

SUPPORTING INFORMATION (SI)

Organic–inorganic hybrid nanomaterials composed of Dowson-type $(\text{NH}_4)_6\text{P}_2\text{Mo}_{18}\text{O}_{62}$ heteropolyanion and metal–organic framework: synthesis, characterization, and application as an effective adsorbent for the removal of organic dyes

Akram-Alsadat Hoseini, Saeed Farhadi,* Abedin Zabardasti, Firouzeh Siadatnasab

Department of Chemistry, Lorestan University, Khorramabad, Iran

*Corresponding author: E-mail: sfarhad2001@yahoo.com

Tel.: +986633120611; Fax: +986633120618

Fig. S1 Zeta potential curves of (a) pure MIL-101 and (b) $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) in aqueous solutions.

Fig. S2 (a) FT-IR spectrum of (a) pure MB dye, (b) $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) and (c) $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) after adsorbing MB dye solutions.

Fig. S3 EDX spectrum of the $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) after adsorbing MB dye.

Fig. S4 EDX elemental mappings of the $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) after adsorbing MB dye.

Fig. S5 FE-SEM images at different magnifications of the $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) after adsorbing MB dye.

Fig. S6 XRD pattern of the $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) after adsorbing MB dye.

Fig. S7 (a) N_2 adsorption-desorption isotherms and (b) BJH pore-size distribution plots of the $\text{P}_2\text{Mo}_{18}/\text{MIL}-101$ (Cr) after adsorbing MB dye.

