
Supplementary materials

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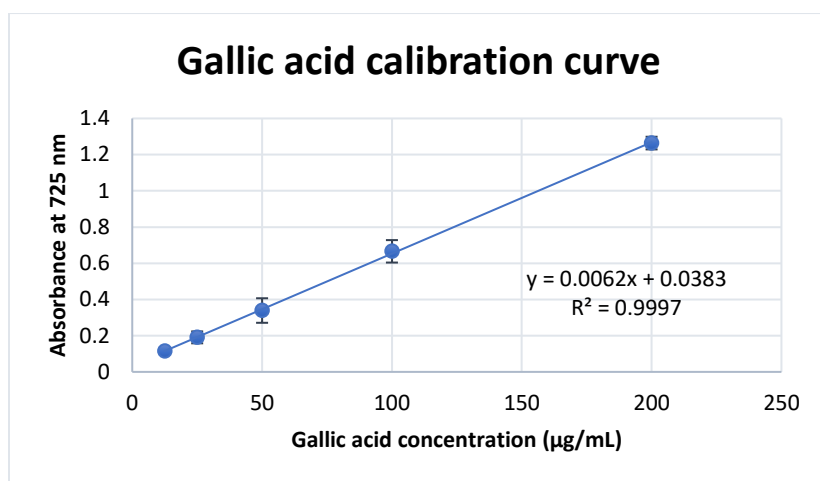


Figure S1. Gallic acid standard calibration curve for the determination of TPC

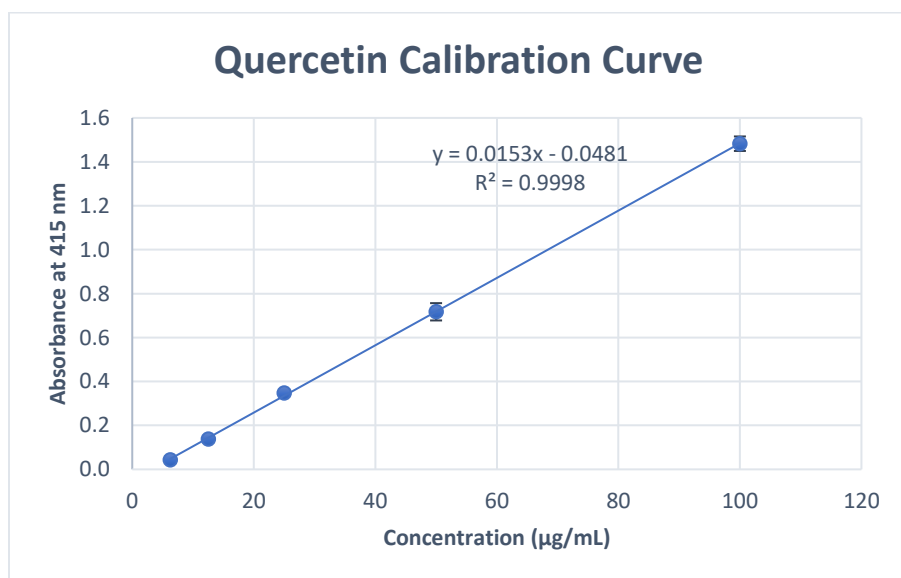


Figure S2. Quercetin standard calibration curve for the determination of TFC

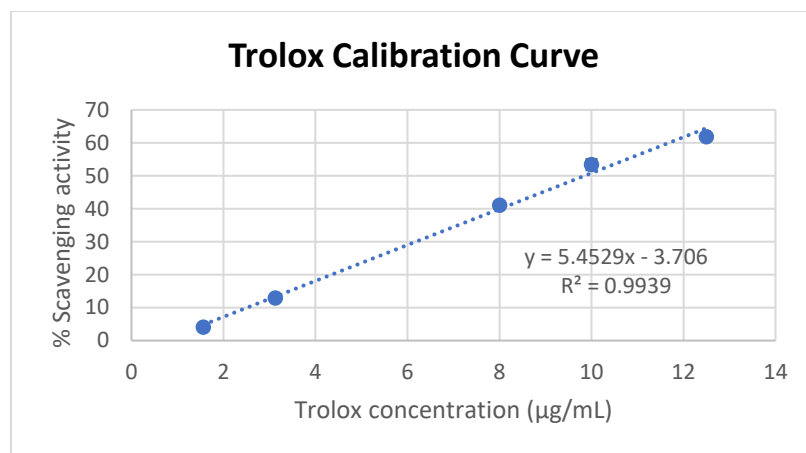


Figure S3. Trolox standard calibration curve for determination of DPPH

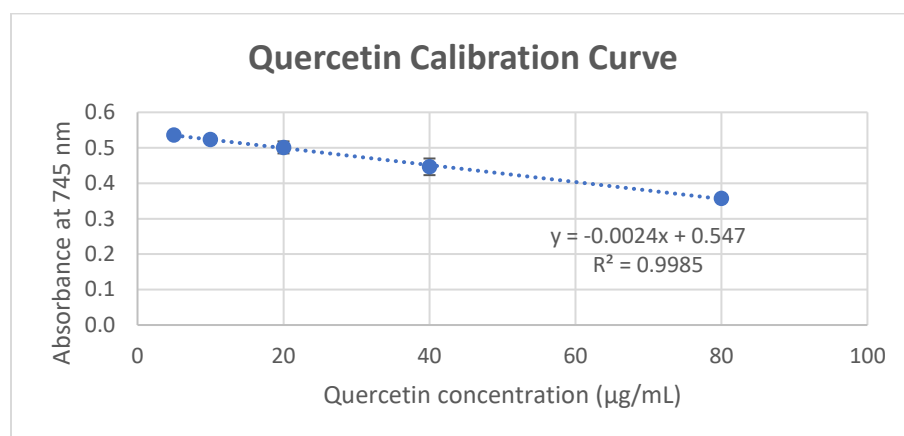


Figure S4. Quercetin standard calibration curve for determination of ABTS

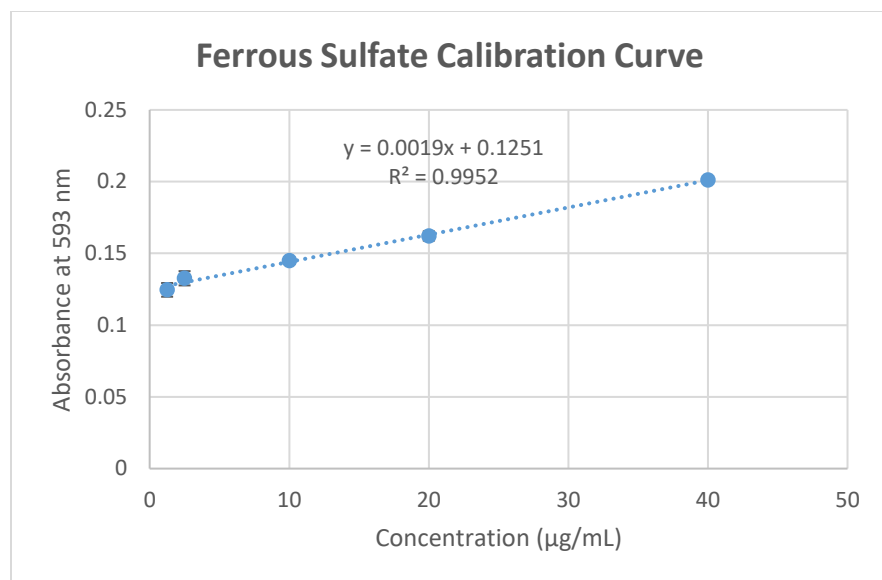


Figure S5. Ferrous sulfate standard calibration curve for the determination of FRAP

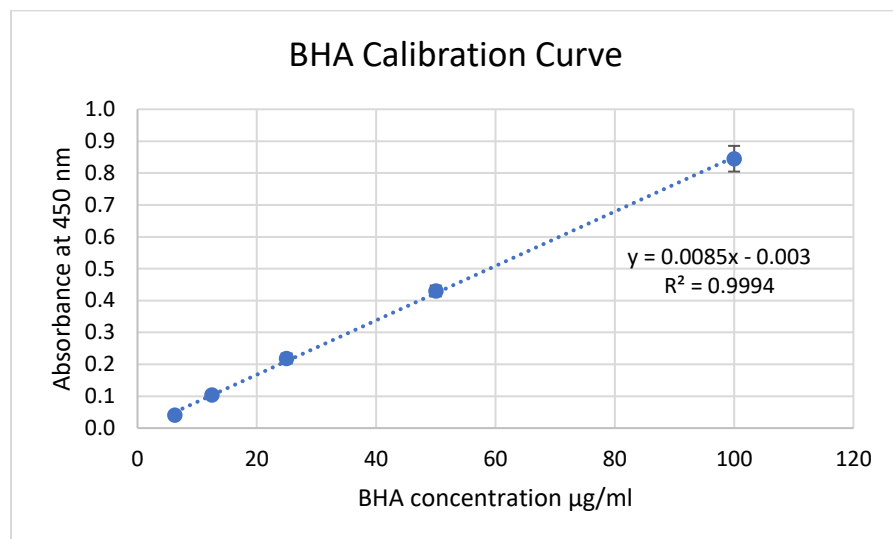


Figure S6. BHA standard calibration curve for determination of CUPRAC

Total ion chromatogram plants of Egyptian cultivar

Coriander (*Coriandrum sativum* L.)

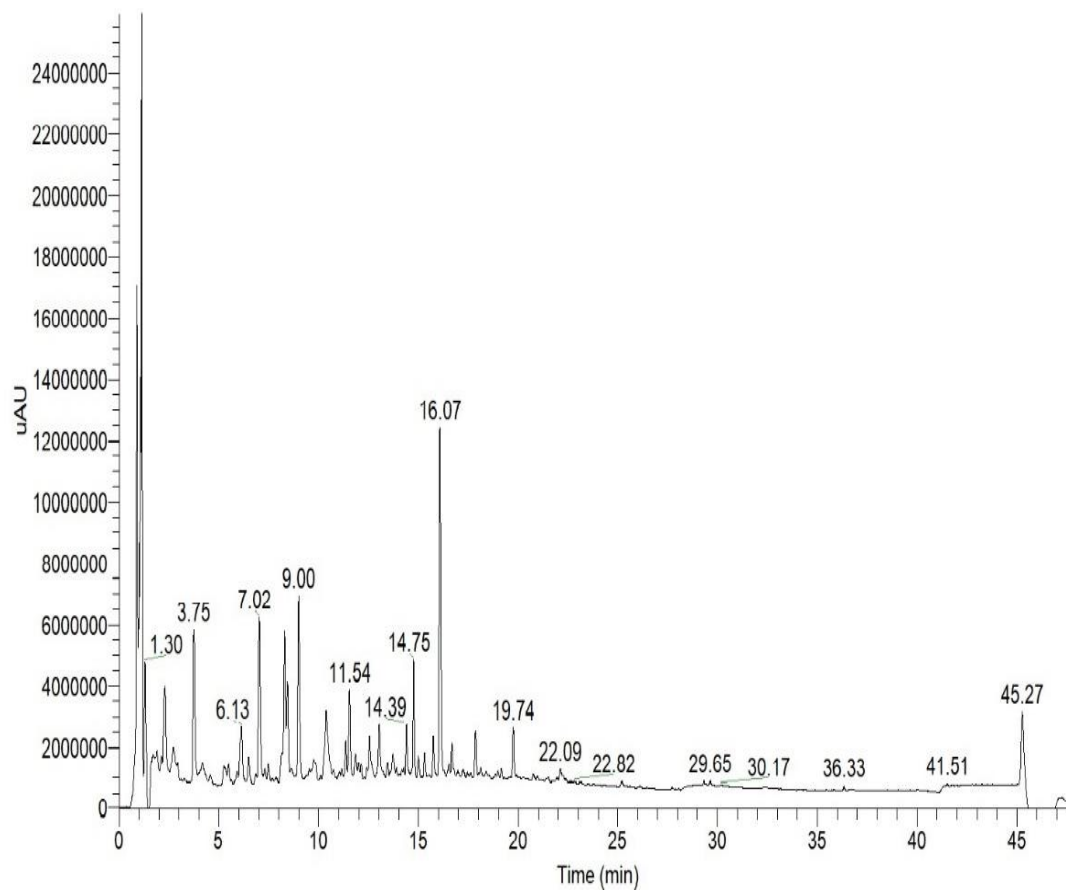


Figure S7. LC-PDA chromatogram of metabolites detected in coriander (*Coriandrum sativum* L.) negative mode

Dill (*Annethum graveolens L.*)

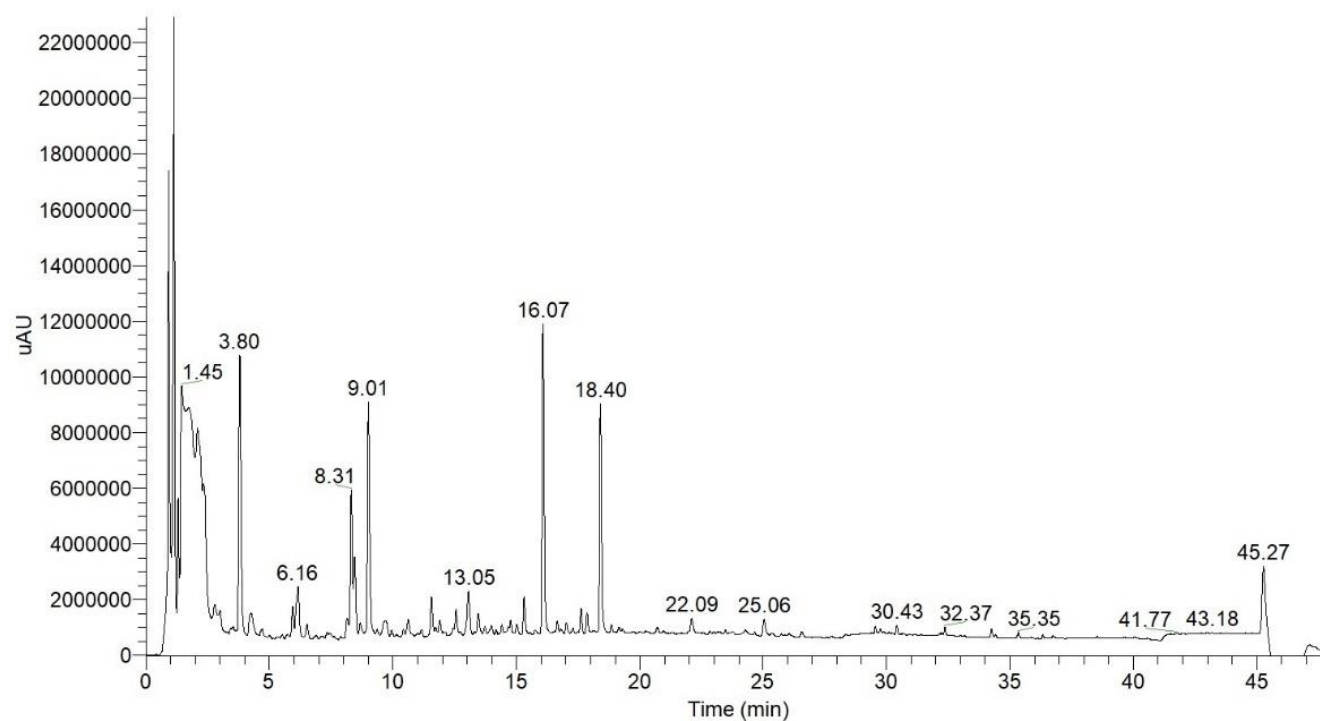


Figure S8. LC-PDA chromatogram of metabolites detected in dill (*Annethum graveolens L.*) negative mode

Parsley (*Petroselinum sativum* L.)

