

## Journal of Pharmaceutical Advanced Research

(An International Multidisciplinary Peer Review Open Access monthly Journal)

Available online at: [www.jpardonline.com](http://www.jpardonline.com)**Physicochemical analysis of Herbal Lipsticks developed using Natural colour pigment**

Prabhu K. Halakatti\*, Anita Desai, Rajashri Patted, Ashwini Babaladi, Manoj Jakkanagoudar, Naveen Balehosur, Shrikant Patil, Mahantesh Patted, Shrinivas Danti, Naveen Mulabeli

Dept. of Pharmaceutics, Hanagal Shri Kumareshwar College of Pharmacy Bagalkote, Karnataka-587101, India.

Received: 02.11.2022

Revised: 14.11.2022

Accepted: 20.11.2022

Published: 30.11.2022

**ABSTRACT: Background:** There are many lipstick formulations available in the market developed with synthetic colorants but this particular research made use of natural pigment as the colorant. **Aim:** The present study focused on developing and evaluating herbal lipstick containing natural pigment. **Methodology:** Natural pigment was extracted from *Tamarindus indica* red with methanol as solvent using the trituration method. Lipstick formulations were developed using the molding method and coded from formulations F1 to F5. Thus developed lipsticks were evaluated for organoleptic parameters, surface anomalies, size and shape analysis, breaking point, melting point, irritation test, pH analysis, solubility profile, color imparting test, and perfume stability test. **Results:** Thus developed lipsticks were shown good results for all the evaluation parameters where as the color was found to be dark maroon to light maroon. Among all the developed formulations F2 shows good color imparting properties. The pH of all the formulations was found to be neutral in the range of 6.9 to 7. All the lipsticks were partially soluble in organic solvents and insoluble in aqueous media. Lipsticks are non-irritant and similar in size in diameter and length with the shape of smooth rounded tips. They had a moderate melting point of 60 °C and a breaking point ranging from 70 to 120 g. Formulation F5 shows maximum breaking strength. They hold good perfume stability properties. **Conclusion:** Lipsticks were successfully developed from natural pigment with good color and melting point. Since all the evaluations showed good results, this natural pigment can be utilized for developing lipsticks on large scale.

**Corresponding author:**

Mr. Prabhu K. Halakatti  
Asst. Professor  
Hanagal Shri Kumareshwar College of  
Pharmacy, Bagalkote,  
Karnataka - 587101, India.  
Tel: +91-9739459637  
E. Mail ID: [prabhuhalakatti52@gmail.com](mailto:prabhuhalakatti52@gmail.com)

**Keywords:** Herbal lipstick, Lipstick, Natural pigment, *Tamarindus indica*, Lipstick evaluations.

**INTRODUCTION:**

Lips are one of the most attractive features of the face. The skin of our lips is very thin and delicate. It needs to be taken extra care of. Drying our lips can make them cracked and flaky. The use of certain products on your lips can help to regain moisture. They not only prevent your lips from drying and cracking but also give certain shining on the lips which makes them look more attractive than ever before. A lip care product will retain lips' moisture and keep them hydrated and refreshing

and irresistible. They enhance the quality of the lips. So it is very important to use the right type of products on lips that will not harm them<sup>[1]</sup>. There are different types of lip care products available in the market that can make a look stunning. Pure lip care products are made with natural, vegan, and plant-based ingredients various lip care products were shown in Fig 1.



**Fig 1. Lip care products.**

Tinted lip balm, Lip gloss, Semi-matte lipstick, Cream lipstick, Lip oil, Lip liner, and Lip scrub.

Lipstick is a cosmetic product containing pigments, oils, waxes, and emollients that apply color, texture, and protection to the lips. Lipstick is used to impart an attractive color and glossy moisture appearance to the lips. Any of the preparations used for beauty treatments for lip makeup are known as sticks or by the common name lipsticks. Lipstick brightens the women's smile and provides hydration to lips lipsticks have many advantages. It will protect from dryness and cracking. Herbal lipstick is a cosmetic product containing many ingredients from plant origin only. These lipstick preparations do not cause any damage to the lips and have no side effects. Many types and colors of lipstick are available in day-to-day life<sup>[2-4]</sup>.

