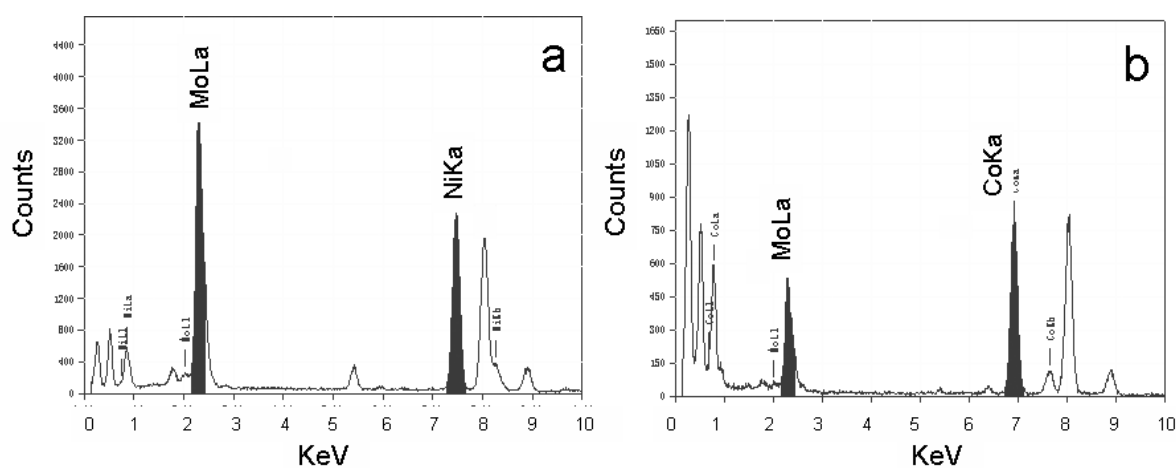


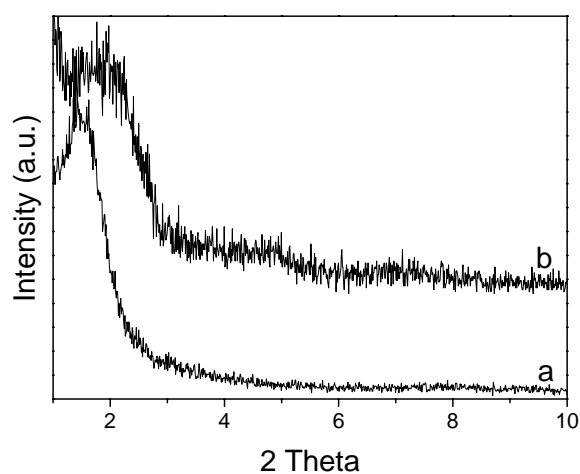
## Supplementary Information

# Lamellar transition metal molybdate-CTA mesostructured composites (metal = Ni, Co): one-pot synthesis and their application in treatment of acid fuchsine

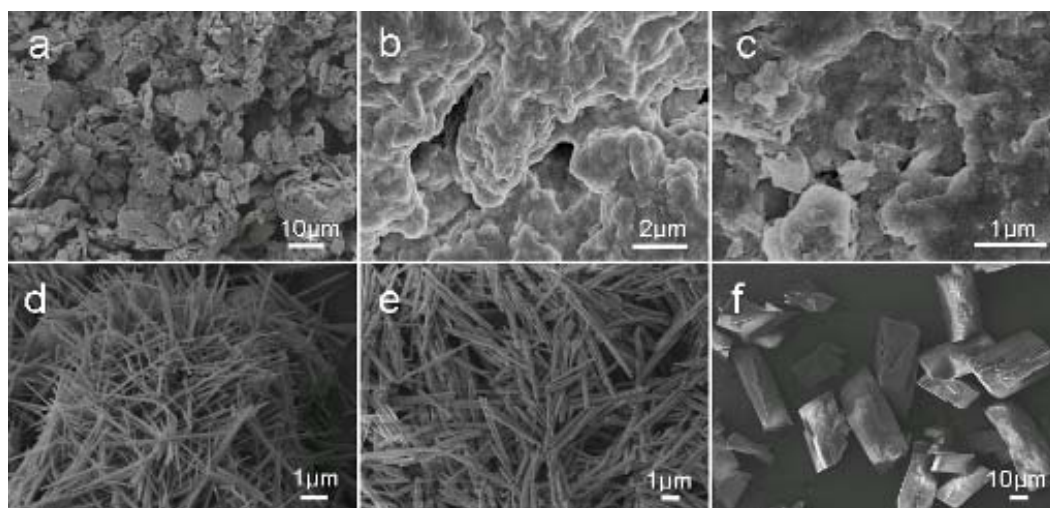
Hong-Bin Yao, Xiao-Bo Li, Shu-Juan Liu, Shu-Hong Yu\*



