

Title (5)	:	Temperature-based investigation of rhamnolipids congeners production by the non-pathogenic Burkholderia thailandensis E264 using LC-QToF-MS metabolomics
Journal	:	Metabolomics
Document Type	:	Article
Publisher	:	National Library of Medicine
Author	:	Sarah Mohammed Yousuf Abd , Kamalrul Azlan Azizan , Sharifah Sopliah Syed Abdullah , Zainatul Asyiqin Samsu
Link to Full Text	:	https://pubmed.ncbi.nlm.nih.gov/39738744/
Link to UniKL IR	:	
Link to Scopus Preview	:	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85213691630&doi=10.1007%2fs11306-024-02205-z&partnerID=40&md5=ea28819bd792e685674443ce358091bc
Abstract	:	Introduction: Burkholderia thailandensis E264 is a non-pathogenic soil bacterium that produces rhamnolipids (RLs), which are utilised in various fields. Although studies have illustrated changes in RLs congeners in response to environmental factors, studies on the influence of temperature on the RLs congeners produced by B. thailandensis E264 are scarce. Objective: It was hypothesised that RL congeners will be distributed differently at different temperature, which caused the produced RL to have different properties. This brought about the idea of a tailored production of RL for specific application through temperature control. Thus, this study aimed to investigate the distribution of RLs congeners by B. thailandensis E264 in response to different temperatures. Methodology: B. thailandensis E264 was grown at three different temperatures (25 °C, 30 °C, and 37 °C) for nine days and subjected to metabolomic analysis using liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QToF-MS). Results: The findings indicated that temperature significantly affected the metabolomic distribution of B. thailandensis E264, with mono-rhamno-mono-lipid and mono-rhamno-di-lipid being the predominant metabolites at 37 °C and 30 °C, with relative abundances of 64.1% and 65.3%, respectively. In comparison, di-rhamno-di-lipid was detected at 25 °C with an overall relative abundance of 77.7%.