

Supporting Information

Fluorination effects on the thermodynamic, thermophysical and surface properties of ionic liquids

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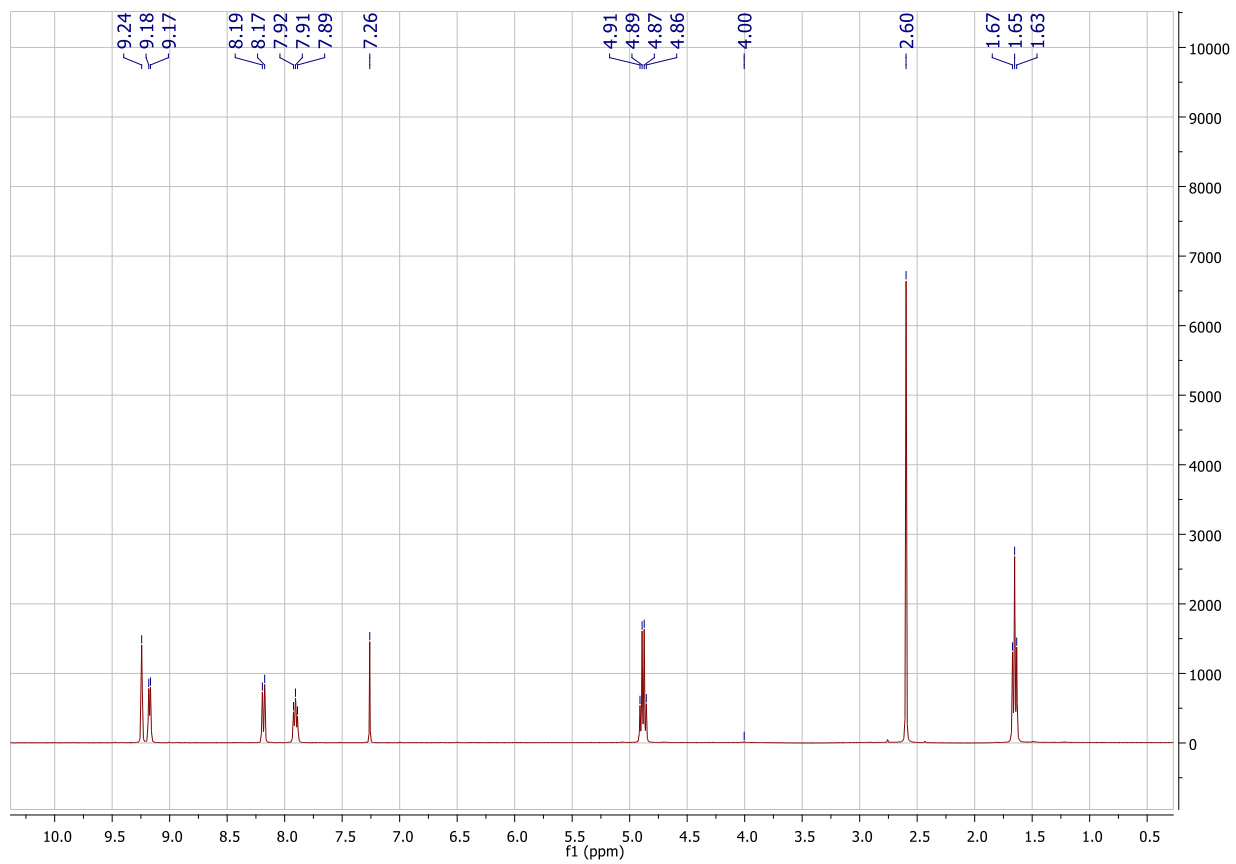


FIGURE S1. ¹H NMR spectra of 1-ethyl-3-methylpyridinium perfluoropentanoate, [C₂C₁py][C₄F₉CO₂].

¹H NMR (400 MHz, (CDCl₃): δ 9.24 (s, 1H, py); 9.18 (d, 1H, py); 8.18 (d, 1H, py); 7.91 (t, 1H, py); 4.88 (q, 2H, CH₃CH₂N); 2.60 (s, 3H, CH₃py); 1.65 (t, 3H, CH₃CH₂N).

