

SUPPLEMENTARY MATERIAL

***Parmotrema screminiae* (Parmeliaceae), a novel lichen species from Brazil with potent antimicrobial activity**

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Taxonomic discussion – Supplementary

Key to *Parmotrema* with norlobaridone

- 1a. Thallus without vegetative propagules or similar structures, upper surface distinctly maculate 2
- 1b. Thallus with isidia, soredia, lacinules or dactyls, upper surface maculate or not 4
- 2a (1). Medulla with norstictic acid *Parmotrema spilotum* (Hale) Hale, 1974
- 2b. Medulla without norstictic acid 3
- 3a (2). Conidia sublageniform *Parmotrema abessinicum* (Nyl. ex Kremp.) Hale, 1974
- 3b. Conidia filiform *Parmotrema recipiendum* (Nyl.) Hale, 1974
- 4a (1). Thallus with dactyls *Parmotrema dissimile* Fleig, 1999
- 4b. Thallus with isidia, soredia, or lacinules, without dactyls 5
- 5a (4). Thallus with lacinules, without isidia or soredia
Parmotrema cristobaliae (Ferraro & Elix) Blanco, Crespo, Divakar, Elix & Lumbsch, 2005
- 5b. Thallus with isidia or soredia 6
- 6a (5). Thallus primarily isidiate (can be isidiate-sorediate in *Parmotrema paulense*) 7
- 6b. Thallus sorediate 11

7a (6). Upper surface with reticular maculae, medulla with lichexanthone	
..... <i>Parmotrema bonplandii</i> (Mata) Blanco, Crespo, Divakar, Elix & Lumbsch, 2005	
7b. Upper surface with effigurate maculae or without maculae, medulla without lichexanthone	
.....	8
8a (7). Upper surface with effigurate maculae	9
8b. Upper surface without maculae	10
9a (8). Medulla with salazinic acid	<i>Parmotrema subtinctorium</i> (Zahlbr.) Hale, 1974
9b. Medulla without salazinic acid	<i>Parmotrema haitiense</i> (Hale) Hale, 1974
10a (8). Medulla with stictic acid, conidia sublageniform	
..... <i>Parmotrema internexum</i> (Nyl.) Hale ex DePriest & B. Hale, 1998	
10b. Medulla without stictic acid, conidia filiform	<i>Parmotrema paulense</i> (Zahlbr.) Hale, 1974
11a (6). Lobes eciliate	12
11b. Lobes ciliate	13
12a (11). Soralia marginal, linear; lobes adnate	
..... <i>Parmotrema applanatum</i> Marcelli & Ribeiro, 2002	
12b. Soralia marginal or laminal, then usually capitate; lobes usually crowded in the center	
..... <i>Parmotrema screminiae</i> Spielmann & Canêz	
13a (11). Medulla with lichexanthone	<i>Parmotrema larense</i> López-Figueiras, 1979
13b. Medulla without lichexanthone	14
14a (13). Upper surface without maculae	14
14b. Upper surface distinctly maculate	16
15a (13). Medulla with gyrophoric acid	<i>Parmotrema indicum</i> Hale, 1977
15b. Medulla without gyrophoric acid	<i>Parmotrema yodae</i> (Kurokawa) Hale, 1977
16a (14). Medulla with gyrophoric acid	<i>Parmotrema balense</i> (Winnem) Hale, 1977
16b. Medulla without gyrophoric acid	17
17a (16). Medulla with salazinic acid	<i>Parmotrema reitzii</i> Hale, 1977
17b. Medulla without salazinic acid	18
18a (17). Conidia sublageniform	<i>Parmotrema hababianum</i> (Gyelnik) Hale, 1974
18b. Conidia filiform	19
19a (18). Undersurface pale brown, with dimorphic rhizines	<i>Parmotrema conferendum</i> Hale, 1977
19b. Undersurface black, with monomorphic rhizines	20
20a (19). Cilia 0.2-1.5 mm. long; conidia 6.0-10.0µm long	
..... <i>Parmotrema commensuratum</i> (Hale) Hale, 1974	
20b. Cilia 1.0-3.0 mm. long; conidia 12-16 (-20.0) µm long	
..... <i>Parmotrema subschimperii</i> (Hale) Hale (1974)	

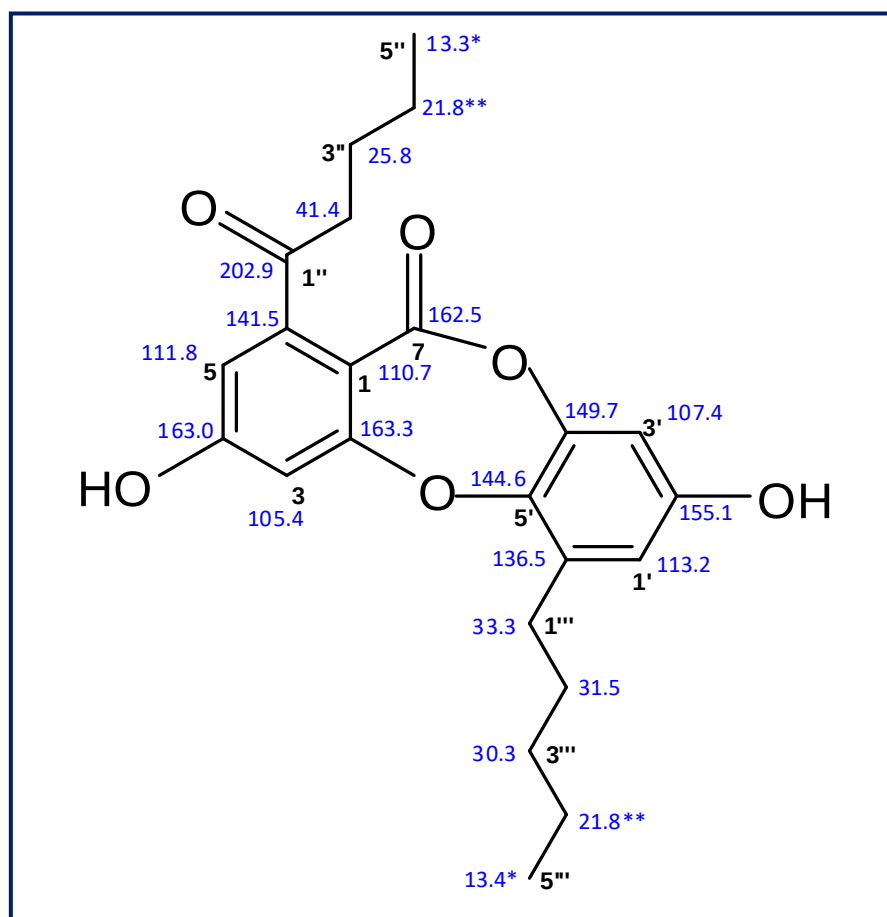


Figure 1S – Assignments of chemical shift signals in the ¹³C NMR spectrum for the depsidone norlobaridone. * and ** signals may be interchanged.

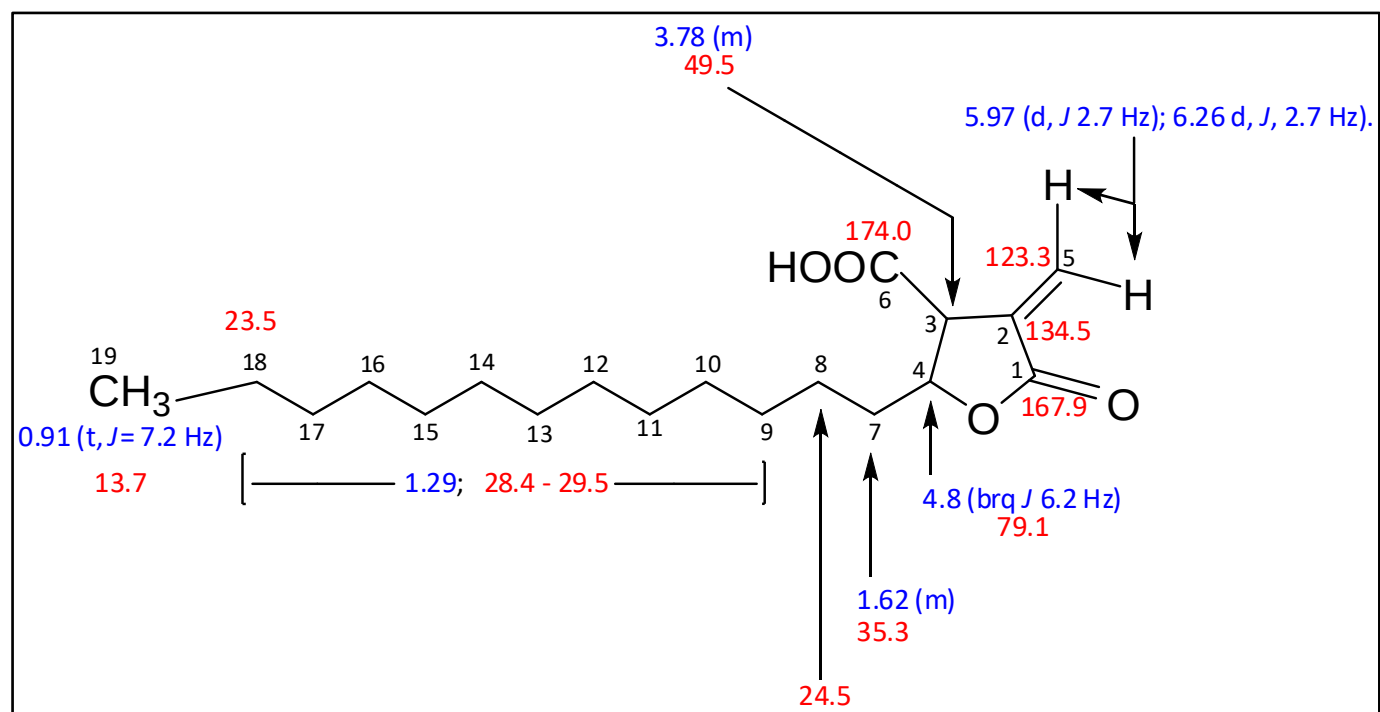


Figure 2S – Chemical shift assignments (^1H and ^{13}C), in ppm, for protolichesterinic acid. * ^1H -NMR ; * ^{13}C -NMR.

