The Pharma Innovation Journal 2023; 12(1): 2132-2136

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; 12(1): 2132-2136

www.thepharmajournal.com
Received: 27-11-2022
Accepted: 30-12-2022

Dr. Monimala Pramanick
HOD Department of Homoeopathic Pharmacy From Jawaharlal Nehru Homoeopathic Medical College, Parul University, Vadodara, Gujarat, India

Dr. Suraj Singh Bhadoria
Assistant Professor of Homoeopathic Pharmacy from Jawaharlal Nehru Homoeopathic Medical College, Parul University & PhD Scholar from VMRF Vinayaka Mission Research Foundation's, Tamil Nadu, India

Dr. Vijay D Kele
HOD, Dairy & Food Technology, Faculty of PIT (Parul Institute of Technology), Parul University, Vadodara, Gujarat, India

Dr. Srushty O Patil
Assistant Professor in Dairy & Food Technology, PIT (Parul Institute of Technology), Parul University, Vadodara, Gujarat, India

Dr. Poorav Desai
HOI, Jawaharlal Nehru Homoeopathic Medical College & Hospital, Vadodara, Gujarat, India

Dr. GS Chakraborthy
Principal of Parul Institute of Pharmacy and Research, Parul University, Vadodara, Gujarat, India

Corresponding Author:
Dr. Suraj Singh Bhadoria
Assistant Professor of Homoeopathic Pharmacy from Jawaharlal Nehru Homoeopathic Medical College, Parul University & PhD Scholar from VMRF Vinayaka Mission Research foundation's, Tamil Nadu, India

Compare absorbance value of standard *Thuja occidentalis* mother tincture with prepared *Thuja occidentalis* mother tincture by UV: Visible spectrophotometer

Dr. Monimala Pramanick, Dr. Suraj Singh Bhadoria, Dr. Vijay D Kele, Dr. Srushty O Patil, Dr. Poorav Desai and Dr. GS Chakraborthy

Abstract
Background: To compare the absorbance value of Standard *Thuja occidentalis* Mother tincture with Prepared *Thuja occidentalis* Mother tincture by UV- Visible spectrophotometer.
Methodology: Prepared *Thuja occidentalis* mother tincture as per the direction given by HPI (Homoeopathic Pharmacopoeia of India). After preparation passing this sample in compare with the standard sample of *Thuja occidentalis* mother tincture procure from GMP Certified Company in the UV-Visible spectrophotometer (Single beam).
Result: The absorbance value of Prepared *Thuja occidentalis* mother tincture is 0.956 *λmax*, Absolute alcohol is 0.774 *λmax*, Standard *Thuja occidentalis* mother tincture is 0.614 *λmax*.

Keywords: *Thuja occidentalis* mother tincture, standard, absorbance value, UV

Introduction

One of the alternative therapies that is used the most around the world is homoeopathic medici ne. However, the scientific world as a whole has been challenged by the fact that the strength o f a homoeopathic medicine increases with dilution followed by succussion (together referred to as potentization).

According to a new theory put forth by us and others, the constituent particles' sizes eventually shrink to nanoscale as a result of the potentization process.

Dynamic light scattering investigations and scanning electron microscopy have confirmed this shrinkage with increasing potency.Its greater impact on membrane fluidity is a sign of its high er potency.Ultravioletvisible, Fourier transform infrared radiation, and Raman spectra all exhib it a characteristic change in potency. We have progressed by one step.

Homoeopathy could be a time-tested, empirical system of healing that has been used universally for a lot of than two hundred years, thanks to its negligible aspect effects, low cost, easy availability, and straightforward applicability. the very fact that these medicines are active at extreme dilution (dilution issue even on the far side 10400) which one sample of such apparent 'zero' concentration is completely different from another sample of apparent "zero" concentration have exhibit insurmountable obstacles to acceptance by the standard scientific community, resulting in the stance that these medicines have solely a placebo effect. The ultrahigh dilution doses, as are typically prescribed in Homoeopathy, will exhibit biological andpharmacological actions was the contentious conclusion reached by the Davenas *et al*. grou p in 1988. Although the clinical activity of the medicine at very high dilution on plants, animal s, and people has been clearly demonstrated by multiple research groups [1], this was regarded as "unbelievable" by the so-called academic science [2]. As time passes, there has been careful concentrate on the quest for a sub-atomic component of activity of potentized homeopathic medications in residing organisms [3] and trial confirmations are given on the side of the organic impacts and actual premise of homeopathic potencies [4]. To make sense of the activity of homeopathic drugs in every single living framework, 'quality administrative

Speculation's has been put forward [5]. To make sense of this interesting peculiarity that, dissimilar to allopathy drugs, the homeopathic medication turns out to be more strong at higher weakening, a few speculations have been advanced, going from fluid memory, clathrate development, quantum mechanics, relativity and so on.

