

Supporting Information

Synergy of boric acid and added salts in the catalytic dehydration of hexoses to 5-hydroxymethylfurfural in water

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Figure 1 is based on following experimental values:

$B(OH)_3$ (g/L)	0	2.5	5	7.5	10	15	20	30	40	50
pH fructose	4.93	2.37	2.19	2.08	2.0	1.89	1.83	1.72	1.6	1.54
pH glucose	5.67	3.42	3.22	3.13	3.04	2.93	2.84	2.68	2.55	2.52

Figure 2 is based on following experimental values:

$B(OH)_3$ (g/L)	0	50	100	150	200
HMF yield (%)	2	17	21	25	28
Fructose conversion (%)	5	38	43	49	53

Figure 3 is based on following experimental values:

Entry	No catalyst	NaCl (50 g/L)	$B(OH)_3$ (100 g/L)	NaCl (50 g/L) $B(OH)_3$ (100 g/L)
HMF yield (%)	2	5	21	46
Fructose conversion (%)	5	13	43	70

Figure 4 is based on following experimental values:

Extracting solvent	MIBK	MIBK:2-BuOH (7:3)	2-BuOH	THF	THF (60 min)	THF (75 min)
HMF yield (%)	46	50	37	34	38	51
Fructose conversion (%)	70	72	59	54	63	75
HMF selectivity (%)	65	70	63	63	60	67