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Formulation and Evaluation of Peel-Off Mask Preparation of Ethanol Extract of Raru Bark (*Cotylelobium Melanoxylon Pierre*)

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INFORMASI ARTIKEL

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ABSTRACT

Background: The use of natural ingredients in cosmetic products has increased due to greater public awareness of safety and quality. Raru bark (Cotylelobium melanoxylon Pierre) contains secondary metabolites with antioxidant potential, but its use in cosmetics remains limited. This study aimed to formulate and evaluate a peel-off facial mask containing ethanol extract of raru bark. Methods: This experimental study included plant determination, simplicia preparation, extraction using 80% ethanol, phytochemical screening, formulation of peel-off masks with different extract concentrations, and physical evaluation. The evaluated parameters were organoleptic properties, homogeneity, pH, viscosity, spreadability, and drying time. Results: Phytochemical screening showed the presence of flavonoids, tannins, saponins, alkaloids, glycosides, and steroid/triterpenoid compounds. All formulations showed good organoleptic properties and homogeneity. The pH, spreadability, and drying time met acceptable standards, while extract concentration affected viscosity. Conclusion: Ethanol extract of raru bark can be formulated into a peel-off mask with acceptable physical quality and potential as a natural cosmetic product.
Keywords: *Ethanol extract, raru bark, peel-off mask, herbal cosmetic*

ABSTRAK

Latar Belakang: Pemanfaatan bahan alam sebagai bahan aktif kosmetik semakin berkembang seiring meningkatnya kesadaran masyarakat terhadap keamanan dan kualitas produk perawatan kulit. Kulit raru (Cotylelobium melanoxylon Pierre) diketahui mengandung metabolit sekunder yang berpotensi sebagai antioksidan, namun pemanfaatannya dalam sediaan kosmetik masih terbatas. Penelitian ini bertujuan untuk memformulasikan dan mengevaluasi masker peel-off yang mengandung ekstrak etanol kulit raru. Metode: Penelitian eksperimental ini meliputi determinasi tanaman, pembuatan simplisia, ekstraksi dengan etanol 80%, skrining fitokimia, formulasi masker dengan variasi konsentrasi ekstrak, serta evaluasi fisik sediaan. Hasil: Ekstrak etanol kulit raru mengandung flavonoid, tanin, saponin, alkaloid, glikosida, serta steroid dan triterpenoid. Seluruh formula menunjukkan karakteristik fisik yang baik, homogen, dan stabil. Nilai pH, daya sebar, dan waktu mengering memenuhi persyaratan sediaan, sedangkan konsentrasi ekstrak memengaruhi viskositas. Kesimpulan: Ekstrak etanol kulit raru berpotensi diformulasikan sebagai masker peel-off berbahan alam dengan mutu fisik yang baik.

Kata Kunci: Ekstrak etanol, kulit raru, masker peel-off, kosmetik herbal, evaluasi sediaan

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INTRODUCTION

The skin is the outermost organ of the human body and plays a crucial role as the primary barrier against various environmental influences, including exposure to ultraviolet (UV) rays, pollution, and microorganisms. Continuous exposure to these factors can increase the formation of free radicals, which contribute to oxidative stress (Bangar *et al.*, 2026). Oxidative stress triggers various skin problems, such as aging. early, damage cell skin, and decline elasticity skin as well as humidity skin, which can ultimately reduce a person's quality of life and self-confidence (Papaccio *et al*., 2022). Therefore, skin care efforts that can protect the skin from the negative effects of free radicals are necessary.

Antioxidants play an important role in maintaining healthy skin due to their ability to neutralize free radicals (Siregar *et al*., 2025). Use of antioxidants in stock topical assessed effective Because Work direct on surface skin and can help prevent cell damage due to oxidative stress. It acts as an antioxidant become Wrong One component important in development product cosmetics and skin care.

