Supplementary Information

An Uncommon Ocimene/Terpineol-Rich Chemotype of Algerian *Artemisia herba-alba* Asso. Shows Significant Fumigant Toxicity against *Cydia pomonella*

Riyadh Rahmouni*[*,a] and Farid Mezerdi[b]

[a]*Laboratory of Ecosystem Diversity and Dynamics of Agricultural Production Systems in Arid Region, Agriculture Sciences Department, University of Mohamed Khider, 07000 Biskra, Algeria*

[b]*Laboratory Promotion of Innovation in Agriculture in Arid Regions (PIARA), Department of Agronomic Sciences, University of Mohamed Khider, 07000 Biskra, Algeria*

*e-mail: riyadh.rahmouni@univ-biskra.dz

Riyadh Rahmouni: https://orcid.org.org/0009-0000-7230-6082

Farid Mezerdi: https://orcid.org/0000-0002-4388-2520

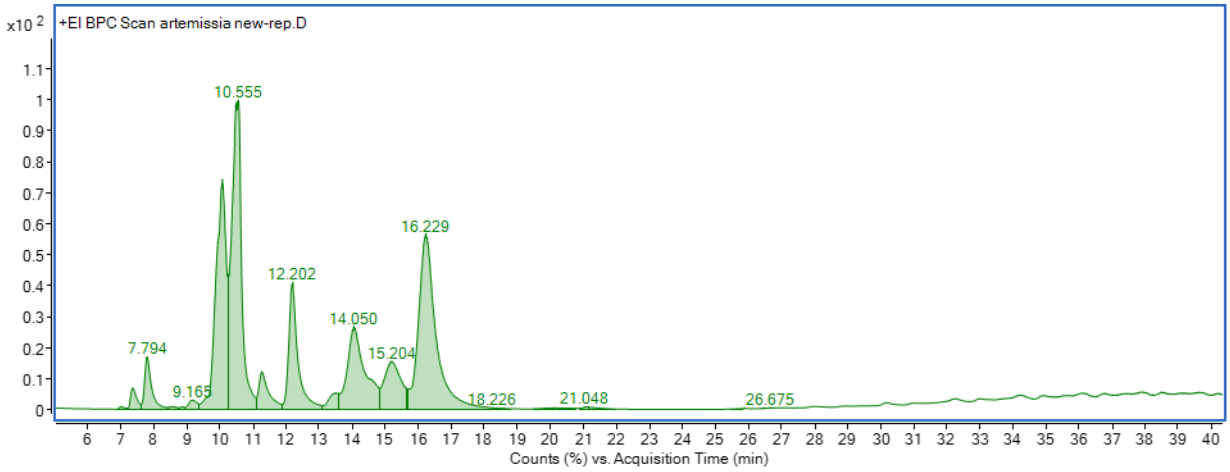

Figure S1. Total ion chromatogram (TIC) of *Artemisia herba-alba* essential oil.

