ANTI-AGING POTENTIAL OF ILLYRIAN IRIS RHIZOME EXTRACT: PRELIMINARY CHEMICAL AND BIOLOGICAL PROFILING AND CHEMOSENSOR ANALYSIS VIA GC/MS AND UHPLC-DAD-MS/MS COMBINED WITH HPTLC BIOAUTOGRAPHY

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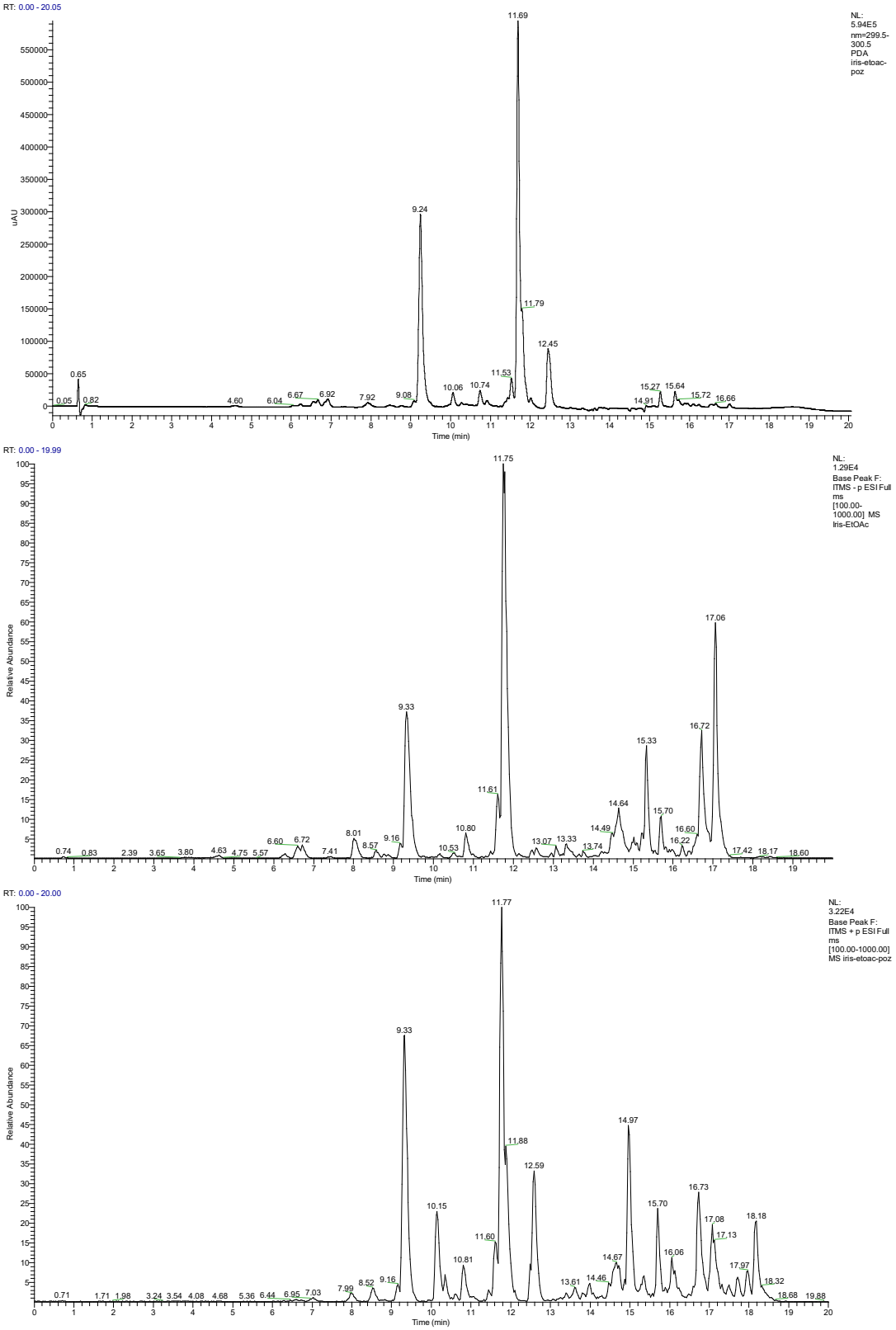


Figure S1. UHPLC chromatograms of **extract 1** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

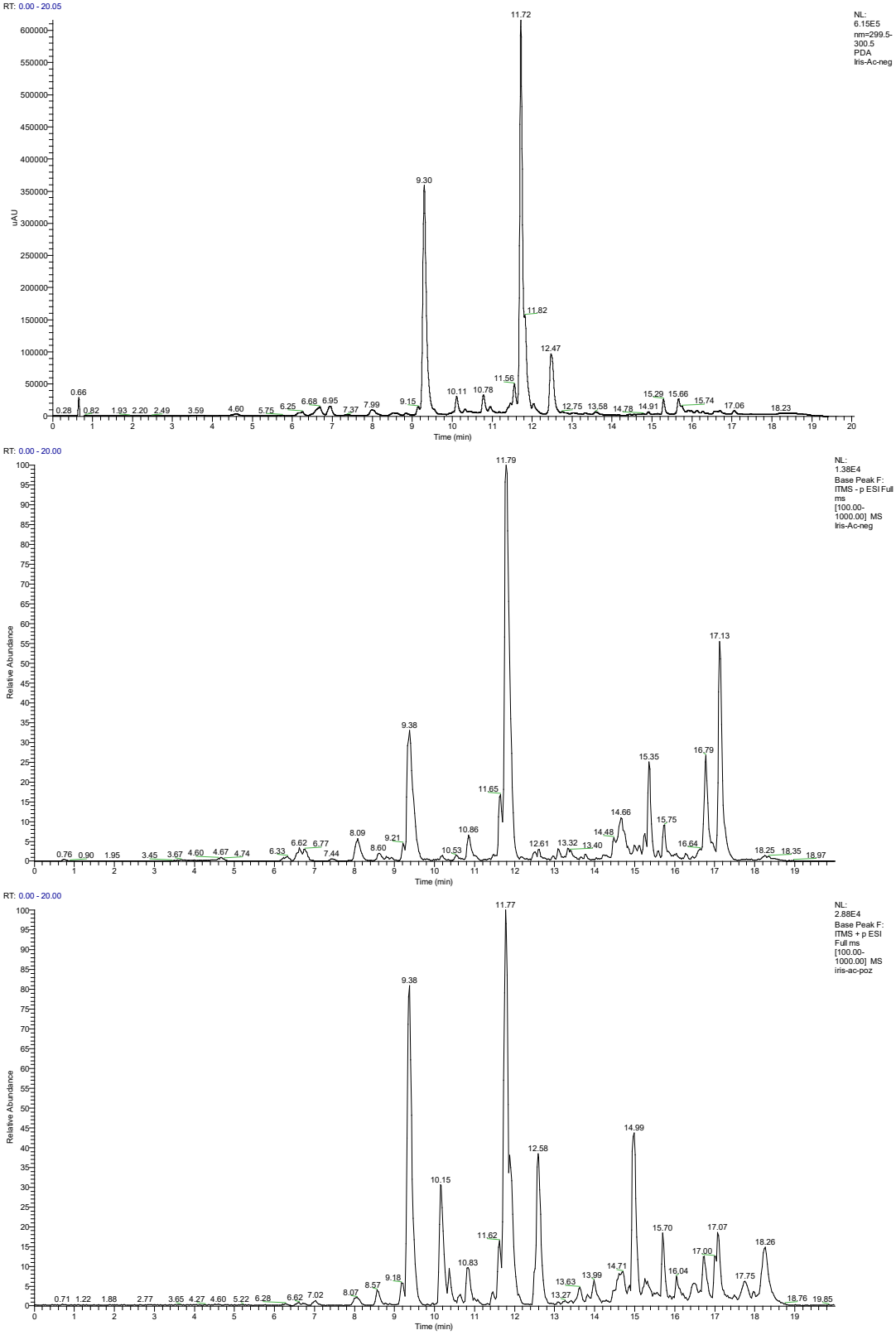


Figure S2. UHPLC chromatograms of **extract 2** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

