

## Zinc oxide

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Heterogeneous photocatalysis is a recent technique employed in wastewater treatment in order to mineralize organic pollutants. For this purpose, zinc oxide-based catalysts depict an interesting and promising way [1] for degradation under sunlight compared to titanium oxide with a better visible light absorption [2]. Zinc oxide have been prepared according a eco-friendly green method. Metal precursors used were acetate and nitrate zinc. Plants present in the process allowed the formation and the self-assembling of ZnO during the crystal growth thanks to the expanded chemical family of polyphenol which act as reductants [3]. Two synthesis processes were tested: a hydrothermal method and a hotplate synthesis. Crystalline and organic matter-free compounds obtained after annealing were characterized with diffractive reflectance spectroscopy (DRS), X-ray diffraction, Fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM). We tested the performance of the material based on its ability to oxidize methylene blue over time under simulated sunlight. The concentration of this pollutant has been determined using UV-visible spectroscopy by absorbance measurements.

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