



E-ISSN: 2278-4136

P-ISSN: 2349-8234

<https://www.phytojournal.com>

JPP 2023; 12(1): 226-229

Received: 15-10-2022

Accepted: 23-12-2022

Thummar Ishan

UG Scholar, Jawaharlal Nehru
Homoeopathic Medical College
and Hospital, Vadodara,
Gujarat, India

Dr. Monimala Pramanick

HOD and Associate Professor,
Jawaharlal Nehru
Homoeopathic Medical College
and Hospital, Vadodara,
Gujarat, India

Dr. Suraj Singh

Assistant Professor, Jawaharlal
Nehru Homoeopathic Medical
College and Hospital, Vadodara,
Gujarat, India

Dr. Poorav Desai

HOI, Dean and Principal,
Jawaharlal Nehru
Homoeopathic Medical College
and Hospital, Vadodara,
Gujarat, India

Corresponding Author:**Thummar Ishan**

UG Scholar, Jawaharlal Nehru
Homoeopathic Medical College
and Hospital, Vadodara,
Gujarat, India

Formulation of mixed variety of lotion prepared by *Thuja occidentalis*- Q and *Allium cepa*- Q in definite proportion

Thummar Ishan, Dr. Monimala Pramanick, Dr. Suraj Singh and Dr. Poorav Desai

Abstract

Background: Through this research project preparing the mixed variety of *Allium cepa* and *Thuja occidentalis* lotion with the aqueous base.

Methodology: In this process preparing the Lotion from Prepared *Thuja occidentalis*- Q and Prepared *Allium cepa*- Q mother tincture in base line sample of aqueous solution as drug and vehicle ratio of (1: 9). Samples were passed under the UV- Visible spectrophotometer (Double beam) and FTIR (Fourier-transform infrared spectroscopy).

Result: While sample passing under UV- visible spectrophotometer, maximum absorption of *Allium cepa* - Q is 0.992 at 410 nm, *Thuja occidentalis*- Q is 0.995 at 571 nm and *Allium cepa* lotion is 0.999 at 554.00 nm, *Thuja occidentalis* lotion is 0.999 at 503 nm, Mixed variety of *Allium cepa* and *Thuja occidentalis* lotion is 0.998 at 476 nm. On other hand, In, FTIR the Maximum transmission of *Allium cepa*- Q at the wavelength of 3364.08 cm^{-1} , whereas the Maximum transmission of *Thuja occidentalis*- Q at 3346.47 cm^{-1} , Maximum transmission of *Allium cepa* lotion at the wavelength of 3346.83 cm^{-1} , Maximum transmission of *Thuja occidentalis* lotion at the wavelength of 3297.39 cm^{-1} and Maximum transmission of Mixed variety of *Allium cepa*- Q and *Thuja occidentalis*- Q lotion at the wavelength of 3218.41 3218.41 cm^{-1}

Conclusion: Formulation of mixed variety of *Allium cepa*- Q and *Thuja occidentalis*- Q lotion gives a good result in quality control done by the UV- visible spectrophotometer and FTIR (Fourier Transform infrared Spectroscopy).

Keywords: *Thuja occidentalis*, *Allium cepa*, FTIR

Introduction***Thuja occidentalis***

St. John's Wort is the common name for the perennial herb *Hypericum perforatum* L. (Hypericaceae). Native to eastern North America, *Thuja occidentalis*, sometimes known as Arbor vitae or white cedar, is cultivated in Europe as a decorative tree [1]. Native Canadian Indians discovered the plant's medicinal properties for the first time in the 16th century. expedition and was discovered to be successful in treating scurvy-related weakness [2]. *Thuja occ* has been used to treat rheumatism, enuresis, cystitis, psoriasis, uterine carcinomas, and bronchial catarrh in traditional medicine [3-6]. These days, homoeopathy primarily employs it as a mother tincture or dilution [7, 8]. This medicinal plant works best when combined with other immune-suppressing plants including *Echinacea purpurea*, *Echinacea pallida*, and *Baptisia tinctoria*.

Additionally, plant is employed as an adjuvant to antibiotics in cases of severe bacterial infections such as bronchitis, angina, pharyngitis, otitis media, and sinusitis as evidence-based phytotherapy [9, 10]. [11, 12]. However, the majority are outdated or written in German. Several reviews and monographs discuss the botany, chemical make-up, some pharmacological qualities, and use of this herbal product in the treatment of the common cold [3, 13-17].

