

Electronic Supplementary Information for:

Dye Encapsulated Metal—Organic Frameworks for Multi-parameters Detection of Temperature

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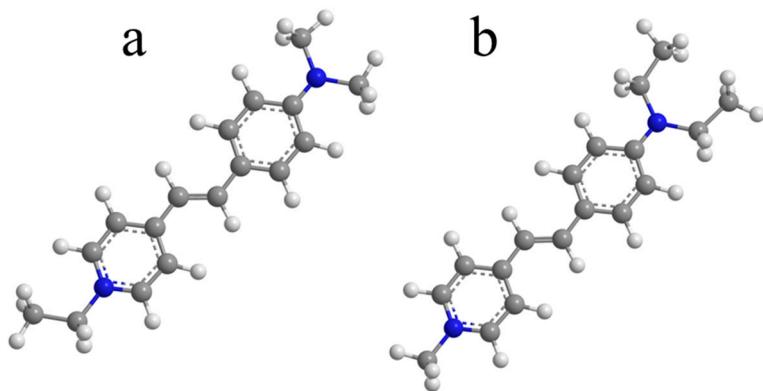


Figure S1. Structure of (a) DPEE, and (b) DPEM.

Table S1. Crystallographic Data collection and Refinement result for Zn-CYMPN.

Compound	Zn-CYMPN
chemical formula	C ₉₈ H ₆₄ O ₂₄ Zn ₃
formula weight	1757.09
temperature (K)	293
radiation (Å)	0.71073
crystal system	Monoclonic
space group	I 2
a(Å)	21.2299(11)
b(Å)	26.9625(13)
c(Å)	21.6121(17)
α(°)	90
β(°)	97.432(5)
γ(°)	90

V(Å ³)	12267.1
Z	4
ρ(calc) (g/cm ³)	0.95134
F (000)	3480
absorp.coeff. (mm ⁻¹)	0.635
θ range (deg)	1.214 to 25.009
reflns collected	30513
indep. reflns	15770 [R(int) = 0.0627]
data/restr/paras	15770/1/1127
GOF	0.671
R1/wR2 [I>2σ(I)]	0.0547/0.1264
R1/wR2 (all data)	0.1299/0.1527
largest peak and hole(e/Å ³)	0.223 and -0.282

