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Formulation & Evaluation Of Apricot Oil Face Serum A Research

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Abstract:

This anti-ageing face serum is a scientifically formulated skincare solution designed to target visible signs of ageing, including fine lines, wrinkles, and loss of elasticity. Enriched with potent active ingredients such as vitamins A and E, Essential fatty acid, retinol, and antioxidants, the serum works to deeply hydrate the skin, stimulate collagen production, and protect against environmental stressors. Lightweight and fast absorbing, the formula penetrates the skin's surface to promote a smoother, firmer, and more radiant complexion. Suitable for all skin types, this serum offers a non-invasive approach to youthful, revitalized skin with regular use. The face serum was formulated using standard excipient including apricot oil, glycerine, coconut oil, sandalwood oil, olive oil and preservatives. The final antiaging formulation was tested for anti its antiaging activity and stability. The results demonstrated promising antiaging property with minimal risk of side effects supporting the efficacy of serum combination as cost effective and safe alternative for treating aging of face skin.

Key words: Enriched, Firmer, Minimal, Non-invasive, Potent, Revitalized, Stressors.

Introduction:

The term "cosmetics" originates from the Greek word "kosmtikos," meaning skill in decorating. "Cosmeceuticals" are hybrid products blending aspects of cosmetics and pharmaceuticals, aiming to enhance beauty while providing additional health-related benefits. These products include skin moisturizers, nail polishes, lipsticks, perfumes, makeup, shampoos, hair treatments, toothpaste, deodorants, and any material used in cosmetic products. Positioned between pharmaceuticals and cosmetics, cosmeceuticals aim to improve both the health and appearance of the skin.

The term "serum" in cosmetology refers to a highly concentrated skincare product that penetrates deep into the skin, delivering active ingredients for quick and effective treatment of various cosmetic concerns. Serums are especially beneficial for improving skin firmness, texture, pore size, and moisture levels. They typically contain antioxidants, cell-based ingredients, and skin-like components suitable for all skin types.

Serums are versatile products that come in gel or lightweight lotion forms, making them ideal for all skin types. They are applied after cleansing and before moisturizing to bring active ingredients directly into the skin. Serums are formulated with small molecules that penetrate deep into the skin, providing a high concentration of active ingredients and targeting specific skincare concerns such as ageing signs.

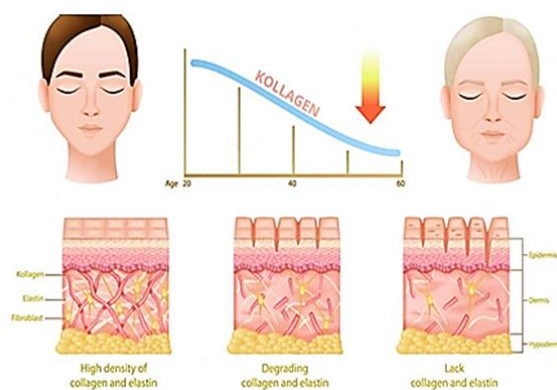


Fig 1: Skin aging

Benefits of face serum:

- Soothes irritated skin.
- Absorbs quickly into the skin.
- Improves the appearance of fine lines and wrinkles.
- Protects the skin from free radicals and future damage.
- Improved skin texture.
- Help's deep hydration.

Types of facial serum:

1. Antioxidant Serum
2. Hydrating Serum
3. Brightening Serum
4. Anti-ageing Serum
5. Serum for Hyperpigmentation

Drug Profile:

- **Apricot Seed (*Prunus Armeniaca*):**



Fig 2: Apricot seeds

1	Biological Source	Apricot Plant
2	Synonym	Wild apricot, Zardalu, Khubani, Chulli, Chulu
3	Family	Rosaceae
4	Chemical Constituents	Vitamin A, K, B, Antioxidant, Organic acid
5	Region	Central Asia
6	Uses	Use in skin care

Botanical Description:

- Plant type: Deciduous tree
- Size: Grow up to 14 metres tall
- Leaves: Green with serrated edges
- Bark: Dark brown
- Flower: White/Pinkish
- Fruit: A Drupe (stone fruit) with yellow to orange flesh
- Native range: Central Asia
- Climate: Chilling winter temperatures

Materials:

1) Apricot Oil:

Apricot oil was extracted from seed kernel use in Soxhlet extraction method. Its moisturizing, anti-inflammatory, and antioxidant properties make it a valuable addition to a face serum. It can help hydrate the skin, reduce inflammation, and protect against environmental damage, promoting overall skin health.

