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Aminudin, N.I.[a] , Wan Jaafar, W.M.S.[a] , Mohd Amin, N.M.S.[a] , Kamarul Baharin, R.[b] , Zainal Abidin, Z.A.[b]

Biotransformation of curcumin by Streptomyces sp. K1-18 isolated from mangrove soil
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[a] Department of Chemistry, Kulliyyah of Science, International Islamic University Malaysia (IIUM), Kuantan, Malaysia
[b] Department of Biotechnology, Kulliyyah of Science, International Islamic University Malaysia (IIUM), Kuantan, Malaysia

Abstract
Biotransformation is recognised as a green chemistry tool to synthesise diverse natural product analogues for valorisation of their chemistry and bioactivities. It offers significant benefits compared to chemical synthesis, given its cost-effectiveness and greater selectivity. In this work, a curcumin analogue, namely gingerenone A, was yielded from the biotransformation process catalysed by Streptomyces sp. K1-18. The structure of the compound was established by using mass spectrometry/mass spectrometry chemical profiling assisted with in silico fragmentation by MetFrag tool. This biotransformation successfully afforded a reduction reaction on curcumin. This is the first report on utilisation of Streptomyces sp. K1-18 as a biocatalyst for biotransformation of curcumin. © 2024 Informa UK Limited, trading as Taylor & Francis Group.

Author Keywords
Biotransformation; chemical profiling; curcumin; green chemistry; MetFrag; Streptomyces sp

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Correspondence Address
Aminudin N.I.; Department of Chemistry, Malaysia; email: nuruliman@iium.edu.my

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