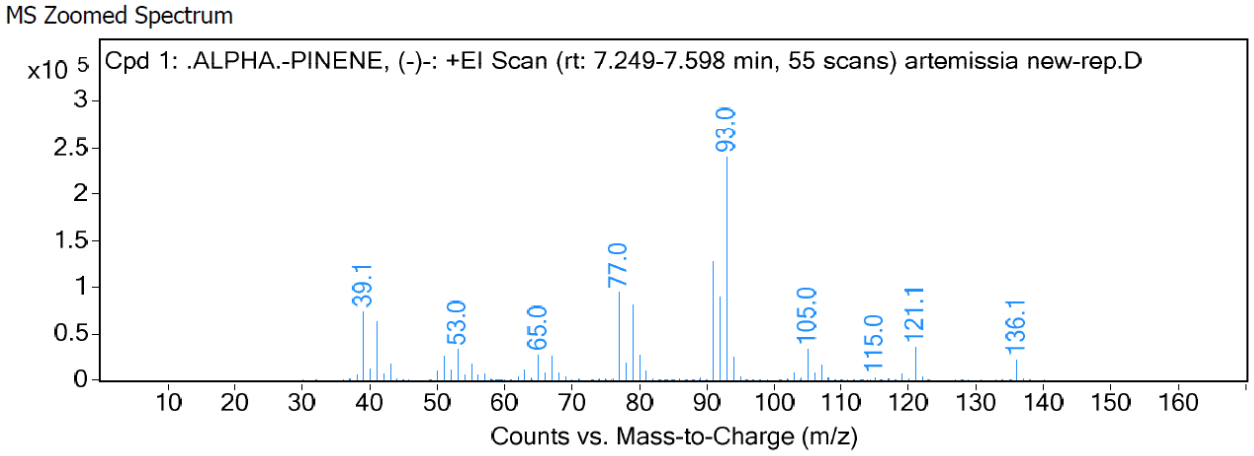

Figure S2. Mass spectrum α-pinene (match: 97.39%).

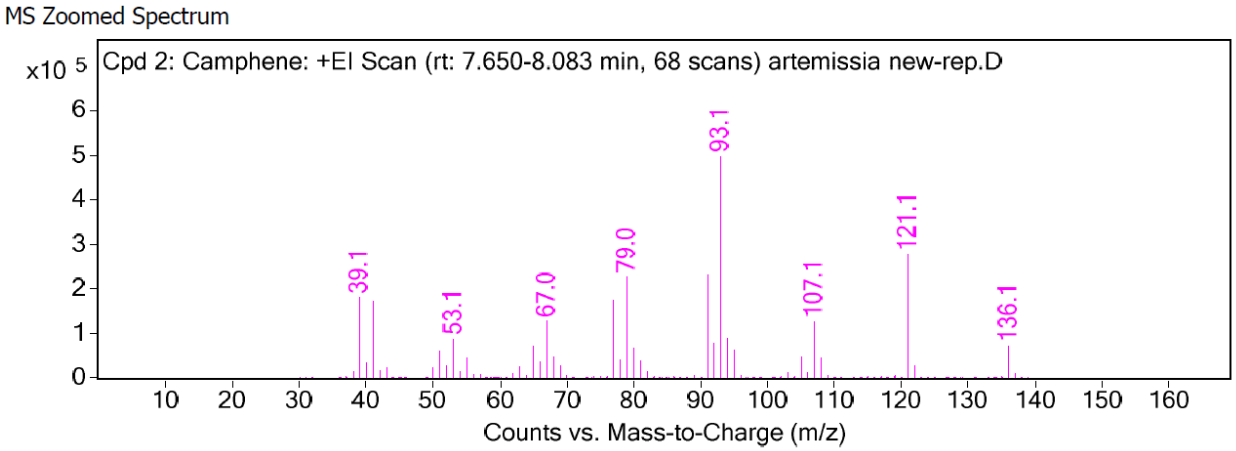

Figure S3. Mass spectrum of camphene (match: 98.65%).

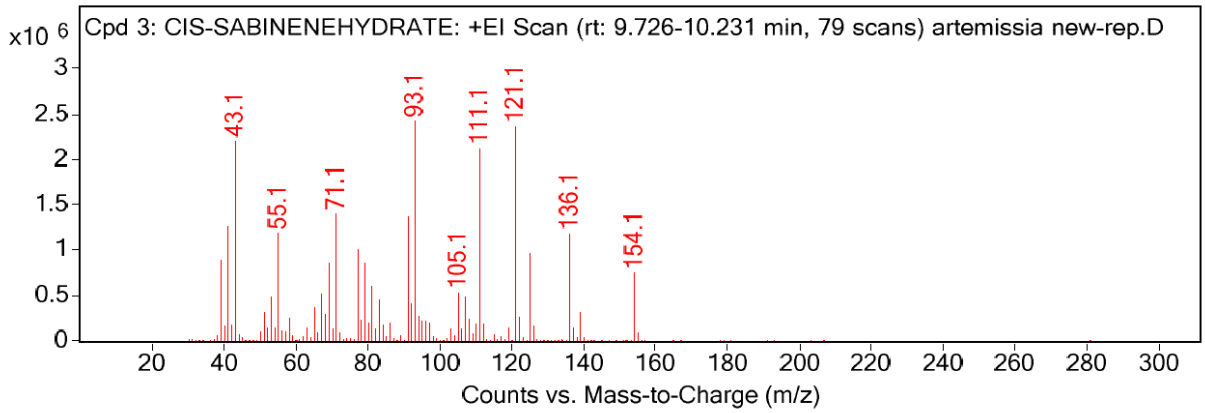

Figure S4. Mass spectrum of 4-thujanol (match: 92.07%).

