Supplementary Material

Table S1: Content and composition of the volatile phase (μg IS equivalents/g sample) in *R. pendulina* and its derived cultivars. Results are expressed as compound concentration per 3-nonanone standard.

	Rt	Cas ID	*R. pendulina*	'Bourgogne'	'Harstad'	'Mount Everest'
MONOTERPENES						
α-Pinene	6.986	80-56-8	49.33 ± 4.51 a	-	39.57 ± 2.64 a	-
α-Fenchene	8.211	471-84-1	0.27 ± 0.04 a	-	0.14 ± 0.01 a	-
ß-Pinene	9.753	18172-67-3	3.71 ± 0.22 b	0.19 ± 0.04 a	3.85 ± 0.19 b	0.15 ± 0.13 a
Sabinene	10.282	3387-41-5	0.23 ± 0.05 a	-	-	0.06 ± 0.02 b
Thujene	10.329	3387-41-5	-	-	-	0.11 ± 0.01
ß-Myrcene	12.215	123-35-3	-	0.09 ± 0.03 a	0.90 ± 0.04 b	1.30 ± 0.23 b
α-Terpinene	12.850	99-86-5	0.29 ± 0.04	-	-	-
D-Limonene	13.751	5989-27-5	2.36 ± 0.18 b	-	1.18 ± 0.09 b	0.09 ± 0.15 a
trans-*ß*-Ocimene	15.434	3779-61-1	-	-	0.12 ± 0.005	0.04 ± 0.007
γ-Terpinene	15.886	99-85-4	1.13 ± 0.09 a	-	0.07 ± 0.05 b	0.06 ± 0.009 b
p-Cymene	17.032	99-87-6	0.96 ± 0.05 a	-	0.20 ± 0.02 b	0.06 ± 0.02 c
p-Cymenene	24.480	1195-32-0	0.14 ± 0.002 a		0.06 ± 0.004 b	-
α-Funebrene	29.387	50894-66-1	0.73 ± 0.14		-	-
E-Farnesene	32.821	18794-84-8	-	0.13 ± 0.03 a	-	0.17 ± 0.02 a
TOTAL			**59.15 ± 5.322 c**	**0.41 ± 0.10 a**	**46.09 ± 3.049 c**	**2.04 ± 0.596 b**
SESQUITERPENES						
ß-Bourbonene	27.896		0.29 ± 0.05	-	-	-
Caryophyllene	29.624	87-44-5	0.17 ± 0.02 b	-	1.44 ± 0.45 a	-
α-Bergamotene	29.926	18252-46-5	0.41 ± 0.07	-	-	-
trans-*α*-Bergamotene	30.591	13474-59-4	0.63 ± 0.20	-	-	-
E-Caryophyllene	31.121	13877-93-5	2.48 ± 0.03 a	-	1.86 ± 0.04 a	-
Bicyclogermacrene	31.616	136296-37-2	0.14 ± 0.001 b	-	0.07 ± 0.001 a	-
ß-Ylangene	31.735	20479-06-5	0.09 ± 0.002	-	-	-
α-Muurolene	32.669	10208-80-7	0.39 ± 0.04 a	-	-	0.21 ± 0.03 a
α-Humulene	32.963	6753-98-6	0.13 ± 0.01 a	-	0.15 ± 0.01 a	-
D-Germacrene	33.554	23986-74-5	-	0.05 ± 0.01	-	-
ß-Bisabolene	33.739	4891-79-6	-	-	-	0.04 ± 0.005
ß-curcumene	33.900	28976-67-2	-	0.41 ± 0.07 b	-	0.15 ± 0.02 a
δ-Cadinene	34.136	16729-01-4	1.45 ± 0.17 a	0.22 ± 0.02 ab	0.06 ± 0.002 b	-
α-Cadinene	34.508	82468-90-4	0.09 ± 0.01 a	0.04 ± 0.001 a	-	-
cis-Calamenene	34.883	72937-55-4	2.96 ± 1.47	-	-	-
trans-Muurola-3,5-diene	32.210	189165-77-3	1.19 ± 0.15	-	-	-
cis-*ß*-Santalene	32.256	25532-78-9	0.22 ± 0.03 a	0.03 ± 0.005 b	-	-
ß-Santalene	32.567	81967-89-7	-	0.07 ± 0.01	-	-
α-Gurjunene	28.347	489-40-7	0.58 ± 0.05	-	-	-
γ-Muurolene	33.268	30021-74-0	0.18 ± 0.02	-	-	-
Selina-4,11-diene	33.315	17627-30-4	-	-	0.05 ± 0.0	-
α-Guaiene	33.647		0.27 ± 0.03	-	-	-
Naphtalene	33.710	17066-67-0	-	-	0.66 ± 0.03 a	0.14 ± 0.02 b
