

## Supplementary Material

**Table S6:** Physicochemical factors of fermented soymilk

Content	NFSM	FSM3	FSM4
Oil absorption capacity (g/100g)	8.28±0.70 <sup>a</sup>	8.43±0.12 <sup>a</sup>	8.59±0.10 <sup>a</sup>
Moisture content (g/100g)	9.53±0.00 <sup>a</sup>	8.87±0.00 <sup>b</sup>	8.87±0.00 <sup>b</sup>
Viscosity (cP)	117.60±0.14 <sup>a</sup>	426.80± 0.42 <sup>b</sup>	466.80± 0.42 <sup>c</sup>
Water holding capacity (mg/g)	49.00±0.07 <sup>b</sup>	58.50±0.07 <sup>a</sup>	57.50±0.07 <sup>a</sup>

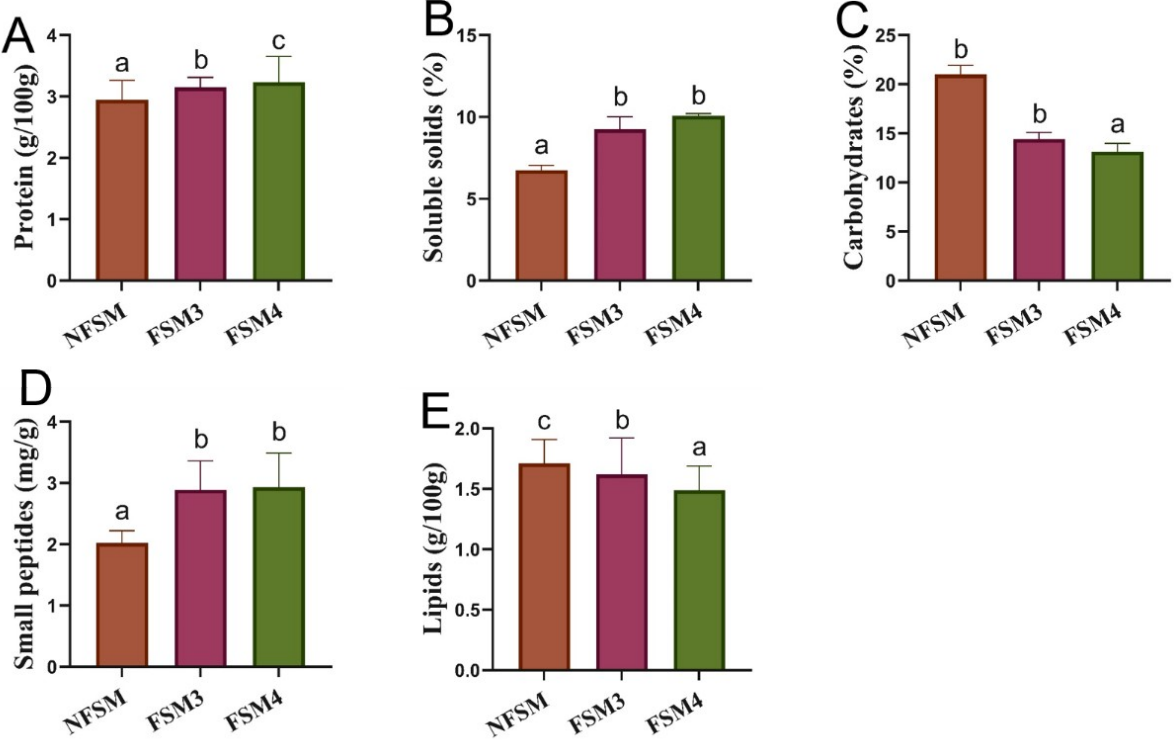
Note: NFSM: non-fermented soymilk, FSM3; fermented soymilk at 37 °C, NFSM4; fermented soymilk at 42 °C, cP/s: centipoise per second. The different bar alphabets represent statistically significant differences ( $p < 0.05$ ).

