Supplementary Materials

Effects of *Toona sinensis* leaf extract and its chemical constituents on xanthine oxidase activity and serum uric acid levels in potassium oxonate-induced hyperuricemic rats

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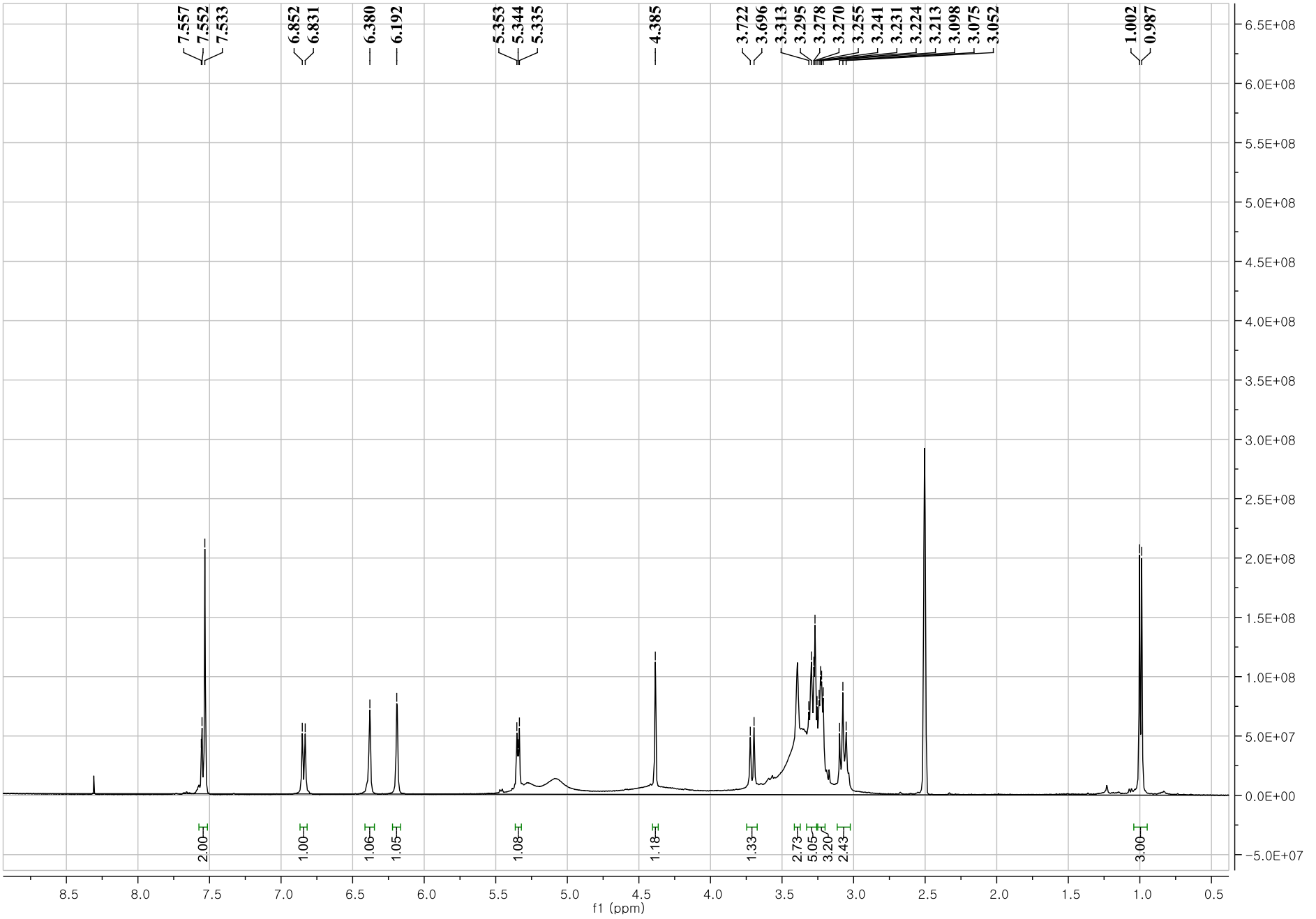


Figure S1. ^{1}H-NMR spectrum of compound **1** (400 MHz, DMSO-d_6).

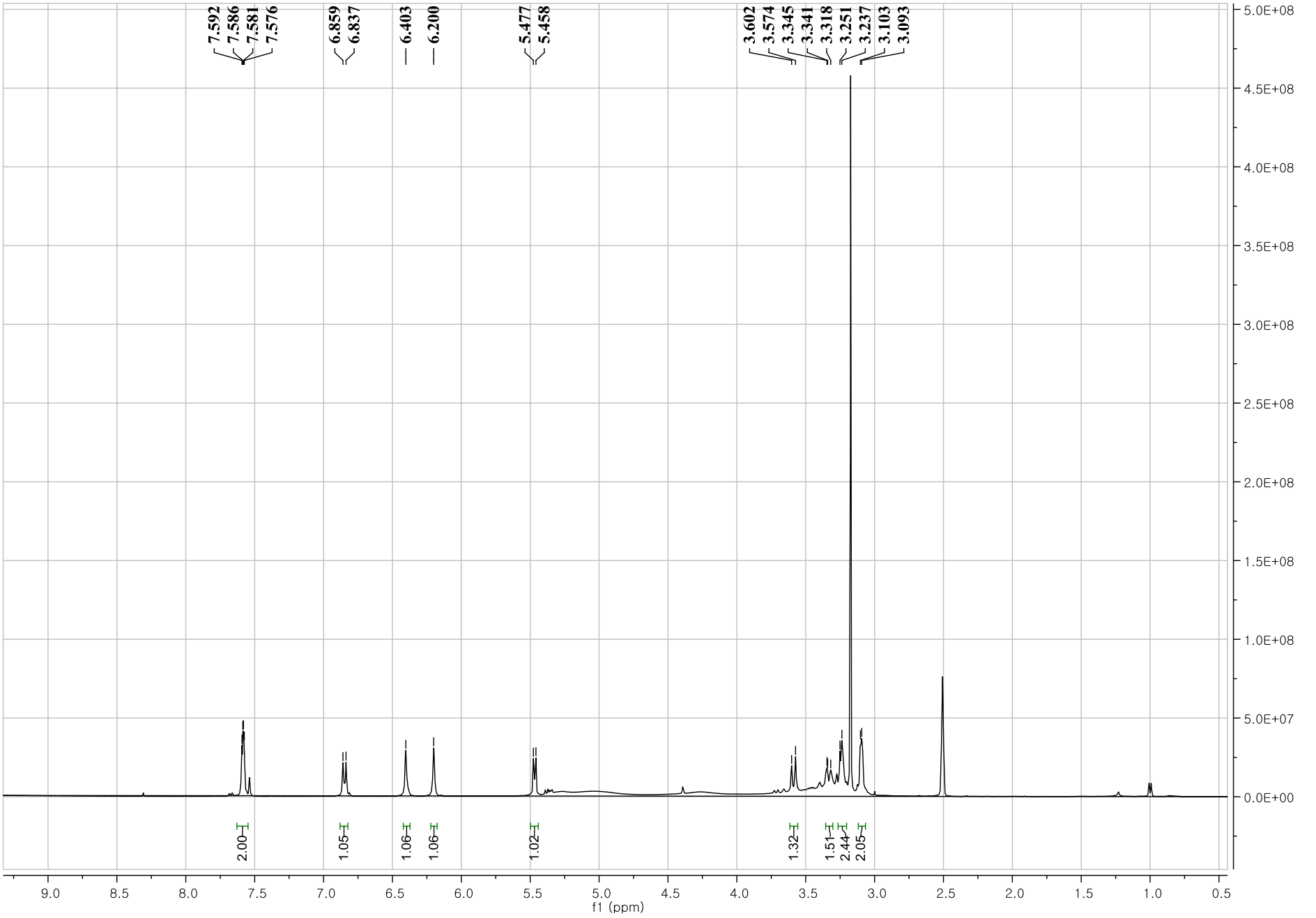


Figure S2. ^{1}H-NMR spectrum of compound **2** (400 MHz, DMSO-d_6).