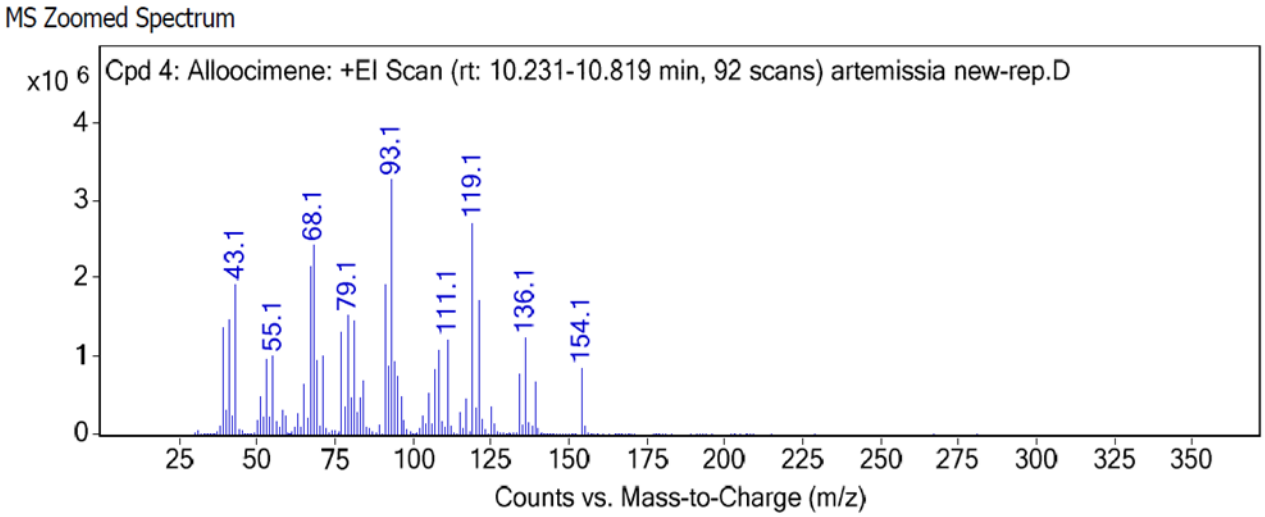

Figure S5. Mass spectrum of alloocimene (match: 87.16%).

