Galeon: A Biologically Active Molecule with In Silico Metabolite Prediction, In Vitro Metabolic Profiling in Rat Liver Microsomes, and In Silico Binding Mechanisms with CYP450 Isoforms

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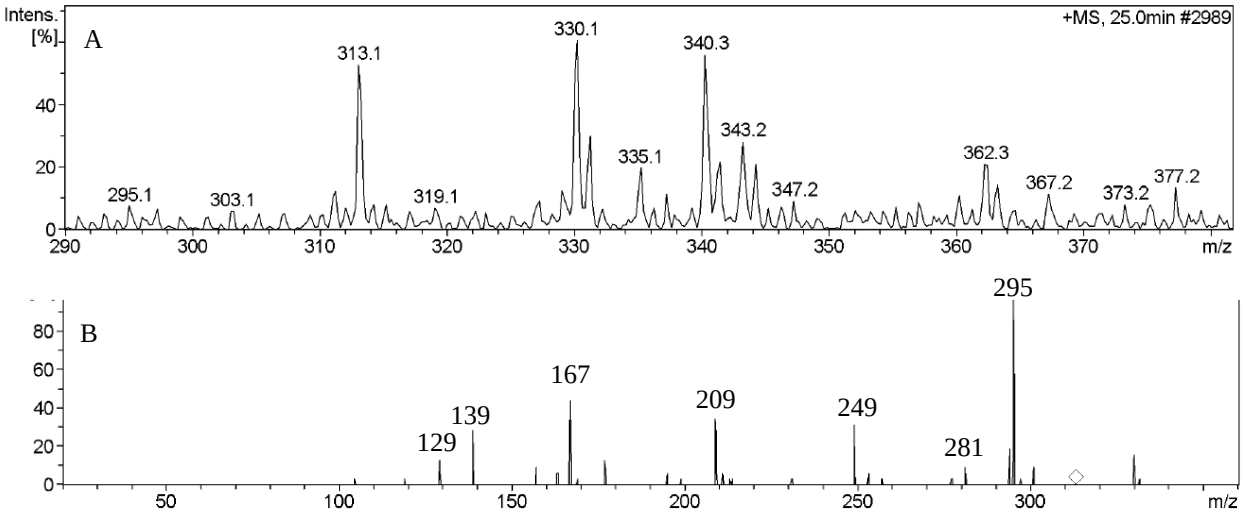

Figure-**S1**: MS/MS^n Spectra of **M1**: A) Mass spectrum of **M1** (*m/z* = 313; RT = 25 min.); B) MS^2 spectrum of **M1** (at *m/z* = 313)

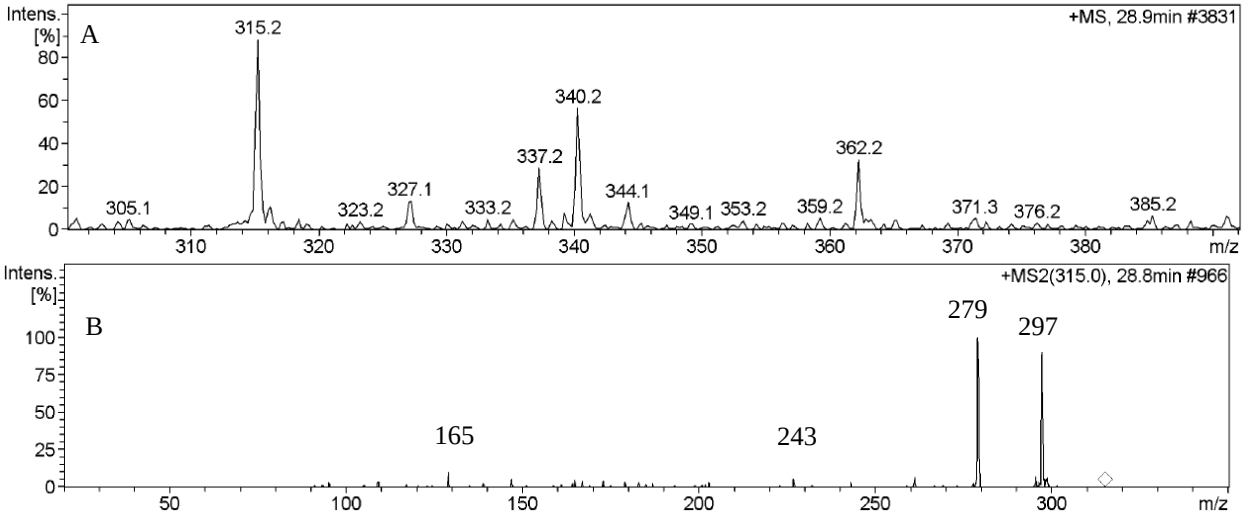

Figure-**S2**: MS/MS^n Spectra of **M2**: A) Mass spectrum of **M2** (*m/z* = 315; RT = 28.9 min.); B) MS^2 spectrum of **M2** (at *m/z* = 315)

