

Research

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VADODARA, GUJARAT

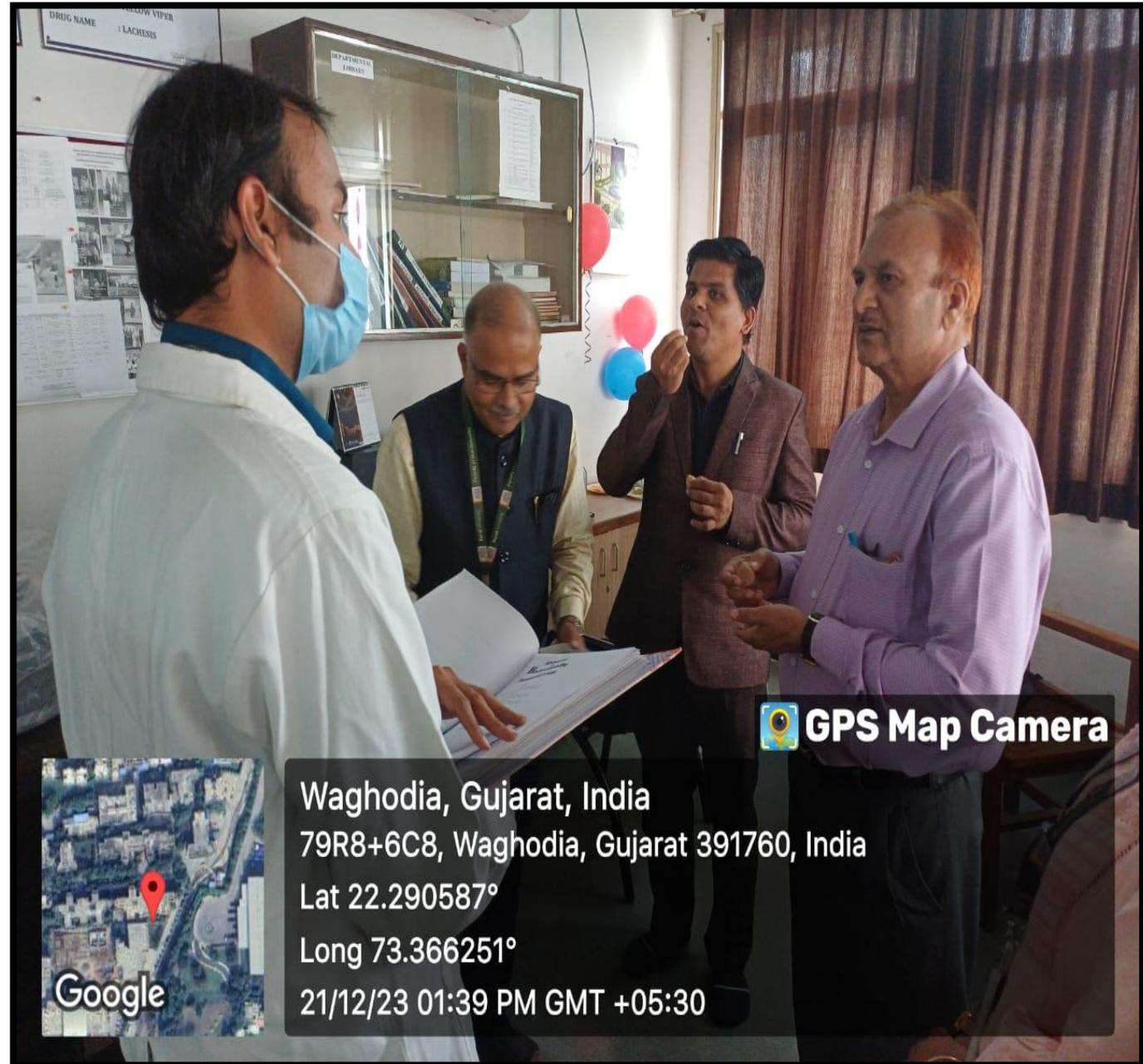
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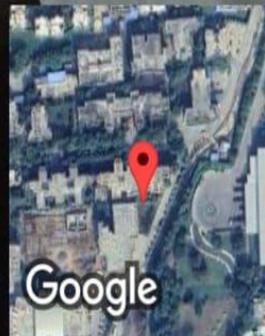
21st December, 2023
10:00 am onwards

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AIM

- To encourage our students like a seed , water, nutrients, humanity.



OBJECTIVES

1. Application of pharmacy knowledge with various instruments
2. Develop different methods of standardizations
3. Patent formulations
4. Drug Development

DEVICES USED

1. UV- Visible spectroscopy
2. FTIR
3. Raman spectroscopy
4. HPTLC
5. XRD
6. SEM

"To prepare cantharis glycerol at different ratio with UV visible spectrophotometer and FTIR"

**Chauhan Hareshsinh Harjibhai, Parmar Vasant Kumar Ganpat
Sinh**

- Through this research work preparing formulation of the glycerol by the standard cantharis mother tincture in Drug and vehicle ratio of (1:1), (1:4) and (1:9) under the analysis by UV- visible spectrophotometer and FTIR. **Methodology:** The formulation of glycerol is prepared with Cantharis mother tincture divided into three groups such as; Standard group with Cantharis mother tincture, Main sample with Cantharis glycerol in different drug and vehicle ratio and control group with glycerol. These samples were taken in the cuvette around 3-4 ml placed inside the UV chamber to measured their absorbance whereas in FTIR a one drop of each samples was placed over the lens to measured the Maximum transmission of the light. **Results:** The analysis done by UV visible spectrophotometer shows absorbance of Cantharis mother tincture is 0.998 at 433 nm, Glycerol is 0.741 at 278 nm, Cantharis glycerol (1:9) is 0.987 at 333 nm, Cantharis glycerol (1:4) is 0.997 at 368 nm and Cantharis glycerol (1:1) is 0.996 at 367 nm. Whereas in FTIR the maximum transmission of Cantharis Q is 1045.35 cm^{-1} , Glycerol is 1032.40 cm^{-1} , Cantharis glycerol (1:9) is 1033.13 cm^{-1} , Cantharis glycerol (1:4) is 1033.82 cm^{-1} and Cantharis glycerol (1:1) is 1033.93 cm^{-1} .

