SUPPLEMENTARY DATA
Tari, U., Pettinelli, S., Bianchi, A., Pollon, M., Alfieri, G., Vitaggio, C., Corona, O., Modesti, M., Fiorino, F. O., Bellincontro, A., & Mencarelli, F. (2023). Identifying Wine Grape Aromatic Maturity using E-nose and GC-MS: the case of Nerello Mascalese Grapes from two Contrade of the Etna Area. *OENO One*, *58*(1).
https://doi.org/10.20870/oeno-one.2024.58.1.7752

Supplementary data

TABLE S1. Single compound of glycosylated GVOCs of Nerello Mascalese grapes, coming from 08 Alto and Solicchiata vineyards at each maturity stage (T0 = 18° Bx; T1 = 21° Bx; T3 = 23° Bx).

Compound of glycosylated GVOCs	08 Alto			Solicchiata		
(µg/kg^{-1} grape)	T0	T1	T2	T0	T1	T2
Octanoic acid	5.04 ± 0.21 c	5.84 ± 0.19 b	4.61 ± 0.32 c	18.10 ± 1.00 a	6.51 ± 0.54 b	5.73 ± 0.42 b
Decanoic acid	18.97 ± 1.20 d	328.57 ± 20.62 b	139.12 ± 9.62 c	408.31 ± 22.00 a	366.37 ± 12.39 ab	341.66 ± 33.02b
Benzaldehyde	15.04 ± 0.90 d	44.31 ± 5.62 b	39.04 ± 1.62 b	46.57 ± 3.08 b	77.53 ± 8.75 a	33.32 ± 2.00 c
Methyl salicylate	4.51 ± 0.09 c	13.34 ± 1.62 b	4.58 ± 0.32 c	15.96 ± 2.10 ab	18.04 ± 1.98 a	15.23 ± 1.02 b
Benzyl alcohol	284.17 ± 12.02 d	1423.64 ± 100.02 a	828.60 ± 21.01 c	1349.06 ± 102.00 ab	1511.8 ± 129.00 a	1243.64 ± 133.22 b
2-Phenylethanol	188.15 ± 10.32 e	697.51 ± 23.68 b	329.26 ± 12.45 d	841.17 ± 26.30 a	569.78 ± 12.39 c	499.61 ± 65.44 c
Eugenol	19.13 ± 2.02 d	61.76 ± 6.02 a	23.26 ± 2.62 d	53.45 ± 2.45 a	40.63 ± 3.88 b	33.96 ± 2.04 c
4-Vinylguaiacol	17.66 ± 1.00 f	80.45 ± 5.69 c	52.50 ± 3.65 e	344.30 ± 23.09 a	95.92 ± 8.77 b	73.29 ± 3.02 d
3,4-Dimethoxyphenol	6.53 ± 1.1 d	13.51 ± 1.62 b	9.17 ± 0.82 c	27.59 ± 3.00 a	30.16 ± 2.33 a	14.30 ± 0.98 b
Isoeugenol	4.44 ± 0.09 c	4.79 ± 0.82 c	2.79 ± 0.22 d	15.08 ± 1.40 a	6.98 ± 1.09 b	8.58 ± 0.80 b
4-Vinylphenol	5.24 ± 0.10 e	11.34 ± 0.69 c	7.36 ± 0.60 d	62.18 ± 5.03 a	18.25 ± 2.01 b	15.54 ± 1.02 b
Vanillin	9.36 ± 2.02 d	39.72 ± 5.0 b	25.28 ± 2.0 c	73.12 ± 7.00 a	41.36 ± 2.09 b	42.41 ± 2.08 b
Acetovanillone	18.46 ± 2.02 d	119.86 ± 8.68 a	62.64 ± 1.92 c	119.83 ± 10.10 a	132.14 ± 18.07 a	82.14 ± 4.44 b
Homovanillyl alcohol	17.90 ± 1.20 c	181.21 ± 9.60 a	117.83 ± 10.62 b	129.56 ± 12.09 b	125.12 ± 12.00 b	13.34 ± 3.08 c
3,4,5-Trimethoxybenzyl alcohol	8.91 ± 1.22 d	44.54 ± 2.22 a	n.d.	32.81 ± 2.00 b	36.90 ± 2.09 b	17.35 ± 1.10 c
