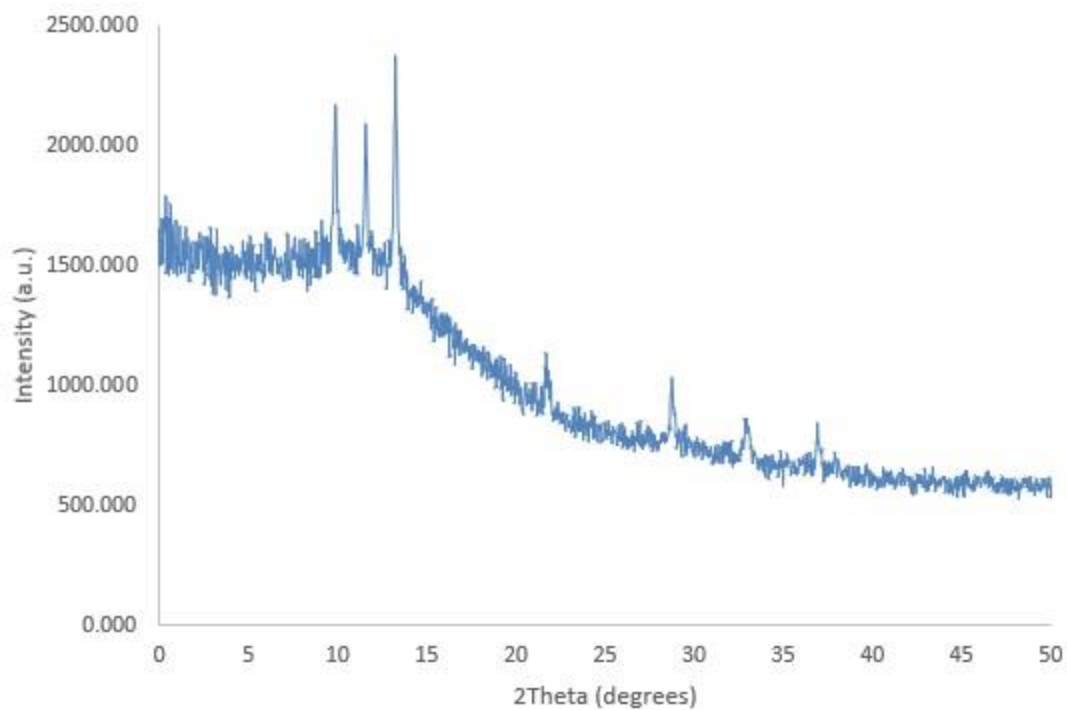


## Supporting information

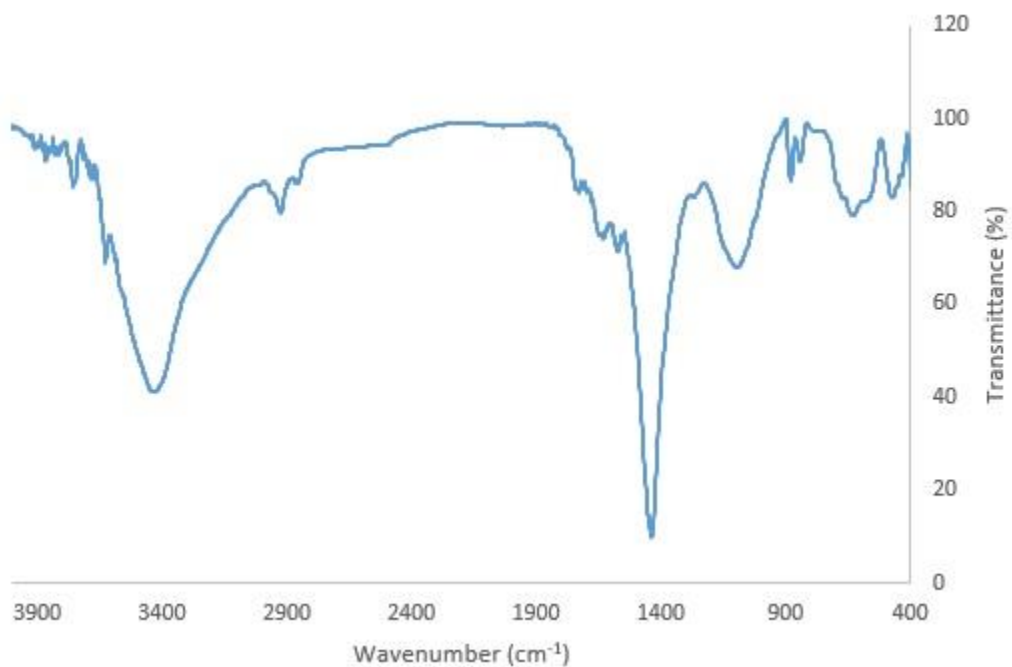
### **Porphyrin molecules decorated on the metal-organic frameworks for multi-functional biomedical application**

