Electronic Supplementary Material (ESI) for Analyst.

Coating DNA self-assembled monolayer with a metal organic framework-based exoskeleton for improved sensing performance

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Table S1. The used sequences in this study.

Name	Sequence (5'→3')
ssDNA	MB-TGTGCGGAGGAAGGTCCTGATACGC-SH
ssDNA-target	GCGTATCAGGACCTTCCTCCGCACA
hpDNA	MB-GCGTATGTGCGGAGGAAGGTCCTGATACGC-SH
HpDNA-target	GCGTATCAGGACCTTCCTCCGCACATACGC
dsDNA	TGTGCGGAGGAAGGTCCTGATACGC-SH
dsDNA-MB	MB-GCGTATCAGGACCTTCCTCCGCACACGTCAT
dsDNA-target	ATGACGTGTGCGGAGGAAGGTCCTGATACGC
TDN-1	MB-AAGGTCCTGATACGCCTCCAAGTCTACCTTGCTACACGACGCCATAGTA
TDN-2	SH-CACAGCAGTGCAGTGTAGCAAGAGGCGAGGGTCC
TDN-3	SH-CACTGCTGTGAAACACTACGTGTCTACTGTGGCG
TDN-4	SH-AGACTTGGAGGCCACGTAGTGTTTGGACCCTCGC
TDN-target	GCGTATCAGGACCTT

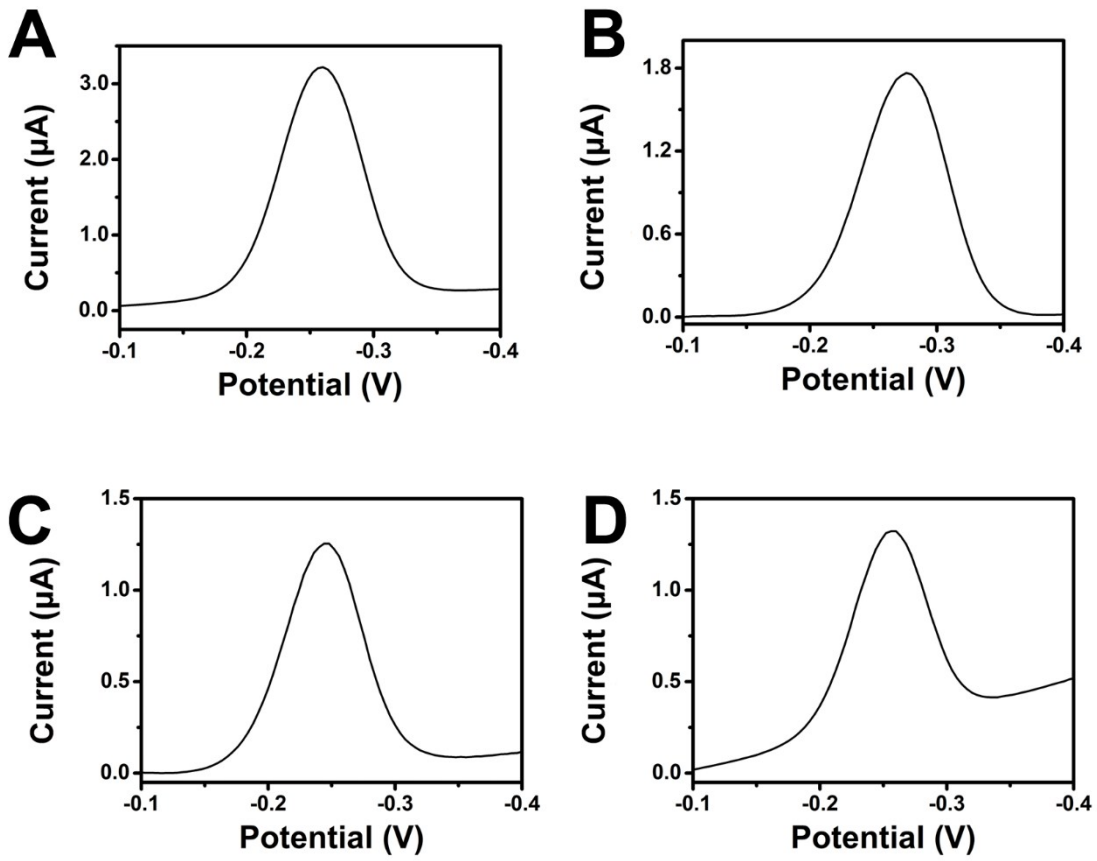

Figure S1. The SWV responses of E-ssDNA sensor (A), E-hpDNA sensor (B), E-dsDNA (C), and E-TDN sensor (D).