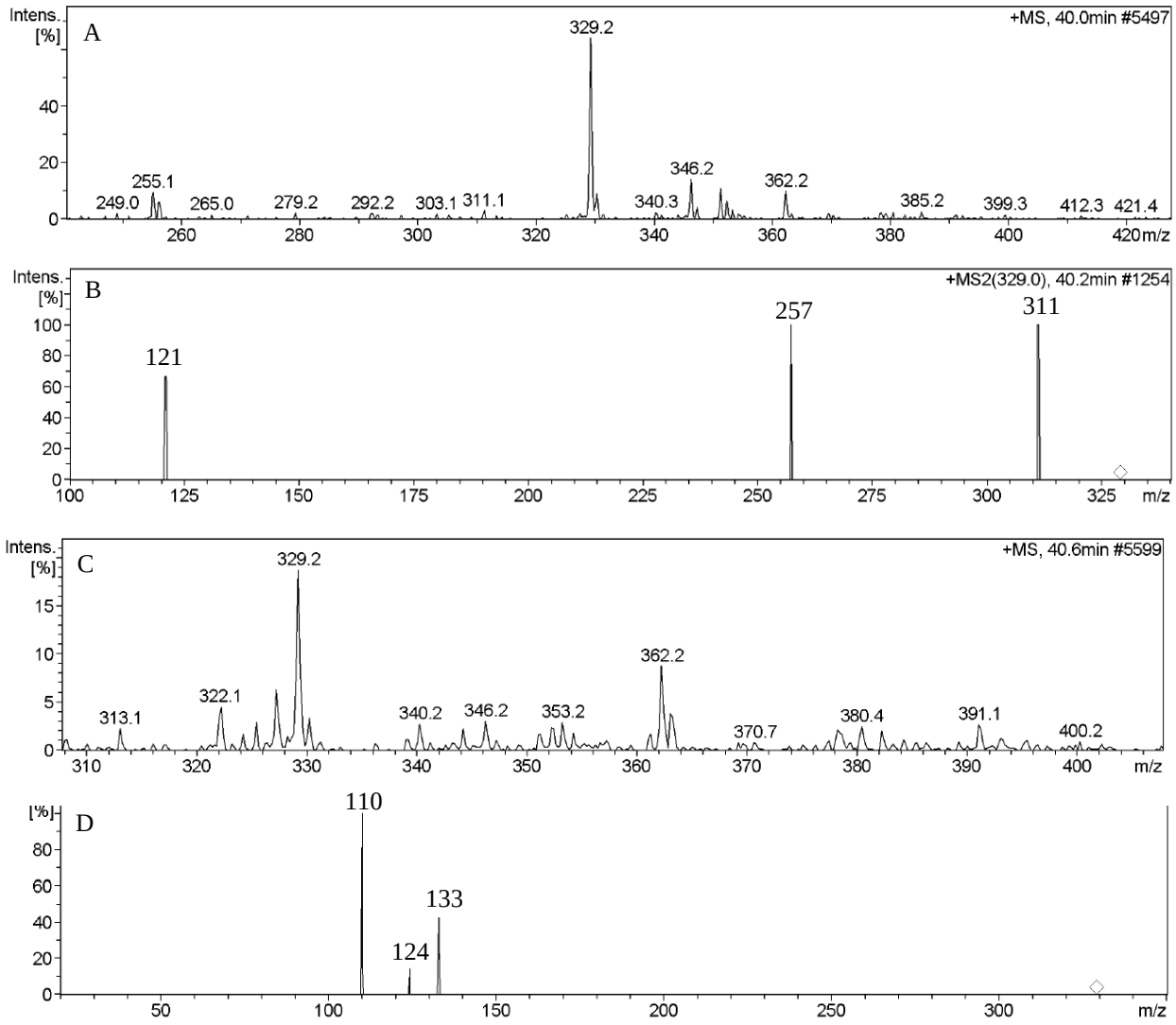

Figure-**S3**. MS/MS^n Spectra of **M3:** A) Mass spectrum of **M3a/b/c/d** (*m/z* = 329; RT = 40.0 min.); B) MS^2 spectrum of **M3a/b/c/d** (at *m/z* = 329); C) Mass spectrum of **M3a/b/c/d** (*m/z* = 329; RT = 40.6 min.); D) MS^2 spectrum of **M3a/b/c/d** (at *m/z* = 329)

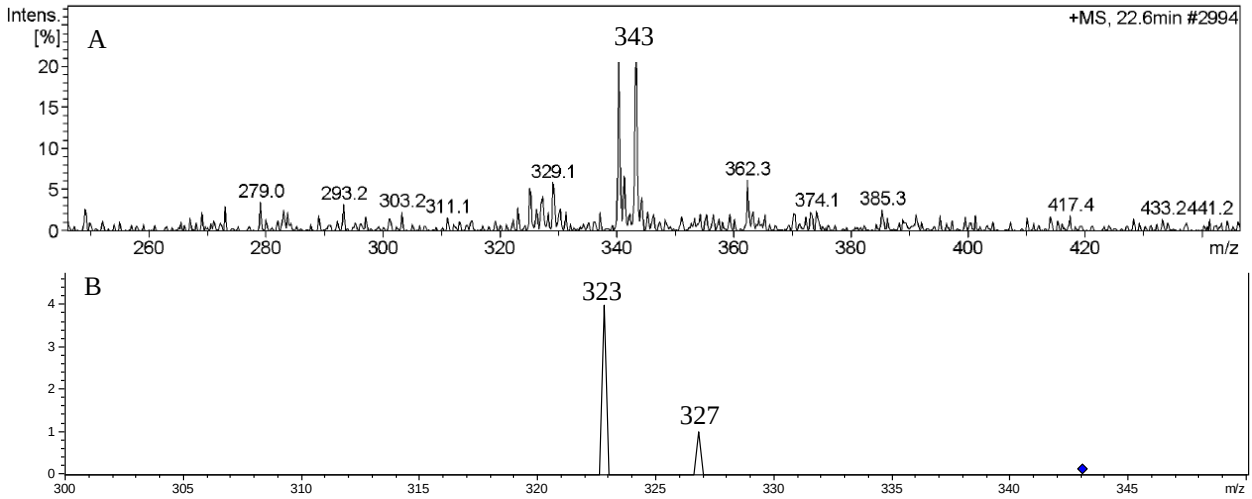

Figure-**S4**. MS/MS^n Spectra of **M4a:** A) Mass spectrum of **M4a** (*m/z* = 343; RT = 22.6 min.); B) MS^2 spectrum of **M4a** (at *m/z* = 343)

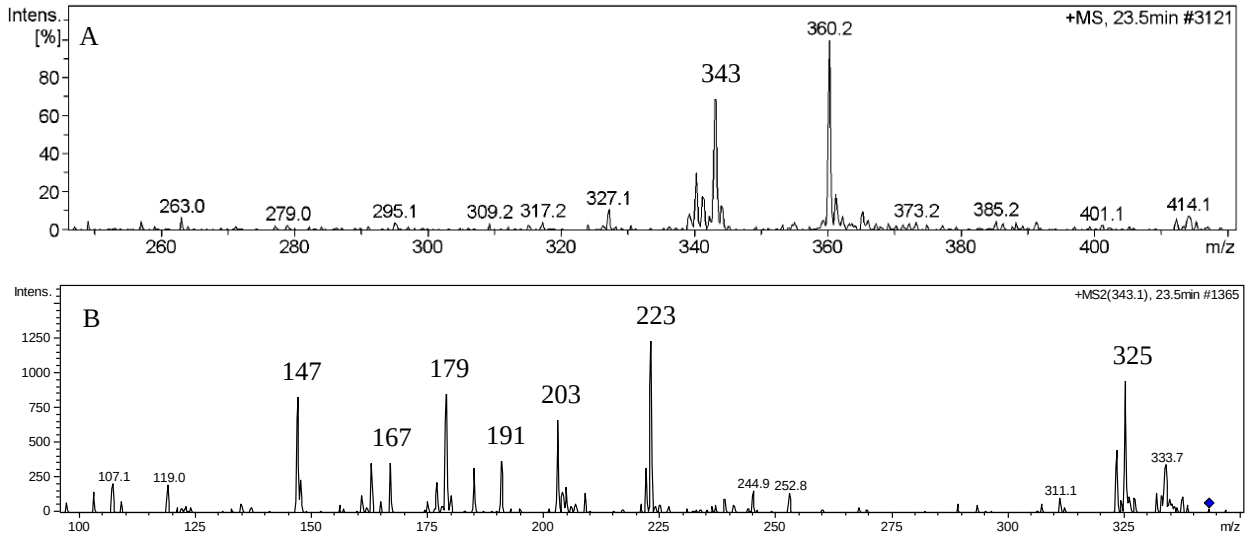

Figure-**S4b**. MS/MS^n Spectra of **M4b:** A) Mass spectrum of **M4b** (*m/z* = 343; RT = 23.5 min.); B) MS^2 spectrum of **M4b** (at *m/z* = 343)

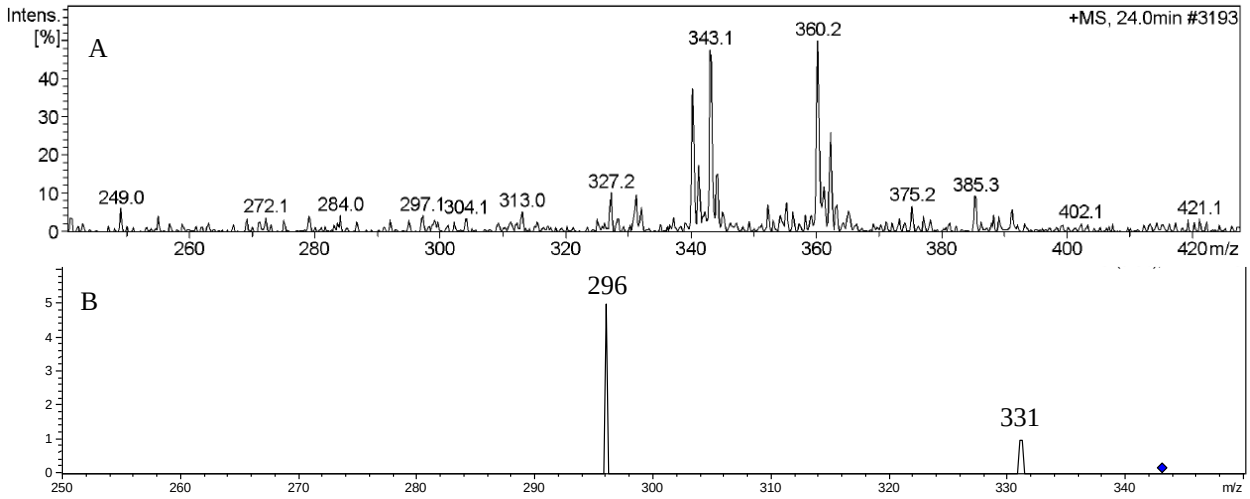

Figure-**S4c**. MS/MS^n Spectra of **M4c:** A) Mass spectrum of **M4c** (*m/z* = 343; RT = 24.0 min.); B) MS^2 spectrum of **M4c** (at *m/z* = 343)

