

Electronic Supplementary Information

Aqueous biphasic systems composed of ionic liquids and polypropylene glycol: insights into their liquid-liquid demixing mechanisms

Catarina M. S. S. Neves,^{at} Shahla Shahriari,^{a,b†} Jesus Lemus,^a Jorge F. B. Pereira,^c Mara G. Freire^a and João A. P. Coutinho^{a}*

^aCICECO – Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal.

^bDepartment of Chemical Engineering Shahr-e-Qods Branch, Islamic Azad University, Tehran, Iran.

^cDepartment of Bioprocess and Biotechnology, School of Pharmaceutical Sciences, UNESP – Univ Estadual Paulista, Rodovia Araraquara-Jaú/Km 01, Campos Ville, 14800-903 Araraquara, SP, Brazil

*Corresponding author

Tel: +351 234370200; Fax: +351 234370084

E-mail address: jcoutinho@ua.pt

[†]Equally contributing authors.

Table S1. Weight fraction data for the ternary system composed of [C₄mim]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
11.3778	77.7692	21.2392	41.5739	30.0207	23.1347
13.3799	70.5122	21.5309	40.5979	30.7554	22.3336
13.7667	67.8707	21.8751	39.8504	31.4175	21.4282
14.7352	65.7314	22.2274	39.0245	32.2777	20.4566
15.4492	63.3331	22.4849	38.3382	33.1197	19.5844
16.2839	61.2721	22.9725	36.8470	34.1328	18.7045
16.8180	59.4339	23.2252	35.3724	35.0239	17.8932
17.2060	57.5461	23.6140	34.8276	35.8667	17.1062
17.5789	55.6112	24.1426	33.6920	36.7413	16.4489
17.9955	53.9902	24.4161	32.5081	37.8278	15.5650
18.3506	52.5003	25.1911	31.3485	38.6015	14.6549
18.8173	51.0361	25.5959	30.3554	39.5773	14.0254
18.8989	49.8741	25.9137	29.4186	40.5676	13.2354
19.4273	48.5716	26.4941	28.4275	41.7724	12.4376
19.9060	47.4142	27.2014	27.4571	43.3640	11.5613
20.2743	46.4215	27.7250	26.6197	45.1789	10.5954
20.4158	44.8474	28.1217	25.7859	46.7871	9.7386
20.7214	43.8062	28.7222	25.0000		
21.1589	42.7921	29.5159	24.1180		

Table S2. Weight fraction data for the ternary system composed of [C₄mim]Br (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂
44.6389	38.7330	50.8547	27.9925
45.3688	37.2977	51.7266	26.6667
46.2459	35.6931	52.7120	25.3312
47.0449	34.2687	53.8105	23.6839
47.5733	33.3205	54.8512	22.4377
48.3238	32.0064	55.9744	21.1525
49.1741	30.5804	57.9724	18.8555
49.8944	29.3599	60.6505	16.2198

Table S3. Weight fraction data for the ternary system composed of [C₄mim][CH₃CO₂] (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
6.3384	76.5586	14.5439	43.4994	25.2643	20.7338
7.2369	71.2274	14.9050	42.2438	25.9194	19.9175
7.8568	68.5571	15.1877	41.1022	26.7152	19.1814
8.7020	65.6834	15.5014	40.1484	27.2733	18.6724
9.4700	63.0880	15.8638	39.2097	27.7917	18.0921
10.0212	60.6780	16.1015	36.3097	28.3628	17.5193
10.6133	58.3684	16.3154	35.5050	29.0070	16.9879
11.2064	56.3302	17.0030	34.5393	29.6159	16.4441
11.7436	54.5732	17.0775	33.5254	30.1347	15.9265
12.2747	52.7037	17.7353	32.6047	30.8244	15.3771
12.8804	51.0111	21.8148	26.9760	31.7780	14.7948
13.0559	48.5956	22.2073	25.4883	33.7944	13.8589
13.5117	47.1960	22.4303	24.8099	34.4047	13.4102
13.9173	45.8974	23.2998	23.1970	35.0071	12.7958
14.2504	44.6298	23.9262	22.3697	35.9113	12.0804
		24.4446	21.5937	37.5273	11.2540

