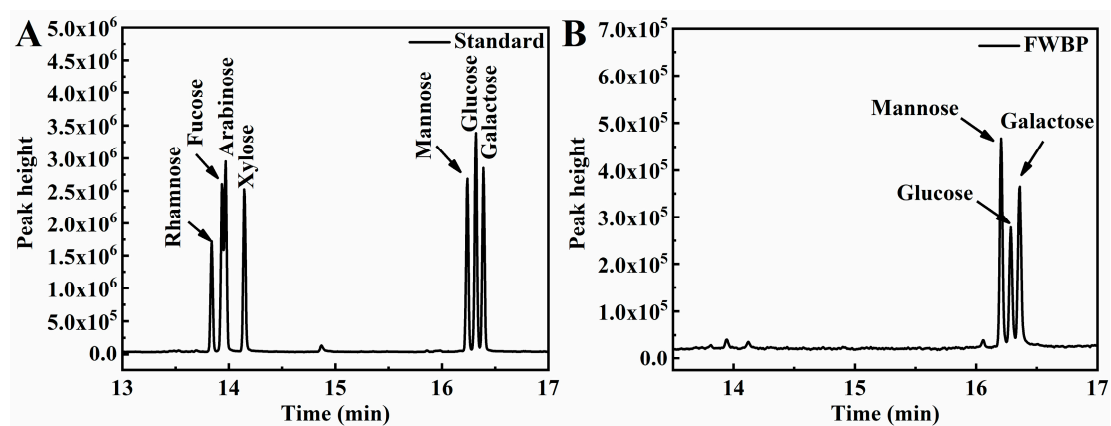
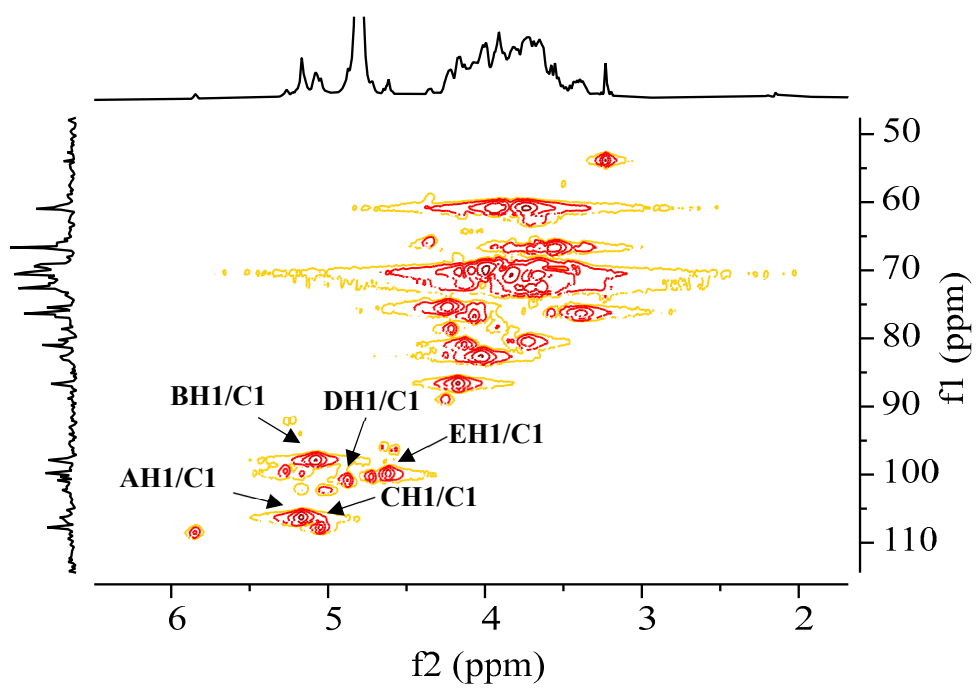


