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

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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 the genus *Pseudomonas*, *Stenotrophomonas*, *Acinetobacter*, *Serratia*, *Bacillus* and *Exiguobacterium*. Among them, 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 using the 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 as the best PAHs degrader.

### Keywords

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1. Title: [not available] Times Cited: **32**  
By: Aehle, W.  
Enzymes in Industry, Production and Applications Published: 2004  
Publisher: WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim
2. [Bioremediation of hydrocarbon-contaminated polar soils](#) Times Cited: **165**  
By: Aislabie, Jackie; Saul, David J.; Foght, Julia M.  
EXTREMOPHILES Volume: 10 Issue: 3 Pages: 171-179 Published: JUN 2006
3. [Biotransformation, biodegradation, and bioremediation of polycyclic aromatic hydrocarbons](#) Times Cited: **19**  
By: Aitken, MD; Long, TC  
BIODEGRADATION AND BIOREMEDIATION Book Series: Soil Biology Volume: 2 Pages: 83-124 Published: 2004
4. [Characteristics of phenanthrene-degrading bacteria isolated from soils contaminated with polycyclic aromatic hydrocarbons](#) Times Cited: **113**  
By: Aitken, MD; Stringfellow, WT; Nagel, RD; et al.  
CANADIAN JOURNAL OF MICROBIOLOGY Volume: 44 Issue: 8 Pages: 743-752 Published: AUG 1998
5. [Phylogenetic Study of Presumptive Oil-degrading Microbes Isolated from The North-western Tip of Pahang](#) Times Cited: **1**  
By: Azizan, Nur Hafizah; Rami, Siti Zakiah Md; Saedudin, R. D. Rohmat; et al.  
INTERNATIONAL JOURNAL OF INTEGRATED ENGINEERING Volume: 10 Issue: 6 Special Issue: SI Pages: 128-132 Published: 2018
6. [Screening and degrading characteristics of LHB16](#) Times Cited: **1**  
By: Bing, L.; Qing-fang, Z.  
Biotechnology Volume: 5 Pages: 83-85 Published: 2010
7. [Anaerobic biodegradation of hydrocarbons](#) Times Cited: **1**  
By: Coates, JD  
BIODEGRADATION AND BIOREMEDIATION Book Series: Soil Biology Volume: 2 Pages: 57-81 Published: 2004
8. [An integrated approach to groundwater quality assessment in determining factors that influence the geochemistry and origin of sandstone aquifers Southern Niger delta region of Nigeria](#) Times Cited: **2**  
By: Eyankware, M.O.; Omo-Irabor, O.O.  
Malaysian J. Geosci. Volume: 3 Pages: 23-32 Published: 2019
9. Title: [not available] Times Cited: **1**  
By: Satyanarayana, T.; Rao, J.L.U.M.; Ezhilvannan, M.; et al.  
Enzyme Technology Pages: 189-220 Published: 2006  
Publisher: Springer, New Delhi  
[\[Show additional data\]](#)
10. [Eucalyptus tree colonization of the Bafut-Ngemba forest reserve, North West region, Cameroon](#) Times Cited: **1**  
By: Fogwe, Z.N.; Tume, S.J.P.; Fouda, M.  
Environ. Ecosyst. Sci. Volume: 3 Pages: 12-16 Published: 2019
11. [Diesel degradation and biosurfactant production by Gram-positive isolates](#) Times Cited: **48**  
By: Ganesh, A.; Lin, J.