molecules

MDPI

Supplementary Material for:

Labdane Diterpenoids from *Salvia tingitana* Etl. Synergize with Clindamycin against Methicillin-Resistant *Staphylococcus aureus*

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CONTENT:

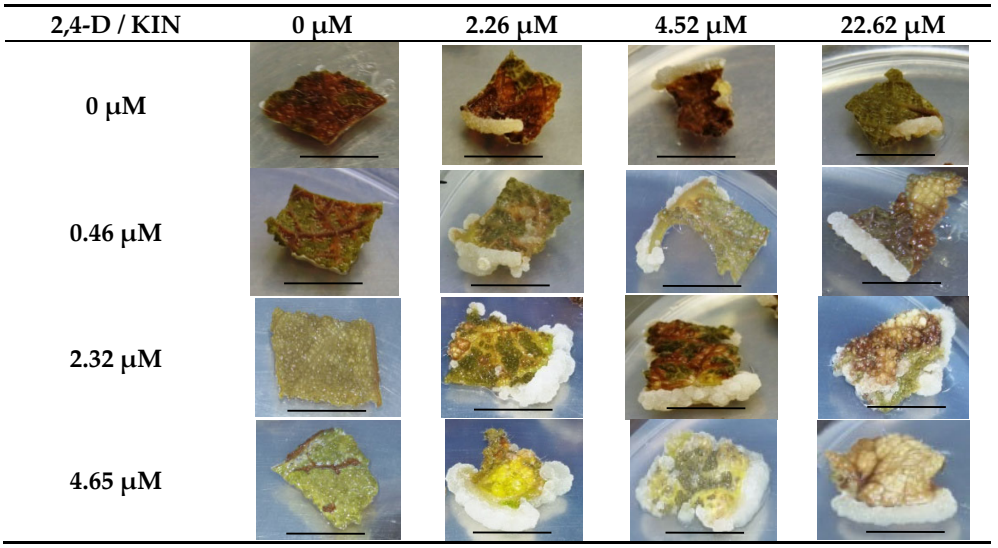


Figure S1. Callus of *S. tingitana* developed from leaf explants in dark condition on MS supplemented with different combination of PGRs and 10 mg/L of ascorbic acid after 4 weeks.MS: Murashige and Skoog medium; PGRs: plant growth regulators; 2,4-D: 2,4-dichlorophenoxyacetic acid; KIN: kinetin. Bars = 1 cm.

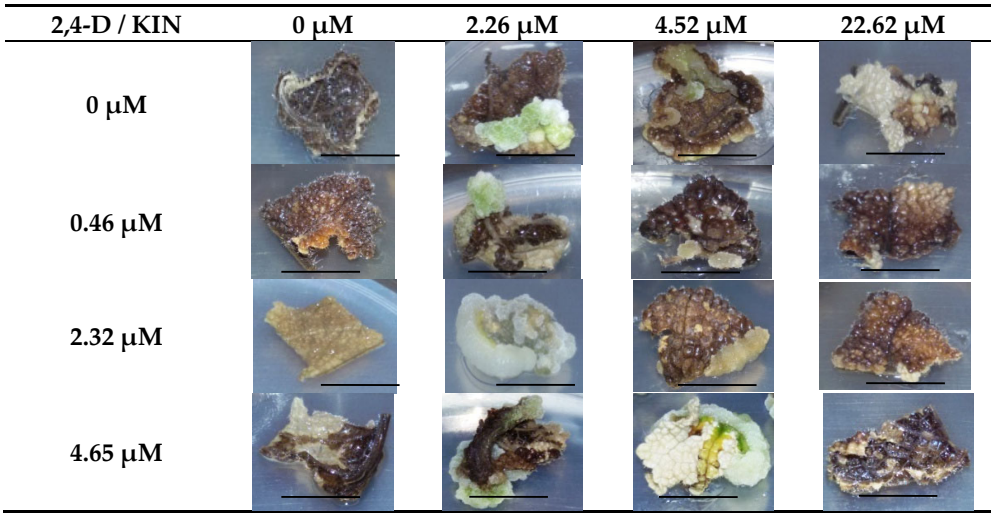
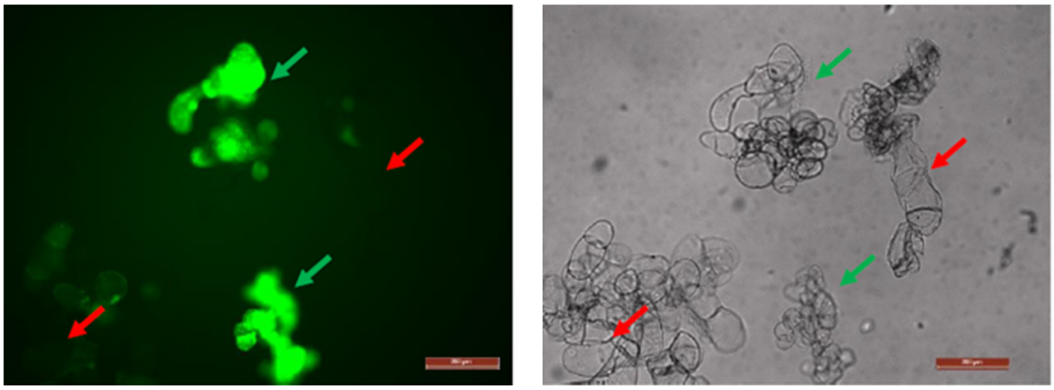
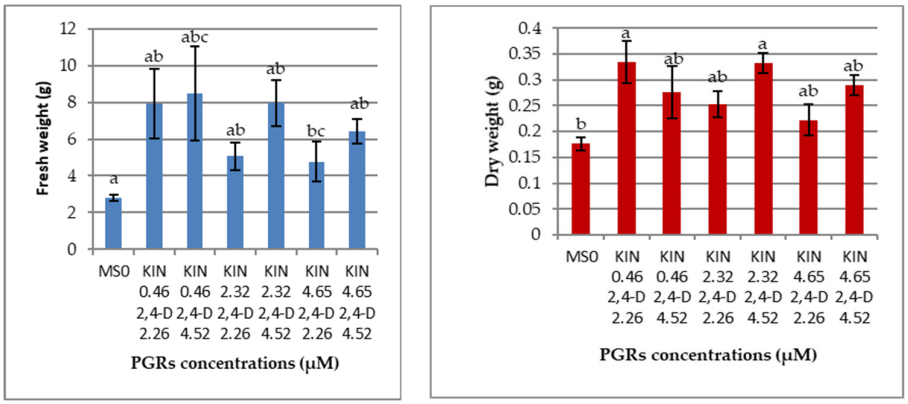


Figure S2. Callus of *S. tingitana* developed from leaf explants in light condition on MS supplemented with different combination of PGRs and 10 mg/L of ascorbic acid after 4 weeks. MS: Murashige and Skoog medium; PGRs: plant growth regulators; 2,4-D: 2,4-dichlorophenoxyacetic acid; KIN: kinetin. Bars = 1 cm.