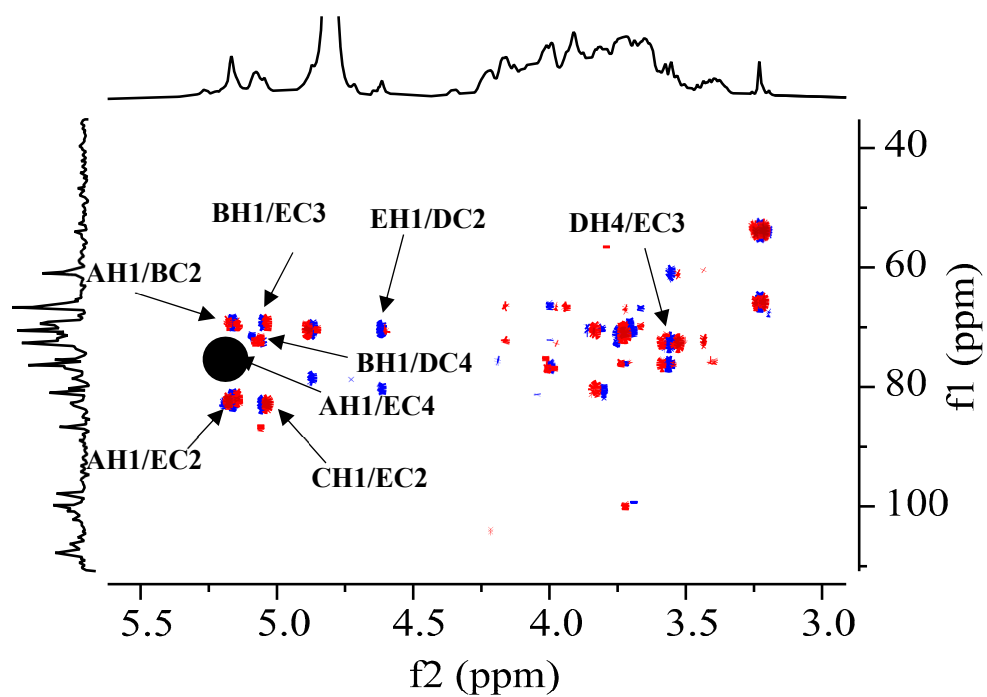
## Supporting Information



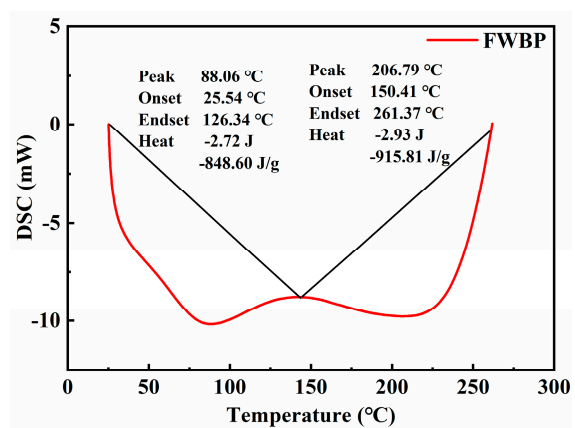
**Figure S1.** Gas chromatography of standard monosaccharides (A) and FWBP (B).



**Figure S2.**  $^1\text{H}$ - $^{13}\text{C}$  HSQC spectrum of the IC-FWBP.



**Figure S3.**  $^1\text{H}$ - $^{13}\text{C}$  HMBC spectrum of the IC-FWBP.



**Figure S4.** DSC analysis curve of FWBP.

The moisture content was determined according to AOAC 934.01 loss on drying method. The crude protein, crude lipid, ash content was determined by the Kjeldahl method (AOAC 976.05), the ether extraction method (AOAC 954.02), and the ashing method (AOAC 942.05), respectively. The total starch content was analyzed by amyloglucosidase/ $\alpha$ -amylase method with Megazyme assay kit K-TSTA 06/17 according to AOAC 996.11. The total, soluble, and insoluble dietary fiber contents were determined using Megazyme assay kit K-RINTDF 10/15 and following manufacturer's assay procedure.

**Table S1.** The chemical composition of the wheat bran powder.

Composition	Content (%)
Starch	18.48 $\pm$ 0.1
Protein	14.99 $\pm$ 0.01
Fat	2.96 $\pm$ 0.02
Water	12.28 $\pm$ 0.05
Ash	5.74 $\pm$ 0.05
IDF	42.19 $\pm$ 0.09
SDF	3.75 $\pm$ 0.09

Note: Data are expressed as mean  $\pm$  standard deviation.

**Table S2.** Compositional features of the raw wheat bran polysaccharides (RWBPs).

RWBPs	Contents
Protein (%) <sup>a</sup>	2.45 ± 0.56
Uronic acid (%) <sup>a</sup>	3.03 ± 0.14
Total sugar (%) <sup>a</sup>	80.45 ± 0.31
Rhamnose (%) <sup>b</sup>	2.06
Arabinose (%) <sup>b</sup>	27.92
Xylose (%) <sup>a</sup>	23.47
Mannose (%) <sup>b</sup>	1.53
Glucose (%) <sup>b</sup>	35.85
Galactose (%) <sup>b</sup>	9.18

Note: <sup>a</sup>Expressed as % of the sample dry matter; <sup>b</sup>Expressed as mol. %.