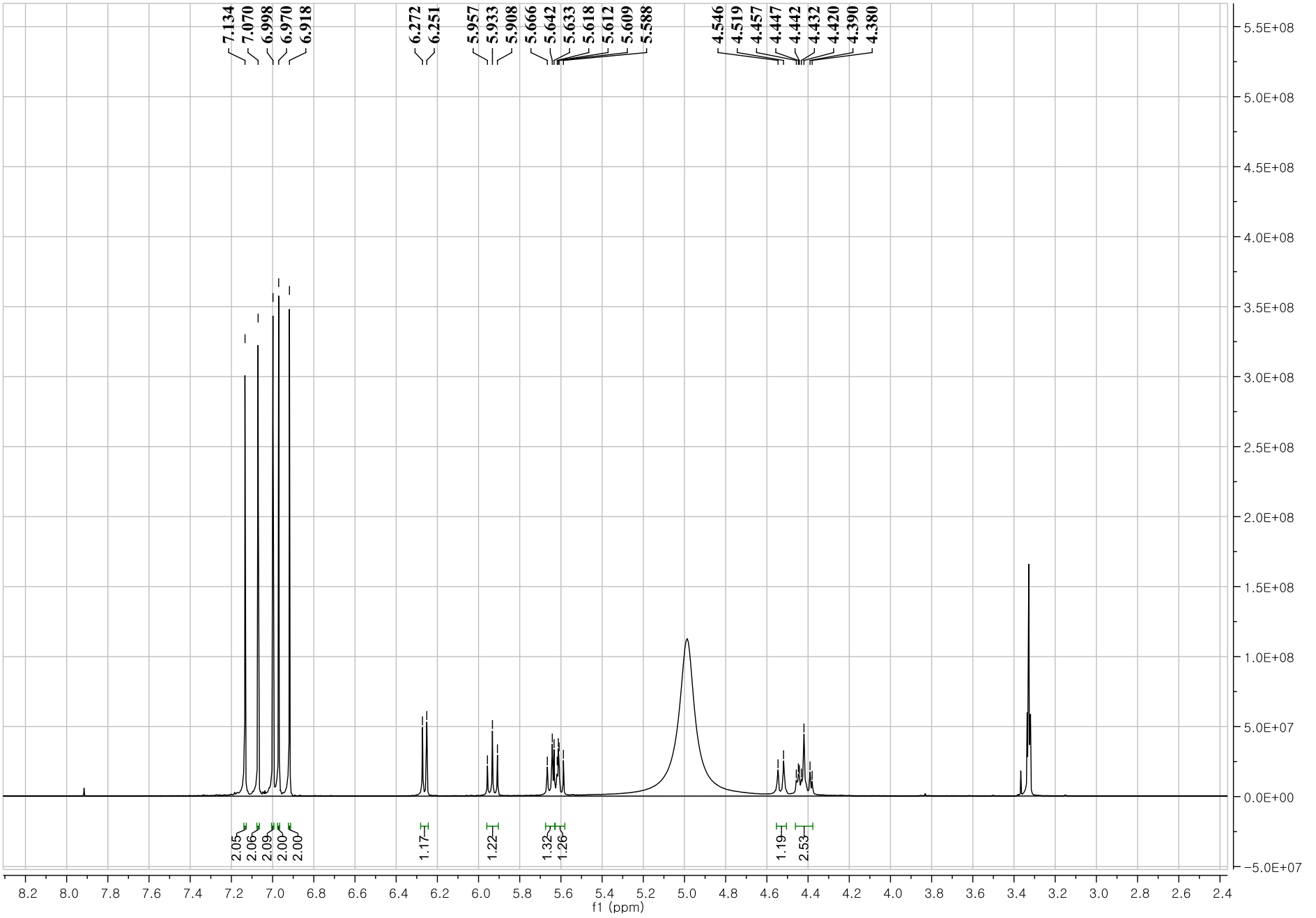


Figure S3. ^{1}H-NMR spectrum of compound **3** (400 MHz, CD_3OD).

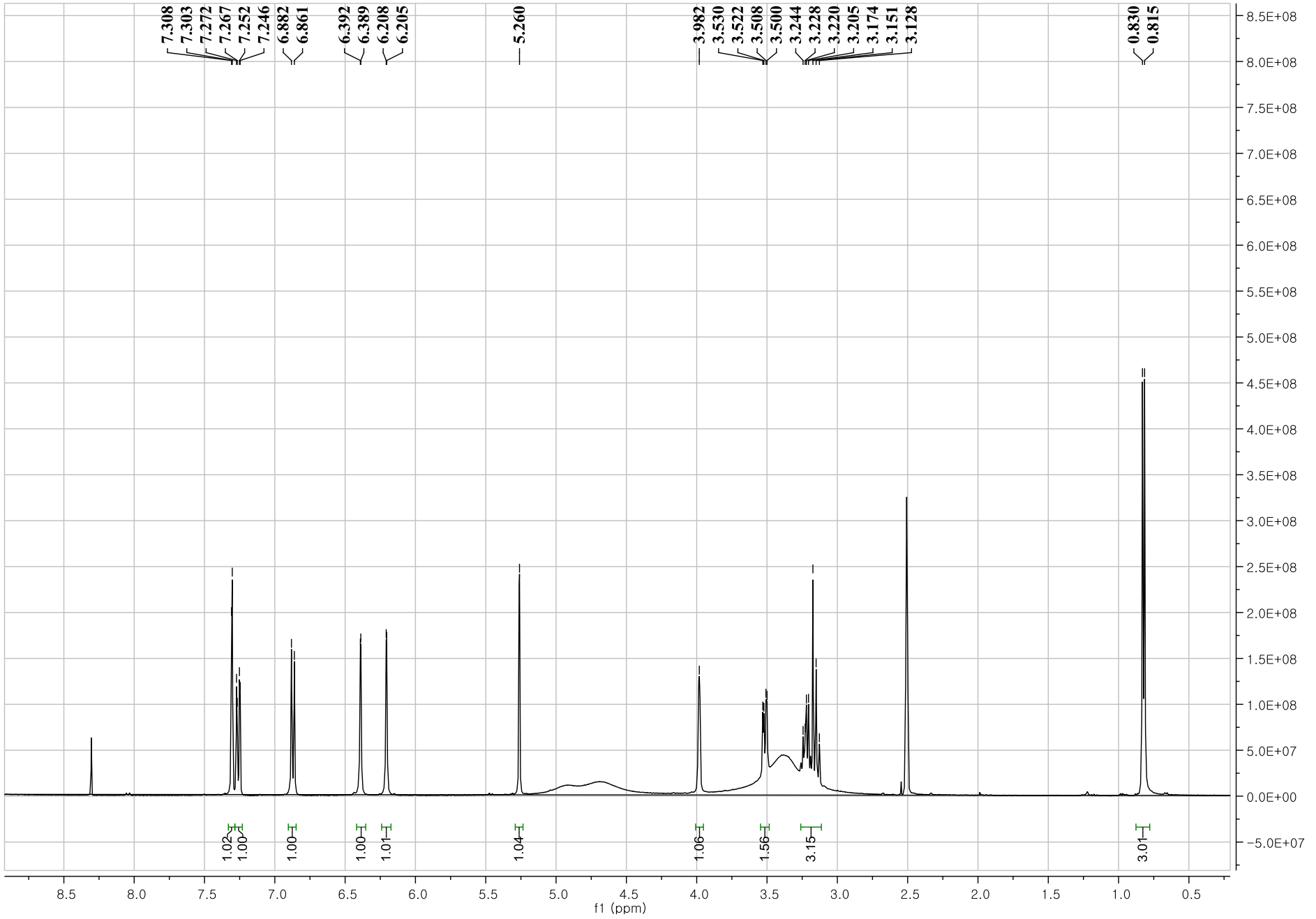


Figure S4. ^{1}H-NMR spectrum of compound **4** (400 MHz, DMSO-d_6).