The lipsticks are synthetically composed of waxes (Beeswax, Chinese wax, lanolin, shellac wax, ozokerite, and candelilla wax), oils (Castor oil, paraffin oil, isopropyl myristate, butyl stearate, olive oil, and coconut oil), coloring agents (Soluble dyes - Fluorescein, Eosin, and Insoluble dyes - Barium, Aluminum, etc.), preservatives (Methyl paraben and Propyl paraben), antioxidants (BHT, BHA), and fragrance (Rose essence, strawberry essence, etc.)<sup>[5-8]</sup>.

*Tamarindus indica* Red (*Leguminosae*) is obtained from fresh pulp of *Tamarindus indica*. Tamarind originated in Madagascar and now it has been extensively cultivated

in India, Bangladesh, Thailand, and Central American countries. It contains Phytoconstituents like Tartaric acid, Malic acid, Oxalic acid, Vitamins (C, E, K, and Folate), Carbohydrates, Water, and Fibers (pectin). It is used as an Antifungal, Astringent, Anti-inflammatory, Anti-septic, and Anti-bacterial agent. In day-to-day life, even tamarind was used as part of the cooking ingredient which imparts a sour taste to food. *Tamarindus indica* red fruit was shown in Fig 2. The fruit pulp is used as a gentle laxative. It improves appetite. Decoction of dried fruit is taken orally for fevers. It is known to restore sensation in paralysis. Tamarind bark is used as a tonic, lotion and to relieve sores, ulcers rashes<sup>[8]</sup>. The objective of the study for developing and evaluating herbal lipstick containing natural pigment.



**Fig 2. *Tamarindus indica* red fruit.**

## MATERIALS AND METHODS:

### Chemicals and reagents:

The excipients Carnauba wax, White bees wax, Cetyl alcohol, and Liquid paraffin were purchased from SDFCL Mumbai. Cocoa butter, Lanolin, Castor oil, and Isopropyl myristate were procured from Loba Chemie Mumbai. The natural pigment was extracted from *Tamarindus indica* red fruit pulp. Strawberry essence was procured from Manju chemicals (p) LTD, Chennai, and Vitamin was obtained from Abbot India. All the chemicals used are of analytical grade.

### Extraction of Colour pigment from *Tamarindus indica* red:

Red Tamarind fruits were collected from local farms and the fresh ripen fruits were washed with tap water twice to remove the dust present on the peel of the fruits. Then the peel was scaped and pulp was collected in a beaker.

Accurately weighed 100 g of pulp was placed in a mortar and 300 ml of methanol was added to it. The pulp was triturated until it becomes smooth. The whole mixture in the mortar was then filtered using a muslin cloth. The filtrate was concentrated by keeping it in a hot air oven for 3 h at 40 °C. Then the concentrated mass was used as the natural colouring pigment in the development of lipstick formulations <sup>[9]</sup>.

#### **Development of lipstick formulations by Moulding method:**

The lipstick formulations were developed using the moulding method. The formulation chart was designed by varying the wax concentrations and formulations were depicted in Table 1. Initially, the waxes like white beeswax and carnauba wax were accurately weighed and taken in a china dish. To the wax mixture accurately weighed lanolin, cetyl alcohol and cocoa butter were added and mixed thoroughly. After a while, the mixture of accurately weighed castor oil, liquid paraffin and isopropyl myristate was added. The above mixture was kept in a hot water bath at 45 °C for 5 min. After 5 min the wax and emollients were melted and it forms an oily solution. To this solution required a quantity of essence, antioxidant and natural colouring pigment was added and stirred well. The whole solution was poured into lipstick moulds and the mould was kept in the refrigerator for 10 min. After 10 min lipsticks were collected and used for further evaluation parameters <sup>[10-13]</sup>.

#### **Evaluation of lipsticks:**

##### ***Organoleptic evaluations:***

The prepared lipstick formulations were evaluated for organoleptic parameters like color, odor, and texture using sensory organs, and the observations were reported as the same <sup>[14-16]</sup>.

##### ***Surface anomalies:***

A surface anomalies test was carried out for all the formulations in order to identify any kind of crystal formation, contamination, or rough surface development on the lipstick formulations, and the observations were reported <sup>[17]</sup>.