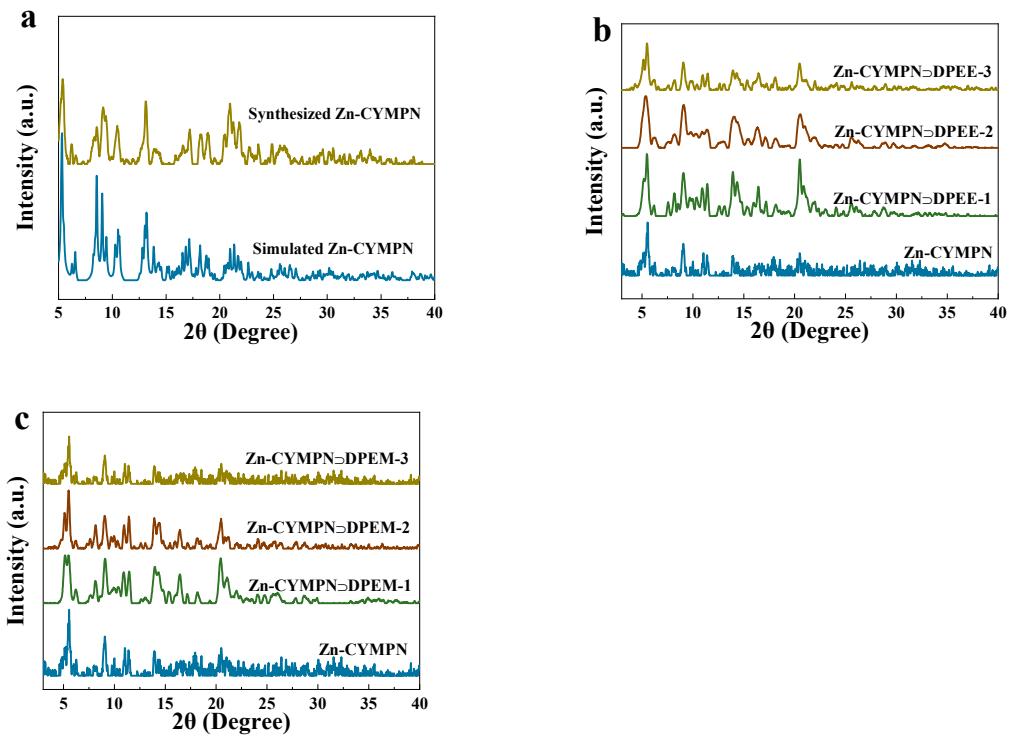


Figure S2. PXRD patterns of (a) simulated Zn-CYMPN and Zn-CYMPN as synthesized, (b) Zn-CYMPN as synthesized, Zn-CYMPN \supset DPEE-1, Zn-CYMPN \supset DPEE-2, and Zn-CYMPN \supset DPEE-3, (c) Zn-CYMPN as synthesized, Zn-CYMPN \supset DPEM-1, Zn-CYMPN \supset DPEM-2, and Zn-CYMPN \supset DPEM-3.

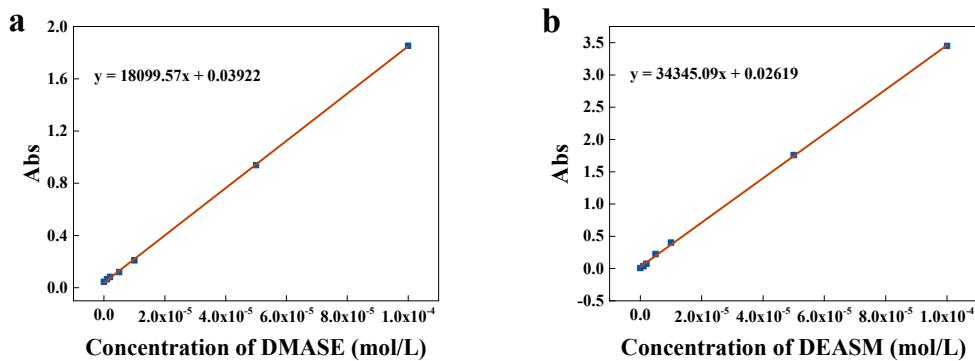


Figure S3. The intensity-concentration diagram and the fitting curves for (a) DPEE, (b) DPEM.

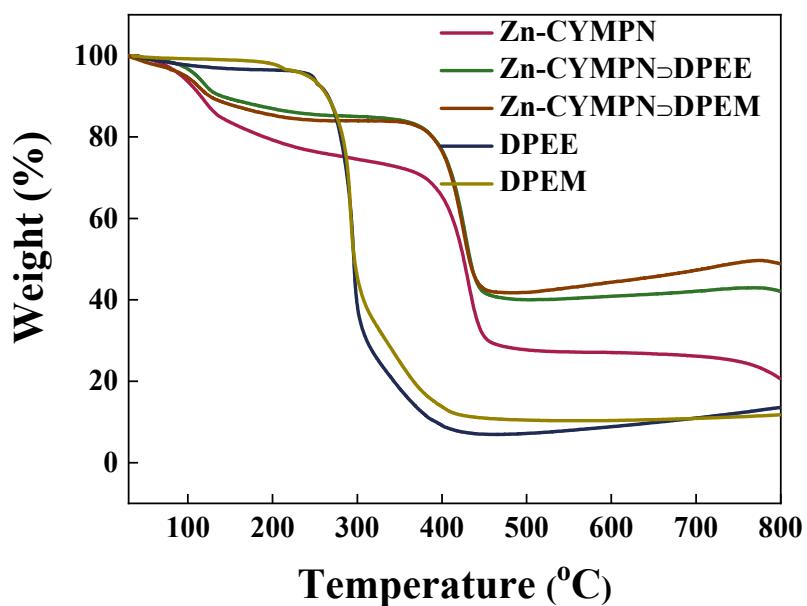


Figure S4. TG curves of Zn-CYMPN, Zn-CYMPN \supset DPEE, Zn-CYMPN \supset DPEM, DPEE and DPEM.

