

***Supporting Information***

**NH<sub>2</sub>-Ni-MOF electrocatalysts with tunable size/morphology  
for ultrasensitive C-reactive protein detection *via* an  
aptamer binding induced DNA walker-antibody sandwich  
assay**

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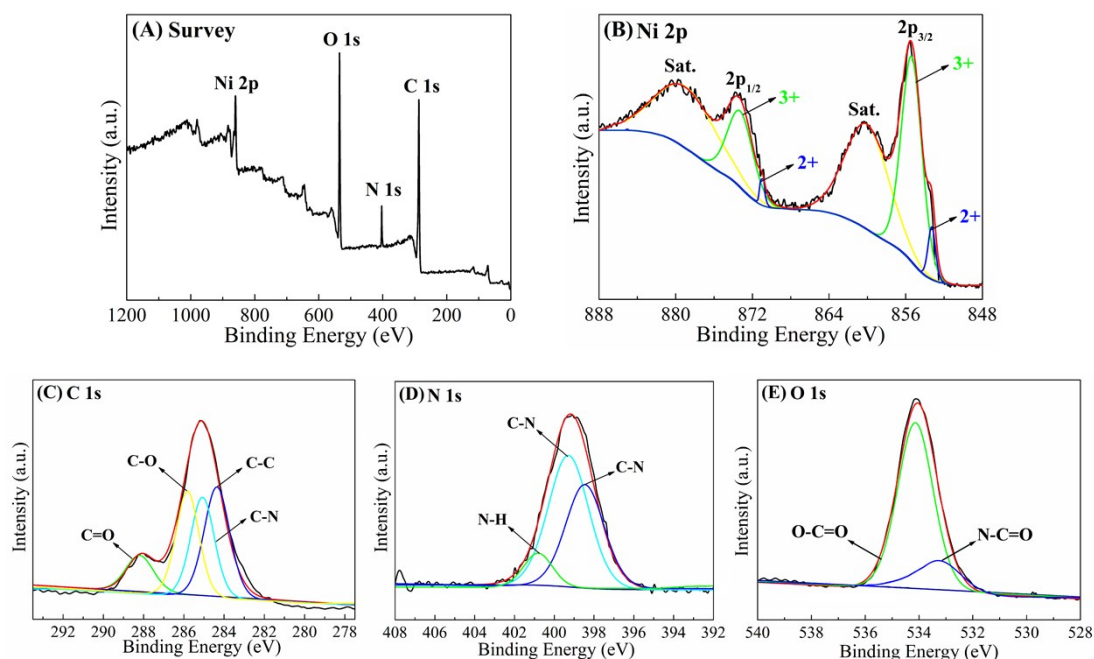
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## S1 XPS characterization of NH<sub>2</sub>-Ni-MOF(c)



**Fig. S1** XPS spectra of the as-synthesized NH<sub>2</sub>-Ni-MOF(c): (A) Survey spectrum, (B) Ni 2p, (C)

C 1s, (D) N 1s and (E) O 1s (Sat. means shake-up satellites).

**Table S1.** Comparison of our research with other published methods for CRP detection.

Detection techniques	Linear ranges/ng mL <sup>-1</sup>	Detection limits	References
Square wave voltammetry	0.005-125	1.7 pg mL <sup>-1</sup>	[1]
Differential pulse voltammetry	0.05-100	16.7 pg mL <sup>-1</sup>	[2]
Colorimetric assay	0.3-81	0.07 ng mL <sup>-1</sup>	[3]
Pressure bioassay	0.25-25	0.21 ng mL <sup>-1</sup>	[4]
Cyclic voltammetry	50-5000	11 ng mL <sup>-1</sup>	[5]
Square wave voltammetry	0.0001-100	0.029 pg mL <sup>-1</sup>	This work

**Table S2.** Comparison of the as-synthesized NH<sub>2</sub>-Ni-MOF(c) with other MOF electrode materials.

Electrode materials	Detecting techniques	Targets	Linear ranges/ng mL <sup>-1</sup>	Detection limits	Ref
Au-MOF	Differential pulse voltammetry	CRP	1-400	0.2 ng mL <sup>-1</sup>	[6]
Zr-MOF	Electrochemical impedance spectroscopy	Cocaine	0.001-1.0	0.44 pg mL <sup>-1</sup>	[7]
Fe-MOF	Differential pulse voltammetry	Gal-3	0.0001- 50	33.33 fg mL <sup>-1</sup>	[8]
Al-MOF	Electrochemical impedance spectroscopy	Vomitoxin	0.001-0.5	0.7 pg mL <sup>-1</sup>	[9]
NH <sub>2</sub> -Ni-MOF(c)	Square wave voltammetry	CRP	0.0001-100	0.029 pg mL <sup>-1</sup>	This work

**Table S3.** Detection of CRP added in human serum with the fabricated aptasensor ( $n = 3$ ).

Samples	Added (ng mL <sup>-1</sup> )	Found (ng mL <sup>-1</sup> )	Recovery(%)	RSD(%)
1	0.01	0.009	90.0	2.2
2	0.50	0.53	106.0	4.1
3	1.00	0.97	97.0	3.7
4	10.00	10.32	103.2	2.9
5	50.00	46.81	93.6	5.6

## References

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