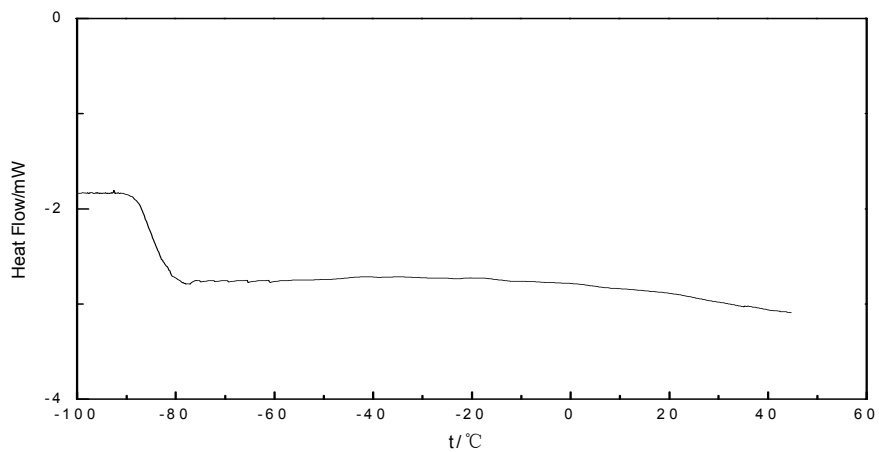


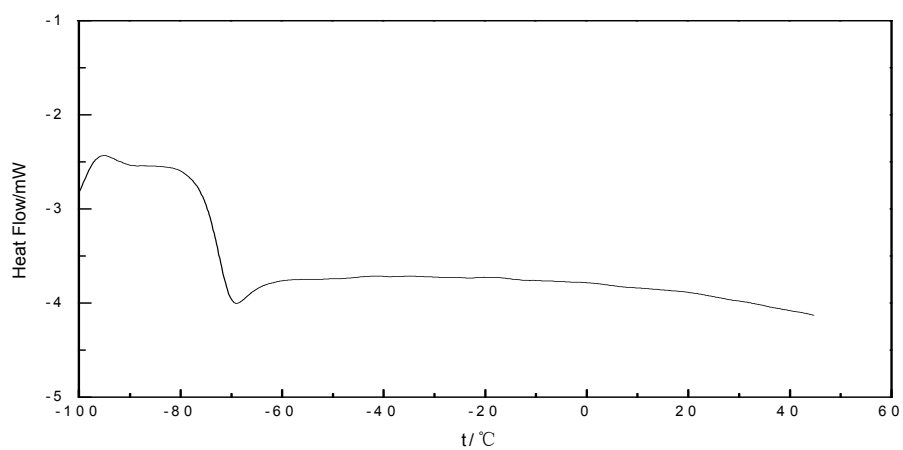
Supporting Information

DSC traces of ionic liquids

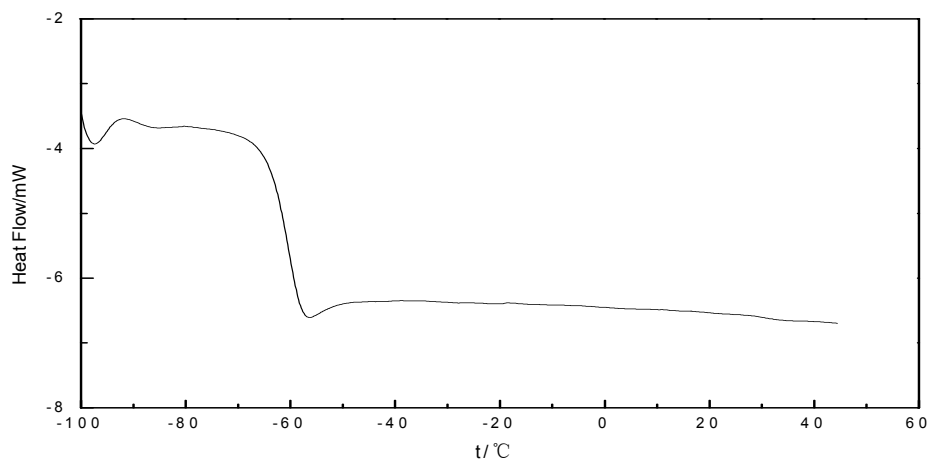
1) 2-Hydroxy ethylammonium formate (Comment: N₂ 10 K•min⁻¹)



