

Supplementary Information

Spatial separation of hydrogen evolution center from semiconductor with a freestanding silica-sphere-supported Pt composite

Guiyang Yu,^a Wenxiang Zhang,^a Jungang Cao,^a Wenfu Yan^b and Gang Liu^{*a}

^a Key Laboratory of Surface and Interface Chemistry of Jilin Province, College of Chemistry, Jilin University, Jiefang Road 2519, Changchun, 130012, China

^b A State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Qianjin Road 2699, Changchun, 130012, China .

* Address correspondence to lgang@jlu.edu.cn

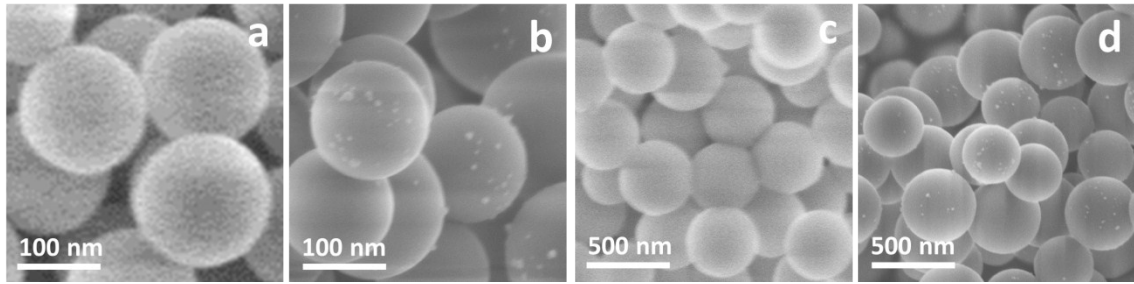


Fig. S1 SEM images of (a) S120, (b) 1%Pt/S120, (c) S400 and (d) 1%Pt/S400.

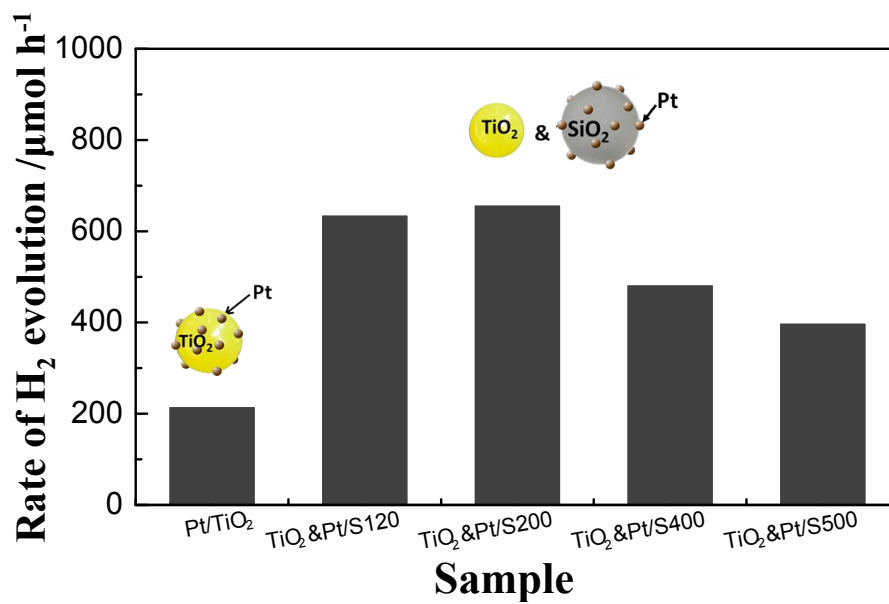


Fig. S2 Photocatalytic H₂ evolution activity of Pt/TiO₂ and Pt/S120, Pt/S200, Pt/S400, Pt/S500 co-added with TiO₂ under full spectrum irradiation.

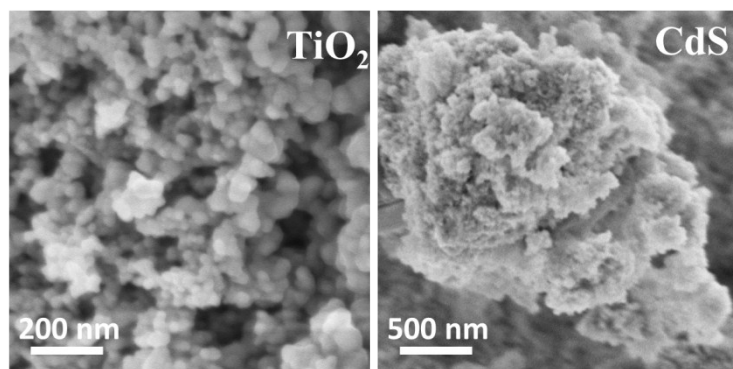


Fig. S3 SEM images of TiO₂ and CdS.

