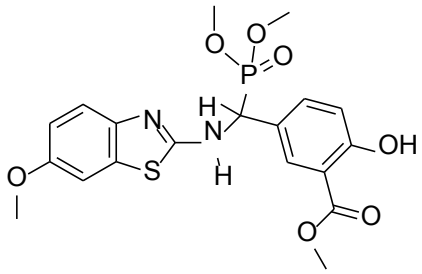
Supplementary Materials

Structure Confirmation and Evaluation of a Nonsteroidal Inhibitor of 17β-Hydroxysteroid Dehydrogenase Type 10

Content:

1) Listing of ^{1}H and ^{13}C NMR data reported in literature for compound **2**
2) Crystal data and structure refinement for CHUL08 (**2**)
3) NMR spectra for compound **2** in DMSO-d_6 (^{1}H NMR, ^{13}C NMR (APT), COSY, HSQC and HMBC)

(1) Listing of ^{1}H and ^{13}C NMR data reported in literature for compound 2, but without assignation



From the patent (US 2015/0065463 A1):

^{1}H NMR (500 MHz) in DMSO-d_6 (δ in ppm): 10.48 (s, 1H), 7.91-7.90 (m, 1H), 7.66-7.64 (m, 1H), 7.23-7.22 (m, 1H), 7.06 (d, J = 10 Hz), 6.95 (d, J = 10.0 Hz), 6.89-6.87 (m, 2H), 4.32 (d, J = 15.0 Hz, 1H), 3.90 (s, 3H), 3.72 (s, 3H), 3.55 (d, J = 10.0 Hz, 3H), 3.44 (d, J = 10.0 Hz, 3H).

^{13}C NMR (125 MHz) in DMSO-d_6 (δ in ppm): 169.2, 169.2, 159.1 (d), 157.5, 154.4, 135.7 (d), 134.4, 129.4, 129.2 (d), 122.2, 116.8, 112.6, 112.2 (d), 109.9, 108.1, 66.7, 65.4, 55.6, 52.9 (d), 52.4.

*From the article (Chem Biol Drug Des, **2013**, 81, 238-249):*

^{1}H NMR (500 MHz) in DMSO-d_6 (δ in ppm): 10.47 (s, 1H), 7.91 (s, 1H), 7.66-7.64 (m, 1H), 7.63-7.60 (m, 1H), 7.25-7.23 (m, 2H), 6.97-6.95 (m, 1H), 6.90-6.88 (m, 1H), 5.35 (dd, J = 20.0, 20.0 Hz, 1H), 3.91 (s, 3H), 3.58 (s, 3H), 3.56-3.46 (m, 6H).

^{13}C NMR (125 MHz) in DMSO-d_6 (δ in ppm): 169.5, 166.2, 158.7 (d, J_{CP} = 20 Hz), 157.8, 155.9, 148.9 (d, J_{CP} = 36.2 Hz), 148.0 (d, J_{CP} = 20.0 Hz), 135.8 (d, J_{CP} = 36.2 Hz), 131.8 (d, J_{CP} = 11.2 Hz), 128.5, 118.0 (d, J_{CP} = 10.0 Hz), 116.3, 112.0 (d, J_{CP} = 22.5 Hz), 111.7, 107.0 (d, J_{CP} = 26.2 Hz), 56.4, 55.3, 52.2.

(2) Crystal data and structure refinement for CHUL08 (2)

checkCIF/PLATON report

Structure factors have been supplied for datablock(s) chul08

THIS REPORT IS FOR GUIDANCE ONLY. IF USED AS PART OF A REVIEW PROCEDURE FOR PUBLICATION, IT SHOULD NOT REPLACE THE EXPERTISE OF AN EXPERIENCED CRYSTALLOGRAPHIC REFEREE.

No syntax errors found. CIF dictionary Interpreting this report

Datablock: chul08

Bond precision: C-C = 0.0042 A Wavelength=1.34139

Cell: a=11.7243(6) b=24.6420(12) c=7.8468(4)
alpha=90 beta=106.034(2) gamma=90
Temperature: 150 K

	Calculated	Reported
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Space group	P 21/c	P 1 21/c 1
Hall group	-P 2ybc	-P 2ybc
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Sum	C39 H46 N4 O15 P2 S2	C19.50 H23 N2 O7.50 P S
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Dx,g cm-3	1.428	1.428
Z	2	4
Mu (mm-1)	1.588	1.576
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F000'	984.49	
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Correction method= # Reported T Limits: Tmin=0.639 Tmax=0.752
AbsCorr = MULTI-SCAN

Data completeness= 0.992 Theta(max)= 60.176

R(reflections)= 0.0599(3862) wR2(reflections)= 0.1718(4900)

S = 1.065 Npar= 316

The following ALERTS were generated. Each ALERT has the format
test-name_ALERT_alert-type_alert-level.
Click on the hyperlinks for more details of the test.

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PLAT413_ALERT_2_C Short Inter XH3 .. XHn     H19C     ..H1AC            2.13 Ang.
PLAT906_ALERT_3_C Large K Value in the Analysis of Variance ......      3.610 Check
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Alert level G

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PLAT793_ALERT_4_G Model has Chirality at C1          (Centro SPGR)          R Verify
PLAT860_ALERT_3_G Number of Least-Squares Restraints .............         27 Note
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  0 ALERT level A = Most likely a serious problem - resolve or explain
  0 ALERT level B = A potentially serious problem, consider carefully
  3 ALERT level C = Check. Ensure it is not caused by an omission or oversight
 22 ALERT level G = General information/check it is not something unexpected

  3 ALERT type 1 CIF construction/syntax error, inconsistent or missing data
  8 ALERT type 2 Indicator that the structure model may be wrong or deficient
  3 ALERT type 3 Indicator that the structure quality may be low
 10 ALERT type 4 Improvement, methodology, query or suggestion
  1 ALERT type 5 Informative message, check
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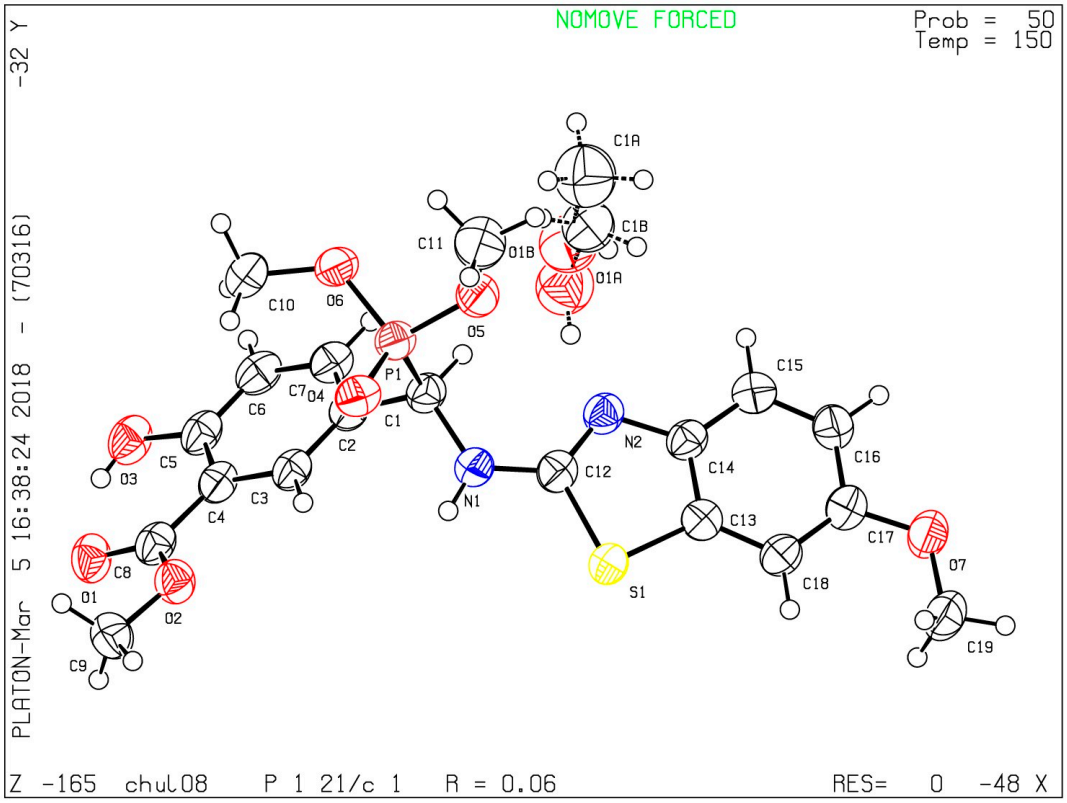
It is advisable to attempt to resolve as many as possible of the alerts in all categories. Often the minor alerts point to easily fixed oversights, errors and omissions in your CIF or refinement strategy, so attention to these fine details can be worthwhile. In order to resolve some of the more serious problems it may be necessary to carry out additional measurements or structure refinements. However, the purpose of your study may justify the reported deviations and the more serious of these should normally be commented upon in the discussion or experimental section of a paper or in the "special_details" fields of the CIF. checkCIF was carefully designed to identify outliers and unusual parameters, but every test has its limitations and alerts that are not important in a particular case may appear. Conversely, the absence of alerts does not guarantee there are no aspects of the results needing attention. It is up to the individual to critically assess their own results and, if necessary, seek expert advice.

