Supporting information

Development of a Modular Antibody-Degrader Conjugate Platform for Targeted Delivery of a Pan-LMO Degrader

Qingqing Ye

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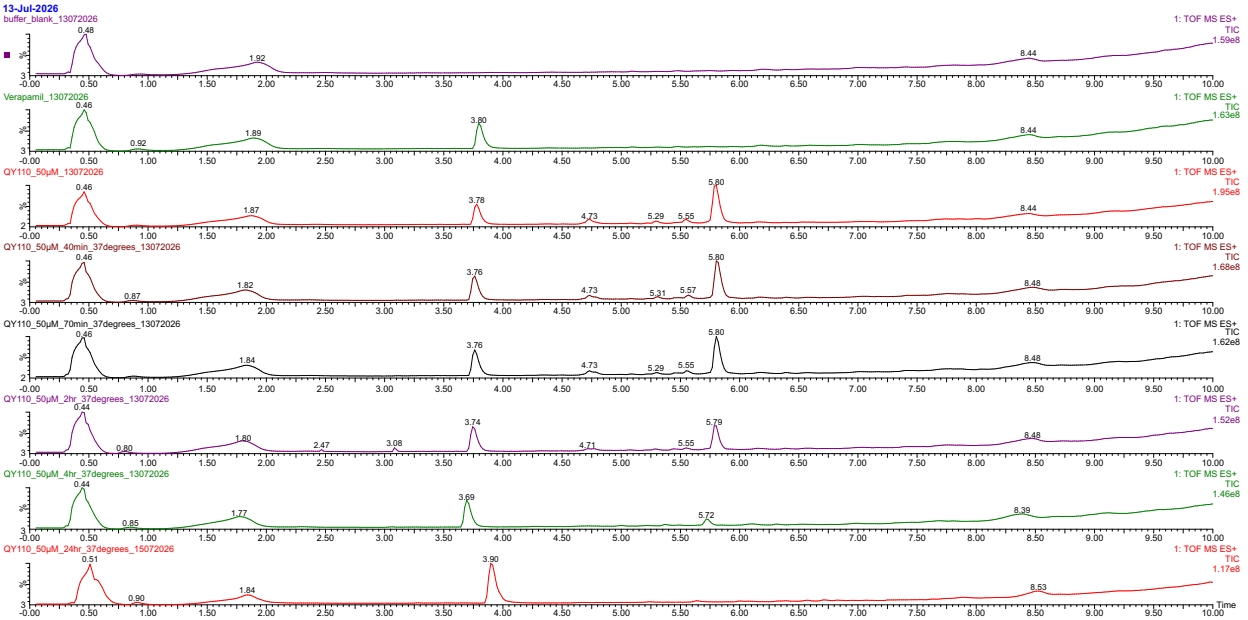


Figure 1S. LC-MS of OX05156 incubated in phosphate-buffered saline (PBS) buffer containing 1 mM EDTA at 37 °C without GSH at 10 min, 40 min, 70 min, 2 h, 4 h, and 24 h. Verapamil at 3.7 min, OX05156 at 5.8 min.

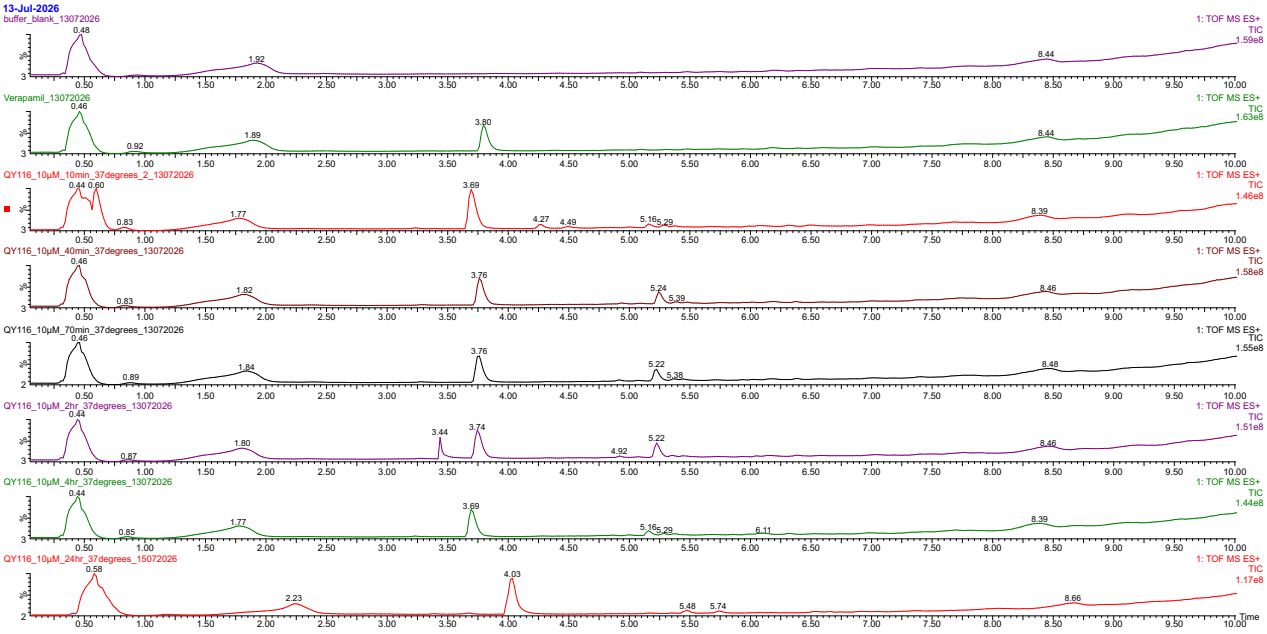


Figure 2S. LC-MS of OX05157 incubated in phosphate-buffered saline (PBS) buffer containing 1 mM EDTA at 37 °C without GSH at 10 min, 40 min, 70 min, 2 h, 4 h, and 24 h. Verapamil at 3.7 min, OX05157 at 5.25 min.

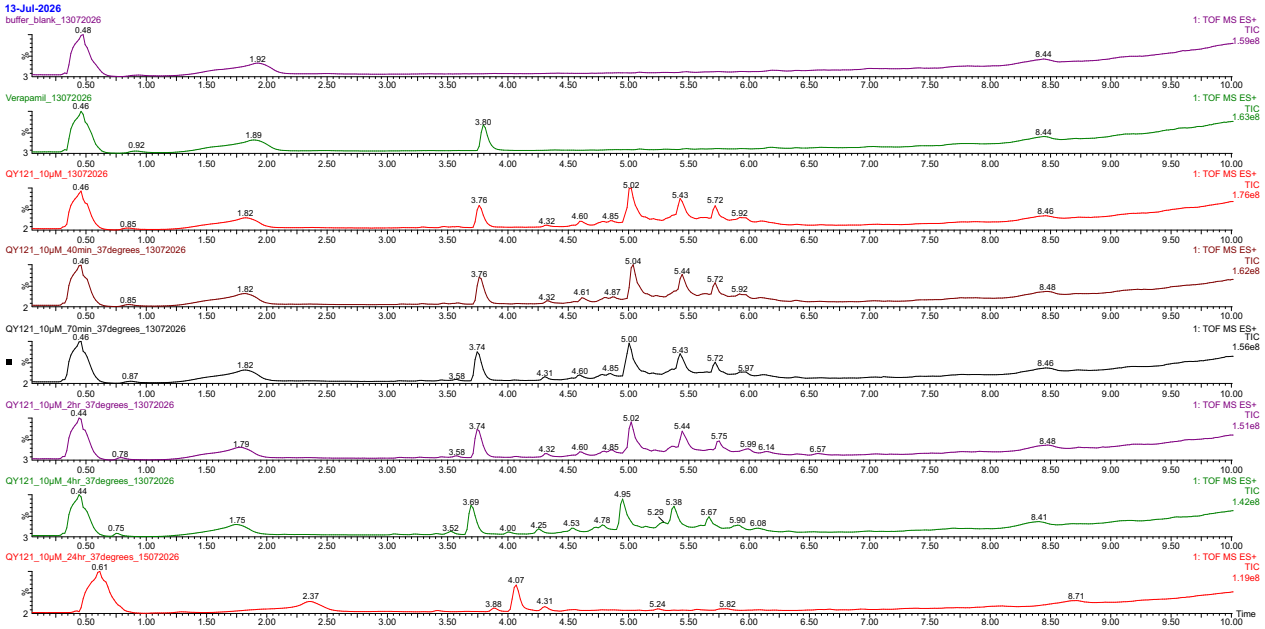


Figure 3S. LC-MS of OX05158 incubated in phosphate-buffered saline (PBS) buffer containing 1 mM EDTA at 37 °C without GSH at 10 min, 40 min, 70 min, 2 h, 4 h, and 24 h. Verapamil at 3.7 min, OX05158 across 5.02 min to 6.10 min due to different protonation state of PEG8 linker, giving slightly different retention time but the same masses detected.

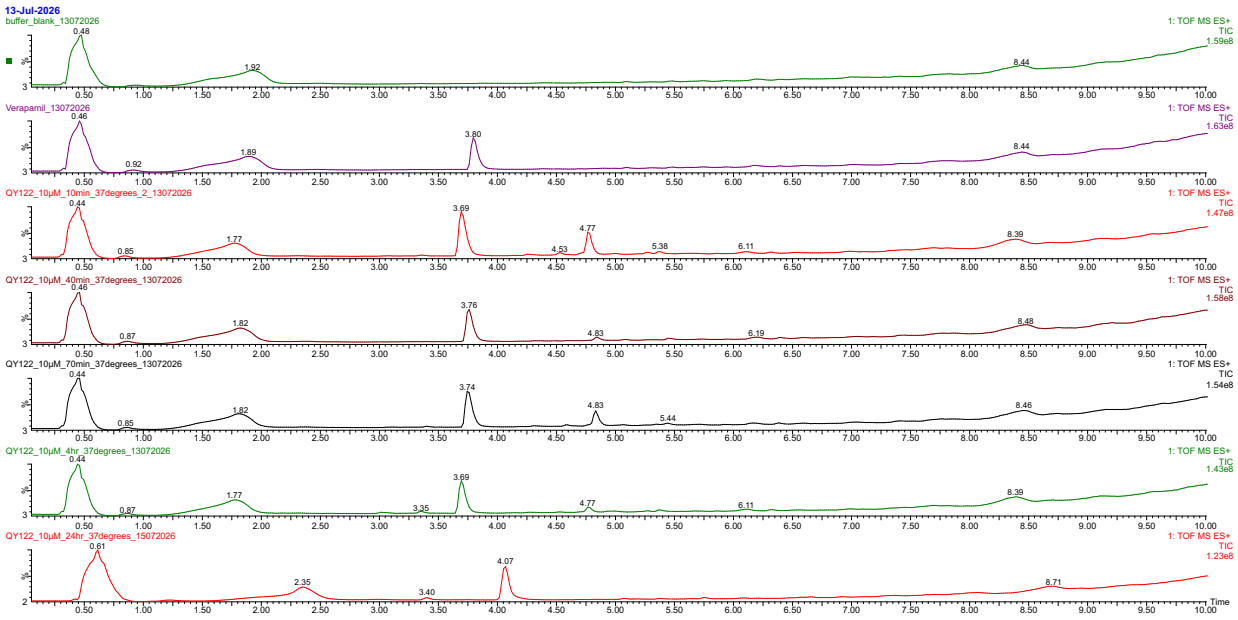


Figure 4S. LC-MS of OX05159 incubated in phosphate-buffered saline (PBS) buffer containing 1 mM EDTA at 37 °C without GSH at 10 min, 40 min, 70 min, 2 h, 4 h, and 24 h. Verapamil at 3.7 min, OX05159 at 4.83 min.

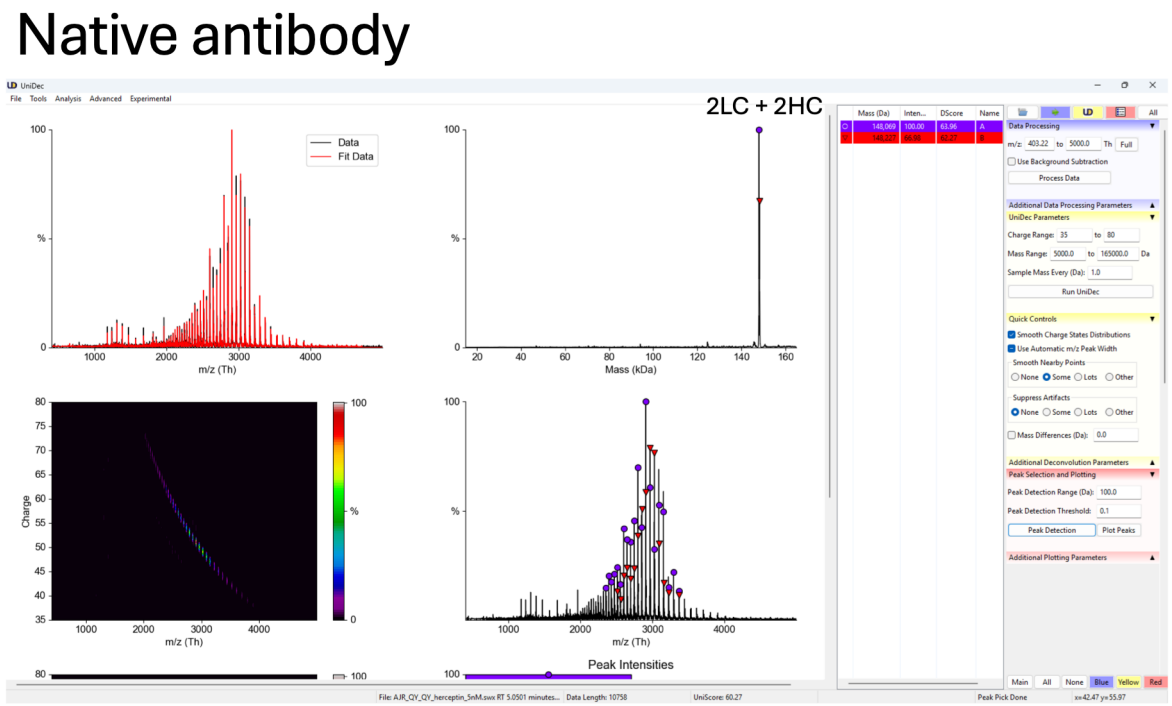


Figure 5S. Deconvoluted MS for native trastuzumab.

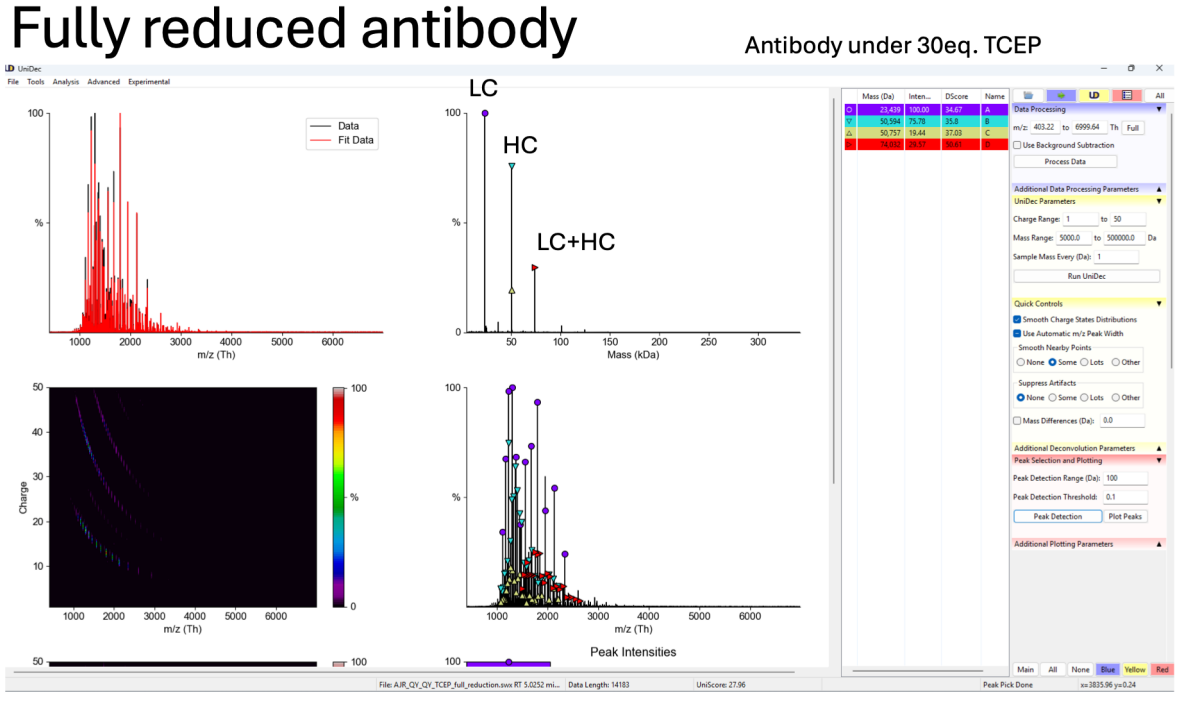


Figure 6S. Deconvoluted MS for fully reduced trastuzumab with 30 eq. of TCEP.

