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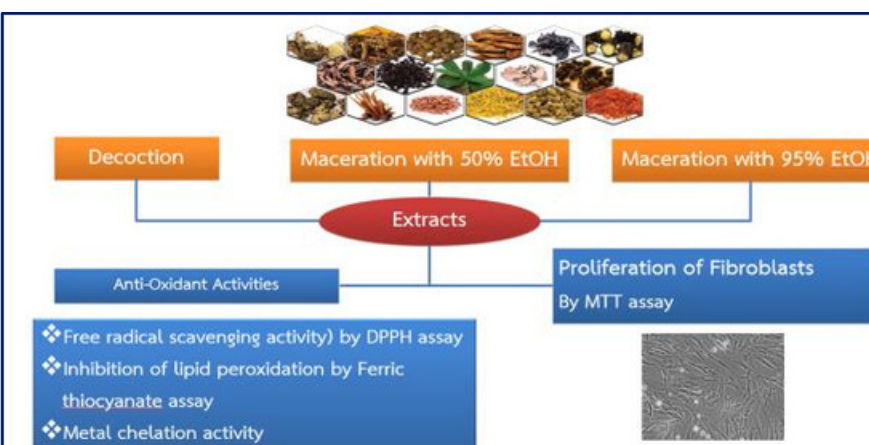
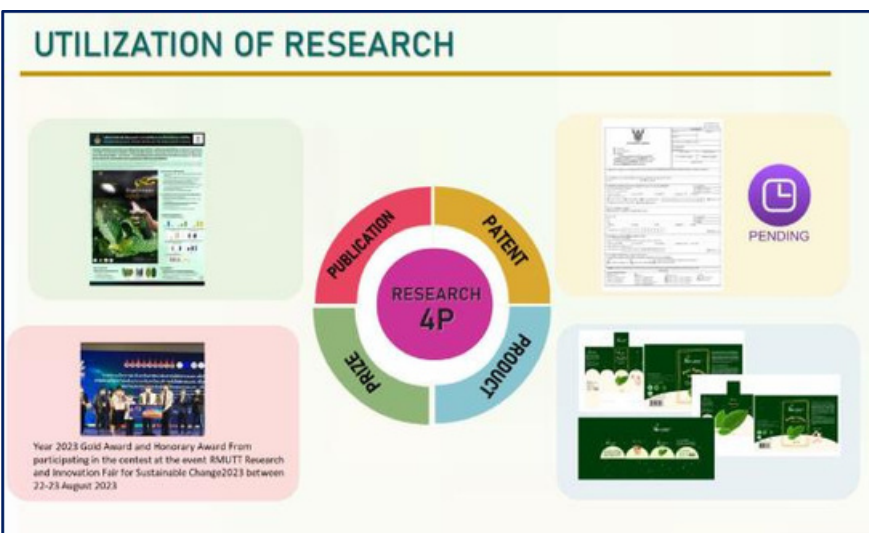
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Research Interest

- Applied Thai Traditional Medicine
- Natural Product development for pharmaceuticals, cosmetics and food supplements
- Biological activities of herbals
- Herbal Drug Development and Formulation



นวัตกรรมผลิตภัณฑ์เครื่องสำอางชะลอวัยจากใบพืชเสียดที่กักเก็บในบิโอโซม

Innovative anti-ageing cosmetics from extract of additive plant leaves entrapped in niosome

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ABSTRACT
Selected additive plants were red-stemmed kratom and green-stemmed kratom varieties. It was extracted by boiling with distilled water and fermenting with ethanol. It was found that the yield percentage was between 3.51-16.62%, and it contained xanthone as the main component. Red stem kratom leaf extract with ethanol (MSK-R-EtOH) had the greatest antioxidant activity. The MSK-G-EtOH extract had the best inhibitory effect on the tyrosinase enzyme with a value of 0.10-0.04 mg/ml and the aqueous green stalk kratom leaf extract (MSK-G-H2O) has the best effect in inhibiting melanin pigment. Collagen stimulating effect is MSK-G-H2O extract had a 14.65% stimulating effect on collagen production and MSK-R-EtOH extract had a stimulating effect on the expression of Sirt1, FoxO1, Ki67 and TERT mRNA of 87.15±4.43%, 37.67±11.66%, 18.54±2.54% and 68.35±26.24%. The MSK-R-EtOH extract with the best biological activity was stored. The niosomes were prepared using the hand-shaking method combined with size reduction using a microfluidizer. It was found that the particle sizes were in the range 334.72-745.90 nm has a narrow particle distribution value. Encapsulating MSK-R-EtOH extract at a concentration of 0.5 percent gave the highest efficiency with a value of 79.21±2.54 percent. Then, it was used to develop prototype cosmetic products. MSK-R-EtOH extract and prepared niosomes was tested and found that the niosomes particles had an increased percentage of penetration into the artificial skin compared to the extract alone, with a penetration value of 77.29 percent.

