

SUPPLEMENTARY DATA

Slaghenaufi, D., Luzzini, G., Avrini, G., Marconcini, S., Vela, E., & Ugliano, M. (2022). Occurrence, biogenesis and sensory impact of methyl salicylate in Lugana wines. *OENO One*, 56(2). <https://doi.org/10.20870/oeno-one.2022.56.2.5389>

Supplemental Material

TABLE S1. Retention indices, quantification ions, Limit of detection (LOD) and limit of quantitation (LOQ) of MeSA.

	LRI¹	Quantitation ion <i>m/z</i>	Qualifier ions <i>m/z</i>	LOD ($\mu\text{g/L}$)	LOQ ($\mu\text{g/L}$)	R²
MeSA	1760	152	120, 92	0.03	0.1	0.9991

¹ Linear Retention Index (LRI) were determined on DB-WAX polar column, as described by van Den Dool and Kratz (1963).

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TABLE S2. Concentration (means ± standard deviation) of glycosidically bound MeSA in different wine varieties.

Variety	Region	Wine type	Vintage	Aging time (years)	MeSA glycosidic precursors (µg/L)
Lugana	Veneto	white	2018	2	42.7 ± 1.3
Lugana	Veneto	white	2016	4	19.7 ± 1.0
Lugana	Veneto	white	2017	3	23.9 ± 1.4
Lugana	Veneto	white	2017	3	4.59 ± 0.32
Lugana	Veneto	white	2018	2	34.7 ± 3.8
Lugana	Veneto	white	2016	4	7.8 ± 0.6
Lugana	Veneto	white	2014	6	6.85 ± 0.55
Lugana	Veneto	white	2016	4	91.4 ± 1.8
Lugana	Veneto	white	2017	3	89.3 ± 8.0
Lugana	Veneto	white	2017	3	105 ± 12
Lugana	Veneto	white	2017	3	76.5 ± 1.5
Lugana	Veneto	white	2017	3	72.6 ± 7.3
Lugana	Veneto	white	2019	1	56.4 ± 6.2
Lugana	Veneto	white	2018	2	84.2 ± 4.2
Lugana	Veneto	white	2019	1	51.1 ± 3.1
Lugana	Veneto	white	2018	2	130 ± 13
Lugana	Veneto	white	2019	1	70.2 ± 2.8
Lugana	Veneto	white	2016	4	165 ± 11
Lugana	Veneto	white	2017	3	98.0 ± 8.8
Lugana	Veneto	white	2018	2	96.3 ± 11.6
Lugana	Veneto	white	2017	3	88.9 ± 8.0
Lugana	Veneto	white	2018	2	121 ± 2
Lugana	Veneto	white	2019	1	111 ± 13
Verdicchio	Marche	white	2017	3	108 ± 9
Verdicchio	Marche	white	2016	4	150 ± 13
Verdicchio	Marche	white	2017	3	24.8 ± 0.7
Verdicchio	Marche	white	2017	3	13.5 ± 0.3
Verdicchio	Marche	white	2017	3	21.1 ± 0.8
Verdicchio	Marche	white	2018	2	92.4 ± 5.5
Verdicchio	Marche	white	2017	3	26.5 ± 1.1
Verdicchio	Marche	white	2013	7	31.2 ± 2.5
Verdicchio	Marche	white	2015	5	92.4 ± 7.4
Verdicchio	Marche	white	2013	7	8.28 ± 0.25
Verdicchio	Marche	white	2014	6	56.9 ± 5.1
Verdicchio	Marche	white	2007	13	7.71 ± 0.54
Verdicchio	Marche	white	2014	6	6.81 ± 0.14
Verdicchio	Marche	white	2004	16	17.6 ± 1.0
Corvina*	Veneto	red	2018	2	0.32 ± 0.02
Corvina*	Veneto	red	2018	2	1.38 ± 0.04
Corvina*	Veneto	red	2018	2	2.7 ± 0.27
Corvina*	Veneto	red	2018	2	7.03 ± 0.28
Corvina*	Veneto	red	2018	2	4.15 ± 0.29

