

Screening of hydrocarbon-degrading bacterial isolates using the redox application of 2,6-DCPIP

ABSTRACT

Petroleum hydrocarbons remain as the major contaminants that could be found across the world. Remediation approach through the utilisation of microbes as the bioremediation means is widely recognised due to their outstanding values. As a result, scientific reports on the isolation and identification of new hydrocarbon-degrading strains were on the rise. Colourimetric-based assays are one of the fastest methods to identify the capability of hydrocarbon-degrading strains in both qualitative and quantitative assessment. In this study, the hydrocarbon-degrading potential of nine bacterial isolates was observed via 2,6-dichlorophenolindophenol (DCPIP) test. Two potent diesel-utilising isolates show a distinctive tendency to utilise aromatic (ADL15) and aliphatic (ADL36) hydrocarbons. Both isolates prove to be a good candidate for bioremediation of wide range of petroleum hydrocarbon components.

Keyword: Petroleum hydrocarbons; Hydrocarbon-degrading isolates; Redox indicator; 2,6-dichlorophenolindophenol