ß-Bisabolene	33.739	4891-79-6	-	0.29 ± 0.07	-	-
α-Selinene	33.767	473-13-2	0.17 ± 0.01 a	-	0.55 ± 0.04 b	-
γ-Selinene	34.409	58893-88-2	1.08 ± 0.16 b		0.10 ± 0.05 a	-
α-Calacorene	35.618	77129-50-1	0.12 ± 0.02	-	-	-
Geranyl isovalerate	34.538	109-20-6	-	-	0.06 ± 0.004	-
TOTAL			**13.04 ± 2.543 c**	**1.11 ± 0.186 a**	**5.00 ± 0.627 b**	**0.54 ± 0.075 a**

ALDEHYDES						
Hexanal	9.123	66-25-1	4.38 ± 0.12 a	4.68 ± 0.25 ab	5.45 ± 0.19 b	8.70 ± 0.13 c
E-2-Pentenal	11.045	1576-87-0	-	-	0.13 ± 0.01	-
3-Hexenal	11.548	4440-65-7	-	-	0.08 ± 0.04	-
E-2-Hexenal	14.111	6728-26-3	-	0.21 ± 0.08 a	0.69 ± 0.18 b	0.33 ± 0.003 a
2-Hexenal	14.815	505-57-7	9.96 ± 0.87 a	11.89 ± 1.15 ab	16.06 ± 1.33 b	12.62 ± 1.11 ab
E,E-2,4-Hexadienal	23.023	142-83-6	0.13 ± 0.01 a	0.16 ± 0.02 a	0.43 ± 0.03 c	0.33 ± 0.01 b
Benzaldehyde	28.163	100-52-7	0.93 ± 0.09 c	0.07 ± 0.001 ab	0.29 ± 0.09 b	0.06 ± 0.01 a
α-Citral	33.851	5392-40-5	0.04 ± 0.002	-	-	-
TOTAL			**15.44 ± 1.092 a**	**17.01 ± 1.501 a**	**23.40 ± 1.87 b**	**22.04 ± 1.263 b**
ALCOHOLS						
1-Penten-3-ol	12.522	616-25-1	0.45 ± 0.04 a	0.17 ± 0.01c	0.66 ± 0.01 d	0.09 ± 0.02 b
1-Butanol	14.614	137-32-6	0.64 ± 0.04 a	0.06 ± 0.06 b	-	-
1-Hexanol	21.080	111-27-3	-	-	-	0.05 ± 0.02
Z-2-Penten-1-ol	19.621	1576-95-0	0.12 ± 0.005 b	0.06 ± 0.001 a	0.19 ± 0.005 b	-
Z-3-Hexen-1-ol	22.435	928-96-1	0.19 ± 0.02 a	0.10 ± 0.003 a	0.13 ± 0.003 a	-
Z-2-Hexen-1-ol	23.400	928-95-0	0.16 ± 0.02 a	0.22 ± 0.02 a	0.16 ± 0.03 a	-
ß-Acorenol	32.792	16729-00-3	0.38 ± 0.06 a	0.07 ± 0.02 b	-	-
α-copaen-4-ol	33.562	18252-44-3	-	-	0.03 ± 0.001	-
Nerol	34.548	106-25-2	1.21 ± 1.18 b	0.05 ± 0.001 a	-	-
Geraniol	34.916	106-24-1	-	0.15 ± 0.05 a	0.16 ± 0.004 a	0.07 ± 0.01 b
Benzyl alcohol	35.218	100-51-6	1.15 ± 0.55 a	0.10 ± 0.01 a	0.33 ± 0.05 a	0.06 ± 0.02 a
Phenylethyl alcohol	35.539	60-12-8	0.14 ± 0.02 a	0.34 ± 0.04 ab	1.08 ± 0.09 b	0.69 ± 0.35 ab
TOTAL			**4.44 ± 1.935 b**	**1.32 ± 0.215 ab**	**2.74 ± 0.193 ab**	**0.96 ± 0.42 a**
KETONES						
2-Cyclopenten-1-one	21.634	1120-73-6	-	-	0.04 ± 0.003	-
3-Octanone	29.034	6137-15-1	-	-	0.05 ± 0.004	-
TOTAL					**0.09 ± 0.007**	
HYDROCARBONS						
Norbornane	8.430	497-32-5	3.72 ± 0.33 a	-	2.28 ± 0.12 b	-
Tridecane	8.705	13287-21-3	-	0.11 ± 0.02	-	-
1,3,6-Octatriene	16.184	3338-55-4	-	-	0.11 ± 0.003	-
Cyclohexene	17.594	586-62-9	0.69 ± 0.05	-	-	-
Pentadecane	26.699	629-62-9	0.50 ± 0.04	-	-	-
Bicyclo[7.2.0]undecane	31.724	136296-38-3	-	-	0.07 ± 0.001	-
n-Heptadecane	33.204	629-78-7	0.22 ± 0.07 b	0.54 ± 0.17 c	0.54 ± 0.09 c	0.11 ± 0.02 a
n-Hexadecene	33.497	629-73-2	-	0.09 ± 0.04 b	-	0.02 ± 0.003 a
