

## Supplementary Materials

### **Boosting comprehensive performance for Co-free high-voltage system with multi-component nitrile**

Ping Zhang<sup>a</sup>, Shiyou Li<sup>b</sup>, Xiaohong Wei<sup>a</sup>, Chunlei Li<sup>b</sup>, Shujuan Meng<sup>a</sup>,

Xiaoling Cui<sup>b</sup>, Dongni Zhao<sup>b\*</sup>

<sup>a</sup> *Chemical Engineering Institute, Northwest Minzu University, Lanzhou, 730030, P. R. China*

<sup>b</sup> *College of Petrochemical Technology, Lanzhou University of Technology, Lanzhou 730050, P.R. China*

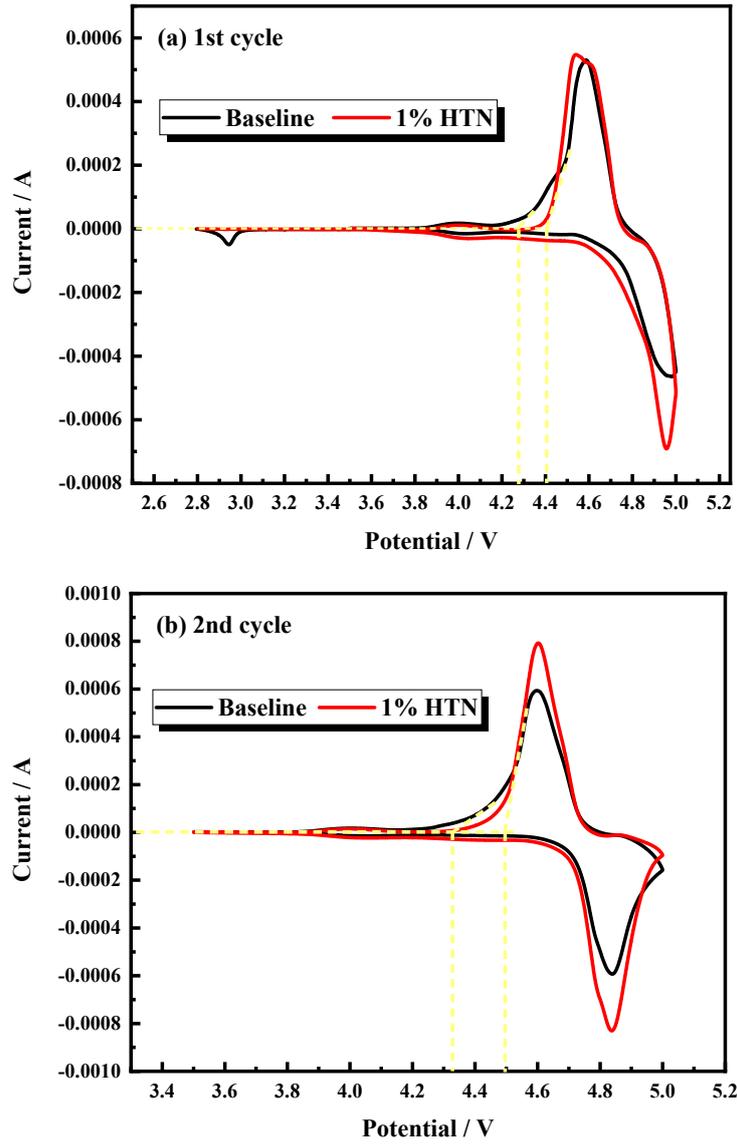
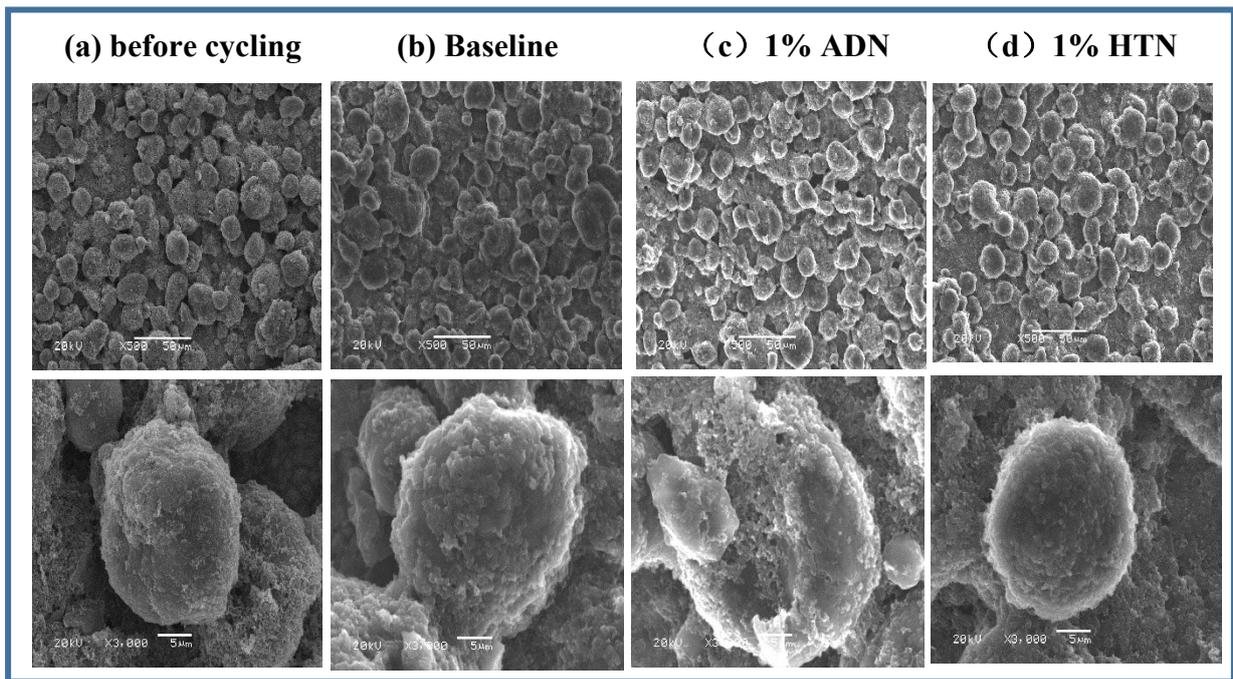


Figure S1 Cyclic voltammetry curve of Baseline and 1% HTN electrolytes: (a)

First cycle; (b) second cycle.



**Figure S2 Surface morphology of the MCMB electrode after the first discharge in different electrolyte systems (a) Before not cycling; (b) Baseline; (c) 1% ADN; (d) 1% HTN**