Supporting Information

High and rapid perfluorooctanoic acid capture by MOF-818 via synergistic adsorption

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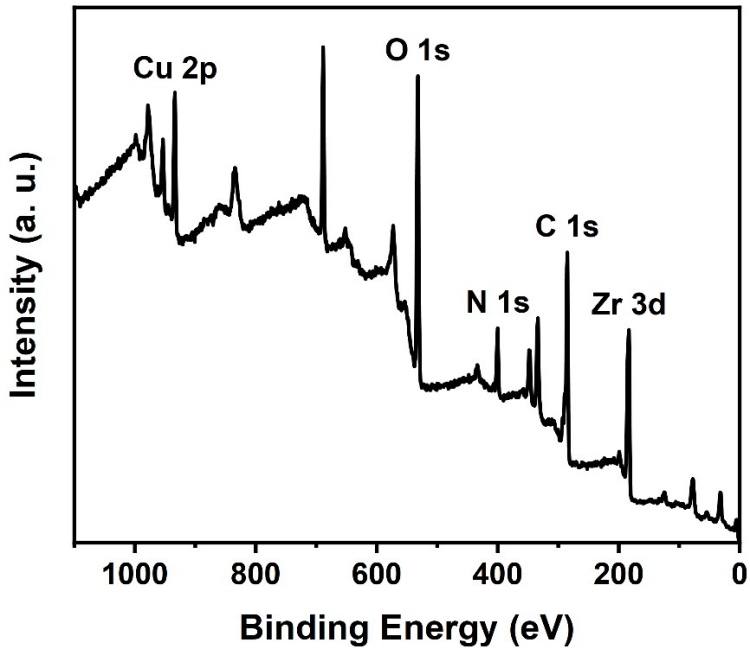

Fig. S1 The XPS survey spectrum of MOF-818.

Element	Line	At. %	Wt. %	Net Counts	At. % Error	Wt. % Error
C	K	84.0	74.2	625 171	0.4	0.3
N	K	10.4	10.8	6 354	1.0	1.1
F	K	3.9	5.5	14 117	0.1	0.1
Cu	K	1.0	4.8	4 730	0.1	0.3
Zr	L	0.7	4.7	32 780	0.0	0.2

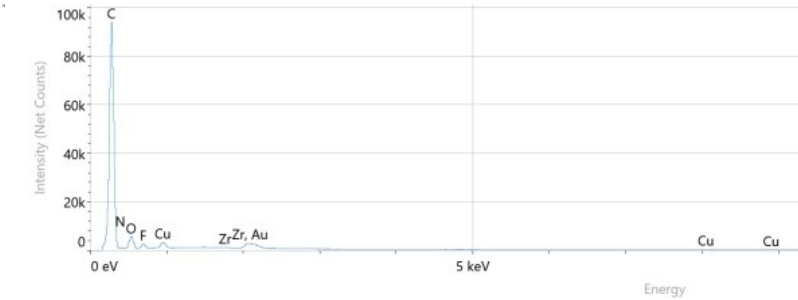

Fig. S2 The elemental content of MOF-818 from SEM-EDS.

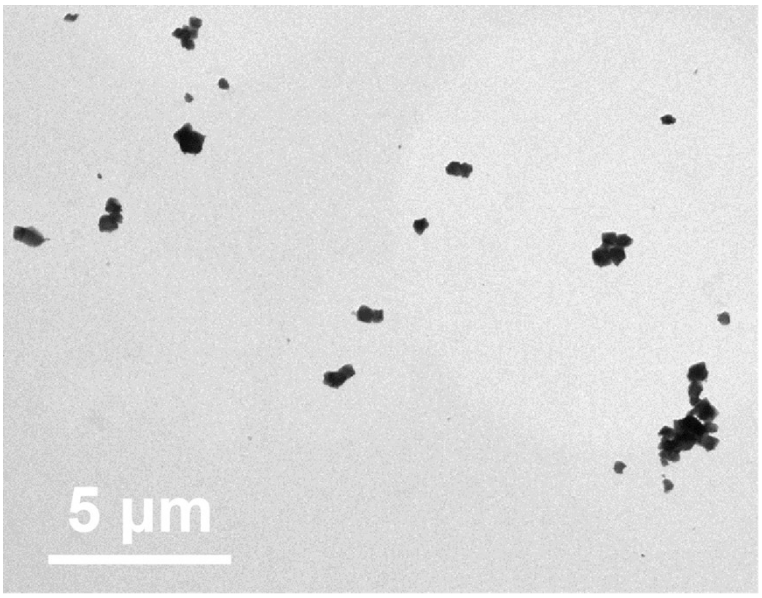

Fig. S3 The TEM image of MOF-818.