Publication of your CIF in other journals

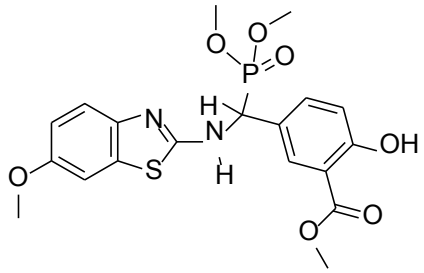
Please refer to *the Notes for Authors* of the relevant journal for any special instructions relating to CIF submission.

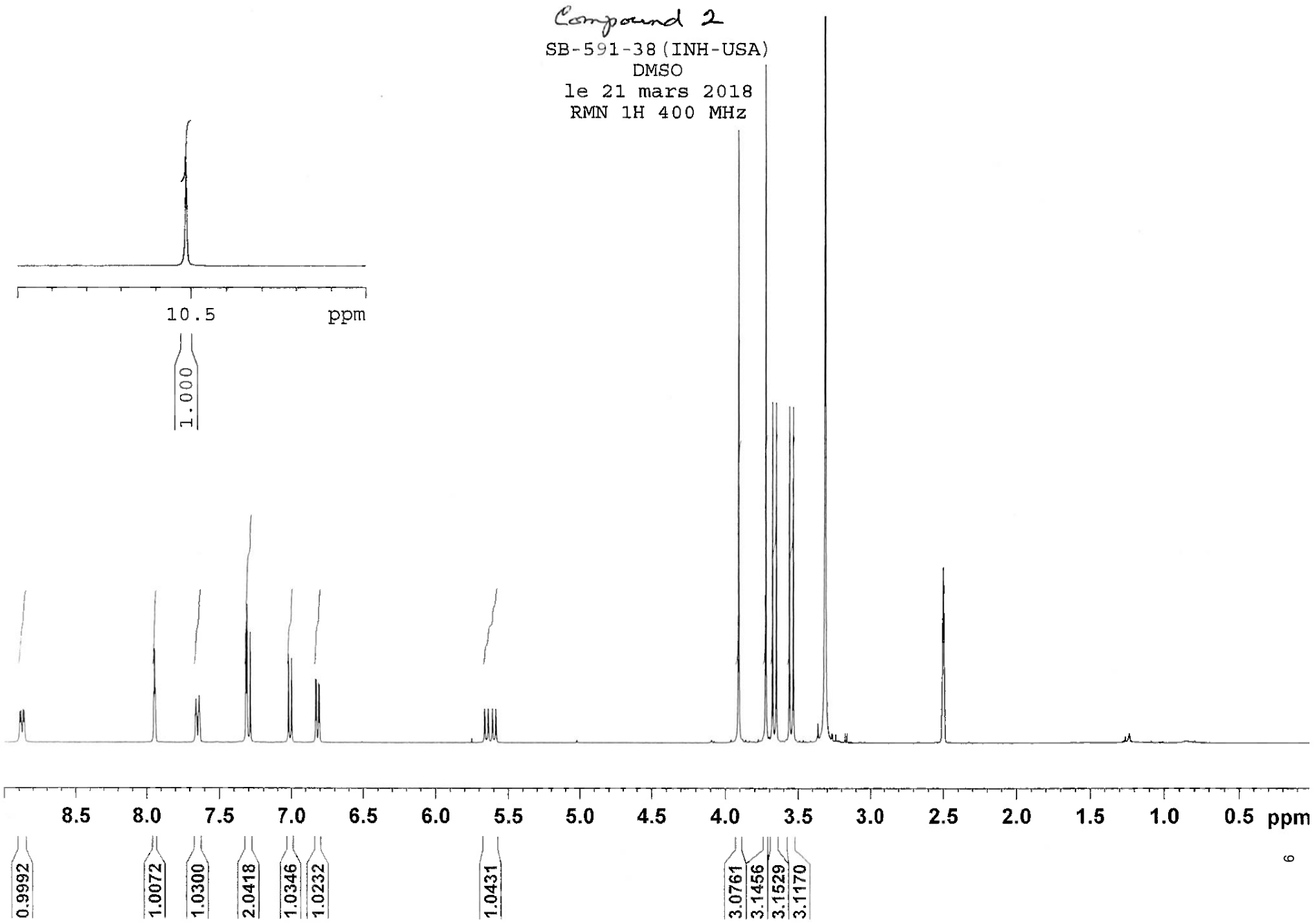
PLATON version of 30/01/2018; check.def file version of 30/01/2018

Datablock chul08 - ellipsoid plot



(3) NMR spectra for compound 2 in DMSO-d_6 (^{1}H NMR, ^{13}C NMR (APT), COSY, HSQC and HMBC)

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DMSO
le 21 mars 2018
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7.5
7.0
6.5
6.0
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5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
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Thu Mar 22 15:26:23 EDT 2018

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5	12134.7	3545.190	8.8601	0.11	
6	13575.6	3181.167	7.9503	0.17	
7	13584.3	3178.978	7.9449	0.32	
8	13592.8	3176.821	7.9395	0.18	
9	14030.2	3066.312	7.6633	0.09	
10	14037.6	3064.449	7.6586	0.15	
11	14044.7	3062.654	7.6541	0.10	
12	14064.4	3057.690	7.6417	0.10	
13	14071.8	3055.813	7.6371	0.16	
14	14078.9	3054.027	7.6326	0.10	
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16	14585.0	2926.155	7.3130	0.46	
17	14587.4	2925.560	7.3115	0.47	
18	14623.1	2916.535	7.2890	0.37	
19	15050.0	2808.697	7.0195	0.30	
20	15084.0	2800.094	6.9980	0.29	
21	15346.4	2733.821	6.8323	0.22	
22	15356.9	2731.161	6.8257	0.21	
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24	15391.6	2722.395	6.8038	0.20	
25	17200.9	2265.302	5.6614	0.11	
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31	20339.9	1472.308	3.6796	1.15	*
32	20381.8	1461.714	3.6531	1.15	*
33	20526.8	1425.083	3.5615	1.14	*
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Thu Mar 22 15:26:23 EDT 2018

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37	22194.2	1003.863	2.5088	0.20	
38	22201.0	1002.147	2.5046	0.42	
39	22208.1	1000.357	2.5001	0.59	*
40	22215.1	998.579	2.4956	0.44	
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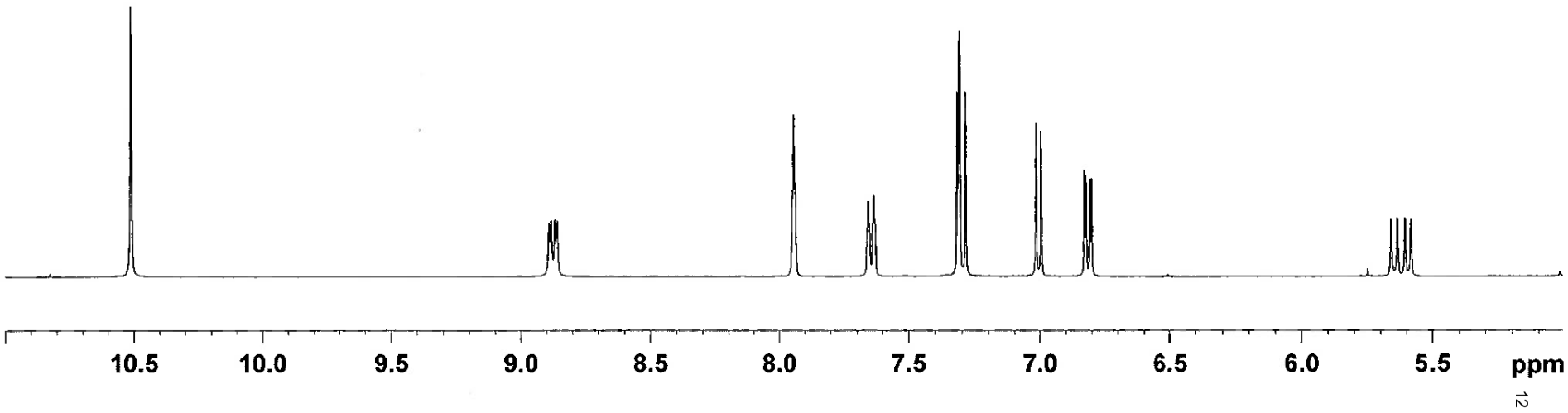
SB-591-38(INH-USA)
DMSO
le 21 mars 2018
RMN 1H 400 MHz



