

UV-vis light endeavoring decomposition of organic pollutant using $\text{Si}_{0.9}\text{Re}_{0.1}\text{O}_2$ novel developed photo-catalyst

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ABSTRACT

Efficiency of the newly developed photo-catalyst ($\text{Si}_{0.9}\text{Re}_{0.1}\text{O}_2$) was studied by observing the decomposition of organic pollutant (Methylene Blue, MB) under UV-vis light. The photo-catalyst was prepared by hydrothermal process. The newly developed catalyst was characterized by using various techniques, for example, X-ray diffraction, scanning electron microscopy, Brunauer–Emmett–Teller and energy dispersive X-ray. The results showed an enhancement in the output for the deprivation of aqueous solution of MB. From the results obtained, it is claimed that the developed photo-catalyst may have numerous uses in several progressive fields.

Keywords: Photo-catalyst; Hydrothermal process; Aqueous solution; Methylene blue

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