



*nanomaterials*



*Special Issue Reprint*

## **Synthesis of TiO<sub>2</sub> Nanoparticles and Their Catalytic Activity**

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This Special Issue of “Synthesis of TiO<sub>2</sub> Nanoparticles and Their Catalytic Activity” contains 10 research and review articles, which present the recent advances in the synthesis and applications of TiO<sub>2</sub> nanomaterials for photocatalytic water splitting, environmental remediation, antibacterial, and bioimplant. In this issue, photocatalysts such as Ti<sub>2</sub>O<sub>3</sub>, TiN, g-C<sub>3</sub>N<sub>4</sub>, and reduced graphene oxide could be combined with TiO<sub>2</sub> to form heterojunctions, thus enhancing photocatalytic performance. Besides anatase TiO<sub>2</sub>, rutile TiO<sub>2</sub> with oxygen vacancies also demonstrated marvelous photoluminescence emission properties. In addition, the cutting-edge progress in black TiO<sub>2</sub> nanomaterials are summarized in this issue. The advances of TiO<sub>2</sub> catalysis and generation mechanism of reactive oxygen species w/o light irradiation were also concluded to analyze the safety and complexity of Ti-oxides in disinfection and bioimplants.



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