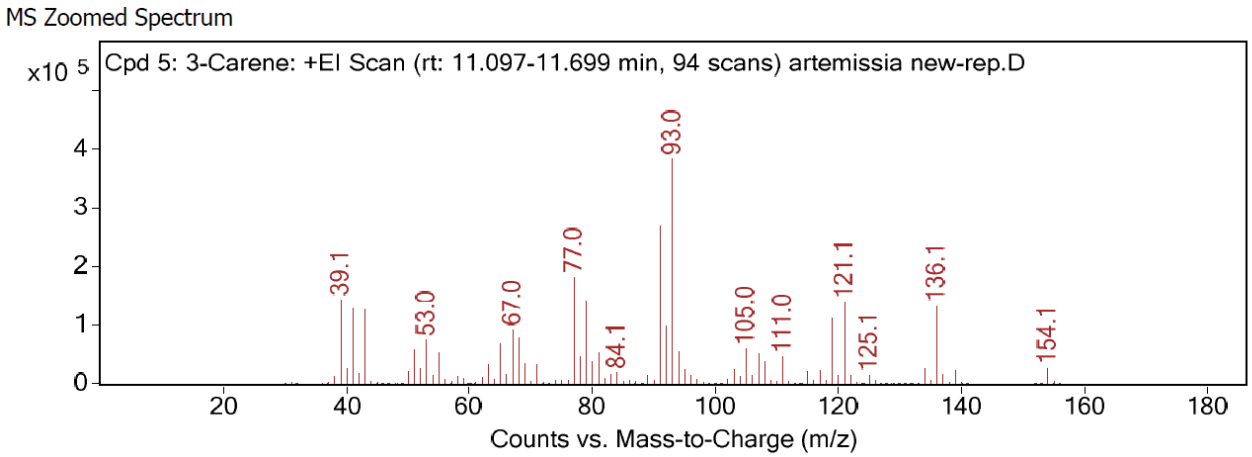

Figure S6. Mass spectrum of 3-carene (match: 91.88%).

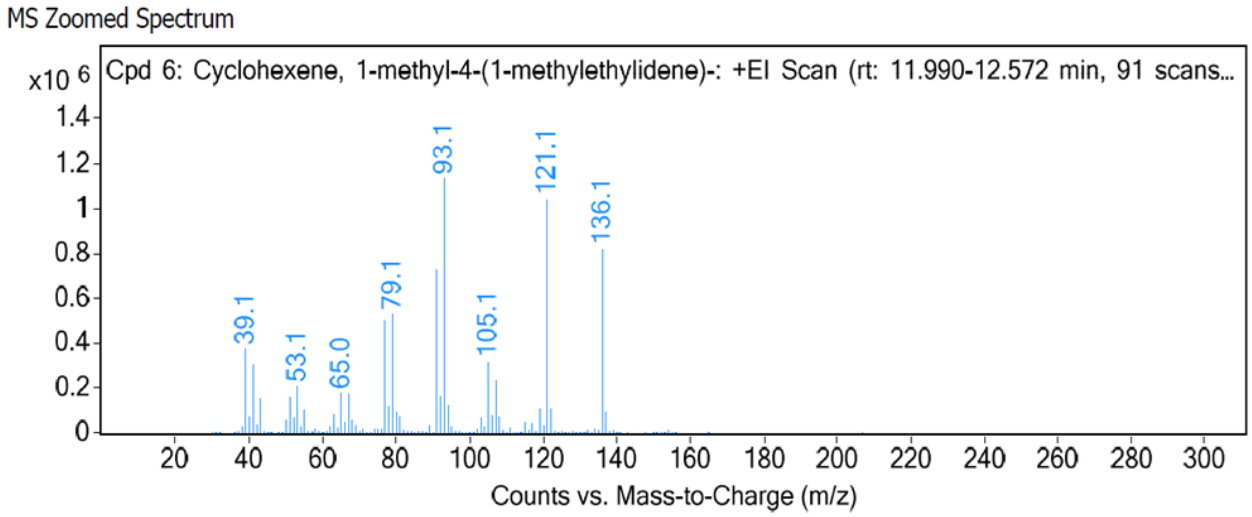

Figure S7. Mass spectrum of terpinolene (match: 97.96%).

