

Electronic Supporting Information

Surprisingly Fast Assembly of MOF Film for Synergetic Antibacterial Phototherapeutics

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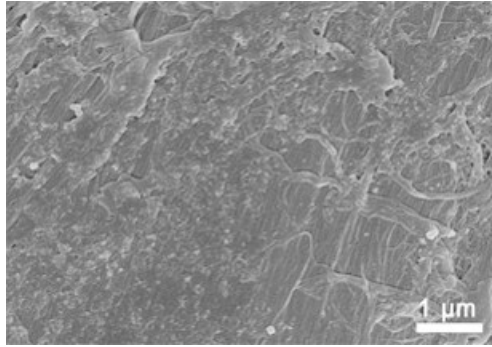


Fig. 1 SEM image of the ZIF-8/DA-0.25.

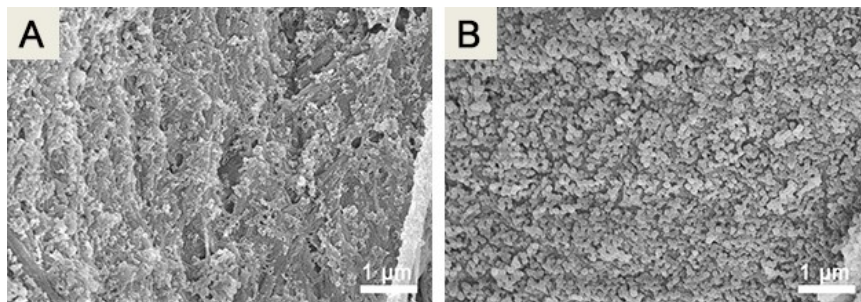


Fig. 2 SEM images of the (A) ZIF-8/DA-0.5 (0.5: 1) and (B) ZIF-8/DA-0.5 (2: 1).

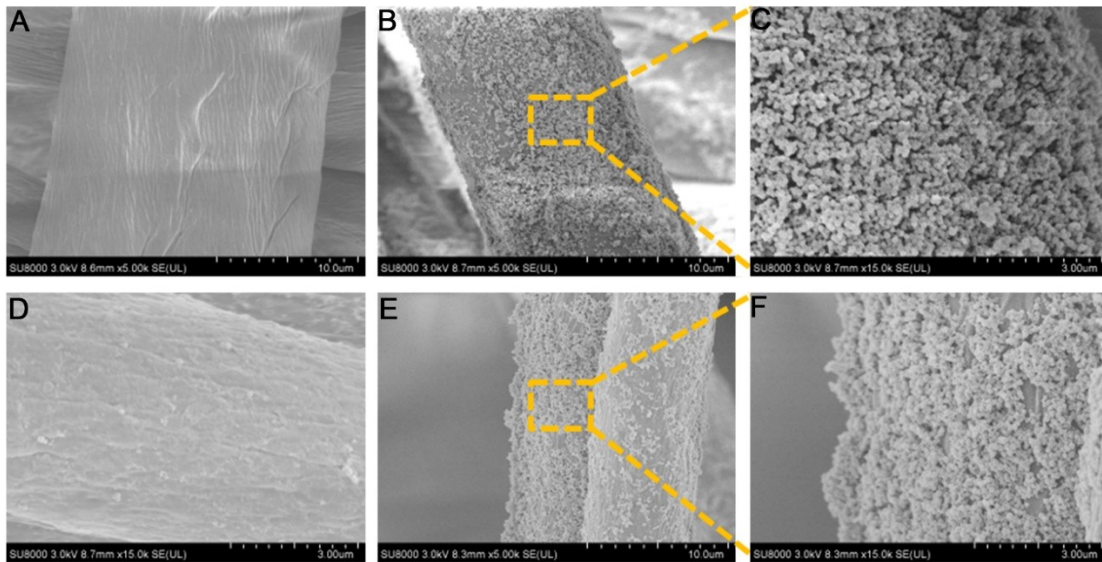


Fig. 3 SEM images of pristine cotton fabrics (A), cotton fabrics-based ZIF-8/DA-0.5 (B-C), pristine medical gauzes (D), and medical gauzes-based ZIF-8/DA-0.5 (E-F).

