

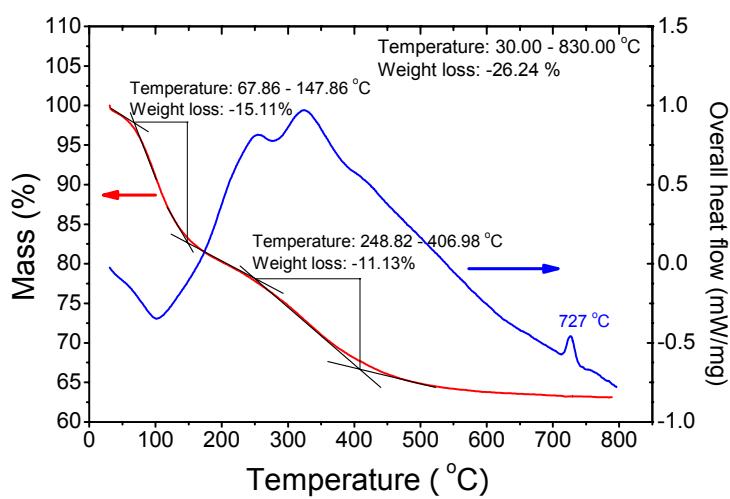
## Titania-phosphonate hybrid porous materials: preparation, photocatalytic activity and heavy metal ion adsorption

Xue-Jun Zhang, Tian-Yi Ma, Zhong-Yong Yuan\*

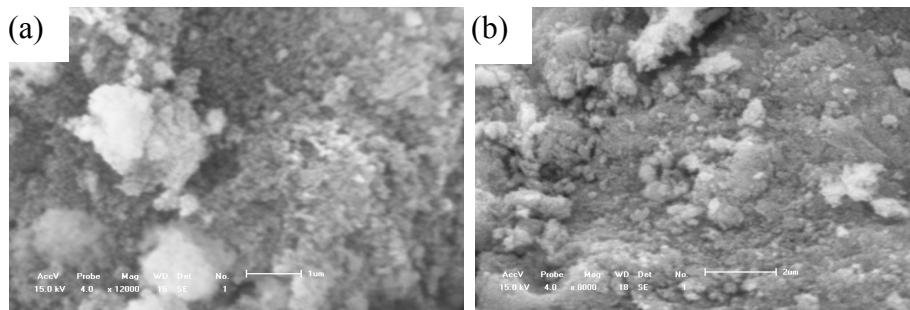
*Institute of New Catalytic Materials Science, Engineering Research Center of Energy Storage and Conversion (Ministry of Education), College of Chemistry, Nankai University, Tianjin 300071, China*

### Electronic Supplementary Information (ESI) available:

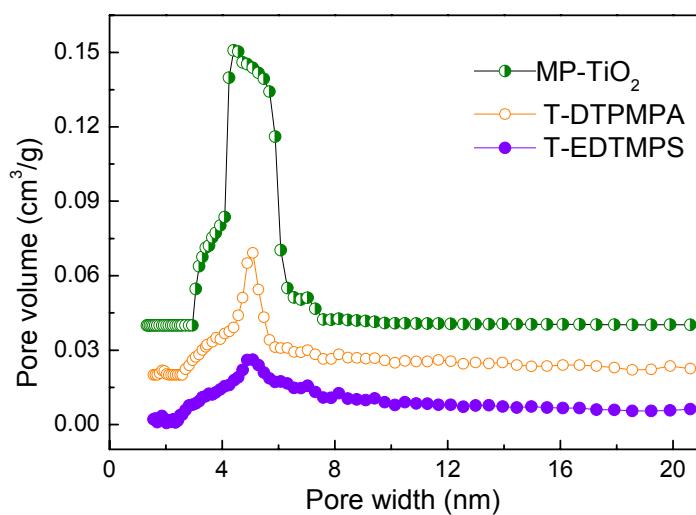
(TG-DSC profiles, SEM and TEM images, and the DFT pore size distribution curves of the synthesized materials.)



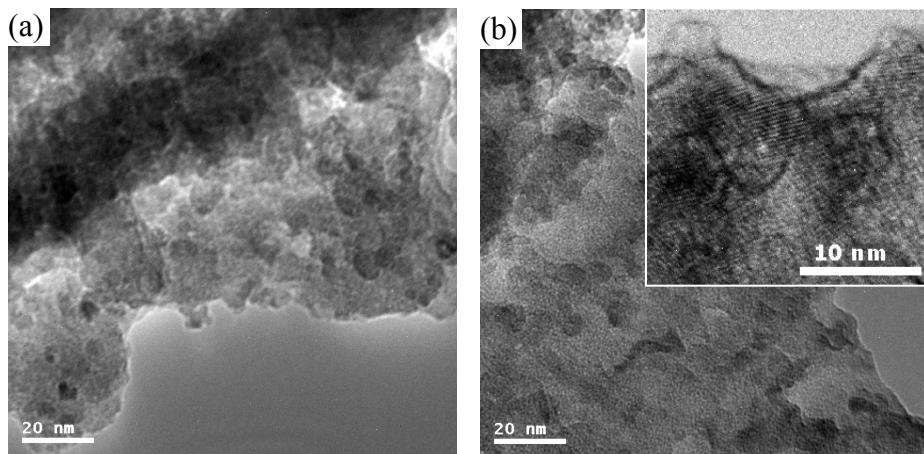
**Fig. S1** TG-DSC profiles of the as-synthesized T-DTPMPA hybrid solid.



**Fig. S2** SEM image of the synthesized porous titania-phosphonate samples: (a) T-EPTMPS and (b) T-DTPMPA.



**Fig. S3** Pore width distribution curves of the synthesized porous titania-phosphonate materials and pure titania sample, determined by DFT method. The pore volume was shifted by 0.04 and 0.02 for the curves of MP-TiO<sub>2</sub>, and T-DTPMPA, respectively.



**Fig. S4** TEM images of the synthesized mesoporous titania-phosphonate samples: (a) TPPH-EPTMPS and (b) TPPH-DTPMPA.