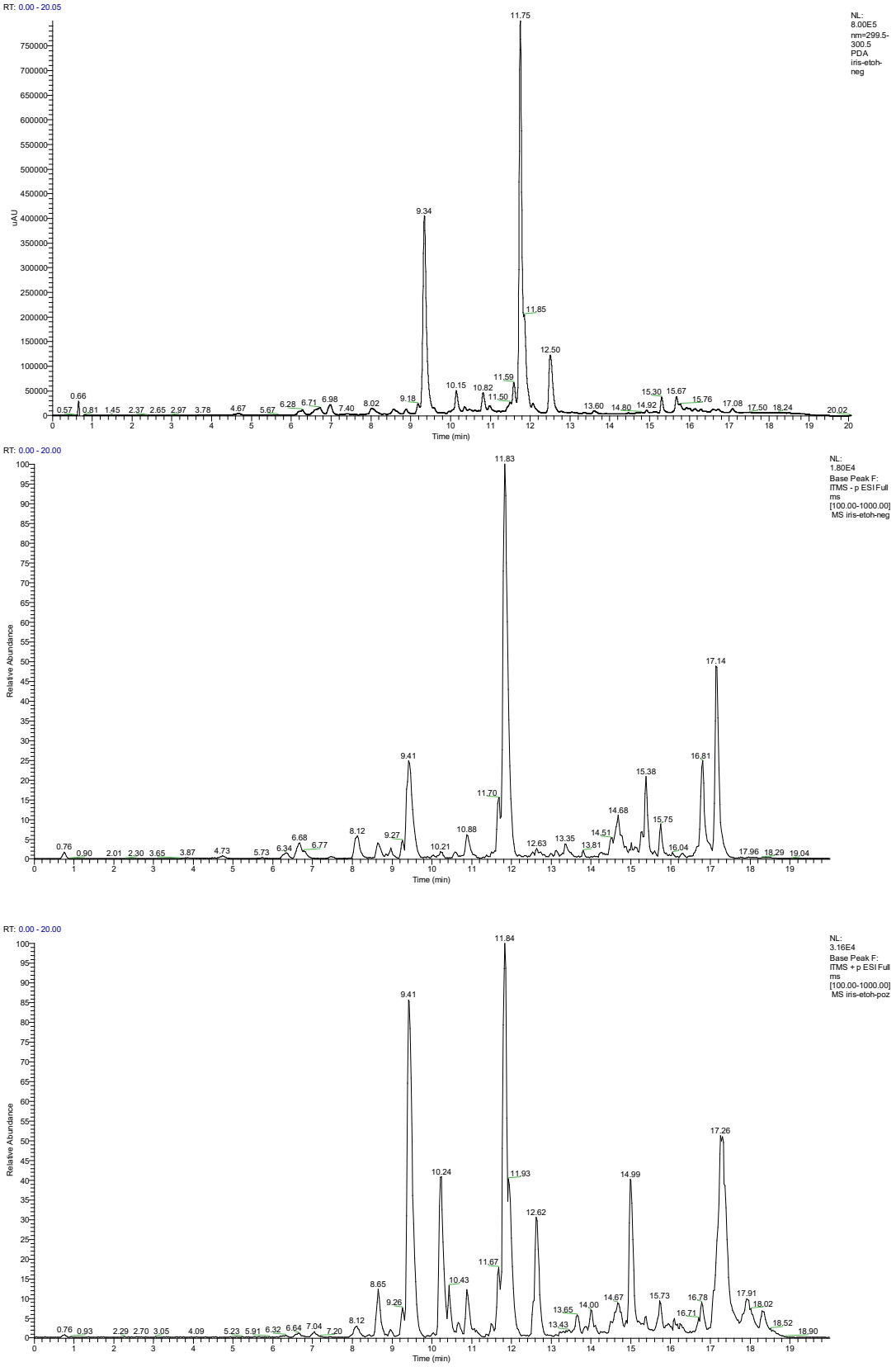


Figure S3. UHPLC chromatograms of **extract 3** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

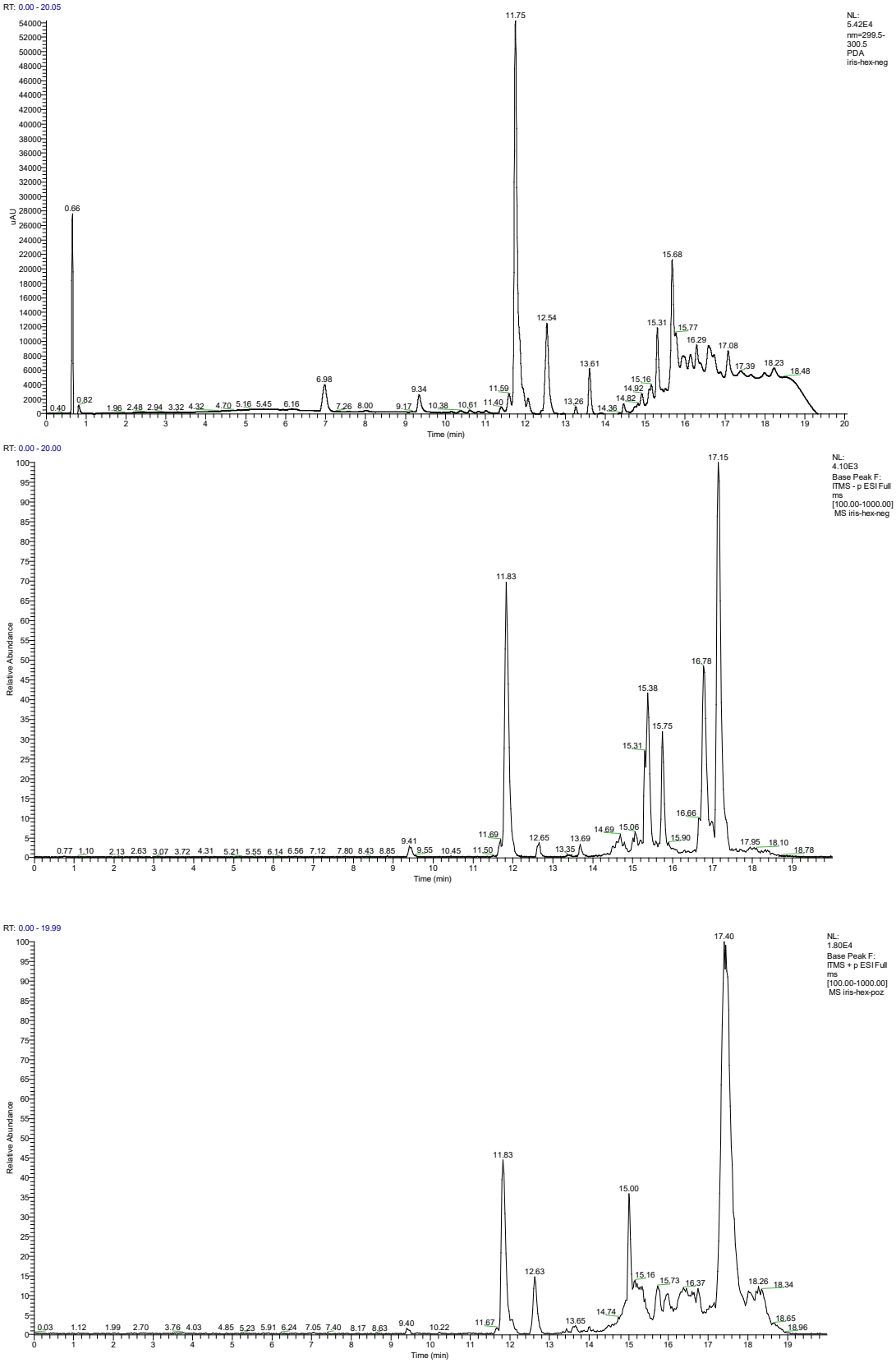


Figure S4. UHPLC chromatograms of **extract 4** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

