Electronic Supplementary Material (ESI) for RSC Advances

Supporting Information

Exploring ionic liquid-biomass interactions: Towards the improved isolation of shikimic acid for star anise pods

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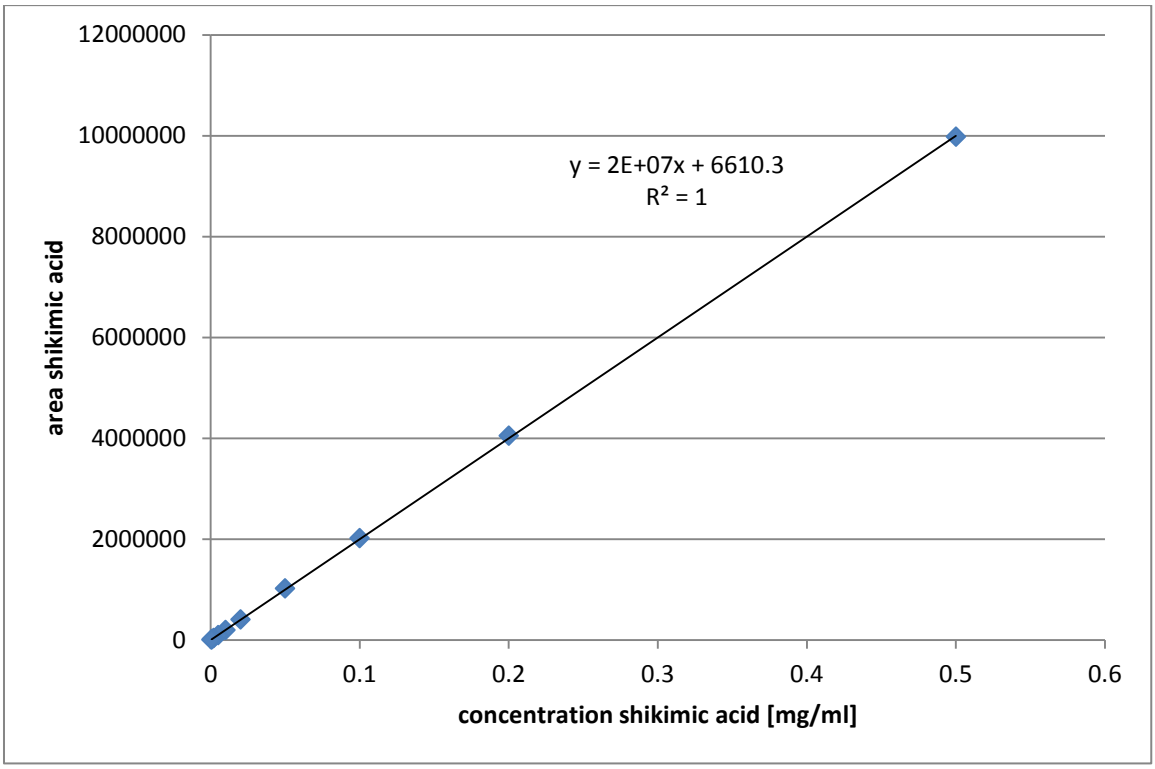
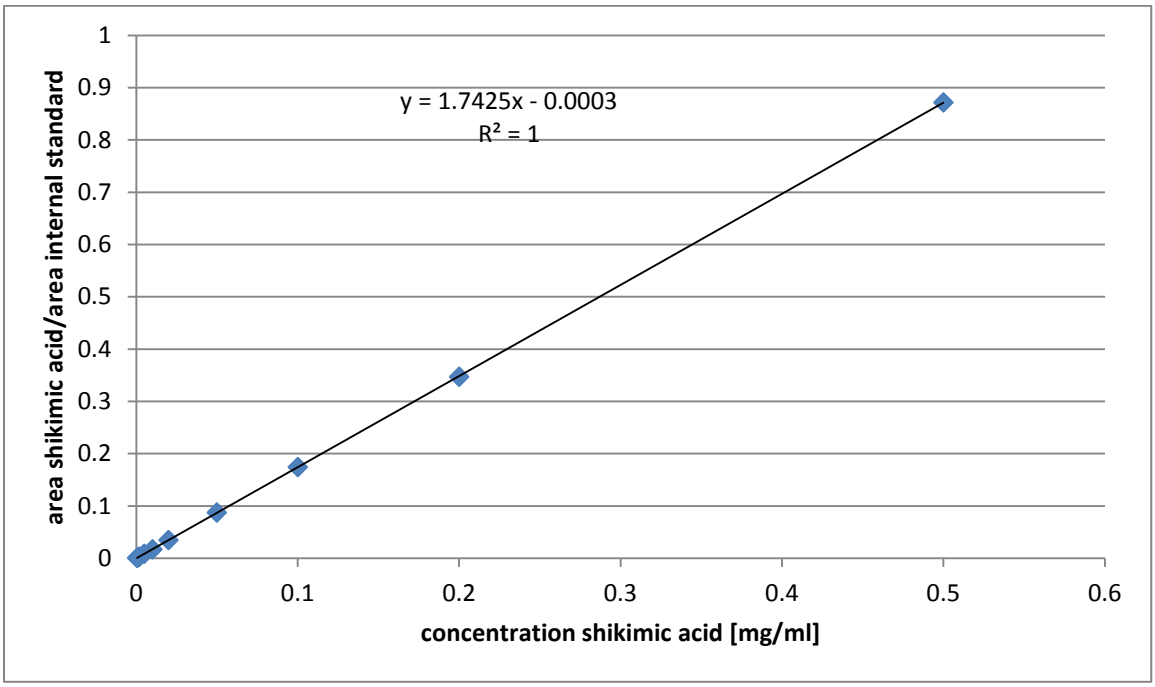
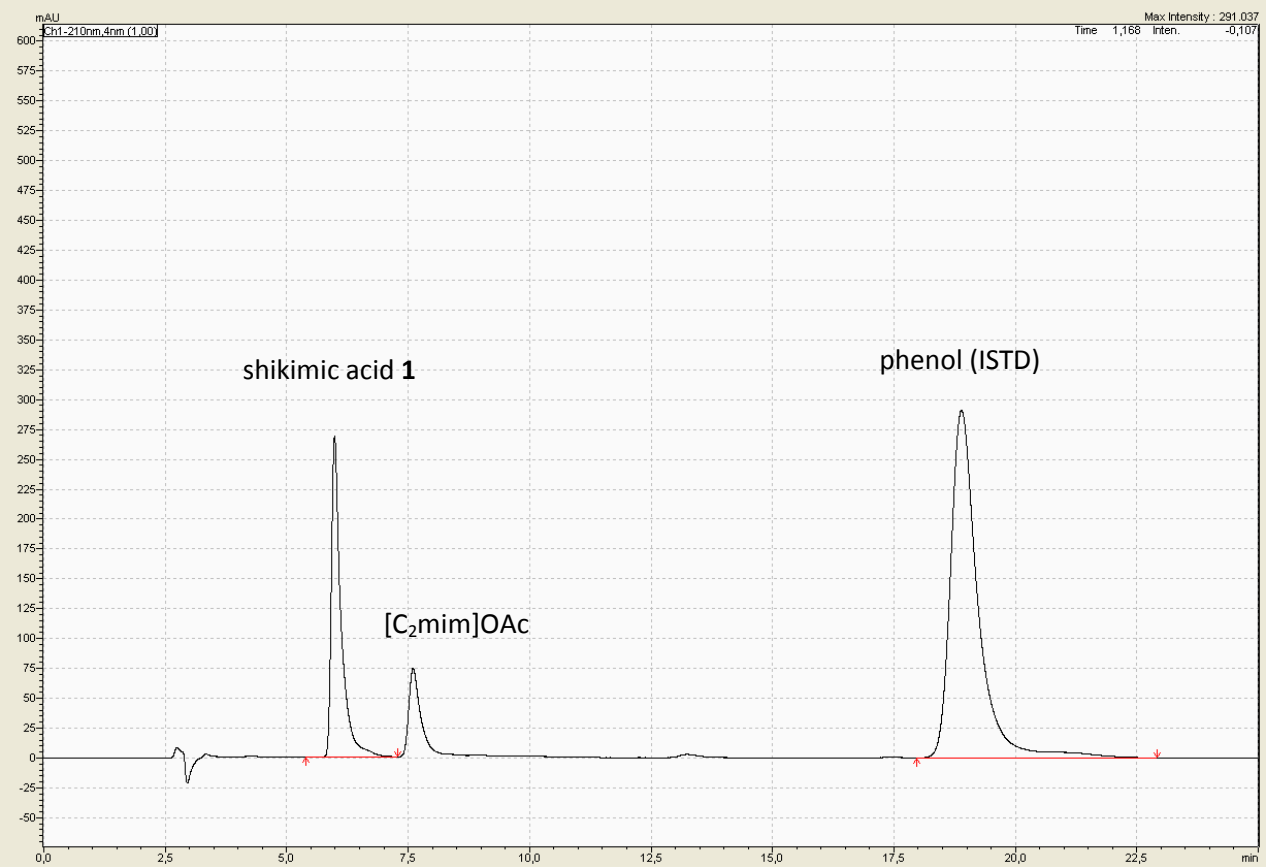
1. **Fig. S1: Calibration curve for the determination of shikimic acid 1 using phenol as internal standard**





