Supporting Information

A Fluorene-Based Two-Dimensional Covalent Organic Framework with Thermoelectric Properties through Doping

Liangying Wang,[†,‡] Bin Dong,[†,§,‡,*] Rile Ge,[†] Fengxing Jiang,[#] Jingkun Xu[#,*]

[†]Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

[#]College of Pharmacy, Jiangxi Science and Technology Normal University, Nanchang 330013, China

[§]College of Chemical Engineering, China University of Mining and Technology, Xuzhou 221116, China

[‡]L. Wang and B. Dong contributed equally to this work.

[*]Corresponding author: dongbin@dicp.ac.cn; xujingkun@tsinghua.org.cn

Scheme S1 Schematic illustration of the thermopower measurement. S−3

Figure S1 FTIR spectra of FL-COF-1. S−4

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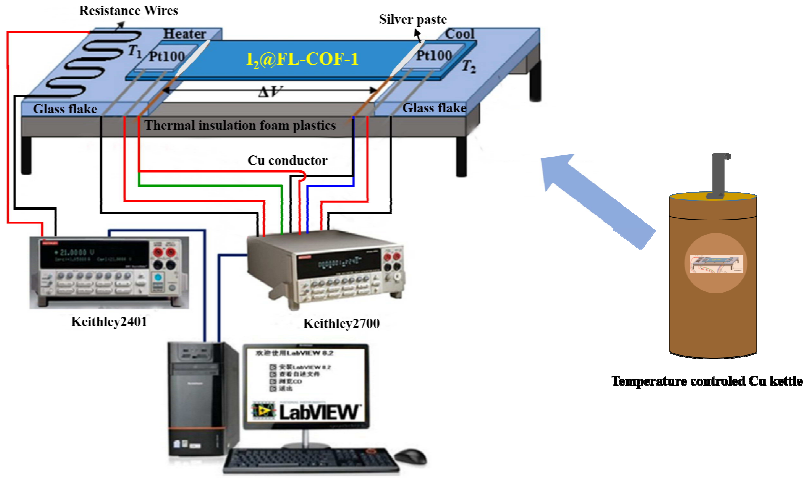
Figure S9 Raman spectrum of I_2@FL-COF-1. S−12



Scheme S1. Schematic illustration of the thermopower measurement.

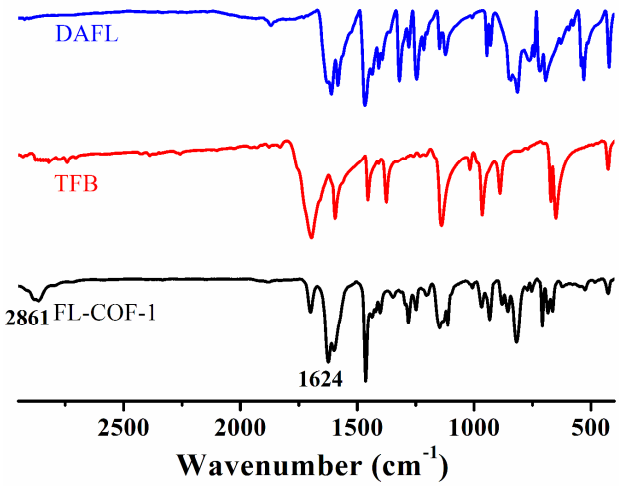


Figure S1. FTIR spectra of FL-COF-1 (black), TFB (red), and DAFL (blue). The appearance of an intensive band at 1624 cm^{-1} in FL-COF-1 confirmed the formation of new imine bonds (C=N).

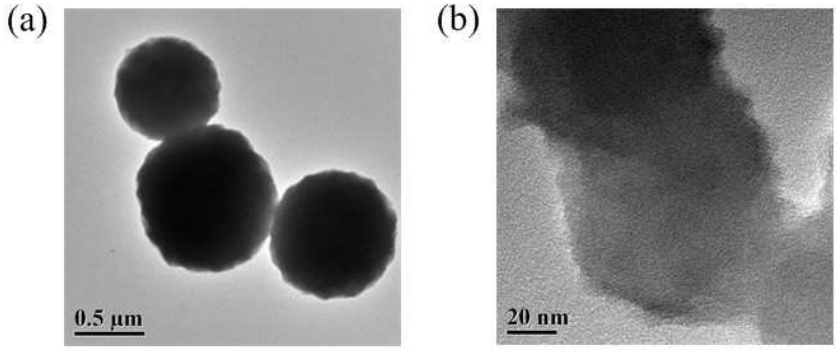


Figure S2. TEM images of FL-COF-1 at different magnifications.