Table S4. Weight fraction data for the ternary system composed of [C₄mim][CH₃SO₄] (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
29.5744	60.5351	41.1632	38.6289	48.2825	29.1087
33.5567	51.8000	41.9679	38.2424	49.6467	27.4962
35.5414	48.7008	42.4439	36.7763	51.1430	25.9716
37.1827	45.8045	43.0643	36.3194	51.8636	24.9294
38.4546	43.4830	44.5817	34.2612	53.7214	22.8816
39.2612	41.8435	45.6420	32.6491	55.3654	21.5361
40.5496	39.7397	46.8258	30.8970	57.8163	19.3291

Table S5. Weight fraction data for the ternary system composed of [C₄mim][DMP] (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
10.2845	53.9655	16.2627	30.8294	25.0339	15.2395
11.1897	51.4337	16.6389	29.8365	25.9842	14.7703
12.2209	49.0403	17.1679	28.2670	26.7041	14.0447
12.8246	45.6668	17.2236	28.4871	27.2756	13.4256
12.9927	42.7625	19.8879	24.7167	27.7989	12.7640
13.5494	41.3147	20.1419	22.5531	28.6502	12.4029
14.2539	39.7814	20.1436	24.1568	29.7317	11.8288
14.5503	37.4066	20.1546	23.2696	31.1576	11.3927
15.2003	36.1390	21.0680	20.5721	31.4702	10.9483
15.4495	34.2713	21.9197	18.9082	31.9995	10.4934
15.5318	32.5398	23.1715	17.7588	32.6803	10.0654
15.8222	32.4511	24.0793	16.7404	33.1822	9.6921
15.9988	31.5143	24.5616	15.9877	34.1901	9.4067
		24.7843	15.5965	34.7591	8.9183

Table S6. Weight fraction data for the ternary system composed of [C₄mpy]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
8.3361	80.5151	20.3304	38.4495	26.7752	25.0421
9.6790	75.8518	20.4837	37.2419	27.1670	24.3563
10.7113	73.0357	20.8166	36.6431	27.6210	23.6779
11.3967	67.9622	20.8795	35.5502	28.4827	22.9043
12.9176	62.3540	21.2381	34.8255	29.1614	22.1584
16.2323	52.7660	21.9155	33.6736	29.7016	21.4460
16.8601	51.0985	21.9401	32.7958	30.3726	20.4638
17.2765	48.9214	22.5049	31.6769	31.4744	19.6657
17.8352	47.1245	23.0928	30.6805	32.3758	18.7996
18.4872	45.9710	23.4852	29.4331	33.5685	17.7282
18.8666	44.5181	24.2862	28.7877	34.2695	16.9739
19.2537	43.2797	24.8948	27.9013	36.1015	15.9749
19.5714	41.9003	25.4033	27.3371	38.1261	14.5939
19.8080	40.5444	25.8019	26.5405		
20.2746	39.6859	26.3115	25.7465		

Table S7. Weight fraction data for the ternary system composed of [C₄mpip]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
7.1327	80.7814	17.2228	35.5630	27.1809	18.4966
7.8133	77.3869	17.5227	34.9480	27.7020	17.8081
8.7619	69.4773	17.6022	33.8397	28.3109	17.2113
9.5626	65.2542	17.8801	33.1884	28.8430	16.6025
10.4391	62.8660	18.6906	32.3447	29.5022	15.9745
10.9727	59.1915	19.2248	31.2822	30.2127	15.3828
11.6017	57.2454	19.7146	30.1258	31.0416	14.7605
12.3425	55.4610	20.1677	28.9183	31.6613	14.1104
12.9114	52.8771	20.5588	28.0123	32.5810	13.4162
13.3318	50.6838	21.0086	27.1704	33.2141	12.8727
13.8580	49.3372	21.4379	26.4088	33.8654	12.3129
14.1608	47.1122	21.8389	25.6328	34.5822	11.7636
14.4559	45.2803	22.6095	24.7636	35.3198	11.2275
15.0416	44.0412	22.9834	24.0924	36.2092	10.6338
15.3507	42.3981	23.5678	23.0956	36.9922	10.0786
15.7654	41.4478	24.0858	22.2106	37.7232	9.5369
15.9887	39.9196	24.4025	21.7033	38.6211	8.9840
16.3973	39.0641	25.1320	20.7880	39.7189	8.4544
16.6331	37.7627	25.7531	19.9629		
16.9801	36.7602	26.5170	19.2641		

