Table S1 Summary of relevant experimental information on reported measurements of the density, viscosity and electrical conductivity of alkanolammonium ionic liquids (ILs)

Reference	Ionic Liquid	Synthesis	Water mass fraction *w*		Instruments			Comments
			before measurements	after measurements	Density	Viscosity	Electrical conductivity	
Bicak *J. Mol. Liq.* **2005**, *116*, 15-18.	[HEA]Fmt	open atmosphere, no drying	n.a.	n.a.	n.a.	Canon-Fenske viscometer	WTW Multiline P3 with TetraCon 325 electrode	no temperature given for density value
Kurnia et al. *J. Chem. Thermodyn.* **2009,** *41,* 517-521.	[HEA]Ac, [DEA]Ac	educts distilled, N_2 atmoshpere, equimolar amounts of educts used, stir at 50 °C for (24 to 36) h, subsequent thin layer chromatography, subsequent vacuum distillation	$< 0.38 \cdot 10^{-5}$	n.a.	Anton Paar Oscillating U-tube (DMA-5000), absolute uncertainty $\pm 2 \cdot 10^{-2}$ kg·m^{-3}, calibrated with Millipore water and other ILs, absolute tem-perature uncer-tainty $\pm$ 0.01 K	cone and plate Brookfield (CAP 2000, L-series), average of three measurements agreeing to within 10 MPa·s, absolute temperature uncertainty $\pm$ 0.01 K	not measured	ILs stired under N_2 atmosphere, open atmosphere during measurements, no degassing mentioned, viscosity is given in MPa·s: probably typo and mPa·s is meant
Zhao et al. *J. Chem. Phys. B* 2**008,** *112,* 6923-6936.	[DEA]Ac	amine diluted in solvent (water or methanol), equimolar ratio, solvent removal under vacuum, azeotropic water removal with toluene, final drying	$< 0.2 \cdot 10^{-2}$	n.a.	weigh sample on volumetric flask, relative uncertainty $\pm$ 1 %	Schott micro-Ubbelohde capillary viscometer	impedance measurement at 25 °C at (0.1 and 1) MHz with a Solartron 1260 response analyzer	no information about atmosphere during measurements

		at 0.03 mbar for 24 h						
Cota et al. *J. Phys. Chem. B* **2007**, *111,* 12468-12477.	[HEA]Fmt, [DEA]Fmt, [TEA]Fmt	stir at r.t. for 24 h, heat for 24 h to evaporize unreacted acid, stored at constant humidity, degassing with ultrasound, drying with molecular sieve	n.a.	n.a.	Anton Paar DSA-5000 vibrational tube, calibration with Millipore water, absolute temperature uncertainty $\pm$ 0.01 K	not measured	Jenway model 4150 conductivity/TDS meter, relative uncertainty $\pm$ 0.5 %, absolute temperature uncertainty $\pm$ 0.5 K	no information about atmosphere during measurements, wrong names for [DEA] and [TEA] given, however educts and molecular weights suggest that [DEA] and [TEA] compounds are meant
Greaves et al. *J. Phys. Chem B.* **2006**, *110,* 22479-22487.	[HEA]Fmt, [HEA]Ac	equimolar amounts of educts used , drying at 0.01 mbar, subsequent freeze drying, formation of amide byproducts determined by NMR	$< 0.55 \cdot 10^{-2}$	n.a.	specific gravity bottle	Carri-Med CSL2 100 Controlled Stress Rheometer, cone and plate method	CDC 104 electrode with CDM 83 conductivity meter, or Inlab r 730-laboratory conductive electrode with Mettler Toledo Seven Multi conductivity meter, calibrated against standards from Mettler Toledo	no information about atmosphere during measurements
Greaves et al. *J. Phys. Chem. B*	[HEA]Fmt, [DEA]Fmt	equimolar amounts of educts used , drying at 0.01 mbar, subsequent freeze	$< 1.41 \cdot 10^{-2}$	n.a.	n.a.	n.a.	n.a.	no information about atmosphere during measurements, no

2010, *114,* 10022-10031.		drying						temperatures for measurements given
Burrell et al. *Phys. Chem. Chem. Phys.* **2010**, *12,* 1571-1577.	[DEA]Fmt, [DEA]Ac	amines purified via fractional distillation, formic acid distilled over CaH_2, glacial acetic acid distilled over $KMnO_4$, pre-dried reagents, stoichiometric educt ratios kept at all time during preparation	$< 1.25 \cdot 10^{-4}$	n.a.	Anton Paar DMA 4100 M	TA instruments AR-G2 controlled stress cone and plate rheometer	impedance measurement at 25 °C at (0.1 and 1) MHz with a Solartron 1260 response analyzer	no information about atmosphere during measurements, no temperatures given for density and viscosity
Yuan et al. *J. Chem. Eng. Data* **2007**, *52,* 596-599.	[HEA]Fmt, [HEA]Ac, [TEA]Ac	amines distilled, reaction of equimolar amounts of educts dissolved in ethanol, subsequent solvent evaporation, stir with activated carbon, filter and final vacuum drying at 50 °C for 48 h	$< 1.0 \cdot 10^{-3}$	n.a.	5 mL pycnometer, absolute uncertainty ± 0.001	NDJ-1 rotary type viscometer, absolute uncertainty ± 1	DDS-307 conductivity meter, absolute uncertainty ± 0.1	All measurements at 298.2 K with absolute uncertainty of ± 0.1 K