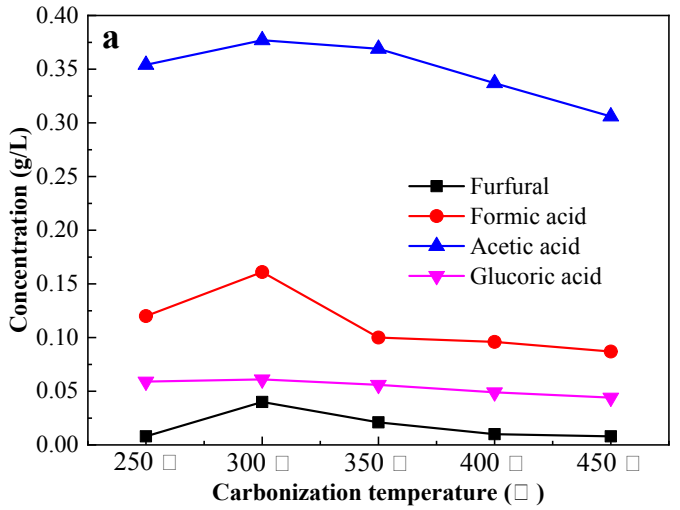
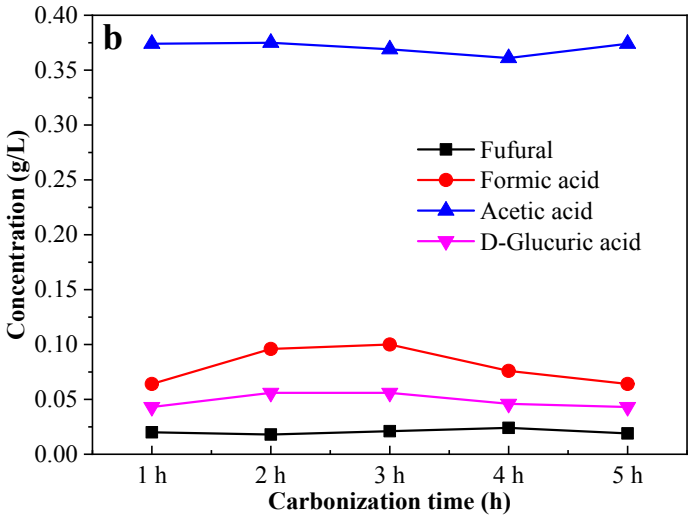
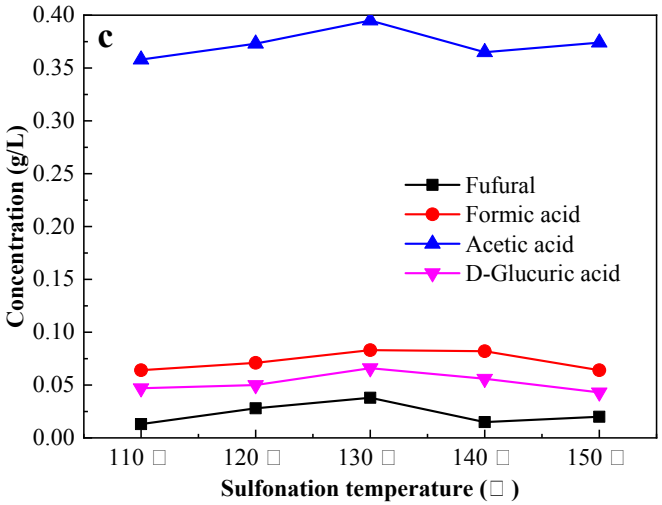
Supporting Information

List:


a
Concentration (g/L)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Furfural
Formic acid
Acetic acid
Glucoric acid
250 □
300 □
350 □
400 □
450 □
Carbonization temperature (□)


b
Concentration (g/L)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Fufural
Formic acid
Acetic acid
D-Glucuric acid
1 h
2 h
3 h
4 h
5 h
Carbonization time (h)


c
Concentration (g/L)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Fufural
Formic acid
Acetic acid
D-Glucuric acid
110 □
120 □
130 □
140 □
150 □
Sulfonation temperature (□)