Table S8. Weight fraction data for the ternary system composed of [C₄mpyr]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
3.1158	83.7254	14.0782	34.3191	18.8831	24.4523
4.8749	77.2603	14.4547	33.4994	19.0012	23.9686
6.0854	71.8186	14.9201	32.8697	19.3942	23.3513
7.2443	66.7132	15.3446	32.0083	19.8196	22.6631
8.2681	62.4269	15.3779	30.9505	20.0206	22.2073
10.4306	52.5539	15.7124	30.2027	20.4171	21.7074
10.8795	49.7669	15.9733	29.5132	20.9195	21.2087
11.4194	47.4708	16.2814	28.8856	21.2460	20.5289
11.6710	45.0999	16.6530	28.1806	21.7376	20.0765
12.1742	42.8855	16.8738	27.5660	22.1562	19.6310
12.4949	41.0745	17.0961	26.9504	22.5621	19.1954
12.8015	39.7625	17.4167	26.5763	22.9652	18.7543
13.2366	38.3413	17.6750	25.9939	23.1372	18.2148
13.4838	36.8857	18.3811	25.3364	23.5122	17.8322
13.7685	35.7692	18.6541	25.0055	23.7995	17.4576

Table S9. Weight fraction data for the ternary system composed of [Ch]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
5.4050	56.7531	10.6186	26.2245	14.8972	18.8858
6.2832	48.7073	11.2173	25.4599	15.2441	18.4645
6.9546	43.0658	11.5553	24.2382	15.4338	17.9548
7.4608	39.1209	12.0105	23.5710	15.6118	17.4677
8.0541	36.2790	13.0054	22.5246	16.0146	17.2173
8.4440	33.5576	13.4615	21.9520	16.6792	16.7918
8.9212	31.3208	13.8085	21.2097	16.8786	16.4596
9.2445	29.6235	14.0182	20.4964	17.5472	15.9752
9.8371	28.6032	14.3353	19.9674	17.5268	15.4786
10.3631	27.3409	14.5712	19.3311	18.1863	15.0861
				18.2163	14.6644

Table S10. Weight fraction data for the ternary system composed of [C₃mim]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
2.7424	75.3911	7.5475	45.8468	12.5157	28.2904
3.1465	71.9158	8.1788	44.0461	14.6228	23.9788
3.6982	68.6827	8.5996	41.6084	15.8683	22.3890
4.1857	65.5681	9.2700	39.2183	16.2612	21.3512
4.6759	62.6024	9.7504	37.2516	17.2544	20.0704
5.4752	59.8758	10.0943	35.5303	18.1821	18.9942
6.2169	55.1529	10.3281	34.1012	19.0409	17.9391
6.9115	51.4128	11.0191	32.8999	20.2783	16.8314
7.4877	48.3778	11.2575	30.7777	21.5331	15.7299
		11.9940	29.1784	22.1761	14.9903

Table S11. Weight fraction data for the ternary system composed of [C₂mim]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
4.9640	56.7208	7.8055	36.7663	10.1254	28.0461
5.8163	49.9894	8.4410	34.6777	10.3408	26.5413
6.6284	45.0010	8.9342	32.4251	12.0158	25.2372
7.3904	39.6629	9.3193	30.3243	12.4848	24.4594
		9.5420	28.6661	13.8876	23.1342

Table S12. Weight fraction data for the ternary system composed of [C₁mim]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
2.2870	77.0744	6.5235	37.3229	10.1519	25.4511
2.5764	64.7961	6.8406	35.8209	10.3755	23.9962
2.7814	61.0264	6.8569	34.5454	10.9299	23.3812
3.6224	58.4731	7.2437	33.7034	11.5024	22.5591
4.2536	53.7460	7.5082	32.4968	11.9507	21.7803
4.8198	49.6722	7.8462	31.4156	12.0261	21.2636
5.8368	44.5633	7.9481	29.9725	12.5001	20.8416
6.0546	41.4992	8.5411	28.7173	13.0505	19.8588
6.3681	39.6300	9.4584	27.3991	13.4060	19.1924
		9.9253	26.3048	14.7147	18.0672