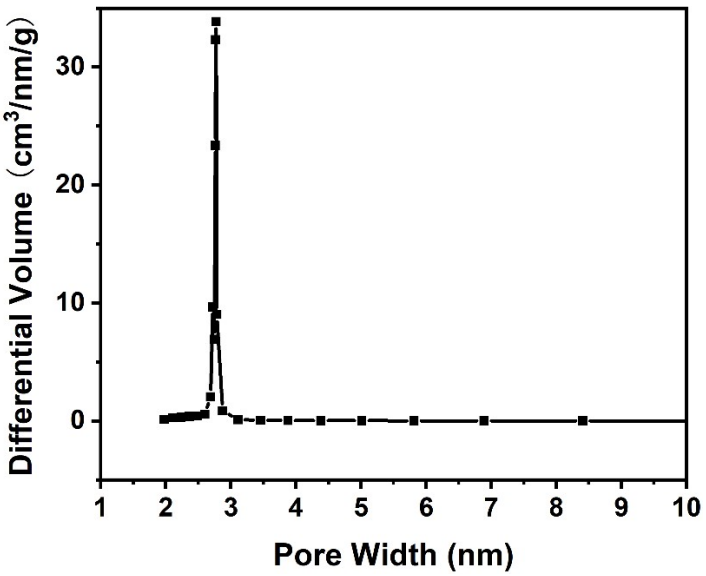

Fig. S4 The pore size distribution of MOF-818.

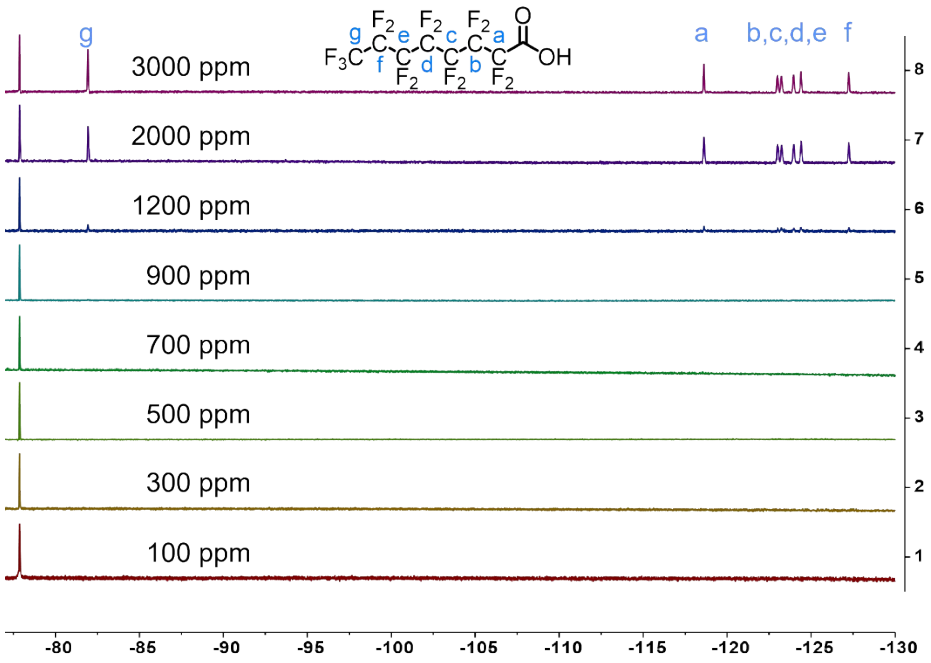

Fig. S5 ^{19}F NMR analysis of PFOA adsorption by MOF-818 under different concentrations.

Table S1 The residual metal ions in the supernatant for selective adsorption experiment.

Ion Type	Na^+	Mg^{2+}	K^+	Ca^{2+}	Fe^{3+}
Residue (%)	99.23	99.46	99.53	99.31	99.33

Table S2 The comparison of PFOA adsorption performance of representative adsorbents.