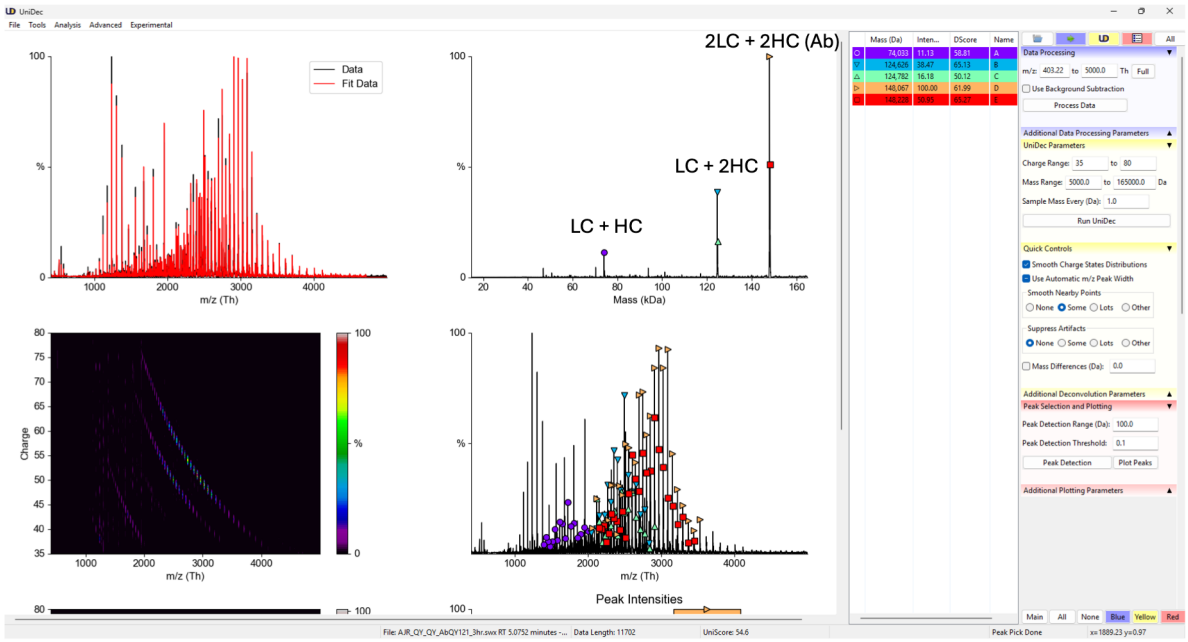


Figure 7S. Deconvoluted MS for conjugation 1a

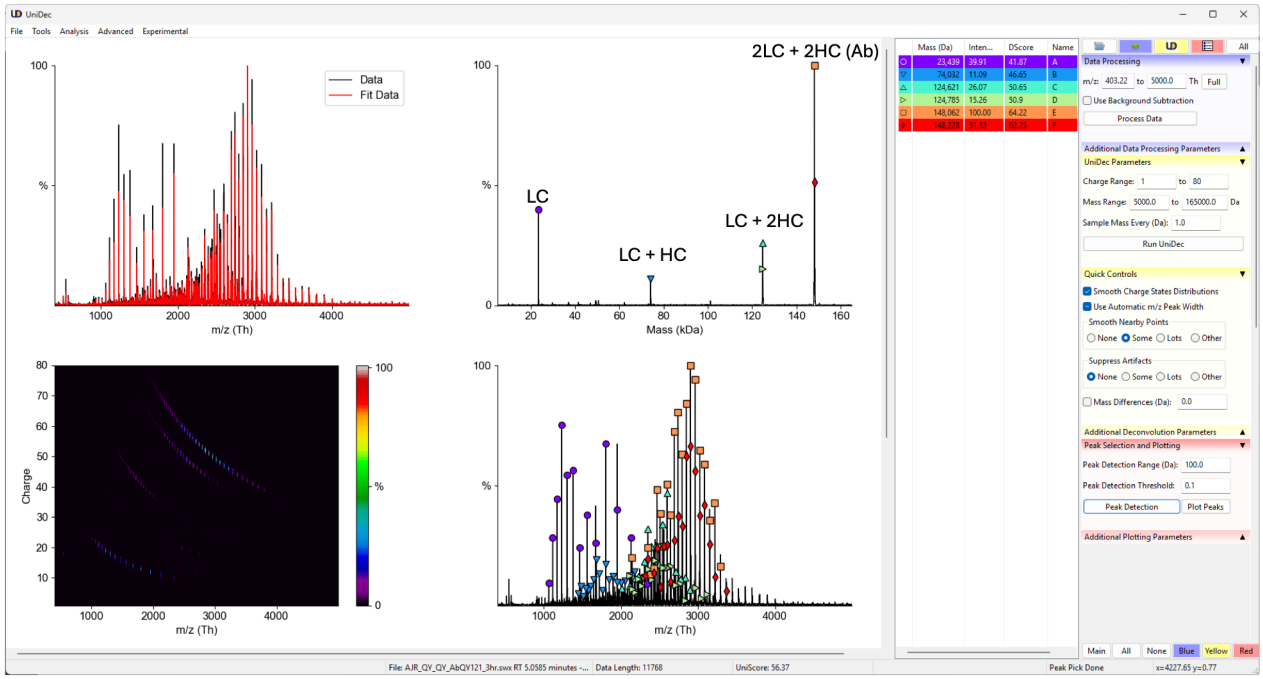


Figure 8S. Deconvoluted MS for conjugation 1b

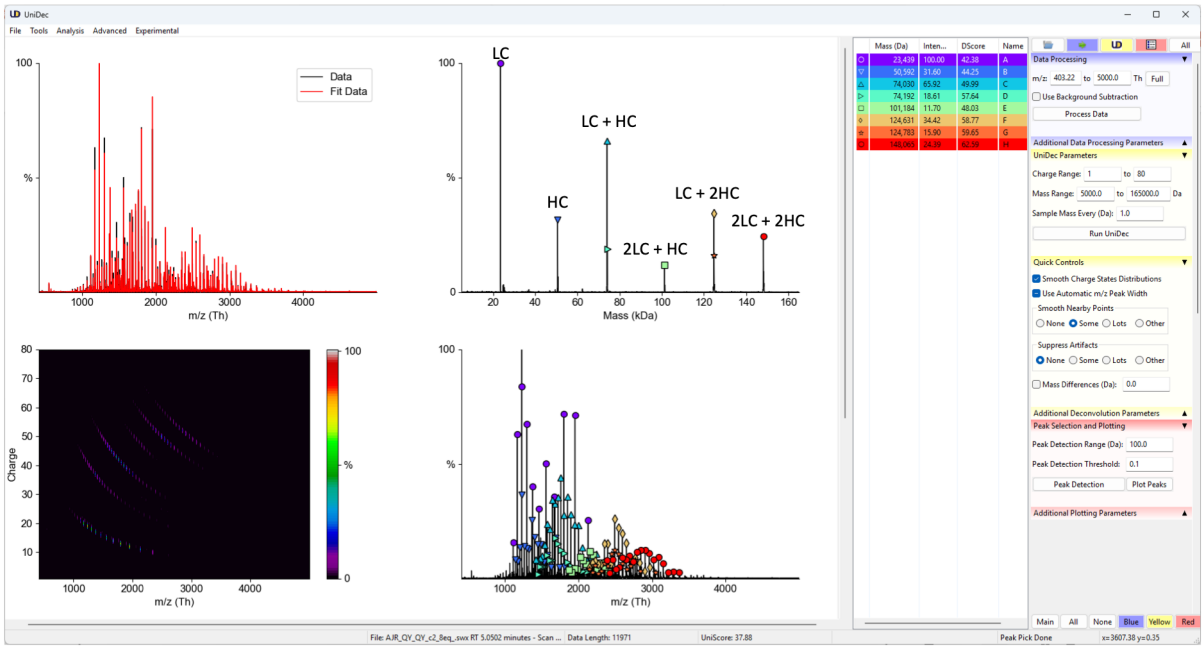


Figure 9S. Deconvoluted MS for conjugation 2a

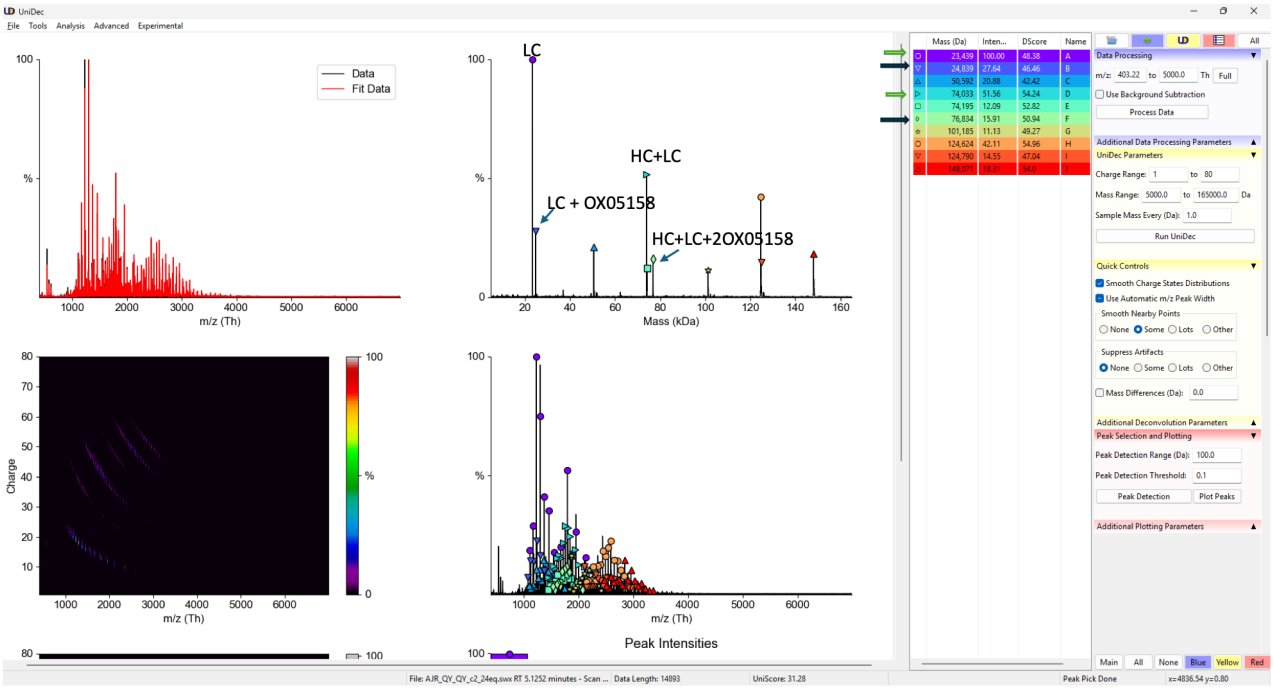


Figure 10S. Deconvoluted MS for conjugation 2b

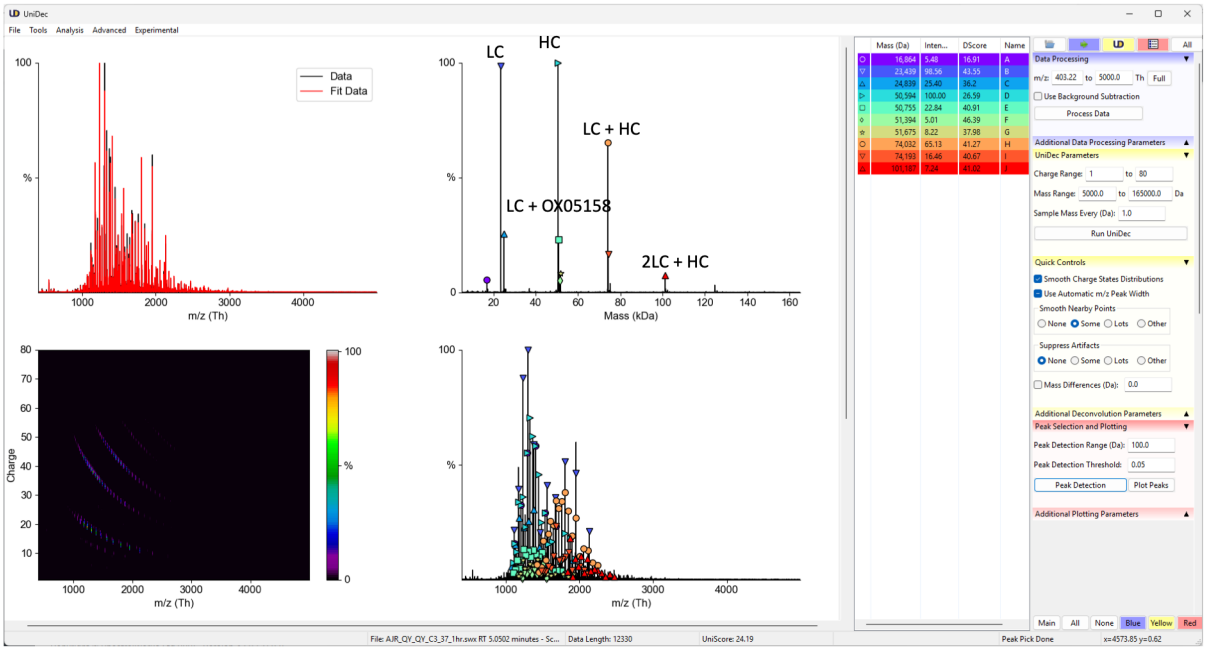


Figure 11S. Deconvoluted MS for conjugation 3a

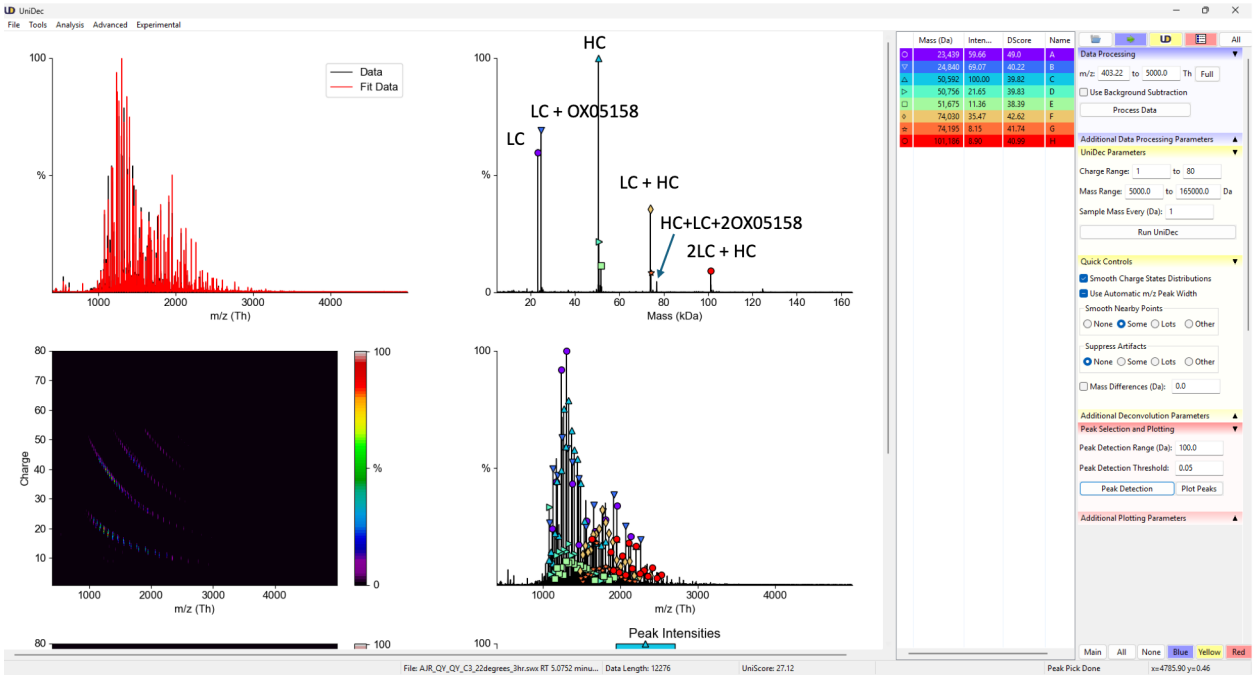


Figure 12S. Deconvoluted MS for conjugation 3b

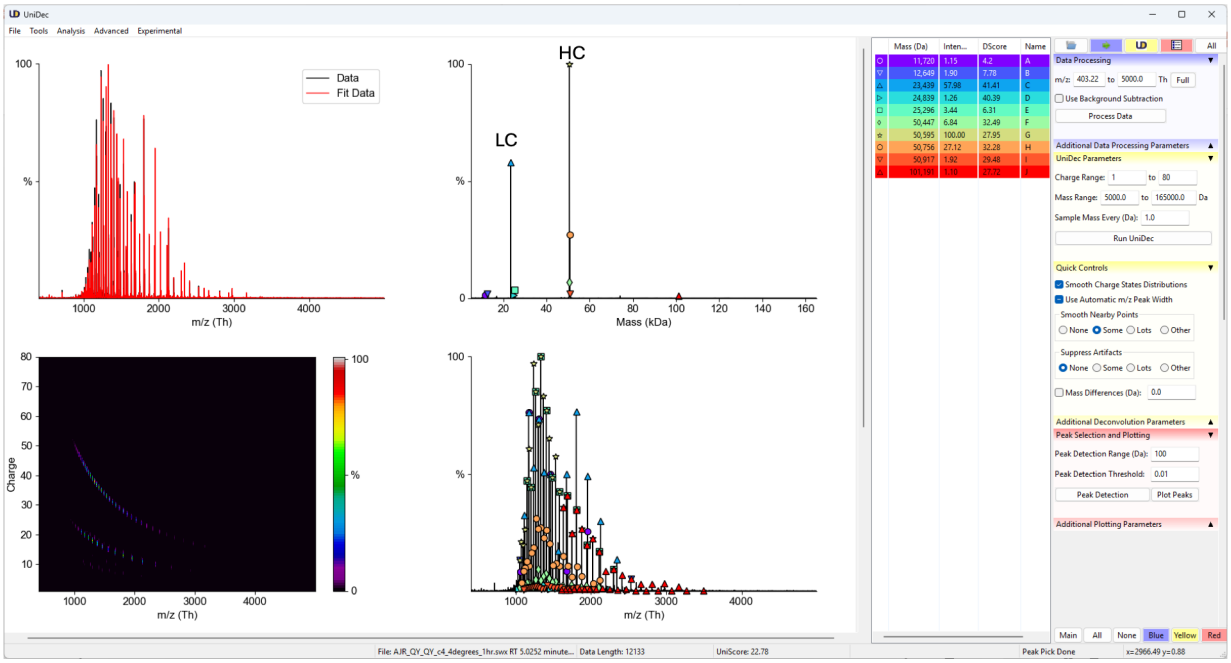


Figure 13S. Deconvoluted MS for conjugation 4a

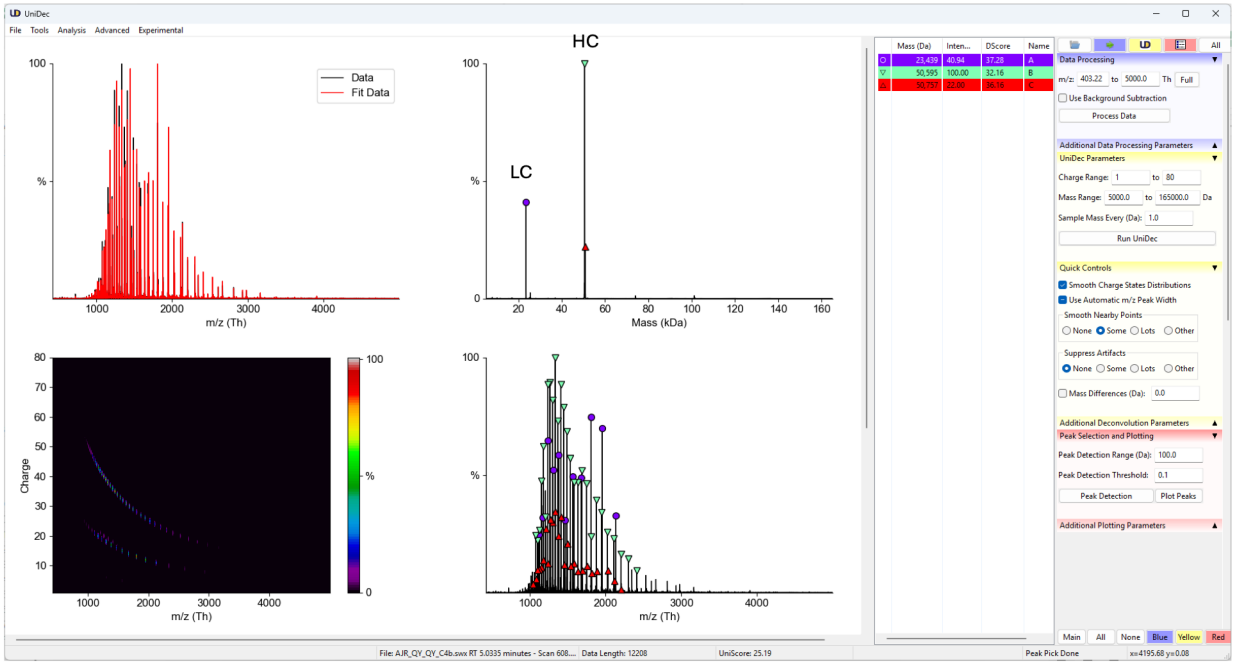


Figure 14S. Deconvoluted MS for conjugation 4b

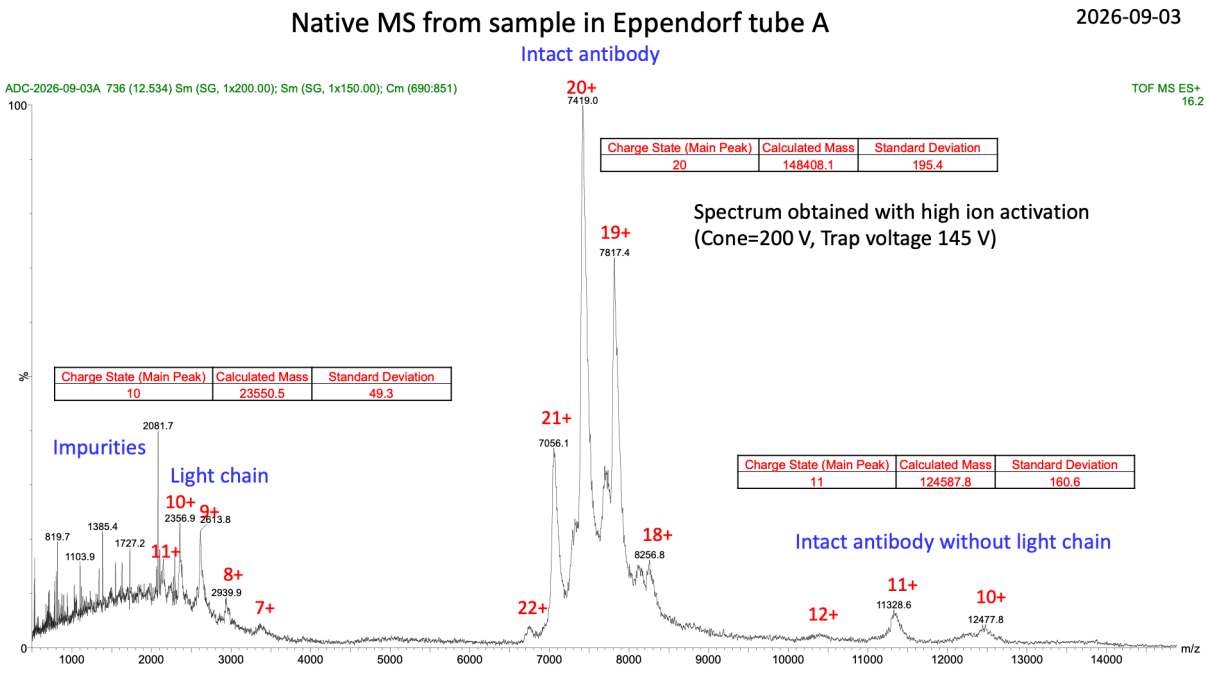


Figure 15S. Native MS traces for sample A.