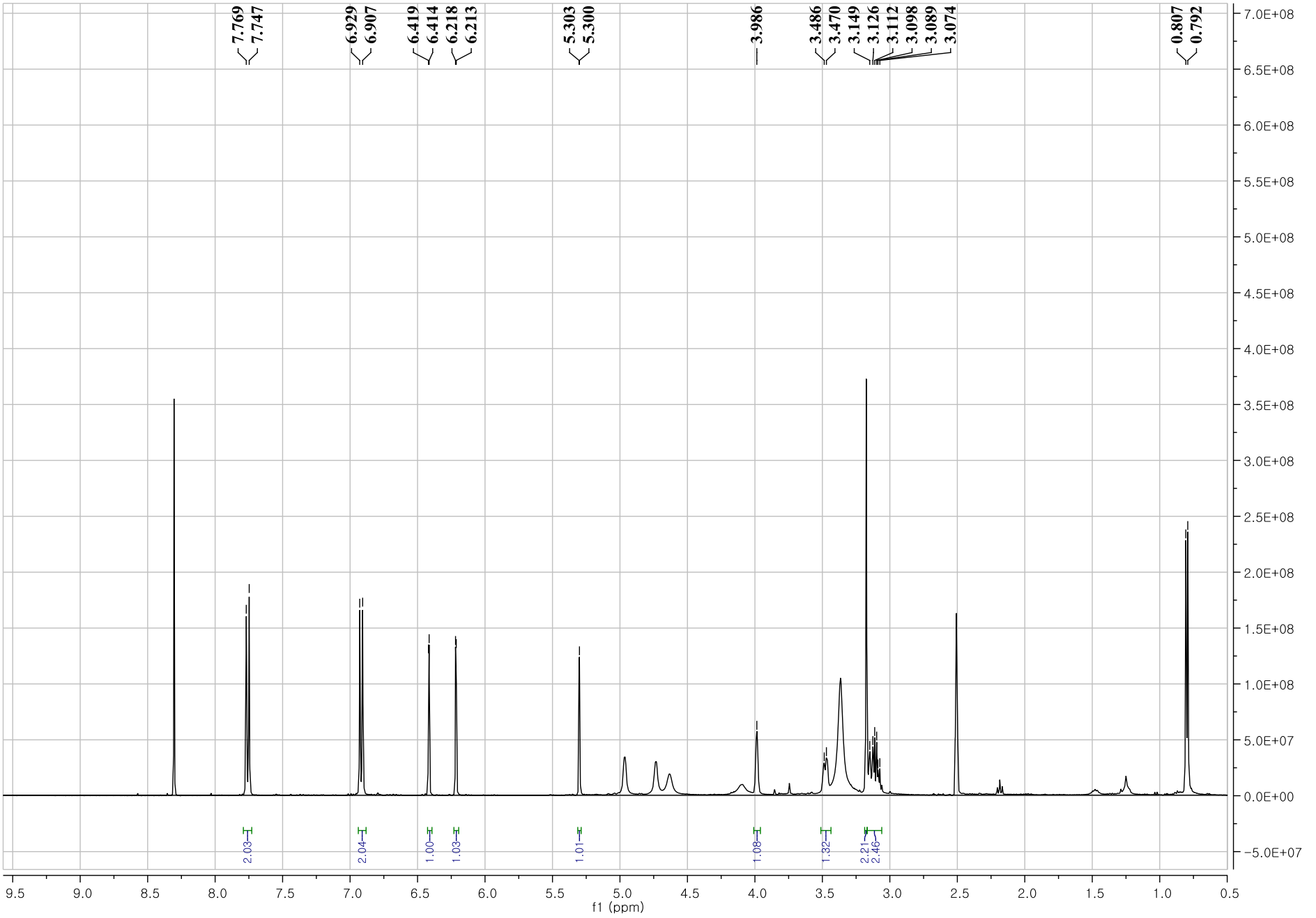


Figure S5. ^{1}H-NMR spectrum of compound **5** (400 MHz, DMSO-d_6).

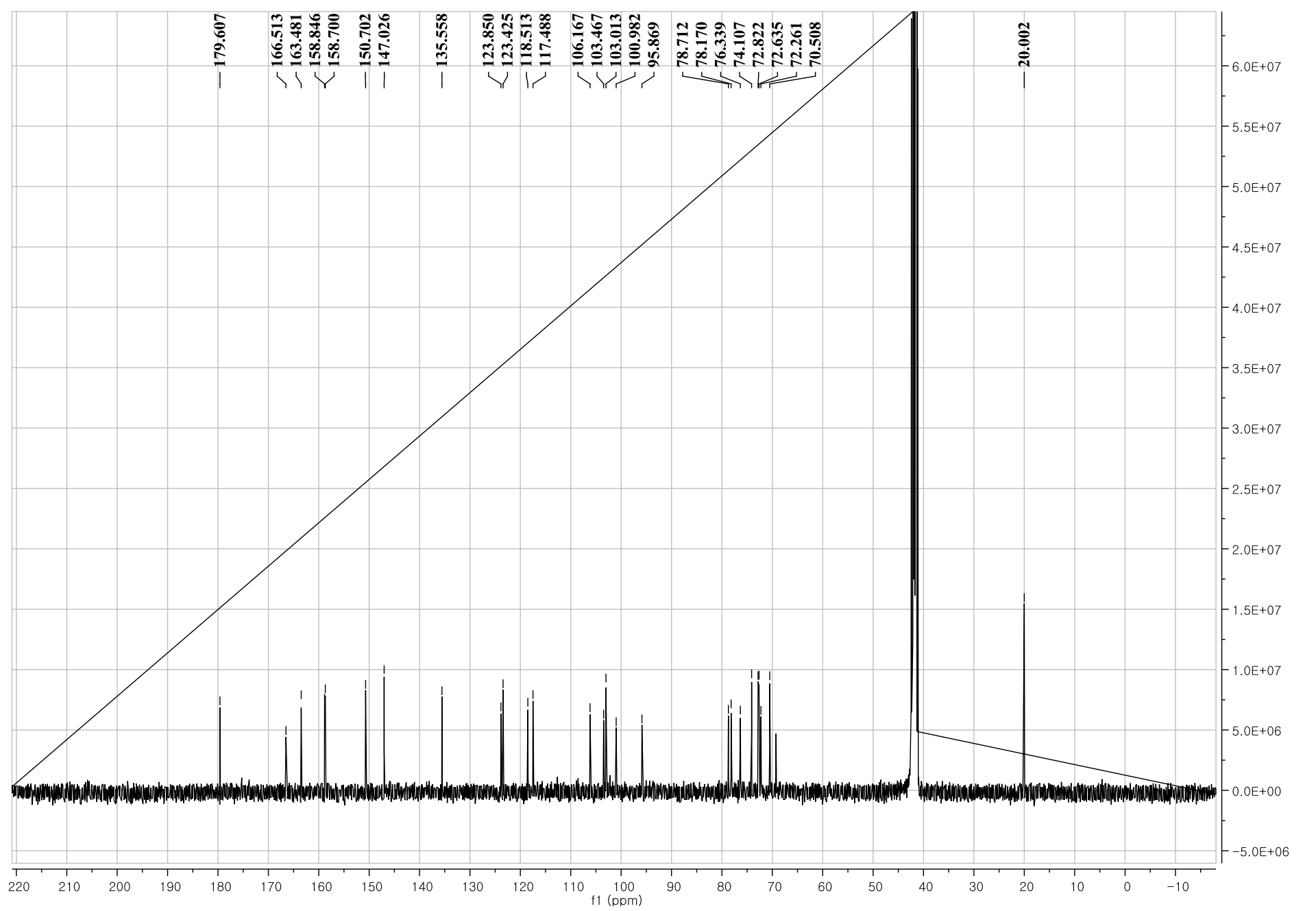


Figure S6. ^{13}C-NMR spectrum of compound **1** (100 MHz, DMSO-d_6).