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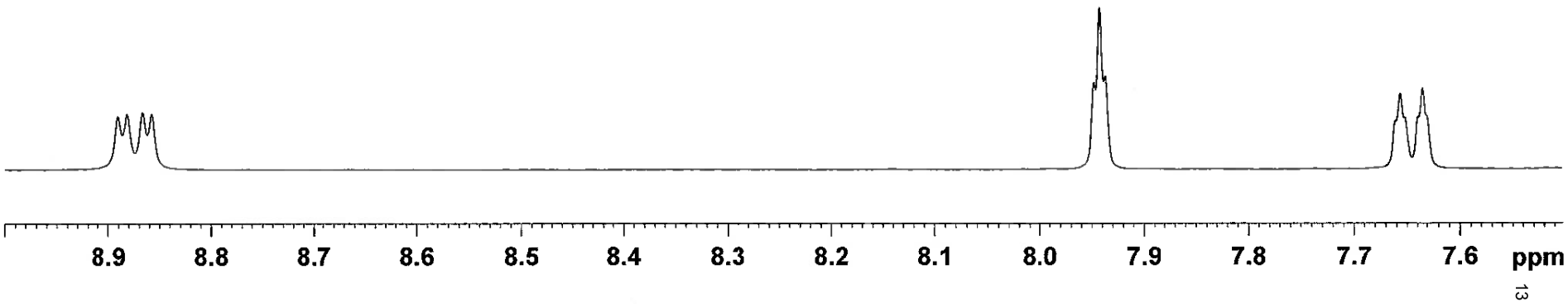

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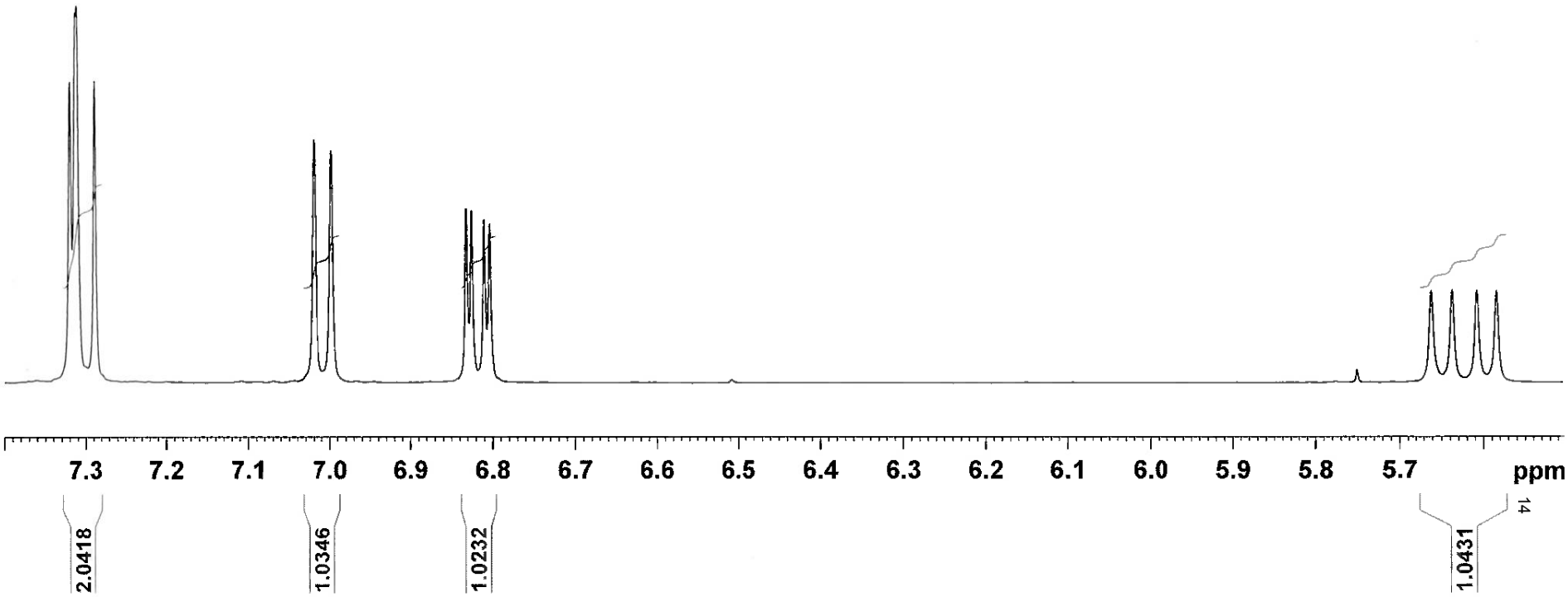

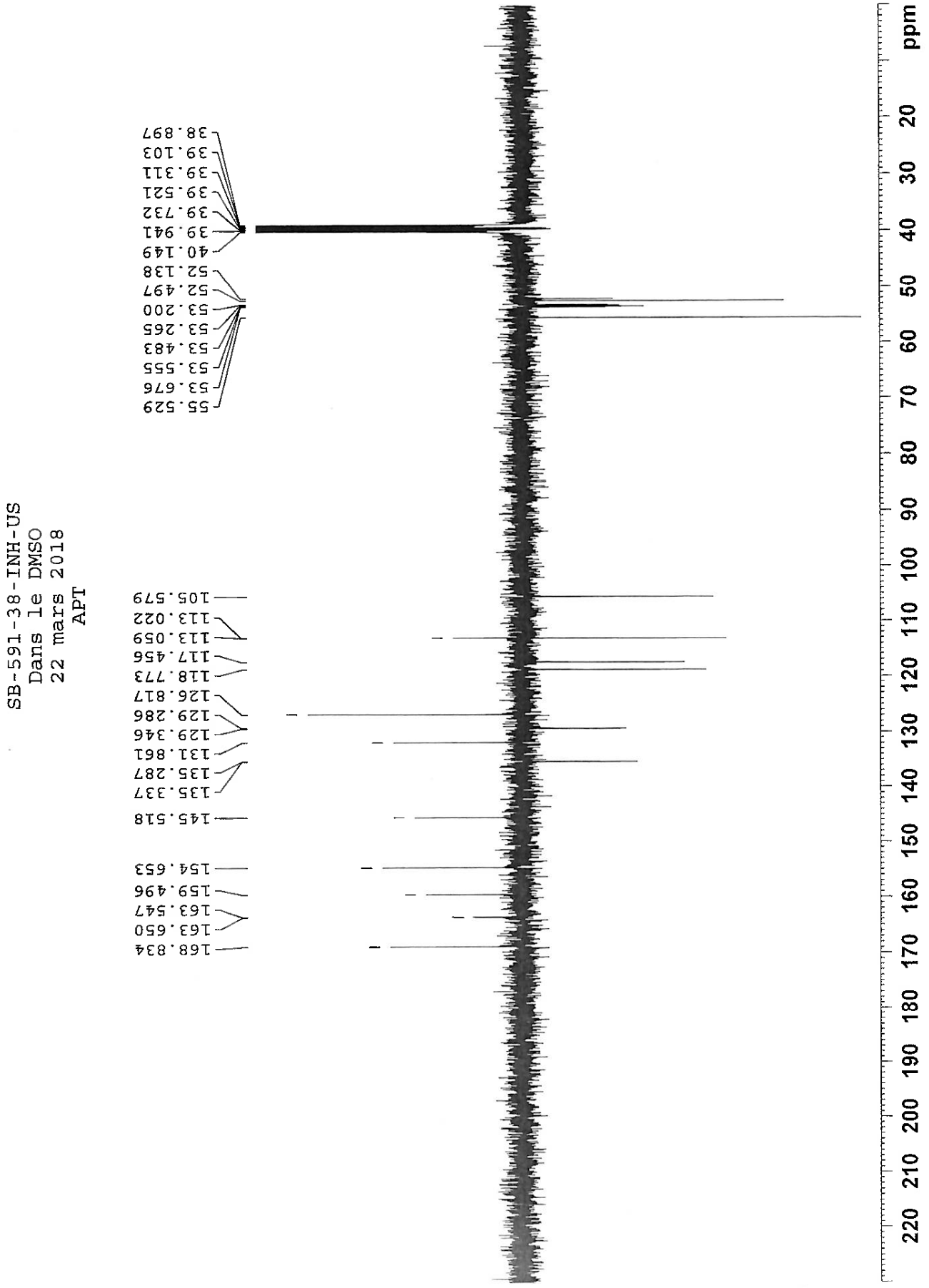
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Dans le DMSO
22 mars 2018
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Fri Mar 23 09:34:54 EDT 2018