Formulation of standard *Hypericum perforatum*, *Arnica montana* and *Azadirachta indica* Mother tincture to prepared as lotion with definite proportion and quality control

Thakkar Khushi Nimesh Kumar, Dr. Monimala Pramanick, Dr. Suraj Singh Bhadoria and Dr. Poorav Desai

- **Background:** Through this study preparing the mixed variety of lotion by three different Homoeopathic Standard mother tinctures like *Hypericum perforatum*- Q, *Arnica montana*- Q and *Azadirachta indica*- Q in the aqueous base solution as drug vehicle ratio of (1:9) with quality control. **Methodology:** In this process preparing the Lotion from Standard *Azadirachta indica* mother tincture, *Arnica montana* mother tincture and *Hypericum perforatum* mother tincture was procure from the Pharmaceutical Company in base line sample of aqueous solution as drug and vehicle ratio of (1:9). Samples were prepared by measuring the quantity first, mixing, filling and finally labelling. Samples were divide into three groups; such as standard group, sample group and control group. All these sample s was passed under the UV- Visible spectrophotometer and FTIR (Fourier-transform infrared spectroscopy. **Conclusion:** Formulation of mixed variety of *Hypericum perforatum*- Q + *Arnica montana*- Q + *Azadirachta indica*- Q gives a good result in quality control done by the UV- visible spectrophotometer and FTIR.

"Formulation of Arnica montana glycerol from standard Arnica montana mother tincture under UV: Visible spectrophotometer"

Jepar Pratik Bharat, Dr. Monimala Pramanick, Dr. Mayank Roy, Dr. Suraj Singh Bhadoria, Dr. Poorav Desai and Dr. Vijay De Kele

- **Background:** Through this research work preparing the formulation of the glycerol with standard *Arnica montana* mother tincture in a drug and vehicle proportion of (1:9) which undergoes into the quality assessment by UV-Visible spectrophotometer.
- **Methodology:** The formulation of medicated glycerol was divided into three main categories; like Standard sample, main sample and control sample. These samples were passed under the UV- Visible spectrophotometer (Single beam).
- **Conclusion:** Sample of prepared medicated glycerol with homoeopathic medicine gives better result in the absorbance value under UV- Visible spectrophotometer.

Compare absorbance capacity of lotion prepared with standard belladonna mother tincture and standard Iris versicolor mother tincture

• **Jepar Pratik Bharat, Dr. Poorav Desai and Dr. Vijay D Kele**

- **Abstract Background:** Through this study comparing the absorbance capacity of the two different Standard mother tincture while preparing the external applicant i.e lotion with Standard Belladonna- Q and Standard Iris versicolor- Q
Methodology: Preparing the two different lotion with standard Belladonna- Q and Standard Iris versicolor- Q with base of distilled water. The samples were drawn into three main categories like Standard samples, Formulation samples, control sample. Thereafter the measurement of absorbance of these two different lotion were done by UV- visible spectrophotometer (Single beam). **Result:** The absorbance of Belladonna- Q is 0.831 at 380 nm, 0.311 at 400 nm, Absorbance of Iris versicolor- Q is 0.740 at 350 nm, 0.842 at 340 nm, Lotion prepared by Belladonna- Q is 0.583 at 380 nm, 0.317 at 400 nm, 0.841 at 340 nm, Iris versicolor lotion at 340 nm is 0.841 and 0.742 at 350 nm.

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

- 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).

Comparative analysis of Zingiber officinalis lotion in different ratio with quality control

Anubha Nanda Gogoi, Dr. Monimala Pramanick, Dr. Suraj Singh Bhadoria and Dr. Poorav Desai

- Abstract Background: To compare the Zingiber officinalis lotion prepared by Zingiber officinalis mother tincture in aqueous base at different drug and vehicle ratio under the quality assessment by various tools. Methodology: In this process preparing the Lotion from prepared Zingiber officinalis- Q, which was prepared as per Old Hahnemannian method of preparation of mother tincture. Samples were prepared by measuring the quantity first, mixing, filling and finally labelling. Samples were divided into three groups; such as standard group, sample group and control group. All these samples were passed under the UVVisible spectrophotometer and FTIR (Fourier-transform infrared spectroscopy. Conclusion: The Formulation of Zingiber officinalis lotion in (1:9) drug and vehicle ratio gives better results in analysis done by UV- visible spectrophotometer and FTIR (Fourier transform infrared spectroscopy) as compare to other drug and vehicle ratio i.e. (1:1) and (1:5).

Comparative analysis of *Hypericum perforatum* liniment in different ratio with quality control

• Desai Swapnil Rajesh Kumar, Dr. Monimala Pramanick, Dr. Suraj Singh Bhadoria and Dr. Poorav Desai

- Background: To compare the *Hypericum perforatum* liniment prepared by *Hypericum perforatum* mother tincture in olive oil at different drug and vehicle ratio under the quality assessment by UV- Visible Spectroscopy and FTIR (Fourier Transform Infrared Spectroscopy).
- Methodology: In this process preparing the Liniment from Standard *Hypericum perforatum*- Q, which was taken from pharmaceutical company and mixed in the olive oil as a baseline sample. Samples were prepared by measuring the quantity first, mixing, filling and finally labelling. Samples were divided into three groups; such as standard group, sample group and control group. All these samples were passed under the UV-Visible Spectrophotometer and FTIR (Fourier-Transform Infrared Spectroscopy).
- Conclusion: After Data analysis, it was found that absorbance value of *Hypericum perforatum* liniment prepared in (1:4) drug and vehicle ratio gives better results in analysis done by UV- Visible Spectrophotometer and FTIR (Fourier Transform Infrared Spectroscopy) as compare to other drug and vehicle ratio i.e. (1:1) and (1:9).

