Technical Data Sheet

ACS Material Covalent Organic Framework-DAAQ-TFP (DAAQ-TFP-COF)

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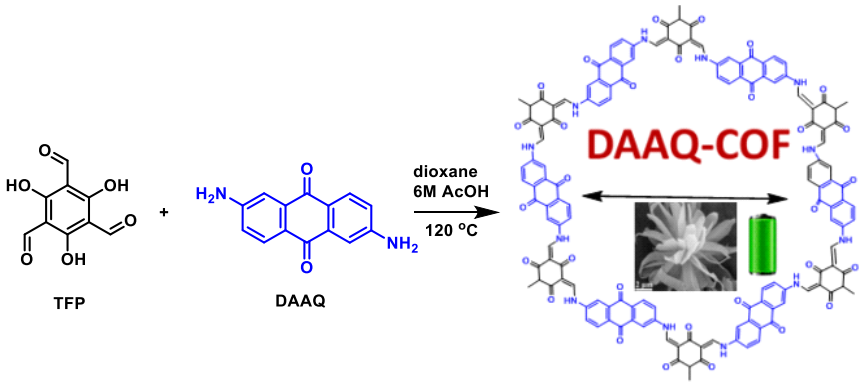
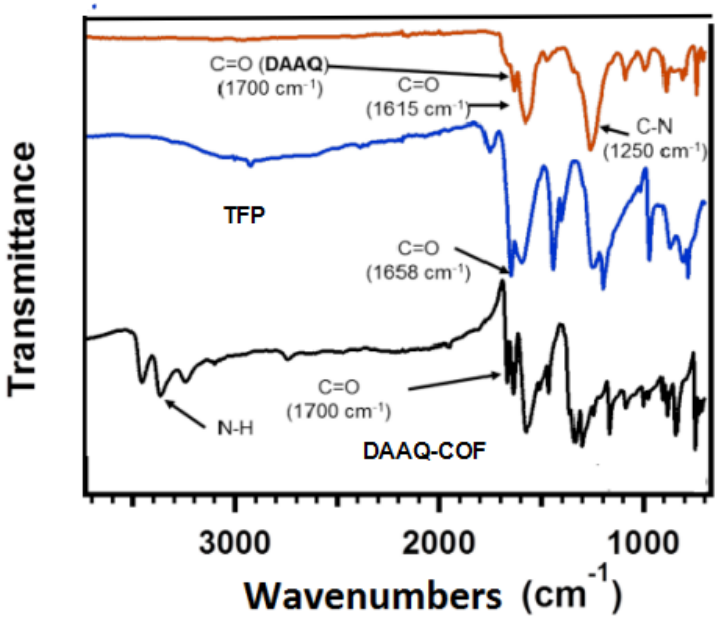
1. Preparation Method

