Supporting Information for:

Conversion of Sugar Cane Molasses to 5-Hydroxymethylfurfural using Molasses and Bagasse-Derived Catalysts

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Supporting Information contains 4 pages including 2 Figures and 2 Tables as follows:

FTIR differential spectrum of fresh catalysts subtracted from the spectrum of the corresponding spent catalysts after hydrolysis of the industrial molasses (Figure S1).

XRD analysis of the solid residue recovered after acid pretreatment of industrial molasses (Figure S2)

Effect of catalyst loading on HMF yield from industrial molasses (Table S1)

Hydrolysis of pretreated molasses at 170 °C by M-SO_3H (Table S2)

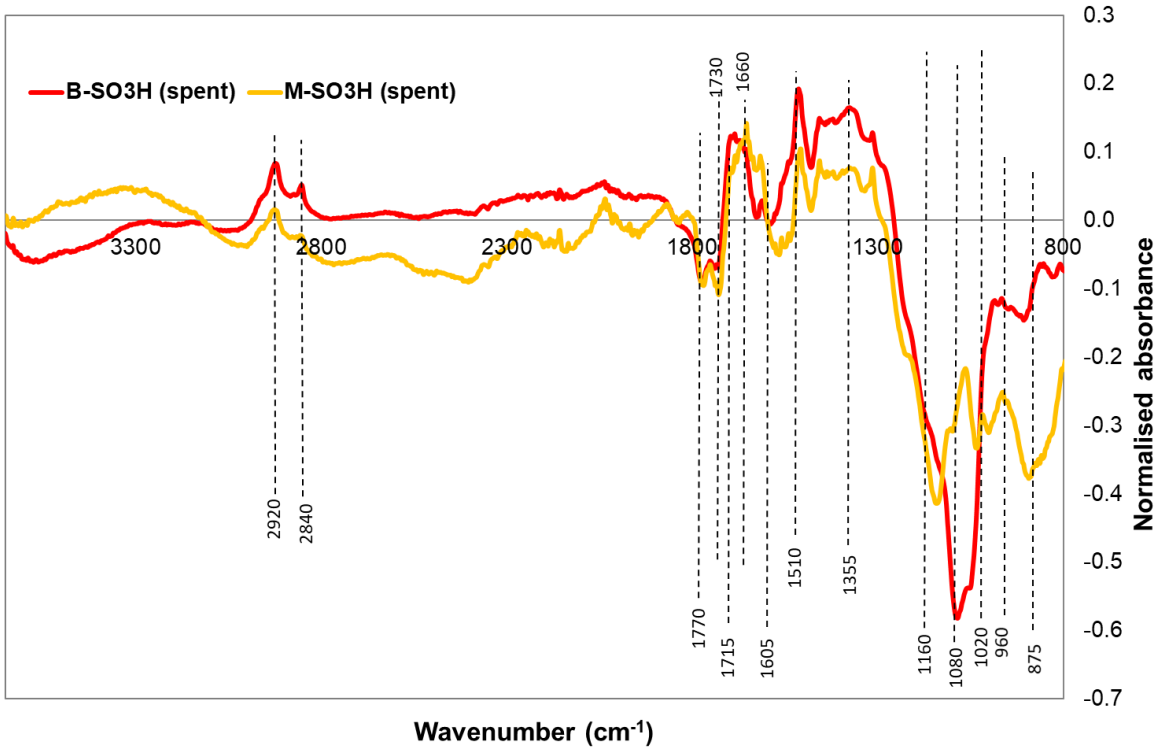

Figure S1 **FTIR spectra of solids on catalyst after hydrolysis of industrial molasses (fresh catalyst spectra subtracted)**