As a result, our goal was to put up a current, thorough, and evidence-based assessment of *Thuja occ* that would cover its botanical description, phytochemistry, *in vitro* and *in vivo* pharmacology, safety, and efficacy. For this, MEDLINE databases were examined, and producers of products containing *Thuja* were approached for more information or unpublished data.

Botanical Description

North America is where *Thuja occidentalis* was first grown for cultivation. It is a natural European tree that can grow up to 15-20 metres in height.

It has flattened branches and twigs in one plane, flattened coniferous pyramidal characteristics, and tiny scale-like leaves (3). The leaves are green throughout the entire year, with the Where resin glands also live on the bottom side, the colour green is brighter. The seeds are found on tiny, 1-2 cm long green to brown coniferous pins.

Allium cepa

Since ancient times, the onion (*Allium cepa* L.) has been esteemed as both a food and a medicinal plant. It is a vegetable bulb crop that is known to most civilizations and is enjoyed all over the world. Its cultivation is second only to that of the tomato (FAO, 2012).

It is a short-lived horticultural crop planted at low latitudes. Due to its highly regarded flavour, scent, and distinctive taste as well as the therapeutic benefits of its flavour compounds, it is referred to as the "Queen of the Kitchen". Throughout the year, onions are used in a variety of dishes, including curries, as spices, in salads, as a condiment, and when boiled or baked with other vegetables. Additionally, it is utilised in a variety of processed foods, including pickles, powder, paste, and flakes, and it is known for its medicinal values.

Botanical Description

The enormous *Allium* genus is extensively dispersed throughout temperate zones and contains numerous wild edible species, only a small portion of which are economically farmed in the northern hemisphere. The region of origin is said to be central Asia, and the Mediterranean is thought to be the secondary origin region. There are more than 780 species of *Allium*, with a wide range of physical characteristics. The onion has 16 chromosomes (2n). It has been categorised at the following hierarchical levels: (Sunil Pareek,* Narashans Alok Sagar, Sunil Sharma, and Vinay Kumar, 2017)

- **Kingdom:** Plantae
- **Subkingdom:** Tracheobionta
- **Super division:** Spermatophyta
- **Division:** Liliopodia
- **Subclass:** Liliales
- **Order:** Liliaceae
- **Genus:** *Allium*
- **Species:** *Allium cepa* L.

Moisturizers are emulsions that can be either oil-in-water or water-in-oil. The decision is predominantly directed by reasonable contemplations like simplicity of use and customer discernment (Wibowo and Ng, 2001). The oil-in-water emulsions, which are less tacky on application, prevail on the lookout and is the decision for our review. It are utilized to Emulsify specialists settle the oil in water combination. The most well-known kind of emulsifier are surfactants, which decline the interfacial pressure between the two stages. The real assembling system is straightforward and comprises of blending the oil and water stages together. The accompanying advances show how the salve is made.

1. Intensity and blend the fluid and oil stages independently
2. Consolidate the two stages into one bunch
3. Perform post treatment changes (for example decline drop size utilizing a sonificator, followed by a colloid factory and homogenizer). As we will see later, drop size assumes a part in certain properties.

Therefore through this research work we standardized the formulation of mixed variety of lotion which was prepared by Prepared *Thuja occidentalis*- Q and *Allium cepa*- Q

Methodology

The main embodiment of the present invention is preparing standard *Azadirachta indica* Mother Tincture in aqueous base in a definite proportion of drug and vehicle ratio i.e 1:9 as per the rules and regulations given by Pharmacopoeia. Whereas, 1 part is taken as drug and remaining 9 part is taken as vehicle. On other hand for preparation of 1st dilution of *Azadirachta indica* lotion, measurement were taken as 1 part of *Azadirachta indica* lotion in 9 parts of aqueous base solution. Quantitative analysis and qualitative analysis of both the formulation were done by FTIR and UV- visible spectrophotometer.