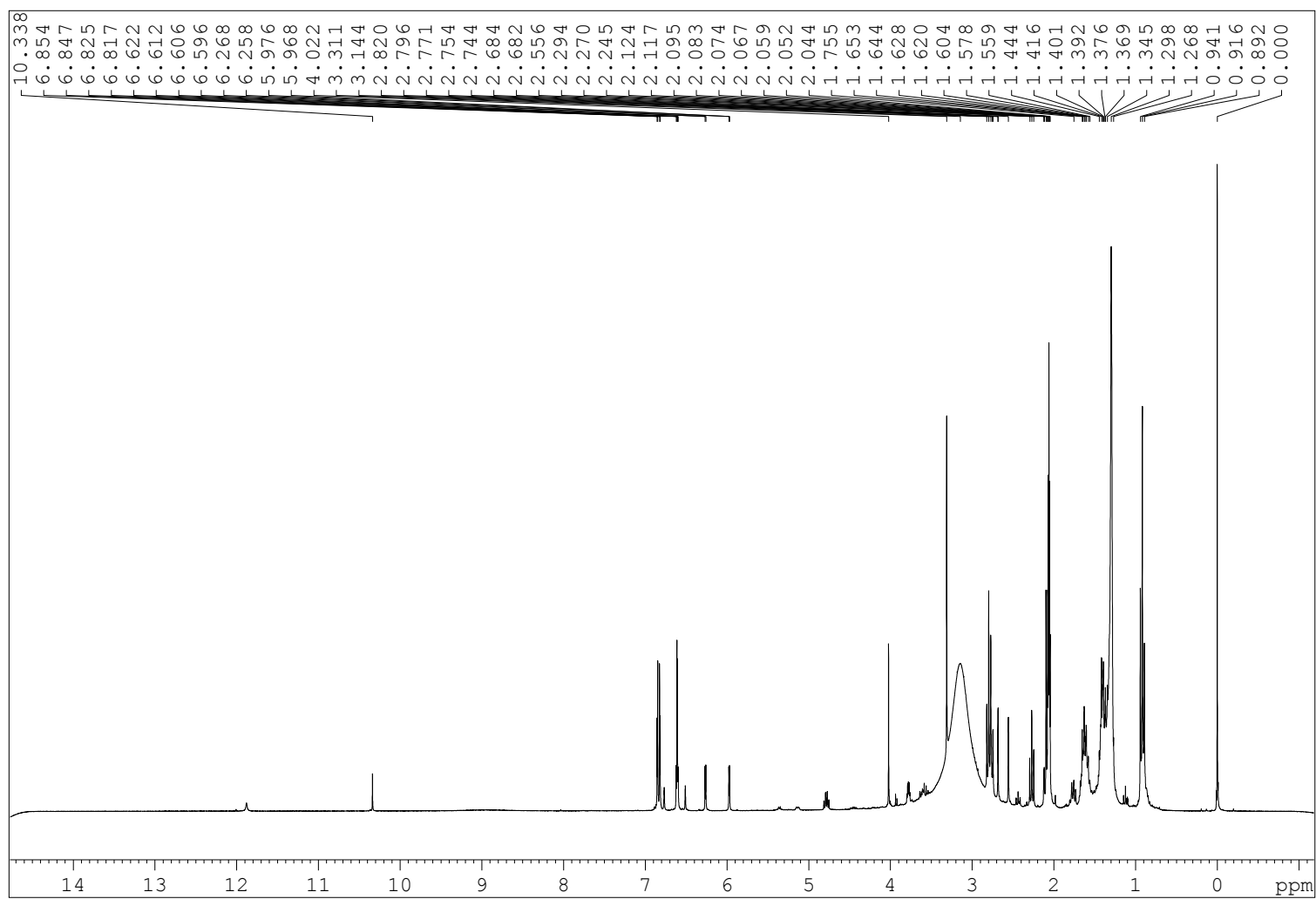


Figure 3S – ^1H -NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract.

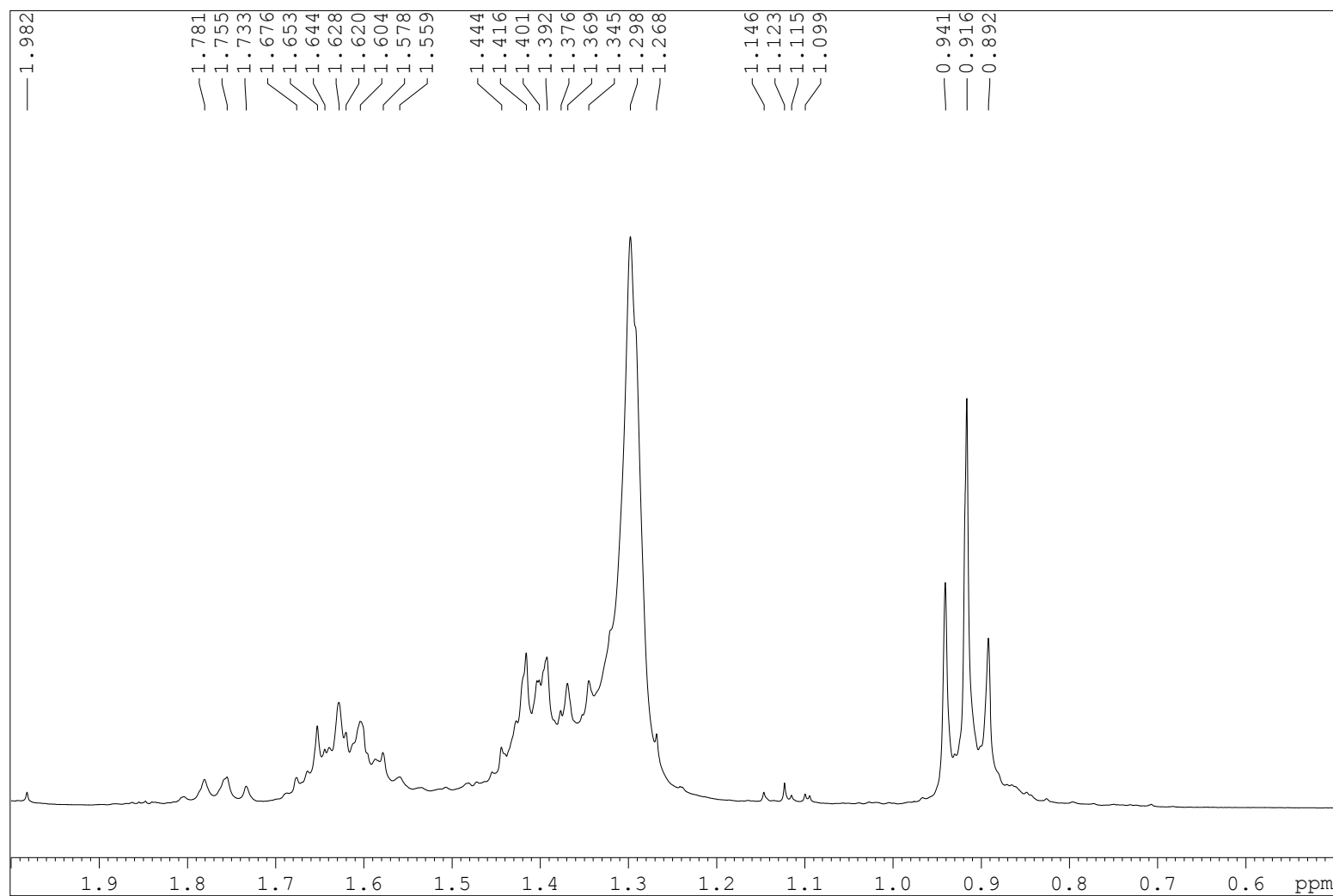


Figure 4S – ^1H -NMR (300 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 0.6-2.0 ppm region.