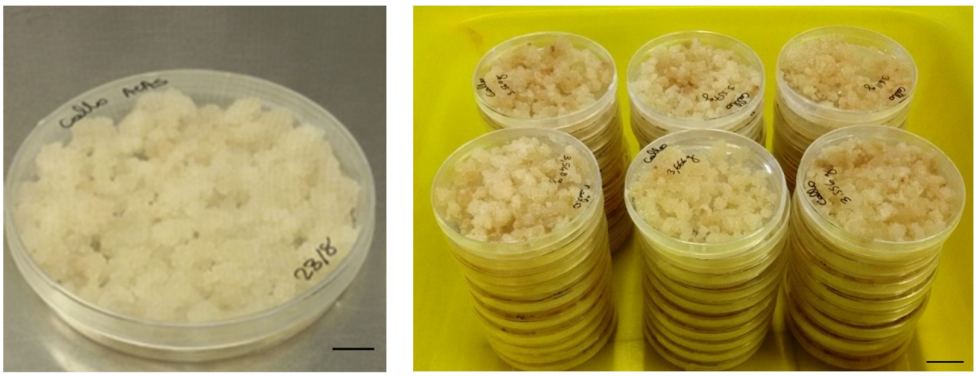
(**a**) (**b**)

Figure S3. FDA staining of *S. tingitana* callus.a: fluorescent observation; b: bright field observation (40×). Green arrows mean living cell while red mean dead cells. FDA: fluoresceine diacetate. Bars = 200 μm.



(**a**) (**b**)

Figure S4. Effect of different combination of plant growth regulators to *S. tingitana* callus biomass production.a: fresh weight; b: dry weight. Data are reported as mean of six replicates ± SE, n=6. Different letters identify values which differ at $p \leq 0.05$.



(**a**) (**b**)

Figure S5. Callus of *S. tingitana*. a: friable callus obtained after several subculture in MS medium supplemented with KIN 2.32 µM and 2,4-D 4.52 µM and ascorbic acid 10 mg/L. MS: Murashige and Skoog medium; KIN: kinetin; 2,4-D: 2,4-dichlorophenoxyacetic acid. Bar=1 cm. b: biomass production. Bar = 2 cm.

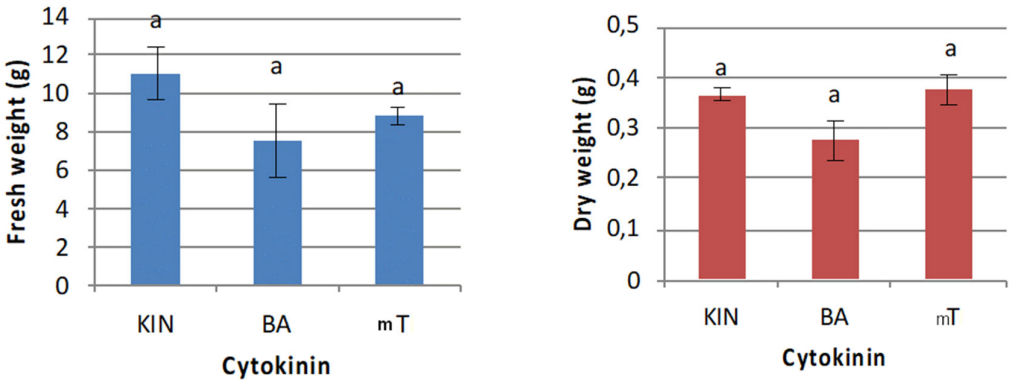


Figure S6. Effect of equimolar concentration of different cytokinins on callus growth. KIN: kinetin: BA: 6-benzylamino-purine; mT: meta Topolin. Values represent the mean ± standard error (SE) *n*=4.

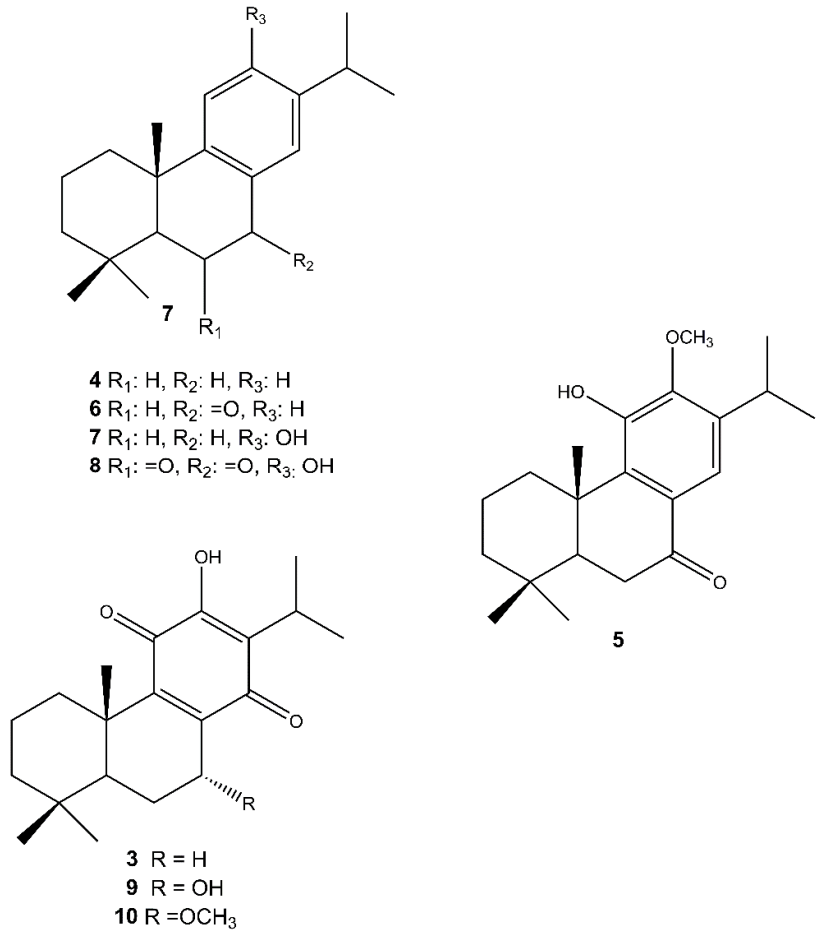


Figure S7. Abietane diterpenoids isolated from the roots of *S. tingitana*.**3**: royleanone; **4**: abieta-8,11,13-triene; **5**: cryptojaponol; **6**: abieta-8,11,13-trien-7-one; **7**: ferruginol; **8**: 12-hydroxyabieta-8,11,13-triene-6,7-dione (hypargenin C); **9**: horminone; **10**: 7-*O*-methylhorminone

