

Supplementary data for article:

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1 **Table S1**

2 Time selected reaction monitoring (tSRM) experiment

Compound	Parent Ion, m/z	Product Ion, m/z (Collision	Retention Time, min	
		Energy, eV	Start	Stop
GaA	169.032	79.11 (31); 125.04 (16)	1.48	2.48
GC	305.120	125.22 (27); 179.19 (17)	3.37	4.37
PrA	153.013	108.09 (23); 109.10 (14)	3.48	4.48
EGC	305.110	125.22 (27); 179.19 (17)	4.57	5.57
HBA	137.057	93.19 (19); 108.33 (22)	4.58	5.58
GeA	153.003	108.07 (5); 109.10 (15)	4.68	5.68
ChA	353.103	191.28 (25)	4.73	5.73
C	289.094	203.00 (23); 245.03 (31)	5.00	5.50
CaA	179.004	134.00 (13); 135.00 (16)	5.01	6.01
EC	289.084	203.00 (23); 245.03 (31)	5.05	5.45
GCG	457.146	161.08 (25); 359.23 (16)	5.42	6.22
CoA	163.031	93.12 (39); 119.09 (16)	5.65	6.65
FeA	193.057	134.00 (18); 178.00 (15)	6.05	7.05
RoA	359.061	133.00 (43); 161.00 (21)	6.20	7.20
EGCG	457.156	161.08 (25); 359.23 (16)	6.41	7.21
AbA	263.110	153.18 (5); 219.44 (16)	7.04	8.04
RES	227.060	143.18 (22); 185.04 (22)	7.35	8.35
KAE	285.074	211.00 (32); 227.00 (32)	7.79	8.79

PNB	271.020	197.00 (32); 253.00 (32)	7.84	8.84
QUE	301.016	125.00 (20); 151.00 (29)	7.87	8.87
CHR	253.054	119.00 (36); 143.00 (30)	9.04	10.04
PNS	269.100	165.06 (22); 226.11 (22)	9.05	10.05
PNC	255.081	150.93 (25); 213.04 (25)	9.06	10.06
HES	301.010	151.01 (26); 164.00 (27)	9.07	10.07
GLN	269.037	169.00 (32); 171.00 (32)	9.17	10.17

4 **Table S2**

5 Correlation matrix of quantified phenolics in sage (*Salvia officinalis* L.) honey samples.

	GaA	GC	PrA	EGC	C	ChA	HBA	EC	GCG	EGCG	CaA	GeA
GaA	1											
GC	-0.036	1										
PrA	-0.054	0.452	1									
EGC	-0.138	-0.041	0.368	1								
C	-0.344	-0.019	0.332	0.656*	1							
ChA	-0.202	0.104	0.017	-0.147	-0.042	1						
HBA	0.218	-0.089	0.140	-0.085	-0.247	-0.210	1					
EC	-0.141	-0.026	-0.025	0.194	0.663*	-0.123	-0.084	1				
GCG	-0.202	-0.138	0.256	0.094	-0.040	-0.345	0.489	-0.093	1			
EGCG	-0.126	0.312	0.058	-0.074	-0.055	-0.312	0.101	0.091	0.179	1		
CaA	0.342	0.508	0.349	-0.321	-0.091	-0.030	0.099	-0.155	0.126	0.134	1	
GeA	0.259	-0.228	0.359	-0.052	-0.227	-0.075	0.259	-0.169	0.329	0.069	0.173	1
CoA	0.119	0.102	0.259	0.262	0.414	0.093	0.260	0.233	0.274	0.130	0.429	0.125
FeA	0.219	-0.036	0.652*	0.371	0.208	-0.078	0.233	-0.091	0.363	0.176	0.298	0.786**
RoA	0.213	0.181	-0.382	-0.360	-0.614	0.106	0.189	-0.383	-0.332	0.236	-0.126	-0.288
AbA	0.362	-0.130	0.457	0.150	-0.143	-0.207	0.285	-0.256	0.287	0.254	0.217	0.887***
QUE	0.094	0.334	0.245	-0.130	-0.113	0.299	-0.083	0.021	-0.055	-0.556	0.098	-0.029
RES	0.142	0.347	-0.089	0.102	0.024	0.156	0.002	0.339	-0.160	0.136	0.129	-0.126
KAE	-0.271	0.192	0.164	0.000	0.212	0.519	-0.259	0.260	-0.352	-0.165	-0.227	-0.180
PNB	0.490	0.222	-0.055	-0.485	-0.529	-0.045	-0.077	-0.518	0.033	0.083	0.705*	0.274
HES	0.432	0.394	0.105	-0.406	-0.336	0.053	-0.117	-0.408	-0.051	0.100	0.827**	0.129
PNS	0.398	0.386	0.174	-0.411	-0.304	-0.145	0.018	-0.321	0.156	0.197	0.886***	0.333
CHR	0.424	0.334	0.018	-0.444	-0.369	-0.127	-0.156	-0.402	0.063	0.147	0.801**	0.114
PNC	0.413	0.228	-0.091	-0.504	-0.491	-0.035	-0.157	-0.495	-0.003	0.056	0.691*	0.137
GLN	0.411	0.366	0.157	-0.442	-0.352	-0.111	0.029	-0.363	0.156	0.157	0.885***	0.324

