

## Supplementary information

### Characterization of Catalysts

The X-ray diffraction (XRD) patterns of SPN is shown in Fig. S1. The XRD spectrum exhibits two broad and weak peaks ( $2\theta = 5-30^\circ$ ,  $35-45^\circ$ ) that can be attributed to amorphous carbon composed of aromatic carbon sheets oriented in a considerably random fashion

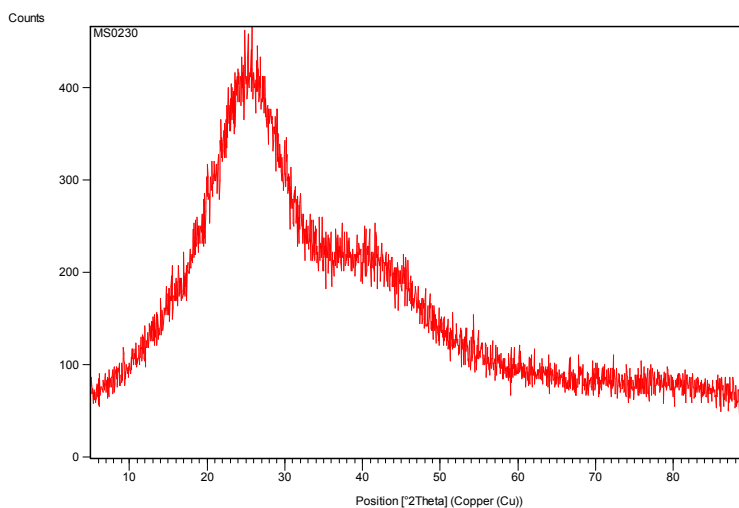


Fig. S1 X-ray diffraction patterns of SPN

The FT-IR spectra of the SPN catalysts is given in Fig. S2. The peaks at around  $3403\text{ cm}^{-1}$ ,  $1700\text{ cm}^{-1}$  and are ascribed to stretching vibrations of O–H from phenols and C=O. The absorption bands at around  $1160\text{ cm}^{-1}$  (O=S=O symmetric stretching) and  $1030\text{ cm}^{-1}$  ( $\text{SO}_3$  stretching modes in  $\text{SO}_3\text{H}$ ) are evidence that the as-prepared carbon materials were functionalized with ( $-\text{SO}_3\text{H}$ ) on the surface. The peak appeared at  $673\text{ cm}^{-1}$  can be assigned to stretching vibrations of C–Cl groups and implying that Cl atoms still remain after sulfonation.

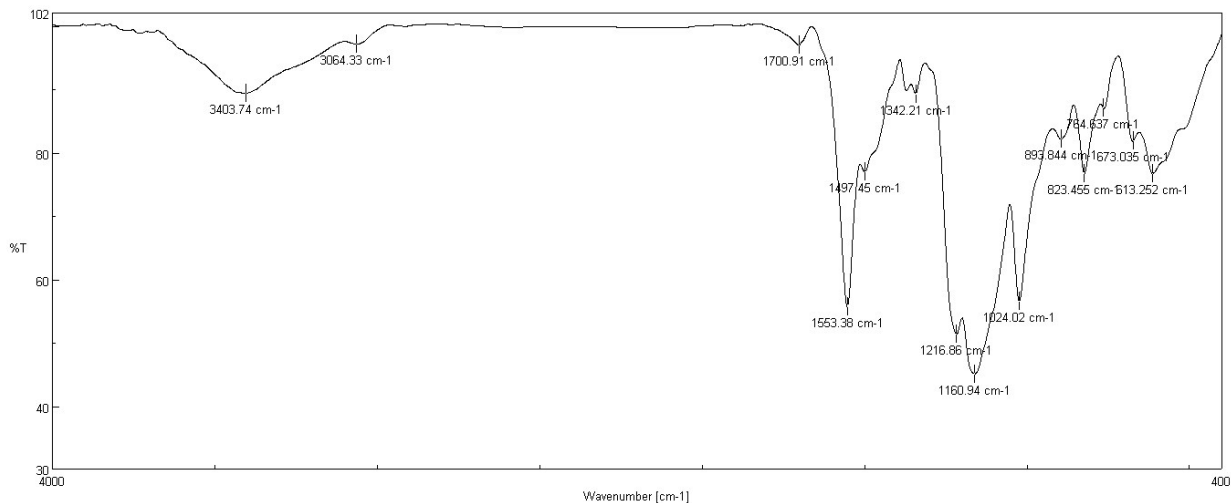


Fig. S2 FT-IR spectra of SPN

Table S1 The optimized experimental conditions for glucose

Parameter	Setting
Length of drift tube	11 (cm)
Drift field	7600 (V)
Corona voltage	1200 (V)
Flow rate of drift gas (N <sub>2</sub> )	800 (mL/min)
Flow rate of carrier gas (N <sub>2</sub> )	400 (mL/min)
Injection port temperature	170 (°C)
IMS cell temperature	170 (°C)

Table S2 Catalytic activity of reused SPN for hydrolysis of pretreated cellulose <sup>a</sup>.

Run	1	2	3	4
Cellulose conversion (%)	67.6	66.5	65.7	67.5
Glucose yield (%)	61.4	60.1	60.2	59.2
Glucose selectivity (%)	90.8	90.4	91.6	87.7

<sup>a</sup> Pretreated cellulose, 0.05 g; catalyst, 0.1 g; water, 4 mL; reaction temperature, 120°C; reaction time, 18h.

Table S3 Recovery percentages of glucose for real sample samples

Entry	Concentration (ng)		Recovery%
	Added	Found	
1	0	90 ± 7	96
	50	144 ± 8	-
2	0	90 ± 7	102
	100	188 ± 9	-

Table S4 Recovery percentages of cellulose for real sample samples

Entry	Concentration (g L <sup>-1</sup> )		Recovery%
	Added	Found	
1	0	0.056 ± 0.0035	95
	0.05	0.109 ± 0.0062	-
2	0	0.056 ± 0.0035	97
	0.1	0.158 ± 0.0053	-
3	0	0.056 ± 0.0035	102
	0.15	0.205 ± 0.006	-