Accepted Manuscript

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PII: S0167-7322(17)34210-1

DOI: doi:10.1016/j.molliq.2017.11.060

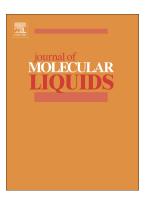
Reference: MOLLIQ 8176

To appear in: Journal of Molecular Liquids

Received date: 9 September 2017 Revised date: 3 November 2017 Accepted date: 8 November 2017

Please cite this article as: Edilma Sanabria Español, Mauricio Maldonado Villamil, Miguel Ángel Esteso, Edgar F. Vargas, Volumetric and acoustic properties of two sodium sulfonateresorcin[4] arenes in water and dimethylsulfoxide. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Molliq(2017), doi:10.1016/j.molliq.2017.11.060

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VOLUMETRIC AND ACOUSTIC PROPERTIES OF TWO SODIUM SULFONATERESORCIN[4]ARENES IN WATER AND DIMETHYLSULFOXIDE

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Keywords: sodium sulfonateresorcin[4]arenes, partial molar volume, molar compressibility, aqueous solutions, non-aqueous solutions, solvation numbers.

Abstract

Apparent molal volumes, apparent isentropic compressibilities and solvation numbers of two sodium sulfonateresorcin[4]arenes, Na₄BRA and Na₄SRA in aqueous and DMSO solutions, were determined from density and speed of sound measurements, over the temperature range (278.15 to 308.15) K, at 5 K intervals. The dependence of the volumes on the molality was correlated to the Redlich-Rosenfeld-Meyer equation for aqueous solutions and the Masson type equation for DMSO solutions. The parameters derived from these equations were interpreted according to hydrophobic and hydrophilic hydration and the ion-ion interactions. The standard (infinite dilution) partial molar properties and their dependence on the temperature were determined. In addition, the transfer properties of the

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