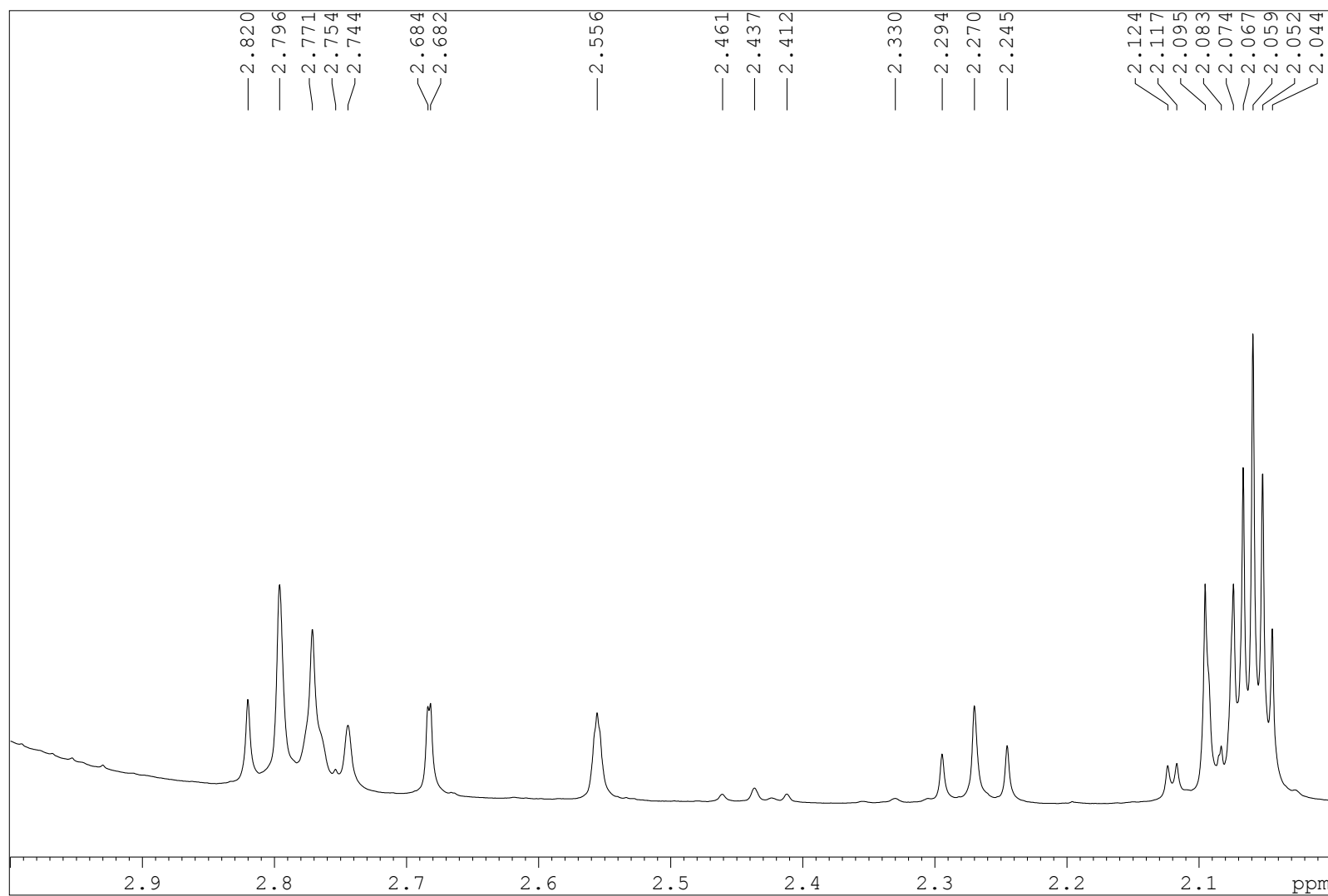


Figure 5S – ^1H -NMR (300 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 2.0-3.0 ppm region.

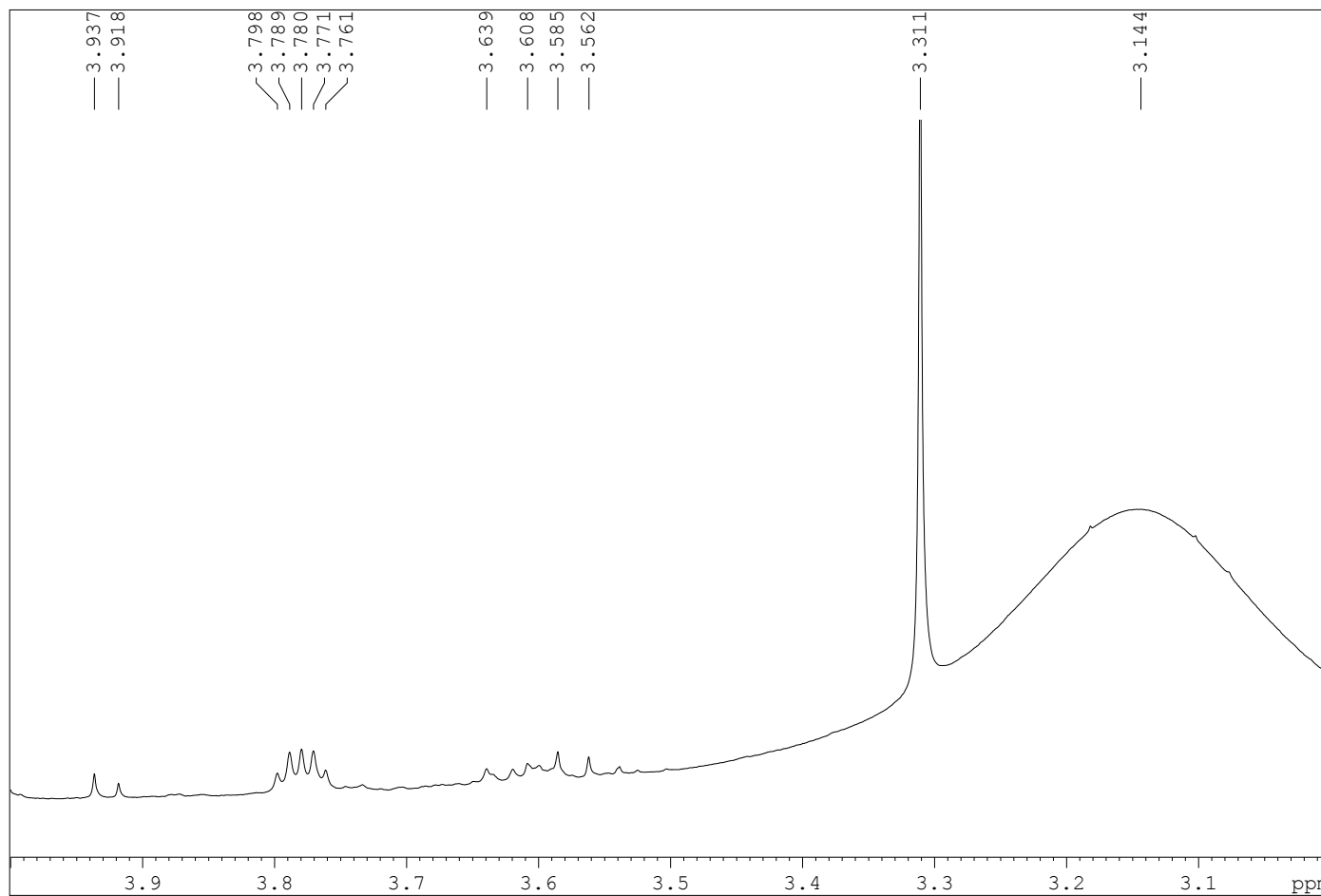


Figure 6S – ^1H -NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 3.0-4.0 ppm region.

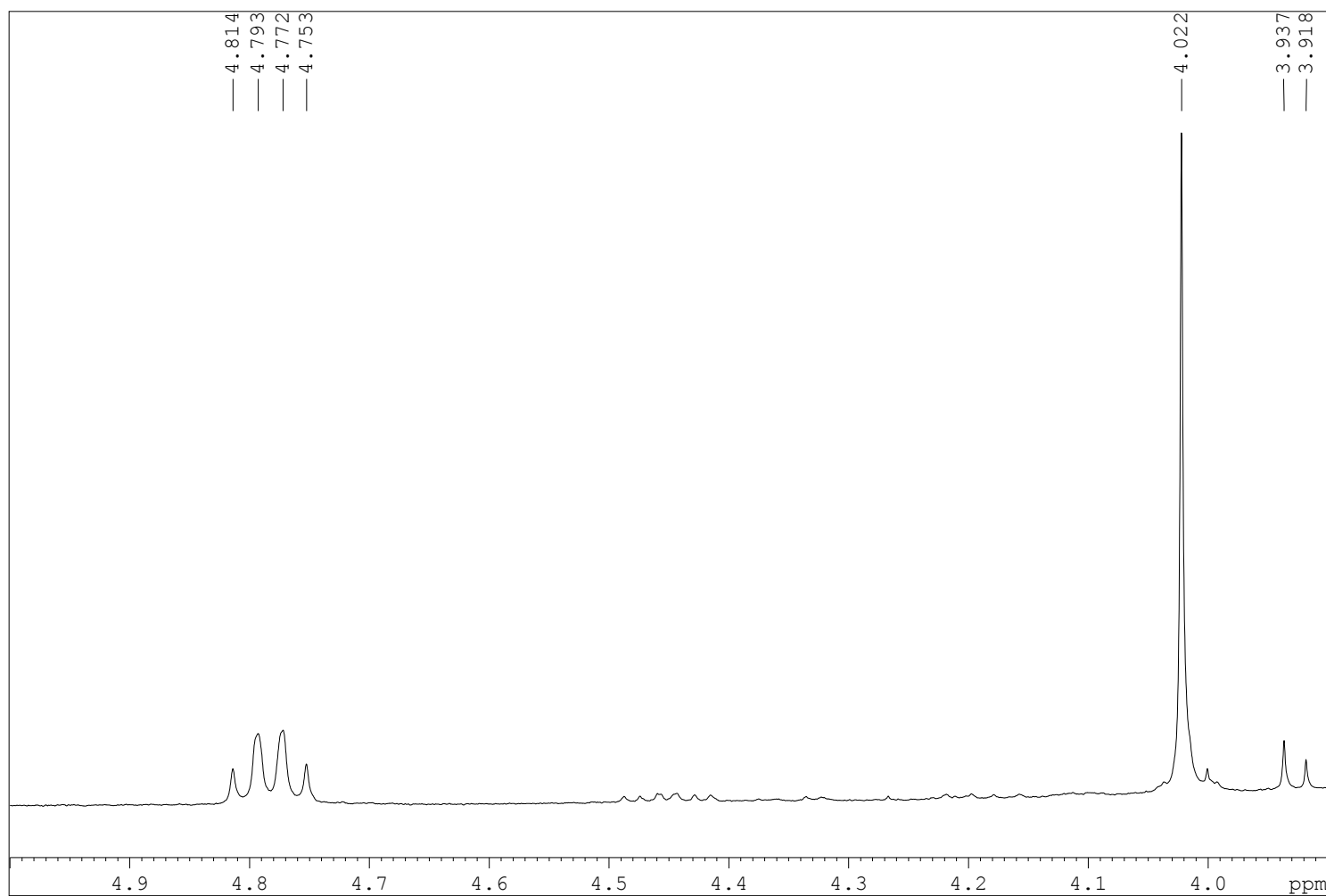


Figure 7S – ^1H -NMR (300 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 3.0-5.0 ppm region.