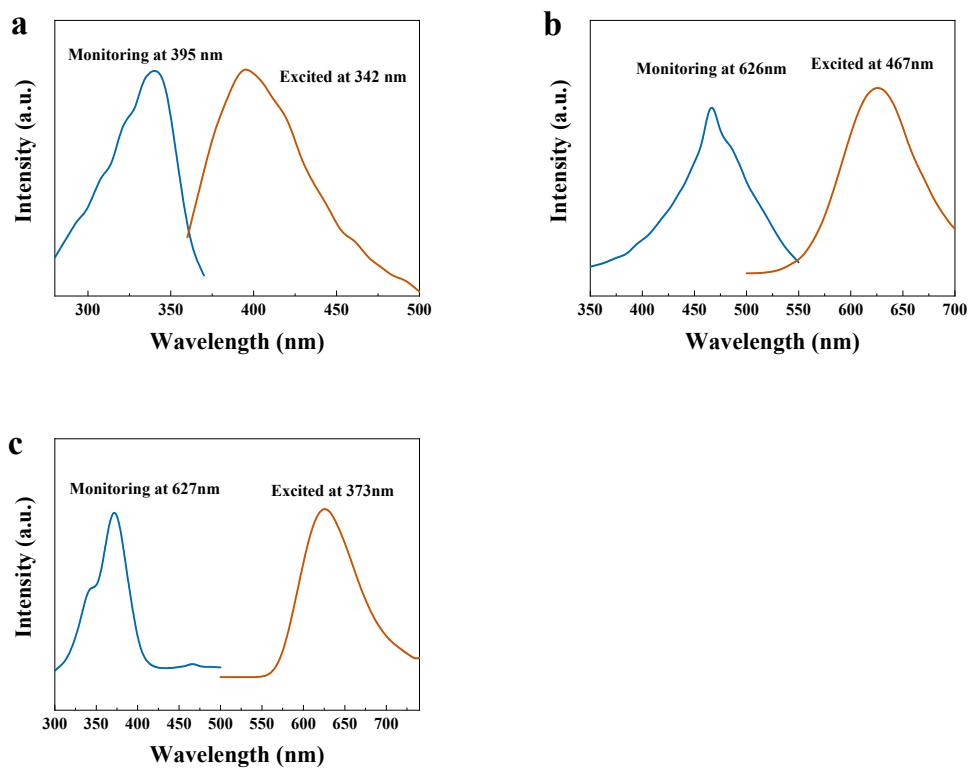


Figure S5. Excitation and emission spectra of (a) Zn-CYMPN, (b) DPEE, (c) DPEM.

