Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Material

Green construction of eco-friendly phosphotungstic acid Sr-MOF catalysts for crystal violet removal and synthesis of coumarin and xanthene compounds

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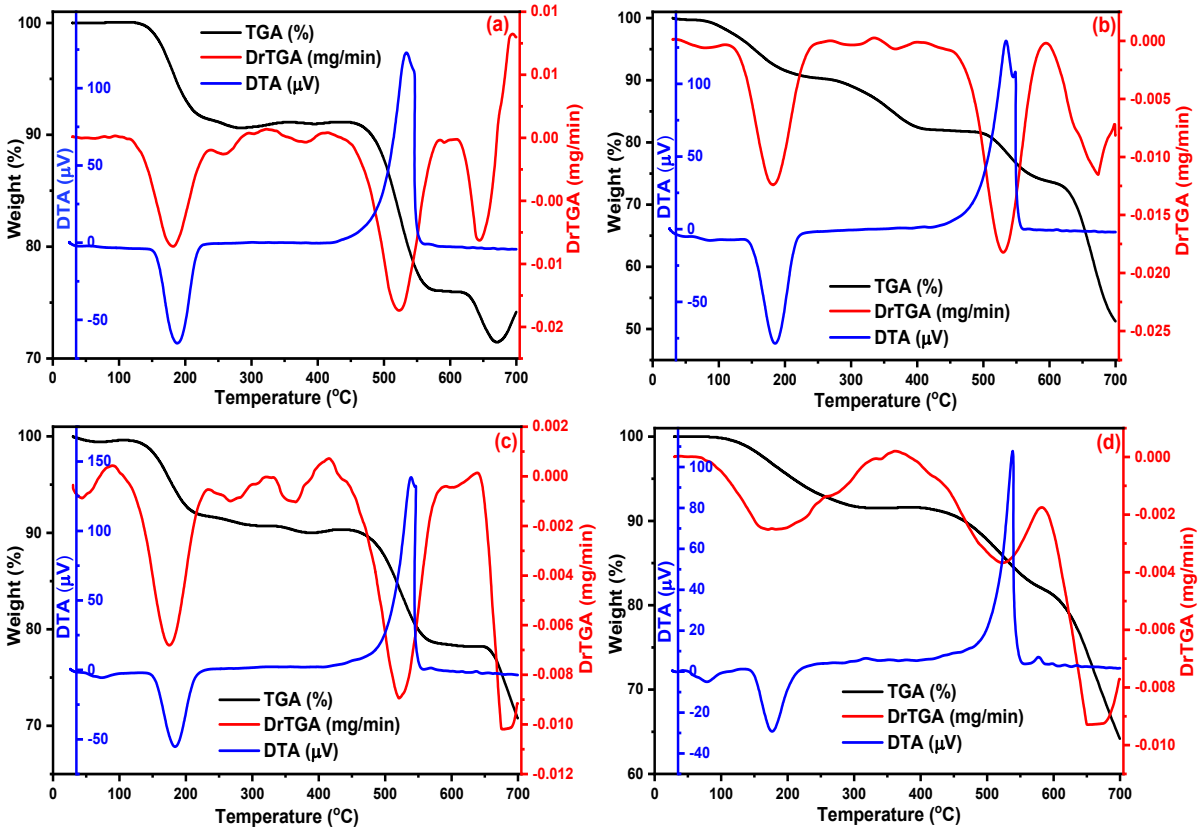

Fig. S1. Thermal analysis of (a) pure Sr-MOF, (b) 5, (c) 25 and (d) 55 wt% PWA/Sr-MOF.

