

Supporting Information

Postsynthetic functionalization of water stable zirconium metal organic frameworks for high performance copper removal

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Table S1 BET surface areas and pore volumes of MMPF-6 and MMPF-6-SH

	MMPF-6	MMPF-6-SH
Surface area ($\text{m}^2 \text{g}^{-1}$)	2188	1436
Pore volume ($\text{cm}^3 \text{g}^{-1}$)	1.309	0.9036

Table S2 Isotherms parameters for the adsorption of Cu(II)

Metal ion	Langmuir adsorption isotherm			Freundlich adsorption isotherm		
	q_m (mg g^{-1})	K_L (L mg^{-1})	R^2	K_F (L g^{-1})	$1/n$	R^2
Copper	42.70	0.01220	0.9970	1.077	0.6507	0.9897

Table S3 Kinetic parameters of MMPF-6-SH for the adsorption of Cu(II)

Metal	Experimental	Pseudo-first-order kinetic model			Pseudo-second-order kinetic model		
		q_e (mg g^{-1})	k_1 (min^{-1})	R^2	q_e (mg g^{-1})	K_2 ($(\text{g mg}^{-1}) \text{min}^{-1}$)	R^2
Cu(II)	4.49	2.818	0.1866	0.9937	4.872	0.09726	0.9996