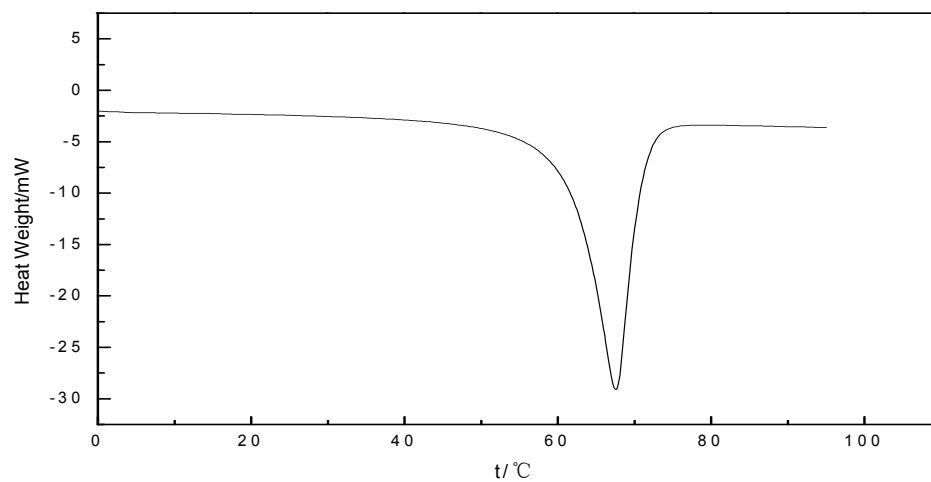
2) 2-Hydroxy ethylammonium acetate (Comment: N₂ 10 K•min⁻¹)



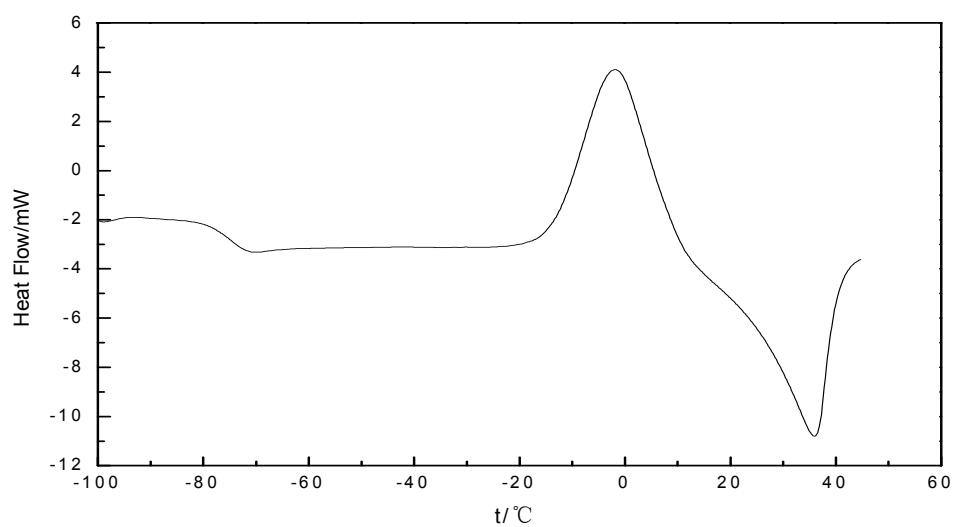
3) 2-Hydroxy ethylammonium lactate (Comment: N₂ 10 K•min⁻¹)



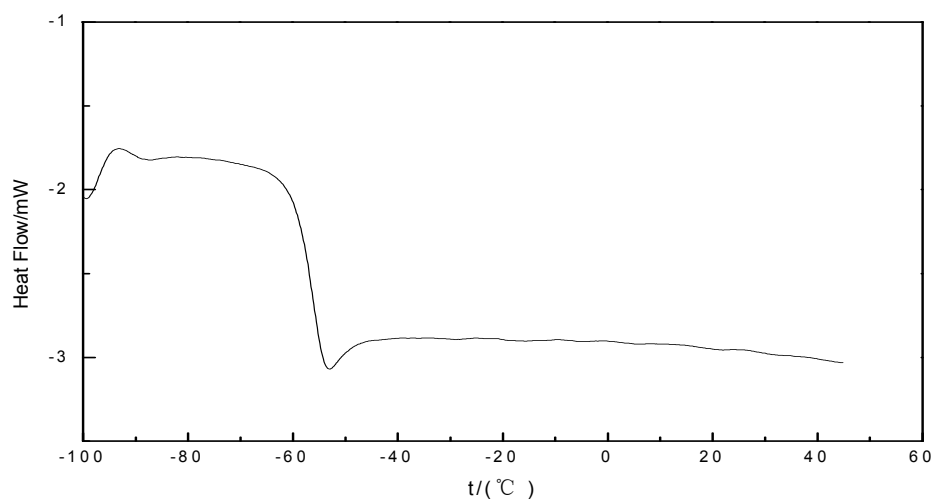
4) Tri-(2-hydroxy ethyl)-ammonium formate (Comment: N₂ 10 K•min⁻¹)