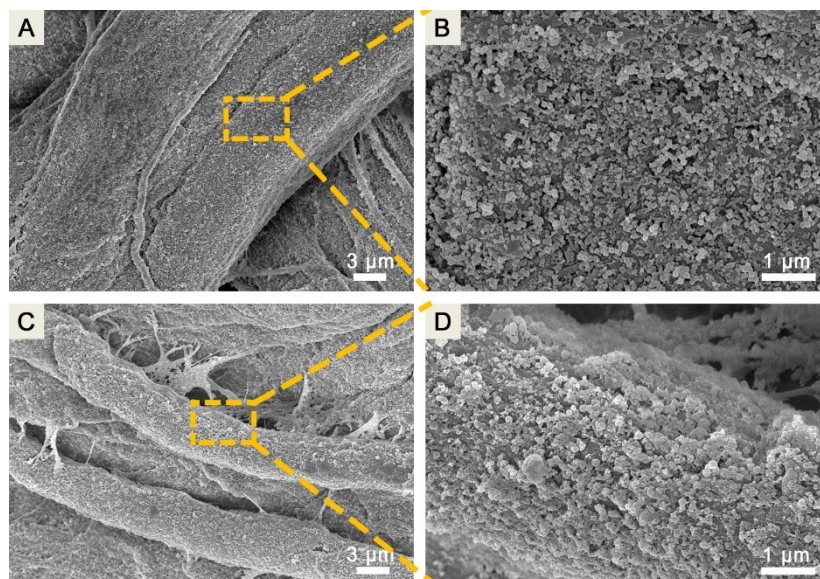


Fig. 4 SEM images of the ZIF-8/DA-0.5 films after 50 cycles of abrasion test (A and B), and after 20 min immersion in the PBS buffer solution (C and D).

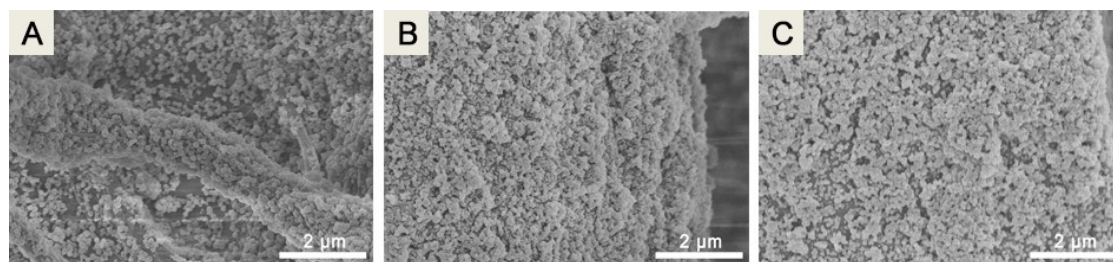


Fig. 5 SEM images of the ZIF-8/DA-0.5 films that stored for 10 (A), 20 (B), and 30 (C) days at room temperature.

