AgriEngineering

Supplementary Materials

Essential Oil Content of *Baccharis crispa* Spreng. Regulated by Water Stress and Seasonal Variation

Table S1. Linear Retention Indices and percent area (Area %) present in the mass spectra of volatile compounds in *B. crispa* identified by GC-MS (1st Harvest).

Compounds	RIt	Rtexp	Winter						Summer					
			Treatment											
			T25	T50	T75	T100	T125	T150	T25	T50	T75	T100	T125	T150
1.8-cineole	1025	1029	41.96				14.53							
linalool	1079	1083	27.22				8.28							
camphor	1139	1143	17.58				16.92							
alpha-terpineol	1160	1189	5.35											
ascaridole	1242	1247												7.02
9.10-dimethyl-tricyclo[4.2.1.1 2.5]decane-9.10-diol	1301	1303										16.93	16.03	15.15
eugenol	1354	1356					30.19							
butanoic-acid	1370	1379											3.04	
2-heptanone. 3-hydroxy-3.6-dimethyl-6-[3-(1-methylethenyl)-1-cyclopropen-1-yl]	1425	1430			11.8									
aromadendrene	1450	1453						4.66						
ethanone	1504	1504							5.42					
ledol	1561	1570									10.63			
spathulenol	1577	1574	3.38	78.38	41.87	30.27	16.77	41.49	40.67	53.21	46.31	36.32	39.58	24.6
caryophyllene	1580	1582						20.53	9.12	6.6	12.46	16.78	3.48	13.4
viridiflorol	1592	1592								3.55	3.7		4.38	
hinesol	1630	1638									3.04			
phtalicacid	1840	1864		12.61	28.2	30.39	4.44		17.81	6.83				
nerolidol	1683	1687												5.55
retinol	2450	2453											3.65	4.06
naphthalenol								11.52		3.21			4.13	
9-(3,3-dimethyl-2-oxiranyl)-2,7-dimethyl-2,6-nonadien-1-ol										11.19	9.72	10.57	15.52	12.81
9-heptadecene-4,6-diyn-8-ol														
alpha-costol									7.21					

methyl-propenyl-ether		9.01	18.13	39.34	6.34		19.77	6.08	3.25			
total identified	95.49	100	100	100	97.47	81.8	100	90.67	89.11	80.6	89.81	82.59
aldehydes	0	0	0	0	0	0	0	0	0	0	0	0
alcohols	27.22	0	0	0	8.28	0	0	0	0	0	0	0
monoterpene hydrocarbons				4.66						7.02		
sesquiterpene hydrocarbons				20.53	9.12	6.6	12.46	33.71	19.51	28.55		
phenylpropanoids			34.63		17.81	6.83				0	18.43	0
oxygenated sesquiterpenes			16.77	53.01	53.3	71.16	73.4	46.89	66.65	42.96	50.02	69.06
oxygenated monoterpenes			39.73									3.86
others	27.22				8.28							

RIs; retention indexes relative to C9–C20 n-alkanes on DB-5MS capillary column [1] (H1, H2, H3: Harvest. T25, T50, T75, T100, T125, T150: treatments of irrigation regimes % of the reference evapotranspiration (ETo).

Table S2. Linear Retention Indices and percent area (Area %) present in the mass spectra of volatile compounds in *B. crispa* identified by GC-MS (2nd Harvest).

Compounds	**RIt**	**Rtexp**	**Winter**					**Summer**						
			Treatment											
			T25	**T50**	**T75**	**T100**	**T125**	**T150**	**T25**	**T50**	**T75**	**T100**	**T125**	**T150**
dihydroxybenzene	1190	1197				3.6								
4-(2.6.6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-ol	1406	1406								4.95			7.36	
methylene	1470	1473					16.18							
alpha-cadinol	1504	1511		3.86										
gamma-1-cadinene	1515	1515											5.5	9.15
trans-γ-cadinene	1531	1529												5.22
cyclohexanemethanol	1545	1540									5.62			
ledol	1561	1570		9.94										5.81
spathulenol	1577	1574	50.02	59.12	62.68	70.77	49.07	51.84	62.22	38.36	72.79	55.64	24.12	28.21
caryophyllene	1580	1582				6.2		4.68		8.31	13.52		5.08	3.29
phtalicacid	1840	1864	18.43		18.77	9.97	15.67	15.36	3.94	15.72	8.07	28.52		
allyl α-ionone	1660	1664											12.15	
farnesol	1723	1736							7.15					
acetate	1905	1916	3.45				3.2							
retinol	2450	2453											4.73	
naphthalenyl									8.11	6.38				
naphthalenol									6.51				8.03	3.24
9-(3,3-dimethyl-2-oxiranyl)-2,7-dimethyl-2,6-nonadien-1-ol						4.88								
ergostane									4.05					

