

# List of Publications, Conferences & Workshops



### ❖ Publications Related to Thesis

1. **N. A. Chaudhary**, C. R. Vaja, K. J. Agheda, K. N. Shah, V. A. Rana, A. N. Prajapati, Insights into Molecular Interactions: Dielectric Relaxation and DFT based studies on n-Hexanol/N, N-Dimethylformamide Binary Mixtures, *Journal of Molecular Liquids*, DOI: [10.1016/j.molliq.2024.126675](https://doi.org/10.1016/j.molliq.2024.126675) December-2024.
2. **N. A. Chaudhary**, S. P. Patel, C. R. Vaja, N. K. Acharya, V. A. Rana and A. N. Prajapati, Study of dielectric properties of binary mixtures of n-Octanol and N, N Dimethylformamide in lower microwave radiation, *Journal of Electronic Materials*, DOI: [10.1007/s11664-024-11505-y](https://doi.org/10.1007/s11664-024-11505-y) October-2024
3. **N. A. Chaudhary**, S. P. Patel, N. K. Acharya, M. K. Prajapati, A. N. Prajapati, Refractive index, Density, Excess properties and IR spectra study of 2 binary liquid mixture (n-Hexanol + N, N-Dimethylformamide), *Journal of Electronic Materials*, DOI: [10.1007/s11664-024-11434-w](https://doi.org/10.1007/s11664-024-11434-w) October-2024
4. **N. A. Chaudhary**, K. N. Shah, C. R. Vaja, V. A. Rana, Deepak Kumar, A. N. Prajapati, Frequency-Dependent Electrode Polarization and Ionic Conduction Relaxation in n-Hexanol and DMF Mixtures at 303.15 K: Insights into Electrochemical Dynamics, *Ionics*, DOI: [10.1007/s11581-024-05779-9](https://doi.org/10.1007/s11581-024-05779-9) August 2024
5. **N. A. Chaudhary**, K. N. Shah, C. R. Vaja, V. A. Rana, and A. N. Prajapati, Dielectric spectroscopic study of the binary mixtures of N-Hexanol with N, N-Dimethylformamide in the frequency range of 20 Hz to 2 MHz, *International Journal of Modern Physics B*, DOI: [10.1142/S0217979225400338](https://doi.org/10.1142/S0217979225400338) May 2024
6. **N. A. Chaudhary**, Prince Jain, Sanketsinh Thakor, V. A. Rana, A. N. Prajapati, Exploring Molecular Interactions and Dielectric Relaxation in n-Octanol/DMF Binary Mixtures: A Machine Learning-Enhanced VNA Study, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, (Manuscript under review) September 2024
7. **N. A. Chaudhary**, K. N. Shah, S. P. Patel, A. N. Prajapati, Investigation of Some Physicochemical Properties of Binary Liquid Mixtures (n-Octanol + N, N-Dimethylformamide) at Different Temperatures, *Journal of Electrical System* (Manuscript communicated) 2024
8. **N. A. Chaudhary**, Deepak Kumar, A. N. Prajapati, Application of refractometric properties and their mixing rules in binary systems of n-Hexanol with N, N-Dimethylformamide at 293.15 K, *Recent Advances in Functional Materials*, Volume 1

- Select Proceedings of RAFM 2024, *Springer Nature* (Manuscript communicated)  
(Book chapter)

9. **Navin A. Chaudhary**, Shivani P. Patel and Ashvin N. Prajapati, Refractive indices, density and their related properties for several binary mixtures of n-Hexanol with N, N-Dimethylformamide at constant temperature 303.15K, *Proceedings of International Conference RAISE 2023*: Vol. III Computer Science & Engg., Applied Mathematics, Electrical Engineering, Applied Physics, Publisher: RRRNA GOI;2023, Page NO:248-257, ISBN Number:978-81-962938-3-3.

### ❖ Papers presented in the conferences

- Study of acoustic and volumetric properties of the binary mixtures of N, N-Dimethylformamide +1- Propanol  
**Navin A. Chaudhary**, Shivani P. Patel, Ashvin N. Prajapati,  
National Conference on Advances in materials science: Challenges and Opportunities (AMSCO-2021),  
Department of Physics, MKBU, Bhavnagar 21/09/2021.
- Study of molecular interaction of binary mixtures (DMF+1- Propanol) using refractometric Properties  
**N. A. Chaudhary**, A. N. Prajapati, S. P. Patel,  
International e-Conference on Frontline Areas in Chemical Sciences,  
Department of PG studies and Department of Chemistry Pacific University Udaipur,  
03/10/2021 To 04/10/2021.
- Dielectric Study of Binary Mixture Of n-Octanol And N, N-Dimethylformamide At Constant Temperature 293.15 K  
**N. A. Chaudhary**, S. P. Patel, C. R. Vaja, N. S. Shah, A. N. Prajapati, V. A. Rana  
International Seminar on Advanced materials and Applications,  
Applied Physics Department, FTE, The M. S. University of Baroda, Vadodara,  
18/07/2022.
- Study of refractometric properties of binary mixtures of n-Hexanol with N, N-Dimethylformamide at 293.15K  
**N. A. Chaudhary**, S. P. Patel, A. N. Prajapati  
National Conference on Advances in Physical Sciences for Sustainable Development (NCAPSSD-2022),  
IITE Gandhinagar, 25/08/2022.