1,3-cyclohexadiene	33.654	495-60-3	-	0.29 ± 0.06	-	-
1,4-Cyclohex-2-enedione	33.924	4505-38-8	0.15 ± 0.01 a	-	0.19 ± 0.02 b	0.14 ± 0.005 a
n-Nonadecane	35.177	629-92-5	0.64 ± 0.36 a	0.86 ± 0.19 a	1.10 ± 0.12 a	0.73 ± 0.13 a
Henicos-1-ene	35.328	1599-68-4	0.19 ± 0.01 b	0.09 ± 0.02 a	0.09 ± 0.01 a	0.21 ± 0.03 b
Heptadecane	35.938	629-78-7	-	-	0.02 ± 0.0	-
Henicosane	36.770	629-94-7	0.06 ± 0.006 a	0.06 ± 0.01 a	0.08 ± 0.04 a	0.11 ± 0.02a
TOTAL			**6.17 ± 0.876 b**	**2.04 ± 0.51 a**	**4.48 ± 0.404 b**	**1.32 ± 0.208 a**
PHENYLPROPENES						
Methyl eugenol	36.285	93-15-2	-	-	0.04 ± 0.006	-
OTHER COMPOUNDS						
2-Buteonic acid	31.092	61692-78-2	-	0.21 ± 0.03 b	-	0.10 ± 0.004 a

Acetic acid	32.810	150-84-5	-	-	1.37 ± 0.12	-
Benzene	34.265	644-30-4	-	1.98 ± 0.35	-	-
n-Octadecane	34.348	593-45-3	-	-	0.03 ± 0.05	-
TOTAL				**2.19 ± 0.38 b**	**1.40 ± 0.17 b**	**0.10 ± 0.004 a**
TOTAL			**98.24 ± 11.768 b**	**24.08 ± 2.892 a**	**83.24 ± 6.272 b**	**27.00 ± 2.548 a**

Table S2. Content and composition of the volatile phase (µg IS equivalents/g sample) in *R. spinosissima* and its derived cultivars. Results are expressed as compound concentration per 3-nonanone standard.

	Rt	Cas ID	*R. spinosissima*	'Fruhlingsmorgen'	'Fruhlingsduft'	'Karl Foerster'	'Mon amie Claire'	'Maigold'	'Fruhlingsgold'
MONOTERPENS									
ß-Pinene	9.744	18172-67-3	-	-	-	-	-	-	0.12 ± 0.03
ß-Myrcene	12.215	123-35-3	0.08 ± 0.02 a	0.16 ± 0.02 b	-	-	-	1.99 ± 0.26 d	0.64 ± 0.16 c
D-Limonene	13.700	5989-27-5	-	-	-	-	-	0.37 ± 0.05 b	0.16 ± 0.03 a
trans-ß-Ocimene	15.435	3779-61-1	-	-	-	-	-	0.62 ± 0.09 b	0.20 ± 0.05 a
ß-Ocimene	16.177	13877-91-3	-	0.07 ± 0.01	-	-	-	-	-
TOTAL			**0.08 ± 0.02 a**	**0.23 ± 0.03 b**				**2.98 ± 0.40 c**	**1.12 ± 0.27 c**
SESQUITERPENES									
Naphtalene	26.676	17066-67-0	-	-	-	0.26 ± 0.02 a	-	0.21 ± 0.006 a	-
E-Caryophyllene	31.111	13877-93-5	-	-	-	0.25 ± 0.002 a	0.12 ± 0.01 a	-	-
Caryophyllene	31.114	87-44-5	-	0.10 ± 0.02 a	0.18 ± 0.01 a	-	0.16 ± 0.01 a	-	0.24 ± 0.01 a
α-Humulene	32.970	6753-98-6	-	-	-	-	-	-	0.05 ± 0.007
γ-Muurolene	33.265	30021-74-0	-	-	-	-	-	0.04 ± 0.001	-
D-Germacrene	33.557	23986-74-5	-	-	0.26 ± 0.02	-	-	-	-
ß-Bisabolene	33.738	4891-79-6	-	-	-	-	-	-	0.05 ± 0.01
α-Muurolene	33.745	10208-80-7	-	0.12 ± 0.02	-	-	-	-	-
δ-Cadinene	34.129	16729-01-4	-	0.02 ± 0.003 a	0.17 ± 0.02 ab	-	-	0.37 ± 0.009 b	-
Geranyl isovalerate	34.537	109-20-6	0.03 ± 0.007	-	-	-	-	-	-
TOTAL			**0.03 ± 0.007 a**	**0.24 ± 0.043 b**	**0.61 ± 0.05 c**	**0.51 ± 0.022 c**	**0.28 ± 0.02 b**	**0.62 ± 0.02 c**	**0.34 ± 0.027 bc**