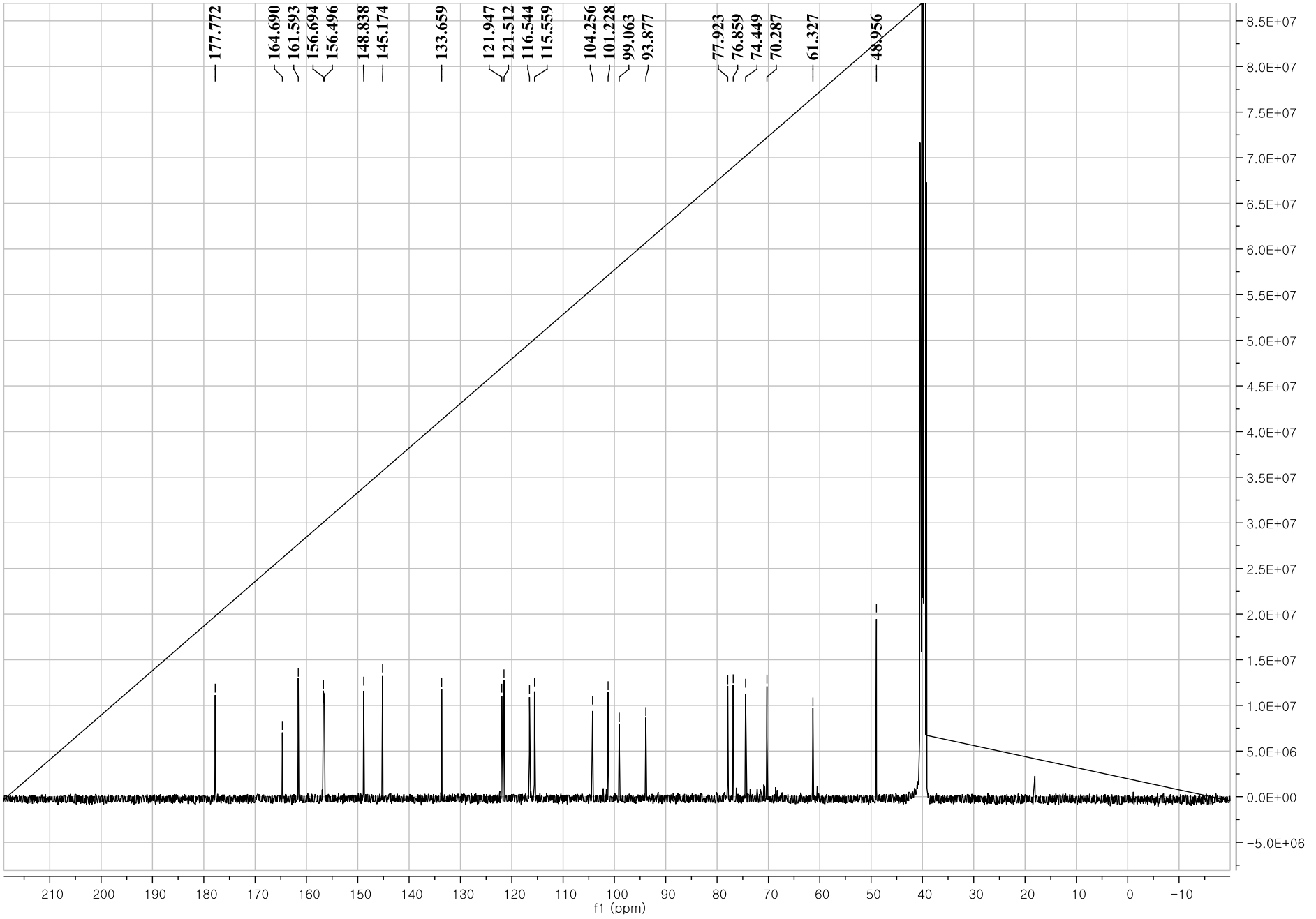


Figure S7. ^{13}C-NMR spectrum of compound **2** (100 MHz, DMSO-d_6).

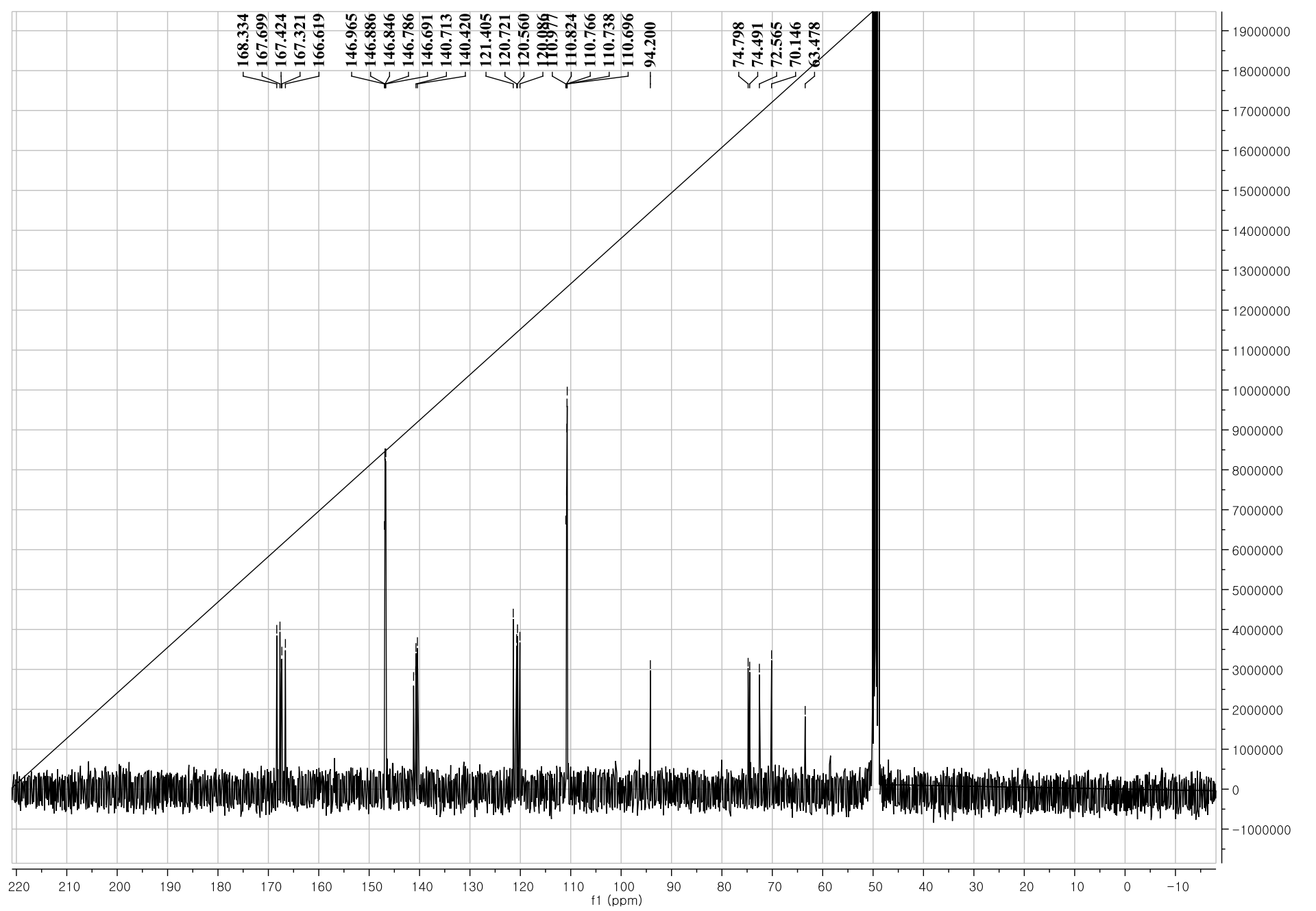


Figure S8. ^{13}C-NMR spectrum of compound **3** (100 MHz, CD_3OD).

