

**Zeolitic-Imidazolate Framework (ZIF-8)-Based Immobilized Multi-Enzyme Integrated with
Colorimetric Sensor for Cholesterol Assay**

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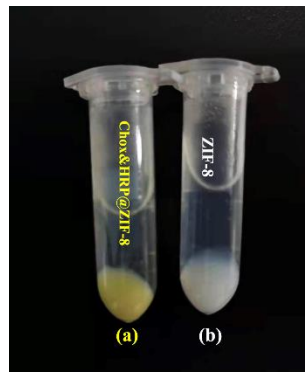


Figure. S1 The prepared Chox&HRP@ZIF-8(a) and ZIF-8 (b).

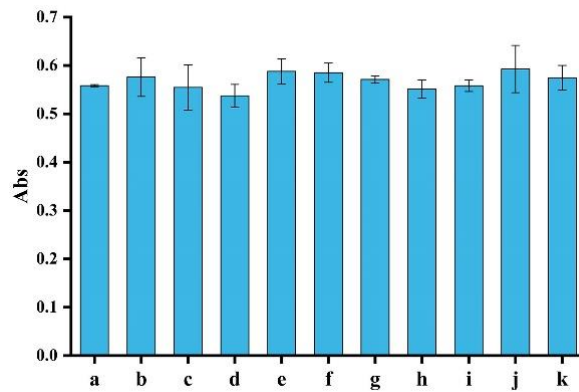


Figure. S2 Interference of different interferents on the determination of cholesterol. (n=3)

a: No interference, b: Estradiol, c: Bisphenol A, d: Diethylstilbestrol, e: Oestrone, f: Glucose, g: Arginine, h: Glycine, i: Ascorbic acid, j: Na^+ , k: K^+

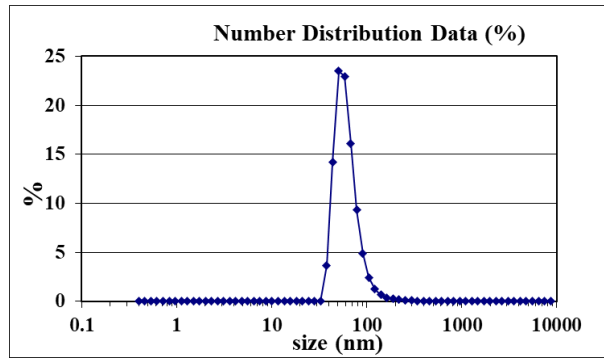


Figure.S3 Dynamic light scattering spectrum of ZIF-8 nanocomposite.

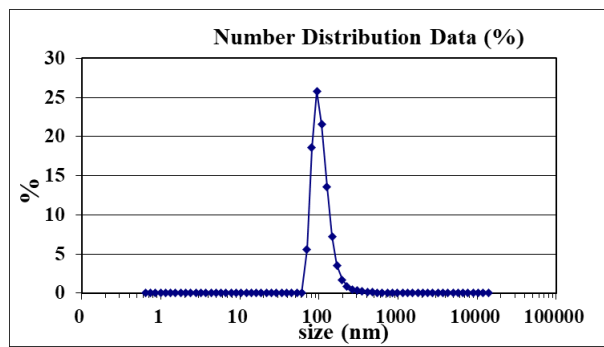


Figure.S4 Dynamic light scattering spectrum of Chox&HRP@ZIF-8 nanocomposite.

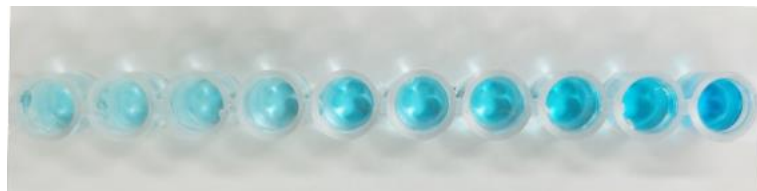


Figure.S5 The color of different concentration of cholesterol after reaction finished.

Table.S1 Comparison with other methods.

Methods	Samples	Linear range (μM)	LOD (μM)	Ref.
Enzymes co-immobilization colorimetric	Serum	3.125~200	0.9	This Work
Fiber biosensor	Serum	517~6465	108	42
	Serum	646~6465	137	43
Chemiluminescence	Serum	50~10000	1.5	44
	Serum	0.08~300	0.04	45
Electrochemical	Serum	50~6000	8.4	46
	Serum	25~3000	0.02	47
Colorimetric	Serum	10~100	3.5	48
	Serum	20~600	6	49
Electrochemiluminescence	Serum	0.003~1.5	0.001	50
	Serum	0.15~828	0.05	51