

SUPPORTING INFORMATION

Thorough studies of tricyanomethanide-based ionic liquids - the influence of alkyl chain length in the cation

M. Musiał*, S. Cheng, Z. Wojnarowska, B. Yao, K. Jurkiewicz, M. Paluch

Institute of Physics, University of Silesia in Katowice, Silesian Center for Education and Interdisciplinary Research, 75 Pułku Piechoty 1A, 41–500 Chorzów, Poland

Corresponding author: malgorzata.musial@smcebi.edu.pl

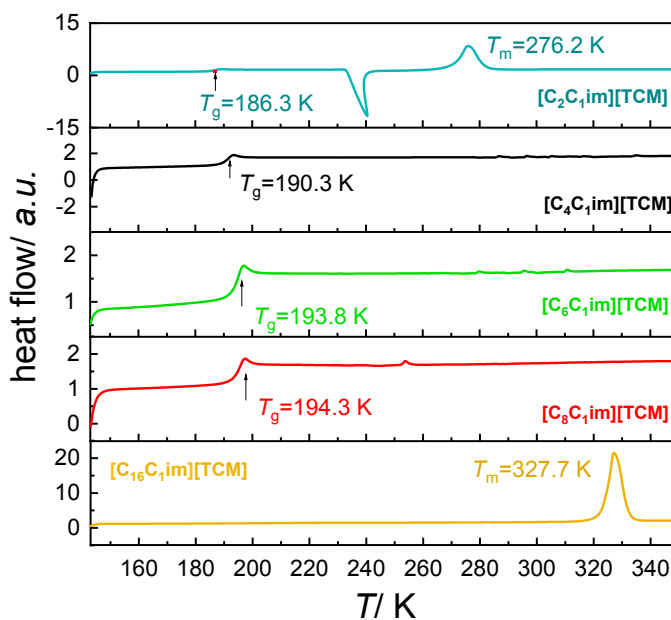


Fig. S1 Calorimetric experiments of [C_nC₁im][NTf₂] series (n=2,4,6,8,16) were performed from 143 to 350 K at a heating rate 10 K·min⁻¹.

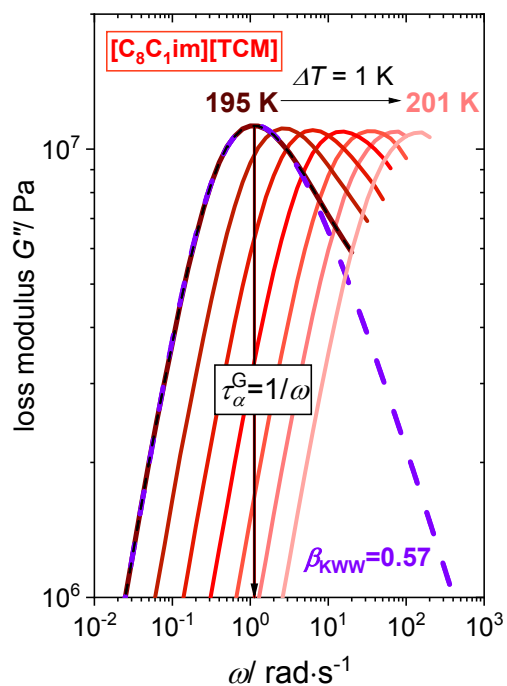


Fig. S2 Representative loss modulus G'' spectra of $[C_8C_1im][TCM]$ recorded in the temperature range 195 – 201 K.

