

ARTICLE

Supporting Information

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Metal-Organic Framework derived α -MnS MWCNT composite as a promising pseudocapacitive material in a flexible quasi-solid state asymmetric supercapacitor device

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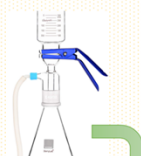
Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x

Activation of Sulfur

1 g Sulfur in 80 ml
Water + 80 ml
Ethylenediamine
solution

Solvothermal Treatment

Mn(NO₃)₂·4H₂O +
MWCNT added into the
activated sulfur
solution



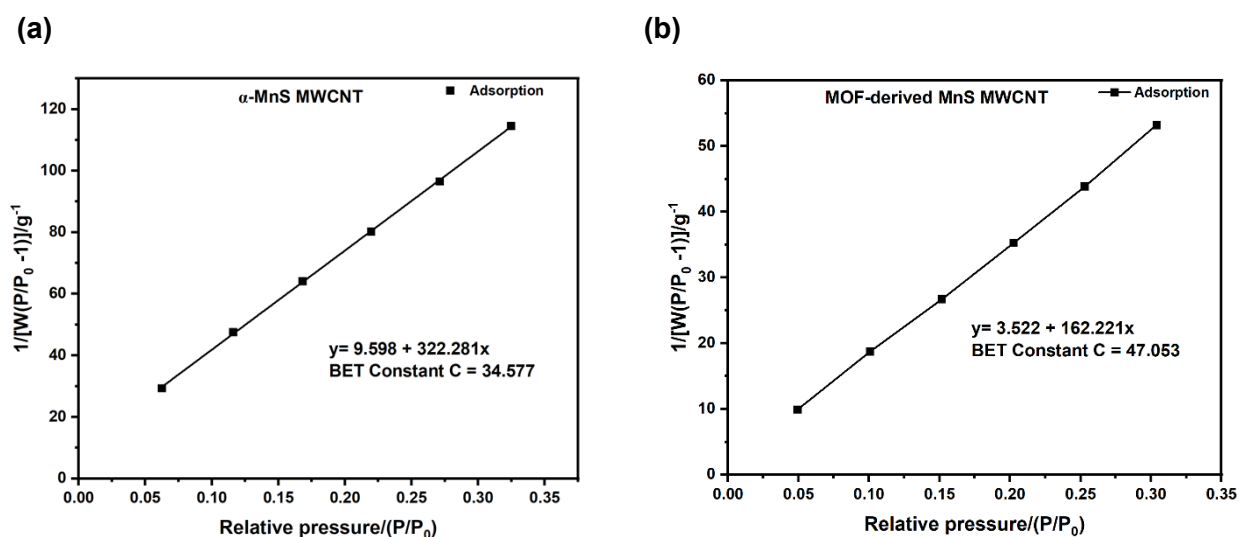
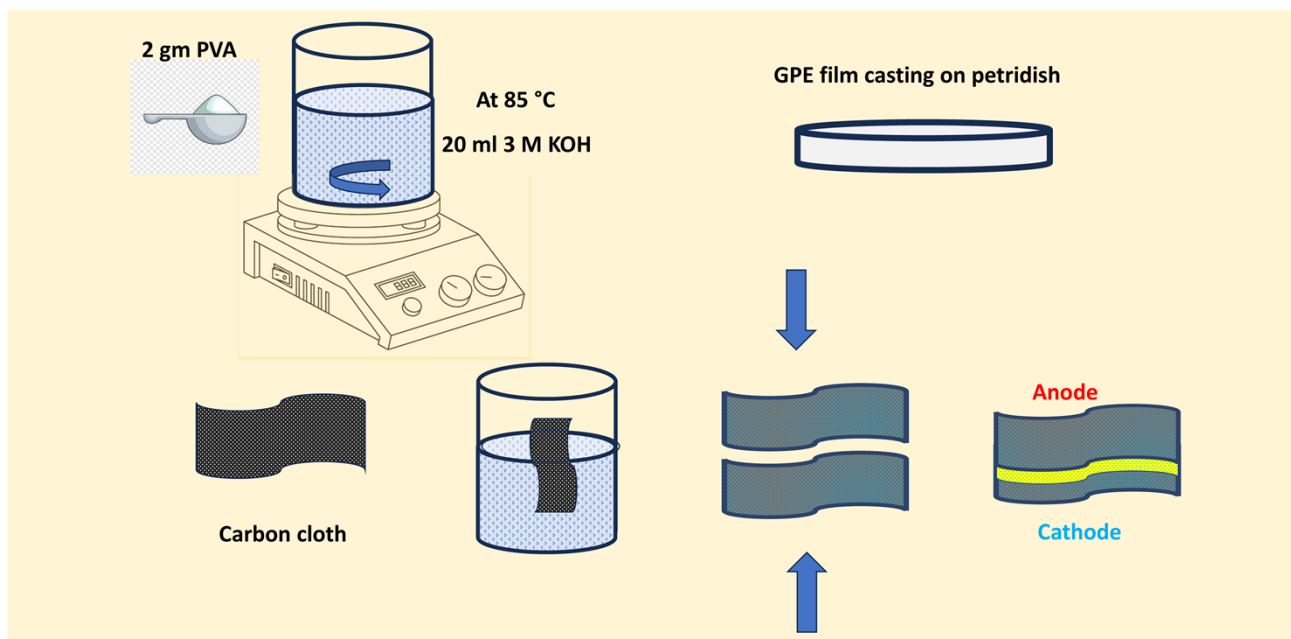


Fig. S 1 Multi-point BET (a) α -MnS MWCNT (b) MOF-derived MnS MWCNT.



Scheme S 2 The fabrication of the asymmetric flexible quasi-solid state supercapacitor device



Fig. S 2 The assembled flexible asymmetric quasi-solid state supercapacitor device with the crocodile clip.

Table S 1 EIS circuit fitting parameters

	R_{ESR}/Ω	$Y_0/S \text{ s}^n$ (EDLC)	n (EDLC)	R_{ct}/Ω	$Y_0/S \text{ s}^n$	n	χ^2
α-MnS-MWCNT	5.875	0.004	0.653	2.625	0.05	0.934	7.949E-05
MOF-derived MnS MWCNT	5.511	0.012	0.568	0.71	0.051	0.782	3.521E-04
Ketjen Black EC-300j	3.499	0.002	0.776	1.398	0.078	0.954	6.397E-04
2-electrode study	6.555	0.006	0.62	2.51	0.049	0.933	3.259E-04