

CONTENTS

TOPIC	Page No.
Acknowledgement	
Content	
<hr/>	
CHAPTER I:	
Object and application of the Research Work	
<hr/>	
1.1. Object and application of the Research Work	1-3
1.2. Importance and scope of physico-chemical parameters	3-5
1.3. Importance of solvents used	5-8
1.4. Method of Investigations	8-9
1.5. Summary of the works done	10-14
References	14-16
<hr/>	
CHAPTER II:	
General Introduction (Review of the Earlier Work)	
<hr/>	
2.1. Investigation on Solute-Solute, Solute-Solvent, Solvent-Solvent interactions	17-19
2.2. Investigation on Ion-Solvent Interaction	19-22
2.3. Ion-Ion interaction	22
2.4. Viscosity Measurement	23-30
2.5. Conductance	30-38
2.6. Volumetric Measurement	38-41
2.7. Acoustic Measurement	42-47
2.8. Excess Functions	48-50
2.9. Correlating Equations - Some Recent Trends	51-52
2.10. Viscous Synergy and Antagonism	52-54
References	55-63
<hr/>	
CHAPTER III:	
Experimental Section	
<hr/>	
3.1. Source and Purification of the Chemicals used	64-66
3.2. Experimental Methods	66-71
References	71-73
<hr/>	
CHAPTER IV: Viscous Synergic Behavior and Solvent-Solvent Interactions Occuring in Liquid Mixtures of Aqueous Alkanols with Some Alkanoic Acids.	
4.1. Introduction	74-75

TOPIC	Page No.
4.2. Experimental Section	75-76
4.3. Results and Discussion	76-81
4.4. Conclusion	82
References	82-84
Tables	85-96
Figures	97-102
*Journal of Physics and Chemistry of Liquids (In Press).	

CHAPTER V: Study on Interaction between Solvent Solvent Occuring in Binary Mixtures of N, N-dimethylformamide with Some Aromatic Aldehydes by Volumetric, Viscometric and Acoustic Measurements.

5.1. Introduction	103
5.2. Experimental Section	104-105
5.3. Results and Discussion	105-109
5.4. Conclusion	109
References	110-111
Tables	111-117
Figures	118-119

CHAPTER VI: Electrical Conductance of Some Tetraalkyl ammonium Halides in Low Permittivity Organic Solvent.

6.1. Introduction	120
6.2. Experimental Section	120-122
6.3. Results and Discussion	123-125
6.4. Conclusion	126
References	126-127
Tables	128-135
Figures	136-140

CHAPTER VII: Interaction between Ion Solvent, Ion-Ion and Solvent-Solvent: A Conductivity Study.

7.1. Introduction	141
7.2. Experimental Section	142-143
7.3. Results and Discussion	144-148
7.4. Conclusion	148
References	149-150
Tables	157-167

*** Accepted for publication in Indian Journal of Science and Technology**

CHAPTER VIII: Partial Molar Volumes, Transport Properties and Ultrasonic Speeds of Some Acetate Salts in Aqueous Mixtures of THF at Various Temperatures.

8.1. Introduction	168
8.2. Experimental Section	168-169
8.3. Results and Discussion	169-174
References	175-176
Tables	177-195

***J. Tech. Res. Chem. (An International Journal), 13(2), 26, (2006)**

CHAPTER IX: Conductance and FTIR Spectroscopic Study of Sodium Tetrphenylborate in Pure 1, 3-Dioxolane and Isoamyl Alcohol and Their Binary Mixtures.

9.1. Introduction	196-197
9.2. Experimental Section	197-199
9.3. Results and Discussion	199-208
9.4. Conclusion	208-209
References	209-211
Tables	212-215
Figures	216-225

***Journal of Physics and Chemistry of Liquids (In Press)**

CHAPTER X: Study of Solution Properties of Some Alkali Bromides in Aqueous Binary Mixtures of 1, 3-Dioxolane in View of Different Models.

10.1. Introduction	226
10.2. Experimental Section	226-228
10.3. Results and Discussion	228-231
10.4. Conclusion	231-232
References	233-237
Tables	237-239

CHAPTER XI: Molar Volumes, Viscosity and Isentropic Compressibility of Some Primary Monoalkanols in Aqueous N, N-dimethylformamide Solutions.

11.1. Introduction	240-241
11.2. Experimental Section	241-242
11.3. Results and Discussion	242-248
11.4. Conclusion	248
References	248-250

TOPIC	Page No.
Tables	251-261
Figures	262-266
*Published in Russian Journal of Physical Chemistry, 83 (8), 1331 (2009)	
<hr/>	
CHAPTER XII: Concluding Remarks	267-271
<hr/>	
APPENDIX	
1. Seminar/Symposium/Convention attended	272
2. List of Publications	273-274
3. Reprints / galley proof / acceptance letters	