

Microbial Decolorization of Reactive Azo Dyes by *Bacillus* Spp. Under Anaerobic Condition

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A bacterial strain *Bacillus* spp. with remarkable ability to decolourize the reactive azo dyes such as reactive red, reactive yellow, reactive brilliant red and reactive brilliant blue was isolated from the textile effluent contaminated site. The effluent sample was collected from local textile industry, Ankleshwar, Gujarat, India. Static conditions with 10 g/l glucose, pH 9, 37°C, 20% inoculum concentration, 50 mg/l of dye concentration, 3 g/l of NH_4NO_3 , were considered to be the optimum decolourizing conditions. *Bacillus* spp. grew well in these optimum conditions, resulting in 82% decolourization extent 7 days of incubation. Phenotypic characterization and phylogenetic analysis of the 16S rRNA sequence indicated that the bacterial strain belonged to the genus *Bacillus*. UV (Ultra Violet) analysis of bacterial isolate suggested that it exhibited decolourizing activity, rather than inactive surface adsorption. This decolourization extent and facile conditions show the potential for this bacterial strain to be used in the biological treatment of textile effluent or dyes.

Biography:

Maulin P Shah's laboratory is trying to assess the impact of industrial pollution on microbial diversity of waste water following cultivation dependant and cultivation independent analysis. His major work involves isolation, screening, identification and Genetic Engineering of high impact of Microbes for the degradation of hazardous materials. Dr. Maulin P Shah has more than 150 research publication in highly reputed national & international journals. He is Editor-in-Chief of Research Journal of Microbiology, Journal of Biotechnology & Bio materials.