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8	12469.0	13611.583	135.2868	-0.34	
9	12844.0	13266.922	131.8612	0.38	
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13	14276.6	11950.070	118.7728	-0.56	
14	14420.7	11817.561	117.4558	-0.49	
15	14902.0	11375.158	113.0587	-0.60	
16	14906.0	11371.505	113.0224	0.20	
17	15720.7	10622.630	105.5793	-0.58	
18	21199.0	5586.979	55.5295	-1.00	
19	21401.8	5400.509	53.6761	-0.25	
20	21415.1	5388.306	53.5549	-0.30	
21	21423.0	5381.067	53.4829	-0.36	
22	21446.9	5359.116	53.2647	-0.30	
23	21454.0	5352.577	53.1998	-0.26	
24	21530.9	5281.874	52.4970	-0.78	
25	21570.2	5245.745	52.1379	-0.28	
26	22882.5	4039.471	40.1487	1.19	*
27	22905.2	4018.584	39.9411	3.57	****
28	22928.2	3997.503	39.7316	6.43	******
29	22951.2	3976.299	39.5208	6.50	******
30	22974.2	3955.153	39.3106	5.53	******
31	22997.0	3934.218	39.1026	3.09	***
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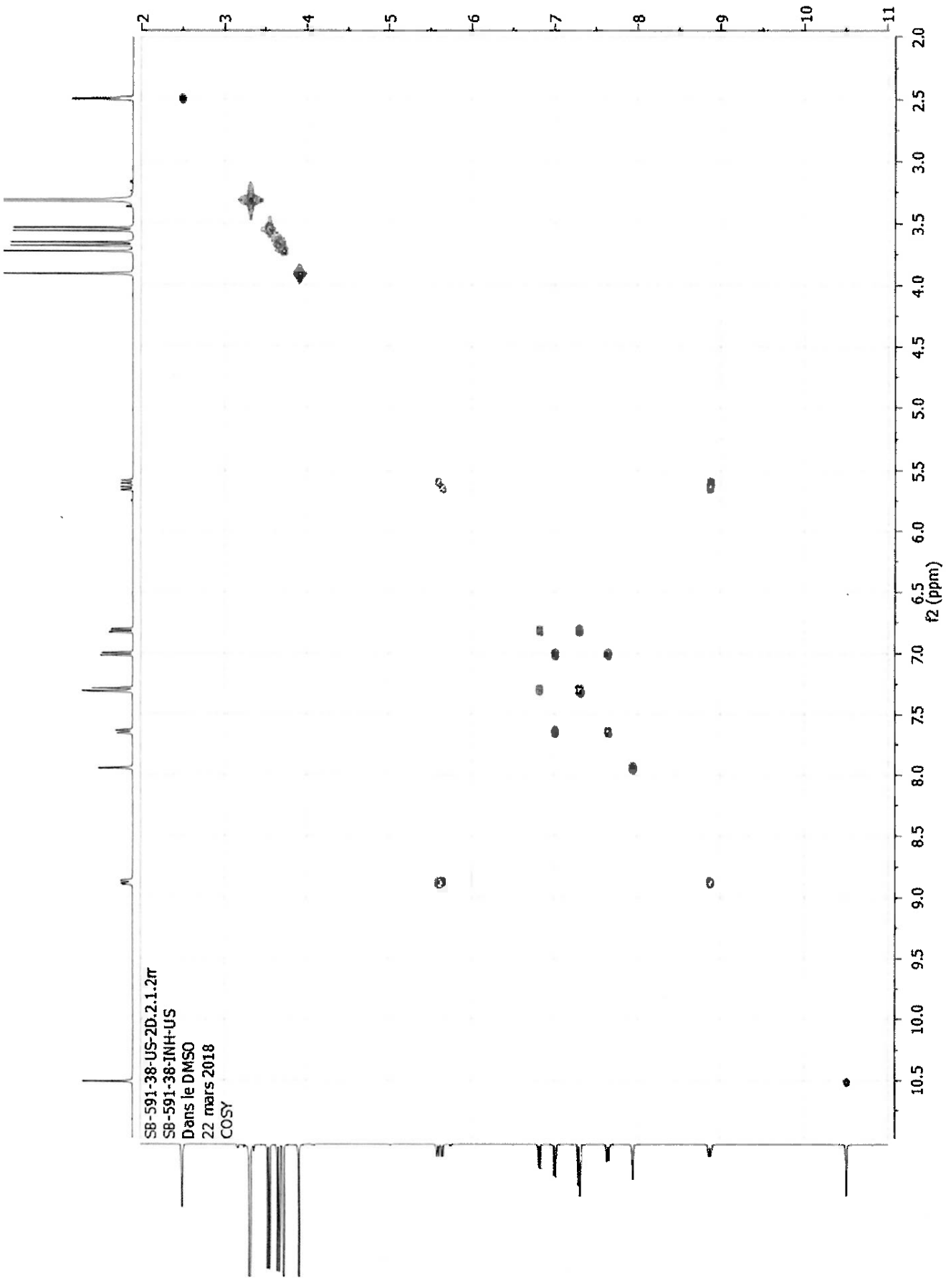
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Dans le DMSO