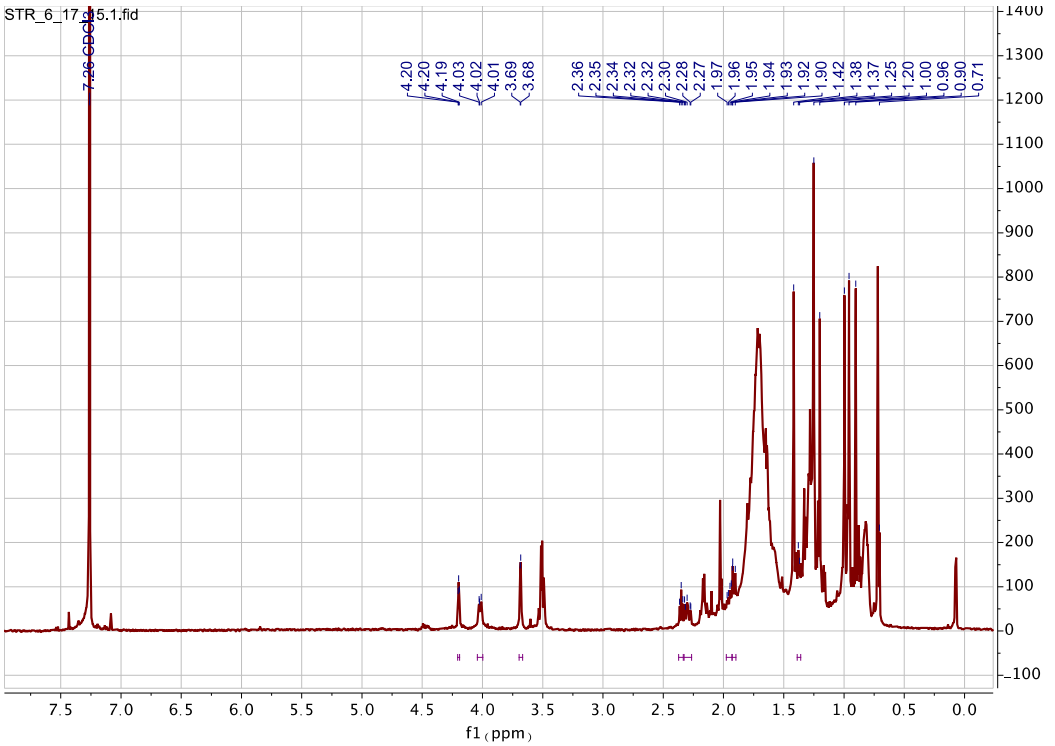


Figure S8. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **13**.

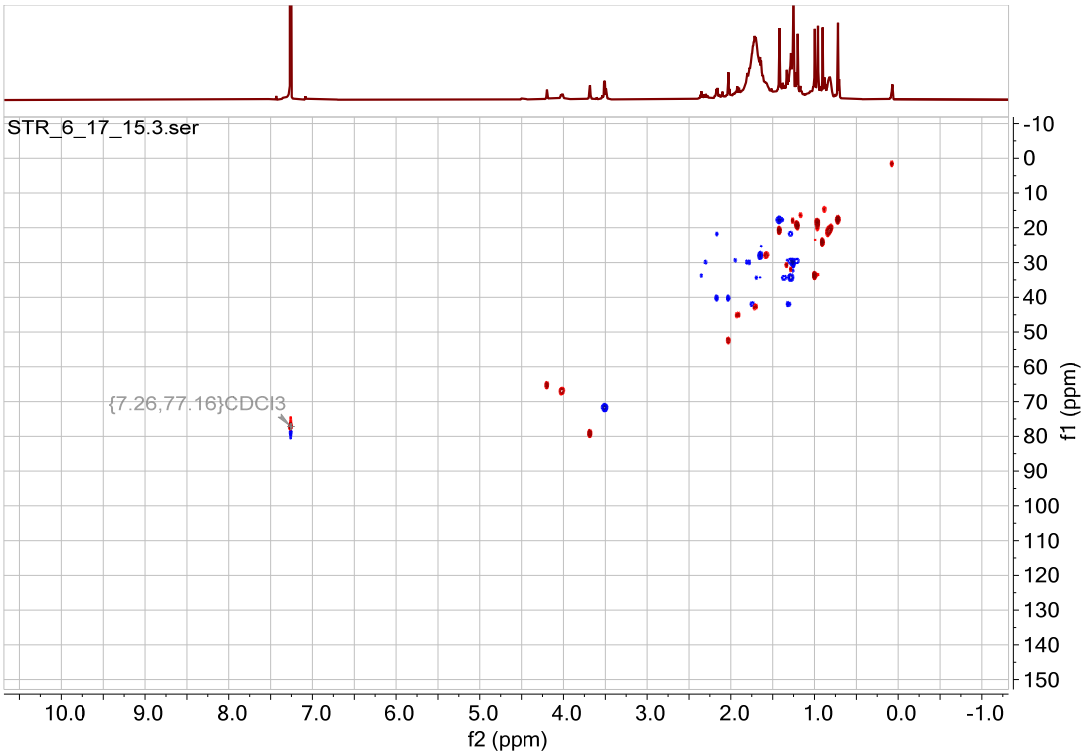


Figure S9. HSQC (600 MHz, $CDCl_3$) spectrum of compound **13**.

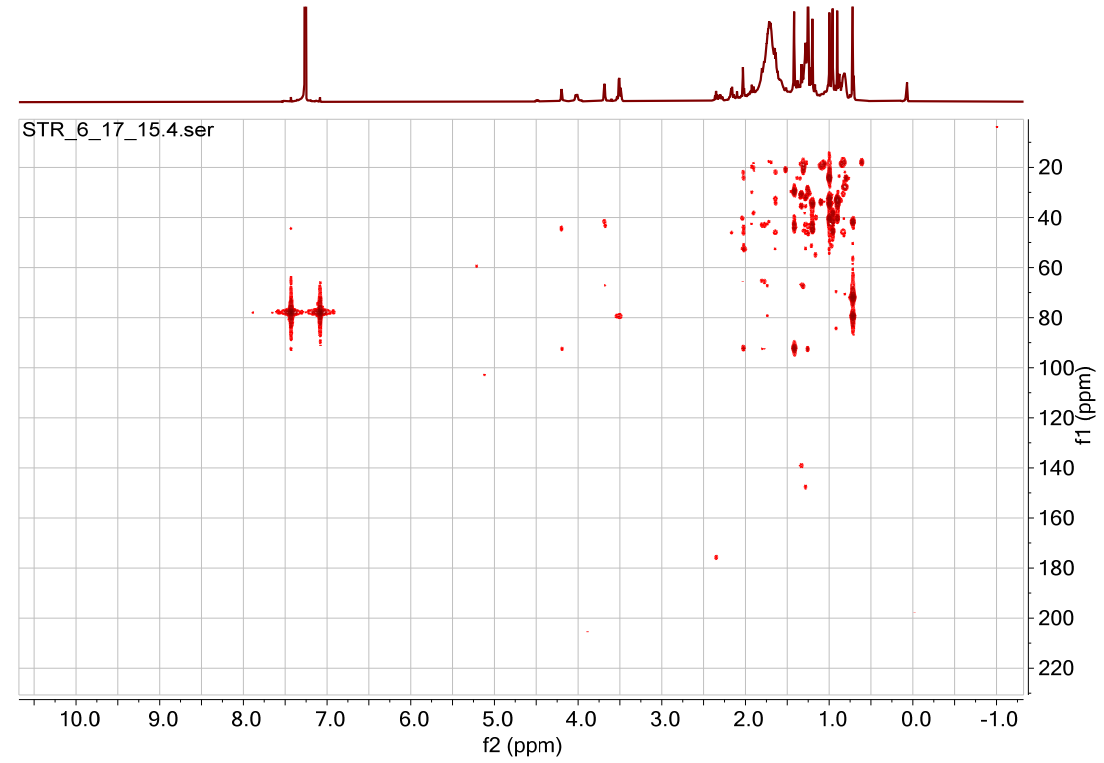


Figure S10. HMBC (600 MHz, $CDCl_3$) spectrum of compound **13**.

