Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

Light absorption modulation of novel Fe_2TiO_5 inverse opals for photoelectrochemical water splitting

Xiaoqiang An,[a] Huachun Lan,[a,*] Ruiping Liu,[a,c] Huijuan Liu,[b,c] and Jiuhui Qu[a,c]

a. Key Laboratory of Drinking Water Science and Technology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China. E-mail: hclan@rcees.ac.cn

b. State Key Laboratory of Environmental Aquatic Chemistry, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

c. University of Chinese Academy of Sciences, Beijing 100049, China

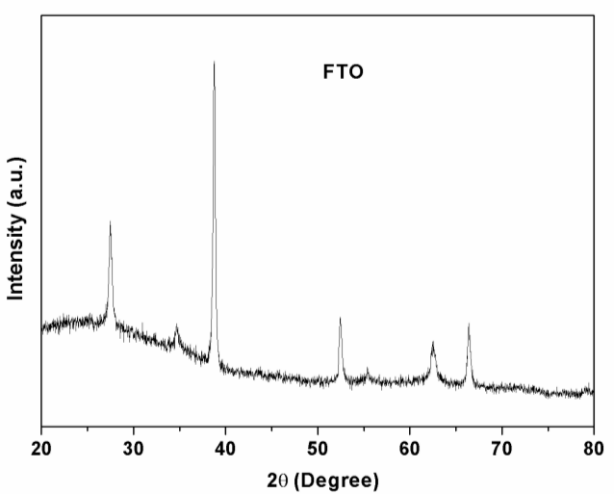

Fig. S1 XRD pattern of FTO substrate

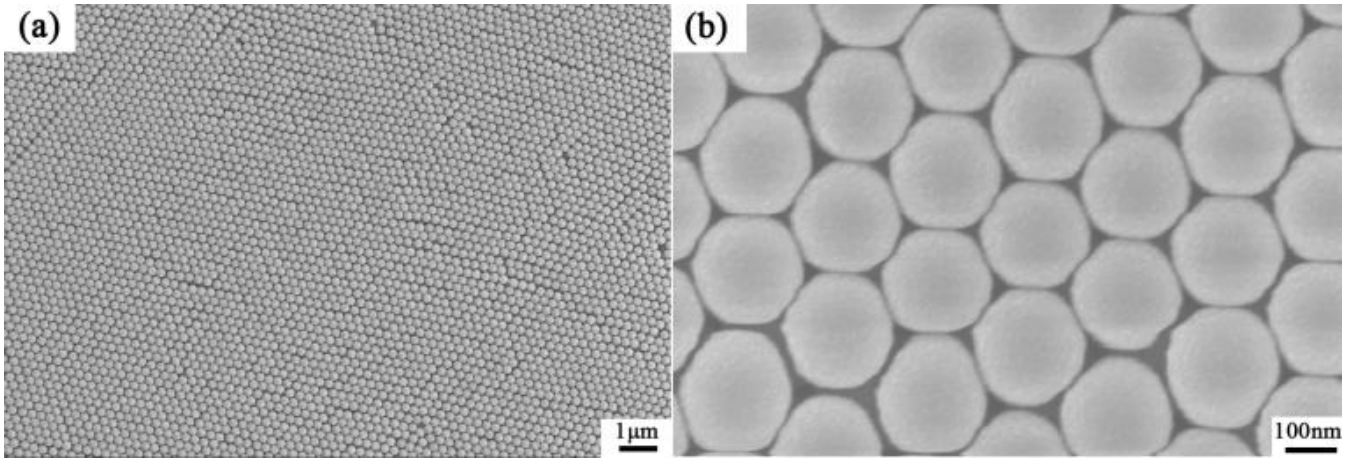

Fig. S2 Low-magnification (a) and High-magnification (b) SEM images of colloidal crystal templates self-assembled from PS spheres.

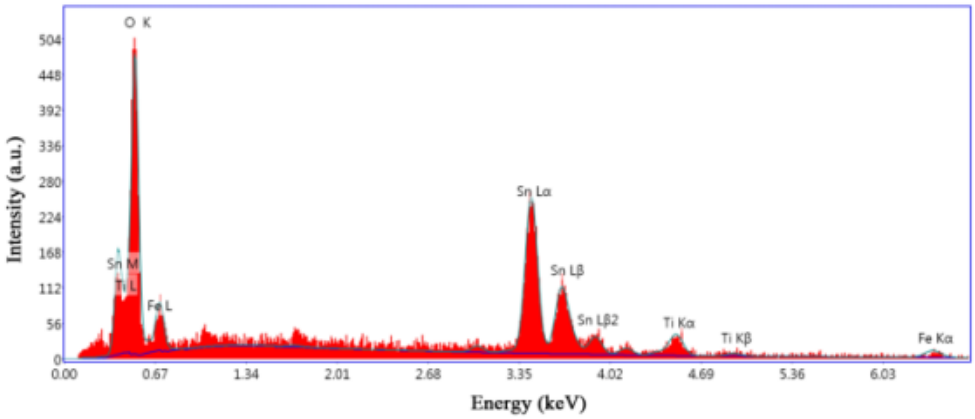

Fig. S3 EDS spectrum of Fe_2TiO_5-based inverse opal photoanodes.