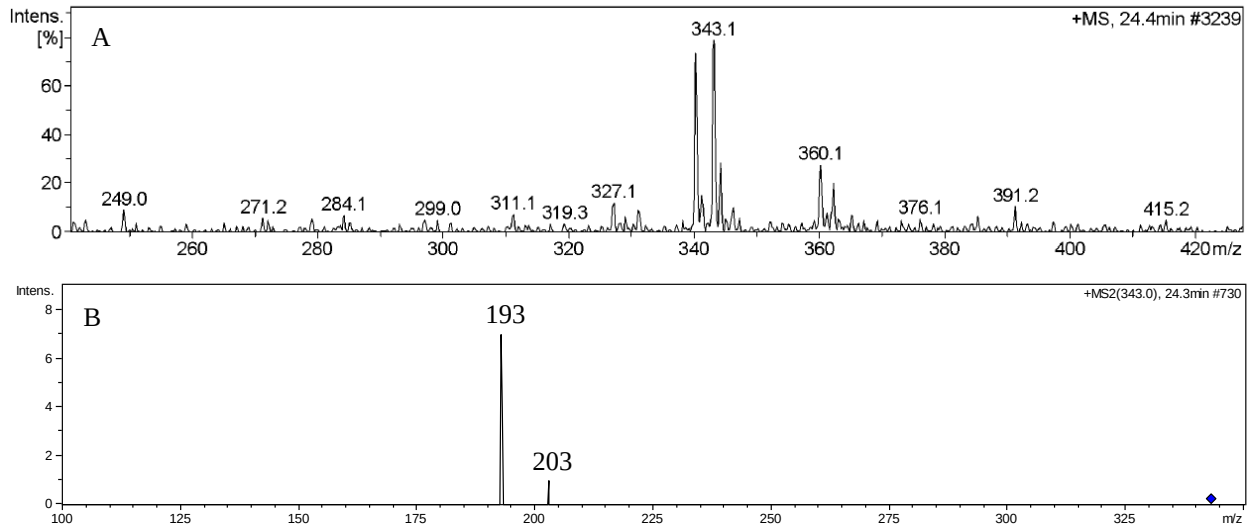

Figure-**S4d**. MS/MS^n Spectra of **M4d:** A) Mass spectrum of **M4d** (*m/z* = 343; RT = 24.4 min.); B) MS^2 spectrum of **M4d** (at *m/z* = 343)

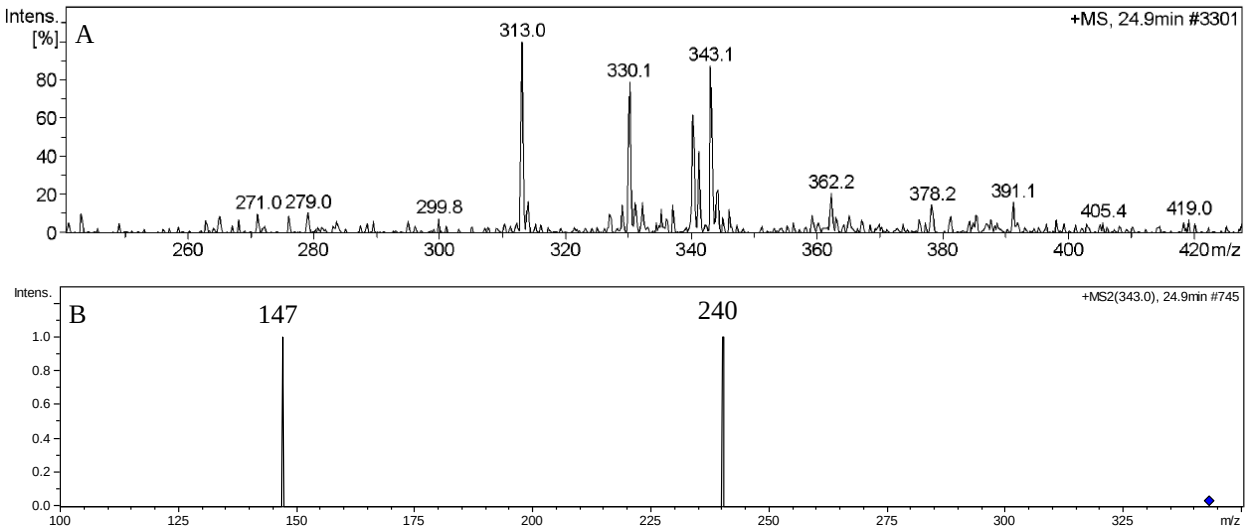

Figure-**S4e**. MS/MS^n Spectra of **M4e:** A) Mass spectrum of **M4e** (*m/z* = 343; RT = 24.9 min.); B) MS^2 spectrum of **M4e** (at *m/z* = 343)