Increasing public awareness of product safety and quality aspects encourages development cosmetics Which the benefits material natural as source Antioxidants. Natural ingredients are known to contain various secondary metabolites such as flavonoids, tannins, and other compounds. phenolic Which own activity biological, especially as antioxidants. Besides considered safer, natural ingredients are also easy to obtain and have the potential to minimize side effects. can caused by material synthesis, which known risky bother structure and balance experience skin (Ardini & Thank you, 2021). Condition This in line with trend "*back to nature*" and the increasing need for cosmetic products that are safer and rich in bioactive compounds (Hayati *et al*., 2024).

Flavonoids are natural organic compounds found in plants and are known to possess antioxidant, anticancer, anti-inflammatory, anti-allergic, and antihypertensive activities (Nasution *et al*., 2025). The antioxidant activity of flavonoids is primarily related to their ability to capture free radicals through a hydrogen atom donation mechanism and electron, so that capable protect cell from damage consequence stress oxidative (Bangar *et al*., 2026). Therefore, antioxidant compounds are very important in caring for and repairing the skin.

Cotylelobium melanoxylon pierre is a plant from the Dipterocarpaeceae family which is known in a way local as skin Raru, this plant is one of the One plant endemic to Indonesia, which has been used in traditional medicine empirical. Raru bark plants can found spread in Sumatra and Kalimantan with variation species Which different.

The people of Sumatra traditionally use raru bark as an antidiabetic remedy, indicating its long-standing ethnomedicinal value. Previous phytochemical studies have shown that raru bark contains several secondary metabolites, including alkaloids, terpenoids, tannins, saponins, and flavonoids (Salwa *et al.,* 2025). Although its traditional use has primarily been associated with internal medicinal purposes, the presence of these bioactive compounds also suggests potential for topical applications. In particular, flavonoids and tannins are widely recognized for their antioxidant and skin-protective properties, which are relevant in cosmetic and dermatological formulations. Therefore, the exploration of raru bark as an active ingredient in a peel-off facial mask is scientifically justified and may broaden its utilization beyond traditional medicinal use.

Among the various types of facial masks, peel-off masks are widely preferred because they are easy to apply and remove after drying, forming a thin film on the skin surface. In addition to helping remove dead skin cells, peel-off masks may also improve skin hydration and support the management of wrinkles, acne, enlarged pores, and early signs of aging (Bakhtiar Purkon et al., 2023). Several previous studies have developed peel-off masks from natural ingredients with antioxidant or antibacterial properties; however, the use of raru bark (Cotylelobium melanoxylon Pierre) in this type of cosmetic formulation has not been widely reported. This study is therefore distinct in exploring raru bark ethanol extract as a local natural source of bioactive compounds and

evaluating its feasibility in a peel-off mask formulation, thereby contributing to the diversification of herbal-based cosmetic products.

Based on this, research on the formulation and evaluation of *peel-off mask preparations* from ethanol extract of raru skin needs to be conducted to develop the use of local natural materials as active cosmetic ingredients and fill the gap in previous research related to the use of *Cotylelobium melanoxylon pierre* in *peel-off mask preparations.*

METHOD

This study applies an experimental method that develops raru bark extract into a *peel-off gel mask preparation*. The stages include sampling, determination, preparation, identification sample, manufacturing ethanol extract, formulation stock and physical evaluation.

Tool and Materials

Tool Which used between other: Tool write, aluminum foil, sieve, stem stirrer, blender, hot plate, parchment paper, filter paper, mortar and pestle, analytical balance, water bath, pH meter, spatula, UV-Vis spectrophotometer, thermometer, tube, viscometer, and other glassware.

Material consists of from skin raru (*Cotylelobium melanoxylon Pierre)*, distilled water, ethanol 80%, hydroxypropyl methylcellulose (HPMC), polyvinyl alcohol (PVA), methyl paraben and propylene glycol.

Determination Plant

Determination carried out in Laboratory Testing Material Herbal, University Sumatra North (USU), Medan, with the aim of ensuring the correctness of the identity and classification of plants used in the research.