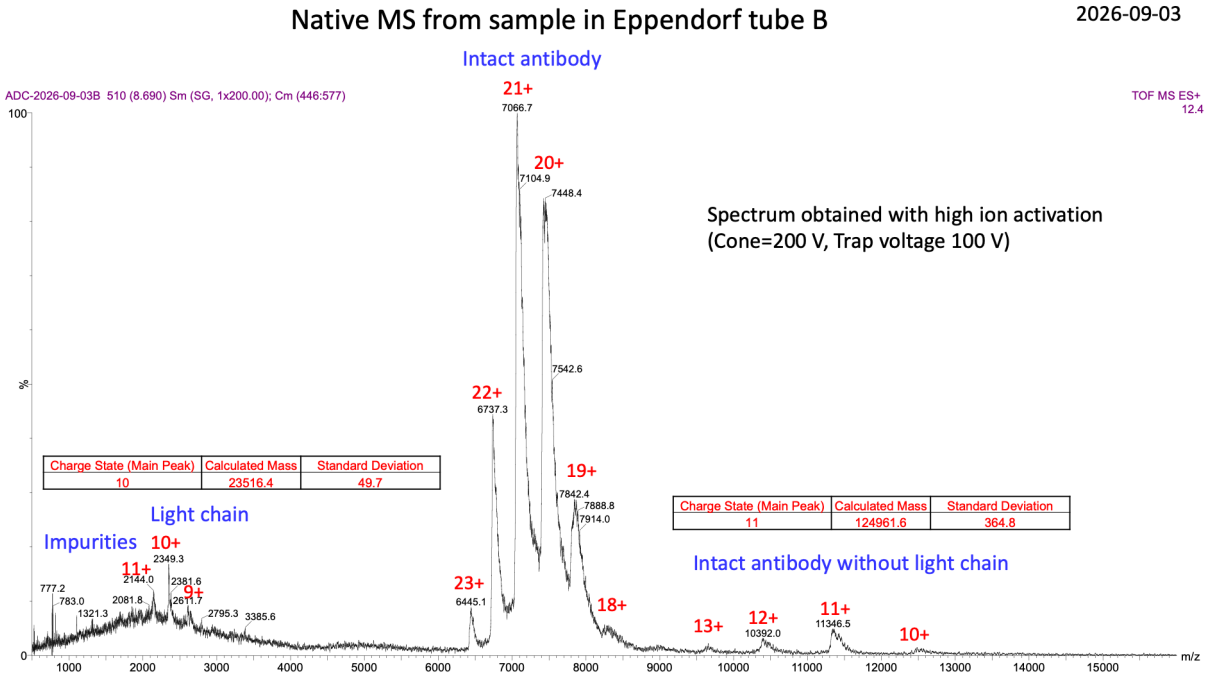
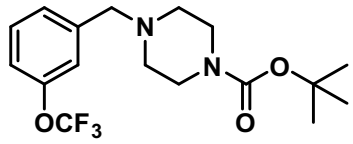
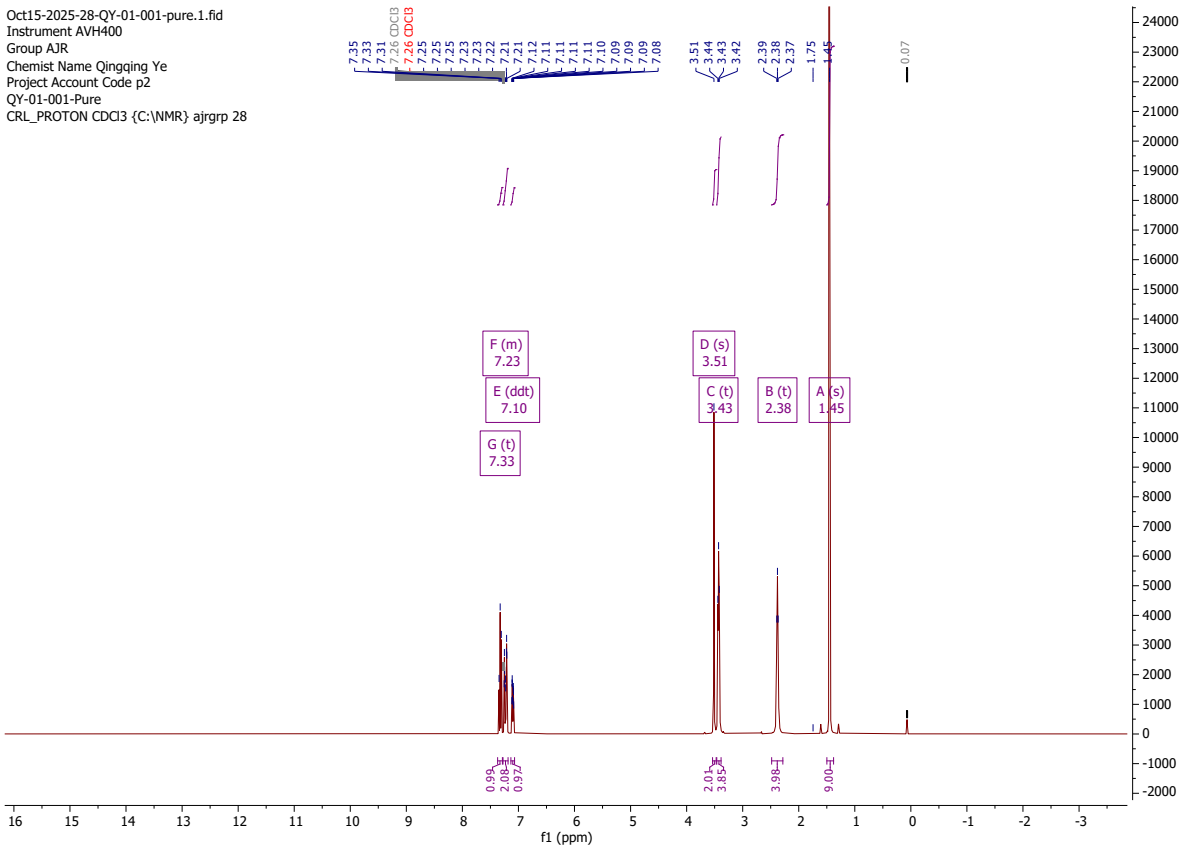


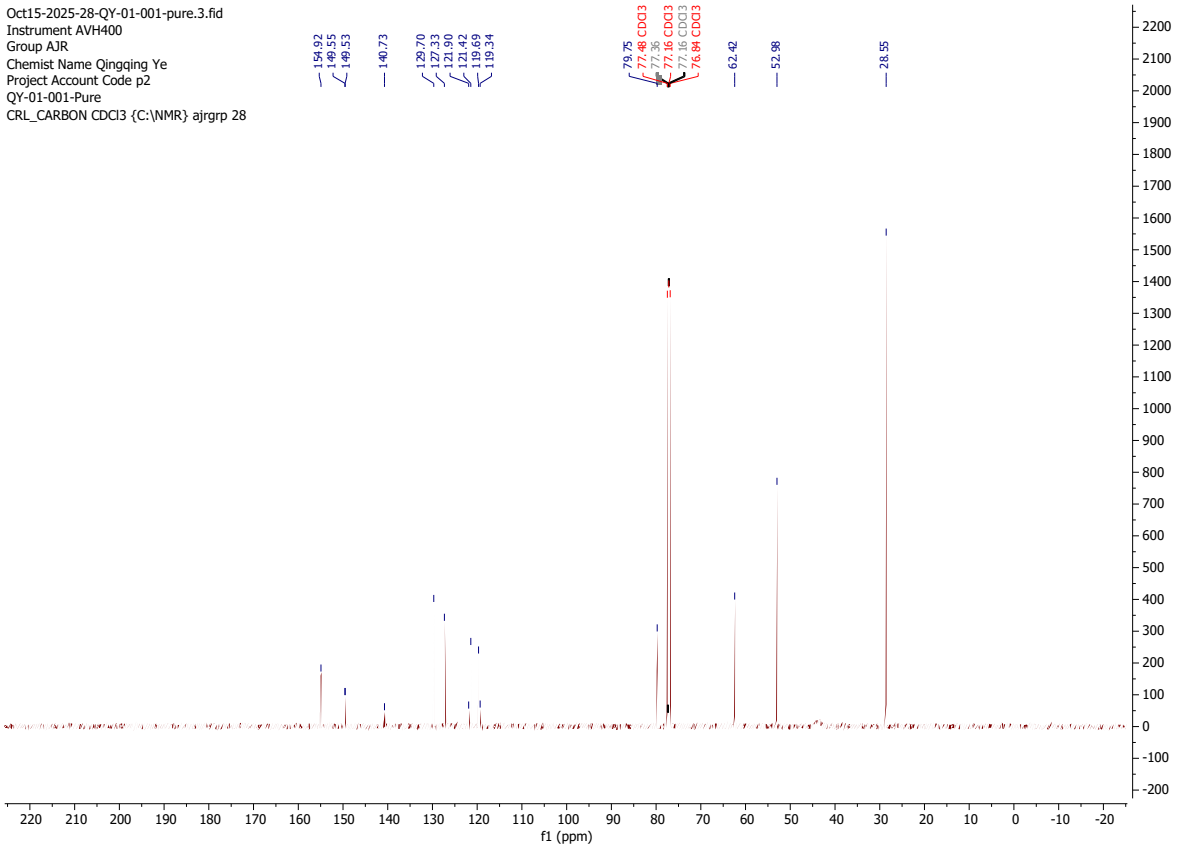
Figure 16S. Native MS traces for sample B.

NMR spectra

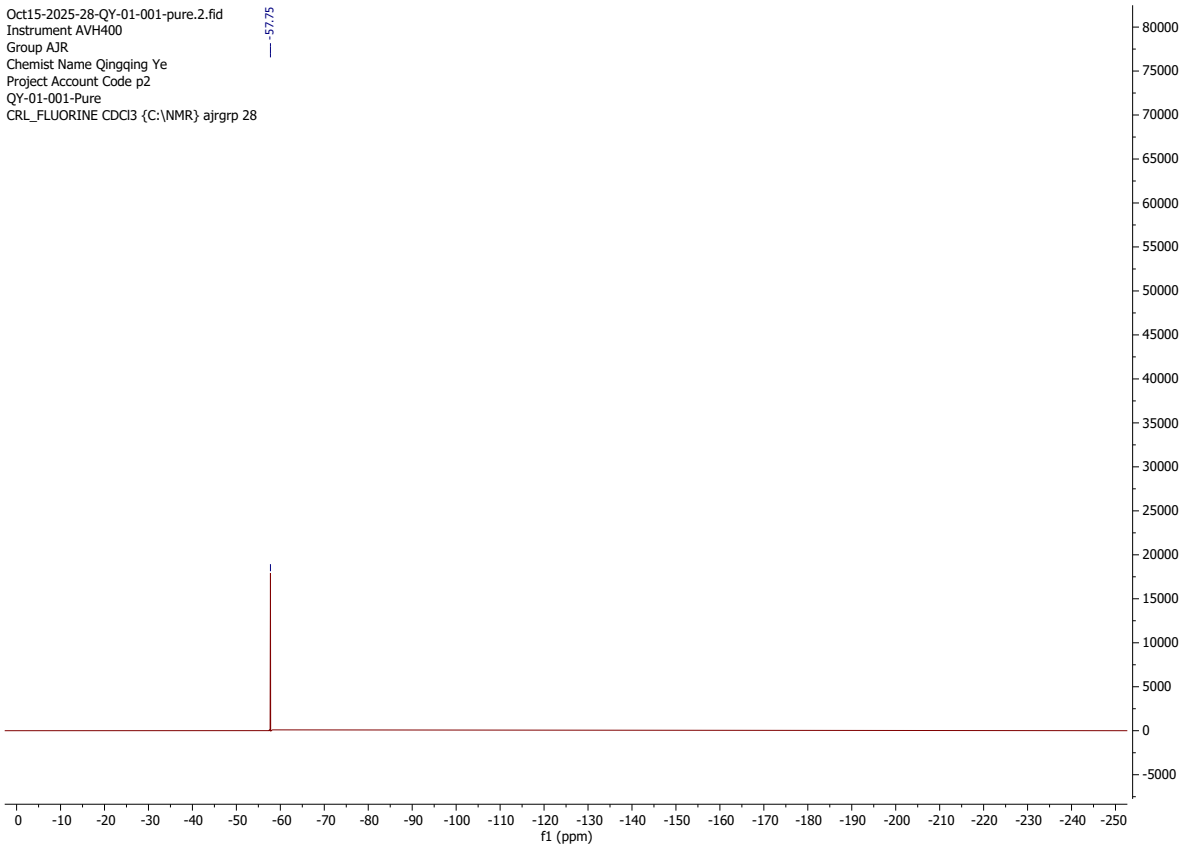

N
N
O
O
OCF3

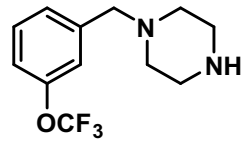

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Project Account Code p2
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E (ddt) 7.10
G (t) 7.33
D (s) 3.51
C (t) 3.43
B (t) 2.38
A (s) 1.45
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2.08
0.97
2.01
3.85
3.98
9.00
f1 (ppm)

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Group AJR
Chemist Name Qingqing Ye
Project Account Code p2
QY-01-001-Pure
CRL_CARBON CDCl3 {C:\NMR} ajrgrp 28



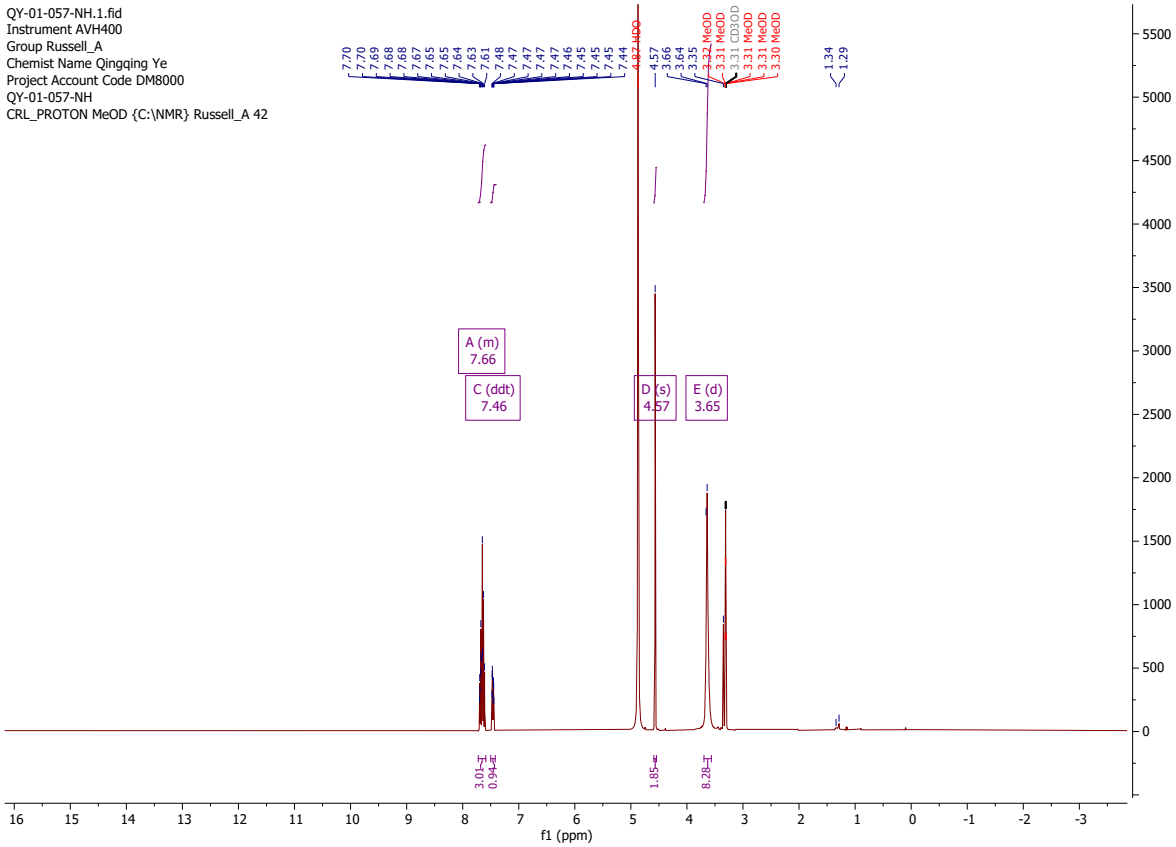
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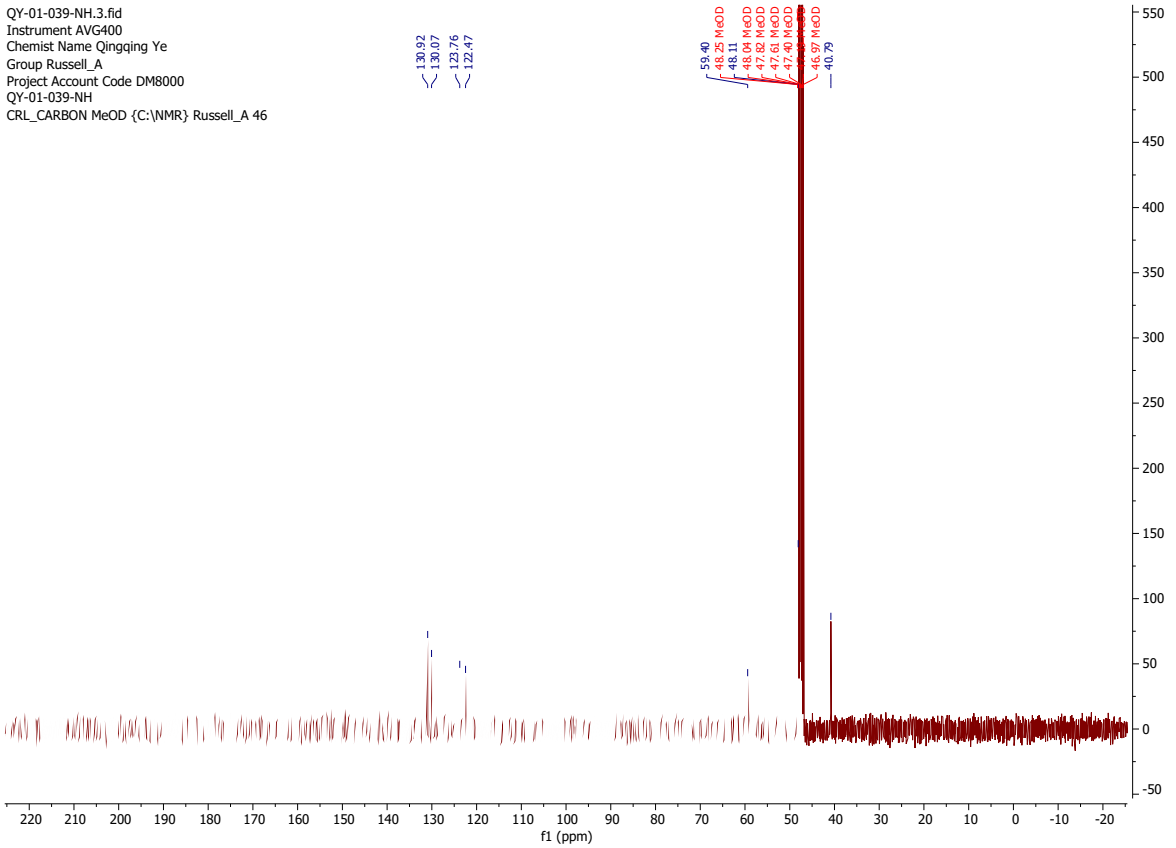