The Silica speculation recommends the presence of physical entities [6], while the fluid memory speculation is upheld by Elia *et al*. [7] *Thuja occidentalis*, generally known as Arbor vitae or white cedar, is native to North America and is filled in Europe as a fancy tree. In society medication, *Thuja occidentalis* has been utilized to treat bronchial catarrh, enuresis, cystitis, psoriasis, uterine carcinomas, amenorrhea what's more, ailment [8]. Concentrate of this plant has shown enemy of oxidant, hostile to viral, against diarrhoeal movement [9, 10]. It has been accounted for to expand the expansion of spleen cells as well as expansion in TNFα, IL-6 and IL-1 action in serum and furthermore have defensive impact against radiation-prompted poisonousness [11]. Today it is for the most part utilized in homeopathy as mother color or weakening. The point of the present examination was to assess the absorbance value of standard *Thuja occidentalis* mother tincture with Prepared *Thuja occidentalis* mother tincture.

Aim

Compare absorbance value of Standard *Thuja occidentalis* Mother tincture with Prepared *Thuja occidentalis* Mother tincture by UV- Visible spectrophotometer

Objective

1. To Prepare *Thuja occidentalis* mother tincture.
2. To compare absorbance value of Prepared *Thuja occidentalis* Mother tincture with Standard *Thuja occidentalis* mother tincture.

Materials and Methods

Type of study

Drug analysis

Site of study

1. Department of Homoeopathic Pharmacy, Jawaharlal Nehru homoeopathic medical college
2. PIT (Parul Institute of Technology) Department pf Dairy & Food Technology

Collection of Plant Material

Thuja occidentalis leaves were collected from the botanical garden of Jawaharlal Nehru Homoeopathic medical college, Parul University, Vadodara Gujarat.

Chemicals and reagents

Absolute alcohol**,** Purified water

Instrumentation & appliances

UV-Visible Single beam spectrophotometer (purchase from Dairy Vikas) -with matched quartz cells (4 ml), Electronic balance, Test tube, Macerating Jar, Measuring cylinder (100 ml capacity), pipette, Volumetric
Flask (100 ml capacity), Glass rod, Tripod Stand, Funnel, Filter paper (Whatman filter paper 125 mm), Mortar & pestle (Porcelain), Spatula, Chopping board, Knife.

Preparation of extract solution

As per HPI (Homoeopathic Pharmacopoeia India)

As per 1 liter

- ***Thuja occidentalis* pulp:** 100 g
- **Distilled water:** 135 ml
- **Alcohol:** 885 ml

As our preparation in 500 ml

- *Thuja occidentalis* pulp: 50 g
- Distilled water: 67.5 ml
- Alcohol: 442.5 ml

To determine the value of X, The value of Y is given below, as;

X= Y -0.0186/0.0021

Preparation of Stock samples
For standard *Thuja occidentalis*

Stock samples of standard *Thuja occidentalis*- Q are prepared as following;

S. No.	Stock samples	Microlitre Stock samples: µ/ml (Standard *Thuja occidentalis*)	Microlitre (Vehicle control)
1	10^{-1}	0.1	µ0.5
2	10^{-2}	0.15	0.45
3	10^{-3}	0.2	0.4
4	10^{-4}	0.25	0.35
5	10^{-5}	0.3	0.3
6	10^{-6}	0.35	0.25
7	10^{-7}	0.4	0.2
8	10^{-8}	0.45	0.15

Stock samples for Prepared *Thuja occidentalis*- Q as follows;

S. No.	Stock Samples	(Standard *Thuja occidentalis*) µ/ml	(Vehicle control) µ/ml
1	10^{-1}	0.1	0.9
2	10^{-2}	0.2	0.8
3	10^{-4}	0.4	0.6
4	10^{-5}	0.5	0.5

Results

The absorbance capacity of prepared *Thuja occidentalis* mother tincture along with standard *Thuja occidentalis* mother tincture is given below; such as;

