Supplementary Information

Synthesis and characterisation of novel metal-organic frameworks (MOFs) based on zirconium and bicinchoninic acid

Noor Albayati[a], Waseem Yousif M. AL-dulaimy[b], Muhsin J Jweeg[c], Mohammed Kadhom[d,*], Suhaib Salih[e], Ghassan Abdullah[e]

[a] *Department of Science, College of Basic Education, University of Wasit, Azizia, Wasit, 52005, Iraq*

[b] *Department of Chemistry, College of Science, University of Diyala, Baquba, Diyala, 32001, Iraq*

[c] *College of Technical Engineering, Al-Farahidi University, Baghdad, 10070, Iraq*

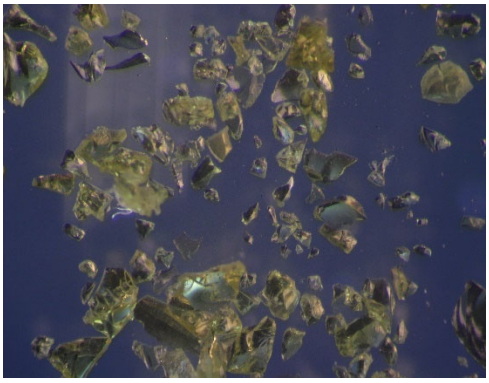
[d] *Department of Environment, College of Energy and Environmental Science, Al-Karkh University of Science, Baghdad 10081, Iraq*

[e] *Department of Chemical Engineering, College of Engineering, Tikrit University, Saladin,34001, Iraq*

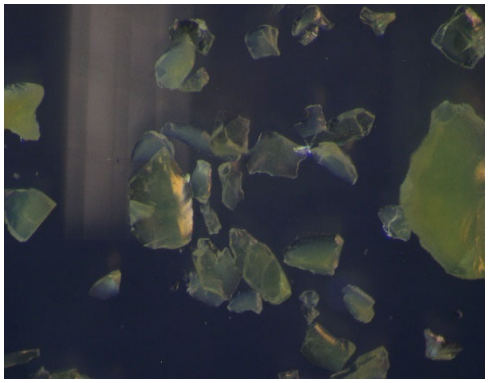
** Corresponding Author Email: kadhom@kus.edu.iq, mohammedkadhom@gmail.com Tel: +9647725943915*

S1- Microscopic testing

The figure displays three samples prepared using a ratio of 0.25:0.25:500 of Zr:BADS:DMF, respectively, where (a) was prepared by solvothermal synthesis for 48 hours, (b) was prepared by solvothermal synthesis for 72 hours, and (c) was prepared by mixing at room temperature. All images were captured at a magnification of 400X, and the MOF particles appear yellow in colour, exhibiting various shapes. It is worth noting that in the laboratory, a general observation was made that when the raw materials (both of which are white) are combined, they immediately react with each other, resulting in the formation of a yellow product.



(a)



(b)

(c)

Fig. S1. Microscopic images of Zr-BADS (a) prepared by solvothermal for 48 h, (b) prepared by solvothermal for 72 h, and (c) prepared by mixing at RT.