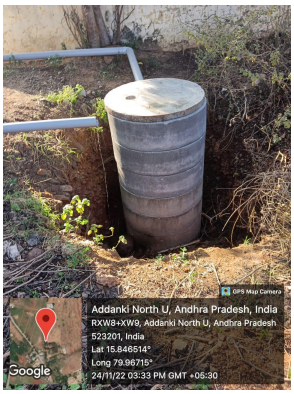
7.1.3. Weblink

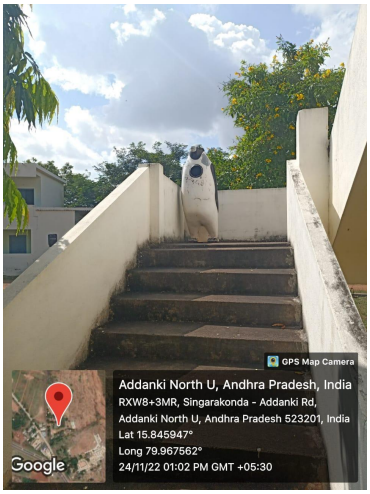
1. Liquid waste management

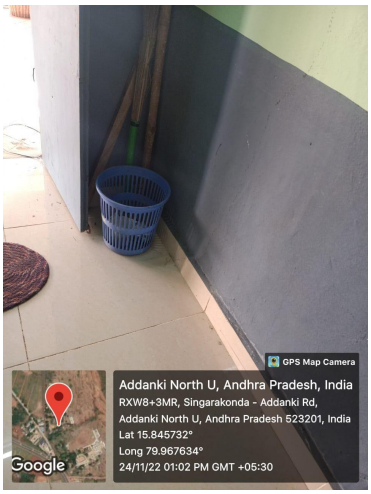
The college is following water harvesting methods to tap the rain water.

Solid Waste management:



Dustbins:



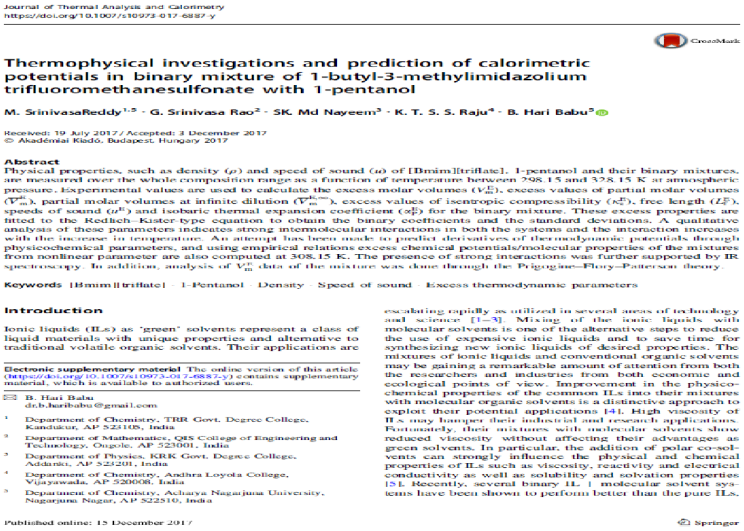


E-waste

Hazardous Chemicals management

For our research purpose, we use IONIC SOLVENTS which are called as GREEN SOLVENTS

Laboratory-Research articles published on prestigious peer reviewed journals on IONIC SOLVENTS-GREEN SOLVENTS



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Thermophysical investigations and prediction of calorimetric potentials in binary mixture of 1-butyl-3-methylimidazolium trifluoromethanesulfonate with 1-pentanol

M. SrinivasaReddy[1,5] · G. Srinivasa Rao[2] · SK. Md Nayeem[3] · K. T. S. S. Raju[4] · B. Hari Babu[5]

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Abstract
Physical properties, such as density (ρ) and speed of sound (u) of [Bmim][triflate], 1-pentanol and their binary mixtures, are measured over the whole composition range as a function of temperature between 298.15 and 328.15 K at atmospheric pressure. Experimental values are used to calculate the excess molar volumes (V_m^E), excess values of partial molar volumes ($\bar{V}_m^E$), partial molar volumes at infinite dilution ($\bar{V}_m^{E,\infty}$), excess values of isentropic compressibility (κ_s^E), free length (L_f^E), speeds of sound (u^E) and isobaric thermal expansion coefficient (α_p^E) for the binary mixture. These excess properties are fitted to the Redlich–Kister-type equation to obtain the binary coefficients and the standard deviations. A qualitative analysis of these parameters indicates strong intermolecular interactions in both the systems and the interaction increases with the increase in temperature. An attempt has been made to predict derivatives of thermodynamic potentials through physicochemical parameters, and using empirical relations excess chemical potentials/molecular properties of the mixtures from nonlinear parameter are also computed at 308.15 K. The presence of strong interactions was further supported by IR spectroscopy. In addition, analysis of $\bar{V}_m^E$ data of the mixture was done through the Prigogine–Flory–Patterson theory.