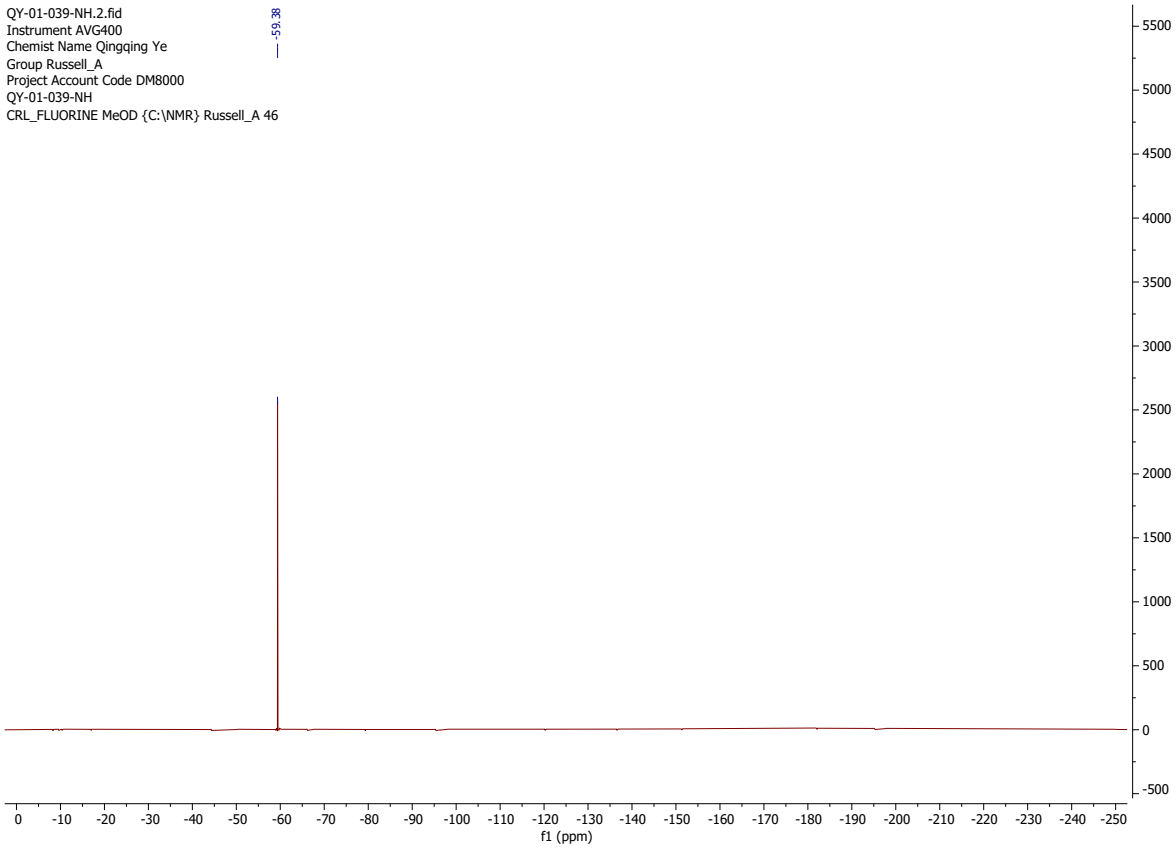
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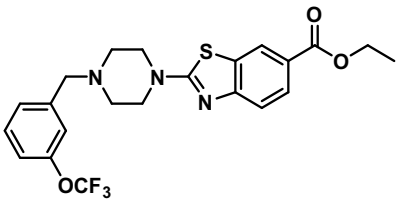
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Project Account Code DM8000
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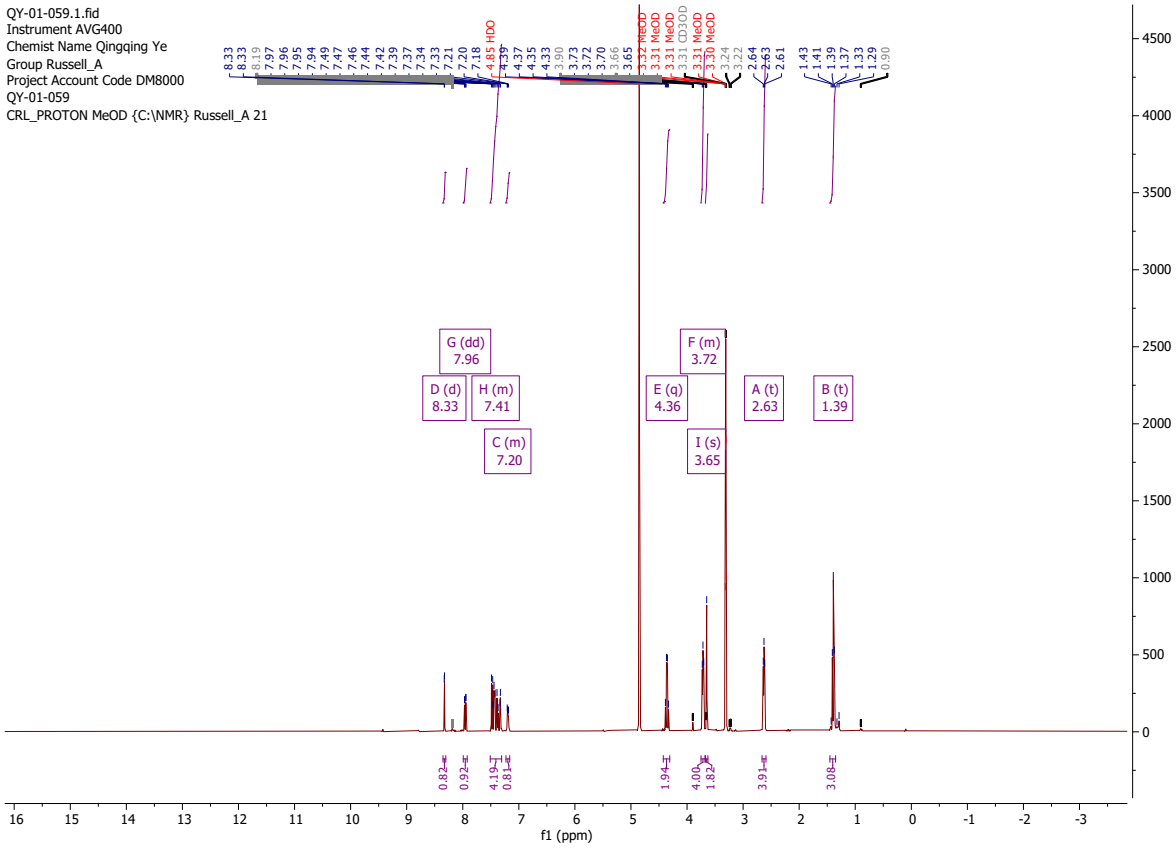


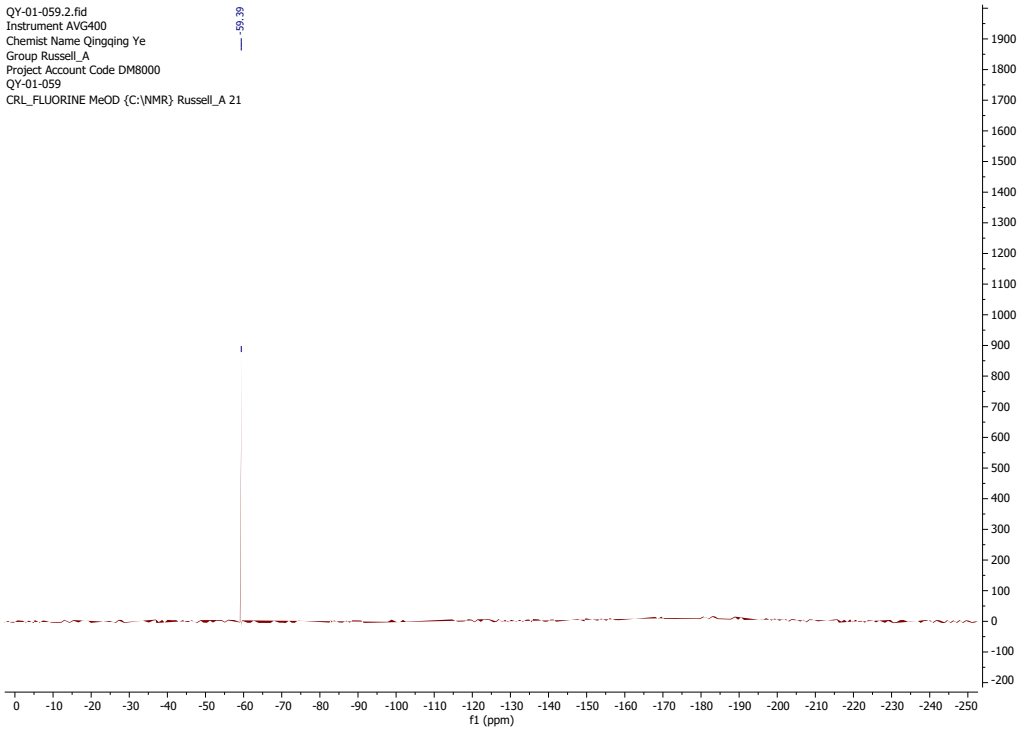
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Group Russell_A
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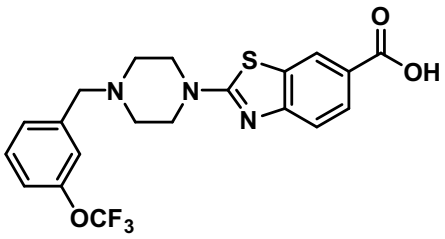


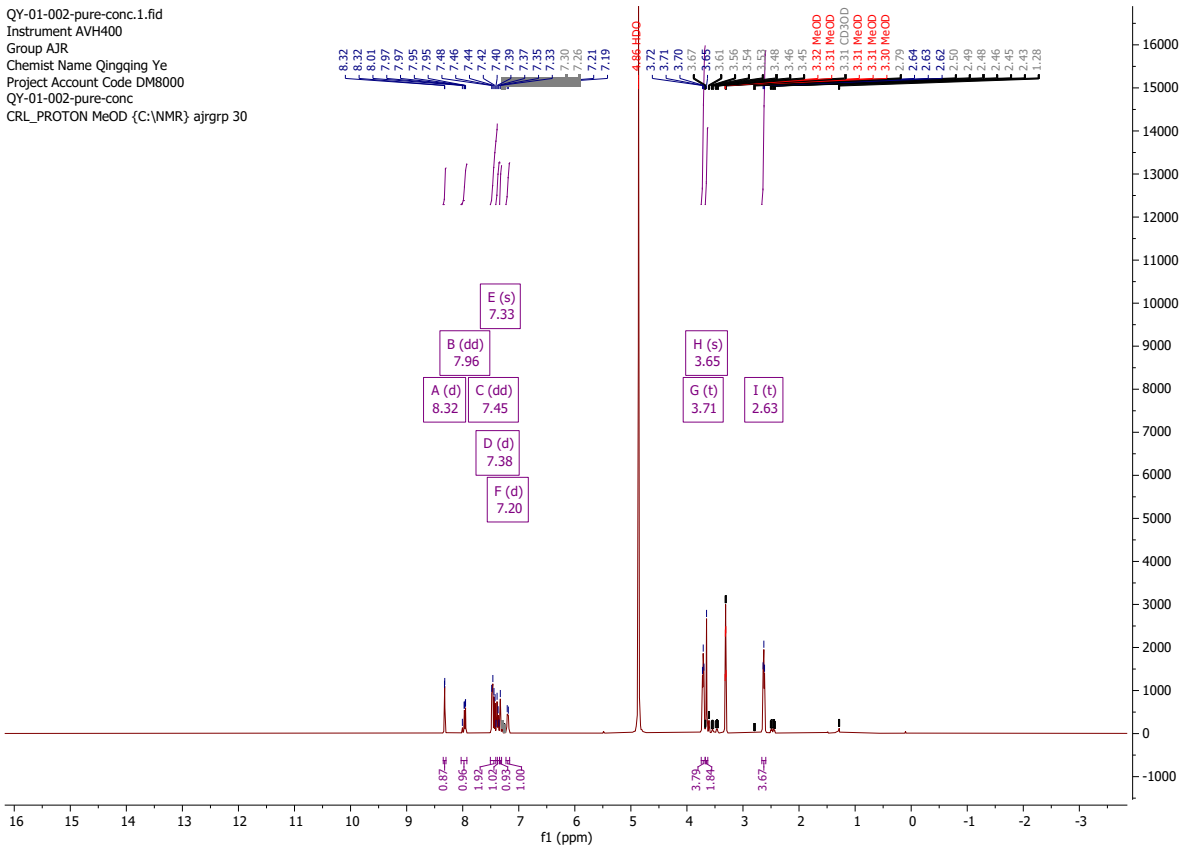

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Group Russell_A
Project Account Code DM8000
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5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
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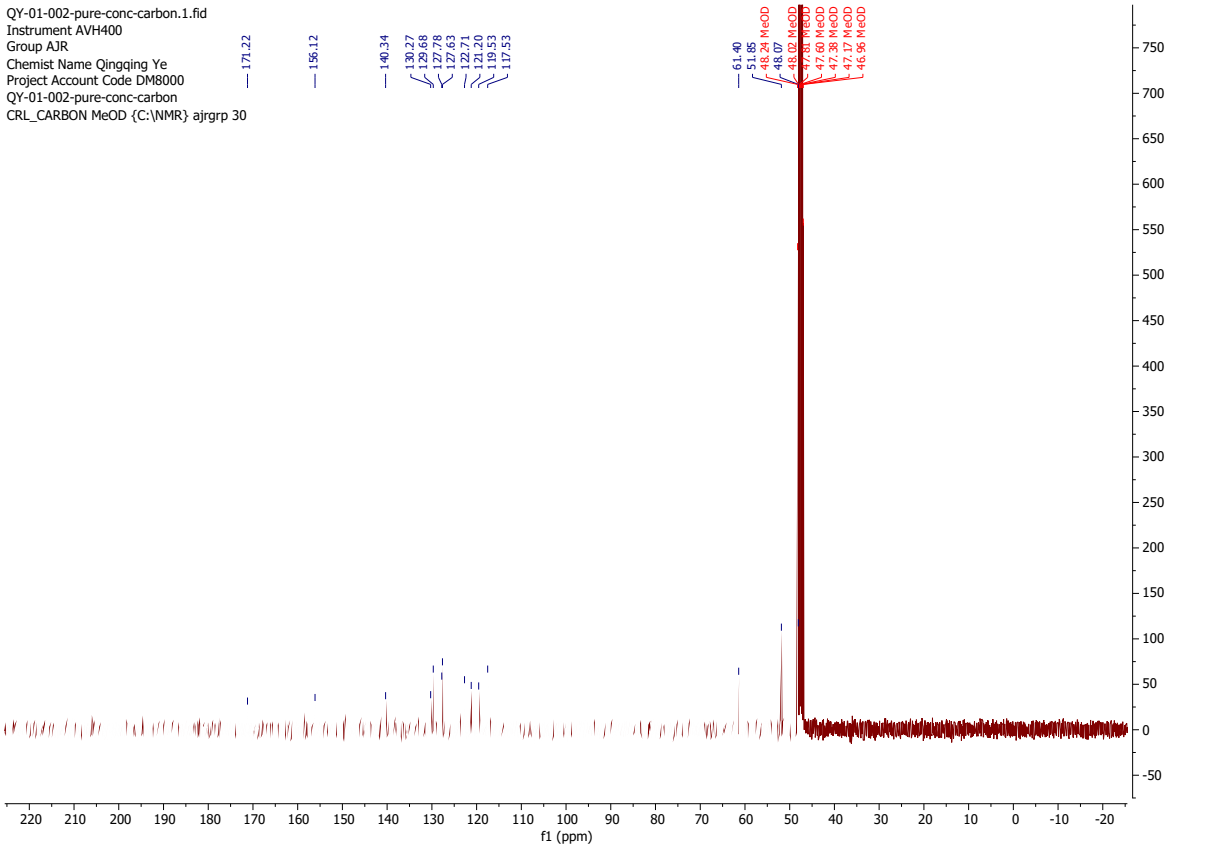

O
S
N
N
N
O
OCF3

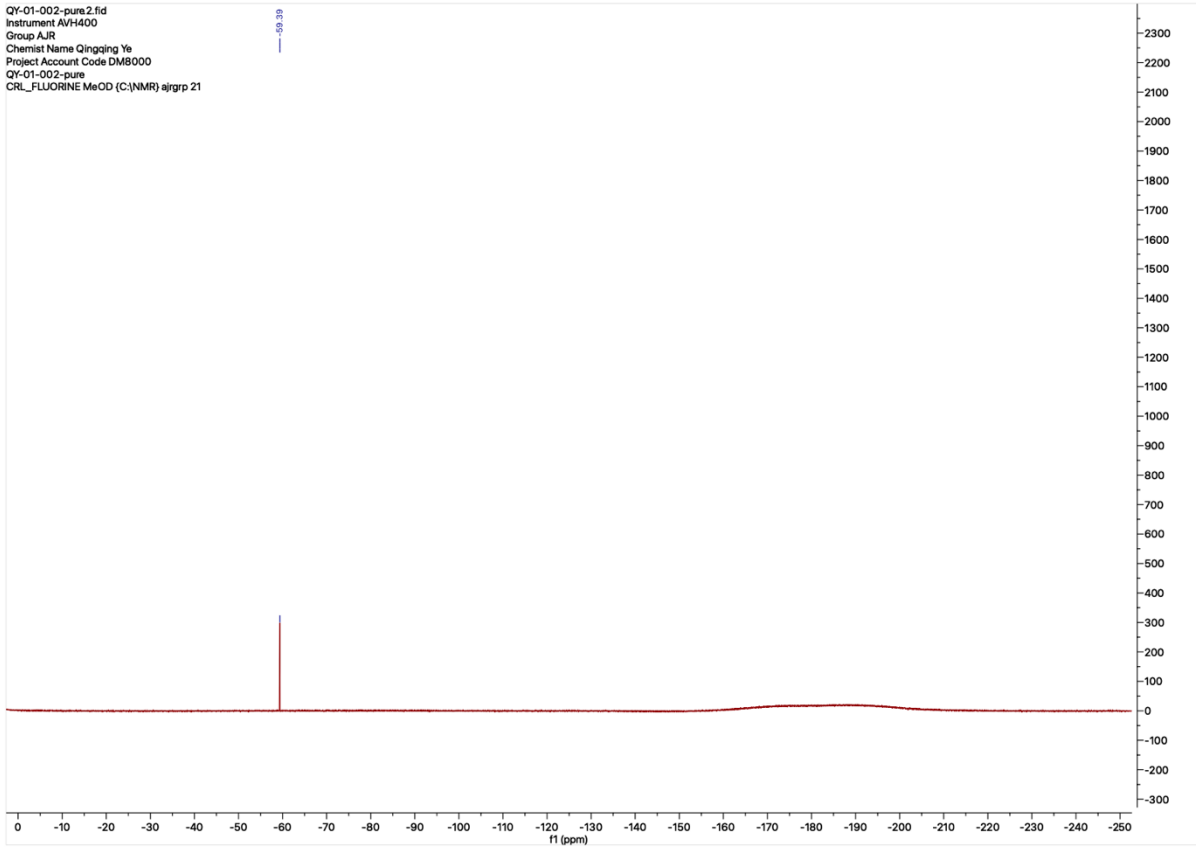

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Group Russell_A
Project Account Code DM8000
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D (d) 8.33
H (m) 7.41
C (m) 7.20
F (m) 3.72
E (q) 4.36
A (t) 2.63
B (t) 1.39
I (s) 3.65
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0.81
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3.08
f1 (ppm)