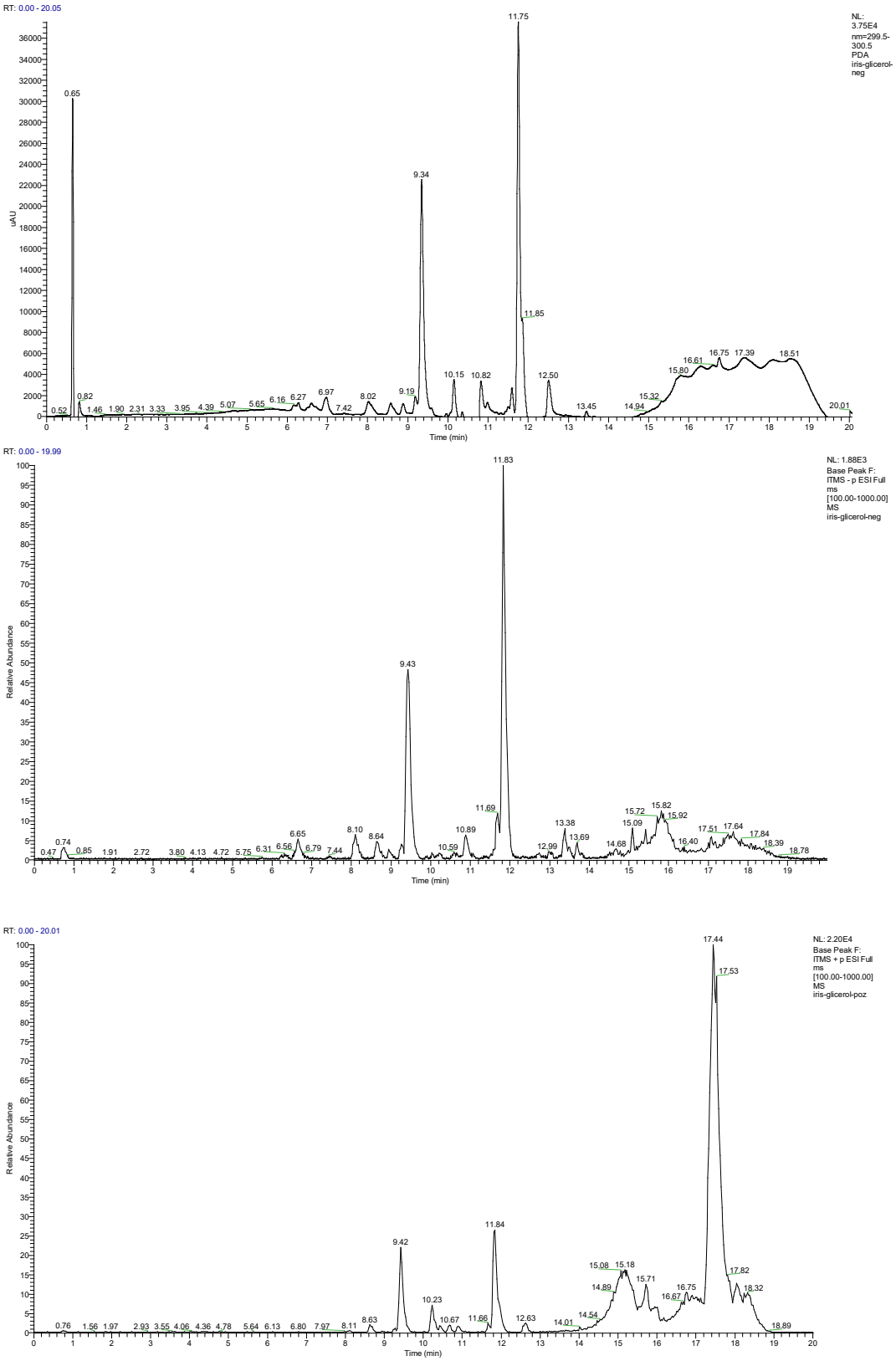


Figure S5. UHPLC chromatograms of **extract 5** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

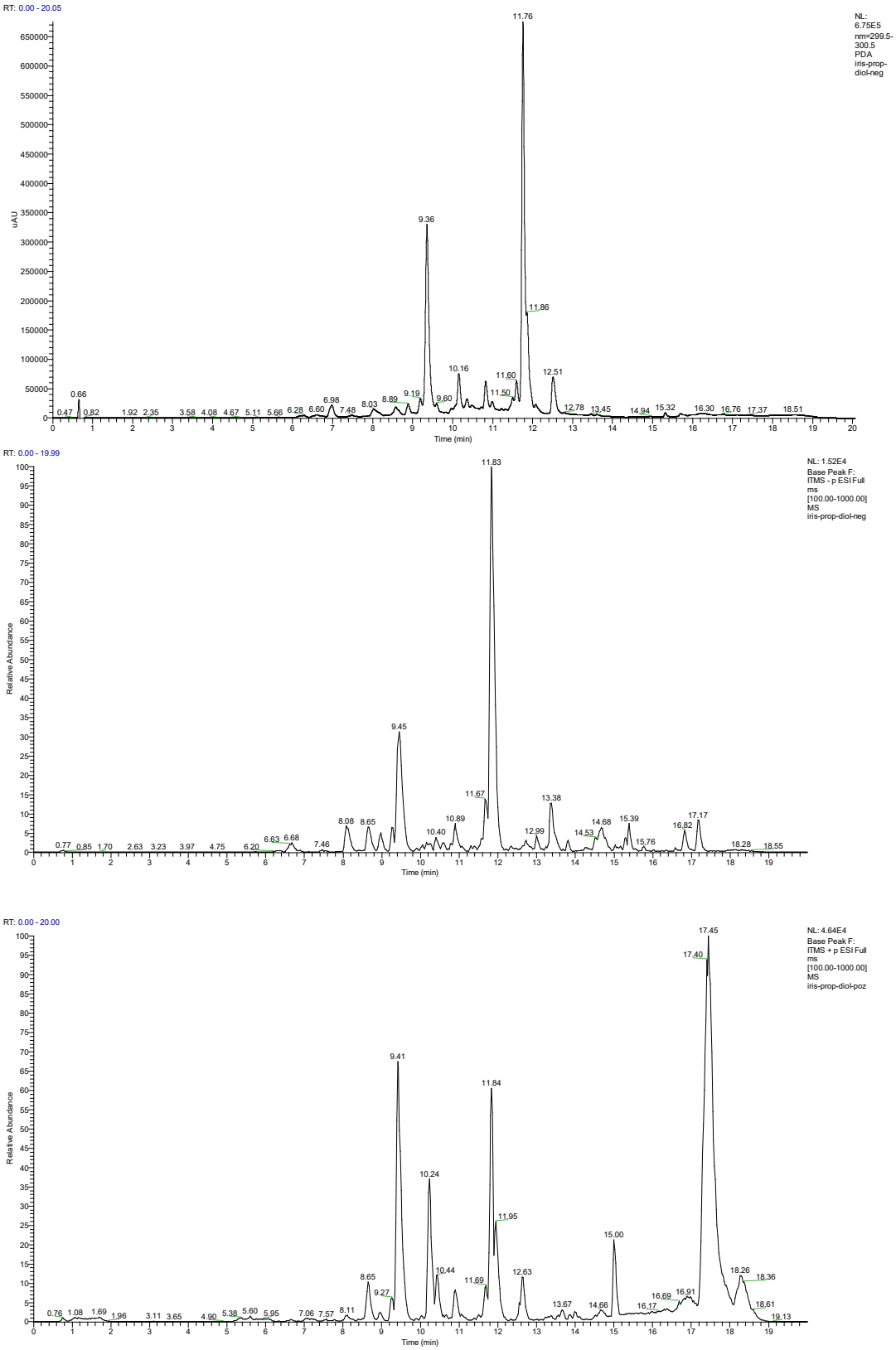


Figure S6. UHPLC chromatograms of **extract 6** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

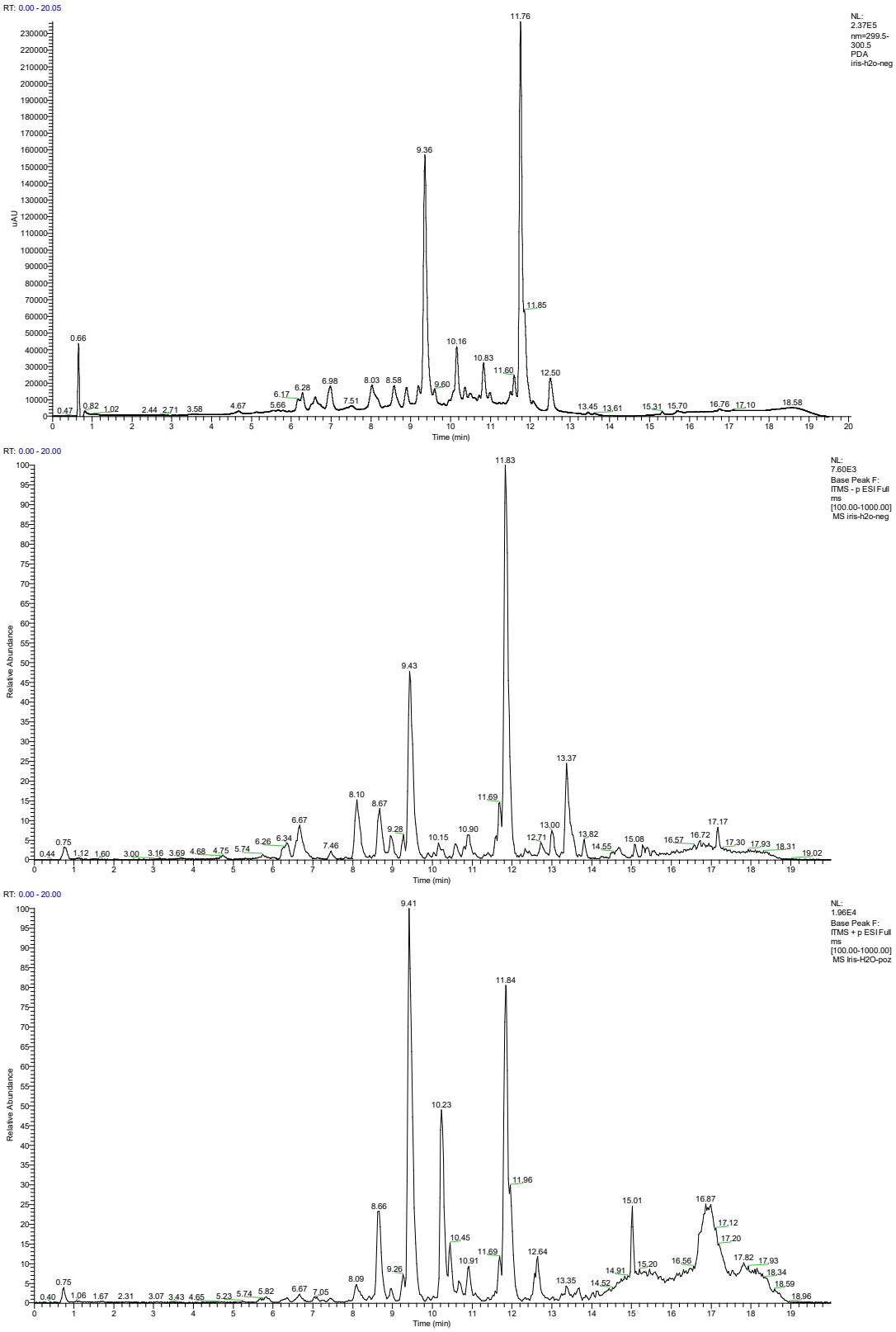


Figure S7. UHPLC chromatograms of **extract 7** obtained (A) from DAD signal set at reference wavelength 300 nm, (B) negative ESI-MS signal and (C) positive ESI-MS signal, both ESI-MS signals arranged by the base peak detection in full MS range m/z 100-1000.