Table 1: Absorbance capacity of Prepared *Thuja occidentalis* Mother tincture

S. No.	Formulation	Absorbance value	Concentration µ/ml (Drug Control)	Concentration µ/ml (Vehicle Control)	Wavelength
1.	Prepared *Thuja occidentalis* Q	0.956	0.1	0.9	600 nm
			0.2	0.8	
			0.4	0.6	
			0.5	0.5	

Table 2: Absorbance capacity of Standard *Thuja occidentalis* Mother tincture

Formulation	Absorbance value	Absorbance nm	Concentration µ/ml (Drug Control)	Concentration µ/ml (Vehicle Control)	Wavelength
Standard *Thuja occidentalis* Q	0.614	0.050	0.1	0.45	600 nm
		0.068	0.15	0.4	
		0.084	0.20	0.35	
		0.089	0.25	0.3	
		0.112	0.30	0.25	
		0.125	0.35	0.2	
		0.154	0.40	0.15	
		0.220	0.45	0.1	

Table 3: Absorbance capacity of Absolute alcohol

S. No.	Formulation	Absorbance value (nm)	Wavelength (nm)
1.	Absolute alcohol (Ethanol) 10^{-1}	0.774	600 nm

Table 4: Compare absorbance value of Standard *Thuja occidentalis*- Q with Prepared *Thuja occidentalis*- Q

S. No.	Stock samples	Absorbance of Standard Drug (λ_{max})	Absorbance of Prepared Drug λ_{max}	Y /0.0021
1	10^{-1}	0.05	0.078	28.28
2	10^{-2}	0.068	0.131	53.53
3	10^{-3}	0.084	0.132	54
4	10^{-4}	0.089	0.153	64

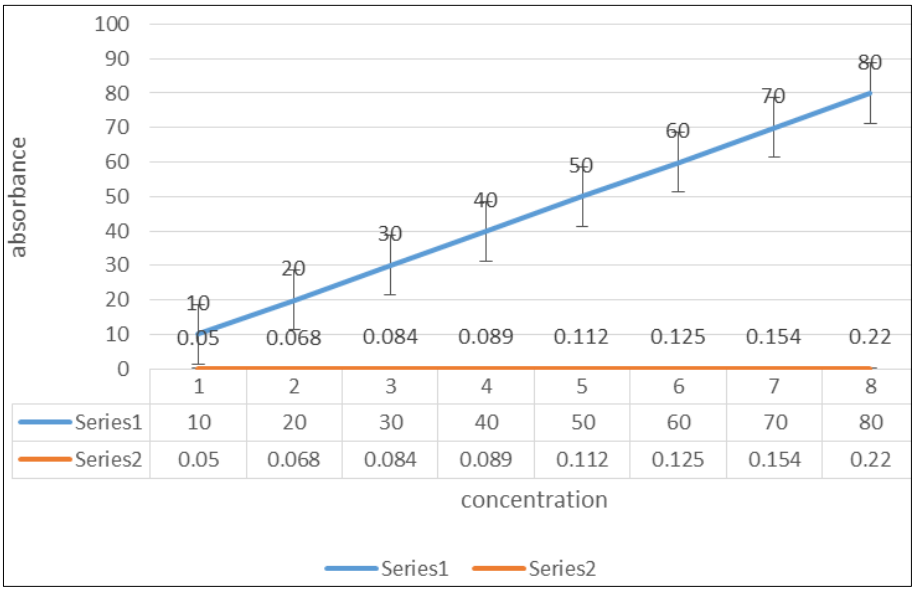

Fig 1: Absorbance capacity of Standard *Thuja occidentalis*-Q in various concentration (microliter)