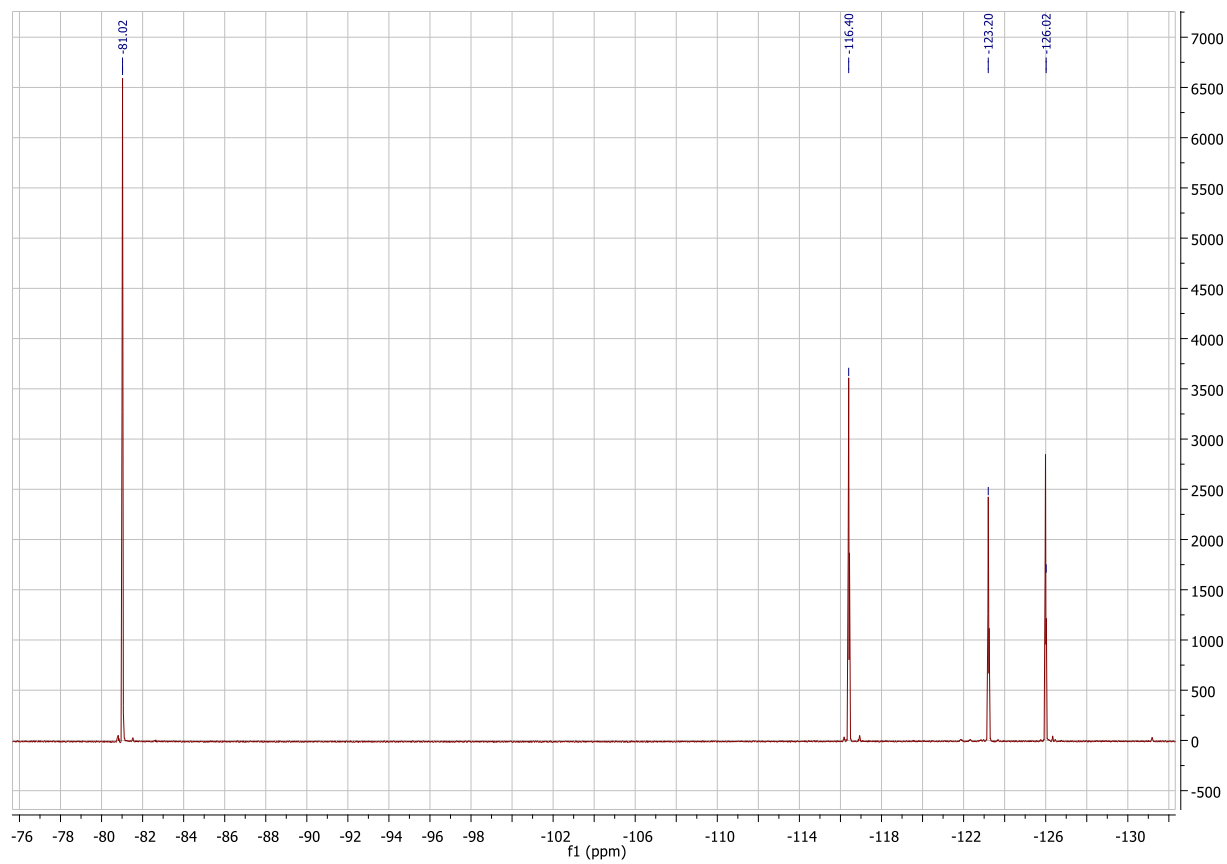


FIGURE S2. ^{19}F NMR spectra of 1-ethyl-3-methylpyridinium perfluoropentanoate, $[\text{C}_2\text{C}_1\text{py}][\text{C}_4\text{F}_9\text{CO}_2]$.

