

PRECURSOR FOR SOFT MATERIALS BASED ON IONIC LIQUID CRYSTALS

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Ionic liquid crystals (ILCs) are emerging as appealing materials for practical applications since are expected to combine the technological properties of ionic liquids (ILs: such as ionic conductivity) and those of liquid crystals (LCs: order and mobility).[1] The field of ILCs is continuously growing as many recent applications were found: solar cells, membranes, batteries, electrochemical sensors or electroluminescent switches.[2] Different factors are responsible for governing the nature of ILC phases, such as the molecular shape, location and size of ionic groups, intermolecular interactions and microphase segregation [2]. Herein, we report the synthesis and characterization of new ionic liquid crystalline salts of nicotinic acid (Figure 1).

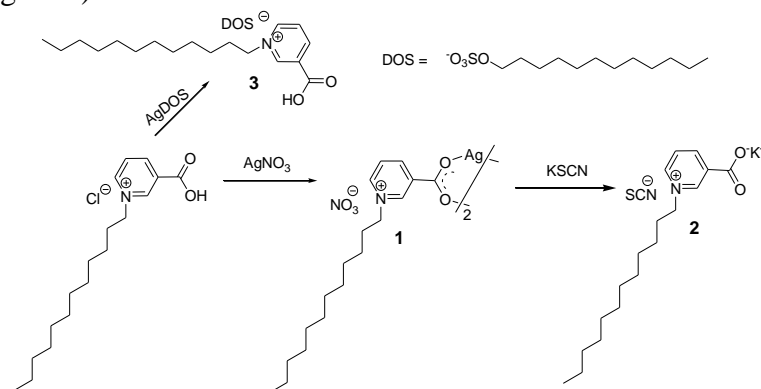


Figure 1. Synthesis and chemical structures of the new ILCs.

These compounds were characterized by spectral (IR, UV-Vis and ¹H NMR) and thermogravimetric methods (TGA). Their mesomorphic behavior was investigated by polarized optical microscopy (POM) and differential thermal analysis (DTA).

The influence of the counterions on the stability and mesomorphic properties of the obtained compounds will be presented.

These compounds will be used as precursors for the synthesis of advanced functional materials for electrooptical devices.

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