**Table S7:** Change of amino acids content in fermented soymilk samples

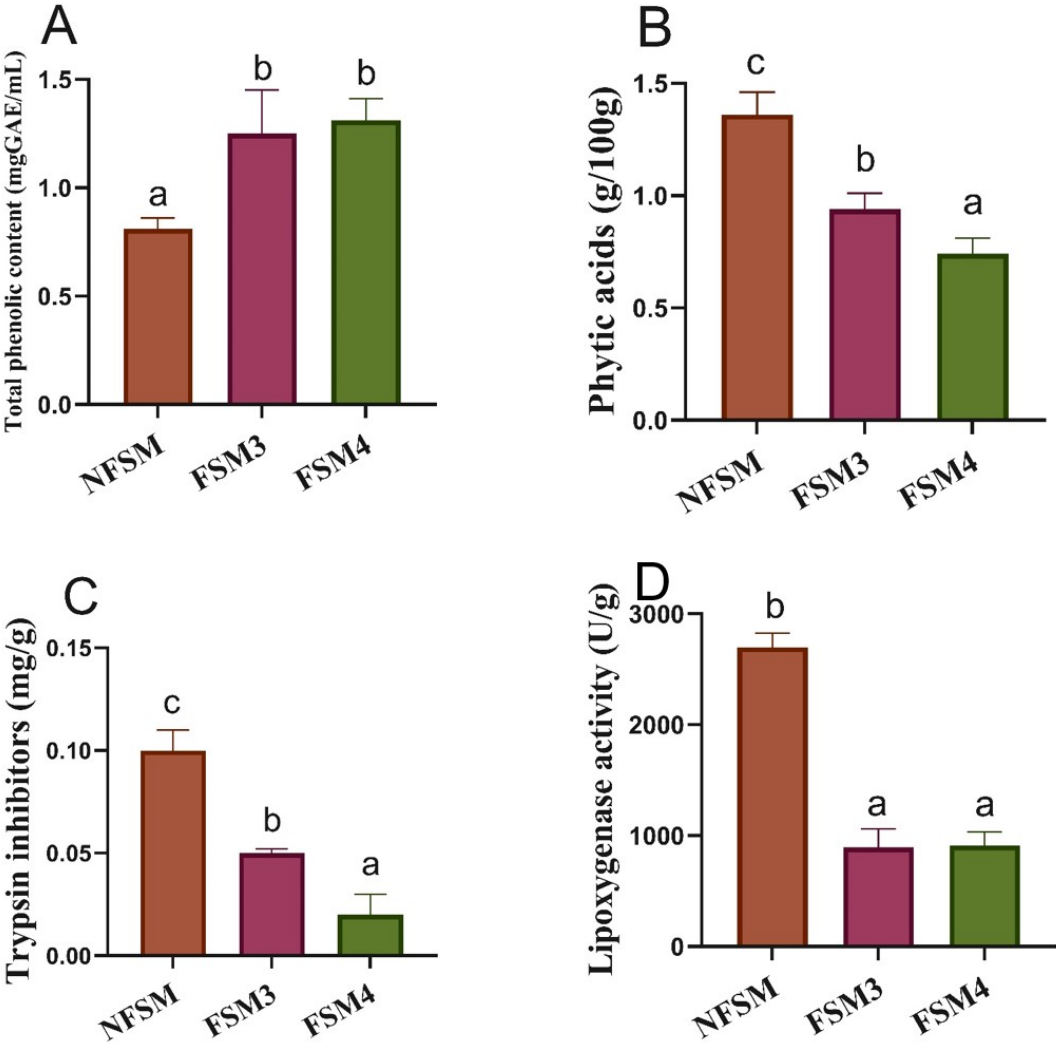
Free amino acids	Mass concentration (mg/mL)		
	NFSM	FSM3	FSM4
NEAA			
Tyrosine	0.022	0.026	0.036
Aspartic acid	0.077	0.088	0.086
Serine	0.035	0.037	0.043
Glutamate	0.042	0.071	0.087
Glycine	0.028	0.035	0.041
Alanine	0.024	0.026	0.026
EAA			
Tyrosine	0.022	0.026	0.036
Histidine *	0.006	0.008	0.009
Isoleucine *	0.020	0.029	0.031
Leucine *	0.050	0.062	0.076
Threonine *	0.027	0.038	0.052
Lysine *	0.048	0.035	0.059
Phenylalanine *	0.031	0.058	0.068

Note: "\*" means essential amino acids (EAA). NFSM; non-fermented soymilk, FSM3; fermented soymilk at 37 °C, NFSM4; fermented soymilk at 42 °C. EAA: Essential amino acids, NEAA: Non-essential amino acids.