22 mars 2018
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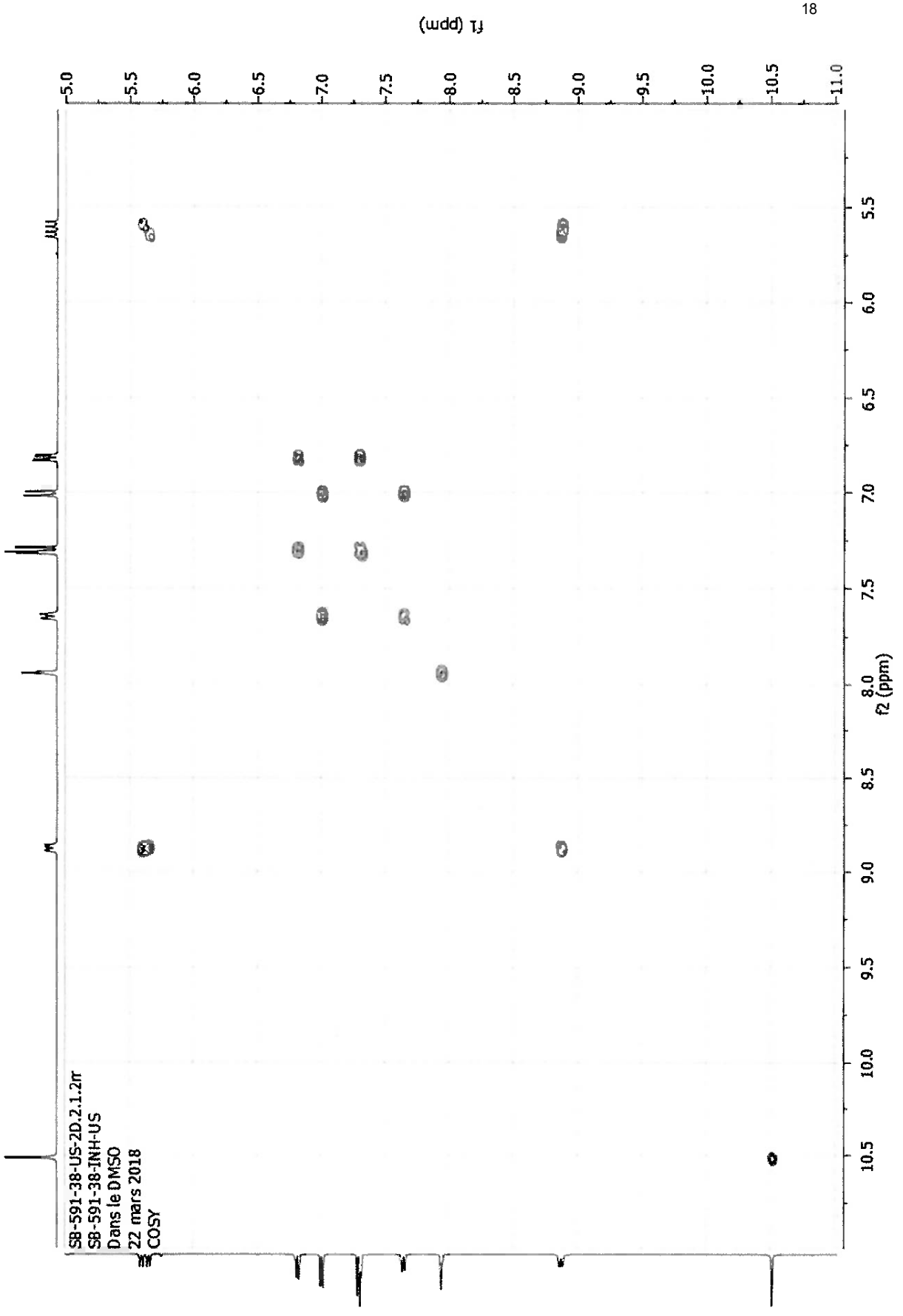
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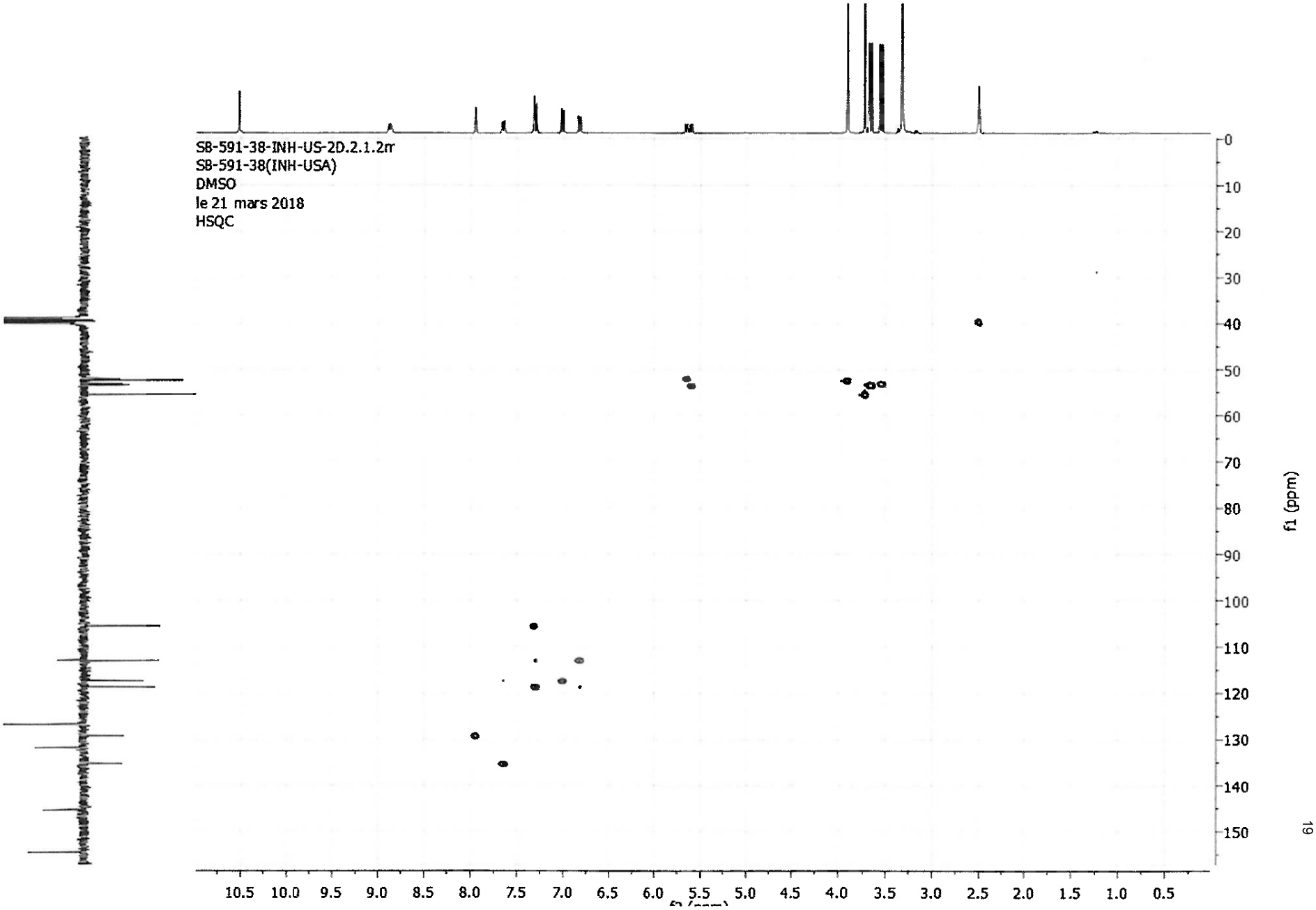
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DMSO
le 21 mars 2018
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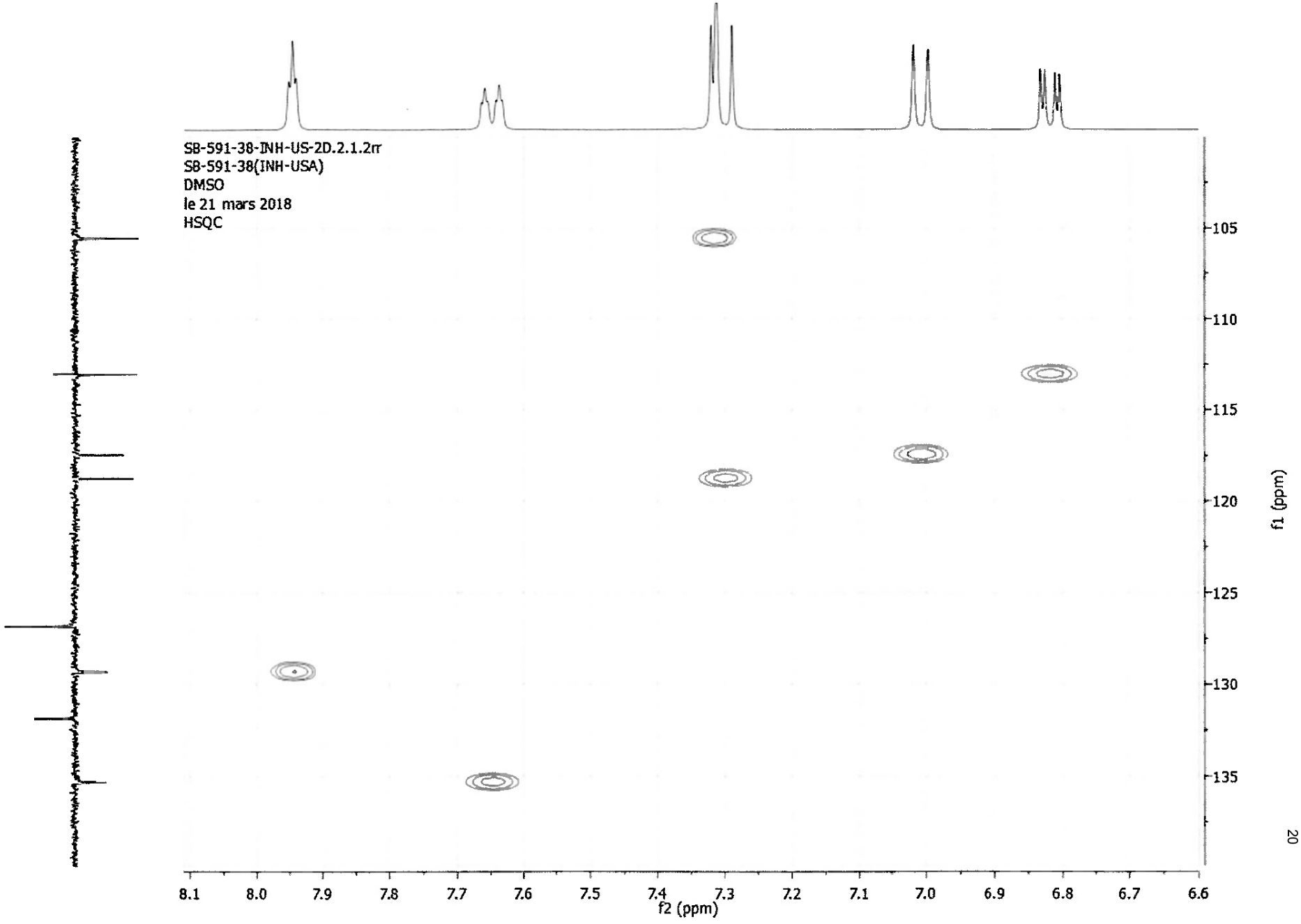
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DMSO
le 21 mars 2018
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115
120