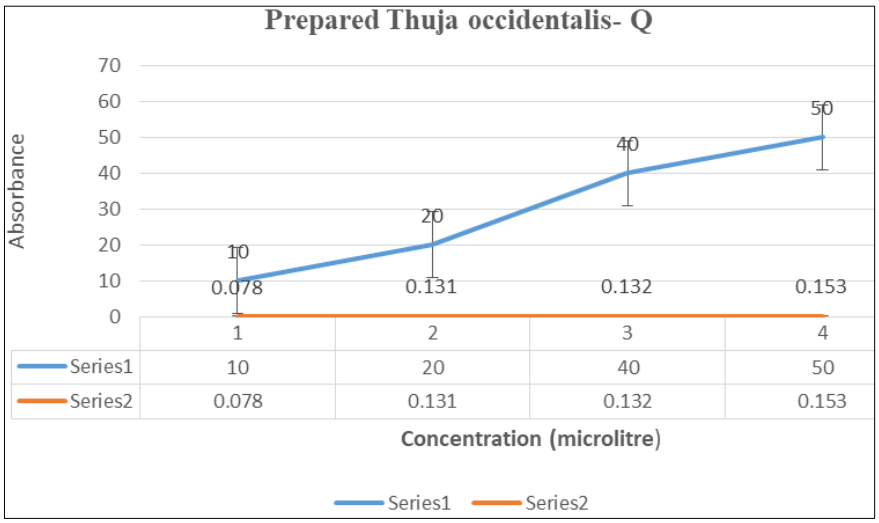

Fig 2: Absorbance capacity of Prepared *Thuja occidentalis*-Q in various concentration (microliter)

Discussion

As we study in previous article *Thuja orientalis* Linn. local of china, is exceptionally normal in Indian gardens and utilized as a debasement. It tends to be recognized by thin needle like leaves; physically stem can be portrayed by single, spasmodic layer of hypodermis, presence of starch grains in parenchyma of cortex and medullary beams.

In the previous research TLC of alcoholic extract in chloroform: Methanol (9:1) shows 8 spots under UV light, and UV absorbance shows peak at 260nm (As per authors Rajatrashmi, Manisha Sarkar & Vikramaditya) [12]. Through this study it is observed that the maximum absorbance is 0.956 λ_{max} seen at 600 nm for Prepared *Thuja occidentalis*. Whereas Absorbance value of Standard *Thuja occidentalis*- Q is 0.614 at 600 nm. Thereafter it was proven that different extraction value of drug substances having different absorbance value in terms of concentration.

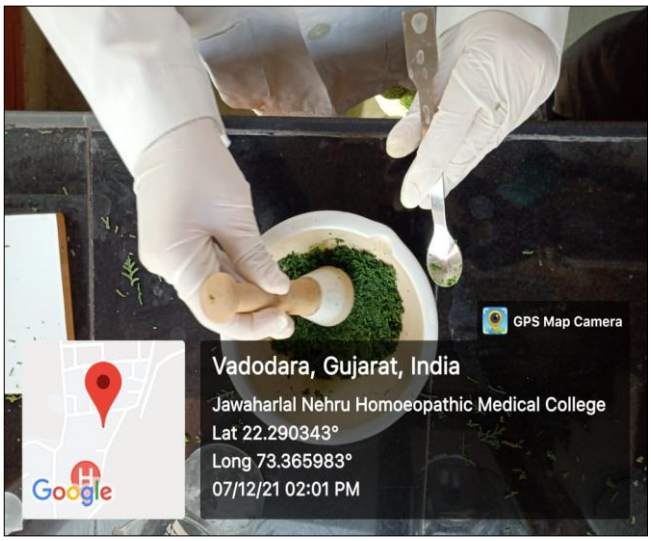

Fig 1: Prepared *Thuja occidentalis* pulp in the laboratory of Homoeopathic Pharmacy from Jawaharlal Nehru Homoeopathic medical college

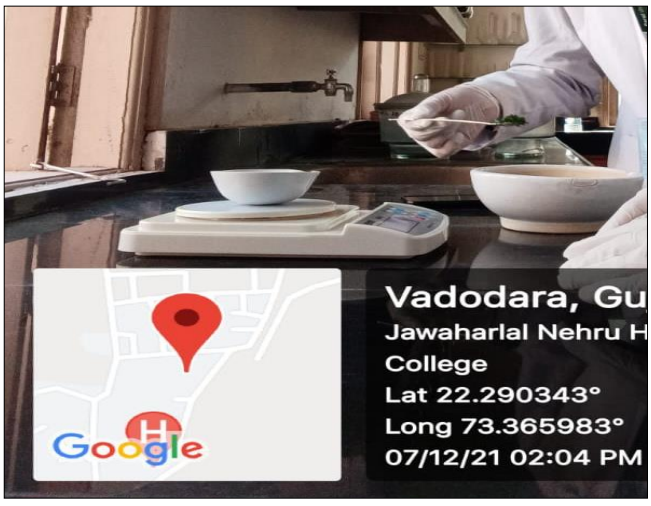

Fig 2: Weight Drug substance by electronic balance in the laboratory of Homoeopathic Pharmacy from Jawaharlal Nehru Homoeopathic medical college

Fig 3: Standard *Thuja occidentalis*- Q purchase from (Willmar Schwabe Company Pvt. Ltd.)

