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## Quality control of *Thuja occidentalis* sesame oil by UV-VIS Spectrophotometer

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### Abstract

**Background:** Through this research work prepared homoeopathic medicated hair oil by mixing the *Thuja occidentalis* in sesame oil as drug and vehicle ratio of 1:9 drug and vehicle ratio, which undergoes into indirect heating under the hot water bath.

**Methodology:** Homoeopathic medicated hair oil were prepared by taking *Thuja occidentalis* as a 1 part, which mixed in a 9 parts of olive oil, which undergoes into the indirect heating by hot water bath.

**Results:** Each samples were analysed by UV- Visible spectrophotometer and FTIR Which shown that absorbance value of *Thuja occidentalis* Q is 0.640 at 547.00 nm, *Thuja occidentalis* sesame oil is 0.469 at 671.00 nm, Sesame oil is 0.708 at 353.00 nm.

**Conclusion:** Through this application it was found that *Thuja occidentalis* sesame oil gives better result in terms of absorbance by UV- visible spectrophotometer.

**Keywords:** UV- visible spectrophotometer, *Thuja occidentalis* Q

### Introduction

*Thuja orientalis* (Regularly Morpankhi, Family-Cupressaceae) is a class of coniferous trees. *T. orientalis* is an evergreen, monoecious trees or bushes developing to 10-60 feet tall. The shoot are level, leaves are scale like. The leaves are organized in smoothed fan molded developing with resinous organs [1]. Their leaves contain natural oils used to treat organism contaminations, malignant growth, moles and parasitic worms. The natural oil got from the leaves is poisonous.  $\alpha$ -thujone is valuable as an insect spray and an antihelminthic specialist for the treatment of parasitic worms [2]. Notwithstanding,  $\alpha$  - thujone is a harmful substance that disturbs neurological signs in the mind. Ingestion of the medicinal balsams of *Thuja* leaves can cause death [2]. Seed with a couple of tight sidelong wings, seedlings produce 2 cotyledons. The wood is light, delicate and sweet-smelling. *Thuja* shafts likewise frequently used to make wall posts and rails. The wood of *Thuja* is ordinarily utilized for guitar sound boards [3]. It is utilized as a restorative plant in different types of customary meds like society medication, homeopathy and treatment of bronchial catarrh, enuresis, cystitis, psoriasis, uterine carcinomas, amenorrhea and rheumatism [4-6]. Oil of *Thuja* contains thujone which has been read up for its GABA (gamma-aminobutyric corrosive) receptor hostile, with possibly deadly properties [2]. A yellow color is gotten from the youthful branches [7]. *Thuja* is likewise infrequently utilized for treating illnesses of skin, blood, gastrointestinal lot, kidney, cerebrum, warty excrescences, elastic tumors [6]. Dubey and Batra [8, 9] revealed that the hepato-defensive exercises and cancer prevention agent movement of *Thuja occidentalis*. Hostile to proliferative and apoptosis-initiating properties of *Thuja occidentalis* has been assessed by Biswas *et al.*, [6].

### Sesame oil

Sesame oil (SO) is an enhancement that has been known to have mitigating and cell reinforcement properties, which makes it powerful for diminishing atherosclerosis and the gamble of cardiovascular sickness. Because of the side impacts of statins, the momentum suggested treatment for atherosclerosis and cardiovascular sicknesses, the thought of utilizing dietary and wholesome supplementation has been investigated. The advantages of a

dietary wellbeing system have aroused interest on the grounds that various societies have received wellbeing rewards through the fixings in their cooking with unimportant secondary effects <sup>[10]</sup>.

## Materials & Methodology

**Type of study:** Analytical study

**Site of study:** Centre of Research and Development of Parul University (CR4D), Parul Institute of Homoeopathy and Research, Parul University

## Investigational tool

UV- Visible spectrophotometer (Double beam)

## Samples

1. Standard *Thuja occidentalis* Q
2. Prepared *Thuja occidentalis* sesame oil
3. Sesame oil

## Drug and Vehicle Ratio

While formulation the drug and vehicle ratio were made as proportion i.e. (1:9).

## Preparation of Formulation of oil

The formulation of hair oil takes place in following stages; such as;

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

## 6. Storage

### Sterilization

Before starting the preparation of homoeopathic medicated formulation all the laboratory device were sterilize under hot air oven for atleast 10- 15 minutes.