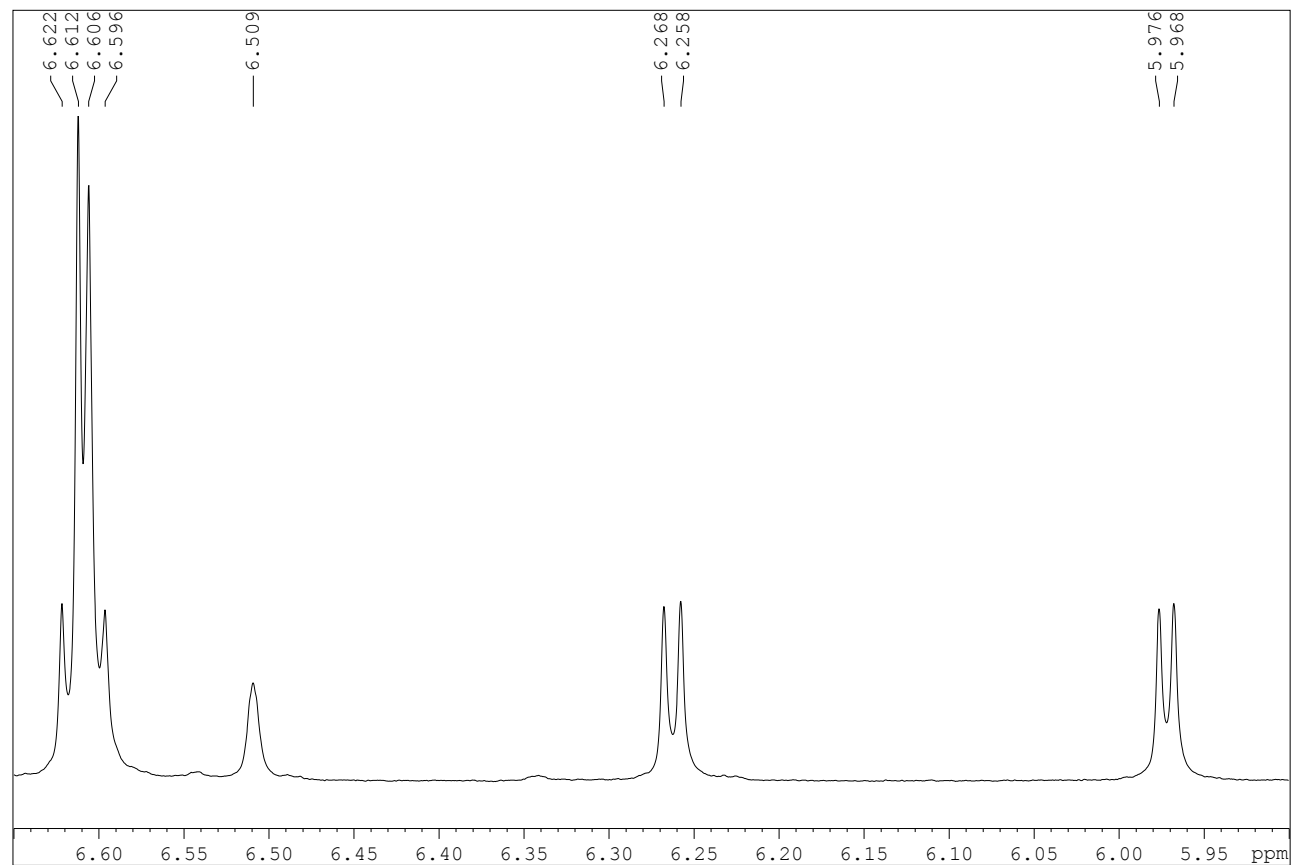


Figure 8S – ^1H -NMR (300 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 5.9-6.7 ppm region.

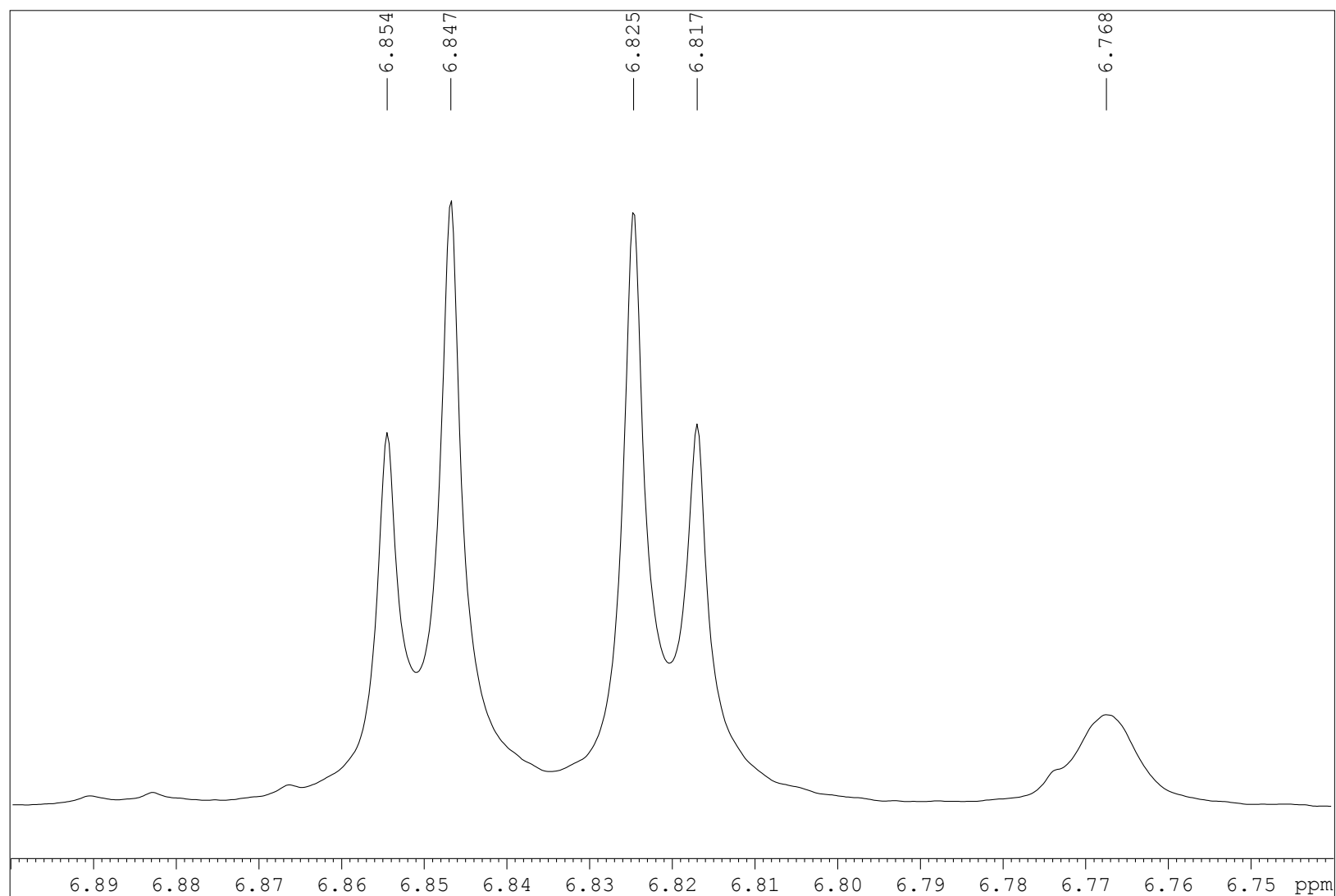


Figure 9S – ^1H -NMR (300 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 6.74-6.90 ppm region.