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Variety	Region	Wine type	Vintage	Aging time (years)	MeSA glycosidic precursors (µg/L)
Corvina*	Veneto	red	2019	1	0.2 ± 0.02
Corvina*	Veneto	red	2019	1	1 ± 0.08
Corvina*	Veneto	red	2019	1	1.5 ± 0.17
Corvina*	Veneto	red	2019	1	2.1 ± 0.19
Corvina*	Veneto	red	2019	1	3.2 ± 0.29
Corvinone*	Veneto	red	2018	2	2.03 ± 0.14
Corvinone*	Veneto	red	2018	2	1.4 ± 0.04
Corvinone*	Veneto	red	2018	2	1.16 ± 0.13
Corvinone*	Veneto	red	2018	2	0.82 ± 0.09
Corvinone*	Veneto	red	2018	2	1.7 ± 0.19
Corvinone*	Veneto	red	2019	1	0.7 ± 0.05
Corvinone*	Veneto	red	2019	1	0.7 ± 0.02
Corvinone*	Veneto	red	2019	1	1.8 ± 0.05
Corvinone*	Veneto	red	2019	1	2 ± 0.14
Corvinone*	Veneto	red	2019	1	2.01 ± 0.16
Garganega*	Veneto	white	2019	1	0.65 ± 0.02
Garganega*	Veneto	white	2019	1	0.84 ± 0.01
Garganega*	Veneto	white	2019	1	1.20 ± 0.05
Pinot grigio	Veneto	white	2019	1	1.18 ± 0.03
Pinot grigio	Veneto	white	2019	1	1.03 ± 0.08
Pinot grigio	Veneto	white	2019	1	0.695 ± 0.01
Pinot grigio	Veneto	white	2019	1	1.11 ± 0.01
Pinot grigio	Veneto	white	2019	1	0.615 ± 0.04
Pinot grigio	Veneto	white	2019	1	1.205 ± 0.01
Pinot grigio	Veneto	white	2019	1	1.34 ± 0.08
Sangiovese*	Toscana	red	2015	5	1.36 ± 0.12
Sangiovese*	Toscana	red	2015	5	2.71 ± 0.22
Sangiovese*	Toscana	red	2015	5	6.8 ± 0.2
Sangiovese*	Toscana	red	2015	5	5.44 ± 0.44
Sangiovese*	Toscana	red	2015	5	6.57 ± 0.79
Pinot nero	Trentino	red	2016	4	0.26 ± 0.01
Pinot nero	Trentino	red	2017	3	0.6 ± 0.04
Pinot nero	Trentino	red	2018	2	0.53 ± 0.03
Pinot nero	Trentino	red	2014	6	1.72 ± 0.03
Pinot nero	Trentino	red	2018	2	0.5 ± 0.01

*: denotes the main variety used in the commercial blend according to the current regulation (minimum 85 % in all cases). Asterisk denotes experimental or commercial unblended samples (100 % monovarietal).

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TABLE S3. Compositional parameters of the three musts used in the fermentation study.

	Must		
	A	B	C
pH	3.27 ± 0.01	3.24 ± 0.01	3.2 ± 0.01
Sugar (g/L)	240 ± 7	227 ± 9	211 ± 2
Total acidity (g/L)	7.8 ± 0.2	7.6 ± 0.1	8.1 ± 0.3
MeSA glycosidically bound (µg/L)	301 ± 15	294 ± 21	317 ± 20

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TABLE S4. Characteristics of the wines used for the model aging experiment.

Wine	Vintage	pH	Ethanol (v/v%)		Tartaric acid (g/L)	
1	2018	3.45 ± 0.01	13	± 0.5	2.65	± 0.04
2	2016	2.98 ± 0.02	12.5	± 0.5	2.85	± 0.11
3	2017	3.1 ± 0.02	12.5	± 0.5	2.77	± 0.11
4	2017	3.16 ± 0.01	12.5	± 0.5	3.34	± 0.02
5	2018	3.27 ± 0.01	12.5	± 0.5	2.91	± 0.02
6	2016	3.18 ± 0.03	13	± 0.5	1.96	± 0.08
7	2014	3.19 ± 0.01	13	± 0.5	3.04	± 0.08