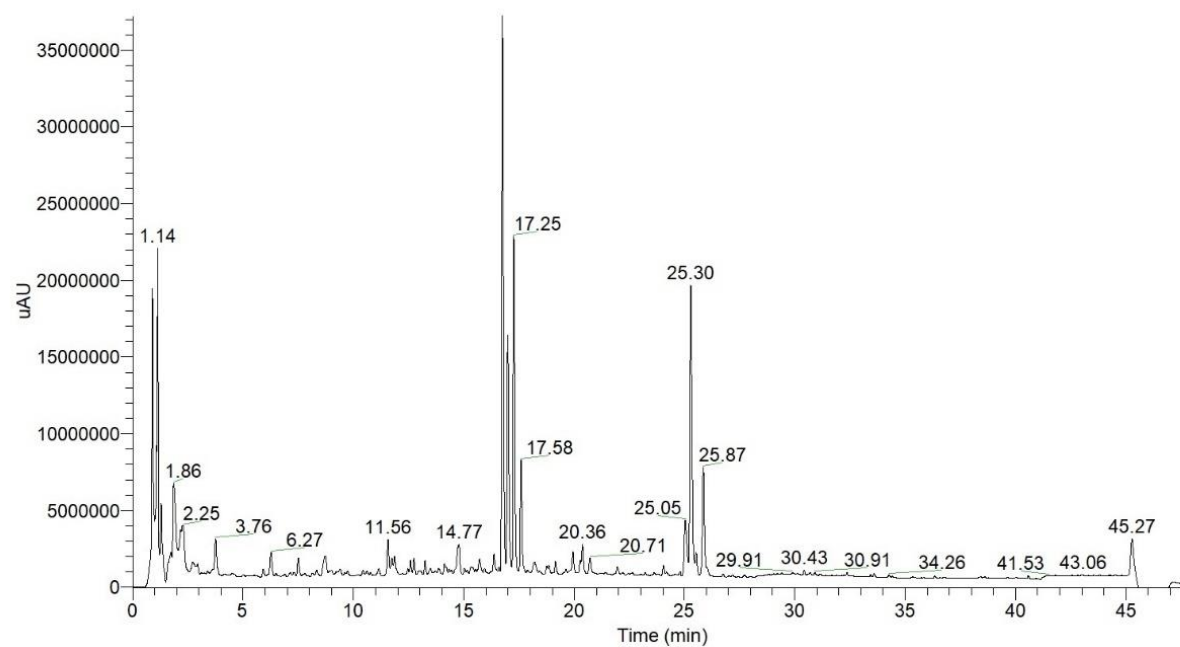


Figure S9. LC-PDA chromatogram of metabolites detected in parsley (*Petroselinum sativum* L.) negative mode

Caraway (*Carum carvi* L.)

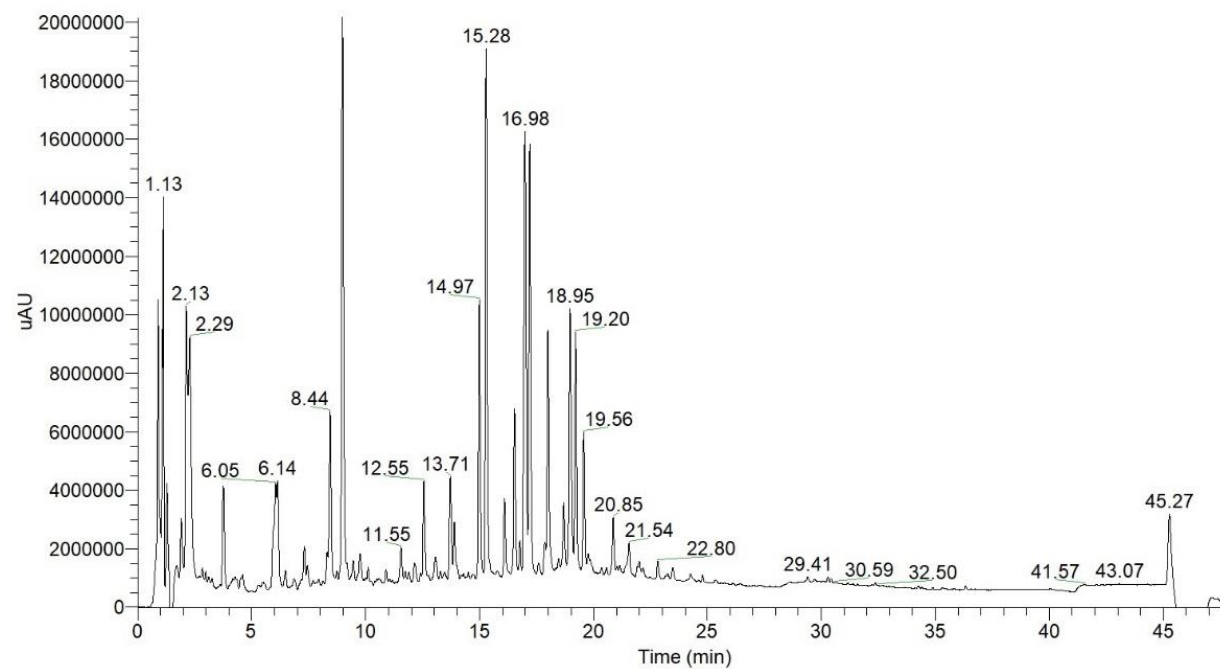


Figure S10. LC-PDA chromatogram of metabolites detected in caraway (*Carum carvi* L.) negative mode

Greater ammi (*Ammi majus* L.)

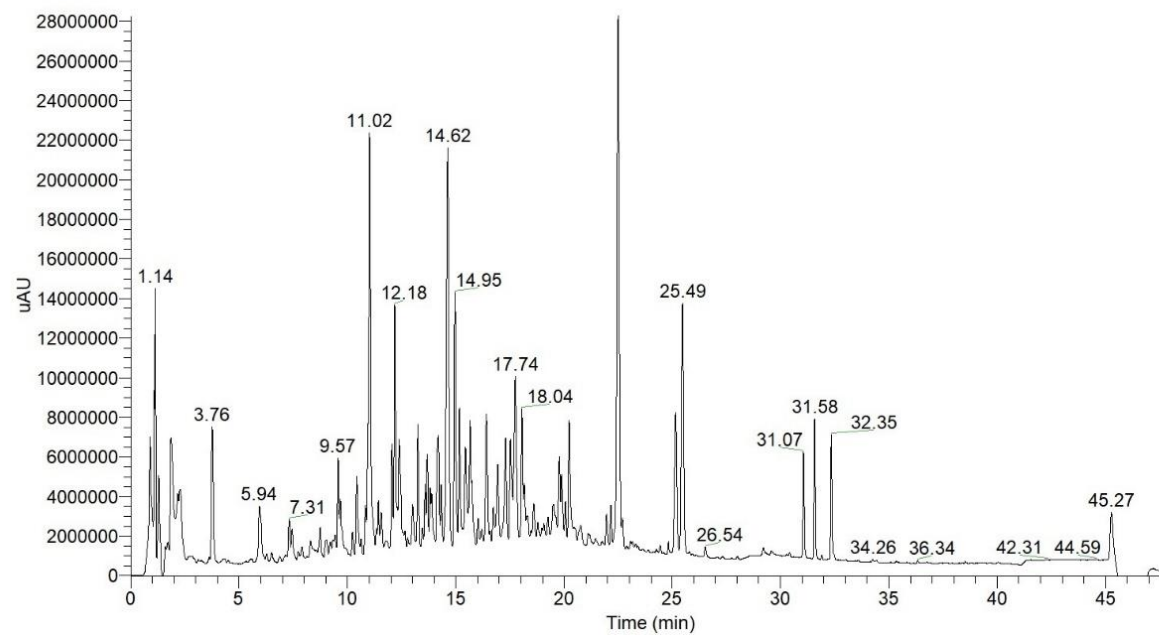


Figure S11. LC-PDA chromatogram of metabolites detected in greater ammi (*Ammi majus* L.) negative mode

Fennel (*Foeniculum vulgare* L.)

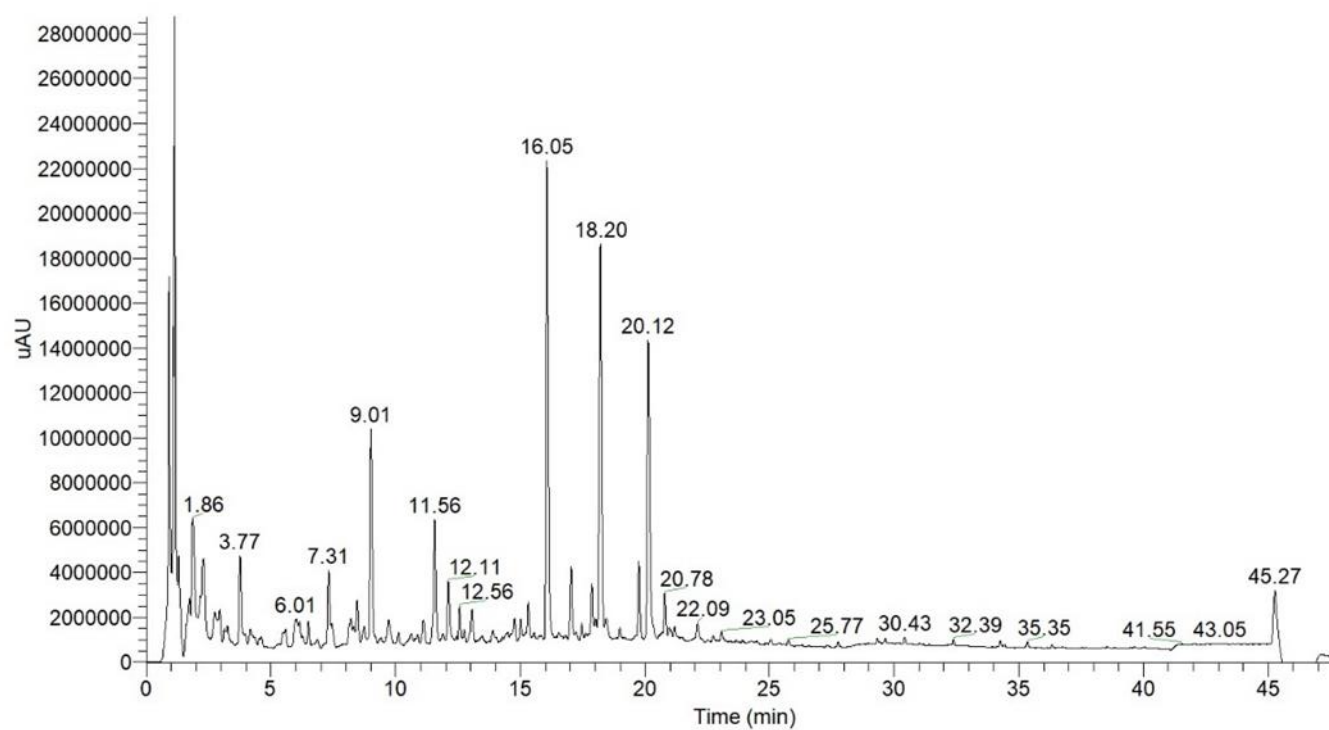


Figure S12. LC-PDA chromatogram of metabolites detected in fennel (*Foeniculum vulgare* L.) negative mode

Anise (*Pimpinella anisum* L.)

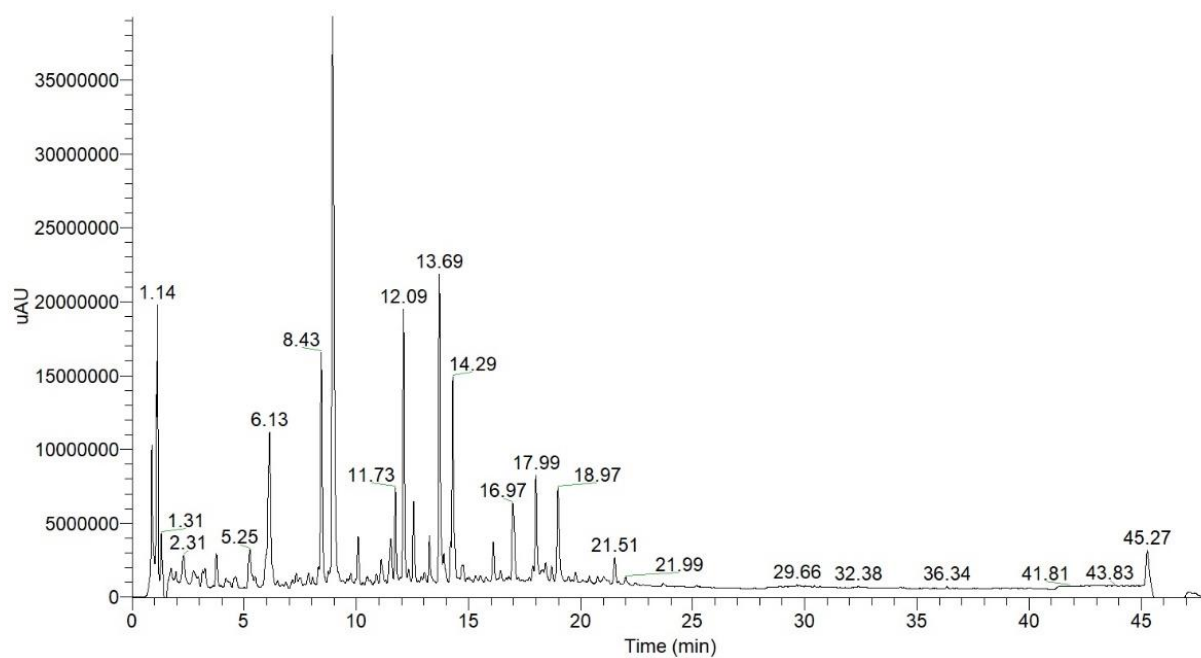


Figure S13. LC-PDA chromatogram of metabolites detected in anise (*Pimpinella anisum* L.) negative mode

Celery (*Apium graveolens* L.)

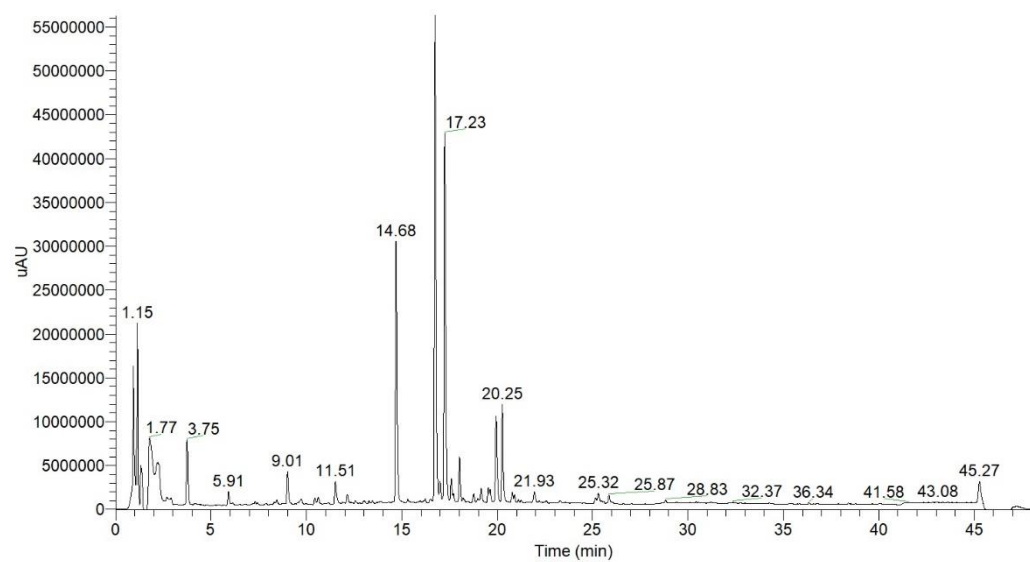


Figure S14. LC-PDA chromatogram of metabolites detected in celery (*Apium graveolens* L.) negative mode

Visnaga (*Ammi visnaga* L.)

