Supporting Information for

# Ultraconformable Integrated Wireless Charging Micro-Supercapacitor Skin

Chang Gao[1, *], Qing You[1], Jiancheng Huang[2], Jingye Sun[1], Xuan Yao[1], Mingqiang Zhu[1], Yang Zhao[3], Tao Deng[1, *]

[1]School of Electronic and Information Engineering, Beijing Jiaotong University, Beijing 100044, P. R. China

[2]School of Microelectronics, Tianjin University, Tianjin 300072, P. R. China

[3]Key Laboratory of Cluster Science Ministry of Education of China, Beijing Key Laboratory of Photoelectronic/Electrophotonic Conversion Materials, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 100081, P. R. China

*Corresponding authors. E-mail: changgao@bjtu.edu.cn (Chang Gao); dengtao@bjtu.edu.cn (Tao Deng)

## Supplementary Figures

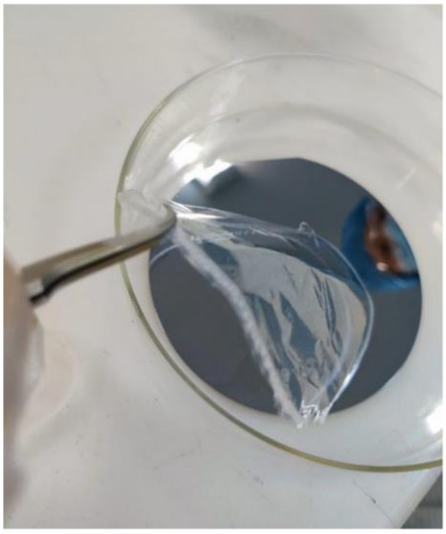

**Fig. S1** PVDF-HFP substrate of IWC-MSC

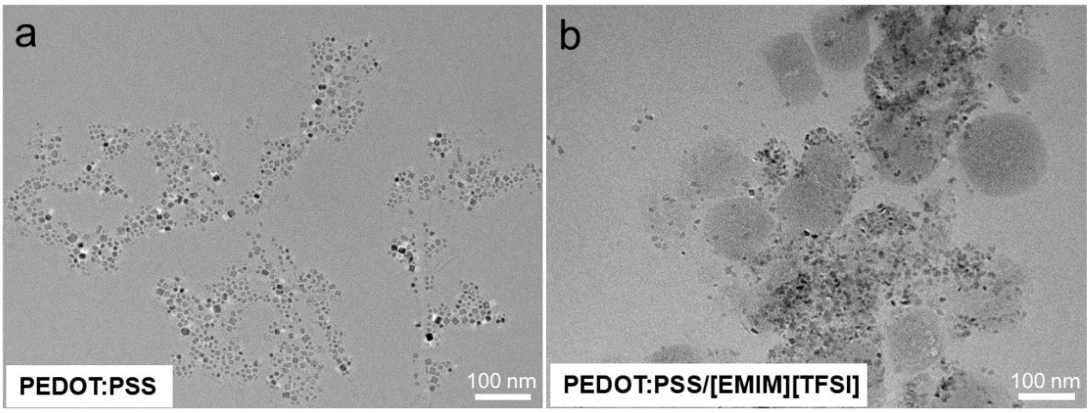

**Fig. S2** TEM images of (a) PEDOT:PSS and (b) PEDOT:PSS/[EMIM][TFSI] electrode materials

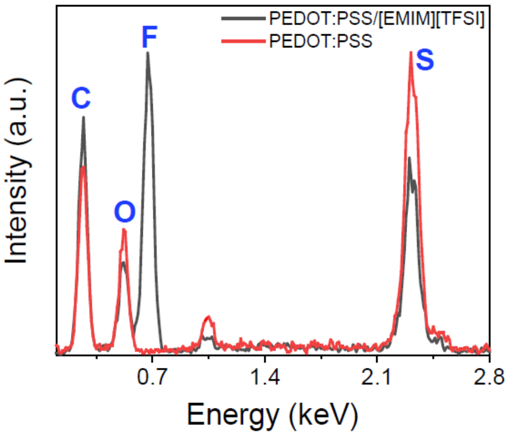

**Fig. S3** EDS image of MSC PE electrode and PEDOT:PSS

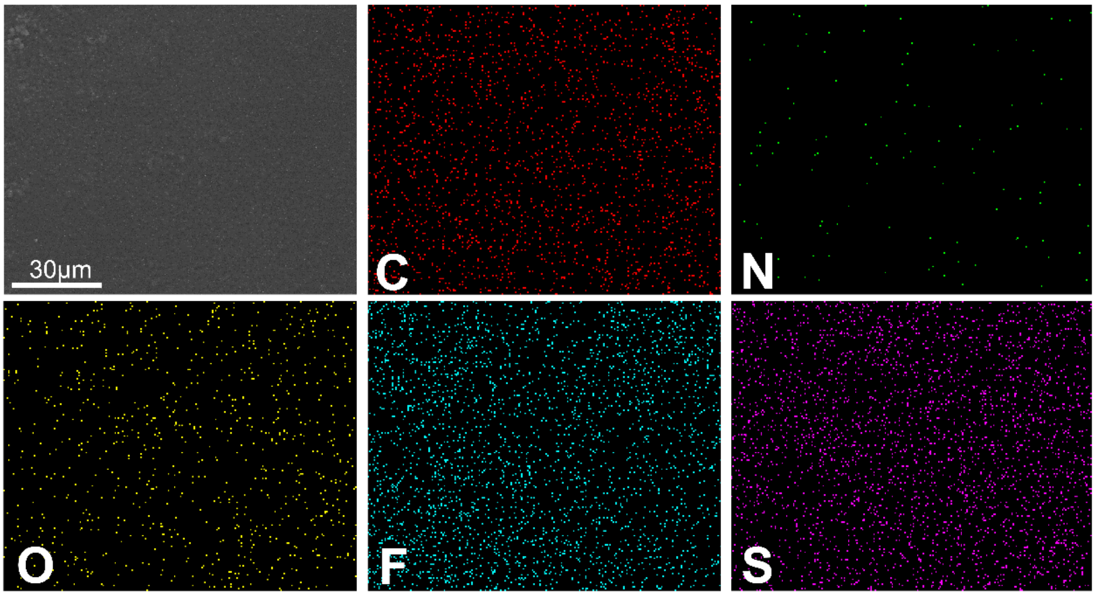

**Fig. S4** Element mappings for C, N, O, F and S atoms in PE electrodes of MSC

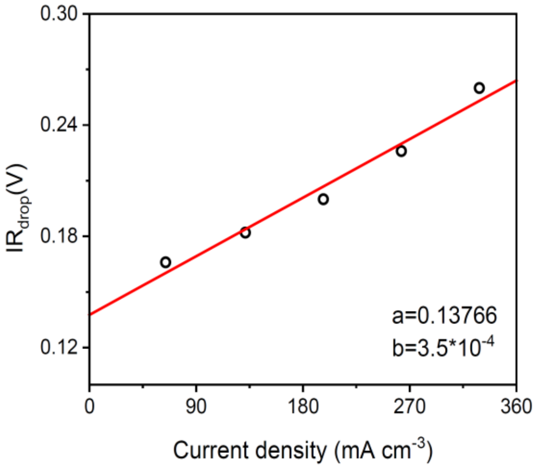