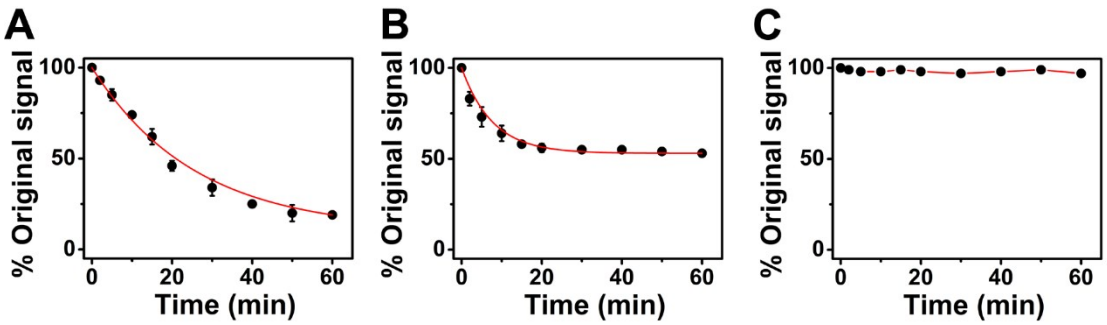

Figure S2. The signal changes of the four electrochemical sensors after immersing the sensors with the precursor solution of ZIF-8.

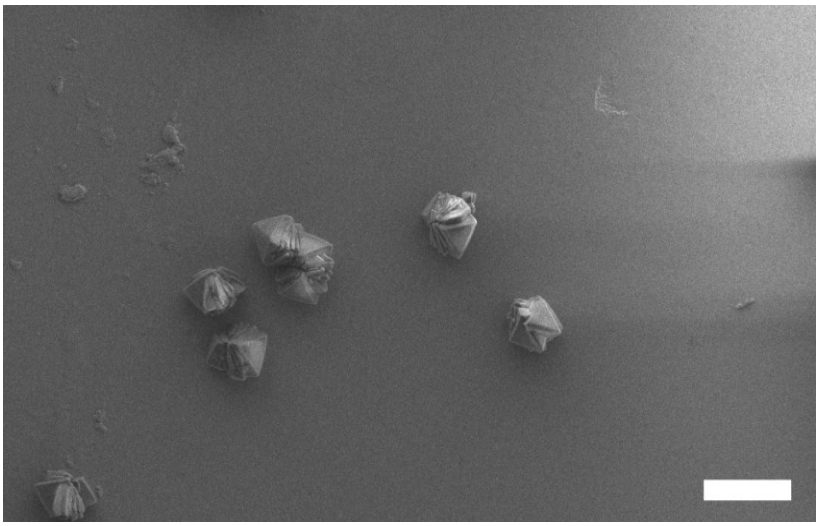

Figure S3. The growth of ZIF-8 on the bare gold surface for 12 h. Scale bar: 10 μm.