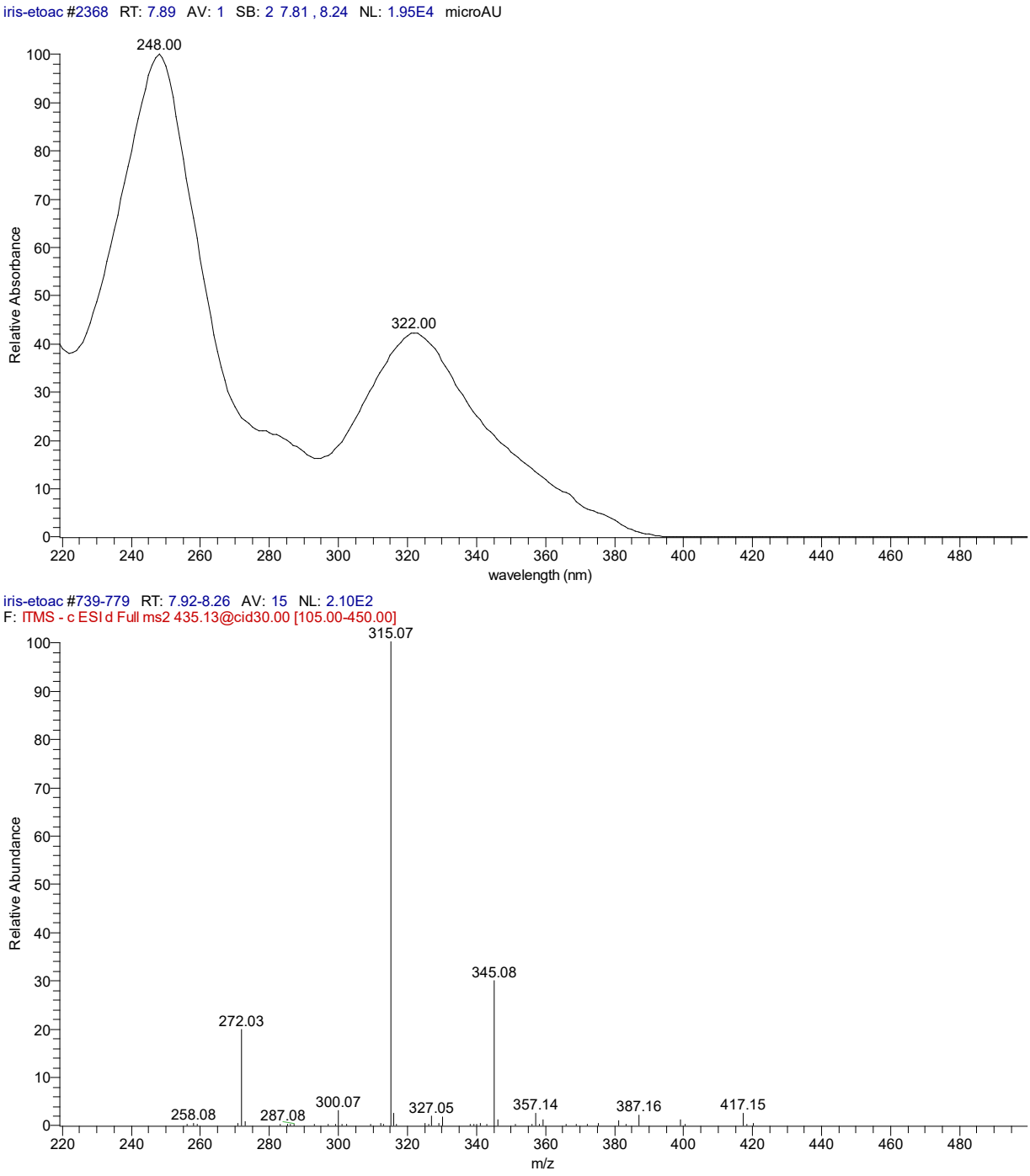


Figure S8. Absorption UV-Vis (A) and -ESI-MS/MS (B) spectra of compound No. 11 assigned as irisxanthone.

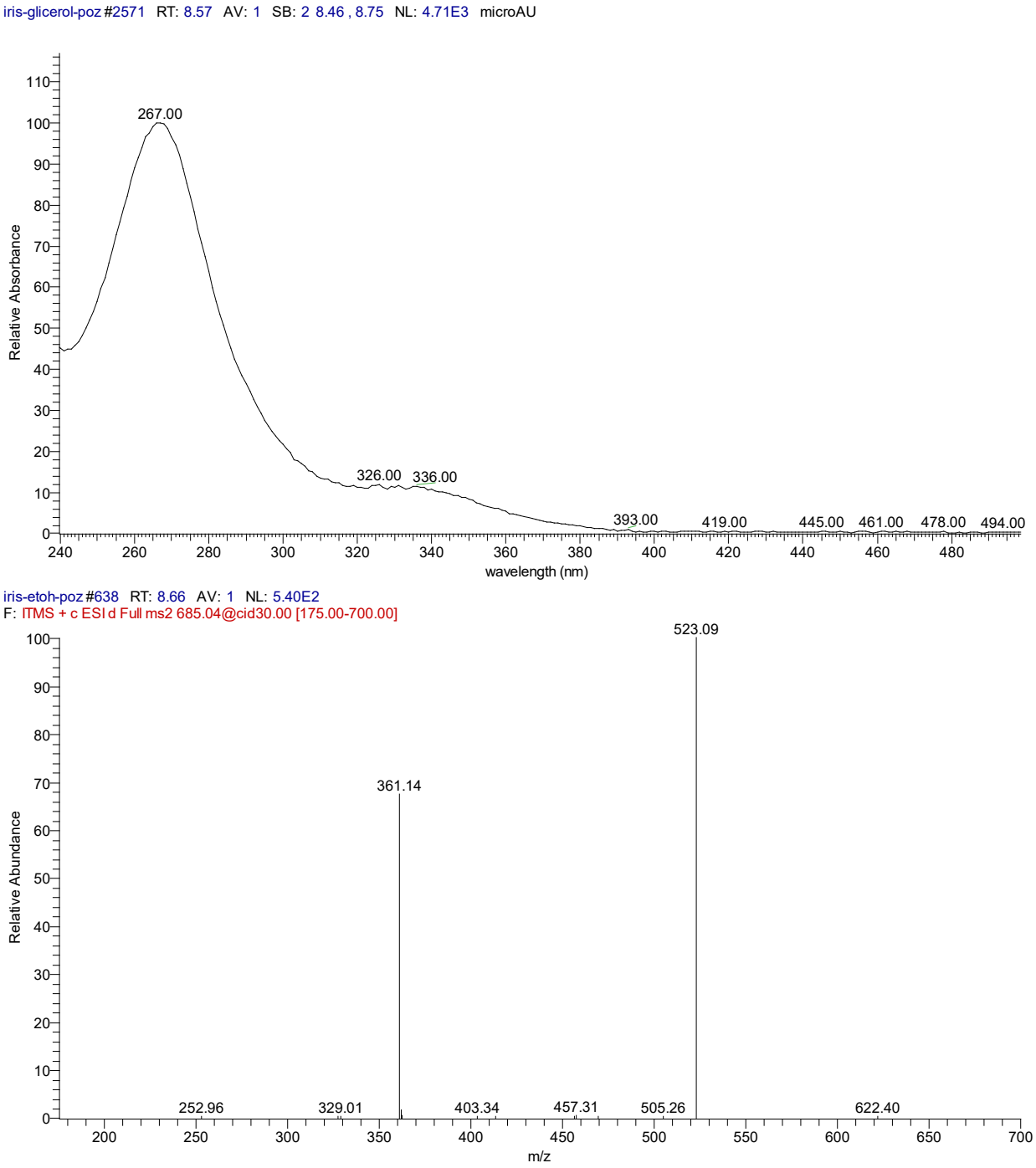


Figure S9 Absorption UV-Vis (A) and +ESI-MS/MS (B) spectra of compound No. 12 assigned as irigenin-*O*-dihexoside.