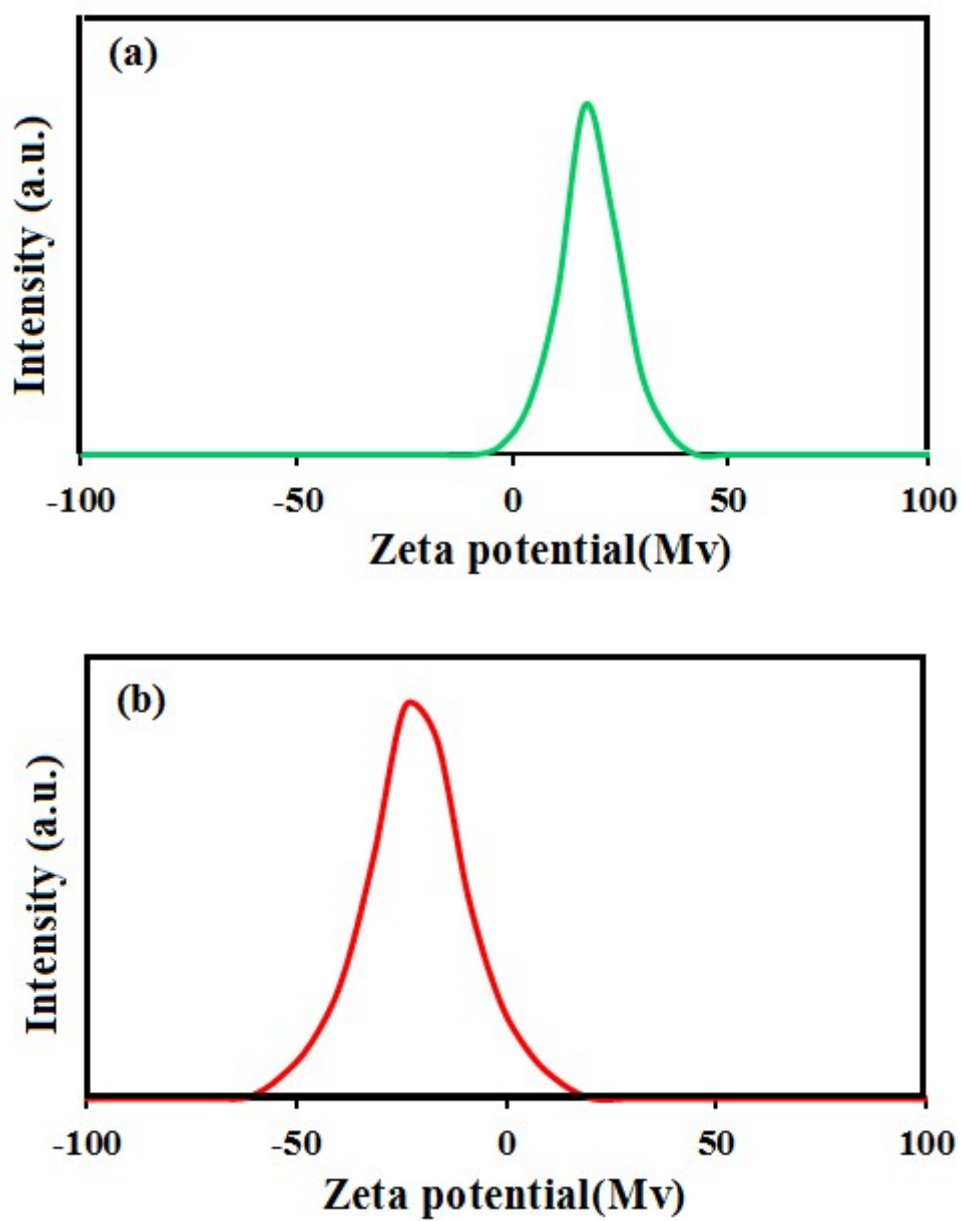


Fig. S1. Zeta potential curves of (a) pure MIL-101 and (b) $P_2Mo_{18}/MIL-101$ (Cr) in aqueous solutions

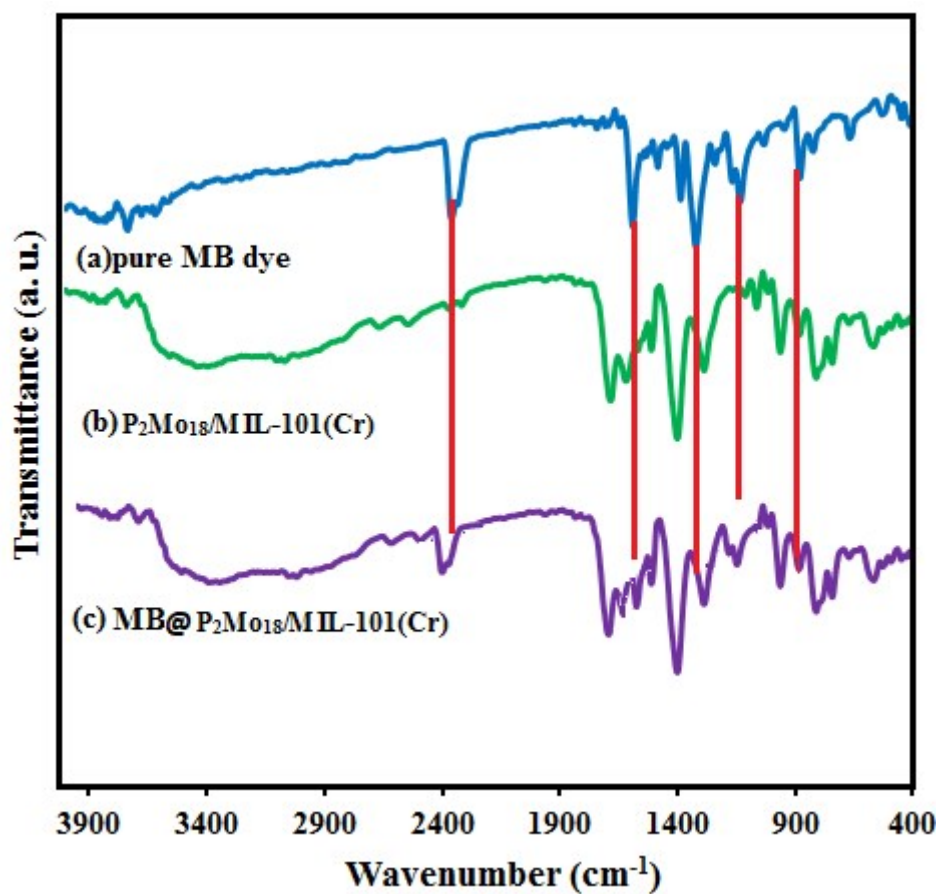


Fig. S2.(a) FT-IR spectrum of (a) pure MB dye, (b) P₂Mo₁₈/MIL-101 (Cr) and (c)MB@P₂Mo₁₈/MIL-101 (Cr) after adsorbing MB dye.

