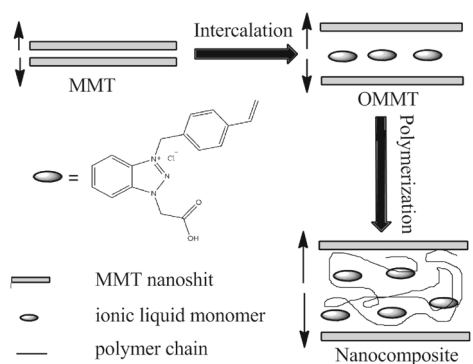


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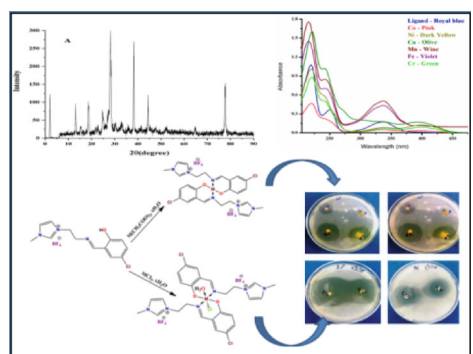


A novel 1,2,3-benzotriazolium based ionic liquid monomer for preparation of MMT/poly ionic liquid (PIL) pH-sensitive positive charge nanocomposites

Fatemeh Soghra Jahed, Mohammad Galehassadi and Soodabeh Davaran.18

The synthesis and characterization of a new dual functional ionic liquid monomer and use of it to prepare positive charge pH-sensitive nanocomposites for anti-cancer drug delivery application is discussed in this paper. Results showed that the use of only this monomer in the structure of nanocomposite is more effective to the delivery of negatively charged drugs.

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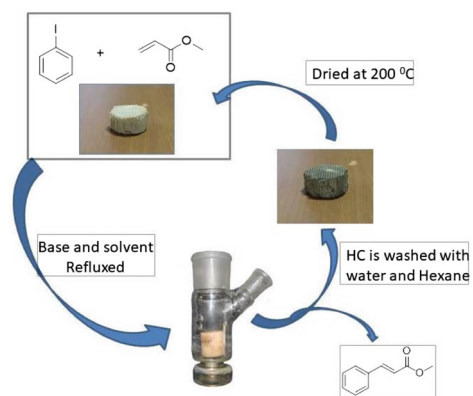


Transition metal complexes obtained from an ionic liquid-supported Schiff base: synthesis, physicochemical characterization and exploration of antimicrobial activities

Biswajit Sinha, Malay Bhattacharya and Sanjoy Saha19

Transition metal complexes synthesized from an ionic liquid-supported Schiff base have been characterized by various spectroscopic and analytical techniques. Based on the experimental data, it was suggested that the metal ions be coordinated by the ligand in 1:2 ratio. The complexes were explored against Gram-positive and Gram-negative bacteria.

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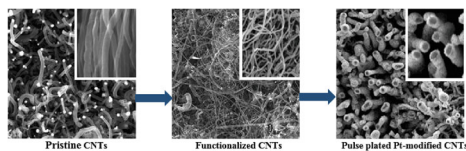


Recyclable Pd ionic catalyst coated on cordierite monolith for high TOF Heck coupling reaction

Shrikanth K Bhat, Jagadeesh D Prasad and MS Hegde.20

$Ti_{0.97}Pd_{0.03}O_{1.97}$ catalyst is coated on cordierite monolith honeycomb (HC) by solution combustion method and it is used in the Heck coupling reaction. Reactions are done in a specially designed flask. Catalyst is recycled 7 times. The total turnover frequency (TOF) after 7 cycles was 3017 h^{-1} .

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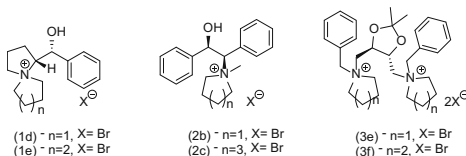


Electrochemical sensors based on functionalized carbon nanotubes modified with platinum nanoparticles for the detection of sulfide ions in aqueous media

Soha Mohajeri, Abolghassem Dolati and Salva Salmani Rezaie.21

Vertically aligned carbon nanotubes (CNTs) were synthesized by thermal chemical vapor deposition (CVD), and were subsequently functionalized by 10 cycles of electrochemical oxidation in sulfuric acid solution. CNT-based electrodes were modified by pulse plated platinum nanoparticles. The catalytic performance of the designed electrode towards methanol oxidation was investigated, and its sensing performance for the electrochemical detection of dissolved sulfide ions was explored.

