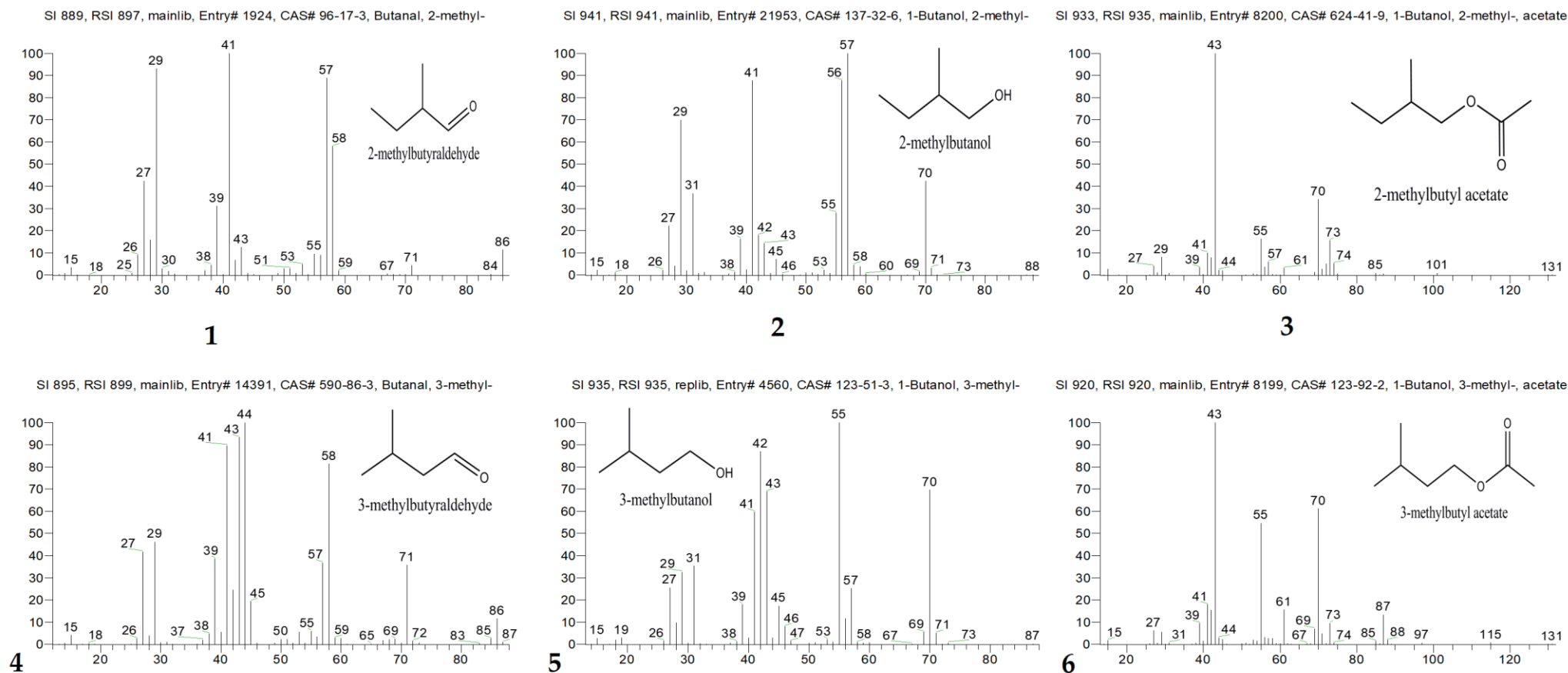


## Supplementary Materials



**Figure S1.** The mass spectrometry of the different branched-chain alcohols and esters products converted by Strain 38( $\Delta$ BAT2) and Parental strain 38 used Ile or Leu as sole nitrogen source. (1), (2), (3) represents the mass spectrometry of 2-methylbutyraldehyde, 2-methylbutanol, 2-methylbutyl acetate derived from the addition of Ile, respectively. (4), (5), (6) represents the mass spectrometry of 3-methylbutyraldehyde, 3-methylbutanol, 3-methylbutyl acetate derived from the addition of Leu, respectively.



**Figure S2.** The structural features of *BAT2* gene and BAT2p of *S. cerevisiae* strains. Bat2p-38 is the expression protein sequence of *BAT2* gene in parental *S. cerevisiae* 38. Bat2p-288c is the expression protein sequence of *BAT2* gene in wildtype *S. cerevisiae* 288C. KD means Kyte and Doolittle method. HW means Hopp and Woods method. SE means surface exposure. *BAT2* gene: 1131bp; Bat2p: 376 Amino acid residues.