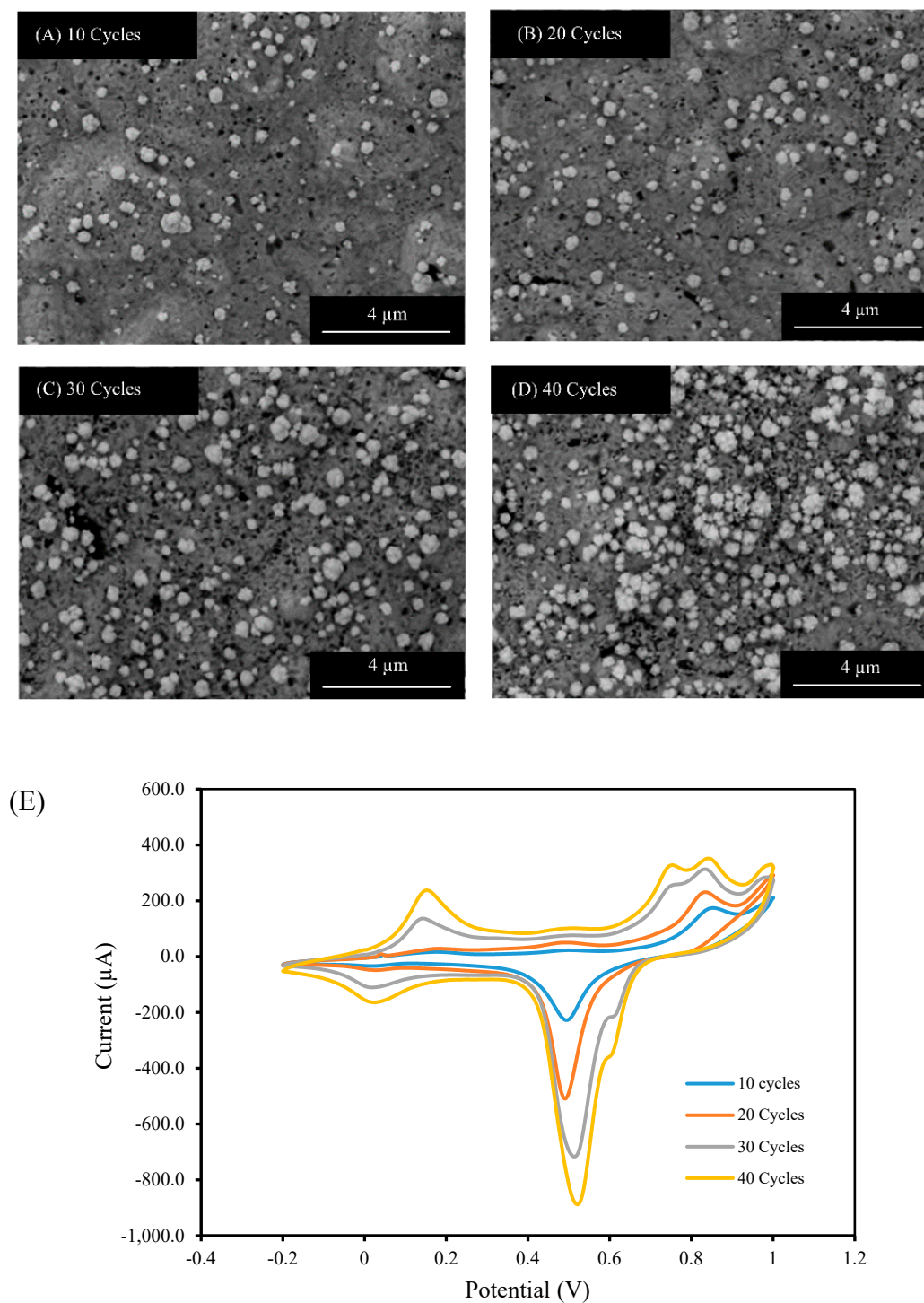
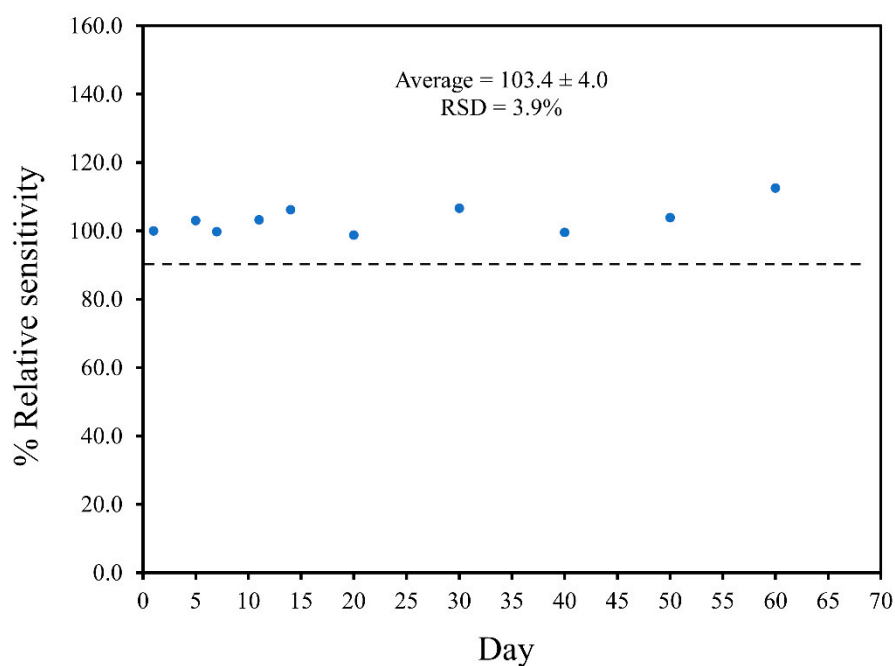