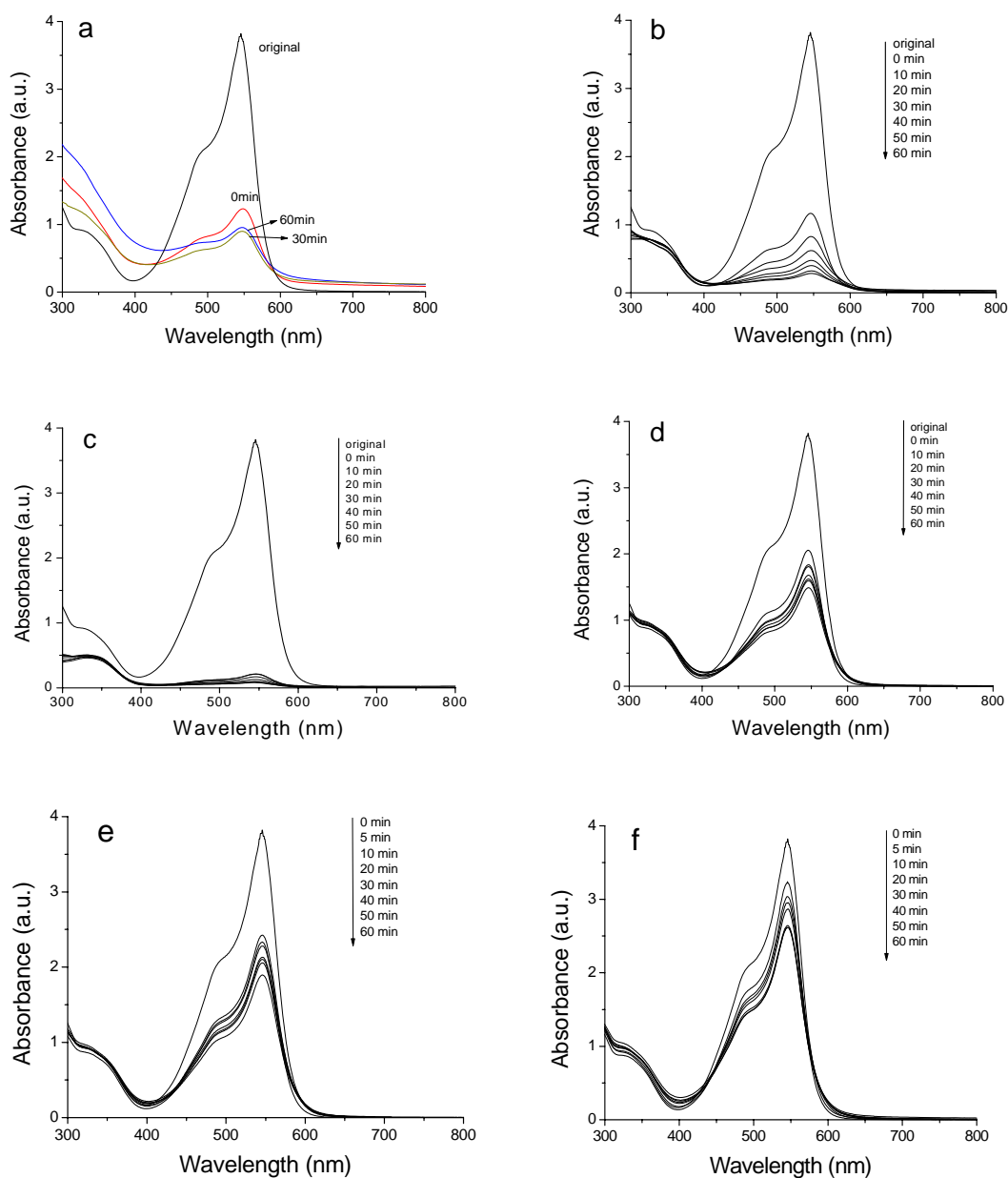
**Fig. S1** (a), (b) The EDS spectra of nickel molybdate-CTA and cobalt molybdate-CTA composites, respectively.