Comparing the *Ocimum sanctum* glycerol in different drug and vehicle ratio by FTIR and UV-Visible spectrophotometer

• **Jigarkumar Dineshbhai Bhati, Bhadoria Suraj Singh, Pramanick Monimala, Chakraborty GS and Desai Poorav**

- **Background:** The research work preparing the Homoeopathic Medicated glycerol with the *Ocimum sanctum*- Q, quality control done by UV- Visible spectrophotometer and FTIR. **Methodology:** The glycerol were prepared with the help of Standard *Ocimum S* in Drug in the definite proportion of vehicle as (1:1), (1:4), (1:9) glycerol without heating. The sample were divided into three main categories like Standard sample, Prepared sample and vehicle control sample. While passing under UV- Visible spectrophotometer take (3- 4) ml samples in a sterile, clean cuvette from each groups and Placed one drop from each group over the lens of FTIR (Fourier transform infrared spectroscopy). **Results:** The Maximum absorbance value of *Ocimum Sanctum* glycerol in (1:9) is 0.257 at 498.00 nm, *Ocimum Sanctum* glycerol in (1:4) is 0.264 at 608.00 nm, *Ocimum Santum* glycerol in (1:1) is 0.415 at 608.00 nm, *Ocimum Sanctum Q* is 0.618 at 607.00 nm. Whereas in FTIR reveals the fragrant nitro bunch is an exemption (at different wavelength) **Conclusion:** *Ocimum sanctum L.* the critical presence of fragrant nitro bunch is an exemption. Such utilization of FTIR and UV-VIS ought to give the open door to comprehend the polyphenolic designs and phytochemicals pieces of natural tests to enhance regular meds Homoeopathic medicated glycerol of *Ocimum sanctum* gives better results in Drug and Vehicle ratio i.e (1:4) as compared to Drug and vehicle ratio i.e (1:4) (1:9).

To preparing *Ruta G* lignocaine jelly with quality assessment done by UV- VIS and FTIR

Sathvara Ektaben Pankajkumar

- **Abstract:** Background: Through this study preparing the *Ruta G* lignocaine jelly with quality control done by UV- VIS and FTIR. Methodology: Preparing the Homoeopathic Medicated lignocaine jelly with the help of *Ruta G* without heating in the proportion of (1:1) (1:4) (1:9). The samples was divided into three main categories such as Standard sample, prepared samples and vehicle control. While passing through UV- Vis spectrophotometer (3-4) ml samples from each group were withdrawn and placed inside the Cuvette. Whereas one drop from each group was placed over the lens of FTIR. Results: The absorbance capacity of *Ruta G* Mother tincture is 0.394 at 598 nm, *Ruta G* jel at (1:1) is 0.712 at 598 nm, *Ruta G* jel at (1:4) is 1.707 at 554.00, *Ruta G* jel at (1:9) is at 1.509 at 555.00 nm. Whereas in FTIR analysis of *Ruta graveolens* proved the presence of alkenes, alkanes, and alkyl halides.

Prepared Thuja occidentalis glycerol with quality assessment done by UV- VIS Spectrophotometer and FTIR

- Sagar Kumar Valand, Dr. Suraj Singh Bhadoria, Dr. Monimala Pramanick, Dr. Poorav Desai and Dr. GS Chakraborty

background: Through this research study preparing the Homoeopathic Medicated glycerol by Thuja occidentalis- Q in glycerol base with different ratio i.e (1:1) (1:4) (1:9) under the quality assessment with UV- Visible spectrophotometer and FTIR (Fourier Transform infrared spectroscopy) Methodology: Preparation of glycerol done in Thuja occidentalis Q in the proportion of (1:1) i.e.) 1 part is Thuja occidentalis Q and 1 part is Glycerol, (1:4) i.e. 1 part is Thuja occidentalis Q and 4 part is Glycerol, (1:9) 1 part is Thuja occidentalis Q and 9 part is Glycerol. After preparing this from each group (3-4) ml samples were taken in a sterile cuvette placed inside the UV- VIS Chamber to pass it under UV- VIS and also placed one drop from each group of sample over the lens in FTIR to evaluate the maximum transmission. Results: The Maximum absorbance of Thuja occidentalis Q is 0.851 at 607 nm, Thuja occidentalis glycerol (1:9) is 0.231 at 536 nm, Thuja occidentalis glycerol (1:1) is 0.738 at 609 nm, Thuja occidentalis glycerol (1:4) is 0.400 at 610 nm. Conclusion: Prepared glycerol with homoeopathic mother tincture i.e. Thuja occidentalis which gives an excellent results on certain skin diseases like warts, corns, herpetic eruptions, eczema, psoriasis, scalp irritation.

Spectrophotometric analysis of *Syzygium jambolanum* olive oil by UV- visible spectrophotometer

Manan Shah, Dr. Suraj Singh Bhadoria and Dr. Parul Patel

Background: Through this research work preparation of Homoeopathic medicated oil by mixing the *Jambolanum* mother tincture in olive oil to definite drug and vehicle ratio as given by Pharmacopoeia with quality control done by UV- Visible spectrophotometer.

Methodology: The Homoeopathic Medicated oil were prepared by mixing *Syzygium jambolanum* Q in the Base of olive oil as a vehicle i.e 1 part is a Drug and 9 part is a Vehicle.

Results: The absorbance capacity of *Jambolanum* Q is 0.761 at 663.00 nm, *Jambolanum* olive oil is 3.255 at 670.00 nm.