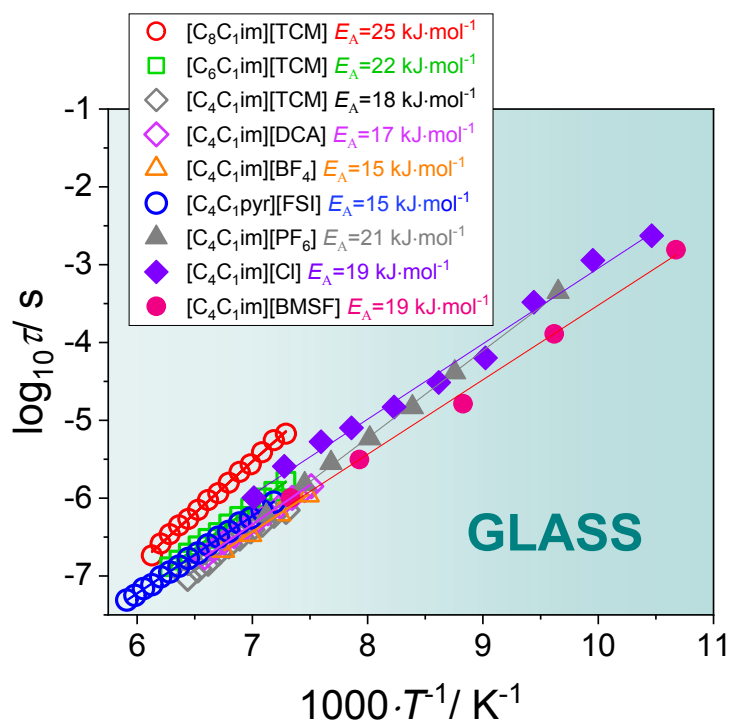


Fig. S3 The relaxation times below T_g for $[TCM]$ -based ILs, $[C_4C_1im][DCA]$ (this work), $[C_4C_1im][BF_4]$ (this work), $[C_4C_1pyr][FSI]$ (this work), $[C_4C_1im][PF_6]$ ¹, $[C_4C_1im][BMSF]$ ¹, $[C_4C_1im][Cl]$ ¹. Solid lines are the Arrhenius T -dependence.

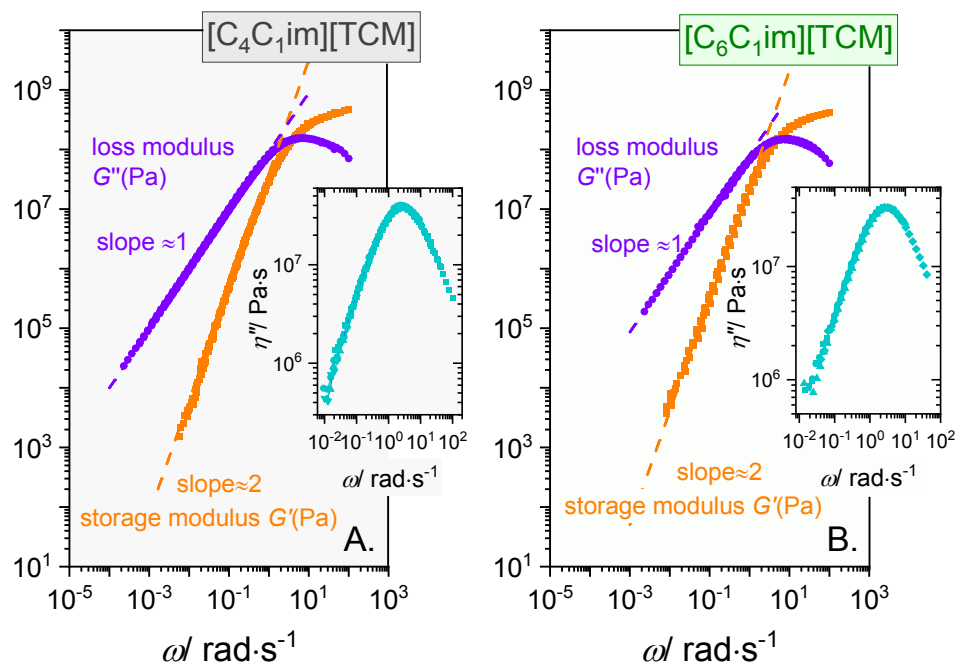


Fig. S4 Real G' and imaginary G'' parts of the complex shear modulus, G^* , of **A.** $[C_4C_1im][TCM]$ and **B.** $[C_6C_1im][TCM]$ plotted as mastercurve. Insets present imaginary part of the complex viscosity plotted as mastercurve.

Reference

¹ A. Rivera and E.A. Rössler, *Phys. Rev. B*, 2006, **73**, 212201.