

Table S1. Assignments of FTIR bands of HepG2 cells lipid extracts according to Refs. Talari 2017, Movasachi 2008 and Dreissing 2009

Wavenumber (cm ⁻¹)	Assignments	Indication
3402 - 3360	N-H stretching	Amide A
3018 - 3009	CH olefinic stretching	Unsaturated fatty acids
2956 - 2954	CH ₃ asymmetric stretching	Saturated fatty acids
2922 - 2918	CH ₂ asymmetric stretching	Saturated fatty acids
2852 -2851	CH ₂ symmetric stretching	Saturated fatty acids
1741 - 1735	C=O stretching	Phospholipids
1690 - 1600	C=O stretching	Sphingolipids
1553 - 1530	N-H bending	Sphingolipids
1467 - 1467	CH ₂ bending	Fatty acids
1412 - 1413	CH ₂ cyclic bending	Cholesterol Cholesterol ester
1377 - 1353	CH ₃ bending	Fatty acids
1230 - 1222	PO ₂ ⁻ asymmetric stretching	Phospholipids
1181 - 1172	C-O asymmetric stretching	Phospholipids Cholesterol ester
1087 - 1083	PO ₂ ⁻ symmetric stretching	Phospholipids
1064 - 1051	C-O-H stretching	Sphingolipids Cholesterol
1035 - 1020	C-O-P stretching	Phospholipids

