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Adsorption-photocatalysis Functional Expanded Graphite C/C Composite for In-Situ Photocatalytic Inactivation of *Microcystis aeruginosa*

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ABSTRACT: In this study, efficient adsorption-photocatalysis functional expanded graphite covered carbon layer composites (shorted for AP-EGC) with graphitic carbon nitride (g-C₃N₄, shorted for C) and nitrogen-phosphorus codoped titanium dioxide (NP-TiO₂, shorted for T) coating was successfully prepared, which has been named as AP-EGC-CT. It was used for in-situ remediation of harmful algae polluted water. It is shown that the AP-EGC-CT composites exhibit a worm-like structure which can be manipulated by the expanded graphite substrate, and g-C₃N₄ can tune their photoelectric property. Of all the composites, the AP-EGC-CT with 5 wt% g-C₃N₄

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