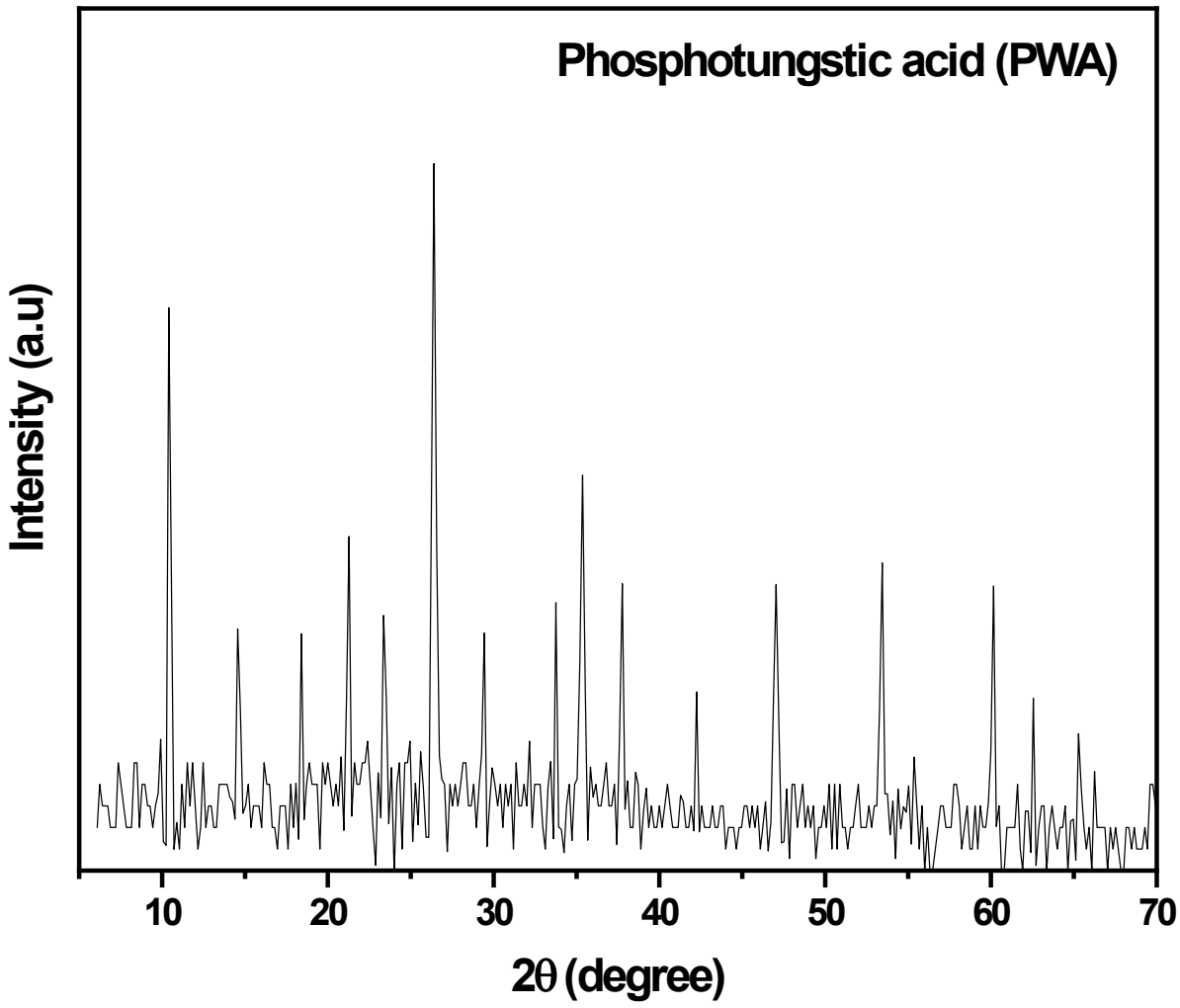

Fig. S2. XRD of pure phosphotungstic acid (PWA).