Homovanillic acid	176.94 ± 10.02 d	215.74 ± 13.20 c	101.07 ± 8.41	586.18 ± 12.00 a	250.40 ± 18.29 b	196.40 ± 10.52 cd
3,4,5-Trimethoxyphenol	23.61 ± 2.02 d	139.41 ± 7.30 b	n.d.	118.68 ± 10.19 c	180.73 ± 18.09 a	116.84 ± 10.02 c
4-Hydroxy-2-methoxycinnamaldehyde	33.83 ± 2.02 d	63.00 ± 4.33 c	n.d.	108.85 ± 9.01 a	55.67 ± 4.32 c	82.04 ± 5.09 b
Coniferyl alcohol	29.52 ± 1.80 d	33.02 ± 2.69 cd	9.52 ± 0.62	56.55 ± 2.99 a	34.87 ± 2.99 c	44.75 ± 3.22 b
3,4-Dihydro-3-actinidol I	15.27 ± 0.82 f	50.78 ± 1.99 b	26.56 ± 2.02 e	58.57 ± 4.09 a	46.89 ± 2.59 c	38.23 ± 3.02 d
4-Oxo-α-damascone	10.88 ± 2.08 e	71.02 ± 2.82 b	39.10 ± 2.62 d	132.89 ± 11.00 a	44.62 ± 3.09 d	53.87 ± 2.82 c
3,4-Dihydro-3-actinidol II	20.57 ± 2.01 e	70.03 ± 4.68 a	32.15 ± 2.02 d	54.33 ± 2.66 b	62.84 ± 4.00 a	47.00 ± 3.02 c
3,4-Dihydro-3-actinidol III	18.80 ± 1.22 e	57.53 ± 3.20 c	28.55 ± 1.87 d	77.94 ± 6.02 a	66.27 ± 2.09 b	53.87 ± 3.32 c
3,4-Dihydro-3-actinidol IV	0.38 ± 0.02 e	8.17 ± 0.98 c	4.94 ± 0.62 d	18.04 ± 2.29 a	8.07 ± 0.98 c	12.27 ± 1.04 b
3-Hydroxy-β-damascone	28.01 ± 1.78 c	68.29 ± 4.00 b	18.54 ± 1.66 d	n.d.	81.05 ± 4.82 a	30.67 ± 3.00 c
Dihydro-3-oxo-β-ionol	3.48 ± 0.02 c	n.d.	4.34 ± 0.63 b	n.d.	9.20 ± 1.32 a	n.d.
3-Oxo-α-ionol	299.49 ± 22.07 d	1039.74 ± 98.60 a	452.10 ± 23.62 c	938.91 ± 42.21 a	955.11 ± 34.02 a	797.11 ± 35.09 b
4-Oxo-β-ionol	18.18 ± 1.02 c	46.24 ± 4.62 a	14.17 ± 1.62	29.18 ± 4.09 b	8.82 ± 1.32 d	24.89 ± 3.02 b
Blumenol C	30.40 ± 1.92 e	131.23 ± 10.01 a	41.32 ± 3.12 d	88.83 ± 9.19 c	98.46 ± 4.55 bc	103.40 ± 10.02 b
3-Hydroxy-7,8-dihydro-β-ionol	25.13 ± 2.32 d	71.37 ± 3.43 b	10.55 ± 1.00 e	n.d.	90.32 ± 4.32 a	48.80 ± 3.09 c
2,3-Dehydro-4-oxo-β-ionol	4.77 ± 0.82 d	28.14 ± 1.69 a	13.13 ± 1.62 c	n.d.	18.14 ± 3.30 b	22.40 ± 1.22 b
Dehydro-vomifoliol	7.98 ± 0.82 d	38.66 ± 2.54 ab	35.46 ± 2.60 b	44.14 ± 3.09 a	3.55 ± 4.02 e	14.78 ± 3.02 c
Vomifoliol	300.38 ± 22.00 f	524.06 ± 21.62 d	398.17 ± 11.60 e	1145.8 ± 20.00 a	934.61 ± 33.02 b	871.03 ± 24.02 c

SUPPLEMENTARY DATA
Tari, U., Pettinelli, S., Bianchi, A., Pollon, M., Alfieri, G., Vitaggio, C., Corona, O., Modesti, M., Fiorino, F. O., Bellincontro, A., & Mencarelli, F. (2023). Identifying Wine Grape Aromatic Maturity using E-nose and GC-MS: the case of Nerello Mascalese Grapes from two Contrade of the Etna Area. *OENO One*, *58*(1).
https://doi.org/10.20870/oeno-one.2024.58.1.7752

