Supporting Information

SYNTHESIS OF ONE COVALENT ORGANIC FRAMEWORK (COF) BASED ON C=N BONDS AND ITS EXCELLENT PERFORMANCE OF IODINE ADSORPTION

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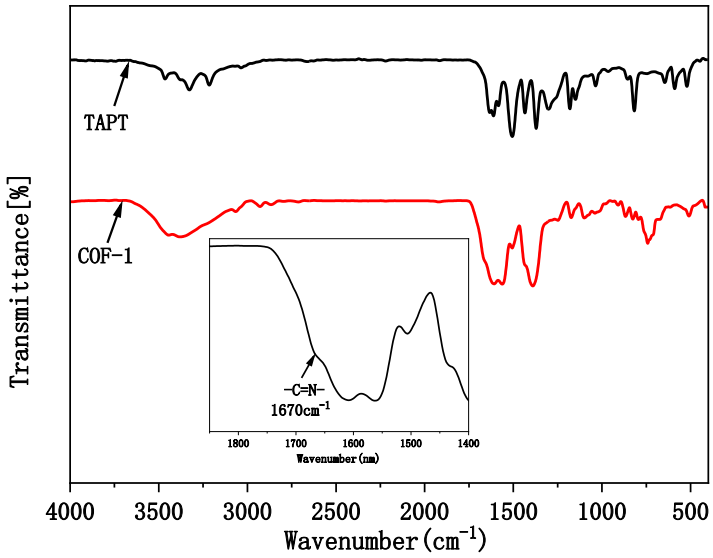

Figure S1 FT-IR spectra of TAPT and **COF-1**

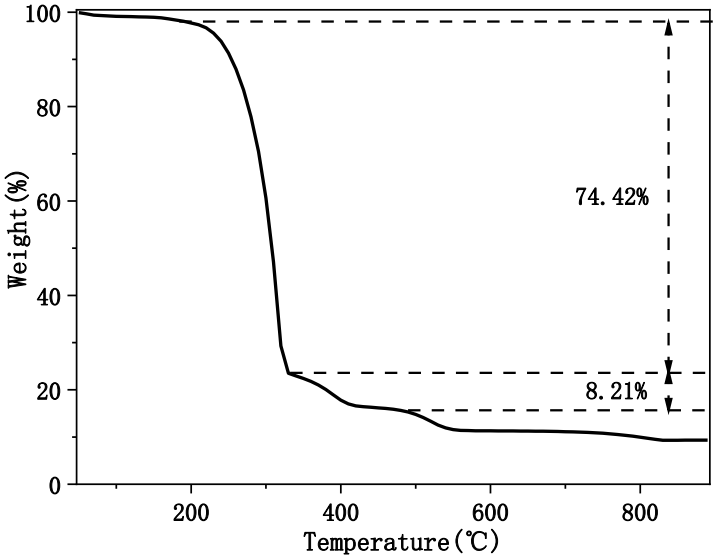

Figure S2 TG curves of **COF-1**

Table S1 Comparison of iodine uptake of different adsorbents

Adsorbents	Temperature(K)	Iodine uptake(mg/g)	Ref.
NTP	348	300	1
Ag^{+}-MOR	368	275	2
Ag@Mon-POF	343	250	3
CMPN-2,-3	343	1100,2080	4
Azo-Trip	350	2330	5
Nip-CMP	350	2020	6
ZIF-8	350	1250	7
Cu-BTC	348	1750	8
CC3	293	364	9
PAF-21	348	1520	10
$[Cu_6(pybz)_8(OH)_2]$	413	760	11
$[Fe_3(HCOO)_6](I_2)_{0.84}$	298	488	12
MoSx	333	1000	13
Polyurethane(PU1)	343	1284	14
3D-PPy	353	1600	15
PAF-1	298	1860	16

