



Technical Data Sheet

ACS Material Covalent Organic Framework-TpPa-1 (COF-TpPa-1)

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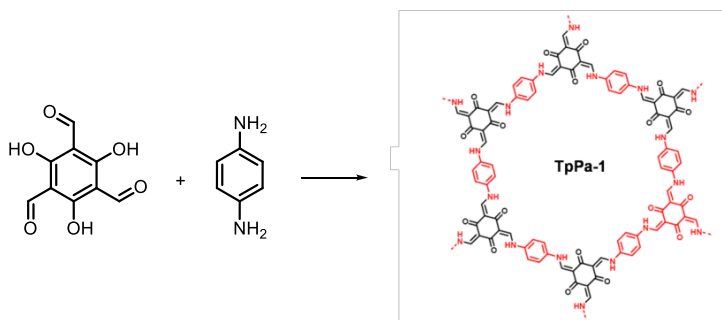
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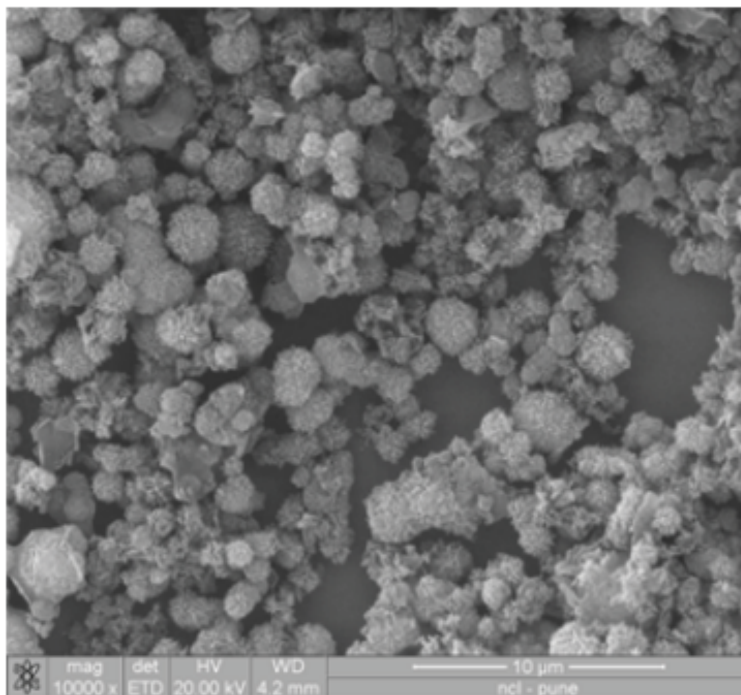
Revision: 101017