Isoamyl alcohol	14.48 ± 2.02 e	28.35 ± 1.66 d	44.81 ± 2.32 c	61.44 ± 5.02 b	62.70 ± 4.30 b	89.29 ± 5.11 a
Hexanol	33.12 ± 3.02 d	82.40 ± 3.61 b	67.40 ± 2.00 c	84.17 ± 4.44 b	103.76 ± 9.23 a	83.56 ± 4.02 b
(*E*)-3-Hexenol	14.76 ± 1.08 e	61.03 ± 1.69 a	18.64 ± 0.89 d	48.66 ± 3.87 b	40.17 ± 4.30 b	33.00 ± 2.00 c
(*E*)-2-Hexenol	13.21 ± 1.40 e	62.21 ± 3.68 a	26.39 ± 2.62 d	42.21 ± 2.09 c	62.18 ± 3.82 a	54.72 ± 1.32 b
Octen-3-ol	8.45 ± 0.62 d	14.00 ± 1.50 c	9.25 ± 0.64 d	22.09 ± 1.19 a	17.46 ± 2.00 b	14.12 ± 1.30 c
(*Z*)-2-Octenol	6.43 ± 0.55 c	14.47 ± 1.62 a	8.32 ± 0.65 b	15.56 ± 2.01 a	15.90 ± 1.32 a	9.15 ± 0.92 b
cis-furan-Linalool oxide	15.44 ± 2.02 e	20.19 ± 1.82 d	18.12 ± 1.62 de	181.55 ± 16.24 a	40.36 ± 2.30 b	31.34 ± 1.21 c
α-Terpineol	2.22 ± 0.62 d	5.78 ± 0.62 b	3.41 ± 0.60 cd	11.86 ± 1.09 a	6.41 ± 0.32 b	3.91 ± 0.12 c
trans-pyran-Linalool oxide	7.22 ± 0.88 e	15.18 ± 1.30 c	9.64 ± 0.69 d	65.82 ± 2.11 a	18.98 ± 1.30 b	18.67 ± 2.32 b
cis-pyran-Linalool oxide	4.72 ± 0.63 d	9.22 ± 0.78 c	7.50 ± 0.92 c	131.79 ± 12.00 a	18.33 ± 1.64 b	15.80 ± 1.02 b
Nerol	4.44 ± 0.66 b	10.59 ± 0.69 a	2.87 ± 0.10 c	n.d.	8.87 ± 0.99 a	4.54 ± 0.32 b
Geraniol	15.28 ± 1.62 cd	35.82 ± 1.01 a	13.49 ± 0.92 cd	17.54 ± 2.49 c	23.47 ± 4.32 b	12.90 ± 2.01 d
(*E*)-8-Hydroxylinalool	25.20 ± 1.62 e	45.97 ± 1.60 d	14.50 ± 1.02 f	138.73 ± 16.60 a	68.46 ± 4.00 c	88.94 ± 4.88 b
(*Z*)-8-Hydroxylinalool	6.24 ± 0.61 e	25.82 ± 1.60 c	10.29 ± 0.88 d	51.01 ± 2.59 a	33.51 ± 2.88 b	32.35 ± 2.88 b
Geranic acid	7.53 ± 0.92 b	21.50 ± 2.02 a	5.71 ± 0.42 c	13.40 ± 1.00 b	10.37 ± 1.02 b	9.49 ± 1.32 b

Data are the mean (± standard deviation) of three GC analyses of three different grape samples. Different letters in the row indicate statistical significance ($p \leq 0.05$).

SUPPLEMENTARY DATA
Tari, U., Pettinelli, S., Bianchi, A., Pollon, M., Alfieri, G., Vitaggio, C., Corona, O., Modesti, M., Fiorino, F. O., Bellincontro, A., & Mencarelli, F. (2023). Identifying Wine Grape Aromatic Maturity using E-nose and GC-MS: the case of Nerello Mascalese Grapes from two Contrade of the Etna Area. *OENO One*, *58*(1).
https://doi.org/10.20870/oeno-one.2024.58.1.7752

TABLE S2. Single compound of free GVOCs of Nerello Mascalese grapes, coming from 08 Alto and Solicchiata vineyards at each maturity stage (T0 = 18° Bx; T1 = 21° Bx; T3 = 23° Bx).

