Patent Search

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Inventor

Name	Address	Country
Dr. Chinthamreddy Amaravathi, Assistant Professor in Chemistry, CMR Technical Campus.	CMR Technical Campus, Kandlakoya, Hyderabad, Telangana-501401.	India
Dr.Viplav Duth Shukla, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Dr.Eluri Yadaiah, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Dr.A.Dayanand, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
A.Vasantha, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Busi Anil Kumar, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Prasad Pinnoju, Assistant Professor / Department of Chemistry, Vaagdevi College of Engineering.	Vaagdevi College of Engineering, Bollikunta, Warangal, Telangana-506005.	India
Dr.V Anitha Rani, Associate Professor in Chemistry, Institute of Aeronautical Engineering	Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana-500043.	India

Applicant

Name	Address	Country
Dr. Chinthamreddy Amaravathi, Assistant Professor in Chemistry, CMR Technical Campus.	CMR Technical Campus, Kandlakoya, Hyderabad, Telangana-501401.	India
Dr.Viplav Duth Shukla, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Dr.Eluri Yadaiah, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Dr.A.Dayanand, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
A.Vasantha, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Busi Anil Kumar, Assistant Professor / Department of Chemistry, Government City College (A).	Government City College (A), Nayapul, Hyderabad, Telangana-500002.	India
Prasad Pinnoju, Assistant Professor / Department of Chemistry, Vaagdevi College of Engineering.	Vaagdevi College of Engineering, Bollikunta, Warangal, Telangana-506005.	India
Dr.V Anitha Rani, Associate Professor in Chemistry, Institute of Aeronautical Engineering	Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana-500043.	India

Abstract:

Abstract The composition of several ternary mixes, each of which contained cholinergic chloride (ChCl), ethylene (EG), as well as a second donor of hydrogen bonds (H ethanol (A), propanol (B), and glycerine (C), was investigated concerning the band gap's energy (BGE). To discover how the BGE varies depending on the make-up of ea Design of Experimentation (DoE) strategy was utilized, specifically a Simple Lattice 3 model. The results that the DoE required were delivered by UV-VIS examination b ensuing Tauc strategy methods. Moreover, the multivariate scientific study demonstrated a decrease in the BGE in connection to particular dualistic alignments for cc and B. Specifically notably, a BGE value of 3.94 eV is obtained aimed at the combinations ChCl/EtOH but also ChCl/2-propanol, unique of the lower range that has eve measured for these compounds.

Complete Specification

Description:Energy Band Performance in Ternary Mixtures an In-Depth Analysis of Acceptor and Donor Impacts

Field and Background of the Invention

Throughout the last 20 years, methods relying on hydrogen bonds have been confirmed to be among the most outstanding discussed issues in the scientific comm For instance, Abbott et al. discovered in 2004 (choline chloride/urea) that HBAs and HBDs may be combined in a eutectic molar ratio to make liquid mixes at room temperature with improved solvent ability opened the door to many uses in many scientific and industrial domains. Since Abbot's original work on the issue, dozen similar systems have been constructed, described, and examined in terms of their physical and chemical features. Whenever the mass ratio of HBAs to HBDs cause melting point to drop, producing experimental findings deeper than the predicted theoretical ones, this class of systems becomes particularly interesting. For this s set of circumstances, whereby enhanced solvent capacity is also seen, the term DESs has been suggested. Several scientists have been inspired by the idea that DES be engineered by selecting optimal HBA/HBD combinations and determining their optimal molar ratio. Most DESs may be explained on a molecular level using the l theory, which characterises these systems as composed of a dense network of hydrogen bonds arbitrarily punctured with holes through which the ions can travel. I supramolecular action imparts unusual characteristics to the system, including a high density, flow ability, and poor conductivity. Because of their unique properties have been put to use in a wide variety of contexts, such as medium for biomass processing, metal processing, VOC substrates, ionothermal synthesizing templates, chemical synthesis semi-solvent-based, and pharmaceutical composition additives.

Several recent exploratory research has emphasized the correlation between the profound eutectic in mixes of hydrogen bond recipients and donors and a reducti

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