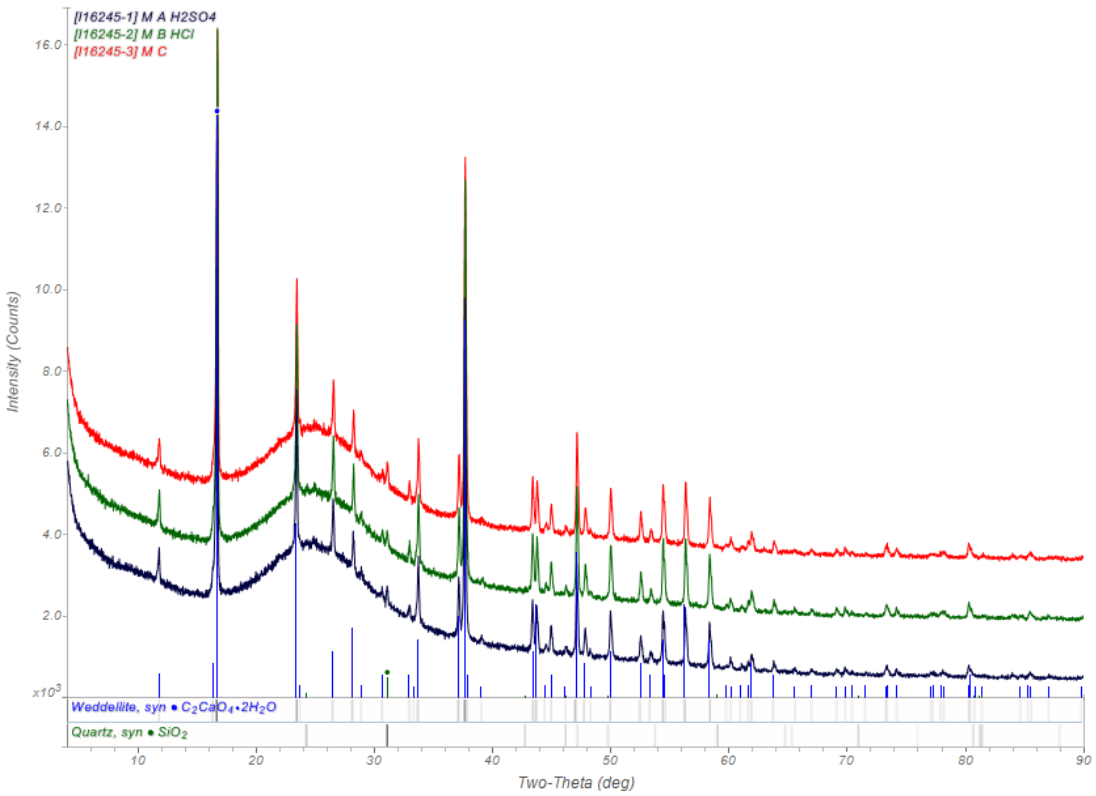

Figure S2 XRD spectra of solids recovered after acidification of molasses

Table S1 Effect of catalyst loading on HMF yield

M-SO_3H (mg)	HMF yield (mol %)	Sucrose remaining	Glucose remaining (%)	Fructose remaining (%)	Total saccharides remaining (%)
N/A	31.4	0	78.5	20.4	49.4
300	34.6	0	71.5	13.0	42.2
900	29.7	0	77.2	13.1	45.1
1800	19.2	0	77.0	8.13	42.5

Notes: Molasses solution, 25 mL of 67 g/L sugars; time, 4 h; M-SO_3H catalyst; microwave (MW) power max 500 W; 150 °C; 4 h; HMF, RSD < 10%; individual sugars, RSD < 4%; total sugars, < 8%; molasses treated at pH 3.5 (formic acid), yield based on hexose sugar content hydrolysed to HMF

Table S2 Hydrolysis of pretreated molasses solutions at 170 °C by M-SO_3H

Time (h)	HMF yield (mol%)	Sucrose remaining	Glucose remaining (%)	Fructose remaining (%)	Total saccharides remaining (%)
1	40.8	0	86.0	16.5	51.2
2	36.7	0	52.6	5.5	29.0
3	36.2	0	40.1	3.17	21.6
4	35.5	0	30.6	1.8	16.2

Notes: Molasses solution, 25 mL of 67 g/L sugars; M-SO_3H catalyst, 300 mg; microwave (MW) power max 500 W; HMF, RSD < 10%; individual sugars, RSD < 4%; total sugars, < 8%; molasses pretreated at pH 3.5 with formic acid, yield based on hexose sugar content hydrolysed to HMF