

**Table S3.** Volatile compounds (mean±std.dev) detected by HS-SPME-GC/MS of the experimental beers inoculated by three *S. cerevisiae* strains (SD12, SD19, and US-05). CB: control beers; FB: fruit beers with raspberry addition. Two-way ANOVA using as factor the yeast strain, the addition of raspberry and their interaction.

| Classes           | Compounds (mg/L)      | CB SD12     | FB SD12      | CB SD19     | FB SD19      | CB US-05     | FB US-05     | Two-way ANOVA  |
|-------------------|-----------------------|-------------|--------------|-------------|--------------|--------------|--------------|--|
| Aldehydes-Ketones | Acetaldehyde          | 0.04±0.00   | 0.15±0.01    | 0.02±0.00   | 0.04±0.00    | 0.18±0.01    | 0.17±0.01    | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction < 0.0001 |
|                   | Benzaldehyde          | 0.001±0.000 | 0.000±0.000  | 0.001±0.000 | 0.001±0.000  | 0.000±0.000  | 0.000±0.000  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0005<br><i>p</i> interaction 0.0027   |
|                   | Diacetyl              | 0.44±0.01   | 1.00±0.03    | 0.41±0.01   | 1.16±0.03    | 0.19±0.00    | 0.72±0.02    | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction 0.0008 |
| Alcohols          | 1-Propanol            | 25.87±1.81  | 42.12±2.95   | 15.29±1.07  | 22.77±1.59   | 28.24±1.98   | 38.74±2.71   | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction ns     |
|                   | 2-Methyl -1-Propanol, | 21.33±1.07  | 9.61±0.48    | 18.75±0.94  | 5.76±0.29    | 15.91±0.80   | 3.71±0.18    | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction ns     |
|                   | 1-Butanol             | 1.47±0.03   | 1.99±0.40    | 1.14±0.02   | 1.38±0.03    | 1.52±0.03    | 1.65±0.03    | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction 0.0003 |
|                   | 3-Methyl-1-Butanol    | 142.08±9.95 | 242.87±17.00 | 97.82±6.85  | 145.21±11.62 | 140.67±11.25 | 185.60±14.77 | <i>p</i> strain 0.006<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction 0.0299      |
|                   | 1-Hexanol             | 0.07±0.00   | 0.12±0.00    | 0.04±0.00   | 0.08±0.00    | 0.06±0.00    | 0.12±0.00    | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction 0.0158   |
|                   | Benzyl Alcohol        | 0.72±0.04   | 0.77±0.04    | 0.70±0.03   | 0.73±0.04    | 0.73±0.04    | 0.75±0.04    | <i>p</i> strain ns<br><i>p</i> raspberry ns<br><i>p</i> interaction ns                 |
|                   | Phenylethyl Alcohol   | 52.44±3.15  | 88.11±5.29   | 43.04±2.53  | 58.10±3.47   | 247.63±12.39 | 29.83±14.90  | <i>p</i> strain < 0.0009<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction 0.0050   |