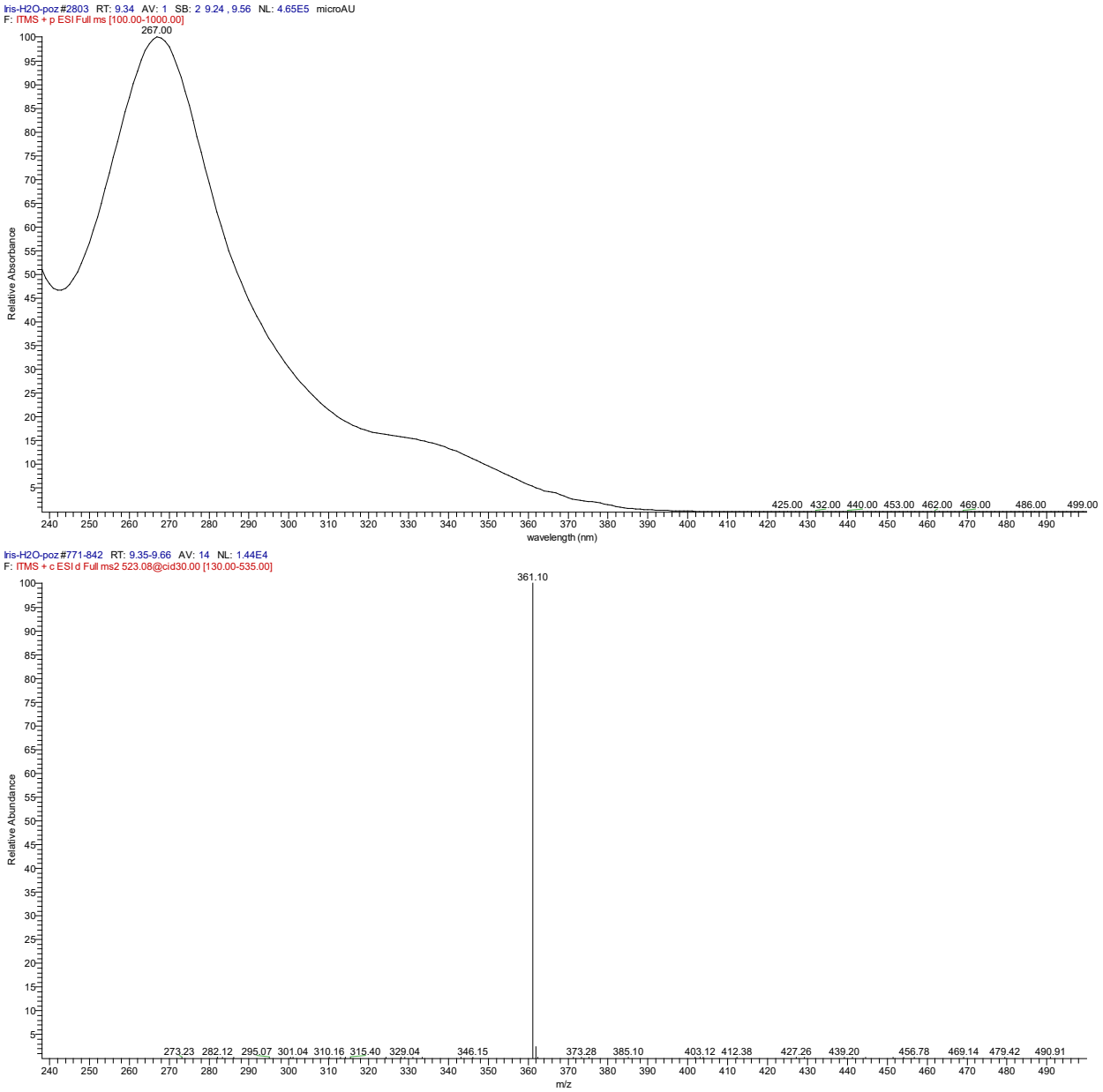


Figure S10. Absorption UV-Vis (A) and +ESI-MS/MS (B) spectra of compound No. 15 assigned as iridin.

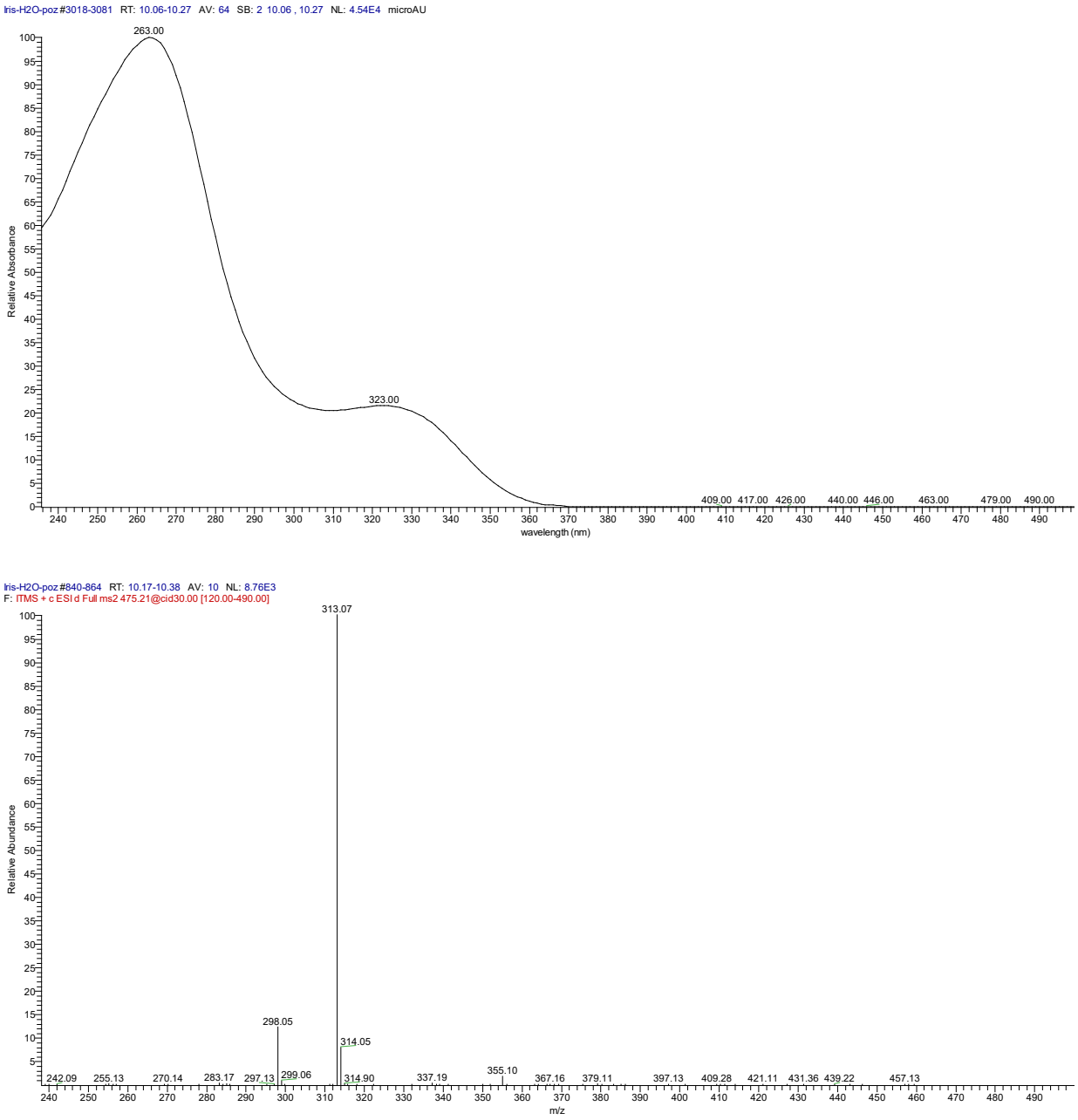


Figure S11. Absorption UV-Vis (A) and +ESI-MS/MS (B) spectra of compound No. 16 assigned as irisolone hexoside.