#### **Synthesis of H<sub>2</sub>TMP**

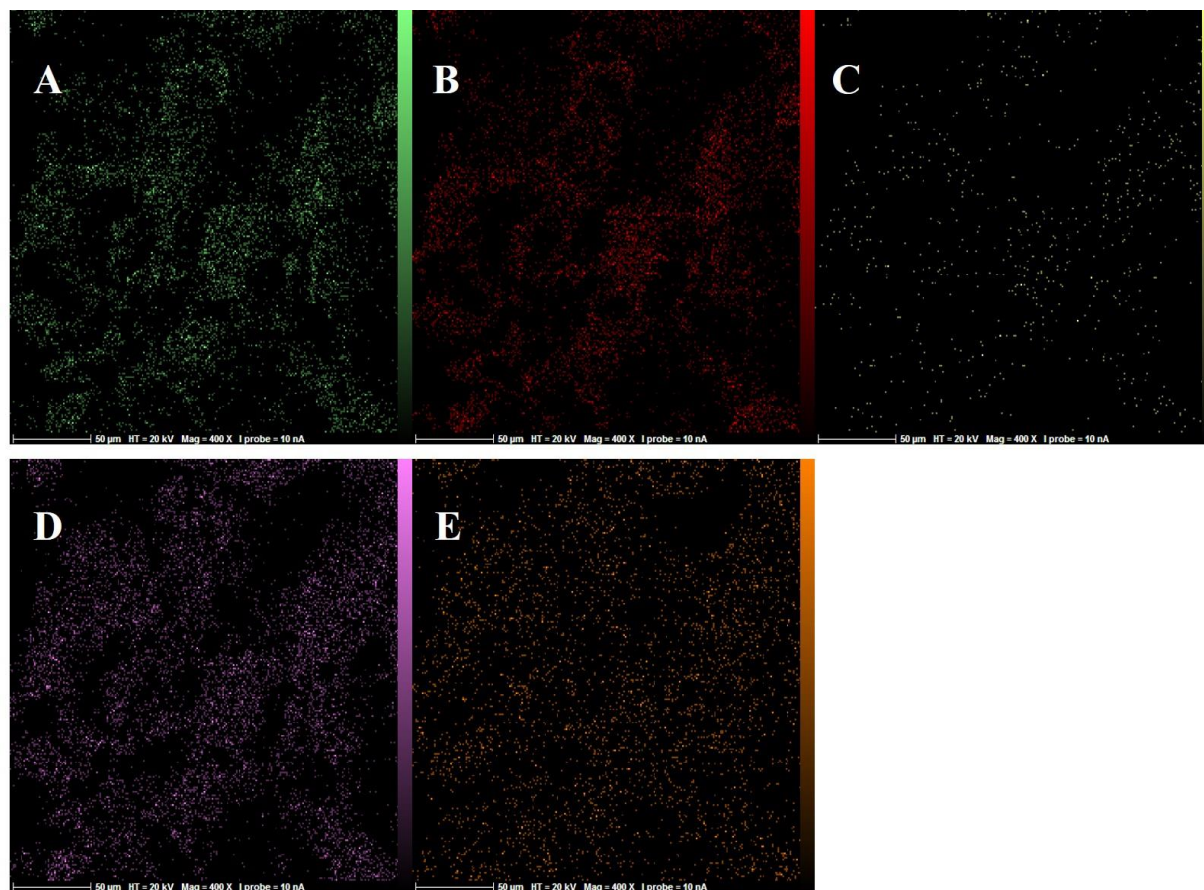
Synthesis of the mentioned porphyrin has been performed based on the literature [1–3]. For the synthesis of H<sub>2</sub>TMP, 10 mmol mesitaldehyde and 10 mmol distilled pyrrole were added to 100 mL chloroform. The solution was stirred for 10 min as well as purged with the N<sub>2</sub>. Then, 3.3 mmol of boron trifluoride-diethyl ether (10<sup>-3</sup> M) was added to the reaction mixture via a syringe. The solution was stirred at room temperature for 1 hour and oxidized with excess amount of DDQ, followed by the spectrophotometry. At the end, 7.5 mmol of *p*-chloranil was added to the reaction mixture and refluxed for 1 hour. Finally, the reaction mixture was cooled to room temperature and 3.3 mmol of trimethylamine was added followed by removal of solvent on a rotary evaporator. The product was washed for several times by ultrapure water and methanol.



**Figure S1.** PXRD pattern for the synthesized MOF



**Figure S2.** FTIR spectra for the synthesized MOF



**Figure S3.** Elemental mapping for the synthesized MOF via high-gravity and the use of leaf extracts; (A) Carbon (B) Oxygen (C) Sulfur (D) Chromium and (E) nitrogen

- (1) Zhou, X.; Tse, M. K.; Wan, T. S.; Chan, K. S. Synthesis of  $\beta$ -mono-, tetra-, and octasubstituted sterically bulky porphyrins via Suzuki cross coupling. *The Journal of organic chemistry* **1996**, 61 (11), 3590-3593.
- (2) Rabiee, N.; Bagherzadeh, M.; Ghadiri, A. M.; Fatahi, Y.; Baheiraei, N.; Safarkhani, M.; Aldhaher, A.; Dinarvand, R. Bio-multifunctional noncovalent porphyrin functionalized carbon-based nanocomposite. *Scientific reports* **2021**, 11 (1), 1-15.
- (3) Saeb, M. R.; Rabiee, N.; Seidi, F.; Far, B. F.; Bagherzadeh, M.; Lima, E. C.; Rabiee, M. Green CoNi<sub>2</sub>S<sub>4</sub>/Porphyrin Decorated Carbon-based Nanocomposites for Genetic Materials Detection. *Journal of Bioresources and Bioproducts* **2021**.