

Supporting Information

Sandwich-type silicotungstates modified TiO₂ microspheres for enhancing light harvesting and reducing electron recombination in Dye-Sensitized Solar Cells

Yi-Jing Wang, Wei-Lin Chen,* Li Chen, Xiao-Tao Zheng, Sha-Sha Xu, and En-Bo Wang*

^aKey laboratory of Polyoxometalate Science of Ministry of Education, Department of Chemistry, Northeast Normal University, Renmin Street No.5268, Changchun, Jilin, 130024, P. R. China. E-mail: chenwl@nenu.edu.cn (W. L. Chen), wangeb889@nenu.edu.cn (E.B. Wang), Tel: +86-431-85098787.

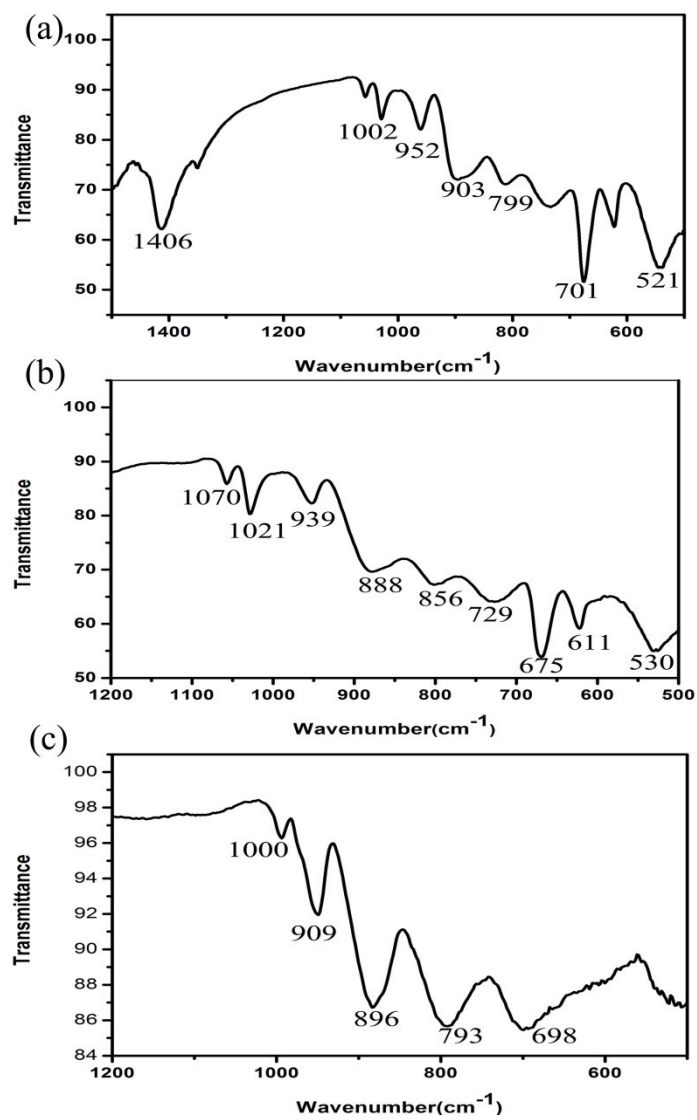


Fig. S1 (a) FT-IR of Ni₄ (b) FT-IR of Ni₁ (c) FT-IR of Co₄

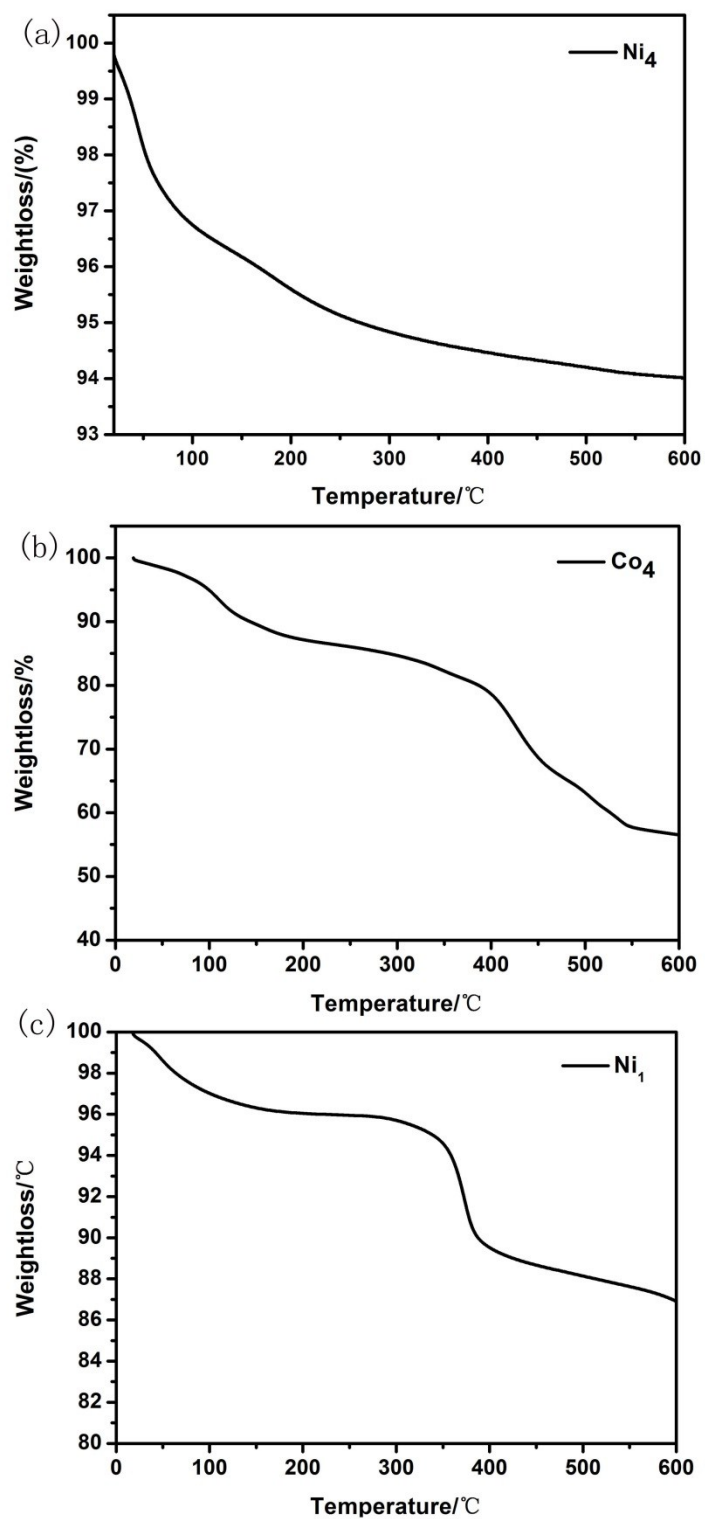


Fig. S2 (a) TGA curve of Ni₄. (b) TGA curve of Co₄. (c) TGA curve of Ni₁.