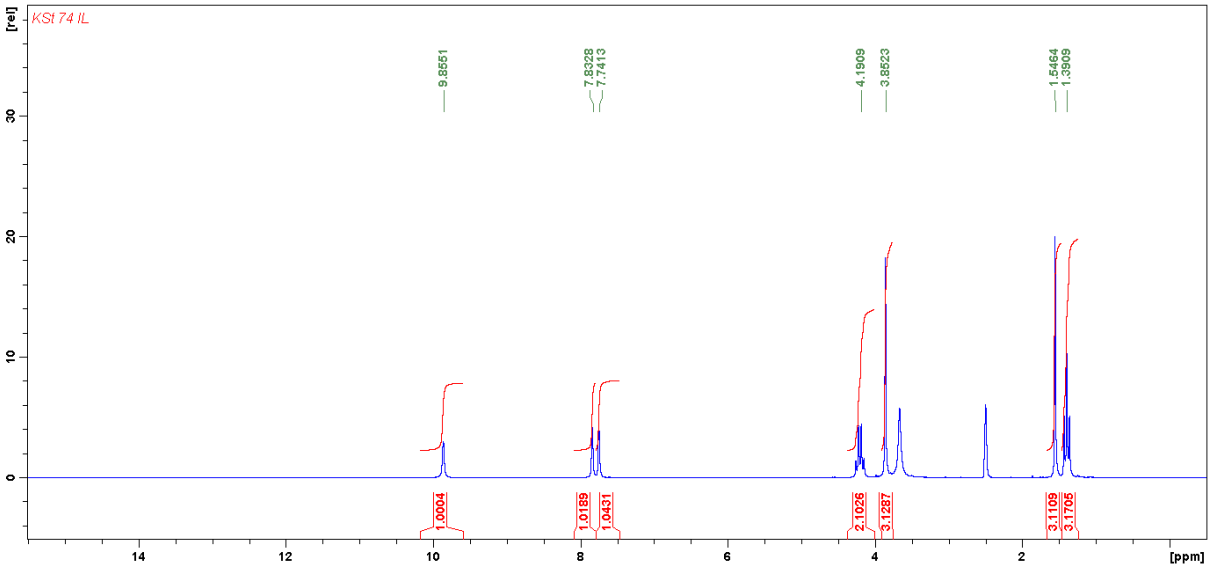
2. Fig. S2: Representing chromatogram for the determination of shikimic acid in the presence of ionic liquid



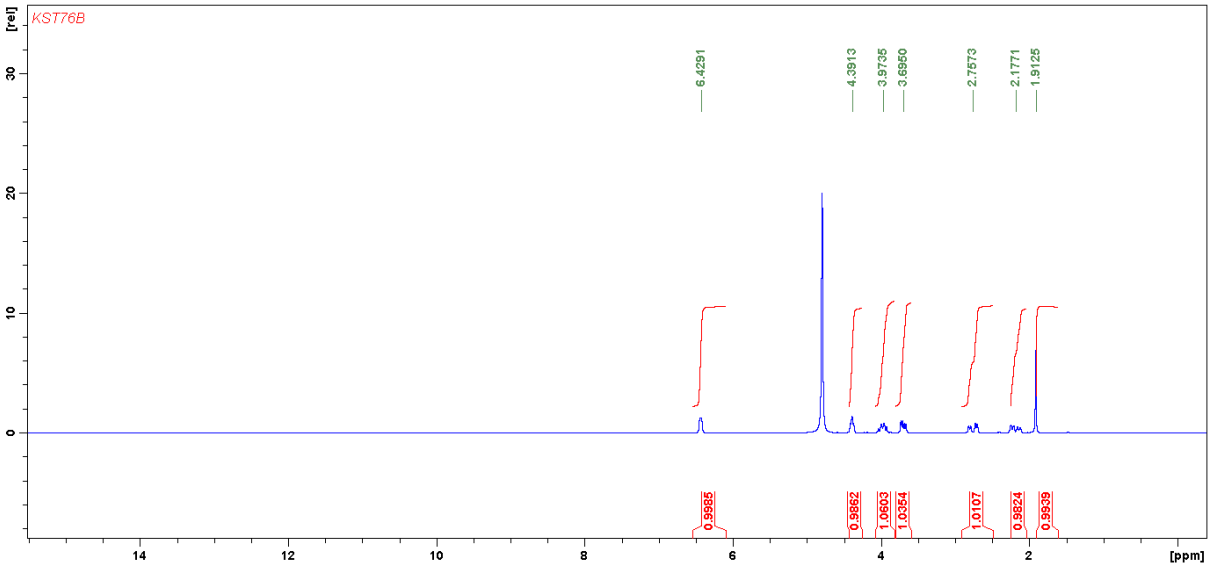
10 wt.% star anise powder in $[C_2mim]OAc$; rt, 24 h

