



# Formulation & Characterization of Lipstick by using Herbal Pigments

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## Abstract

The word cosmetics or makeup are applied on the skin to improve the overall look and their acceptance in society because natural products are easy to handle and easy to use. The word “Herbal” refers to symbol of safety which has no adverse effects. The present research was done to formulate & evaluate the herbal lipsticks to minimize the side effects by usage of natural pigments. Herbal lipsticks consist of pigments, oils, waxes, preservative, fragrance & colors. Herbal lipstick was prepared from Rosa kordesii by using natural coloring pigment Anthocyanin & Beta vulgaris (Beat root extract). It is easy to use and handle by women. Herbal lipsticks are free from hazardous chemicals. Herbal Lipstick having many advantages it should be protects lips from dryness and cracking. The formulated herbal lipstick was evaluated with several parameters like smoothness, greatness, melting point, breaking point and pH. Based on the data, it can be accomplished that the use of natural colorants in lipstick formulation having very less or no side effect. Thus, the prepared lipstick can take safe and effective. Different parameters of herbal lipstick were compared with marketed formulation.

**Keywords:** Herbal lipstick, Anthocyanin, Beta vulgaris, Formulation, Evaluation.

## Introduction

It is a cosmetic product to improve women's beauty. Herbal lipsticks are used to impart an attractive color, texture and protects to lips. Lipstick is a cosmetic product containing waxes, oils, pigments and dyes, alcohol and fragrance, preservatives and antioxidants, colors, surfactants.<sup>[1]</sup> Cosmetics are substances or products used to enhance or alter the appearance of the face or fragrance and texture of the body. Many cosmetics are intended for applying to hair, body and face. These are generally mixture of chemical compounds. One of these is lipstick, especially for females, intended to color the lips. Used for thousands of years, in a variety of shades, according to the timely fashion. Herbs refer to the leafy green or flowering parts of a plant that are grown either as a food or because they have some use in treating diseases. These have a variety of uses including culinary, medicinal and in some cases religious. After many researches it was concluded that, herbs show more effectiveness, more output than any other artificial and synthetic products.<sup>[2]</sup> It brightens your smile and provides hydration to our lips. It should be free from grittiness should be non-drying required plasticity. In herbal lipstick many natural nutrients available safe for lips. It is free from chemicals like paraben, sulphate, phthate and others its unsafe to consume that's why we are doing herbal lipstick like bees wax , beetroot juice, Rosa kordesii, coconut oil , vanilla essence.<sup>[3]</sup> A rose is a woody perennial flowering plant of the genus Rosa, in the family Rosaceae, or the flower it bears. There are over three hundred species. Most of the genus is native to Asia, with smaller numbers native to Europe, North America and north western Africa.<sup>[4]</sup>

### Herbal lipsticks having ideal Properties<sup>[5]</sup>:

- It is smooth and easy to apply.
- It is non-irritant and non-toxic.
- It is required plasticity, different odor, color, consistency and packaging etc.

- It should be stable (physically and chemically).
- It is stable in shelf life time and it is free from bloom and sweating during storage of lipstick.
- It should have pleasant taste, odor and flavor.
- It should not melt or harden within reasonable difference of climatic temperature.
- It should be long lasting.
- It should be free from gritty particle.

## Materials and methods<sup>[6, 9]</sup>

### Raw material

Bees wax, paraffin wax, liquid paraffin, coconut oil, almond oil, shikaki, lemon juice, vanilla essence, colouring pigment were the various ingredients used in the current formulation.

### Optimization of color pigments.

#### A. Rosa Kordesii

The plant material (Rosa) used in this were collected from nearby areas.

#### Powdering of sample

Flower petals were shade dried at room temperature for 4-5 days. After moisture content was completely removed, dried petals were powdered, stored in a closed container for further use.

#### Method of extraction

The powdered rose petals were taken in a closed vessel with solution containing 50% EtOH and 50% water. The vessel was heated in water bath at 60-80°C for 3-4 hours and filtered through a filter paper to remove any impurities present. The filtrate was collected in a petridish and placed in hot air oven at 60°C overnight so that EtOH and water were completely removed. Thus natural colouring agent or pigment was obtained.

