**Supplementary Material**

**Enhanced photocatalytic activity of direct Z-scheme Bi2O3/g-C3N4 composites *via* facile one-step fabrication**

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FIG. S1. TG-DTA curves of pure g-C3N4 and 1BOCN composite (a), TG curves of pure Bi2O3, g-C3N4 and *x*BOCN (*x* = 0.5, 0.75, 1, 2 and 3) composites (b).



FIG. S2. FT-IR spectra of pure Bi2O3, g-C3N4 and 1BOCN composite.



FIG. S3. The nitrogen adsorption-desorption isotherms of pure g-C3N4 and 1BOCN composite, the insert is the corresponding pore size distribution.



FIG. S4. Photocatalytic stability of 1BOCN composite.