**Fig. S5** $IR_{drop}$ at the initial state of discharging curves under different current densities

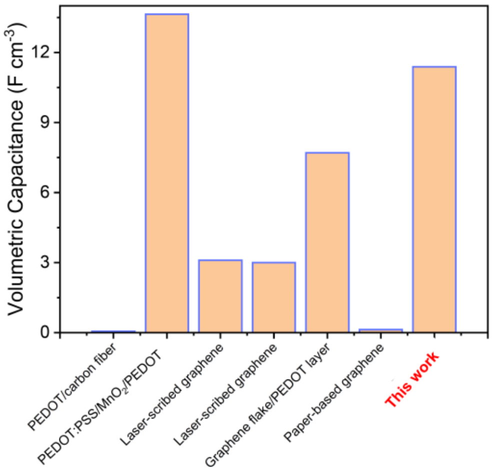

**Fig. S6** The comparison of volumetric capacitance of single MSC and other reported micro-supercapacitors [S1-S7]

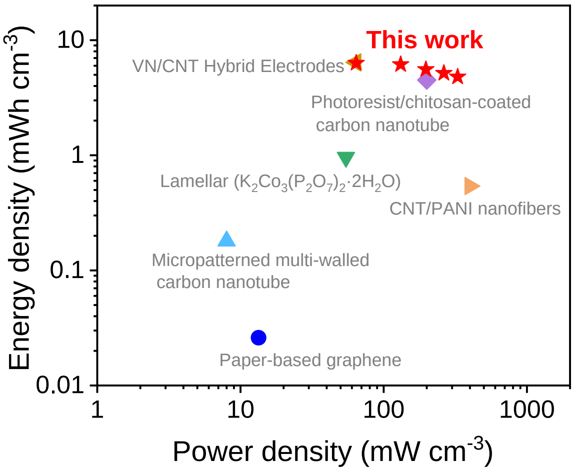

**Fig. S7** Ragone plots of the prepared single MSC compared with other micro-supercapacitors

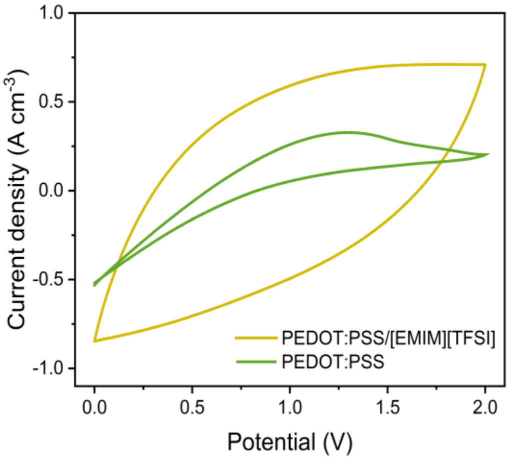

**Fig. S8** Comparison of CV curves of PE MSC and PEDOT:PSS MSC

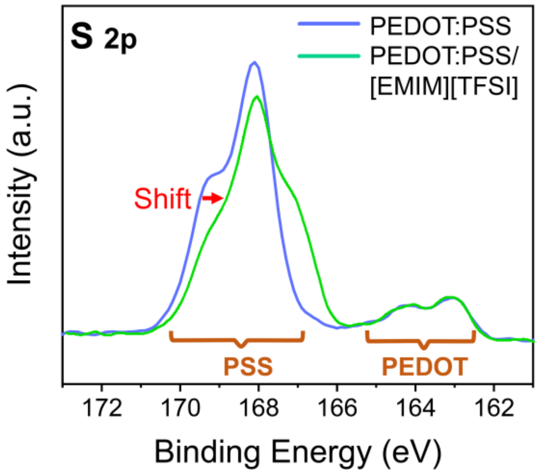

