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Light Harvesting Titanium Nanocatalyst for Remediation of Methyl Orange

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Abstract : An eco-friendly Citrus paradisi peel extract mediated synthesis of TiO2 nanoparticles is reported under sonication. U.V.-vis, Transmission Electron Microscopy, Dynamic Light Scattering and X-ray analyses are performed to characterize the formation of TiO2 nanoparticles. It is almost spherical in shape, having a size of 60–140 nm and the XRD peaks at 2θ = 25.363° confirm the characteristic facets for anatase form. The synthesized nano catalyst is highly active in the decomposition of methyl orange (64 mg/L) in sunlight (~73%) for 2.5 hours.

Keywords : eco-friendly, TiO2 nanoparticles, citrus paradisi, TEM
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