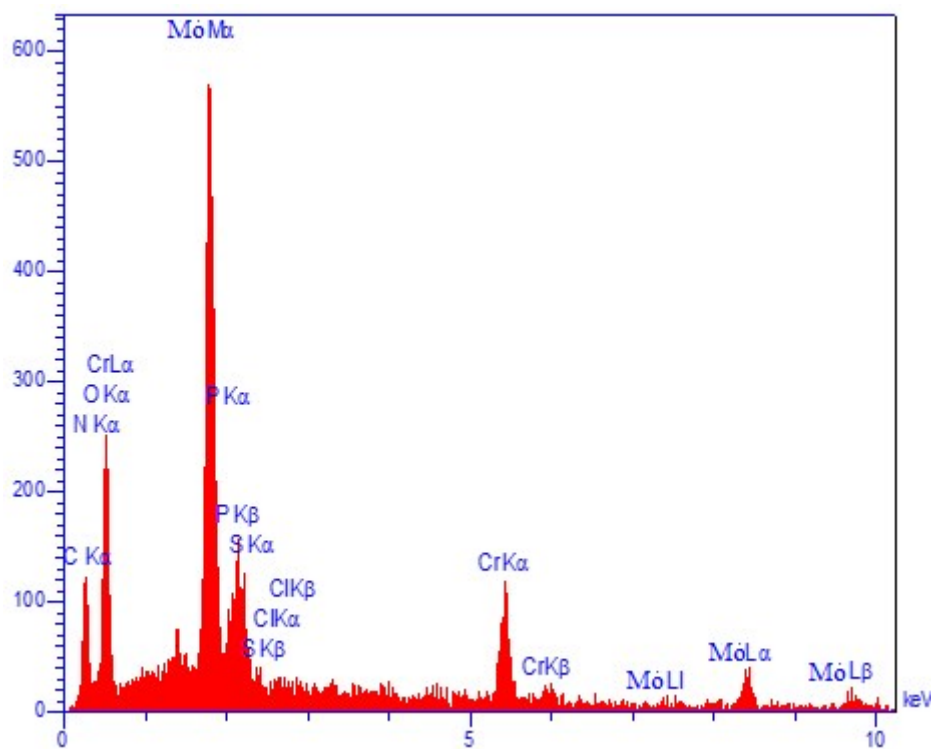


Fig. S3. EDX spectrum of the $P_2Mo_{18}/MIL-101$ (Cr) after adsorbing MB dye.

