

Supporting Information for

Application of aromatic ring quaternary ammonium and phosphonium salts-carboxylic acids based deep eutectic solvent for enhanced sugarcane bagasse pretreatment, enzymatic hydrolysis, and cellulosic ethanol production

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Table S1 ANOVA analysis and principal effects for HBDs (H) with TEBAC as HBA

Effects		Sum of squares	d.f. ^a	Mean square	F-value	p-value
Glucose concentration (g/L)	H	1289.566	2	644.783	1331.737	< 0.001*
	Error	1.452	3	0.484		
	Total	1291.018	5			
Xylose concentration (g/L)	H	12.283	2	6.142	84.809	0.002
	Error	0.217	3	0.072		
	Total	12.500	5			
Total sugars concentration (g/L)	H	1551.092	2	775.546	1581.188	< 0.001*
	Error	1.471	3	0.490		
	Total	1552.564	5			
Cellulose digestibility (%)	H	1341.971	2	670.986	554.060	< 0.001*
	Error	3.633	3	1.211		
	Total	1345.604	5			
Xylose digestibility (%)	H	1847.380	2	923.690	243.406	< 0.001*
	Error	11.385	3	3.795		
	Total	1858.765	5			
Total sugars digestibility (%)	H	1369.653	2	684.827	790.397	< 0.001*
	Error	2.599	3	0.866		
	Total	1372.252	5			

^a Degree of freedom

* Significant

Table S2 ANOVA analysis and principal effects for HBDs (H) with BPP as HBA

Effects		Sum of squares	d.f. ^a	Mean square	F-value	p-value
Glucose concentration (g/L)	H	1002.630	2	501.315	2396.726	< 0.001*
	Error	0.627	3	0.209		
	Total	1003.258	5			
Xylose concentration (g/L)	H	17.042	2	8.521	2061.500	< 0.001*
	Error	0.012	3	0.004		
	Total	17.054	5			
Total sugars concentration (g/L)	H	1278.411	2	639.205	4077.432	< 0.001*
	Error	0.470	3	0.157		
	Total	1278.881	5			
Cellulose digestibility (%)	H	1009.750	2	504.875	1031.972	< 0.001*
	Error	1.468	3	0.489		
	Total	1011.218	5			
Xylose digestibility (%)	H	867.830	2	433.915	3276.893	< 0.001*
	Error	0.397	3	0.132		
	Total	868.228	5			
Total sugars digestibility (%)	H	962.013	2	481.006	2089.667	< 0.001*
	Error	0.691	3	0.230		
	Total	962.703	5			

^a Degree of freedom

* Significant