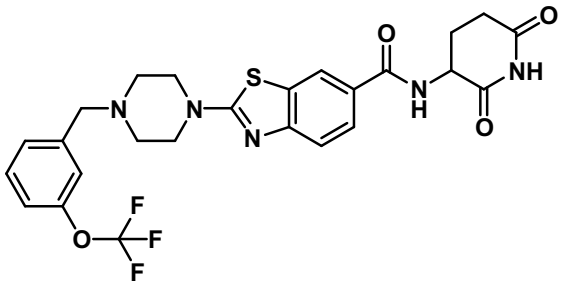

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Project Account Code DM8000
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f1 (ppm)

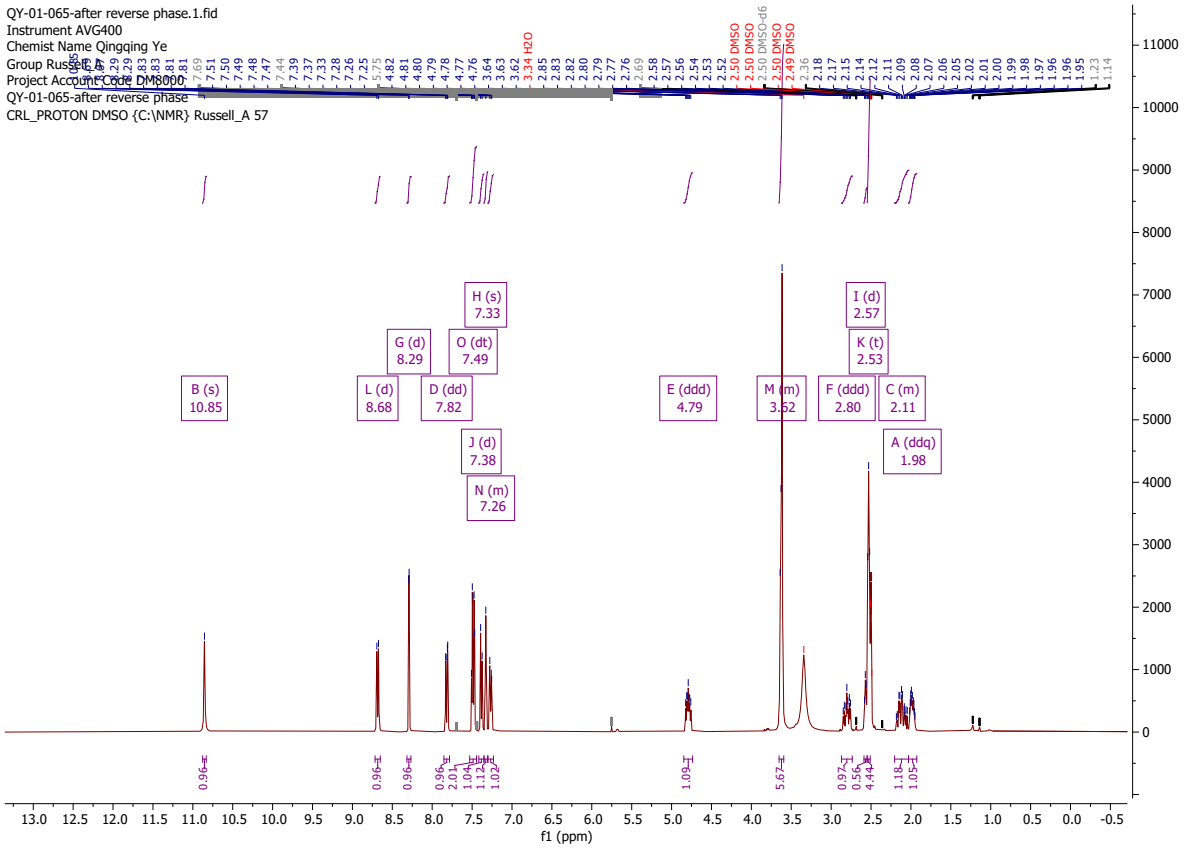

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S
N
N
N
OCF3

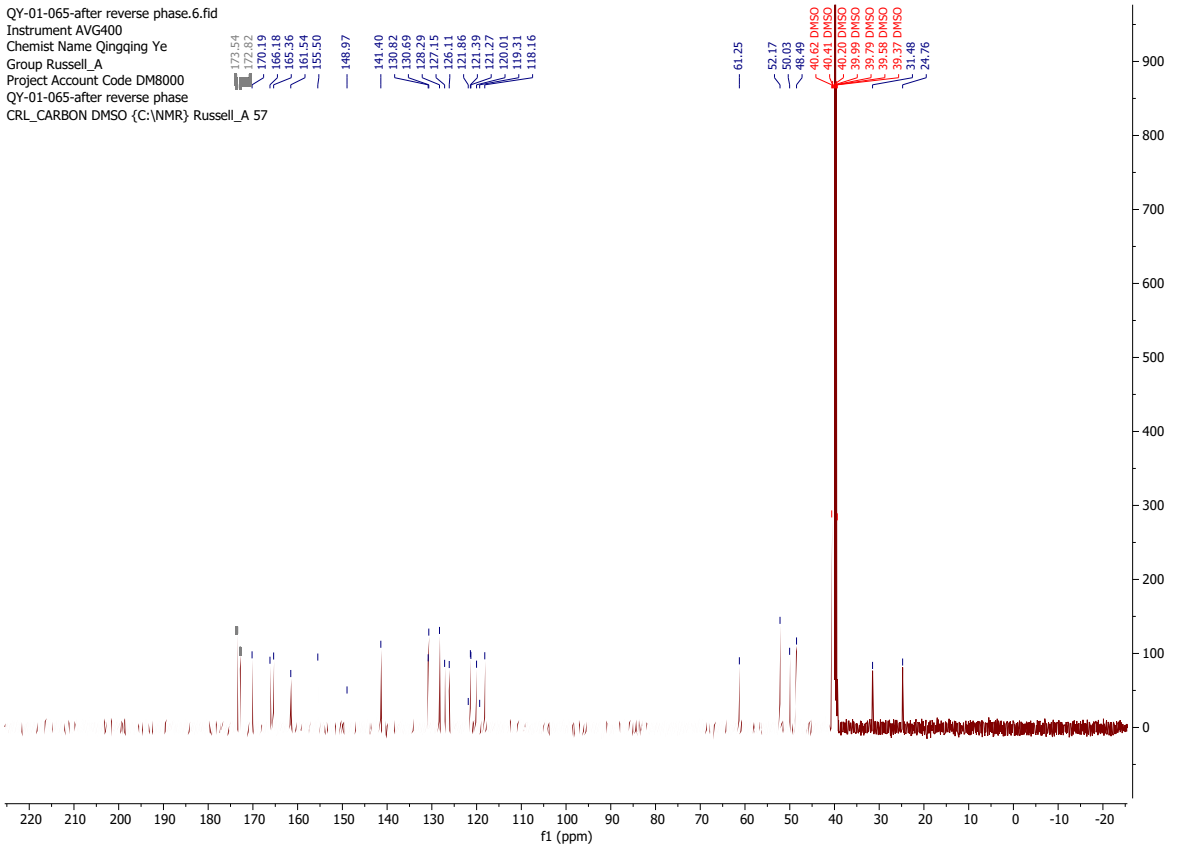

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Project Account Code DM8000
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A (d) 8.32
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G (t) 3.71
I (t) 2.63
f1 (ppm)

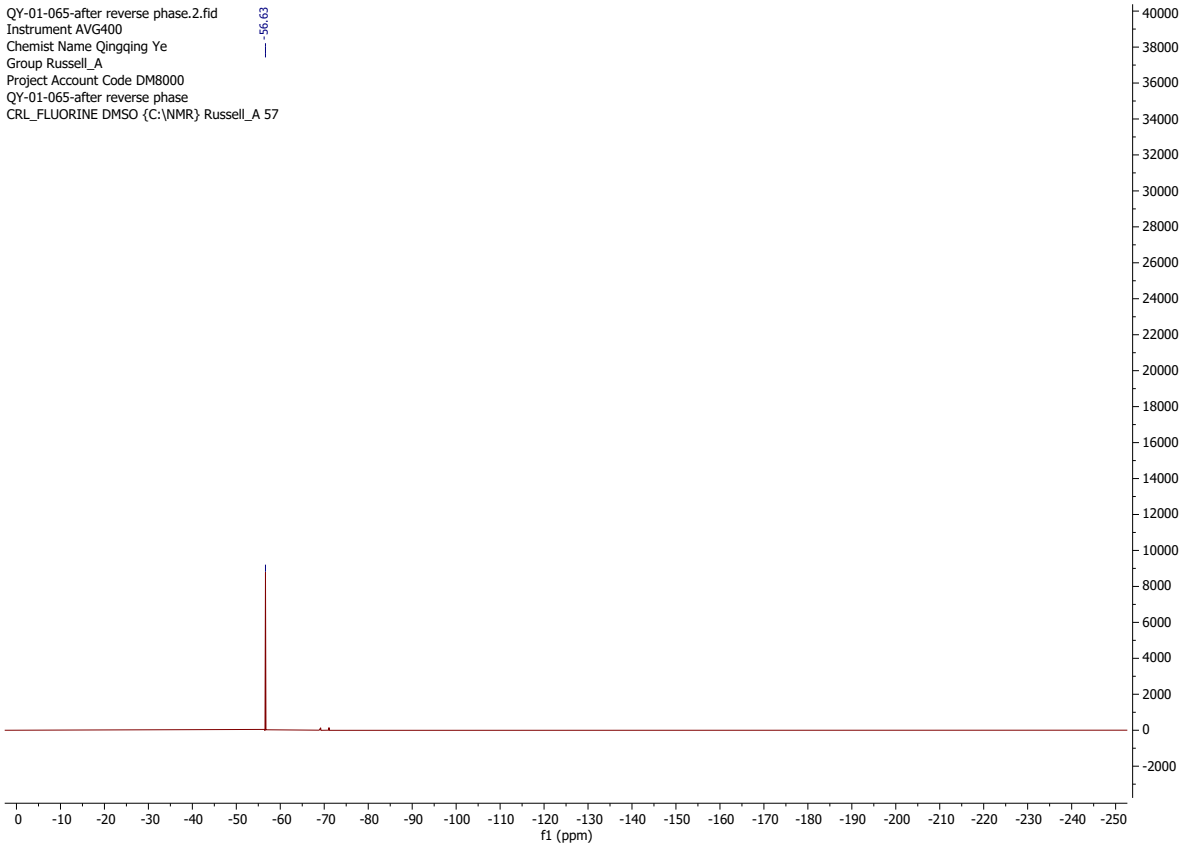

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Chemist Name Qingqing Ye
Project Account Code DM8000
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140.34
130.27
129.68
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122.71
121.20
119.53
117.53
61.40
51.85
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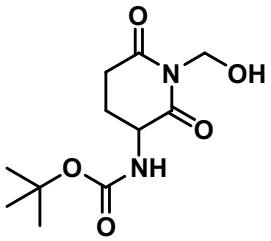

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Project Account Code DM8000
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f1 (ppm)

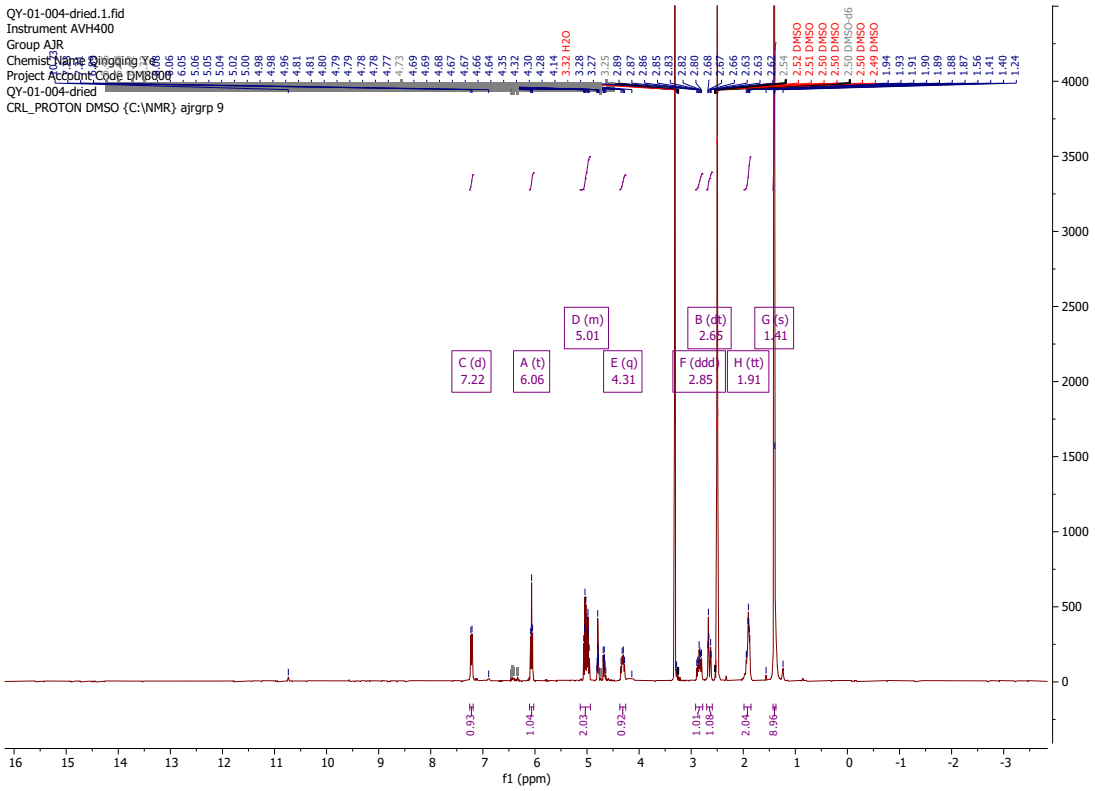

O
S
N
N
N
H
NH
O
O
F
O
F
F

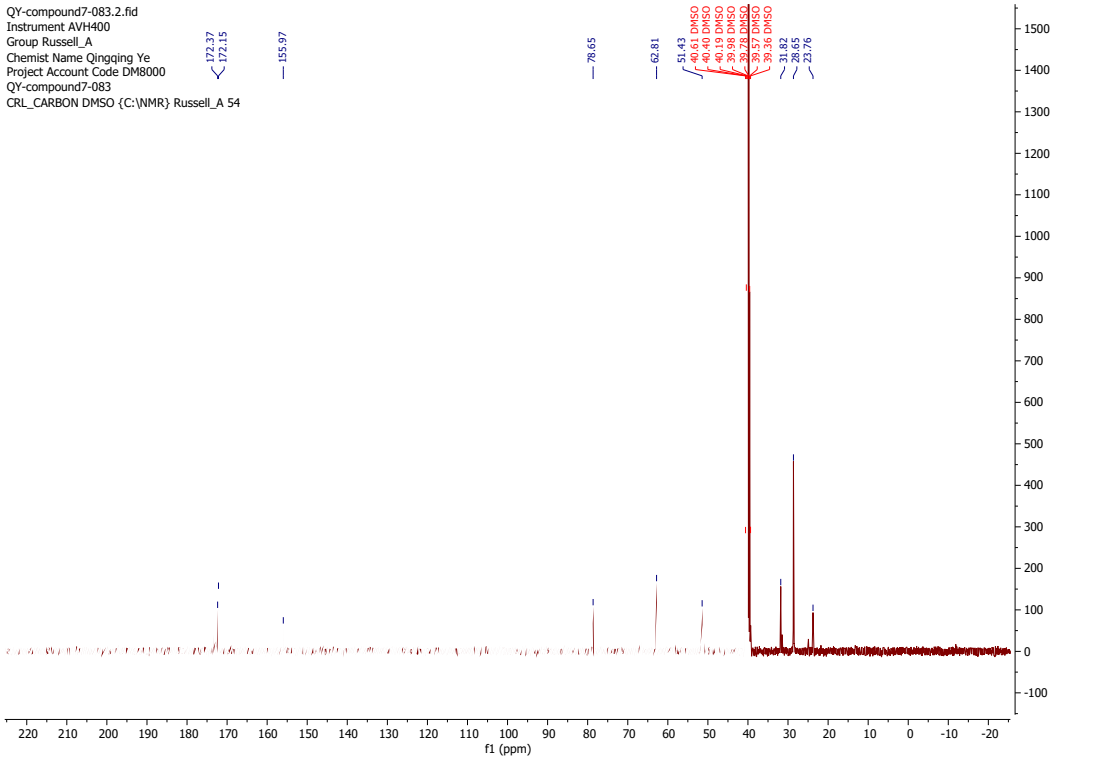

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Group Russell_A
Project Account Code DMS000
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L (d) 8.68
G (d) 8.29
D (dd) 7.82
H (s) 7.33
O (dt) 7.49
J (d) 7.38
N (m) 7.26
E (ddd) 4.79
M (m) 3.52
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K (t) 2.53
F (ddd) 2.80
C (m) 2.11
A (ddq) 1.98
f1 (ppm)

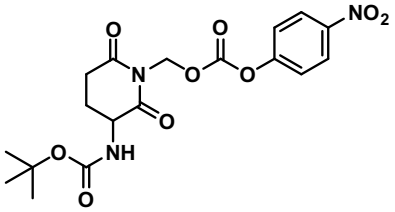

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Group Russell_A
Project Account Code DM8000
QY-01-065-after reverse phase
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172.82
170.19
166.18
165.36
161.54
155.50
148.97
141.40
130.82
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121.86
121.39
121.27
120.01
119.31
118.16
61.25
52.17
50.03
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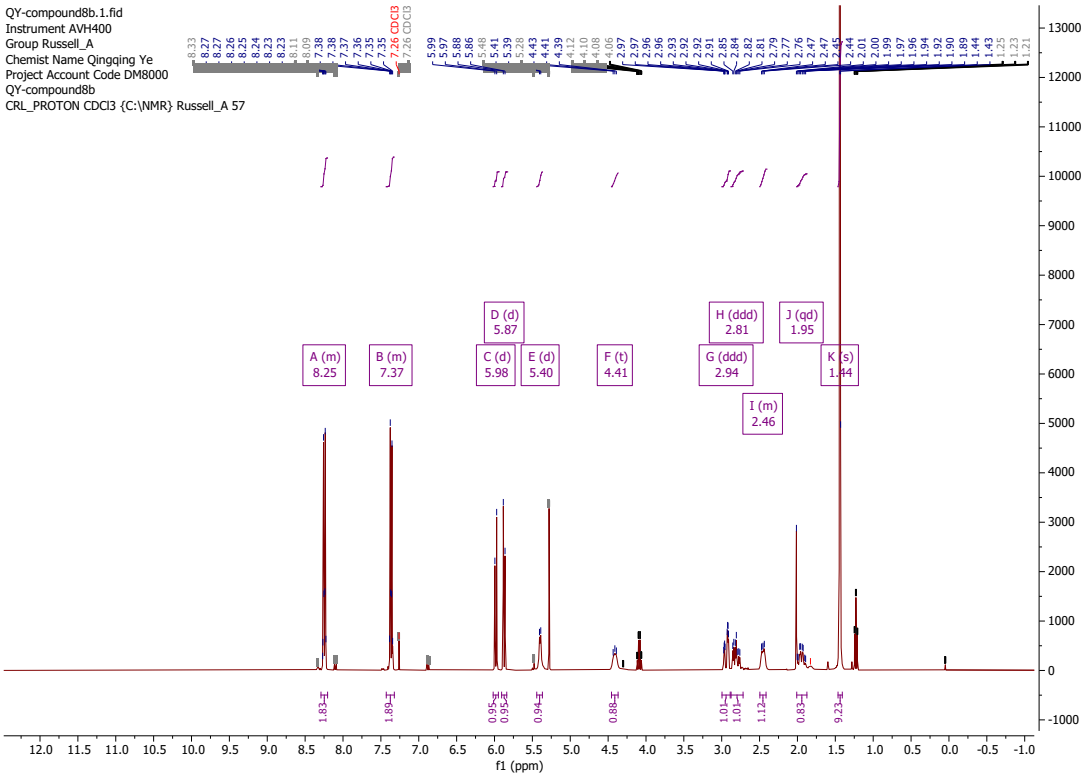

