

Supplementary information

HPLC coupled with spectrophotometer as a reliable setup for the study of absorption properties of imidazolium ionic liquids on the example of bmimBF₄

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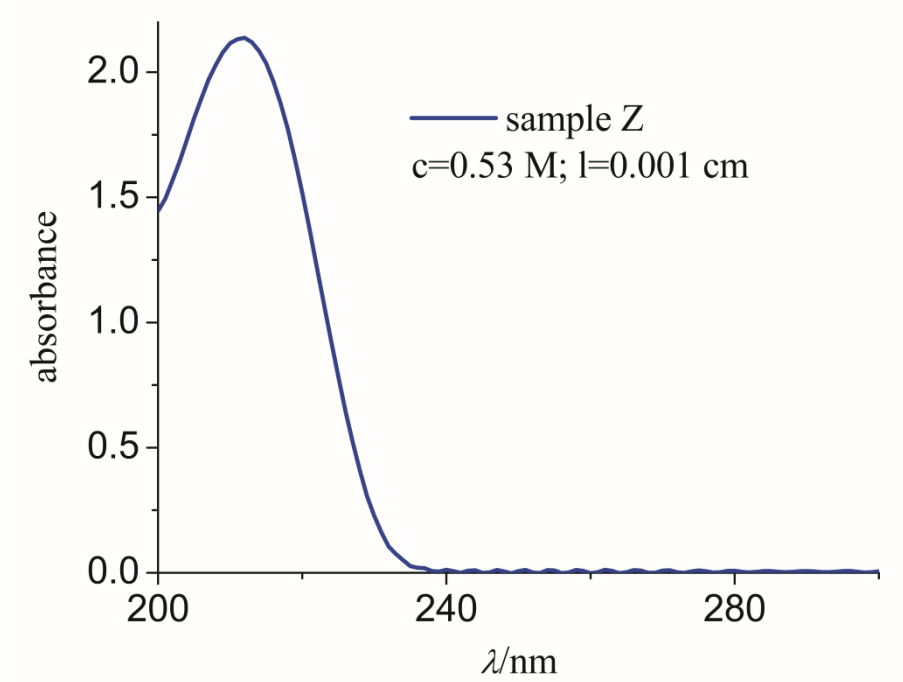


Fig. S1. Absorption spectrum of bmimBF₄ sample Z in a mixture of 40% ACN and 60% H₂O v/v ($c=0.53$ M; $l=0.001$ cm).

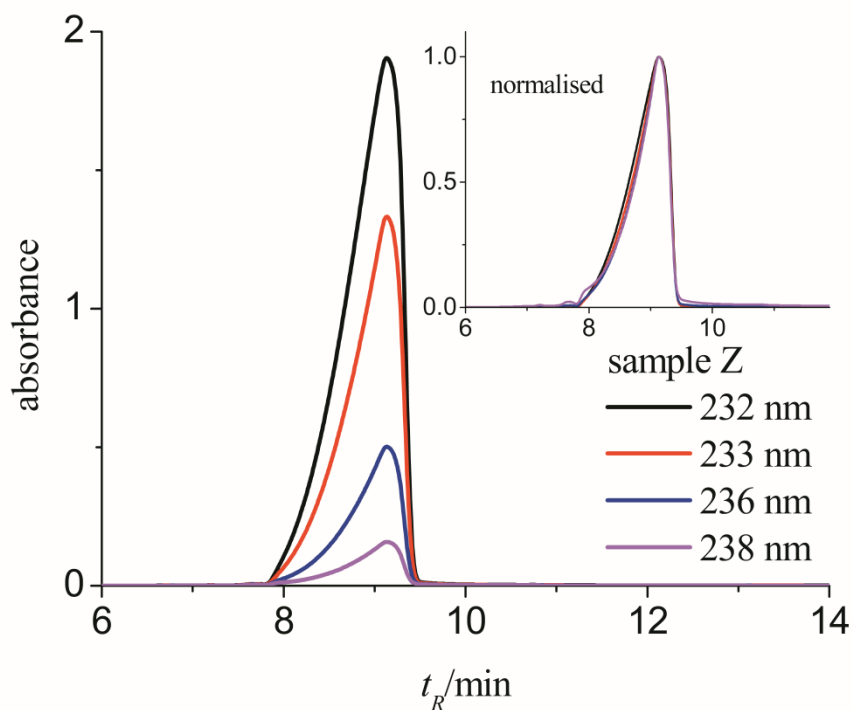


Fig. S2. Absorption chromatograms measured for $\lambda=232\text{--}238$ nm. The peak observed for each wavelength corresponds to the aggregates formed by bmimBF₄ (measured for sample Z). Inset: normalised chromatograms showing that the absorption spectra measured for this range of t_R are not influenced by absorption of impurities.

