



CERTIFICATE

OF APPRECIATION

THE CERTIFICATE IS AWARDED TO:

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as Poster Presenter

For presenting His/Her outstanding research work (Abstract ID: ABS-14)
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1. Abstract

Garcinia mangostana rind containing alpha-mangosteen has the potential to be used as an antioxidant. This study aimed to determine the physicochemical properties and stability of alpha-mangosteen in the 50% ethanol extract of mangosteen rind as a parameter in the pre-formulation study. Physicochemical properties were evaluated for specific and nonspecific extract parameters, determining the optimum wavelength and solubility test. The stability test was carried out at a temperature of $45\pm 5^\circ\text{C}$ with relative humidity $75\pm 5\%$ for 21 days, in acidic and alkaline conditions. The alpha-mangosteen content was analyzed using a UV-Vis spectrophotometer. The results showed that the extract was purplish brown, has an aromatic smell, and a bitter taste. The dissolved compound in water and ethanol were $62,54\pm 1,09\%$ and $87,05\pm 0,43\%$, respectively, the specific density of 5% extract was 1,036, loss on drying $6,66\pm 0,11\%$, ash content $5,07\pm 0,23\%$, ash content insoluble in acidic was $0,13\pm 0,02\%$, alpha-mangosteen content in the extract was $3,85\pm 0,03\%$. The solubility test showed that alpha-mangosteen in the extract has a solubility value of 1: 16064 in water. The stability test showed that the levels of alpha-mangosteen decreased significantly ($p \leq 0,05$) at $45\pm 5^\circ\text{C}$ and relative humidity $75\pm 5\%$ for 21 days. Mangosteen rind extract was unstable in the extremely acidic and alkaline conditions.

Key word: alpha-mangosteen, antioxidant, stability test, specific and nonspecific extract parameters

2. Figure 1.

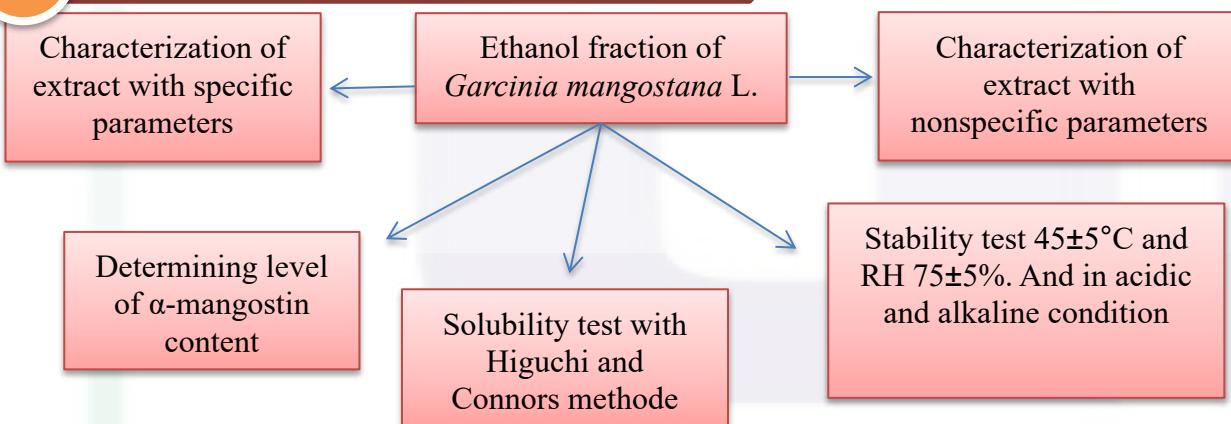


Figure 2. Calibration curve

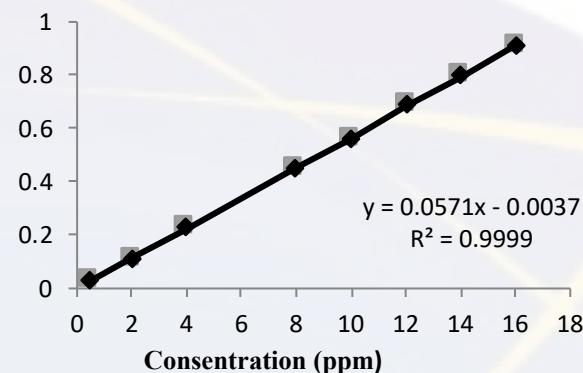


Figure 3. Stability test

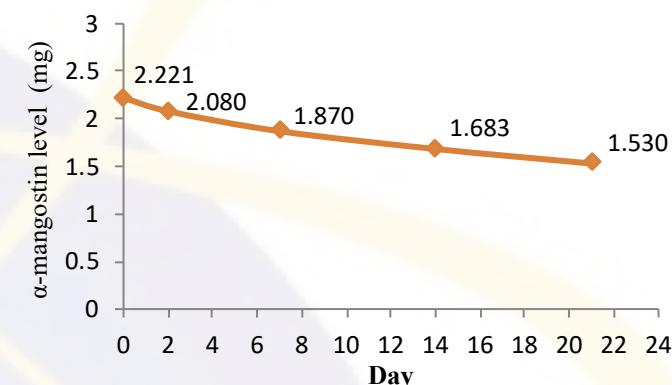


Table 1. Characterization

Characterization	Result
Specific parameters	
a. Organoleptik	purplish brown,
b. Dissolved compound in water	aromatic odor and bitter taste.
c. Dissolved compound in ethanol	$87,05\pm 0,43\%$ and $62,54\pm 1,09\%$
Non specific parameters	
a. Density	1,036
b. Loss of drying (b/b)	$6,66\pm 0,11\%$
c. Ash content (b/b)	$5,07\pm 0,23\%$
d. Ash content insoluble in acidic	$0,13\pm 0,02\%$

Table 2. Solubility and stability

Test	Result
Solubility	1:16064 in water (practically insoluble)
Stability in acidic and alkaline condition	Unstable. There is no spot in TLC. Increasing absorbance indicating polyphenol was oxidized to quinon.



Refereces

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- Savarnakuta, Peamsuk. 2011. Effects of drying methods on assay and antioxidant activity of xanthenes in mangosteen rind. *Food Chemistry 125:240-247.*