Electronic Supplementary Material (ESI) for Food & Function.

Effects of storage temperatures on the starch digestibility of whole rice with distinct starch fine molecular structure

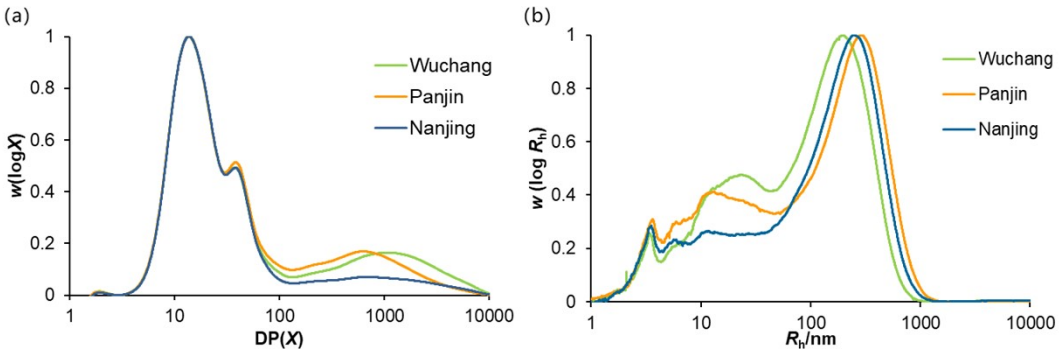

Figure S1. SEC chain-length distributions (a) and weight distributions (b) of the whole starch molecules for 3 different rice samples. All distributions were normalized to the peak maxima. Data is collected from the literature with permission. [1]