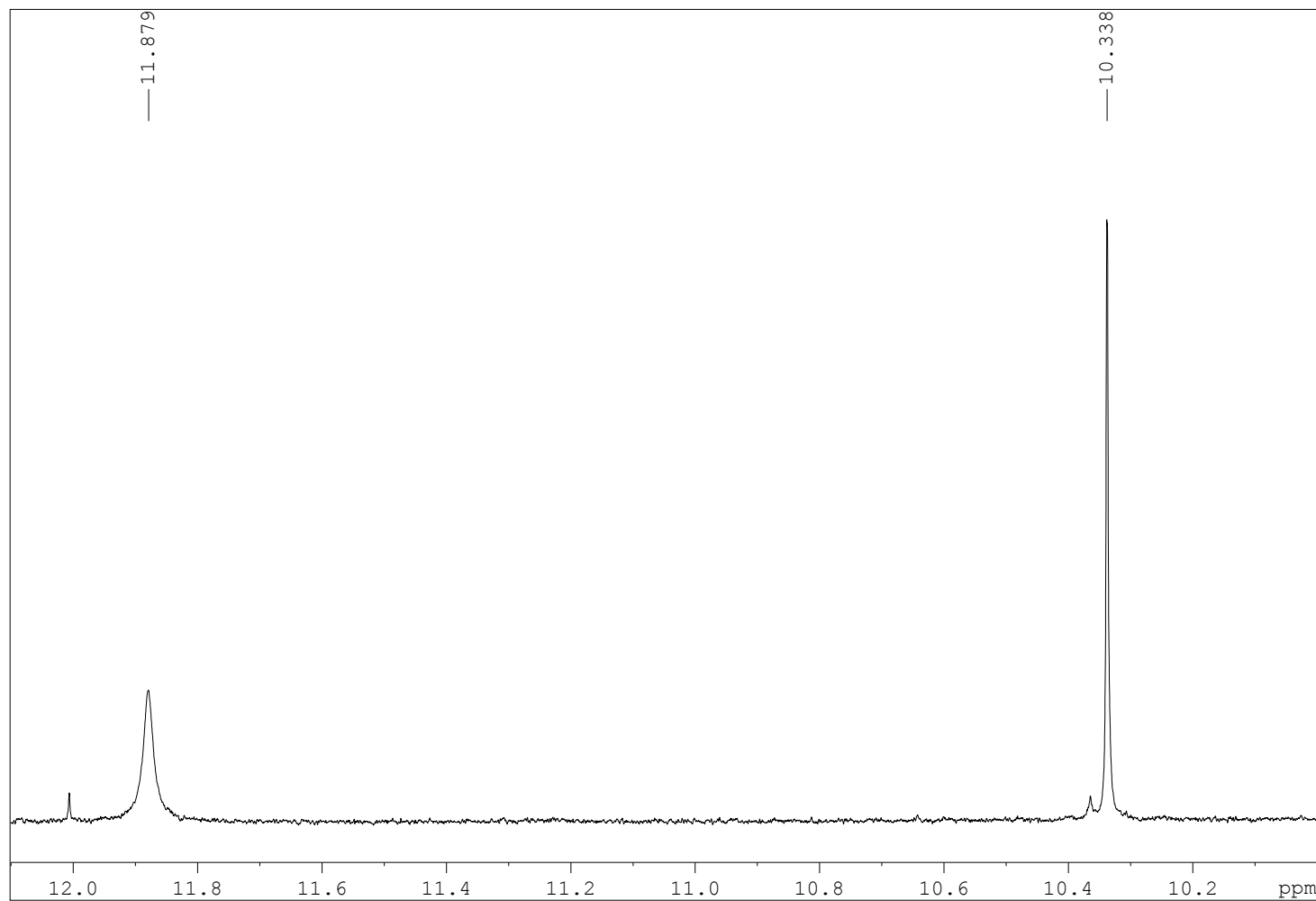


Figure 10S – ^1H -NMR (300 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 10.0-12.1 ppm region.

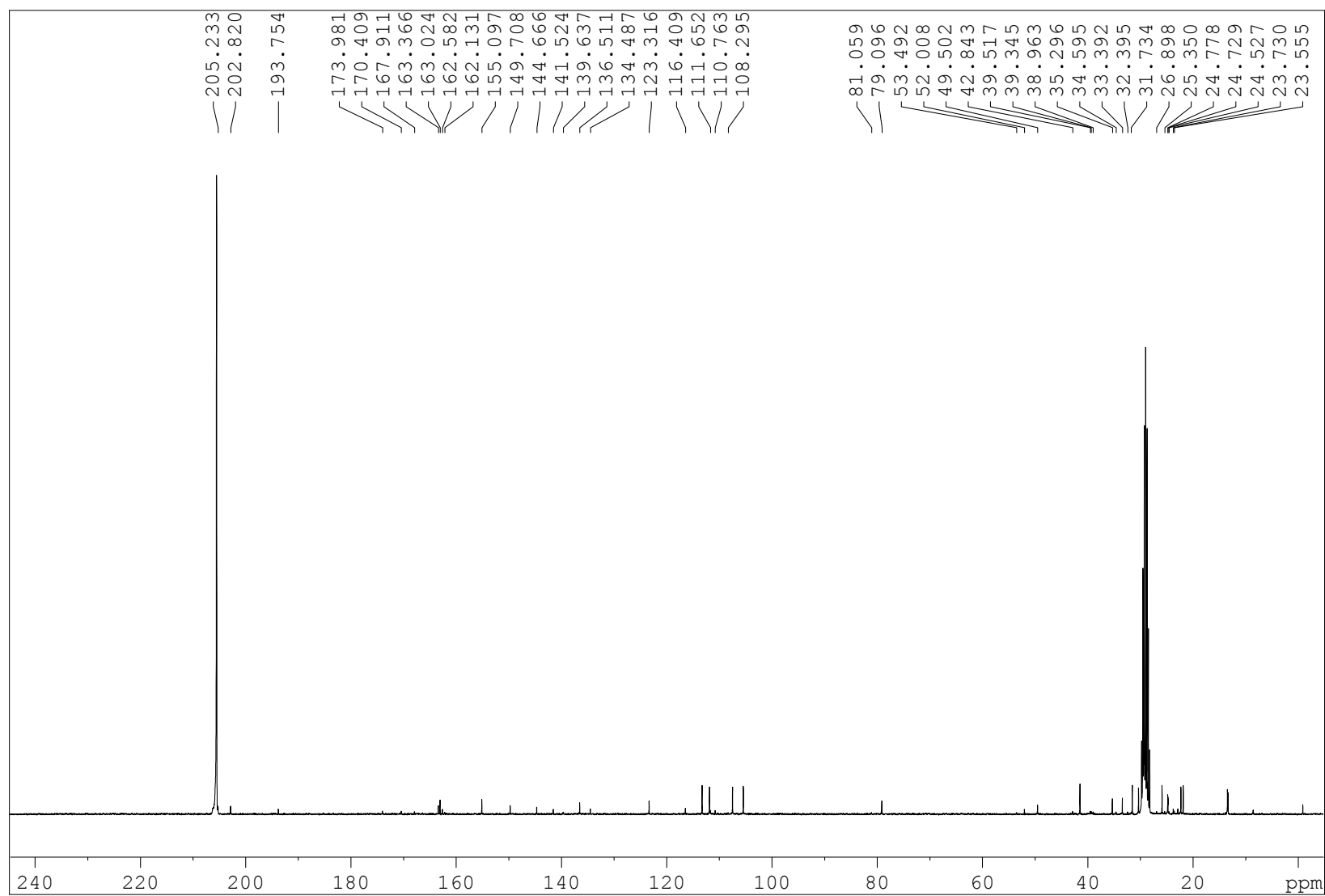


Figure 11S – ^{13}C -NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract.

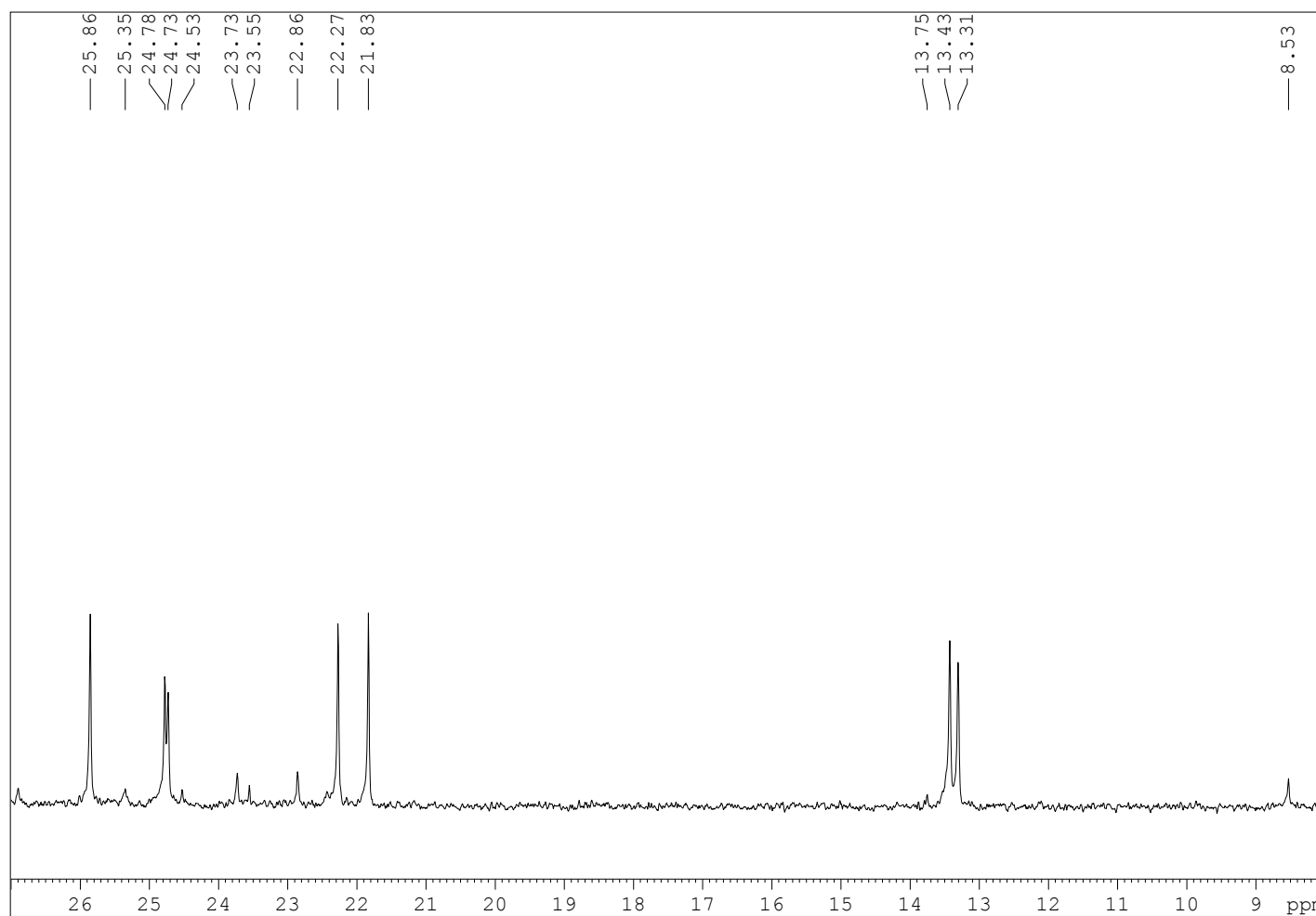


Figure 12S – ^{13}C -NMR (75 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 8.0-27.0 ppm region.