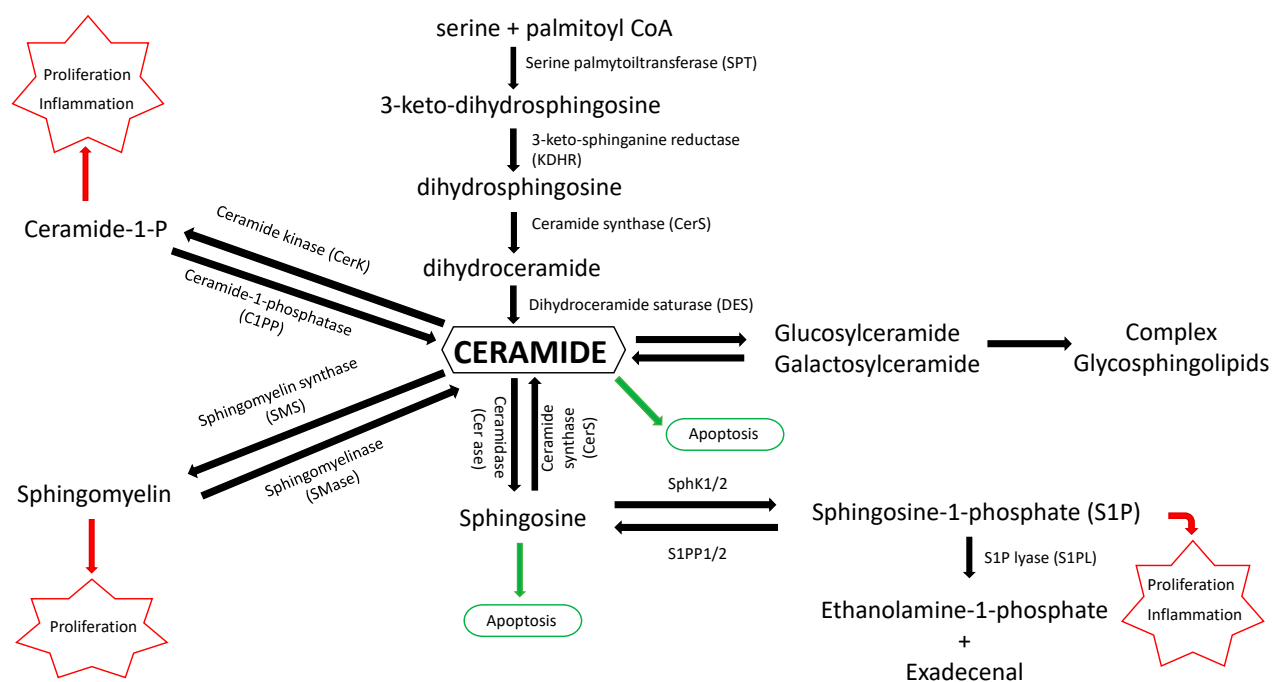
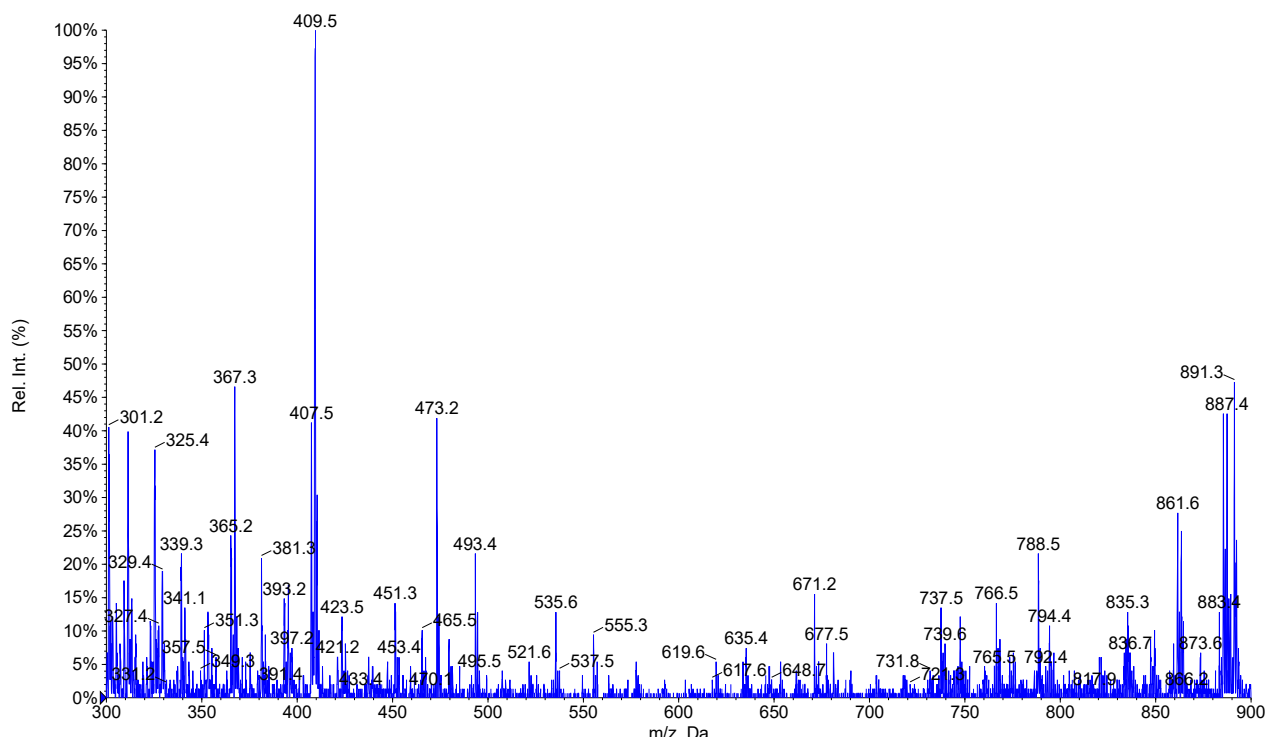
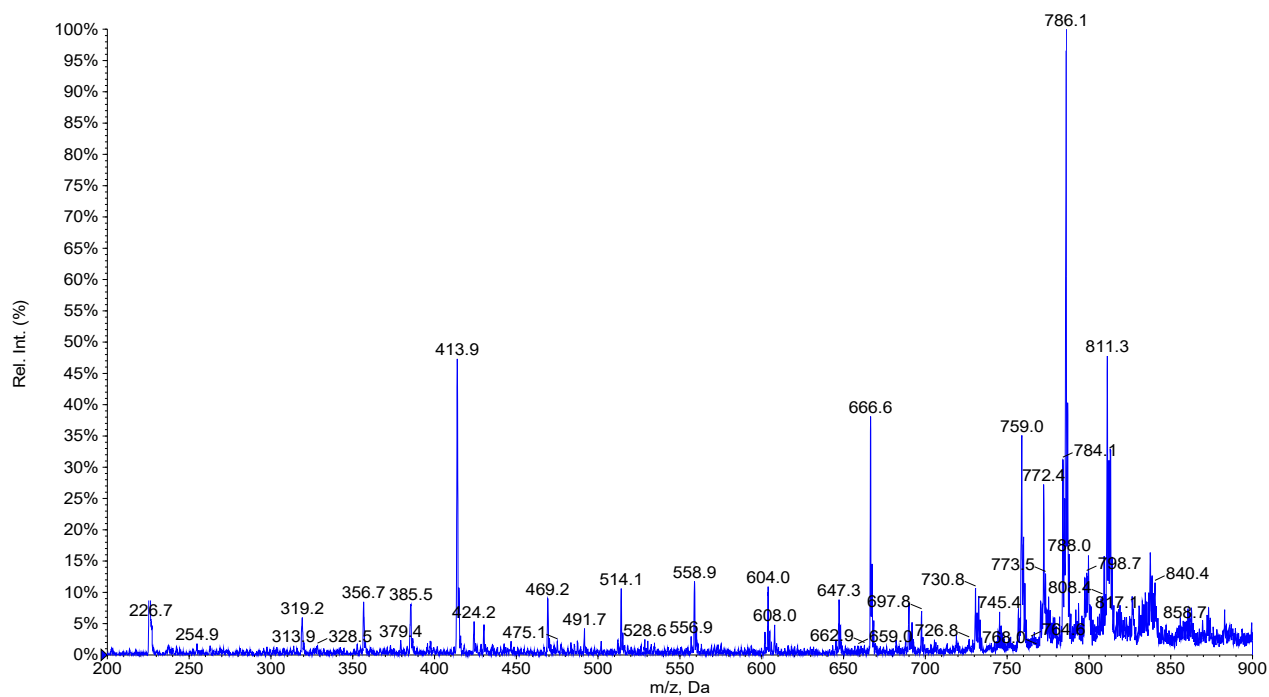


