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Appendix 1–2

1 Appendix 1. List of terpenoid compounds (N = 42) detected in foliar tissue of *Artemisia californica* sourced from five populations
 2 along a latitudinal gradient and grown in a common garden. Compounds were analyzed by GC-MS and are ordered by their calculated
 3 retention index (RI). Concentrations are expressed as μg compound per mg leaf tissue. Source population codes (SD33, SM34,
 4 CAM35, SC37, GG38) are listed from left to right in order of increasing latitude (see Methods for details).

Name	RI	Average Amount $\mu\text{g} \cdot \text{mg}^{-1}$	Proportion of plants	Percent of total terpenes (averaged across all plants)					
				Overall N=121	SD33 N=15	SM34 N=33	CAM35 N=26	SC37 N=24	GG38 N=23
santolina triene	902	0.90	0.32	0.64	1.50	0.61	0.19	0.05	1.18
α -pinene	928	1.67	0.82	1.18	1.38	1.43	0.88	0.96	1.24
Camphene	945	0.63	0.29	0.44	0.97	0.75	0.11	0.06	0.30
Sabinene	969	2.53	0.94	1.79	1.62	1.52	2.02	1.83	2.05
β -pinene	973	0.86	0.50	0.60	0.87	0.55	0.39	0.53	0.83
β -myrcene	989	1.31	0.65	0.92	0.80	1.21	0.66	0.79	1.12
α -terpinene	1016	0.45	0.22	0.32	0.38	0.42	0.05	0.27	0.54
1,8-cineole	1031	4.12	0.98	2.91	5.26	3.98	1.40	1.34	2.65
artemisia ketone	1063	8.43	0.77	5.95	10.30	10.85	0.80	1.14	6.63
Unknown terpene A, 154	1072	2.09	0.88	1.47	1.90	1.82	1.11	0.96	1.60
artemisia alcohol	1084	2.30	0.41	1.62	2.42	2.61	0.14	1.39	1.51
Linalool	1105	0.60	0.26	0.42	0.98	0.75	0.00	0.05	0.32
α -thujone	1109	36.48	0.96	25.73	13.98	13.22	40.34	35.84	25.63
<i>cis</i> -thujone	1120	4.85	0.82	3.42	1.07	4.06	6.89	1.92	1.81
Chrysanthenone	1123	1.98	0.37	1.39	0.22	4.29	0.53	0.31	0.45
<i>trans</i> -pinocarveol	1142	0.79	0.33	0.56	0.46	0.51	0.24	1.06	0.56
Camphor	1149	4.84	0.56	3.41	7.43	7.37	0.20	0.50	0.47
Unknown terpene B, 152	1165	1.25	0.34	0.88	2.38	0.87	0.06	0.05	1.54
Borneol	1173	0.63	0.25	0.44	1.23	0.70	0.10	0.00	0.15
α -terpineol	1200	1.58	0.64	1.12	1.85	1.46	0.58	0.57	1.21

Unknown terpene C, 136	1215	0.44	0.25	0.31	0.24	0.25	0.16	0.40	0.60
Unknown terpene D, mw?	1243	0.26	0.15	0.18	0.33	0.30	0.06	0.02	0.19
Piperitone	1260	0.63	0.23	0.45	0.78	0.00	0.07	0.52	1.35
verbenyl acetate (cis?)	1271	0.83	0.07	0.59	2.57	0.11	0.00	0.00	0.81
Sabinyl acetate	1290	2.84	0.40	2.01	0.54	1.13	0.58	6.49	1.21
δ -elemene	1326	2.04	0.43	1.44	1.35	1.54	1.56	0.90	1.96
terpinyl acetate	1346	0.92	0.49	0.65	0.16	1.05	0.54	0.52	0.85
Unknown terpene E, 210	1367	0.49	0.10	0.35	0.00	0.79	0.16	0.00	0.77
α -copaene	1371	2.32	0.47	1.64	1.65	1.74	1.79	1.41	1.50
geranyl acetate	1375	0.57	0.31	0.40	0.51	0.48	0.38	0.39	0.20
β -caryophyllene	1412	4.73	0.92	3.34	2.75	3.34	3.68	3.15	3.79
β -gurjunene	1423	2.34	0.47	1.65	1.52	1.67	2.01	1.62	1.25
E- β -farnesene	1453	2.25	0.45	1.59	0.89	1.16	2.42	1.98	1.35
germacrene D	1475	8.79	0.96	6.20	8.31	6.33	5.57	5.20	5.82
Bicyclogermacrene	1488	6.11	0.87	4.31	2.47	3.09	3.47	8.63	3.94
α -zingiberene	1492	2.90	0.56	2.04	1.86	0.88	2.51	2.64	2.79
Unknown terpene F, 204	1515	1.40	0.29	0.99	1.02	1.14	0.61	0.92	1.34
germacrene D-4-ol	1573	4.34	0.83	3.06	2.85	3.12	3.62	2.59	3.03
α -bisabolol	1690	1.54	0.30	1.09	1.69	1.10	1.08	0.81	0.70
Unknown terpene G, 214	1936	3.48	0.68	2.46	1.57	1.65	3.83	2.33	3.04
Unknown terpene H, 214	1961	4.51	0.82	3.18	2.49	1.99	4.01	4.07	3.66
Unknown terpene I, 288	2064	9.75	0.97	6.88	7.45	8.15	5.22	5.75	8.06

Average Concentration ($\mu\text{g}\cdot\text{mg}^{-1}$): 141.77 199.15 134.75 146.90 145.32 104.91

* Main ions (top ten) for unknown terpenes- A: (154) 71, 93, 81, 111, 69, 55, 79, 121, 67, 83; B: (152) 85, 123, 55, 127, 81, 67, 69, 95, 79, 86; C: (136) 93, 121, 136, 81, 79, 92, 55, 59, 91, 69; D: (?) 83, 55, 57, 68, 85, 69, 67, 84, 56, 52; E: (210) 57, 121, 123, 81, 82, 93, 79, 69, 67, 55; F: (204) 81, 93, 121, 69, 55, 67, 109, 68, 105, 95; G: (214) 214, 156, 55, 115, 128, 158, 185, 76, 102, 129; H (214) 214, 55, 156, 115, 76, 128, 129, 158, 185, 102; I (288) 105, 213, 228, 91, 132, 131, 185, 69, 157, 121.

1 Appendix 2. Pearson correlation coefficients for all compounds with a correlation $> \pm 0.5$ with
 2 CAP 1 or CAP 2 (indicated as vectors in Fig. 3) as determined by canonical analysis of principal
 3 coordinates. A – α -thujone, B – unknown H, C – verbenyl acetate, D – unknown B, E – α -
 4 terpineol, F – 1,8-cineole, G – unknown A, H – linalool, I – artemisia alcohol, J – camphene, K
 5 – camphor.

	A	B	C	D	E	F
CAP 1	-0.6177	-0.5493	0.1451	0.3784	0.5667	0.7274
CAP 2	-0.0525	0.1003	0.5042	0.5469	0.2738	0.0933
	G	H	I	J	K	
CAP 1	0.5233	0.5826	0.5150	0.6142	0.5919	
CAP 2	0.0306	0.0011	-0.0014	-0.0468	-0.1476	

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