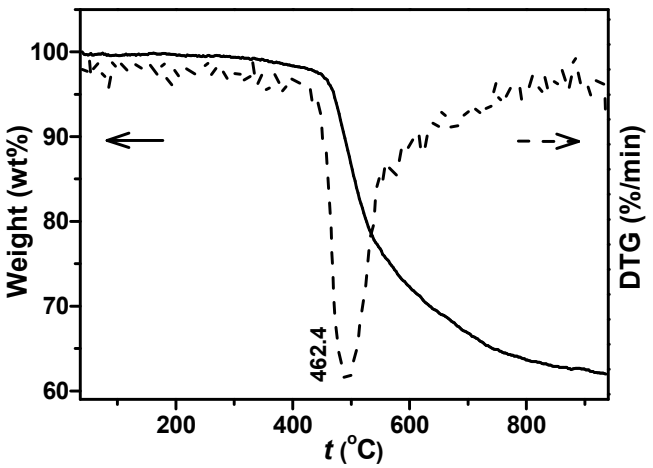


Figure S3. TGA and DTG plots of FL-COF-1 under a nitrogen atmosphere.

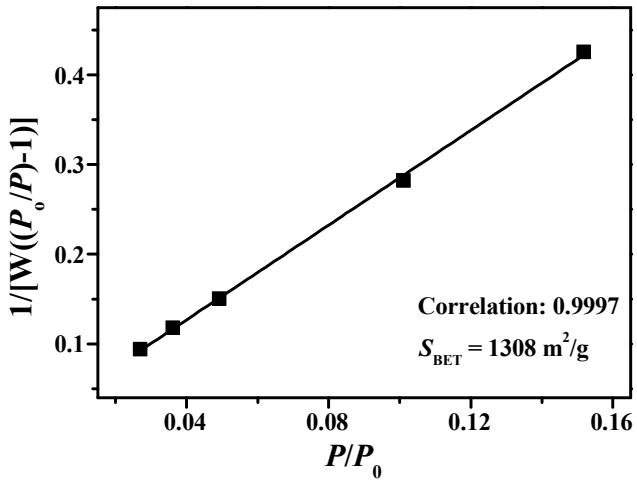


Figure S4. BET linear plot and surface area of FL-COF-1 calculated from the N_2 adsorption isotherm at 77 K.

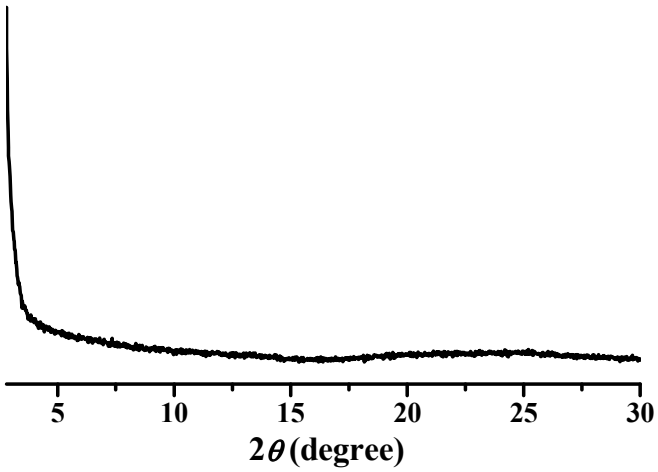


Figure S5. The PXRD pattern of I_2@FL-COF-1.

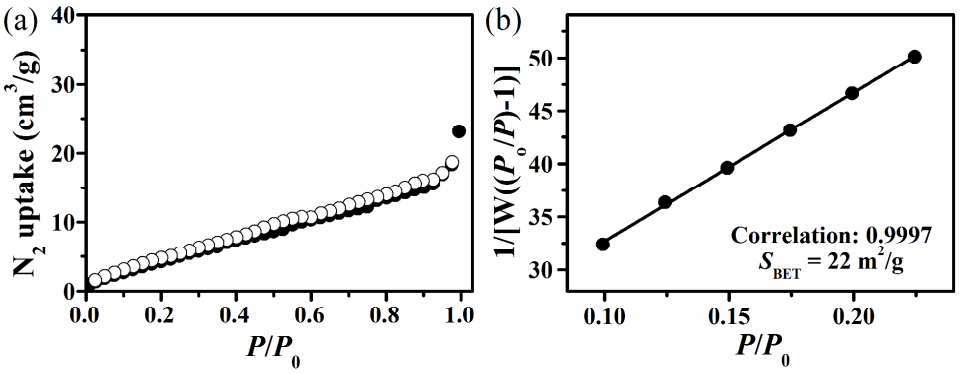


Figure S6. (a) N_2 sorption isotherms measured at 77 K and (b) BET surface area plot of I_2@FL-COF-1.