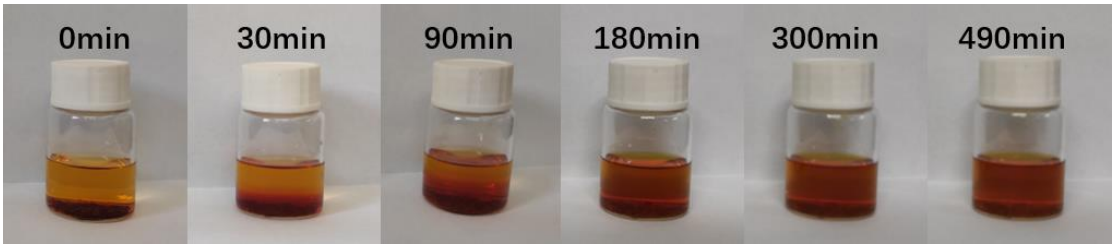

Figure S3 **I_2@COF-1** release in anhydrous methanol

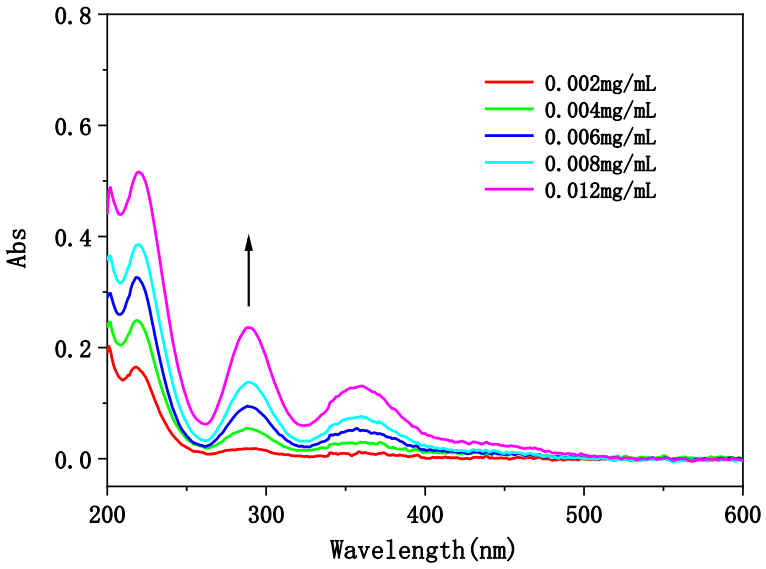

Figure S4 Calibration plot of standard I_2 by UV-vis spectra in methanol solution

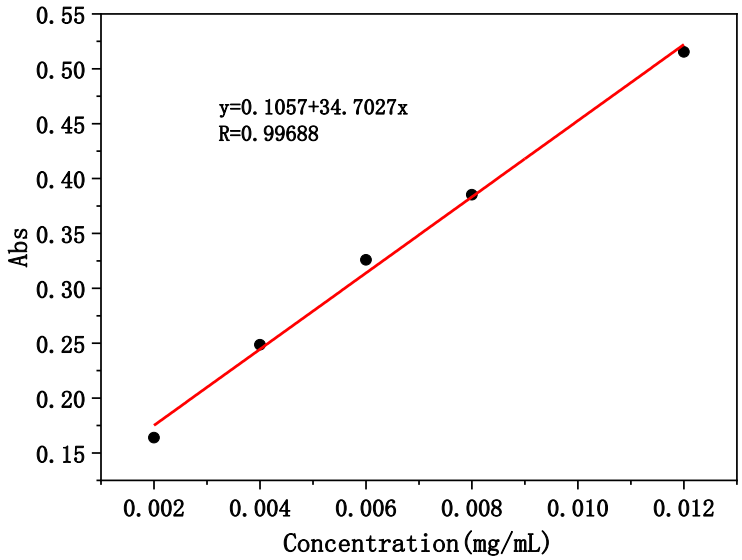

Figure S5 The fitting of Abs value vs concentration of I_2 with the relatively good linearity satisfies Lambert-Beer Law