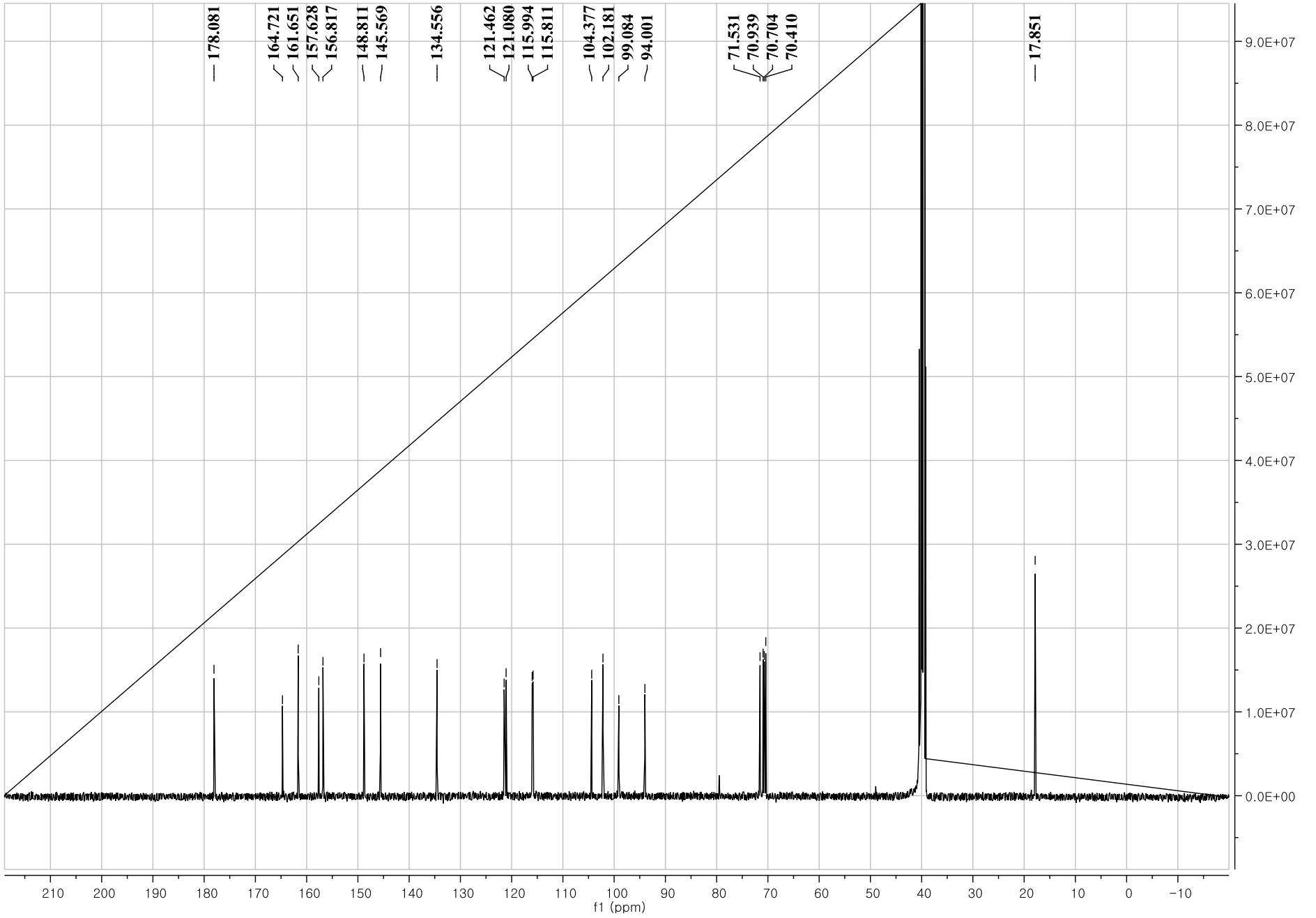


Figure S9. ^{13}C-NMR spectrum of compound **4** (100 MHz, DMSO-d_6).

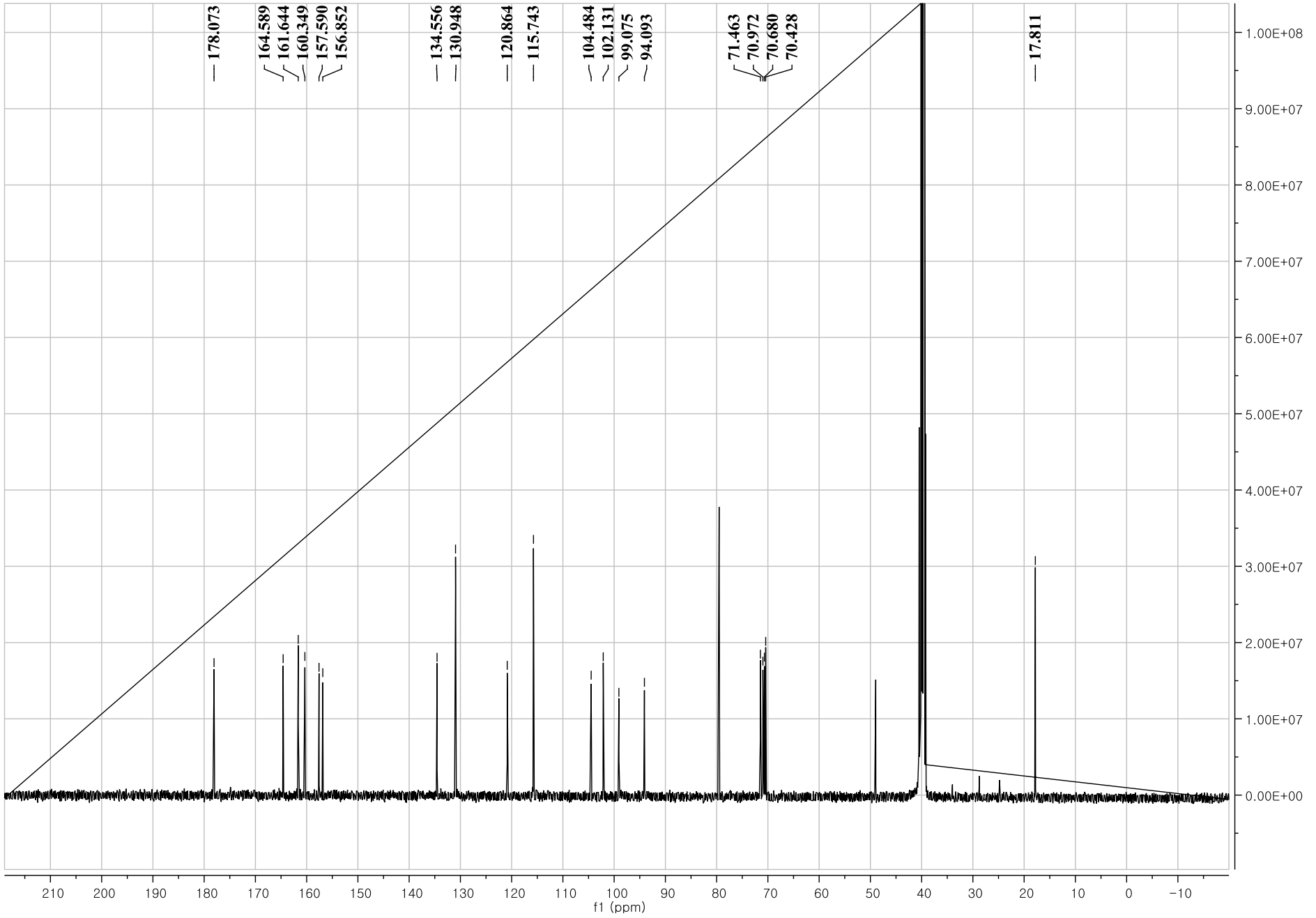
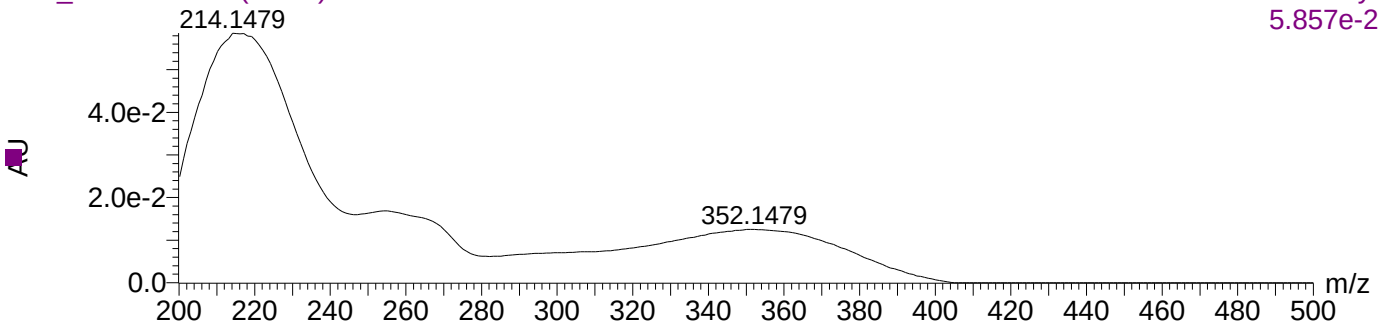


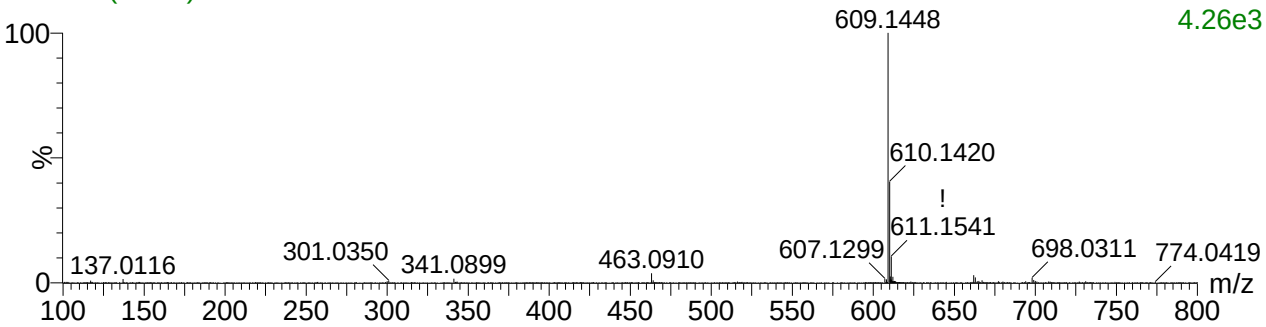
Figure S10. ^{13}C-NMR spectrum of compound **5** (100 MHz, DMSO-d_6).