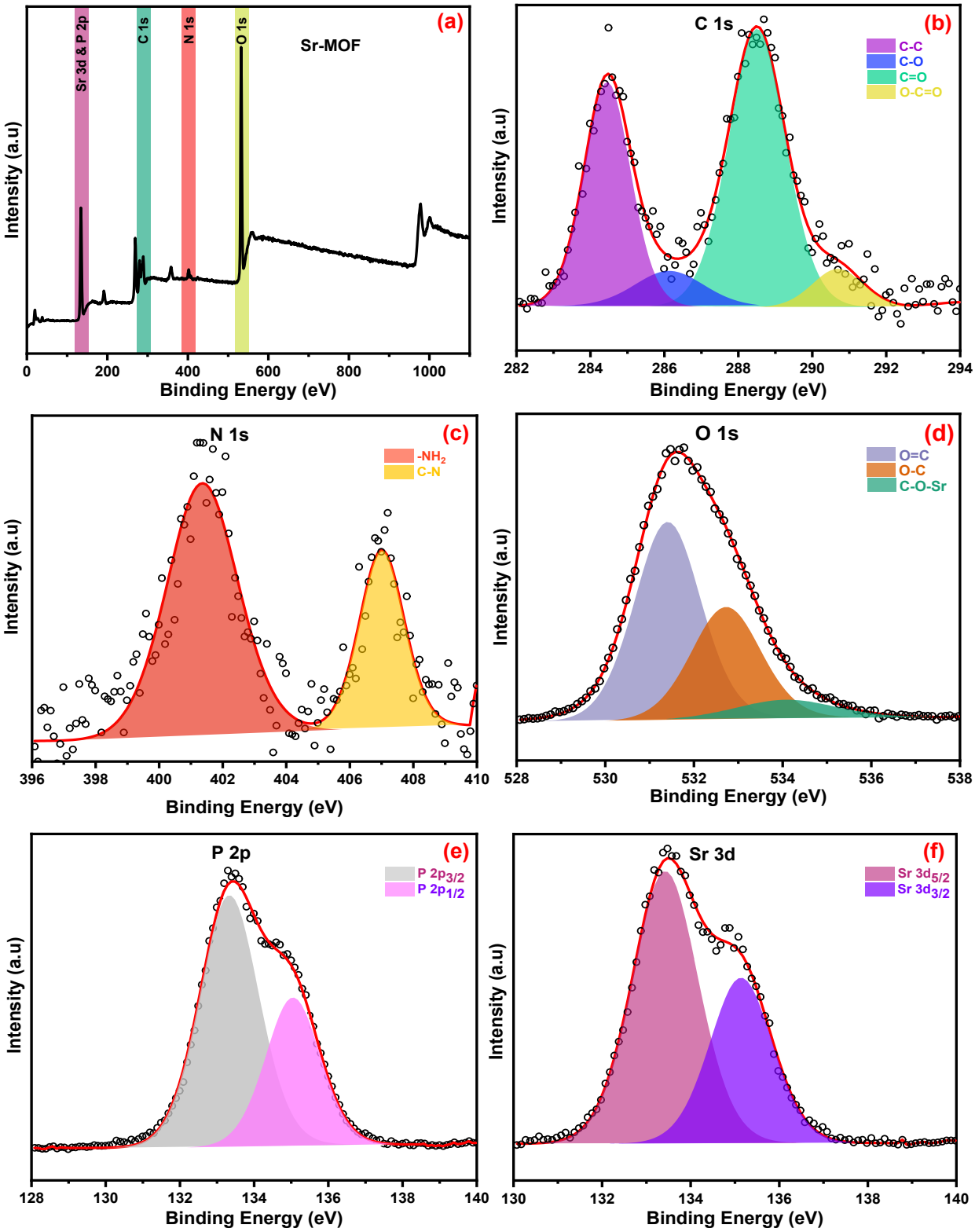

Fig. S3. XPS survey spectrum of Sr-MOF and high resolution XPS of (b) C 1s, (c) N 1s, (d) O 1s, (e) P 2p and (f) Sr 3d.

Table S1. Energy-dispersive X-ray spectroscopy analysis data of Sr-MOF.

Major elements	Weight%	Atomic%
C K	13.95	21.52
N K	7.93	10.49
O K	50.82	58.86
P K	8.70	5.20
Sr K	18.60	3.93
Stoichiometry of Sr-MOF	$Sr_{2.5}P_1C_2N_{1.5}O_{6.5}$	

Table S2. Energy-dispersive X-ray spectroscopy analysis data of 25 wt% PWA/Sr-MOF.

Major elements	Weight%	Atomic%
C K	10.51	18.67
N K	7.97	12.14
O K	44.81	59.79
P K	5.77	3.98
Sr K	14.31	3.49
W L	16.65	1.93
Stoichiometry of 25 wt% PWA/Sr-MOF	$Sr_{2.5}P_{1.1}C_2N_{1.5}O_8W_3$	

