ABSTRACT

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ISOLATION AND IDENTIFICATION OF ANTIMICROBIAL COMPOUND IN MANGOSTEEN PEEL (Garcinia mangostana L.)
(xiii + 90 pages : 9 tables; 14 figures; 23 appendixes)

Mangosteen peel has bioactive compounds that can inhibit antimicrobial activities but further information about its specific compounds and the antimicrobial activity changes between crude extracts and isolate had not been studied yet. Crude extracts of mangosteen peel in this experiment was tested for phytochemical compounds and antimicrobial activity. In order to isolate and identify antimicrobial compounds, thin layer chromatography, column chromatography, and gas chromatography were applied. Mobile phase for column chromatography is methanol:ethyl-acetate:chloroform in 1:1:8 ratio from prism method. This ratio produced 8 fractions in column chromatography. The maximum wavelengths for all fractions were scanned and all concentrated fractions used for antimicrobial activity test. The result showed the best inhibition zone came from F8 fraction. F8 fraction could inhibit Listeria monocytogenes, Enterobacter aerogenes, Escherichia coli but had no effect for Salmonella typhi, Penicillium sp., and Aspergillus niger. For the next step, F8 fraction was identified with GC-MS resulted in 51 compounds but there was 13 compounds with quality ≥ 95% as antimicrobial activity.

Keywords : antimicrobial, column chromatography, isolation, mangosteen peel
References : 78 (1998-2012)