^{19}F NMR (376 MHz, CDCl_3): δ -81.02 (CF_3); -116.40 (CF_2CO_2); -123.20 ($\text{CF}_3\text{CF}_2\text{CF}_2$); -126.02 (CF_3CF_2)

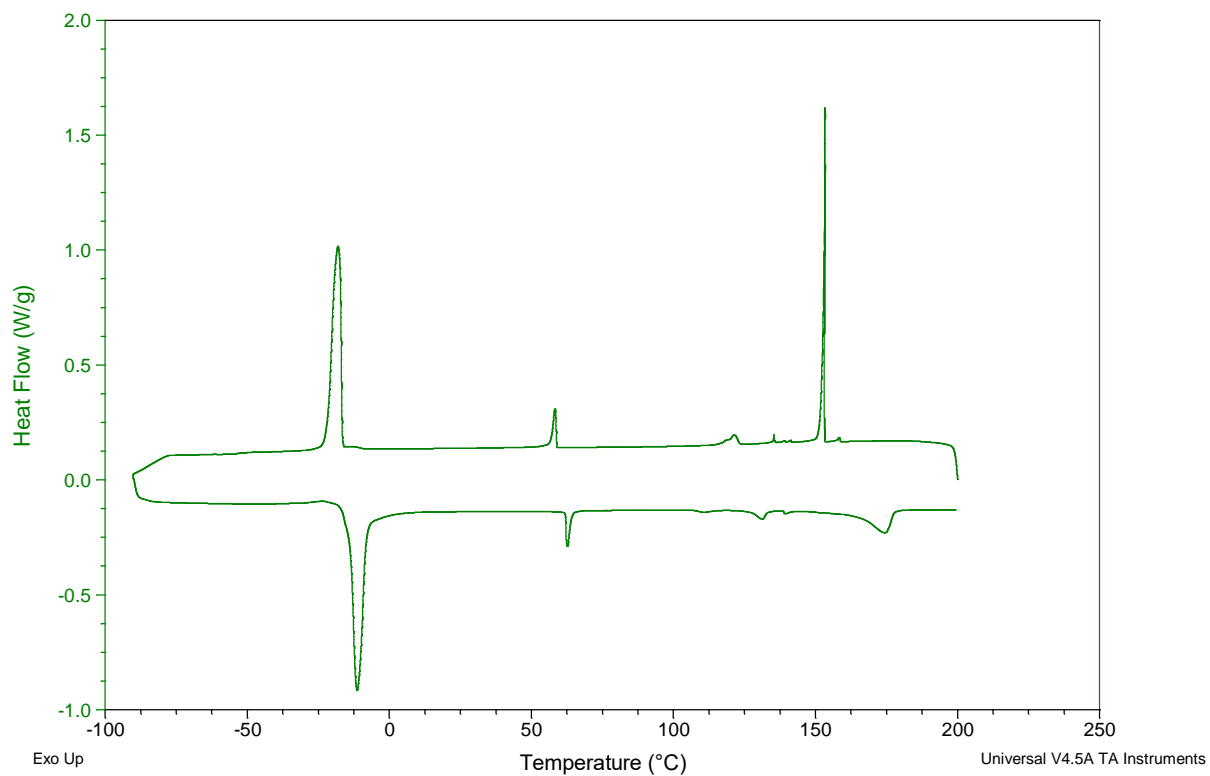


FIGURE S3. DSC curve of cholinium perfluorobutanesulfonate, $[N_{1112(OH)}][C_4F_9SO_3]$, at a heating rate of 5 K/min.