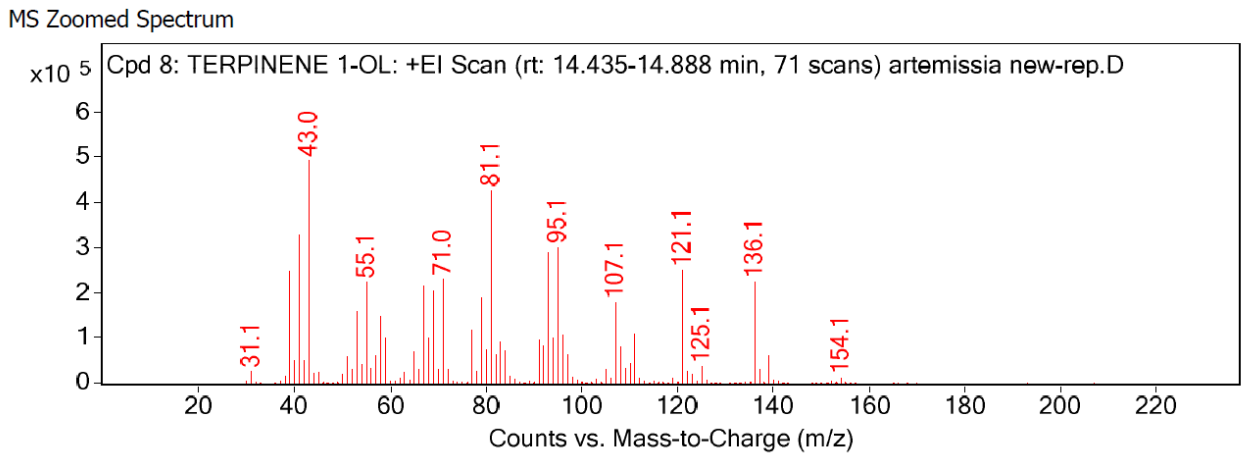

Figure S8. Mass spectrum of terpinen-1-ol (match: 97.22%).

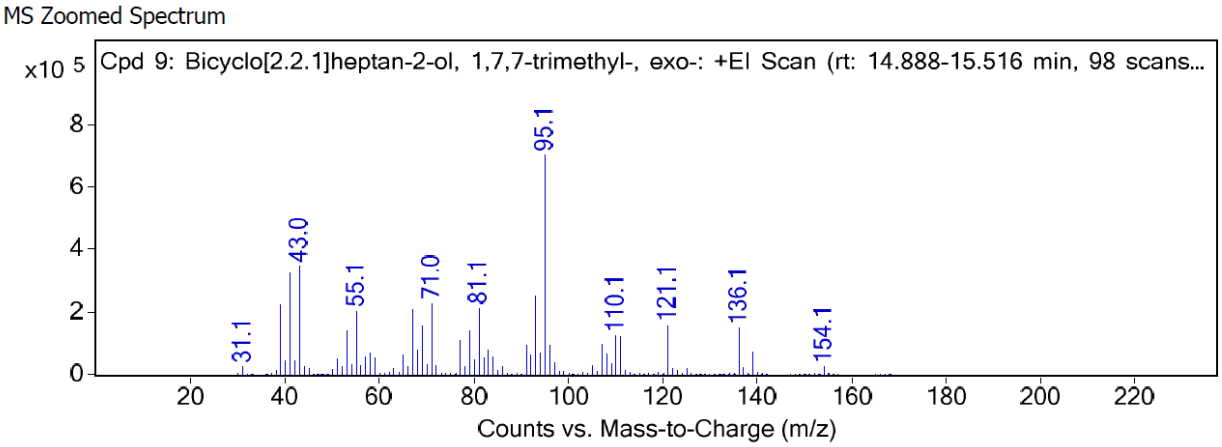

Figure S9. Mass spectrum of isoborneol (match: 94.45%).

