Supplementary Information

Synthesis of [HEMMor][BF$_4$]

N-(2-hydroxyethyl)-N-methyl-morphorinium Bromide [HEMMor][Br]: 1-methyl-Morpholine (0.3mol) was reacted with an excess of hydroxyethyl bromide (2-bromoethanol, 0.35mol) in a round-bottom flask in a nitrogen atmosphere (80□90 °C, 5hr), using 200 mL of acetonirile as solvent, to produce the N-(2-hydroxyethyl)-N-methyl morpholinium halide([HEMMor][Br]). This molten salt of white crystalline solids was obtained by recrystallization at a room temperature (52 g, yield 77%) with acetone.

N-(2-hydroxyethyl)-N-methyl-morphorinium Tetrafluoroborate [HEMMor][BF$_4$]: This ionic liquid was synthesized in the same manner as [HEMIm][BF$_4$]. The residual of sodium bromide in this ionic liquid was removed by low temperature filtration using celite. The filtered organic liquid phase was tested for the residual bromide salt through the concentrated AgNO$_3$ solution. 3.21(s, 3H), 3.47(t, 2H), 3.53(t, 2H), 3.6(t, 2H), 3.89(s, 2H), 3.95(s, 4H), 5.32(t, 1H). FAB mass showed m/z = 146.03 [HEMMor]$^+$

Synthesis of [C$_{12}$HEMIm][Cl]

1-(2$'$-hydroxyethyl)-2-methyl-3-dodecylimidazolium chloride ([C$_{12}$HEMIm][Cl]): [C$_{12}$HEMIm][Cl] was obtained by the deprotonation of imidazole by sodium ethanoate followed by alkylation in acetonitrile. The alkylation of the 1-alkylimidazole derivative was conducted by refluxing in acetonitrile. Table 1 indicates ^{1}H NMR and FAB mass spectra data

Table 1. ^{1}H NMR chemical shift data for [C$_{12}$HEMIm][Cl]

Im:H^5	Im:H^4	CH$_2$O	OH	NCH$_2$	αNCH$_2$	C^{2}CH$_3$	βCH$_2$	γCH$_2$	mc	ω	m/z
7.42	7.19	4.28	4.16	3.92	3.79	2.78	2.53	1.32	1.26	0.85	323.2

***Synthesis of** [C_{14}HEMIm] [Cl]*

[C_{14}HEMIm][Cl] was obtained by the deprotonation of imidazole by sodium ethanoate followed by alkylation in acetonitrile. The alkylation of the 1-alkylimidazole derivative was conducted by refluxing in acetonitrile. ^{1}H NMR and FAB mass spectra data ^{1}H NMR (300 MHz) : δ = 9.02 (s, ImH^2), 7.69–7.66 (d, ImH^5), 7.26–7.03 (d, ImH^4), 4.31–4.04 (m, OH), 3.94–3.92 (m, CH_2O), 3.75–3.71 (m, CHO), 3,69-3.63 (m, βCH_2, NCH_2), 1.88-1.84 (m, γCH_2), 1.30-1.25 (broad s, mc), 0.87-0.85 (t, ω) ; MS (FAB) : m/z (%) = 339.04