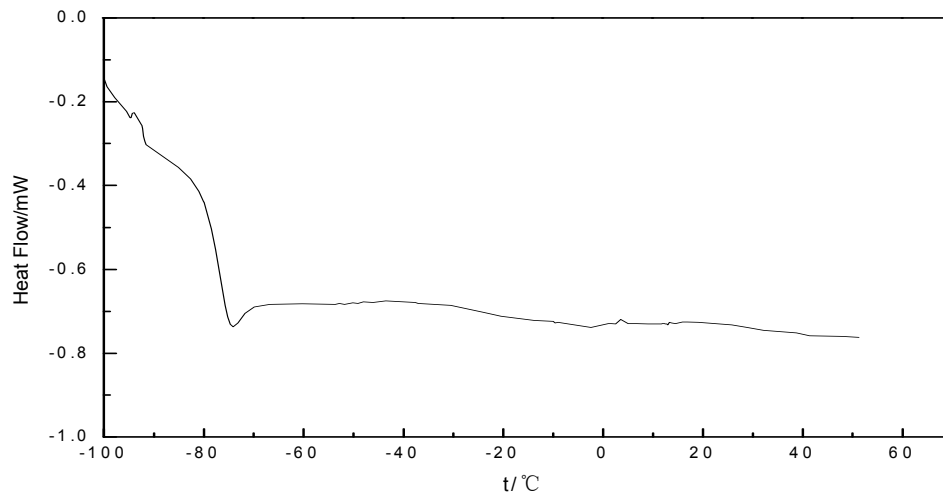
5) Tri-(2-hydroxy ethyl)-ammonium acetate (Comment: N₂ 10 K•min⁻¹)



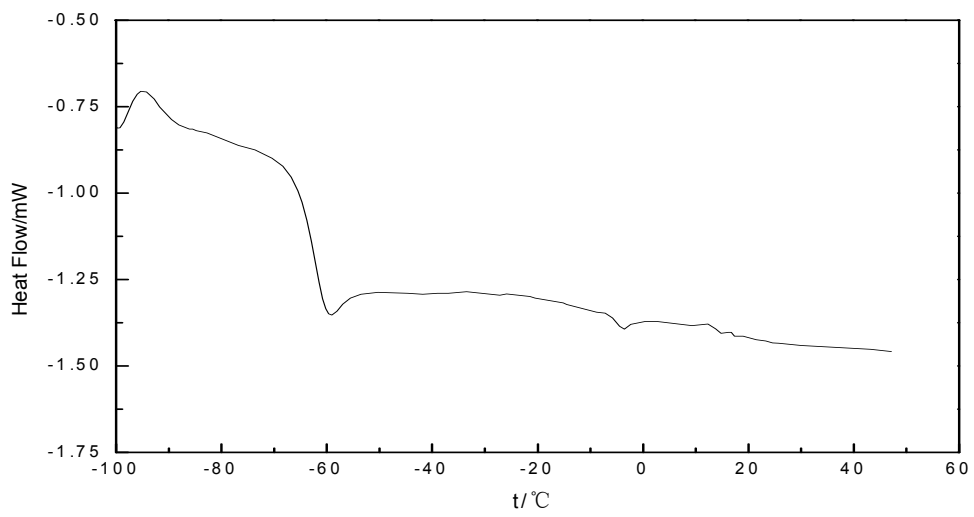
6) Tri-(2-hydroxy ethyl)-ammonium lactate (Comment: N₂ 10 K•min⁻¹)



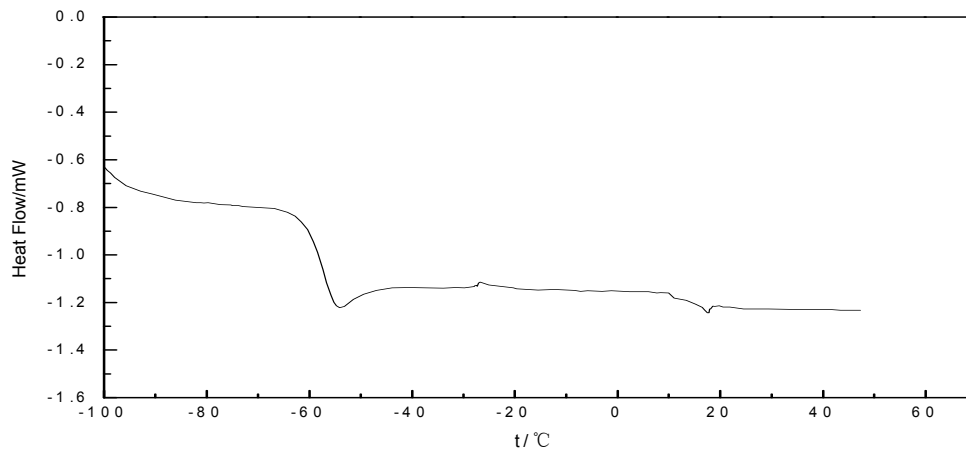
7) 2-(2-Hydroxy ethoxy)-ammonium formate (Comment: N₂ 10 K•min⁻¹)