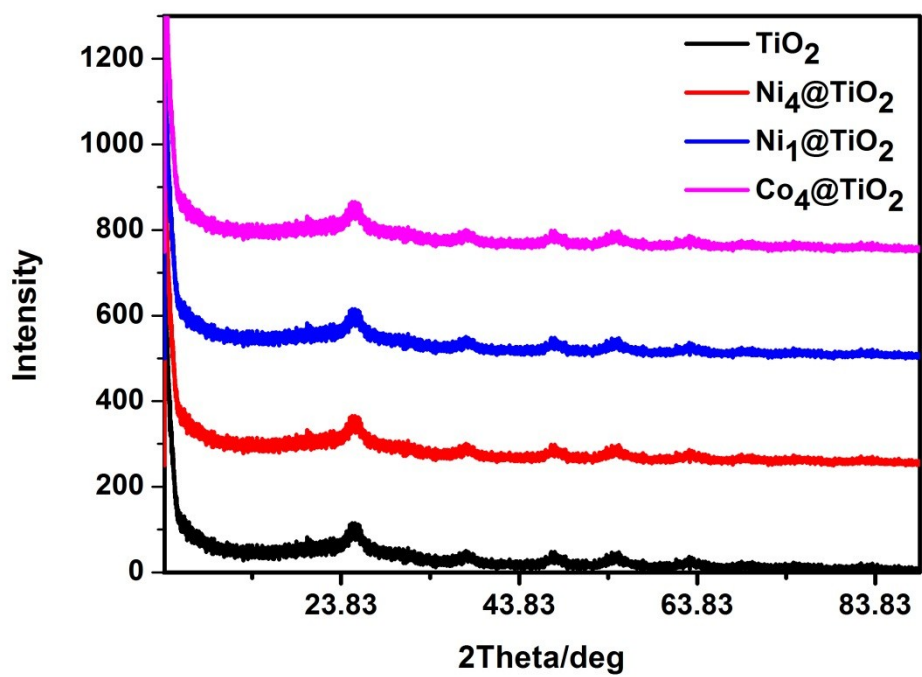


Fig. S3 XRD of TiO₂, 0.8% Ni₄@TiO₂, 0.8% Ni₁@TiO₂ and 0.8% Co₄@TiO₂

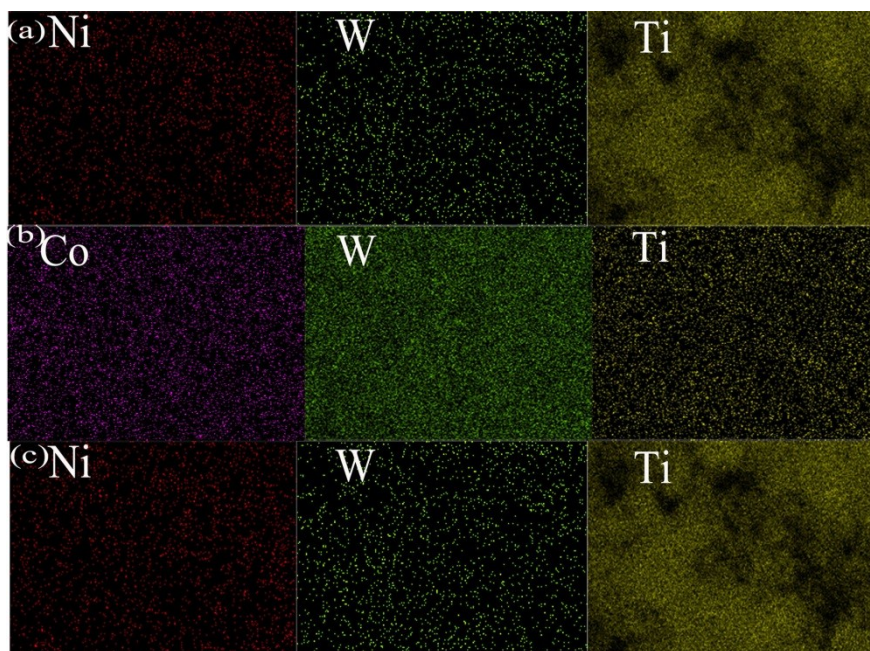


Fig. S4 (a) EDS mapping of Ni, W and Ti from Ni_4 . (b) EDS mapping of Ni, W and Co from Co_4 . (c) EDS mapping of Ni, W and Ti from Ni_1 .

