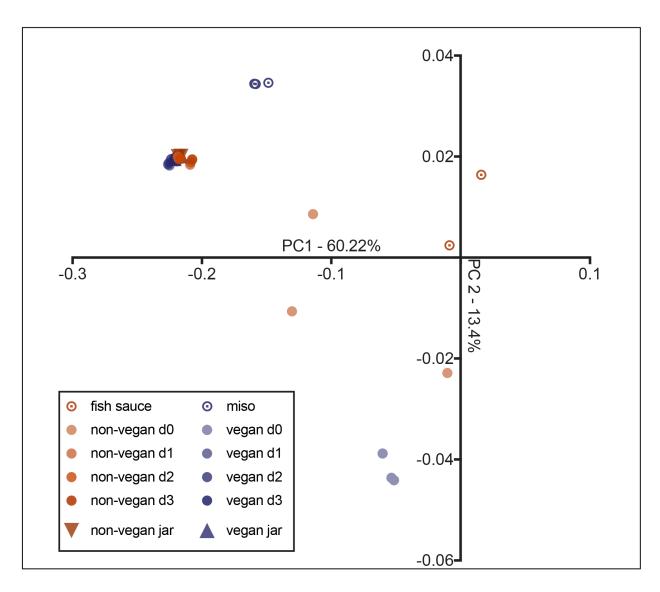


S1. Relative abundance (%) of bacterial genera in individual kimchi, ingredient, and environment sample. Relative abundances are from un-averaged triplicate samples.



S2. Simplified version of Fig. 1B PCoA depicting weighted-UniFrac distance of kimchi fermenting samples along with final product, fish sauce, and miso samples.

| | | | Leuco | onostoc | Lacto | bacillus | Tetrage | nococcus | Wei | ssella | |
|---------------|------------|---|--------|---------|--------|----------|---------|----------|--------|--------|-------|
| | | N | % OTUs | SD | % OTUs | SD | % OTUs | SD | % OTUs | SD | Total |
| | Fish Sauce | 2 | 0.32 | 0.00 | 0.34 | 0.00 | 39.25 | 0.03 | 0.04 | 0.00 | 39.96 |
| an | Day 0 | 3 | 33.72 | 0.23 | 9.52 | 0.06 | 0.00 | 0.00 | 25.49 | 0.04 | 68.74 |
| Non-Vegan | Day 1 | 3 | 13.06 | 0.02 | 83.84 | 0.02 | 0.00 | 0.00 | 3.07 | 0.00 | 99.98 |
| lon-\ | Day 2 | 3 | 32.45 | 0.17 | 65.80 | 0.17 | 0.00 | 0.00 | 1.74 | 0.01 | 99.99 |
| Z | Day 3 | 3 | 50.08 | 0.01 | 48.92 | 0.01 | 0.00 | 0.00 | 0.91 | 0.00 | 99.91 |
| | Jar | 2 | 46.24 | 0.03 | 53.24 | 0.03 | 0.00 | 0.00 | 0.49 | 0.00 | 99.97 |
| | Miso Paste | 3 | 0.21 | 0.00 | 0.33 | 0.00 | 52.28 | 0.03 | 0.05 | 0.00 | 52.87 |
| | Day 0 | 3 | 9.16 | 0.00 | 1.70 | 0.00 | 30.80 | 0.02 | 4.37 | 0.00 | 46.03 |
| Vegan | Day 1 | 3 | 66.63 | 0.04 | 29.35 | 0.04 | 0.16 | 0.00 | 3.79 | 0.01 | 99.94 |
| > | Day 2 | 3 | 59.78 | 0.07 | 38.33 | 0.07 | 0.10 | 0.00 | 1.75 | 0.00 | 99.96 |
| | Day 3 | 2 | 60.28 | 0.02 | 38.65 | 0.02 | 0.06 | 0.00 | 0.95 | 0.00 | 99.94 |
| | Jar | 2 | 52.88 | 0.13 | 46.15 | 0.14 | 0.04 | 0.00 | 0.90 | 0.01 | 99.98 |
| | Cabbage | 3 | 0.27 | 0.00 | 0.39 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.68 |
| • | Ginger | 3 | 0.29 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.54 |
| | Scallion | 3 | 4.25 | 0.02 | 0.90 | 0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 5.23 |
| Ingredients | Garlic | 1 | 3.11 | ~ | 0.32 | ~ | 0.00 | ~ | 0.21 | ~ | 3.64 |
| ĵ. | Red Pepper | 3 | 6.82 | 0.01 | 2.13 | 0.01 | 0.00 | 0.00 | 7.65 | 0.03 | 16.60 |
| | Sugar | 1 | 0.12 | ~ | 0.00 | ~ | 0.00 | ~ | 0.00 | ~ | 0.12 |
| | Radish | 2 | 7.74 | 0.02 | 3.15 | 0.00 | 0.87 | 0.01 | 0.45 | 0.00 | 12.22 |
| ntal | Table | 3 | 3.63 | 0.05 | 1.95 | 0.03 | 0.00 | 0.00 | 1.73 | 0.02 | 7.31 |
| nme | Sink | 3 | 11.82 | 0.01 | 27.82 | 0.23 | 0.05 | 0.00 | 16.51 | 0.07 | 56.21 |
| Environmental | Floor | 3 | 5.03 | 0.01 | 2.74 | 0.01 | 0.02 | 0.00 | 4.02 | 0.00 | 11.81 |
| Ш | Air | 3 | 5.41 | 0.02 | 4.94 | 0.03 | 0.03 | 0.00 | 0.65 | 0.00 | 11.02 |

S3. Tabular comparison of the predominant LAB across all sample types. Predominant LAB genera include *Tetragenococcus*, *Leuconostoc*, *Lactobacillus*, and *Weissella*, expressed as a percentage of total OTUs.