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Synthesis of Mesoporous Worm-like $\text{ZrO}_2\text{-TiO}_2$ Monoliths and their Photocatalytic Applications towards Organic Dye Degradation

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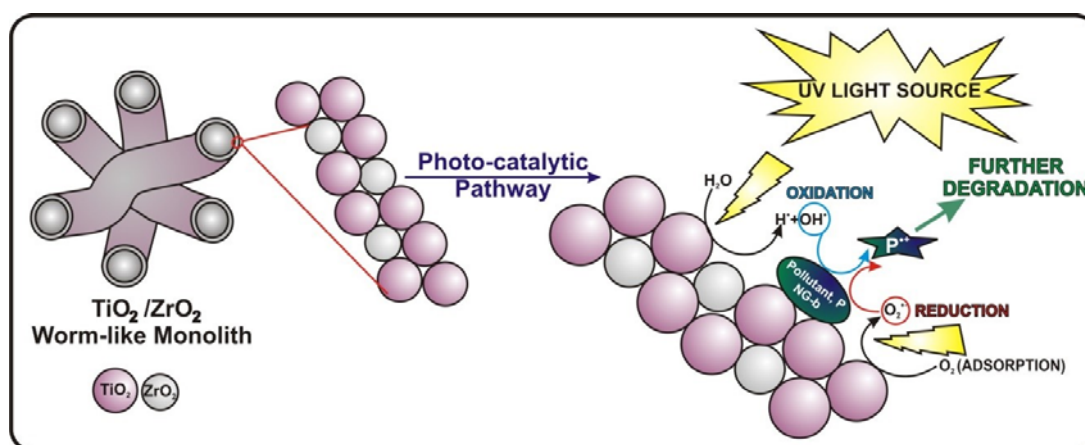
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Graphical Abstract



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HIGHLIGHTS

- ZrO_2 doped TiO_2 monoliths are synthesized through neutral templating method, reveal high surface area and mesoporous worm-like structure.
- The mesoporous monoliths exhibit superior photocatalytic properties under UV light spectra towards complete dissipation of organic textile dye pollutants.
- The tailor-made photocatalytic monoliths exhibit high matrix tolerance, durability and reusability characteristics for photocatalytic applications.

Abstract

The current article reports on the synthesis of a thermally stable mesoporous worm-like ZrO_2 doped TiO_2 monolith materials through a neutral templating route. The controlled thermal treatment facilitates clean removal of organic templates, resulting in a stable and well-defined porous framework. The ZrO_2 doped TiO_2 monoliths serve as an efficient and reusable

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