Supplementary Materials

Table S1: Monosaccharide composition (mg monosaccharide/g extract) of the polysaccharide extracts used[1].

Extracts	Ara	Rha	Fuc	Man	Gal	Glu	Xyl	2-O-MeFuc	2-O-MeXyl	Api	Kdo	GalA	GluA
WM	78.9	34.6	1.24	218	39.3	190	21.3	0.394	0.242	0.138	1.26	59.2	29.7
WGP	7.93	5.28	0.203	8.85	23.1	193	2.77	0.297	0.217	0.143	0.880	27.5	1.62
CY1	0.045	0.051	0.006	484	1.85	229	0.379	0.001	0.009	0.039	0.701	2.18	0.432
CY2	1.61	0.772	0.051	372	12.9	157	0.331	0.005	0.007	0.087	0.763	2.87	0.730

[1] Ara: arabinose; Rha: rhamnose; Fuc: fucose; Man: mannose; Gal: galactose; Glu: glucose; Xyl: xylose; 2-O-MeFuc: 2-O-methyl fucose, 2-O-MeXyl: 2-O-methyl xylose; Api: apiose; Kdo: 3-deoxyoctulosonic acid; GalA: galacturonic acid; GluA: glucuronic acid.

Table S2. Factor loadings of PCA (loadings lower than an absolute value of 0.250 are not shown).

	Principal component 1	Principal component 2	Principal component 3
EE-SCFA[1]	0.915	-	-
EE-BCFA[1]	0.913	-	-
Alcohol acetates	0.905	-	-0.286
C6 Alcohols	0.756	-0.445	-
Terpenes	0.756	0.495	-0.279
Lactones	0.846	-	0.377
Vanillin Derivates	0.593	0.382	-
Furfuryl Derivates	0.494	0.732	-
Volatile Phenols	0.640	-0.300	0.566
Higher Alcohols	-	0.510	0.778
Eigenvalue	5.36	1.53	1.33
Cumulative variance (%)	53.6	69.0	82.3

[1] EE-SCFA: ethyl esters of straight chain fatty acids; EE-BCFA: ethyl esters of branched chain fatty acids.

Table S3: Descriptors of the sensory characteristics in the control and treated sparkling wines [1].

Wines	Initial foam	Foam surface area	Foam collar	Bubble size	Effervescence speed	Color intensity	Yellow tones	Green tones
SW-C	2.3±0.5	2.4±0.5	2.3±0.5	2.4±0.8	2.1±0.4	3.0±0.5	3.2±0.4	1.6±0.5
SW-WM	2.3±0.5	1.9±0.7	1.7±0.5	2.6±0.5	1.9±0.9	3.7±0.3	3.8±0.3	1.3±0.3
SW-WGP	2.4±0.5	2.3±0.8	1.9±0.7	2.6±0.5	2.1±0.7	3.4±0.2	3.5±0.4	1.8±0.5
SW-CY1	2.3±0.8	2.3±0.8	2.6±0.5	2.6±0.5	2.0±0.8	3.1±0.6	3.1±0.6	2.0±0.6
SW-CY2	2.0±0.6	2.0±0.6	2.0±0.6	2.3±0.5	2.3±0.8	2.9±0.4	3.3±0.3	1.9±0.2

[1] Mean values ± standard deviation.

Table S3 (continued): Descriptors of the sensory characteristics in the control and treated sparkling wines [1].

Wines	Olfactory intensity	Citrus fruit	White fruit	Stone fruit	Tropical fruit	Floral notes	Toasted/lees notes
SW-C	3.3±0.6	2.7±0.7	1.9±0.6	1.1±0.2	2.5±0.5	1.5±0.6	1.3±0.5
SW-WM	2.9±0.5	1.3±0.5	1.6±0.5	2.0±0.6	1.7±0.7	1.1±0.4	2.1±0.6
SW-WGP	3.6±0.2	1.6±0.5	2.4±0.3	2.3±0.6	1.6±0.6	1.4±0.5	1.4±0.5
SW-CY1	2.7±0.6	2.2±0.4	1.4±0.5	1.2±0.6	2.4±0.7	1.2±0.4	1.4±0.6
SW-CY2	2.9±0.2	1.6±0.6	1.6±0.4	1.8±0.6	1.9±0.7	1.2±0.6	2.3±0.4

[1] Mean values ± standard deviation.

Table S3 (continued): Descriptors of the sensory characteristics in the control and treated sparkling wines [1].

Wines	Sweetness	Acidity	Bitterness	Volume or mouthfeel	Persistence	Balance
SW-C	2.0±0.6	3.6±0.4	2.0±0.6	2.9±0.2	3.2±0.5	3.3±0.6
SW-WM	2.1±0.7	2.9±0.3	1.9±0.7	2.1±0.4	2.4±0.7	2.7±0.5
SW-WGP	1.5±0.6	2.8±0.5	2.3±0.5	2.6±0.6	2.9±0.7	3.1±0.4
SW-CY1	1.7±0.6	3.1±0.6	2.6±0.6	3.0±0.6	3.1±0.6	2.8±0.6
SW-CY2	1.6±0.5	2.6±0.6	2.1±0.6	2.5±0.4	2.5±0.4	2.8±0.4

[1] Mean values ± standard deviation.