



Antioxidant Activities of Mangrove Fruit (*Sonneratia alba*) taken from Wori Village, North Sulawesi, Indonesia

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Abstract: Mangrove fruits of *Sonneratia alba* has been used licitly as food ingredients. However, it has not been developed yet due to the lack of information about the potential and benefits of the fruit, in particular as a source of antioxidants. There is no research has been revealed about the antioxidant activity of methanol extract or fractions of *S. alba* fruit. The aims of this study are to know the antioxidant activities of the extract of methanol and also the fractions of n-hexane, ethyl acetate, and water obtained from fruit flour of *S. alba*. The method used in achieving the specific aims consists of two steps. First step was extraction with methanol, and then the extract was tested for total phenol and antioxidant activities. Second step was fractionated based on solvent polarity, namely: n-hexane, ethyl acetate and water. The solvents were then tested for total phenol, antioxidant activities of DPPH and FRAP, and phytochemical test to obtain the most active fraction. The result showed that, the highest content of FRAP was in ethyl-acetate fraction i.e. 6.329 μ MFe²⁺/mg of sample and the lowest of that was in n-hexane fraction i.e. 0.413 μ MFe²⁺/mg of samples. The highest content of total phenol was in ethylacetate fraction, i.e. 3119 mg GAF/kg of sample and the lowest of that was in the n-hexane fraction i.e. 540 mg GAE/kg of sample. Phytochemical test showed that the ethyl acetate and water fraction gave a positive indicator to most of the test except for the steroid and saponin for ethyl acetate fraction, and triterpenoid and saponin for water fraction, while the n-hexane fraction gave a lowest positive in indicator. Ethylacetate fraction has the most powerful antioxidant activity with IC₅₀=3.55 ppm followed by methanol extract IC₅₀=4.65 ppm, the water fraction IC₅₀= 6.95 ppm, and n-hexane fraction IC₅₀= 162.79 ppm.

Keywords: *Sonneratia alba*, antioxidant, phenols, FRAP, phytochemicals.