5. Study of Molecular Interaction in Binary Liquid Mixtures of n-Hexanol with N, N-Dimethylformamide Using refractometric and acoustic data at 303.15 K  
**N. A. Chaudhary**, S. P. Patel, A. N. Prajapati  
National Research Scholars' Meet on Condensed Matter Physics and Materials Science (CMPMS-23),  
Department of Physics, School of Sciences, Gujarat University, Ahmedabad, 04/03/2023.
6. Study of Complex Dielectric Properties of n-Butanol, Valeronitrile and their binary mixtures at 313.15K  
S. P. Patel, **N. A. Chaudhary**, H. P. Vankar, A. N. Prajapati, V. A. Rana,  
International Seminar on Advanced materials and Applications,  
Applied Physics Department, FTE, The M. S. University of Baroda, Vadodara, 18/07/2022.
7. Concentration dependent study of dielectric dispersion and microwave heating parameters of binary mixtures of lower order alcohol with Valeronitrile,  
S. P. Patel, **N. A. Chaudhary**, N. K. Acharya, C. R. Vaja, A. N. Prajapati, V. A. Rana,  
28<sup>th</sup> International Conference on Nuclear Track and Radiation Measurements,  
Faculty of Science, Gurugram University Gurugram 06/11/2023 -10/11/2023.
8. Excess Helmholtz Energy and Kirkwood Correlation Factor in Acetophenone-Methanol Binary Mixtures: Insights into Molecular Interaction  
A. N. Prajapati and **N. A. Chaudhary**  
International Conference on Material Physics and Electronics For Sustainable Development,  
Government Vidarbha Institute of Science and Humanities, Amravati 01/07/2024 TO 02/07/2024.

### ❖ Publications Non-related to Thesis

1. Maitri Patel, **N. A. Chaudhary**, Deepak Kumar, Kuldeep Mishra, Neeladri Das, A. N. Prajapati, Effect of introducing different molecular liquid solvents on electrochemical and physical properties of sodium ion conducting polymer gel electrolytes, *Journal of Molecular Liquids*, DOI: [10.1016/j.molliq.2024.125577](https://doi.org/10.1016/j.molliq.2024.125577) September 2024
2. Maitri Patel, Kuldeep Mishra, **N. A. Chaudhary**, Vaishali Madhani, J. J. Chaudhari and Deepak Kumar, A sodium ion conducting gel polymer electrolyte with counterbalance

- between 1-ethyl-3- methylimidazolium tetrafluoroborate and tetra ethylene glycol dimethyl ether for electrochemical applications, *RSC Advances*, DOI: [10.1039/d4ra01615g](https://doi.org/10.1039/d4ra01615g) April 2024
3. S. P. Patel, N. A. Chaudhary, K. N. Shah, N. S. Shah, C. R. Vaja, V. A. Rana and A. N. Prajapati, Concentration Dependent Study of Dielectric Dispersion and Microwave Heating Parameters of Binary Mixtures of Lower Order Alcohol with Valeronitrile, *Journal of Microwave Power and Electromagnetic Energy*, (Manuscript under revision) 2024
  4. K. J. Agheda, N. A. Chaudhary, N. Garad, A. C. Kumbharkhane, B. S. Chakraborty, A. N. Prajapati, Molecular interaction through dielectric relaxation study of methanol bromopropane mixtures as a function of composition, *Journal of Electric System* (Manuscript communicated) 2024
  5. A. K. Patel, V. S. Patel, U. D. Raval, N. A. Chaudhary, K. N. Shah, A. N. Prajapati, Frequency and Concentration Dependent Dielectric and Electrical Properties of N, N-Dimethylacetamide and n- Nonanol, *Journal of Electrical System* (Manuscript communicated) 2024
  6. U. D. Raval, V. S. Patel, A. K. Patel, N. A. Chaudhary, K. J. Agheda, M. K. Prajapati, K. N. Shah and A.N. Prajapati, Physiochemical, electrochemical and DFT characterization of n-butanol and benzonitrile binary mixtures, *Journal of Electrical System* (Manuscript communicated) 2024.
  7. V. S. Patel, A. K. Patel, U. D. Raval, N. A. Chaudhary, K. N. Shah, A. N. Prajapati, Dielectric spectroscopic study of Chlorobenzene With n-Butanol at different temperature, *Journal of Electrical System* (Manuscript communicated) 2024.
  8. S. P. Patel, N. A. Chaudhary, N. S. Shah, C. R. Vaja, V. A. Rana, A. N. Prajapati, study of concentration dependent dielectric properties of n-heptanol, propionitrile and their binary liquid mixtures at constant temperature, Title: *Proceedings of International Conference RAISE 2023*: Vol. III Computer Science & Engg., Applied Mathematics, Electrical Engineering, Applied Physics, Publisher: RRRNA GOI;2023, Page NO:371-379, ISBN Number:978-81-962938-3-3.
  9. K. J. Agheda, N. B. Jani, N. A. Chaudhary, B. S. Chakraborty and A. N. Prajapati, Investigation of volumetric and refractometric properties of a binary Mixture of tetrachloromethane with primary alcohol at constant, Title: *Proceedings of International Conference RAISE 2023*: Vol. III Computer Science & Engg., Applied

Mathematics, Electrical Engineering, Applied Physics, Publisher: RRRNA  
GOI;2023,Page NO:11-20, ISBN Number:978-81-962938-3-3.