

Table S1 The abilities of LAB strains to degrade hypoxanthine

LAB strains	Hypoxanthine degradation rate (%)
R15	1.85±4.14 ^{ab}
R42	0.81±1.31 ^{ab}
R31	-5.27±10.23 ^a
R28-1	2.71±2.34 ^b
R12	0.46±1.07 ^{ab}
L20M3	3.76±1.49 ^b
L12L1	0.85±3.03 ^{ab}
L3L1	5.35±3.17 ^b
138-1	5.15±3.52 ^b
L33L6	1.55±0.63 ^{ab}

Different letters indicated significant differences between the groups ($p < 0.05$).

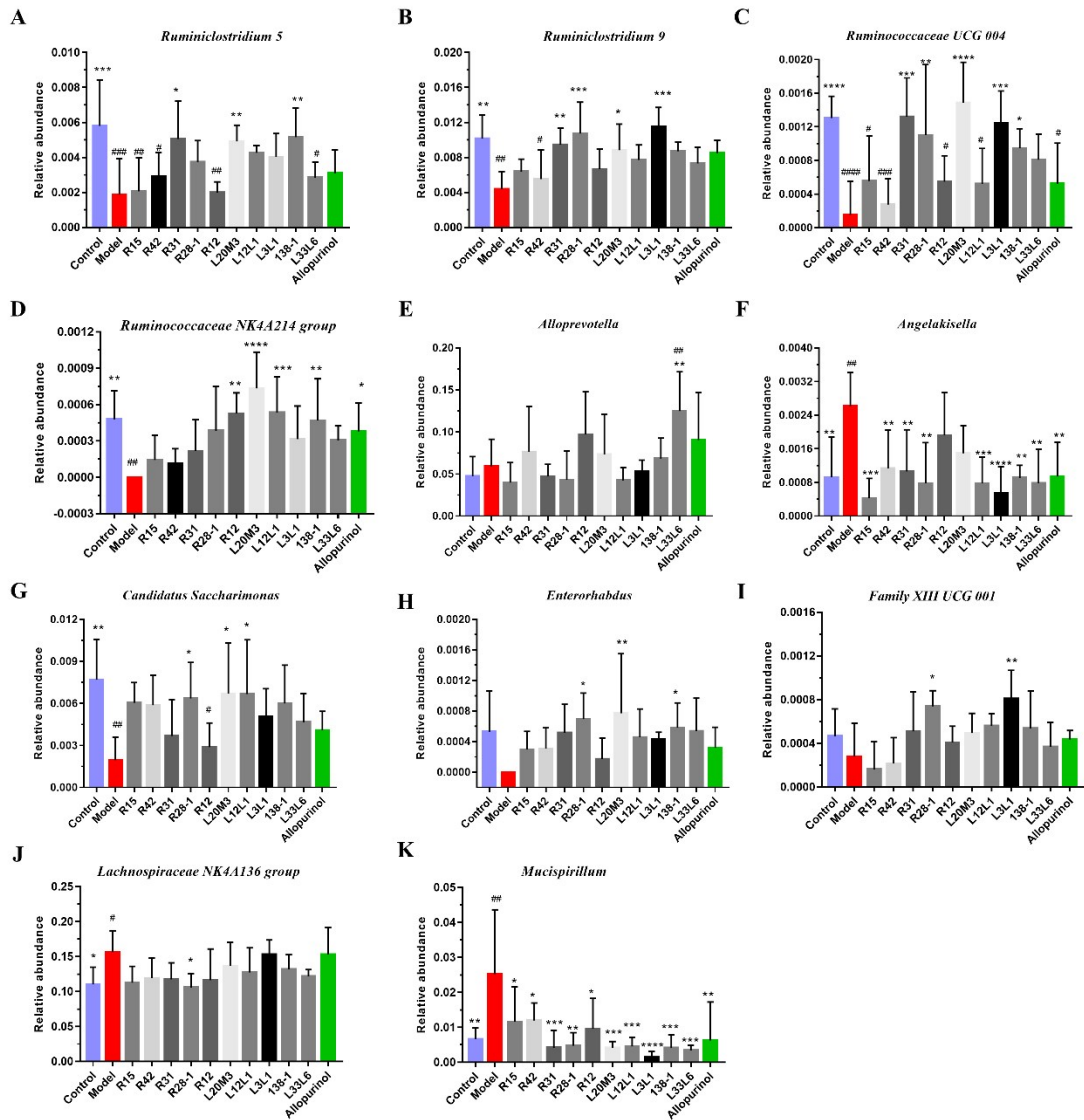


Figure S1 The relative abundance of 11 genera selected by LefSe. (A) *Ruminiclostridium 5*; (B) *Ruminiclostridium 9*; (C) *Ruminococcaceae UCG 004*; (D) *Ruminococcaceae NK4A214 group*; (E) *Alloprevotella*; (F) *Angelakisella*; (G) *Candidatus Saccharimonas*; (H) *Enterorhabdus*; (I) *Family XIII UCG 001*; (J) *Lachnospiraceae NK4A136 group*; (K) *Mucispirillum*.

