Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information

In situ synthesis and high adsorption performance of MoO_2/Mo_4O_{11} and MoO_2/MoS_2 composite nanorods by reduction of MoO_3

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Table S1. Kinetic parameters for adsorption of Cu^{2+} ions on MoO_2/MoS_2 (MoO_3:S=1:2).

Samples	q_e(exp.) (mg g^{-1})	Pseudo-first-order		Pseudo-second-order		
		q_e(cal.) (mg g^{-1})	k_1(min^{-1})	q_e(cal.) (mg g^{-1})	k_2(g mg^{-1} min^{-1})	R^2
MoO_3:S=1:2	137.4226	115.1914	0.0006	135.5014	0.0371	0.998

Figure S1. The pseudo-first order sorption kinetics of RhB onto samples

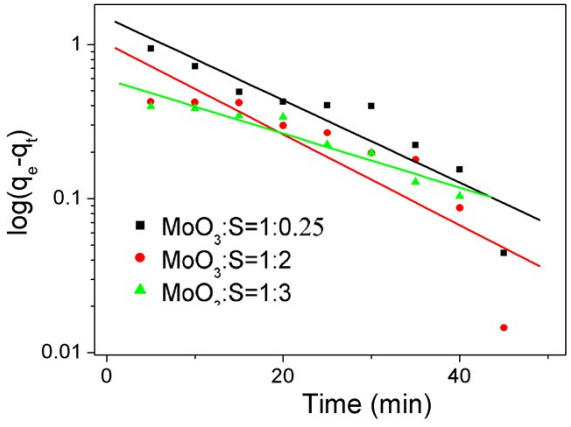

Figure S2. N_2 adsorption-desorption isotherm curves and pore size distribution (inset) of MoO_3 nanorods.

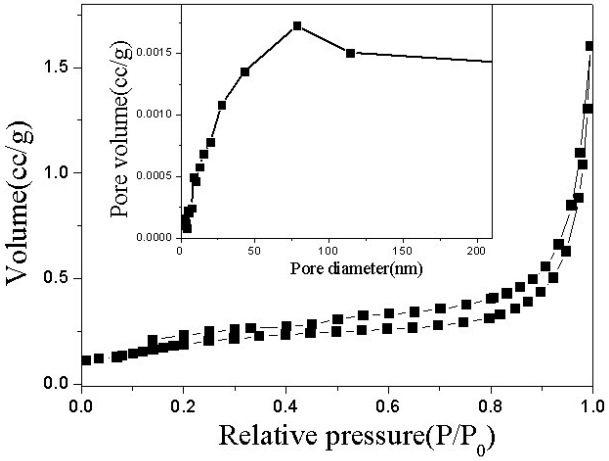

Figure S3. (a) Adsorption curve of Cu^{2+} ions by MoO_2/Mo_4O_{11} (MoO_3:S=1:0.25) composite nanorods versus contact time in water. (b) The pseudo-second order sorption kinetics of Cu^{2+} ions onto MoO_2/Mo_4O_{11} (MoO_3:S=1:0.25) composite nanorods.

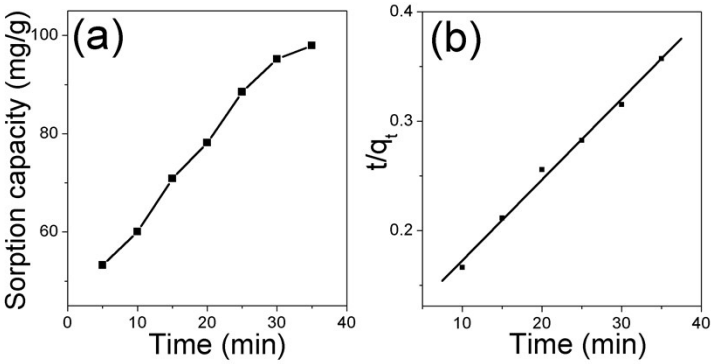

Figure S4. The pseudo-first order sorption kinetics of Cu^{2+} ions onto MoO_2/Mo_4O_{11} (MoO_3:S=1:0.25) composite nanorods.

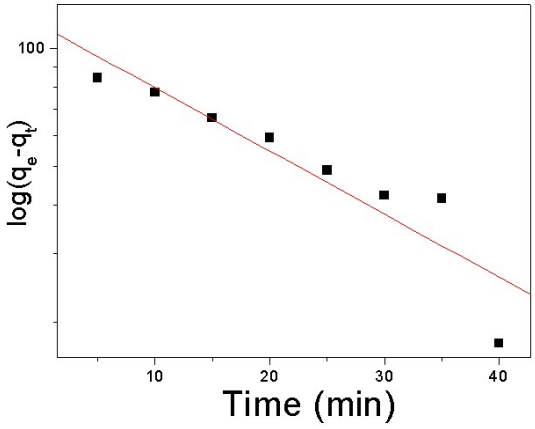

Figure S5. Adsorption curve of Zn^{2+}, Cr^{3+}, and Pb^{2+} ions by MoO_2/Mo_4O_{11} (MoO_3:S=1:0.25) composite nanorods versus contact time in water.