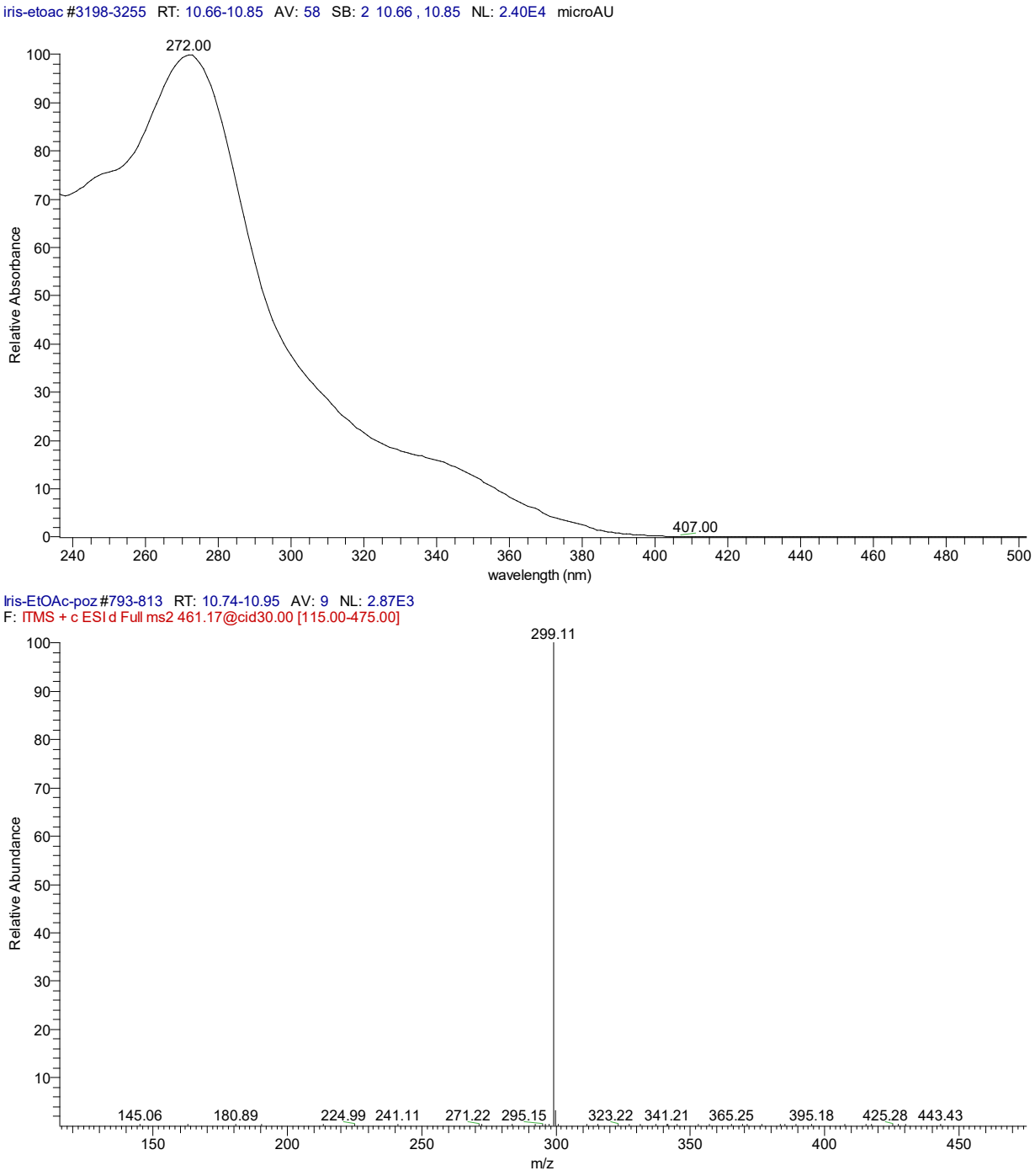


Figure S12. Absorption UV-Vis (A) and +ESI-MS/MS (B) spectra of compound No. 19 assigned as irilone-hexoside, isomer 1.

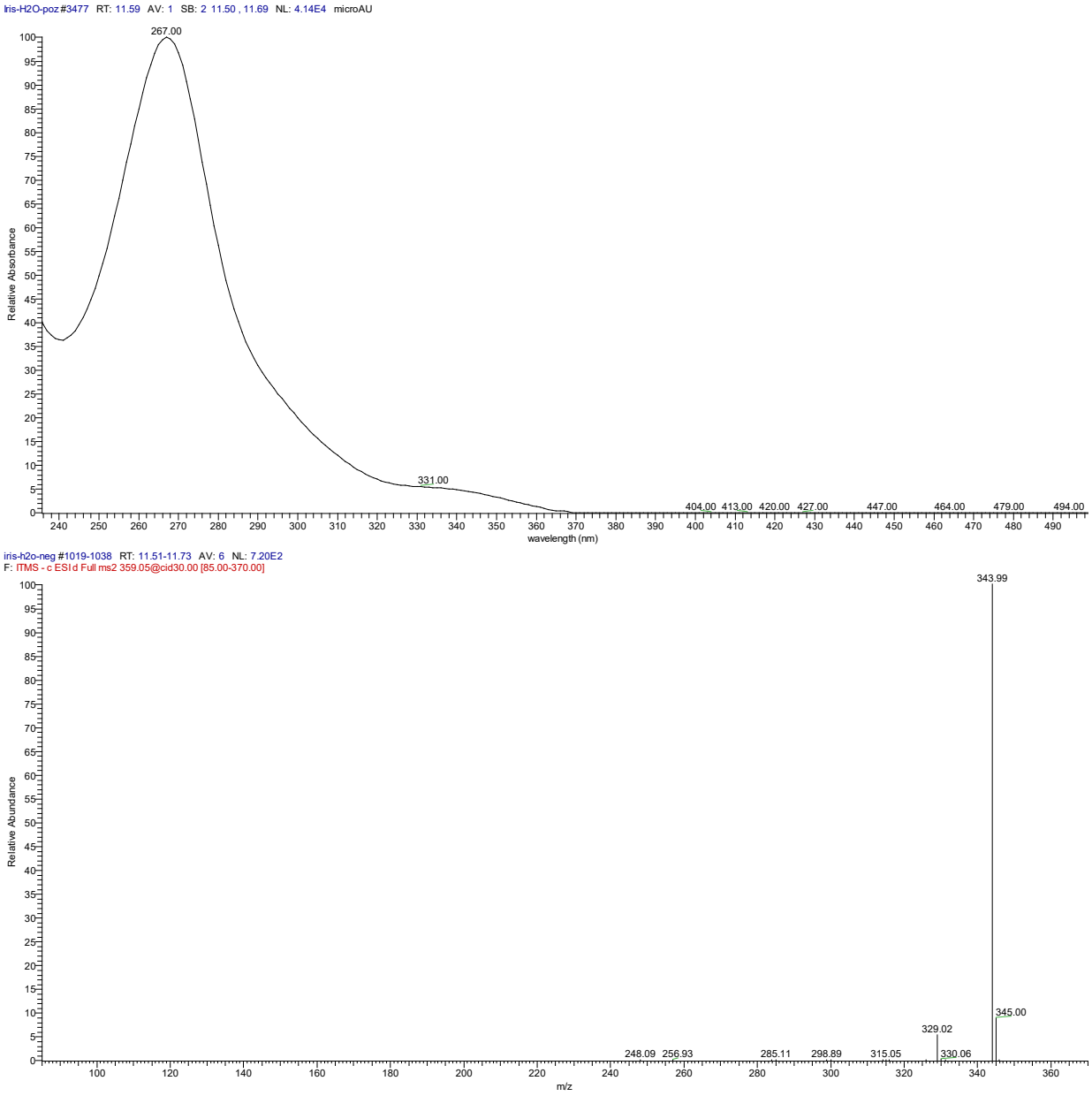


Figure S13. Absorption UV-Vis (A) and -ESI-MS/MS (B) spectra of compound No. 22 assigned as irigenin, isomer 1.