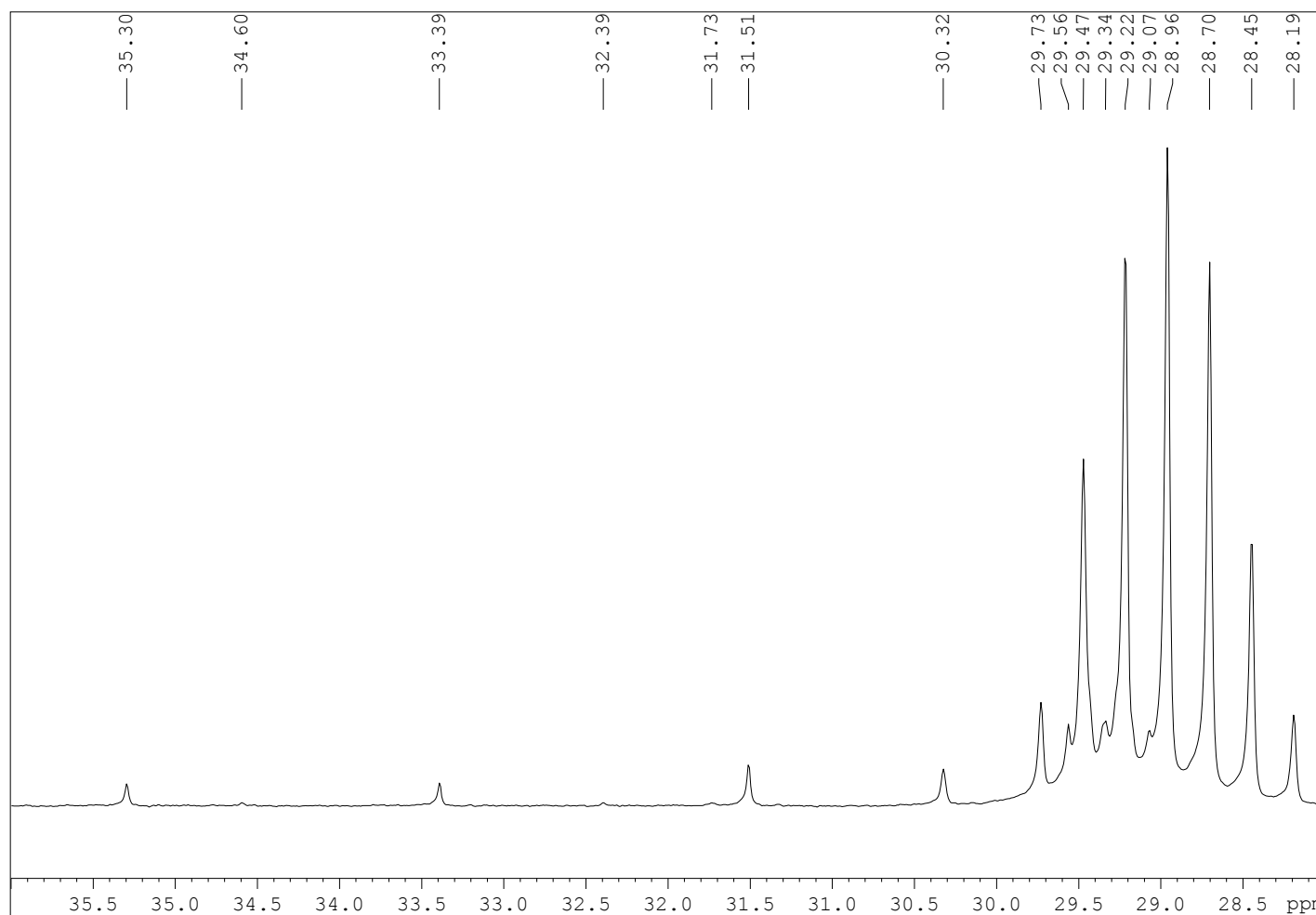


Figure 13S – ^{13}C -NMR (75 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 28.0-36.0 ppm region.

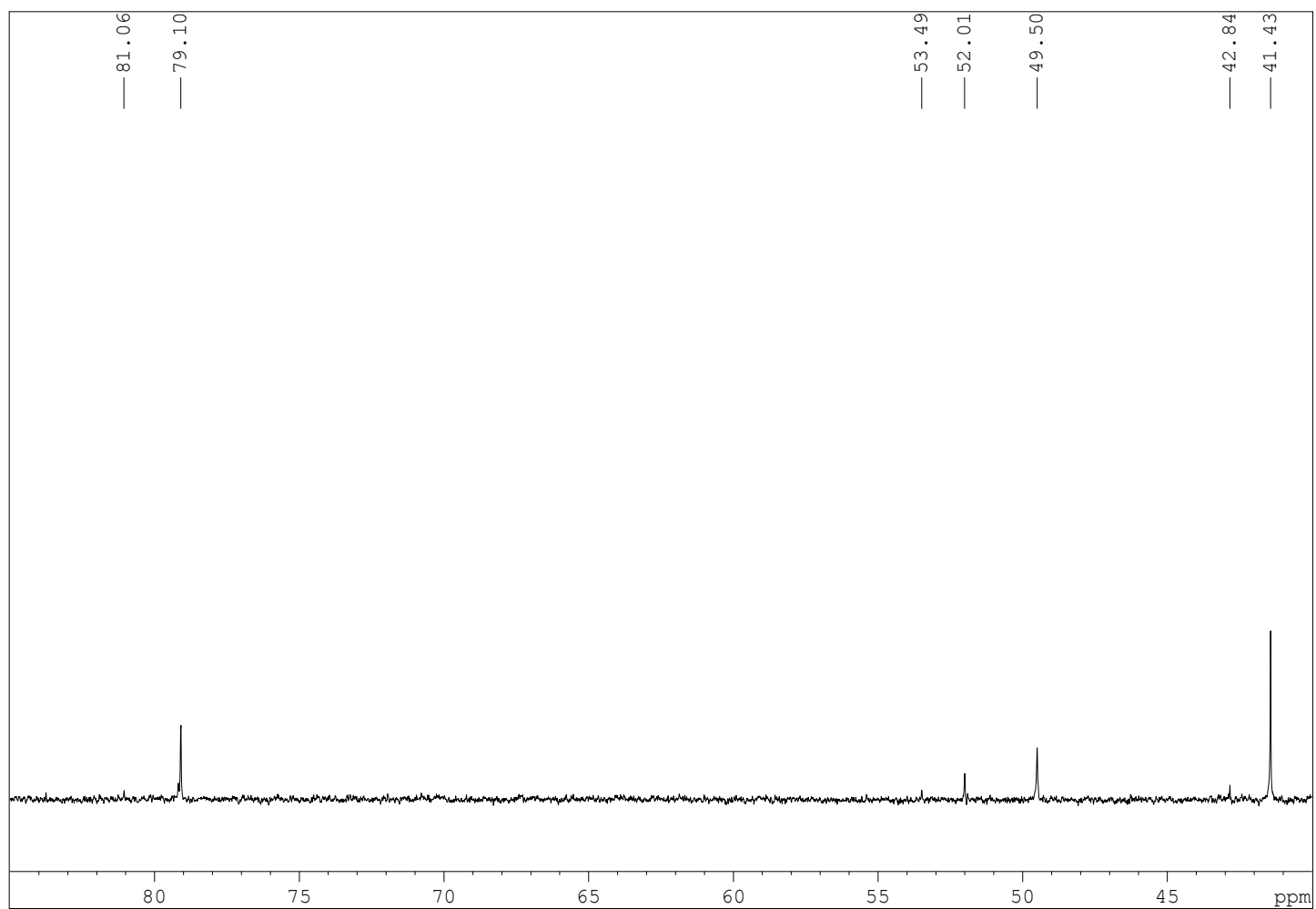


Figure 14S – ^{13}C -NMR (75 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 40.0-85.0 ppm region.

