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Sol-Gel Prepared TiO_2 Photocatalyst

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Abstract. A brief overview of the latest advances in the preparation of nanostructured titanium dioxide and its application in photocatalysis and other fields are given. The data of scanning electron microscopy and X-ray diffraction analysis on the study of the dispersion, morphology, structure and phase composition of titanium dioxide nanopowders obtained by the sol-gel method are presented. The application of TiO_2 nanomaterials for the photocatalytic decomposition of organic pollutants is discussed. The high photocatalytic activity of the nanosized TiO_2 powder for the decomposition of methylene blue is demonstrated and supporting the advantages of using ultraviolet light for photocatalytic water purification.

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