8) 2-(2-Hydroxy ethoxy)-ammonium acetate (Comment: N₂ 10 K•min⁻¹)



9) 2-(2-Hydroxy ethoxy)-ammonium lactate (Comment: N₂ 10 K•min⁻¹)



Supplementary Table 1. Dissolution of SO₂ in the Synthesized ILs at 298.2 K and 101.3 kPa

<i>t</i> /min	<i>x</i> _{SO₂}	<i>t</i> /min	<i>x</i> _{SO₂}
2-hydroxy ethylammonium formate		2-hydroxy ethylammonium acetate	
0	0.0000	0	0.0000
10	0.2785	10	0.2747
20	0.3369	20	0.3070
30	0.3796	30	0.3302
40	0.4049	40	0.3596
60	0.4200	60	0.3860
80	0.4292	80	0.4106
100	0.4370	100	0.4257
130	0.4404	120	0.4423
160	0.4407	150	0.4551
190	0.4408	180	0.4588
220	0.4409	210	0.4638
250	0.4409	240	0.4651
280	0.4409	270	0.4690
300	0.4410	300	0.4692
2-hydroxy ethylammonium lactate		tri-(2-hydroxy ethyl)-ammonium acetate	
0	0.0000	0	0.0000
10	0.3043	10	0.2022
20	0.3623	20	0.2381
30	0.4210	30	0.2606
50	0.4519	40	0.2919
70	0.4779	60	0.3203
100	0.4843	80	0.3505
130	0.4905	100	0.3720
160	0.4975	120	0.3954
190	0.5021	150	0.4194
220	0.5069	180	0.4322
250	0.5098	210	0.4493

280	0.5104	240	0.4550
300	0.5107	270	0.4614
		300	0.4668
tri-(2-hydroxy ethyl)-ammonium lactate		2-(2-hydroxy ethoxy)-ammonium formate	
0	0.0000	0	0.0000
15	0.3569	10	0.2452
30	0.4262	20	0.2918
45	0.4581	30	0.3307
60	0.4729	40	0.3601
90	0.4815	60	0.3768
120	0.4849	80	0.3866
150	0.4893	100	0.3978
180	0.4896	130	0.4037
210	0.4931	160	0.4041
240	0.4948	190	0.4044
270	0.4953	220	0.4048
300	0.4957	250	0.4051
		280	0.4054
		300	0.4055
2-(2-hydroxy ethoxy)-ammonium acetate		2-(2-hydroxy ethoxy)-ammonium lactate	
0	0.0000	0	0.0000
10	0.2198	10	0.2584
20	0.2463	20	0.2977
30	0.2836	30	0.3537
40	0.3004	50	0.3975
60	0.3264	70	0.4258
80	0.3519	100	0.4392
100	0.3771	130	0.4555
120	0.3882	160	0.4616
150	0.4041	190	0.4638
180	0.4098	220	0.4745
210	0.4183	250	0.4778

240	0.4206	280	0.4797
270	0.4246	300	0.4826
300	0.4252		

Supplementary Table 2. The solubility of SO₂ in hydroxyl ammonium ILs at 101.3 kPa

<i>T/K</i>	<i>x</i> _{SO₂}	<i>T/K</i>	<i>x</i> _{SO₂}
2-hydroxy ethylammonium formate		2-hydroxy ethylammonium acetate	
293.15	0.4965	293.15	0.5232
298.15	0.4410	298.15	0.4692
303.15	0.3837	303.15	0.4069
313.15	0.2653	313.15	0.2949
323.15	0.1553	323.15	0.2008
2-hydroxy ethylammonium lactate		tri-(2-hydroxy ethyl)-ammonium acetate	
293.15	0.5591	293.15	0.5310
298.15	0.5107	298.15	0.4668
303.15	0.4342	303.15	0.3870
313.15	0.3292	313.15	0.2315
323.15	0.2341	323.15	0.1151
tri-(2-hydroxy ethyl)-ammonium lactate		2-(2-hydroxy ethoxy)-ammonium formate	
293.15	0.5596	293.15	0.4554
298.15	0.4957	298.15	0.4055
303.15	0.4265	303.15	0.3242
313.15	0.2821	313.15	0.2032
323.15	0.1423	323.15	0.0958
2-(2-hydroxy ethoxy)-ammonium acetate		2-(2-hydroxy ethoxy)-ammonium lactate	
293.15	0.4766	293.15	0.5227
298.15	0.4252	298.15	0.4826
303.15	0.3644	303.15	0.4158
313.15	0.2222	313.15	0.2678
323.15	0.1084	323.15	0.1352