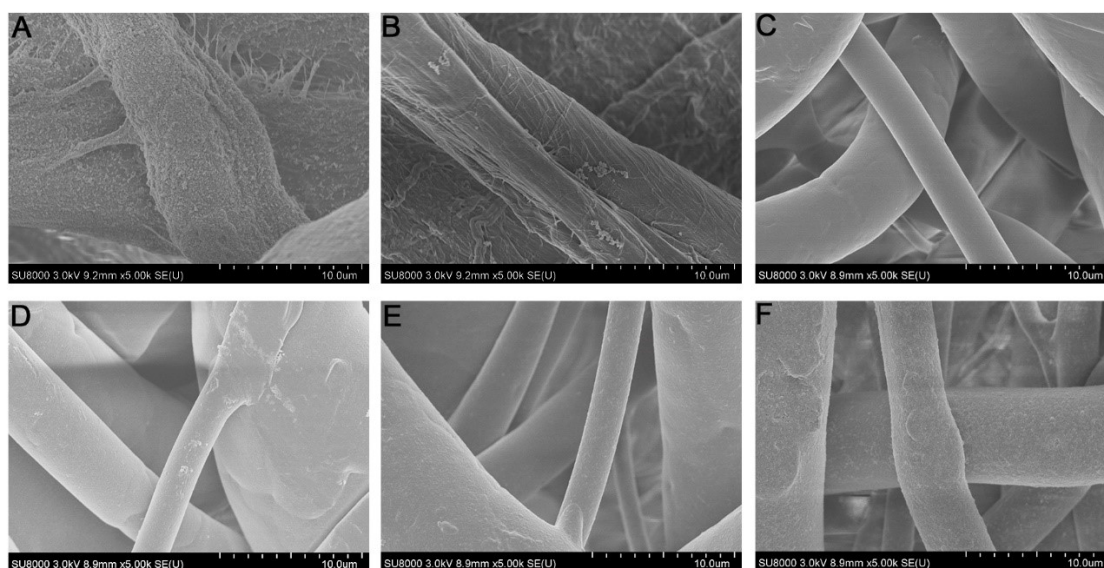


Fig. 6 SEM images of Filter Paper samples that were taken from the $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}/\text{DA}/\text{pH } 7$ solution (A), 2-methylimidazole/DA solution (B), Pristine PP samples (C), and PP samples that were taken from the $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}/\text{DA}/\text{pH } 7$ solution at the reaction time of 0.5 h (D), 1 h (E), 2 h (F).

Table 1. High-resolution Zn-O and N=C-N peak area of the FP-based samples (FP, ZIF-8/DA-0.5, ZIF-8/DA-1, and ZIF-8/DA-2 samples).

Sample	Peak area	
	Zn-O	N=C-N
FP	0	0
ZIF-8/DA-0.5	2533.8	14159.9
ZIF-8/DA-1	5881.7	13883.7
ZIF-8/DA-2	9335.4	8038.3

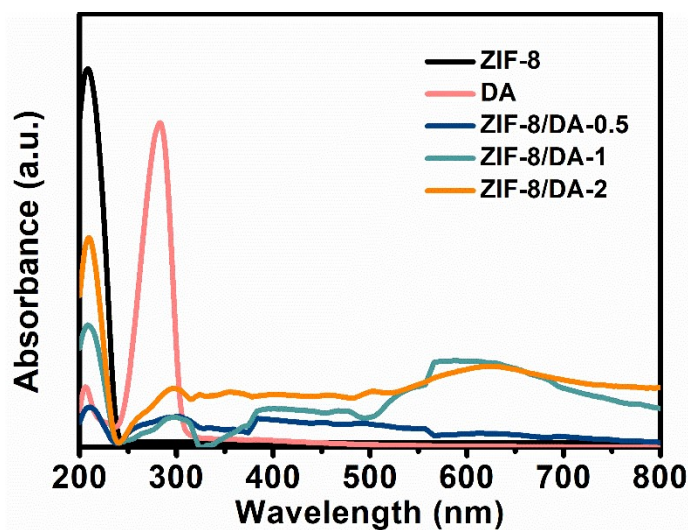


Fig. 7 UV-vis diffuse reflectance spectroscopy of ZIF-8 and ZIF-8/DA powders.

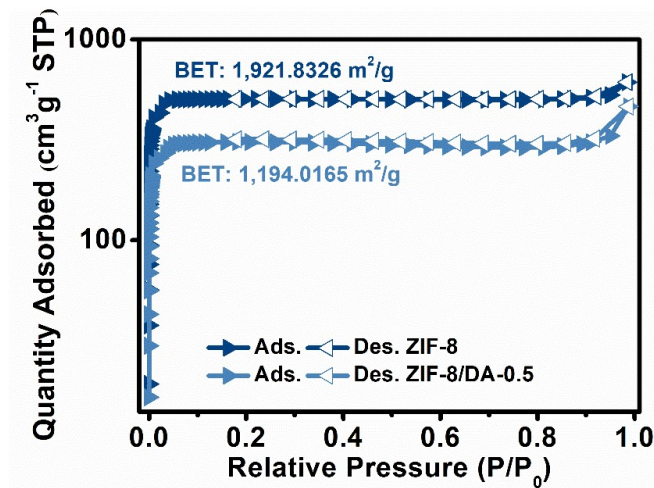


Fig. 8 N₂ adsorption-desorption isotherms ZIF-8 and ZIF-8/DA-0.5 powders.

