

Supporting Information

Thermophysical characterization of ionic liquids able to dissolve biomass

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The relative deviations between the experimental density values and those predicted by the group contribution method proposed by Gardas and Coutinho³⁸ along with their dependence on temperature, are presented in Figure S1.

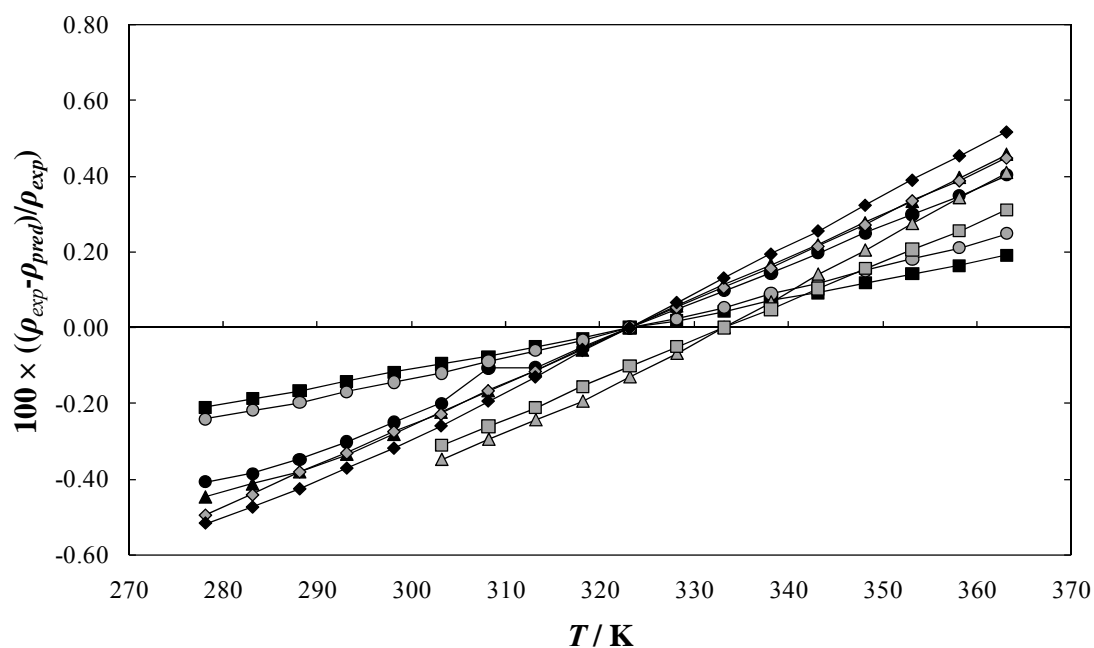


Figure S 1 Relative deviations between the experimental density values (ρ_{exp}) and those predicted by the Gardas and Coutinho group contribution method³⁸ (ρ_{pred}) for the ILs: ●

[C₂mim][CH₃CO₂], ◆ [C₂mim][CH₃OHPO₂], ▲ [C₂mim][CH₃SO₃], ■,

[C₂mim][CF₃SO₃], ●, [C₂mim][N(CN)₂], ◆, [C₂mim][SCN], ▲ [C₂mim][Tos] and ■

[C₂mim][(OCH₃)₂PO₂]

The relative deviations between the viscosity experimental data and the viscosity values correlated by eq 2, for the temperature interval considered in this work, are shown in Figure S2 for the different ILs studied.

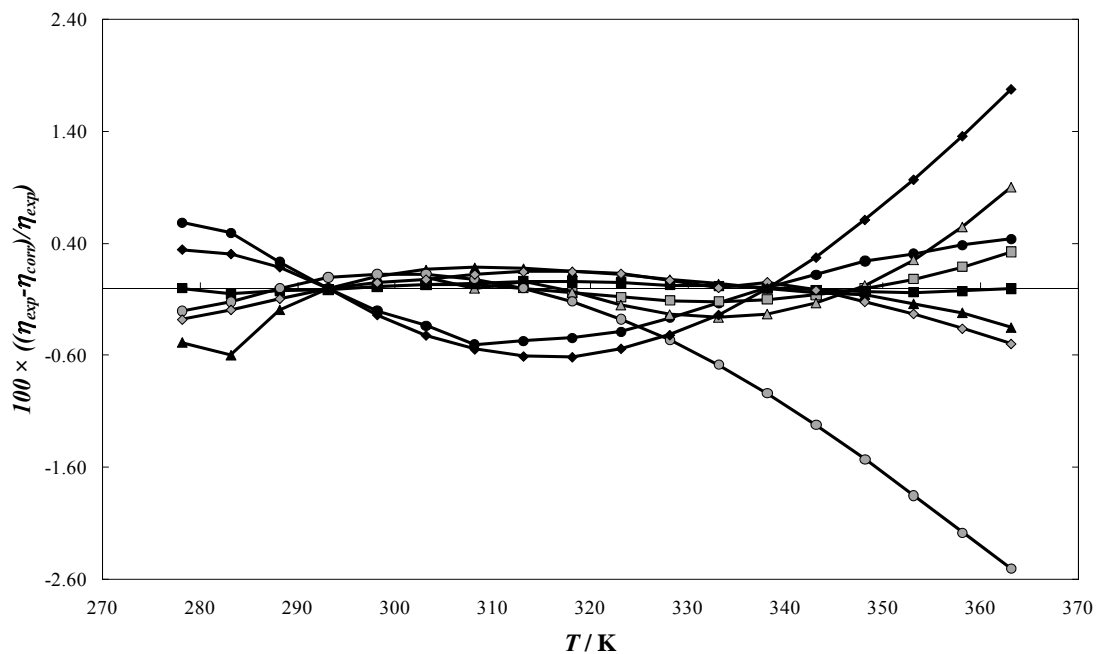


Figure S 2 Relative deviations between the experimental viscosity values and those correlated by eq 2 for the ILs: ● [C₂mim][CH₃CO₂], ◆ [C₂mim][CH₃OHPO₂], ▲ [C₂mim][CH₃SO₃], ■, [C₂mim][CF₃SO₃], ●, [C₂mim][N(CN)₂], ◆, [C₂mim][SCN], ▲ [C₂mim][Tos] and ■ [C₂mim][(OCH₃)₂PO₂]

Table T1. Average absolute deviation of the refractive index, $AAD(n_D)$, and standard error in the estimate of the temperature derivative, $\sigma(dn_D/dT)$, in the studied temperature range.

Ionic liquid	$10^5 \cdot AAD(n_D)$	$10^6 \cdot \sigma(dn_D/dT)$
[C ₂ mim][CH ₃ CO ₂]	1.2	0.6
[C ₂ mim][CH ₃ O(HPO ₂)]	6.7	2.2
[C ₂ mim][CH ₃ SO ₃]	1.9	0.8
[C ₂ mim][CF ₃ SO ₃]	0.8	0.6
[C ₂ mim][N(CN) ₂]	0.8	0.6
[C ₂ mim][SCN]	2.8	4.7
[C ₂ mim][Tos]	2.3	1.8
[C ₂ mim][(OCH ₃) ₂ PO ₂]	4.0	2.3

$$AAD = \sum \left| n_{D,calc} - n_{D,exp} \right| / n$$