2) Sandalwood Oil:

With its anti-inflammatory, antiseptic, and astringent properties, sandalwood oil can be particularly useful in a face serum targeted at calming irritated skin, preventing infections, and minimizing the appearance of pores. With skin-clearing properties, sandalwood essential oil can help clear acne and pimples and soothe skin.



Fig 3: Sandalwood oil

3) Coconut Oil:

Coconut oil's moisturizing, antimicrobial, and anti-inflammatory properties make it suitable for inclusion in a face serum. It can help hydrate the skin, combat acne-causing bacteria, and soothe inflammation, leaving the skin feeling soft and nourished.



Fig 4: Coconut oil

4) Olive Oil:

Olive oil's emollient, antioxidant, and anti-inflammatory properties make it a valuable ingredient in a face serum. It can help soften and smooth the skin, protect against free radical damage, and soothe irritation, contributing to a healthy and radiant complexion.



Fig 5: Olive oil

5) Glycerine:

According to scientific research, glycerine is safe to use on the face. Glycerine is great for the skin because it acts as a humectant, which is a substance that allows the skin to retain moisture. It can increase skin hydration, relieve dryness, and refresh the skin's surface.

Summery Table:

Sr. No.	Ingredient	Role	Action
1.	Apricot oil	API	Improve elasticity, reduction in appearance of fine lines & wrinkles
2.	Olive oil	API	Reduce inflammation
3.	Sandalwood oil	API	Natural exfoliant
4.	Coconut oil	API	Highly moisturizing
5.	Glycerin	Thickening agent	Humectant
6.	Tween 20	Emulsifier	Stable oil-in-water emulsion
7.	Vitamin E capsule	Preservative	Helping to extend the shelf life of preparation
8.	Rose water	Solvent	Base for emulsion.

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1. Extraction of Apricot Oil:

After the removal of the seed coating, the seed kernels of the of apricot were crushed using a Mortar Pestle. The crushed material, packed in a paper thimble, was placed in a Soxhlet extractor connected with a condenser and a 500 mL round bottom flask. The extraction was performed with n-hexane (140 mL) in a water bath for 6 h. After completion of the extraction process, the excess solvent was removed under reduced pressure using a rotary evaporator

2. Preparation of Apricot oil face serum:

The (o/w) emulsion-based serum was formulated. The oily component consisting of Apricot oil, olive oil, sandalwood oil, tween 20 and coconut oil is mixed for ten minutes to obtain a uniform solution. At the same time the water phase was prepared by mixing the glycerine and a small amount of distilled water uniformly. The oil phase is added to the liquid phase drop wise under mechanical vibration at 2500 rpm to obtain o/w based on biphasic emulsion.



Fig 6: Prepared face serum

Formulation Table:

Ingredients	F1	F2	F3
Apricot oil	10 ml	8 ml	6 ml
Olive oil	1.8 ml	1.8 ml	1.8 ml
Sandalwood oil	0.2 ml	0.2 ml	0.2 ml
Coconut oil	0.4 ml	0.4 ml	0.4 ml
Glycerine	8 ml	10 ml	11 ml
Tween 20	0.2 ml	0.2 ml	0.2 ml
Rose water	Qs to 30 ml	Qs to 30 ml	Qs to 30 ml
Vitamin E capsule (As a preservative)	0.1 g	0.1 g	0.1 g

Evaluation of Apricot Oil Face Serum:

1) Physical Evaluation

The Colour and appearance of the formulation was observed visually. This test was confirmed by visual appearance and by touch.

2) pH Value

A litmus paper was use in this test and the paper convert into light red colour, it showing the solution was acidic range The skin has an acidic range, and the pH of the skin serum should be in the range of 4.1-6.7.