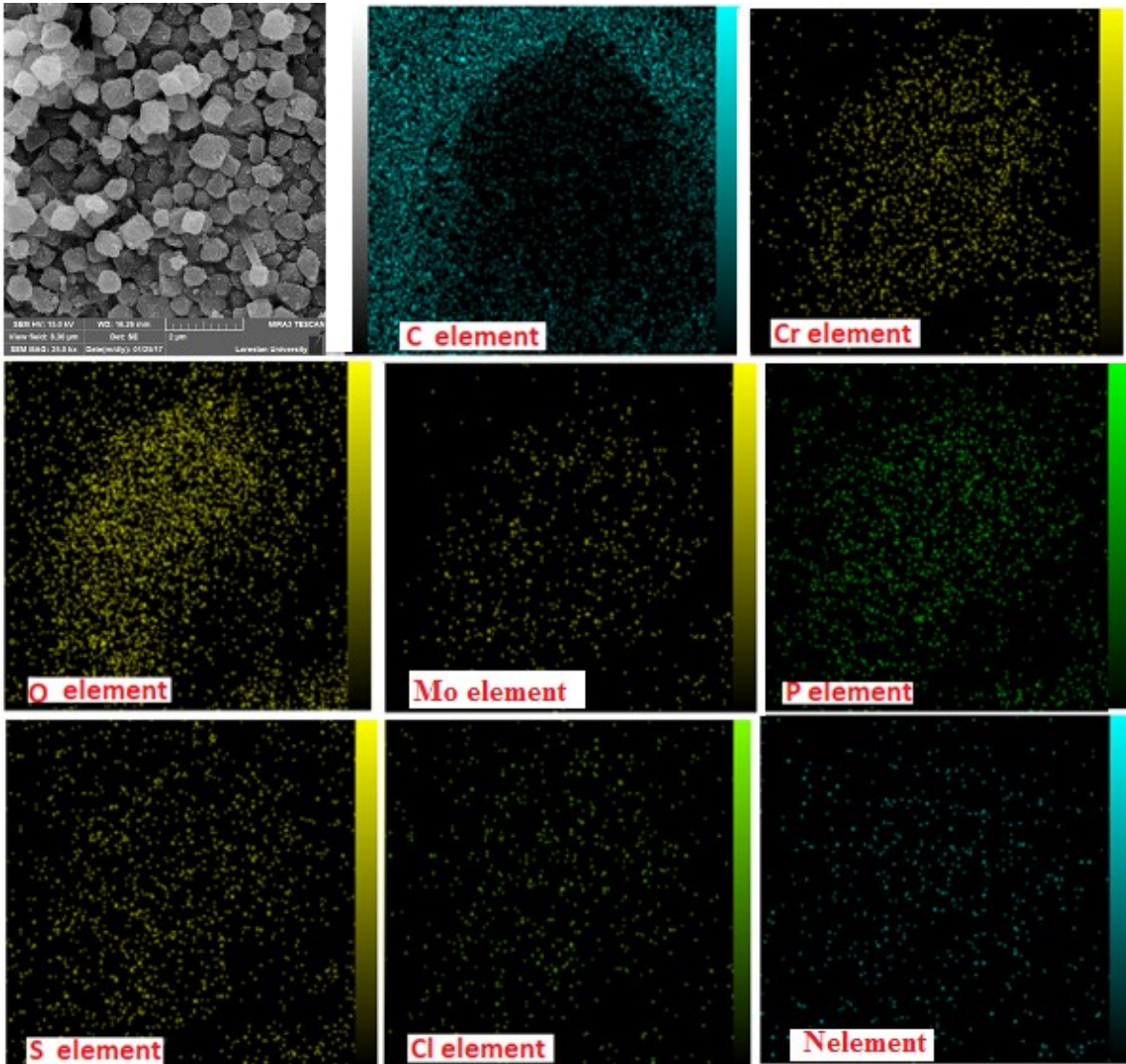


Fig.S4.EDX elemental mappings of the $P_2Mo_{18}/MIL-101 (Cr)$ after adsorbing MB dye.

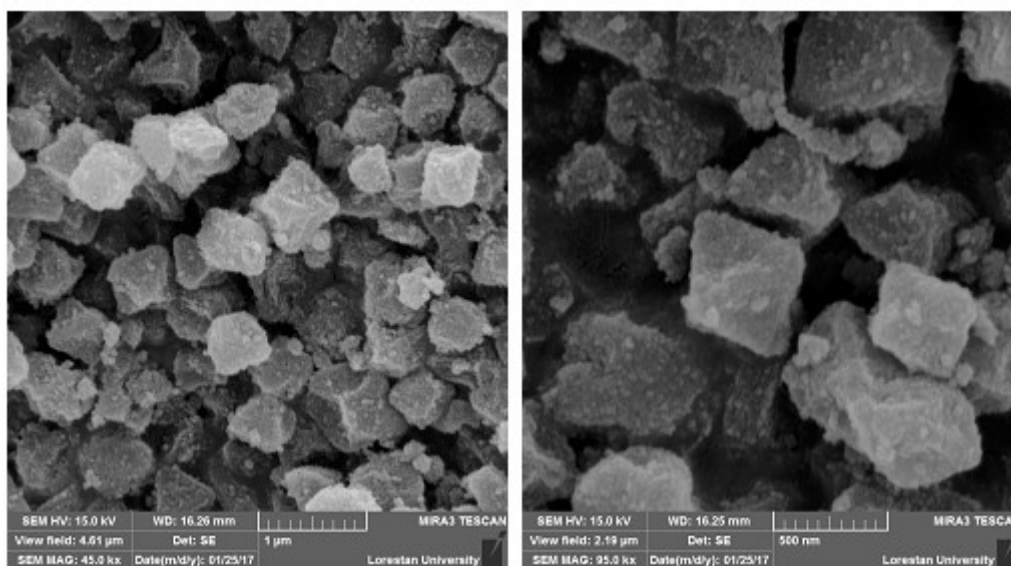


Fig. S5. FE-SEM images at different magnifications of the $P_2Mo_{18}/MIL-101$ (Cr) after adsorbing MB dye.

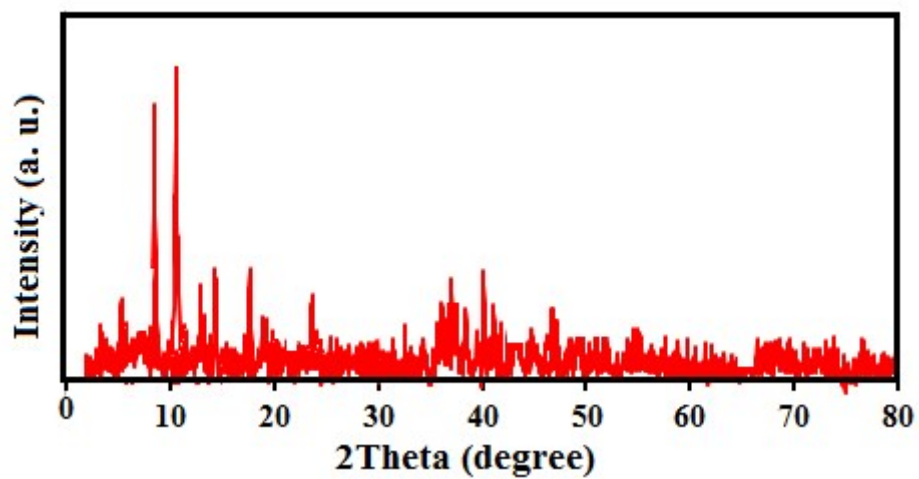


Fig. S6. XRD pattern of the $P_2Mo_{18}/MIL-101$ (Cr) after adsorbing MB dye.