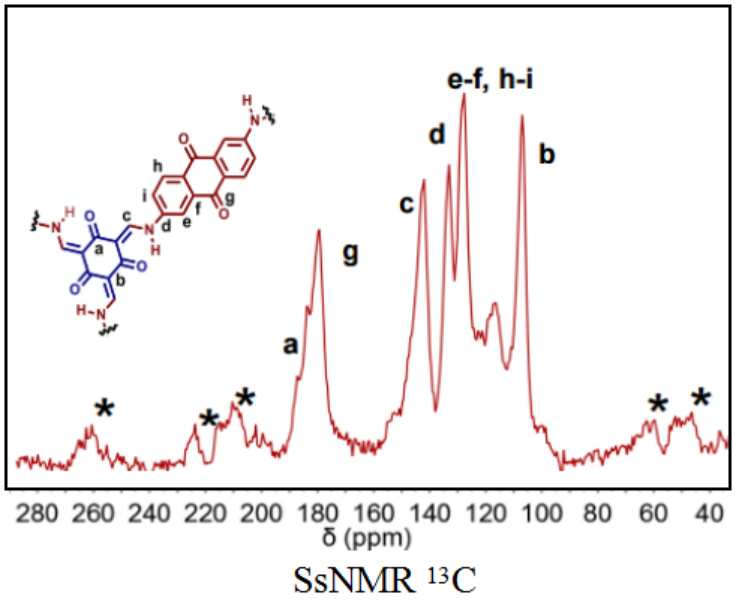


2. Characterizations

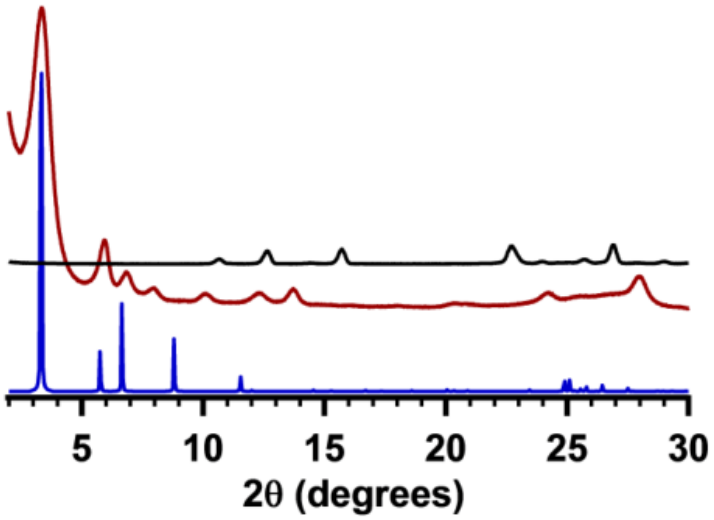
Form:	Powder crystal A two-dimensional planar material with one-dimensional channels
Solubility:	Insoluble in water or common organic solvents (N,N-dimethylformamide, tetrahydrofuran, dimethyl sulfoxide, acetone, trichloromethane)
Stability (Tg):	400 ^{o}C
BET Surface Area:	~365 m^2/g
Pore Size:	1.9-2.3 nm



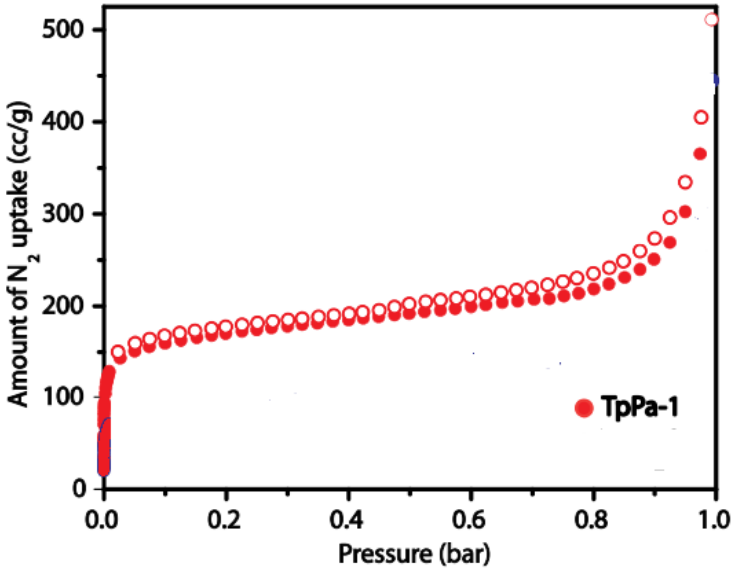
FT-IR Spectra of ACS Material DAAQ-TFP-COF (red),
TFP monomer TFP (blue), DAAQ monomer (black)



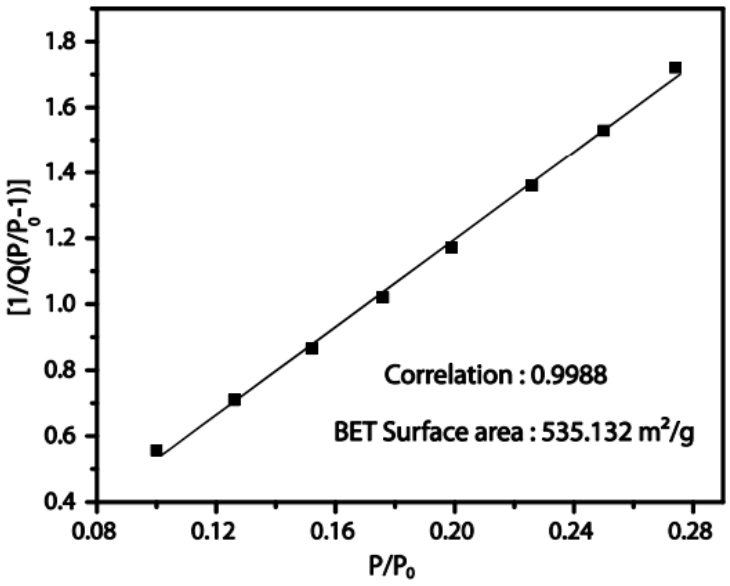
SsNMR Spectra of ACS Material DAAQ-TFP-COF