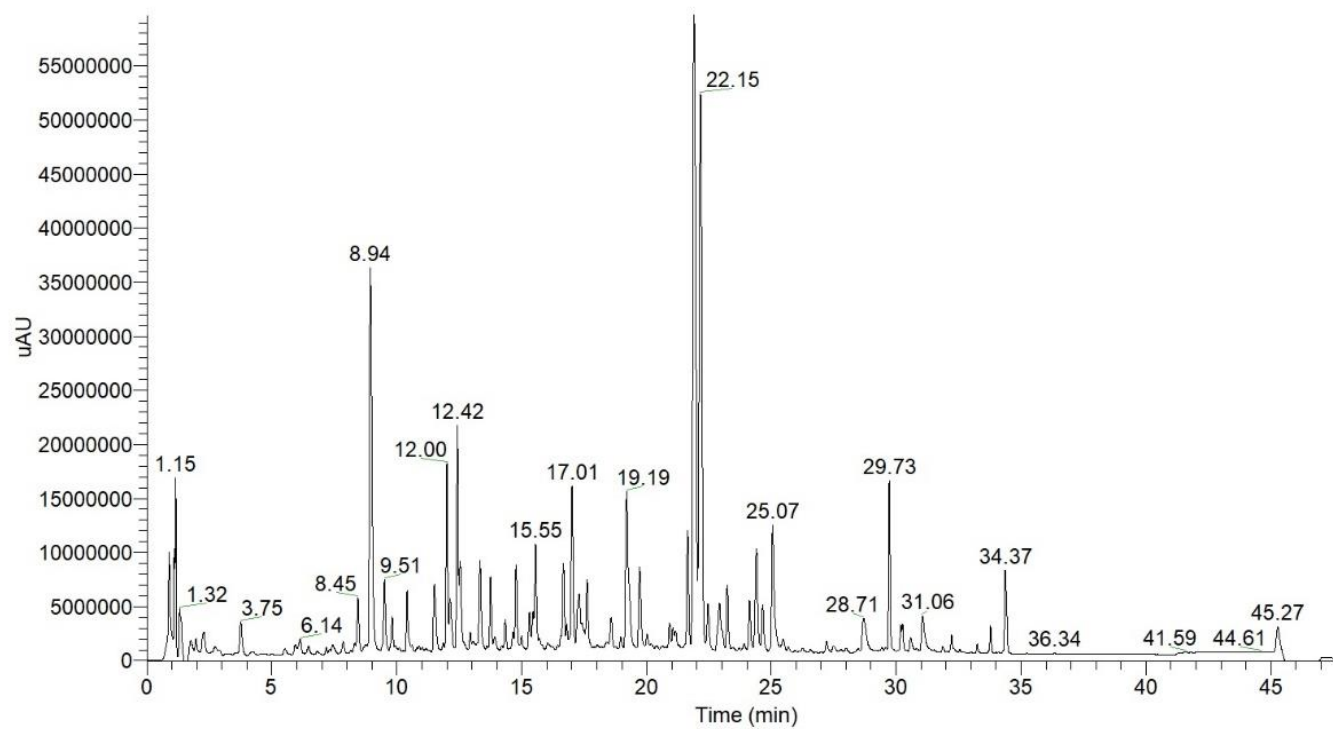


Figure S15.LC-PDA chromatogram of metabolites detected in visnaga (*Ammi visnaga* L.) negative mode

Plants of German cultivar total ion chromatogram

Coriander (*Coriandrum sativum* L.)

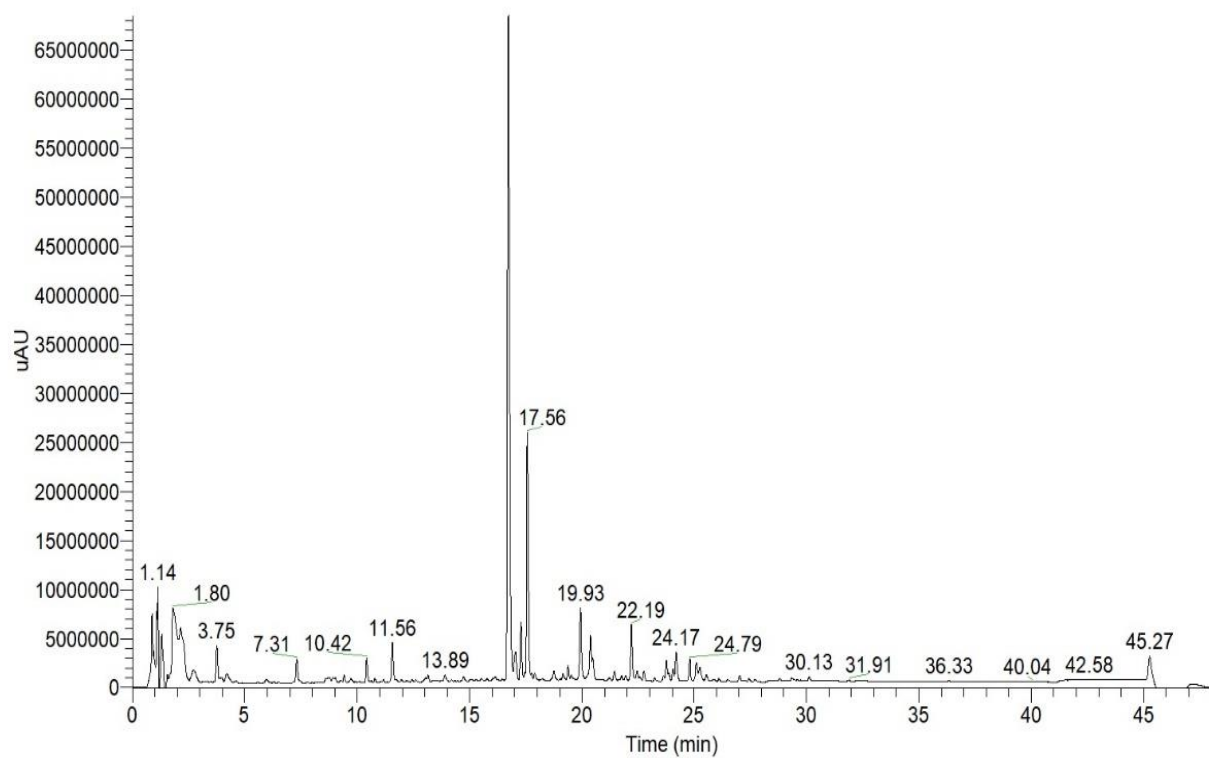


Figure S16. LC-PDA chromatogram of metabolites detected in coriander (*Coriandrum sativum* L.) negative mode

Dill (*Annethum graveolens* L.)

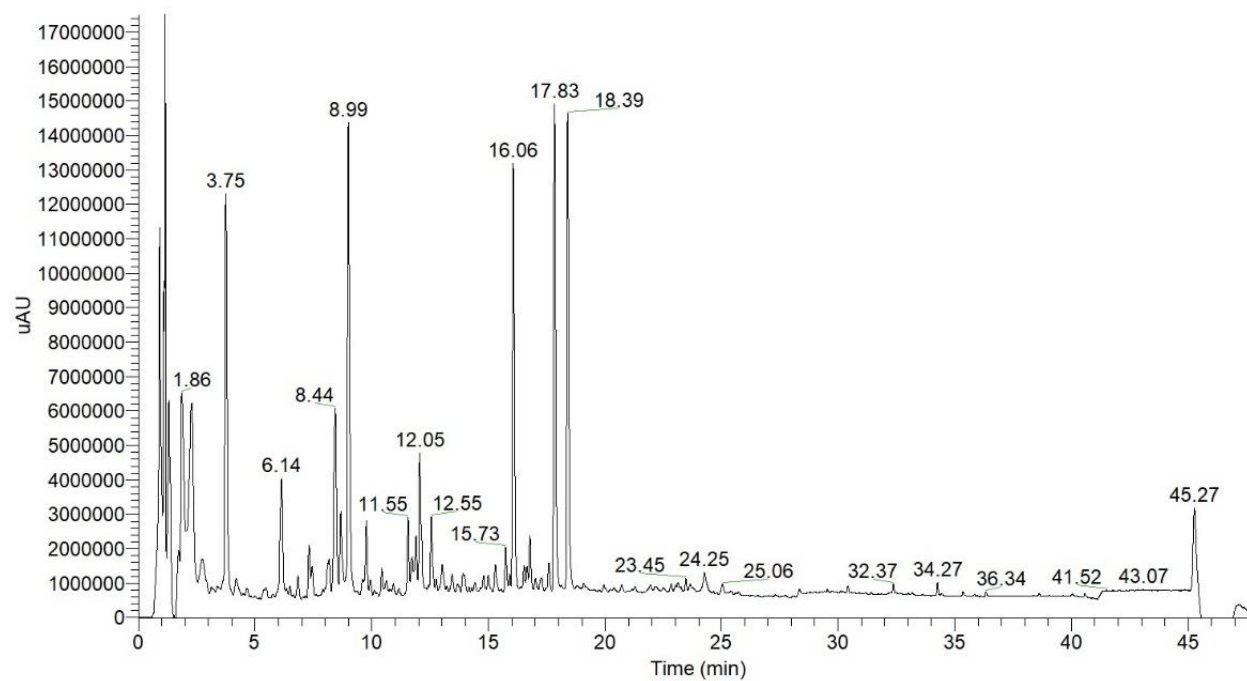


Figure S17. LC-PDA chromatogram of metabolites detected in dill (*Annethum graveolens* L.) negative mode

Parsley (*Petroselinum sativum* L.)

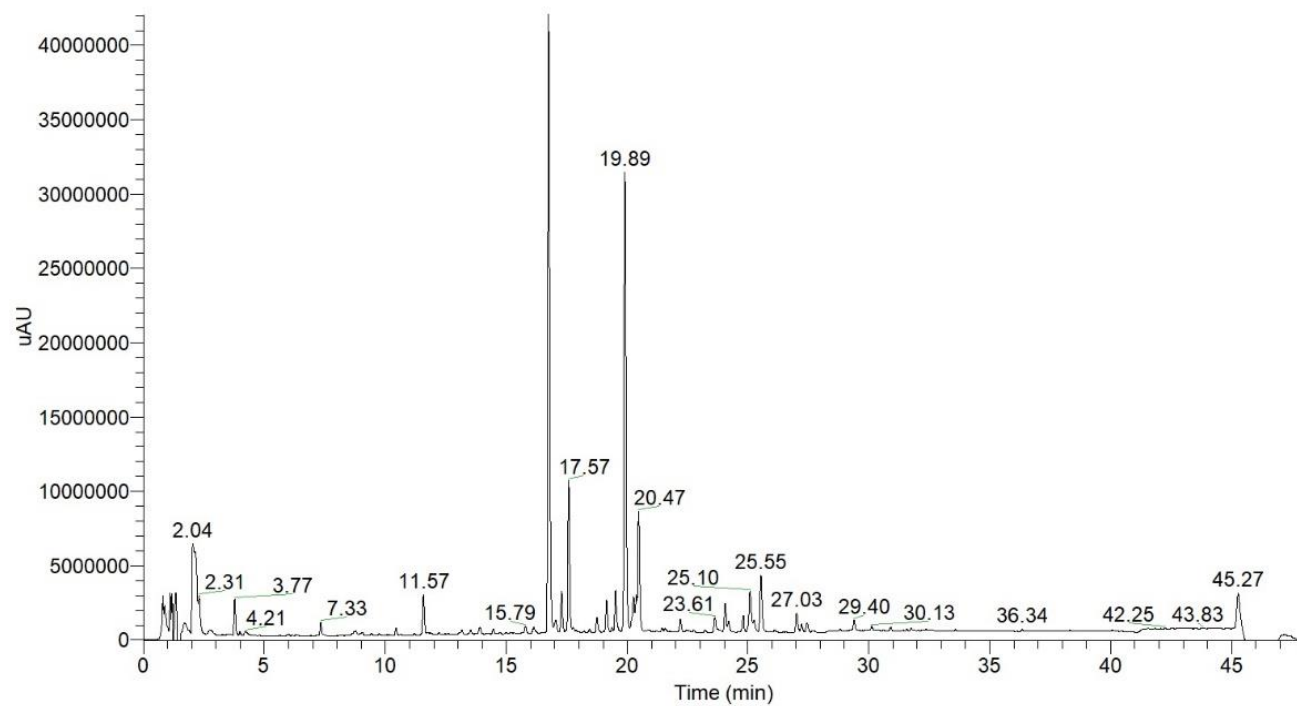


Figure S18. LC-PDA chromatogram of metabolites detected in parsley (*Petroselinum sativum* L.) negative mode

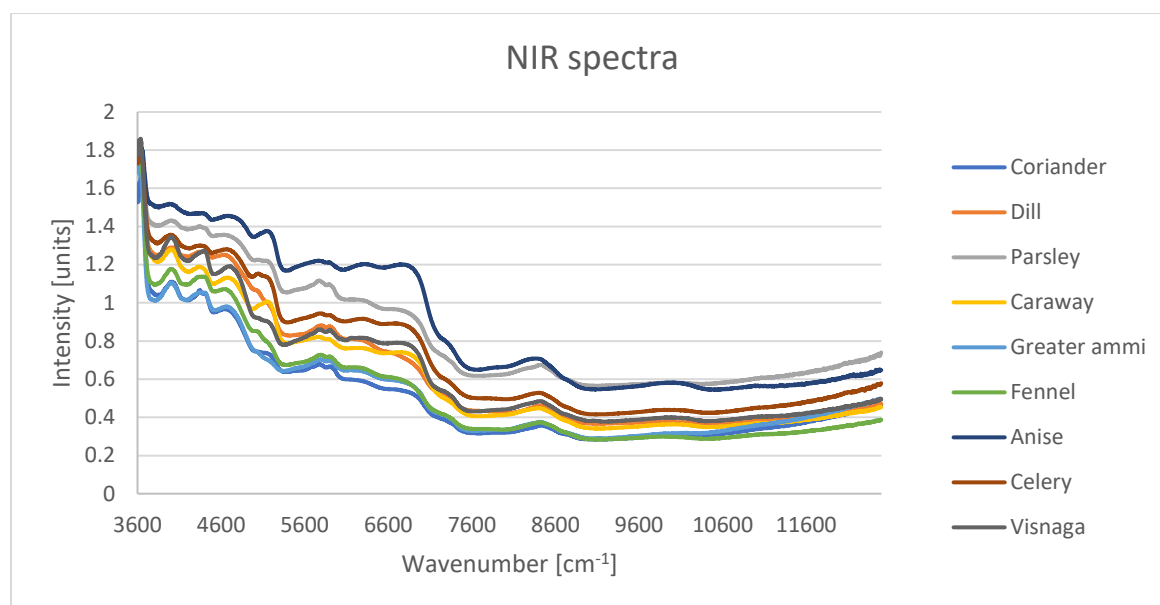


Figure S19. FT-NIR absorbance average spectrum of Egyptian cultivar samples

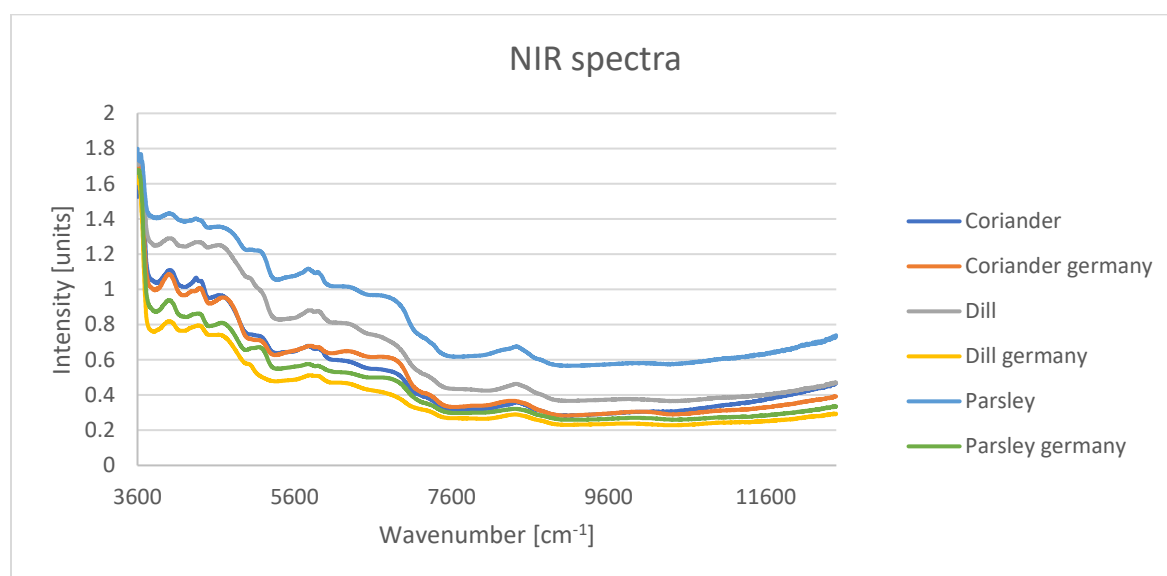


Figure S20. FT-NIR absorbance average spectrum of Egyptian *versus* German cultivar samples

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Table S1: Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of Egyptian and German extracts

Metabolite	Molecular formula	Rt (min)	[M-H] ⁻ / [M+M] ⁺ (m/z)	Molecular weight (Da)	MS/MS fragments	References
Table 1A. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of Coriander (<i>Coriandrum sativum</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.11	191.0553	192.0628	191.06,108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.31	166.0860	165.0784	103.03,95.05,91.05,77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.76	205.0968	204.0898	142.06,130.07,117.05,115.05,91.05	[35,36]
Neochlorogenic acid (5-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	6.13	353.0878	354.0953	191.06,135.04,93.03,85.02	Standard
2- Isopropylmalic acid	C ₇ H ₁₂ O ₅	6.5	175.0603	176.0675	68.99,90.07,99.92,17.86,161.05	[37]
Caffeic acid (3,4-dihydroxycinnamic acid)	C ₉ H ₈ O ₄	8.29	179.0340	180.0415	134.04,108.02,89.03,65.00	Standard
Chlorogenic acid (3-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	8.44	353.0877	354.0953	191.06,171.02,127.03,93.03,85.02	Standard
Rutin (quercetin 3-O-rutinoside)	C ₂₇ H ₃₀ O ₁₆	14.8	609.1527	610.1527	300.03,271.02,255.03,178.99,151.00	Standard
Kämpferol-3-O-rutinoside	C ₂₇ H ₃₀ O ₁₅	15.79	593.1582	594.1582	284.03,255.03,227.03	[38,39]
Quercetin3-O-glucuronide	C ₂₁ H ₁₈ O ₁₃	16.11	477.0671	478.0747	301.03,255.02,178.99,151.00,121.02,107.01	[40]
Ferulolylquinic acid	C ₁₇ H ₂₀ O ₉	9.07,1.6	367.1035	368.1108	191.05,134.03,93.03	[41]
Table 1B. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of dill (<i>Anethum graveolens</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0553	192.0625	191.06,108.02,93.03,85.03	[33]

Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0861	165.0782	103.03,95.05,91.05, 77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0968	204.0898	142.06,130.07,117.0 5,115.05,91.05	[35,36]
Neochlorogenic acid (5-O- caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	6.16	353.0879	354.0945	191.06,135.04,93.03 ,85.02	Standard
Caffeic acid (3,4- dihydroxycinna mic acid)	C ₉ H ₈ O ₄	8.31	179.0340	180.0415	134.04,108.02,89.04 ,94.99,65.00	Standard
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.45	353.0877	354.0945	191.05,173.04,135.0 4,93.03,85.02	[41]
Chlorogenic acid (3-O- caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	9	353.0877	354.0945	191.05,171.02,127.0 3,93.03,85.02	Standard
Quercetin-3-O- glucuronide (Miquelianin)	C ₂₁ H ₁₈ O ₃	16.07	477.0671	478.0741	301.03,255.02,178.9 9,151.00, 121.02,107.01	[40]
Isorhamnetin glucuronide	C ₂₂ H ₂₀ O ₁₃	18.4	491.0830	492.0897	300.03,271.02,255.0 3,243.03,153.02	[39]
Table 1C. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of parsley (<i>Petroselinum sativum</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0553	192.0628	191.06,108.02,93.03 ,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0861	165.0784	103.03,95.05,91.05, 77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0969	204.0893	142.06,130.07,117.0 5,115.05,91.05	[35,36]
Glucosyloxy benzoic acid	C ₁₃ H ₁₆ O ₈	6.27	299.0771	300.0839	137.02,93.03,65.04	Tentative
2- isopropylmalic acid	C ₇ H ₁₂ O ₅	6.5	175.0603	176.0679	175.06,115.03,85.06	[37]
4-O-beta-D- Glucosyl-4- coumaric acid	C ₁₅ H ₁₈ O ₈	8.97 11.56	325.0929	326.0996	119.04,101.03, 117.03	Tentative
Apiin	C ₂₆ H ₂₈ O ₁₄	16.74	563.1402	564.1473	565.14,563.14,269.0 4	[42–44]
Apigenin-7- glucoside (apigetrin, cosmosiin)	C ₂₁ H ₂₀ O ₁₀	16.99	431.0982	432.1051	431.19, 385.18, 268.03,240.04, 151.00,107.01	[45]

Chrysoeriol 7-O-apiosylglucoside	C ₂₇ H ₃₀ O ₁₅	17.2	593.1515	594.1579	299.05,284.03,255.02	[46]
Chrysoeriol glucoside	C ₂₂ H ₂₂ O ₁₁	17.58	461.1090	462.1156	255.02,283.02,297.04,269.04	[46]
Apigenin	C ₁₅ H ₁₀ O ₅	25.3	269.0454	270.0522	121.02,117.03,107.01,65.00	Standard
Chrysoeriol	C ₁₆ H ₁₂ O ₆	25.86	299.0560	300.0628	227.03,183.04,199.03,256.03,211.03	[47]
Table 1D. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of caraway (<i>Carum carvi</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0553	192.0628	191.06,108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.29	166.0860	165.0784	103.03,95.05,91.05,77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.77	205.0968	204.0893	142.06,130.07,117.05,115.05,91.05	[35,36]
Neochlorogenic acid (5-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	6.18	353.0878	354.0945	191.06,135.04,93.03,85.02	Standard
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.5	353.0877	354.0945	191.05,85.02,93.03	[41,48]
Chlorogenic acid (3-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	9.0	353.0877	354.0945	191.06,171.02,127.03,93.03,85.02	Standard
Feruloyl quinic acid	C ₁₇ H ₂₀ O ₉	12.55	367.1035	368.1101	93.03,134.03,191.05	[41]
N2-Malonyl-tryptophan	C ₁₄ H ₁₄ N ₂ O ₅	13.72	291.0969	290.0897	142.07,130.06,115.05	[49]
Quercetin hexoside	C ₂₁ H ₂₀ O ₁₂	14.98	463.0885	464.0949	300.02,271.02,255.02,243.02,151.00	[50]
Isoquercitrin	C ₂₁ H ₂₀ O ₁₂	15.27	463.0882	464.0949	300.02,271.02,255.02,243.02,151.00	Standard
Quercetin-3-O-glucuronide (Miquelianin)	C ₂₁ H ₁₈ O ₁₃	16.08	477.0673	478.0741	301.03,255.02,178.99,151.00,121.02,107.01	[40]
Kämpferol hexoside	C ₂₁ H ₂₀ O ₁₁	16.5	447.0930	448.1000	284.03,255.02,227.02	[40,41]
Quercetin-O-malonyl glucoside	C ₂₄ H ₂₂ O ₁₅	16.98	549.0881	550.0953	549.08,505.09,300.02,271.02,255.02,151.00	Tentative
Dicaffeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	16.98	515.1190	516.1262	191.05,179.02,173.04,135.04	[51]

Quercetin-O-malonyl glucoside	C ₂₄ H ₂₂ O ₁₅	17.18	549.0881	550.0952	549.08,505.09,300.0 2,271.02,255.02, 151.00	Tentative
Kämpferol hexoside	C ₂₁ H ₂₀ O ₁₁	17.18	447.0930	448.1000	284.03,255.02,227.0 2	[40,41]
Dicaffeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	17.98	515.1190	516.1262	191.05,179.02,173.0 4,135.04	[51]
Dicaffeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	18.95	515.1190	516.1262	191.05,179.02,173.0 4,135.04	[51]
Kaempferol O-malonyl-glucoside	C ₂₄ H ₂₂ O ₁₄	19.2	533.0932	534.1004	533.12,489.10,255.0 2,227.03,284.03	Tentative
6-Hydroxyluteolin 7-caffeoylglucoside	C ₃₀ H ₂₆ O ₁₅	19.55	625.1196	626.1266	300.02,151.00,271.0 2,255.02	Tentative
Kämpferolcaffeoyl glucoside	C ₃₀ H ₂₆ O ₁₄	20.84	609.1253	610.1317	285.04,179.03,161.0 2,135.04	Tentative
Table 1E. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of greater ammi (<i>Ammi majus</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.11	191.0550	192.0625	191.06,108.02,93.03 ,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.31	166.0860	165.0782	103.03,95.05,91.05, 77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.76	205.0968	204.08988	142.06,130.07,117.0 5,115.05,91.05	[35,36]
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	12.8a	337.0996	338.0996	385.02,127.03,191.0 5,119.04,93.0	[41]
Kämpferol hexoside	C ₃₃ H ₄₀ O ₂₀	12.8b	755.2033	756.2107	255.02,227.03,284.0 3	[40,41]
Isorhamnetin-rutinoside-glucoside	C ₃₄ H ₄₂ O ₂₁	12.38	785.2161	786.2213	314.04,299.02,271.0 2	Tentative
unknown	C ₂₀ H ₂₄ O ₁₀	13.68	423.1298	424.1364	243.06,215.07,187.0 5,59.01	-
Sinapoyl quinic acid	C ₁₈ H ₂₂ O ₁₀	14.62	397.1138	398.1207	202.02,176.04,161.0 2	Tentative
Table 1F. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of fennel (<i>Foeniculum vulgare</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0553	192.0625	191.06,108.02,93.03 ,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0860	165.0782	103.03,95.05,91.05, 77.04,53.03	[34]

Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0968	204.0898	142.06,130.07,117.0 5,115.05,91.05	[35,36]
Neochlorogenic acid (5-O- caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	6.16	353.0878	354.0953	191.06,135.04,93.03 ,85.02	Standard
Coumaroyl hexoside	C ₁₅ H ₁₈ O ₈	7.31	325.0927	326.0996	163.03,119.04,93.03	Tentative
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.45	353.0878	354.0953	191.05,173.04,135.0 4,93.03,85.02	[41,48]
Chlorogenic acid (3-O- caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	9.01	353.0877	354.0953	191.05,171.02,127.0 3,93.03,85.02	Standard
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	11.56	337.0924	338.0996	385.02,191.05,127.0 3,119.04,93.0	[41]
Feruloylquinic acid	C ₁₇ H ₂₀ O ₉	11.58	367.1034	368.1101	191.05,134.03,93.03 , 85.02	[41]
Dicafeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	12.11	515.1196	516.1262	191.05,179.02,173.0 4,135.04	[51]
Feruloyl quinic acid	C ₁₇ H ₂₀ O ₉	12.56	367.1034	368.1101	191.05,134.03,93.03 , 85.02	[41]
Quercetin-3-O- glucuronide (Miquelianin)	C ₂₁ H ₁₈ O ₁₃	16.05	477.0671	478.07401	301.03,255.02,178.9 9,151.00, 121.02,107.01	[40]
Dicafeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	17.03	515.1194	516.1262	191.05,179.02,173.0 4,135.04	[51]
Kämpferol glucuronide	C ₂₁ H ₁₈ O ₁₂	17.85	461.0726	462.0792	285.04,229.05,185.0 6,85.	[52]
Dicafeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	18.20	515.1194	516.1262	191.05,179.02,173.0 4,135.04	[51]
Kämpferol rhamnoside	C ₂₁ H ₂₀ O ₁₀	19.74	431.0981	432.1051	255.02,227.03	Tentative
Irbic acid	C ₂₈ H ₂₆ O ₁₅	20.12	601.1200	602.1266	233.066,191.05,173. 04,135.04,59.01	Tentative
Table 1G. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of anise (<i>Pimpinella anisum</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0553	192.0628	191.06,108.02,93.03 ,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0860	165.0784	103.03,95.05,91.05, 77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0968	204.08988	142.06,130.07,117.0 5,115.05,91.05	[35,36]
Neochlorogenic acid (5-O-	C ₁₆ H ₁₈ O ₉	6.16	353.0875	354.0953	191.06,135.04,93.03 ,85.02	Standard

caffeoylquinic acid)						
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.45	353.0875	354.0953	191.05,173.04,135.04,93.03,85.02	[41,48]
Chlorogenic acid (3-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	9.01	353.0874	354.0953	191.05,171.02,127.03,93.03,85.02	Standard
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	11.56	337.0927	338.0996	385.02,191.05,127.03,119.04,93.0	[41]
Feruloyl quinic acid	C ₁₇ H ₂₀ O ₉	11.58	367.1031	368.11047	191.05,134.03,93.03,85.02	[41]
Luteolin-6-glucoside (Isoorientin)	C ₂₁ H ₂₀ O ₁₁	12.10	447.0929	448.1002	327.05,311.05,299.05,285.04,175.03,133.02	[45,53,54]
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	12.10	337.0926	338.0996	385.02,191.05,127.03,119.04,93.0	[41]
Feruloylquinic acid	C ₁₇ H ₂₀ O ₉	12.54	367.1030	368.11047	191.05,134.03,93.03,85.02	[41]
Apigenin-6-glucoside (Isovitexin)	C ₂₁ H ₂₀ O ₁₀	14.29	431.0983	432.1051	295.06,283.06,117.03,161.02	[45]
Luteolin hexoside	C ₂₁ H ₂₀ O ₁₁	14.74	447.0932	448.1002	284.03,256.03,151.00,133.02	Tentative
Quercetin-3-O-glucuronide (Miquelianin)	C ₂₁ H ₁₈ O ₁₃	16.1	477.0672	478.0741	301.03,255.02,178.99,151.00,121.02,107.01	[40]
Dicaffeoyl quinic acid	C ₂₅ H ₂₄ O ₁₂	16.96	515.1191	516.1263	191.05,179.02,173.04,135.04	[51]
Luteolin glucuronide	C ₂₁ H ₁₈ O ₁₂	17.92	461.0725	462.0792	285.04,257.04,229.05,185.05,85.02,71.01	[51]
Dicaffeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	17.99	515.1191	516.1262	191.05,179.02,173.04,135.04	[51]
Dicaffeoylquinic acid	C ₂₅ H ₂₄ O ₁₂	18.97	515.1191	516.12638	191.05,179.03,173.04,135.04	[51]
Table 1H. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of celery (<i>Apium graveolens</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0551	192.0628	108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.31	166.0860	165.0782	103.03,95.05,91.05,77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.78	205.0969	204.0898	142.06,130.07,117.05,115.05,91.05	[35,36]
Neochlorogenic acid (5-O-	C ₁₆ H ₁₈ O ₉	6.14	353.0876	354.0953	191.05,135.04,93.03,85.02	Standard

caffeoylquinic acid)						
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.43	353.0878	354.0953	191.05,173.0,135.04,93.03,85.02	[41,48]
Chlorogenic acid (3-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	8.91	353.0876	354.0953	191.05,171.02,127.03,93.03,85.02	Standard
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	11.54	337.0927	338.0996	385.02,191.05,127.03,119.04,93.0	[41]
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	12.91	337.0928	338.0996	385.02,191.05,127.03,119.04,93.0	[41]
Feruloylquinic acid	C ₁₇ H ₂₀ O ₉	12.60	367.1033	368.1101	191.05,134.03,93.03,85.02	[41]
Luteolin-7-O-apiosylglucoside	C ₂₆ H ₂₈ O ₁₅	14.73	579.1350	580.1422	285.04	[46,55]
Apiin	C ₂₆ H ₂₈ O ₁₄	16.77	563.1400	564.1473	563.14,565.14,269.04	[42–44]
Chrysoeriol 7-O-apiosylglucoside	C ₂₇ H ₃₀ O ₁₅	17.28	593.1508	594.1579	299.05,284.03,255.02	[46,55]
luteolin 7-malonyl-apiosyl glucoside	C ₂₉ H ₃₀ O ₁₈	18.00	665.1360	666.1426	621.14,489.10,327.05,285.04	[46,55]
Apigenin-7-malonyl-apiosylglucoside	C ₂₉ H ₃₀ O ₁₇	19.20	649.1404	650.1477	269.05	[52,55]
Chrysoeriol-7-malonyl-apiosyl glucoside	C ₃₀ H ₃₂ O ₁₈	20.24	679.1511	680.1583	299.05,284.03	[46,55]
Luteolin	C ₁₅ H ₁₀ O ₆	21.93	285.0401	286.0471	133.02,115.01,107.01,65.00	Standard
Khellin	C ₁₄ H ₁₂ O ₅	21.93	261.0752	260.0679	231.02,209.00,181.01,163.00,95.01	[56]
Apigenin	C ₁₅ H ₁₀ O ₅	25.37	269.0452	270.0522	121.02,117.03,107.01,65.00	Standard
Chrysoeriol	C ₁₆ H ₁₂ O ₆	25.93	299.0552	300.0628	255.02,227.03,151.00,107.01,83.01,65.00,63.02	[56]
Table 11. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of visnaga (<i>Ammi visnaga</i> L.)						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0551	192.0624	191.06,108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0860	165.0782	103.03,95.05,91.05,77.04,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0968	204.0898	142.06,130.07,117.05,115.05,91.05	[35,36]

Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.45	353.0874	354.0953	191.05,135.04,93.03,85.02	[41,48]
Chlorogenic acid (3-O-caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	8.94	353.0874	354.0953	191.05,171.02,127.03,93.03,85.02	Standard
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	9.85	353.0876	354.0953	191.05,135.04,93.03,85.02	[41,48]
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	11.50	337.0927	338.0996	385.02,191.05,127.03,119.04,93.0	[41]
Coumaroylquinic acid	C ₁₆ H ₁₈ O ₈	12.12	337.0927	338.0996	385.02,191.05,127.03,119.04,93.0	[41]
Feruloylquinic acid	C ₁₇ H ₂₀ O ₉	12.50	367.1035	368.1101	191.05,134.03,93.03,85.02	[41]
Ammiol glucoside	C ₂₀ H ₂₂ O ₁₁	13.37	439.1227	438.1156	247.02,216.04,262.04,201.01,85.02	[56]
Cimifugin	C ₁₆ H ₁₈ O ₆	14.30	307.1169	306.1097	259.05,221.04,233.04,177.05,59.04	[57]
Quercetin-3-hexoside	C ₂₁ H ₂₀ O ₁₂	15.3	463.0880	464.0949	271.02,255.02,300.02,243.02,151.00	Standard
Khellol	C ₁₃ H ₁₀ O ₅	15.4	247.0596	246.0522	203.03,175.03,147.04,91.05	[56]
Kämpherol rutinoside	C ₂₇ H ₃₀ O ₁₅	16.7	593.1512	594.1579	284.03,285.04,255.02,227.03,151.00	[38,39]
Rhamnetin rutinoside	C ₂₈ H ₃₂ O ₁₆	16.99	623.1615	624.1648	315.05,300.02,285.04,271.02,255.02,243.02	Tentative
Rhamnetin hexoside	C ₂₂ H ₂₂ O ₁₂	17.6	477.1036	478.1105	314.04,299.01,285.04,271.02,257.04,243.02	Tentative
Isorhamnetin-malonyl-glucoside	C ₂₅ H ₂₄ O ₁₅	19.7	563.1024	564.1109	299.01,271.02,255.02,314.04,243.02	Tentative
Khellin	C ₁₄ H ₁₂ O ₅	21.87	261.0752	260.0679	231.02,209.00,181.01,163.00,95.01	[56]
Visnagine	C ₁₃ H ₁₀ O ₄	22.16	231.0648	230.0573	187.03,159.04,148.01,131.04,120.02,103.05,92.02	[56]
Isorhamnetin	C ₁₆ H ₁₂ O ₇	23.70	315.26	316.26	299.02,287.02,269.01,243.03,213.04	[54]
Rhamnetin 3-O-sulfate	C ₁₆ H ₁₂ O ₁₀ S	28.70	395.0075	396.0145	271.02,243.02,165.01,121.02,97.02,65.00	Tentative
Samidin	C ₂₁ H ₂₂ O ₇	33.70	387.1485	386.1360	n.a.	Tentative

Visnadin	C ₂₁ H ₂₄ O ₇	34.3	389.1574	388.1516	227.06,175.03,128.0 6,57.07	Tentative
Table 1K. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of coriander (<i>Coriandrum sativum</i> L.), Germany						
Quinic acid	C ₇ H ₁₂ O ₆	1.11	191.0552	192.0624	191.06,108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.31	166.0860	165.0782	103.03,95.05,91.05,77.04,53.0 3	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.76	205.0962	204.0898	142.06,130.07,117.05,115.05, 91.05	[35,36]
2- isopropylmalic acid	C ₇ H ₁₂ O ₅	6.5	175.0602	176.0675	175.06,115.03,85.06	[37]
Coumaroyl hexoside	C ₁₅ H ₁₈ O ₈	7.31 11.56	325.0926	326.0996	119.04,93.03 119.04,101.03	Tentative
Apiin	C ₂₆ H ₂₈ O ₁₄	16.71	563.1399	564.1473	565.14,563.14,269.04	[42–44]
Chrysoeriol- 7-O- apiosylglucoside	C ₂₇ H ₃₀ O ₁₅	17.2 17.58	593.1508	594.1579	299.05,284.03 299.05,284.03	[46,55]
Malonylapiin	C ₂₉ H ₃₀ O ₁₇	18.74 19.93	649.1413 649.1416	650.1477	269.04 269.04	[43,46]
Table 1L. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in hydroalcohol extract of dill (<i>Anethum graveolens</i> L.) Germany						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0552	192.0624	191.06,108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0860	165.0782	103.03,95.05,91.05,77.04,53.0 3	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0969	204.0898	142.06,130.07,117.05,115.05, 91.05	[35,36]
Neochlorogenic acid (5-O- caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	6.16	353.0878	354.0953	191.06,135.04,93.03,85.02	Standard
Caffeic acid (3,4- dihydroxycinnamic acid)	C ₉ H ₈ O ₄	8.31	179.0340	180.0417	134.04,108.02,89.04,94.99,65. 00	Standard
Caffeoylquinic acid	C ₁₆ H ₁₈ O ₉	8.45	353.0875	354.0953	191.05,173.04,135.04,93.03,8 5.02	[41,48]
Chlorogenic acid (3-O- caffeoylquinic acid)	C ₁₆ H ₁₈ O ₉	9	353.0877	354.0953	191.05,171.02,127.03,93.03,8 5.02	Standard
Quercetin-3-O- glucuronide (Miquelianin)	C ₂₁ H ₁₈ O ₁₃	16.07	477.0670	478.0741	301.03,255.02,178.99,151.00, 121.02,107.01	[40]
Kämpferol glucuronide	C ₂₁ H ₁₈ O ₁₂	17.83	461.0724	462.0792	285.04,229.05,187.03,257.04	[52]

Isorhamnetin glucuronide	C ₂₂ H ₂₀ O ₁₃	18.4	491.0829	492.0898	300.03,271.02,255.03,243.03,153.02	[39]
Table 1M. Peaks assignment using LC-PDA-ESI-MS/MS of metabolites detected in detected in alcoholic fraction of water extract of parsley (<i>Petroselinum sativum</i> L.) Germany						
Quinic acid	C ₇ H ₁₂ O ₆	1.12	191.0553	192.0624	191.06,108.02,93.03,85.03	[33]
Phenylalanine	C ₉ H ₁₁ NO ₂	2.36	166.0860	165.0782	95.05,103.05,77.04,91.05,53.03	[34]
Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	3.8	205.0968	204.0898	142.06,130.07,117.05,115.05,91.05	[35,36]
Glucosyloxybenzoic acid	C ₁₃ H ₁₆ O ₈	6.27	299.0772	300.0839	93.03,137.02	Tentative
2- isopropylmalic acid	C ₇ H ₁₂ O ₅	6.5	175.0600	176.0679	175.06,115.03,85.06	[37]
4-O-beta-D-Glucosyl-4-coumaric acid	C ₁₅ H ₁₈ O ₈	11.56	325.0927	326.0996	119.04,101.038, 91.05	Tentative
Apiin	C ₂₆ H ₂₈ O ₁₄	16.74	563.1406	564.1473	565.14,563.14,269.04	[42–44]
Apigenin 7-glucoside (apigetrin, cosmosiin)	C ₂₁ H ₂₀ O ₁₀	16.99	431.0982	432.1051	431.19,385.18, 268.03,240.04,151.00,107.01	[45]
Chrysoeriol 7-O-apiosylglucoside	C ₂₇ H ₃₀ O ₁₅	17.2	593.1513	594.1579	299.05,284.03,255.02	[46,55]
Chrysoeriol 7-O-apiosylglucoside	C ₂₇ H ₃₀ O ₁₅	17.6	593.1513	594.1579	299.05,284.03	[46,55]
Apigenin-O-malonyl-apiosylglucoside	C ₂₉ H ₃₀ O ₁₇	18.78	649.1416	650.1477	269.04	[46,55]
Acetylapiin	C ₂₈ H ₃₀ O ₁₅	19.18	605.1513	606.1579	545.12,269.04	[58,59]
Acetylapiin	C ₂₈ H ₃₀ O ₁₅	19.55	605.1513	606.1579	545.12,269.04	[58,59]
Malonylapiin	C ₂₉ H ₃₀ O ₁₇	19.98	649.1406	650.1477	269.04	[46,55]
Chrysoeriol-O-malonyl-apiosyl glucoside	C ₃₀ H ₃₂ O ₁₈	20.30	679.1514	680.1583	299.05,284.03	[46,55]
Chrysoeriol-O-malonyl-apiosyl glucoside	C ₃₀ H ₃₂ O ₁₈	20.50	679.1516	680.1583	299.05,284.03	[46,55]
Apigenin	C ₁₅ H ₁₀ O ₅	25.3	269.0454	270.0522	121.02,117.03,107.01,65.00	Standard
Chrysoeriol	C ₁₆ H ₁₂ O ₆	25.86	299.0560	300.0628	227.03,133.02,107.01,83.01,65.00,63.02	[47]

Egyptian cultivar PLS-R data

Table S1. The partial least squares regression model parameters used for prediction of Egyptian cultivar LC-PDA-ESI-MS/MS data

Antioxidant Activity	Data Type	Slope	Offset	RMSE	R ²
PLS non transformed data					
DPPH	Cal.	0.9968671	7.3579707	329.17633	0.9968677
	Val.	0.0258937	384.28726	6061.5322	0.1607961
FRAP	Cal.	0.987534	2.5186396	10.49666	0.9875342
	Val.	0.3256635	144.72205	100.90437	0.898071
PLS log (area) & ln(area)					
ABTS	Cal.	0.8009732	13.528515	9.0139084	0.9009734
	Val.	0.2687734	48.832386	17.27236	0.4225917
CUPRAC	Cal.	0.9688284	1.9007552	4.8298798	0.9688284
	Val.	0.3514741	43.346481	22.052135	0.4865686
PLS (VIP area)					
TFC	Cal.	0.7254292	5.66467	3.5678627	0.7254292
	Val.	0.0252936	20.475248	7.5322194	0.033106
ABTS	Cal.	0.7211936	18.951406	10.668641	0.7211934
	Val.	0.39688611	41.069626	17.802046	0.3866343

RMSE: Root mean squared error, R²: Determination, Cal.:Calibration and Val.:Validation

Table S2. The partial least squares regression model parameters used for prediction of Egyptian cultivar NIR data

PLS					
Assay	Data type	Slope	Offset	RMSE	R ²

FRAP	Cal.	0.7811501	49.495564	57.375729	0.7811473
	Val.	0.4346163	95.622643	118.91148	0.2572579

RMSE: Root mean squared error, R²: Determination, Cal.:Calibration and Val.:Validation

Egyptian and German cultivar PLS-R data

Table S3. The partial least squares regression model parameters used for prediction of Egyptian cultivar and German cultivar LC-PDA-ESI-MS/MS data

Antioxidant Activity	Data Type	Slope	Offset	RMSE	R ²
PLS non transformed data					
TFC	Cal.	0.9552968	0.6474656	0.5895864	0.9552968
	Val.	0.2064124	11.209846	2.4045751	0.4836345
ABTS	Cal.	0.9344023	4.5942454	4.3898349	0.9344023
	Val.	-0.274772	88.512421	22.348585	NA
FRAP	Cal.	0.9931057	1.6520962	11.653375	0.9931061
	Val.	0.340399	139.38246	98.759811	0.6561559
CUPRAC	Cal.	0.9820264	0.5360399	2.2024305	0.9820263
	Val.	0.0796946	30.746254	18.649527	0.105035
PLS log (area) & ln(area)					
TFC	Cal.	0.8302361	2.4588001	1.1489502	0.830236
	Val.	0.283339	9.990922	2.625684	0.3843039
ABTS	Cal.	0.9985683	0.1002732	0.6485265	0.9985683
	Val.	0.1225686	58.52393	16.081888	0.3886307
FRAP	Cal.	0.9604625	9.4745331	27.907633	0.9604625
	Val.	0.6868727	74.804642	56.028076	0.8893344
CUPRAC	Cal.	0.9968458	0.0940693	0.9225953	0.996846
	Val.	0.0032594	26.323204	17.699593	0.1938851
PLS 1/ area					
TFC	Cal.	0.9825553	0.2526628	0.3683073	0.9825553
	Val.	0.2703978	9.8083448	2.410485	0.481093
ABTS	Cal.	0.879761	8.4211407	5.943294	0.8797607
	Val.	0.5568687	113.27921	27.930979	NA
FRAP	Cal.	0.9696605	7.2703729	24.446911	0.9696603
	Val.	0.6490799	77.260376	111.81931	0.5592069

CUPRAC	Cal.	1.000001	-3.0709e-06	0.0055413	0.9999999
	Val.	0.0451413	29.214575	17.990232	0.1671938
PLS VIP					
TFC	Cal.	0.9040673	1.3894551	0.8636983	0.9040672
	Val.	0.6156319	5.2804108	1.969704	0.6535166
ABTS	Cal.	0.9893306	0.7472522	1.7704282	0.9893304
	Val.	0.78108	21.446133	12.265608	0.644362
FRAP	Cal.	0.977436	5.4070973	21.082716	0.977436
	Val.	0.7961144	47.764694	78.653099	0.7819115
CUPRAC	Cal.	0.914126	2.5610783	4.8140893	0.9141261
	Val.	1.1293789	0.6317368	16.306091	0.31582
PLS log&ln VIP area					
TFC	Cal.	0.9448361	0.7989734	0.6549456	0.9448362
	Val.	0.6495724	4.4776964	2.2343636	0.5541505
ABTS	Cal.	1	4.0615e-06	0.0015732	1
	Val.	0.7419788	14.972853	6.6369767	0.8958714
FRAP	Cal.	0.9496821	12.057903	31.483269	0.949682
	Val.	0.8639253	45.149986	73.751381	0.8082474
CUPRAC	Cal.	0.9999314	0.0020536	0.1362393	0.9999313
	Val.	0.7412386	3.5053377	9.9406719	0.745726
PLS VIP 1/area					
TFC	Cal.	0.9931299	0.0995037	0.231132	0.9931299
	Val.	1.1727785	-0.2092972	1.2270774	0.8655302
ABTS	Cal.	0.9279797	5.0440607	4.5997109	0.92798
	Val.	0.9625494	-0.0465297	10.991563	0.7144064
FRAP	Cal.	0.9998937	0.0254608	1.447054	0.9998937
	Val.	0.7805497	29.442457	59.561966	0.874934
RMSE: Root mean squared error, R ² : Determination, Cal.: Calibration and Val.: Validation					

Table S4. The partial least squares regression model parameters used for prediction of Egyptian cultivar and German cultivar NIR data

PLS					
Assay	Data type	Slope	Offset	RMSE	R ²
ABTS	Cal.	0.9466611	3.7356477	3.9583907	0.9466629
	Val.	0.0865979	71.092247	19.755322	0.0774332

RMSE: Root mean squared error, R²: Determination, Cal.: Calibration and Val.: Validation

Table S5: Antioxidant assays one way ANOVA results

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
TFC	Between Groups	1453.656	11	132.151	30.633	.000
	Within Groups	103.536	24	4.314		
	Total	1557.192	35			
TPC	Between Groups	8490.148	11	771.832	6.333	.000
	Within Groups	2924.892	24	121.870		
	Total	11415.040	35			
FRAP	Between Groups	561527.913	11	51047.992	21.711	.000
	Within Groups	56430.605	24	2351.275		
	Total	617958.518	35			
ABTS	Between Groups	288.036	11	26.185	30.013	.000
	Within Groups	20.939	24	.872		
	Total	308.975	35			
CUPRAC	Between Groups	8130.188	11	739.108	19.664	.000
	Within Groups	902.074	24	37.586		
	Total	9032.262	35			

Table S6: Antioxidant assays one way ANOVA post hoc Tukey results

Multiple Comparisons

Dependent Variable				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
	(I) plantgp	(J) plantgp					Lower Bound	Upper Bound
TFC	Coriander	Coriander		-1.74292	1.69588	.995	-7.8576	4.3718
		Germany						
		Dill		1.91721	1.69588	.990	-4.1975	8.0319
		Dill Germany		.30501	1.69588	1.000	-5.8097	6.4197

	Parsley	1.02397	1.69588	1.000	-5.0907	7.1387
	Parsley	-6.57952*	1.69588	.027	-12.6942	-.4648
	Germany					
	caraway	-14.68410*	1.69588	.000	-20.7988	-8.5694
	Greater ammi	-19.28105*	1.69588	.000	-25.3957	-13.1663
	Fennel	-8.97603*	1.69588	.001	-15.0907	-2.8613
	Anise	-5.22876	1.69588	.145	-11.3435	.8859
	Celery	-9.10675*	1.69588	.001	-15.2214	-2.9921
	Visnaga	-8.73639*	1.69588	.001	-14.8511	-2.6217
Coriander	Coriander	1.74292	1.69588	.995	-4.3718	7.8576
Germany	Dill	3.66013	1.69588	.591	-2.4546	9.7748
	Dill Germany	2.04793	1.69588	.983	-4.0668	8.1626
	Parsley	2.76689	1.69588	.881	-3.3478	8.8816
	Parsley	-4.83660	1.69588	.220	-10.9513	1.2781
	Germany					
	caraway	-12.94118*	1.69588	.000	-19.0559	-6.8265
	Greater ammi	-17.53813*	1.69588	.000	-23.6528	-11.4234
	Fennel	-7.23311*	1.69588	.011	-13.3478	-1.1184
	Anise	-3.48584	1.69588	.655	-9.6005	2.6289
	Celery	-7.36383*	1.69588	.009	-13.4785	-1.2491
	Visnaga	-6.99347*	1.69588	.016	-13.1082	-.8788
Dill	Coriander	-1.91721	1.69588	.990	-8.0319	4.1975
	Coriander	-3.66013	1.69588	.591	-9.7748	2.4546
	Germany					
	Dill Germany	-1.61220	1.69588	.998	-7.7269	4.5025
	Parsley	-.89325	1.69588	1.000	-7.0079	5.2215
	Parsley	-8.49674*	1.69588	.002	-14.6114	-2.3820
	Germany					
	caraway	-16.60131*	1.69588	.000	-22.7160	-10.4866
	Greater ammi	-21.19826*	1.69588	.000	-27.3130	-15.0836
	Fennel	-10.89325*	1.69588	.000	-17.0079	-4.7785
	Anise	-7.14597*	1.69588	.013	-13.2607	-1.0313
	Celery	-11.02396*	1.69588	.000	-17.1387	-4.9093
	Visnaga	-10.65360*	1.69588	.000	-16.7683	-4.5389
Dill Germany	Coriander	-.30501	1.69588	1.000	-6.4197	5.8097
	Coriander	-2.04793	1.69588	.983	-8.1626	4.0668
	Germany					
	Dill	1.61220	1.69588	.998	-4.5025	7.7269