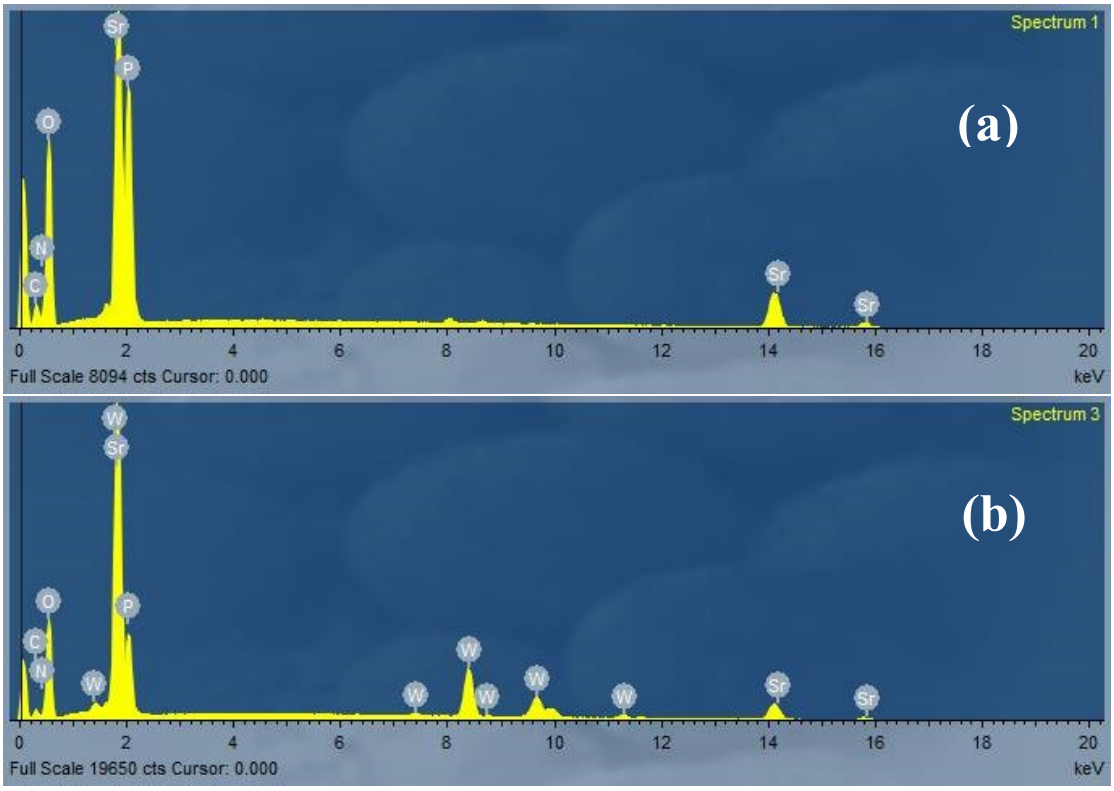

Fig. S4. Energy-dispersive X-ray spectroscopy of a) Sr-MOF and b) 25 wt% PWA/Sr-MOF.

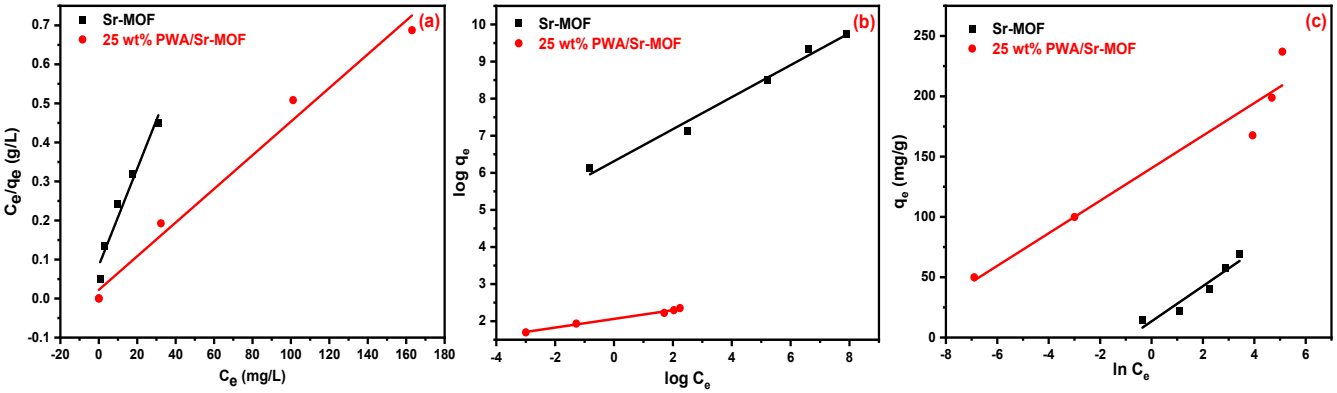

Fig. S5. Linear forms of (a) Langmuir, (b) Freundlich and (C) Temkin adsorption isotherms of CV dye using Sr-MOF and 25 wt% PWA/Sr-MOF adsorbents.