##### ***Skin irritation test:***

This evaluation was carried out to ensure the irritation property of the formulation. The lipsticks were applied on the skin of volunteers and it is been left for 10 minutes and the observation was reported <sup>[18-21]</sup>.

##### ***pH of the formulation:***

The pH of formulated herbal lipsticks was determined using a pH meter. An average of 3 readings was taken and the pH was reported <sup>[22-24]</sup>.

##### ***Size and shape analysis:***

The size and shape of developed lipstick formulations were carried out using a vernier caliper. The shape was reported and the length and width of lipsticks were determined by placing lipstick horizontally and vertically within the jaws of the vernier caliper and the readings from the digital screen were taken thrice to get the average value <sup>[25]</sup>.

##### ***Solubility of lipsticks:***

Solubility of lipstick formulations was carried out using different solvents of varying polarity for this ethanol, water, chloroform, methanol, and petroleum ether were used and the solubility profile was reported as completely soluble, partially soluble, and soluble <sup>[26]</sup>.

##### ***Color imparting test:***

A color-imparting test was carried out to ensure the dispersion of color from the lipstick formulation. For this evaluation 1 lipstick from each formulation was taken and rubbed gently on the paper. The extent of color dispersion was reported as poor, good, or excellent. The observations were reported as the same <sup>[27]</sup>.

##### ***Melting point:***

The melting point of lipstick was a major parameter for this little quantity of lipstick formulation was placed in a test tube and a thermometer was immersed in it. Then it was clamped tightly to the burette stand. The whole assembly was immersed in a beaker containing water which is placed on a heating mantle. The temperature was increased gradually and a particular temperature at which the lipstick gets melted is been reported as its melting point. The average of 3 readings was taken and the mean value is been reported <sup>[28-29]</sup>.

##### ***Breaking point:***

A breaking point evaluation was carried out to determine the strength of the lipstick. The lipstick was held horizontally in a socket inch away from the edge of the support. The weight was placed using thread in position to the vertical direction towards gravity. Then the weight is been gradually increased by a specific value (10 g) at a specific interval of 30 s and the weight at which breaks

were considered as the breaking point. The average values of three readings were taken to avoid errors [30-31].

**Perfume stability:**

The perfume stability of lipstick formulation was evaluated periodically at intervals of 15 days and 30 days and the presence of perfume was reported [32].

**RESULTS AND DISCUSSION:**

**Extraction of Colour pigment from *Tamarindus indica* red:**

The colour pigment from *Tamarindus indica* red fruit was obtained by trituration followed by evaporation method. The dark red natural pigment from *Tamridus indica* red was obtained and stored in a refrigerator for further lipstick development process. The extracted pigment was shown in Fig 3(a) and 3(b).

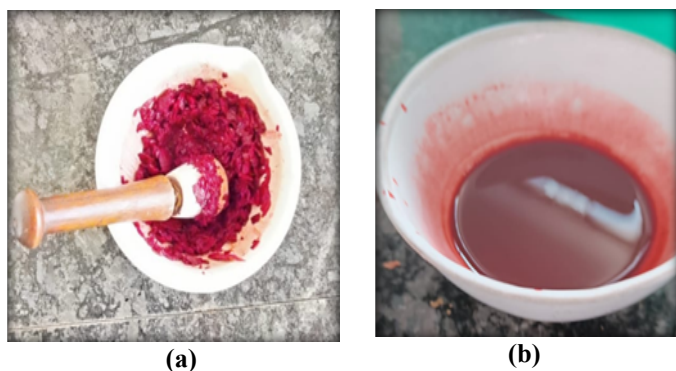


Fig 3. Extraction of Natural pigment from *Tamarindus indica* red.

**Development of Lipstick formulations using Natural pigment:**

Using different concentrations of oils and waxes 5 different formulation (Table 1) charts were developed and accordingly the quantities of each ingredient were taken and lipsticks were developed using a moulding method. From each formulation 4 lipsticks were developed and evaluated for various parameters. The developed lipsticks were shown in Fig 4(a) and 4(b).