ALDEHYDES									
3-Hexenal	11.340	4440-65-7	-	-	-	-	-	-	0.08 ± 0.01
Hexanal	9.109	66-25-1	5.32 ± 0.57 a	12.95 ± 0.86 ab	-	-	-	53.26 ± 2.27 c	26.74 ± 0.87 b
E-2-Pentenal	11.069	1576-87-0	-	-	-	-	-	-	0.12 ± 0.01
Heptanal	13.336	111-71-7	-	-	-	-	-	0.17 ± 0.01 b	0.07 ± 0.002 a
E-2-Hexenal	14.109	6728-26-3	6.89 ± 0.85 b	5.75 ± 0.32 b	-	-	-	0.39 ± 0.03 a	-
2-Hexenal	14.821	505-57-7	-	-	-	-	-	15.02 ± 0.82 a	12.63 ± 0.55 a
E,E-2,4-Hexadienal	23.038	142-83-6	0.21 ± 0.03 a	0.19 ± 0.02 a	0.39 ± 0.03 b	0.66 ± 0.03 c	0.33 ± 0.01 b	0.37 ± 0.01 b	0.37 ± 0.02 b
Benzaldehyde	28.184	100-52-7	0.26 ± 0.05 a	0.32 ± 0.04 a	0.37 ± 0.04 a	0.27 ± 0.09 a	0.27 ± 0.02 a	0.21 ± 0.04 a	0.79 ± 0.11 b
α-Citral	33.847	5392-40-5	0.11 ± 0.03 a	0.09 ± 0.02 a	0.28 ± 0.09 a	0.14 ± 0.03 a	-	0.15 ± 0.02 a	0.16 ± 0.04 a
TOTAL			**12.79 ± 1.53 c**	**19.30 ± 1.26 c**	**1.04 ± 0.16 b**	**1.07 ± 0.15 b**	**0.30 ± 0.03 a**	**69.57 ± 3.20 d**	**40.96 ± 1.612 d**
ALCOHOLS									
1-Penten-3-ol	12.541	616-25-1	0.11 ± 0.03 a	0.15 ± 0.01 a	-	-	-	0.35 ± 0.02 b	0.29 ± 0.01 b
1-Butanol	14.619	137-32-6	0.08 ± 0.01 a	0.42 ± 0.03 b	-	-	-	-	0.16 ± 0.03 a
Z-2-Penten-1-ol	19.626	1576-95-0	-	-	-	0.20 ± 0.002 b	0.14 ± 0.003 b	0.09 ± 0.001 a	0.06 ± 0.01 a
1-Hexanol	21.080	111-27-3	-	-	1.12 ± 0.18	-	-	-	-

	22.457	928-96-1						0.13 ±	
Z-3-Hexen-1-ol			-	-	0.07 ± 0.003 a	-	0.10 ± 0.02 a	0.005 a	-
	29.304	78-70-6							
Linalool			0.06 ± 0.01 a	-	0.09 ± 0.02 a	-	0.10 ± 0.01 a	-	0.05 ± 0.01 a
	34.080	141-12-8							
Lavanduol			-	-	0.23 ± 0.06 a	-	-	1.52 ± 0.14 b	0.36 ± 0.14 a
	34.199	6812-78-							
Citronellol		8	-	-	0.83 ± 0.05 a	-	1.78 ± 0.24 b	-	-
	34.923	106-25-2							
Nerol			-	-	0.23 ± 0.05 b	0.08 ± 0.01 a	0.16 ± 0.02 b	0.19 ± 0.02 b	0.06 ± 0.02 a
	34.916	106-24-1							
Geraniol			0.07 ± 0.01 a	0.19 ± 0.03 ab	0.53 ± 0.05 bc	0.19 ± 0.01 ab	0.32 ± 0.09 ac	0.62 ± 0.11 c	0.35 ± 0.15 ac
	35.222	100-51-6							
Benzyl alcohol			0.26 ± 0.08 a	-	0.16 ± 0.03 a	0.28 ± 0.12 a	0.17 ± 0.01 a	0.20 ± 0.05 a	0.75 ± 0.21 b
	35.534	60-12-8							
Phenylethyl alcohol			0.92 ± 0.27 a	1.47 ± 0.35 b	6.48 ± 1.67	0.72 ± 0.16 a	3.18 ± 0.28 c	3.28 ± 1.01 c	3.96 ± 1.12 c
								6.38 ± 1.356	
TOTAL			**1.50 ± 0.41 a**	**2.23 ± 0.42 a**	**9.74 ± 2.113 c**	**1.47 ± 0.302 a**	**5.95 ± 0.655 b**	**b**	**6.04 ± 1.70 b**
KETONES									
	21.627	1120-73-							
2-Cyclopenten-1-one		6	-	-	-	0.09 ± 0.006	-	-	-
	29.056	6137-15-							
3-Octanone		1	-	-	-	0.10 ± 0.001	-	-	-
	33.929	4505-38-						0.19 ±	
1,4-Cyclohex-2-enedione		8	0.01 ± 0.01 a	0.08 ± 0.01 a	0.19 ± 0.01 a	0.33 ± 0.01 b	-	0.003 a	0.15 ± 0.008 a