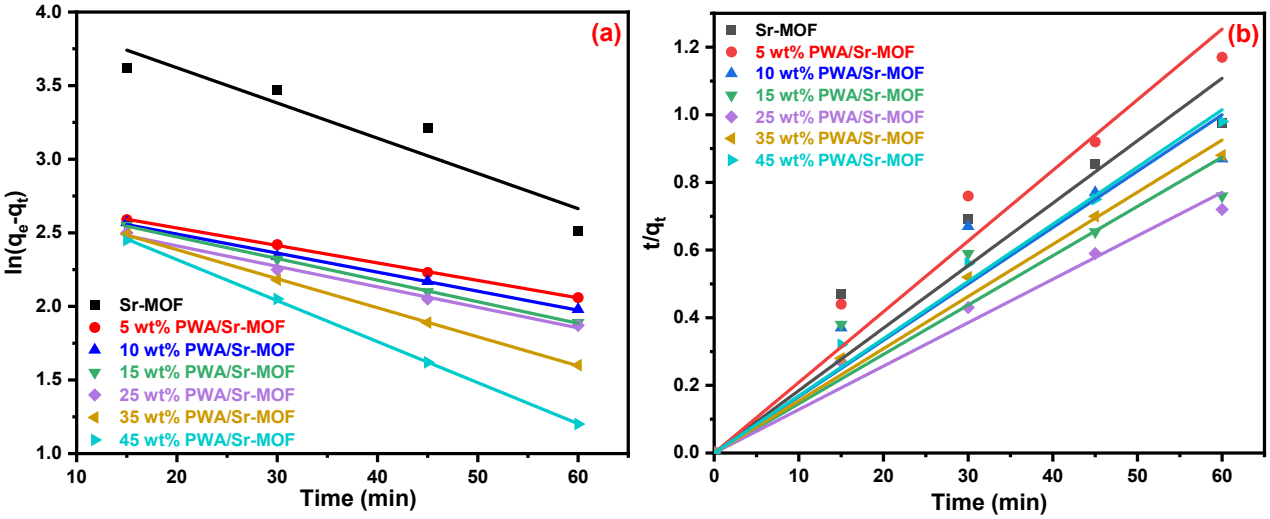

Fig. S6. (a) Pseudo-first order and (b) Pseudo-second order kinetics isotherms for CV dye adsorption on various wt% of PWA/Sr-MOF.

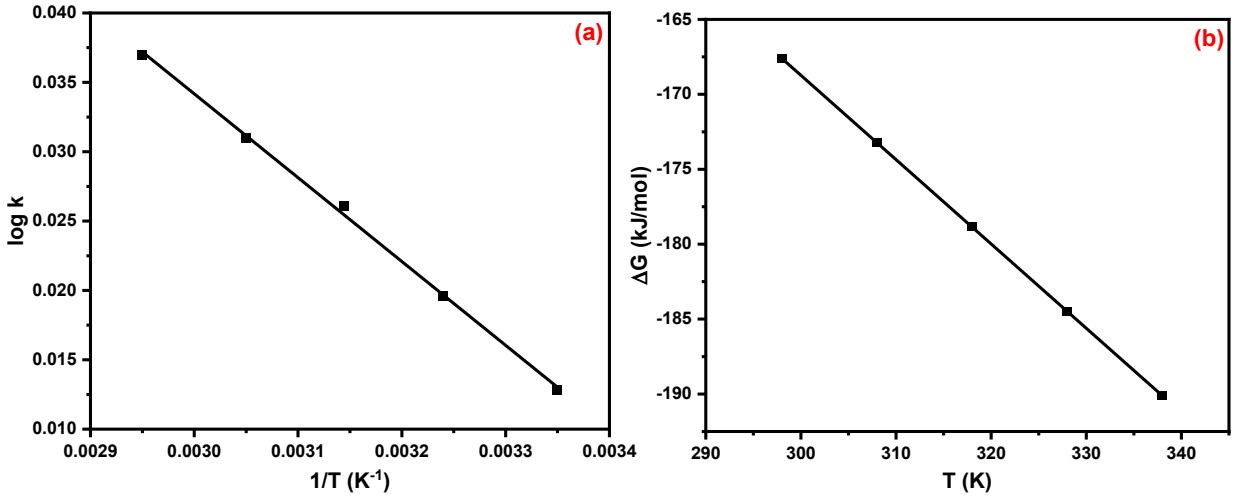

Fig. S7. Thermodynamic plots of (a) log k versus 1/T and (b) Gibbs free energy change (ΔGº) versus temperature (K) of CV dye adsorption onto 25 wt% PWA-Sr-MOF.