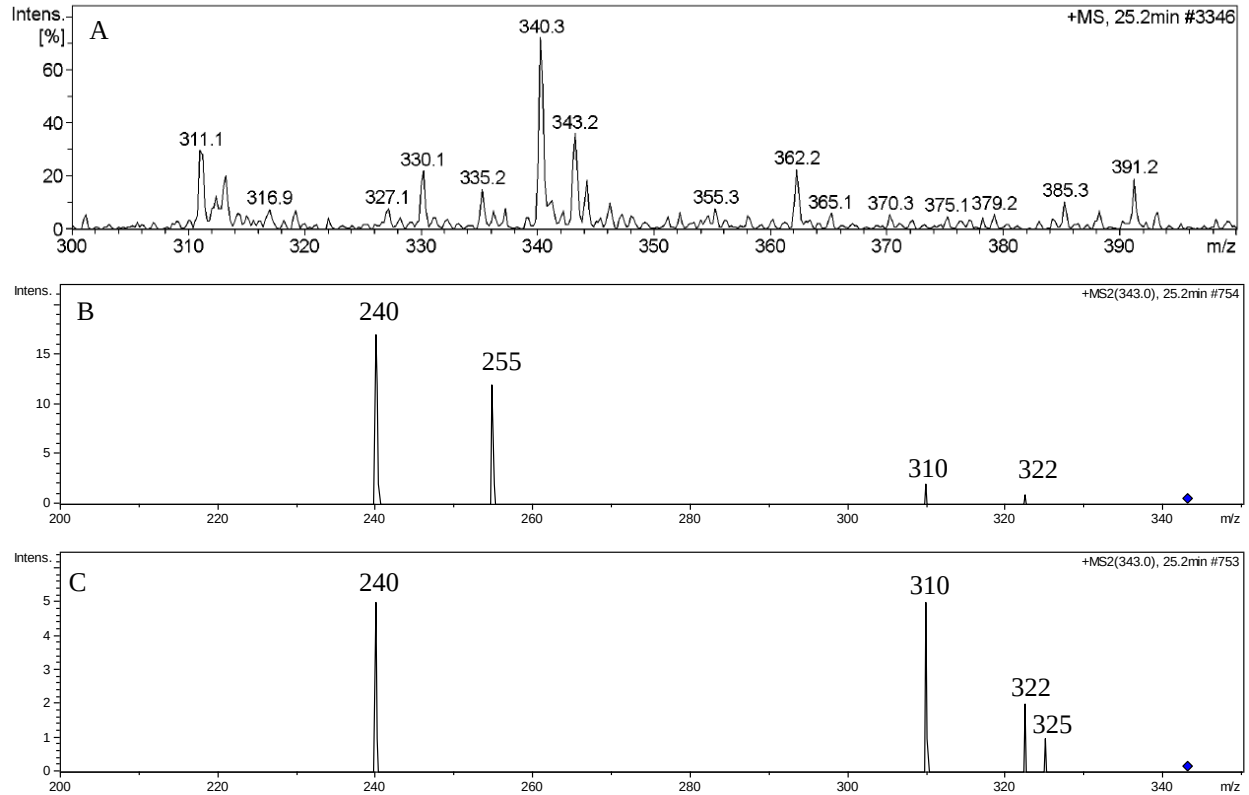

Figure-**S4f/g**. MS/MS^n Spectra of **M4f/g:** A) Mass spectrum of **M4f/g** (*m/z* = 343; RT = 25.2 min.); B&C) MS^2 spectrum of **M4f/g** (at *m/z* = 343)

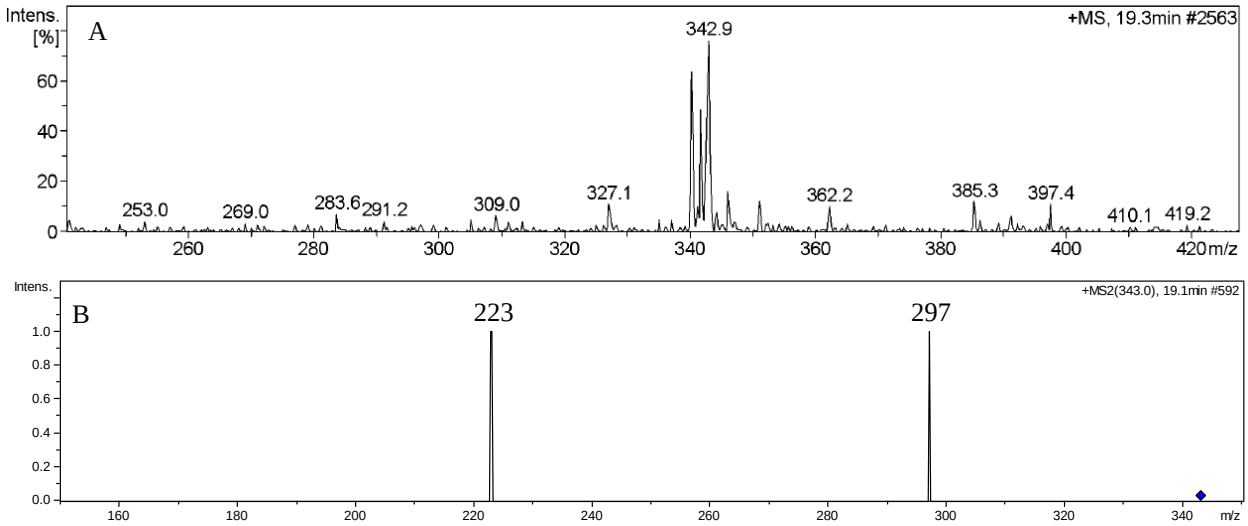

Figure-**S4h**. MS/MS^n Spectra of **M4h:** A) Mass spectrum of **M4h** (*m/z* = 343; RT = 19.3 min.); B) MS^2 spectrum of **M4h** (at *m/z* = 343)

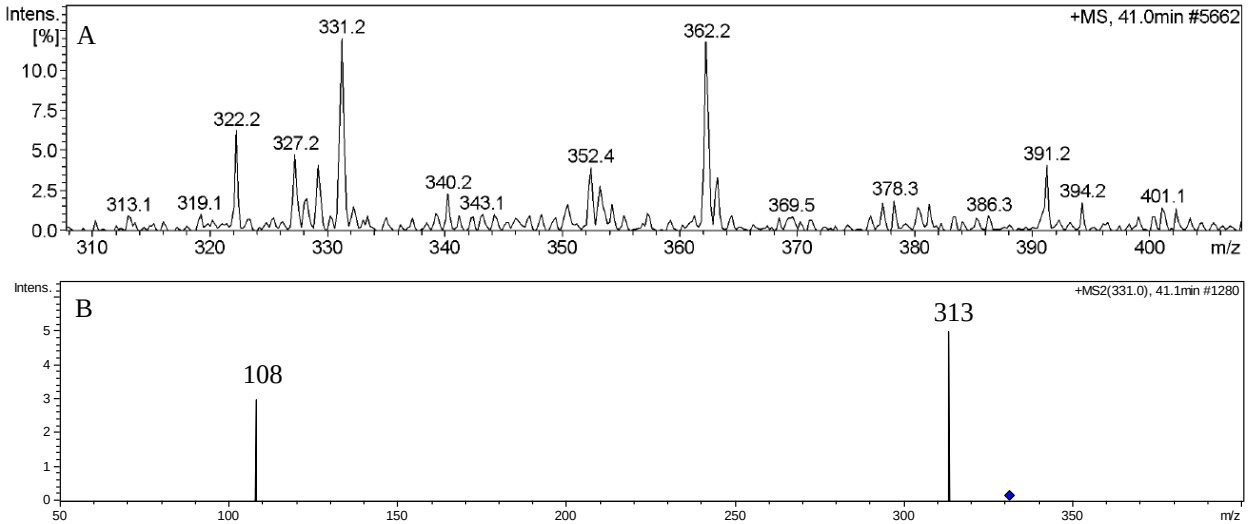

Figure-**S5a**. MS/MS^n Spectra of **M5a:** A) Mass spectrum of **M5a** (*m/z* = 331; RT = 41.0 min.); B) MS^2 spectrum of **M5a** (at *m/z* = 331)

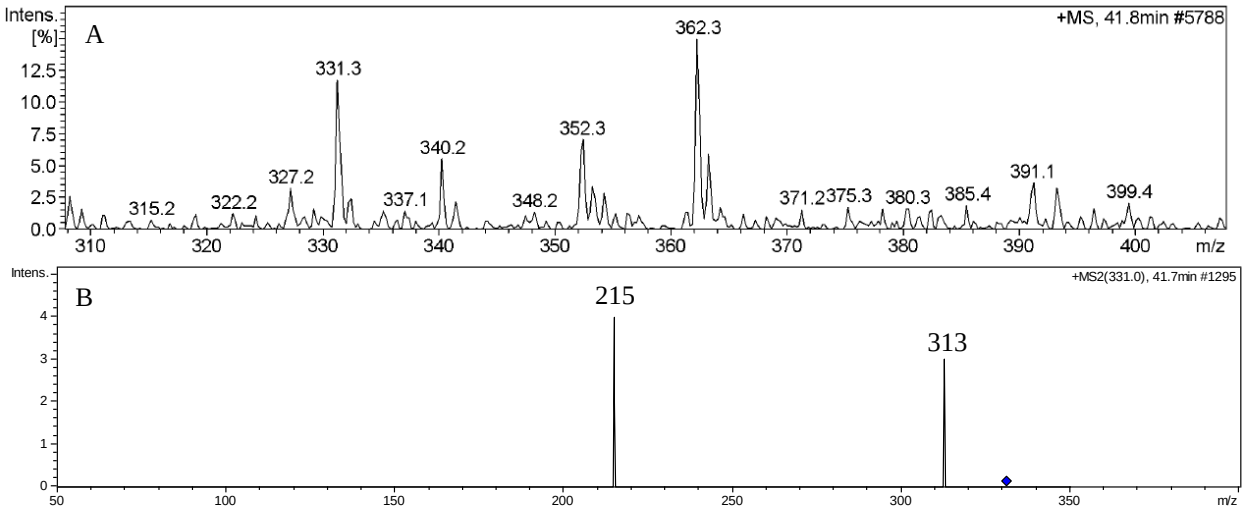

Figure-**S5b**. MS/MS^n Spectra of **M5b:** A) Mass spectrum of **M5b** (*m/z* = 331; RT = 41.0 min.); B) MS^2 spectrum of **M5b** (at *m/z* = 331)