Comparing *Hypericum perforatum* Q and petroleum O in sandalwood oil by UV- Visible spectrophotometer

- Manan Shah, Makwana Kosmika, Pramanick Monimala, Bhadoria Suraj Singh, BP Panda and GS Chakraborty
- **Background:** Prepare the Homoeopathic Medicated Sandal wood oil by mixing *Hypericum perforatum* Q and Petroleum O separately in definite drug and vehicle proportion with quality control done by UV- visible spectrophotometer.
- **Methodology:** Through this research work preparing the Homoeopathic Medicated Sandal wood oil by mixing *Hypericum perforatum* Q and Petroleum O separately in definite drug and vehicle which undergoes into indirect heating (Hot water bath)
- **Results:** The absorbance capacity of *Hypericum perforatum* Q is 0.997 at 596.00 nm, Petroleum O is 0.221 at 400 nm, *Hypericum perforatum* sandal wood oil is 0.972 at 420.00 nm, Petroleum sandal wood oil is 2.281 at 697 nm.
Conclusion: *Hypericum perforatum* Q in sandal wood oil gives better absorbance capacity whereas Petroleum O in sandal wood oil has not shown the expected result by UV.

To Compare lotion prepared by mixed and simplex variety of standard *Allium cepa* and *Allium sativa* mother tincture at definite drug and vehicle ratio along with UV- visible spectrophotometer and FTIR

• **Zinal Parmar**

Abstract Background: Through this research work prepared formulation of Lotion by Standard *Allium cepa* and *Allium sativa* mother tincture in a definite drug and vehicle ratio with quality control by UV- visible spectrophotometer and FTIR

Methodology: Formulation prepared with Standard *Allium cepa*- Q and Standard *Allium sativa*- Q along with distilled water, which categorized into three different groups; such as; Standard group, Main sample group and Control group. These samples was analyzed under UV- Visible spectrophotometer and FTIR.

Results: after analysis done by UV- Visible spectrophotometer the absorbance value of *Allium cepa* lotion is 0.477 at 360 nm, absorbance value of *Allium sativa* lotion is 0.999 at 276 nm, Mixed variety of *Allium cepa* and *Allium sativa* lotion is 0.990 at 279 nm, Standard *Allium cepa* Q is 0.974 at 419 nm and Standard *Allium sativa* Q is 0.964 at 379 nm. Whereas in FTIR the maximum transmission of *Allium cepa* lotion at 3342.71 cm^{-1} , *Allium sativa* lotion is at 536.35 cm^{-1} , Mixed variety of *Allium cepa* and *Allium sativa* lotion is at 3326.78 cm^{-1} , Standard *Allium cepa*- Q is at 3365.20 cm^{-1} and Standard *Allium sativa* Q is at 1044.51 cm^{-1} .

Comparative analysis of Zingiber officinalis lotion in different ratio with quality control

• Anubha Nanda Gogoi, Dr. Monimala Pramanick, Dr. Suraj Singh Bhadoria and Dr. Poorav Desai

- Background: To compare the Zingiber officinalis lotion prepared by Zingiber officinalis mother tincture in aqueous base at different drug and vehicle ratio under the quality assessment by various tools.
- Methodology: In this process preparing the Lotion from prepared Zingiber officinalis- Q, which was prepared as per Old Hahnemannian method of preparation of mother tincture. Samples were prepared by measuring the quantity first, mixing, filling and finally labelling. Samples were divided into three groups; such as standard group, sample group and control group. All these samples were passed under the UV-Visible spectrophotometer and FTIR (Fourier-transform infrared spectroscopy).
- Conclusion: The Formulation of Zingiber officinalis lotion in (1:9) drug and vehicle ratio gives better results in analysis done by UV- visible spectrophotometer and FTIR (Fourier transform infrared spectroscopy) as compare to other drug and vehicle ratio i.e. (1:1) and (1:5).

- **NANO PARTICLES**

"Synthesizing nanostructures of complex preparations by Staphysagria and cantharis mother tincture under influence of potentization"

