

Table S1. Pearson's correlation test between microbial count and physicochemical parameters in goat's milk yogurts stocked at 4 °C.

| Parameter | <i>S. thermophilus</i> | | | <i>L. bulgaricus</i> | | | <i>L. acidophilus</i> LA-5 | | |
|--------------|--------------------------------|--------|--------------|-------------------------------|--------|--------------|-------------------------------|--------|--------------|
| | Equation | R | p | Equation | R | p | Equation | R | p |
| pH | -0.056 S _t + 4.87 | -0.955 | 0.010 | -0.040 L _b + 4.59 | -0.964 | 0.035 | -0.030 L _a + 4.53 | -0.952 | 0.011 |
| Lactose | -0.816 S _t + 58.41 | -0.664 | 0.336 | -0.517 L _b + 53.96 | -0.588 | 0.412 | -0.405 L _a + 53.33 | -0.615 | 0.385 |
| Glucose | -0.001 S _t + 0.122 | -0.056 | 0.944 | -0.003 L _b + 0.126 | -0.166 | 0.834 | -0.002 L _a + 0.123 | -0.176 | 0.823 |
| Galactose | 0.032 S _t + 0.784 | 0.836 | 0.022 | 0.022 L _b + 0.949 | 0.797 | 0.042 | 0.016 L _a + 0.981 | 0.778 | 0.045 |
| Citric | 0.001 S _t + 0.118 | 0.078 | 0.921 | 0.001 L _b + 0.119 | 0.156 | 0.844 | 0.001 L _a + 0.122 | 0.116 | 0.884 |
| Lactic | 0.0237 S _t + 1.58 | -0.291 | 0.709 | -0.011 L _b + 1.43 | -0.191 | 0.809 | -0.010 L _a + 1.42 | -0.221 | 0.779 |
| Formic | 0.007 S _t + 0.354 | 0.929 | 0.020 | 0.005 L _b + 0.393 | 0.883 | 0.019 | 0.004 L _a + 0.400 | 0.878 | 0.020 |
| Cadaverin | -0.205 S _t + 4.86 | -0.399 | 0.601 | -0.152 L _b + 3.87 | -0.414 | 0.586 | -0.125 L _a + 3.71 | -0.453 | 0.547 |
| Putrescine | -0.05847 S _t + 3.21 | -0.484 | 0.516 | -0.051 L _b + 2.96 | -0.588 | 0.412 | -0.037 L _a + 2.89 | -0.580 | 0.420 |
| Spermidine | 0.414 S _t - 1.78 | 0.784 | 0.216 | 0.273 L _b + 0.412 | 0.724 | 0.276 | 0.211 L _a + 0.758 | 0.747 | 0.253 |
| Spermine | 0.064 S _t + 1.25 | 0.591 | 0.409 | 0.052 L _b + 1.54 | 0.676 | 0.324 | 0.038 L _a + 1.62 | 0.654 | 0.346 |
| Tyramine | 0.594 S _t + 10.19 | 0.612 | 0.387 | 0.436 L _b + 13.11 | 0.629 | 0.371 | 0.308 L _a + 13.82 | 0.593 | 0.407 |
| Total BA | 1.85 S _t + 11.36 | 0.940 | 0.016 | 1.26 L _b + 20.99 | 0.897 | 0.015 | 0.943 L _a + 22.78 | 0.892 | 0.016 |
| Firmness | -0.445 S _t + 38.64 | -0.344 | 0.656 | -0.334 L _b + 36.49 | -0.362 | 0.638 | -0.278 L _a + 36.17 | -0.402 | 0.598 |
| Consistency | -2.30 S _t + 382.6 | -0.149 | 0.851 | -1.87 L _b + 372.3 | -0.170 | 0.830 | -1.75 L _a + 371.5 | -0.212 | 0.788 |
| Cohesiveness | 0.408 S _t - 9.14 | 0.627 | 0.372 | 0.280 L _b - 7.03 | 0.602 | 0.398 | 0.222 L _a - 6.71 | 0.637 | 0.362 |
| K | -2.97 S _t + 32.46 | -0.567 | 0.432 | -2.26 L _b + 18.32 | -0.605 | 0.395 | -1.78 L _a + 15.62 | -0.635 | 0.365 |
| n | 0.072 S _t - 0.264 | 0.532 | 0.468 | 0.055 L _b + 0.073 | 0.575 | 0.424 | 0.044 L _a + 0.139 | 0.606 | 0.394 |

K: consistency index; n: flow behavior index; S_t: *Streptococcus thermophilus*; L_b: *Lactobacillus bulgaricus*; L_a: *Lactobacillus acidophilus* LA-5; R: Pearson's correlation coefficient; p: probability value. Values in bold indicate significance of model ($p < 0.05$).

Table S2. Optimism-corrected performance estimates through validation by bootstrap approach of significant models for prediction of physicochemical parameters from microbial count in goat's milk yogurt stored at 4 °C during 28 days.

| Specie | Parameter | R ² _{app} | R ² _{boot} | R ² _{orig} | Optimism | R ² _v | R _v |
|----------------------------|-------------|-------------------------------|--------------------------------|--------------------------------|----------|-----------------------------|----------------|
| <i>S. thermophilus</i> | pH | 0.912 | 0.792 | 0.893 | -0.100 | 1.012 | -1.006 |
| | Galactose | 0.699 | 0.672 | 0.697 | -0.025 | 0.724 | 0.851 |
| | Formic acid | 0.864 | 0.892 | 0.847 | 0.045 | 0.819 | 0.905 |
| | Total BA | 0.884 | 0.892 | 0.856 | 0.036 | 0.848 | 0.921 |
| <i>L. bulgaricus</i> | pH | 0.930 | 0.751 | 0.887 | -0.135 | 1.065 | -1.032 |
| | Galactose | 0.635 | 0.646 | 0.507 | 0.139 | 0.496 | 0.704 |
| | Formic acid | 0.779 | 0.827 | 0.689 | 0.139 | 0.640 | 0.800 |
| | Total BA | 0.804 | 0.830 | 0.726 | 0.104 | 0.700 | 0.837 |
| <i>L. acidophilus</i> LA-5 | pH | 0.905 | 0.763 | 0.857 | -0.094 | 0.999 | -0.999 |
| | Galactose | 0.605 | 0.592 | 0.596 | -0.003 | 0.608 | 0.780 |
| | Formic acid | 0.771 | 0.813 | 0.743 | 0.070 | 0.701 | 0.837 |
| | Total BA | 0.796 | 0.817 | 0.785 | 0.032 | 0.764 | 0.874 |

BA: biogenic amine; R²_{app}: apparent coefficient of determination; R²_{boot}: bootstrap coefficient of determination; R²_{orig}: original coefficient of determination; R²_v: coefficient of determination of the model after validation. R_v: correlation coefficient of the model after validation