3) Determination Of Spreadability

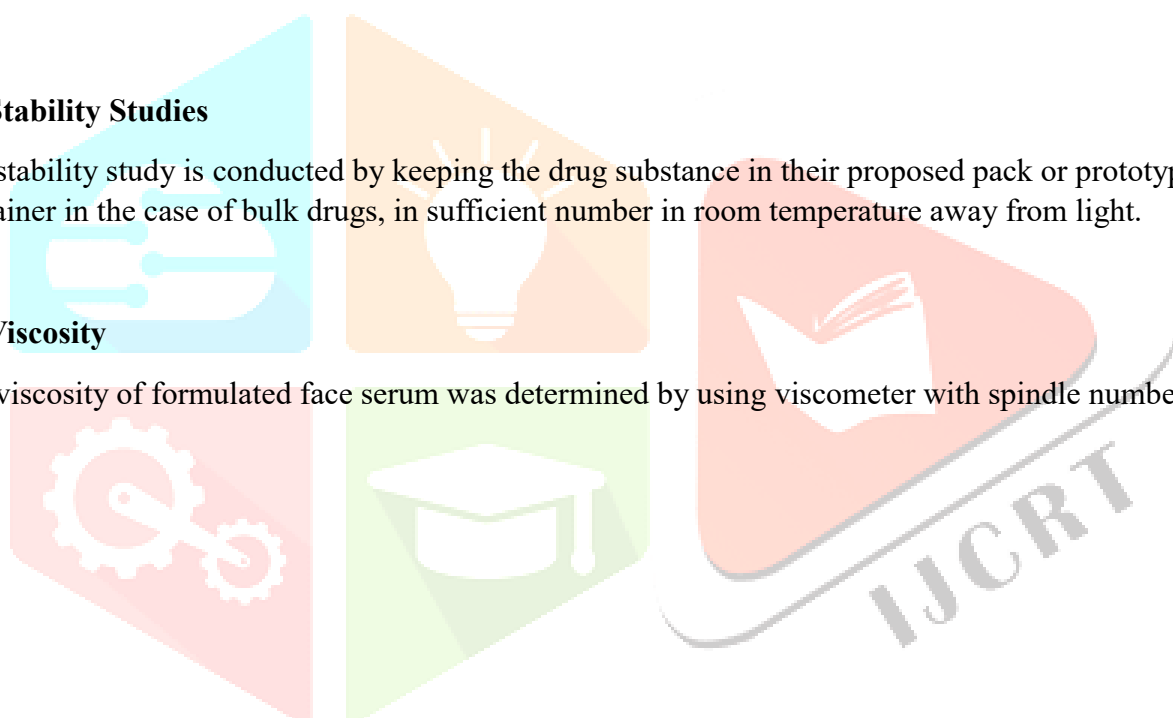
2 gm of serum sample was placed on a surface. A slide was attached to a pan to which 20 gm weight was added. The time (seconds) required to separate the upper slide from surface was taken as a measure of Spreadability.

4) Stability Studies

The stability study is conducted by keeping the drug substance in their proposed pack or prototype container in the case of bulk drugs, in sufficient number in room temperature away from light.

5) Viscosity

The viscosity of formulated face serum was determined by using viscometer with spindle number.



Result Table:

Sr. No	Results	F1	F2	F3
1]	Physical Evaluation:			
	a) Colour	Light brown	Light yellowish	Creamish white
	b) Odour	Characteristics odour	Characteristics odour	Characteristics odour
	c) Texture	Smooth homogeneous	Smooth homogenous	Smooth homogeneous
	d) Homogeneity	Good	Good	Bad
	e) Washability	Light washable	Washable	Light washable
2]	pH value	5.5	6.5	4.8
3]	Spreadability	4.8cm	5cm	4cm
4]	Viscosity	More viscous	Viscous	Less viscous

Conclusion:

Apricot oil which was extracted using the Soxhlet extraction method, is a rich source of nutrients and antioxidants known for its potential benefits in skincare. With its natural composition, apricot oil offers promise in addressing various skin concerns, including aging. The serum formulated with apricot oil has demonstrated significant antioxidant effects, attributed to its high content of vitamin A and other antioxidants. The prepared formulation exhibited superior anti-aging properties, suggesting its potential for further development in cosmetic products. This highlights the promising role of apricot oil-based formulations in skincare, paving the way for the creation of effective and natural anti-aging solutions.

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