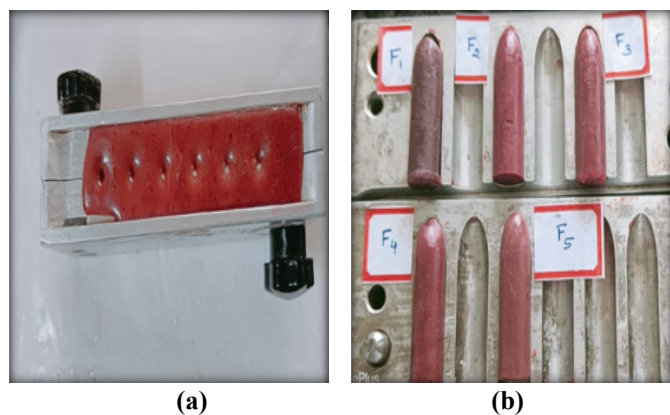


Fig 4. Developed lipstick formulations.

**Table 1. Composition of lipstick formulations.**

Ingredients (g/ml)	Formulation Code				
	F1	F2	F3	F4	F5
Carnauba wax	5	5.5	6	6.5	7
White bees wax	5	5.5	6	6.5	7
Cocoa butter	7	6.5	6	5.5	5
Lanolin	4.5	4	3.5	3	2.5
Castor oil	15	15	15	15	15
Isopropyl myristate	3	3	3	3	3
Cetyl alcohol	2.5	2.5	2.5	2.5	2.5
Liquid paraffin	3	3	3	3	3
Natural pigment	2	2	2	2	2
Strawberry essence	1	1	1	1	1
Vitamin E	0.5	0.5	0.5	0.5	0.5

**Organoleptic evaluation:**

Developed lipstick formulations were evaluated for its colour, odour, and texture. The observed characteristics were depicted in Table 2. All the formulations possess a maroon colour of different intensity and pleasant odour along with smooth texture.

**Table 2. Organoleptic evaluation of lipstick formulations.**

Parameter	Formulation code				
	F1	F2	F3	F4	F5
Colour	DMR	MR	LMR	LMR	LMR
Odour	PLS	PLS	PLS	PLS	PLS
Texture	SMT	SMT	SMT	SMT	SMT

DMR – Dark maroon, MR – Maroon, LMR - Light maroon, PLS – Pleasant, and SMT – Smooth.

**Surface anomalies:**

Surface anomalies test was carried out for all the formulations in which formulations from F1 to F5 shown absence of crystal formation, contamination and there is even distribution of colouring pigment was observed. The results were depicted in Table 3.

**Table 3. Surface anomalies evaluation results.**

Parameter	Formulation code				
	F1	F2	F3	F4	F5
Crystal formation	No	No	No	No	No
Contamination	No	No	No	No	No
Color distribution	Even	Even	Even	Even	Even

**Skin irritation test:**

Skin irritation test was carried out on volunteers. The skin was observed after 10 min of applying lipsticks. It was concluded that no kind of itching, redness, swelling

or irritation has been observed in volunteers. All the formulations are free from irritation upon topical applications.

#### pH of the formulation:

pH of all the formulations were evaluated using digital pH meter whereas all the formulations shown near to neutral pH values, it was ranging from 6.8 to 7.0. So the extent of pH difference will not cause any harm on the lips. The results were depicted in Table 4.

**Table 4. pH of the formulations.**

Formulation code	Ph (Mean ± SD)
F1	6.9±0.1
F2	7.0±0.3
F3	6.8±0.1
F4	6.9±0.2
F5	7.0±0.1

Each value is expressed as mean ± standard deviation (n = 3).

#### Size and shape analysis:

Shape of all the lipstick formulations were observed to be rounded smooth tip structure and the length of the lipsticks were ranging from 39.34 to 40.92 mm and diameter of lipsticks were ranging from 10.30 to 11.00 mm. The lipstick dimensions were depicted in Fig 5 and the observations of length and width were depicted in Table 5.



**Fig 5. Determination of lipstick dimensions.**

**Table 5. Size and Shape evaluation of lipsticks.**

Parameter	Formulation code				
	F1	F2	F3	F4	F5
Shape	RST	RST	RST	RST	RST
Length (mm)	39.8 ±0.1	39.8 ±0.3	40.9 ±0.4	39.8 ±0.2	39.3 ±0.4
Diameter (mm)	10.3 ±0.1	10.8 ±0.2	10.9 ±0.2	10.9 ±0.4	11.0 ±0.2

Each value is expressed as mean ± standard deviation (n = 3). RST - Rounded smooth tip.