Figure S1. Schematic representation of sphingolipid metabolic network.

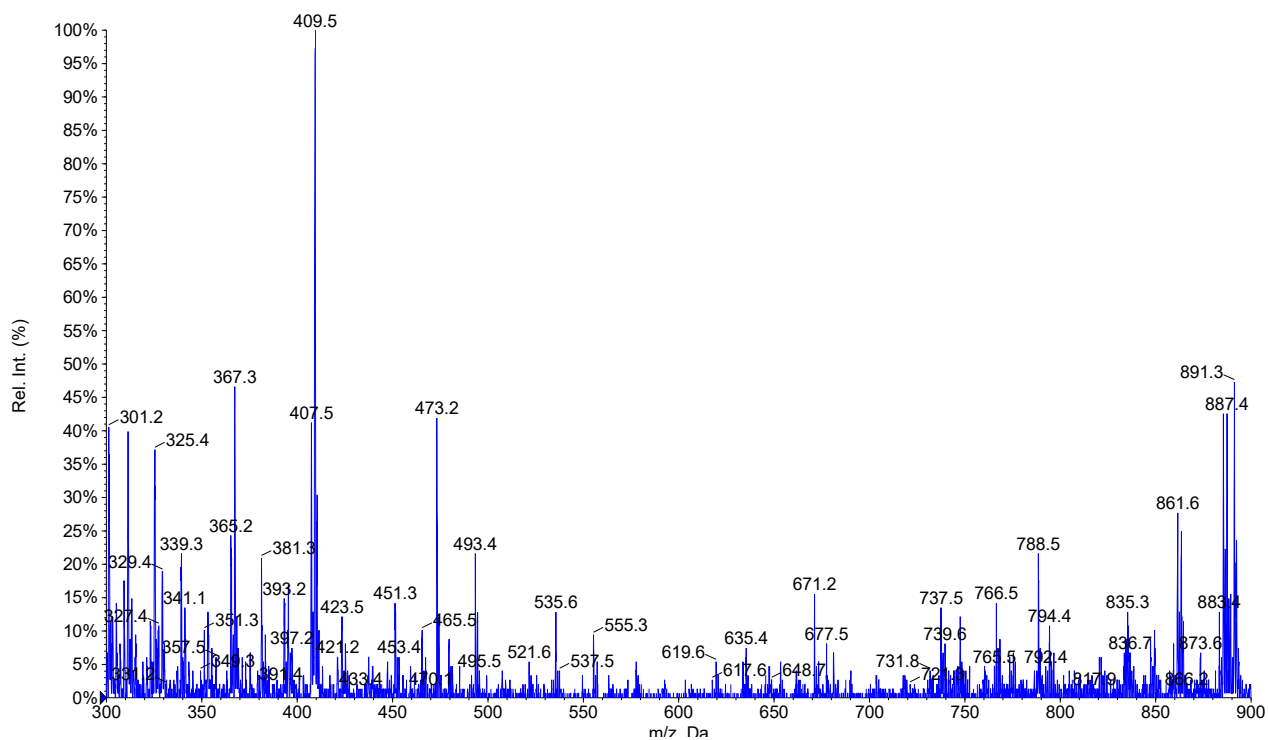


(a)