								0.19 ±	
TOTAL			**0.01 ± 0.01 a**	**0.08 ± 0.01 a**	**0.19 ± 0.01 a**	**0.52 ± 0.017 b**		**0.003 a**	**0.15 ± 0.008 a**
HYDROCARBONS									
	8.349	31295-							
Dodecane		56-4	0.12 ± 0.01 b	-	-	-	-	-	0.07 ± 0.03 a
	16.185	3338-55-							
1,3,6-Octatriene		4	-	-	-	-	-	0.91 ± 0.11 b	0.32 ± 0.08 a
	20.999	925-78-0							
n-Nonadecane			2.98 ± 0.41 b	2.50 ± 0.17 a	6.99 ± 1.09	1.43 ± 0.05 a	2.71 ± 0.31 b	2.51 ± 0.32 a	2.61 ± 0.21 a
	26.699	629-62-9							
n-Pentadecane			0.06 ± 0.01	-	-	-	-	-	-
	33.207	629-78-7						0.63 ±	
n-Heptadecane			1.55 ± 0.31 b	0.24 ± 0.01 a	0.48 ± 0.05 ab	0.46 ± 0.09 ab	0.13 ± 0.01 a	0.05 ab	0.45 ± 0.04 ab
	33.489	629-73-2							
Hexadecene			0.18 ± 0.03 a	0.04 ± 0.003 a	0.84 ± 0.17 b	0.24 ± 0.05 a	-	-	0.19 ± 0.01 a
	33.652	495-60-3							
1,3-cyclohexadiene			-	-	0.04 ± 0.004	-	-	-	-
	34.355	593-45-3							
n-Octadecane			0.05 ± 0.01 a	0.03 ± 0.01 a	0.15 ± 0.02 b	-	-	-	-
	34.861	56600-						0.12 ± 0.004	
5-Heptadecene		21-6	-	-	0.23 ± 0.02 b	0.09 ± 0.01 a	0.04 ± 0.01 a	b	0.07 ± 0.004 a
	35.941	629-78-7							
Heptadecane			-	-	0.21 ± 0.06 b	-	-	0.05 ± 0.01 a	0.07 ± 0.005 a
	36.773	629-97-0							
Heneicosane			0.48 ± 0.05 b	-	0.81 ± 0.02 a	0.42 ± 0.04 a	0.60 ± 0.05 a	0.41 ± 0.02 b	0.68 ± 0.04 a
	36.957	1599-68-							
Henicos-1-ene		4	0.39 ± 0.22 a	0.84 ± 0.09 ab	2.45 ± 0.42 b	0.77 ± 0.12 ab	0.38 ± 0.05 a	3.4 ± 0.33 b	1.11 ± 0.122 ab
	34.982	4179-19-							
3,5-Dimethoxytoluene		5	-	-	0.10 ± 0.02a	0.04 ± 0.002a	-	0.57 ± 0.02b	0.04 ± 0.004a
								8.60 ± 0.864	
TOTAL			**5.81 ± 1.05 ab**	**3.65 ± 0.283 a**	**12.30 ± 1.874 b**	**3.45 ± 0.362 a**	**3.32 ± 0.43 a**	**ab**	**5.22 ± 0.437 ab**
PHENYLPROPENES									
	36.291	93-15-2							
Methyl eugenol			0.28 ± 0.04 b	0.03 ± 0.003 a	0.11 ± 0.03 a	-	0.15 ± 0.02 ab	0.05 ± 0.03 a	0.06 ± 0.007 a
OTHER COMPOUNDS									
	31.105	61692-						0.33 ±	
2-Butenoic acid		78-2	0.07 ± 0.01 a	-	-	-	-	0.007 b	-
	36.116	150-84-5							
Acetic acid			0.05 ± 0.01 a	0.03 ± 0.005 a	0.09 ± 0.01 a	0.03 ± 0.002 a	0.11 ± 0.01 a	1.43 ± 0.22 b	0.12 ± 0.01 a
								1.76 ± 0.227	
TOTAL			**0.12 ± 0.02 a**	**0.03 ± 0.005 a**	**0.09 ± 0.01 a**	**0.03 ± 0.002 a**	**0.11 ± 0.01 a**	**b**	**0.12 ± 0.01 a**
								90.15 ± 6.10	
TOTAL			**20.62 ± 3.087 b**	**2.579 ± 2.054 a**	**24.08 ± 4.247 b**	**7.05 ± 0.855 a**	**10.11 ± 1.165 a**	**d**	**54.40 ± 4.071 c**

Table S3. Content and composition of the volatile phase (μg IS equivalents/g sample) in *R. gallica* and its derived cultivars. Results are expressed as compound concentration per 3-nonanone standard.