|        |                     |             |             |             |             |             |             |  |
|--------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
| Esters | Hexyl acetate       | 0.002±0.000 | 0.006±0.000 | 0.000±0.000 | 0.000±0.000 | 0.002±0.000 | 0.005±0.000 | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction < 0.0001 |
|        | Ethyl acetate       | 24.18±0.98  | 26.71±1.07  | 12.53±0.50  | 13.86±0.55  | 25.75±1.03  | 28.51±1.14  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0057<br><i>p</i> interaction ns         |
|        | Ethyl isobutyrate   | 0.009±0.000 | 0.02±0.00   | 0.003±0.000 | 0.01±0.000  | 0.01±0.000  | 0.02±0.001  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction < 0.0001 |
|        | Isoamyl acetate     | 2.42±0.20   | 7.79±0.62   | 0.000±0.000 | 0.000±0.000 | 2.22±0.18   | 5.95±0.48   | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction < 0.0001 |
|        | Ethyl hexanoate     | 0.79±0.04   | 0.92±0.05   | 0.23±0.01   | 0.31±0.02   | 0.40±0.02   | 0.67±0.03   | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction < 0.0116   |
|        | Ethyl lactate       | 2.39±0.21   | 3.74±0.34   | 2.08±0.19   | 3.03±0.28   | 2.40±0.21   | 3.15±0.29   | <i>p</i> strain ns<br><i>p</i> raspberry 0.0004<br><i>p</i> interaction ns               |
|        | Ethyl octanoate     | 2.18±0.11   | 2.45±0.12   | 2.04±0.10   | 2.31±0.12   | 2.41±0.12   | 2.70±0.35   | <i>p</i> strain 0.0115<br><i>p</i> raspberry 0.0052<br><i>p</i> interaction ns           |
|        | Ethyl decanoate     | 5.73±0.06   | 15.43±0.16  | 1.83±0.02   | 2.95±0.03   | 21.01±0.22  | 24.18±0.35  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction < 0.0001 |
|        | Ethyl dodecanoate   | 3.38±0.13   | 4.27±0.17   | 2.56±0.10   | 3.21±0.13   | 4.06±0.16   | 5.05±0.20   | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction ns       |
|        | Diethyl succinate   | 0.06±0.00   | 0.08±0.00   | 0.04±0.00   | 0.06±0.00   | 0.06±0.00   | 0.10±0.00   | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction 0.0049   |
|        | Phenylethyl acetate | 8.51±0.42   | 13.57±0.78  | 4.22±0.31   | 5.37±0.27   | 11.69±0.59  | 12.40±0.62  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0002<br><i>p</i> interaction 0.0015     |

|                  |                     |             |             |             |             |             |             |  |
|------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
|                  | Ethyl benzenacetate | 0.000±0.000 | 0.001±0.000 | 0.000±0.000 | 0.001±0.000 | 0.000±0.000 | 0.001±0.000 | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction 0.0003   |
|                  | Z-3-hexenyl acetate | 0.001±0.000 | 0.001±0.000 | 0.000±0.000 | 0.000±0.000 | 0.000±0.000 | 0.001±0.000 | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction < 0.0001 |
| Volatile acids   | Hexanoic acid       | 22.40±1.34  | 35.31±2.12  | 12.50±0.85  | 19.76±1.18  | 21.38±1.29  | 33.86±2.03  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction ns         |
|                  | Octanoic acid       | 6.35±0.32   | 10.14±0.51  | 3.55±0.18   | 4.85±0.24   | 7.10±0.35   | 8.47±0.42   | <i>p</i> strain < 0.0001<br><i>p</i> raspberry 0.0001<br><i>p</i> interaction 0.0040     |
| Terpenes         | α terpineol         | 0.003±0.000 | 0.02±0.00   | 0.000±0.000 | 0.003±0.000 | 0.002±0.000 | 0.02±0.001  | <i>p</i> strain < 0.0001<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction < 0.0001 |
|                  | p-Cymene            | 0.03±0.001  | 0.04±0.001  | 0.28±0.001  | 0.031±0.001 | 0.032±0.001 | 0.35±0.001  | <i>p</i> strain 0.0005<br><i>p</i> raspberry 0.0002<br><i>p</i> interaction 0.0285       |
|                  | β-damascenone       | 0.002±0.000 | 0.007±0.000 | 0.001±0.000 | 0.002±0.000 | 0.001±0.000 | 0.006±0.000 | <i>p</i> strain 0.0003<br><i>p</i> raspberry < 0.0001<br><i>p</i> interaction 0.0003     |
| Volatile phenols | 4-Ethylguaiacol     | 0.02±0.001  | 0.02±0.001  | 0.02±0.001  | 0.02±0.001  | 0.02±0.001  | 0.02±0.001  | <i>p</i> strain ns<br><i>p</i> raspberry ns<br><i>p</i> interaction ns                   |
|                  | 4-Ethylphenol       | 0.05±0.002  | 0.05±0.002  | 0.05±0.002  | 0.05±0.002  | 0.05±0.002  | 0.05±0.002  | <i>p</i> strain ns<br><i>p</i> raspberry ns<br><i>p</i> interaction ns                   |