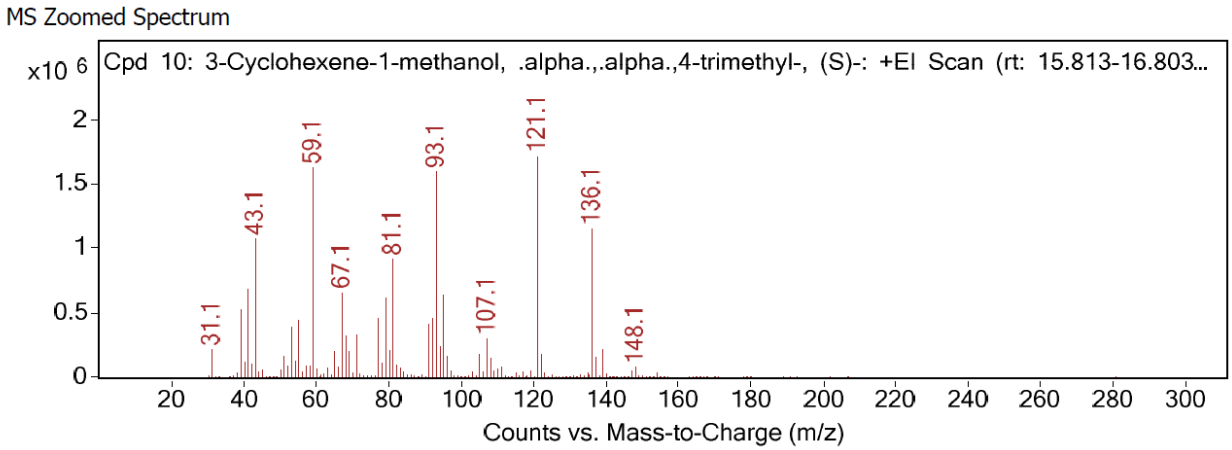

Figure S10. Mass spectrum of α-terpineol (match: 97.77%).

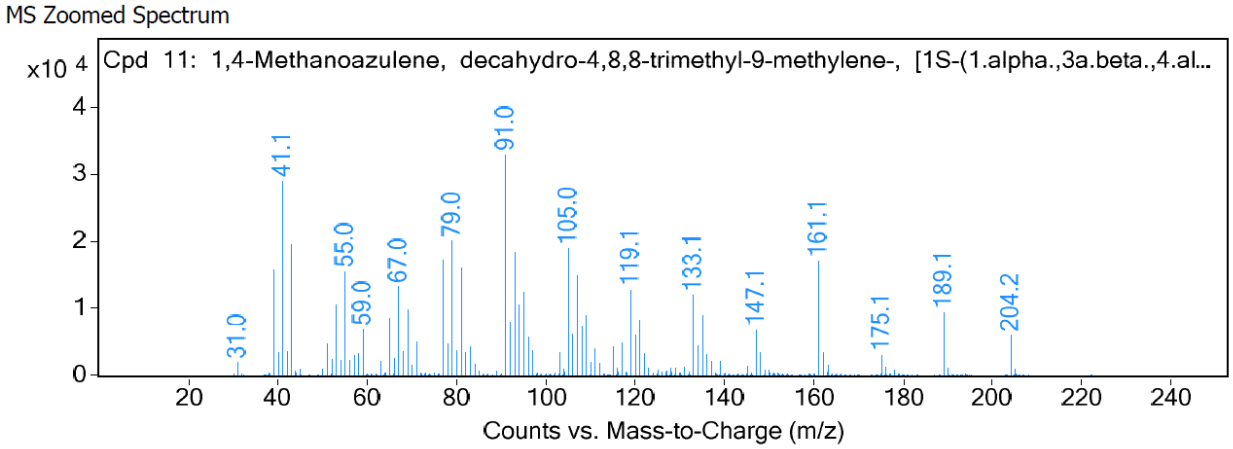

Figure S11. Mass spectrum of longifolene (match: 92.68%).

Table S1. Detailed gas chromatography-mass spectrometry (GC-MS) identification data including retention times (t_R), identification methods, and match quality

Peak	t_R / min	Compound name	Identification method	Match quality / %
1	7.36	α-pinene	MS (library)	high match / 97.39
2	7.79	camphene	MS (library)	high match / 98.65
3	8.84	*cis*-carane	manual interpretation	minor compound / 0.12
4	9.16	β-pinene	manual interpretation	minor compound / 0.38
5	10.03	4-thujanol	MS (library)	high match / 92.07
6	10.55	alloocimene	MS (library)	strong match / 87.16
7	11.25	3-carene	MS (library)	high match / 91.88
8	12.20	terpinolene	MS (library)	high match / 97.96
9	13.50	fenchol	manual interpretation	minor compound / 1.36
10	14.05	terpinen-1-ol	MS (library)	high match / 97.22
11	15.21	isoborneol	MS (library)	high match / 94.45
12	16.23	α-terpineol	MS (library)	high match / 97.77
13	21.07	longifolene	MS (library)	high match / 92.68

Table S2. Extended chemotypic comparison of *Artemisia herba-alba* with related species: complete dataset from 24 geographical entries

