

Synthesis and Characterization of New Types of Ionic Liquids

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We have previously reported on the synthesis and characterization of polyammonium ionic liquids containing phosphate or bis(trifluoromethane)sulfonylimide anions. More recently we have investigated the effects of varying the substituents of the ammonium cation on the physical properties of the resulting ionic liquids. Ionic liquids containing the readily available and inexpensive, halide-free phosphate anion is of particular interest

Species investigated include pyrrolidinium and pyridinium cations bearing ether and hydroxyl substituents. The water content, conductivity and viscosity of these species are reported. Preliminary results indicate that incorporation of the ether group into the ammonium cations results in a decrease in their viscosity.