6 *P ≤ 0.005; ** P ≤ 0.0005; *** P ≤ 0.000001

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10 **Table S2**

11 Continuing ...

	CoA	FeA	RoA	AbA	QUE	RES	KAE	PNB	HES	PNS	CHR	PNC	GLN
GaA													
GC													
PrA													
EGC													
C													
ChA													
HBA													
EC													
GCG													
EGCG													
CaA													
GeA													
CoA	1												
FeA	0.498	1											
RoA	-0.240	-0.455	1										
AbA	0.185	0.890***	-0.229	1									
QUE	-0.256	-0.173	-0.170	-0.251	1								
RES	0.183	-0.159	0.312	-0.184	0.114	1							
KAE	-0.150	-0.211	0.029	-0.334	0.522	0.298	1						
PNB	0.156	0.194	0.069	0.307	0.030	-0.165	-0.399	1					
HES	0.189	0.195	-0.015	0.250	0.048	-0.100	-0.330	0.918***	1				
PNS	0.313	0.342	-0.057	0.365	-0.001	-0.050	-0.437	0.890***	0.890***	1			
CHR	0.136	0.131	-0.013	0.197	0.054	-0.115	-0.355	0.941***	0.953***	0.912***	1		
PNC	0.047	0.071	0.027	0.195	0.057	-0.205	-0.362	0.971***	0.945***	0.844**	0.963***	1	
GLN	0.284	0.317	-0.069	0.355	0.048	-0.086	-0.403	0.929***	0.925***	0.989***	0.941***	0.898***	1

12 * P ≤ 0.005; ** P ≤ 0.0005; *** P ≤ 0.000001

13 **Table S3**14 Correlation matrix of sugars and sugar alcohols found in sage (*Salvia officinalis* L.) honey samples.

	ERY	SOR	TRE	ARA	GLU	FRU	SUC	TUR	GLY	GAL	iMAL	iMALt	MAL	MALt
ERY	1													
SOR	-0.170	1												
TRE	-0.300	0.350	1											
ARA	-0.160	0.100	0.000	1										
GLU	0.040	-0.560	-0.290	-0.380	1									
FRU	0.460	0.040	-0.180	0.230	-0.290	1								
SUC	0.300	-0.240	0.060	-0.050	0.130	0.120	1							
TUR	-0.020	-0.090	-0.360	-0.060	-0.220	-0.060	0.270	1						
GLY	-0.150	-0.140	-0.120	-0.140	0.380	-0.500	0.440	0.390	1					
GAL	-0.200	0.490	0.300	0.450	-0.370	-0.300	-0.370	-0.140	-0.060	1				
iMAL	-0.200	-0.270	-0.190	-0.040	0.090	0.150	-0.230	0.170	-0.210	-0.230	1			
iMALt	-0.170	-0.230	0.080	0.240	0.050	-0.080	0.000	0.090	-0.100	0.030	0.620	1		
MAL	-0.120	-0.130	-0.140	0.040	-0.230	0.040	-0.260	0.310	-0.270	-0.020	0.870**	0.530	1	
MALt	0.140	-0.060	-0.390	-0.170	0.160	0.130	0.620*	0.690*	0.430	-0.310	-0.040	-0.020	-0.120	1

15 * P ≤ 0.005; ** P ≤ 0.000005

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17 **Table S4**18 Correlation matrix of minerals found in sage (*Salvia officinalis* L.) honey samples.

