Electronic Supplementary Material (ESI) for RSC Advances.


# Supplemental Documents

# Proton transfer and esterification reactions in EMIMOAc-based acidic ionic liquids

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Figures S1 A-D show the spectra of mass spectrometry obtained by GC-MS measurements. The structures of the eluents are identified by comparing the fragmental pattern of the experimental results with the National Institute of Standard and Technology (NIST) data base.

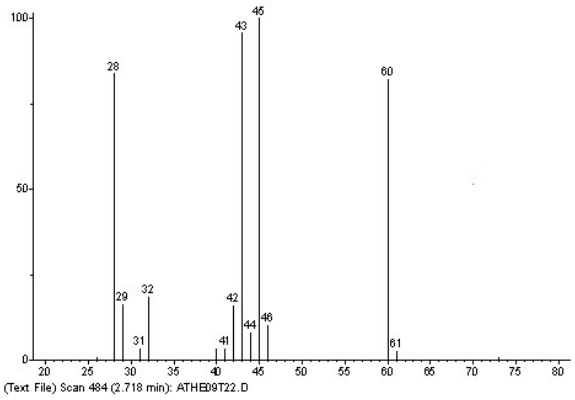


Figure S1 A: Mass spectrum of the eluent identified to be acetic acid.

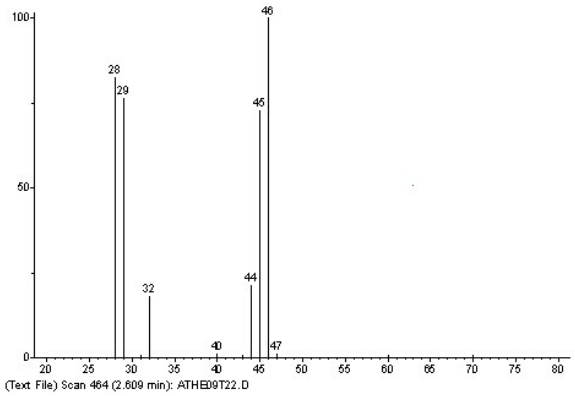


Figure S1 B: Mass spectrum of the eluent identified to be formic acid.

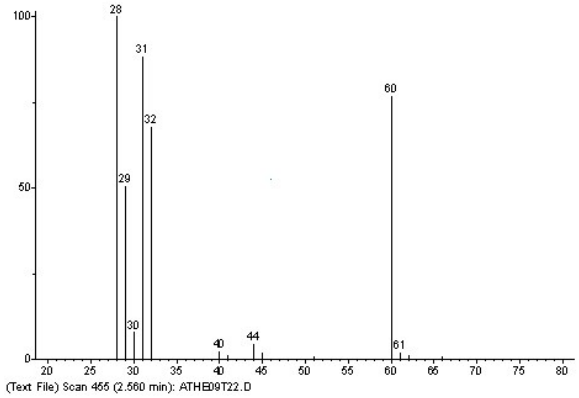


Figure S1 C: Mass spectrum of the eluent identified to be methyl formate.

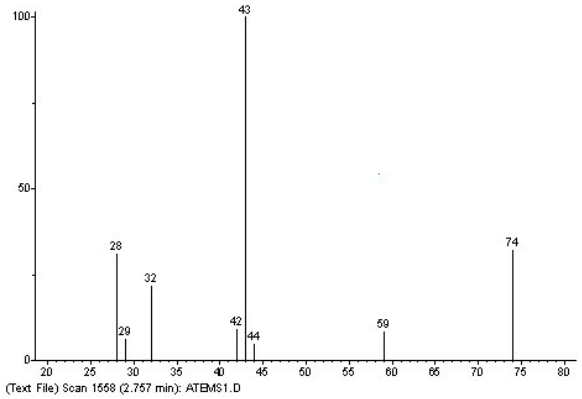


Figure S1 D: Mass spectrum of the eluent identified to be methyl acetate.

Figure S2 shows the FTIR spectra of pure IL EMIMOAc, MSA, and their equal-molar mixture. In additional to the superimposing of the two spectra of the pure compounds, the spectrum of the mixture shows peaks at 1223 $cm^{-1}$, 1721 $cm^{-1}$ and a shoulder at about 1750 $cm^{-1}$, that may indicate the formation of an ester and a carboxylic acid.

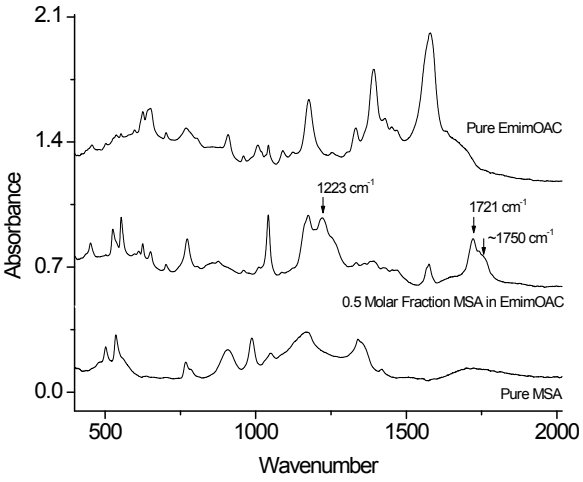


Figure S2: FTIR spectra of pure EMIOAc, pure MSA, and their mixtures at molar ratios of 1:1.