

**PROCESSING METHOD AND SOLUBILITY EFFECT IN
EXTRACTION OF CABOMBA FURCATA**



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5. Report

5.1 Proposed Executive Summary

Tasik Chini is one of the two largest natural lake in Malaysia. The lake which once was famous with the lotus *Nelumbo nucifera* and water lily invaded by an aquatic weed call 'cat tail' or *Cabomba furcata* which slowly replacing the lotus as dominant plant species in the lake.

In order to identify the uses of *C. Furcata*, a phytoscreening study has been conducted by a researcher. The study showed that *C. Furcata* contain three bioactive compound that is alkaloid, flavanoid and saponin. Apart of the study, no research has been done to determine the best extraction method to optimise the yield of those bioactive compounds. Therefore this study will focus on the method of extraction.

Three extraction methods that will be chosen that is cool extraction, hot extraction and extraction by using Soxhlet apparatus. Time will be varied between 3 hours, 6 hours, 9 hours and 12 hours to determine the optimum time for extraction. The extraction yield will be screened and dried by using evaporator. The dried component in the solvent will be weighed to determine the percentage yield.

The highest yield using hot extraction is expected. Hence, this study will facilitate in the improvement of the research regarding to extraction of *C. Furcata*.

5.2 Enhanced Executive Summary

This study focused in identifying the best solvent selection and the best extraction method for *Cabomba Furcata*. The method used for the first objective is by heating under reflux. Five different solvents which are methanol, ethanol, methanol-water, ethanol-water and water were heated under reflux and the best solvent obtained from the experiment was water. The water solvent is then being used for next step to identify the best method of extraction for this species. Three methods of extraction namely hot extraction, cold extraction and extraction using sohxlet being tested using water as the solvent. The extraction method which produced the highest yield that is 1.67% of *c. furcata* extract was hot extraction method. From this method, the optimum time for the extraction is identified to be on the sixth hour. Thus, it can be concluded that for the extraction of *Cabomba Furcata* the best solvent is water and the best method of extraction is hot extraction with optimum time of sixth hour.

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