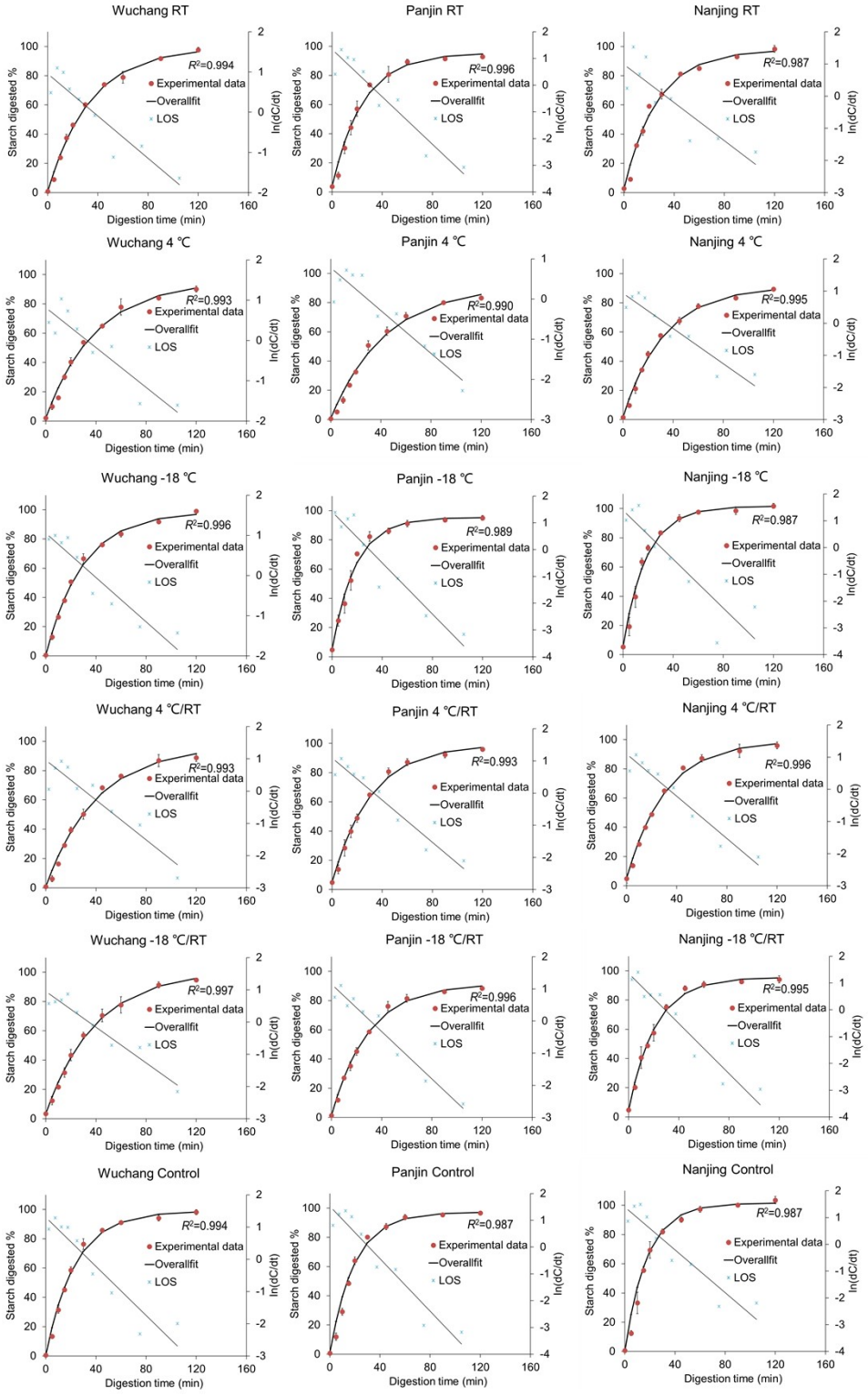

Figure S2. LOS plots and first-order kinetics fittings for cooked rice stored at different temperatures. The overall fit is the first-order kinetics fitting, which is corresponding to the primary Y axis. LOS plots are indicated by blue asterisks, which are

corresponding to the secondary Y axis. The experimental values shown are mean ± SD.

Table S1. Structural parameters for starch chain-length distributions and molecule size distributions of three rice varieties.[1]

		Wuchang	Panjin	Nanjing
AC (%)		27.98±0.76de	26.27±0.18cd	16.47±1.62a
Amylose chain-length distributions	$h_{Am,i}/10^{-2}$	12.44±1.40a	20.92±1.63a	34.27±5.1b
	$h_{Am,ii}/10^{-2}$	38.04±1.35a	49.36±4.23b	38.70±3.26a
	$h_{Am,iii}/10^{-2}$	62.27±0.91b	47.47±5.48a	66.21±7.74b
	$\beta_{Am,i}/10^{-3}$	7.94±0.03a	14.56±1.93b	12.80±0.27b
	$\beta_{Am,ii}/10^{-3}$	2.41±0.01a	3.23±0.05b	3.70±0.14c
	$\beta_{Am,iii}/10^{-3}$	0.83±0.01a	1.15±0.05c	0.96±0.06b
Amylopectin chain-length distributions	$h_{Ap,i}/10^{-2}$	97.11±0.00b	98.17±0.14c	95.69±0.06a
	$h_{Ap,iii}/10^{-2}$	8.91±0.00b	9.38±0.05ab	7.65±0.66a
	$h_{Ap,v}/10^{-2}$	0.74±0.00a	0.75±0.02a	0.40±0.12a
	$\beta_{Ap,i}/10^{-2}$	10.58±0.17a	10.47±0.06a	10.77±0.25a
	$\beta_{Ap,ii}/10^{-2}$	4.80±0.09b	3.73±0.10a	3.71±0.05a
	$\beta_{Ap,iii}/10^{-2}$	5.73±0.04a	6.05±0.03ab	6.56±0.35b
	$\beta_{Ap,iv}/10^{-2}$	2.80±0.08a	3.66±0.14b	4.33±0.35b
	$\beta_{Ap,v}/10^{-2}$	3.29±0.36a	4.69±0.33b	5.89±0.19c
	$\beta_{Ap,vi}/10^{-2}$	5.45±0.24c	1.73±0.20a	2.46±0.24b
Molecule size distributions	R_hAM_{peak}	17.1±3.3a	13.7±0.8a	11.0±1.0a
	R_hAP_{peak}	200.2±1.3a	283.3±8.1c	255.7±6.1b
	R_h,AM	18.4±2.0a	21.4±0.3a	17.6±0.2a
	R_h,AP	205.8±0.1a	268.9±8.6c	239.9±1.2b
	R_h	137.8±9.6a	190.8±6.2b	193.5±0.7b

Note: The values are presented as mean ± SD. Different letters in the same rows are significantly different at $p < 0.05$. AC is amylose content. Data is collected from the literature with permission. [1]

References

1. X. Yi, E. Li, S. Yu, X. Zhang, C. Yang, S. Shao, R. G. Gilbert and C. Li, Combined effects of starch fine molecular structures and water content on starch digestibility of cooked white rice, *Int J Biol Macromol*, 2022, **215**, 192-202.