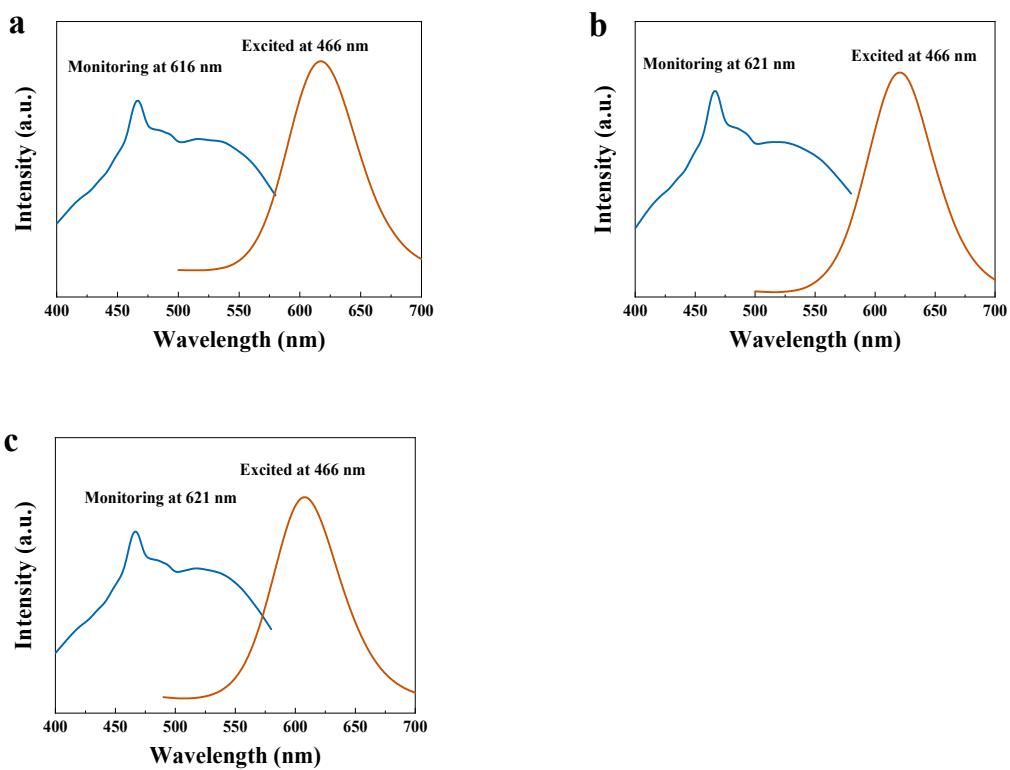


Figure S6. Excitation and emission spectra of (a) **Zn-CYMPN-DPEE-1**, (b) **Zn-CYMPN-DPEE-2**, (c) **Zn-CYMPN-DPEE-3**.

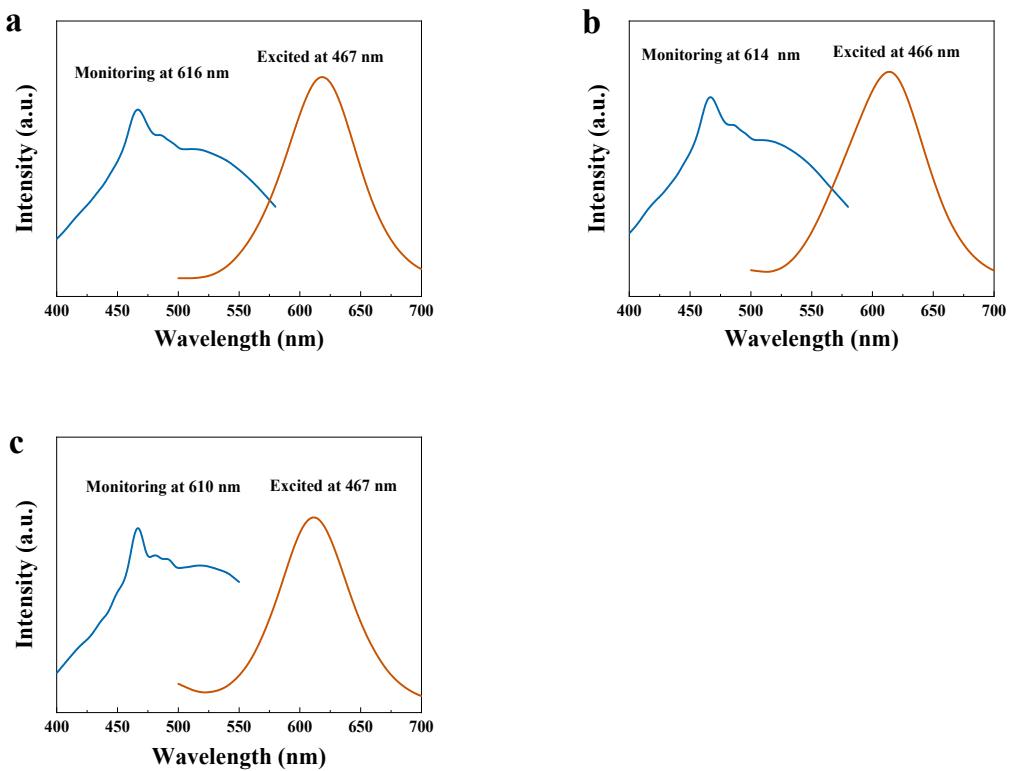


Figure S7. Excitation and emission spectra of (a) **Zn-CYMPN-DPEM-1**, (b) **Zn-CYMPN-DPEM-2**, (c) **Zn-CYMPN-DPEM-3**.