#### Identification of anthocyanin

For identification of anthocyanin extracted from rose, about 0.2gm of extract was weighed in separate test tube, 1ml of 2N NaOH was added and heated for five minutes at  $100 \pm 2^\circ\text{C}$ . This was observed for the formation of bluish green colour which indicates the presence of anthocyanin.

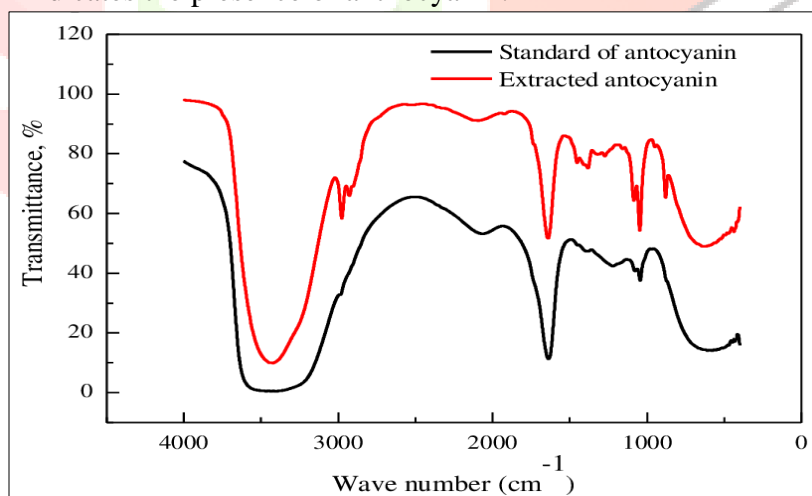
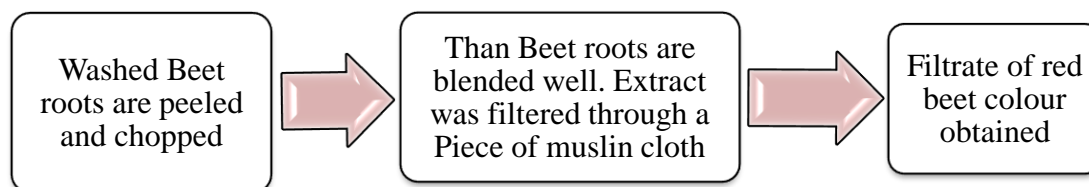


Figure 1: IR Spectroscopy of Extracted anthocyanin

#### B. Preparation of Beet root extract<sup>[10]</sup>:



Figuer2: preparation of Beet root extract

Table 1: General information of Additives

Sr. No.	Excipients	Biological Source & Family	Category
1.	Bees wax	<i>Apis mellifera</i> (Apidae)	Glossy and hardness
2.	White soft paraf-fin	Petroleum	Glossy and hardness
3.	Coconut oil	<i>Cocos nucifera</i> L (Palmae)	Blending
4.	Almond Oil	<i>Prunus amygdalus</i> (Rosaceae)	Blending
5.	Shikakai	---	Surfactant
6.	Acacia	<i>Acacia Arabica</i> (Legumes)	Additives
7.	Lemon juice	<i>Citrus limon</i> (Rutaceae)	Anti-oxidant
8.	Vitamin E	---	Anti-oxidant
9.	Vanilla essence	---	Preservating agent
10.	Beet Root Extract	<i>Beta vulgaris</i> (Amaranthaceae)	Colouring agent
11.	Rosa kordesii	---	Colouring agent

## Uses of Ingredients<sup>[11, 13]</sup>

### 1. Bees Wax:

- It is thickening agent.
- Bees wax is used in lip-balm, lip-gloss and hand creams.
- Bees wax can help to the lips.
- Bees wax help retain moisturizing skin.



Figuer3: Bees Wax

### 2. White soft paraf-fin

- It is used in many cosmetic and personal care product like lipstick, lotion, creams.
- It is reduce friction on the skin.
- It is used as emollient.
- It is helps to restore the skin's smoothness, softness and flexibility.



Figuer4: White soft Paraffin

### 3. Coconut oil & Almond oil

- Contribute scent and antioxidant properties to Coconut Oil.
- Soothe inflammation.
- Repair dry, damaged skin.
- Improve skin elasticity, especially for prematurely aging skin.

- Enhance moisture levels in skin.
- Protect skin against UV rays.
- Enhance skin cell growth.