	Rt	Cas ID	*R. gallica*	'Charles de Mills'	'Violacea'	'Splendens'	'Complicata'
MONOTERPENES							
	6.962	80-56-8					
α-Pinene			2.85 ± 0.69 a	1.94 ± 1.10 a	107.77 ± 13.94 c	-	11.43 ± 2.63 b
	8.198	471-84-1					
α-Fenchene			-	-	0.48 ± 0.06	-	-
	9.672	18172-67-3					
ß-Pinene			0.33 ± 0.14 a	1.38 ± 0.14 b	11.99 ± 1.79 c	-	1.39 ± 0.32 b
	10.361	3387-41-5					
Thujene			-	-	3.97 ± 2.78 b	-	0.17 ± 0.04 a
	12.219	123-35-3					
ß-Myrcene			1.51 ± 0.17 a	-	-	0.40 ± 0.06 a	1.54 ± 0.21 a

α-Terpinene	12.837	99-86-5	0.03 ± 0.004 a	-	0.43 ± 0.09 b	-	-
D-Limonene	13.779	5989-27-5					
Sabinene	14.330	3387-41-5	0.26 ± 0.14 b	0.07 ± 0.01 a	0.29 ± 0.07 b	-	-
trans-*ß*-Ocimene	15.405	3779-61-1	-	-	-	-	0.11 ± 0.01
γ-Terpinene	15.820	99-85-4	0.15 ± 0.04 a	-	0.54 ± 0.31 b	0.16 ± 0.02 a	-
E-*ß*-Ocimene	16.115	3779-61-1	0.13 ± 0.02 a	0.21 ± 0.03 a	0.85 ± 0.20 b	-	0.11 ± 0.01 a
p-Cymene	16.984	99-87-6	-	-	-	0.02 ± 0.02	-
TOTAL			**5.26 ± 1.204 ab**	**3.60 ± 1.28 ab**	**126.32 ± 19.24 c**	**0.58 ± 0.10 a**	**14.75 ± 3.22 b**
SESQUITERPENES							
Naphtalene	26.652	17066-67-0	-	0.08 ± 0.01 a	-	0.14 ± 0.01 a	0.06 ± 0.01 a
cis-*ß*-Santalene	32.256	25532-78-9	-	-	0.08 ± 0.01	-	-
α-Humulene	32.950	6753-98-6	0.01 ± 0.003 a	0.03 ± 0.003 a	-	0.03 ± 0.01 a	-
Selina-4,11-diene	33.055	17627-30-4	-	0.01 ± 0.001	-	-	-
γ-Muurolene	33.260	30021-74-0	-	-	-	0.05 ± 0.01 a	0.04 ± 0.004 a
D-Germacrene	33.558	23986-74-5	-	-	-	0.14 ± 0.01 a	0.02 ± 0.002 a
α-Selinene	33.756	473-13-2	-	0.05 ± 0.01	-	-	-
δ-Cadinene	34.132	16729-01-4	-	0.04 ± 0.008 a	-	0.12 ± 0.01 a	0.06 ± 0.01 a
γ-Selinene	34.405	58893-88-2	0.02 ± 0.002	-	-	-	-
TOTAL			**0.03 ± 0.005 a**	**0.21 ± 0.024 ab**	**0.08 ± 0.01 a**	**0.48 ± 0.05 b**	**0.18 ± 0.026 ab**
ALDEHYDES							
Hexanal	9.103	66-25-1	13.49 ± 0.82	19.18 ± 2.91	12.32 ± 1.62	7.81 ± 1.36	6.35 ± 0.89
3-Hexenal	11.291	4440-65-7	0.08 ± 0.04	0.05 ± 0.001	-	0.05 ± 0.01	-
E-2-Hexenal	14.085	6728-26-3	0.25 ± 0.01	0.25 ± 0.01	-	0.23 ± 0.01	4.10 ± 0.46
2-Hexenal	14.815	505-57-7	7.70 ± 0.31	8.78 ± 0.56	7.68 ± 0.97	9.59 ± 0.51	0.17 ± 0.05
E,E-2,4-Hexadienal	23.046	142-83-6	0.22 ± 0.08	0.25 ± 0.01	0.09 ± 0.01	0.26 ± 0.01	0.12 ± 0.03
Benzaldehyde	28.172	100-52-7	0.10 ± 0.01	0.28 ± 0.03	0.04 ± 0.005	0.06 ± 0.01	-
TOTAL			**21.84 ± 1.27 b**	**28.8 ± 3.521 b**	**20.13 ± 2.605 b**	**18.00 ± 1.91 b**	**10.74 ± 1.43 a**
ALCOHOLS							
1-Penten-3-ol	12.556	616-25-1	0.07 ± 0.01	-	0.78 ± 0.06	0.15 ± 0.02	0.10 ± 0.02
1-Butanol	14.602	123-51-3	0.1 ± 0.02	0.16 ± 0.03	-	0.10 ± 0.02	-
1-Hexanol	21.080	111-27-3	-	0.61 ± 0.23	-	-	-
Z-3-Hexen-1-ol	22.453	928-96-1	0.07 ± 0.003	0.09 ± 0.01	0.20 ± 0.02	0.06 ± 0.001	-
Z-2-Hexen-1-ol	23.416	928-95-0	-	0.04 ± 0.003	-	0.07 ± 0.006	-
E-2-Hexen-1-ol	23.420	928-95-0	-	-	-	-	0.22 ± 0.02
Linalool	29.286	78-70-6	0.08 ± 0.03	0.09 ± 0.01	0.13 ± 0.03	0.04 ± 0.002	-
