

Supplementary Table 1. Relative abundance of each phylum by GOS/inulin, 3-FL, and LNT2 fermentation at T0, T14, T24, and T36. Control is set without GOS/inulin, 3-FL, or LNT2.

Taxonomy	Proteobacteria	Actinobacteria	Bacteroidetes	Firmicutes	Verrucomicrobia	Cyanobacteria	Patescibacteria	Others
T ₀ -1	0.289458284	0.628691182	0.05066034	0.031142744	0	0	0	4.74E-05
T ₀ -2	0.335468565	0.586366153	0.047576117	0.030541716	0	1.58E-05	0	3.16E-05
Control T ₁₄ -1	0.934139976	0.029197311	0.015310399	0.021209964	0	0	0	0.000142349
Control T ₁₄ -2	0.8552155	0.080806643	0.040601028	0.023107948	7.91E-05	3.16E-05	0	0.000158165
Control T ₂₄ -1	0.825005931	0.028390668	0.131293001	0.015199684	0	1.58E-05	0	9.49E-05
Control T ₂₄ -2	0.709798339	0.072471333	0.204096481	0.013491499	0	0	0	0.000142349
Control T ₃₆ -1	0.711237643	0.026587584	0.242024516	0.019976275	0	0	0	0.000173982
Control T ₃₆ -2	0.637690787	0.082941874	0.259549229	0.019739027	0	0	0	7.91E-05
GOS/inulin T ₁₄ -1	0.735357849	0.238481613	0.014250692	0.010786872	0	0	0	0.001122974
GOS/inulin T ₁₄ -2	0.722024516	0.222222222	0.032740214	0.022712535	0	3.16E-05	0	0.000268881
GOS/inulin T ₂₄ -1	0.63735864	0.315476473	0.029782523	0.016370107	7.91E-05	0	0	0.000933175
GOS/inulin T ₂₄ -2	0.600695927	0.343361012	0.028754448	0.026967181	0	0	0	0.000221431
GOS/inulin T ₃₆ -1	0.543519178	0.438750494	0.007987347	0.008873072	0	1.58E-05	0	0.000854093
GOS/inulin T ₃₆ -2	0.561897983	0.411751681	0.013444049	0.012637406	0	1.58E-05	0	0.000253064
3-FL T ₁₄ -1	0.815436932	0.12569395	0.011229735	0.047180704	0	0	0	0.000458679
3-FL T ₁₄ -2	0.714543298	0.197026493	0.042198497	0.045567418	3.16E-05	6.33E-05	0	0.000569395
3-FL T ₂₄ -1	0.815326216	0.07694741	0.060482404	0.046674575	0	0	0	0.000569395
3-FL T ₂₄ -2	0.630241202	0.114638197	0.211198102	0.043384737	0	3.16E-05	0	0.000506129
3-FL T ₃₆ -1	0.74359826	0.103550811	0.088540925	0.063819692	0	0	0	0.000490312
3-FL T ₃₆ -2	0.592740214	0.119762752	0.208050613	0.079161724	1.58E-05	0	0	0.000268881
LNT2 T ₁₄ -1	0.739027284	0.233562673	0.013032819	0.013554765	0	1.58E-05	0	0.000806643
LNT2 T ₁₄ -2	0.741921708	0.206911823	0.025053381	0.02587584	3.16E-05	3.16E-05	0	0.000173982
LNT2 T ₂₄ -1	0.735373665	0.217208383	0.025401344	0.021194148	7.91E-05	0	1.58E-05	0.00072756
LNT2 T ₂₄ -2	0.689284302	0.228580467	0.035745354	0.045931198	0	0	0	0.000458679
LNT2 T ₃₆ -1	0.628137604	0.291498616	0.043954132	0.036061684	0	3.16E-05	0	0.000316331
LNT2 T ₃₆ -2	0.58059312	0.285092922	0.085140372	0.048999605	0	4.74E-05	0	0.000126532