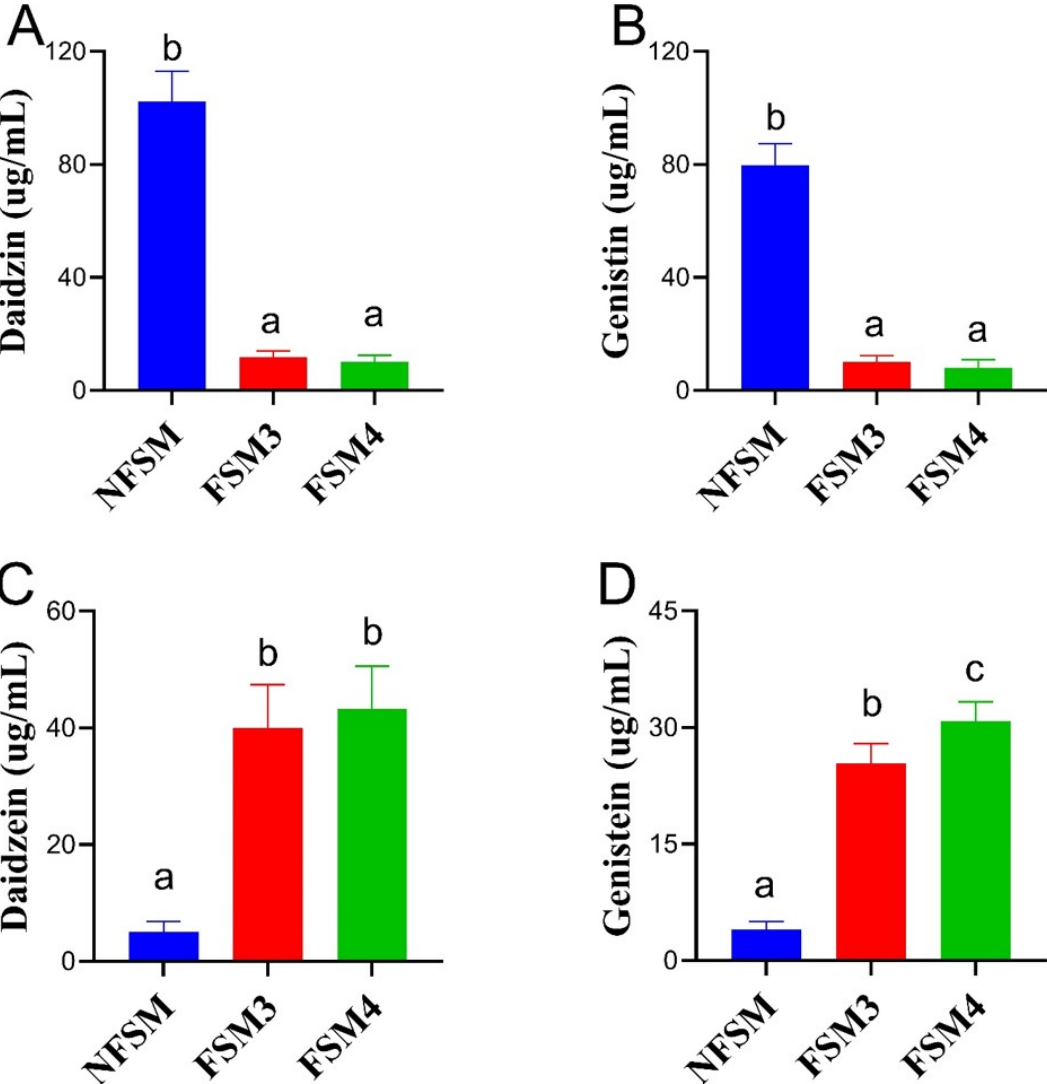
**Figure S5:** Changes in protein, soluble solids, carbohydrates, small peptides, and lipids during the fermentation



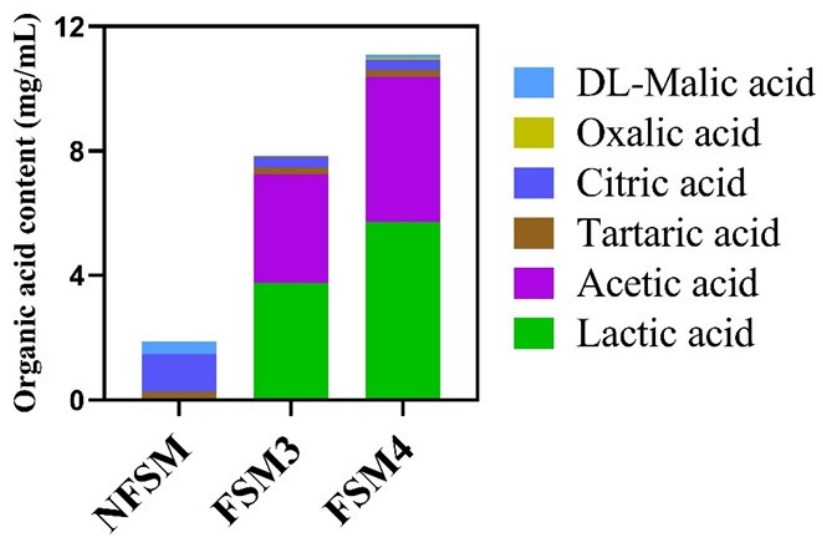
**Figure S6:** Changes in anti-nutrient factors during fermented soymilk