Compound 1 AAL_sachun 7088 (5.906) 4: Diode Array 5.857e-2

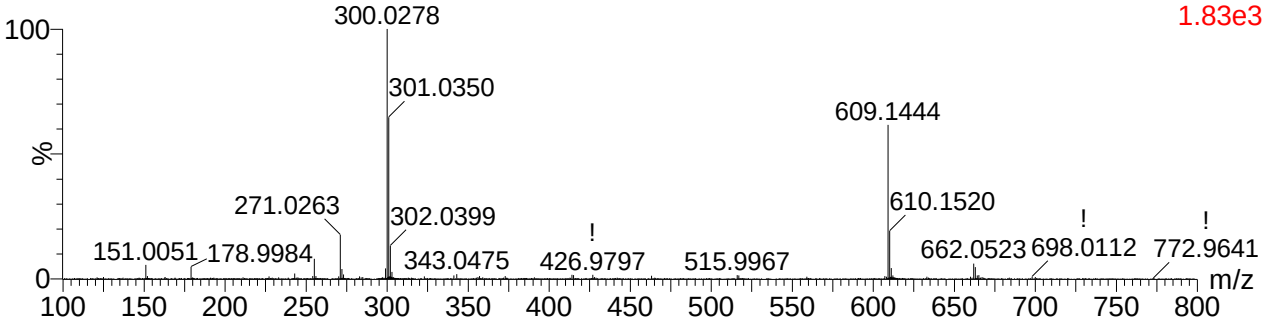
[UV spectrum]



[MS Chromatogram] AAL_sachun 301 (5.938) 1: TOF MS ES- 4.26e3



[MS² Chromatogram] AAL_sachun 301 (5.947) 2: TOF MS ES- 1.83e3



[Elemental Composition: HR-ESI/MS]

Single Mass Analysis

Tolerance = 5.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

178 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

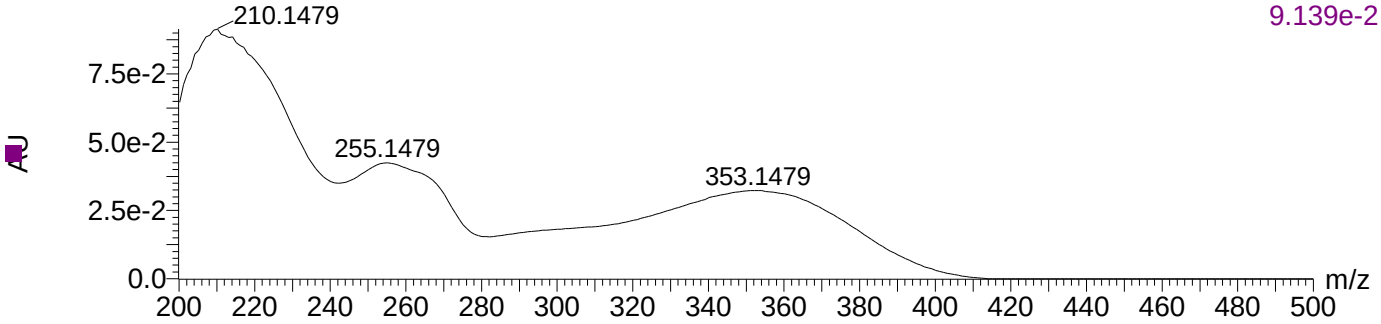
Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-...	i-FIT Norm	Fit Conf %	C	H	O
609.1448	609.1456	-0.8	-1.3	13.5	C27 H29 O16	59.6	n/a	n/a	27	29	16

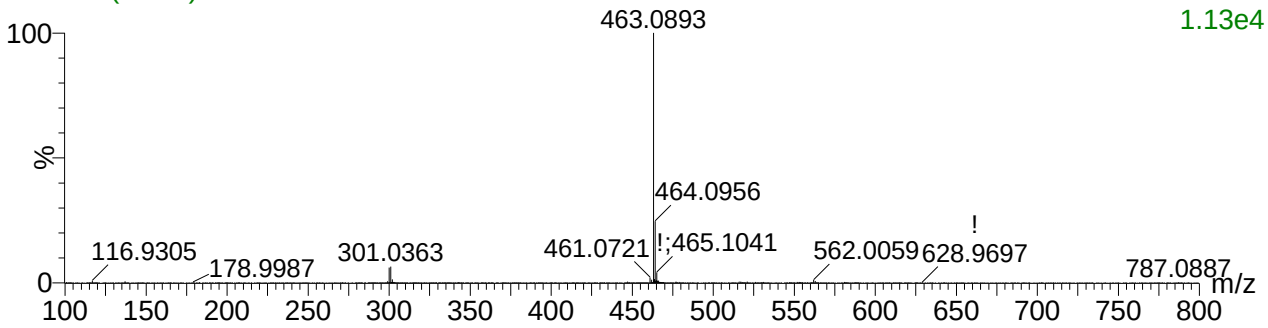
Figure S11. Identification of compound **1** by UPLC-qTof MS.

Compound 2 AAL_sachun 7481 (6.234) 4: Diode Array 9.139e-2

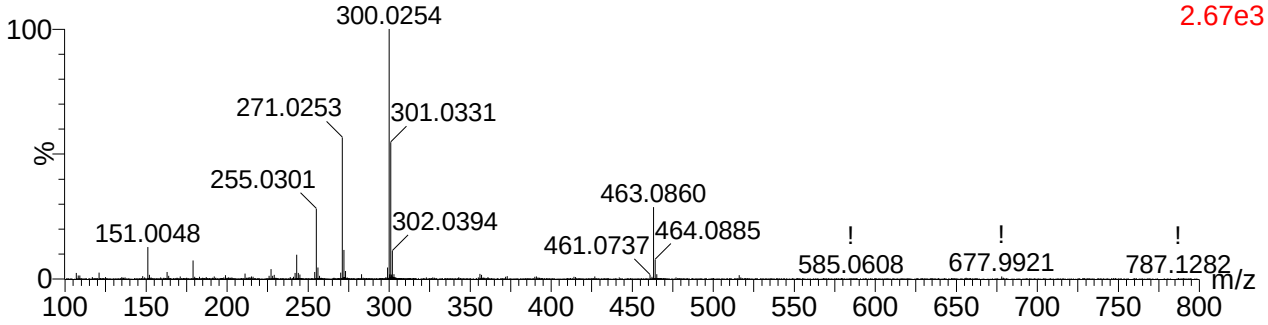
[UV spectrum]



[MS Chromatogram] AAL_sachun 318 (6.268) 1: TOF MS ES- 1.13e4



[MS^2 Chromatogram] AAL_sachun 318 (6.277) 2: TOF MS ES- 2.67e3



[Elemental Composition: HR-ESI/MS]

