

# **Isolation and identification of marine bacteria for polyethylene degradation**

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Plastics are becoming indispensable ingredient for human life. Annually about 57 million tons of plastic wastes are generated worldwide posing a threat to our environment. Marine bacteria are important source of genes/enzymes for degrading recalcitrant pollutant including the plastic waste. Marine bacteria were collected from Gujarat coast and one hundred isolates were tested for their plastic degrading potential. Among them, twenty were found positive to degrade polyethylene, a common constituent of plastic bags. The positive isolates were identified by whole cell fatty acid profiling and 16S rRNA gene sequence homology. Out of these isolates, thirteen different bacterial species were identified. These species belonged to *Bacillus*, *Marinobacter*, *Vibrio*, and *Micrococcus* genera. The enzymatic assay and the protein characterization of the positive isolates are in progress. The results and their implications in plastic degradation will be discussed.