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Group Russell_A
Project Account Code DM8000
QY-01-065-after reverse phase
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f1 (ppm)

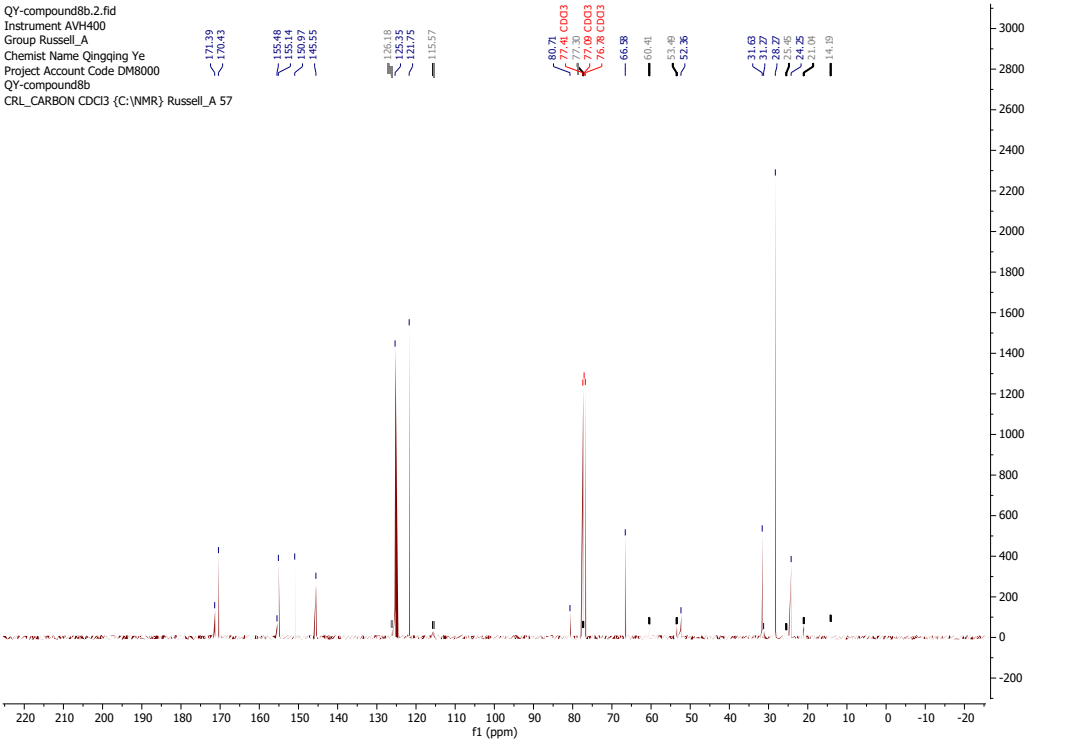

O
N
OH
O
O
NH
O
O

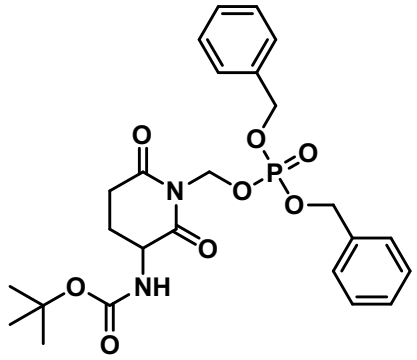

QY-01-004-dried.1.fid
Instrument AVH400
Group AJR
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-01-004-dried
CRL_PROTON DMSO {C:\NMR} ajrgrp 9
H2O
DMSO
DMSO-d6
C (d) 7.22
A (t) 6.06
D (m) 5.01
E (q) 4.31
F (ddd) 2.85
B (dt) 2.65
H (tt) 1.91
G (s) 1.41
0.93
1.04
2.03
0.92
1.01
1.08
2.04
8.96
f1 (ppm)

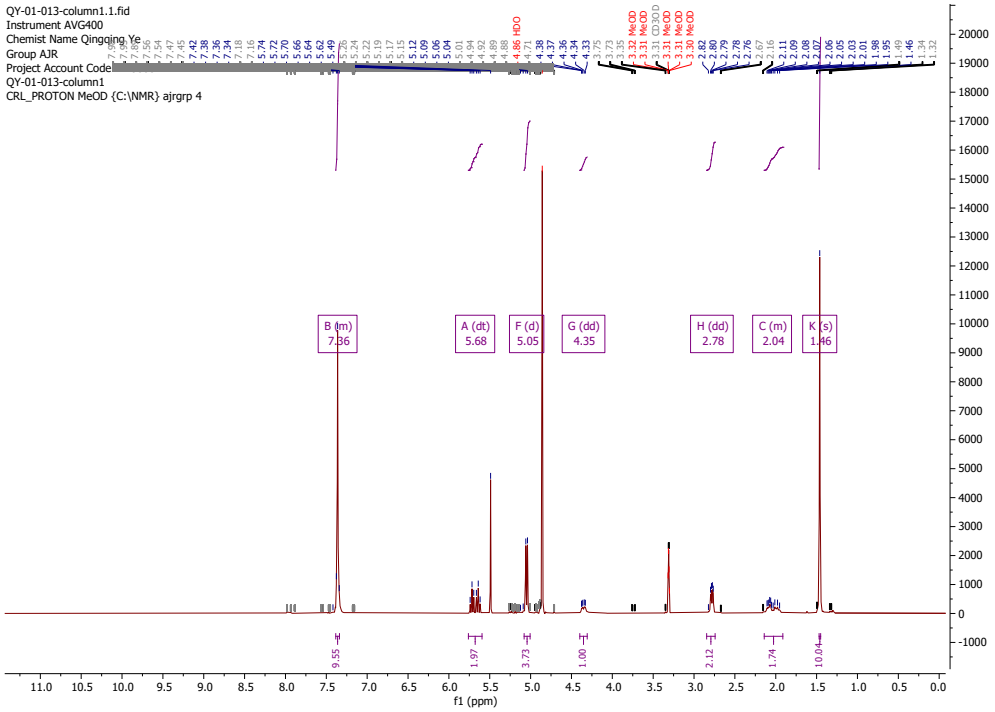

QY-compound7-083.2.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-compound7-083
CRL_CARBON DMSO {C:\NMR} Russell_A 54
172.37
172.15
155.97
78.65
62.81
51.43
40.61 DMSO
40.40 DMSO
40.19 DMSO
39.98 DMSO
39.78 DMSO
39.57 DMSO
39.36 DMSO
31.82
28.65
23.76
f1 (ppm)

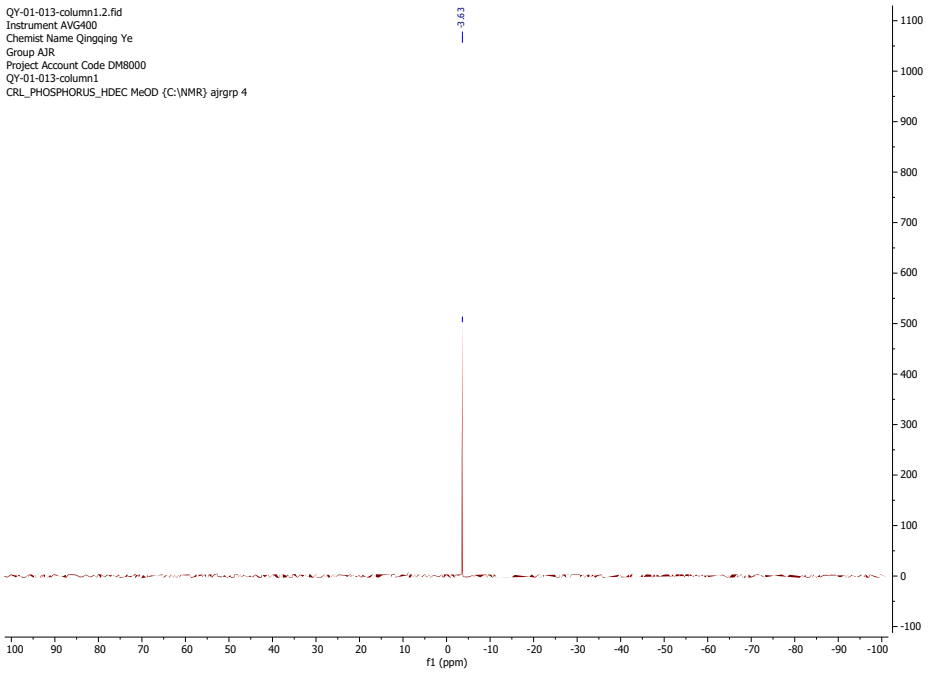

NO2
O
O
N
O
O
O
O
NH
O
O

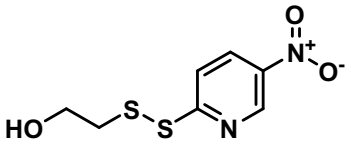

QY-compound8b.1.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-compound8b
CRL_PROTON CDCl3 {C:\NMR} Russell_A 57
A (m) 8.25
B (m) 7.37
C (d) 5.98
D (d) 5.87
E (d) 5.40
F (t) 4.41
G (ddd) 2.94
H (ddd) 2.81
I (m) 2.46
J (qd) 1.95
K (s) 1.44
f1 (ppm)

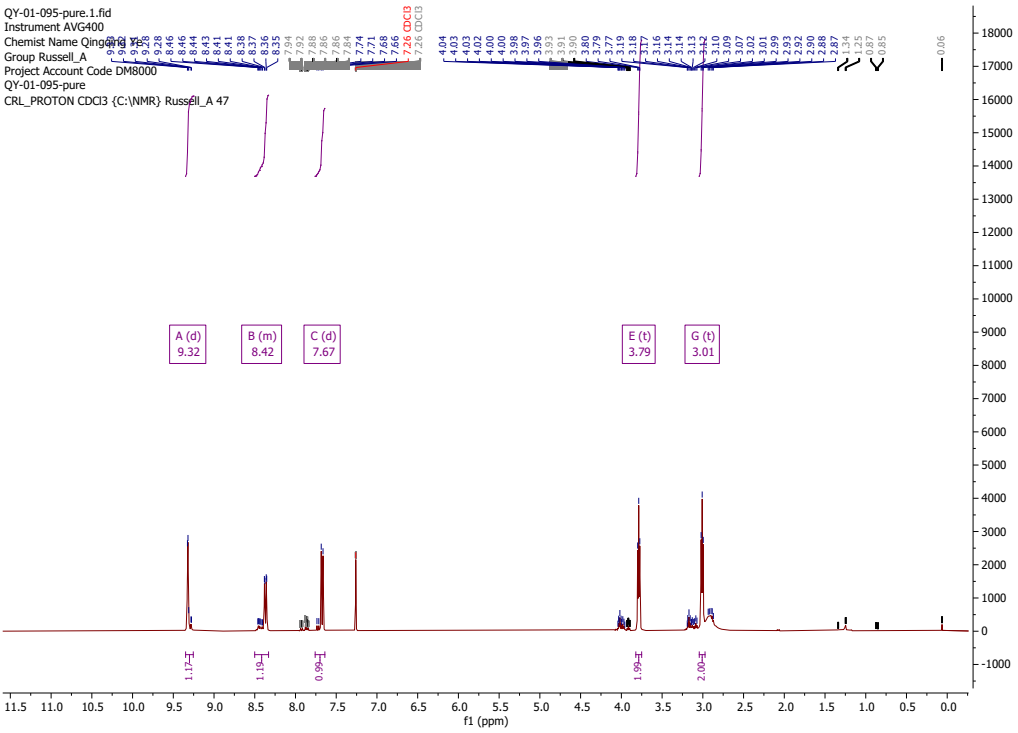

QY-compound8b.2.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-compound8b
CRL_CARBON CDCl3 {C:\NMR} Russell_A 57
f1 (ppm)

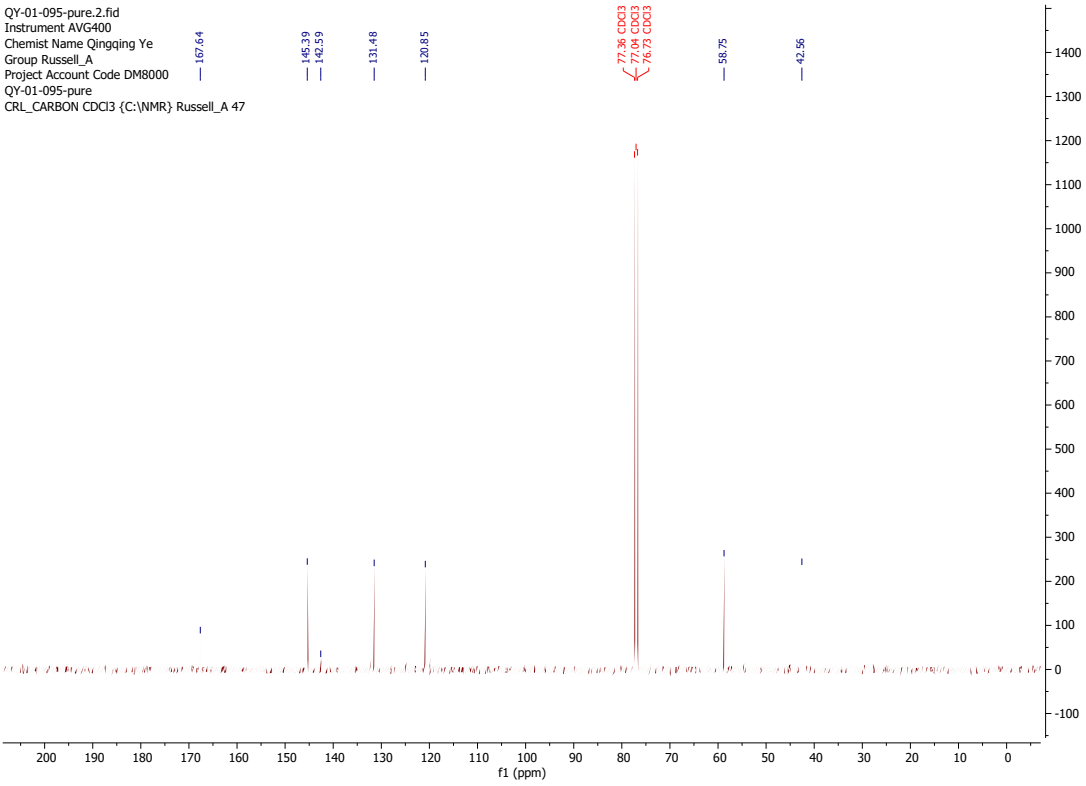

O
N
O
O
P
O
O
O
NH
O
O

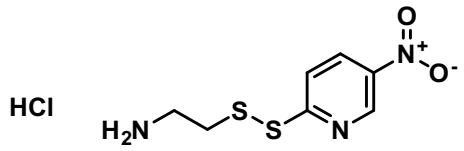

QY-01-013-column1.1.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group AJR
Project Account Code
QY-01-013-column1
CRL_PROTON MeOD {C:\NMR} ajrgrp 4
B (m) 7.36
A (dt) 5.68
F (d) 5.05
G (dd) 4.35
H (dd) 2.78
C (m) 2.04
K (s) 1.46
9.55
1.97
3.73
1.00
2.12
1.74
10.04
f1 (ppm)

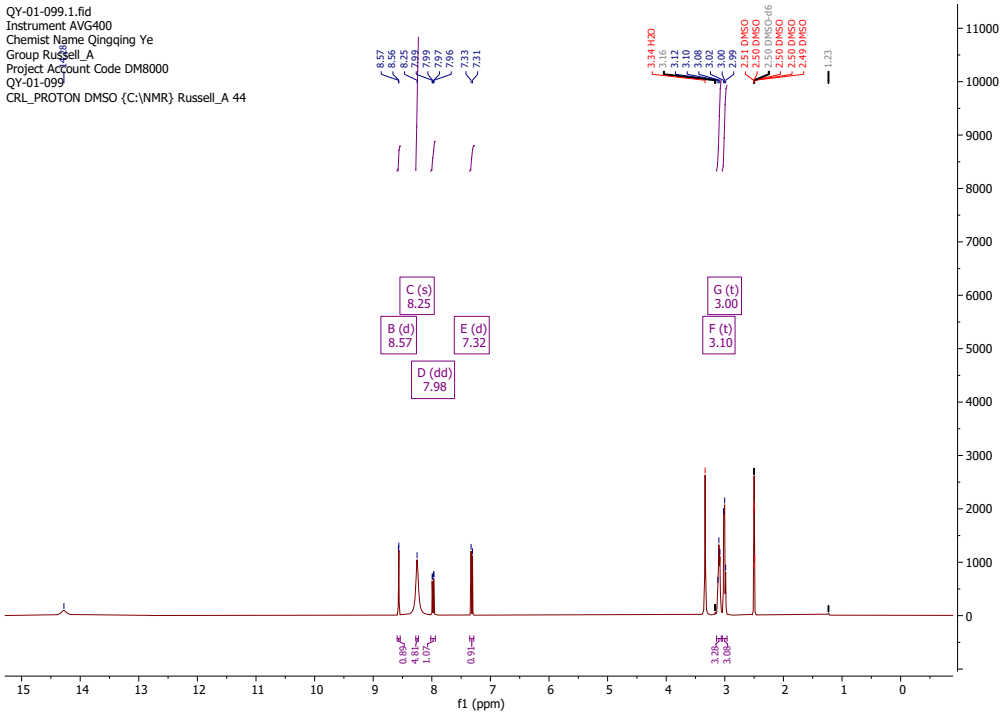

QY-01-013-column1.2.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group AJR
Project Account Code DM8000
QY-01-013-column1
CRL_PHOSPHORUS_HDEC MeOD {C:\NMR} ajrgrp 4
3.63
f1 (ppm)