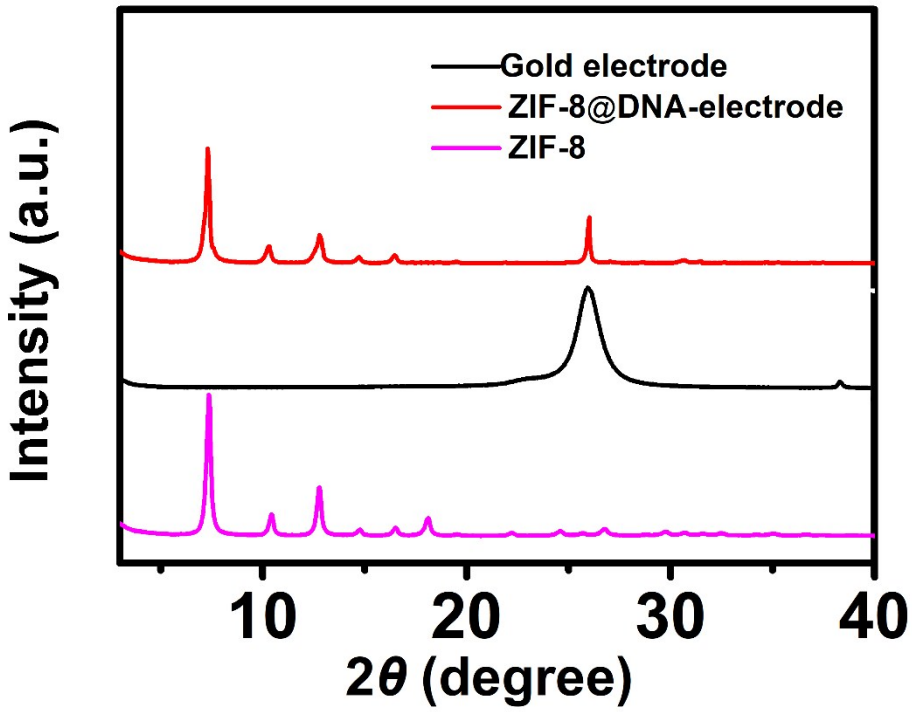

Figure S4. pXPR measurements of the gold surface, ZIF-8, and ZIF-8@ssDNA electrode.