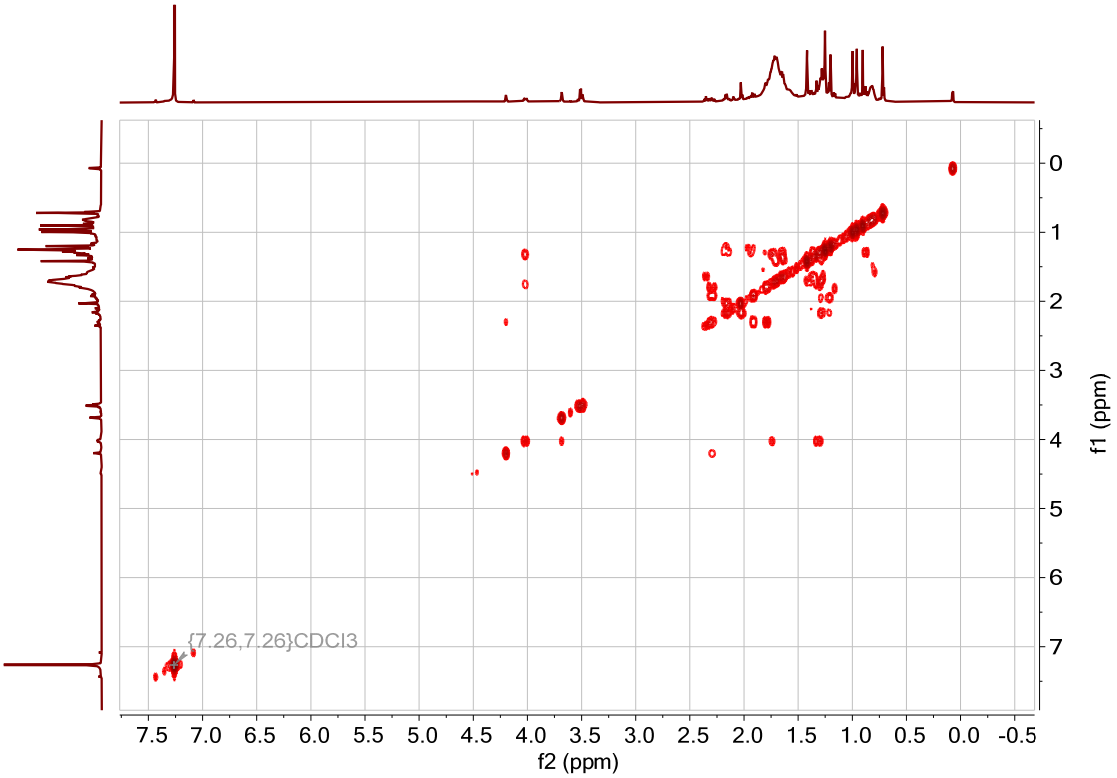


Figure S11. COSY (600 MHz, $CDCl_3$) spectrum of compound **13**.

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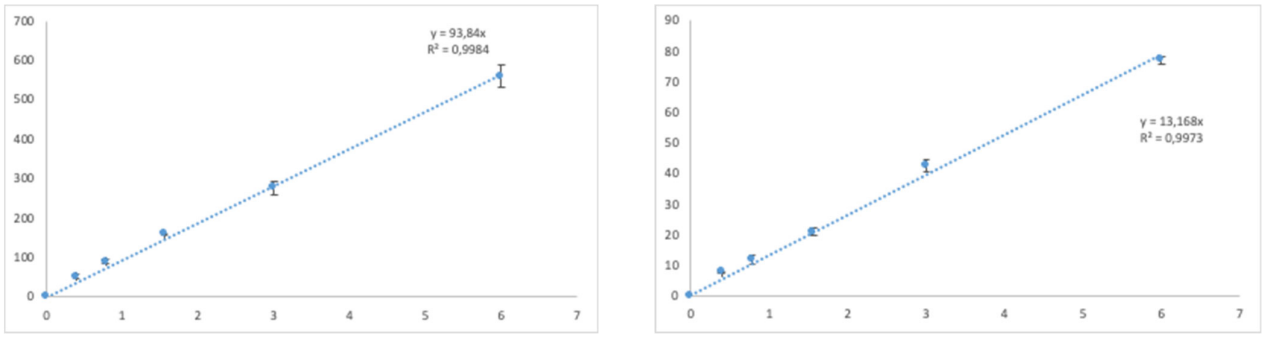

(1) (**b**)

Figure S12. Calibration curves obtained for the LC/MS/MS analysis of sclareol (**1**) and manool (**2**) using pure compounds.

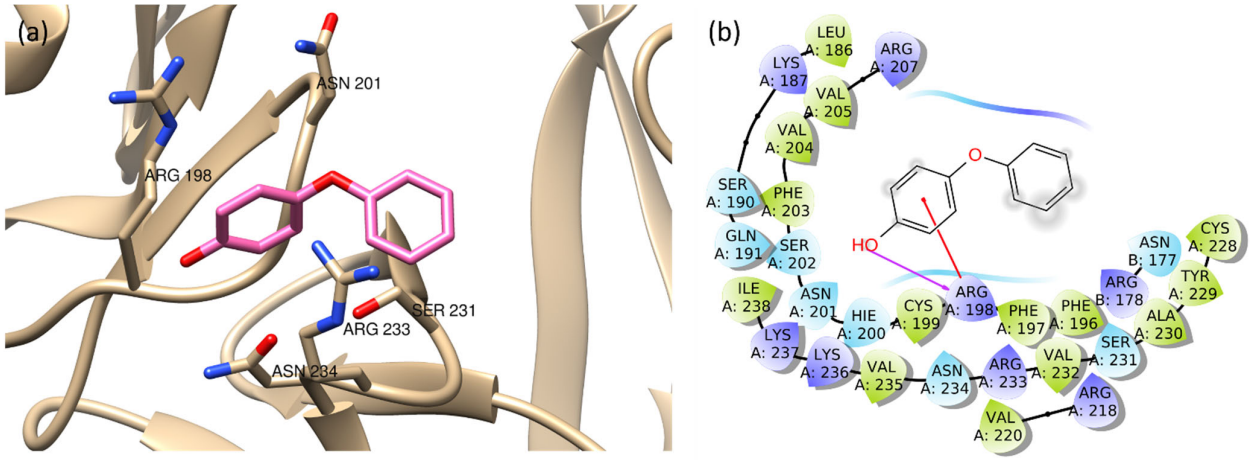

Figure S13. Binding pose and ligand interaction plot of 4-phenoxyphenol at the conserved AgrA active site.

(a): protein is reported as light brown ribbons, 4-phenoxyphenol is reported as capped sticks and is colored in magenta. (b): 4-phenoxyphenol is surrounded by the protein residues represented as follows: the negatively charged residues are indicated in red, polar residues are in cyan, hydrophobic residues are shown in green, H-bonds are presented as purple arrows and pi–cation as red line..

