Supporting Information

TiO_2/NiO Hybrid Shells: p-n Junction Photocatalysts with Enhanced Activity under Visible Light

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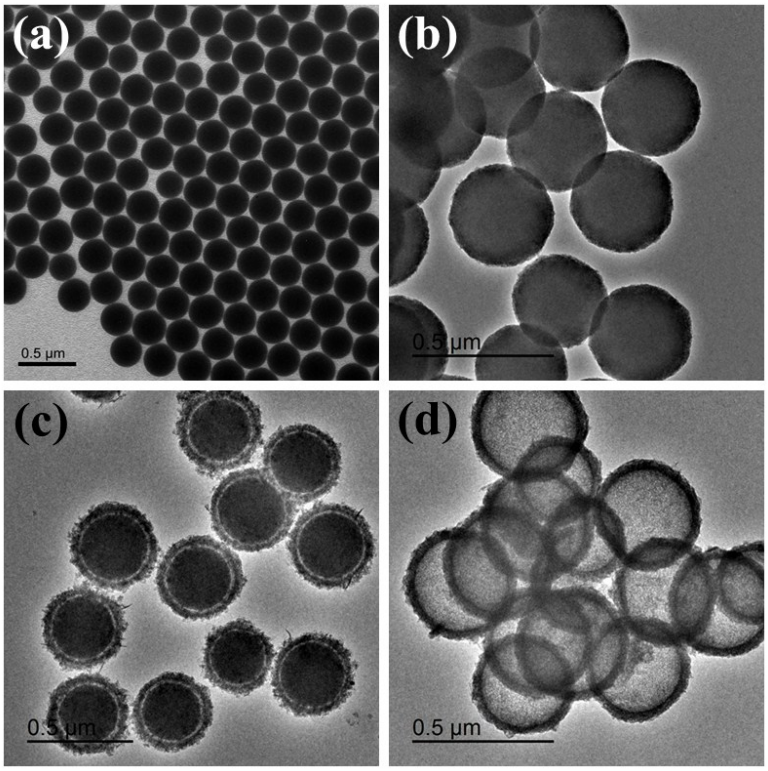

Figure S1. TEM images of (a) SiO_2 particles, (b) SiO_2/TiO_2 core/shell hybrids, (c) $SiO_2/TiO_2/NiO$ hybrids, and (d) TiO_2/NiO hollow hybrids.

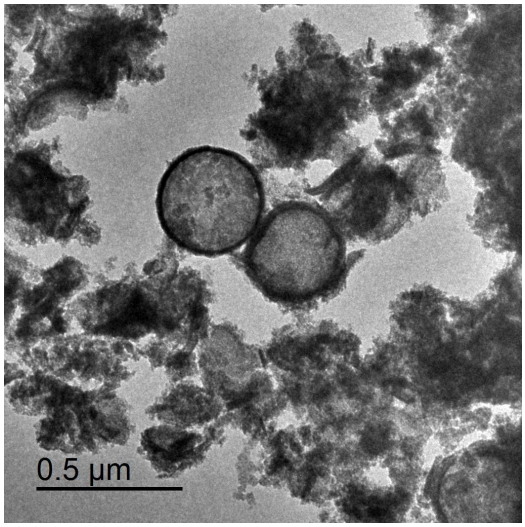

Figure S2. TEM image of TiO_2/NiO hollow hybrids. Synthetic conditions: 0.1 mL TBOT, 0.015 mol L^{-1} $NiCl_2 \cdot 6H_2O$.

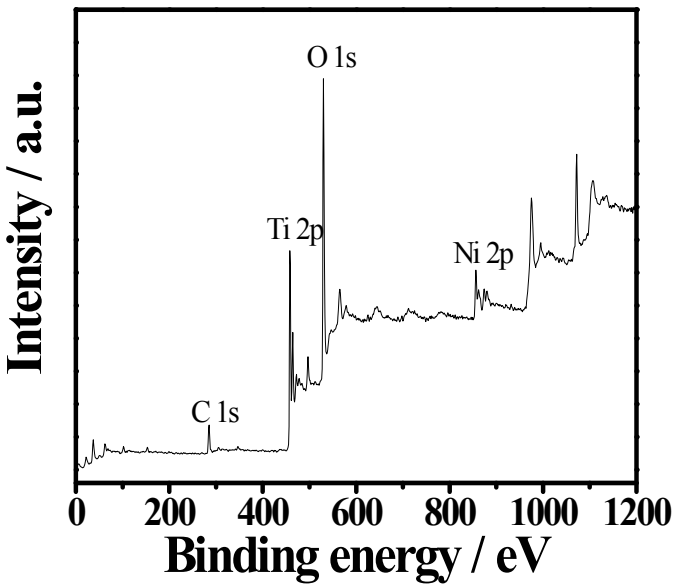

Figure S3. XPS spectrum of N2.

