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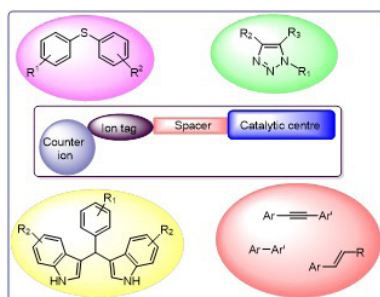
Synthesis, characterization and applications of imidazolium ion-tagged metal complexes



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Transition metal complexes are extensively used as a catalyst in many organic reactions, due to their facile synthesis and versatile catalytic activity depending on the nature of metal coordinated to the ligands. The poor solubility of the catalyst in organic and aqueous media, its recovery and recyclability restrict their use in different organic transformations. This limitation can be overcome by using an ion tag strategy, where ionic tag is linked to the catalyst skeleton resulting in its efficient entrapment in organic solvents as well as in water with improved catalytic activity and recyclability. Inspired by these properties of ion tagged catalysts, a novel route to synthesize imidazolium ion-tagged ligands and their metal complexes has been devised. The synthesized compounds have been characterized by IR, ¹HNMR, ¹³CNMR spectroscopy and mass spectrometry. The catalytic applications of these metal complexes have been explored for various organic transformations. Short reaction time, simple workup, reuse of the catalyst up to many cycles without much loss of activity in aqueous medium are the main advantages of the protocol.



Catalytic applications of imidazolium ion-tagged metal complexes

Biography

Bharti Khungar is an Associate Professor and Head, Department of Chemistry, BITS Pilani, Pilani Campus, India. She carried out her doctoral research in Chemistry at University of Rajasthan, Jaipur, India and obtained the Ph.D. degree in 2002. She is working in the field green chemistry for synthesis, characterization and applications ion-tagged moieties. These ion-tagged molecules have been screened for biological applications, and catalytic properties on complexation with metal ions.

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