**Figuer5:** Coconut oil & almond Oil



**Figuer6:** Ingredients Used in Herbal Lipsticks

### Manufacturing procedure of Herbal lipsticks <sup>[14]</sup>

Weight all herbal ingredients individually. Then place porcelain dish on water bath. First, bees wax and paraffin wax were melted at 70°C, to that oil mixture (coconut oil, almond oil) were added in measured quantities. Surfactant, preservatives, antioxidants and colour pigment were added one after the other to the above mixture and stirred until a uniform colour and consistency was obtained. The mixture was agitated to remove air bubbles. Then it was poured into tubing moulds, cooled and separated from the moulds.

**Table 2:** Formulation

Sr. No.	Excipients	Quantity		
		F1	F2	F3
1.	Bees wax	9gm	9gm	9gm
2.	White soft paraf-fin	---	5gm	5gm
3.	Coconut oil	---	3ml	5ml
4.	Almond Oil	10ml	5ml	3ml
5.	Shikakai	0.5gm	0.5gm	0.5gm
6.	Acacia	1.0gm	1.0gm	1.0gm
7.	Lemon juice	1ml	1ml	1ml
8.	Vitamin E	---	---	1ml
9.	Vanilla essence	1ml	1ml	1ml
10.	Beet Root Extract	---	3ml	6ml
11	Rosa kordesii	---	3gm	6gm

### Evaluation of Lipsticks <sup>[15-17]</sup>

It is very essential to retain uniform standard for herbal lipstick, keeping this view in mind the formulated natural lipsticks are evaluated. The evaluation parameters are melting point, breaking point, skin irritation test, perfume stability, aging stability, pH, colour and texture etc.

### 1. Organoleptic Properties:

Organoleptic properties of formulated herbal lipstick checked by determine the colour odor & texture

### 2. pH of the lipsticks:

The pH checked by making 10% solution of lipsticks by using digital pH meter.

### 3. Melting Point:

The melting point determination of lipsticks is important indication for the safety of storage. The melting point of lipsticks determine by capillary tube method.

### 4. Breaking Load Point Test:

This test is done to determine the strength and hardness of prepared lipstick. In this method, the lipstick is placed horizontal position 1 inch from the base. Weight is gradually in-creased loads are attached to it. At Weight at which the lipstick starts to break, known as the breaking load point. The test shall be carried out in specific condition and at about 25 °C temperatures.

### 5. Perfume stability:

The formulated herbal lipsticks were tested after 30 days, to record fragrance.

### 6. Aging stability:

Prepared herbal lipsticks were stored at refrigerator temperature (4°C), room temperature (20- 30°C) and high temperature (40-50°C) for 1hour. Various parameters such as bleeding, crystallization and ease of application were observed.

### 7. Force of application:

It is test for comparative measurement of the force to be applied for application. Lipstick was applied at 45°C to cover a 1sq.inch area until fully covered.

### 8. Skin Irritation Test:

It was carried out by applying product on skin surface & left for 10min. found there was no irritation found.

### 9. Solubility Test:

The Solubility of formulated lipsticks checked by using different solvents

**Table 3:** Evaluation of herbal lipstick and comparing with marketed lipstick

Evaluation Parameter	Formulation F3	Marketed Preparation
Melting Point	64 <sup>0</sup> c	68 <sup>0</sup> c
Breaking Load Point Test	74.13gm	52.14gm
Perfume stability	Good	Good
Aging stability	Smooth	Smooth
Force of application	Good	Good
Skin Irritation Test	NO	No
Solubility Test	Soluble in Ethanol	Soluble in Ethanol
pH	6.5	6.9
Colour & Texture	Red & Smooth	Red & Smooth



**Formulation: F3**



**Formulation: F1**



**Figure 7:** Formulation F3 & F1

### Result & Discussion:

The herbal lipsticks have been the incredible boost to use the cosmetics by women, the given formulation shows the medicinal that softening, moisturizing, & reducing the inflammation of the lips. In the present formulation the colour pigments extracted from *Rosa kordesii* & *Beta vulgaris* these are totally natural. The herbal lipsticks found to be safe & stable among the three formulations F3 is showing good result with comparison of Marketed preparation. Hence, from the present study it was concluded that this formulated herbal lipstick was better with minimum side effects or no side effects. From evaluation studies, formulation of lipstick using this natural colorant was more satisfactory than marketed formulation.

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