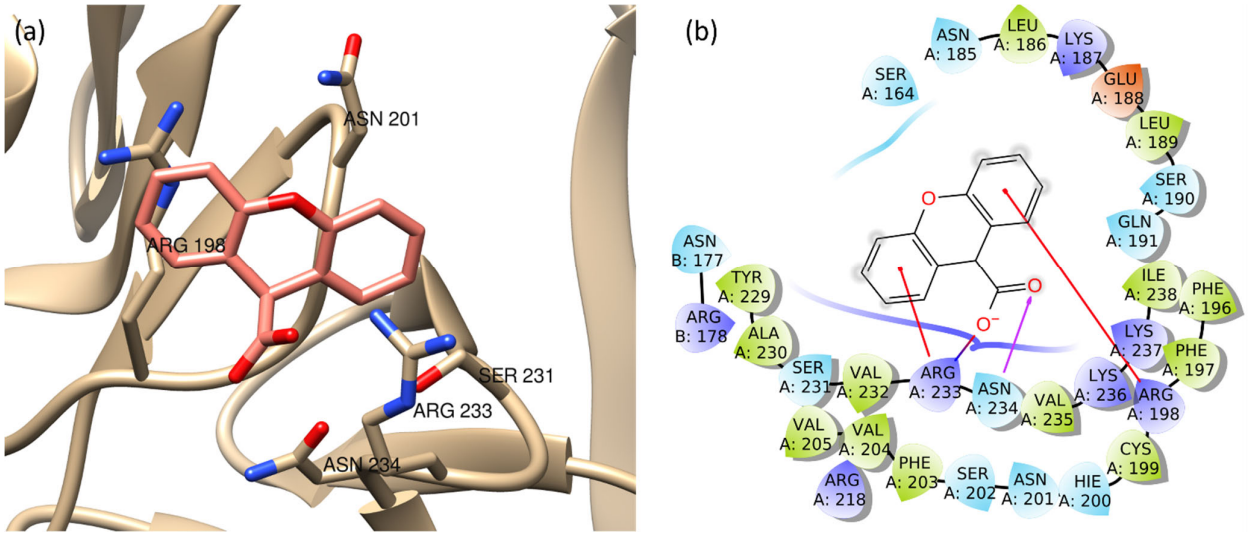

Figure S14. Binding pose and ligand interaction plot of 9H-xanthene-9-carboxylic acid at the conserved AgrA active site.(a): the protein is reported as light brown ribbons, 9H-xanthene-9-carboxylic acid is reported as capped sticks and is colored in salmon. (b): 9H-xanthene-9-carboxylic acid is surrounded by the residues represented as follows: the negatively charged residues are indicated in red, polar residues are in cyan, hydrophobic residues are shown in green, H-bonds are presented as purple arrows and pi–cation as red line.

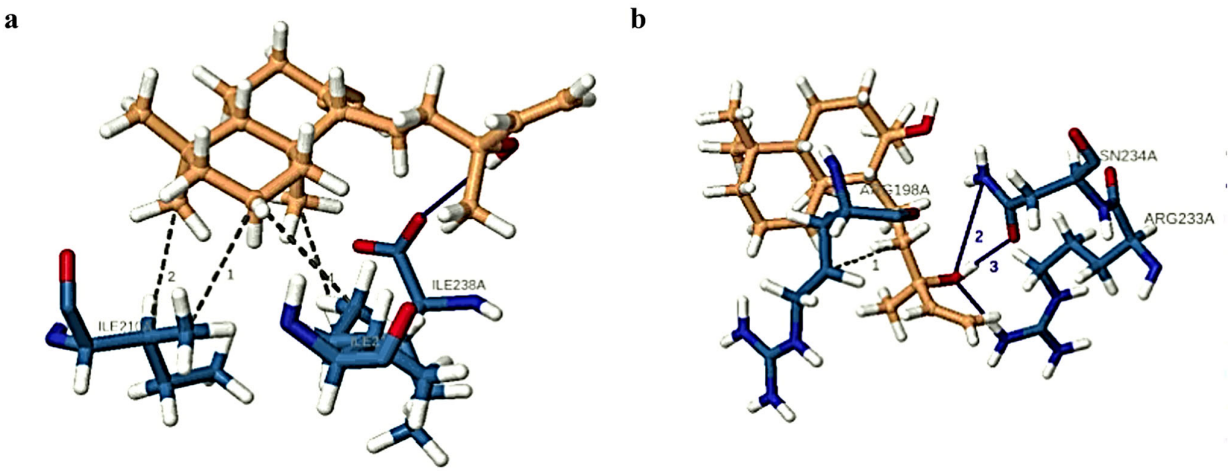

Figure S15. Manool and sclareol interactions with the key residues into the binding cavity.a: manool interactions; b: sclareol interactions; blue lines: H-bonds; broken grey lines: Van der Waals interactions.

Table S1. Literature survey about the presence of sclareol (**1**) and manool (**2**) in *Salvia* spp.[a]

Accepted Name, Protologue [1]	Synonyms [1]	Part/s of the Plant	Sclareol (1)	Manool (2)	References
***Salvia aethiopis* L.**, Sp. Pl.: 27 (1753)	Homotypic Names: *Sclarea aethiopis* (L.) Mill., Gard. Dict. ed. 8: n.º 2 (1768); *Sclarea lanata* Moench, Methodus: 374 (1794), nom. superfl.; *Salvia lanata* Stokes, Bot. Mat. Med.: 52 (1812), nom. illeg. Heterotypic Synonyms: *Salvia kochiana* Kunze, Index Seminum (LZ, Lipsiensis) 1847: 4 (1847); *Salvia leuconeura* Boiss., Diagn. Pl. Orient., ser. 2, 4: 20 (1859); *Aethiopis vera* Fourr., Ann. Soc. Linn. Lyon, n.s., 17: 134 (1869); *Salvia idanensis* Gand., Fl. Lyon.: 171 (1875).	flower, leaf and stems	ND	5.7% in stems, 0.6% p/V in flower, 2.1% in leaf of extract	[2]
		aerial parts	ND	0.8% of the essential oil	[3]
***Salvia argentea* L.**, Sp. Pl. ed. 2: 38 (1762)	Homotypic Names: *Sclarea argentea* (L.) Mill., Gard. Dict. ed. 8: n.º 15 (1768); *Salvia argentea* var. fontanesiana Maire in É.Jahandiez & al., Cat. Pl. Maroc 3: 642 (1934), not validly publ. Heterotypic Synonyms: *Salvia patula* Desf., Fl. Atlant. 1: 25 (1798); *Salvia atlantica* Pers., Syn. Pl. 1: 29 (1805); *Salvia tmolea* Boiss., Diagn. Pl. Orient. 5: 9 (1844); *Salvia saccata* Pourr. ex Willk. & Lange, Prodr. Fl. Hispan. 2: 424 (1868); *Salvia aurasiaca* Pomel, Nouv. Mat. Fl. Atl.: 306 (1874); *Salvia suaveolens* Pomel, Nouv. Mat. Fl. Atl.: 306 (1874); *Salvia argentea* var. *gussonei* Boiss. ex Nyman, Consp. Fl. Eur.: 569 (1881), nom. nud.; *Salvia argentea* var. *patula* (Desf.) Nyman, Consp. Fl. Eur.: 569 (1881); *Salvia alpestris* Hausskn. ex Nyman, Consp. Fl. Eur., Suppl. 2, 1: 248 (1889); *Salvia rhodopea* Velen., Sitzungsber. Königl. Böhm.	leaves and inflorescences	ND	14.6% of the essential oil	[4]