**Fig. S9** (**a**) XPS images and (**b**) TEM pictures of PEDOT:PSS and PEDOT:PSS/[EMIM][TFSI] mixture of PE materials

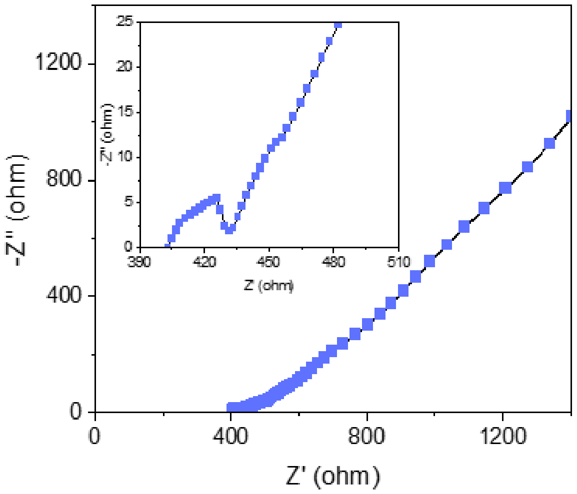

**Fig. S10** The Nyquist plot of single MSC. The inset is the enlarge plot of X axis

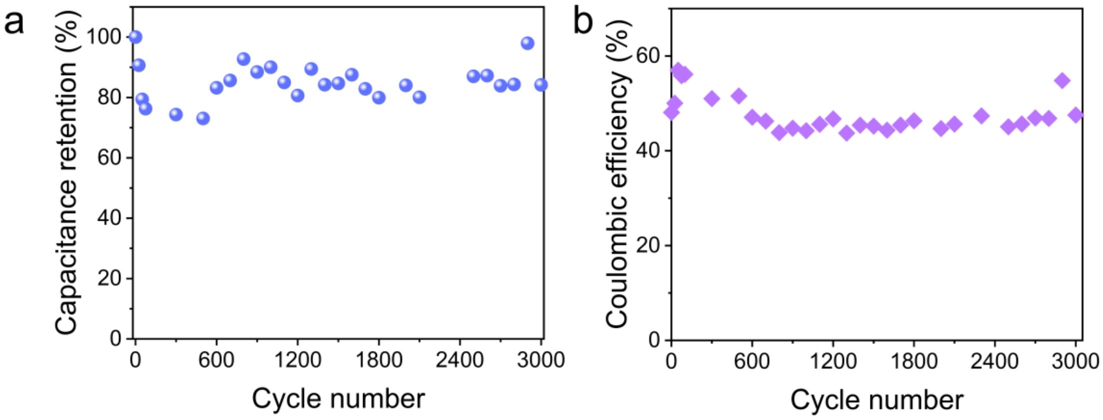

**Fig. S11** (**a**) Cycling stability and (**b**) Coulombic efficiency of MSC after 3000 cycles of charging and discharging

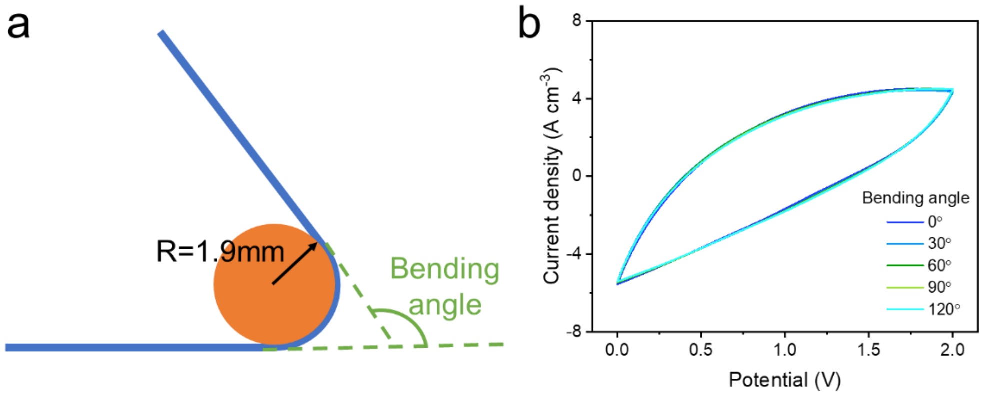

**Fig. S12** Bending stability of MSC. (**a**) Scheme of bending angle and bending radius. (**b**) CV curves of MSC under different bending angles

## Supplementary References

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