Preparation Sample

The research material preparation stage began with sampling the bark of raru trees (*Cotylelobium melanoxylon Pierre)* from the Tarutung region of North Tapanuli. Sampling was carried out by manually peeling the bark using a sharp knife. knife. Method taking sample Which used is purposive Sampling, which is focused on taking samples at a specific location without comparing them with other areas. The collected bark is then cut into small pieces and weighed to determine its wet weight. Next, the samples are dried using an incandescent lamp in a closed room until they reach a dry state, characterized by a brittle texture. The dried samples are then ground using a blender to obtain a powder (Ginting *et al*., 2025). determination level water done with method weigh 5 g simple ingredients Then entered into a flask containing saturated toluene, then a distillation process is carried out until the two phases separate and the water volume no longer increases. The water content is then calculated and expressed as a percentage (%v/w).

Determination Level Sari Late In Water

Determination of the water-soluble extract content is carried out by taking 5 g of simple powder and putting it in to in 100 mL water-chloroform P (2.5 mL chloroform in 1000 mL water) for 24 hours. For the first 6 hours, the mixture was shaken occasionally, then left to stand for 18 hours.

After that, the solution was filtered, and 20 mL of the filtrate was evaporated to dryness. in a cup shallow based on flat Which has weighed previously. Residue furthermore in Heat at 105 ^{0}C until constant weight is reached. The water-soluble content is calculated based on the weight of the dried material.

Determination Level Sari Late In Ethanol

Determination of the water-soluble extract content was carried out by taking 5 g of the powdered simplicia, putting it into a stoppered beer flask and macerating it using 100 mL of 96% ethanol for 24 hours. During the first 6 hours, the mixture was shaken occasionally, then left to stand for 24 hours. 18 O'clock. After That, solution filtered, And as much as 20 mL filtrate evaporated until dried in a pre-weighed, flat-bottomed shallow dish. The residue is then heated at 105 ^{0}C until it reaches a constant weight. The water-soluble content is calculated based on the weight of the dried material.

Determination Level Ash Total

Determination of total ash content is carried out by placing 2 g of powder that has been carefully weighed into a porcelain cup that has previously been heated and tared. Then flattened Sample furthermore incandescent until obtained weight still. Total ash content is calculated for air-dried material.

Determination Level Ash No Late In Sour

Determination of the ash content insoluble in acid is carried out by refluxing or boiling the ash obtained from determining the total ash content with 25 ml of 2 N hydrochloric acid (HCL) for 5 minute. Faction Which No late in sour collected filtered use filter paper free ash, and washed with water hot. Residue together paper filter Then in glow right until reach weight still, cooled, and weighed level ash No late in acid is calculated based on the weight of the dried material.

Screening Phytochemicals Powder Skin Raru

Phytochemical screening was carried out to identify the presence of secondary metabolite compounds in raru bark, which include alkaloids, flavonoids, saponins, tannins, glycosides, as well as steroids and triterpenoids.

Alkaloid Test

As many as 0.5 g powder simple ingredients or extract methanol/ethanol reacted with A 2 N hydrochloric acid (HCl) solution and distilled water were then heated and filtered. The filtrate obtained was tested using Mayer's, Bouchardat's, and Dragendorff's reagents. A positive alkaloid result was indicated by the formation of a white or yellow precipitate in Mayer's reagent, a blackish-brown precipitate in Bouchardat's reagent, and a red to orange color in Dragendorff's reagent. The presence of alkaloids is declared positive if at least two of three reagents show the formation of sediment or turbidity (Salwa *et al.,* 2025).

Flavonoid Test

Flavonoid identification is performed by reacting the powder or extract with magnesium metal and concentrated hydrochloric acid. A positive result is indicated by a color change in the solution to red, orange, or purple (Salwa *et al.,* 2025).

Saponin Test

Saponin testing was conducted using the foam formation method. The formation of stable foam indicates the presence of saponin compounds (Salwa *et al.,* 2025).

Tannin Test

The tannin test is carried out by adding iron (III) chloride ($FeCl_3$) solution to the sample. A positive result is indicated by a change in the color of the solution to blue-black (Salwa *et al.,* 2025).

