

## Supporting Information

### NMR spectra of the ABC-BILs

ABC-BILs		$\delta$	
		$^1\text{H}$ NMR (CDCl <sub>3</sub> , ppm)	$^{13}\text{C}$ NMR (CDCl <sub>3</sub> , ppm)
[N <sub>4444</sub> ][EHEHP]	CH <sub>3</sub>	0.785–0.82(12H),	10.32(4C),10.95(1C),13.60(1C),14.04(1C),14
		0.956–0.987(12H)	.17(1C)
	CH <sub>2</sub>	1.08–1.32(32H)	19.65(4C),23.35(1C),24.19(1C),26.63(4C),28
			.76(1C),29.05(1C),30.13(1C),31.22(1C),31.9
	PCH <sub>2</sub>	1.03(2H)	6(1C), 33.89(1C)
	CH	1.62(2H)	23.10(1C)
	NCH <sub>2</sub>	3.31(8H)	34.92(1C),40.61(1C)
OCH <sub>2</sub>	3.63(2H)	58.63(4C)	
[N <sub>1888</sub> ][EHEHP]	CH <sub>3</sub>	0.83–0.89(21H)	65.81(1C)
	PCH <sub>2</sub>	1.01(2H)	0.69(1C),10.27(1C),13.96(5C)
	CH <sub>2</sub>	1.16-1.26(4H),	22.21(1C)
		1.33–1.42(32H),	22.33(3C),22.46(2C),23.06(3C),23.26(1C),26
		1.45(10H), 1.72(6H)	.31(1C),28.94(3C),30.11(8C),31.51(1C),31.6
	CH	1.55(1H),1.64(1H)	8(1C),33.67(3C),
	NCH <sub>2</sub>	3.27(6H)	34.79 (1C),40.59(1C)
	NCH <sub>3</sub>	3.33(3H)	65.84 (3C)
OCH <sub>2</sub>	3.49(2H)	48.96(1C)	
[N <sub>4444</sub> ][BTMPP]	CH <sub>3</sub>	0.873–0.916(12H),	61.12 (1C)
		0.998–1.013(24H)	13.44 (4C),23.74(2C),
	CH <sub>2</sub>	1.09–1.14 (4H),	30.06 (6C)
		1.46 (8H), 1.96 (8H),	19.42(4C),24.97(4C),53.98 (2C)
CH	1.66( 2H)	24.14(2C),	

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	C		25.4 (2C)
	NCH <sub>2</sub>	3.37 (8H).	58.32(4C)
	PCH <sub>2</sub>	1.3 (4H)	29.8 (2C)
[N <sub>1888</sub> ][BTMPP]	CH <sub>3</sub>	0.85-0.88(9H), 0.89-0.93(24H)	13.93(3C),22.49(2C)30.29(6C)
	PCH <sub>2</sub>	1.38 (4H)	29.1(2PC)
	CH <sub>2</sub>	1.067-1.13(4H), 1.18-1.34 (36H)	24.37(3C),24.37(3C),28.95(3C),31.14(6C),31 .57(3C),54.07(2C)
	CH	1.53 (2H)	22.29(2C)
	C		26.31 (2C)
	NCH <sub>2</sub>	3.29 (6H)	61.11 (3C)
	NCH <sub>3</sub>	3.3 (3H)	43.18(1C),

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