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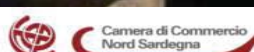
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Convegno della Divisione di Chimica Organica

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NMR Spectroscopic Characterization and Thermal Behaviour of a New Class of Dicationic Imidazolium Ionic Liquids

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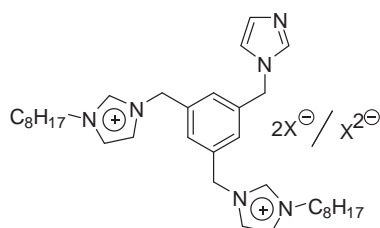
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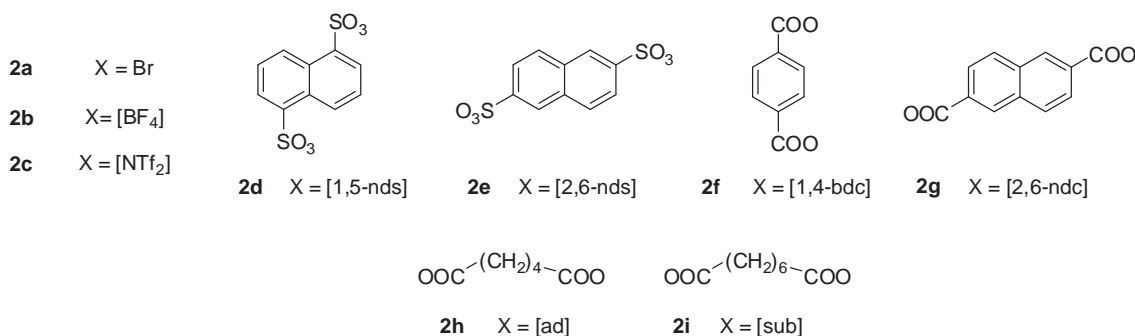
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A new class of functionalised dicationic ionic liquids, containing a central cationic unit capped by a basic functionality, has been synthesized. Salts of both singly and doubly charged anions were prepared and, in particular the selected monoanions ([Br⁻], [BF₄⁻], or [NTf₂⁻]) differ in size, shape and hydrogen-bonding donor ability, whereas the dianions differ in the nature of the spacer, such as 1,4-benzenedicarboxylate, 2,6-naphthalenedicarboxylate, 1,5- and 2,6-naphthalenedisulfonate, 1,4-butanedicarboxylate and 2,6-hexanedicarboxylate.



2 [2C₈bti][2X⁻] or [2C₈bti][X²⁻]



These salts have been characterized in isotropic solution using proton and 2D-NMR spectroscopy, and their thermal stability studied by DSC and TGA. The VT NMR analysis showed a significant influence of the anion nature. In contrast, DSC results seem to indicate that the anion structure has little effect upon the solid-liquid transition. The ionic liquids show multi-step degradation processes and TGA studies demonstrated that the nature of the anion seems to determine not only degradation temperature, but also degradation pathway.