Phenomenex Resex RHM-monosaccharide H^+ column (150 × 7.80 mm), H_2O/5% TFA, 0.6 ml/min, detection 210 nm

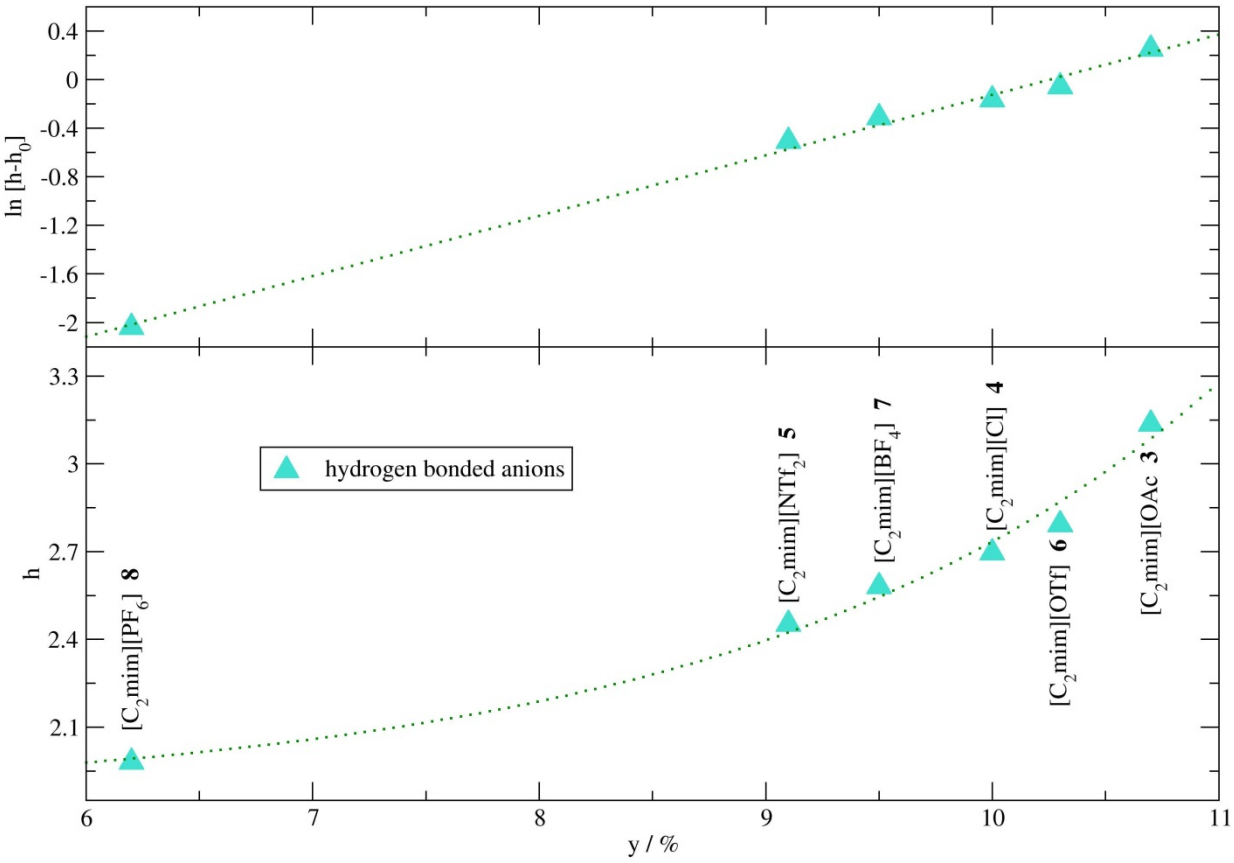
3. **Fig. S3: ^{1}H NMR spectra of recovered ionic liquid 1-ethyl-3-methylimidazolium acetate [C_2mim]OAc**



4. **Fig. S4: ^{1}H NMR spectra of isolated shikimic acid**



5. Fig. S5: Correlation between the extraction yield and the number of hydrogen bonded anions



The number of hydrogen bonded anions *h* seems to depend exponentially on the extraction yield *y*

$$h = h_0 + A\, e^{a \cdot y}$$

with h_0 = 1.85, A = 0.00609 and a = 0.4976. The subfigure on top represents a corresponding linear-log plot. Here, the exponential behavior can be determined by a linear regression with $R^2 = 0.9945$.