Lavanduol	34.077	25905-14-0	0.1 ± 0.03	0.05 ± 0.01	0.09 ± 0.03	0.09 ± 0.02	0.05 ± 0.006
Nerol	34.541	106-25-2	0.23 ± 0.01	-	0.35 ± 0.18	0.23 ± 0.03	0.13 ± 0.05
Geraniol	34.920	106-24-1	0.29 ± 0.01	0.86 ± 0.11	1.11 ± 0.67	0.29 ± 0.05	-
Benzyl alcohol	35.224	100-51-6	-	0.47 ± 0.09	-	-	-
Phenylethyl alcohol	35.532	60-12-8	1.51 ± 0.31	3.10 ± 0.71	1.79 ± 0.76	0.57 ± 0.05	0.95 ± 0.39
TOTAL			**2.45 ± 0.423 ab**	**5.47 ± 1.203 b**	**4.45 ± 1.75 b**	**1.60 ± 0.199 a**	**1.45 ± 0.486 a**
KETONES							
1,4-Cyclohex-2-enedione	33.931	4505-38-8	0.09 ± 0.003 a	0.10 ± 0.008 a	0.11 ± 0.01 a	0.11 ± 0.009 a	0.05 ± 0.008 a
HYDROCARBONS							
Norbornane	8.443	497-32-5	0.10 ± 0.01 a	-	2.86 ± 0.35 b	-	0.23 ± 0.01 a
1,3,6-Octatriene	16.154	3338-55-4	0.13 ± 0.21 a	0.08 ± 0.004 a	0.2 ± 0.03 a	-	0.12 ± 0.02 a
Cyclohexene	17.569	586-62-9	-	-	1.03 ± 0.19 b	-	0.09 ± 0.02 a
Cyclohexasiloxane	17.704	540-97-6	0.08 ± 0.01 a	0.07 ± 0.001 a	-	-	0.03 ± 0.004 a
Pentadecane	26.663	7399-49-7	0.04 ± 0.025	-	-	-	-

Tridecane	27.654	13287-21-3	-	0.09 ± 0.004	-	-	-
E-Caryophyllene	31.114	13877-93-5	-	0.11 ± 0.003 a	1.04 ± 0.13 b	-	0.04 ± 0.01 a
n-Heptadecane	33.209	629-78-7	0.88 ± 0.11 b	0.83 ± 0.14 b	2.85 ± 0.53 c	0.16 ± 0.02 a	0.21 ± 0.02 a
n-Hexadecene	33.494	629-73-2	0.30 ± 0.04 ab	0.39 ± 0.08 ab	0.88 ± 0.14 b	0.04 ± 0.006 a	0.08 ± 0.02 a
α-Citral	33.846	5392-40-5	0.07 ± 0.01 a	0.21 ± 0.04 b	0.23 ± 0.08 b	0.05 ± 0.01 a	0.03 ± 0.01 a
Geranil isovalerate	34.540	106-25-2	-	0.39 ± 0.05	-	-	-
5-Heptadecene	34.858	56600-21-6	0.07 ± 0.003 a	0.14 ± 0.007 a	0.16 ± 0.03a	-	-
n-Nonadecane	35.173	629-92-5	4.28 ± 0.28 b	2.13 ± 0.18 a	6.74 ± 1.21 b	1.28 ± 0.02 a	1.76 ± 0.10 a
Henicos-1-ene	35.331	1599-68-4	0.46 ± 0.09 a	0.19 ± 0.01 a	0.32 ± 0.05 a	0.27 ± 0.04 a	0.32 ± 0.02 a
Heptadecane	35.945	629-78-7	-	0.05 ± 0.005 a	0.12 ± 0.02 a	0.04 ± 0.001 a	-
Henicosane	36.775	629-94-7	0.57 ± 0.04 c	0.23 ± 0.02 b	0.58 ± 0.10 c	0.04 ± 0.0 a	-
TOTAL			**6.98 ± 0.828 b**	**4.91 ± 0.544 b**	**17.01 ± 2.86 c**	**1.93 ± 0.097 a**	**2.91 ± 0.234 a**
PHENILYPROPENES							
Methyl eugenol	36.293	93-15-2	-	-	-	-	0.11 ± 0.02
OTHER COMPOUNDS							
2-buteonic acid	31.101	61692-78-2	0.12 ± 0.003 a	-	-	0.37 ± 0.04 b	-
butaonic acid	31.104	13877-93-5	-	-	0.14 ± 0.02	-	-
Octadecane <n->	34.354	593-45-3	0.05 ± 0.005 a	0.03 ± 0.002 a	-	-	-
acetic acid	34.724	103-45-7	0.02 ± 0.004 a	-	-	0.03 ± 0.003 a	0.07 ± 0.01 a
TOTAL			**0.19 ± 0.012 a**	**0.03 ± 0.002 a**	**0.14 ± 0.02 a**	**0.40 ± 0.043 b**	**0.07 ± 0.018 a**
TOTAL			**36.84 ± 3.745 a**	**43.12 ± 6.59 a**	**168.24 ± 26.495 b**	**23.10 ± 2.408 a**	**30.26 ± 5.438 a**

Table S4. The content and composition of VOCs (μg IS equivalents/g sample) in *R. damascena*. Results are expressed as compound concentration per 3-nonanone standard.