Bariya Drashti Umesh and Suraj Singh Bhadoria

- **Abstract:**

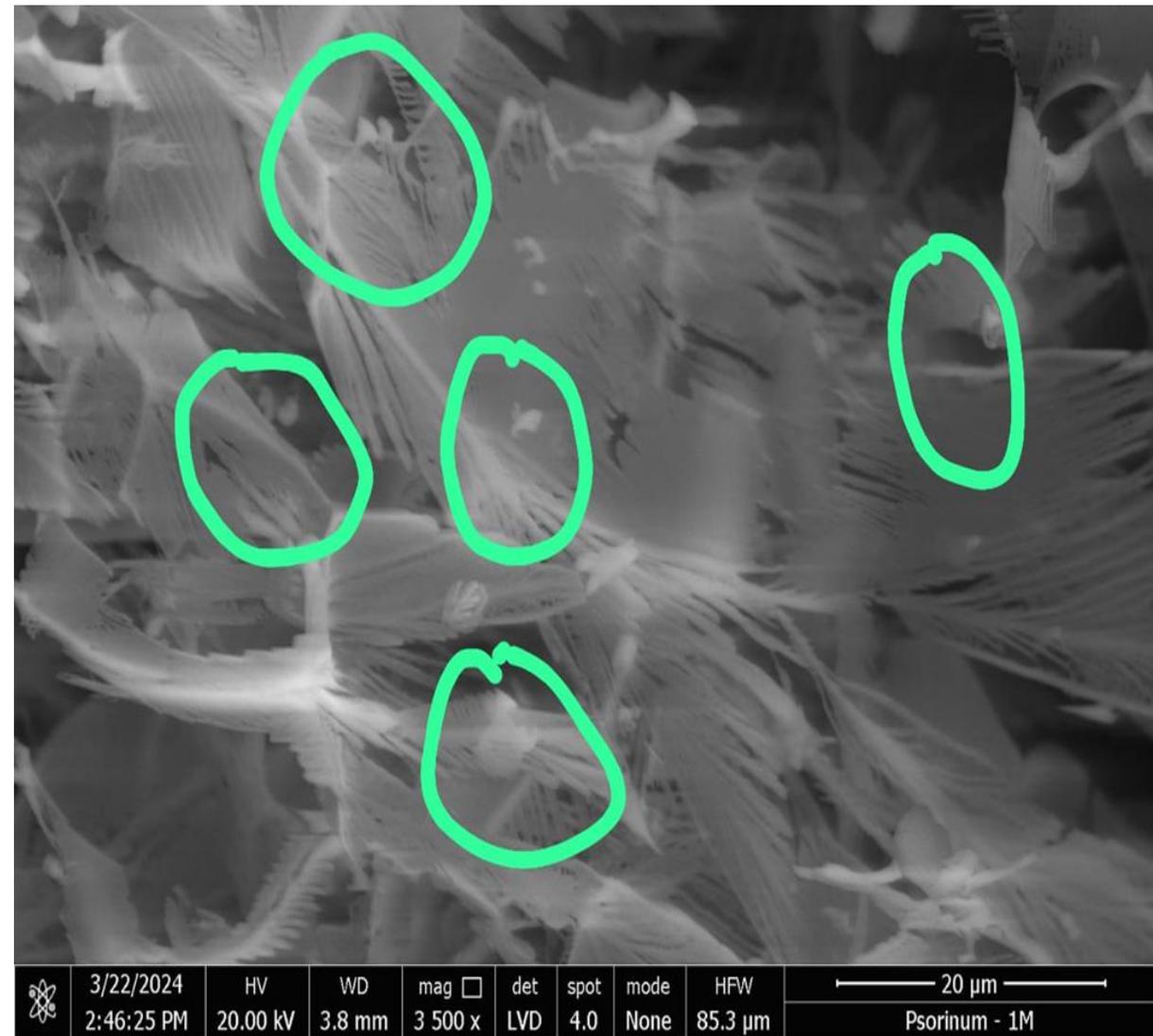
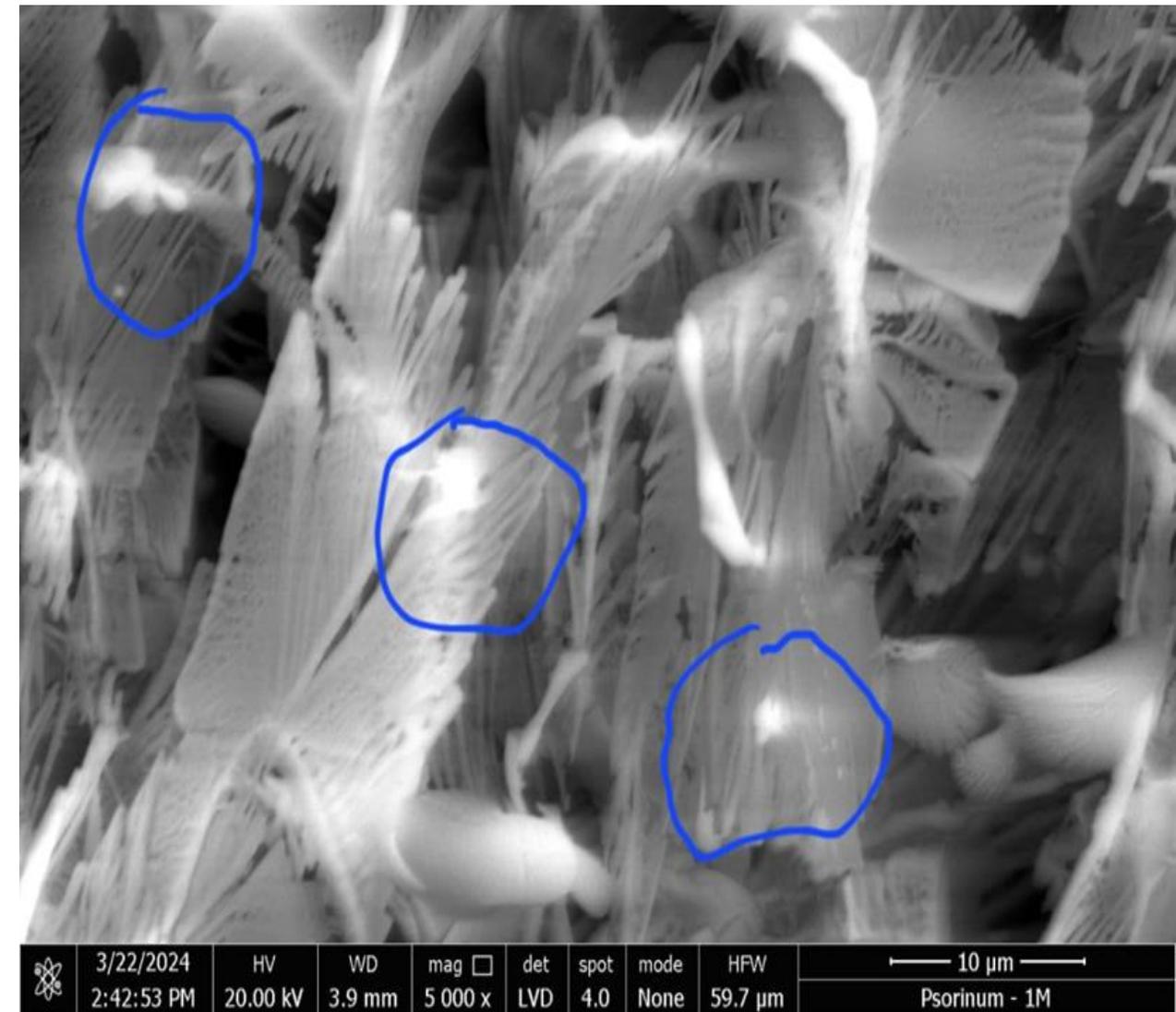
Through this research work synthesizing the nanostructures, a massless particles by complex mixture between Staphysagria and Cantharis mother tincture Afterwards Standardization done by Scanning electron microscope.