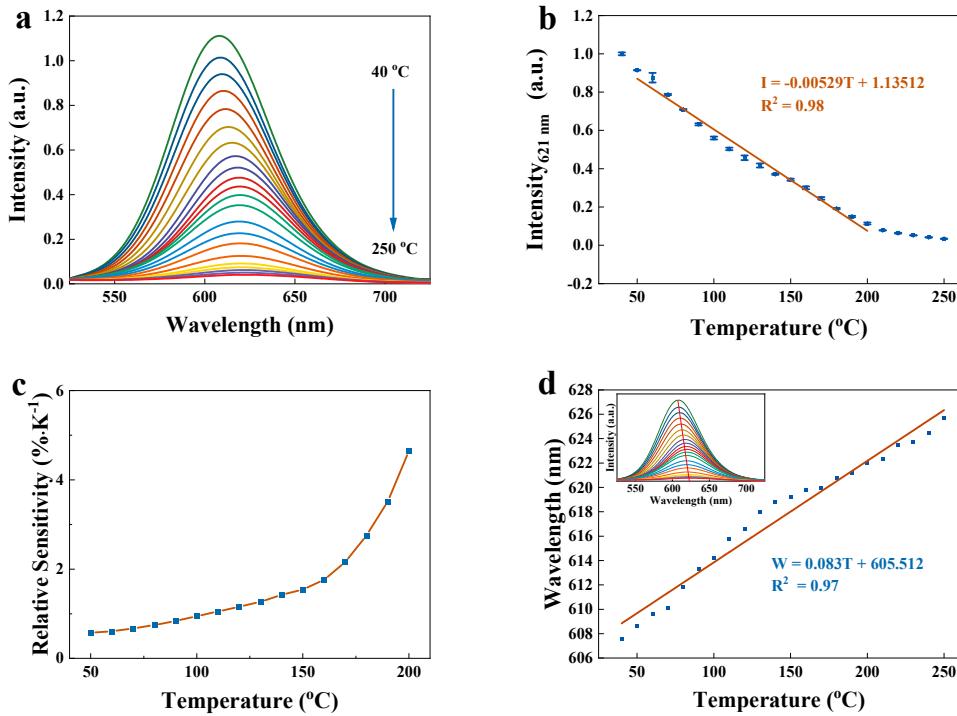


Figure S8. (a) Temperature dependent fluorescent emission spectra of **Zn-CYMPN-DPEE-2**. (b) Fluorescent intensity at 621 nm and the fitting line with temperature of 50~200 °C. (c) The relative sensitivity for intensity. (d) Wavelength at the maximum fluorescent emission and the fitting line with temperature of 40~250 °C (insert: temperature dependent fluorescent emission spectra and the shift of wavelength corresponding to the maximum fluorescence emission intensity).