Formulation prepared by

1. *Allium cepa*- Q
2. *Thuja occidentalis*- Q
3. Distilled water

Site of study

Centre of Research and Development of Parul University CR4D

Investigational tool

UV- Visible spectrophotometer
FTIR

Drug and Vehicle Ratio

Drug and vehicle ratio is (1:9)

Prepared *Allium cepa*- Q

Prepared *Thuja occidentalis*- Q

Medicinal product

Prepared *Allium cepa*- Q

Prepared *Thuja occidentalis*- Q

Procedure

For such preparation of formulation following steps should be taken; such as;

1. Measurement
2. Mixing
3. Filling
4. Labelling

Measurement

The drug and vehicle should be taken as

Drug- 2 mg w/v

Vehicle- 9 ml v/v

Thuja occidentalis were prepared as per the rules and regulations given by the HPI (Homoeopathic Pharmacopoeia of India)

a). *Thuja* pulp- 100 gm

Distilled water- 135 ml

Strong alcohol- 884 ml. (1 liter volume)

b). *Allium cepa*- Q were prepared as per the rules and regulations given by old method; such as;

Class- II

Drug vehicle ratio is (3:2)

Drug- 30 ml w/v

Alcohol- 20 ml v/v

Mixing

For preparation of formulation first take 1 part of *Thuja occidentalis*- Q and 1 part of *Allium cepa*- Q in 9 parts of Distilled water (aqueous base)

Filling

Prepared formulation of mixed variety from *Thuja occidentalis*- Q and *Allium cepa*- Q was filled in the hard glass bottles which should be clean and sterile first.

Labelling

Pate label on the body of hard glass bottle which contains Drug name, manufacturer date, Indications, quantity of drug and vehicle, overall.

Result

While sample passing under UV- visible spectrophotometer, maximum absorption of *Allium cepa* - Q is 0.992 at 410 nm, *Thuja occidentalis*- Q is 0.995 at 571 nm and *Allium cepa* lotion is 0.999 at 554.00 nm, *Thuja occidentalis* lotion is 0.999 at 503 nm, Mixed variety of *Allium cepa* and *Thuja occidentalis* lotion is 0.998 at 476 nm. On other hand, In, FTIR the Maximum transmission of *Allium cepa*- Q at the wavelength of 3364.08 cm^{-1} , whereas the Maximum transmission of *Thuja occidentalis*- Q at 3346.47 cm^{-1} , Maximum transmission of *Allium cepa* lotion at the wavelength of 3346.83 cm^{-1} , Maximum transmission of *Thuja occidentalis* lotion at the wavelength of 3297.39 cm^{-1} and Maximum transmission of Mixed variety of *Allium cepa*- Q and *Thuja occidentalis*- Q lotion at the wavelength of 3218.41 cm^{-1}

UV- visible spectrophotometer Analysis

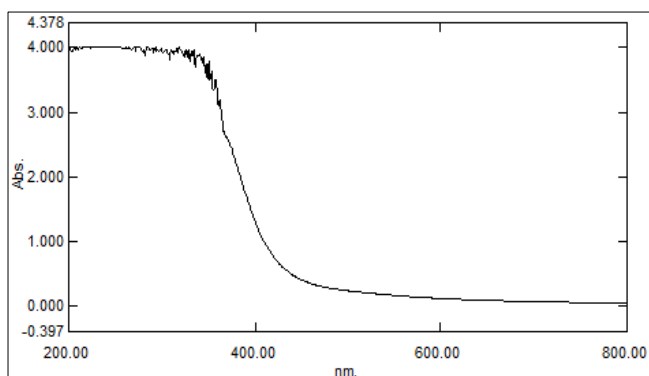


Fig 1: *Allium cepa*- Q

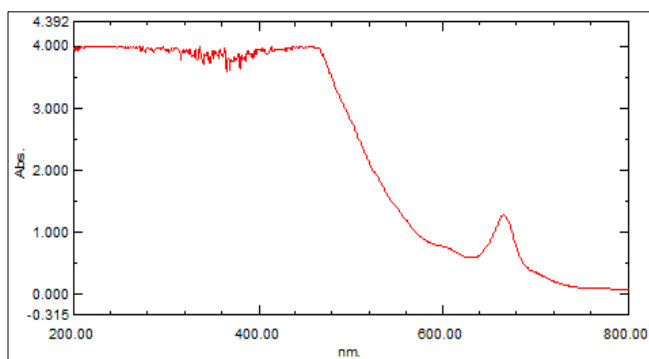


Fig 2: *Thuja occidentalis*- Q

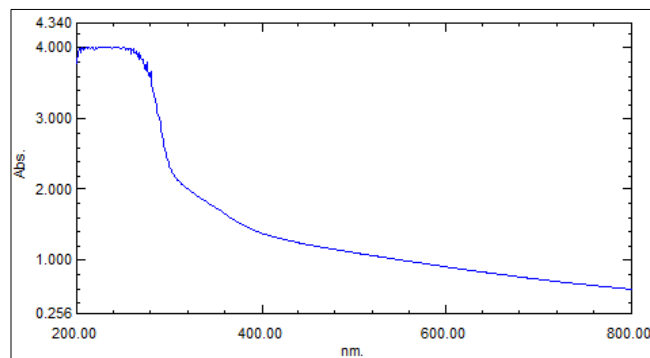


Fig 3: *Allium cepa* lotion (Aqueous base)