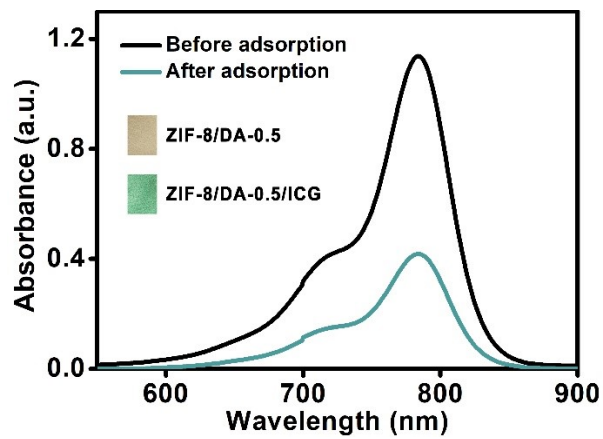


Fig. 9 UV-vis spectra of the ICG solution before and after adsorption by the ZIF-8/DA-0.5 film (Inset: digital images of the corresponding samples).

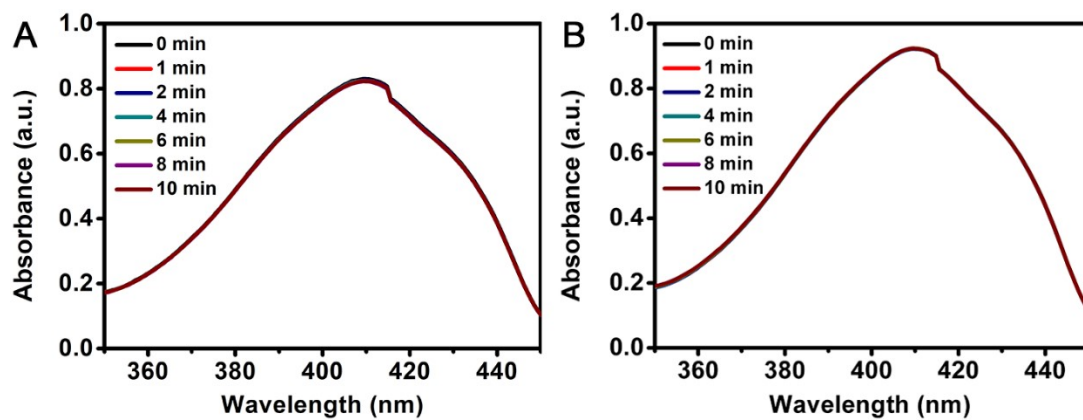


Fig. 10 Time dependent UV-vis spectrum of the pristine FP (A) and ZIF-8/DA-0.5 (B) in DPBF upon the 808 nm NIR irradiation.

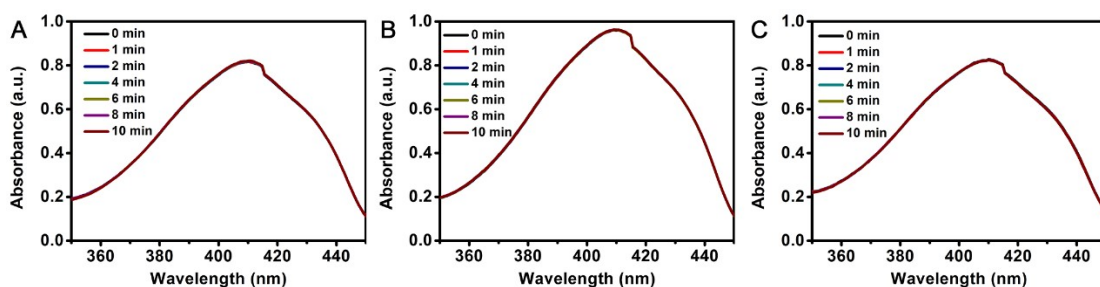


Fig. 11 Time dependent UV-vis spectrum of the pristine filter paper (A), ZIF-8/DA-0.5 (B), and ZIF-8/DA-0.5/ICG (C) in DPBF without the illumination of the 808 nm NIR irradiation.

