

# Review of: "A Novel Bi<sub>2</sub>O<sub>3</sub> Modified C-Doped Hollow TiO<sub>2</sub> Sphere Based On Glucose-Derived Carbon Sphere With Enhanced Visible Light Photocatalytic Activity"

shengyuan Yang

**Potential competing interests:** The author(s) declared that no potential competing interests exist.

**Comments:** In this work, the authors report the synthesis of Bi<sub>2</sub>O<sub>3</sub> modified C-doped TiO<sub>2</sub>(BCT) hollow spheres for enhanced photocatalytic performance. The BCT nanospheres photocatalysts are synthesized step by step and are characterized by various physicochemical techniques. Benefiting from the structure and narrow bandgap (2.87 eV), the BCT nanosphere exhibits high photocatalytic activity for TC degradation. Therefore, I would like to recommend this work for publication after some minor revisions to further improve the quality of this work.

- (1) The English is poor and need to be polished carefully.
- (2) To demonstrate the high performance of the BCT nanospheres photocatalyst, the authors are encouraged to provide a table to compare the performance with that of related works.
- (3) The particle size statistics and lattice finger pattern of BCT are required in Figure 2.
- (4) The image of Figure 3 is fuzzy, the authors should update it.
- (5) The design and preparation of BTC nanospheres are attractive for various applications. To further highlight the research significance of this research topic to the general readers, some related papers are suggested to be referenced, such as, Utter degradation of toluene with inhibiting the generation of benzene by self-supporting Bi<sub>2</sub>MoO<sub>6</sub> nanoflakes featuring OV-enriched interface, *Chem. Eng. J.*, 2022,427,131550; Preparation of Bi<sub>0.15</sub>Fe<sub>0.15</sub>TiO<sub>2</sub> Nanocomposites for the Highly Selective Enrichment of Phosphopeptides. *Anal. Chem.*, 2018, 90 (21), 12414–12421; Eu-TiO<sub>2</sub> Nanocomposite with High Photoelectrochemical Activity for Enhanced Photocatalysis of Rhodamine B. *J. Nanosci. Nanotech.* 2019, 19(12), 7758-7763.
- (6) In Fig. 4a, the absorption of BCT in the visible range (400-550 nm) is significantly higher than that of CT. However, the author's explanation contradicts it.
- (7) There is no explanation for Fig. 5b. Indicate the figure legend to introduce Fig. 5b.