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130
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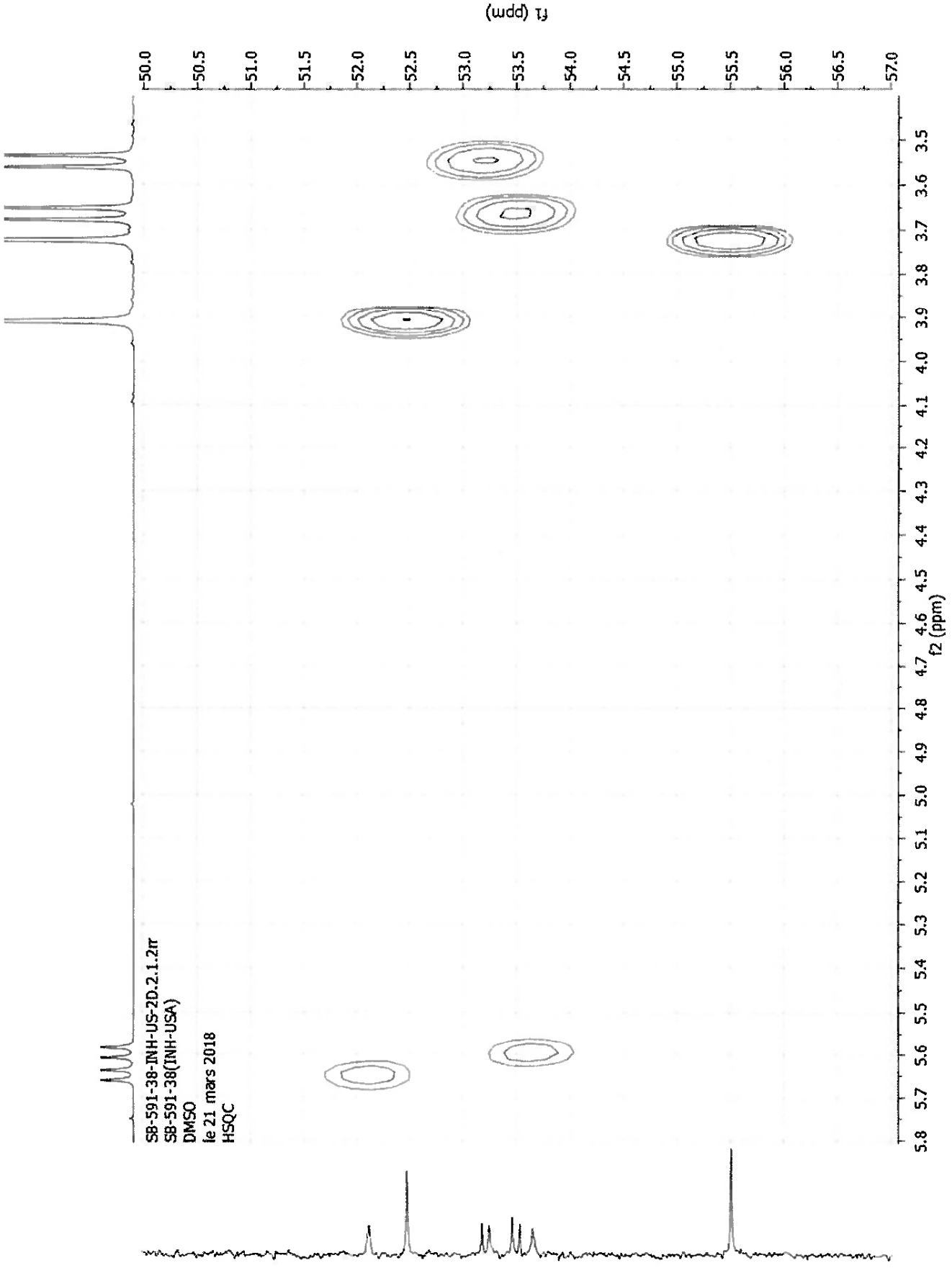
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SB-591-38(INH-USA)
DMSO
le 21 mars 2018
HSQC
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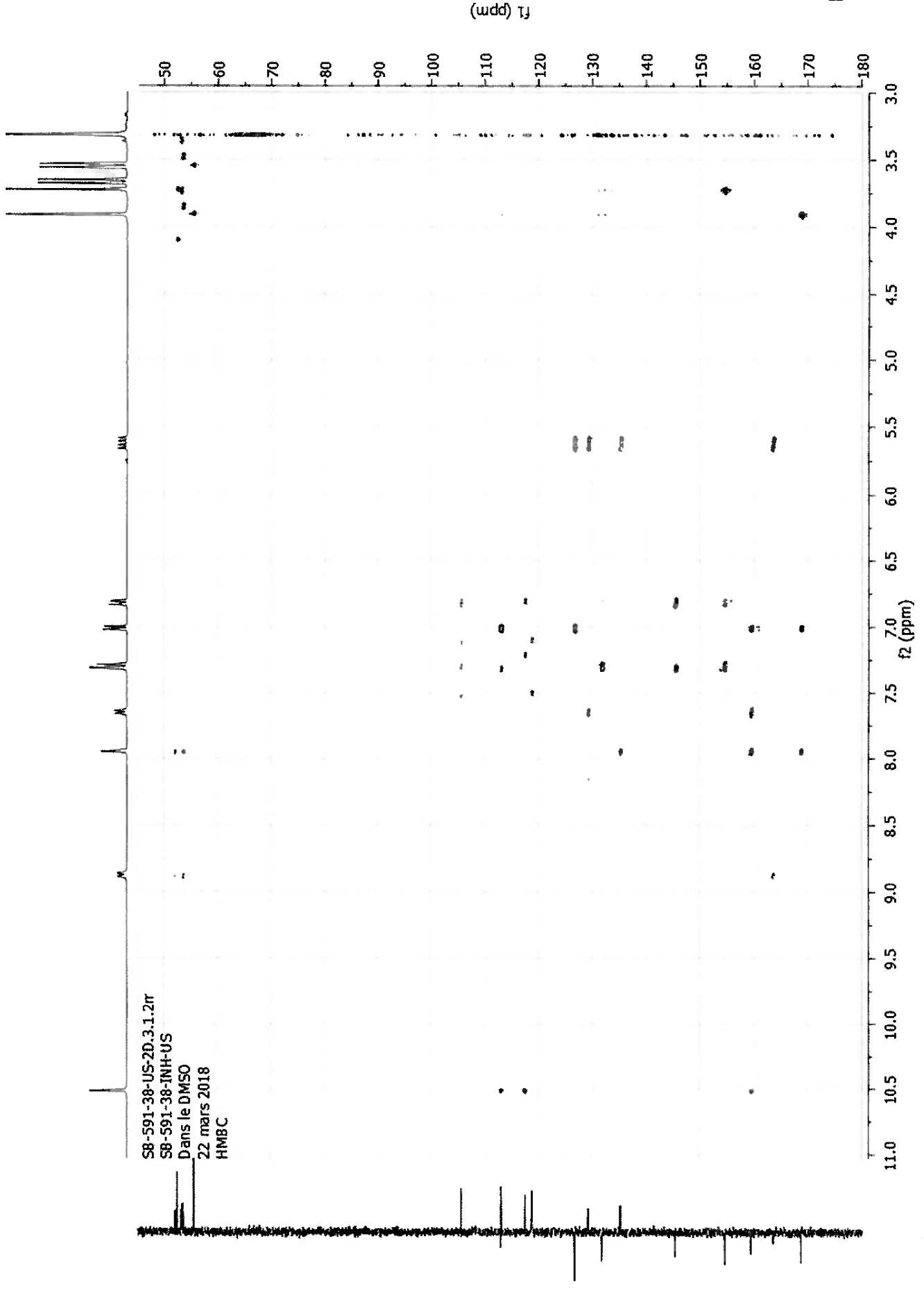
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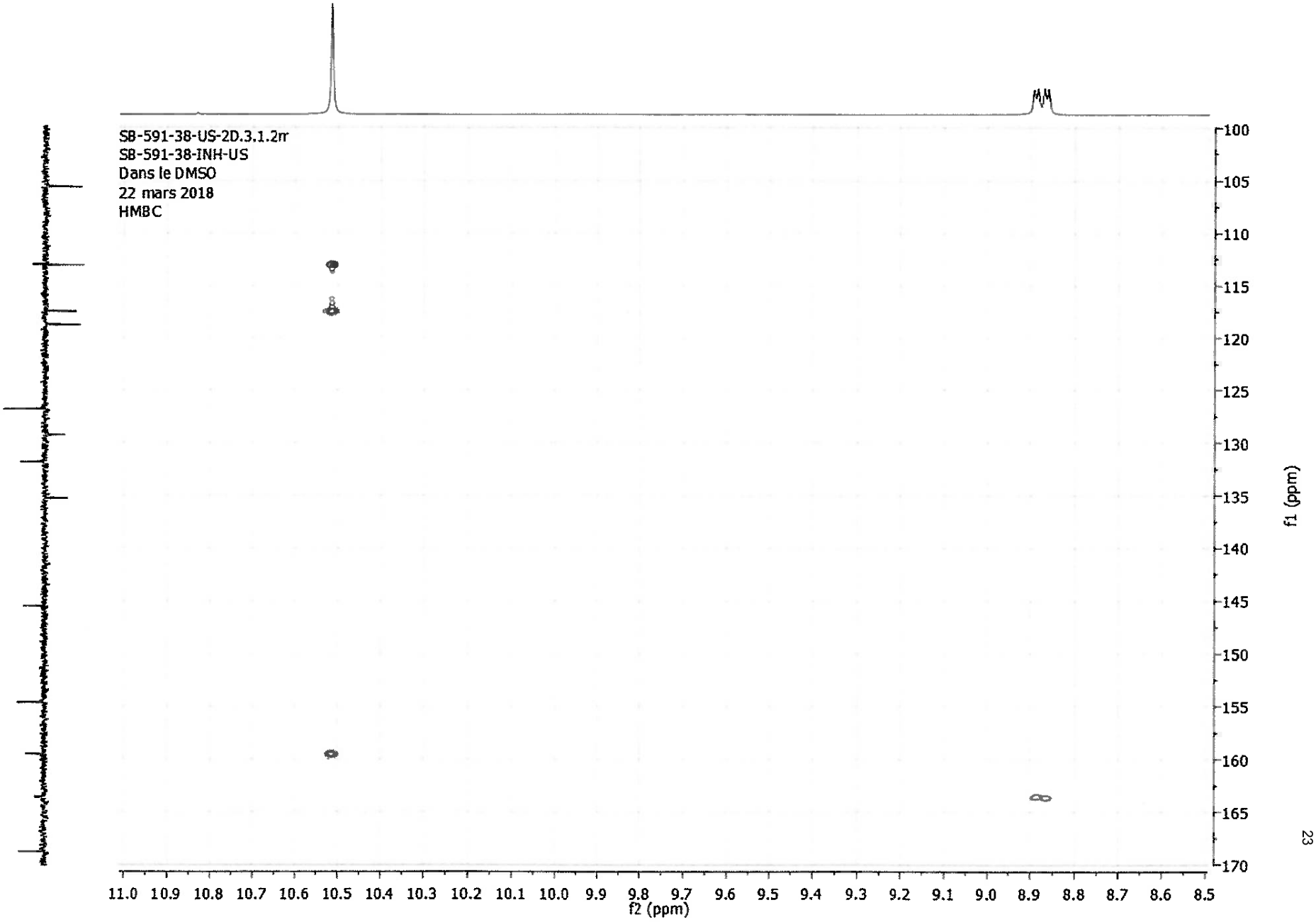
Dans le DMSO
22 mars 2018
HMBC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Dans le DMSO
