**Supplementary Materials**

**1 Materials and methods**

*1.1 Simulation processing assay of saccharides*

The aqueous solutions of polysaccharides (10 mg·mL-1, prepared in the crude FC), raffinose (2 mg·mL-1), glucose (2 mg·mL-1), fructose (2 mg·mL-1), were prepared, respectively and the pH value was adjusted to 4.4 with diluted hydrochloric acid solution later. The mixture was heated at 125°C for 1 h and centrifuged at 13,000 rpm for 5 min twice.



**Figure S1**. Primary mass spectra of 5-HMF in different saccharides

a: polysaccharides (5-HMF); b: raffinose (5-HMF); d: glucose (5-HMF); e: fructose (5-HMF)