Table S13. Weight fraction data for the ternary system composed of [C₄C₁mim]Cl (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
10.3617	65.2116	16.7530	43.0048	20.9044	30.9722
11.0721	61.9122	17.5817	40.9035	21.1543	30.8340
12.6299	57.7286	17.7507	39.6767	22.1987	28.9547
13.1374	55.1461	18.3321	37.9902	23.7103	26.0457
14.1187	52.1039	18.9275	36.3712	24.5947	24.6326
15.3065	48.9932	19.0678	35.3078	25.6347	23.1819
15.6519	47.0885	19.6013	33.8955	27.4748	21.0591
16.5065	44.6142	19.9493	32.6698	29.0929	19.2617

Table S14. Weight fraction data for the ternary system composed of [C₄mim]Cl (1) + PPG-400 (2) + H₂O (3) at 308 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
8.4133	70.3069	12.3050	56.8439	17.4767	33.1260
10.0107	66.2199	13.0675	54.6399	18.0312	31.9094
11.2769	61.4612	14.1617	50.7612	26.4974	19.6356
11.9521	58.8632	15.2366	43.0235	29.1944	17.9355
		16.1774	39.5830	32.1065	16.2354

Table S15. Weight fraction data for the ternary system composed of [C₄mim]Cl (1) + PPG-400 (2) + H₂O (3) at 318 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
6.8795	46.5876	15.5828	20.7050	20.5813	17.7105
8.2630	40.0229	16.6243	19.6602	21.9831	15.5914
13.4511	23.6349	17.9937	19.0369	23.7098	16.3564
				24.5321	15.3819

Table S16. Weight fraction data for the ternary system composed of [C₄mim][DMP] (1) + PPG-400 (2) + H₂O (3) at 308 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
6.2640	53.3236	9.3281	37.1516	11.6270	25.5316
6.8673	50.2882	9.7034	32.9047	16.3506	19.0918
7.9744	41.3542	10.6048	28.9044	17.0877	18.0965
				18.6435	17.3644

Table S17. Weight fraction data for the ternary system composed of [C₄mim][DMP] (1) + PPG-400 (2) + H₂O (3) at 318 K.

100 w₁	100 w₂	100 w₁	100 w₂	100 w₁	100 w₂
2.1400	37.1393	5.6501	20.4671	10.6766	14.5864
2.8856	33.2219	6.8869	18.7174	11.1584	13.7336
3.1565	32.0182	7.9178	17.7500	12.0984	13.3520
3.6611	26.6355	8.5711	16.2025	12.7917	12.7951
5.3036	22.4894	9.4147	15.4293	13.8518	11.9152
				14.9287	11.1941

Table S18. Weight fraction data for the ternary system composed of [C₄mim]Br (1) + PPG-400 (2) + H₂O (3) at 308 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
40.2507	44.7368	45.2010	34.2939	55.0013	19.1618
40.5276	44.2138	45.3755	33.8543	55.6026	18.6497
40.8294	43.5005	45.7136	33.3533	56.2999	17.9220
40.9077	43.0224	45.8040	32.7848	57.1246	17.1635
41.2090	42.3870	46.2639	31.9115	57.9419	16.4574
41.4642	41.7368	47.0627	30.7388	58.4199	15.9097
41.9290	40.9122	47.5272	29.7629	59.8535	14.9267
42.1086	40.4835	48.0783	29.0065	60.7187	14.0509
42.3995	39.9543	48.6144	27.9798	61.3659	13.5502
42.6562	39.4510	49.3610	27.1442	62.4133	12.8211
42.9080	38.8331	49.9882	25.8202	63.6848	12.0040
43.2366	38.2063	50.5664	24.9448	65.4736	10.9228
43.4152	37.6964	51.0472	24.3467	66.4051	10.3442
43.8304	36.9841	51.5696	23.2434	67.6630	9.6086
44.0839	36.4628	52.3516	22.1003	69.7446	8.4666
44.3034	35.9372	52.9353	21.3512		
44.5308	35.3381	53.6730	20.6487		
44.9494	34.8007	54.3192	19.8917		

