

Screening of biodegradation potential for *n*-alkanes and polycyclic aromatic hydrocarbon among isolates from the north-western tip of Pahang

Nur Hafizah Azizan^{a,*}, Mohd Syafiq Abdul Rahim^a, Zaima Azira Zainal Abidin^a, Mohd Faez Sharif^a, Ahmed Jalal Khan Chowdhury^{b,*}

^aDepartment of Biotechnology, Kulliyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia, Tel. +6095704000; Ext. 2623; email: fihazahazizan@iium.edu.my (N.H. Azizan)

^bDepartment of Marine Science, Kulliyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia, Tel. +6095704000; Ext. 2623; email: jkchowdhury@iium.edu.my (A.J.K. Chowdhury)

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ABSTRACT

This study has successfully screened for a few selected enzyme activities and hydrocarbon-degrading capability of 18 bacterial isolates from the north-western tip of Pahang. The bacterial isolates were known to belong to genus *Pseudomonas*, *Stenotrophomonas*, *Acinetobacter*, *Serratia*, *Bacillus* and *Exiguobacterium*. Among them there are more than 80% were lactase and amylase producers, while only 44% were protease and lipase producers. Gravimetric analysis was performed to test the capability of degrading *n*-alkanes and polycyclic aromatic hydrocarbons (PAHs). A statistical analysis, Statistical Package for the Social Sciences (SPSS) was used for hydrocarbon utilization analysis. The overall degradation of *n*-alkanes was revealed to be not significant. On the other hand, based on the statistical analysis PAHs utilization was significant. Isolate A3i was chosen as the best utilizer of *n*-alkanes, while isolate A2 was chosen for the best PAHs degrader.

Keywords: Degrader; Enzymes; Gravimetric analysis; Polycyclic aromatic hydrocarbon; *n*-alkanes

* Corresponding authors.