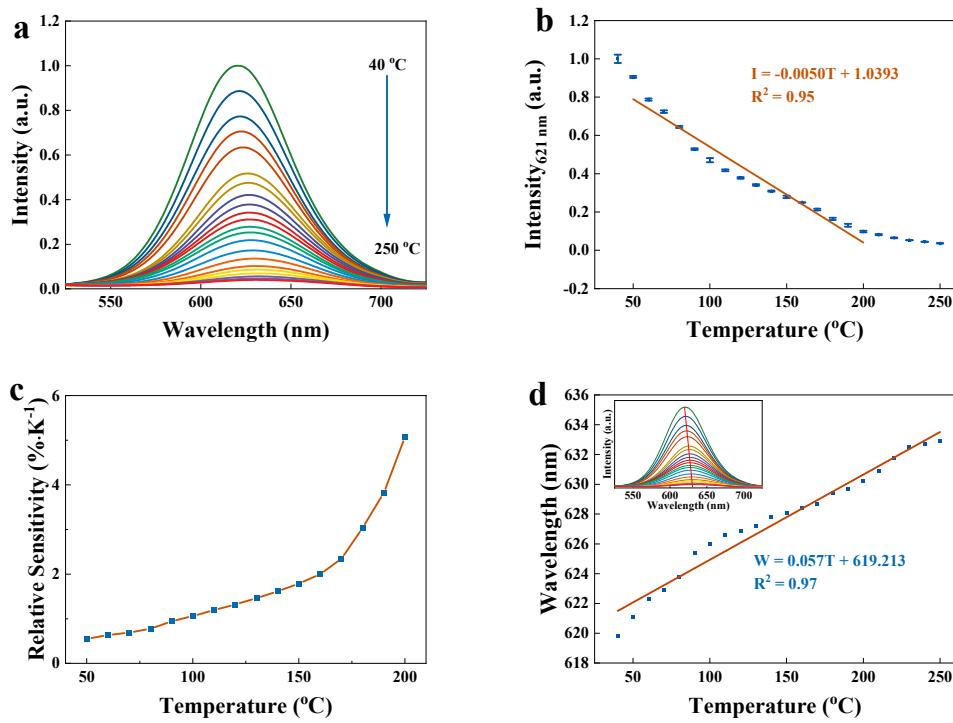


Figure S9. (a) Temperature dependent fluorescent emission spectra of **Zn-CYMPN-DPEE-3**. (b) Fluorescent intensity at 621 nm and the fitting line with temperature of 50~200 °C. (c) The relative sensitivity for intensity. (d) Wavelength at the maximum fluorescent emission and the fitting line with temperature of 40~250 °C (insert: temperature dependent fluorescent emission spectra and the shift of wavelength corresponding to the maximum fluorescence emission intensity).

