

Study on Synthesis and Properties of Ionic Liquids with Low Halide Content having Sulfonate and Carboxylic acid Derivatives by Using Micro-reactor

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Ionic liquids have so many advantages of thermal stability, non-flammability, high ionic conductivity, non-volatility. But, the residual halide and other impurities have large effect on physical properties. The problem here is that it's difficult to remove such unwanted contents in connection with separation and purification.

To solve this problem and improve the durability properties, new type synthesis method of the micro-reactor, through which imidazolium, pyridinium, pyrrolidinium, ammonium derivatives ionic liquids with low halide content synthesized with methylsulfate, trifluoromethanesulfonate, acetate and thiocyanate reagents as intermediate compound is introduced. In addition, the synthesis conditions of the micro-reactor and the yield efficiency, halide content and the properties such as conductivity and decomposition temperature of ionic liquids are depicted.