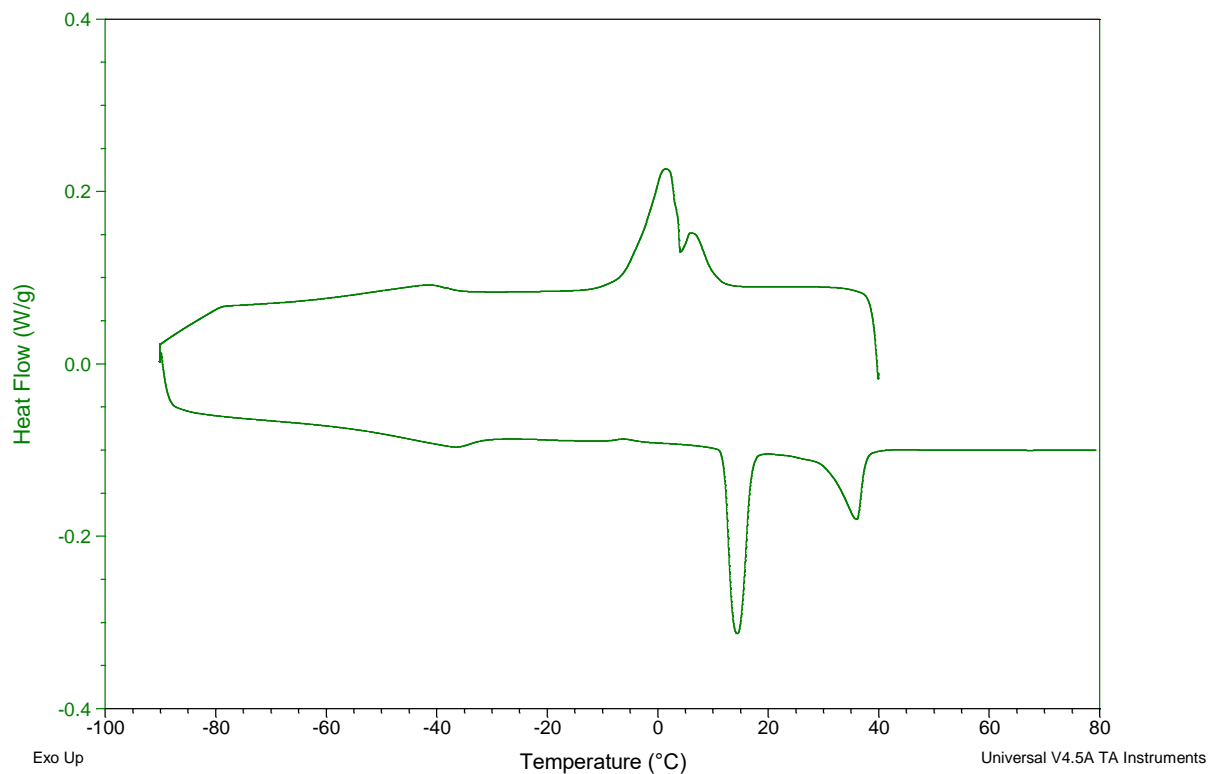


FIGURE S4. DSC curve of cholinium bis(nonafluorobutylsulfonyl)imide $[\text{N}_{1112}(\text{OH})][\text{N}(\text{C}_4\text{F}_9\text{SO}_2)_2]$, at a heating rate of 5 K/min.