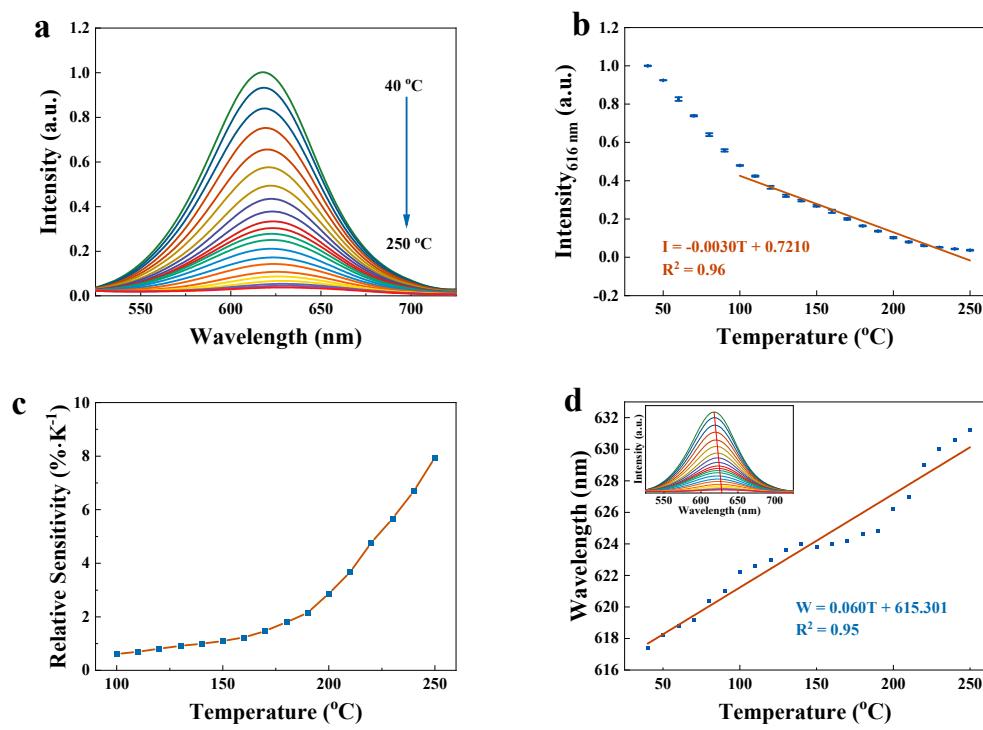


Figure S10. (a) Temperature dependent fluorescent emission spectra of **Zn-CYMPN \supset DPEM-1**. (b) Fluorescent intensity at 616 nm and the fitting line with temperature of 100~250 °C. (c) The relative sensitivity for intensity. (d) Wavelength at the maximum fluorescent emission and the fitting line with temperature of 40~250 °C (insert: temperature dependent fluorescent emission spectra and the shift of wavelength corresponding to the maximum fluorescence emission intensity).

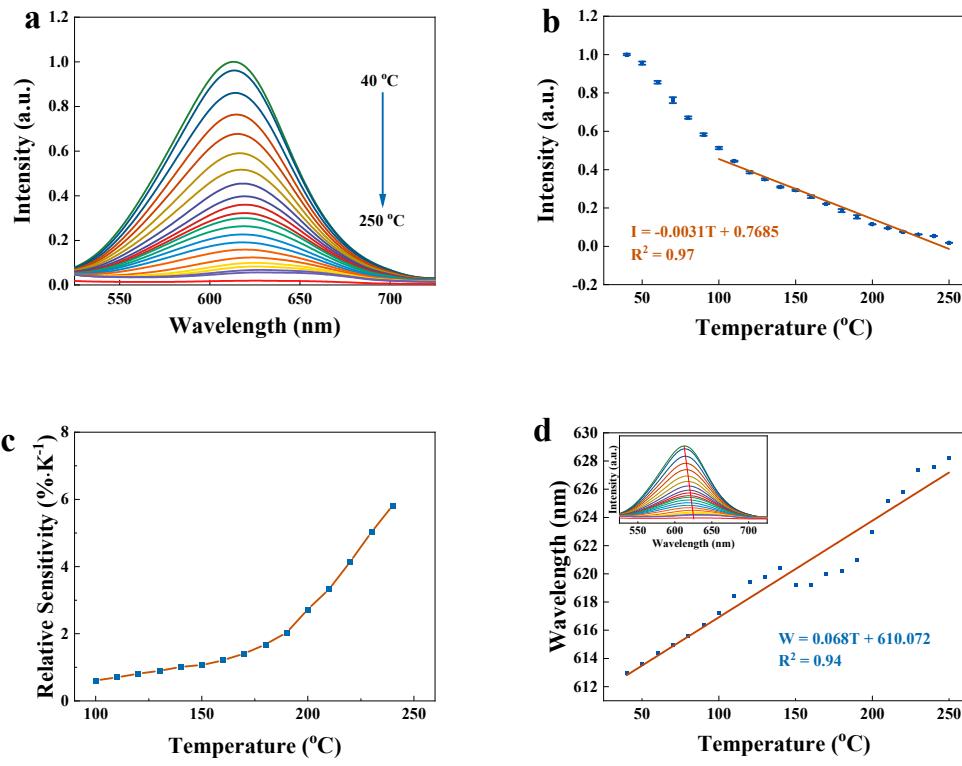


Figure S11. (a) Temperature dependent fluorescent emission spectra of **Zn-CYMPN-DPEM-2**. (b) Fluorescent intensity at 614 nm and the fitting line with temperature of 100~250 °C. (c) The relative sensitivity for intensity. (d) Wavelength at the maximum fluorescent emission and the fitting line with temperature of 40~250 °C (insert: temperature dependent fluorescent emission spectra and the shift of wavelength corresponding to the maximum fluorescence emission intensity).

