

OPTIMIZING THE ANTIOXIDANT ACTIVITY OF KELAKAI (*Stenochlaena palustris*) EXTRACT THROUGH MULTIPLESTAGE EXTRACTION PROCESS

By

Elza Wijaya
11304006

BACHELOR'S DEGREE

in

CHEMICAL ENGINEERING – PHARMACEUTICAL ENGINEERING
concentration

FACULTY OF LIFE SCIENCE AND TECHNOLOGY

SWISS GERMAN UNIVERSITY


SWISS GERMAN UNIVERSITY
The Prominence Tower
Jalan Jalur Sutera Barat No. 15, Alam Sutera
Tangerang, Banten 15143 - Indonesia

August 2017

Revision after the Thesis Defense on 28 July 2017

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.

Elza Wijaya

Student

Date

Approved by:

Dr. –Ing. Diah Indriani Widiputri, S.T., M.Sc.

Thesis Advisor

Date

Della Rahmawati, S.Si, M.Si.

Thesis Co-Advisor

Date

Dr. Dipl. –Ing. Samuel P. Kusumocahyo

Dean

Date

Elza Wijaya

ABSTRACT

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Dr. –Ing. Diah Indriani Widiputri, S.T., M.Sc.

Della Rahmawati, S.Si, M.Si.

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Kelakai is known as traditional remedy for treating several diseases, such as fever, anemia, and stimulate the production of breast milk for breastfeeding mother. Instead of those benefits, *kelakai* also proved has several kinds of antioxidant properties. Therefore, extracting antioxidant properties from *kelakai* is one way to discover the amount of antioxidant activity contained in *kelakai*. In this research, the multiple-stage extraction process was done in order to optimize the antioxidant activity. Moreover, based on data obtained from single stage extraction process, the most suitable condition was discovered. It turns out that the use of milled sample in water solvent for 12 hours at 44°C produce the highest antioxidant activity, which is 4599.76 ppm to inhibit 50% of DPPH.. Referred to the experiment, the antioxidant activity of the extract which gained from multiple-stage was higher than from single stage. Multiple-stage process has proven the increasing of antioxidant activity up to 72.43%, which is needed 2020 ppm to inhibit 50% of DPPH.

Keywords: kelakai, leaching, multiple-stage extraction process, antioxidant activity, particle size distribution



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DEDICATION

I dedicate this works for my beloved families who have support, sacrifice, and always love me unconditionally.



ACKNOWLEDGEMENTS

From the beginning until the end of creating this thesis paper, I thank Almighty God, for His guide, strength, blessing, and patience that granted to me. I would also like to express my gratitude for those people who always supported and helped me during this thesis period:

1. Dr. –Ing. Diah Indriani Widiputri, S.T., M.Sc., as my Advisor, for always guiding me, giving advices, believe, and support me with patience, kindness, and understanding.
2. Mrs. Della Rahmawati, S.Si., M.Si., as my Co-Advisor, for always showing her support, giving advices and guidance during the thesis research.
3. My family, especially my parents, for their unconditional love, prayers, trust, and support all the time during the thesis period.
4. To my lab assistant, Roziq, Rara, Noni, Gerald, for their guidance, friendship, kindness, laugh, and companion when working overtime in the lab.
5. To my lab-mates, Ajeng, Annelies, Cahyo, Jeany, Dono, Manda, Nadya, KY, Elias, for sharing their support, help, laughter, and assistance, even though they are busy with their own task.
6. To my friends, Stacia, Lidia, Regina, Dwi, Tiffa, for their companion, support, and encouragement during thesis period.
7. To PE colleagues, for always helping, believing, giving advices, and supporting each other.
8. To Life Science colleagues, whom I cannot mention one by one, for all support, companion, laugh, and advices.
9. Last but not least, Aditya Hutama, for always being supportive, faithful, and caring since the beginning.

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