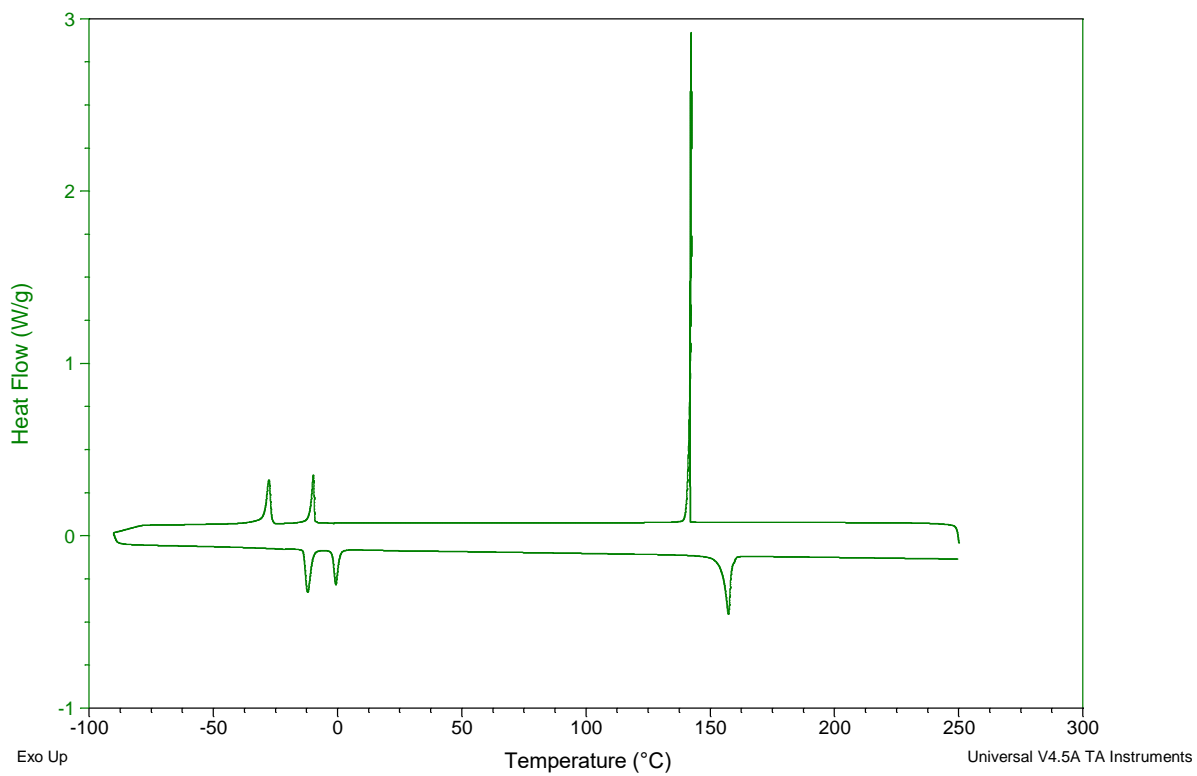


FIGURE S5. DSC curve of 1-ethyl-N-methylpyrrolidinium bis(nonafluorobutylsulfonyl)imide[C₂C₁pyr][N(C₄F₉SO₂)₂], at a heating rate of 5 K/min.