## Supplementary data

### Disposable Polyaniline/*m*-Phenylenediamine-Based Electrochemical Lactate Biosensor for Early Sepsis Diagnosis



**Figure S1.** SEM images of PANI electropolymerization at different number of scans: (A) 10 cycles (B) 20 cycles (C) 30 cycles, and (D) 40 cycles. (E) Cyclic voltammograms of PANI electropolymerization at four different number of scans

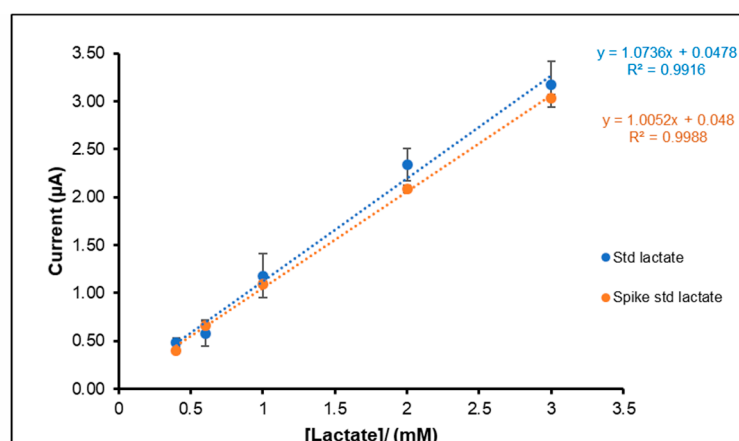


**Figure S2.** The storage stability testing for the detection of 0.40 - 3.0 mmol L<sup>-1</sup> lactate in 0.1 mmol L<sup>-1</sup> PBS pH 7.4 using amperometry.

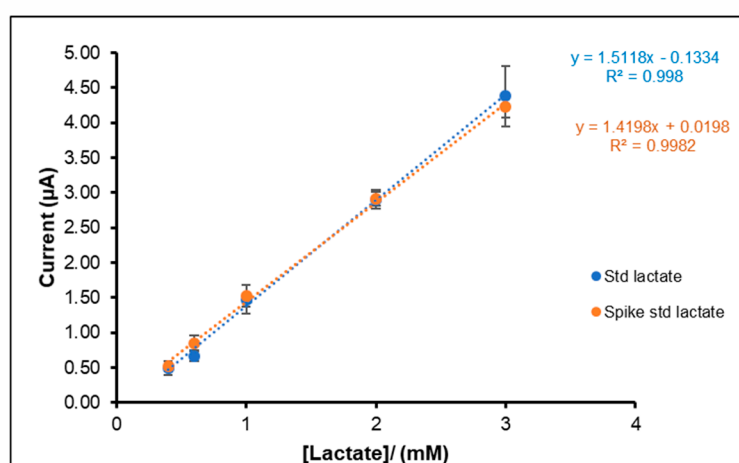
**Table S1.** The recovery study was performed using the standard addition method.

Spiked concentration (mM)	Sample 1		Sample 2		Sample 3	
	Measurement Concentration (mM) ± S.D (n=3)	Recovery (%) ± S.D (n=3)	Measurement Concentration (mM) ± S.D (n=3)	Recovery (%) ± S.D (n=3)	Measurement Concentration (mM) ± S.D (n=3)	Recovery (%) ± S.D (n=3)
0.40	0.41±0.06	103.6±3.5	0.38±0.07	93.9±1.49	0.42±0.16	104.5±3.68
0.60	0.56±0.05	93.2±3.7	0.6±0.09	99.7±0.03	0.57±0.18	95.4±4.71
1.0	1.06±0.14	106.3±4.6	0.97±0.08	97.0±2.77	0.99±0.11	99.2±2.62
2.0	2.01±0.09	100.4±4.6	2.13±0.10	106.4±1.37	2.03±0.07	101.7±3.48
3.0	2.99±0.29	99.5±6.4	2.93±0.25	97.6±0.89	2.98±0.06	99.4±2.55

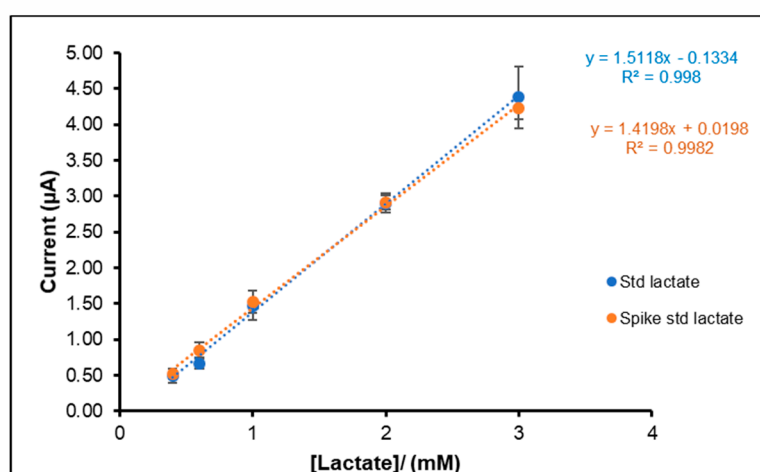
Sample 1:



Sample 2:



Sample 3:



**Figure S3:** Comparison of the calibration curves between the standard lactate solution and the spiked lactate in three blood samples.