	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Al	1											
As	-0.050	1										
B	-0.278	0.135	1									
Ba	0.317	-0.241	0.193	1								
Ca	0.312	-0.009	-0.040	0.598	1							
Cd	0.420	-0.015	0.305	0.427	0.447	1						
Co	0.148	-0.115	-0.267	-0.031	0.413	0.401	1					
Cr	0.456	0.009	0.056	0.086	0.200	0.195	-0.226	1				
Cu	-0.039	-0.254	0.641*	0.492	0.244	0.276	-0.226	-0.143	1			
Fe	0.316	-0.125	0.141	0.137	0.236	-0.026	-0.026	0.597	0.012	1		
K	0.066	-0.036	-0.520	-0.030	0.447	-0.046	0.372	-0.134	-0.328	0.119	1	
Li	0.689*	-0.097	-0.086	0.040	-0.279	0.391	-0.074	0.243	-0.022	0.045	-0.274	1
Mg	0.244	0.090	0.313	0.642*	0.614	0.648*	-0.035	0.450	0.308	0.101	-0.149	-0.021
Mn	0.386	0.119	-0.061	0.633*	0.858**	0.397	0.131	0.401	0.096	0.252	0.302	-0.127
Mo	0.097	-0.178	0.137	0.606	0.294	0.222	-0.136	-0.032	0.289	0.013	-0.077	-0.108
Na	-0.081	-0.092	-0.131	0.117	0.256	0.273	0.752*	-0.333	-0.131	-0.134	0.319	-0.129
Ni	0.150	-0.153	-0.027	-0.024	-0.235	0.186	-0.089	0.254	-0.242	0.098	-0.400	0.285
P	0.193	-0.106	0.265	0.658*	0.516	0.612	0.009	0.181	0.447	0.055	-0.045	-0.022
Pb	0.133	0.209	0.085	-0.016	0.102	-0.202	-0.097	0.051	0.051	0.542	0.254	-0.079
S	0.040	-0.114	-0.135	0.088	0.233	0.107	-0.017	0.313	0.057	-0.051	0.030	-0.102
Sb	-0.275	-0.087	0.536	0.116	0.077	0.223	0.000	-0.208	0.482	-0.013	-0.062	-0.121
Se	-0.513	0.117	0.048	0.136	0.377	0.106	0.287	-0.207	0.001	-0.238	0.154	-0.536
Sr	0.627	-0.222	-0.093	0.772*	0.563	0.579	0.297	0.217	0.193	0.071	0.007	0.284
V	0.357	-0.186	0.057	0.495	0.395	0.121	-0.143	0.073	0.485	0.022	-0.015	-0.113
Zn	0.030	-0.099	-0.137	-0.124	-0.013	-0.273	-0.020	0.126	-0.229	0.548	0.158	-0.165

19 * P ≤ 0.005; ** P ≤ 0.00001

20 **Table S4**

21 Continuing ...

	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	V	Zn
Al													
As													
B													
Ba													
Ca													
Cd													
Co													
Cr													
Cu													
Fe													
K													
Li													
Mg	1												
Mn	0.714*	1											
Mo	0.590	0.322	1										
Na	-0.087	-0.012	-0.266	1									
Ni	0.218	-0.005	0.218	-0.312	1								
P	0.849**	0.442	0.761*	-0.010	0.083	1							
Pb	-0.119	0.160	-0.146	-0.093	-0.076	-0.124	1						
S	0.305	0.119	0.083	-0.053	-0.142	0.407	-0.073	1					
Sb	-0.053	-0.203	-0.063	0.167	-0.135	0.085	-0.121	-0.006	1				
Se	0.277	0.282	-0.134	0.488	-0.127	0.155	0.002	0.294	0.098	1			
Sr	0.564	0.557	0.498	0.197	0.064	0.604	-0.097	0.360	-0.058	-0.034	1		
V	0.429	0.343	0.609	-0.236	-0.106	0.545	-0.024	0.035	-0.145	-0.316	0.406	1	
Zn	-0.107	0.066	0.012	-0.170	0.511	-0.134	0.701*	-0.132	-0.162	0.004	-0.163	-0.076	1