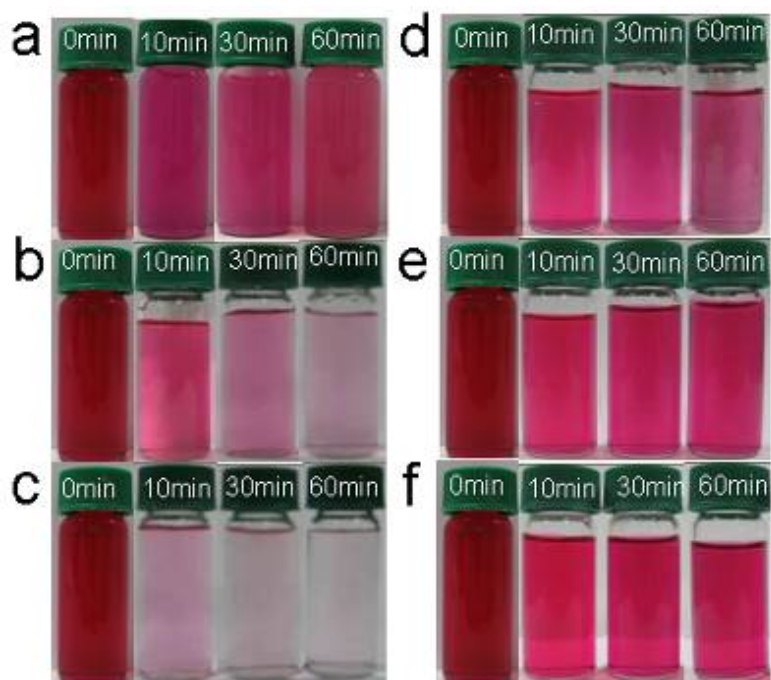
**Fig. S2** PXRD patterns of transition metal molybdate-CTA composites after drying. (a) Nickel molybdate-CTA; (b) cobalt molybdate-CTA.



**Fig. S3** SEM images of samples as synthesized. (a) molybdenum oxide-CTA, (b) nickel molybdate-CTA, (c) cobalt molybdate-CTA. (d) NiMoO<sub>4</sub> micro-rods. (e) CoMoO<sub>4</sub> micro-rods. (f) MnMoO<sub>4</sub> micro-plates.



**Fig. S4** UV-vis Absorption spectra of the acid fuchsin solution (99.2 mg/L, 100 mL) in the presence of 50 mg of samples at different exposure time under the 300 W Xe lamp shining: (a) in the presence of molybdenum oxide-CTA. (b) in the presence of nickel molybdate-CTA. (c) in the presence of cobalt molybdate-CTA. (d) in the presence of NiMoO<sub>4</sub> micro-rods. (e) in the presence of CoMoO<sub>4</sub> micro-rods. (f) in the presence of MnMoO<sub>4</sub> micro-plates.



**Fig. S5** Time dependent color change of acid fuchsin solution in the presence of different samples: (a, b, c) in the presence of molybdenum oxide-CTA, nickel molybdate-CTA and cobalt molybdate-CTA composites respectively. (d, e, f) in the presence of NiMoO<sub>4</sub> micro-rods, CoMoO<sub>4</sub> micro-rods, and MnMoO<sub>4</sub> micro-plates, respectively.