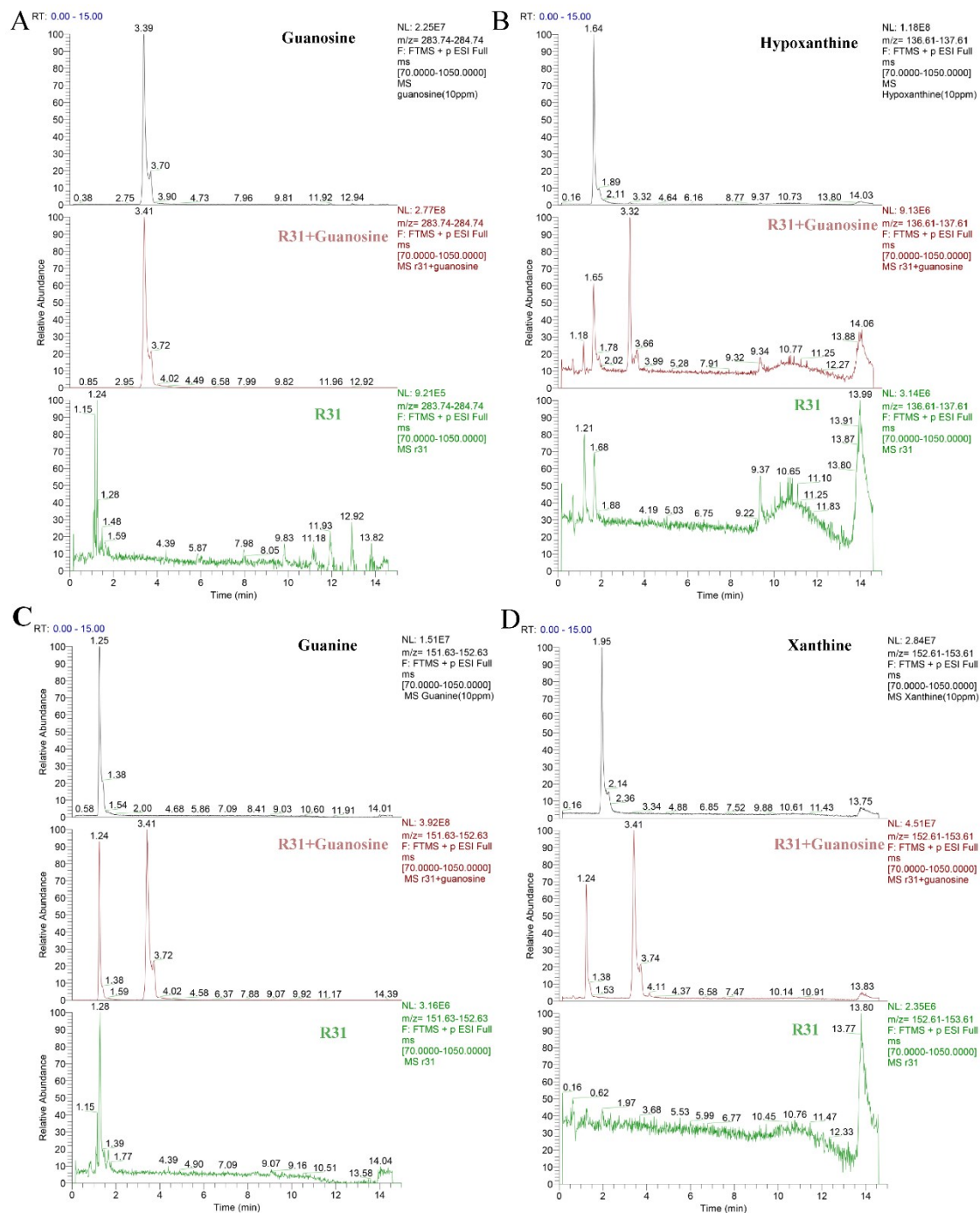


Figure S2 The main products of guanosine degradation by *L. rhamnosus* R31. (A) Guanosine (m/z= 283.74-284.74); (B) Hypoxanthine (m/z= 136.61-137.61); (C) Guanine (m/z= 151.63-152.63); (D) Xanthine (m/z =152.61-153.61)