	Ges. Wiss., Math.-Naturwiss. Cl. 37: 388 (1892 publ. 1893); *Salvia argentea* subsp. *patula* (Desf.) Maire, Bull. Soc. Hist. Nat. Afrique N. 15: 90 (1924); *Salvia argentea* var. *pomelii* Maire, Bull. Soc. Hist. Nat. Afrique N. 15: 90 (1924); *Salvia argentea* var. *aurasiaca* (Pomel) Maire, Mém. Soc. Sci. Nat. Maroc 21-22: 13 (1930); *Salvia argentea* var. *mesatlantica* Maire, Mém. Soc. Sci. Nat. Maroc 21-22: 13 (1930). Heterotypic Synonyms: *Salvia bachtiarica* Bunge, Labiat. Persic.: 47 (1873); *Salvia hypochionea* Buhse ex Boiss., Fl. Orient. 4: 620 (1879); *Salvia montbretii* var. *virescens* Freyn, Bull. Herb. Boissier, sér. 2, 1: 278 (1901); *Salvia kopetdaghensis* Kudr., Trudy Sektora Rast. Res. Komit. Nauk Uzbeksk. SSR 3: 26 (1937); *Salvia linczevskii* Kudr., Trudy Sektora Rast. Res. Komit. Nauk Uzbeksk. SSR 3: 22 (1937); *Salvia kourossia* Parsa, Kew Bull. 3: 224 (1948); *Salvia lurorum* Rech.f., Oesterr. Bot. Z. 99: 57 (1952); *Salvia linguifolia* Hedge & Hub.-Mor., Notes Roy. Bot. Gard. Edinburgh 22: 181 (1957).		13.3% of the essential oil	1% of the essential oil	[5]
***Salvia atropatana* Bunge**, Labiat. Persic.: 47 (1873)		aerial parts	0.3% of the essential oil	ND	[6]
Salvia candidissima* subsp. *candidissima	Heterotypic Synonyms: *Salvia albida* Jacq., Observ. Bot. 1: 10 (1764), name not found; *Salvia crassifolia* Sm. in J.Sibthorp & J.E.Smith, Fl. Graec. Prodr. 1: 17 (1806), nom. illeg.; *Salvia albida* Spreng., Index Seminum (HAL, Halensis) 1807: 53 (1807), nom. illeg.; *Salvia odorata* Willd., Enum. Pl.: 43 (1809); *Salvia argentea* Benth., Labiat. Gen. Spec.: 223 (1833), nom. illeg.; *Salvia armena* K.Koch, Linnaea 21: 654	roots	NQ	NQ	[7]

	(1849); *Salvia pycnophylla* Greuter & Burdet, Willdenowia 14: 301 (1984 publ. 1985).				
***Salvia candidissima* Vahl**, Enum. Pl. Obs. 1: 278 (1804)	Homotypic Names: *Sclarea candidissima* (Vahl) Soják, Cas. Nár. Mus., Odd. Prír. 152: 21 (1983).	aerial parts	2.5% of the essential oil	1.8% of the essential oil	[8]
***Salvia cassia* Sam. ex Rech.f.**, Ark. Bot., a.s., 1: 320 (1950)	-	aerial parts	ND	2.1% of the essential oil	[9]
***Salvia chrysophylla* Stapf**, Denkschr. Kaiserl. Akad. Wiss., Wien. Math.Naturwiss. Kl. 50: 96 (1885)			1.12% of the essential oil	1.37% of the essential oil	[10]
	Heterotypic Synonyms: *Salvia bourgeana* Barbey, Bull. Soc. Vaud. Sci. Nat. 21: 96 (1885).	aerial parts	NQ	ND	[11]
***Salvia desoleana* Atzei & V.Picci**, Webbia 36: 72 (1982)	-	aerial parts	ND	2.8% of the essential oil	[12]
***Salvia dominica* L.**, Sp. Pl.: 25 (1753)	Heterotypic Synonyms: *Salvia graveolens* Vahl, Enum. Pl. Obs. 1: 273 (1804). *Salvia commutata* Benth., Labiat. Gen. Spec.: 222 (1833). *Salvia syriaca* Gouan ex Benth. in A.P.de Candolle, Prodr. 12: 279 (1848).	whole plant	NQ	ND	[13]
***Salvia fruticosa* Mill.**, Gard. Dict. ed. 8: n.º 5 (1768)	Heterotypic Synonyms: *Salvia baccifera* Etl., Salv.: 18 (1777); *Salvia incarnata* Etl., Salv.: 25 (1777); *Salvia triloba* L.f., Suppl. Pl.: 88 (1782); *Salvia sipylea* Lam., Tabl. Encycl. 1: 68 (1791); *Salvia sypilea* Lam., Tabl. Encycl. 1: 68 (1791); *Salvia clusii* Jacq., Pl. Hort. Schoenbr. 2: 37 (1797); *Salvia marrubioides* Vahl, Enum. Pl. Obs. 1: 223 (1804); *Salvia ovata* F.Dietr., Nachtr. Vollst. Lex. Gärtn. 7: 465	whole plant	ND	NQ	[14]
		aerial parts	ND	0.2-4% of the essential oil	[15]
		leaves	ND	NQ	[16]

	(1821); *Salvia subtriloba* Schrank, Syll. Pl. Nov. 2: 58 (1826); *Sclarea triloba* (L.f.) Raf., Fl. Tellur. 3: 94 (1837); *Salvia libanotica* Boiss. & Gaill. in P.E.Boissier, Diagn. Pl. Orient., ser. 2, 4: 16 (1859); *Salvia cypria* Unger & Kotschy, Ins. Cypern: 266 (1865); *Salvia triloba* var. *calpeana* Dautez & Debeaux in J.O.Debeaux, Syn. Fl. Gibraltar: 161 (1889); *Salvia lobryana* Azn., Magyar Bot. Lapok 1: 195 (1902); *Salvia triloba* var. *subhastata* H.Lindb., Öfvers. Finska Vetensk.-Soc. Förh. 48(13): 94 (1906); *Salvia fruticosa* subsp. *cypria* (Unger & Kotschy) Holmboe, Stud. Veg. Cyprus: 158 (1914); *Salvia triloba* subsp. *cypria* (Kotschy) Holmboe, Stud. Veg. Cyprus: 158 (1914); *Salvia triloba* subsp. *libanotica* (Boiss. & Gaill.) Holmboe, Stud. Veg. Cyprus: 158 (1914); *Salvia thomasii* Lacaita, Nuovo Giorn. Bot. Ital., n.s., 29: 186 (1922 publ. 1923); *Salvia triloba* subsp. *calpeana* (Dautez & Debeaux) P.Silva, Agron. Lusit. 20: 237 (1958); *Salvia fruticosa* subsp. *thomasii* (Lacaita) Brullo, Guglielmo, Pavone & Terrasi, Inform. Bot. Ital. 26: 211 (1994 publ. 1995). Homotypic Names: *Sclarea glutinosa* (L.) Mill., Gard. Dict. ed. 8: n.º 11 (1768). *Glutinaria glutinosa* (L.) Raf., Fl. Tellur. 3: 93 (1837). *Drymosphace glutinosa* (L.) Opiz, Seznam: 38 (1852). Heterotypic Synonyms: *Glutinaria acuminata* Raf., Autik. Bot.: 122 (1840).			
***Salvia glutinosa* L.**, Sp. Pl.: 26 (1753)		aerial parts	11.9% of the essential oil	6.8% of the essential oil	[8]
***Salvia hypoleuca* Benth.**,	-	roots	ND	NQ	[17]