	Parsley	.71896	1.69588	1.000	-5.3957	6.8337
	Parsley	-6.88453*	1.69588	.018	-12.9992	-.7698
	Germany					
	caraway	-14.98911*	1.69588	.000	-21.1038	-8.8744
	Greater ammi	-19.58606*	1.69588	.000	-25.7008	-13.4714
	Fennel	-9.28104*	1.69588	.001	-15.3957	-3.1663
	Anise	-5.53377	1.69588	.102	-11.6485	.5809
	Celery	-9.41176*	1.69588	.001	-15.5265	-3.2971
	Visnaga	-9.04140*	1.69588	.001	-15.1561	-2.9267
Parsley	Coriander	-1.02397	1.69588	1.000	-7.1387	5.0907
	Coriander	-2.76689	1.69588	.881	-8.8816	3.3478
	Germany					
	Dill	.89325	1.69588	1.000	-5.2215	7.0079
	Dill Germany	-.71896	1.69588	1.000	-6.8337	5.3957
	Parsley	-7.60349*	1.69588	.007	-13.7182	-1.4888
	Germany					
	caraway	-15.70806*	1.69588	.000	-21.8228	-9.5934
	Greater ammi	-20.30501*	1.69588	.000	-26.4197	-14.1903
	Fennel	-10.00000*	1.69588	.000	-16.1147	-3.8853
	Anise	-6.25273*	1.69588	.042	-12.3674	-.1380
	Celery	-10.13072*	1.69588	.000	-16.2454	-4.0160
	Visnaga	-9.76035*	1.69588	.000	-15.8751	-3.6457
Parsley Germany	Coriander	6.57952*	1.69588	.027	.4648	12.6942
	Coriander	4.83660	1.69588	.220	-1.2781	10.9513
	Germany					
	Dill	8.49674*	1.69588	.002	2.3820	14.6114
	Dill Germany	6.88453*	1.69588	.018	.7698	12.9992
	Parsley	7.60349*	1.69588	.007	1.4888	13.7182
	caraway	-8.10457*	1.69588	.003	-14.2193	-1.9899
	Greater ammi	-12.70152*	1.69588	.000	-18.8162	-6.5868
	Fennel	-2.39651	1.69588	.949	-8.5112	3.7182
	Anise	1.35076	1.69588	.999	-4.7639	7.4655
	Celery	-2.52723	1.69588	.929	-8.6419	3.5875
	Visnaga	-2.15686	1.69588	.975	-8.2716	3.9578
caraway	Coriander	14.68410*	1.69588	.000	8.5694	20.7988
	Coriander	12.94118*	1.69588	.000	6.8265	19.0559
	Germany					
	Dill	16.60131*	1.69588	.000	10.4866	22.7160

	Dill Germany	14.98911*	1.69588	.000	8.8744	21.1038
	Parsley	15.70806*	1.69588	.000	9.5934	21.8228
	Parsley Germany	8.10457*	1.69588	.003	1.9899	14.2193
	Greater ammi	-4.59695	1.69588	.279	-10.7116	1.5177
	Fennel	5.70806	1.69588	.083	-.4066	11.8228
	Anise	9.45534*	1.69588	.000	3.3406	15.5700
	Celery	5.57735	1.69588	.097	-.5374	11.6920
	Visnaga	5.94771	1.69588	.062	-.1670	12.0624
Greater ammi	Coriander	19.28105*	1.69588	.000	13.1663	25.3957
	Coriander Germany	17.53813*	1.69588	.000	11.4234	23.6528
	Dill	21.19826*	1.69588	.000	15.0836	27.3130
	Dill Germany	19.58606*	1.69588	.000	13.4714	25.7008
	Parsley	20.30501*	1.69588	.000	14.1903	26.4197
	Parsley Germany	12.70152*	1.69588	.000	6.5868	18.8162
	caraway	4.59695	1.69588	.279	-1.5177	10.7116
	Fennel	10.30501*	1.69588	.000	4.1903	16.4197
	Anise	14.05229*	1.69588	.000	7.9376	20.1670
	Celery	10.17430*	1.69588	.000	4.0596	16.2890
	Visnaga	10.54466*	1.69588	.000	4.4300	16.6594
Fennel	Coriander	8.97603*	1.69588	.001	2.8613	15.0907
	Coriander Germany	7.23311*	1.69588	.011	1.1184	13.3478
	Dill	10.89325*	1.69588	.000	4.7785	17.0079
	Dill Germany	9.28104*	1.69588	.001	3.1663	15.3957
	Parsley	10.00000*	1.69588	.000	3.8853	16.1147
	Parsley Germany	2.39651	1.69588	.949	-3.7182	8.5112
	caraway	-5.70806	1.69588	.083	-11.8228	.4066
	Greater ammi	-10.30501*	1.69588	.000	-16.4197	-4.1903
	Anise	3.74727	1.69588	.558	-2.3674	9.8620
	Celery	-.13072	1.69588	1.000	-6.2454	5.9840
	Visnaga	.23965	1.69588	1.000	-5.8751	6.3543
Anise	Coriander	5.22876	1.69588	.145	-.8859	11.3435
	Coriander Germany	3.48584	1.69588	.655	-2.6289	9.6005

		Dill	7.14597*	1.69588	.013	1.0313	13.2607
		Dill Germany	5.53377	1.69588	.102	-.5809	11.6485
		Parsley	6.25273*	1.69588	.042	.1380	12.3674
		Parsley Germany	-1.35076	1.69588	.999	-7.4655	4.7639
		caraway	-9.45534*	1.69588	.000	-15.5700	-3.3406
		Greater ammi	-14.05229*	1.69588	.000	-20.1670	-7.9376
		Fennel	-3.74727	1.69588	.558	-9.8620	2.3674
		Celery	-3.87799	1.69588	.510	-9.9927	2.2367
		Visnaga	-3.50763	1.69588	.647	-9.6223	2.6071
Celery		Coriander	9.10675*	1.69588	.001	2.9921	15.2214
		Coriander Germany	7.36383*	1.69588	.009	1.2491	13.4785
		Dill	11.02396*	1.69588	.000	4.9093	17.1387
		Dill Germany	9.41176*	1.69588	.001	3.2971	15.5265
		Parsley	10.13072*	1.69588	.000	4.0160	16.2454
		Parsley Germany	2.52723	1.69588	.929	-3.5875	8.6419
		caraway	-5.57735	1.69588	.097	-11.6920	.5374
		Greater ammi	-10.17430*	1.69588	.000	-16.2890	-4.0596
		Fennel	.13072	1.69588	1.000	-5.9840	6.2454
		Anise	3.87799	1.69588	.510	-2.2367	9.9927
Visnaga		Visnaga	.37036	1.69588	1.000	-5.7443	6.4851
		Coriander	8.73639*	1.69588	.001	2.6217	14.8511
		Coriander Germany	6.99347*	1.69588	.016	.8788	13.1082
		Dill	10.65360*	1.69588	.000	4.5389	16.7683
		Dill Germany	9.04140*	1.69588	.001	2.9267	15.1561
		Parsley	9.76035*	1.69588	.000	3.6457	15.8751
		Parsley Germany	2.15686	1.69588	.975	-3.9578	8.2716
		caraway	-5.94771	1.69588	.062	-12.0624	.1670
		Greater ammi	-10.54466*	1.69588	.000	-16.6594	-4.4300
		Fennel	-.23965	1.69588	1.000	-6.3543	5.8751
TPC	Coriander	Anise	3.50763	1.69588	.647	-2.6071	9.6223
		Celery	-.37036	1.69588	1.000	-6.4851	5.7443
		Coriander Germany	-8.73656	9.01371	.997	-41.2367	23.7635

	Dill	-8.51613	9.01371	.998	-41.0162	23.9840
	Dill Germany	2.14516	9.01371	1.000	-30.3549	34.6453
	Parsley	-1.17204	9.01371	1.000	-33.6721	31.3281
	Parsley	-5.90860	9.01371	1.000	-38.4087	26.5915
	Germany					
	caraway	-29.94623	9.01371	.090	-62.4463	2.5539
	Greater ammi	-55.19892*	9.01371	.000	-87.6990	-22.6988
	Fennel	-23.70430	9.01371	.317	-56.2044	8.7958
	Anise	-12.15054	9.01371	.963	-44.6506	20.3496
	Celery	-12.71505	9.01371	.950	-45.2152	19.7851
	Visnaga	-20.35484	9.01371	.528	-52.8549	12.1453
Coriander	Coriander	8.73656	9.01371	.997	-23.7635	41.2367
	Dill	.22043	9.01371	1.000	-32.2797	32.7205
	Dill Germany	10.88172	9.01371	.983	-21.6184	43.3818
	Parsley	7.56452	9.01371	.999	-24.9356	40.0646
	Parsley	2.82796	9.01371	1.000	-29.6721	35.3281
	Germany					
	caraway	-21.20967	9.01371	.470	-53.7098	11.2904
	Greater ammi	-46.46236*	9.01371	.001	-78.9625	-13.9623
	Fennel	-14.96774	9.01371	.869	-47.4678	17.5324
	Anise	-3.41398	9.01371	1.000	-35.9141	29.0861
	Celery	-3.97849	9.01371	1.000	-36.4786	28.5216
Dill	Visnaga	-11.61828	9.01371	.973	-44.1184	20.8818
	Coriander	8.51613	9.01371	.998	-23.9840	41.0162
	Coriander	-.22043	9.01371	1.000	-32.7205	32.2797
	Germany					
	Dill Germany	10.66129	9.01371	.985	-21.8388	43.1614
	Parsley	7.34409	9.01371	.999	-25.1560	39.8442
	Parsley	2.60753	9.01371	1.000	-29.8926	35.1076
	Germany					
	caraway	-21.43010	9.01371	.455	-53.9302	11.0700
	Greater ammi	-46.68279*	9.01371	.001	-79.1829	-14.1827
	Fennel	-15.18817	9.01371	.858	-47.6883	17.3119
Dill Germany	Anise	-3.63441	9.01371	1.000	-36.1345	28.8657
	Celery	-4.19892	9.01371	1.000	-36.6990	28.3012
	Visnaga	-11.83871	9.01371	.969	-44.3388	20.6614
	Coriander	-2.14516	9.01371	1.000	-34.6453	30.3549

	Coriander	-10.88172	9.01371	.983	-43.3818	21.6184
	Germany					
	Dill	-10.66129	9.01371	.985	-43.1614	21.8388
	Parsley	-3.31720	9.01371	1.000	-35.8173	29.1829
	Parsley	-8.05376	9.01371	.999	-40.5539	24.4463
	Germany					
	caraway	-32.09139	9.01371	.055	-64.5915	.4087
	Greater ammi	-57.34408*	9.01371	.000	-89.8442	-24.8440
	Fennel	-25.84946	9.01371	.214	-58.3496	6.6506
	Anise	-14.29570	9.01371	.898	-46.7958	18.2044
	Celery	-14.86021	9.01371	.874	-47.3603	17.6399
	Visnaga	-22.50000	9.01371	.387	-55.0001	10.0001
Parsley	Coriander	1.17204	9.01371	1.000	-31.3281	33.6721
	Coriander	-7.56452	9.01371	.999	-40.0646	24.9356
	Germany					
	Dill	-7.34409	9.01371	.999	-39.8442	25.1560
	Dill Germany	3.31720	9.01371	1.000	-29.1829	35.8173
	Parsley	-4.73656	9.01371	1.000	-37.2367	27.7635
	Germany					
	caraway	-28.77419	9.01371	.117	-61.2743	3.7259
	Greater ammi	-54.02688*	9.01371	.000	-86.5270	-21.5268
	Fennel	-22.53226	9.01371	.385	-55.0324	9.9678
	Anise	-10.97850	9.01371	.982	-43.4786	21.5216
	Celery	-11.54301	9.01371	.974	-44.0431	20.9571
	Visnaga	-19.18280	9.01371	.610	-51.6829	13.3173
Parsley Germany	Coriander	5.90860	9.01371	1.000	-26.5915	38.4087
	Coriander	-2.82796	9.01371	1.000	-35.3281	29.6721
	Germany					
	Dill	-2.60753	9.01371	1.000	-35.1076	29.8926
	Dill Germany	8.05376	9.01371	.999	-24.4463	40.5539
	Parsley	4.73656	9.01371	1.000	-27.7635	37.2367
	caraway	-24.03763	9.01371	.299	-56.5377	8.4625
	Greater ammi	-49.29032*	9.01371	.001	-81.7904	-16.7902
	Fennel	-17.79570	9.01371	.705	-50.2958	14.7044
	Anise	-6.24194	9.01371	1.000	-38.7420	26.2582
	Celery	-6.80645	9.01371	1.000	-39.3066	25.6937
	Visnaga	-14.44624	9.01371	.892	-46.9463	18.0539
caraway	Coriander	29.94623	9.01371	.090	-2.5539	62.4463

	Coriander Germany	21.20967	9.01371	.470	-11.2904	53.7098
	Dill	21.43010	9.01371	.455	-11.0700	53.9302
	Dill Germany	32.09139	9.01371	.055	-.4087	64.5915
	Parsley	28.77419	9.01371	.117	-3.7259	61.2743
	Parsley Germany	24.03763	9.01371	.299	-8.4625	56.5377
	Greater ammi	-25.25269	9.01371	.240	-57.7528	7.2474
	Fennel	6.24193	9.01371	1.000	-26.2582	38.7420
	Anise	17.79569	9.01371	.705	-14.7044	50.2958
	Celery	17.23118	9.01371	.742	-15.2689	49.7313
	Visnaga	9.59139	9.01371	.994	-22.9087	42.0915
Greater ammi	Coriander	55.19892*	9.01371	.000	22.6988	87.6990
	Coriander Germany	46.46236*	9.01371	.001	13.9623	78.9625
	Dill	46.68279*	9.01371	.001	14.1827	79.1829
	Dill Germany	57.34408*	9.01371	.000	24.8440	89.8442
	Parsley	54.02688*	9.01371	.000	21.5268	86.5270
	Parsley Germany	49.29032*	9.01371	.001	16.7902	81.7904
	caraway	25.25269	9.01371	.240	-7.2474	57.7528
	Fennel	31.49462	9.01371	.063	-1.0055	63.9947
	Anise	43.04838*	9.01371	.003	10.5483	75.5485
	Celery	42.48387*	9.01371	.004	9.9838	74.9840
	Visnaga	34.84408*	9.01371	.028	2.3440	67.3442
Fennel	Coriander	23.70430	9.01371	.317	-8.7958	56.2044
	Coriander Germany	14.96774	9.01371	.869	-17.5324	47.4678
	Dill	15.18817	9.01371	.858	-17.3119	47.6883
	Dill Germany	25.84946	9.01371	.214	-6.6506	58.3496
	Parsley	22.53226	9.01371	.385	-9.9678	55.0324
	Parsley Germany	17.79570	9.01371	.705	-14.7044	50.2958
	caraway	-6.24193	9.01371	1.000	-38.7420	26.2582
	Greater ammi	-31.49462	9.01371	.063	-63.9947	1.0055
	Anise	11.55376	9.01371	.974	-20.9463	44.0539
	Celery	10.98925	9.01371	.982	-21.5109	43.4894
	Visnaga	3.34946	9.01371	1.000	-29.1506	35.8496

