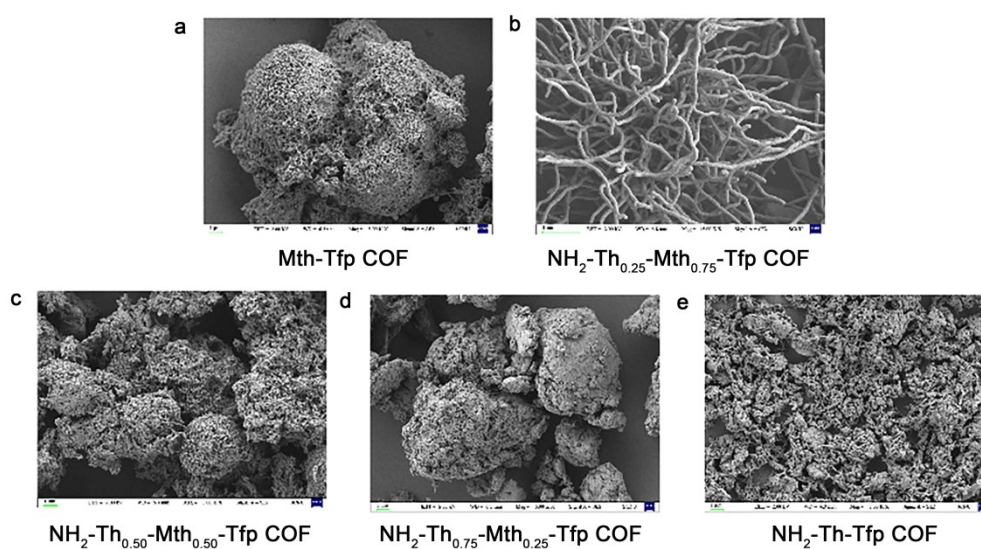


[Electronic Supporting Information]

**Regulating the iodine adsorption performances of two- and three-component  $\beta$ -ketoenamine-linked covalent organic frameworks through tuning the proportion of monomers**



**Figure S1.** SEM images of  $\text{NH}_2\text{-Th}_x\text{-Mth}_{1-x}\text{-Tfp}$  COFs.

**Table S1.** Summary of iodine uptake capacity for typical porous adsorbents

Adsorbents	S <sub>BET</sub> (m <sup>2</sup> g <sup>-1</sup> )	Pore size (nm)	Temperature (°C)	Iodine uptake (g g <sup>-1</sup> )	Adsorption equilibriu m time (h)	K <sub>80%</sub> (g g <sup>-1</sup> h <sup>-1</sup> )	Ref	
COFs	ICOF-AB-50	1390	3.3	75	10.21	30	1.195	[S1]
	COF-TAPT	2348	1.92	75	8.61	96	0.48	[S2]
	TPB-DMTP COF	1927	3.3	75	6.26	96	0.13	[S3]
	Tfp-DB COF, Tfp-BD COF	158.35, 138.01	1.0-33 2.8	75	5.82, 5.42	72	-	[S4]
	T-COF-2, T-COF-1	781, 62.3	2.5	75	4.72, 4.29	24	-	[S5]
	OM-COF-300	1410	0.5	75	3.15	36	0.30	[S6]
	NH <sub>2</sub> -Th-Bta COF	10	2.5	75	3.58	37	-	[S7]
	<b>NH<sub>2</sub>-Th<sub>0.25</sub>-Mth<sub>0.75</sub>- Tfp COF</b>	<b>688.2</b>	<b>1.6</b>	<b>80</b>	<b>2.30</b>	<b>32</b>	<b>0.125</b>	<b>This work</b>
	HEDAN	1155	2.19	75	2.25	36	-	[S8]
	Hz-COF	145	2.16	80	2.05	70	-	[S9]
	N <sub>3</sub> -COF	1240	-	75	1.95	-	-	[S10]
	COF-TpgBD COF-TpgTd	217.9, 304	8.3, 9.9	75	1.81, 1.66	50	-	[S11]
	sp <sup>2</sup> c-TFPA-pXD COF	267	2.7	77	1.22	5	-	[S12]
	Th-Bta COF	22	2.6	75	0.68	11	-	[S7]
	MOFs	MIL-101-ED, MIL-101	1238.7, 1728.3	-	80	4.37, 2.67	24	-
medi-MOF-1		0.0347	-	25	1.94	13	-	[S14]
HKUST-1 MOF		1798	-	75	1.50	-	-	[S15]
ZIF-8 MOF		1875	-	75	1.20	-	-	[S15]
[Cd <sub>2</sub> (COO) <sub>4</sub> N <sub>4</sub> ]		1105	1.05	50	0.66	-	-	[S16]
UIO-66 MOF		1072	0.6	80	0.66	-	-	[S17]
Other porous materials		3Ph-CTF	33	-	70	2.50	33	-
	BN foam	561	2.6	77	2.12	-	-	[S19]
	CMPN-3	1368	6.9	70	2.08	1	-	[S20]
	NiP-CMP	2630	1.25	77	2.02	24	-	[S21]

NTP	1067	-	75	1.80	48	-	[S22]
Activated carbon	-	-	75	0.30	-	-	[S22]
Ag <sup>+</sup> @Zeolite mordenite	-	-	95	0.28	-	-	[S23]

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