Synthesising Psorinum 1M Nanoparticle by chemical Method

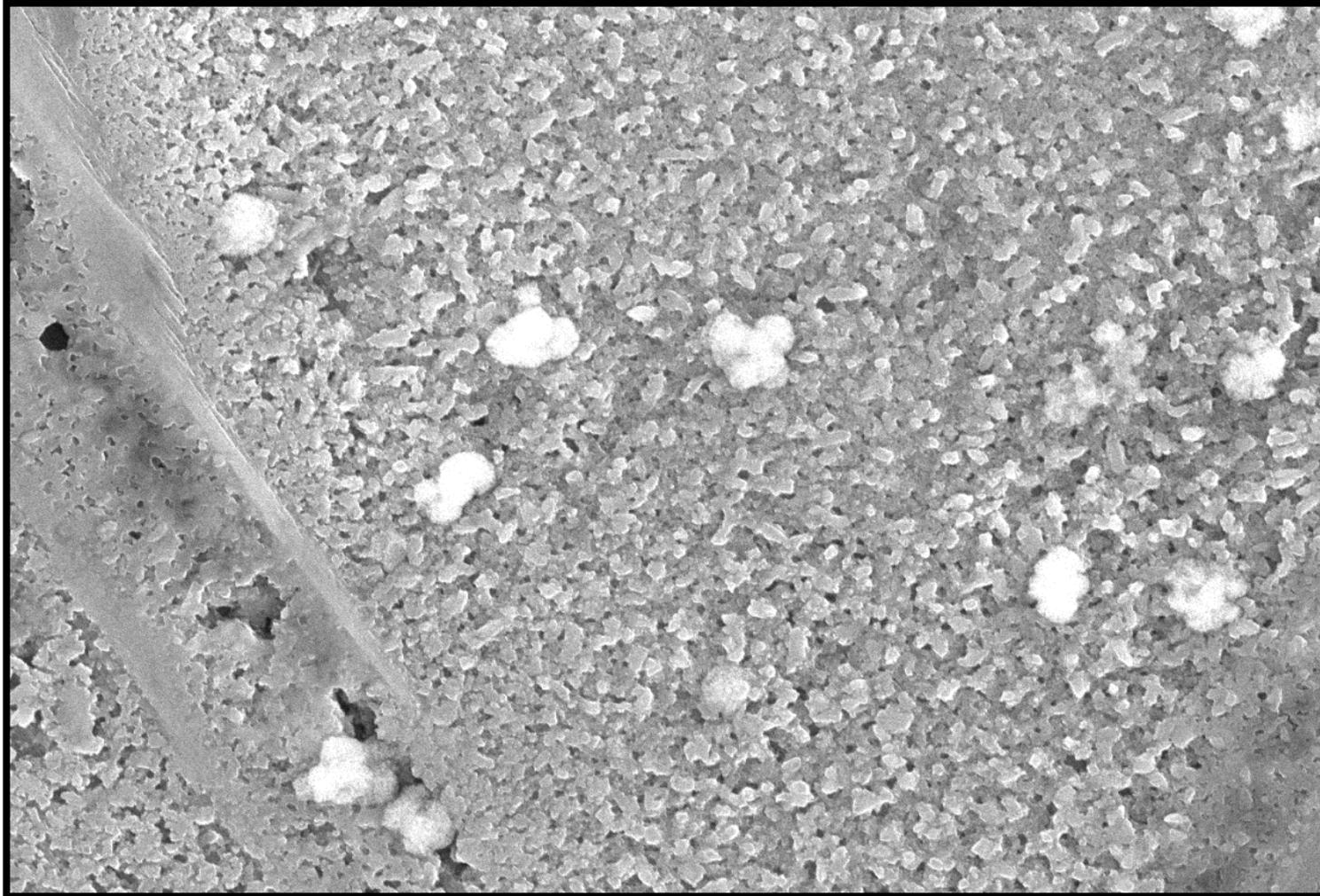
Dr Suraj Singh Bhadoria 1, Dr Sandhya Vasant Gcharge 2

Through this research work synthesizing the nanoparticles in Psorinum 1M by Potassium Ferricyanide as a biocatalyst and inclusivity of succussion potentization method. After analysis under SEM (Scanning electron microscope), minute strictures of massless particles nanoparticles synthesized successfully.

