Table 2
Density (ρ, g cm^{-3}) as a function of temperature for pure compounds.

	T (K)					
	293.15	298.15	303.15	308.15	313.15	318.15
[bmim][BF4]	1.2076	1.2041	1.2005	1.1970	1.1934	1.1899
[hmim][BF4]	1.1488	1.1453	1.1418	1.1384	1.1350	1.1316
[emim][$EtSO_4$]	1.2406	1.2372	1.2338	1.2304	1.2270	1.2237
[bmim][$MetSO_4$]	1.2107	1.2074	1.2041	1.2008	1.1975	1.1942
[emim][triflate]	1.3895	1.3853	1.3811	1.3769	1.3727	1.3686
[bmim][triflate]	1.3016	1.2976	1.2937	1.2897	1.2858	1.2819
Ethanol	0.7896	0.7853	0.7810	0.7767	0.7723	0.7678

Table 3
Isobaric molar heat capacity (C_p, J mol^{-1} K^{-1}) as a function of temperature for pure compounds.

	T (K)					
	293.15	298.15	303.15	308.15	313.15	318.15
[bmim][BF4]	359.8	363.1	366.1	368.7	371.0	372.9
[hmim][BF4]	425.1	427.8	430.4	433.0	435.5	438.1
[emim][$EtSO_4$]	392.2	394.4	396.8	399.3	402.0	404.9
[bmim][$MetSO_4$]	413.7	416.2	418.5	420.9	423.3	425.6
[emim][triflate]	361.1	363.2	365.3	367.4	369.6	371.8
[bmim][triflate]	421.6	424.1	426.7	429.5	432.4	435.5
Ethanol	111.3	113.3	115.3	117.5	119.7	122.1

Table 4
Speed (u, m s^{-1}) of sound as a function of temperature for pure compounds.

	T (K)					
	293.15	298.15	303.15	308.15	313.15	318.15
[bmpyr][BF_4]	1599.8	1587.0	1574.8	1562.6	1550.7	1538.9
[bmim][BF_4] [27]	1594.9	1576.1	1555.5	1543.9	1532.5	1521.2
[hmim][BF_4]	1532.7	1519.5	1506.9	1494.5	1482.3	1470.5
[emim][$EtSO_4$] [30]	1691.4	1679.0	1666.6	1654.0	1641.6	1629.2
[bmim][$MetSO_4$] [22]	1670.9	1658.4	1646.0	1633.5	1621.1	1608.6
[emim][triflate] [26]	1447.0	1435.6	1424.3	1413.1	1402.1	1391.1
[bmim][triflate]	1403.4	1392.1	1380.9	1369.8	1358.8	1348.1
Ethanol	1159.5	1142.5	1125.5	1108.6	1091.8	1075.1

Table 5
Excess molar enthalpies (J mol^{-1}) at T = 303.15 K for x RTIL + (1 − x) ethanol.

[bmpyr][BF_4]		[hmim][BF_4]		[emim][$EtSO_4$]		[emim][triflate]		[bmim][triflate]	
x	H^E	x	H^E	x	H^E	x	H^E	x	H^E
0.0306	554	0.1010	1346	0.0486	522	0.1271	1218	0.0987	963
0.1031	1356	0.2037	2046	0.1198	1086	0.2489	1719	0.2029	1518
0.1976	2021	0.3018	2408	0.1961	1263	0.3752	1879	0.2948	1742
0.3036	2460	0.3977	2567	0.2952	1317	0.5006	1772	0.4016	1773
0.3966	2599	0.4988	2479	0.3917	1243	0.6176	1519	0.4928	1700
0.5083	2495	0.6045	2184	0.4937	1153	0.7501	1086	0.5952	1479
0.6001	2239	0.6901	1855	0.6087	922	0.8690	599	0.6832	1217
0.6920	1881	0.7932	1314	0.7017	715			0.8026	833
0.8061	1258	0.8733	848	0.7963	494			0.8759	539
0.8847	782			0.8774	306				

TABLE SM1. Density for *x* [bmim][BF_4] + (1-*x*) ethanol.

	T / K					
x	293.15	298.15	303.15	308.15	313.15	318.15
	ρ / g·cm^{-3}					
0.0987	0.9030	0.8989	0.8948	0.8908	0.8866	0.8824
0.1923	0.9765	0.9725	0.9685	0.9646	0.9605	0.9565
0.3004	1.0378	1.0339	1.0300	1.0261	1.0222	1.0182
0.3885	1.0758	1.0719	1.0680	1.0642	1.0604	1.0565
0.4865	1.1088	1.1050	1.1012	1.0974	1.0936	1.0898
0.5730	1.1328	1.1291	1.1253	1.1216	1.1179	1.1142
0.6738	1.1554	1.1517	1.1480	1.1444	1.1407	1.1371
0.7531	1.1709	1.1672	1.1635	1.1599	1.1563	1.1527
0.8821	1.1918	1.1882	1.1846	1.1810	1.1774	1.1738

Table SM1 to SM6 are of the same style

TABLE SM7. Isobaric molar heat capacity for *x* [bmim][BF_4] + (1-*x*) ethanol.

	T / K					
x	293.15	298.15	303.15	308.15	313.15	318.15
	C_p / J·mol^{-1}·K^{-1}					
0.0987	150.5	150.0	149.9	150.3	151.1	152.4
0.1923	174.4	173.6	173.5	174.2	175.6	177.8
0.3004	197.8	198.8	199.7	200.6	201.4	202.3
0.3885	219.8	219.6	219.9	220.6	221.7	223.3
0.4865	240.1	241.2	242.3	243.4	244.4	245.6
0.5730	258.3	259.7	261.1	262.4	263.7	265.1
0.6738	281.8	283.5	285.2	286.9	288.5	290.1
0.7531	300.8	302.6	304.3	306.2	308.0	309.9
0.8821	330.9	333.0	335.1	337.2	339.3	341.4

Table SM7 to SM12 are of the same style