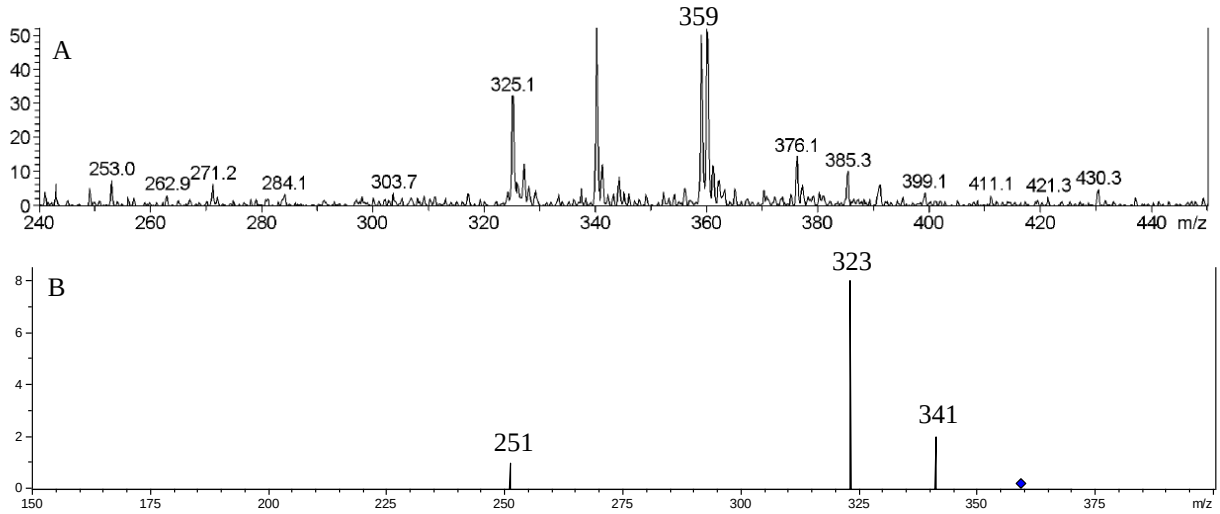

Figure-**S6**: MS/MS^n Spectra of **M6**: A) Mass spectrum of **M6** (*m/z* = 359; RT = 21.1 min.); B) MS^2 spectrum of **M6** (at *m/z* = 359)

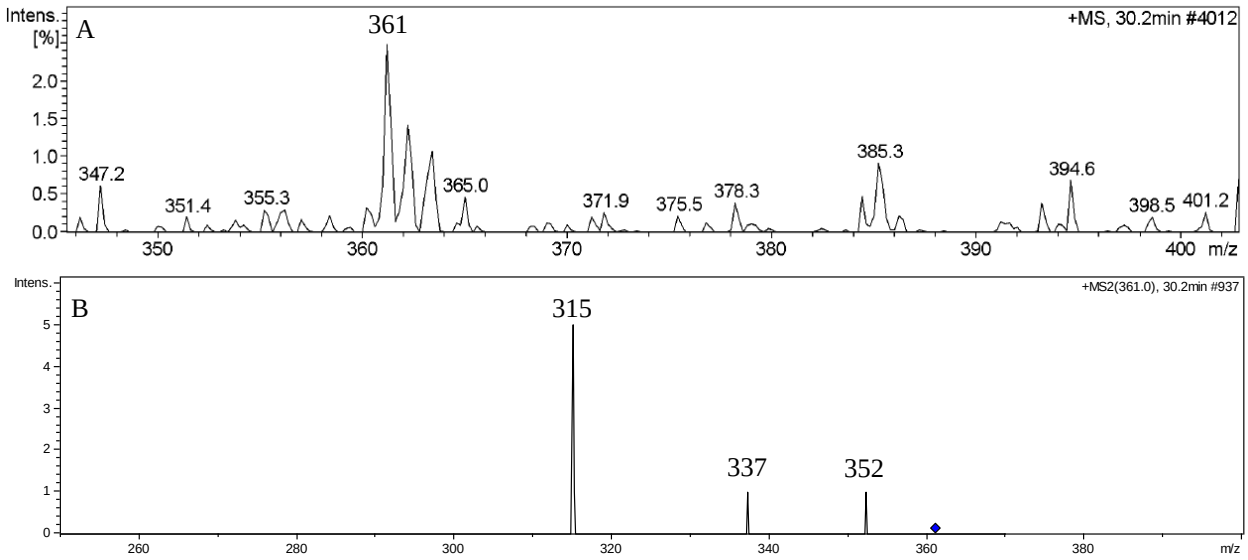

Figure-**S7**: MS/MS^n Spectra of **M7**: A) Mass spectrum of **M7** (*m/z* = 361; RT = 30.2 min.); B) MS^2 spectrum of **M7** (at *m/z* = 361)