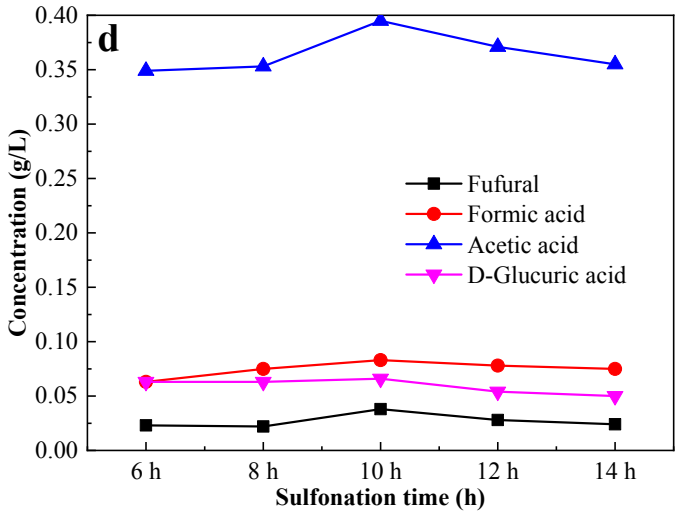


Fig. S1 Byproducts concentrations in the pretreatment hydrolysate under different carbonization temperatures (a), carbonization times (b), sulfonation temperatures (c) and sulfonation times (d).

Hydrolysis reaction conditions: 120 °C, 10 h, 1 g of catalyst, 0.5 g of corncob and 50 ml water.

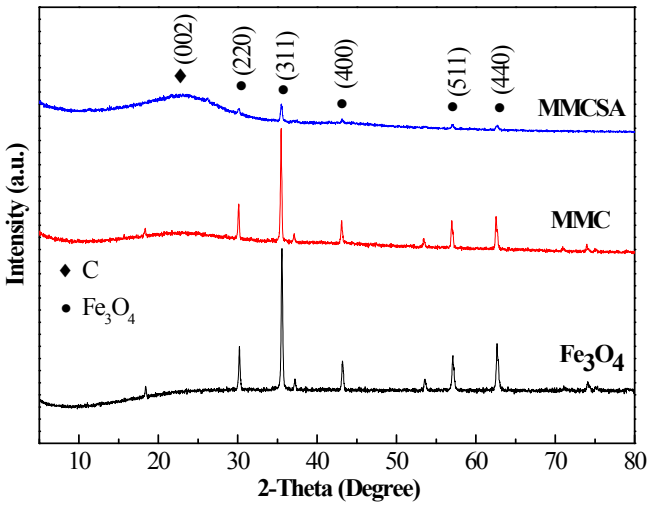


Fig. S2 XRD patterns of MMC, MMCSA and Fe_3O_4.

Catalyst preparation conditions: carbonization temperature at 350 °C for 1 h and sulfonation temperature at 130 °C for 10 h.

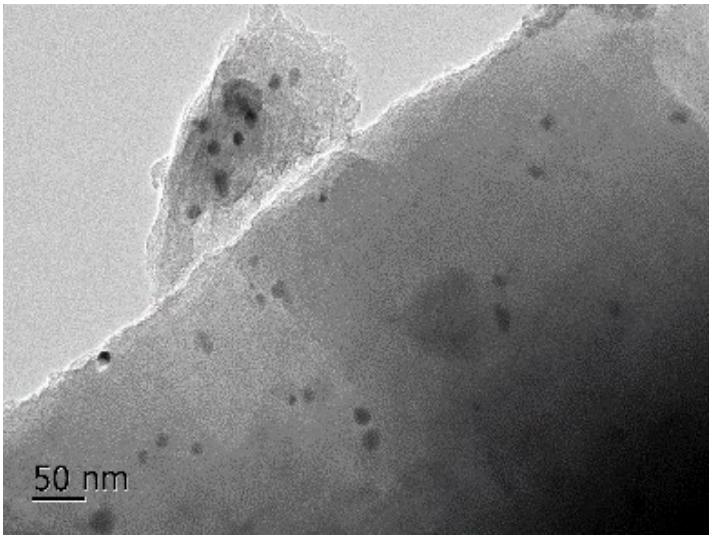


Fig. S3 TEM picture of MMCSA.