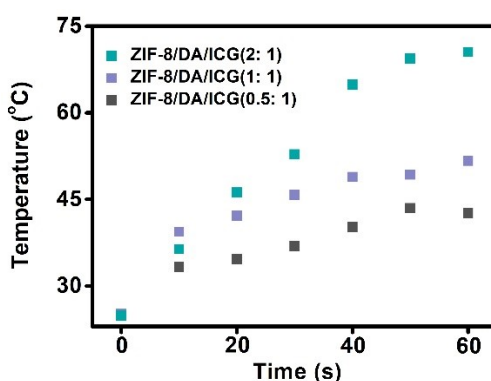


Fig. 12 Photothermal performance of the FP-based ZIF-8/DA-0.5/ICG (0.5: 1), ZIF-8/DA-0.5/ICG (1: 1), and ZIF-8/DA-0.5/ICG (2: 1) samples, under the illumination of the 808 nm NIR irradiation.

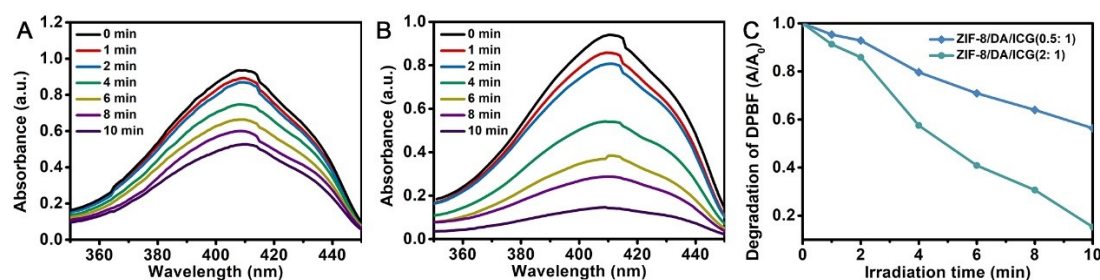


Fig. 13 Time dependent UV-vis spectrum of DPBF with FP-based (A) ZIF-8/DA-0.5/ICG (0.5: 1) and (B) ZIF-8/DA-0.5/ICG (2: 1) samples, under the illumination of the 808 nm NIR irradiation. (C) Normalized decay curves of the DPBF absorption density at 410 nm about the ROS generation in acetonitrile under the illumination of the vis. “ A_0 ” and “ A ” represent the initial and selected time value of absorbance at 410 nm, respectively, according to various irradiation times.

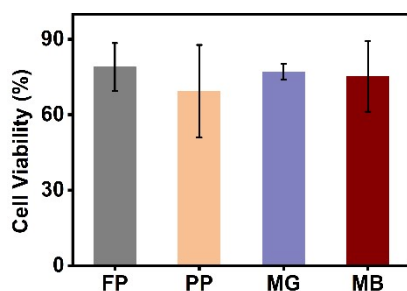


Fig. 14 Cell viability of L929 normal fibroblast about the ZIF-8/DA-0.5 films (NIR).

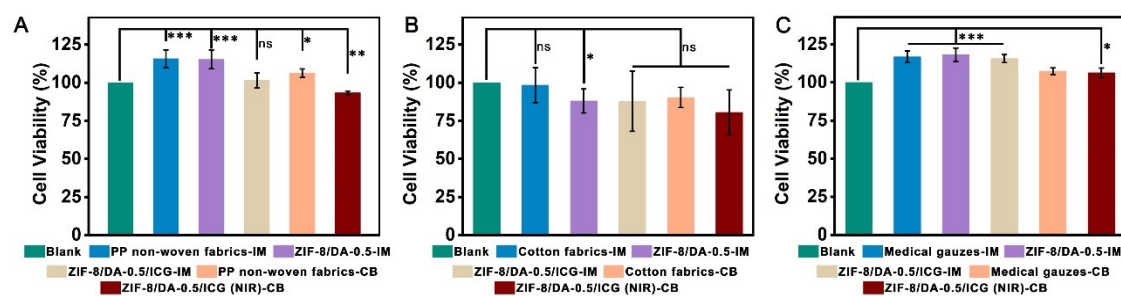


Fig. 15 Cell viability of L929 normal fibroblast about the PP non-woven fabrics-based samples (A), cotton fabrics-based samples (B), and medical gauzes-based samples (C). (IM was short for “immerse”, CB was short for “co-incubation”). Significant difference: *** $p < 0.001$, ** $p < 0.01$, $p > 0.05$ no significant difference (ns).