OPTIMIZATION OF AQUEOUS EXTRACTION OF INDONESIAN BAY LEAF (*Syzygium polyanthum* Wight) AS POWDER SEASONING

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

OPTIMIZATION OF AQUEOUS EXTRACTION OF
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Indonesian bay leaf (*Syzygium polyanthum* Wight) is one of traditional spices originated from Indonesia which is usually used as spices to add the aroma of foods. Extraction of the aroma of Indonesian bay leaf could propose as a more practical usage to its fresh form. This research aims to find the optimum condition of the extraction of the aroma compounds and also to pulverize the extract from *S.polyanthum* Wight. Stirring method yields in the highest total soluble solid count (1.47 %) and highest aroma ranking test. In the next stage of the research extraction at 50^{o}C (F50) and 80^{o}C (F80) for 2 hours yielded in the highest count of carbonyl group containing compound (0.602 mg/ml, 0.606 mg/ml) respectively indicating the high content of aroma compound found. Further GC-MS (Gas Chromatography – Mass Spectrometry) result of the spray dried extract (180^{o}C inlet, 80^{o}C outlet) indicated that there is a significant difference between the fresh extract and the spray dried extract, supported by the result of sensory analysis difference test that indicates that more than half of the 30 untrained panelists could distinguish the fresh extract (F) and the pulverized extract (P). GC-MS results showed that oxalic acid is found both in samples extracted in 50^{o}C (P50) and 80^{o}C (P80). The aroma compounds that were only found in P50 are 2-butylthiophene and cyclohexanepropanoic acid.The aroma compounds that were only found in the P80 are Icosane, 2-hexylthiophene, and n-

hexadecanoic acid. Further sensory acceptance test showed a better acceptance of the F80 sample.

Keywords: aroma, aqueous extraction, daun Salam, Indonesian bay leaf, maltodextrin, spray drying, Syzygium polyanthum Wight

DEDICATION

I dedicate this work for the future of my country, Indonesia and also to the future of Indonesia's food industry.

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