One-step synthesis of CoO/g-C₃N₄ composites by thermal decomposition for overall water splitting without sacrificial reagents

Supporting Information

**Figure S1** XRD patterns of CoO/g-C₃N₄ composites with different mass ratios of Co(AcO)₂ from 0% to 20%.

**Figure S2** XPS spectrum of 10%CoO/g-C₃N₄.
**Figure S3** TEM image for pure CoO NPs after photocatalytic H$_2$ evolution.

**Figure S4** (a) LSV curves for bare working electrode, g-$\text{C}_3\text{N}_4$, CoO and 10%CoO/g-$\text{C}_3\text{N}_4$ in 20 mM H$_2$O$_2$ solution. (b) CV curves for 10%CoO/g-$\text{C}_3\text{N}_4$ in 10 mM, 20 mM, 30 mM and 40 mM H$_2$O$_2$ solutions.

**Figure S5** Electrochemical impedance spectra (a) and PL spectra (b) of g-$\text{C}_3\text{N}_4$ and 10%CoO/g-$\text{C}_3\text{N}_4$. 