**Supplementary Information:** 

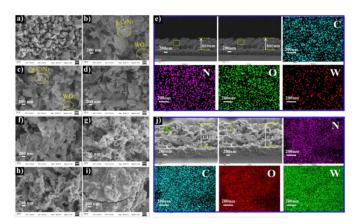


Fig. S1 SEM images of pure WO<sub>3</sub> nanorods (a); WO<sub>3</sub>/g-C<sub>3</sub>N<sub>4</sub> heterojunction film with various electrophoretic deposition time for g-C<sub>3</sub>N<sub>4</sub>: 10 s (b), 40 s (c) and 240 s (d). SEM images of pure g-C<sub>3</sub>N<sub>4</sub> film (f); g-C<sub>3</sub>N<sub>4</sub>/WO<sub>3</sub> heterojunction film after 1 circle (g), 3 circles (h) and 9 circles (i) deposition of WO<sub>3</sub>. (e) is cross-sectional view and elemental analysis for 10 s WO<sub>3</sub>/g-C<sub>3</sub>N<sub>4</sub> samples and (j) is that for 3 circles g-C<sub>3</sub>N<sub>4</sub>/WO<sub>3</sub> sample.