1. Preparation Method

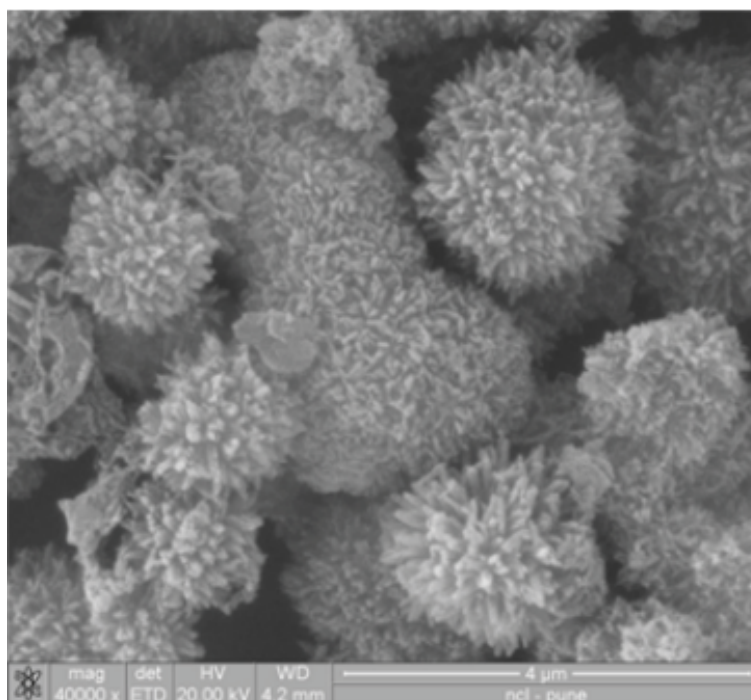


2. Characterizations

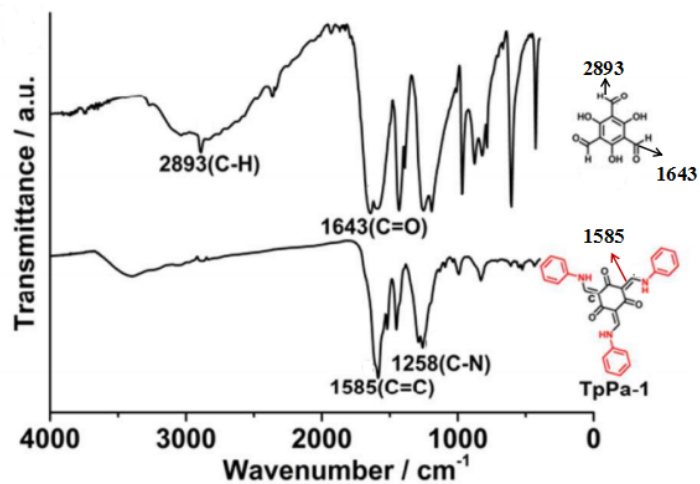
Form:	Powder crystal A two-dimensional planar material with one-dimensional channels
Solubility:	Insoluble in water or common organic solvents (N,N-dimethylformamide, tetrahydrofuran, dimethyl sulfoxide, acetone, trichloromethane)
Stability (Tg):	300-540 °C
BET Surface Area:	~1360 m ² /g
Pore Size:	1.5-1.8 nm (depending on the R-group, the pore size varies slightly)
R-group:	-CH ₃ /-NO ₂ /H



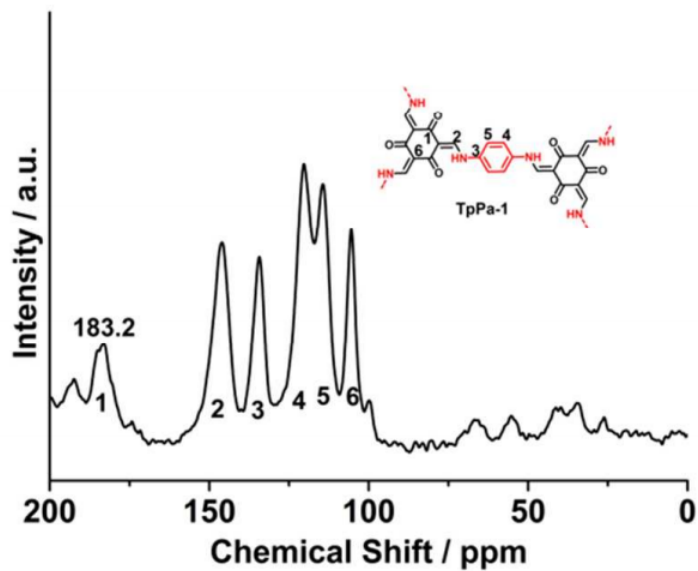
Typical SEM Image (1) of ACS Material COF-TpPa-1



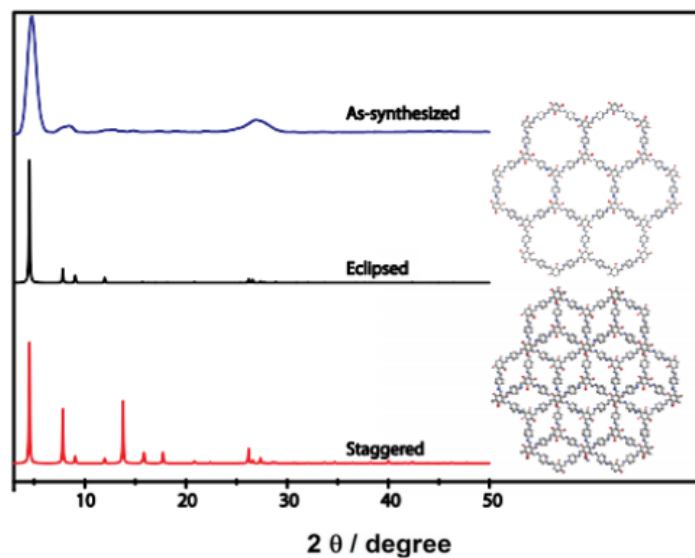
Typical SEM Image (2) of ACS Material COF-TpPa-1



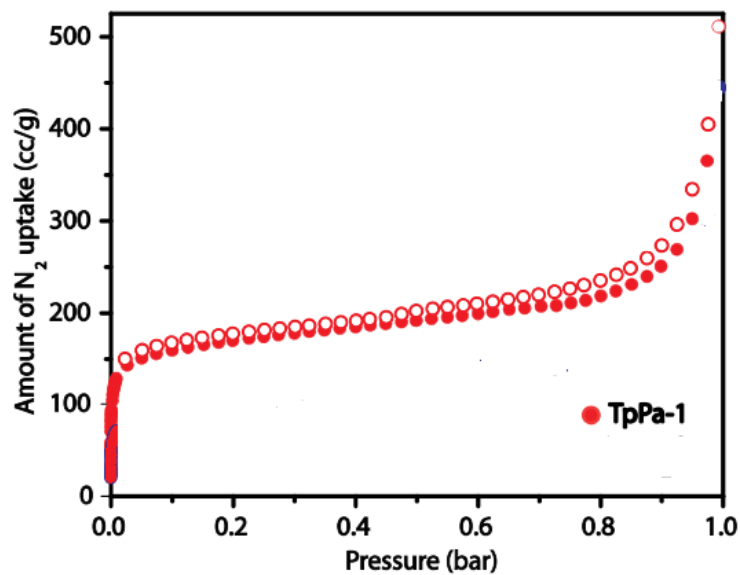
FT-IR Spectra of ACS Material COF-TpPa-1 (red), 1,3,5-triformylbenzene