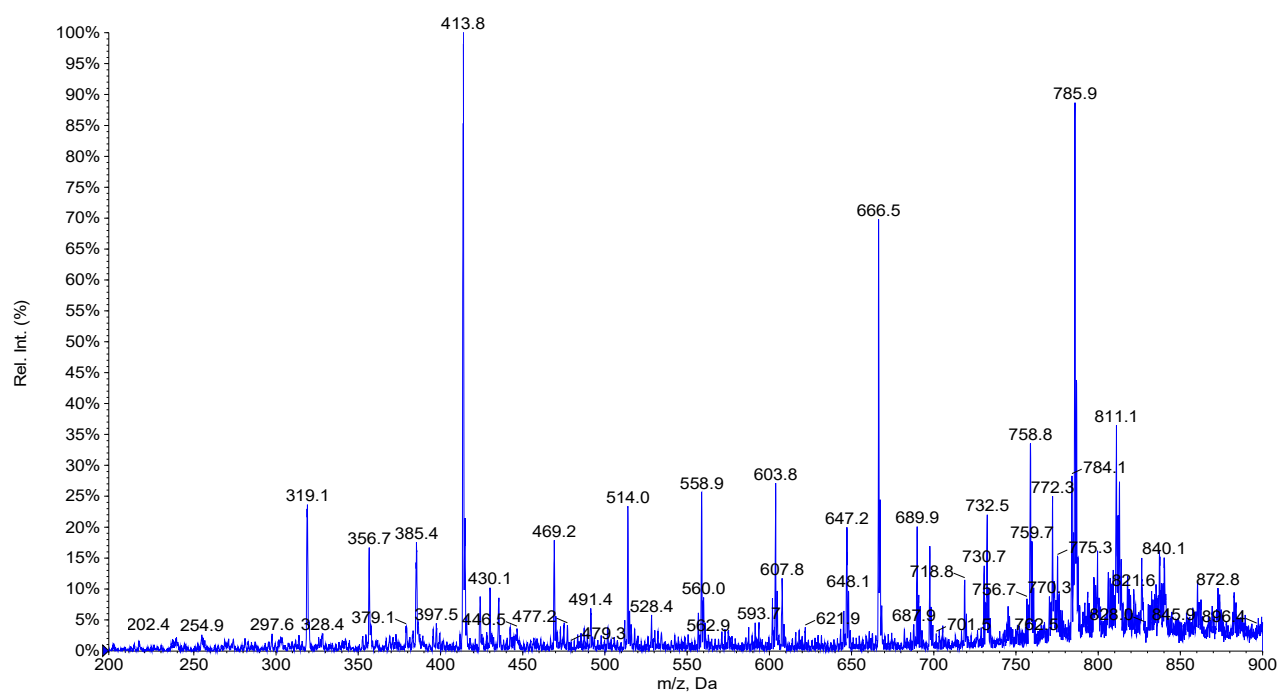


(b)

Figure S2. Representative mass spectra of samples obtained by BuMe modified method using unirradiated HepG2 cells: (a) in negative mode; (b) in positive mode.