	Rt	**Cas ID**	***R. damascena***
MONOTERPENS			
α-Pinene	6.982	80-56-8	9.01 ± 1.50
ß-Pinene	9.673	18172-67-3	1.39 ± 0.23
Sabinene	10.202	3387-41-5	0.61 ± 0.08
ß-Myrcene	12.117	123-35-3	4.96 ± 0.66
α-Terpinene	12.756	99-86-5	0.14 ± 0.01
D-Limonene	13.715	5989-27-5	0.88 ± 0.09
trans-ß-Ocimene	15.365	3779-61-1	0.18 ± 0.01
γ-Terpinene	15.823	99-85-4	0.42 ± 0.05
p-Cymene	16.982	99-87-6	0.48 ± 0.08
TOTAL			**18.07 ± 2.71**
SESQUITERPENES			
α-Gurjunene	30.824	489-40-7	0.18 ± 0.02
α-Humulene	32.959	6753-98-6	0.07 ± 0.03
γ-Muurolene	33.272	30021-74-0	0.08 ± 0.04
D-Germacrene	33.560	23986-74-5	0.13 ± 0.04
α-Guaien	33.640		0.09 ± 0.02
Naphthalene	33.746	483-75-0	0.08 ± 0.01
δ-Cadinene	34.130	16729-01-4	0.03 ± 0.0
TOTAL			**0.66 ± 0.16**
ALDEHYDES			
Hexanal	9.114	66-25-1	4.45 ± 1.17
3-Hexenal	11.349	4440-65-7	0.06 ± 0.01

2-Hexenal	14.823	505-57-7	11.60 ± 1.89
E,E-2,4-Hexadienal	23.045	142-83-6	0.29 ± 0.08
Benzaldehyde	28.186	100-52-7	0.13 ± 0.01
α-Citral	33.851	5392-40-5	0.11 ± 0.004
TOTAL			**16.64 ± 3.164**
ALCOHOLS			
1-Penten-3-ol	12.613	616-25-1	0.13 ± 0.02
(-)-Isopinocampheol	14.086		0.52 ± 0.06
1-Butanol	14.614	137-32-6	0.07 ± 0.01
Z-2-Penten-1-ol	19.651	1576-95-0	0.04 ± 0.01
Z-3-Hexen-1-ol	22.464	928-96-1	0.05 ± 0.001
E-2-Hexen-1-ol	23.427	928-95-0	0.19 ± 0.10
Linalool	29.300	78-70-6	0.07 ± 0.01
Perilla alcohol tiglate	31.111	97575-00-3	0.16 ± 0.08
Lavanduol	34.082	141-12-8	0.09 ± 0.05
Citronellol	34.199	106-22-9	1.53 ± 0.26
Nerol	34.544	106-25-2	0.24 ± 0.04
Geraniol	34.922	106-25-2	0.48 ± 0.04
Benzyl alcohol	35.229	100-51-6	0.11 ± 0.01
Phenylethyl alcohol	35.537	60-12-8	3.08 ± 0.55
TOTAL			**6.76 ± 1.231**
KETONES			
3-Octanone	29.064	6137-15-1	0.04 ± 0.01
1,4-Cyclohex-2-enedione	33.932	4505-38-8	0.15 ± 0.02
TOTAL			**0.19 ± 0.03**
HYDROCARBONS			
1,3,6-Octatriene	16.125	3338-55-4	0.33 ± 0.01
Cyclohexene	17.538	586-63-0	0.24 ± 0.02
n-Pentadecane	26.692	629-62-9	0.09 ± 0.01
Caryophyllene	31.098	87-44-5	0.19 ± 0.07
n-Heptadecane	33.207	629-78-7	0.22 ± 0.12
Nonadecane	34.355	629-94-7	0.02 ± 0.002
n-Nonadecane	34.925	106-24-1	0.55 ± 0.03
Henicos-1-ene	35.332	1599-68-4	0.26 ± 0.01
n-Eicosane	35.949	112-95-8	0.04 ± 0.01
Heneicosane	36.781	629-94-7	0.15 ± 0.02
TOTAL			**2.09 ± 0.302**
PHENYLPROPENES			
Methyl eugenol	36.294	93-15-2	0.06 ± 0.01
OTHER COMPOUNDS			
Acetic acid	34.727	150-84-5	0.08 ± 0.002
TOTAL			**44.55 ± 7.609**