### Measurement

In this step measuring the volume of Drug *Thuja occidentalis* Q as 1 part and Vehicle (Sesame oil as 9 parts by measuring pipette (10 ml capacity).

### Mixing

After mixing homoeopathic mother tincture in Sesame oil, it undergoes into indirect heating by hot water bath for 10- 15 minutes until unless homoeogenos solution obtained

### Filling

The solution must be filled in hard glass, colourless bottles, and sterile bottle.

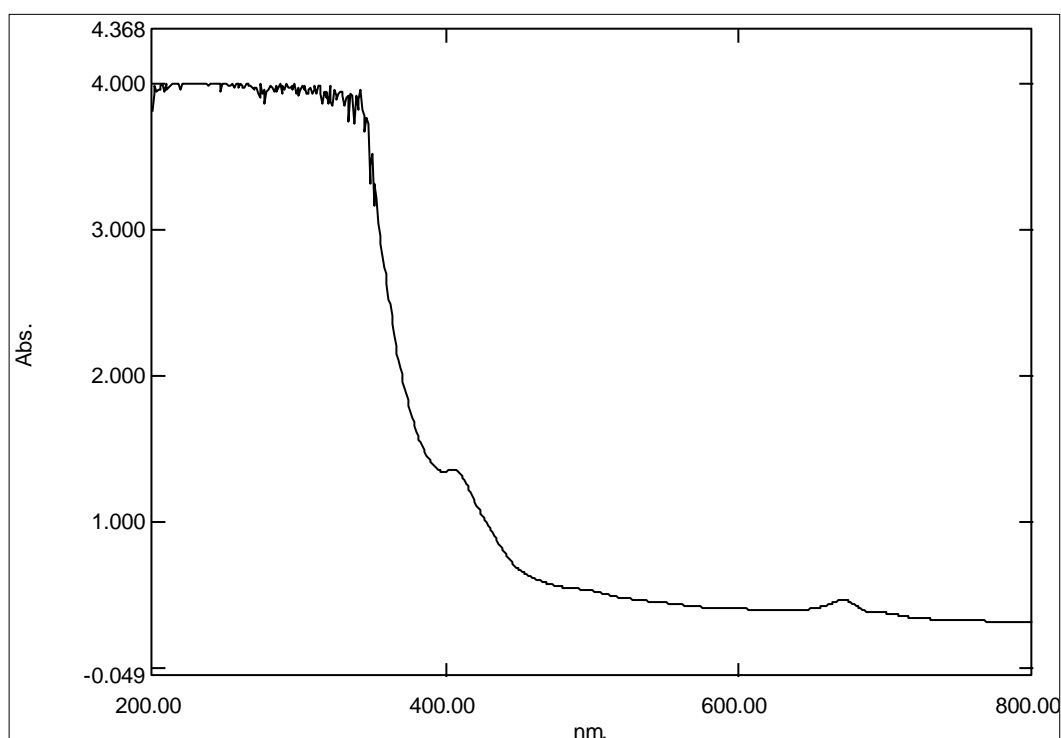
### Storage

The homoeopathic medicated oil were placed under cool, dry place, away from sunlight, strong smelling bottles.