Glycoside Test

Identification of glycosides was performed using the Molisch reaction followed by the addition of sulfuric acid (H_2SO_4). The formation of a purple ring indicates a positive result (Salwa *et al.,* 2025).

Steroid and Triterpenoids Test

Testing for steroids and triterpenoids was performed using the Liebermann–Burchard reagent. A positive result is indicated by the appearance of a green or blue-green color (Salwa et al., 2025).

Making Extract Ethanol Skin Raru

The preparation of ethanol extract of raru skin in this study was carried out using the maceration method. use solvent ethanol 80%, simple ingredients Which used in the form of powder skin 200 g of raru which is then soaked in 2 L of solvent liquid (80% ethanol) in a container closed. Process maceration This ongoing during three day in place Which protected from sunlight and stirred every three hours to increase the extraction process. After the soaking time is complete, the maceration solution is filtered. For get macerate. Then macerate concentrated with Rotary evaporator at a temperature of 50°C then evaporated using a water bath to obtain a thick extract (Purba *et al* ., 2023).

Making Face Mask *Peel -Off*

Face mask *peel-off* made with method polyvinyl alcohol (PVA) dissolved with distilled water in heat until (80 ° C) until expand during not enough more 15-30 minute, After expanding, grind until homogeneous (mass 1). In a mortar, develop Hydroxypropyl Methylcellulose (HPMC) using previously prepared hot water for 15 minutes. Then grind until the mass becomes homogeneous (mass 2). Dissolve methyl paraben with propylene glycol, then add and mix until homogeneous. to in mass 1. Then mass 1 And mass 2 mixed to in mortar and stirred until homogeneous (mass 3). Added distilled water Which remaining mixed to in the masses 3 little by little by way of ground to a mass the gel becomes homogeneous, After that, the raru bark extract is added to the base bit by bit and ground until homogeneous. The finished mask is placed in a suitable container and labeled according to the concentration. A physical evaluation of the mask preparation is then performed (Samsul *et al.* , 2022).

The concentrations of raru bark ethanol extract used in this study (2.5%, 5%, and 7.5%) were selected based on formulation considerations and supported by previous literature on herbal topical preparations using graded extract concentrations. These concentration levels were chosen to represent low, medium, and relatively high extract incorporation in order to observe their effects on the physical characteristics of the peel-off mask, such as viscosity, spreadability, pH, homogeneity, and drying time. In addition, the selected concentrations were considered suitable to maintain the stability and homogeneity of the formulation without causing excessive changes in the consistency of the preparation.

Table 1. Formula Face Mask *Peel-Off* Extract Ethanol Skin

Raru Concentrated Material	(%)			Function
	F1	F2	F3	
Extract skin raru	2.5	5	7.5	Active ingredient
PVA	10	10	10	Gelling agent
HPMC	1	1	1	Enhancer viscosity
Propylene glycol	10	10	10	Humectant & co- solvent
Methylparaben	0.2	0.2	0.2	Preservative
Aquadest ad	add 100	add 100	add 100	Solvent

Evaluation Physique Face mask *Peel-off* Extract Ethanol Skin

Organoleptic Test Raru

Test Organoleptic done based on senses with observe in a way direct things like changes in shape, smell and color of the mask preparation *peel-off* (Kaban *et al.,* 2022).

Homogeneity Test

Mask homogeneity testing *Peel-off* is performed by taking 1 g of the preparation. Next, the preparation is smeared on a glass slide and then covered with another glass slide. Homogeneity is observed for the mixing of the ingredients of the preparation where the preparation does not show any coarse grains (Hanum *et al*., 2025).

pH Test

pH measurements are carried out using a standardized pH meter, enter into the stock face mask, Then note number pH Which appear on pH meters. A good pH for the preparation is one that matches the pH of the skin, namely in the interval 4.6 - 6.4 (Ginting *et al*., 2025).

Viscosity Test

Viscosity test using a Brookfield viscometer using spindle size number 4 with method lock spindle played one way needle O'clock with speed 30 revolutions per minute (rpm). After that, the preparation is inserted and the spindle is dipped into the container until it reaches the limit mark, and the value that appears is recorded as its viscosity (Trisnaputri *et al*., 2023).

