

Table S1. The structural characteristics of arabinoxylan (AX) samples obtained under different enzyme extraction conditions.

Treatment conditions		Monosaccharides compositions of AXs ^a					Mw distributions of AXs ^c			
		Ara(%)	Xyl(%)	Glc(%)	Gal(%)	A/X ^b	Range 1: 10 ⁵ -10 ^{5.9} Da	Range 2: 10 ⁴ -10 ⁵ Da	Range 3: 10 ³ -10 ⁴ Da	Range 4: 10 ^{2.2} -10 ³ Da
Control	Water	26.13±1.01	53.96 ±1.49 ^y	10.62±2.04 ^x	9.29 ±1.26 ^x	0.48	46.46%	32.06%	19.11%	2.37%
Enzyme	50 ppm	28.15±1.34	49.65±1.22 ^y	11.92±0.95 ^x	10.28±1.32 ^x	0.57	15.27%	45.54%	35.42%	3.77%
Concentration ^d	100 ppm	29.93±0.69	47.92±2.02 ^y	11.42±0.83 ^x	10.74±1.23 ^x	0.62	9.26%	40.29%	46.72%	3.72%
	200 ppm	26.77±1.23	37.13±0.76 ^x	20.3±0.86 ^y	15.81±0.32 ^y	0.72	7.17%	40.62%	46.82%	5.39%
	300 ppm	27.11±0.76	35.37±2.92 ^y	21.32±1.03 ^y	16.2±1.43 ^y	0.77	6.47%	40.09%	48.88%	4.56%
	400 ppm	28.74±1.77	34.51±0.34 ^y	21.85±2.22 ^y	14.9±2.32 ^y	0.83	5.75%	39.89%	49.51%	4.85%
Treatment	2 h	26.88±0.83	37.21±0.48	20.3±0.63	15.61±0.78	0.72	7.33%	40.18%	47.38%	5.11%
Time ^e	3 h	27.52±0.34	38.22±1.32	19.84±0.63	14.42±0.79	0.72	7.48%	40.30%	47.04%	5.18%
	4 h	26.72±0.54	37.81±0.86	20.01±0.89	15.46±1.46	0.71	7.13%	40.45%	46.93%	5.49%
Treatment	20 °C	27.11±1.82	39.04±1.64	18.47±1.33	15.38±0.49	0.70	7.15%	40.52%	46.87%	5.46%
Temperature ^f	30 °C	28.15±1.67	39.19±0.76	18.01±2.55	14.65±0.64	0.72	7.05%	40.69%	46.79%	5.47%
	40 °C	26.67±1.05	37.22±0.35	20.34±0.50	15.77±0.44	0.72	7.23%	40.45%	46.75%	5.57%

a: The proportion of each monosaccharide in the AX sample is presented as mean + standard deviation and all experiments were conducted in triplicate. b: A/X represents the composition ratio of arabinose to xylose. c: The distribution (%) of AXs in different Mw ranges were analysed using the LC Data Analysis (SHIMADZU Corporation). d: The temperature range (20 °C to 40 °C) indicates the extraction treatment temperatures, keeping other extraction conditions constant (pH 4.5, 2 h incubation 200 ppm endoxylanase); e: The time range (2 h to 4 h) indicates the different enzyme extraction times, keeping other extraction conditions constant (pH 4.5, 40 °C, 200 ppm endoxylanase); f: The enzyme concentration range (50 to 400 ppm) indicates the different enzyme concentrations during the extraction of AXs, keeping other extraction conditions constant (pH 4.5, 40 °C for 2 h). Dissimilar superscripts (^{x,y}) highlight significantly different AX extraction yields among the various extraction treatments (P < 0.05).