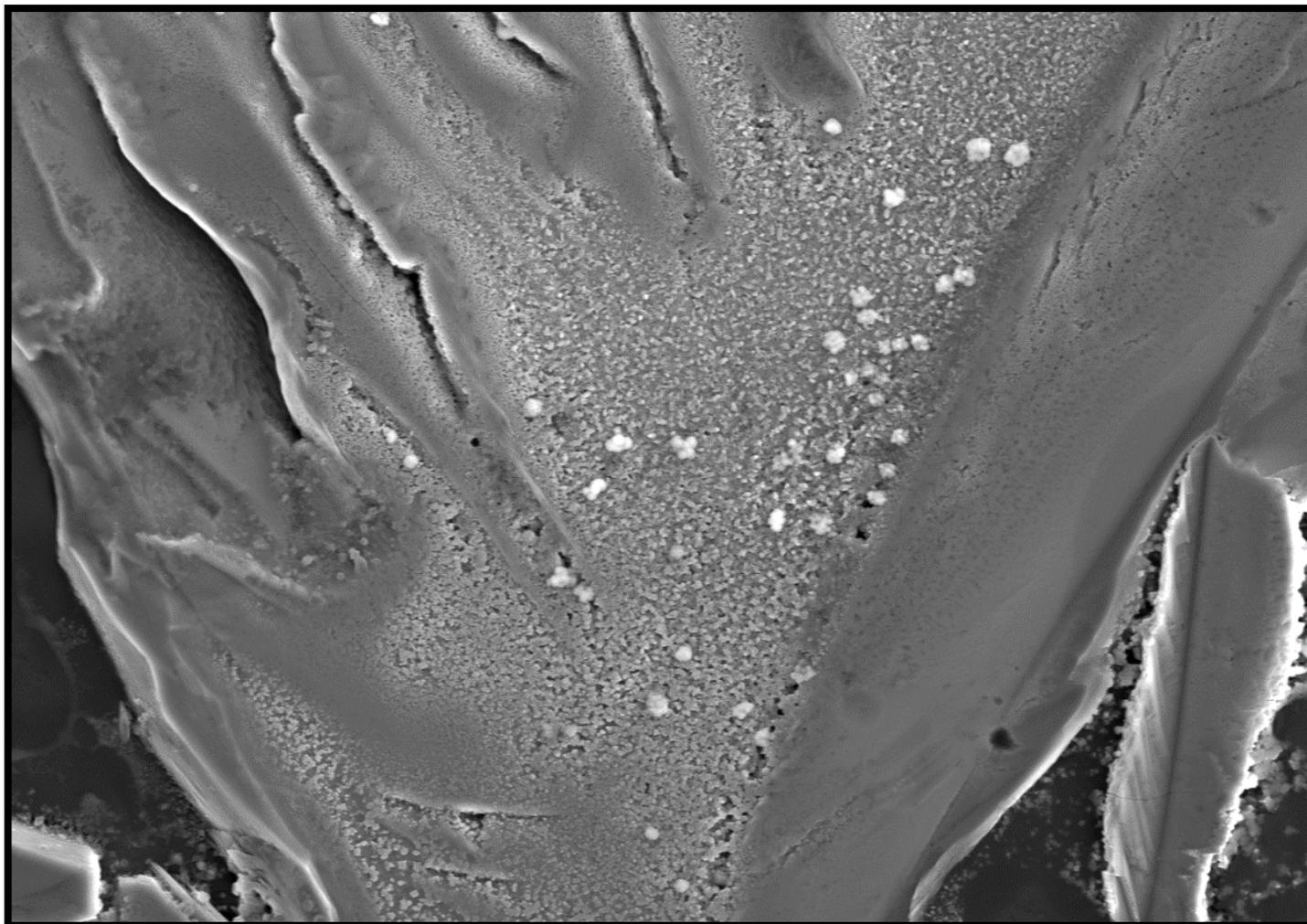
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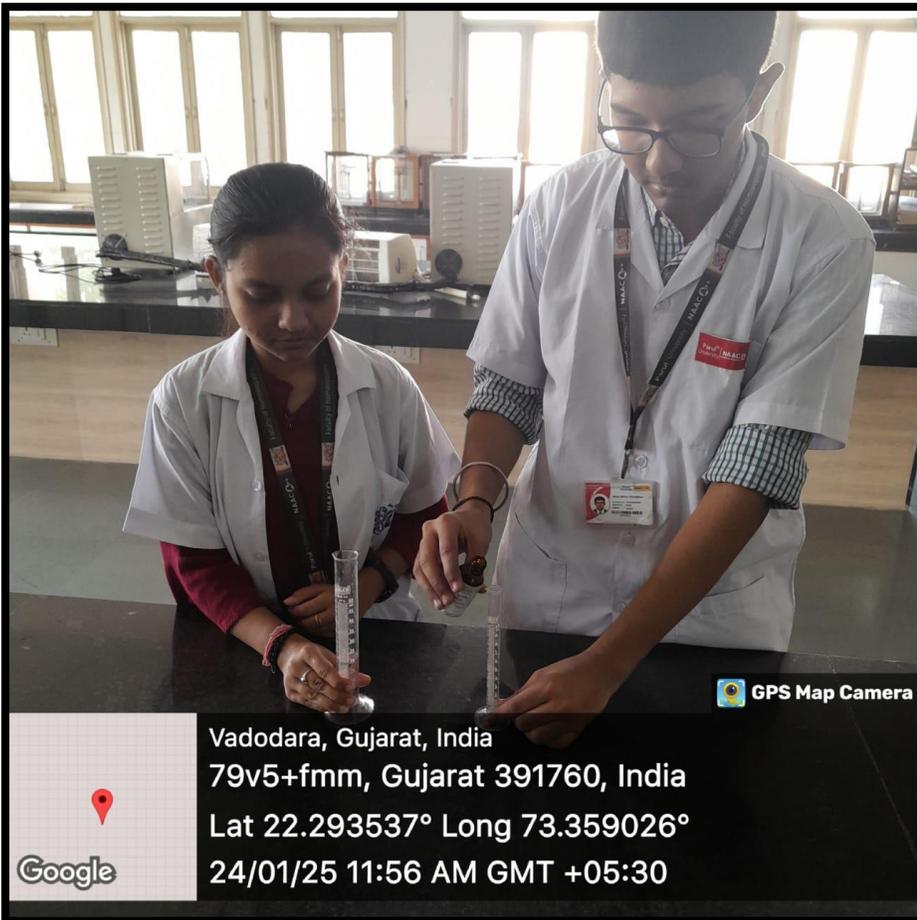
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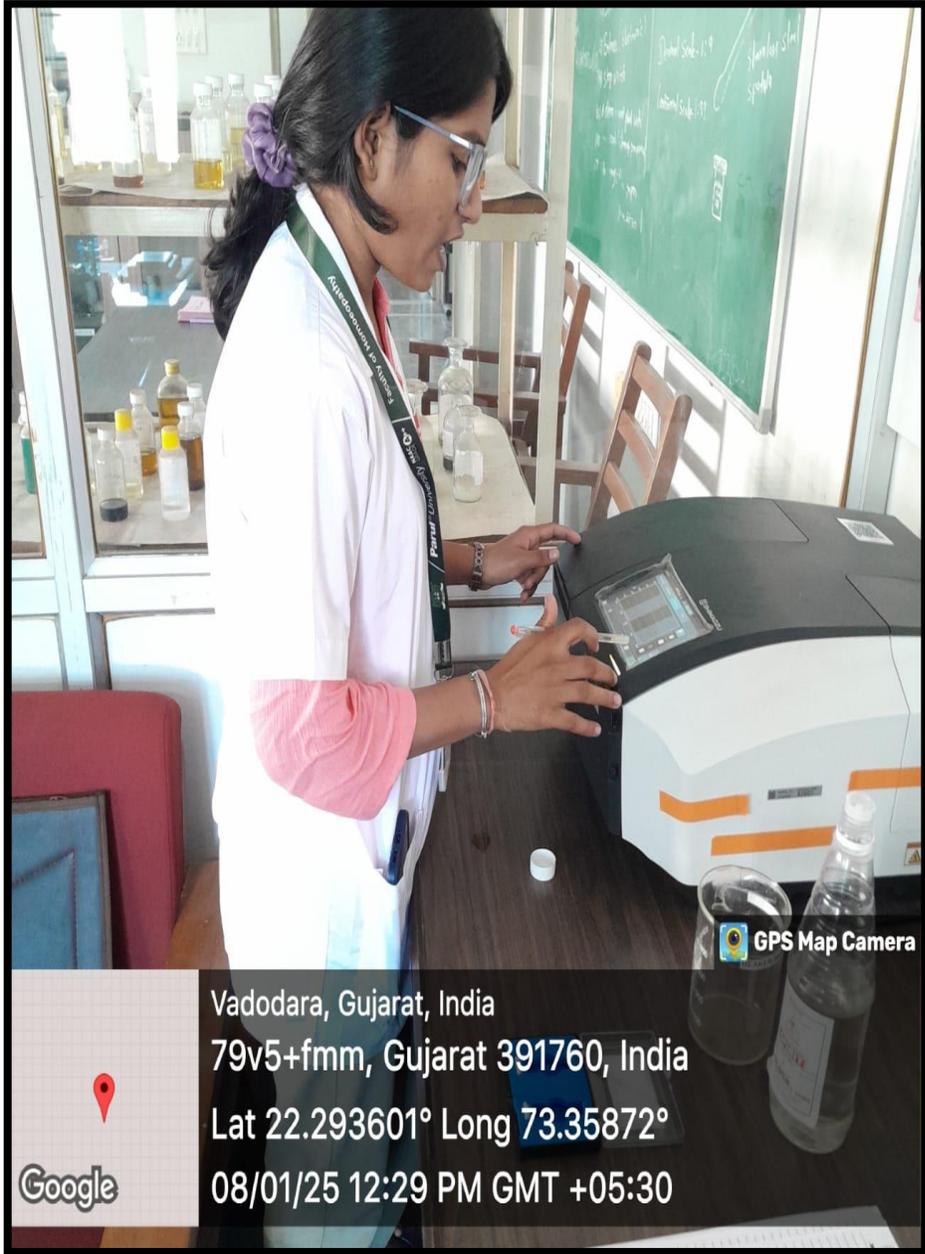


