

Recent Advances of Ionic Liquid Crystals

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Keywords: Ionic liquid crystals, mesophases

Ionic liquid crystals (ILCs) can be considered as a joint venture of ionic liquids (ILs), i.e. organic salts with melting points below 100°C, and thermotropic liquid crystals with anisotropic physical properties [1, 2]. However, beyond merging the physical properties of two different classes of soft matter materials ILCs possess unique properties such as a 1D ion conductivity. Moreover, their phase behaviour is quite different from neutral thermotropic liquid crystals due to the importance of Coulomb interactions for the liquid crystalline self-assembly. The tutorial will discuss the unique phase behaviour, structure-property relationships, design and synthesis, theoretical concepts and recent applications of ILCs [3].

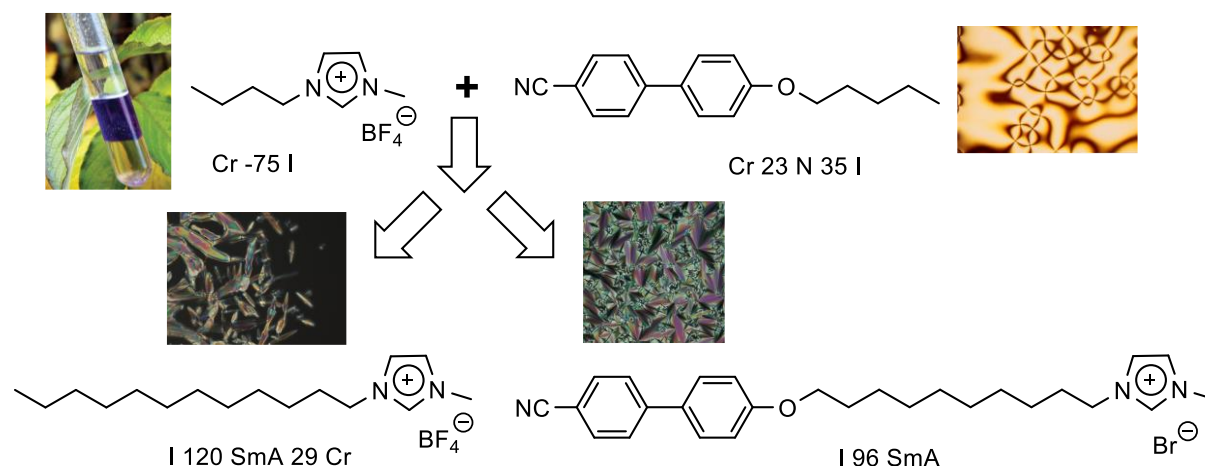


Figure 1: Tailoring the structure of IL (e.g. [BMIM]BF₄) and LC (e.g. 5OCB) results in ILCs

Acknowledgements: This work was funded by DFG (LA 907/17-2, LA 907/21-1) and DAAD -Procope (WELCHYNA).

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