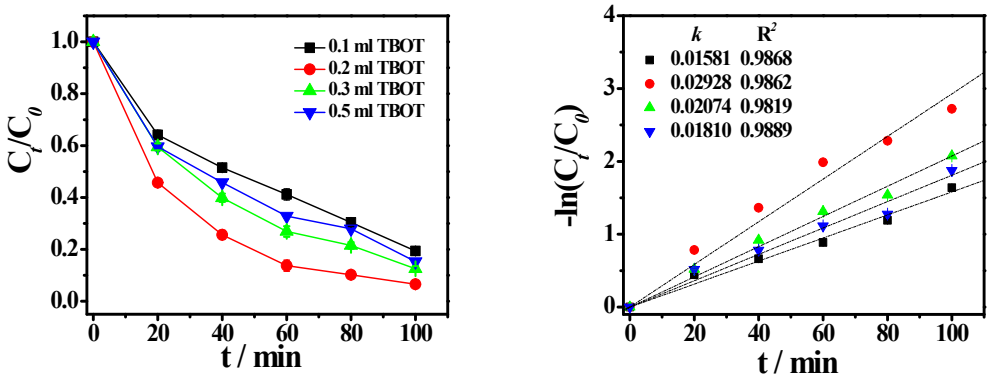

Figure S4. (a) Evolution of RhB concentration and (b) apparent reaction rate constant versus reaction time under visible light irradiation using TiO_2/NiO hollow hybrids as photocatalysts with different shell thickness.

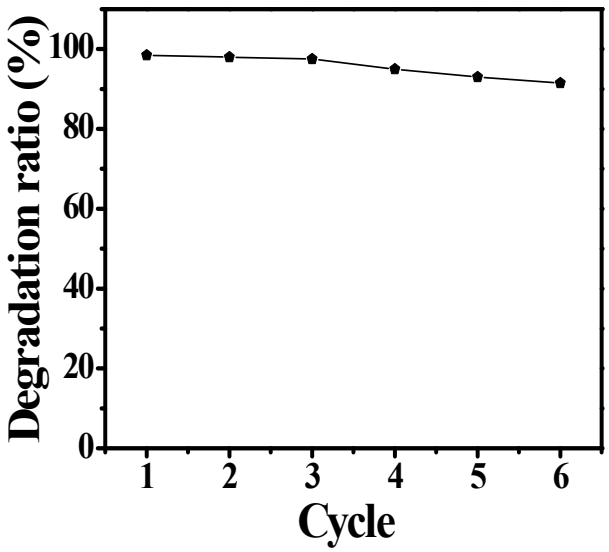

Figure S5. The reusability of TiO_2/NiO hollow hybrids as photocatalysts in the degradation of RhB under visible light irradiation.

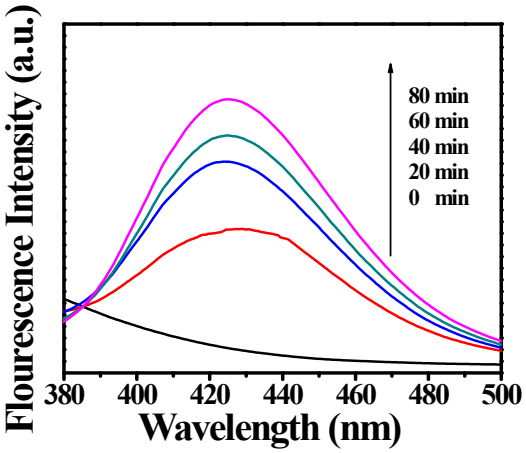

Figure S6. PL spectral changes with different irradiation times on sample N3 in a 5×10^{-4} mol L^{-1} basic solution of terephthalic acid.

Table S1 TOC result for the degradation of RhB using TiO_2/NiO hollow hybrids as catalyst under visible light irradiation.

Time (min)	**0**	**20**	**60**	**100**	**120**	**150**
TOC (ppm)	10.34	7.382	6.592	3.463	2.311	1.992

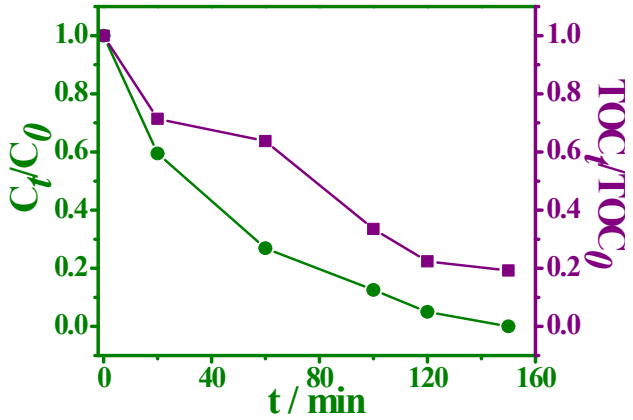

Figure S7 Evolution of RhB concentration and TOC versus reaction time under visible light irradiation.