22 * P ≤ 0.005; ** P ≤ 0.00001

23 **Table S5**

24 The quantitative data on total targeted phenolics, total phenolic content, radical scavenging

25 activity, sugars and minerals in mint, winter savory and thyme honeys.

Sample	MH1	WSH1	WSH2	WSH3	TH1	TH2	TH3	TH4	TH5
Botanical name	Mint 1	Winter savory 1	Winter savory 2	Winter savory 3	Thyme 1	Thyme 2	Thyme 3	Thyme 4	Thyme 5
Location	Croatia, Pokupsko	Croatia, Velebit	Croatia, S. Hr. Primorje	Croatia, Podmelnik	Greece	Greece, Kreta	Greece, Zakynthos	Italy, Sicily	Italy, Sicily
Year	2012	2011	2011	2011	2012	2011	2011	2010	2009
Polyphenolics (mg/kg)									
GaA	0.26	-	0.15	0.15	0.12	0.12	0.14	0.13	0.12
GC	0.29	0.51	0.32	0.15	-	0.57	-	0.22	0.40
PrA	0.68	1.10	0.95	0.38	2.25	0.63	0.25	0.23	0.23
EGC	0.14	0.15	0.07	0.08	0.14	0.12	0.19	0.13	-
C	-	-	0.09	0.06	-	-	0.04	0.01	-
ChA	0.67	0.14	0.25	0.06	-	0.07	0.08	0.03	-
HBA	1.63	2.03	1.69	1.52	3.77	3.91	1.38	3.36	3.68
EC	0.19	-	0.02	0.02	-	-	-	0.18	-
GCG	1.83	0.80	1.12	0.95	0.77	2.56	0.95	1.09	0.87
EGCG	0.88	0.66	1.14	1.06	0.74	1.24	0.83	1.28	1.31
CaA	1.17	0.33	1.10	0.29	0.36	0.51	1.02	0.34	0.27
GeA	-	-	-	-	0.06	-	0.22	-	-
CoA	3.23	3.12	9.87	1.68	0.93	1.84	7.26	7.13	1.08
FeA	0.33	1.37	3.17	1.28	0.19	0.72	0.27	0.17	0.19
RoA	-	0.02	0.27	0.03	0.05	1.35	-	0.70	0.24
AbA	1.22	1.47	1.29	1.01	0.23	1.08	0.58	1.49	0.63
QUE	0.37	0.10	0.28	0.07	0.10	0.13	0.06	0.05	0.04
RES	0.55	-	-	-	0.24	0.07	-	-	-
KAE	0.32	0.10	0.27	0.06	-	-	-	-	-
PNB	2.27	0.15	1.63	-	0.39	1.07	2.91	0.45	0.16
HES	1.01	-	0.58	-	-	0.11	1.38	-	-
PNS	0.33	-	0.22	-	-	-	0.04	-	-

