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Green nanoparticles for photocatalytic purification of water

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Cemiconductor mediated photo catalysis has been Jinvestigated extensively as a viable technique for the removal of organic and inorganic pollutants from aqueous streams. The technique has been proven effective for the oxidative destruction of recalcitrant organic compounds such as dyes. In the natural systems Aloe Vera plant being oldest herbal medicinal plant as high in vitamins, minerals, amino acids and fatty acids, hence used in the products for skin and hair. Present research work focused on to synthesis of Titanium dioxide (TiO2) nanoparticles from leave extract of Aloe Vera plant using Green synthesis method. The structure, morphology, particle size and % weight loss of the synthesized green nanoparticles(TiO2) were analyzed by using X-ray powder diffraction (XRD), Thermogravimetric Analysis (TGA), Scanning electron microscopy (SEM) and Transmission electron microscopy (TEM. Nano-titanium dioxide (TiO2), featuring high chemical stability and low

human toxicity at a cheap price, is utilizable in disinfection and decontamination processes. The effectiveness of the synthesized morphology of TiO2 (catalyst) for the photocatalytic degradation of Indigo Caramine dye has been investigated. It has been observed that the catalysts prepared by sono chemical assisted green method exhibit higher photocatalytic activity as compared to the catalysts prepared by the conventional method.

Biography

Dr Pratibha Agrawal: Born in June 1976 - education – M.Sc.Ph.D. (Amravati University) Achievements: Merit in B.Sc., M.Sc. and B.Ed, University level Gold Medals Positions held: Prof and Head, Dept of Applied Chemistry, LIT,RTMNU,Nagpur More than 60 papers published. Actively involved in environmental research, waste water treatment methods, renewable energy.

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