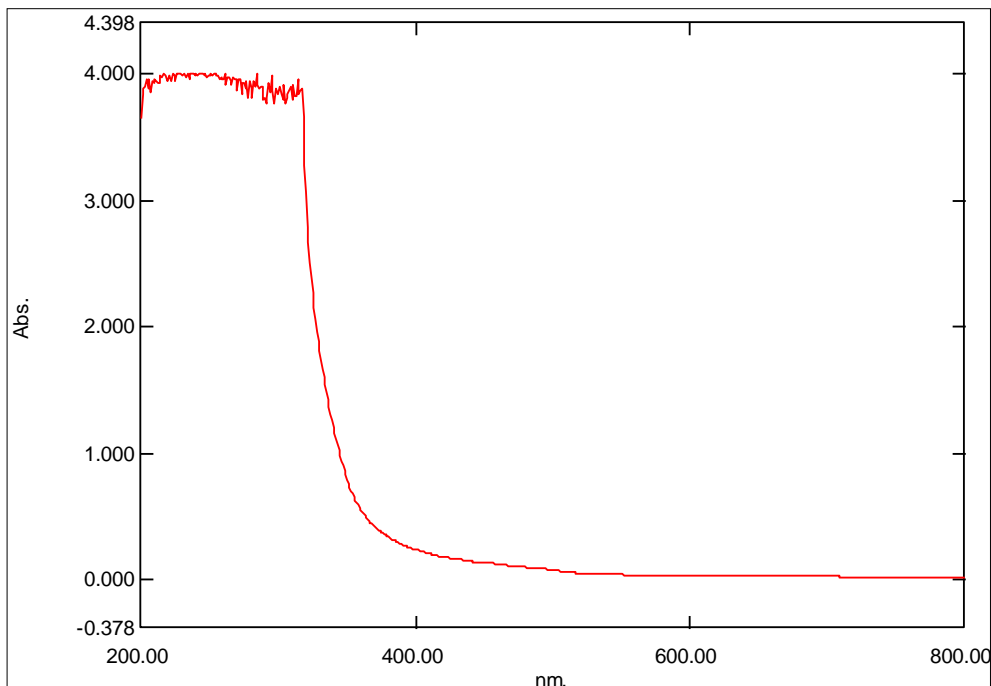
### Results

The absorbance capacity of *Thuja occidentalis* Q is 0.640 at 547.00 nm, *Thuja occidentalis* sesame oil is 0.469 at 671.00 nm, Sesame oil is 0.708 at 353.00 nm

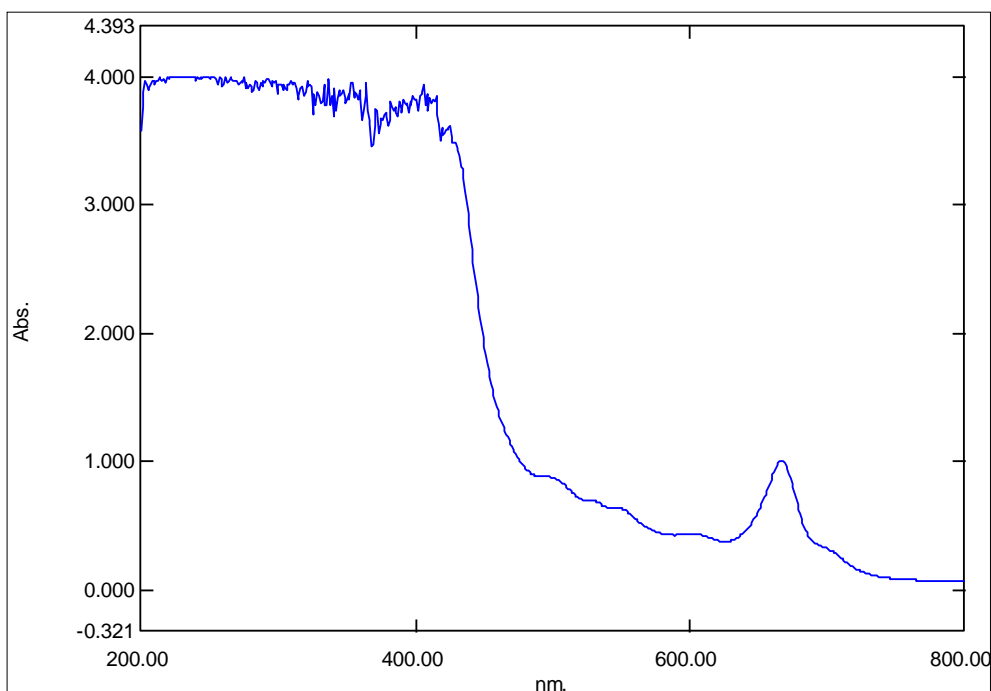
THUJA\_SESAMO OIL



**Fig 1:** Absorbance value of *Thuja occidentalis* sesame oil



**Fig 2:** Absorbance value of sesame oil



**Fig 3:** Absorbance value of *Thuja occidentalis* Q

### Conclusion

The absorbance capacity of prepared Homoeopathic medicated sesame oil were better in terms of absorbance value by UV- Visible spectrophotometer

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