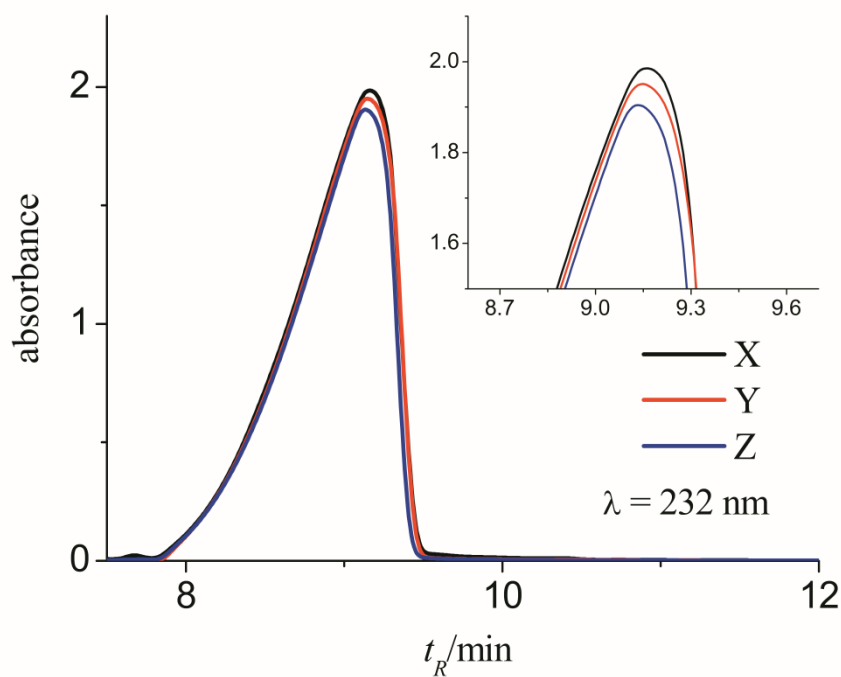


Fig. S3. Absorption chromatograms for $\lambda=232 \text{ nm}$ of three samples bmimBF₄ purchased from different producers and labelled X, Y, Z, obtained in HPLC-abs system. Differences in intensity of the absorbance between these three samples can be observed.

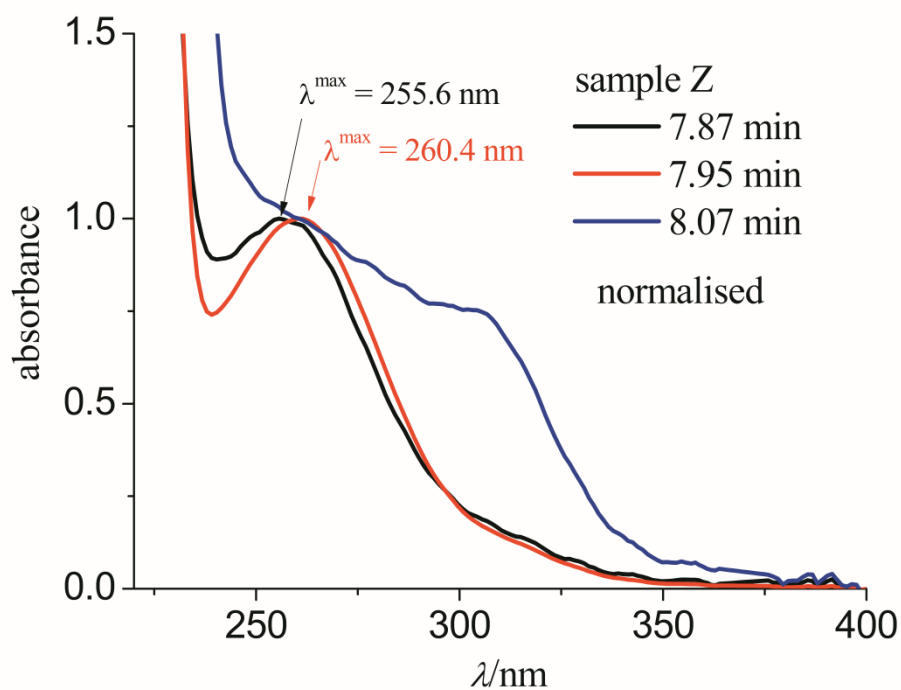


Fig. S4. Normalised absorption spectra of impurities present in sample Z of bmimBF₄ for t_R corresponding to the peak of $t_R^{\text{max}}=7.95 \text{ min}$ shown in Fig. 2b.

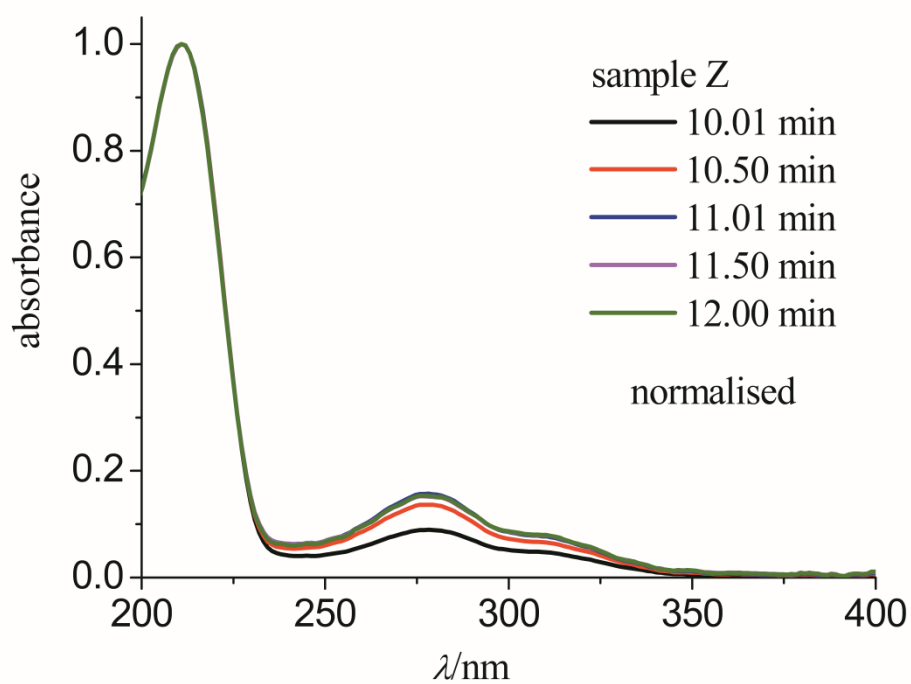


Fig. S5. Normalised absorption spectra of complexes formed by bmimBF₄ with water molecules, measured for retention times given for sample Z. Intensity of the long-wavelength band increases with increasing t_R .