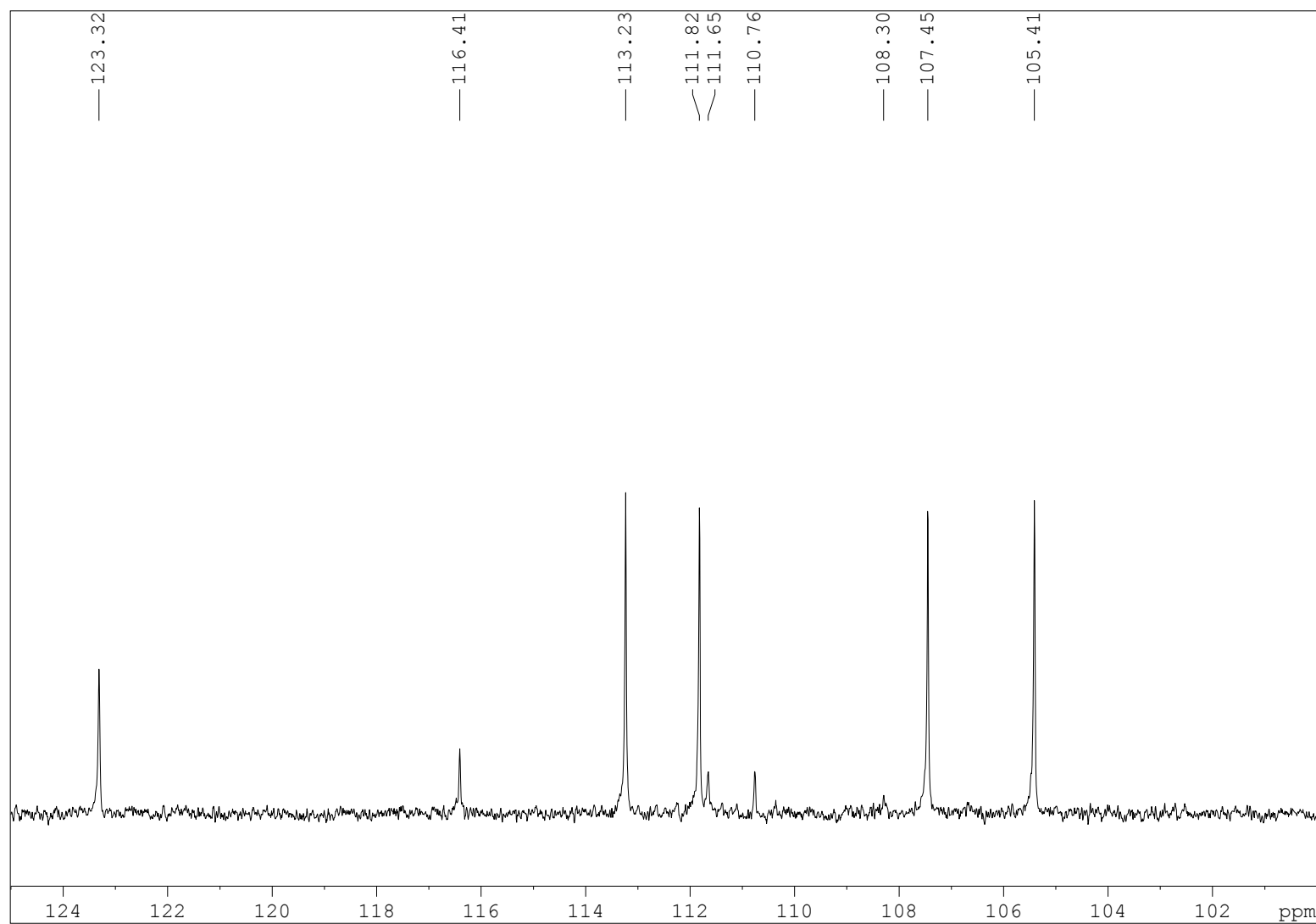


Figure 15S – ^{13}C -NMR (75 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 100.0-125.0 ppm region.

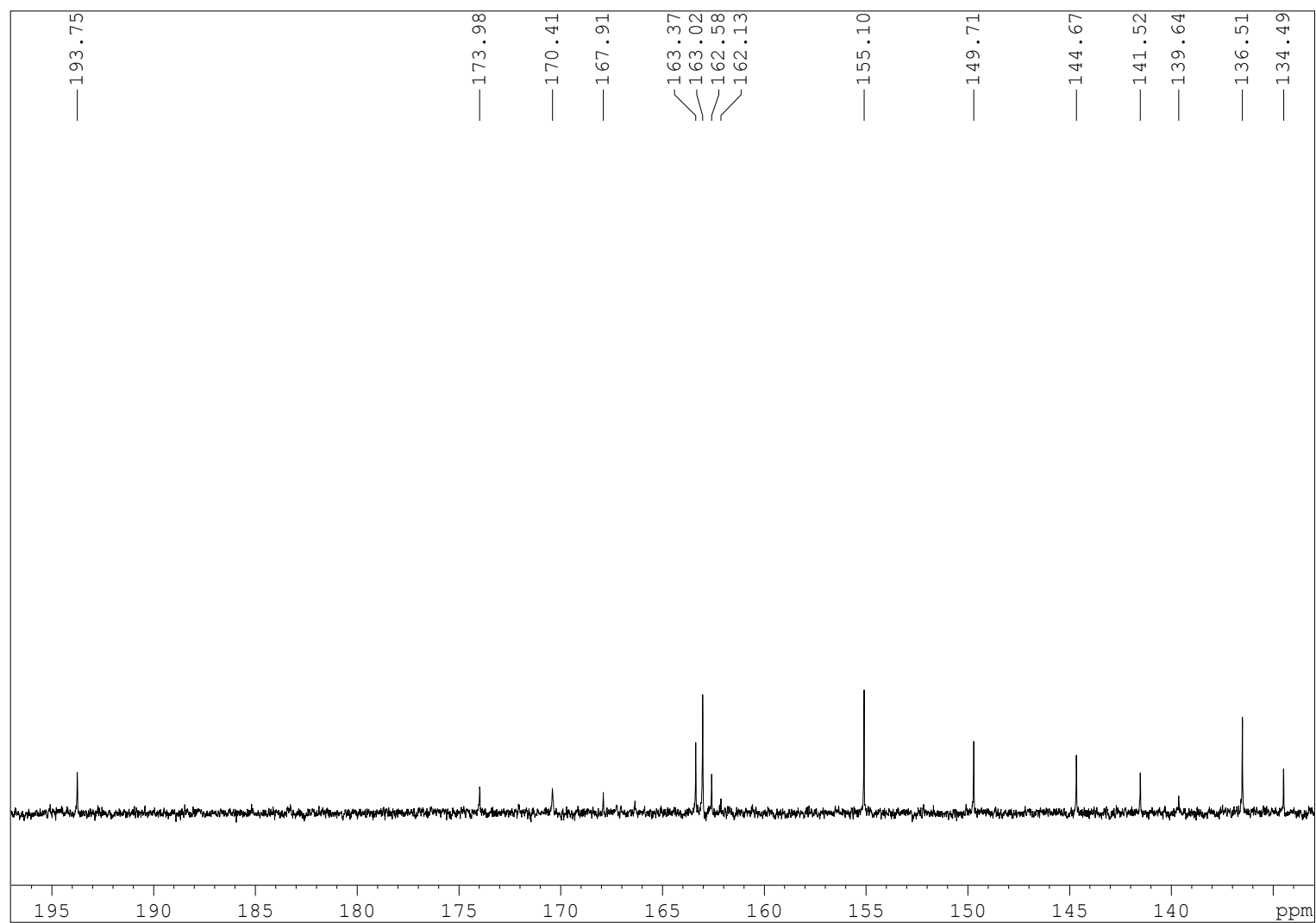


Figure 16S – ^{13}C -NMR (75 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 133.0-195.0 ppm region.

