

Synthesis and physico-chemical properties of new tetraethylammonium-based amino acid chiral ionic liquids

ABSTRACT

This paper reports the synthesis of a series of new tetraethylammonium-based amino acid chiral ionic liquids (CILs). Their physico-chemical properties, including melting point, thermal stability, viscosity and ionic conductivity, have been comprehensively studied. The obtained results indicated that the decomposition for these salts proceeds in one step and the temperature of decomposition (Tonset) is in the range of 168–210 °C. Several new CILs prepared in this work showed high ionic conductivity compared to the amino acid ionic liquids (AAILs) found in the literature.

Keyword: Chiral ionic liquids; Tetraethylammonium; Amino acids; Viscosity; Ionic conductivity