Power Spread Test

The spreadability test was conducted by weighing 0.5 g of the preparation and placing it on a glass slide. The top cover was weighed and then placed on top of the sample, weighted with 150 g for 1 minute, and then its diameter was measured. A good gel mask preparation has a spreadability of between 5-7 cm (Trisnaputri *et al*., 2023).

Drying Time Test

Testing time dry up done Ffor determine long time Which A *peel-off* mask is required to dry completely on the skin's surface. In this test, 1 g of the *peel-off mask* is applied evenly to the back of the hand. Drying time is then measured from the initial application until the preparation dries and can be removed (Erwiyani, 2024).

RESULT AND DISCUSSION

Results Determination

Based on sample identification carried out at the Medanense Herbarium Laboratory (MEDA), University Sumatra North, show that material study. The plant used is raru wood with the scientific name *Cotylelobium melanoxylon Pierre*. Based on the results of the taxonomic classification, this plant is included in the Kingdom Plantae, Division Spermatophyta, Class Dicotyledoneae, Order Malvales, and Family Dipterocarpaceae. This plant is classified in the Genus Cotylelobium with the species *Cotylelobium melanoxylon* (Hook.f.) Pierre. In a way local, plant This known with the name of raru wood.

This identification process has an important role in ensuring the accuracy of botanical identity. as well as ensure authenticity and validity sample Which used as material study.

Inspection Characterization Powder Simple Ingredients

Characterization of medicinal plants is an important initial stage in controlling the quality of raw materials in order to obtain medicinal plants with uniform quality so as to ensure the consistency of the pharmacological effects of the plants used. The process of characterizing medicinal plants includes determining several parameters, including water content, total ash content, acid-insoluble ash content, water-soluble extract content, and ethanol-soluble extract content. The results of the characterization examination of the medicinal plant of raru skin (*Cotylelobium melanoxylon Pierre*) are presented in Table 2.

Table 2. Results Inspection Characterization Skin Raru

MMI Requirements 1995 Information				
No.	**Parameters**	**Inspection**	**Results**	
1.	Level Water	9.99%	≤ 10	Fulfil condition
2.	Level Sari Late Water	20.04%	≥ 16.5%	Fulfil condition
3.	Level Sari Late Ethanol	16.11%	≥ 10%	Fulfil condition
4.	Level Ash Total	1.78%	≤ 9.5%	Fulfil condition
5.	Level Ash No Acid Soluble	0.19%	≤ 1.5%	Fulfil condition

Information:

≤ = no more than

≥ = No less than

Based on the results of the characterization examination of the powdered simple raru bark (*Cotylelobium melanoxylon Pierre*) which served on Table 2, all over parameter quality The tested materials meet the requirements of Indonesian Materia Medika (Ministry of Health, 1995). The water content of the simplicia of 9.99% indicates that the material has been well dried, thus preventing the growth of microorganisms and increasing the stability of the simplicia during storage.

The water and ethanol soluble extract content values were 20.04% and 16.11% respectively, fulfilling the requirements. condition minimum, indicates that skin wood raru contain polar and semipolar compounds in fairly high quantities, especially semi-polar and polar compounds such as tannin and flavonoids. Compound compound the known play a role as antioxidants and easy extracted use solvent water or ethanol (Muslim & Budiyanto, 2022)

This parameter relates to the solvent's ability to extract active compounds from plant material. The results of the total ash content and acid-insoluble ash content in the characterization of raru bark powder met the requirements. Low total ash content and acid-insoluble ash content indicate that content mineral and pollution inorganic in simple ingredients Still is within safe limits, so that the quality of the raw materials is considered good and suitable for use in further research (Directorate General & Ministry of Health, 2000).

Results Screening Phytochemicals

Results screening phytochemicals to powder skin wood raru as well as extract ethanol skin raru presented in Table 4.