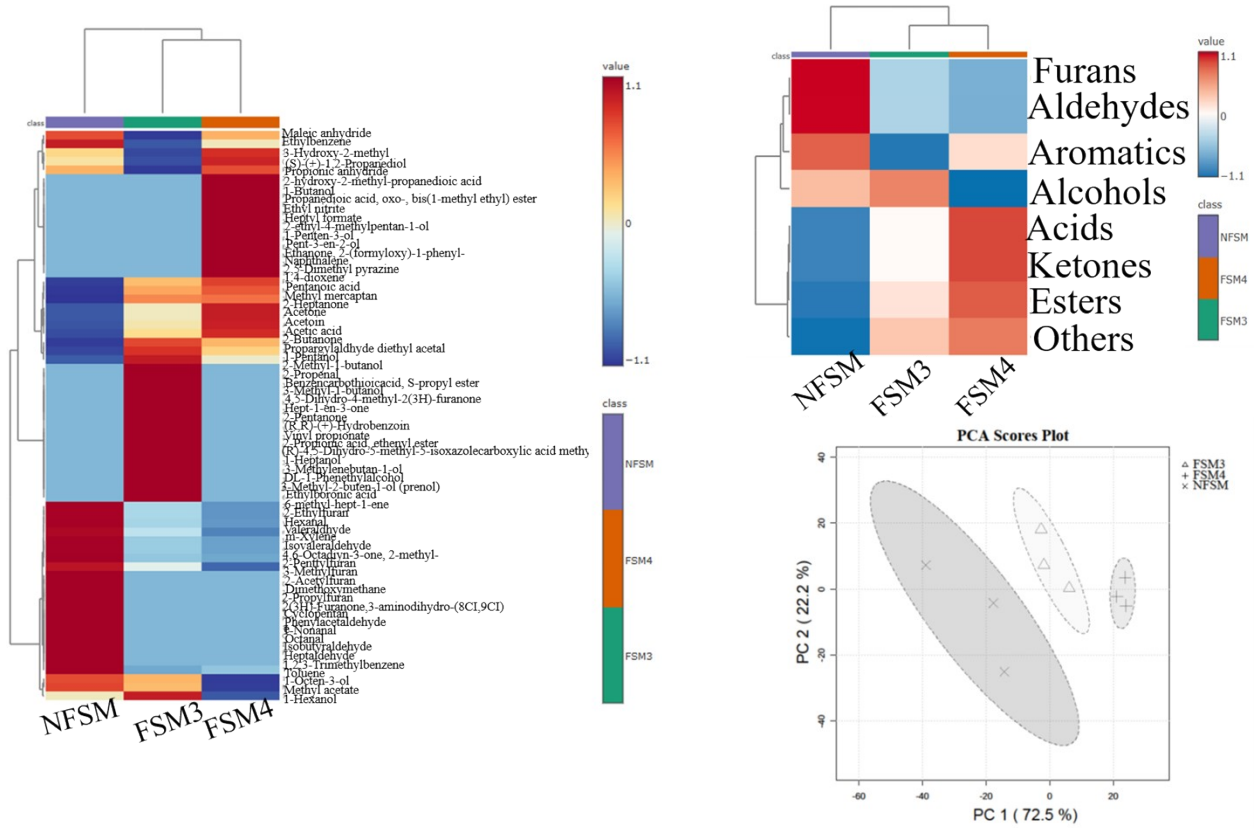
**Figure S7:** Isoflavone contents in lactic acid bacteria-fermented soymilk



**Figure S8:** Different organic acids contents in fermented soymilk. NFSM; non-fermented soymilk, FSM3; fermented soymilk at 37 °C, NFSM4; fermented soymilk at 42 °C.



**Figure S9:** Different characteristics of volatile compounds in fermented soymilk



**Figure S10:** Effects of lactic acid bacteria-fermented soymilk on antioxidant capacity