A.P.de Candolle, Prodr. 12: 279 (1848)					
***Salvia judaica* Boiss.**, Diagn. Pl. Orient. 12: 61 (1853)	-	leaf	7.01% of the essential oil	ND	[18]
***Salvia lanigera* Poir.** J.B.A.M.de Lamarck, Encycl., Suppl. 5: 49 (1817)	Homotypic Names: *Salvia verbenaca* subsp. lanigera (Poir.) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 688 (1890). Heterotypic Synonyms: *Salvia rugosissima* Zucc., Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 3: 244 (1843).	leaves	14.44% of ethanol extract	ND	[19]
***Salvia limbata* C.A.Mey.**, Verz. Pfl. Casp. Meer.: 86 (1831)	Heterotypic Synonyms: *Salvia flexuosa* Schrank, Syll. Pl. Nov. 2: 57 (1826), provisionally listed as a synonym; *Salvia polyadenia* Boiss. & Heldr. in P.E.Boissier, Diagn. Pl. Orient. 5: 7 (1844); *Salvia chrysadenia* Freyn, Bull. Herb. Boissier, sér. 2, 1: 279 (1901)	aerial parts	NQ	NQ	[20]
***Salvia majdae* (Rech.f. & Wendelbo) Sytsma**, Taxon 66: 142 (2017)	Homotypic Names: *Zhumeria majdae* Rech.f. & Wendelbo, Nytt Mag. Bot. 14: 39 (1967).	roots	ND ND	NQ NQ	[21] [22]
		aerial parts	ND	37.1% of essential oil	[23]
***Salvia macrosiphon* Boiss.**, Diagn. Pl. Orient. 5: 11 (1844)	Heterotypic Synonyms: *Salvia kotschyi* Boiss., Diagn. Pl. Orient. 7: 46 (1846); *Salvia macrosiphon* var. *cabulica* Benth. in A.P.de Candolle, Prodr. 12: 282 (1848); *Salvia macrosiphon* var. *kotschyi* (Boiss.) Boiss., Fl. Orient. 4: 615 (1879); *Salvia macrosiphonia* St.-Lag., Ann. Soc. Bot. Lyon 7: 134 (1880); *Salvia cuspidatissima* Pau, Trab. Mus. Ci. Nat., Ser. Bot. 14: 33 (1918); *Salvia albifrons* Nábelek, Spisy Prír. Fak. Masarykovy Univ. 70: 49 (1926); *Salvia macrosiphon* var. *brachycalycina* Bornm., Bot. Jahrb.	aerial parts	15.76 % of essential oil 8.6% % of essential oil	2.10% of essential oil ND	[24] [6]

	Syst. 62: 238 (1934); *Salvia macrosiphon* var. *glandulosissima* Bornm., Bot. Jahrb. Syst. 62: 238 (1934); *Salvia nachiczevanica* Pobed. in V.L.Komarov, Fl. URSS 21: 657 (1954)				
***Salvia montbretii* Benth.**, Ann. Sci. Nat., Bot., sér. 2, 6: 42 (1836)	-	aerial parts	ND	0.3 % of essential oil	[25]
***Salvia multicaulis* Vahl,** Enum. Pl. Obs. 1: 225 (1804)	Homotypic Names: *Arischrada multicaulis* (Vahl) Pobed., Novosti Sist. Vyssh. Rast. 9: 247 (1972); *Stiefia multicaulis* (Vahl) Soják, Cas. Nár. Mus., Odd. Prír. 152: 22 (1983). Heterotypic Synonyms: *Salvia pinardii* Boiss., Diagn. Pl. Orient. 12: 59 (1853); *Salvia rascheyana* Boiss., Diagn. Pl. Orient. 12: 58 (1853); *Salvia bodeana* Bunge, Labiat. Persic.: 42 (1873); *Salvia szovitsiana* Bunge, Labiat. Persic.: 43 (1873); *Schraderia acetabulosa* Pobed. in V.L.Komarov, Fl. URSS 21: 369 (1954).	roots	ND	NQ	[26]
		stems and leaves	ND	NQ	[27]
***Salvia officinalis* L.**, Sp. Pl.: 23 (1753)	Heterotypic Synonyms: *Salvia officinalis* subsp. minor (C.C.Gmel.) Gams in G.Hegi, Ill. Fl. Mitt.-Eur. 5: 2483 (1927).	leaf	5.18% of essential oil *S. officinalis*, 2.86% *S. o*. cv. 'Purpurascens', 3.08% *S. o*. cv. 'Tricolor', 2.16% *S. o*. cv. 'Kew Gold', 7.01 % *S. judaica*	ND	[18]
		aerial parts	NQ	NQ	[28]
		leaves	ND	NQ	[29]
		flower, leaf and stem	ND	9.0% (leaf), 11.1 % (flower), 9.9%	[30]

				(stem) of ethanol extract		
***Salvia oligophylla* Aucher ex Benth.**, A.P.de Candolle, Prodr. 12: 279 (1848)	Heterotypic Synonyms: *Salvia sinaica* Delile ex Benth., Labiat. Gen. Spec.: 718 (1835); *Salvia lorentii* Hochst. in J.A.Lorent, Wanderungen: 333 (1845); *Salvia sieberi* C.Presl, Abh. Königl. Böhm. Ges. Wiss., ser. 5, 3: 530 (1845); *Salvia rassamii* Boiss., Fl. Orient. 4: 615 (1879); *Salvia alliaria* Parsa, Kew Bull. 3: 224 (1948).	aerial parts	ND	3.99% of essential oil	[6]	Aerial parts	ND	Non specificata
***Salvia palaestina* Benth.,** Labiat. Gen. Spec.: 718 (1835)	Heterotypic Synonyms: *Salvia sinaica* Delile ex Benth., Labiat. Gen. Spec.: 718 (1835); *Salvia lorentii* Hochst. in J.A.Lorent, Wanderungen: 333 (1845); *Salvia sieberi* C.Presl, Abh. Königl. Böhm. Ges. Wiss., ser. 5, 3: 530 (1845); *Salvia rassamii* Boiss., Fl. Orient. 4: 615 (1879); *Salvia alliaria* Parsa, Kew Bull. 3: 224 (1948).	leaves	NQ	ND	[31]	Aerial parts	ND	Non specificata
***Salvia patens* Cav.**, Icon. 5: 33 (1799)	Heterotypic Synonyms: *Salvia grandiflora* Née ex Cav., Icon. 5: 33 (1799), nom. illeg. *Salvia spectabilis* Kunth in F.W.H.von Humboldt, A.J.A.Bonpland & C.S.Kunth, Nov. Gen. Sp. 2: 304 (1818). *Salvia macrantha* Schltdl., Allg. Gartenzeitung 6: 314 (1838). *Salvia decipiens* M.Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 11(2): 64 (1844). *Salvia staminea* M.Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 11(2): 65 (1844), nom. illeg. *Salvia mendax* Epling, Repert. Spec. Nov. Regni Veg. Beih. 110: 96 (1938).	whole plant	4.85% of essential oil	ND	[32]			
***Salvia persepolitana* Boiss.**, Diagn. Pl. Orient. 12: 60 (1853)	-	aerial parts	0.5% of essential oil	37.3% of essential oil	[33]			