Table 4. Results Screening Phytochemicals Powder Skin Wood Raru As Well As Extract Ethanol Raru Skin

No.	Group Extract Powder	Compound	Ethanol
1.	Alkaloid	+	+
	+ Mayer	+	+
	+ Dragendorff	+	+
	+ Bouchardath	+	+
2.	Tannin	+	+
3.	Saponin	+	+
4	Flavonoid	+	+
5.	Steroids/triterpenoids	+	+
6.	Glycosides	+	+

Source : results screening from study Which done by (Salwa *et al* ., 2025) Description:
- : does not contain compound groups
\+ : contain group compound

The results of phytochemical screening of the powdered simplex and ethanol and methanol extracts of raru bark *(Cotylelobium melanoxylon Pierre*) showed the presence of several groups of secondary metabolite compounds, namely alkaloids, flavonoids, tannins, saponins, glycosides, and steroids/triterpenoids, as presented in Table 4. The presence of these compounds indicates that skin wood raru own potential activity biological Which high enough.

Positive results of flavonoids in both the simple powder and ethanol extract play an important role in activity biological, specifically as antioxidants and agent protector cell to oxidative stress (Bangar *et al*., 2026). Antioxidants are compounds that function as electron donors, thereby inhibiting the oxidation process by binding free radicals and highly reactive molecules without turning into free radicals (Siregar, 2025). In addition to flavonoids, the presence of tannin and saponins on extract ethanol Also support potential use Raru bark extract in topical formulations. Tannin compounds are known to have astringent and antioxidant activity, while saponins can play a role in increasing the penetration of active ingredients into the skin. The combination of these compounds has the potential to provide a synergistic effect in the developed *peel-off mask preparation (Rahmah et al*., 2023).

Results Test Organoleptic

Organoleptic testing was conducted to observe the physical characteristics of the preparations, including shape, color, and aroma. The results showed that all *peel-off mask formulas* had a gel form, a brown color, and a distinctive aroma of raru bark extract. stock originate from addition extract to in formulation. No occurrence changes in color, odor, or shape during storage indicate that the preparation has stability physique Which Good Because stock show form gel Which stable, color homogeneous, normal odor typical of the extract, and does not experience changes during storage,

which is supported by the right formula, appropriate pH, good homogeneity, and stability of the active compounds.

Table 5. Results Test Organoleptic Stock *Peel-Off* Mask Extract Ethanol Of Raru Skin

Sample	Consistency	Aroma	Color
F1	Semi-Solid	Typical Raru Bark Extract	Brown
F2	Semi-Solid	Typical Raru Bark Extract	Brown
F3	Semi-Solid	Typical Raru Bark Extract	Brown

Results Test Homogeneity

Table 6. Results Test Homogeneity Face Mask *Peel-Off* Extract Ethanol Skin Raru

Results Formula	Homogenity Test
F1	Homogen
F2	Homogen
F3	Homogen

The homogeneity test aims to ensure that all ingredients in the preparation are evenly mixed. The test results showed that the entire *peel-off mask formula* was homogeneous, as indicated by the absence of coarse grains or unmixed particles upon visual inspection.

Good homogeneity is very important in topical preparations because it affects the uniformity distribution material active. Preparation Which No homogeneous can causing inconsistencies in the dosage of active ingredients during use and reducing the effectiveness and safety of the product (Nofriyanti *et al*., 2022)

Results Test Ph

Table 7. Results Test Ph *Peel-Off* Mask Extract Ethanol Skin Raru

Results Formula	pH Test
F1	5.95
F2	5.48
F3	5.61

A pH test was conducted to determine the acidity level of the preparation and its compatibility with the skin's physiological pH. The test results showed that the pH of the *peel-off mask* was in the range of 5.48–5.95. This pH range is within the normal skin pH range, which is between 5.48 and 5.95. 4.6–6.4. Measurement pH very crucial Because pH Which too sour can causes irritation or wound on skin, whereas pH Which too language can result in skin becomes dry and feels itchy (Purba et al., 2023).