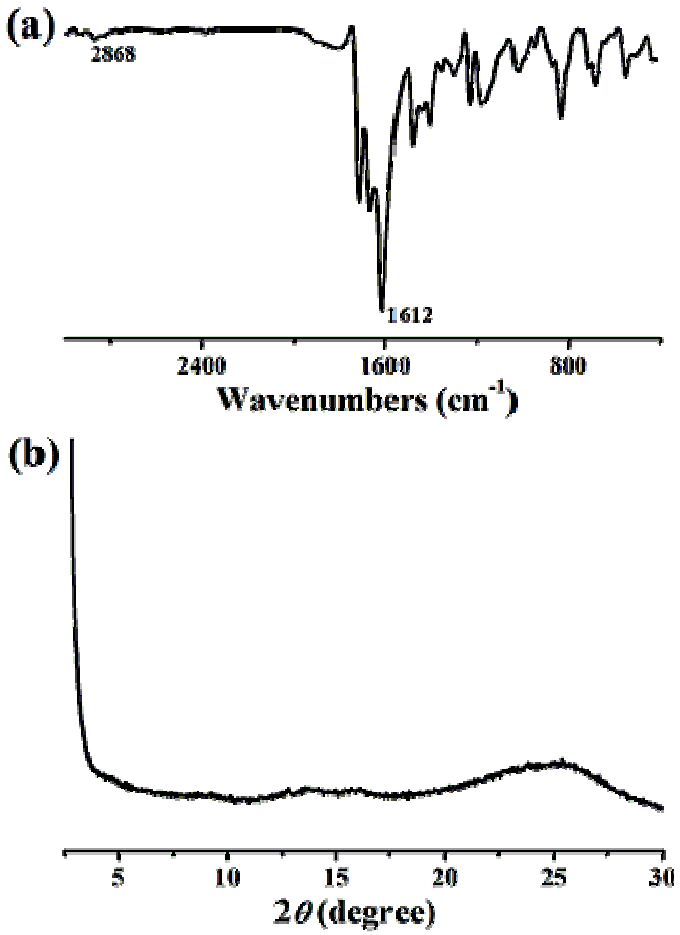


Figure S7. (a) FTIR and (b) XRD data of the dedoped I_2@FL-COF-1.

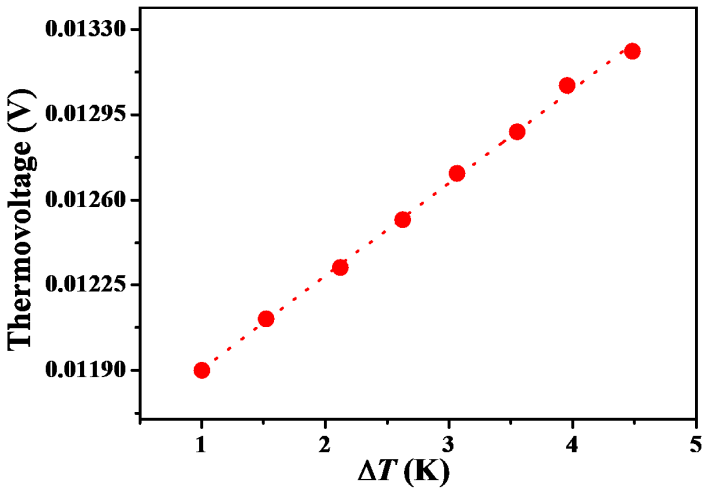


Figure S8. Thermoelectric voltage as a function of ΔT for I_2@FL-COF-1.

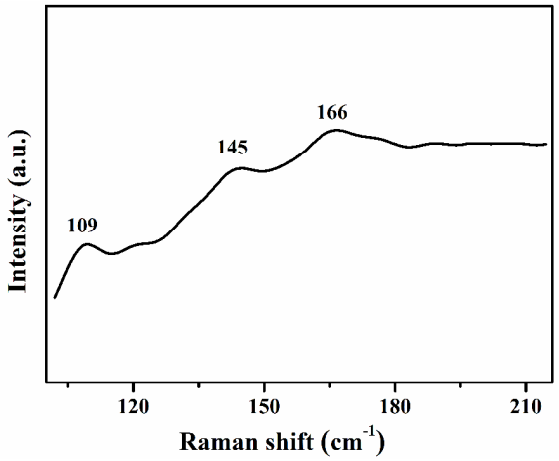


Figure S9. Raman spectrum of I_2@FL-COF-1. The characteristic peak around 109 cm^{-1} corresponded to the perturbed iodine molecules, whereas the peaks at 145 and 164 cm^{-1} reflected the existence of I^{5-} from I^- ions and di-iodine molecules $[I^- \cdot (I_2)_2]$.