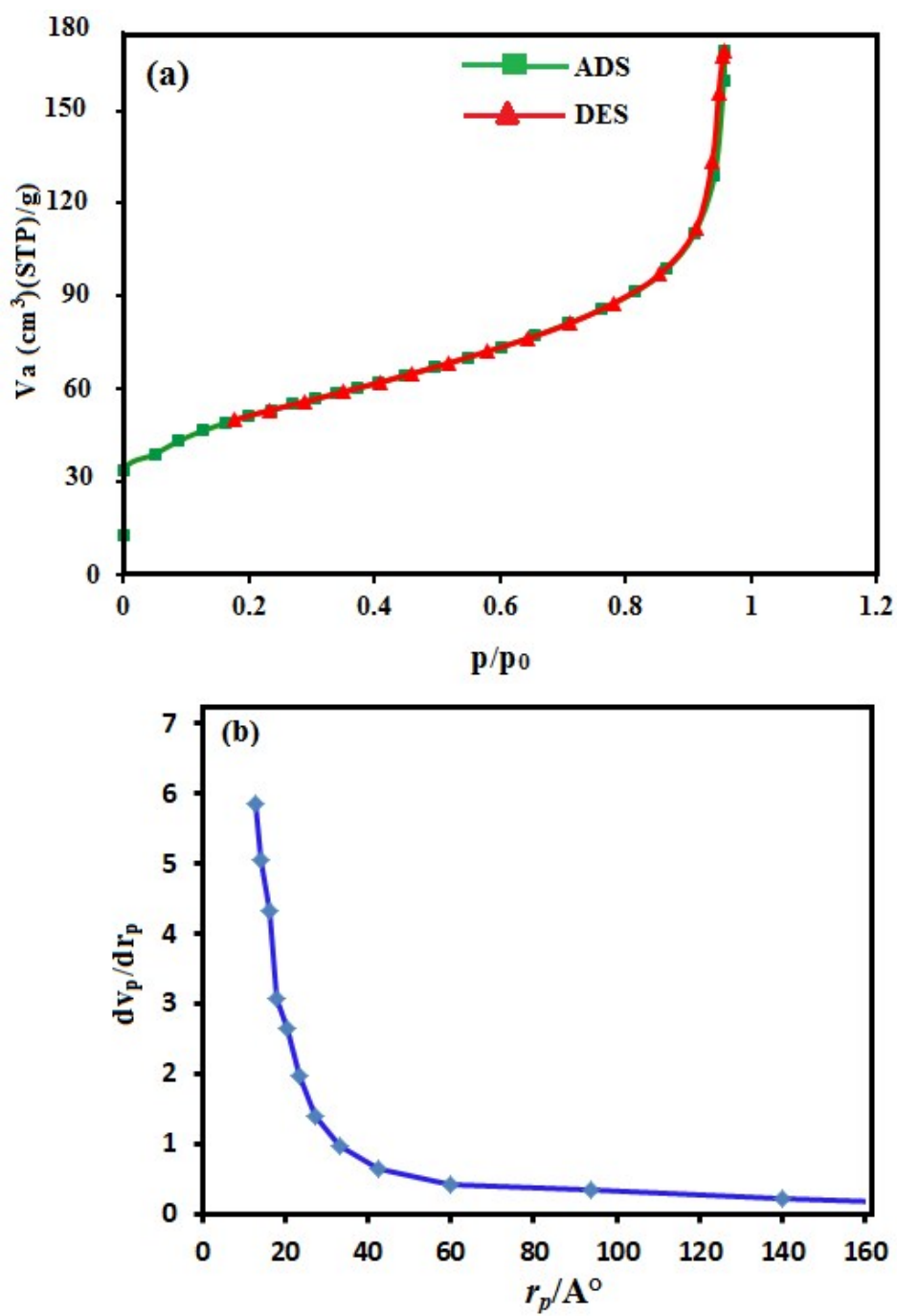


Fig. S7.(a) N_2 adsorption-desorption isotherms and (b) BJH pore-size distribution plots of the $P_2Mo_{18}/MIL-101$ (Cr) after adsorbing MB dye.