



**Figure S1.** A heatmap analysis of metabolites variations for day 1, day 2 and day 3. Fermentation was carried out for 3 days and metabolites were analyzed by GC-MS. The unfermented BSG samples, in triplicates, are displayed from the left, followed by the fermented BSG samples, in triplicates. The areas shaded in red indicated a higher amount of the specific metabolites, whereas the areas shaded in blue indicated a lower amount of the specific metabolites. The red, green, blue and turquoise bars on the top of the heatmap represent the control, day 2, day 1 and day 3 samples respectively.