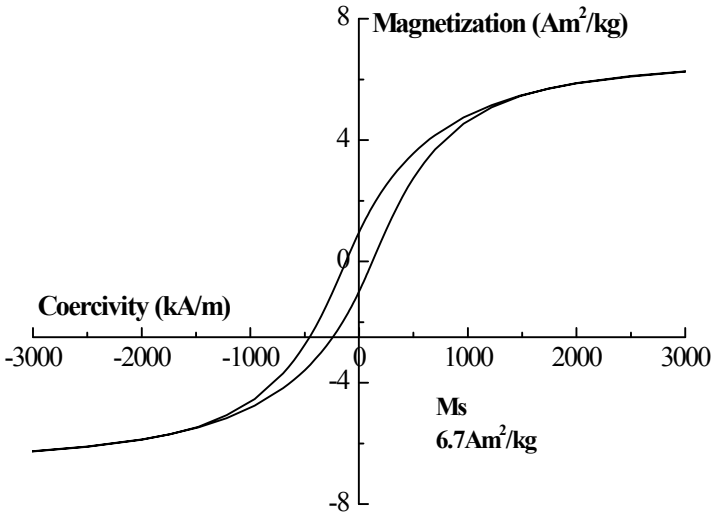


Fig. S4 Hysteresis loop of MMCSA.

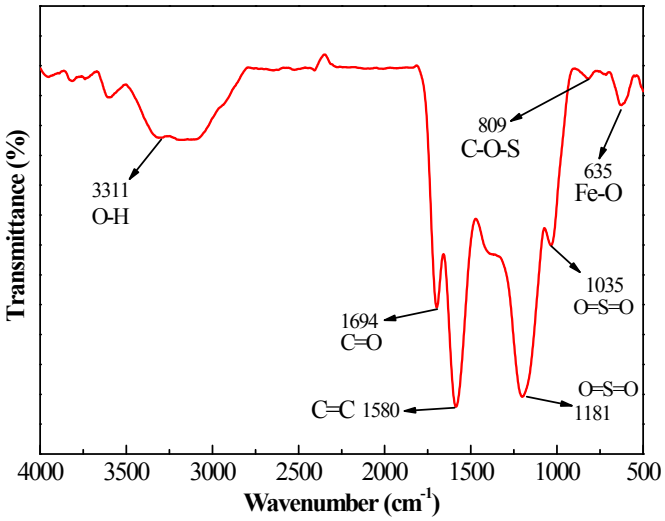


Fig. S5 FT-IR spectra of MMCSA synthesized under optimal conditions.

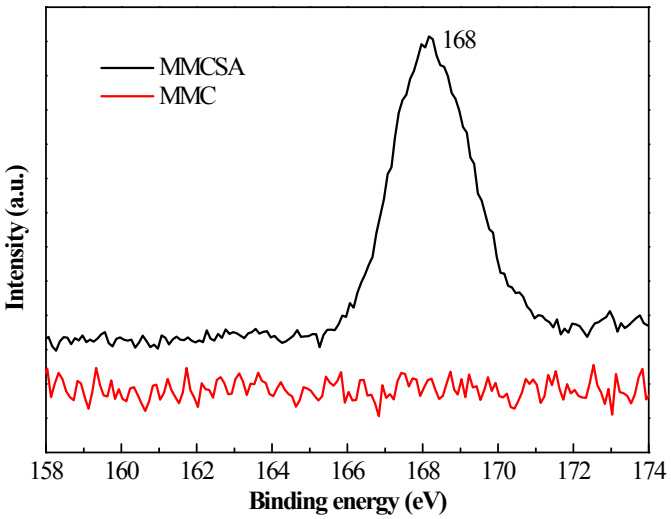


Fig. S6 XPS spectra of MMC and MMCSA.