#### Solubility of lipsticks:

The developed lipstick formulations were evaluated for its solubility profile and the results were depicted in Table 6. Since the lipsticks contain high amounts of waxes and oils these are insoluble in water and partially soluble in ethanol, petroleum ether and methanol.

**Table 6. Solubility profile of lipstick formulations.**

Solvent	Formulation code				
	F1	F2	F3	F4	F5
Ethanol	PS	PS	PS	PS	PS
Water	IS	IS	IS	IS	IS
Petroleum ether	PS	PS	PS	PS	PS
Methanol	PS	PS	PS	PS	PS

PS - Partially Soluble, and IS – Insoluble.

#### Colour imparting test:

Extent of colour imparting properties of lipstick formulations were evaluated using a white paper. Upon gentle pressure formulation F1 and F2 showed very good colour imparting property and Formulation F3 showed slightly less and F4, F5 formulations showed least colour imparting property. The colour imparting property of all the formulations was shown in Fig 6.



**Fig 6. Colour imparting test for lipstick formulations.**

#### Melting point:

Melting point of all the lipstick formulations was found in between 60 to 61 °C. Thus all the formulations possess typical lipstick properties. Moderate melting property of lipstick prevents its melting during storage and promotes ease of application on lips. The melting point results were depicted in Table 7. The melting point assembly was represented in Fig 7.

#### Breaking Point:

Breaking point of lipsticks ranged from 70 grams to 120 g. As the wax content in the formulation increases there is frequent increase in breaking strength. Formulation F5 shows maximum breaking point and formulation F1

shows least breaking strength because of a lesser amount of wax content. The breaking strength results were depicted in Table 7. Breaking point assembly was depicted in Fig 8.

**Table 7: Melting point and breaking point of lipsticks.**

Formulation	F1	F2	F3	F4	F5
Melting Point (°C)	60±2	61±1	60±2	61±1	60±2
Breaking point (g)	70±0	80±0	100±0	110±0	120±0

Each value is expressed as mean±standard deviation (n = 3).



**Fig 7. Melting point assembly of lipsticks.**

#### Perfume stability:

Perfume stability of lipsticks was carried out at 15<sup>th</sup> and 30<sup>th</sup> day. All formulations showed good perfume retention property at the end of 30<sup>th</sup> day and the results were depicted in Table 8.

#### CONCLUSION:

Considering the extensive use and importance of lip care cosmetics in day today life the present work was designed and developed to prepare and evaluate the lipstick formulations using natural colour pigment. The aim of present work was to focus on the naturally occurring colour pigments and incorporating them into some cosmetics to avoid the synthetic colours to some extent.



**Fig 8. Breaking point determination of lipsticks.**

After completion of the present project work some conclusions are briefed. Colour pigment was successfully extracted from Red tamarind fruit pulp using trituration and methanolic extraction method. Concentrated natural pigment extract was tested for its colour imparting property prior to development of lipsticks. The lipstick formulation chart was developed considering varying the concentration of waxes and some emollients. The natural pigment concentration was kept constant in all the formulations to validate the effect of wax concentration and ratio on colour imparting property. The lipstick formulations were prepared by moulding method and formulations were coded from F1 to F5. Thus developed lipstick formulations were evaluated for various parameters. In the organoleptic evaluations it was concluded that developed lipstick formulations were varying from dark maroon colour to light maroon colour. This is because of the difference in wax concentrations. Among all Formulation F2 matches with the colour of tamarind extract. All the lipstick formulations showed a smooth texture and very good fragrance. While validating surface anomalies it has been concluded that there is no crystal formation, uneven colour distribution and contamination. pH of all the lipsticks were found to be neutral such that there will not be any kind of discomfort will be observed on topical application. From size and shape analysis it was concluded that developed lipsticks were in shape of rounded smooth tip and diameter of about 10 mm and length of about 40mm. This could be beneficial in