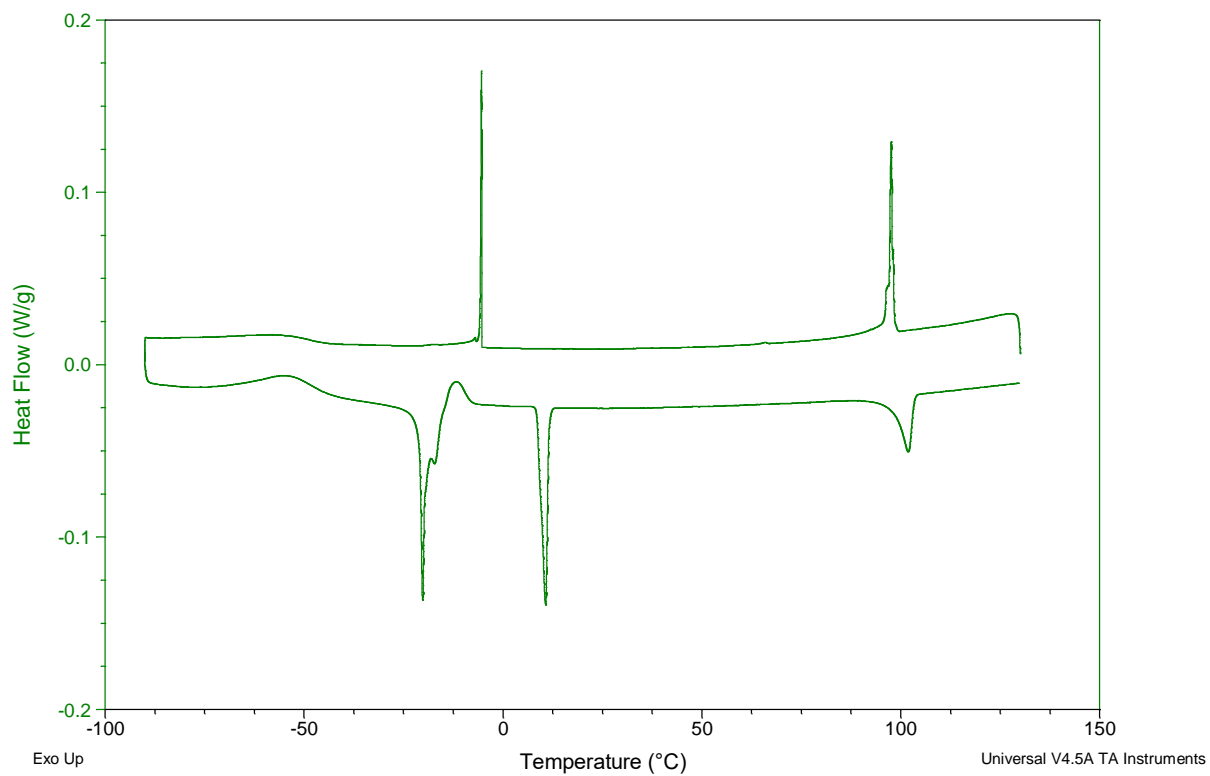


FIGURE S6. DSC curve of 1-butyl-N-methylpyrrolidinium bis(nonafluorobutylsulfonyl)imide $[C_4C_1pyr][N(C_4F_9SO_2)_2]$, at a heating rate of 1 K/min.

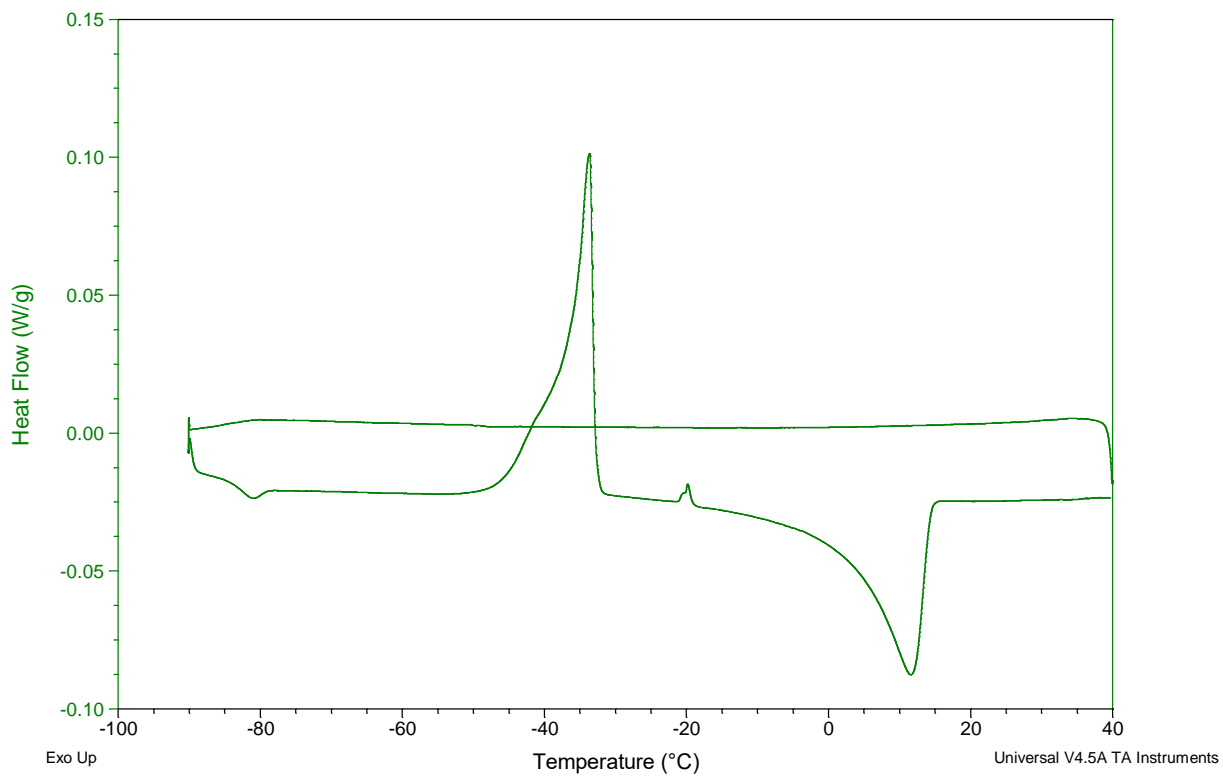


FIGURE S7. DSC curve of 1-ethyl-3-methylpyridinium perfluoropentanoate, $[\text{C}_2\text{C}_1\text{py}][\text{C}_4\text{F}_9\text{CO}_2]$, at a heating rate of 1 K/min.