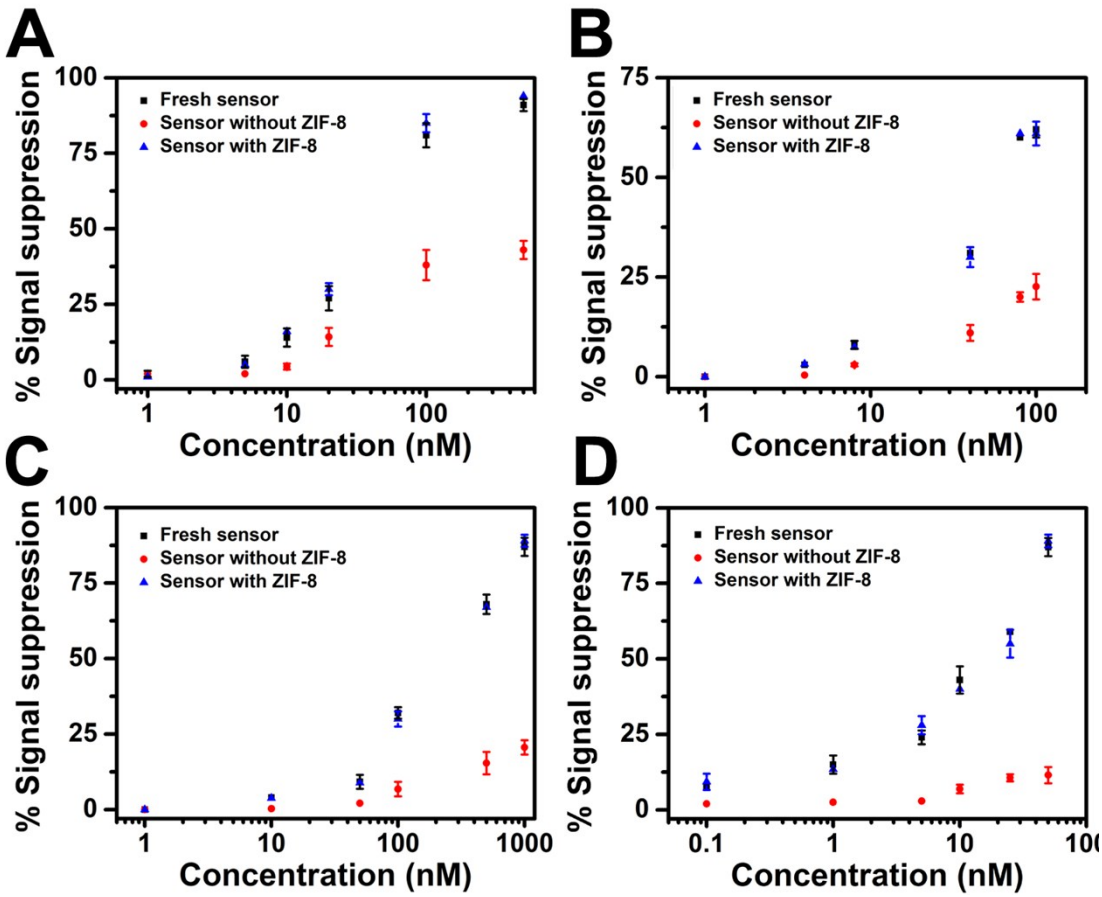

Figure S5. The sensing perfromance of (A) E-ssDNA sensor, (B) E-hpDNA sensor, (C) E-dsDNA sensor, and (D) E-TDN sensor challenged with a varying concentration of target DNA. Black square indicates the freshly prepared sensor. Red circle indicates the senor after a 15-day storage without ZIF-8 protection. Blue triangle indicates the senor after a 15-day storage with ZIF-8 protection.

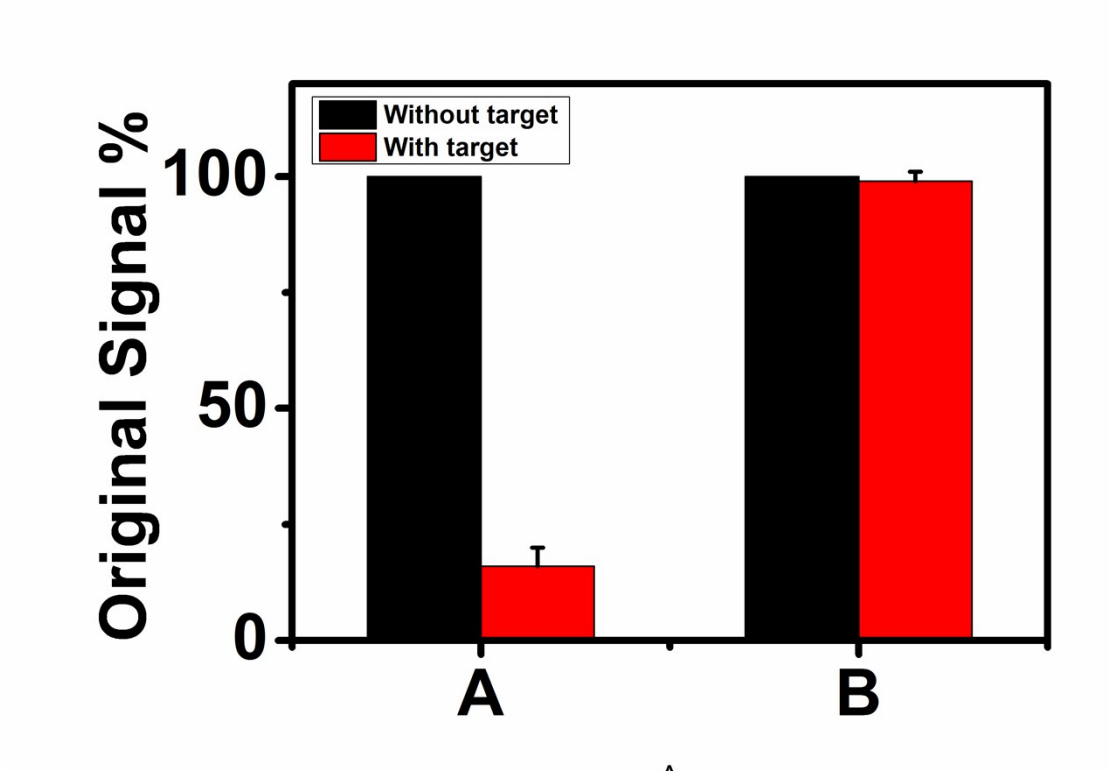

Figure S6 The electrochemical responses of E-ssDNA sensor (A) without or (B) with ZIF-8 exoskeleton for target (100 nM).