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## Isolation, derivatization, and anti-microbial evaluation of secondary metabolites from *Garcinia dryobalanoides*

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### ABSTRACT

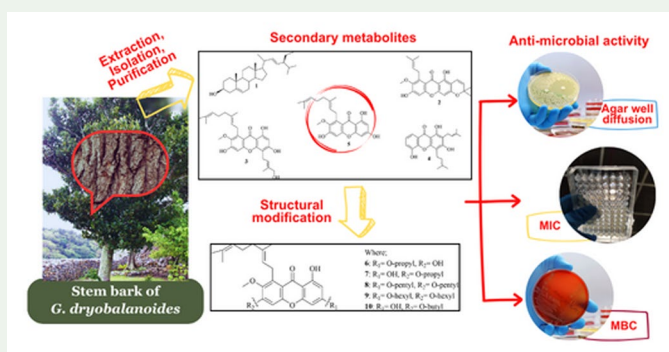
A detailed study on secondary metabolites from the stem bark of *Garcinia dryobalanoides* has yielded one triterpenoid and four xanthenes. Along with that, five novel rubraxanthone derivatives had been successfully synthesised via Williamson etherification with various alkyl halides. The antibacterial evaluation on crude extract, isolated secondary metabolites (**1-5**), and synthesised compounds (**6-9**) against *Lactiplantibacillus plantarum*, *Enterobacter cloacae*, *Pseudomonas aeruginosa*, and *Serratia marcescens* demonstrated moderate to active activities outlining their bacteriostatic potential. The structure-activity relationship (SAR) study conducted revealed the presence of prenyl and hydroxy groups on the xanthone attributed to good bacterial inhibition. The introduction of the alkyl chain to the hydroxy part eventually decreases the antibacterial activity of the compound which is probably due to the bulkiness that causes steric hindrances, therefore limiting the ability to bind to its target site within the bacterial cell.

### ARTICLE HISTORY

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### KEYWORDS

Secondary metabolites; rubraxanthone derivatives; *Garcinia dryobalanoides*; antibacterial; SAR study



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