

Supplementary

Physicochemical properties of granular and gelatinized lotus rhizome starch with varied proximate compositions and structural characteristics

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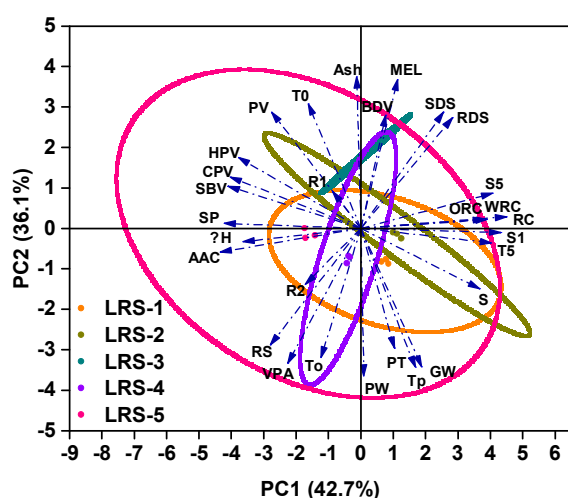
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Table S1. Color of five LRS powder and gel

Sample	Powder				Gel			
	L*	a*	b*	Whiteness	L*	a*	b*	Whiteness
LRP-1	89.58±0.73 ^b	3.07±0.04 ^b	9.66±0.20 ^a	85.46±0.67 ^c	26.57±0.25 ^d	-1.28±0.28 ^a	-10.57±0.33 ^b	25.80±0.23 ^d
LRP-2	89.29±0.57 ^b	3.44±0.10 ^{cd}	10.70±0.19 ^c	84.47±0.32 ^{bc}	25.88±1.30 ^d	-1.27±0.28 ^a	-9.78±0.38 ^b	25.22±1.26 ^d
LRP-3	83.45±0.57 ^a	3.48±0.04 ^c	10.18±0.10 ^b	80.26±0.45 ^a	4.15±0.22 ^a	2.28±0.56 ^d	-14.43±0.19 ^a	3.05±0.24 ^a
LRP-4	88.48±0.32 ^b	3.62±0.06 ^d	10.12±0.12 ^b	84.24±0.24 ^b	21.66±0.99 ^c	-0.69±0.12 ^b	-10.57±0.70 ^b	20.95±1.05 ^c
LRP-5	89.19±0.54 ^b	2.92±0.05 ^a	10.75±0.12 ^c	84.47±0.30 ^{bc}	14.54±1.83 ^b	0.57±0.32 ^c	-9.99±0.88 ^b	13.95±1.73 ^b

Data are reported as means±SD from triplicate determinations. Different letters in the same column indicate significant differences ($P<0.05$). L*, lightness; a*, redness; b*, yellowness.

a



b

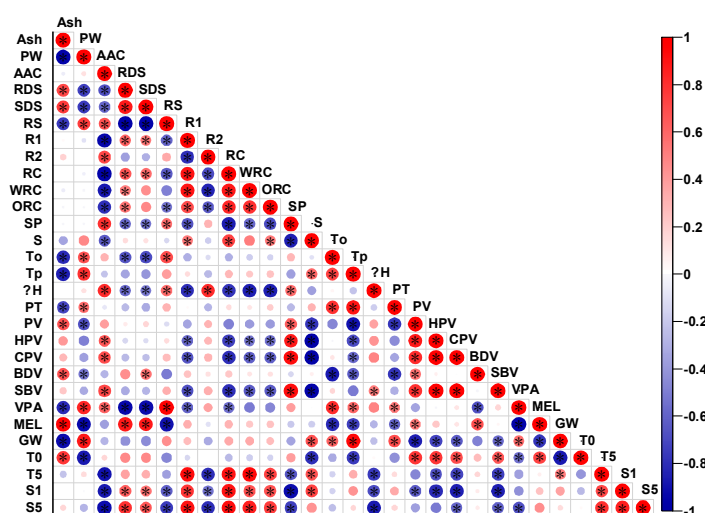


Figure S1. Principal component analysis (a, 95% confidence ellipse) and Pearson correlation coefficients (b, $*P < 0.05$) and between the basic physicochemical and functional properties of LRS. PW, powder whiteness; AAC, apparent amylose content; RDS, rapidly digested starch; SDS, slowly digested starch; RS, resistant starch; R1, $R_{1045/1022}$; R2, $R_{1022/995}$; RC, relative crystallinity; WRC, water retention capacity; ORC, oil retention capacity; SP, swelling power at 90 °C; S, solubility at 90 °C; To, onset gelatinization temperature; Tp, peak gelatinization temperature; ΔH , enthalpy for starch gelatinization; PT, pasting temperature; PV, peak viscosity; HPV, hot paste viscosity; CPV, cold paste viscosity; BDV, breakdown viscosity; SBV, setback viscosity; VPA, vessels percentage area; MEL, mean E lacunarity; GW, gel whiteness; T0, turbidity at day 0; T5, turbidity at day 5; S1, syneresis of the first freeze-thaw cycle; S5, syneresis of the 5th freeze-thaw cycle.

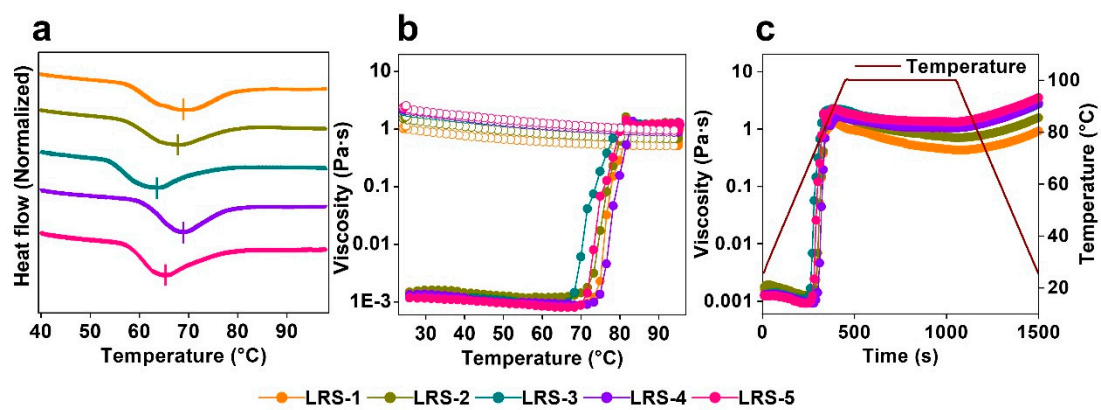


Figure S2. Thermal properties (a) and pasting properties (b and c) curves of five LRS samples.