methyl-propenyl-ether	23.22	21.23	13.08	4.58	4.16	10.6				15.84		
tricyclo[5.1.0.0(2,4)]octane-5-carboxylic acid, 3,3,8,8-tetramethyl-, methyl ester			3.07									
total identified	95.12	94.15	97.6	100	88.28	82.48	91.98	73.72	100	100	66.97	54.92
alcohols	0	0	0	0	0	0	0	0	5.62	0	0	0
monoterpene hydrocarbons												
naphthalenol							6.51				8.03	3.24
9-(3,3-dimethyl-2-oxiranyl)-2,7-dimethyl-2,6-nonadien-1-ol				4.88								
ergostane							4.05					
methyl-propenyl-ether	23.22	21.23	13.08	4.58	4.16	10.6				15.84		
tricyclo[5.1.0.0(2,4)]octane-5-carboxylic acid, 3,3,8,8-tetramethyl-, methyl ester			3.07									
total identified	95.12	94.15	97.6	100	88.28	82.48	91.98	73.72	100	100	66.97	54.92
alcohols	0	0	0	0	0	0	0	0	5.62	0	0	0
monoterpene hydrocarbons												
sesquiterpene hydrocarbons		6.2		4.68		8.31	13.52		10.58	17.66	0	9.11
phenylpropanoids	18.77	13.57	15.67	15.36	3.94	15.72	8.07	28.52			15.96	
oxygenated sesquiterpenes	62.68	75.65	49.07	51.84	75.88	43.31	72.79	55.64	39.51	37.26	51.99	49.9
oxygenated monoterpenes												
hydrogenated sesquiterpenes												
others									5.62			

Table S3. Linear Retention Indices and percent area (Area %) present in the mass spectra of volatile compounds in *B. crispa* identified by GC-MS (3rd Harvest).

Compounds	RIt	Rtexp	Winter						Summer					
			Treatment											
			T25	T50	T75	T100	T125	T150	T25	T50	T75	T100	T125	T150
acetone	430	439			25.31									
1.8-cineole	1025	1029											8.36	
linalool	1079	1083											10.09	
camphor	1139	1143											6.11	
eugenol	1354	1356											4.05	
alpha-cadinol	1504	1511				4.77	4.37	3.68						
ledol	1561	1570						4.34						
spathulenol	1577	1574	51.99	49.9	41.41	51.68	46.24	58.12	66.49	57.05	31.42	69.34	49.9	95.43
caryophyllene	1580	1582		9.11	3.2	6.2	5.63					3.21		
carotol	1594	1597				3.48								
hinesol	1630	1638												

phtalicacid	1840	1864	15.96						21.01	26.86	56.82	18.15	14.74	
oxabicyclo												3.49		
methyl-propenyl-ether			32.05	40.99	24.98	33.87	41.36	31.41	12.5	16.09	11.76	3.96	6.75	4.57
total identified			100	100	94.9	100	97.6	97.55	100	100	100	98.15	100	100
aldehydes			0	0	0	0	0	0	0	0	0	0	0	0
alcohols			0	0	0	3.48	0	0	0	0	0	0	10.09	0
monoterpene hydrocarbons														
sesquiterpene hydrocarbons			3.2	6.2	5.63					3.21				
phenylpropanoids							21.01	26.86	56.82	18.15	18.79			
oxygenated sesquiterpenes			41.41	51.68	46.24	62.46	66.49	57.05	31.42	72.83	49.9	95.43		
oxygenated monoterpenes			25.31	8.25	4.37	3.68					24.56			
hydrogenated sesquiterpenes														
others						3.48							10.09	

Reference

1. Adams RP. *Identification of essential oil components by gas chromatography/mass spectrometry*; Allured publishing corporation: Carol Stream, IL, USA, 2007; Vol. 456.