Electronic Supplementary Information

Solution and Thermal behaviour of Novel Dicationic Imidazolium Ionic Liquids

Francesca D'Anna,* H. Q. Nimal Gunaratne, Giuseppe Lazzara, Renato Noto,* Carla Rizzo and Kenneth R. Seddon

Figure 1: ¹ H NMR spectra in dmso- d_6 solution (0.038 M) in the range 300-390 K.	Pages 2-6
Figure 2: 2D NOESY spectra of diimidazolium salts having aromatic dianions.	Pages 7
Figure 3: DSC traces of dicationic functionalised salts.	Pages 8
Figure 4: traces of TGA measurements.	Pages 9

Figure 5: Plot of NMR linear correlation parameters as a function of $\Delta H_{\rm m}$ values corresponding to dicationic functionalised salts **2a-i**. Page 10



Figure 1a: [2C₈bti][Br]₂ (**2a**)



Figure 1c: [2C₈bti][NTf₂]₂ (**2c**)



Figure 1e: [2C₈bti][1,4-bdc] (2f)



Figure 1g: [2C₈bti][ad] (2h)

Figure 1h: Expanded regions for [2C₈bti][ad] (2h)





Figure 1i: [2C₈bti][sub] (**2i**)

Figure 11: Expanded regions for [2C₈bti][sub] (2i)



Figure 1: ¹H NMR spectra in dmso- d_6 solution (0.038 M) in the range 300-390 K relevant to dicationic functionalised salts **2a-i**.

Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry This journal is © The Royal Society of Chemistry 2013



Figure 2. 2D NOESY spectra of dicationic functionalised salts: (a) [2C₈bti][2,6-nds] (2e); (b)[2C₈bti][1,4-bdc] (2f).



Figure 3. DSC traces of dicationic functionalised salts: (a) $[2C_8bti][BF_4]_2$ (2b); (b) $[2C_8bti][NTf_2]_2$ (2c); (c) $[2C_8bti][1,5-nds]$ (2d); (d) $[2C_8bti][2,6-nds]$ (2e); (e) $[2C_8bti][1,4-bdc]$ (2f); (f) $[2C_8bti][ad]$ (2h); (g) $[2C_8bti][sub]$ (2i).



Figure 4. Traces of TGA measurements relevant to dicationic functionalised salts: (a) $[2C_8bi][BF_4]_2$ (2b); (b) $[2C_8bi][NTf_2]_2$ (2c); (c) $[2C_8bi][1,5-nds]$ (2d); (d) $[2C_8bi][[2,6-nds]$ (2e); (e) $[2C_8bi][1,4-bdc]$ (2f); (f) $[2C_8bi][2,6-ndc]$ (2g); (g) $[2C_8bi][ad]$ (2h); (h) $[2C_8bi][sub]$ (2i).



Figure 5. Plot of NMR linear correlation parameters as a function of $\Delta H_{\rm m}$ values corresponding to dicationic functionalised salts.