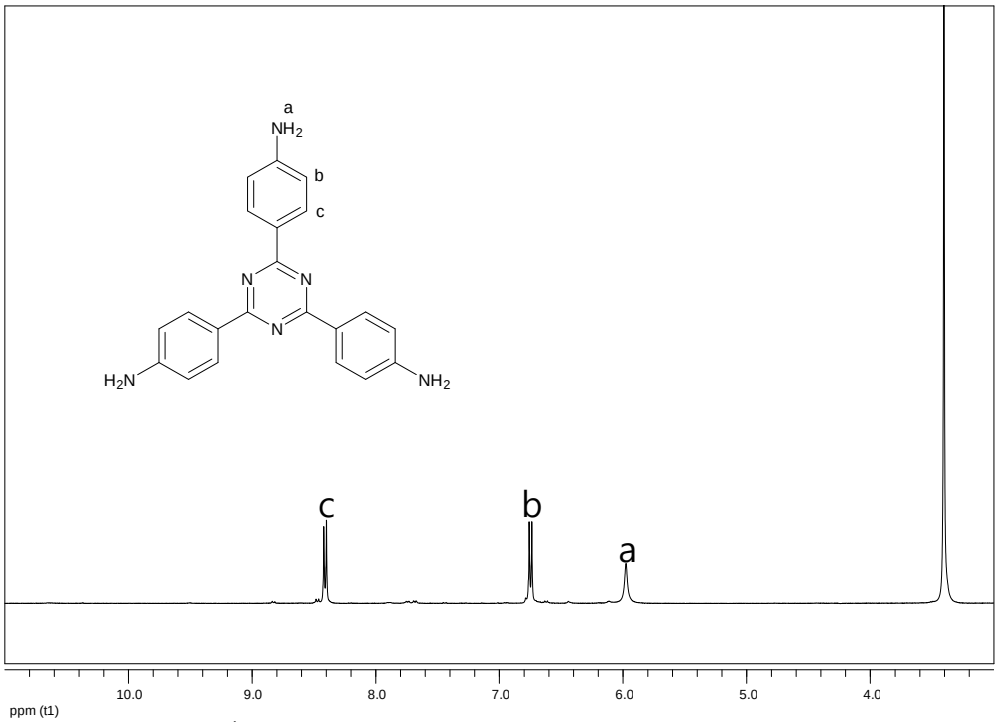

Figure S6 ^{1}H NMR of 1,3,5-tri-(4-amino-phenyl) triazine (TAPT)

REFERENCES

1. C. Pei, T. Ben, S. Xu, and S. Qiu, *J. Mater. Chem. A.*, 2014, **2**, 7179.
2. H. Ma, J. J. Chen, L. Tan, J. H. Bu, Y. Zhu, B. Tan, and C. Zhang, *ACS Macro Lett.*, 2016, **5**, 1039.
3. K. Chapman, P. J. Chupas, and T. M. Nenoff, *J. Am. Chem. Soc.*, 2010, **132**, 8897.
4. A. P. Katsoulidis, J. He, and M. G. Kanatzidis, *Chem. Mater.*, 2016, **24**, 1937.
5. Y. F. Chen, H. X. Sun, R. X. Yang, T. T. Wang, C. J. Pei, Z. T. Xiang, Z. Q. Zhu, W. D. Liang, A. Li, and W. Q. Deng, *J. Mater. Chem. A.*, 2015, **3**, 87.
6. Q. Q. Dang, X. M. Wang, Y. F. Zhan, and X. M. Zhang, *Polym. Chem.*, 2016, **7**, 643.
7. A. Sigen, Y. W. Zhang, Z. P. Li, H. Xia, M. Xue, X. M. Liu, and Y. Mu, *Chem. Commun.*, 2014, **50**, 8495.
8. D. F. Dorina, M. A. Sava, K. W. Rodriguez, and P. Chapman, *J. Am. Chem. Soc.*, 2011, **133**, 12398.
9. D. F. Sava, K. W. Chapman, M. A. Rodriguez, J. A. Greathouse, and T. M. Nenoff, *Chem. Mater.*, 2013, **25**, 2591.
10. T. Hasell, M. Schmidtmann, and A. I. Cooper, *J. Am. Chem. Soc.*, 2011, **133**, 14920.
11. Z. Yan, Y. Yuan, Y. Tian, D. Zhang, and G. Zhu, *Angew. Chem. Int. Ed. Engl.*, 2015, **54**, 12733.
12. Z. Yin, Q. X. Wang, and M. H. Zeng, *J. Am. Chem. Soc.*, 2012, **134**, 4857.
13. Z. M. Wang, Y. J. Zhang, T. Liu, M. Kurmoo, and S. Gao, *Adv. Funct. Mater.*, 2010, **17**, 1523.
14. K. S. Subrahmanyam, C. D. Malliakas, D. Sarma, G. S. Armatas, J. Wu, and M. G. Kanatzidis, *J. Am.*

Chem. Soc., 2015, **137**, 13943.

15. Y. Wang, G. A. Sotzing, and R. A. Weiss, *Polymer*, 2006, **47**, 2728.
16. P. Mu, H. X. Sun, T. Chen, W. L. Zhang, Z. Q. Zhu, W. D. Liang, and A. Li, *Macromol. Mater. Eng.*, 2017, **302**, 1700156.
17. C. Pei, T. Ben, S. Xu, and S. Qiu, *J. Mater. Chem. A.*, 2014, **2**, 7179.