CHR	1.46	0.15	0.91	0.03	0.13	0.17	1.38	0.25	0.06
PNC	1.05	-	0.67	-	-	0.17	1.25	0.11	-
GLN	0.36	-	0.22	-	-	-	0.07	-	-
TPC	677.39	204.35	487.24	322.07	120.33	225.90	170.82	246.69	277.32
RSA	1280.71	418.72	1362.88	727.73	416.21	266.79	463.98	436.22	309.43
Carbohydrates (g/kg)									
ERY	0.07	0.09	0.04	0.03	0.17	0.17	0.07	0.16	0.11
SOR	0.05	0.10	0.15	0.17	0.47	0.86	0.17	0.28	0.09
TRE	3.05	12.02	15.04	17.22	3.38	0.62	0.69	1.49	1.48
ARA	0.09	0.09	3.54	3.49	0.02	0.02	0.05	0.06	0.04
GLU	240.19	314.92	313.73	263.33	328.46	319.84	326.00	297.68	293.48
FRU	317.11	493.25	470.95	447.55	474.74	486.29	452.28	506.67	504.35
SUC	12.28	8.65	11.71	16.09	15.11	15.96	17.06	19.54	15.30
TUR	0.27	0.72	1.38	1.67	0.03	0.04	0.09	0.17	0.17
GLY	0.05	0.13	0.26	0.30	0.16	0.23	0.25	0.11	0.17
GAL	0.05	0.03	0.18	0.07	0.56	0.11	0.04	0.04	0.10
iMAL	1.87	5.88	7.58	9.79	8.08	7.63	8.32	6.64	2.64
iMALt	1.33	1.98	0.89	3.79	1.30	1.55	1.85	0.68	0.74
MAL	5.50	5.11	6.98	8.83	21.86	21.31	20.76	14.59	6.48
MALt	0.05	0.04	0.06	0.05	0.33	0.34	0.39	0.07	0.18
SUM	581.96	843.03	832.47	772.38	854.66	854.98	828.03	848.18	825.33
FRU/GLU	1.32	1.57	1.50	1.70	1.45	1.52	1.39	1.70	1.72
MAL/iMAL	2.94	0.87	0.92	0.90	2.70	2.79	2.50	2.20	2.45
Minerals (mg/kg)									
Al	0.123	3.414	0.098	<LOQ	0.323	1.013	<LOQ	1.288	0.374
As	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
B	0.452	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	1.011	<LOQ	<LOQ
Ba	0.307	0.056	0.059	0.040	0.064	0.088	0.017	0.038	0.066
Ca	102.209	47.754	54.662	54.598	60.896	62.864	28.835	60.496	58.763
Cd	0.004	0.006	0.003	<LOQ	0.006	0.004	0.004	0.003	<LOQ
Co	<LOQ	0.012	0.004	0.006	0.004	<LOQ	0.004	0.003	0.010
Cr	0.007	0.044	0.023	0.014	0.021	0.028	0.025	0.026	0.052
Cu	0.133	0.389	0.300	0.264	0.166	0.101	0.099	0.049	0.060
Fe	0.669	1.569	1.161	1.592	3.047	1.554	1.291	1.677	1.201

K^a	1.349	1.006	1.145	1.054	0.690	0.511	1.078	0.695	0.671
Li	<LOQ	<LOQ	<LOQ	<LOQ	0.013	0.003	<LOQ	0.004	0.003
Mg	26.991	21.198	18.540	17.942	21.819	14.918	10.876	5.760	7.557
Mn	5.275	1.067	0.659	0.247	0.199	0.150	0.085	0.078	0.091
Mo	<LOQ	<LOQ	0.003	0.008	0.006	<LOQ	0.005	0.004	<LOQ
Na	91.166	80.943	79.473	70.998	132.706	106.036	124.804	135.404	111.532
Ni	0.064	0.175	0.027	0.101	0.043	0.037	0.028	0.019	0.026
P	65.944	75.490	73.178	67.120	46.164	53.419	48.943	32.093	40.217
Pb	0.022	<LOQ	<LOQ	<LOQ	0.061	<LOQ	<LOQ	<LOQ	<LOQ
S	37.721	55.946	38.630	33.642	45.601	37.709	28.673	27.650	25.127
Sb	<LOQ	<LOQ	<LOQ	0.010	<LOQ	0.020	<LOQ	<LOQ	0.029
Se	0.059	0.079	0.037	0.092	0.031	0.082	0.071	0.116	0.053
Sr	0.138	0.040	0.031	0.032	0.233	0.144	0.045	0.147	0.066
V	0.009	0.004	<LOQ	0.014	0.016	0.013	0.014	0.015	0.003
Zn	0.567	0.316	1.919	0.132	1.542	0.508	1.183	<LOQ	0.252

26 LOQ = 0.0025 mg/kg;

27 ^a Amount of K was expressed as g/kg.