INTRODUCTION
Kratom is in the family of ruefles and coffee (Rubiacae) and is a medicinal plant. It is native to the forest tropics of Southeast Asia. In Thailand, there are 3 common kratom variety, large green variety and red stalk variety found mostly in natural forest in the eastern region. It belongs to the Integrative medicine family. The leaves are similar to plumbago leaves. There are red and green kratom leaves. The leaves are used for the use of a jobite. In ancient times, kratom leaves were used to treat rheumatoid arthritis, pain relief, which usually come from kratom leaf and reduce sleep. Fresh or dried leaves can be brewed, smoked, or brewed. The laboratory and human consume kratom leaves to relieve feelings of tiredness and fatigue. Make it work longer and comendly. It has been found that kratom leaves have antioxidant effects and can inhibit melanin pigment.

METHODS AND RESULTS
Extraction yield, phytochemical constituents
Anti-oxidative activities
Whitening effects
Anti-Aging activities
Cytotoxicity

UTILIZATION OF RESEARCH

REFERENCES

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ANTIOXIDANT ACTIVITIES AND WHITENING EFFECTS OF BOUGAINVILLEA AND MARIGOLD FLOWER EXTRACTS

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Abstract
The objective of this study is to evaluate the potential of ethanol and aqueous extracts of bougainvillea (Bougainvillea hybrid) and marigold (Tagetes sp.) flowers as source of cosmetic ingredients with antioxidant and whitening activities. Ethanol extract of the bougainvillea flower demonstrated high tyrosinase inhibitory effect and anti-tyrosinase activity equivalent to that of kojic acid. The aqueous extract of bougainvillea and marigold flower showed high lipid peroxidation inhibition. These data combined supports the potential application of bougainvillea and marigold flower extracts in the form of supplement or cosmetic products with antioxidant and skin whitening properties. Index terms: Antioxidant, whitening effect, Bougainvillea, marigold.

Introduction
Bougainvillea (Bougainvillea hybrid) and Marigold (Tagetes sp.) are common plants found in every region of Thailand. It has long been used for dietary and medicinal purposes. Research has shown that bougainvillea flowers contain phenolic compounds such as polyphenols and flavonoids, which can scavenge free radicals. Similarly, the marigold flower was discovered to contain beta-carotene, which helps fight free radicals. However, studies regarding the use of bougainvillea and marigold as dietary supplements and cosmetic products is still lacking. The objective of this study, therefore, is to determine whether ethanol and aqueous extracts of bougainvillea and marigold flowers have antioxidant and whitening properties, for future development into supplementary and cosmetic products.

Methodology

Results and Discussion

Extracts	Code	% of yield	Physical
Bougainvillea (EtOH)	BEG-EtOH	0.45	Brown, viscous texture
Bougainvillea (H ₂ O)	BEG-H ₂ O	1.175	Yellowish brown to dry powder
Marigold (EtOH)	MBO-EtOH	0.961	Dark green, viscous texture
Marigold (H ₂ O)	MBO-H ₂ O	1.750	Dark brown green to a dry powder

Table 1. % of yield and Physical of bougainvillea and marigold extracts

Antioxidant activities

Whitening effects

Conclusion
From this study, it can be concluded that marigold had good antioxidant activity at the same time bougainvillea had whitening effect. This provides evidence to substantiate the effects of bougainvillea and marigold extracts and information obtained could be used to develop products for antioxidant and skin whitening in the form of supplement or cosmetic.

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References