***Salvia poculata* Nábelek**, Spisy Prír. Fak. Masarykovy Univ. 70: 50 (1926)	Heterotypic Synonyms: *Salvia brevidens* Hedge & Hub.-Mor., Notes Roy. Bot. Gard. Edinburgh 22: 183 (1957).	aerial parts	NQ	ND	[34]
***Salvia reuteriana* Boiss.**, Diagn. Pl. Orient. 5: 10 (1844)	-	aerial parts	0.77 - 7.88% of essential oil	ND	[35]
			2% of essential oil	ND	[36]
			NQ	ND	[37]
***Salvia runcinata* L.f.**, Suppl. Pl.: 89 (1782)	Heterotypic Synonyms: *Salvia monticola* Benth. in E.H.F.Meyer, Comm. Pl. Afr. Austr.: 238 (1838). *Salvia runcinata* var. *major* Benth. in A.P.de Candolle, Prodr. 12: 352 (1848). *Salvia runcinata* var. *grandiflora* Skan in W.H.Harvey & auct. suc. (eds.), Fl. Cap. 5(1): 327 (1910). *Salvia runcinata* var. *nana* Skan in W.H.Harvey & auct. suc. (eds.), Fl. Cap. 5(1): 327 (1910). *Salvia sisymbrifolia* Skan in W.H.Harvey & auct. suc. (eds.), Fl. Cap. 5(1): 328 (1910).	aerial parts	ND	6.4% of essential oil	[38]
***Salvia sahendica* Boiss. & Buhse**, Nouv. Mém. Soc. Imp. Naturalistes Moscou 12: 172 (1860)	-	aerial parts	NQ	ND	[39]
			NQ	ND	[40]
***Salvia santolinifolia* Boiss.**, Diagn. Pl. Orient. 5: 13 (1844)	Homotypic Names: *Pleudia santolinifolia* (Boiss.) M.Will, N.Schmalz & Class.-Bockh., Turkish J. Bot. 39: 703 (2015).	aerial parts	2.75% of essential oil	ND	[41]
***Salvia sclarea* L.**, Sp. Pl.: 27 (1753)	Homotypic Names: *Sclarea vulgaris* Mill., Gard. Dict. ed.8: nº1 (1768); *Aethiopis sclarea* (L.) Opiz, Seznam: 11 (1852). Heterotypic Names: *Salvia haematodes* Scop., Fl. Carniol., ed.2, 1: 29 (1771),	whole plant	NQ	NQ	[42]
			ND	NQ	[43]
		aerial parts	5.3% of essential oil	ND	[6]

	nom. illeg.; *Salvia coarctata* Vahl, Enum. Pl. Obs. 1: 253 (1804); *Salvia simsiana* Schult., Mant. 1: 210 (1822); *Salvia calostachya* Gand., Fl. Lyon.: 171 (1875); *Salvia sclarea* var. *calostachya* (Gand.) Nyman, Consp. Fl. Eur.: 569 (1881); *Salvia turkestanica* Noter, Rev. Hort. (Paris) 77: 502 (1905); *Salvia sclarea* var. *turkestaniana* Mottet, Rev. Hort. (Paris) 79: 135 (1907); *Salvia lucana* Cavara & Grande, Bull. Orto Bot. Regia Univ. Napoli 3: 436 (1913); *Salvia pamirica* Gand., Bull. Soc. Bot. France 60: 26 (1913); *Salvia altilabrosa* Pan, Trab. Mus. Ci. Nat., Ser. Bot. 14: 33 (1918). Homotypic Names: *Salvia pratensis* var. sclareoides (Brot.) Briq., Lab. Alp. Mar.: 532 (1895). Heterotypic Synonyms: *Sclarea lusitanica* Mill., Gard. Dict. ed. 8: n.º 3 (1768). *Salvia bullata* Vahl, Enum. Pl. Obs. 1: 265 (1804), nom. illeg. *Salvia lusitanica* Poir. in J.B.A.M.de Lamarck, Encycl. 6: 606 (1805). *Salvia elongata* Spreng., Pl. Min. Cogn. Pug. 1: 3 (1813), nom. illeg. *Salvia lusitanica* J.Jacq., Ecl. Pl. Rar. 1: 47 (1813), sensu auct. *Salvia baetica* Boiss., Elench. Pl. Nov.: 73 (1838). *Salvia pratensis* var. *bullata* Briq., Lab. Alp. Mar.: 531 (1895). *Salvia pratensis* var. *lusitanica* Briq., Lab. Alp. Mar.: 532 (1895). *Salvia sclareoides* var. *baetica* (Boiss.) Figuerola, Collect. Bot. (Barcelona) 17: 309 (1988 publ. 1989).				
***Salvia sclareoides* Brot.**, Fl. Lusit. 1: 17 (1804)		aerial parts	0.3% of essential oil	ND	[44]
***Salvia sharifii* Rech.f. & Esfand.**, Oesterr. Bot. Z. 99: 55 (1952)	-	seeds	21.9% of essential oil	ND	[45]

***Salvia staminea* Montbret & Aucher ex Benth.**, Ann. Sci. Nat., Bot., sér. 2, 6: 41 (1836)	Heterotypic Synonyms: *Salvia calvertii* Boiss., Fl. Orient. 4: 626 (1879). *Salvia staminea* subsp. *armeniaca* Bordz., Trudy Bot. Sada Imp. Yur'evsk. Univ. 13: 22 (1912). *Salvia armeniaca* (Bordz.) Grossh., Beih. Bot. Centralbl. 44(2): 237 (1927). *Salvia kudjurica* Rech.f., Oesterr. Bot. Z. 99: 56 (1952). *Salvia transcaucasica* Pobed., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 21: 321 (1961).	aerial parts	da 0.01 a 3.1% of essential oil	ND	[46]
***Salvia stenophylla* Burch. ex Benth., Labiat. Gen. Spec.: 306 (1833)**	Heterotypic Synonyms: *Salvia chlorophylla* Briq., Bull. Herb. Boissier, sér. 2, 3: 1080 (1903). *Salvia xerobia* Briq., Bull. Herb. Boissier, sér. 2, 3: 1076 (1903). *Salvia stenophylla* var. *subintegra* Skan in W.H.Harvey & auct. suc. (eds.), Fl. Cap. 5(1): 326 (1910). *Salvia pallida* Dinter, Repert. Spec. Nov. Regni Veg. 23: 227 (1926), nom. nud.	aerial parts	ND	3.2 -12.7% of essential oil	[38]
***Salvia verticillata* L., Sp. Pl.: 26 (1753)**	Homotypic Names: *Horminum verticillatum* (L.) Mill., Gard. Dict. ed. 8: n.º 3 (1768); *Covola verticillata* (L.) Medik., Philos. Bot. 2: 67 (1791); *Hemisphace verticillata* (L.) Opiz, Seznam: 50 (1852); *Sphacopsis verticillata* (L.) Briq., Lab. Alp. Mar.: 184 (1891)	roots	ND	NQ	[47]

[a] ND: not detected; NQ: isolated, but quantification non reported.

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