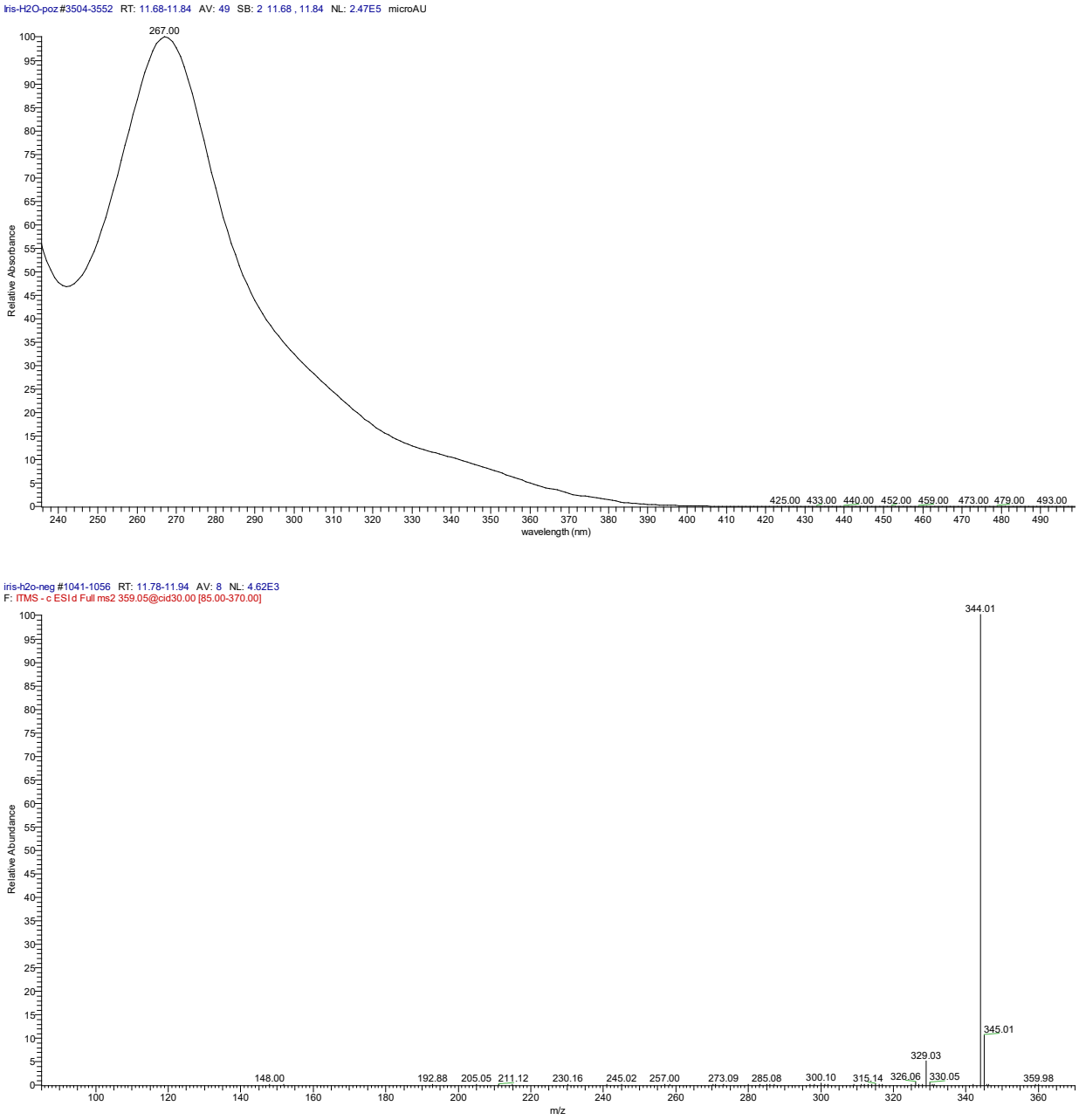


Figure S14. Absorption UV-Vis (A) and -ESI-MS/MS (B) spectra of compound No. 23 assigned as irigenin, isomer 2.

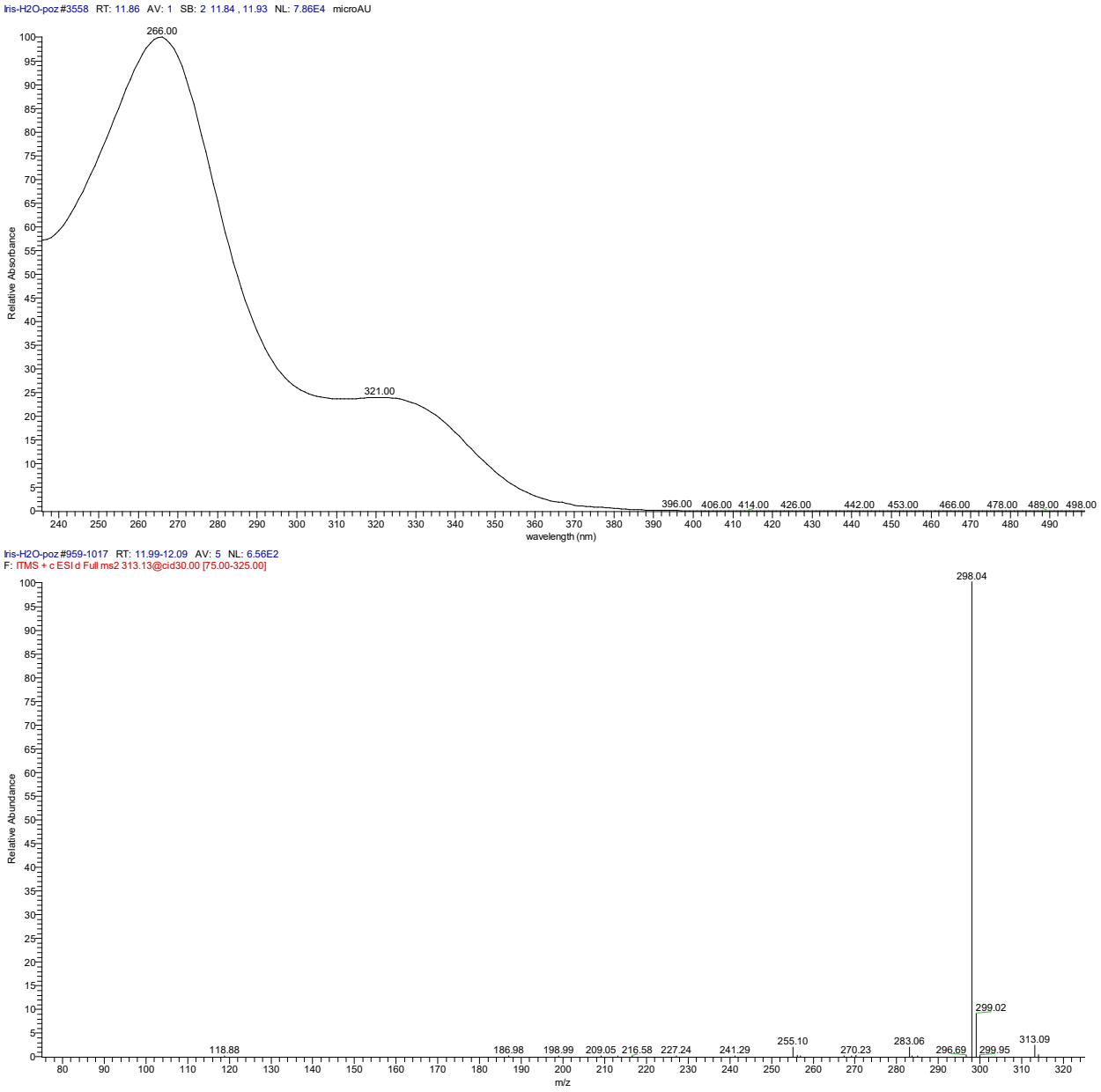


Figure S15. Absorption UV-Vis (A) and +ESI-MS/MS (B) spectra of compound No. 24 assigned as irisolone.