developing them into commercial scale. All the formulations show similar dimensions. From solubility studies it was concluded that lipsticks were partially soluble in organic solvents and completely insoluble in aqueous media. From the colour imparting test it was concluded that formulation F1 and F2 showed excellent colour imparting properties. Among these two F2 showed similar colour as that of tamarind extract. From melting point analysis it was concluded that all the formulations ranging from 60 to 61 °C hence it has been aid in storage at higher temperature zones and ease in application. Breaking point analysis confirmed that higher the wax concentration harder will the lipstick formulation. So F5 shows maximum breaking strength and F1 shows least values. Perfume stability test confirmed that the formulations retained the fragrance for longer duration. Even though the study was carried out for 30 days there is no change in fragrance observed. Final conclusion for the present study is that lipsticks can be successfully developed using natural pigment extract and since all the ingredients were from natural sources it has been considered as safer lip care cosmetic.

#### ACKNOWLEDGMENT:

Authors are thankful to staff members and PG scholars of Department of pharmaceuticals and Principal, Hanagal Shri Kumareshwar College of Pharmacy Bagalkote for their support throughout the research work.

#### REFERENCES:

- Hougeir FG, Kircik L. A review of delivery systems in cosmetics. *Derma Ther*, 2012; 25(3): 234-237.
- Rogers RS, Bekic M. Diseases of the lips. *Cutaneous Med Surg*, 1997; 16(4): 328-336.
- Kadu M, Vishwasrao S, Singh S. Review on natural lip balm. *Int J Res Cos Sci*, 2015; 5(1): 1-7.
- Rasheed N, Rahman SA, Hafsa S. Formulation and evaluation of herbal lipsticks. *Res J Pharm Technol*. 2020; 13(4): 1693-1700.
- Jain S, Pillai S, Mandloi RS, Namdev N. Formulation and evaluation of herbal lipstick by using beet root extract. *Res J Pharmacog Phytochem*, 2022; 14(1): 23-25.
- Bhagwat DA, Patil ND, Patel GS, Killedar SG, More HN. Formulation and evaluation of herbal lipstick using lycopene extracted from *Solanum lycopersicum l*. *Res J Pharm Technol*, 2017; 10(4): 1060-1064.
- Singu S, Malgi RS, Panigrahy UP, Konde A. Formulation and evaluation of herbal lipstick from broccoli flower extract and analytical bioactive characterization and quantification. *Int J Trend in Sci Res Devel*, 2019; 4(1): 407-414.
- Rao YS, Mathew KM, Potty SN. *Tamarind Tamarindus indica l*- A Review. *Ind J Arecanut Spices Med Plants*, 1999; 1(4): 127-145.
- Pooja D, Rutuja N, Rutuja S, Rahul SA. Formulation and evaluation of herbal lipsticks. *Int J Pharm Pharm Res*, 2020; 2(5): 180-184.
- Yadav DS, Redasani VK, Baid KJ. Formulation and evaluations of herbal lipstick. *Int J Pharm Sci Rev Res*, 2016; 9(4): 1436-1444.
- Mishra P, Dwivedi S. Formulation and evaluation of lipstick containing herbal ingredients. *Asian J Med Pharm Res*, 2012; 2(3): 58-60.
- Pandit D, Aditi, Rathore KS. Formulation and evaluation of herbal lipstick from the extract of Papaya. *Int J Pharm Sci Rev Res*, 2020; 63(1): 107-110.
- Azhary DP, Karlinda B, Chaerunisaa AY. Lipstick formulation to use a natural dye from rambutan (*Nephelium lappaceum L.*) rind extract. *Res J Pharm Bio Chem Sci*, 2017; 1(8): 59-63.
- Bornare A, Tribhuvan T, Magare S, Shinde A, Tarkase S. Formulation and evaluation of herbal lipstick. *Int J Creative Res Thoughts*, 2020; 8(9): 2390-2400.
- Swathi K, Archana KD, Saritha S, Abhishek G. Formulation and evaluation of herbal lipstick using Lycopene extracted from *Citrullus lanatus*. *Int J Adv Res Sci Comm Tech*, 2022; 2(1): 176-183.
- Gore TA, Rodge P. Formulation and evaluation of herbal lipstick containing antifungal agent. *Ind Am J Pharm Res*, 2018; 8(1): 1298-1310.
- Karanje PS, Doijad RC, Bhosale RR. Formulation and evaluation of herbal lipstick containing *Amaranthus cruentus linn*. *Int J Res Anal*, 2020 2(8): 246-255.
- Patil CD, Kadam R, Bedis SP. Formulation and evaluation of sugar cane wax based lipstick. *Int J Trend in Sci Res Devel*. 2019; 3(5): 827-829.
- Kasparaviciene G, Savickas A, Kalveniene Z, Velziene S, Kubiliene L, Bernatoniene J. Evaluation of beeswax influence on physical properties of lipstick using instrumental and sensory methods. *Evi Comp Alter Med*, 2016; 4(3): 1-8.
- Kruthika S, Ram SS, Ahmed SA, Sadiq S, Mallick SD, Sree TR. Formulation and evaluation of natural lipstick from coloured pigments of *beta vulgaris*