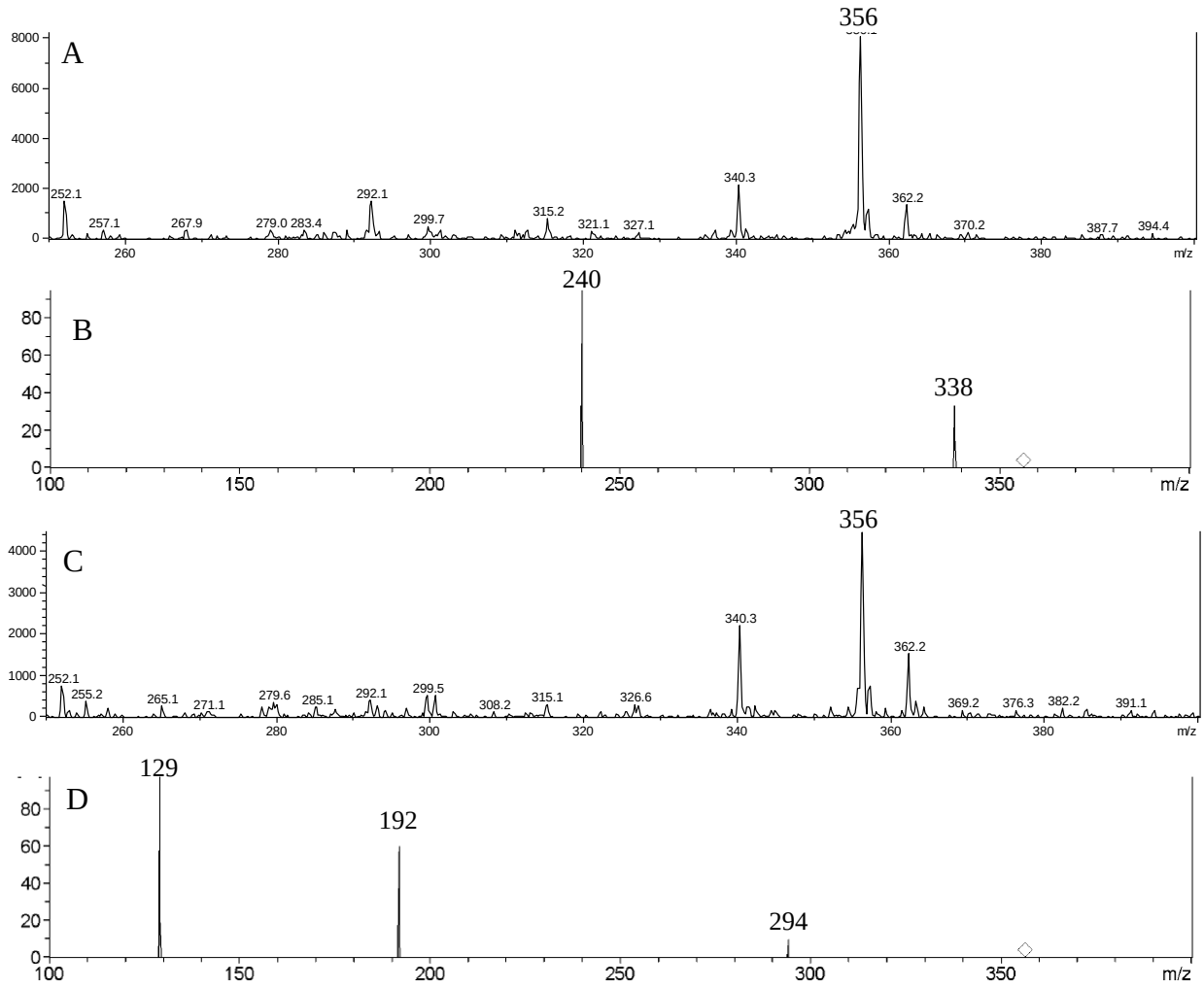

Figure-S8: MS/MS^n Spectra of **M8**: A) Mass spectrum of **M8a** (*m/z* = 356; RT = 31.3 min.); B) MS^2 spectrum of **M8a** (at *m/z* = 356); C) Mass spectrum of **M8b** (*m/z* = 356; RT = 31.7 min.); D) MS^2 spectrum of **M8b** (at *m/z* = 356)

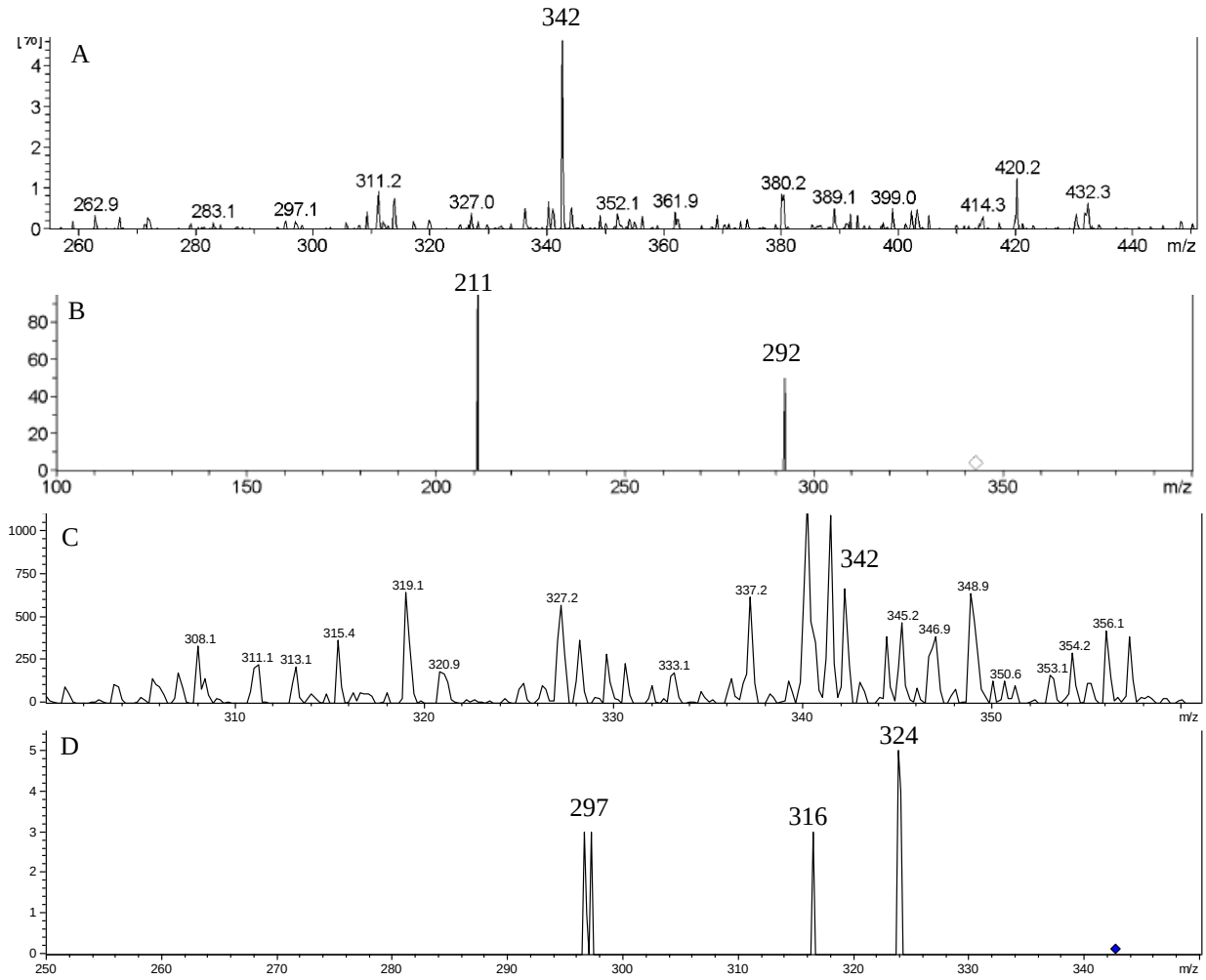

Figure-**S9a/b**: MS/MS^n Spectra of **M9a/b**: A) Mass spectrum of **M9a** (*m/z* = 342; RT = 25.9 min.); B) MS^2 spectrum of **M9a** (at *m/z* = 342); C) Mass spectrum of **M9b** (*m/z* = 342; RT = 26.4 min.); D) MS^2 spectrum of **M9b** (at *m/z* = 342)