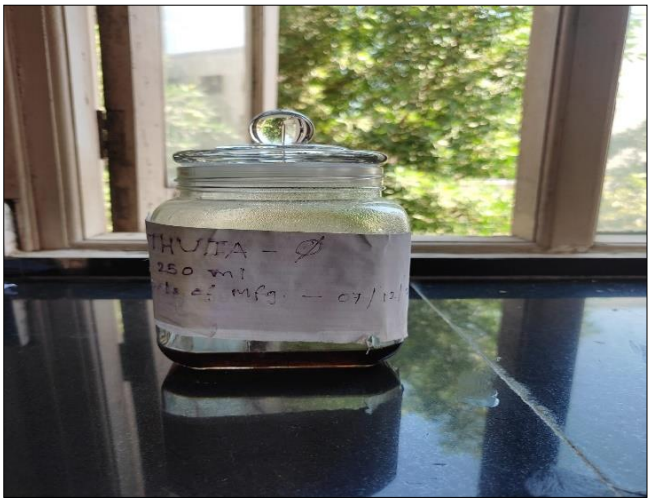

Fig 4: Prepared *Thuja occidentalis*- Q (Maceration as per HPI) in the laboratory of Homoeopathic Pharmacy from Jawaharlal Nehru Homoeopathic medical college

Fig 9: Preparation of stock samples in Department of Dairy & Food Technology, Parul Institute of technology, Parul University

Fig 9: Prepared stock samples in Cuvette in Department of Dairy & Food Technology, Parul Institute of technology, Parul University

Fig 10: UV- visible spectrophotometer (single beam) in Department of Dairy & Food Technology, Parul Institute of technology, Parul University

Conclusion

As per the above study it is proved that while preparation of mother tinctures the absorbance value will differ as different extraction value.

Acknowledgement

Authors would like to thanks Department of Dairy & Food technology, Parul University for constant and full support to complete our research project.

References

1. Davenas E, Beauvais F, Amara J, Oberbaum M, Robinzon B, Miadonna A, *et al*. Human basophil degranulation triggered by very dilute antiserum against IgE. Nature. 1988;333:816-8.
2. Betti L, Trebbi G, Olioso D, Marzotto M, Bellavite P. Basic research in homoeopathy and ultra-high dilutions: What progress is being made? Homoeopathy. 2013;102:151-4.
3. Khuda-Bukshsh AR. Search for a molecular mechanism of action of the potentised homeopathic drugs in living organisms. Int J High Dilution Res. 2012;11:147.
4. Sukul NC. Experimental evidence in support of the biological effects and physical basis of homeopathic potencies. Int J High Dilution Res. 2012;11:142-3.
5. Khuda-Bukhsh AR. Current trends in high dilution research with particular reference to gene regulatory hypothesis. Nucleus. 2014; 57:3-17.
6. Anick DJ, Ives JA. The silica hypothesis for homoeopathy: Physical chemistry. Homoeopathy. 2007;96:189-95.
7. Elia V, Napoli E, Germano R. The “memory of water”: An almost deciphered enigma. Dissipative structures in extremely diluted aqueous solutions of the homeopathic medicine. Homoeopathy. 2007;96:163-9.
8. Chang LC, Song LL and Park EJ, Bioactive Constituents of Thuja occidentalis, J. Nat Prod. 2000;63:1235-1238.
9. Nam SH, Kang MY, Anti-oxidant activity of Medicinal Plants, Pharmaceutical Biotechnology, Medicinal and Aromatic Plant Abstracts. 2005;42(6):409-415.
10. Deb L, Dubey SK, Jain AK, Jain A, Pandian GS, Rout SP, Antidiarrhoeal activity of Thuja occidentalis Linn Ethanol Extract on Experimental Animal, Indian Drugs. 2006;44 (4):319-321.
11. Belal N, Cornelia B, Martin T, Ulrike L, Thuja occidentalis (Arbor Vitae): A Review of its Pharmaceutical, Pharmacological and Clinical Properties, Advance Access Publication, Published by Oxford University Press. 2005;2(1):69-78.
12. Sarkar M. Pharmacognostic Studies of *Thuja occidentalis* Linn: A Good remedy for warts & tumours, used in Homeopathy. Ancient science of life. 1999 Jul;19(1-2):52.