

Table S1 ¹H NMR and FT-IR data of [BMIm]HSO₄, [BMIm]DCA, [BMIm]PF₆, [BMIm]BF₄ and [BMIm]NTf₂

ILs	¹ H NMR, δ	FT-IR, cm ⁻¹
[BMIm]HSO ₄	0.88 (t, 3H), 1.25 (m, 2H), 1.78 (m, 2H), 3.86 (s, 3H), 4.20 (t, 2H), 7.74 (s, 1H), 7.83 (s, 1H), 9.25 (s, 1H)	3442.6 (ν(O-H)); 3148.3, 3102.0 (ν(C-H));, 1573.3, 1446.2 (ν(C≡C)); 1059.5 (ν(O=S)); 847.1 (ν(S-O))
[BMIm]DCA	0.90 (t, 3H), 1.27 (m, 2H), 1.76 (m, 2H), 3.84 (s, 3H), 4.16 (t, 2H), 7.68 (s, 1H), 7.75 (s, 1H), 9.08 (s, 1H)	3150.0, 2961.8 (ν(C-H)); 2242.3, 2201.2, 2140.5 (ν(C≡N)); 1570, 1464 (ν(C-C)); 1384.2 (ν(-C-H))
[BMIm]PF ₆	0.88 (t, 3H), 1.27 (m, 2H), 1.77 (m, 2H), 3.84 (s, 3H), 4.16 (t, 2H), 7.69 (s, 1H), 7.76 (s, 1H), 9.09 (s, 1H)	3172.8 (ν(C-H)); 1576 (ν(C-C));, 1338.9, 1169.8 (ν(C-N)); 837.4 (ν(P-F))
[BMIm]BF ₄	0.87-0.92 (t, 3H), 1.27 (m, 2H), 1.76 (m, 2H), 3.83 (s, 3H), 4.13~4.18 (t, 2H), 7.66(s, 1H), 7.75 (s, 1H), 9.08 (s, 1H)	3000-3800 (ν(C-H)); 1573.2 (ν(C-C)); 838.4 (ν(B-F))
[BMIm]NTf ₂	0.91 (t, 3H), 1.26 (m, 2H), 1.77 (m, 2H), 3.85 (s, 3H), 4.16 (t, 2H), 7.69(s, 1H), 7.77 (s, 1H), 9.10 (s, 1H)	3158.8, 2960.0 (ν(C-H)); 1573.5 (ν(C-C)); 1352.4 (ν _{asym} (O=S=O)); 1195.5 (ν _{asym} (C-F)); 1338.4 (ν _{sym} (O=S=O)); 1058.5 (ν _{asym} (S-N-S))