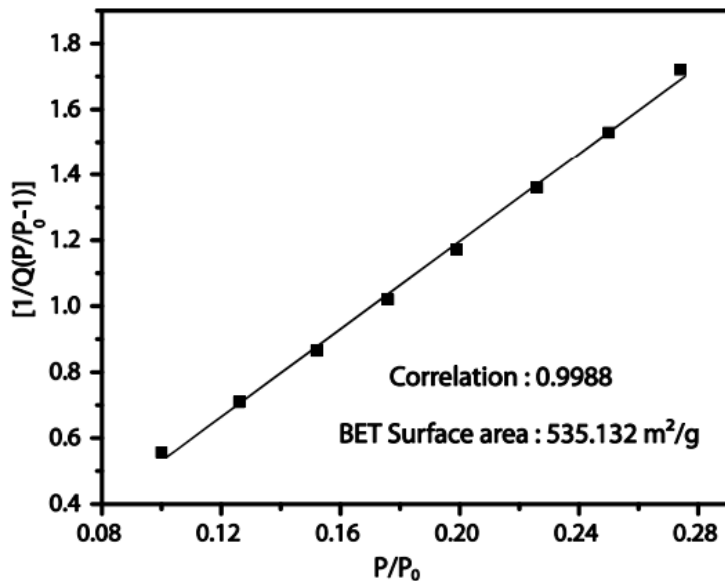
SsNMR Spectra of ACS Material COF-TpPa-1



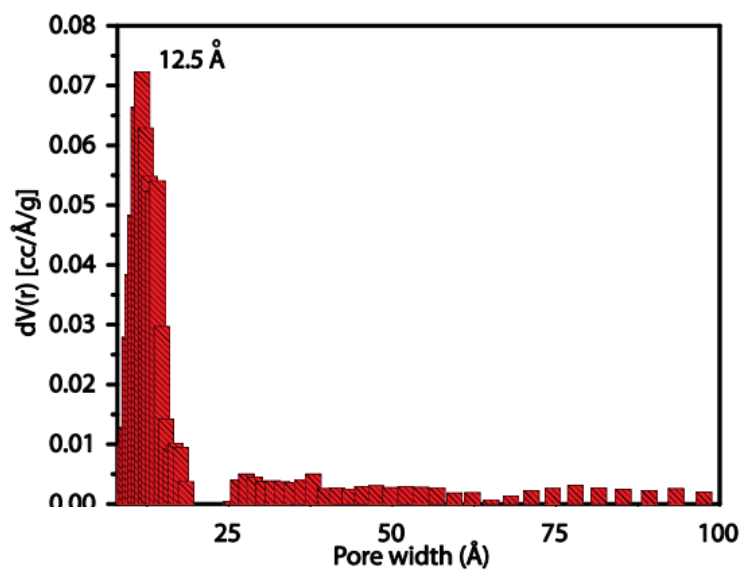
PXRD pattern of As-synthesized ACS Material COF-TpPa-1 (Blue) compared with the Eclipsed (Black) and staggered (Red) stacking models.



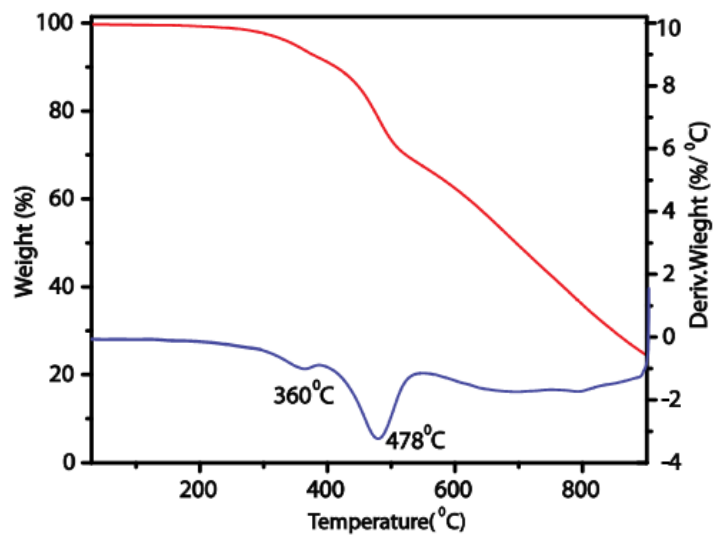
N₂ adsorption (filled symbols) and desorption (empty symbols) isotherms of ACS Material COF-TpPa-1



BET surface area plot for ACS Material COF-TpPa-1 calculated from the isotherm



Pore size distribution of ACS Material COF-TpPa-1



TGA data of activated COF TpPa-1 under N₂ atmosphere

3. Application Fields

- 1) Metal Coordination Catalysis
- 2) Recognition of metal ions
- 3) Bio-Detection
- 4) Chiral separation

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