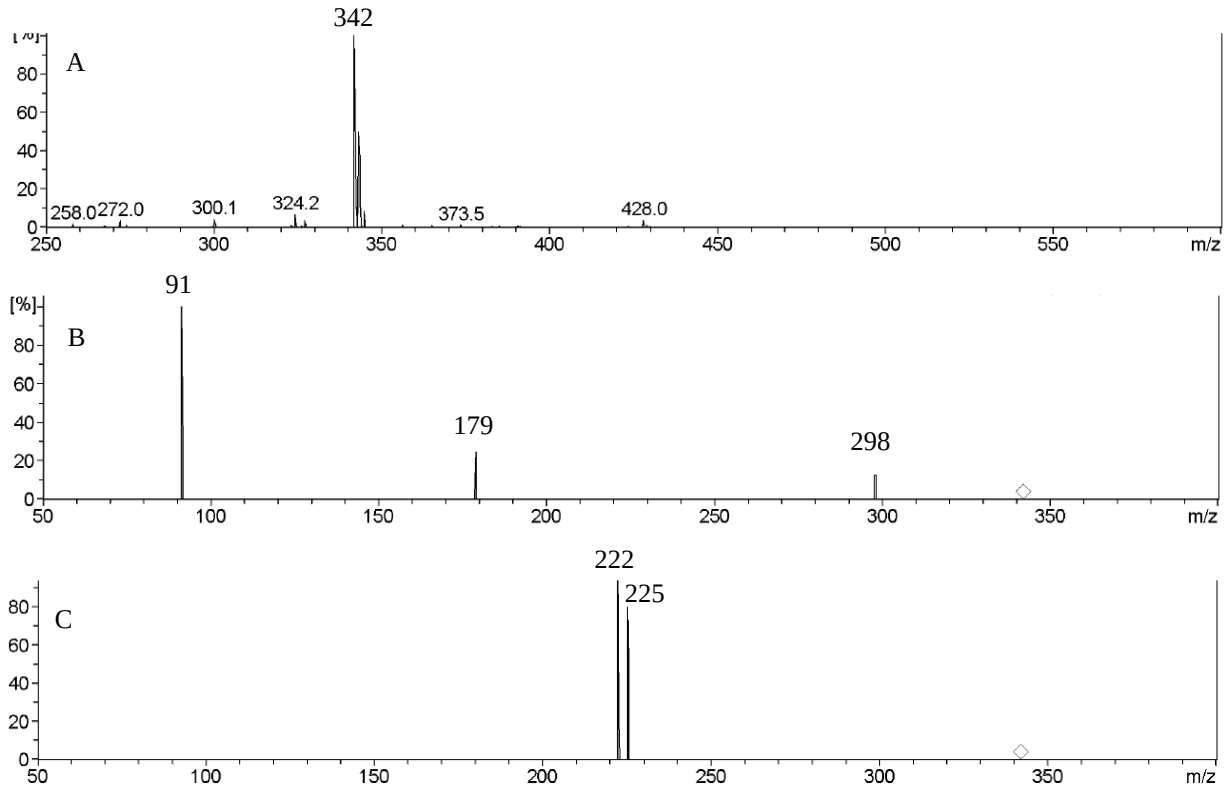

Figure-**S9c/d**: MS/MS^n Spectra of **M9c/d**: A) Mass spectrum of **M9c/d** (*m/z* = 342; RT = 6.1 or 6.4 min.); B) MS^2 spectrum of **M9c/d** (at *m/z* = 342; RT = 6.1 min.); C) MS^2 spectrum of **M9d/c** (at *m/z* = 342; RT = 6.4 min.)

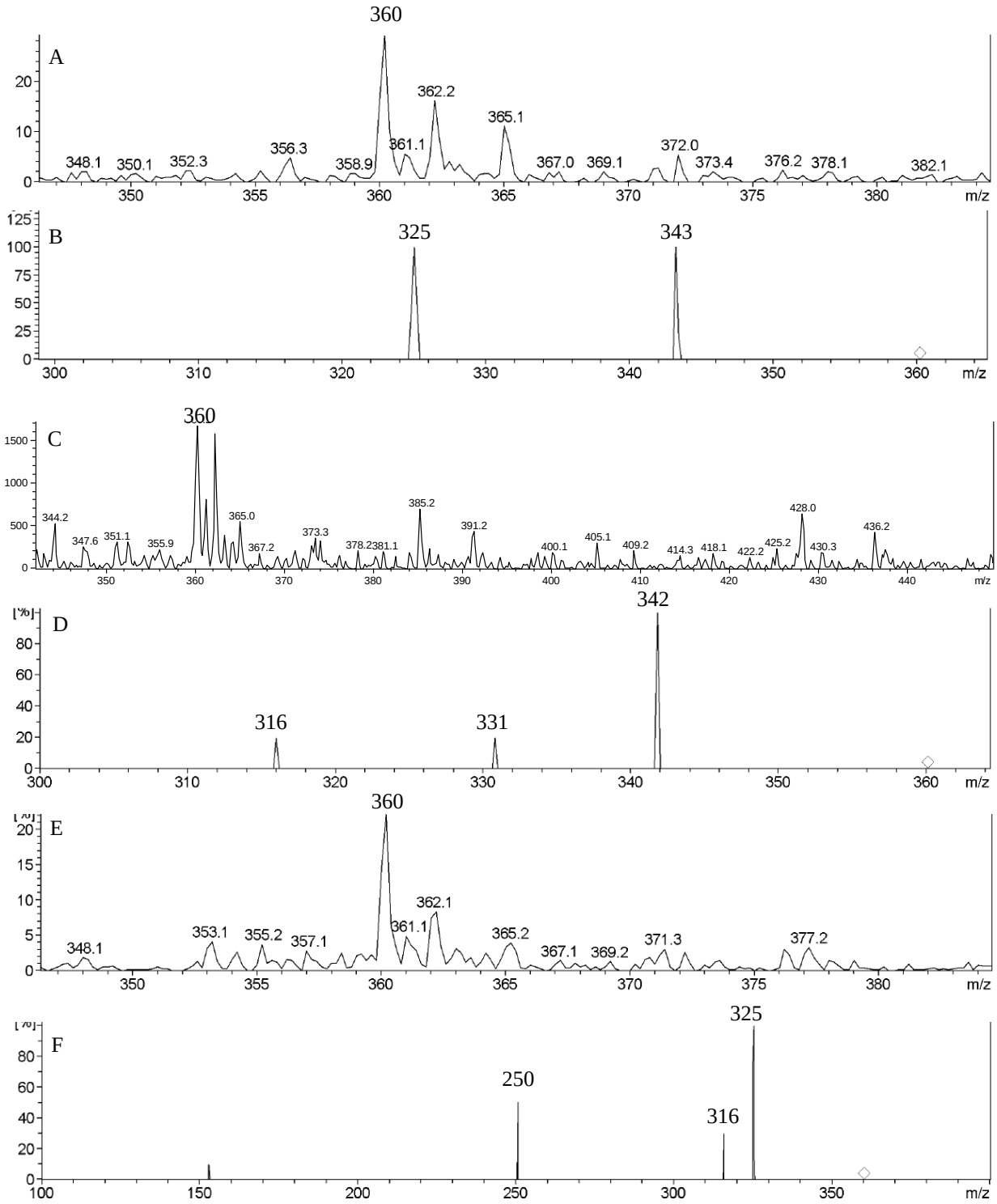

Figure-**S10**: MS/MS^n Spectra of **M10**: A) Mass spectrum of **M10a** (*m/z* = 360; RT = 20.8 min.); B) MS^2 spectrum of **M10a** (at *m/z* = 360); C) Mass spectrum of **M10b** (*m/z* = 360; RT = 22.8 min.); D) MS^2 spectrum of **M10b** (at *m/z* = 360); E) Mass spectrum of **M10c** (*m/z* = 360; RT = 23.8 min.); F) MS^2 spectrum of **M10c** (at *m/z* = 360)