- taproot. Res Rev J Pharm Pharm Sci, 2014; 3(3): 65-71.
21. Munawiroh SZ, Nabila AN, Chabib L. Development of water in olive oil (W/O) Nanoemulsions as lipstick base formulation. Int J Pharm Med Biol Sci, 2017; 6(2): 37-42.
  22. Pnda S, Dalapathi N, Kumar K. Preparation and evaluation of herbal lipstick. J Pharm Adv Res, 2018; 1(2): 117-119.
  23. Kamairudin N, Gani SS, Masoumi HR, Hashim P. Optimization of natural lipstick formulation based on pitaya (*Hylocereus polyrhizus*) seed oil using D-optimal mixture experimental design. Molecules, 2014; 19(10): 16672-16683.
  24. Halakatti PK, Desai A, Moogi M, Patted M, Gumataj A, Jakati P. Development and evaluation of multiherbal toothpaste. J Pharm Adv Res, 2022; 5(8): 1639-1645.
  25. Verma S, Tripathi D, Tiwari RK. Formulation and evaluation of natural lipsticks prepared from *Bixa orellana seeds* and *Daucus carota root extract* and their comparative study. J Pharm Sci, 2017; 7(1): 131-135.
  26. Shayesta K, Uzma S, Abdul S, Juveria M, Shahidulla SM. Formulation and evaluation of *beta vulgaris* herbal lipstick. Int J Int Res Technol, 2022; 8(12): 1401-1404.
  27. Juhi N, Harshit Y, Kumar S, Dilip KT. Formulation and evaluation of herbal lipstick prepared from *crocus sativum* and *brassica oleraceae*. Int J Sci Res, 2020; 5(3): 378-383.
  28. Jayashri SK, Khalid U, Nandkishor B, Bawage. Formulation and evaluation of lipstick from *Beta Vulgaris*. Int J Res Pub Rev, 2021; 2(7): 1650-1653.
  29. Jain M, Sumeet DS. Design, development and characterization of herbal lipstick containing natural ingredients. Am J Life Sci Res, 2017; 5(2): 36-39.
  30. Poomanee W, Kongin K, Sriputor K, Leelapornpisid P. Application of factorial experimental design for optimization and development of color lipstick containing antioxidant-rich *Sacha inchi oil*. Pak J Pharm Sci, 2021; 34(4): 1437-1444.
  31. Sainath M, Kumar KS, Babu KA. Formulation and evaluation of herbal lipstick. Ind J Adv Res Med Pharm Sci, 2016; 3(6): 2058-2060.
  32. Chaudhari NP, Chaudhari HA, Chaudhari NU, Premchandani LA, Dhankani AR, Pawar SP. Formulation and evaluation of herbal lipstick from

*Beta vulgaris taproot*. Indian J Drugs, 2019; 7: 14-19.

**Conflict of Interest:** None

**Source of Funding:** Nil

**Paper Citation:** Halakatti PK\*, Desai A, Patted R, Babaladi A, Jakkanagoudar M, Balehosur N, Patil S, Patted M, Danti D, Mulabeli N. Physicochemical analysis of Herbal Lipsticks developed using Natural colour pigment. J Pharm Adv Res, 2022; 5(11): 1732-1739.