Adsorbent	**Material Type**	**Adsorption Capacity (mg/g)**	**Balance Time (min)**	**Recyclability**
PCN-999	MOF	1089	720	Yes
MIL-101-Cr-QDMEN	MOF	754	60	Yes
MIL-101-Cr-DMEN	MOF	534	60	Yes
UiO-67	MOF	743	20	Yes
NU-1000	COF	507	1	Yes
CTF500-15	COF	323	30	Yes
POP-4F	Porous Organic Polymers	107	5	Yes
MOF-818	MOF	1510	5	Yes

Element	Line	At. %	Wt. %	Net Counts	At. % Error	Wt. % Error
C	K	83.3	76.5	1 345 214	0.4	0.3
N	K	8.3	8.8	9 246	0.8	0.8
F	K	7.9	11.5	55 022	0.1	0.1
Cu	K	0.2	0.8	1 403	0.0	0.1
Zr	L	0.3	2.4	29 724	0.0	0.2

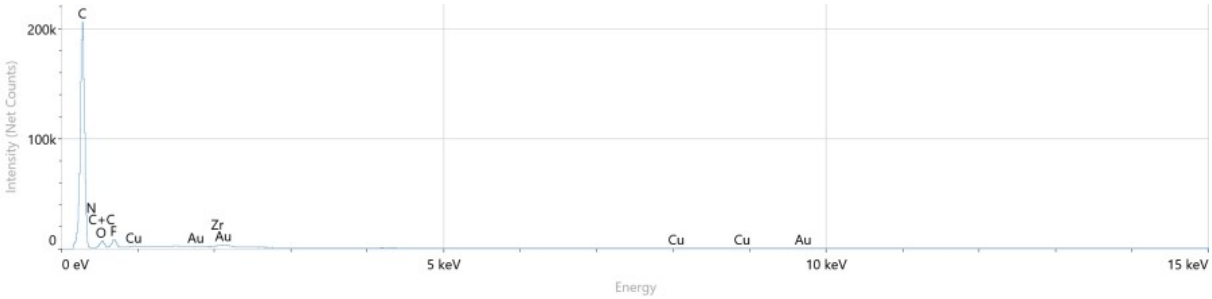

Fig. S6 The elemental content of PFOA@MOF-818 from SEM-EDS.

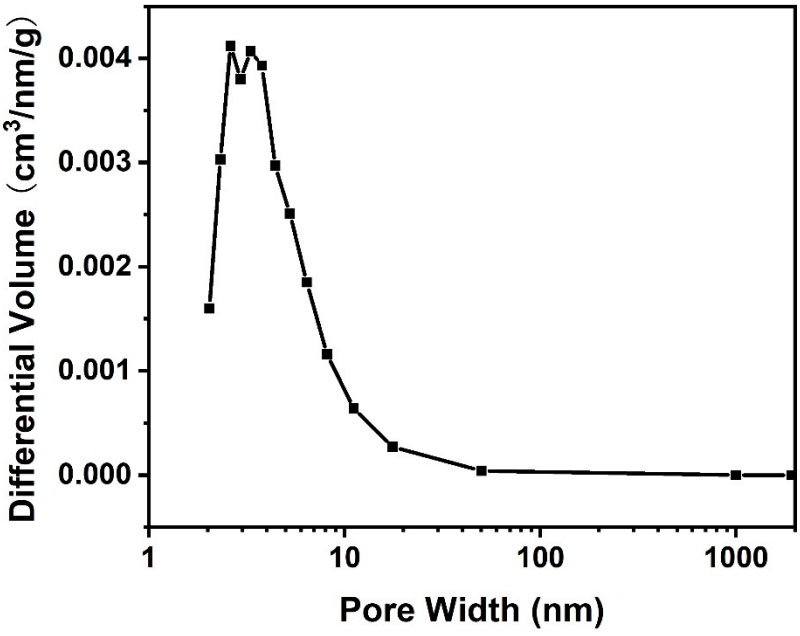

Fig. S7 The pore size distribution of PFOA@MOF-818.

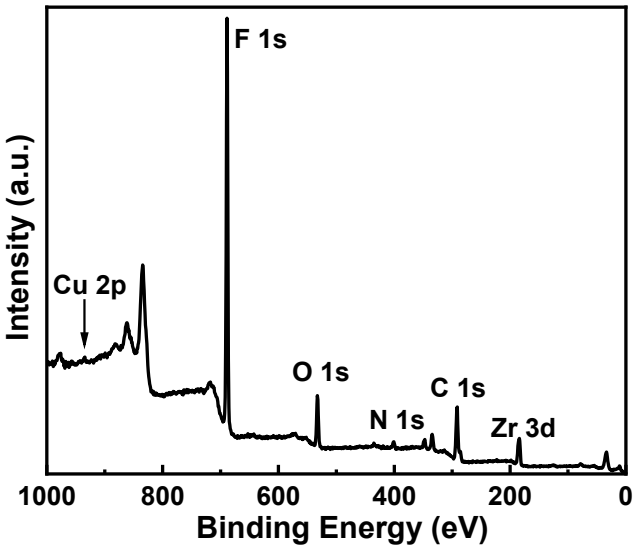

Fig. S8 The XPS survey spectrum of PFOA@MOF-818.