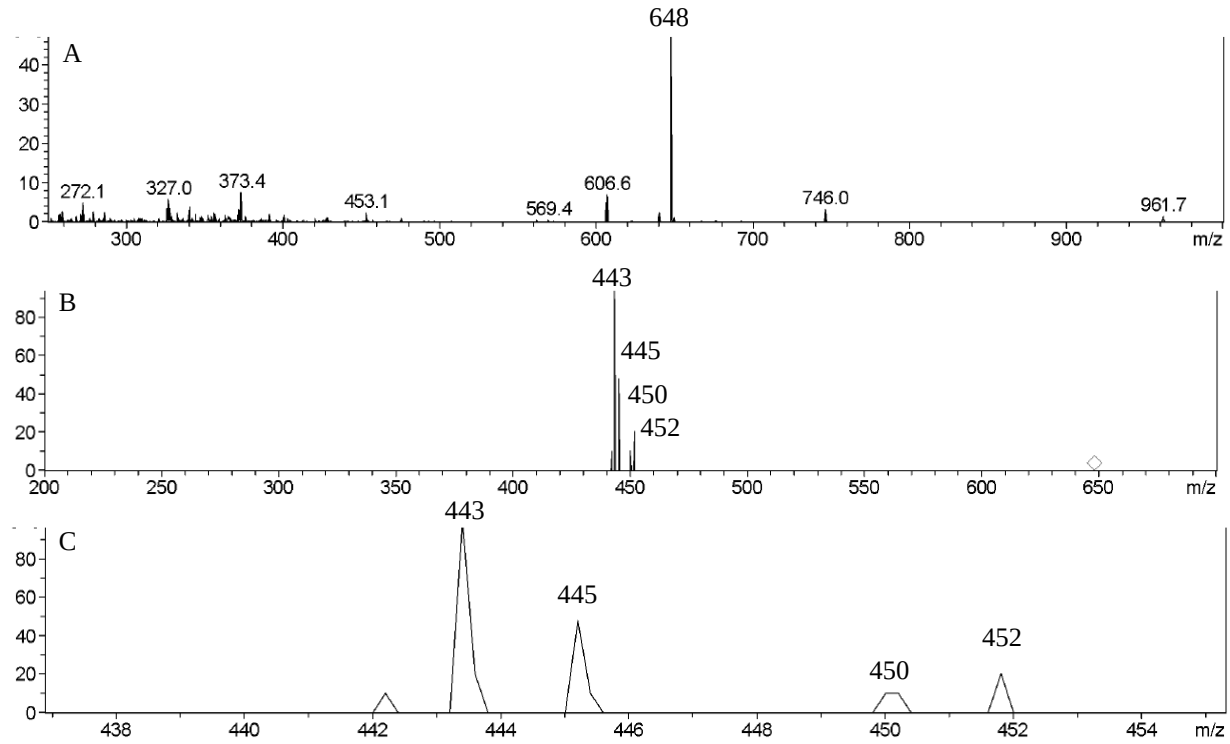

Figure-**S11**: MS/MS^n Spectra of **M11**: A) Mass spectrum of **M11** (*m/z* = 648; RT = 10.5 min.); B) MS^2 spectrum of **M11** (at *m/z* = 648); C) Expanded **11B**

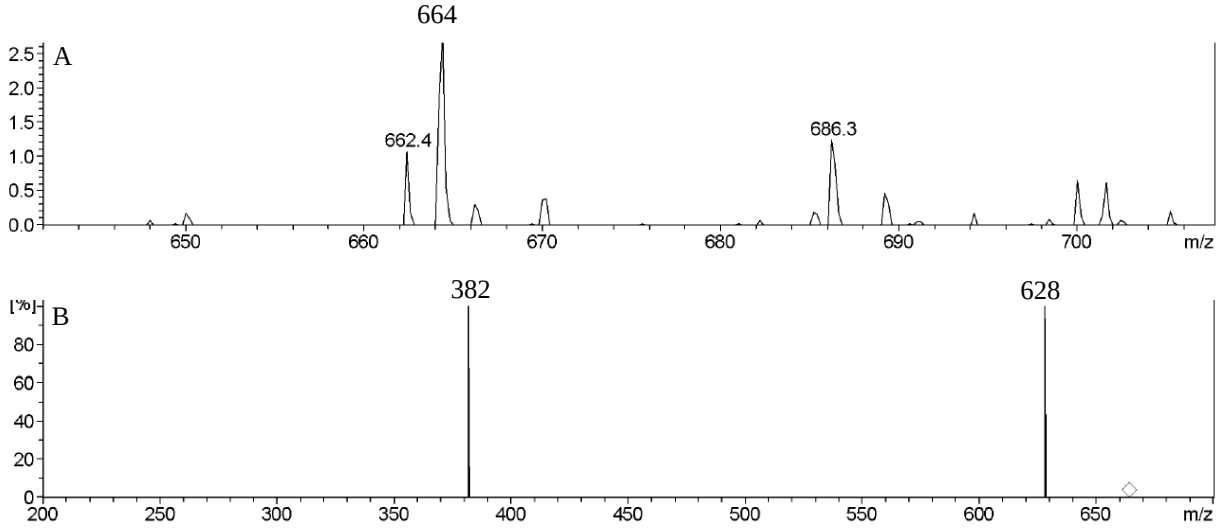

Figure-**S12**: MS/MS^n Spectra of **M12**: A) Mass spectrum of **M1** (*m/z* = 664; RT = 20.6 min.); B) MS^2 spectrum of **M12** (at *m/z* = 664)

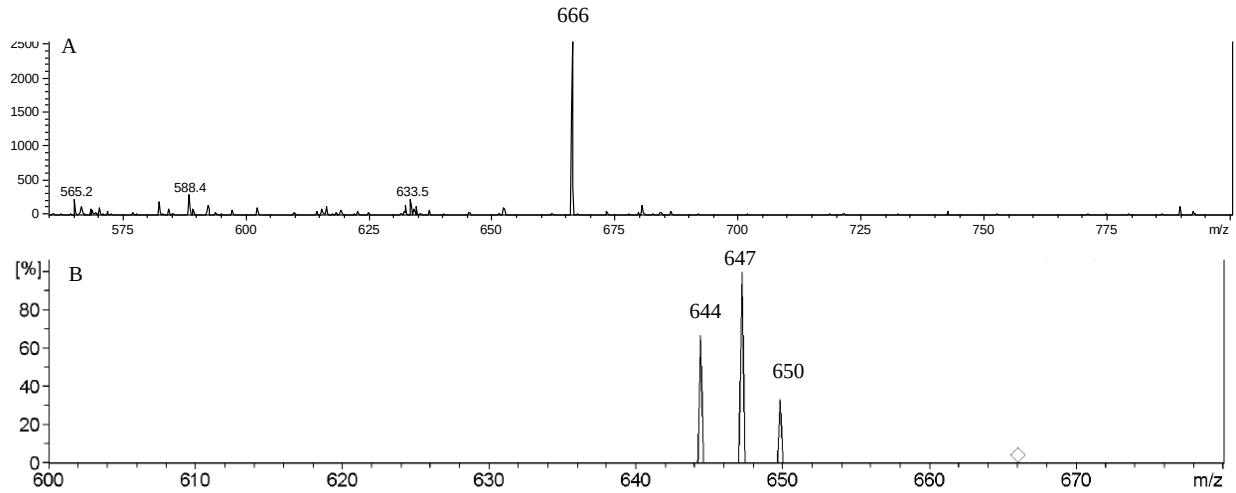

Figure-**S13**: MS/MS^n Spectra of **M13**: A) Mass spectrum of **M13** (*m/z* = 666; RT = 20.5 min.); B) MS^2 spectrum of **M13** (at *m/z* = 666)

Table-S1. RLMs incubations of Galeon

Incubation type	Microsomes	Conc.	NADPH	$MgCl_2$	GSH	$MeONH_2$	Buffer
Test 1	40µL	1µL	100µL	100µL			759µL
Test 2	40µL	1µL	100µL	100µL			759µL
Test 3	40µL	1µL	100µL	100µL	100µL		659µL
Test 4	40µL	1µL	100µL	100µL	100µL		659µL
Test 5	40µL	1µL	100µL	100µL		250µL	509µL
Test 6	40µL	1µL	100µL	100µL		250µL	509µL
Control 1	40µL	0	100µL	100µL			760µL
Control 2	40µL	1µL	0µL	100µL			859µL
Control 3	0 µL	1µL	100µL	100µL			799µL
Control 4	40µL	0	100µL	100µL	100µL		660µL
Control 5	40µL	1µL	0µL	100µL	100µL		759µL
Control 6	0 µL	1µL	100µL	100µL	100µL		699µL
Control 7	40µL	0	100µL	100µL		250µL	510µL
Control 8	40µL	1µL	0µL	100µL		250µL	609µL
Control 9	0 µL	1µL	100µL	100µL		250µL	549µL

Table-S2. LC Gradient solvent system

Time (min.)	Water (H_2O)	Acetonitrile (ACN)
0	95	5
5	95	5
10	70	30
20	40	60
30	10	90
40	40	60
50	70	30
60	95	5