

Research and Reviews: Journal of Chemistry

Determining Concentrations of Pigments in Different Lipsticks of Same Colour

Anuradha Kumari

Department of Pharmaceutical Chemistry, School of Advanced Sciences, VIT University, Vellore, Tamil Nadu, India

Commentary

Received: 03/02/2015
Revised: 15/02/2015
Accepted: 20/03/2015

*For Correspondence

Anuradha Kumari, Department of Pharmaceutical Chemistry, School of Advanced Sciences, VIT University, Vellore, Tamil Nadu-632014, India; E-mail: annuradha26@gmail.com

Keywords: Lipsticks, Pigments, TLC

Citation: Srivastava S, Verma K, Singh J (2012) To Identify the Concentration Level of Various Pigments & to Determine Suitable Solvent System for Different Lipstick Samples by Using TLC. J Chromat Separation Techniq 3:146. doi: 10.4172/2157-7064.1000146

Lipsticks are cosmetic products used to enhance the look of lips. They are constitutes pigments, oil, waxes and emollients. Lipsticks are of great market value in today's cosmetic industry. The author in the current article has determined the concentrations of pigments present in lipsticks of different brands available in the market of same colour [1]. During crime investigation cosmetics should be analysed properly as sometimes it can provide useful link of the suspect. Lipsticks now a day also used to protect our lips and to make our lips more beautiful.

Legal researchers use beautifiers lipstick prints and spreads as proof for fathoming unlawful acts. Hints of lipstick, lipstick smears could be discovered left on drinking containers, glasses, cigarette butts, tissue papers or hanky. In specific cases, follow measure of lipstick was exchanged to the apparel of culprit who assaulted a female. By looking at the arrangement of a lipstick smear with that of a casualty, legal researchers can exhibit aberrant confirmation of contact or a relationship between casualty and suspect. Likewise, it is infrequently conceivable to concentrate spit DNA from the print. Hence, scientific investigation of lipsticks was frequently found to be urgent in the examination of criminal cases. The distinguishing proof and determination of segments in a lipstick test must be directed with fast systems.

Lipsticks contain wax, oil and shading operators as three fundamental fixings. Wax empowers the alteration of the backbone properties to warmth and solidified surface on application. Then, oil gives glossy and skims quality. Amid assembling process, the number of colors or shading specialists utilized is restricted and mix of colors offer ascent to variety in shade. Shading specialists can be either engineered or common colors which can further be ordered into oil soluble alternately water dissolvable colors. In this manner, lipstick of same shading may contain differed shading specialists

The author has explained the different techniques used to determine the concentration of the pigments present and the best suitable solvent by thin layer chromatography (TLC). TLC is one of the simple techniques used to separate the mixture of components based on their polarity [1-8]. The separation of the hydrophilic and hydrophobic constituents has helped the author in obtaining easy results in TLC. It a good study which explains the different solvent combinations based on their polarity. The author has followed a simple yet more productive method for extraction of pigments from the lipsticks.

30 lipstick tests of diverse brands of comparative shading were chosen for this study shading operators was broke down by flimsy layer chromatography (TLC) and UV. Utilizing four diverse dissolvable

frameworks [Toluene/Benzene (12:8), Toluene/Acetone (16:4), Toluene/Benzene/Cyclohexane (4:12:4), Toluene/Benzene/Diethyl ether (12:6:2)]. Lipstick tests of hues vague on visual perception could be gathered into eight subgroups. The work that takes after goes on this line of examination. The study analyzes the handiness of two sorts of fluorescent reagents -Yellowescent Fluorescent Latent Prints Powder and Nile Red- for creating inactive lip prints, more established than one and a half year, on multi shaded surfaces. The reagents were utilized as a part of powder structure and glow was seen by a substitute light source and bright light. On a fundamental level Nile Red, as lysochromes, have advantage over other Fluorescent powders since it respond with fats and physical specialists. The principle reason for this study is to distinguish focus level of different colors & to figure out which dissolvable framework is best for the specific brand of the lipstick utilizing Thin Layer Chromatography by checking the distinctions in the particular chromatogram & UV.

The study reflects about the value of two sorts of fluorescent reagents -Yellowescent Fluorescent Latent Prints Powder and Nile Red for creating inert lip prints, more established than one and a half year, on diverse surfaces. The reagents were utilized as a part of powder structure and radiance was seen by another light source and bright light. On a fundamental level Nile Red, as lysochromes, has advantage over other Fluorescent powders in light of the fact that respond with fats and physical operators. Lip-print examination need be tended to in the measurable science group before it can be respected by an acknowledged method. This strategy for advancement can be valuable to help set up the legitimacy of the strategy. Likewise the likelihood to get DNA from an idle lip print could be other helpful application for wrongdoing examination.

The results obtained after TLC [9-12] proved that the components of Revlon lipstick separated easily with toluene/benzene system. All the components were visible under UV, it is a good article which overall gives a brief idea of separation of the components and how to choose and modify the solvent systems based on polarity [12-25].

It is concluded that through Thin Layer Chromatography examination & UV light investigation of the different colors of Lipstick in distinctive dissolvable framework will give trademark information to focus the best dissolvable framework for a specific lipstick.