Anise	Coriander	12.15054	9.01371	.963	-20.3496	44.6506
	Coriander	3.41398	9.01371	1.000	-29.0861	35.9141
	Germany					
	Dill	3.63441	9.01371	1.000	-28.8657	36.1345
	Dill Germany	14.29570	9.01371	.898	-18.2044	46.7958
	Parsley	10.97850	9.01371	.982	-21.5216	43.4786
	Parsley	6.24194	9.01371	1.000	-26.2582	38.7420
	Germany					
	caraway	-17.79569	9.01371	.705	-50.2958	14.7044
	Greater ammi	-43.04838*	9.01371	.003	-75.5485	-10.5483
	Fennel	-11.55376	9.01371	.974	-44.0539	20.9463
	Celery	-.56451	9.01371	1.000	-33.0646	31.9356
	Visnaga	-8.20430	9.01371	.998	-40.7044	24.2958
Celery	Coriander	12.71505	9.01371	.950	-19.7851	45.2152
	Coriander	3.97849	9.01371	1.000	-28.5216	36.4786
	Germany					
	Dill	4.19892	9.01371	1.000	-28.3012	36.6990
	Dill Germany	14.86021	9.01371	.874	-17.6399	47.3603
	Parsley	11.54301	9.01371	.974	-20.9571	44.0431
	Parsley	6.80645	9.01371	1.000	-25.6937	39.3066
	Germany					
	caraway	-17.23118	9.01371	.742	-49.7313	15.2689
	Greater ammi	-42.48387*	9.01371	.004	-74.9840	-9.9838
	Fennel	-10.98925	9.01371	.982	-43.4894	21.5109
	Anise	.56451	9.01371	1.000	-31.9356	33.0646
	Visnaga	-7.63979	9.01371	.999	-40.1399	24.8603
Visnaga	Coriander	20.35484	9.01371	.528	-12.1453	52.8549
	Coriander	11.61828	9.01371	.973	-20.8818	44.1184
	Germany					
	Dill	11.83871	9.01371	.969	-20.6614	44.3388
	Dill Germany	22.50000	9.01371	.387	-10.0001	55.0001
	Parsley	19.18280	9.01371	.610	-13.3173	51.6829
	Parsley	14.44624	9.01371	.892	-18.0539	46.9463
	Germany					
	caraway	-9.59139	9.01371	.994	-42.0915	22.9087
	Greater ammi	-34.84408*	9.01371	.028	-67.3442	-2.3440
	Fennel	-3.34946	9.01371	1.000	-35.8496	29.1506
	Anise	8.20430	9.01371	.998	-24.2958	40.7044

FRAP	Coriander	Celery	7.63979	9.01371	.999	-24.8603	40.1399
		Coriander	131.80702	39.59188	.089	-10.9466	274.5607
		Germany					
		Dill	55.14036	39.59188	.954	-87.6133	197.8940
		Dill Germany	120.92983	39.59188	.153	-21.8238	263.6835
		Parsley	135.29825	39.59188	.074	-7.4554	278.0519
		Parsley	114.38597	39.59188	.206	-28.3677	257.1396
		Germany					
		caraway	-121.92982	39.59188	.146	-264.6835	20.8238
		Greater ammi	-38.75439	39.59188	.997	-181.5080	103.9992
		Fennel	-86.38596	39.59188	.576	-229.1396	56.3677
		Anise	-162.87719*	39.59188	.016	-305.6308	-20.1236
		Celery	166.29825*	39.59188	.013	23.5446	309.0519
		Visnaga	-208.92982*	39.59188	.001	-351.6835	-66.1762
	Coriander Germany	Coriander	-131.80702	39.59188	.089	-274.5607	10.9466
		Dill	-76.66666	39.59188	.727	-219.4203	66.0870
		Dill Germany	-10.87719	39.59188	1.000	-153.6308	131.8764
		Parsley	3.49123	39.59188	1.000	-139.2624	146.2449
		Parsley	-17.42105	39.59188	1.000	-160.1747	125.3326
		Germany					
		caraway	-253.73684*	39.59188	.000	-396.4905	-110.9832
		Greater ammi	-170.56141*	39.59188	.010	-313.3150	-27.8078
		Fennel	-218.19298*	39.59188	.001	-360.9466	-75.4393
		Anise	-294.68421*	39.59188	.000	-437.4378	-151.9306
	Dill	Celery	34.49123	39.59188	.999	-108.2624	177.2449
		Visnaga	-340.73684*	39.59188	.000	-483.4905	-197.9832
		Coriander	-55.14036	39.59188	.954	-197.8940	87.6133
		Coriander	76.66666	39.59188	.727	-66.0870	219.4203
		Germany					
		Dill Germany	65.78947	39.59188	.868	-76.9642	208.5431
		Parsley	80.15789	39.59188	.674	-62.5957	222.9115
		Parsley	59.24561	39.59188	.928	-83.5080	201.9992
		Germany					
		caraway	-177.07018*	39.59188	.007	-319.8238	-34.3165
		Greater ammi	-93.89474	39.59188	.459	-236.6484	48.8589
		Fennel	-141.52632	39.59188	.053	-284.2800	1.2273
		Anise	-218.01755*	39.59188	.001	-360.7712	-75.2639
		Celery	111.15789	39.59188	.238	-31.5957	253.9115

	Visnaga	-264.07018*	39.59188	.000	-406.8238	-121.3165
Dill Germany	Coriander	-120.92983	39.59188	.153	-263.6835	21.8238
	Coriander Germany	10.87719	39.59188	1.000	-131.8764	153.6308
	Dill	-65.78947	39.59188	.868	-208.5431	76.9642
	Parsley	14.36842	39.59188	1.000	-128.3852	157.1221
	Parsley Germany	-6.54386	39.59188	1.000	-149.2975	136.2098
	caraway	-242.85965*	39.59188	.000	-385.6133	-100.1060
	Greater ammi	-159.68421*	39.59188	.019	-302.4378	-16.9306
	Fennel	-207.31579*	39.59188	.001	-350.0694	-64.5622
	Anise	-283.80702*	39.59188	.000	-426.5607	-141.0534
	Celery	45.36842	39.59188	.989	-97.3852	188.1221
	Visnaga	-329.85965*	39.59188	.000	-472.6133	-187.1060
Parsley	Coriander	-135.29825	39.59188	.074	-278.0519	7.4554
	Coriander Germany	-3.49123	39.59188	1.000	-146.2449	139.2624
	Dill	-80.15789	39.59188	.674	-222.9115	62.5957
	Dill Germany	-14.36842	39.59188	1.000	-157.1221	128.3852
	Parsley Germany	-20.91228	39.59188	1.000	-163.6659	121.8414
	caraway	-257.22807*	39.59188	.000	-399.9817	-114.4744
	Greater ammi	-174.05263*	39.59188	.008	-316.8063	-31.2990
	Fennel	-221.68421*	39.59188	.000	-364.4378	-78.9306
	Anise	-298.17544*	39.59188	.000	-440.9291	-155.4218
	Celery	31.00000	39.59188	1.000	-111.7536	173.7536
	Visnaga	-344.22807*	39.59188	.000	-486.9817	-201.4744
Parsley Germany	Coriander	-114.38597	39.59188	.206	-257.1396	28.3677
	Coriander Germany	17.42105	39.59188	1.000	-125.3326	160.1747
	Dill	-59.24561	39.59188	.928	-201.9992	83.5080
	Dill Germany	6.54386	39.59188	1.000	-136.2098	149.2975
	Parsley	20.91228	39.59188	1.000	-121.8414	163.6659
	caraway	-236.31579*	39.59188	.000	-379.0694	-93.5622
	Greater ammi	-153.14036*	39.59188	.028	-295.8940	-10.3867
	Fennel	-200.77193*	39.59188	.002	-343.5256	-58.0183
	Anise	-277.26316*	39.59188	.000	-420.0168	-134.5095
	Celery	51.91228	39.59188	.969	-90.8414	194.6659

caraway	Visnaga	-323.31579*	39.59188	.000	-466.0694	-180.5622
	Coriander	121.92982	39.59188	.146	-20.8238	264.6835
	Coriander	253.73684*	39.59188	.000	110.9832	396.4905
	Germany					
	Dill	177.07018*	39.59188	.007	34.3165	319.8238
	Dill Germany	242.85965*	39.59188	.000	100.1060	385.6133
	Parsley	257.22807*	39.59188	.000	114.4744	399.9817
	Parsley	236.31579*	39.59188	.000	93.5622	379.0694
	Germany					
	Greater ammi	83.17544	39.59188	.627	-59.5782	225.9291
	Fennel	35.54386	39.59188	.998	-107.2098	178.2975
	Anise	-40.94737	39.59188	.995	-183.7010	101.8063
	Celery	288.22807*	39.59188	.000	145.4744	430.9817
	Visnaga	-87.00000	39.59188	.566	-229.7536	55.7536
Greater ammi	Coriander	38.75439	39.59188	.997	-103.9992	181.5080
	Coriander	170.56141*	39.59188	.010	27.8078	313.3150
	Germany					
	Dill	93.89474	39.59188	.459	-48.8589	236.6484
	Dill Germany	159.68421*	39.59188	.019	16.9306	302.4378
	Parsley	174.05263*	39.59188	.008	31.2990	316.8063
	Parsley	153.14036*	39.59188	.028	10.3867	295.8940
	Germany					
	caraway	-83.17544	39.59188	.627	-225.9291	59.5782
	Fennel	-47.63157	39.59188	.984	-190.3852	95.1221
	Anise	-124.12280	39.59188	.131	-266.8764	18.6308
	Celery	205.05264*	39.59188	.001	62.2990	347.8063
	Visnaga	-170.17544*	39.59188	.010	-312.9291	-27.4218
	Coriander	86.38596	39.59188	.576	-56.3677	229.1396
Fennel	Coriander	218.19298*	39.59188	.001	75.4393	360.9466
	Germany					
	Dill	141.52632	39.59188	.053	-1.2273	284.2800
	Dill Germany	207.31579*	39.59188	.001	64.5622	350.0694
	Parsley	221.68421*	39.59188	.000	78.9306	364.4378
	Parsley	200.77193*	39.59188	.002	58.0183	343.5256
	Germany					
	caraway	-35.54386	39.59188	.998	-178.2975	107.2098
	Greater ammi	47.63157	39.59188	.984	-95.1221	190.3852
	Anise	-76.49123	39.59188	.730	-219.2449	66.2624

Anise	Celery	252.68421*	39.59188	.000	109.9306	395.4378
	Visnaga	-122.54386	39.59188	.141	-265.2975	20.2098
	Coriander	162.87719*	39.59188	.016	20.1236	305.6308
	Coriander	294.68421*	39.59188	.000	151.9306	437.4378
	Germany					
	Dill	218.01755*	39.59188	.001	75.2639	360.7712
	Dill Germany	283.80702*	39.59188	.000	141.0534	426.5607
	Parsley	298.17544*	39.59188	.000	155.4218	440.9291
	Parsley	277.26316*	39.59188	.000	134.5095	420.0168
	Germany					
	caraway	40.94737	39.59188	.995	-101.8063	183.7010
	Greater ammi	124.12280	39.59188	.131	-18.6308	266.8764
	Fennel	76.49123	39.59188	.730	-66.2624	219.2449
	Celery	329.17544*	39.59188	.000	186.4218	471.9291
	Visnaga	-46.05263	39.59188	.987	-188.8063	96.7010
Celery	Coriander	-166.29825*	39.59188	.013	-309.0519	-23.5446
	Coriander	-34.49123	39.59188	.999	-177.2449	108.2624
	Germany					
	Dill	-111.15789	39.59188	.238	-253.9115	31.5957
	Dill Germany	-45.36842	39.59188	.989	-188.1221	97.3852
	Parsley	-31.00000	39.59188	1.000	-173.7536	111.7536
	Parsley	-51.91228	39.59188	.969	-194.6659	90.8414
	Germany					
	caraway	-288.22807*	39.59188	.000	-430.9817	-145.4744
	Greater ammi	-205.05264*	39.59188	.001	-347.8063	-62.2990
	Fennel	-252.68421*	39.59188	.000	-395.4378	-109.9306
	Anise	-329.17544*	39.59188	.000	-471.9291	-186.4218
	Visnaga	-375.22807*	39.59188	.000	-517.9817	-232.4744
	Coriander	208.92982*	39.59188	.001	66.1762	351.6835
	Coriander	340.73684*	39.59188	.000	197.9832	483.4905
	Germany					
Visnaga	Dill	264.07018*	39.59188	.000	121.3165	406.8238
	Dill Germany	329.85965*	39.59188	.000	187.1060	472.6133
	Parsley	344.22807*	39.59188	.000	201.4744	486.9817
	Parsley	323.31579*	39.59188	.000	180.5622	466.0694
	Germany					
	caraway	87.00000	39.59188	.566	-55.7536	229.7536
	Greater ammi	170.17544*	39.59188	.010	27.4218	312.9291

		Fennel	122.54386	39.59188	.141	-20.2098	265.2975
		Anise	46.05263	39.59188	.987	-96.7010	188.8063
		Celery	375.22807*	39.59188	.000	232.4744	517.9817
ABTS	Coriander	Coriander	-7.89107*	.76265	.000	-10.6409	-5.1412
		Germany					
		Dill	-4.44008*	.76265	.000	-7.1899	-1.6902
		Dill Germany	-5.08497*	.76265	.000	-7.8348	-2.3351
		Parsley	-8.10457*	.76265	.000	-10.8544	-5.3547
		Parsley	-5.47930*	.76265	.000	-8.2291	-2.7295
		Germany					
		caraway	-5.94771*	.76265	.000	-8.6976	-3.1979
		Greater ammi	-8.81481*	.76265	.000	-11.5647	-6.0650
		Fennel	-3.47276*	.76265	.006	-6.2226	-.7229
		Anise	-2.61438	.76265	.073	-5.3642	.1355
		Celery	-10.84096*	.76265	.000	-13.5908	-8.0911
		Visnaga	-5.17647*	.76265	.000	-7.9263	-2.4266
	Coriander Germany	Coriander	7.89107*	.76265	.000	5.1412	10.6409
		Dill	3.45098*	.76265	.006	.7011	6.2008
		Dill Germany	2.80610*	.76265	.043	.0563	5.5559
		Parsley	-.21351	.76265	1.000	-2.9633	2.5363
		Parsley	2.41176	.76265	.124	-.3381	5.1616
		Germany					
		caraway	1.94336	.76265	.359	-.8065	4.6932
		Greater ammi	-.92375	.76265	.983	-3.6736	1.8261
		Fennel	4.41830*	.76265	.000	1.6685	7.1681
		Anise	5.27669*	.76265	.000	2.5268	8.0265
		Celery	-2.94989*	.76265	.028	-5.6997	-.2001
		Visnaga	2.71460	.76265	.055	-.0352	5.4644
	Dill	Coriander	4.44008*	.76265	.000	1.6902	7.1899
		Coriander	-3.45098*	.76265	.006	-6.2008	-.7011
		Germany					
		Dill Germany	-.64488	.76265	.999	-3.3947	2.1050
		Parsley	-3.66449*	.76265	.003	-6.4143	-.9146
		Parsley	-1.03922	.76265	.960	-3.7891	1.7106
		Germany					
		caraway	-1.50763	.76265	.703	-4.2575	1.2422
		Greater ammi	-4.37473*	.76265	.000	-7.1246	-1.6249
		Fennel	.96732	.76265	.976	-1.7825	3.7172

	Anise	1.82570	.76265	.446	-.9241	4.5755
	Celery	-6.40088*	.76265	.000	-9.1507	-3.6510
	Visnaga	-.73639	.76265	.997	-3.4862	2.0135
Dill Germany	Coriander	5.08497*	.76265	.000	2.3351	7.8348
	Coriander Germany	-2.80610*	.76265	.043	-5.5559	-.0563
	Dill	.64488	.76265	.999	-2.1050	3.3947
	Parsley	-3.01961*	.76265	.023	-5.7694	-.2698
	Parsley Germany	-.39434	.76265	1.000	-3.1442	2.3555
	caraway	-.86274	.76265	.990	-3.6126	1.8871
	Greater ammi	-3.72985*	.76265	.003	-6.4797	-.9800
	Fennel	1.61220	.76265	.619	-1.1376	4.3620
	Anise	2.47059	.76265	.107	-.2793	5.2204
	Celery	-5.75599*	.76265	.000	-8.5058	-3.0062
	Visnaga	-.09150	.76265	1.000	-2.8413	2.6583
	Coriander	8.10457*	.76265	.000	5.3547	10.8544
	Coriander Germany	.21351	.76265	1.000	-2.5363	2.9633
	Dill	3.66449*	.76265	.003	.9146	6.4143
	Dill Germany	3.01961*	.76265	.023	.2698	5.7694
Parsley	Parsley	2.62527	.76265	.071	-.1246	5.3751
	Parsley Germany					
	caraway	2.15686	.76265	.229	-.5930	4.9067
	Greater ammi	-.71024	.76265	.998	-3.4601	2.0396
	Fennel	4.63181*	.76265	.000	1.8820	7.3817
	Anise	5.49019*	.76265	.000	2.7404	8.2400
	Celery	-2.73639	.76265	.052	-5.4862	.0135
	Visnaga	2.92810*	.76265	.030	.1783	5.6779
	Coriander	5.47930*	.76265	.000	2.7295	8.2291
	Coriander Germany	-2.41176	.76265	.124	-5.1616	.3381
	Dill	1.03922	.76265	.960	-1.7106	3.7891
	Dill Germany	.39434	.76265	1.000	-2.3555	3.1442
	Parsley	-2.62527	.76265	.071	-5.3751	.1246
	caraway	-.46841	.76265	1.000	-3.2182	2.2814
	Greater ammi	-3.33551*	.76265	.009	-6.0854	-.5857
Parsley Germany	Fennel	2.00654	.76265	.317	-.7433	4.7564