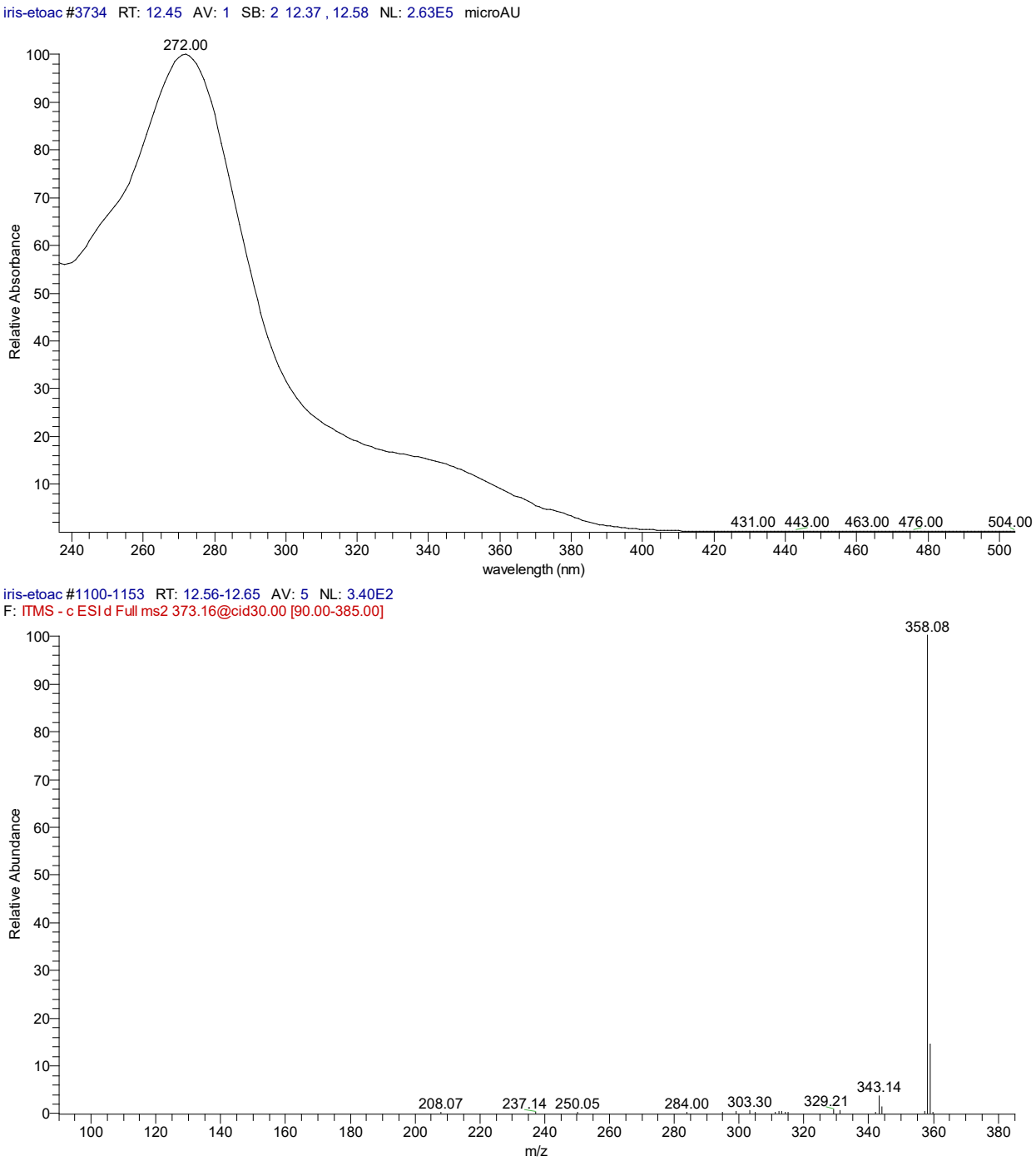


Figure S16. Absorption UV-Vis (A) and -ESI-MS/MS (B) spectra of compound No. 25 assigned as irisjaponin B.

Table S1. Chromatography data from UHPLC-DAD-MS/MS analysis.

Peak No	t_{ret}, min	t_0, min	Retention / capacity factor, *k*	Ion peak used for the analysis, m/z	Peak area values for compounds detected in the extracts						
					EA	AC	ET	HEX	GLY	PD	W
1	0.78	0.74	0.05	*195	-	-	-	-	-	-	1924
2	3.80	0.74	4.14	*407	908	1104	1147	-	-	-	660
3	4.60	0.74	5.22	*407	1309	1860	2035	-	-	-	1167
4	5.55	0.74	6.50	*583	155	126	706	-	120	236	1275
5	6.30	0.74	7.51	*421	1074	1557	2491	-	250	-	3154
6	6.60	0.74	7.92	*421	2999	3905	6003	48	864	3825	6453
7	6.75	0.74	8.12	*245	3545	3811	3137	678	133	550	-
8	7.00	0.74	8.46	***167	4609	3866	5273	966	-	5191	3401
9	7.45	0.74	9.07	*421	492	662	764	-	59	233	387
10	7.45	0.74	9.07	*461	-	-	-	-	148	723	1258
11	8.10	0.74	9.95	*435	5918	7875	10099	-	1021	9829	10216
12	8.60	0.74	10.62	**729	2341	2573	6471	-	823	8422	9022
13	9.20	0.74	11.43	**537	3214	3389	5129	-	588	6150	2886
14	9.35	0.74	11.64	*259	47226	47222	41141	868	3186	21767	11750
15	9.43	0.74	11.74	**567	24940	30271	40332	547	7541	47905	31033
16	10.21	0.74	12.80	**519	989	1472	2317	30	213	2479	1447
17	10.45	0.74	13.12	***505	14119	16817	26512	-	2755	39457	20004
18	10.80	0.74	13.59	***685	1006	899	2257	-	-	3569	3009
19	10.84	0.74	13.65	**505	5883	6495	8678	101	832	7678	3513
20	11.10	0.74	14.00	***329	5465	4877	7186	-	632	8083	4143
21	11.25	0.74	14.20	*583	302	344	375	-	28	227	95
22	11.62	0.74	14.70	*359	12236	8363	12998	-	-	-	4667
23	11.80	0.74	14.95	*359	108752	117991	146994	17579	11403	107618	51210
24	11.90	0.74	15.08	***313	97341	86234	96642	9373	12320	87070	42024
25	12.60	0.74	16.03	*373	2043	2325	2583	843	-	1582	419
26	12.64	0.74	16.08	***387	80735	87335	71587	18805	3613	40434	15932
27	12.85	0.74	16.36	***487	828	-	-	-	-	-	-
28	13.00	0.74	16.57	*327	1157	1113	1604	-	271	4295	3849
29	13.40	0.74	17.11	*329	4593	4068	5751	-	1034	15659	13613
30	13.63	0.74	17.42	***513	6688	7768	10516	2841	1088	11043	5953
31	13.80	0.74	17.65	*329	1278	1439	1604	-	1034	15659	1452
32	13.84	0.74	17.70	***513	2648	2912	3537	-	-	4657	1910
33	14.00	0.74	17.92	***513	4001	4947	6622	1744	-	4982	2164
34	14.00	0.74	17.92	***274	9616	12019	12371	-	1547	-	2774
35	13.65	0.74	17.45	*565	21145	23962	27488	3510	845	15635	3785
36	14.65	0.74	18.80	***485	35884	29734	21148	-	-	20306	-
37	14.90	0.74	19.14	***679	-	-	12797	10070	18200	-	-
38	15.00	0.74	19.27	***497	22970	19264	15872	13920	1186	19956	13909
39	15.35	0.74	19.74	*531	19034	18948	18861	9191	-	5843	-

40	15.75	0.74	20.28	*573	6562	6144	7339	-	-	1335	-
41	16.70	0.74	21.57	*531	27700	22693	26074	13907	-	6126	2214
42	17.20	0.74	22.24	**531	38365	39535	47464	25272	637	8996	3624
43	17.40	0.74	22.51	***668	-	-	249671	319477	417726	844109	-
44	18.20	0.74	23.59	***456	67493	-	32939	-	-	2648	2782

* - molecular ion peak in negative mode full ESI-MS spectrum, $[M-H]^-$

** - adduct ion of molecular ion with formic acid in negative mode full ESI-MS spectrum, $[M-H+HCOOH]^-$

*** - molecular ion peak in positive mode full ESI-MS spectrum, $[M+H]^+$

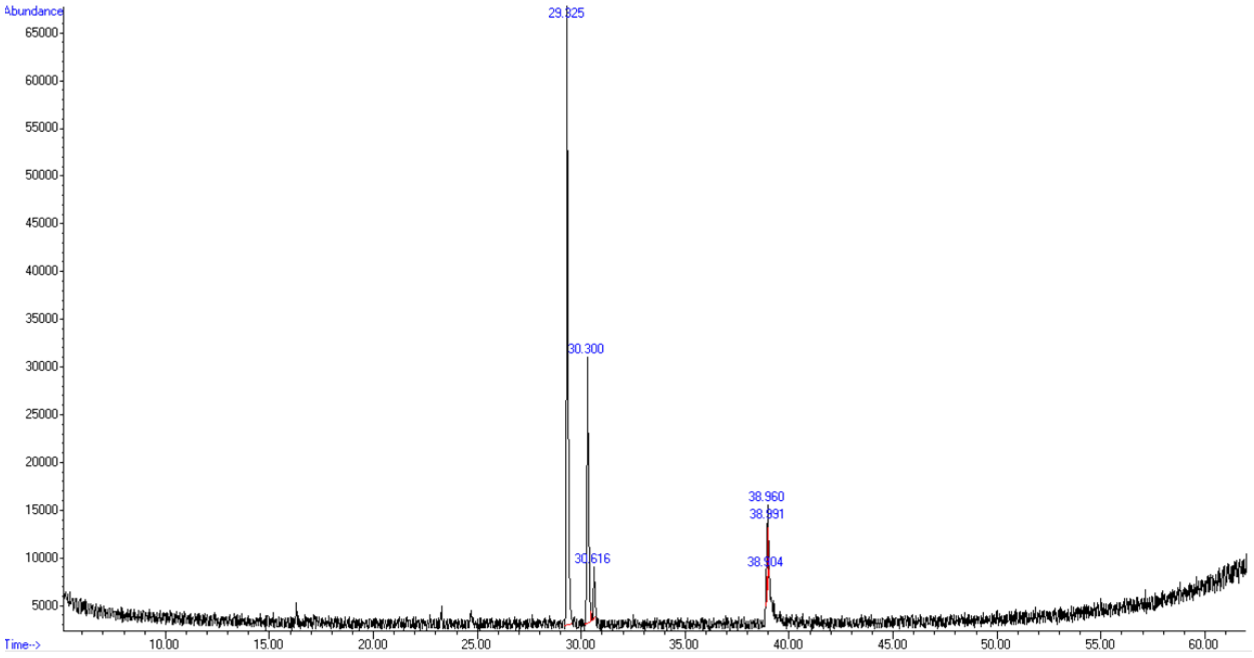


Figure S17. TIC chromatogram of essential oil from Illyrian Iris rhizome.