REFERENCES

1. Srivastava S et al. To Identify the Concentration Level of Various Pigments & to Determine Suitable Solvent System for Different Lipstick Samples by Using TLC. *J Chromat Separation Techniq.* 2012; 3: 146.
2. Saran S et al. Development of a Highly Sensitive, Fast and Efficient Screening Technique for the Detection of 2,3-Butanediol by Thin Layer Chromatography. *J Chromatogr Sep Tech.* 2014; 5:251.
3. Kustrin SA and Hettiarachchi CG. Quantitative High Performance Thin Layer Chromatography for the Analysis of Herbal Medicines: Problems and Advantages. *Mod Chem appl.* 2014; 2: e118.
4. Agatonovic-Kustrin S et al. Assessing the Quality of Various Preparations of Calendula officinalis using High Performance Thin Layer Chromatography. *Mod Chem appl.* 2013; 1: 115.
5. Kaale E et al. The Development and Validation of a Thin Layer Chromatography Densitometry Method for the Analysis of Diclofenac Sodium Tablets. *Pharmaceut Anal Acta.* 2013; 4:202.
6. Rote AR and Kumbhoje PA. Development and Validation of HPTLC Method for Simultaneous Estimation of Gatifloxacin and Ornidazole in Human Plasma. *J Chromatograph Separat Techniq.* 2011; 2:115.
7. Dhaneshwar SR et al. Validated HPTLC Method for Simultaneous Estimation of Metformin Hydrochloride, Atorvastatin and Glimepiride in Bulk Drug and Formulation. *J Anal Bioanal Tech.* 2010; 1: 109.
8. Cieřla LM et al. Thin-layer chromatography coupled with biological detection to screen natural mixtures for potential drug leads. *Phytochemistry Letters.* 2015; 11: 445-454.
9. Yongqin L et al. Preparation of porous styrenics-based monolithic layers for thin layer chromatography coupled with matrix-assisted laser-desorption/ionization time-of-flight mass spectrometric detection. *J Chromatograph A.* 2013; 1316: 154-159.

10. Tao J and Yang JF. Thin-layer chromatography as a method for separating aniline oligomers. *Polymer Testing*. 2014; 40: 1-3.
11. E. Reich and V. Maire-Widmer. THIN-LAYER CHROMATOGRAPHY: Overview. Reference Module in Chemistry, Molecular Sciences and Chemical Engineering. 2013.
12. Gwarda RL and Dzido TH. Two-dimensional high-performance thin-layer chromatography of tryptic bovine albumin digest using normal- and reverse-phase systems with silanized silica stationary phase. *J Chromatograph A*. 2013; 1312: 152-154.
13. Matheis K et al. Combining TLC Separation with MS Detection - A Revival of TLC. *J Glycomics Lipidomics*. 2015; 5:e125.
14. Tyagi A et al. HPTLC-Densitometric and RP-HPLC Method Development and Validation for Determination of Salbutamol Sulphate, Bromhexine Hydrochloride and Etofylline in Tablet Dosage Forms. *Pharm Anal Acta*. 2015; 6:350.
15. Shantabi L et al. Phytochemical Screening of Certain Medicinal Plants of Mizoram, India and their Folklore Use. *J Biodivers Biopros Dev*. 2014; 1:136.
16. Minari JB and Idris MA. Forensic and Pharmacognostic Study of *Aristolochia ringens* Stem. *J Forensic Res*. 2015; 6:257.
17. Xie PS et al. Value the Unique Merit of HPTLC Image Analysis and Extending its Performance by Digitalization for Herbal Medicines Quality Control. *J Chromatograph Separat Techniq*. 2014; 5: 249.
18. Agatonovic KS et al. Reversed Phase HPTLC-DPPH Free Radical Assay as a Screening Method for Antioxidant Activity in Marine Crude Extracts. *Oceanography*. 2014; 2: e112.
19. Ali NW et al. Development and Validation of Different Chromatographic Methods for Determination of Two Hypouricemic Drugs in Their Combined Dosage Form. *J Anal Bioanal Tech*. 2014; 5: 211.
20. Kaur PK et al. HPTLC Method for Shanzhiside Esters: Simultaneous Quantitative Analysis of Barlerin, Acetylbarlerin and Shanzhiside Methyl Ester in *Barleria* Species. *J Chromatogr Sep Tech*. 2014; 5: 246.
21. Nciri N et al. Chemical Characterization of Gilsonite Bitumen. *J Pet Environ Biotechnol*. 2014; 5: 193.
22. Guerrini A et al. Chemical Fingerprinting of Medicinal and Aromatic Plant Extracts: HP-TLC Bioautographic Assays as Preliminary Research Tool to Match Chemical and Biological Properties. *Med Aromat Plants*. 2014; 3: e152.
23. Haribabu K et al. Simultaneous Determination of Asaranin and Sesamin in *Piper chaba* Fruit by using HPTLC-MS Method: Effect of Different Extraction Methods on the Yield of Marker Compounds. *J Anal Bioanal Tech*. 2014; 5: 199.
24. Abdallah MA. Validated Stability-indicating HPLC and Thin Layer Densitometric Methods for the Determination of Pazufloxacin: Application to Pharmaceutical Formulation and Degradation Kinetics. *J Chromatograph Separat Techniq*. 2014; 5: 218.
25. Lories IB, Mostafa AA, Girges MA. High Performance Liquid Chromatography, TLC Densitometry, First-derivative and First-derivative ratio spectrophotometry for de-termination of Rivaroxaban and its alkaline Degradates in Bulk Powder and its Tablets. *J Chromatograph Separat Techniq*. 2013; 4:202.