NPS 2



STUDENTS RESEARCH





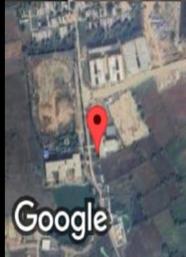
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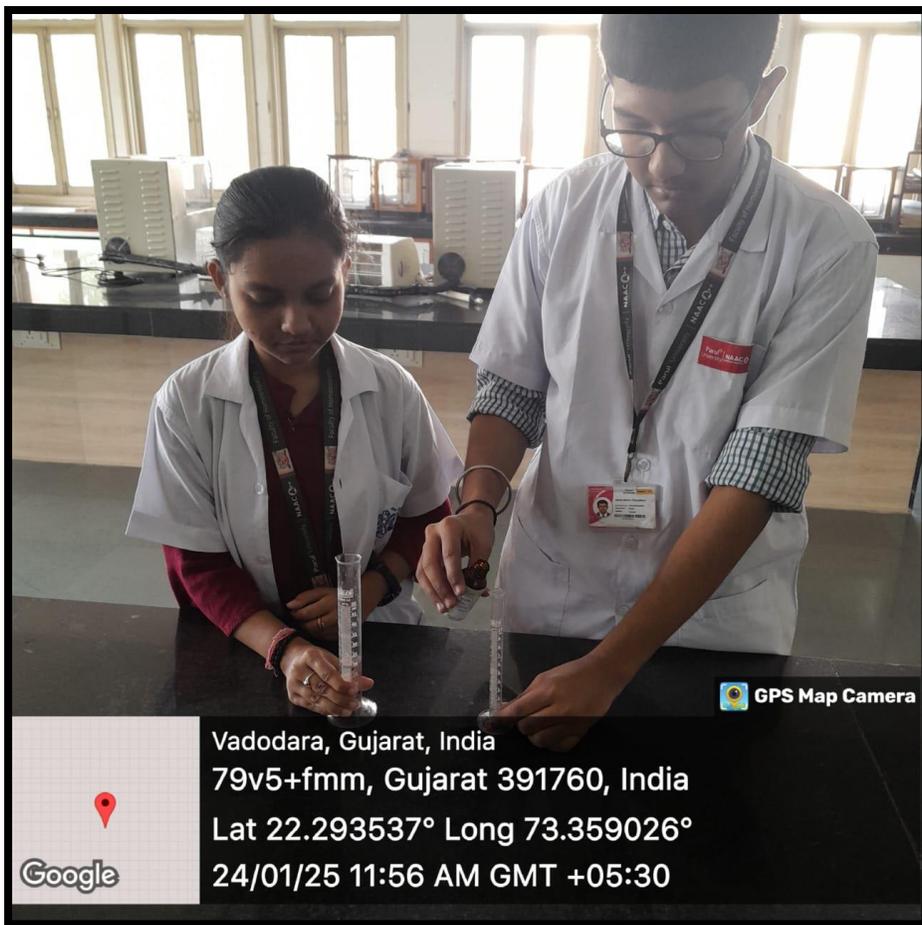
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- **THANK YOU**