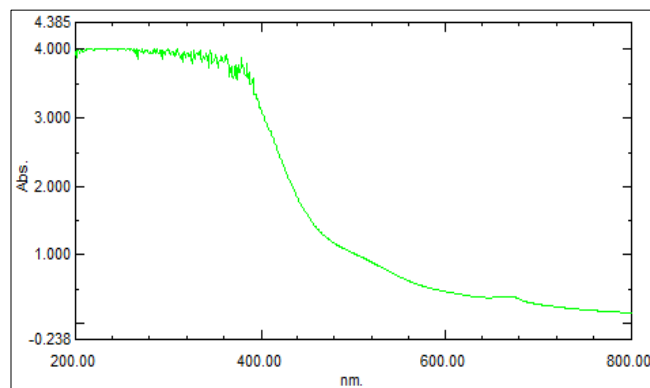


Fig 4: *Thuja occidentalis* lotion (Aqueous base)

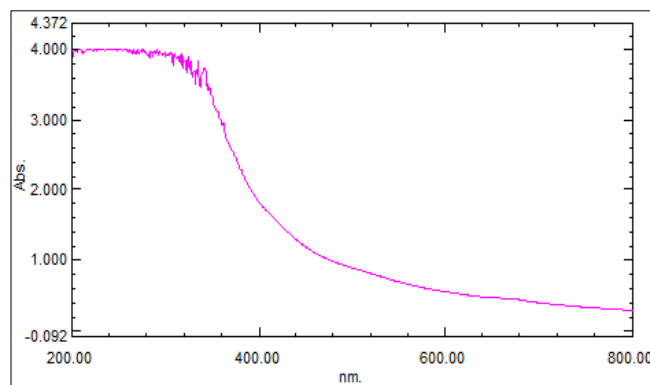


Fig 5: Mixed variety of *Thuja occidentalis* and *Allium cepa* lotion (Aqueous base)

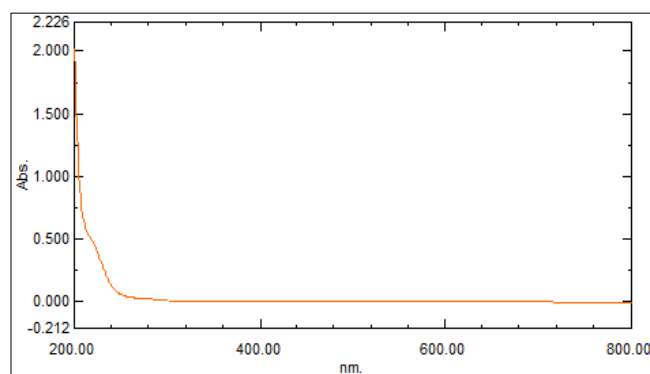


Fig 6: Ethanol (Base line sample)

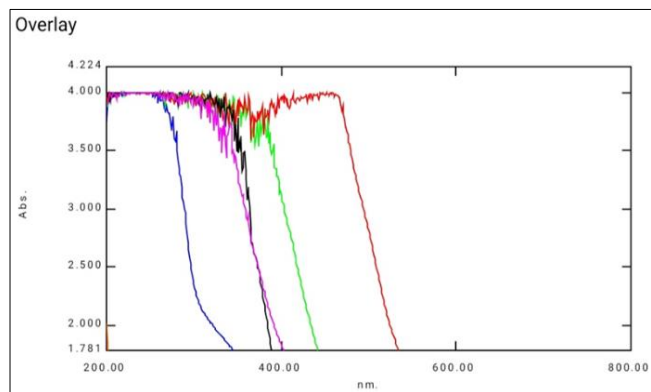


Fig 7:

Conclusion

Formulation of mixed variety of *Allium cepa*- Q and *Thuja occidentalis*- Q lotion gives a good result in quality control done by the UV- visible spectrophotometer and FTIR (Fourier Transform infrared Spectroscopy).

