

An Eco-Friendly Preparations of Isonicotinamide Quaternary Salts in Deep Eutectic Solvents

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Abstract : Deep eutectic solvents (DES) are liquids composed of two or three safe, inexpensive components, often interconnected by noncovalent hydrogen bonds which produce eutectic mixture whose melting point is lower than that of each component. No data in literature have been found on the quaternization reaction in DES. The use of DES have several advantages: they are environmentally benign and biodegradable, easy for purification and simple for preparation. An environmentally sustainable method for preparing quaternary salts of isonicotinamide and substituted 2-bromoacetophenones was demonstrated here using choline chloride-based DES. The quaternization reaction was carried out by three synthetic approaches: conventional method, microwave and ultrasonic irradiation. We showed that the highest yields were obtained by the microwave method.

Keywords : deep eutectic solvents, isonicotinamide salts, microwave synthesis, ultrasonic irradiation

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