

Supplementary Materials:

Ultrasensitive Stress Biomarker Detection Using Polypyrrole Nanotube Coupled to a Field-effect Transistor

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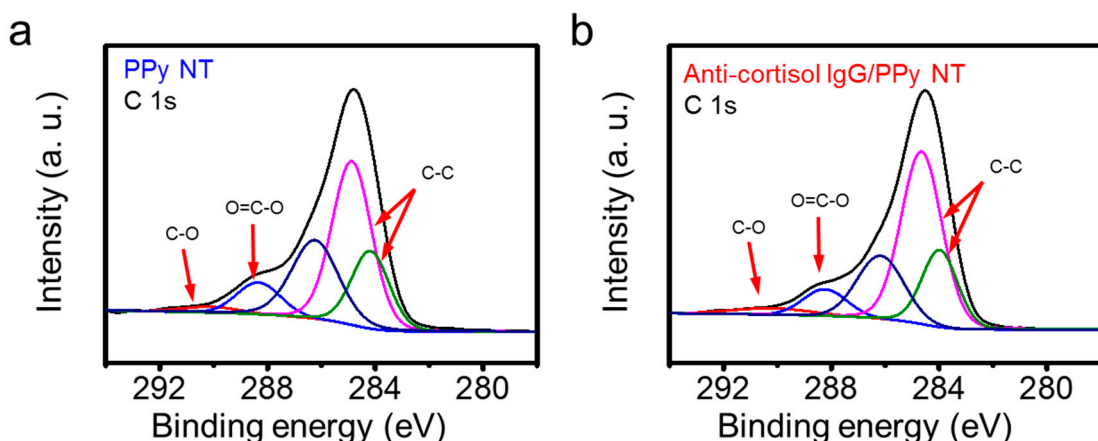


Figure S1. Measured and fitted C 1s XPS narrow spectrum of (a) PPy NT and (b) Anti-cortisol IgG/PPy NT, respectively.

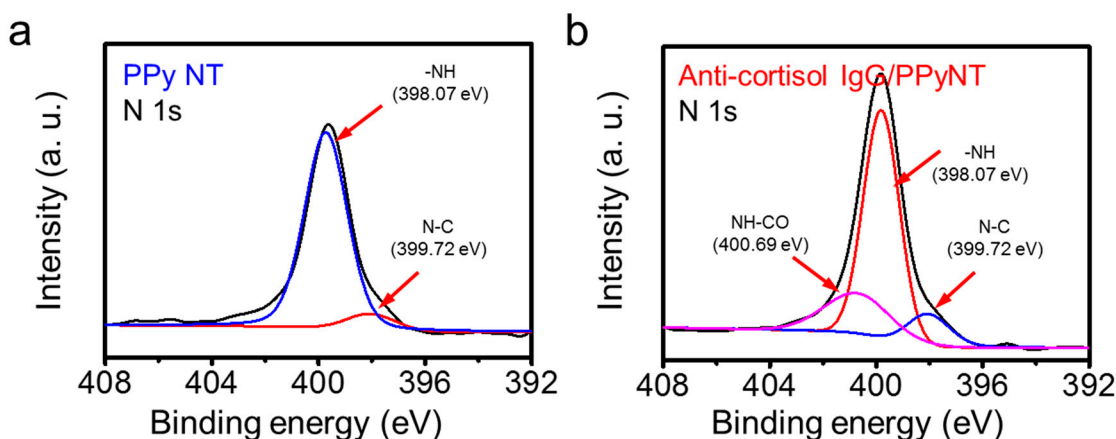


Figure S2. Measured and fitted XPS spectra. The N 1s narrow spectrum of (a) PPy Ny and (b) Anti-cortisol IgG/PPy NT.

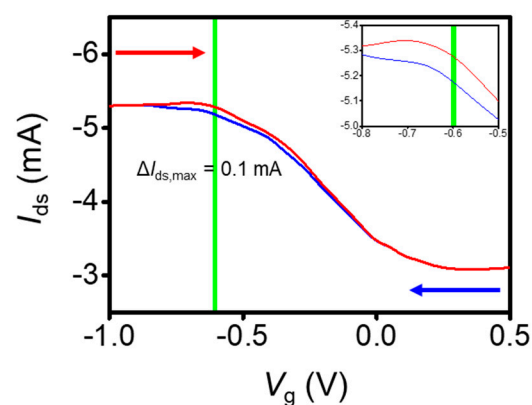


Figure S3. Typical transfer curve for hysteresis confirmation measured at $V_{ds} = -1$ mV and between the cyclic sweeps.

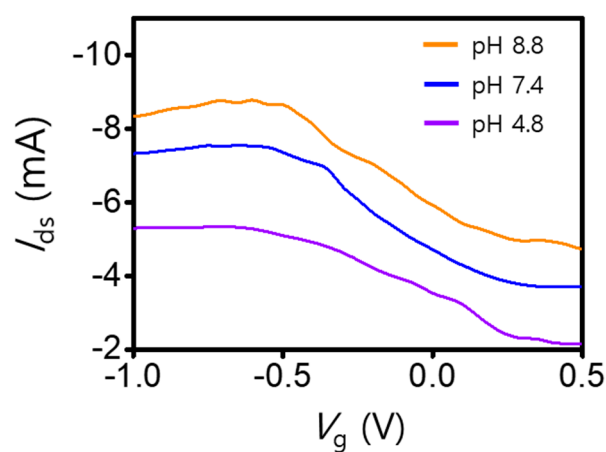


Figure S4. The transfer curve of anti-cortisol IgG/PPyNT FET depending on pH effect (pH 4.8, pH 7.4 and pH 8.8).

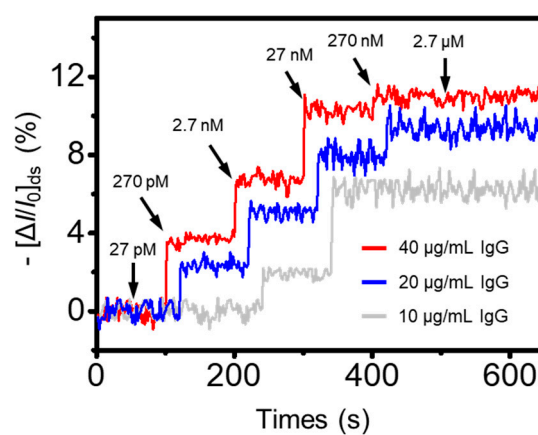


Figure S5. The real-time response of depending on the anti-cortisol concentrations (10, 20 and 40 $\mu\text{g/mL}$).

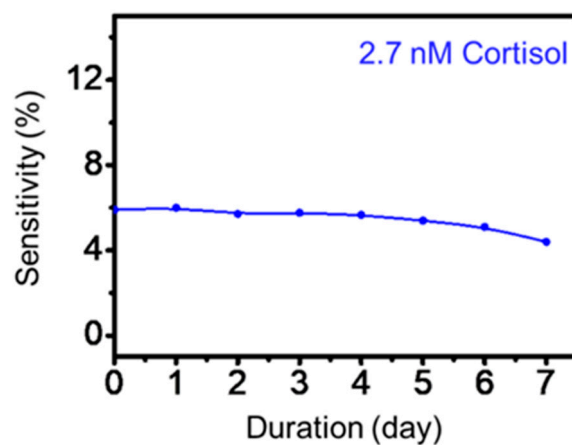


Figure S6. Life span test of our sensor platform. Cortisol with 2.7 nM was stimulated for 7 days to evaluate their storage stability.



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