22 mars 2018
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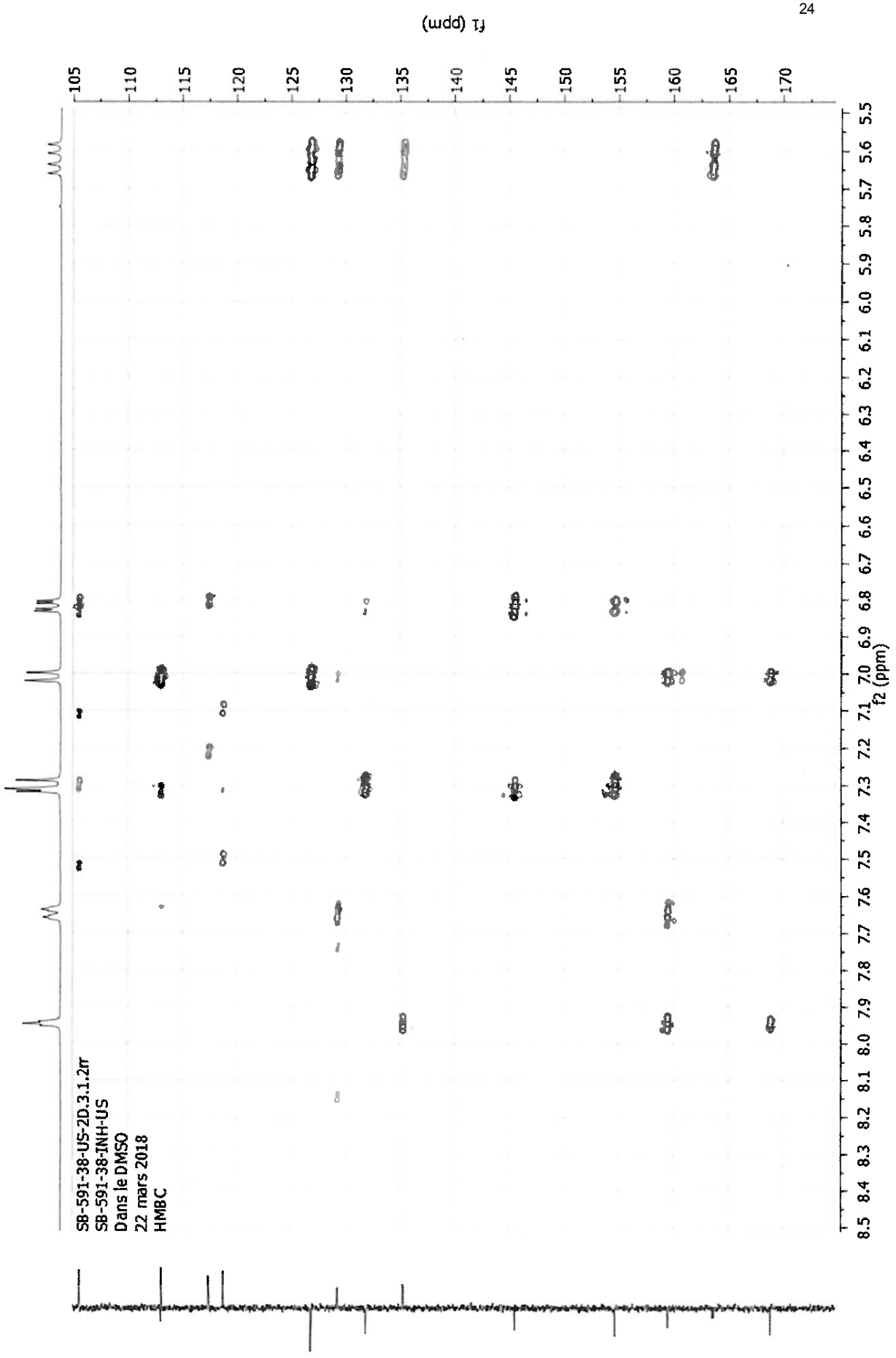
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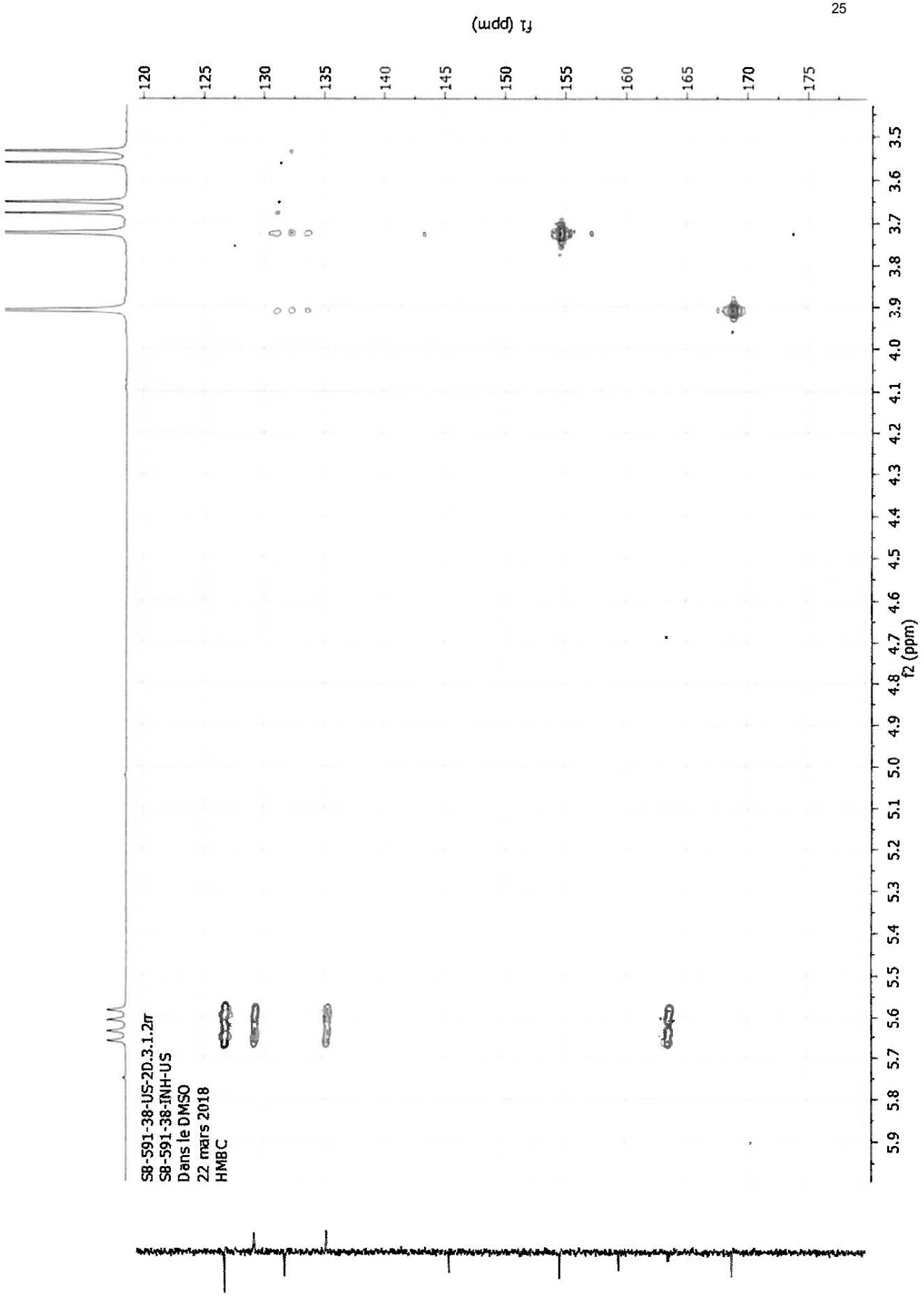
SB-591-38-INH-US
Dans le DMSO
22 mars 2018
HMBC
f1 (ppm)
f2 (ppm)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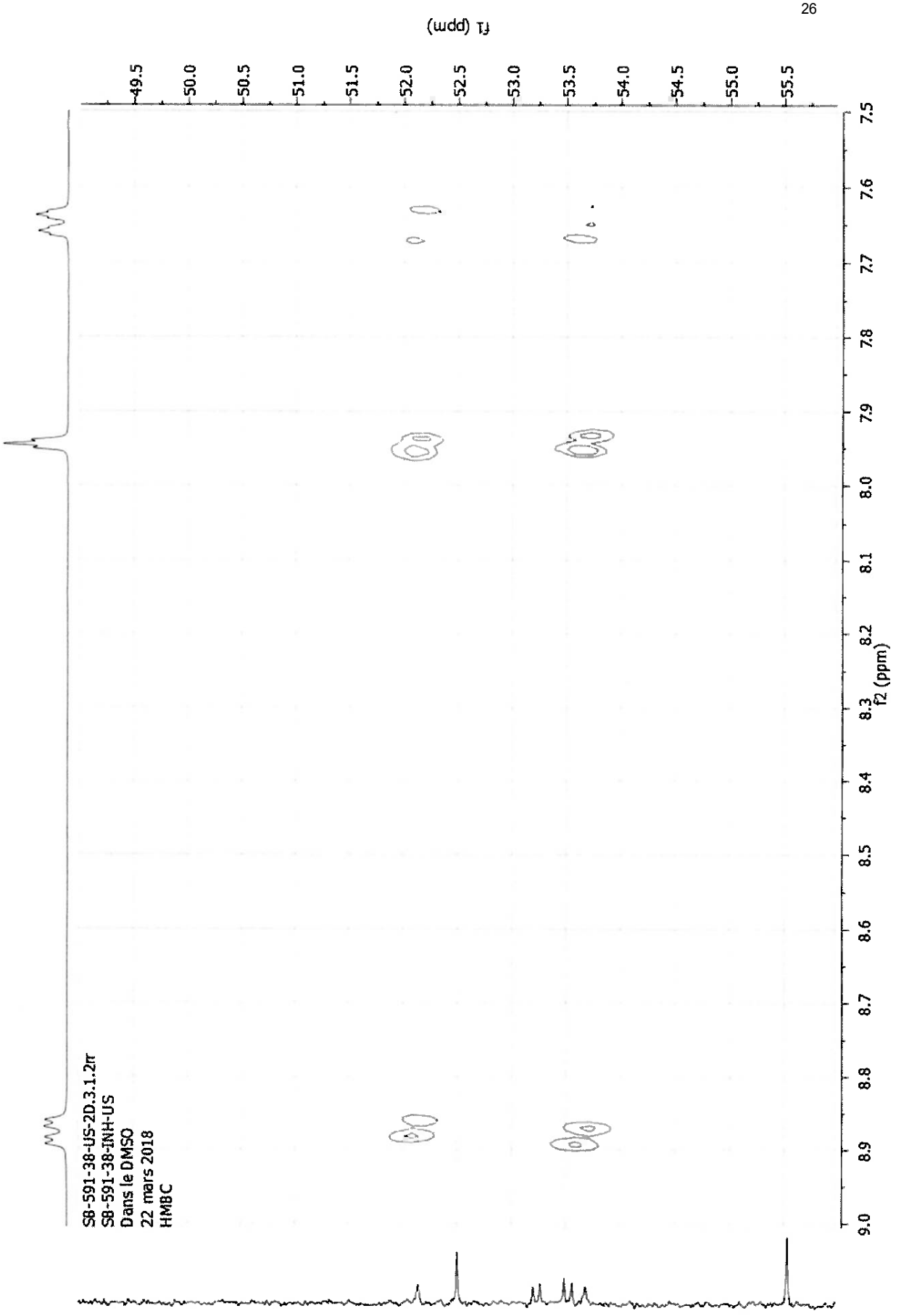
SB-591-38-INH-US
Dans le DMSO
22 mars 2018
HMBC
f1 (ppm)
f2 (ppm)


SB-591-38-US-2D.3.1.2rr
SB-591-38-INH-US
Dans le DMSO
22 mars 2018
HMBC
f1 (ppm)
f2 (ppm)