Single Mass Analysis

Tolerance = 5.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

114 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

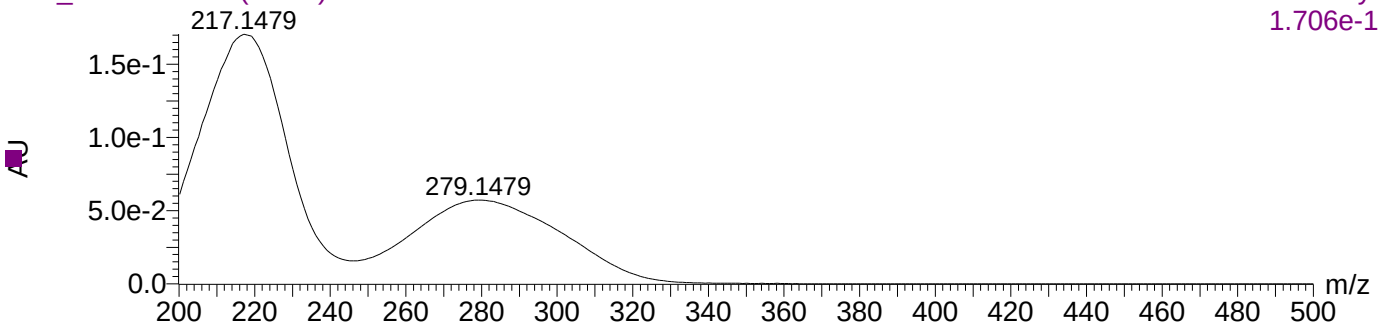
Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	O
463.0893	463.0877	1.6	3.5	12.5	C21 H19 O12	159.9	n/a	n/a	21	19	12

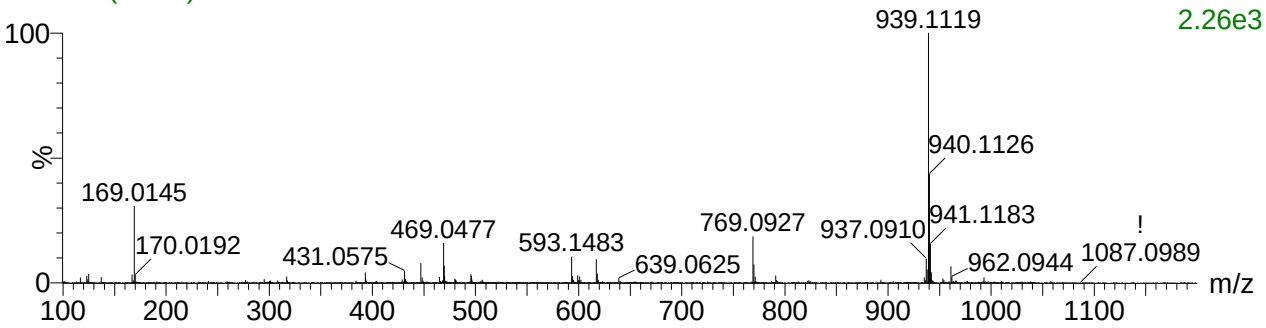
Figure S12. Identification of compound **2** by UPLC-qTof MS.

Compound 3 AAL_sachun 8839 (7.366) 4: Diode Array 1.706e-1

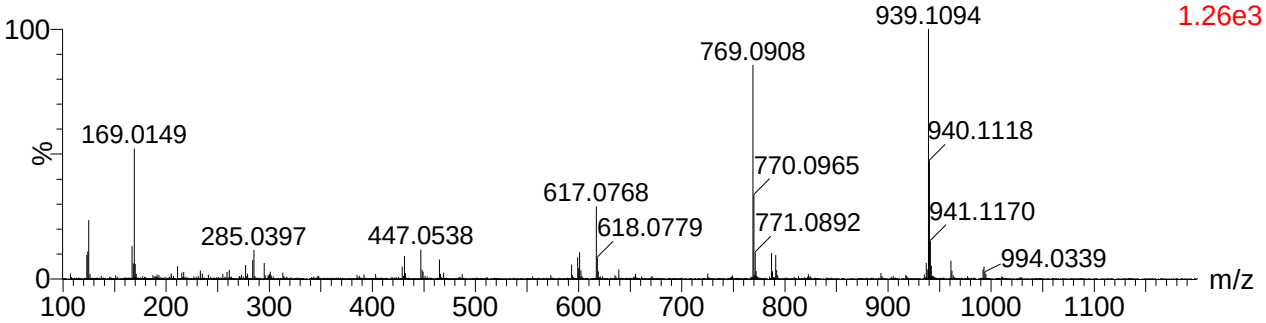
[UV spectrum]



[MS Chromatogram] AAL_sachun 376 (7.413) 1: TOF MS ES- 2.26e3



[MS² Chromatogram] AAL_sachun 375 (7.404) 2: TOF MS ES- 1.26e3



[Elemental Composition: HR-ESI/MS]

Single Mass Analysis

Tolerance = 5.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

399 formula(e) evaluated with 3 results within limits (up to 50 best isotopic matches for each mass)

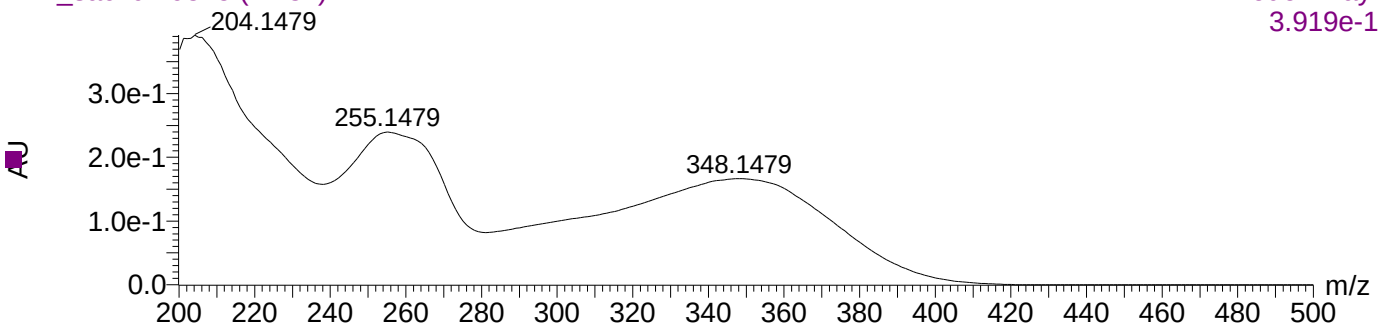
Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-...	i-FIT Norm	Fit Conf %	C	H	O
939,1119	939,1104	1,5	1,6	26,5	C41 H31 O26	43,2	0,007	99,31	41	31	26
	939,1162	-4,3	-4,6	17,5	C34 H35 O31	48,2	5,017	0,66	34	35	31
	939,1139	-2,0	-2,1	48,5	C59 H23 O13	51,3	8,097	0,03	59	23	13

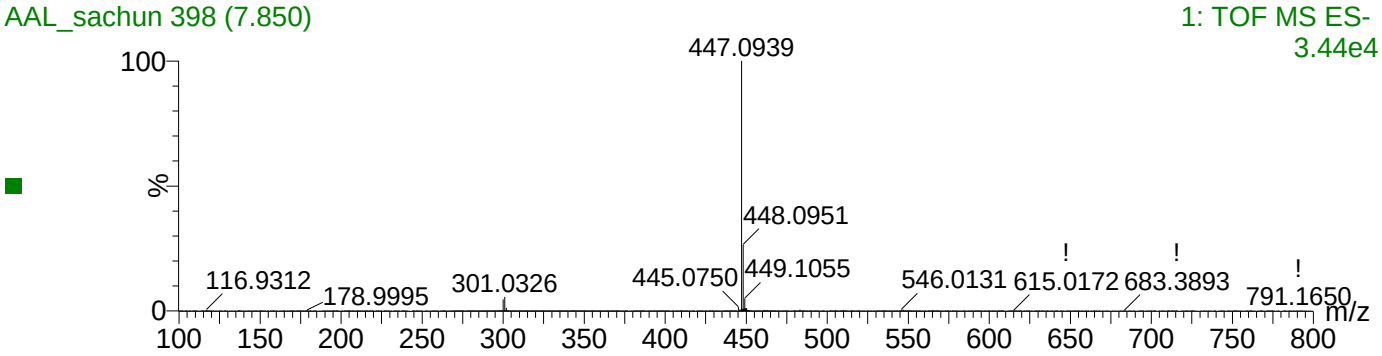
Figure S13. Identification of compound **3** by UPLC-qTof MS.