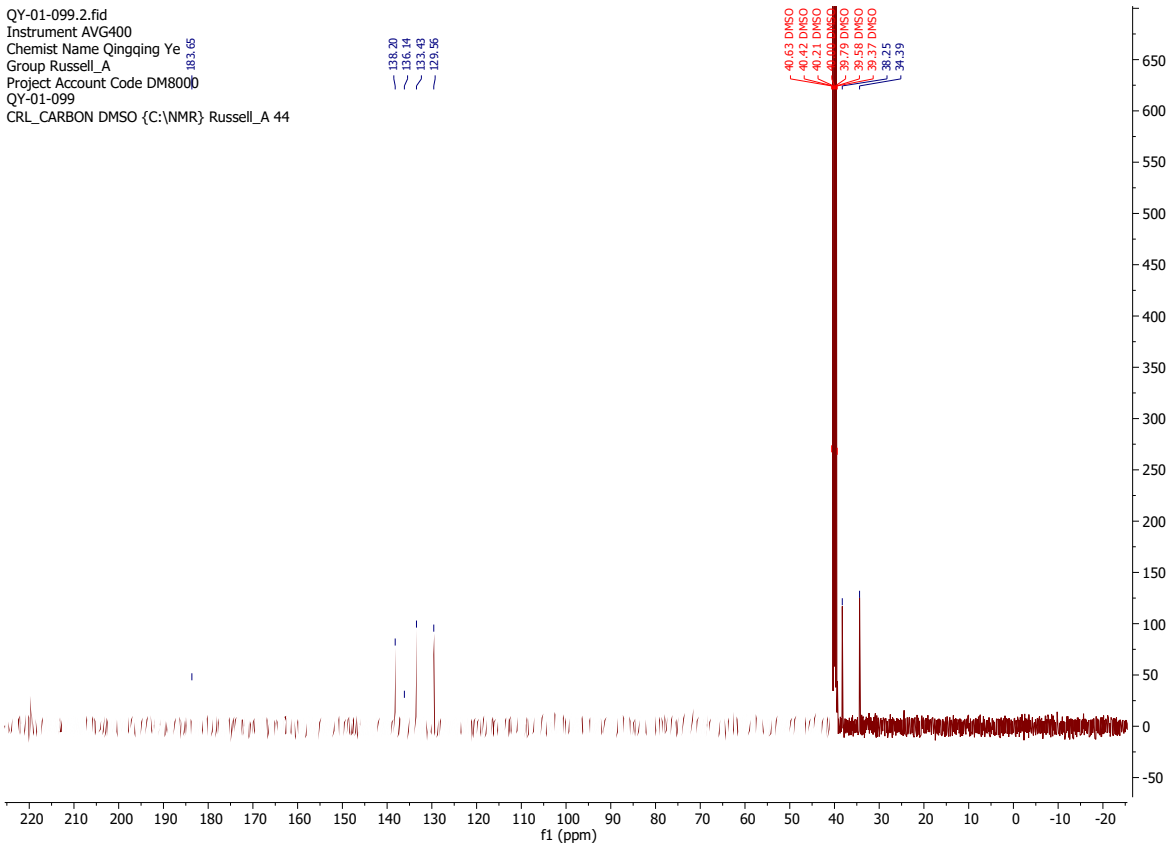

O
N+
O-
HO
S
S
N

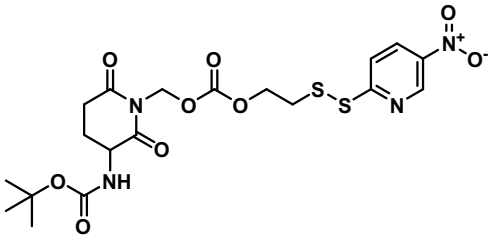

QY-01-095-pure.1.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-095-pure
CRL_PROTON CDCl3 {C:\NMR} Russell_A 47
A (d) 9.32
B (m) 8.42
C (d) 7.67
E (t) 3.79
G (t) 3.01
1.17
1.19
0.99
1.99
2.00
f1 (ppm)

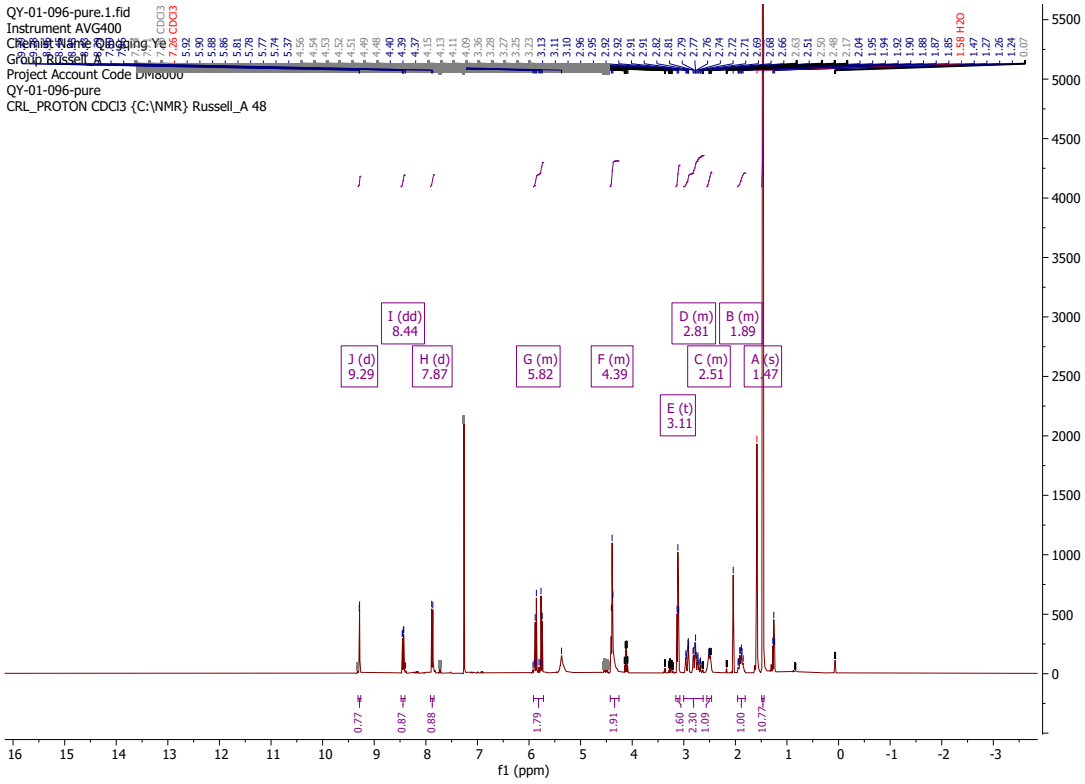

QY-01-095-pure.2.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-095-pure
CRL_CARBON CDCl3 {C:\NMR} Russell_A 47
167.64
145.39
142.59
131.48
120.85
77.36 CDCl3
77.04 CDCl3
76.73 CDCl3
58.75
42.56
f1 (ppm)

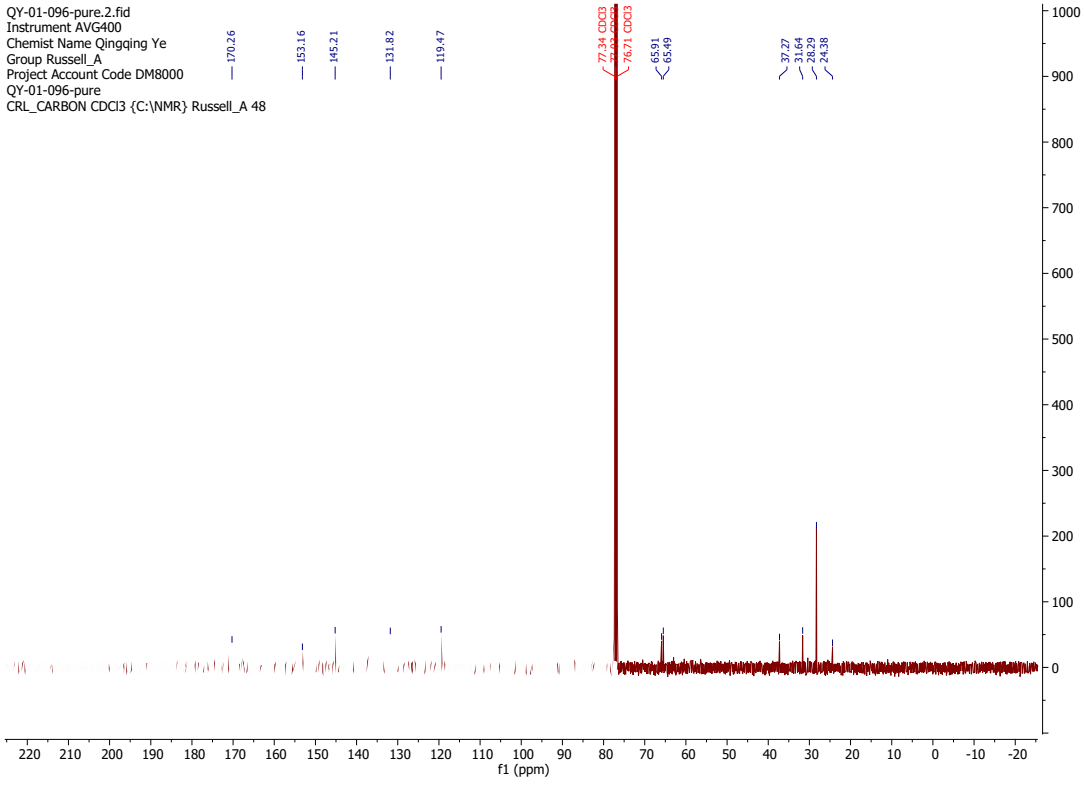

HCl
O
N+
O-
H2N
S
S
N

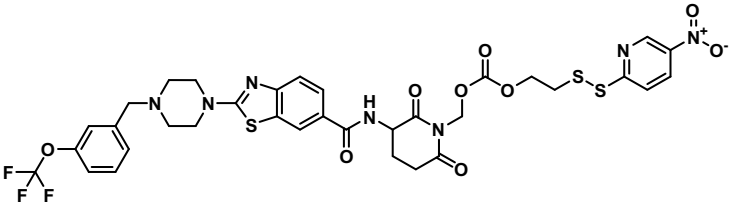

QY-01-099.1.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-099
CRL_PROTON DMSO {C:\NMR} Russell_A 44
C (s) 8.25
B (d) 8.57
E (d) 7.32
D (dd) 7.98
G (t) 3.00
F (t) 3.10
f1 (ppm)

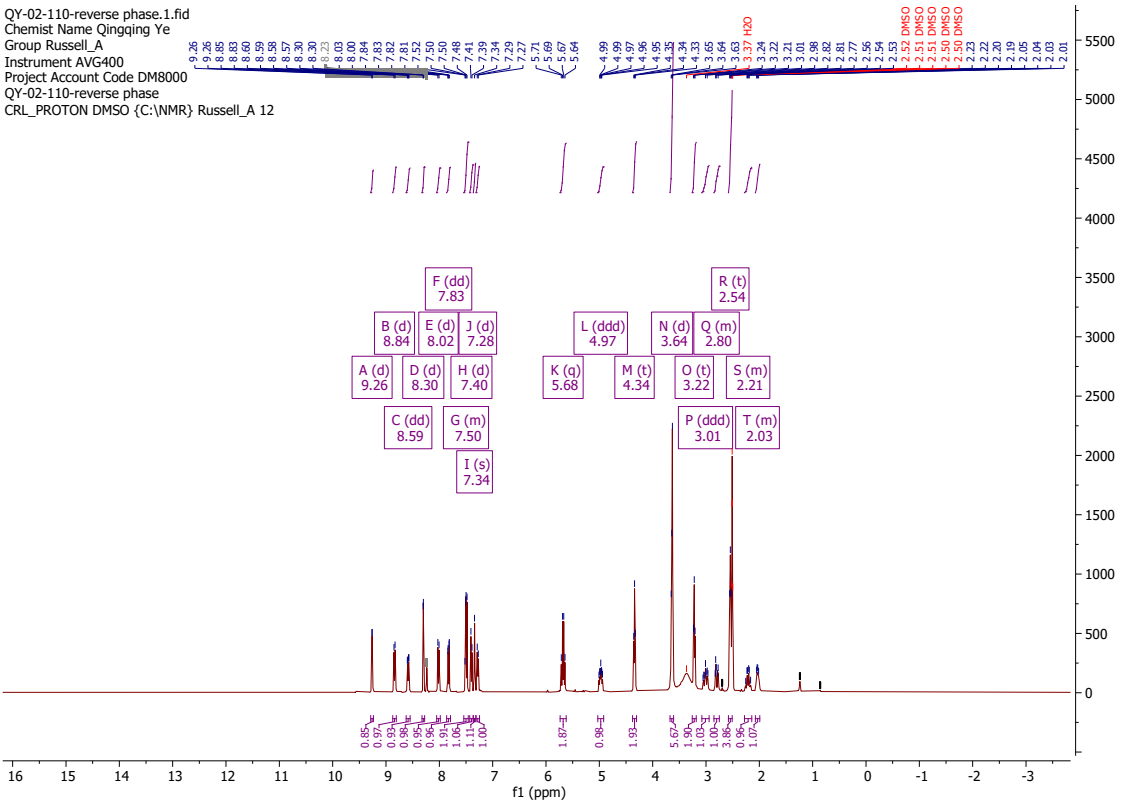

QY-01-099.2.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-099
CRL_CARBON DMSO {C:\NMR} Russell_A 44
f1 (ppm)

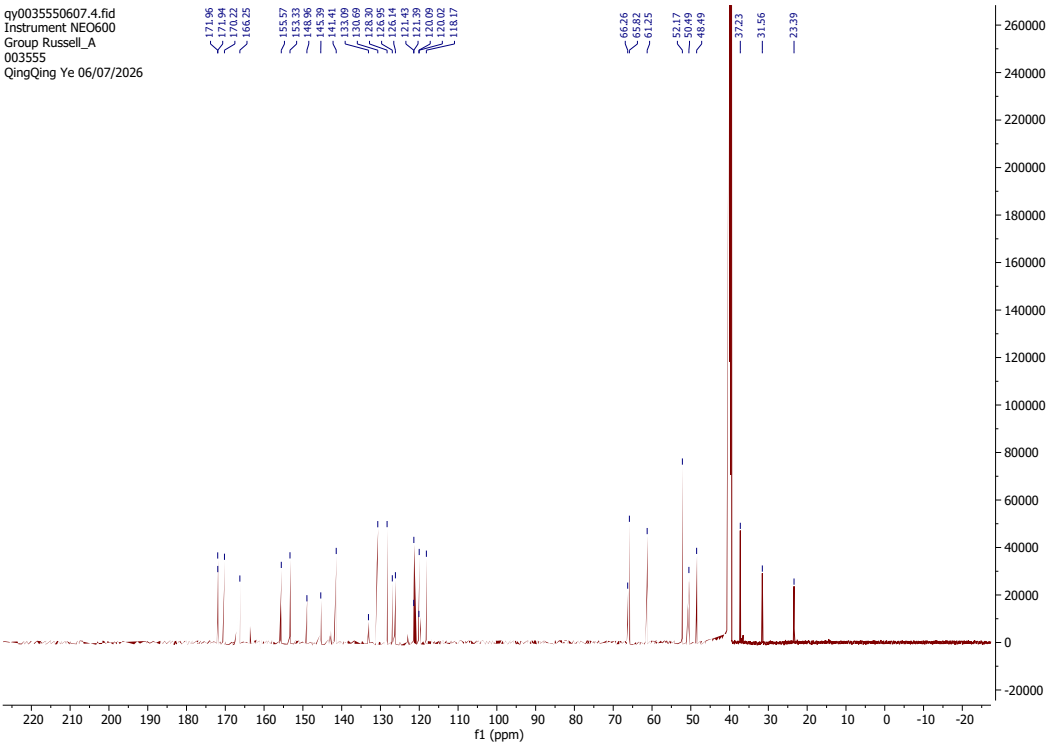


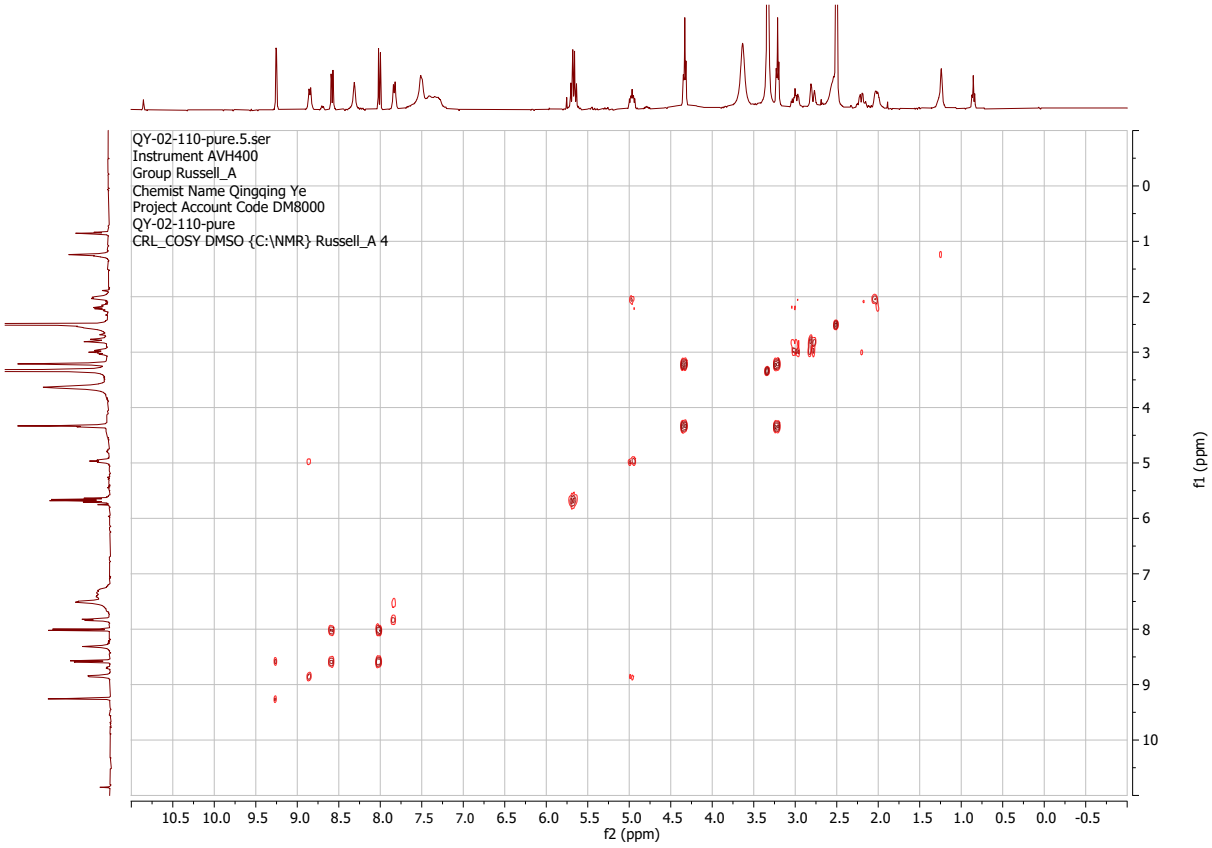

QY-01-096-pure.1.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-096-pure
CRL_PROTON CDCl3 {C:\NMR} Russell_A 48
I (dd) 8.44
J (d) 9.29
H (d) 7.87
G (m) 5.82
F (m) 4.39
E (t) 3.11
D (m) 2.81
C (m) 2.51
B (m) 1.89
A (s) 1.47
f1 (ppm)

