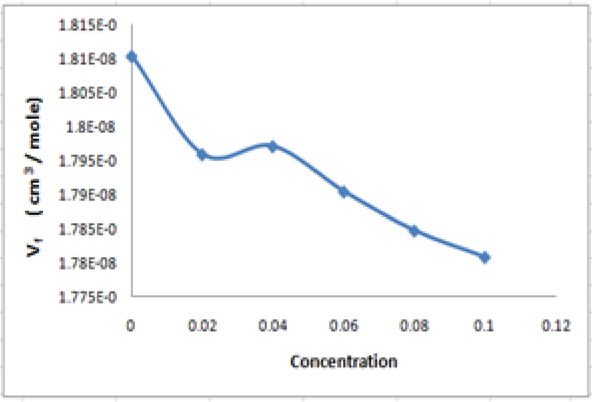

Figure 7: Variation of Free volume with Concentration

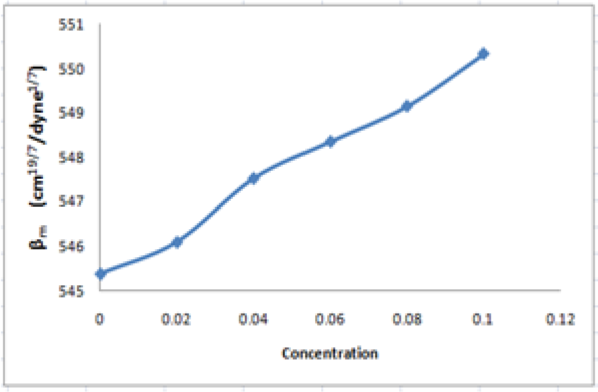

Figure 8: Variation of Wada's constant with concentration

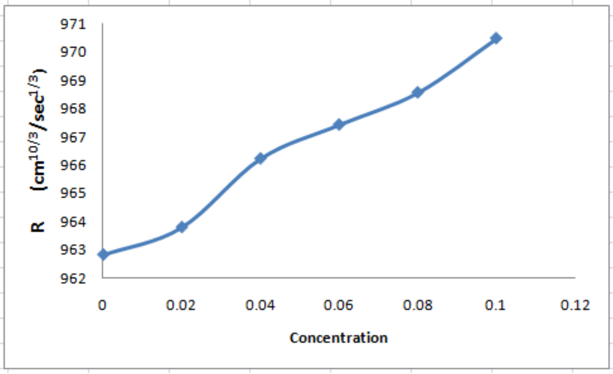

Figure 9: Variation of Rao's constant with Concentration

5. Conclusions

Ultrasonic velocity, density and viscosity of aqueous solution of ascorbic acid of different concentration are measured at 303K and thermo-acoustical parameters are calculated. Ultrasonic velocity, density, viscosity, acoustical impedance are increases with concentration shows that solute-solvent interaction are present in the solution. The adiabatic compressibility, free length and free volume are decreases with rise in concentration. This shows that there is strong solute-solvent interaction in a system and hence association take place. Wada's constant and Rao's constant are increases with increase in concentration. This give support to the above discussion.

References

[1] Anyranci. G, et al, J. Chem. Themodyn (2007), doi:10,1016/j jet 2007.04.009.
[2] Ali A.,Nain A. K. , (1996), Acoustic let.19-53
[3] Tabhane.P.V, Chimankar.O.P., Dudhe.C.M, . Tabhane.V.A, (2012) Der Chemic Sinica, 3(4) 944-947.
[4] Tabhane.P.V, Chimankar.O.P., Dudhe.C.M, Tabhane.V.A, (2012), Lop Conf. series material sci & Engg. 42 012033, doi : 10.1088/1757-899A/42/012033.
[5] Chimankar.O.P, Shrivas Ranjeeta, Tabhane.V.A,(2010), Archives of Applied science research. 2(6):285-289
[6] Chimankar.O.P, Shrivas Ranjeeta, Chopade Prach S., Tabhane.V.A., (2011), J.Chem. Pharm Res, 3(3):579-586.
[7] Bhandakar.V.D., Chimankar.O.P, Mistry.A.A,(2011), Pelagia Research Library, Advance in Applied Research, 2(63), 70-76.
[8] Akgul G., Bayram E, Ayranci E., (2006) , J. Solution Chem. 35,1655-1972.
[9] S. Annuradha, S. Prema, K. Rajgopal, (2005), J. Pure., Appl. Ultrasonic 27, 49-54 .
[10] Ravat M.K. , Sangeeta,(2008) , Indian Journal of pure and Applied physics, 46, 187-192.
[11] Jain J. L.(1999), Fundamentals of biochemistry, 511-569.
[12] Gupta Arti, Strivastava Roli , Pandey Archana, (Sept. 2012.),Global Adraneed Research J.Chem and mat. sci vol 1(3) PP 039-054.
[13] Sonar A.N. , Pawar N.S. , (2010) Rasayan, J. Chem Vol 3 (1) ,38-43.
[14] Bhandakar.V.D., Chimankar.O.P, Pawar N.R., (2010), J.chem. pharm. Res., 2(4), 873.
[15] Arul G., Palaniappan L., (Oct. 2005), Indian Journal of pure & applied physics vol. 43, PP 755-758.
[16] Dudhe C.M. , Patil K.C.,(2012), Int.J. of Natural Product research, 2(4) 76-78.
[17] Sonar A.N. , Pawar N.S., (2010), Rasayan J. Chem. Vol 3 no. 1 ,38-43.
[18] Tabhane V. A., Agrawal Sangita and Rewatkar K.G., (2000) , J.Acous.soc. India vol. 28 no.. 1-4, 369-372.

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