Location / species	Reported chemotype	Major compounds / %	Reference
Aurès (Algeria) / *A. herba-alba*	ocimene / terpineol	alloocimene (31.13) α-terpineol (23.67) 4-thujanol (17.12)	present study
Batna (Algeria) / *A. herba-alba*	camphor	camphor (50.7)	1
Tébessa (Algeria) / *A. herba-alba*	camphor	camphor (51.14) eucalyptol (19.30) camphene (6.90) chrysanthenone (5.68)	2
Tunisia / *A. herba-alba*	camphor	camphor (39.1) chrysanthenone (15) cis-thujone (7.8)	3
Souk Ahrass (Algeria) / *A. herba-alba*	camphor / eucalyptol	camphor (34.34) eucalyptol (13.49) α-thujone (8.37) camphene (8.26)	4
Sidi Bel Abbès (Algeria) / *A. herba-alba*	camphor / dimethylheptatriene	camphor (30.60)	5

		2.6-dimethyl-1.3.6-heptatriene (26.71)	
Middle Atlas-Meknes / (Morocco) *A. herba-alba*	camphor / chrysanthenone	camphor (15.64-45.42) chrysanthenone (12.37-19.6)	6
Rabat (Morocco) / *A. herba-alba*	thujone	α-thujone (65)	7
Bechar (Algeria) / *A. herba-alba*	thujone	α-thujone (48.0) β-thujone (13.4) camphor (13.1)	8
Kairouan (Tunisia) / *A. herba-alba*	thujone	β-thujone (41.9) α-thujone (18.4) camphor (13.2)	9
Djelfa (Algeria) / *A. herba-alba*	thujone / camphor	α-thujone (18.43) β-thujone (16.32) camphor (32.98) p-cymene (13.19)	10
Tunisia / *A. herba-alba*	thujone / norbornan-2-one	α-thujone (35.23) norbornan-2-one (25.67) chrysanthenone (7.66) eucalyptol (5.80)	11
Jericho (Palestine) / *A. herba-alba*	thujone / eucalyptol	eucalyptol (28.67) trans-thujone (24.00) cisthujone (17.69) camphor (12.76)	12
Gafsa (Tunisia) / *A. herba-alba*	cis-chrysanthenyl acetate / sabinyl acetate	cis-chrysantenyl acetate (10.60) sabinyl acetate (9.13) α-thujone (8.73) davana ether (6.16)	13
Djelfa (Algeria) / *A. herba-alba*	davanone	davanona (48.8) chrysanthenone (15.97) camphor (14.84)	14
Barcelona (Spain) / *A. herba-alba*	davanone / p-cymene	p-cymene (20.6) davanone (20.7) myrcene (5.4)	15
Er-Rachidia (Morocco) / *A. herba-alba*	verbenol / bisabolone oxide / farnesene epoxide	verbenol (21.83) bisabolone oxide (17.55) farnesene epoxide (17.08)	16
Algeria / *A. herba-alba*	carvone	carvone (54.68%) d-limonene (14.59%) eucalyptol (7.06%)	17

Tunisia / *Artemisia campestris*	germacrene D	germacrene d (30.46) β-pinene (16.84) α-limonene (6.99)	11
Djelfa (Algeria) / *A. campestris*	camphor	camphor (41.95) chrysanthenone (13.95) eucalyptol (13.31)	18
Sétif (Algeria) / *A. campestris*	β-pinene / α-pinene / myrcene	β-pinene (15.2) α-pinene (11.2) myrcene (10.3) germacrene D (9.0) (z)-β-ocimene (8.1) γ-curcumene (6.4)	19
Sidi Bel Abbes (Algeria) / *A. absinthium*	camphor / β-thujone	camphor (25.47) β-thujone (18.23) camphene (7.21) β-caryophyllene (6.72)	20
M'sila (Algeria) / *A. absinthium*	camphor	camphor (48) chamazulene (10)	21
Tipaza (Algeria) / *A. absinthium*	thujone	β-thujone (60.82) chamazulene (16.65)	22

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