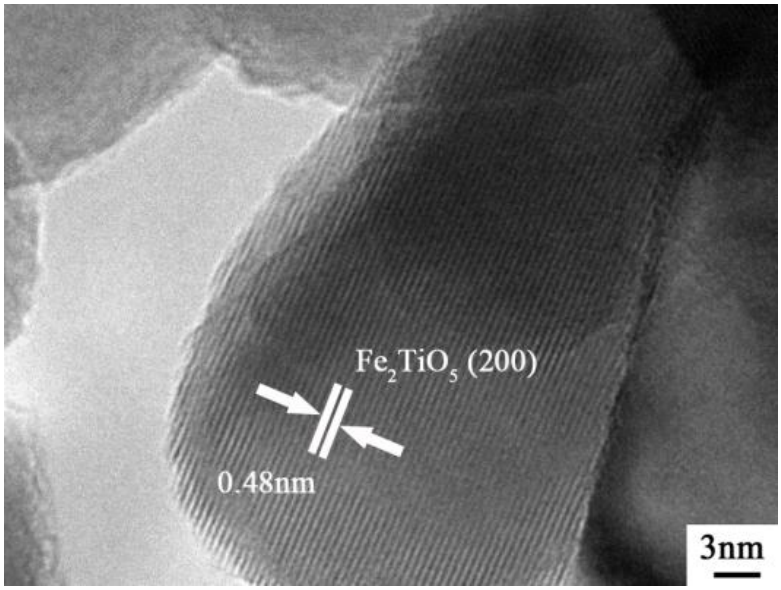

Fig. S4 HR-TEM images of as-synthesized Fe_2TiO_5 nanoparticles.

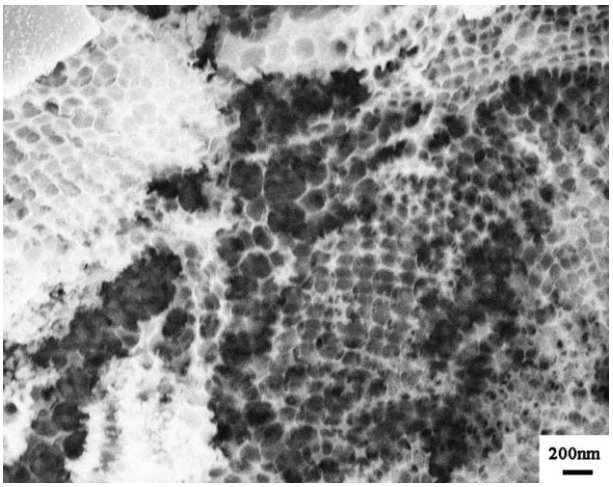

Fig. S5 SEM image of disordered porous Fe_2TiO_5 film, using disordered PS nanoparticles as template.

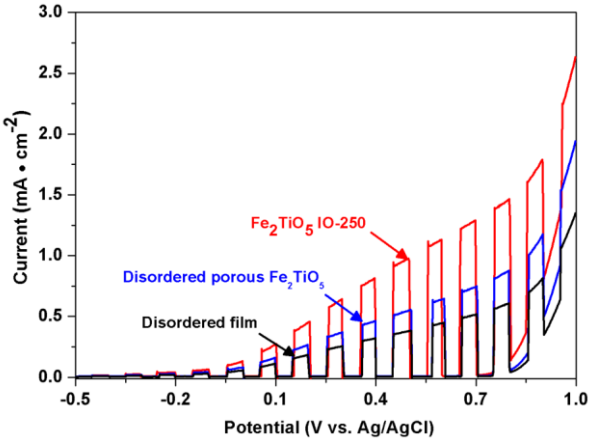

Fig. S6 Linear scan voltammetry (LSV) of Fe_2TiO_5 IO-250, disordered porous Fe_2TiO_5 and disordered Fe_2TiO_5 under full arc irradiation

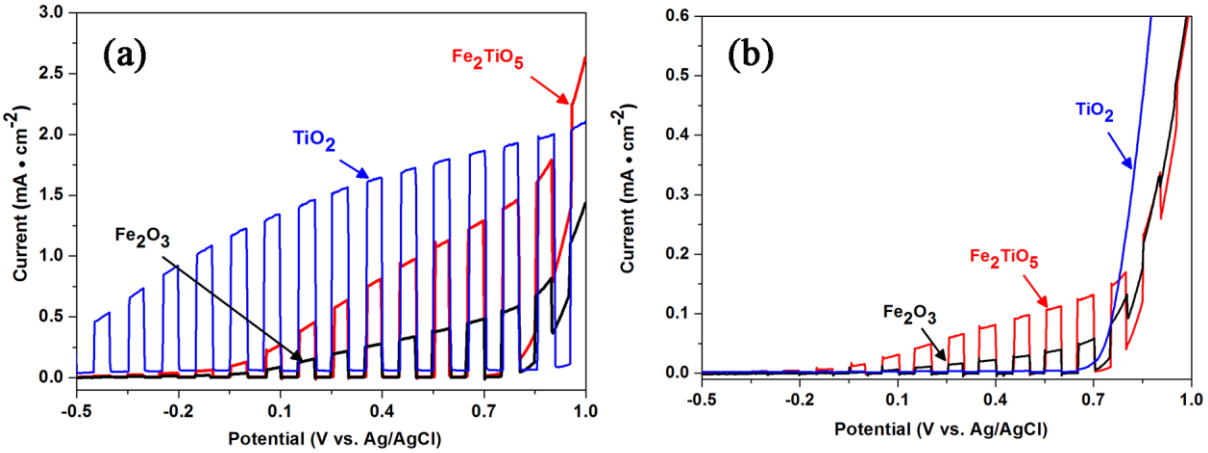

Fig. S7 (a) Linear scan voltammetry (LSV) of Fe_2O_3, TiO_2 and Fe_2TiO_5 photoanodes under full arc irradiation; (b) Linear scan voltammetry (LSV) of Fe_2O_3, Fe_2TiO_5 and TiO_2 photoanodes under visible light irradiation.