Table S19. Weight fraction data for the ternary system composed of [C₄mim]Br (1) + PPG-400 (2) + H₂O (3) at 318 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
34.5126	51.9991	40.2952	37.8393	44.7197	28.0376
35.3453	49.6785	40.5483	37.1546	45.5822	26.5338
35.9572	48.4818	40.7850	36.5587	46.2592	25.7114
36.1012	47.5934	41.0351	35.8725	46.7435	24.8251
36.5680	46.4395	41.1449	35.2184	47.6754	23.9713
37.2848	45.1605	41.4468	34.6746	49.0943	22.1405
37.6951	44.3024	41.8004	34.0708	50.1600	21.0647
38.1008	43.4495	42.1054	33.6061	52.0212	19.2212
38.4683	42.6267	42.3385	33.0099	54.0512	17.4241
38.7213	41.8058	42.7258	32.3539	56.4736	15.5355
39.0117	40.9845	43.0955	31.5795	58.0958	14.2471
39.2946	40.1825	43.2898	30.7011	60.6836	12.4612
39.7746	39.2940	43.6928	29.9134	64.7707	10.1317
40.0174	38.4765	44.3354	28.7276		

Table S20. Weight fraction data for the type “0” ternary system composed of [C₄mim][DMP] (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
10.2845	53.9655	19.8879	24.7167	31.1576	11.3927
11.1897	51.4337	20.1419	22.5531	31.4702	10.9483
12.2209	49.0403	20.1436	24.1568	31.9995	10.4934
12.8246	45.6668	20.1546	23.2696	32.6803	10.0654
12.9927	42.7625	21.0680	20.5721	33.1822	9.6921
13.5494	41.3147	21.9197	18.9082	34.1901	9.4067
14.2539	39.7814	23.1715	17.7588	34.7591	8.9183
14.5503	37.4066	24.0793	16.7404	26.0137	58.7519
15.2003	36.1390	24.5616	15.9877	33.1104	48.9681
15.4495	34.2713	24.7843	15.5965	39.4510	40.3660
15.5318	32.5398	25.0339	15.2395	46.3344	31.6344
15.8222	32.4511	25.9842	14.7703	49.6685	26.5823
15.9988	31.5143	26.7041	14.0447	21.8219	63.4534
16.2627	30.8294	27.2756	13.4256	52.4697	22.5525
16.6389	29.8365	27.7989	12.7640	17.6481	69.1330
17.1679	28.2670	28.6502	12.4029	9.7423	80.7801
17.2236	28.4871	29.7317	11.8288	59.1030	15.1077
				65.0544	7.3398

Table S21. Weight fraction data for the type “0” ternary system composed of [C₄mim][CH₃SO₄] (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
29.5744	60.5351	42.4439	36.7763	53.7214	22.8816
33.5567	51.8000	43.0643	36.3194	55.3654	21.5361
35.5414	48.7008	44.5817	34.2612	57.8163	19.3291
37.1827	45.8045	45.6420	32.6491	54.9611	37.0314
38.4546	43.4830	46.8258	30.8970	47.2997	44.9170
39.2612	41.8435	48.2825	29.1087	37.3568	55.6172
40.5496	39.7397	49.6467	27.4962	27.9542	64.9742
41.1632	38.6289	51.1430	25.9716	61.9441	28.3965
41.9679	38.2424	51.8636	24.9294		

Table S22. Weight fraction data for the type “0” ternary system composed of [C₄mim][CH₃CO₂] (1) + PPG-400 (2) + H₂O (3) at 298 K.

100 w_1	100 w_2	100 w_1	100 w_2	100 w_1	100 w_2
6.3384	76.5586	16.1015	36.3097	30.8244	15.3771
7.2369	71.2274	16.3154	35.5050	31.7780	14.7948
7.8568	68.5571	17.0030	34.5393	33.7944	13.8589
8.7020	65.6834	17.0775	33.5254	34.4047	13.4102
9.4700	63.0880	17.7353	32.6047	35.0071	12.7958
10.0212	60.6780	21.8148	26.9760	35.9113	12.0804
10.6133	58.3684	22.2073	25.4883	37.5273	11.2540
11.2064	56.3302	22.4303	24.8099	13.4882	72.7198
11.7436	54.5732	23.2998	23.1970	21.3781	61.8883
12.2747	52.7037	23.9262	22.3697	28.0865	51.2096
12.8804	51.0111	24.4446	21.5937	34.8634	42.9439
13.0559	48.5956	25.2643	20.7338	41.0134	34.1006
13.5117	47.1960	25.9194	19.9175	9.2190	77.3599
13.9173	45.8974	26.7152	19.1814	44.5488	29.8459
14.2504	44.6298	27.2733	18.6724	47.9925	25.8443
14.5439	43.4994	27.7917	18.0921	51.3698	22.1771
14.9050	42.2438	28.3628	17.5193	54.0590	18.6915
15.5014	41.1022	29.0070	16.9879	56.2696	14.6132
15.1877	40.1484	29.6159	16.4441		
15.8638	39.2097	30.1347	15.9265		