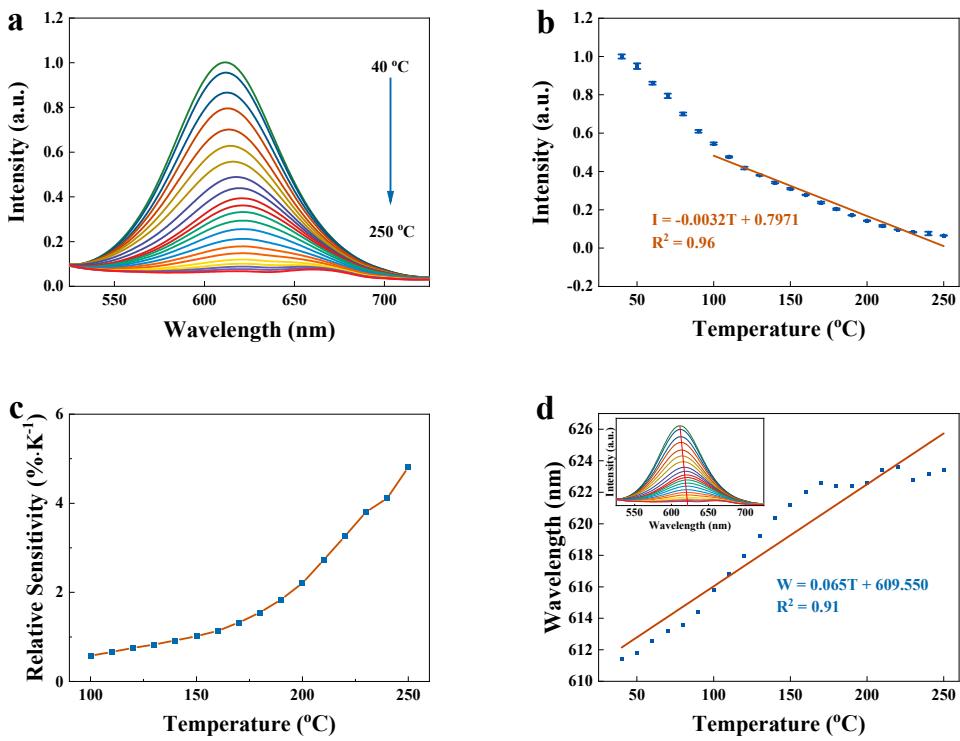


Figure S12. (a) Temperature dependent fluorescent emission spectra of **Zn-CYMPN**–**DPEM-3**. (b) Fluorescent intensity at 610 nm and the fitting line with temperature of 100~250 °C. (c) The relative sensitivity for intensity. (d) Wavelength at the maximum fluorescent emission and the fitting line with temperature of 40~250 °C (insert: temperature dependent fluorescent emission spectra and the shift of wavelength corresponding to the maximum fluorescence emission intensity).

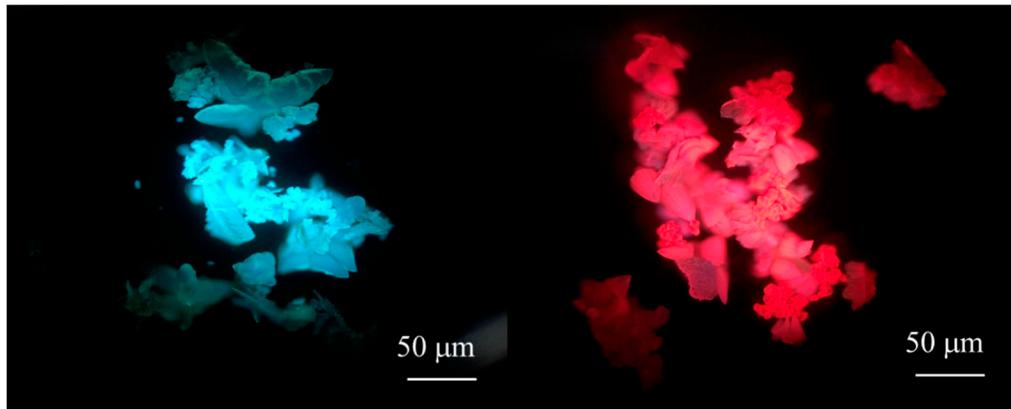


Figure S13. The optical photographs of Zn-CYMPN before (left) and after (right) encapsulated the **DPEE** with excitation at 380 nm mercury lamp.