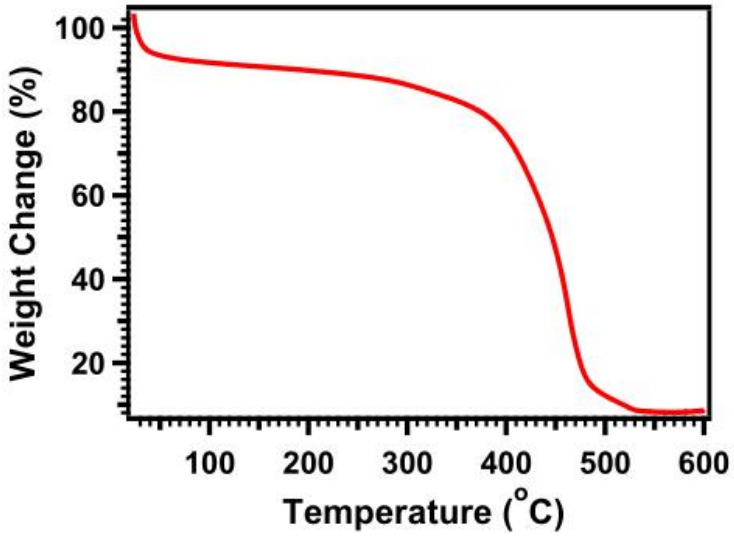
PXRD pattern of ACS Material DAAQ-TFP-COF under dioxane growth conditions (red) stacked with monomer 1 (black) and the model of P6/m (eclipsed) DAAQ-TFP-COF (blue).



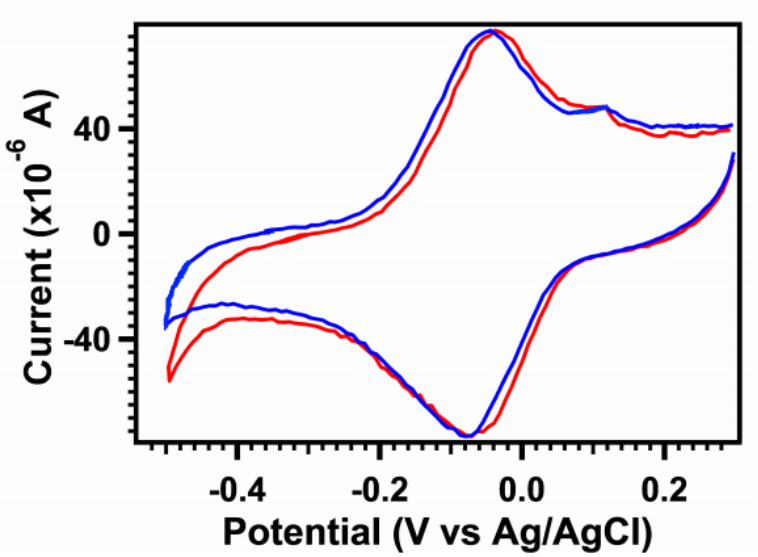
Adsorption isotherm for ground (20 min) ACS Material DAAQ-TFP-COF



BET surface area plot for ground (20 min) ACS Material DAAQ-TFP-COF



Thermogravimetric trace of ACS Material DAAQ-TFP-COF



Cyclic volatammogram before (red) and after (blue) holding the DAAQ-TFP-COF at a reducing potential of -0.3 V for 24 h

3. Application Fields

1) Batteries
2) Supercapacitors

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