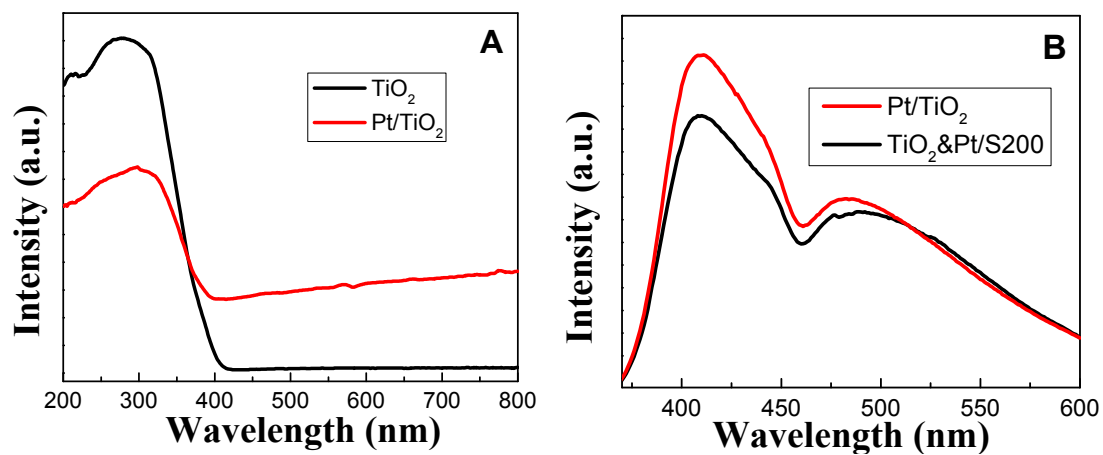


Fig. S4 (A) UV-vis spectra of TiO₂ and 1.0% Pt/TiO₂. (B) PL spectra of Pt/TiO₂ and TiO₂&Pt/S200 suspended in the reaction agents. The excitation wavelength for the emission spectra was 310 nm.

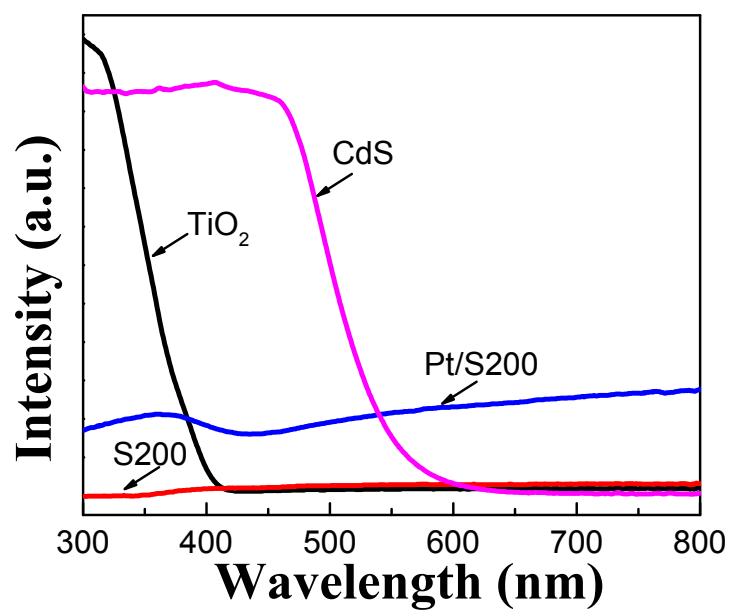


Fig. S5 UV-vis diffuse reflection spectra of TiO₂, CdS, S200 and Pt/S200.

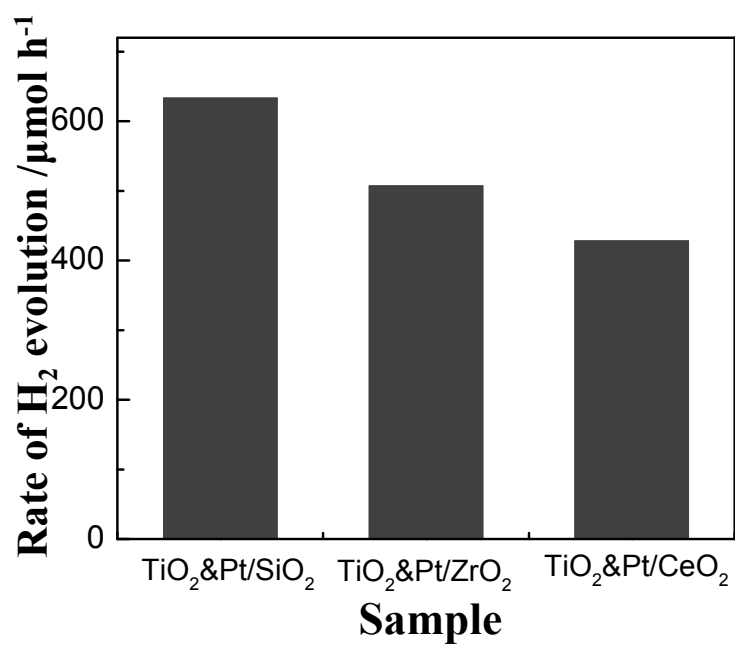


Fig. S6 Photocatalytic H₂ evolution activity of 1.0% Pt loading on various supports co-added with TiO₂ under full spectrum irradiation.