SEPARATION OF ANTIOXIDANT COMPOUND FROM HIBISCUS ROSA SINENSIS LEAVES USING THIN LAYER CHROMATOGRAPHY

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By

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ABSTRACT

Antioxidant is well known as a molecule that inhibit oxidation process to form defence towards free radical compound to cause harm to human body. In previous study, diversity on TLC method are wide for hibiscus species such as *Hibiscus sabdariffa L*., *Sophora alopecuroides* and *Euphorbia humifusa Willd* yet it lack in research on *Hibiscus rosa sinensis* species especially on leaf part of plant. Therefore, for this project, only *Hibiscus rosa sinensis* leaves will be used as natural antioxidants source. The possible antioxidant containing inside the species are cyclopropane, stigmasterols, β-sitosterols and taraxeryl acetate, ascorbic acids, flavonoids, niacins, riboflavins, tannnis and thiamines. *Hibiscus rosa sinensis* was chosen as its population is diverged in Asian country and there are lack of research on leaf part of the plant. The aim of this study is to extract antioxidants compound using column chromatography and Kupchan partitioning method. Solvents such methanol, di-chloromethane, petroleum ether and ethyl acetate were chosen. The compound was analysed and compared its properties via phytochemical analysis, DPPH radical scavenging analysis, TLC and FTIR. The results on phytochemical screening analysis indicates antioxidants of saponins, steroids/terpenoids, triterpenoids, flavonoids, tannins are highly presence in ethyl acetate, aqueous, di-chloromethane, ethyl acetate and aqueous solvent respectively. Moreover, DPPH absorbance increased as concentration of methanolic extract increases associated to lower free radical molecule. Retention factor, R_f of compound A is 0.62-0.89 with light blue color under 365nm. FTIR analysis shows hydrogen-bonded alcohol, phenol, alkynes, alkenes, ether and ester compound. Based on all analysis it synthesized that the compound A extracted was flavonoids.