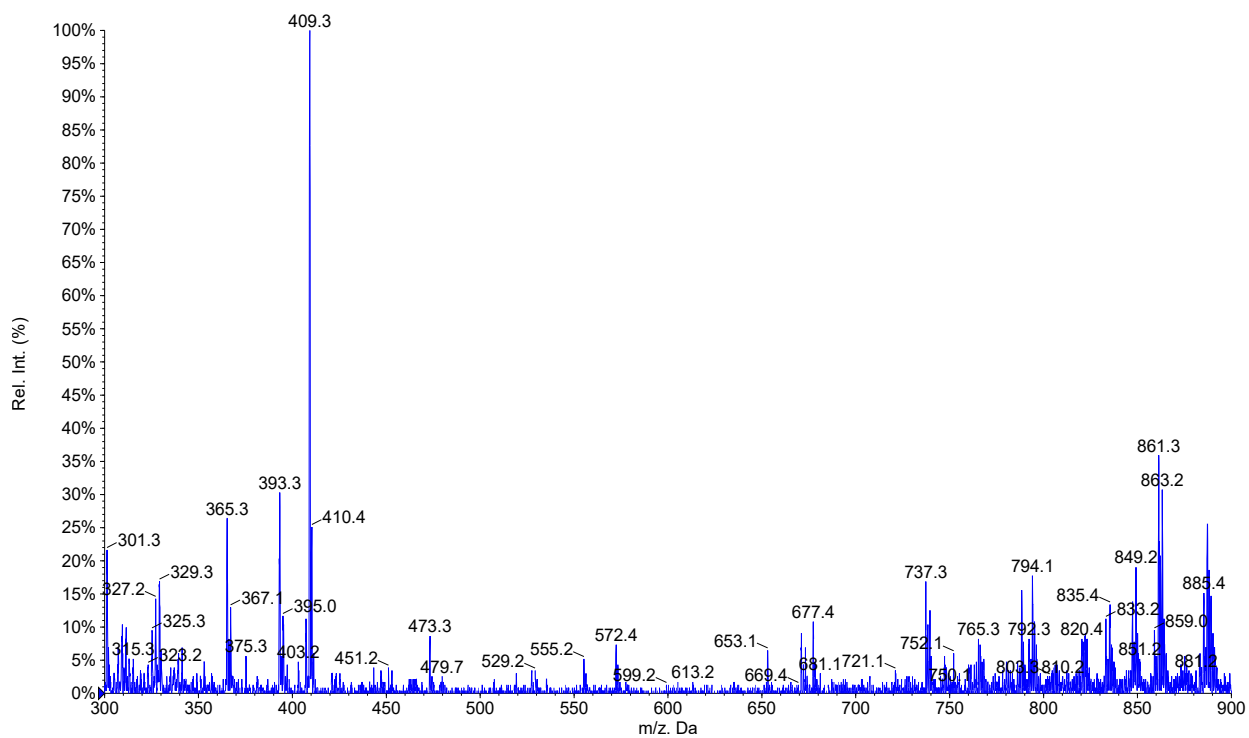


(a)

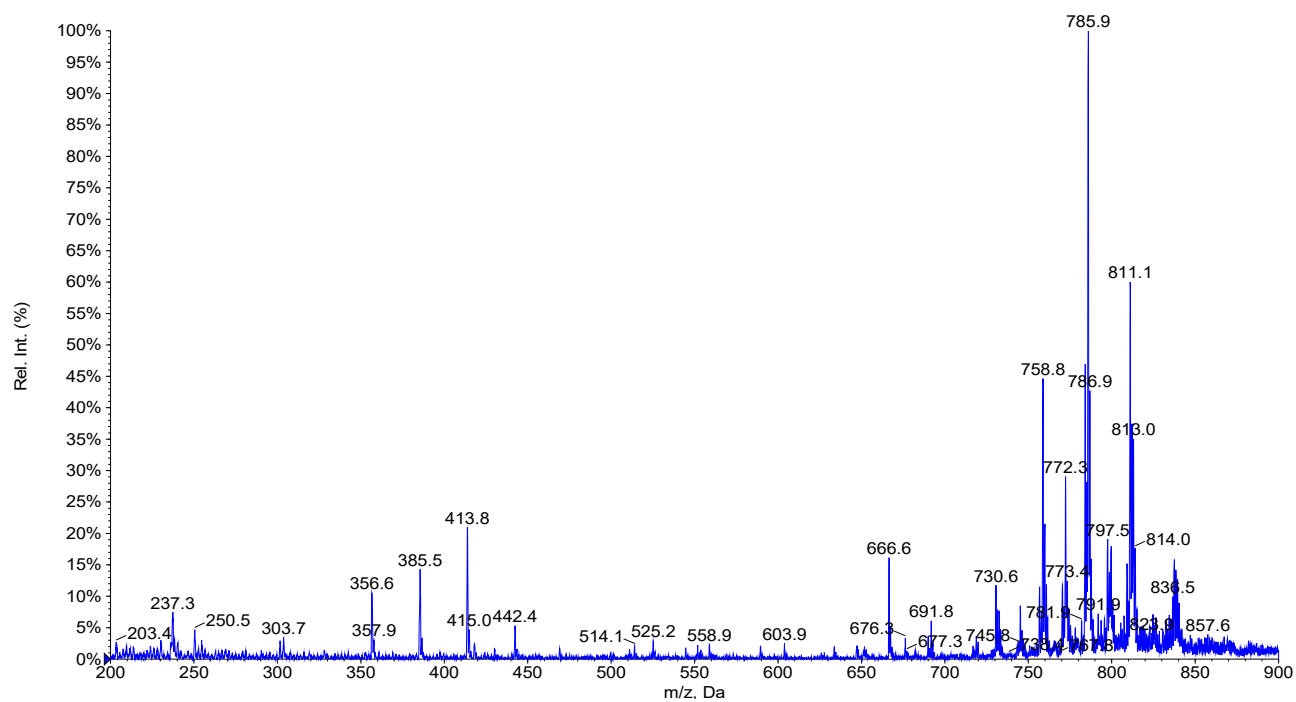


(b)

Figure S3. Representative mass spectra of samples obtained by SHA method using unirradiated HepG2 cells: (a) in negative mode; (b) in positive mode.



(a)



(b)

Figure S4. Representative mass spectra of samples obtained by IPA method using unirradiated HepG2 cells: (a) in negative mode; (b) in positive mode.