	Anise	2.86492*	.76265	.036	.1151	5.6148
	Celery	-5.36166*	.76265	.000	-8.1115	-2.6118
	Visnaga	.30283	.76265	1.000	-2.4470	3.0527
caraway	Coriander	5.94771*	.76265	.000	3.1979	8.6976
	Coriander Germany	-1.94336	.76265	.359	-4.6932	.8065
	Dill	1.50763	.76265	.703	-1.2422	4.2575
	Dill Germany	.86274	.76265	.990	-1.8871	3.6126
	Parsley	-2.15686	.76265	.229	-4.9067	.5930
	Parsley Germany	.46841	.76265	1.000	-2.2814	3.2182
	Greater ammi	-2.86710*	.76265	.036	-5.6169	-.1173
	Fennel	2.47495	.76265	.106	-.2749	5.2248
	Anise	3.33333*	.76265	.009	.5835	6.0832
	Celery	-4.89325*	.76265	.000	-7.6431	-2.1434
	Visnaga	.77124	.76265	.996	-1.9786	3.5211
	Coriander	8.81481*	.76265	.000	6.0650	11.5647
	Coriander Germany	.92375	.76265	.983	-1.8261	3.6736
	Dill	4.37473*	.76265	.000	1.6249	7.1246
Greater ammi	Dill Germany	3.72985*	.76265	.003	.9800	6.4797
	Parsley	.71024	.76265	.998	-2.0396	3.4601
	Parsley Germany	3.33551*	.76265	.009	.5857	6.0854
	caraway	2.86710*	.76265	.036	.1173	5.6169
	Fennel	5.34205*	.76265	.000	2.5922	8.0919
	Anise	6.20043*	.76265	.000	3.4506	8.9503
	Celery	-2.02615	.76265	.304	-4.7760	.7237
	Visnaga	3.63834*	.76265	.003	.8885	6.3882
	Coriander	3.47276*	.76265	.006	.7229	6.2226
	Coriander Germany	-4.41830*	.76265	.000	-7.1681	-1.6685
	Dill	-.96732	.76265	.976	-3.7172	1.7825
	Dill Germany	-1.61220	.76265	.619	-4.3620	1.1376
	Parsley	-4.63181*	.76265	.000	-7.3817	-1.8820
	Parsley Germany	-2.00654	.76265	.317	-4.7564	.7433
Fennel	caraway	-2.47495	.76265	.106	-5.2248	.2749

	Greater ammi	-5.34205*	.76265	.000	-8.0919	-2.5922
	Anise	.85838	.76265	.990	-1.8915	3.6082
	Celery	-7.36820*	.76265	.000	-10.1180	-4.6184
	Visnaga	-1.70371	.76265	.543	-4.4535	1.0461
Anise	Coriander	2.61438	.76265	.073	-.1355	5.3642
	Coriander	-5.27669*	.76265	.000	-8.0265	-2.5268
	Germany					
	Dill	-1.82570	.76265	.446	-4.5755	.9241
	Dill Germany	-2.47059	.76265	.107	-5.2204	.2793
	Parsley	-5.49019*	.76265	.000	-8.2400	-2.7404
	Parsley	-2.86492*	.76265	.036	-5.6148	-.1151
	Germany					
	caraway	-3.33333*	.76265	.009	-6.0832	-.5835
	Greater ammi	-6.20043*	.76265	.000	-8.9503	-3.4506
	Fennel	-.85838	.76265	.990	-3.6082	1.8915
	Celery	-8.22658*	.76265	.000	-10.9764	-5.4767
	Visnaga	-2.56209	.76265	.084	-5.3119	.1878
Celery	Coriander	10.84096*	.76265	.000	8.0911	13.5908
	Coriander	2.94989*	.76265	.028	.2001	5.6997
	Germany					
	Dill	6.40088*	.76265	.000	3.6510	9.1507
	Dill Germany	5.75599*	.76265	.000	3.0062	8.5058
	Parsley	2.73639	.76265	.052	-.0135	5.4862
	Parsley	5.36166*	.76265	.000	2.6118	8.1115
	Germany					
	caraway	4.89325*	.76265	.000	2.1434	7.6431
	Greater ammi	2.02615	.76265	.304	-.7237	4.7760
	Fennel	7.36820*	.76265	.000	4.6184	10.1180
	Anise	8.22658*	.76265	.000	5.4767	10.9764
	Visnaga	5.66449*	.76265	.000	2.9146	8.4143
Visnaga	Coriander	5.17647*	.76265	.000	2.4266	7.9263
	Coriander	-2.71460	.76265	.055	-5.4644	.0352
	Germany					
	Dill	.73639	.76265	.997	-2.0135	3.4862
	Dill Germany	.09150	.76265	1.000	-2.6583	2.8413
	Parsley	-2.92810*	.76265	.030	-5.6779	-.1783
	Parsley	-.30283	.76265	1.000	-3.0527	2.4470
	Germany					

		caraway	-1.77124	.76265	.996	-3.5211	1.9786
		Greater ammi	-3.63834*	.76265	.003	-6.3882	-.8885
		Fennel	1.70371	.76265	.543	-1.0461	4.4535
		Anise	2.56209	.76265	.084	-.1878	5.3119
		Celery	-5.66449*	.76265	.000	-8.4143	-2.9146
CUPRAC	Coriander	Coriander	27.08235*	5.00576	.001	9.0335	45.1313
		Germany					
		Dill	11.85098	5.00576	.461	-6.1979	29.8999
		Dill Germany	17.78823	5.00576	.056	-.2607	35.8371
		Parsley	18.91372*	5.00576	.034	.8648	36.9626
		Parsley	16.16471	5.00576	.109	-1.8842	34.2136
		Germany					
		caraway	-14.45490	5.00576	.207	-32.5038	3.5940
		Greater ammi	11.34117	5.00576	.523	-6.7077	29.3901
		Fennel	-20.17255*	5.00576	.019	-38.2215	-2.1236
		Anise	-18.93333*	5.00576	.034	-36.9822	-.8844
		Celery	9.12941	5.00576	.791	-8.9195	27.1783
		Visnaga	-.16471	5.00576	1.000	-18.2136	17.8842
	Coriander Germany	Coriander	-27.08235*	5.00576	.001	-45.1313	-9.0335
		Dill	-15.23137	5.00576	.156	-33.2803	2.8175
		Dill Germany	-9.29412	5.00576	.773	-27.3430	8.7548
		Parsley	-8.16863	5.00576	.881	-26.2175	9.8803
		Parsley	-10.91765	5.00576	.576	-28.9665	7.1313
		Germany					
		caraway	-41.53726*	5.00576	.000	-59.5862	-23.4884
		Greater ammi	-15.74118	5.00576	.129	-33.7901	2.3077
		Fennel	-47.25490*	5.00576	.000	-65.3038	-29.2060
		Anise	-46.01569*	5.00576	.000	-64.0646	-27.9668
	Dill	Celery	-17.95294	5.00576	.052	-36.0018	.0960
		Visnaga	-27.24706*	5.00576	.001	-45.2960	-9.1982
		Coriander	-11.85098	5.00576	.461	-29.8999	6.1979
		Coriander	15.23137	5.00576	.156	-2.8175	33.2803
		Germany					
		Dill Germany	5.93725	5.00576	.985	-12.1116	23.9862
		Parsley	7.06274	5.00576	.950	-10.9862	25.1116
		Parsley	4.31373	5.00576	.999	-13.7352	22.3626
		Germany					
		caraway	-26.30588*	5.00576	.001	-44.3548	-8.2570

	Greater ammi	-50981	5.00576	1.000	-18.5587	17.5391
	Fennel	-32.02353*	5.00576	.000	-50.0724	-13.9746
	Anise	-30.78431*	5.00576	.000	-48.8332	-12.7354
	Celery	-2.72157	5.00576	1.000	-20.7705	15.3273
	Visnaga	-12.01569	5.00576	.442	-30.0646	6.0332
Dill Germany	Coriander	-17.78823	5.00576	.056	-35.8371	.2607
	Coriander Germany	9.29412	5.00576	.773	-8.7548	27.3430
	Dill	-5.93725	5.00576	.985	-23.9862	12.1116
	Parsley	1.12549	5.00576	1.000	-16.9234	19.1744
	Parsley Germany	-1.62353	5.00576	1.000	-19.6724	16.4254
	caraway	-32.24314*	5.00576	.000	-50.2920	-14.1942
	Greater ammi	-6.44706	5.00576	.973	-24.4960	11.6018
	Fennel	-37.96078*	5.00576	.000	-56.0097	-19.9119
	Anise	-36.72157*	5.00576	.000	-54.7705	-18.6727
	Celery	-8.65882	5.00576	.838	-26.7077	9.3901
Parsley	Visnaga	-17.95294	5.00576	.052	-36.0018	.0960
	Coriander	-18.91372*	5.00576	.034	-36.9626	-.8648
	Coriander Germany	8.16863	5.00576	.881	-9.8803	26.2175
	Dill	-7.06274	5.00576	.950	-25.1116	10.9862
	Dill Germany	-1.12549	5.00576	1.000	-19.1744	16.9234
	Parsley	-2.74902	5.00576	1.000	-20.7979	15.2999
	Parsley Germany					
	caraway	-33.36863*	5.00576	.000	-51.4175	-15.3197
	Greater ammi	-7.57255	5.00576	.923	-25.6215	10.4764
	Fennel	-39.08627*	5.00576	.000	-57.1352	-21.0374
Parsley Germany	Anise	-37.84706*	5.00576	.000	-55.8960	-19.7982
	Celery	-9.78431	5.00576	.717	-27.8332	8.2646
	Visnaga	-19.07843*	5.00576	.032	-37.1273	-1.0295
	Coriander	-16.16471	5.00576	.109	-34.2136	1.8842
	Coriander Germany	10.91765	5.00576	.576	-7.1313	28.9665
	Dill	-4.31373	5.00576	.999	-22.3626	13.7352
	Dill Germany	1.62353	5.00576	1.000	-16.4254	19.6724
	Parsley	2.74902	5.00576	1.000	-15.2999	20.7979
	caraway	-30.61961*	5.00576	.000	-48.6685	-12.5707

	Greater ammi	-4.82353	5.00576	.997	-22.8724	13.2254
	Fennel	-36.33726*	5.00576	.000	-54.3862	-18.2884
	Anise	-35.09804*	5.00576	.000	-53.1469	-17.0491
	Celery	-7.03530	5.00576	.951	-25.0842	11.0136
	Visnaga	-16.32941	5.00576	.102	-34.3783	1.7195
caraway	Coriander	14.45490	5.00576	.207	-3.5940	32.5038
	Coriander	41.53726*	5.00576	.000	23.4884	59.5862
	Germany					
	Dill	26.30588*	5.00576	.001	8.2570	44.3548
	Dill Germany	32.24314*	5.00576	.000	14.1942	50.2920
	Parsley	33.36863*	5.00576	.000	15.3197	51.4175
	Parsley	30.61961*	5.00576	.000	12.5707	48.6685
	Germany					
	Greater ammi	25.79608*	5.00576	.001	7.7472	43.8450
	Fennel	-5.71765	5.00576	.989	-23.7665	12.3313
	Anise	-4.47843	5.00576	.999	-22.5273	13.5705
	Celery	23.58431*	5.00576	.004	5.5354	41.6332
	Visnaga	14.29020	5.00576	.219	-3.7587	32.3391
Greater ammi	Coriander	-11.34117	5.00576	.523	-29.3901	6.7077
	Coriander	15.74118	5.00576	.129	-2.3077	33.7901
	Germany					
	Dill	.50981	5.00576	1.000	-17.5391	18.5587
	Dill Germany	6.44706	5.00576	.973	-11.6018	24.4960
	Parsley	7.57255	5.00576	.923	-10.4764	25.6215
	Parsley	4.82353	5.00576	.997	-13.2254	22.8724
	Germany					
	caraway	-25.79608*	5.00576	.001	-43.8450	-7.7472
	Fennel	-31.51372*	5.00576	.000	-49.5626	-13.4648
	Anise	-30.27451*	5.00576	.000	-48.3234	-12.2256
	Celery	-2.21176	5.00576	1.000	-20.2607	15.8371
	Visnaga	-11.50588	5.00576	.503	-29.5548	6.5430
Fennel	Coriander	20.17255*	5.00576	.019	2.1236	38.2215
	Coriander	47.25490*	5.00576	.000	29.2060	65.3038
	Germany					
	Dill	32.02353*	5.00576	.000	13.9746	50.0724
	Dill Germany	37.96078*	5.00576	.000	19.9119	56.0097
	Parsley	39.08627*	5.00576	.000	21.0374	57.1352

	Parsley	36.33726*	5.00576	.000	18.2884	54.3862
	Germany					
	caraway	5.71765	5.00576	.989	-12.3313	23.7665
	Greater ammi	31.51372*	5.00576	.000	13.4648	49.5626
	Anise	1.23922	5.00576	1.000	-16.8097	19.2881
	Celery	29.30196*	5.00576	.000	11.2531	47.3509
	Visnaga	20.00784*	5.00576	.021	1.9589	38.0567
Anise	Coriander	18.93333*	5.00576	.034	.8844	36.9822
	Coriander	46.01569*	5.00576	.000	27.9668	64.0646
	Germany					
	Dill	30.78431*	5.00576	.000	12.7354	48.8332
	Dill Germany	36.72157*	5.00576	.000	18.6727	54.7705
	Parsley	37.84706*	5.00576	.000	19.7982	55.8960
	Parsley	35.09804*	5.00576	.000	17.0491	53.1469
	Germany					
	caraway	4.47843	5.00576	.999	-13.5705	22.5273
	Greater ammi	30.27451*	5.00576	.000	12.2256	48.3234
	Fennel	-1.23922	5.00576	1.000	-19.2881	16.8097
	Celery	28.06274*	5.00576	.000	10.0138	46.1116
	Visnaga	18.76863*	5.00576	.037	.7197	36.8175
Celery	Coriander	-9.12941	5.00576	.791	-27.1783	8.9195
	Coriander	17.95294	5.00576	.052	-.0960	36.0018
	Germany					
	Dill	2.72157	5.00576	1.000	-15.3273	20.7705
	Dill Germany	8.65882	5.00576	.838	-9.3901	26.7077
	Parsley	9.78431	5.00576	.717	-8.2646	27.8332
	Parsley	7.03530	5.00576	.951	-11.0136	25.0842
	Germany					
	caraway	-23.58431*	5.00576	.004	-41.6332	-5.5354
	Greater ammi	2.21176	5.00576	1.000	-15.8371	20.2607
	Fennel	-29.30196*	5.00576	.000	-47.3509	-11.2531
	Anise	-28.06274*	5.00576	.000	-46.1116	-10.0138
	Visnaga	-9.29412	5.00576	.773	-27.3430	8.7548
Visnaga	Coriander	.16471	5.00576	1.000	-17.8842	18.2136
	Coriander	27.24706*	5.00576	.001	9.1982	45.2960
	Germany					
	Dill	12.01569	5.00576	.442	-6.0332	30.0646
	Dill Germany	17.95294	5.00576	.052	-.0960	36.0018

Parsley	19.07843*	5.00576	.032	1.0295	37.1273
Parsley	16.32941	5.00576	.102	-1.7195	34.3783
Germany					
caraway	-14.29020	5.00576	.219	-32.3391	3.7587
Greater ammi	11.50588	5.00576	.503	-6.5430	29.5548
Fennel	-20.00784*	5.00576	.021	-38.0567	-1.9589
Anise	-18.76863*	5.00576	.037	-36.8175	-.7197
Celery	9.29412	5.00576	.773	-8.7548	27.3430

*, The mean difference is significant at the 0.05 level.