Acknowledgement

Authors would like to thanks Dr poorav Desai sir Dean & Principal of Jawaharlal Nehru Homoeopathic Medical college and Department of Homoeopathic Pharmacy for fulfilling my research work successfully.

References

1. Chang LC, Song LL, Park EJ, *et al.* Bioactive constituents of *Thuja occidentalis*. J Nat Prod 2000;63:1235-8.
2. Millsbaugh CF. American Medicinal Plants. Thuja. Dover Publications, New York; c1974.
3. British Herbal Pharmacopoeia. Thuja. British Herbal Medicine Association, West Yorks, UK; c1983. p. 210-1.
4. Shimada K. Contribution to anatomy of the central nervous system of the Japanese upon the vermal arbour vitae. Okajimas Folia Anat Jpn. 1956;28:207-27.
5. Baran D. Arbor vitae, a guarantee of health. Rev Med Chir Soc Med Nat Iasi. 1991;95:347-9.
6. Offergeld R, Reinecker C, Gunz E, *et al.* Mitogenic activity of high molecular polysaccharide fractions isolates the cupressaceae *Thuja occidentalis* L. enhanced cytokine-production thyapolsaccharide, g-fraction (TPSg). Leukemia. 1992;6:189-91.
7. Homöopathisches Arzneibuch (HAB). Thuja Monograph. Deutscher Apotheker Verlag, Stuttgart; c1985. p. 876-7.
8. Homöopathisches Arzneibuch (HAB). Thuja Monograph. Deutscher Apotheker Verlag, Stuttgart; c2003. p. 1-2.
9. Reitz HD, Hergarten H. Immunmodulatoren mit pflanzlichen Wirkstoffen-2. Teil: eine wissenschaftliche Studie am Beispiel Esberitox® N. Notabene Medici. 1990;20:304-6, 362-6.
10. Vorberg G. Bei Erkältung unspezifische Immunabwehr stimulieren. Ärztl Prax. 1984;36:97-8.
11. Von Blumröder WO. Angina lacunaris. Z Allgemeinmed. 1985;61:271-3.
12. Zimmer M. Gezielte konservative Therapie der akuten Sinusitis in der HNO-Praxis. Therapiewoche. 1985;35:4024-8.
13. Madaus G. Lehrbuch der Biologischen Heilmittel. Vol. III. *Thuja occidentalis*. Thieme Verlag, Leipzig; c1938. p. 2698-701.

14. Harnischfeger G, Stolze H. Bewährte Pflanzendrogen in Wissenschaft und Medizin. Notamed Verlag, Bad Homburg/Melsungen; c1983. p. 250-9.
15. Ibrahim NS, Al Abdalla, GH Mohamedali, Khiery NT. Correlation study of physicochemical properties of some Sudanese onion genotypes (*Allium cepa* L.). Int. J Horticult Sci 2022;4(2):194-198. DOI: 10.33545/26631067.2022.v4.i2c.124
16. Hänsel R, Keller R, Rimpler H, Schneider G. (Eds) Hagers Handbuch der Pharmazeutischen Praxis: Drogen P-Z (Thuja), 5th edn. Springer Verlag, Berlin; c1994. p. 955-66.
17. Neth R, Drize N, Gohla S, Offergeld R, Reski R, Schrumm S. Phytotherapeutische Forschung: *Thuja occidentalis* L. Z Allgemeinmed. 1995;71:522-30.
18. Beuscher N, Kopanski L. Reinigung und biologische Charakterisierung von antiviralen Substanzen aus *Thuja occidentalis*. Planta Med. 1986;52:555-6.
19. Hart JA. A cladistic analysis of conifers: preliminary results. J Arnold Arbor. 1987;68:269-307.
20. Jänicke C, Grünwald J, Brendler T (eds) Handbuch Phytotherapie: Lebensbaumkraut (*Thuja occidentalis*). Wissenschaftliche Verlagsgesellschaft mbH Stuttgart; c2003. p. 322-3.
21. Baumann I, Flamme D, Harnischfeger G. Thujae occidentalis herba. Dtsch Apoth Ztg. 1987;127:2518-22.
22. Pareek S, Sagar NA, Sharma S, Kumar V. Onion (*Allium cepa* L.). Fruit and vegetable phytochemicals: Chemistry and human health. 2017 Sep 14;2:1145-62.