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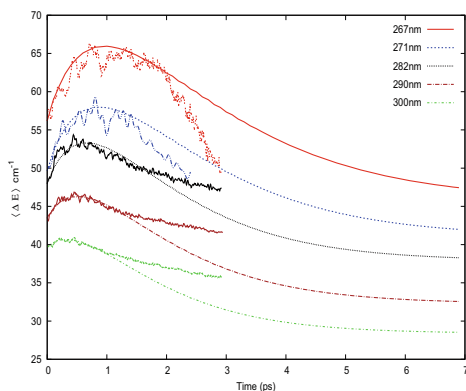


Synthesis of novel phase transfer catalysts derived from proline-mandelic acid/tartaric acid: their evaluation in enantioselective epoxidation and Darzen condensation

Deepak P Mahajan, Himanshu M Godbole, Girij P Singh and Gautham G Shenoy22

Synthesis and characterization of novel chiral phase transfer catalysts from proline, mandelic acid and tartaric acid is discussed in this paper. The synthesis of these newly explored cyclic derivatives is reported by using a simple method with competitive yields. The effectiveness of these novel chiral cyclic phase transfer catalysts was evaluated by applying them in enantioselective epoxide synthesis from α , β unsaturated chalcone and in Darzen condensation. The obtained results show that the synthesized derivatives of proline, mandelic acid and tartaric acid are effectual as PTCs and useful towards the synthesis of enantioselective epoxide.

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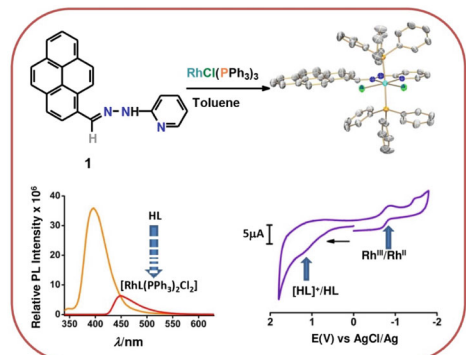


Effect of anharmonicity on energy relaxation of a dissipative quantum oscillator

Ramesh Kumar and Pradeep Kumar23

The effect of anharmonicity on the energy relaxation of a vibrationally excited state is presented in this paper. The paper also suggests that at an initial stage IVR plays a key role in changing the effective temperature of optically excited molecule.

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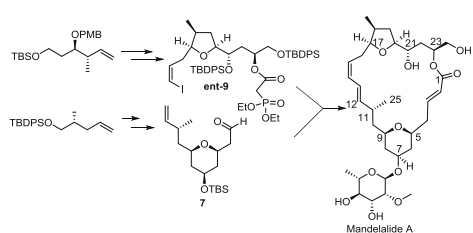


Rhodium(III) complex with pyrene-pyridyl-hydrazone: synthesis, structure, ligand redox, spectral characterization and DFT calculation

Soumitra Dinda, Sarat Chandra Patra and Sanjib Ganguly24

A new rhodium complex [RhL(PPh₃)₂Cl₂] incorporating monoanionic polycyclic aromatic hydrocarbon (PAH) based hydrazone ligand was synthesized and the optoelectronic properties were explored.

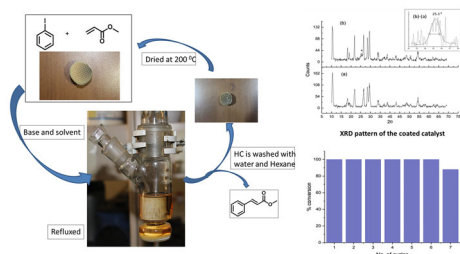
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Formal total synthesis of mandelalide A

V Yamini, K Mahender Reddy, A Shiva Krishna, J K Lakshmi and Subhash Ghosh25

Highly convergent and flexible strategy has been developed for mandelalide A via coupling of two building blocks *ent*-9 and 7 through Masamune-Roush olefination followed by intramolecular Heck cyclization.



Cover Picture: Efficiency and reusability of $\text{Ti}_{0.97}\text{Pd}_{0.03}\text{O}_{1.97}$ coated honeycomb catalyst

For details, see the paper by Shrikanth K Bhat, Jagadeesh D Prasad and MS Hegde (Article ID: 20)