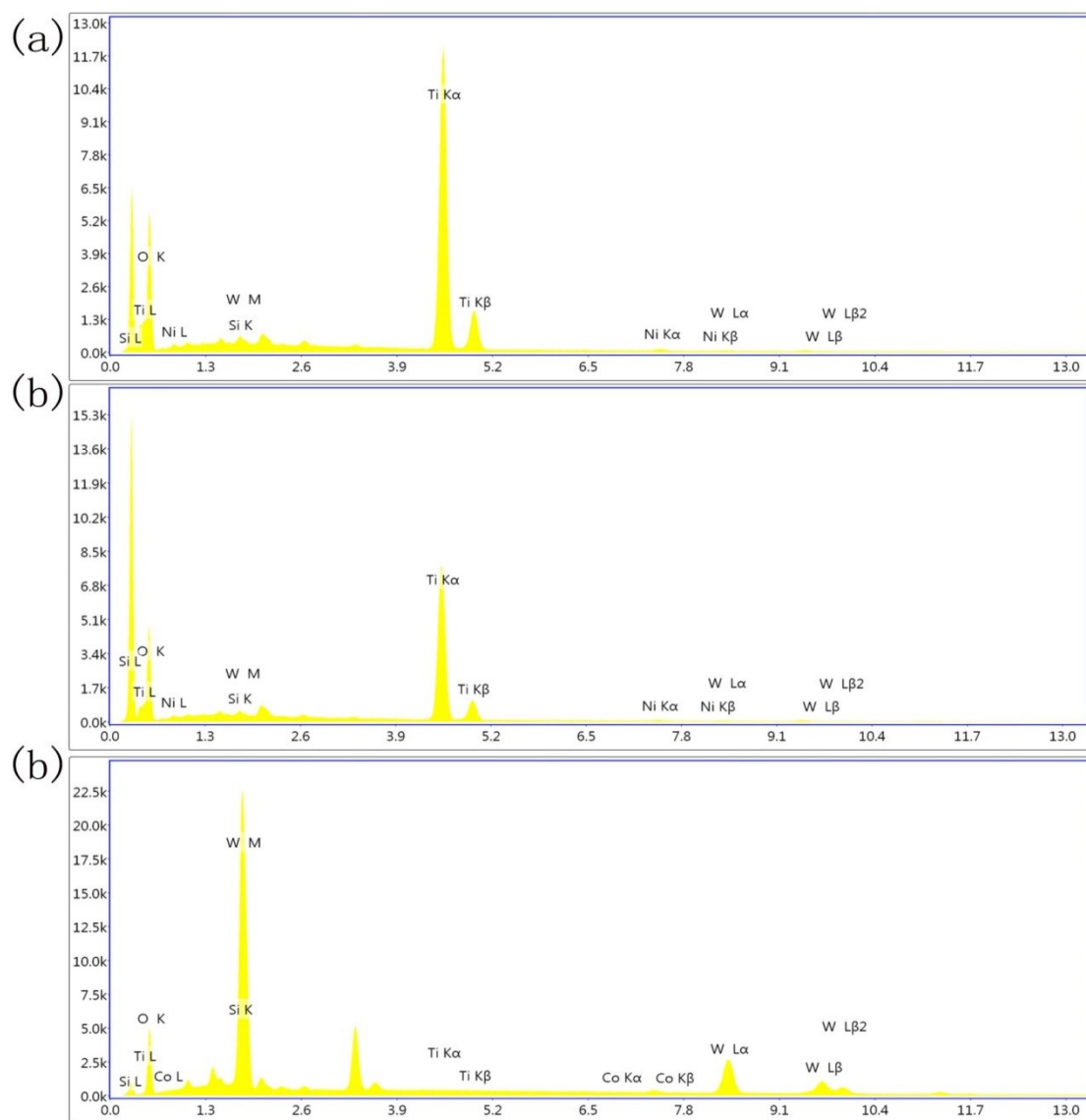


Fig. S5 (a) EDS of 0.8% Ni₄@TiO₂. (b) EDS of 0.8% Ni₁@TiO₂. (c) EDS of 0.8% Co₄@TiO₂