Compound 4

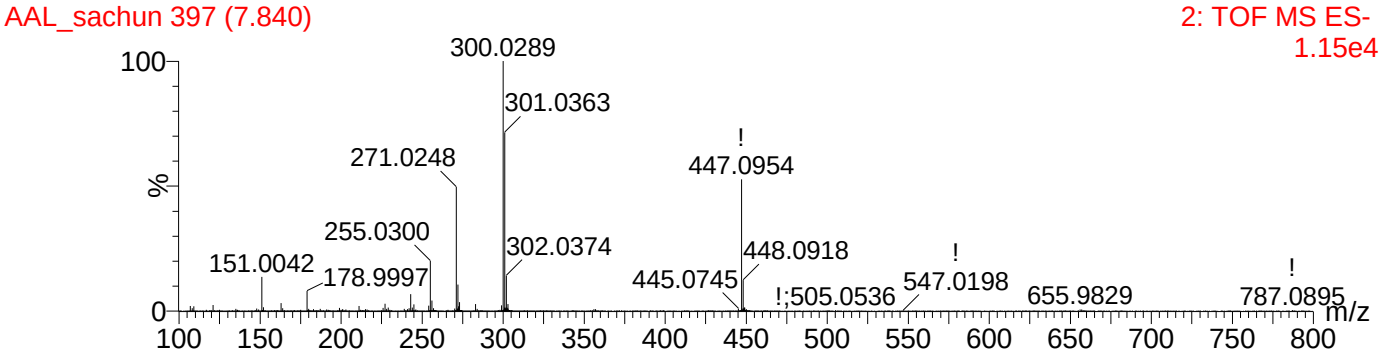
[UV spectrum]



[MS Chromatogram]



[MS² Chromatogram]



[Elemental Composition: HR-ESI/MS]

Single Mass Analysis

Tolerance = 5.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

108 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

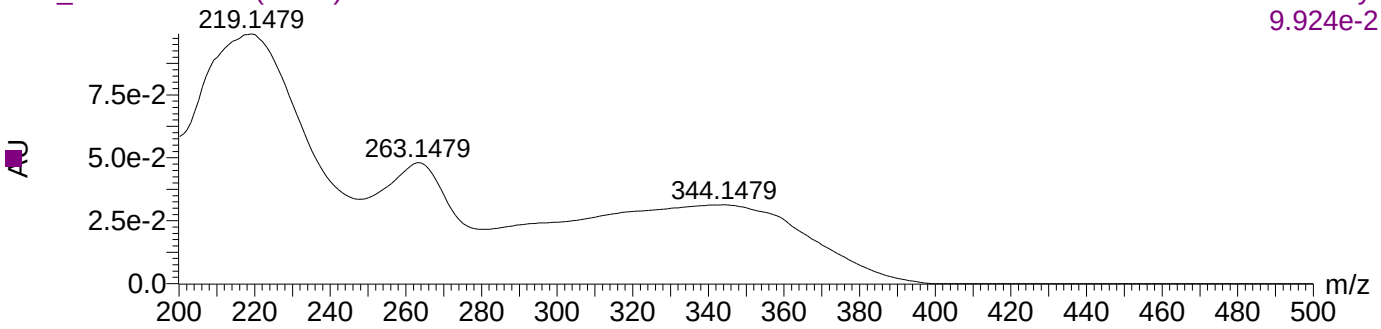
Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	O
447.0939	447.0927	1.2	2.7	12.5	C21 H19 O11	188.1	n/a	n/a	21	19	11

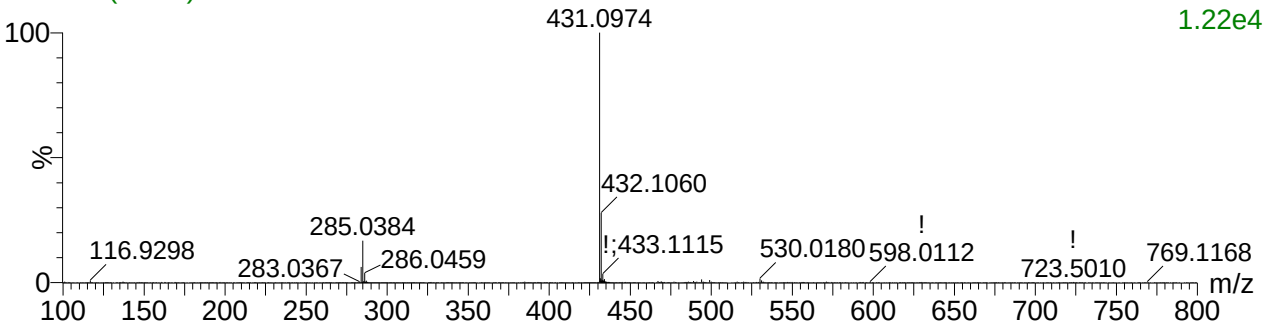
Figure S14. Identification of compound **4** by UPLC-qTof MS.

Compound 5 AAL_sachun 11466 (9.555) 4: Diode Array 9.924e-2

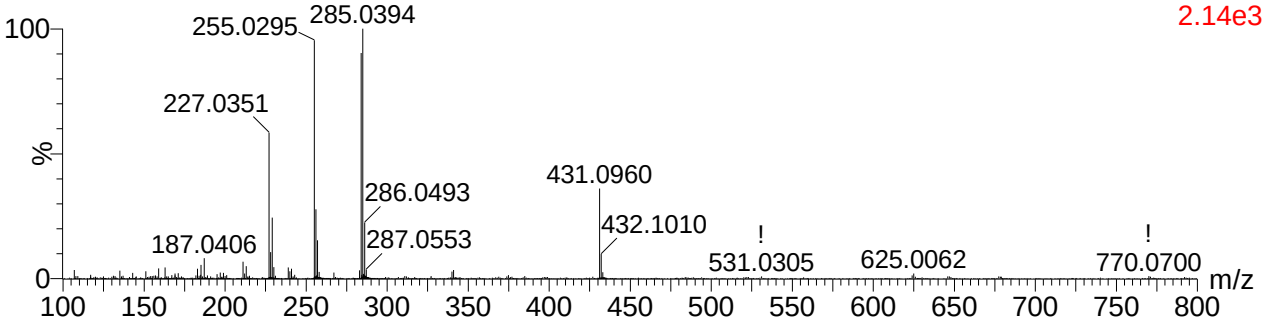
[UV spectrum]



[MS Chromatogram] AAL_sachun 488 (9.618) 1: TOF MS ES- 1.22e4



[MS² Chromatogram] AAL_sachun 487 (9.609) 2: TOF MS ES- 2.14e3



[Elemental Composition: HR-ESI/MS]

Single Mass Analysis

Tolerance = 5.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

102 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	O
431.0974	431.0978	-0.4	-0.9	12.5	C21 H19 O10	164.4	n/a	n/a	21	19	10

Figure S15. Identification of compound **5** by UPLC-qTof MS.

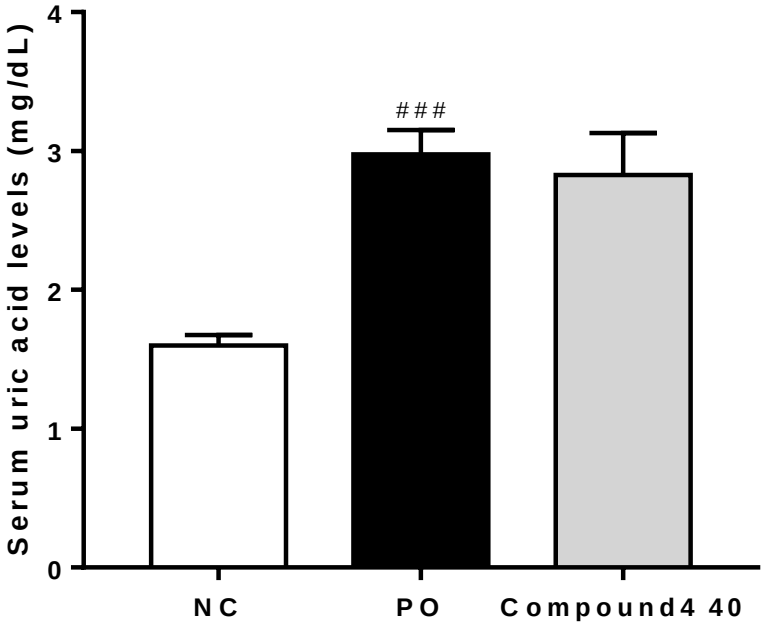


Figure S16. Effects of compound **4** (40 mg/kg) on serum uric acid levels in PO-induced hyperuricemic rats. NC, normal control group; PO, potassium oxonate-induced hyperuricemia group. Data are expressed as the mean ± SEM (n=6). $^{###}p<0.001$ vs. the NC group; $^{*}p<0.05$ and $^{***}p<0.005$ vs. the PO group.