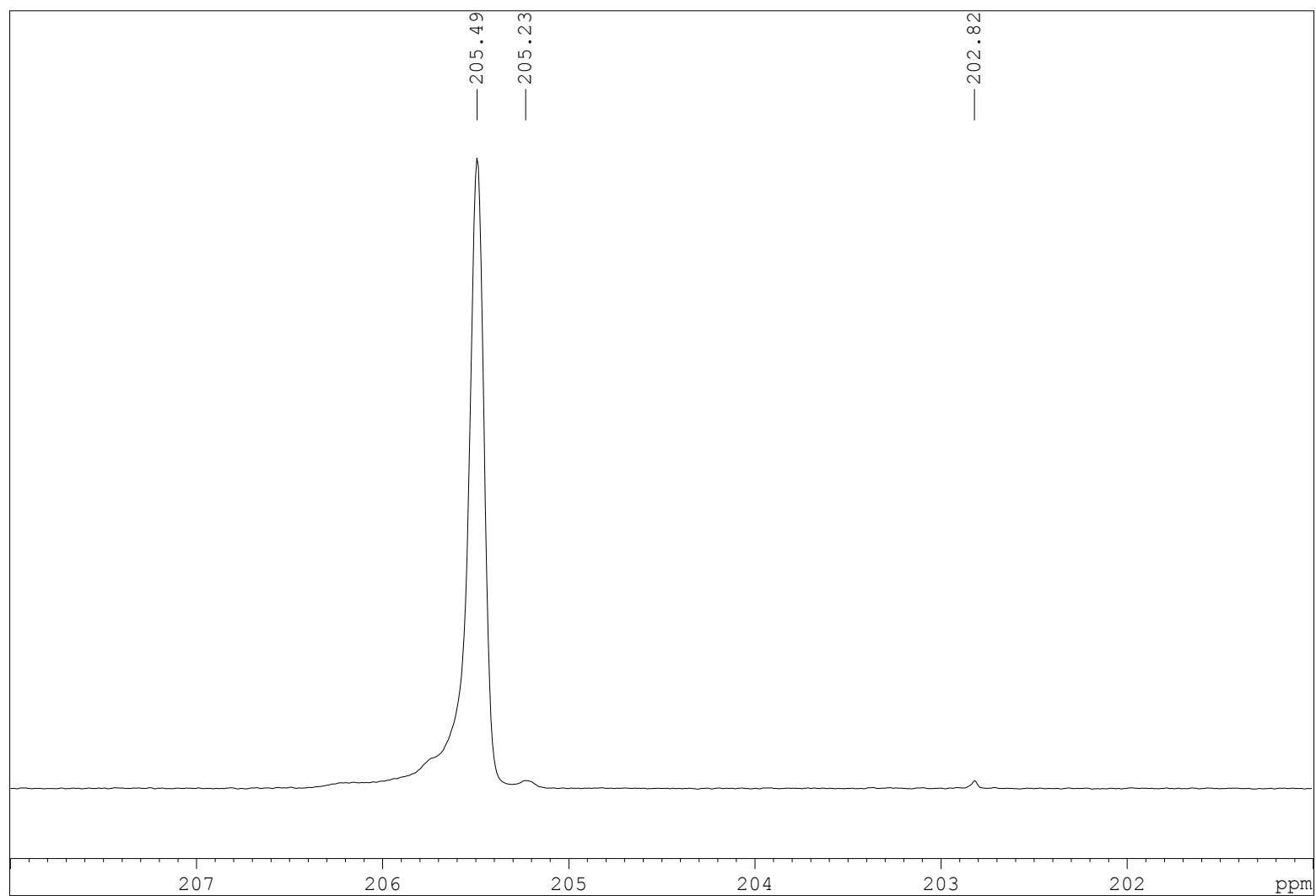


Figure 17S – ^{13}C -NMR (75 MHz, DMSO- d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 201.0-208.0 ppm region.

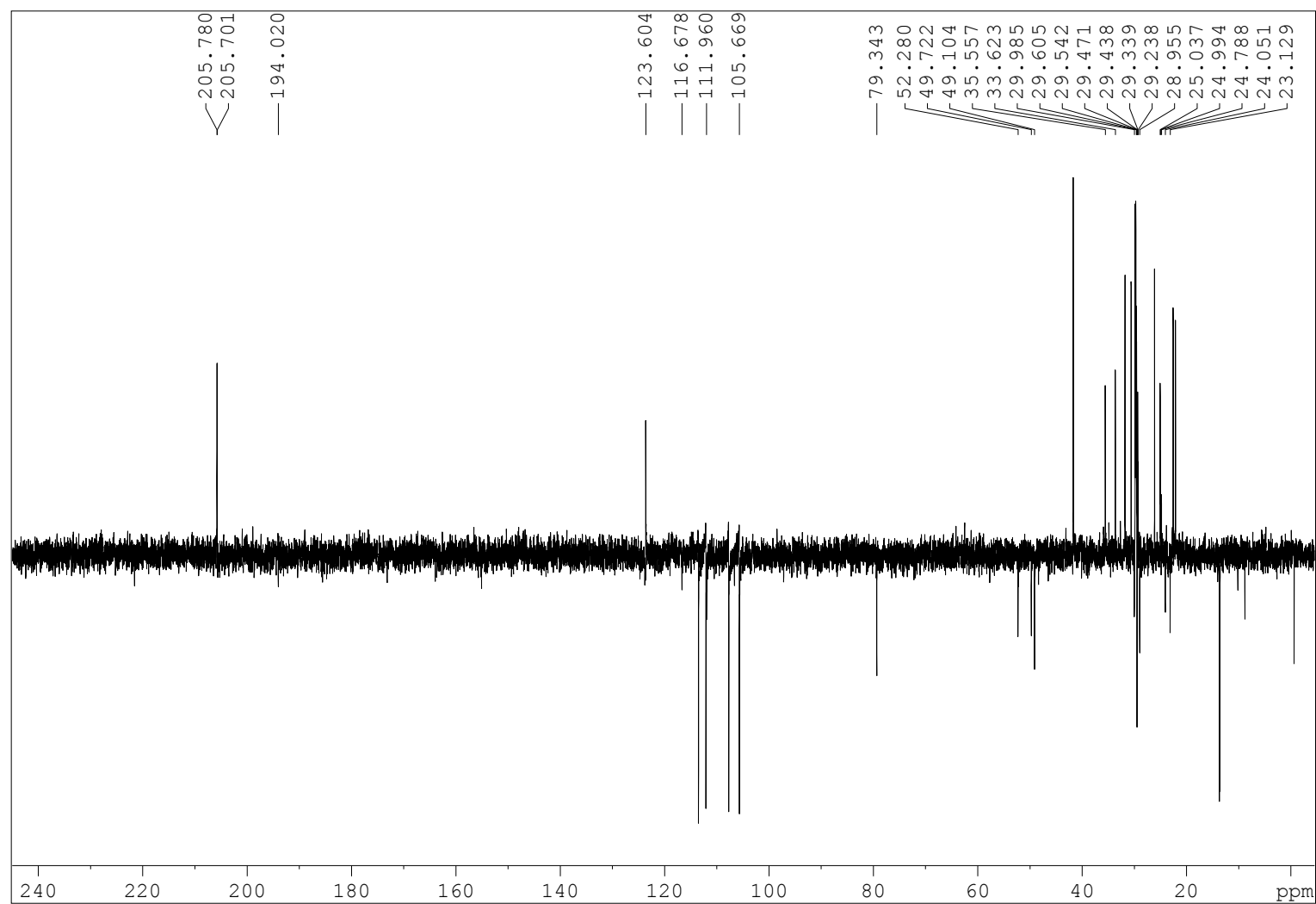


Figure 18S – DEPT-135 (75 MHz, DMSO-d₆) spectrum of *Parmotrema screminiae* extract.

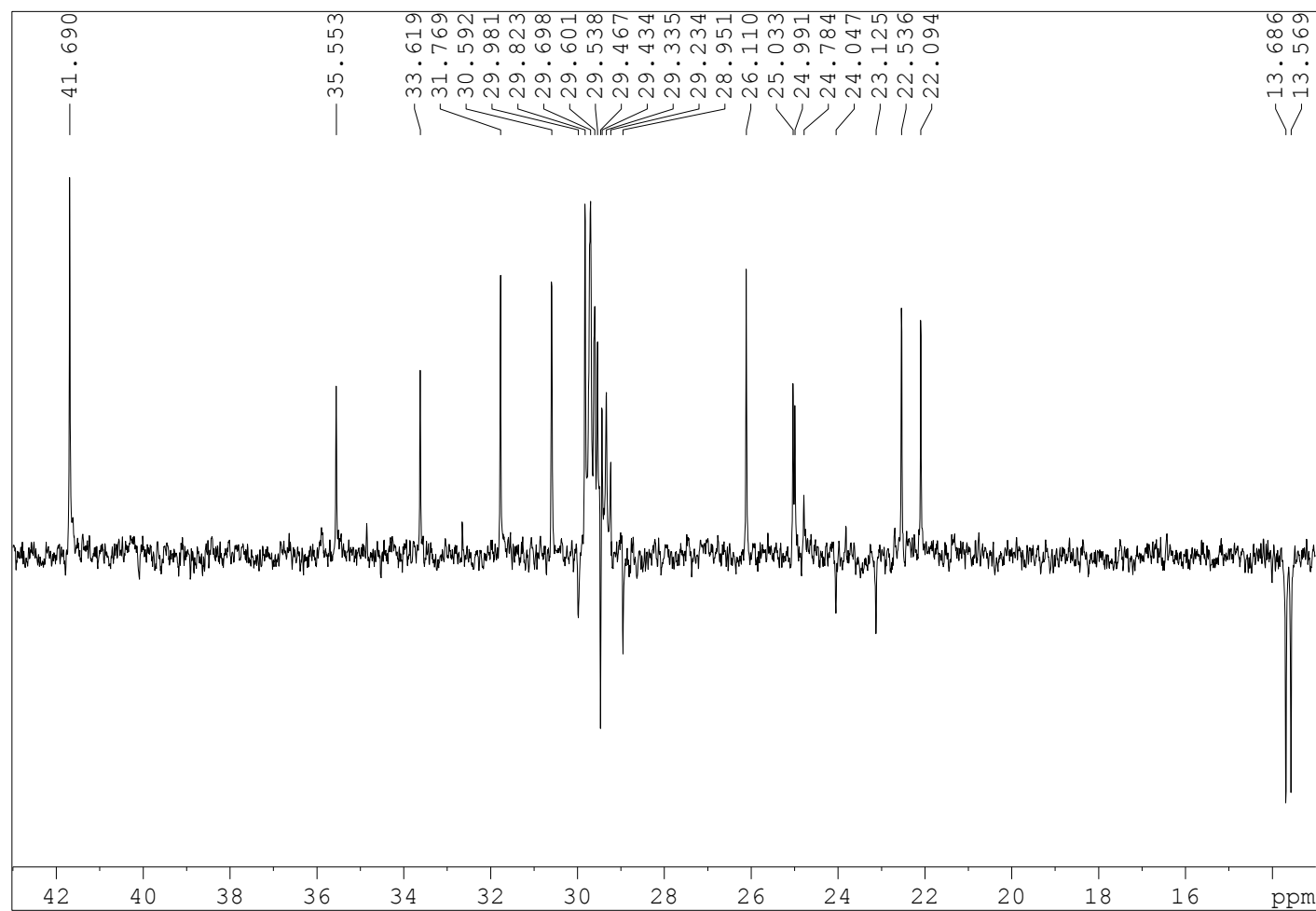


Figure 19S – DEPT-135 (75 MHz, DMSO-d₆) spectrum of *Parmotrema screminiae* extract. Expansion of the 13.5-42.0 ppm region.