Keywords [Bmim][triflate] · 1-Pentanol · Density · Speed of sound · Excess thermodynamic parameters

Introduction

Ionic liquids (ILs) as "green" solvents represent a class of liquid materials with unique properties and alternative to traditional volatile organic solvents. Their applications are escalating rapidly as utilized in several areas of technology and science [1–3]. Mixing of the ionic liquids with molecular solvents is one of the alternative steps to reduce the use of expensive ionic liquids and to save time for synthesizing new ionic liquids of desired properties. The mixtures of ionic liquids and conventional organic solvents may be gaining a remarkable amount of attention from both the researchers and industries from both economic and ecological points of view. Improvement in the physico-chemical properties of the common ILs into their mixtures with molecular organic solvents is a distinctive approach to exploit their potential applications [4]. High viscosity of ILs may hamper their industrial and research applications. Fortunately, their mixtures with molecular solvents show reduced viscosity without affecting their advantages as green solvents. In particular, the addition of polar cosolvents can strongly influence the physical and chemical properties of ILs such as viscosity, reactivity and electrical conductivity as well as solubility and solvation properties [5]. Recently, several binary IL + molecular solvent systems have been shown to perform better than the pure ILs.

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s10973-017-6887-y) contains supplementary material, which is available to authorized users.

✉ B. Hari Babu
drb.haribabu@gmail.com
[1] Department of Chemistry, TRR Govt. Degree College, Kandukur, AP 523105, India
[2] Department of Mathematics, QIS College of Engineering and Technology, Ongole, AP 523001, India
[3] Department of Physics, KRK Govt. Degree College, Addanki, AP 523201, India
[4] Department of Chemistry, Andhra Loyola College, Vijayawada, AP 520008, India
[5] Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar, AP 522510, India

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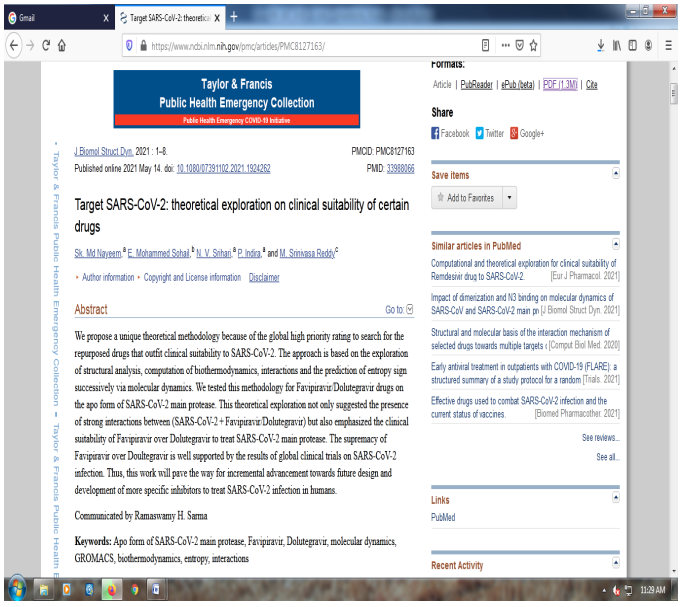
The recently published articles on COVID-19 TREATMENT also involve nonhazardous methods like Computational methods.



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PMID: 33988066

Target SARS-CoV-2: theoretical exploration on clinical suitability of certain drugs

Sk. Md Nayeem[a], E. Mohammed Sohail[a], N. V. Sohan[a], P. Indira[a], and M. Srinivasa Reddy[c]

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Abstract Go to:

We propose a unique theoretical methodology because of the global high priority rating to search for the repurposed drugs that outfit clinical suitability to SARS-CoV-2. The approach is based on the exploration of structural analysis, computation of biothermodynamics, interactions and the prediction of entropy sign successively via molecular dynamics. We tested this methodology for Favipiravir/Dolutegravir drugs on the apo form of SARS-CoV-2 main protease. This theoretical exploration not only suggested the presence of strong interactions between (SARS-CoV-2 + Favipiravir/Dolutegravir) but also emphasized the clinical suitability of Favipiravir over Dolutegravir to treat SARS-CoV-2 main protease. The supremacy of Favipiravir over Doultegravir is well supported by the results of global clinical trials on SARS-CoV-2 infection. Thus, this work will pave the way for incremental advancement towards future design and development of more specific inhibitors to treat SARS-CoV-2 infection in humans.

Communicated by Ramaswamy H. Sarma

Keywords: Apo form of SARS-CoV-2 main protease, Favipiravir, Dolutegravir, molecular dynamics, GROMACS, biothermodynamics, entropy, interactions

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