Table S23. Partition coefficients (K) of chloranilic acid and mixture compositions of the systems composed of ILs + PPG-400 + H₂O at 298 K.

Ionic Liquid	Weight fraction composition in feed /		TLL	K
	wt%			
	PPG	IL		
[C ₁ mim]Cl	54.239	13.729	88.63	0.031
[C ₂ mim]Cl	54.889	13.884	96.36	0.063
[C ₃ mim]Cl	55.181	14.482	91.63	0.102
[C ₄ mim]Cl	54.974	19.779	85.68	0.631
[C ₄ mim][CH ₃ SO ₄]	53.107	39.865	82.54	1.176
[C ₄ mim]Br	53.957	35.863	98.48	1.071
[Ch]Cl	55.053	15.059	91.17	0.014
[C ₄ mpyr]Cl	54.829	15.099	92.41	0.152
[C ₄ mpy]Cl	55.136	19.72	90.56	0.499

Table S25. pH and conductivity values of the top (PPG-rich) and bottom (IL-rich) phases in ABS composed of PPG-400 + IL at 298 K acidified with HCL 6M to carry out the chloroanilic acid partition studies.

Ionic Liquid	Top Phase		Bottom Phase	
	pH	Conductivity / (ms.cm ⁻¹)	pH	Conductivity / (ms.cm ⁻¹)
[C ₄ mim]Cl	0.76	0.26	0.68	11.3
[C ₄ mim]Br	0.62	2.03	0.68	6.4
[C ₄ mim][DMP]	1.14	0.26	1.29	2.8
[C ₄ mim][CH ₃ SO ₄]	0.70	0.20	0.77	1.9
[C ₁ mim]Cl	0.89	0.10	0.55	43.4
[C ₂ mim]Cl	0.99	0.18	0.57	25.9
[C ₃ mim]Cl	0.98	0.18	0.65	14.9
[C ₄ mpy]Cl	0.89	0.27	0.69	13.3
[C ₄ mpyr]Cl	0.87	0.25	0.64	17.2
[Ch]Cl	1.07	0.01	0.44	28.3

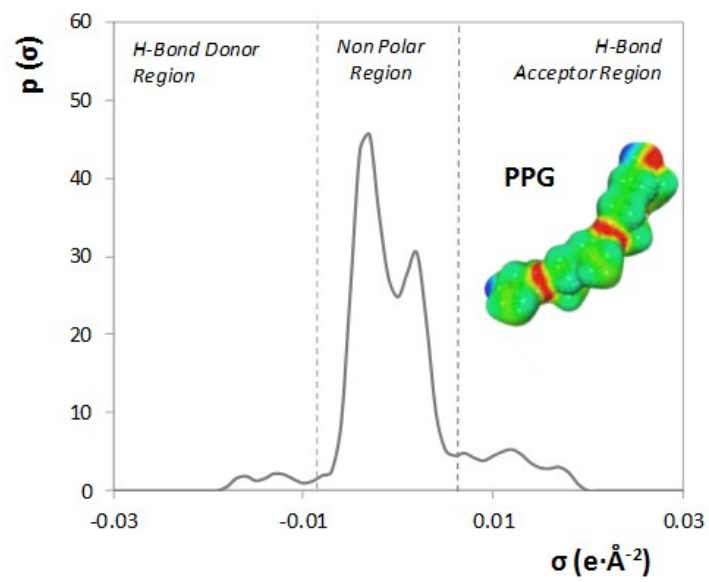


Fig. S1. σ -profile representation of 5 monomers of PPG-400.