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Title: Influence of Tunable Pore Size on Photocatalytic and Photoelectrochemical Performances of Hierarchical Porous TiO<sub>2</sub>/C Nanocomposites Synthesized via Dual-Templating



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### ACCEPTED MANUSCRIPT

Influence of Tunable Pore Size on Photocatalytic and Photoelectrochemical Performances of Hierarchical Porous TiO<sub>2</sub>/C Nanocomposites Synthesized via Dual-Templating

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# Table of Content



#### Highlights

- Unique "fish-bone" structure with macro-, meso- and micropores was synthesized by ice and silica hard templation.
- Using different size of silica colloid not only to tune the pore size of TiO<sub>2</sub>/C but also prohibit the transformation of anatase to rutile.
- > First time report to investigate the effect of pore size on the photocatalytic and

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