

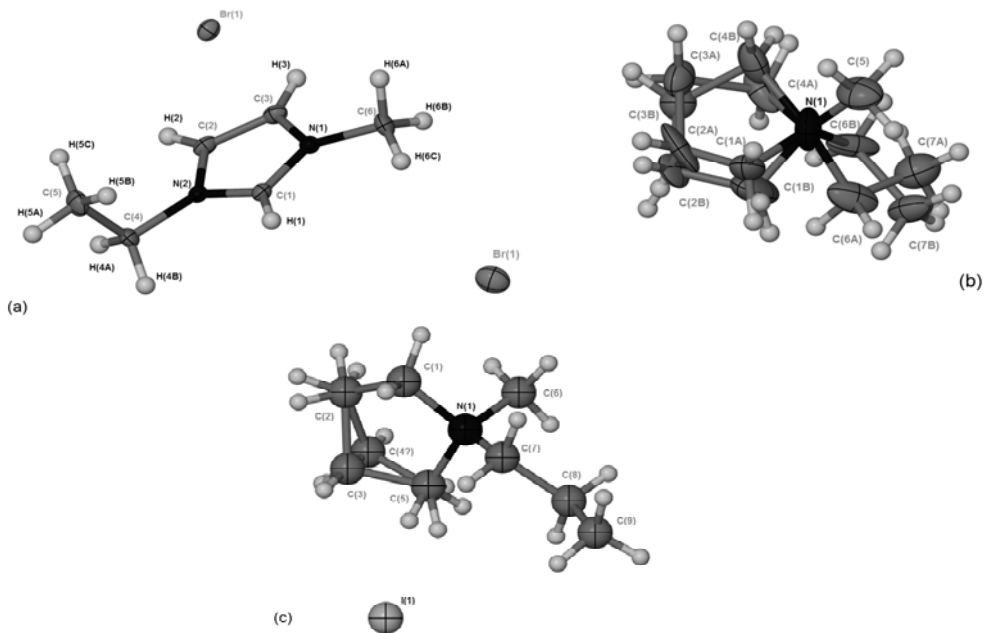
Electronic Supplementary Information

Figure 1 : The unique component of (a) [C2mim][Br], (b) [C2mpyr][Br] and (c) [C3mpyr][I] shown with 50% probability displacement ellipsoids. The numbering of the hydrogen atoms of the disordered cations are omitted for clarity.

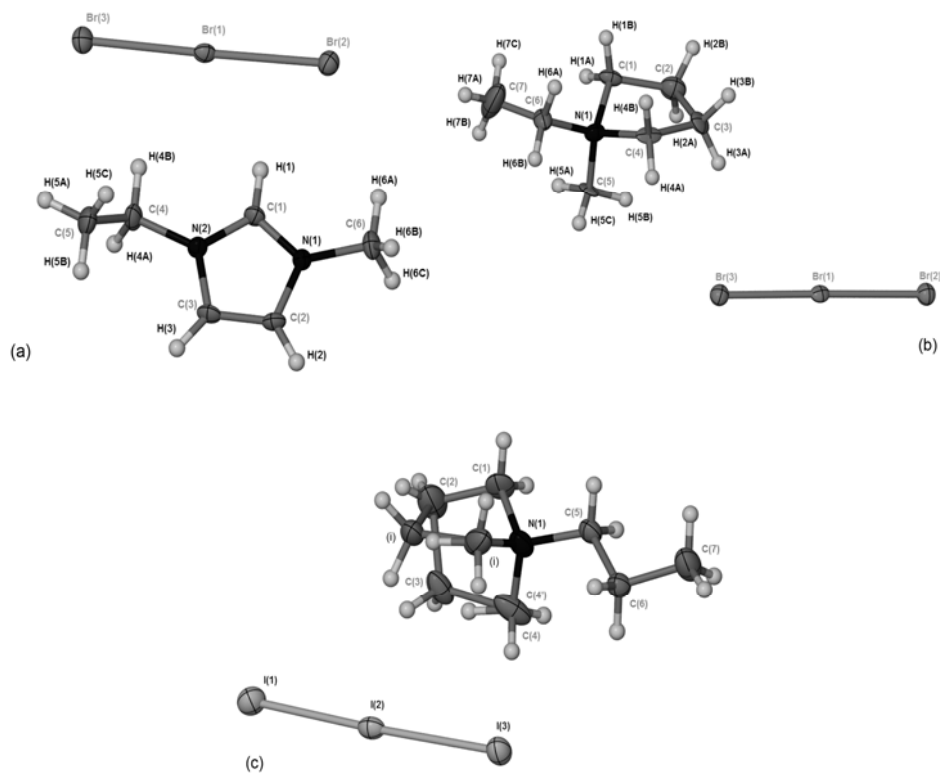


Figure 2 : The unique component of (a) $[C2mim][Br_3]$, (b) $[C2mpyr][Br_3]$ and (c) $[C3mpyr][I_3]$ shown with 50% probability displacement ellipsoids and H atoms as spheres of arbitrary size. The second part of the $[C3mpyr][I_3]$ ring is shown with symmetry equivalent atoms [symmetry code: $x, \frac{1}{2}-y, z$] to complete the ring and both atoms of the disordered C4/C4' are shown. Numbering of the hydrogen atoms of the disordered cation is omitted for clarity.