Test Results Viscosity

Viscosity testing was performed to determine the resistance of the preparation to flow and to evaluate its consistency as a peel-off mask. Based on the ideal viscosity range for peel-off masks (10,000–20,000 cps), formulas F2 and F3 met the acceptable standard, whereas F1 showed a lower viscosity

value. The lower viscosity of F1 may be attributed to its lower extract concentration, resulting in a less dense gel structure. In contrast, increasing the concentration of raru bark extract in F2 and F3 likely increased the total solid content within the formulation, thereby contributing to a thicker and more viscous system. This increase in viscosity is important because it can directly influence the spreadability of the preparation. Generally, a more viscous formulation tends to spread less easily on the skin surface due to greater internal resistance to flow. This explains why variations in extract concentration may alter the spreadability of the mask. However, in this study, all formulations still showed spreadability values within the acceptable range, indicating that the increase in extract concentration did not compromise the practical applicability of the peel-off mask. In addition, viscosity may also be influenced by factors such as the mixing process, the type and concentration of thickening agents, the ratio of dispersed phases, and the particle distribution within the gel system (Kaban *et al*., 2022).

Table 8. Results Test Viscosity Face Mask *Peel-Off* Extract Ethanol Skin Raru

Results Formula	Viscosity Results Test
F1	6303 cps
F2	12843 cps
F3	13415 cps

Test Results Power Spread

Table 9. Results Test Power Spread *Peel-Off* Mask Extract Ethanol Skin Raru

Results Formula	Spreadability Test (cm)
F1	6
F2	6.4
F3	6.9

The spreadability test was conducted to determine the product's ability to spread over the skin surface when applied. The test results showed that the *peel-off mask's spreadability was* is at on range 6–6.9 cm. Mark the fulfil condition Power spread topical preparations. Spreadability is greatly influenced by viscosity, these results indicate that the use of 8-13% PVA polymer and 1-2% HPMC provides a good balance between viscosity, adhesion and drying time (Maulida *et al*., 2025).

Good spreadability will make it easier to apply the mask to the skin and improve comfort use. Besides That, Power spread Which optimal can helps to evenly distribute the active ingredients on the skin surface, thereby increasing the effectiveness of the preparation.

Results Time Test Dry Up

Table 10. Results Test Time Dry Up Face Mask *Peel-Off* Extract Ethanol Skin Raru

Results Formula	Dry Time Test (minutes)
F1	26
F2	29
F3	27

Test time dry up done for know long time Which needed *Peel-off* masks form a film layer after being applied to the skin. Test results show that the drying time for *peel-off masks* ranges from 26–29 minutes. show that level and type the polymer capable form gel and film stable (Maulida *et al*., 2025). Time dry up Which too fast can cause the film layer doesn't form properly, while too long a drying time can reduce user comfort. A drying time of 15–30 minutes is considered optimal for *peel-off* masks.

CONCLUSION

This study demonstrates that the ethanol extract of raru bark (*Cotylelobium melanoxylon* Pierre) can be effectively formulated into a peel-off mask with the required physical characteristics. All formulas exhibit good organoleptic stability, are homogeneous, and have a pH value consistent with the skin's physiological pH. safe and comfortable used as stock topical. Difference concentration The extract affects the physical properties of the preparation, particularly viscosity, spreadability, and drying time, where increasing the concentration of the extract tends to increase the viscosity of the preparation without exceeding limit Which can accepted. In a way overall, face mask peel-off extract ethanol Raru skin meets the physical quality requirements for cosmetic preparations and has the potential to be developed as a natural-based skin care product with secondary metabolite content that supports biological activity, especially as an antioxidant.

As a follow-up, it is recommended that further research be conducted to evaluate the stability of the preparation during long-term storage and to assess safety through irritation tests. skin. Besides That, testing activity biological in a way more specific, like test antioxidants or anti-aging both *in vitro* and *in vivo*, need to be carried out to strengthen the potential utilization extract skin raru as material active cosmetics. Development Formulations with variations in base or combinations of other active ingredients can also be considered to increase the effectiveness and applicative value of the product.

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