

Isolation and Screening of Hydrocarbon Utilizing Bacteria from Hydrocarbon Based Polluted Site in Gujarat, India

Mandalaywala Hetal P¹ and Ratna Trivedi^{2*}

^{1,2}Department of Environmental Sciences, Shree Ramkrishna Institute of Computer Education & Applied Sciences, Athwalines, Surat-395001, Gujarat, (INDIA)
E-mail: ¹mandalaywalahetal@mail.com, ²dratnatrivedi@gmail.com

Abstract—Hydrocarbons are widely distributed in environment owing to its extensive use as pesticides, petroleum products or other organic compounds. Hydrocarbons being mutagenic and carcinogenic in nature, it has led to various serious threat to living form. Pollution can ensue due to accidental spillage or leakages while handling and transportation of such compounds. Thus it becomes necessary to ensure safe removal and disposal of pollutants, to avoid further dispersal in different environmental layers. Bioremediation is one such effective treatment methods which renders the pollutants harmless. Thus studying hydrocarbon utilizing bacteria becomes an essential step to formulate an effective bioremediation process. Hydrocarbon utilizing bacteria were isolated from a hydrocarbon based polluted site and screened by series of tests, viz., drop collapse method, oil spread assay, blue agar plate method, haemolysis test by using blood agar and then confirmatory Rhamnose test: phenol-sulphuric acid test. Among the isolates, five *Pseudomonas* spp. have been found to be having hydrocarbon utilizing capability. The isolates were identified using 16 sRNA sequencing procedure.

Keywords: Hydrocarbons, Hydrocarbon utilizing bacteria, bioremediation.