Compound of free GVOCs	08 Alto			Solicchiata		
(µg/kg^{-1} grape)	T0	T1	T2	T0	T1	T2
Octanoic acid	18.09 ± 1.09 b	19.01 ± 2.04 b	13.62 ± 1.10 c	18.85 ± 1.81 b	19.46 ± 1.20 b	23.19 ± 1.85 a
Tertradecanoic acid	15.51 ± 1.50 bc	15.29 ± 1.00 c	n.d.	18.74 ± 1.20 b	35.41 ± 2.20 a	8.49 ± 1.21 d
9-Oxononanoic acid	164.05 ± 10.00 d	109.95 ± 10.40 e	102.14 ± 19.30 e	546.86 ± 12.80 b	980.88 ± 35.67 a	264.66 ± 30.64 c
Hexadecanoic acid	70.09 ± 6.10 e	119.34 ± 11.90 d	105.04 ± 11.00 d	367.02 ± 11.04 b	642.02 ± 21.24 a	133.43 ± 15.43 c
Octadecanoic acid	28.05 ± 1.50 c	n.d.	n.d.	45.45 ± 1.90 b	58.01 ± 1.96 a	25.03 ± 3.60 c
Oleic acid	n.d.	n.d.	n.d.	78.52 ± 7.87 b	194.84 ± 12.82 a	n.d.
Linoleic acid	n.d.	111.27 ± 10.04 c	n.d.	185.85 ± 10.28 b	551.46 ± 20.21 a	201.49 ± 15.02 b
Hexanal	413.92 ± 22.00 b	190.68 ± 11.00 c	28.52 ± 1.05 e	99.52 ± 8.25 d	183.96 ± 10.96 c	500.49 ± 3.60 a
(*E*)-2-Hexenal	628.61 ± 18.06 a	310.82 ± 18.02 c	273.40 ± 11.00 d	542.23 ± 27.82 b	225.65 ± 19.15 e	646.22 ± 39.76 a
Benzaldehyde	1.94 ± 0.55 d	8.85 ± 1.40 b	5.71 ± 1.02 c	8.52 ± 1.44 b	16.15 ± 1.22 a	4.38 ± 0.60 c
Benzyl alcohol	36.20 ± 6.40 e	90.39 ± 9.01 d	85.19 ± 7.00 d	195.85 ± 10.80 a	170.40 ± 11.43 b	110.11 ± 5.64 c
2-Phenylethanol	37.40 ± 4.00 c	92.36 ± 7.02 b	150.76 ± 18.00 a	95.01 ± 1.96 b	175.83 ± 14.26 a	96.45 ± 5.73 b
Eugenol	6.28 ± 1.00 c	5.15 ± 0.55 c	2.61 ± 0.25 d	9.25 ± 2.80 b	13.16 ± 1.21 a	9.06 ± 1.60 b
4-Vinylguaiacol	5.28 ± 1.30 c	7.70 ± 1.00 b	n.d.	6.10 ± 1.22 bc	19.23 ± 1.28 a	5.88 ± 0.21 bc
Vanillin	36.58 ± 1.01 e	143.39 ± 11.22 a	59.76 ± 6.10 c	81.12 ± 1.45 b	79.06 ± 7.20 b	43.89 ± 5.31 d
3-Oxo-α-ionol	6.54 ± 1.70 b	7.77 ± 1.22 b	7.32 ± 1.00 b	7.69 ± 1.21 b	13.99 ± 1.24 a	7.27 ± 1.33 b
Vomifoliol	17.11 ± 2.00 a	11.61 ± 1.00 b	n.d.	n.d.	n.d.	20.23 ± 3.64 a
1-Hexanol	142.46 ± 11.01 f	1089.58 ± 68.91 b	1933.33 ± 111.50 a	245.20 ± 10.20 d	645.30 ± 12.21 c	199.72 ± 15.01 e
(*E*)-2-Hexenol	109.58 ± 17.85 bc	128.79 ± 12.93 b	47.05 ± 17.00 e	102.41 ± 12.65 c	175.52 ± 12.65 a	186.57 ± 11.72 a

Data are the mean (± standard deviation) of three GC analyses of three different grape samples. Different letters in the row indicate statistical significance ($p \leq 0.05$). n.d.= not detected.