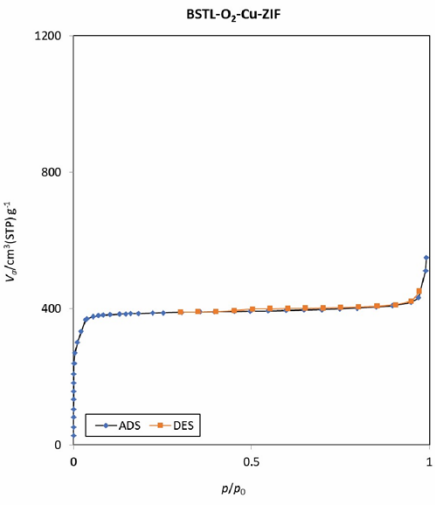

BSTL-O_2-Cu-ZIF
1200
800
400
0
0
0.5
1
V_d/cm^3(STP) g^{-1}
p/p_0
ADS
DES

Figure S2: Hydrodynamic sizes of the nanosystems determined by DLS analysis

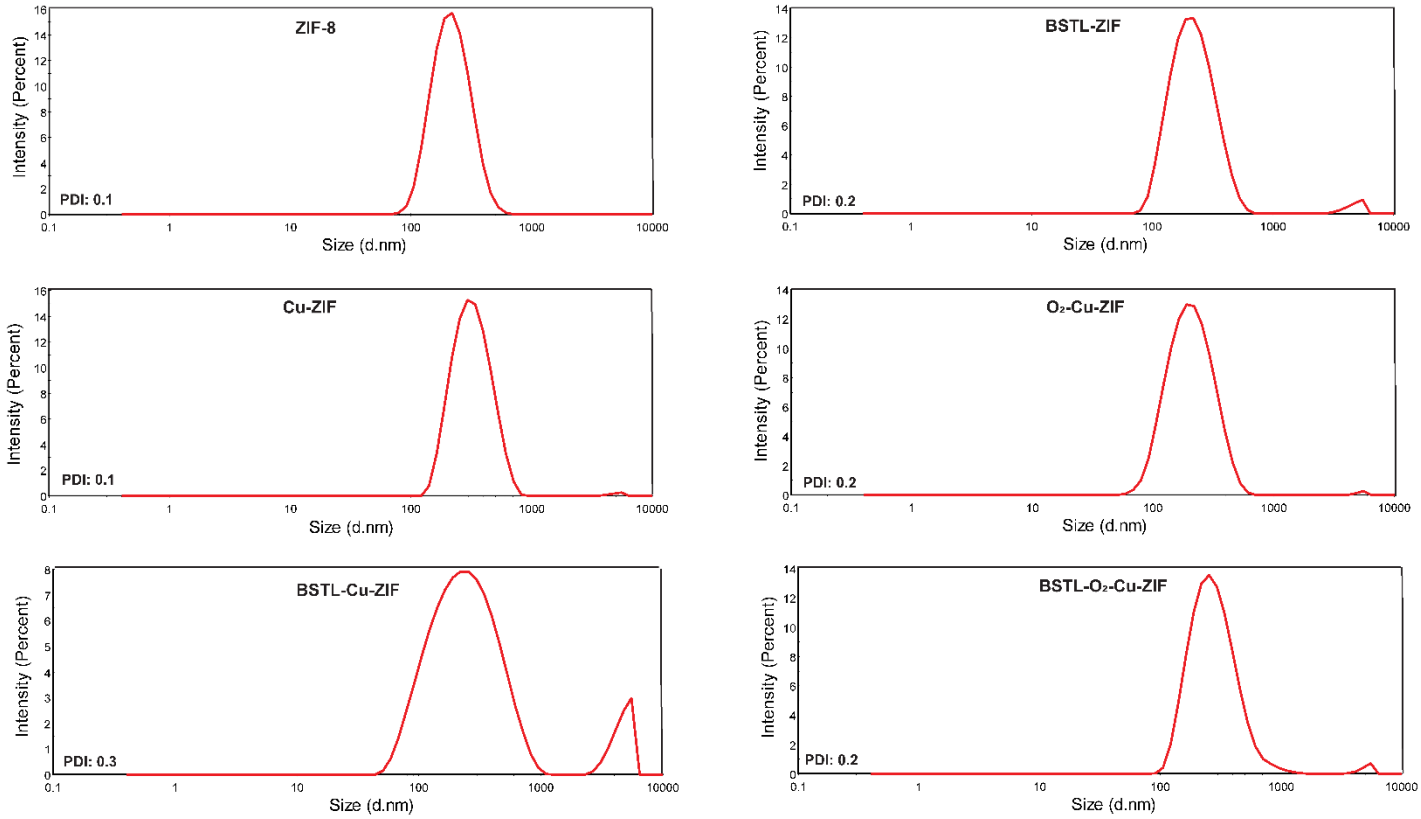
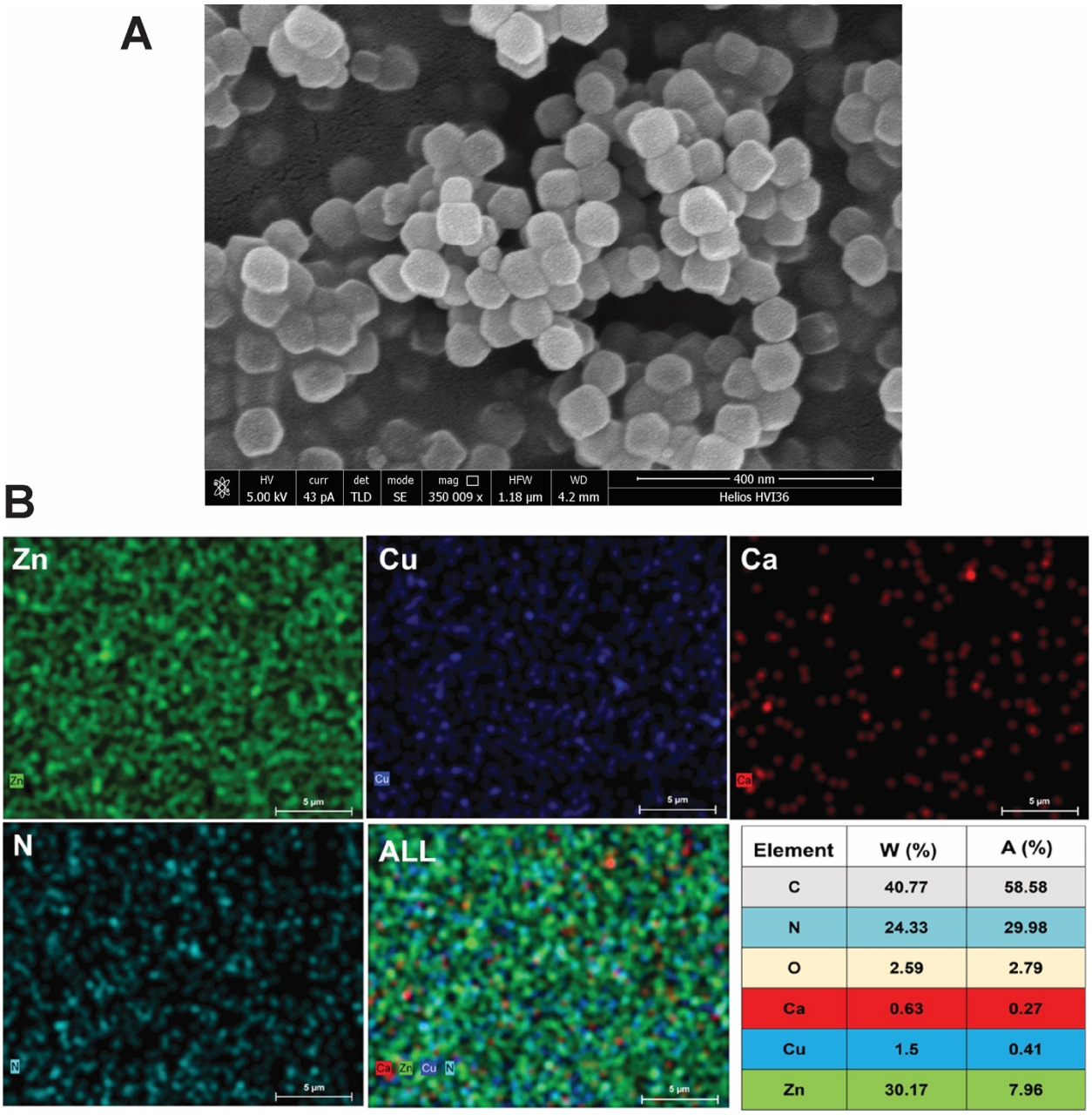
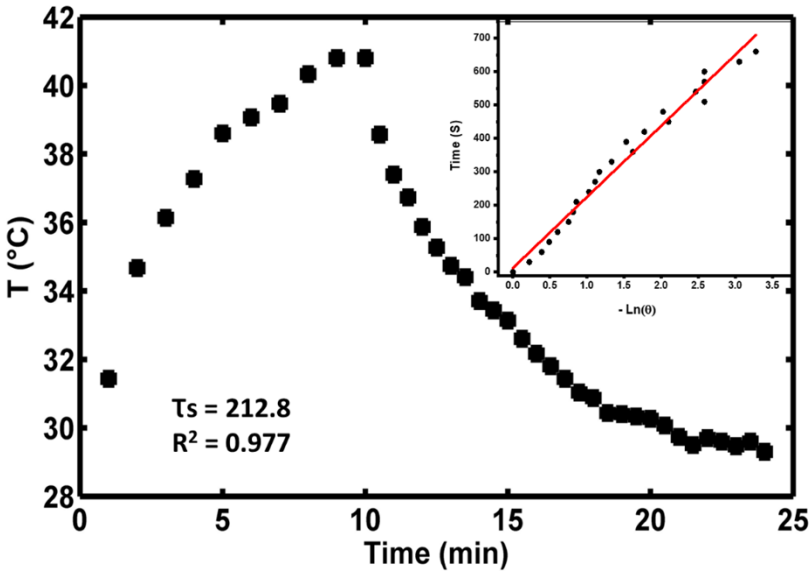


Figure S3: (A) SEM images of ZIF-8 and (B) EDS spectrum of BSTL-O_2-Cu-ZIF nanosystem.



Element	W (%)	A (%)
C	40.77	58.58
N	24.33	29.98
O	2.59	2.79
Ca	0.63	0.27
Cu	1.5	0.41
Zn	30.17	7.96

Figure S4: The photothermal conversion efficiency (η) of BSTL-O_2-Cu-ZIF: Photothermal response of the nanosytem for one cycle using an 808 nm laser (1 W cm^{-2}). The inset shows linear time data versus -ln θ, measured during the cooling period.



$$\eta = hS\,(T_{max}-T_{sur})-Q_0/I(1-E(-A_{808}))$$

$$\eta = 19.85\%$$

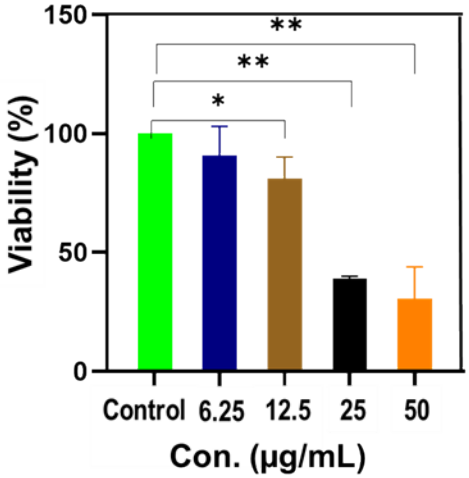



Figure S5. Viabilities of NIH3T3 fibroblast cells after incubation with different concentrations of BSTL-O_2-CU-ZIF for 24 h. (mean ± SD, n=3 *: $p < 0.03$ and **: $p < 0.002$).