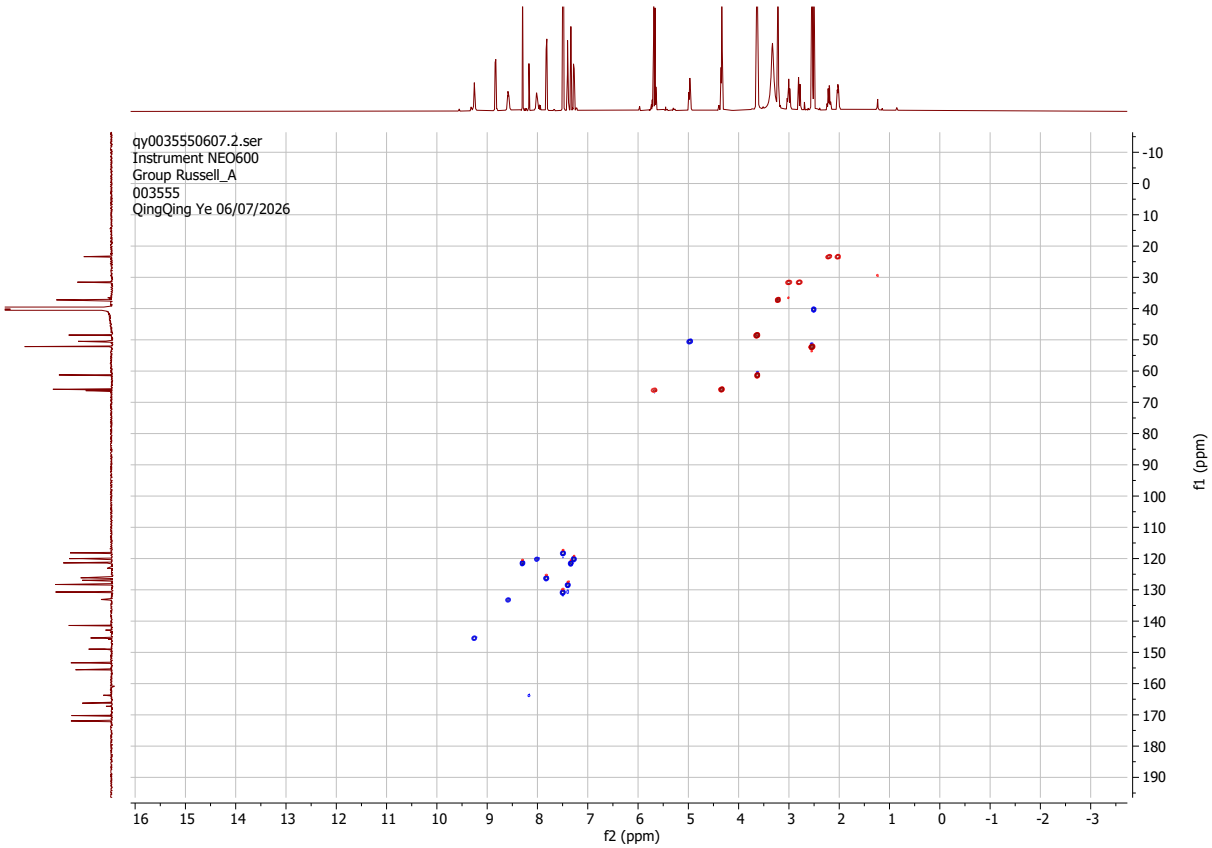

QY-01-096-pure.2.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-096-pure
CRL_CARBON CDCl3 {C:\NMR} Russell_A 48
170.26
153.16
145.21
131.82
119.47
77.34 CDCl3
76.71 CDCl3
65.91
65.49
37.27
31.64
28.29
24.38
f1 (ppm)

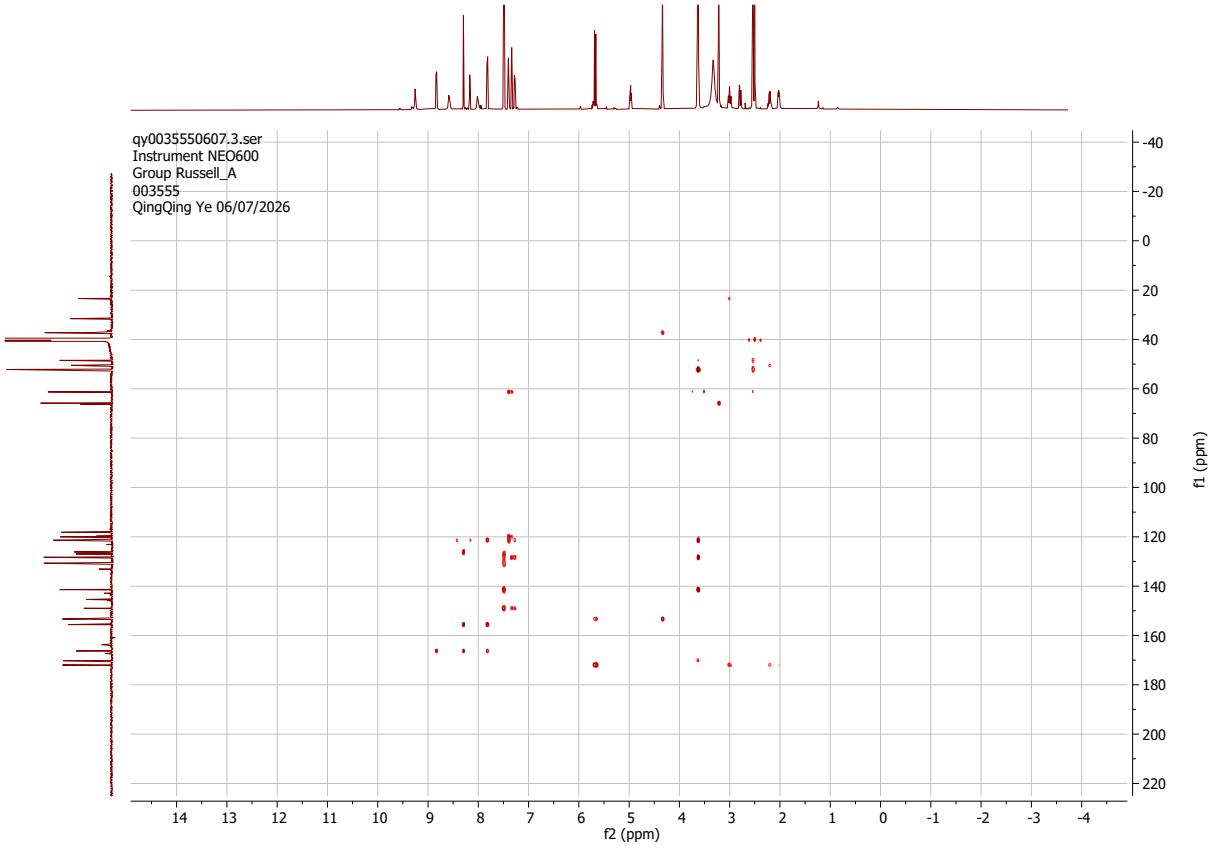


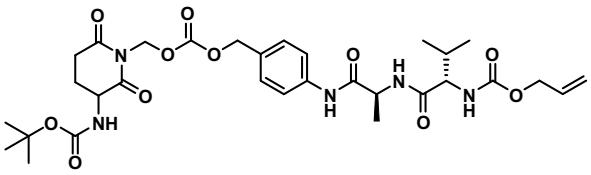

QY-02-110-reverse phase.1.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-110-reverse phase
CRL_PROTON DMSO {C:\NMR} Russell_A 12
F (dd) 7.83
B (d) 8.84
E (d) 8.02
J (d) 7.28
A (d) 9.26
D (d) 8.30
H (d) 7.40
C (dd) 8.59
G (m) 7.50
I (s) 7.34
L (ddd) 4.97
K (q) 5.68
M (t) 4.34
R (t) 2.54
N (d) 3.64
Q (m) 2.80
O (t) 3.22
S (m) 2.21
P (ddd) 3.01
T (m) 2.03
f1 (ppm)

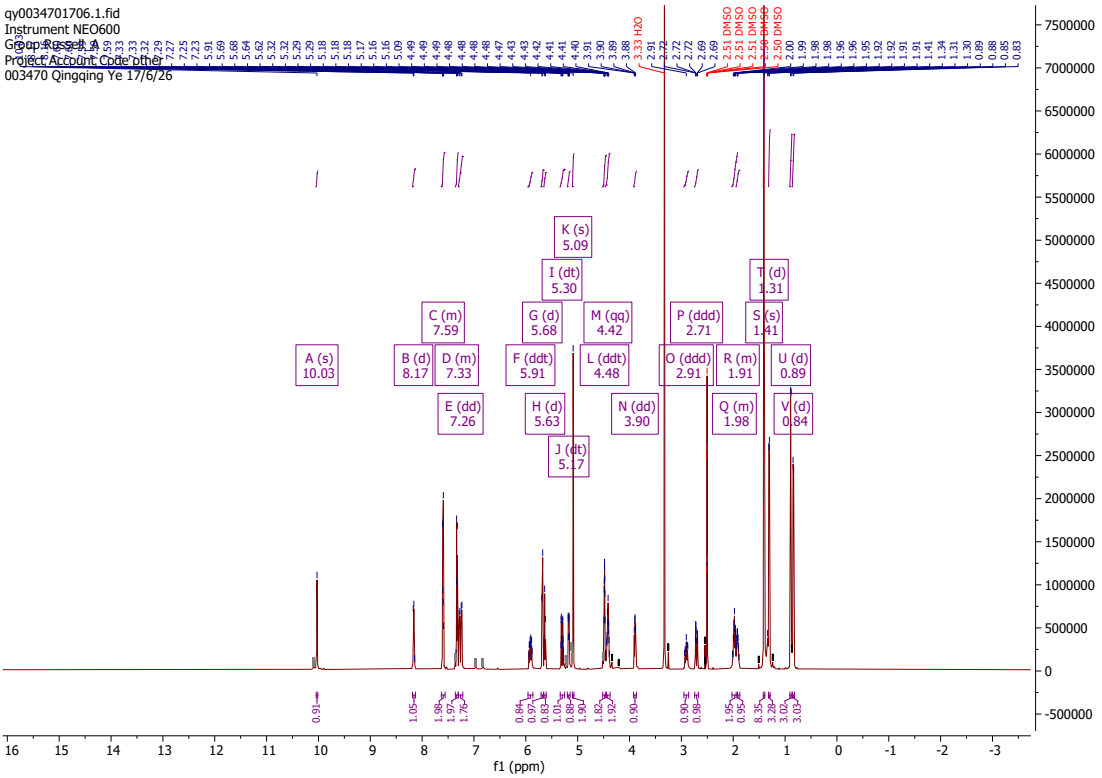

qy0035550607.4.fid
Instrument NEO600
Group Russell_A
003555
QingQing Ye 06/07/2026
f1 (ppm)

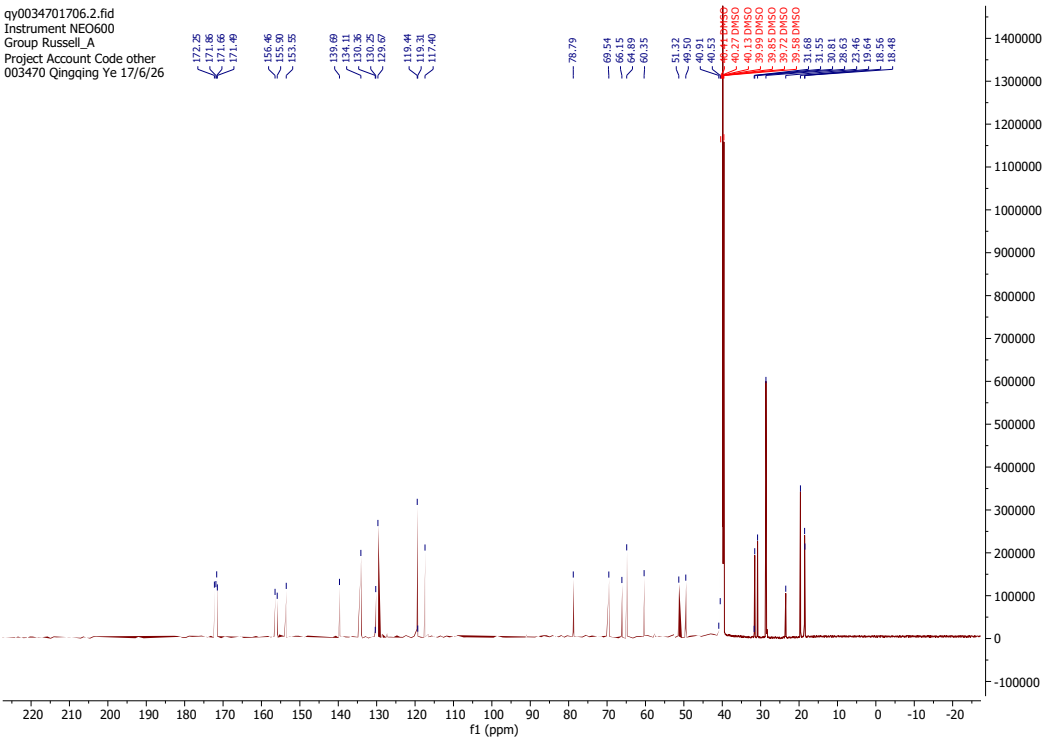

QY-02-110-pure.5.ser
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-02-110-pure
CRL_COSY DMSO {C:\NMR} Russell_A 4
f2 (ppm)
f1 (ppm)

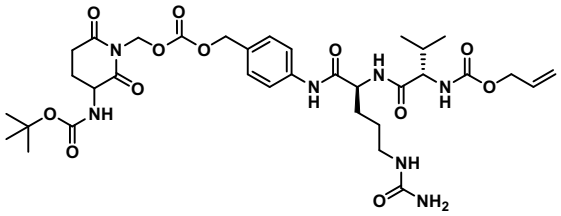

qy0035550607.2.ser
Instrument NEO600
Group Russell_A
003555
QingQing Ye 06/07/2026
f2 (ppm)
f1 (ppm)

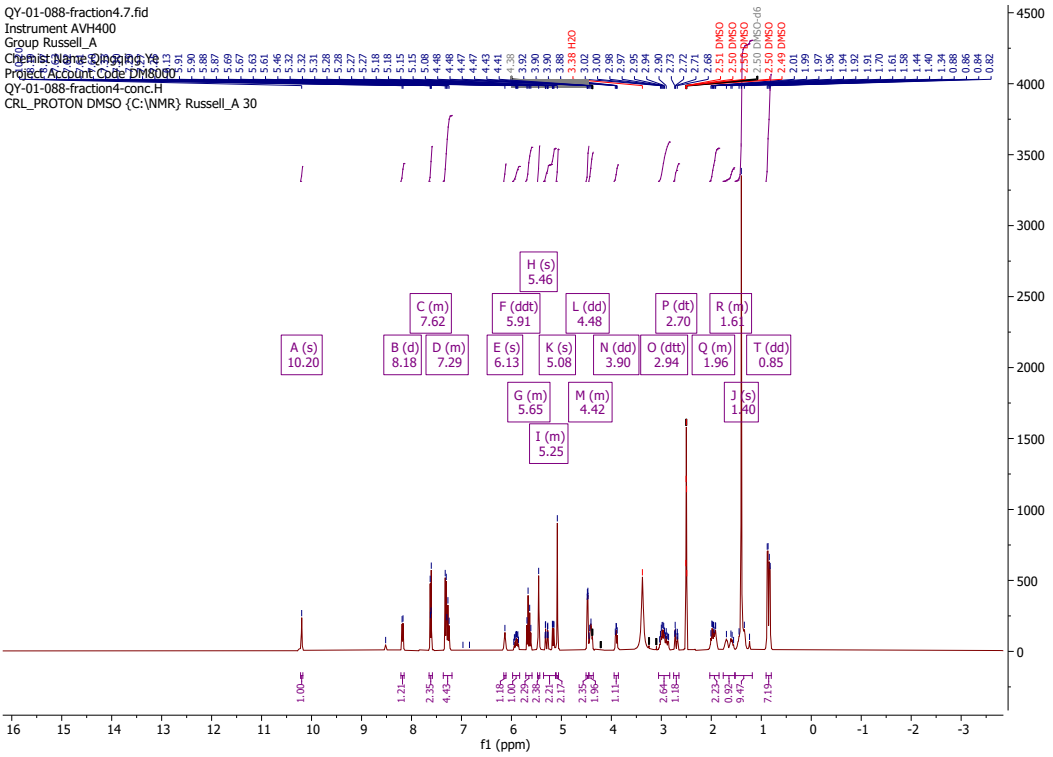

qy0035550607.3.ser
Instrument NEO600
Group Russell_A
003555
QingQing Ye 06/07/2026
f2 (ppm)
f1 (ppm)

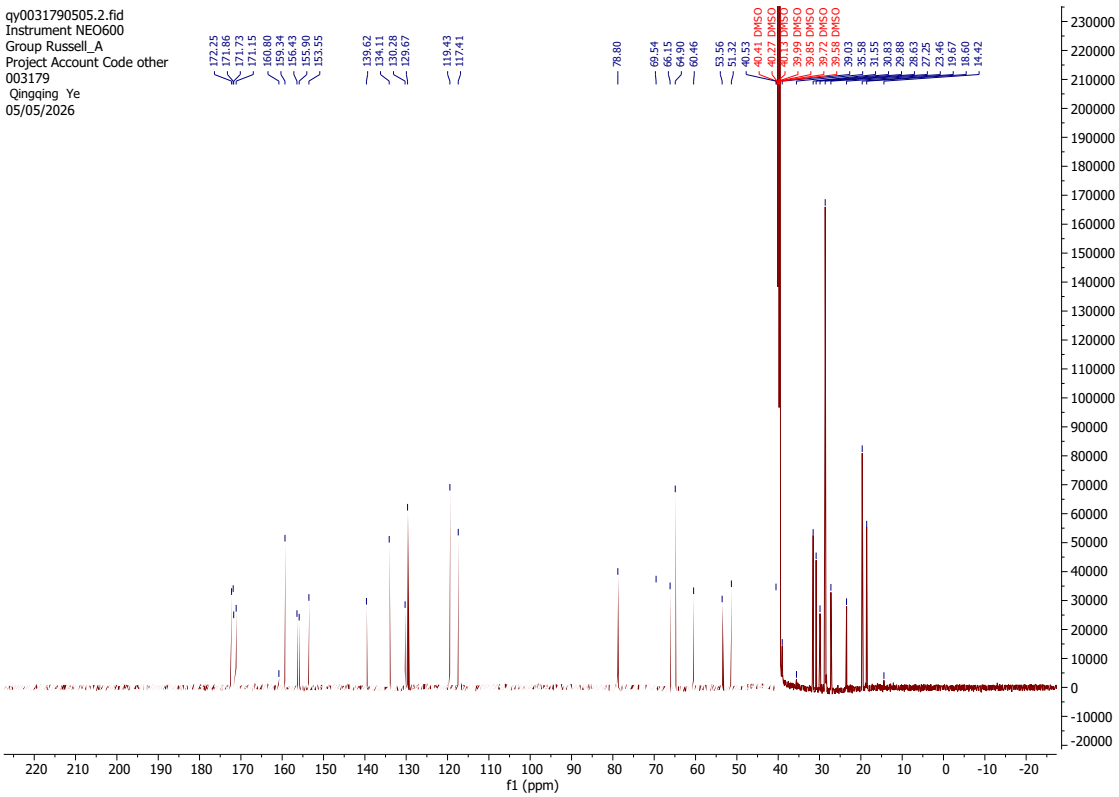


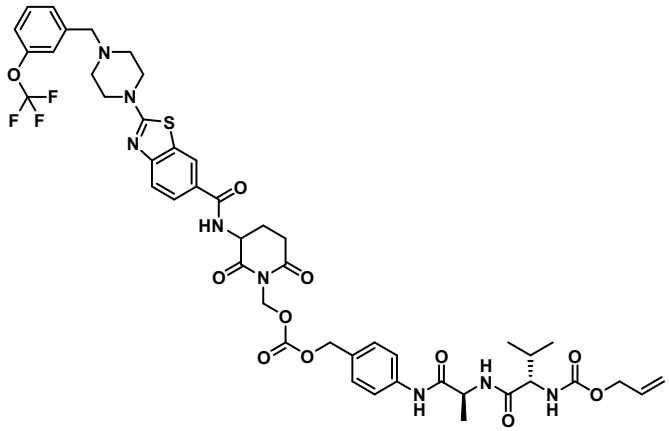

qy0034701706.1.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003470 Qingqing Ye 17/6/26
A (s) 10.03
B (d) 8.17
C (m) 7.59
D (m) 7.33
E (dd) 7.26
F (ddt) 5.91
G (d) 5.68
H (d) 5.63
I (dt) 5.30
J (dt) 5.17
K (s) 5.09
L (ddt) 4.48
M (qq) 4.42
N (dd) 3.90
O (ddd) 2.91
P (ddd) 2.71
Q (m) 1.98
R (m) 1.91
S (s) 1.41
T (d) 1.31
U (d) 0.89
V (d) 0.84
f1 (ppm)

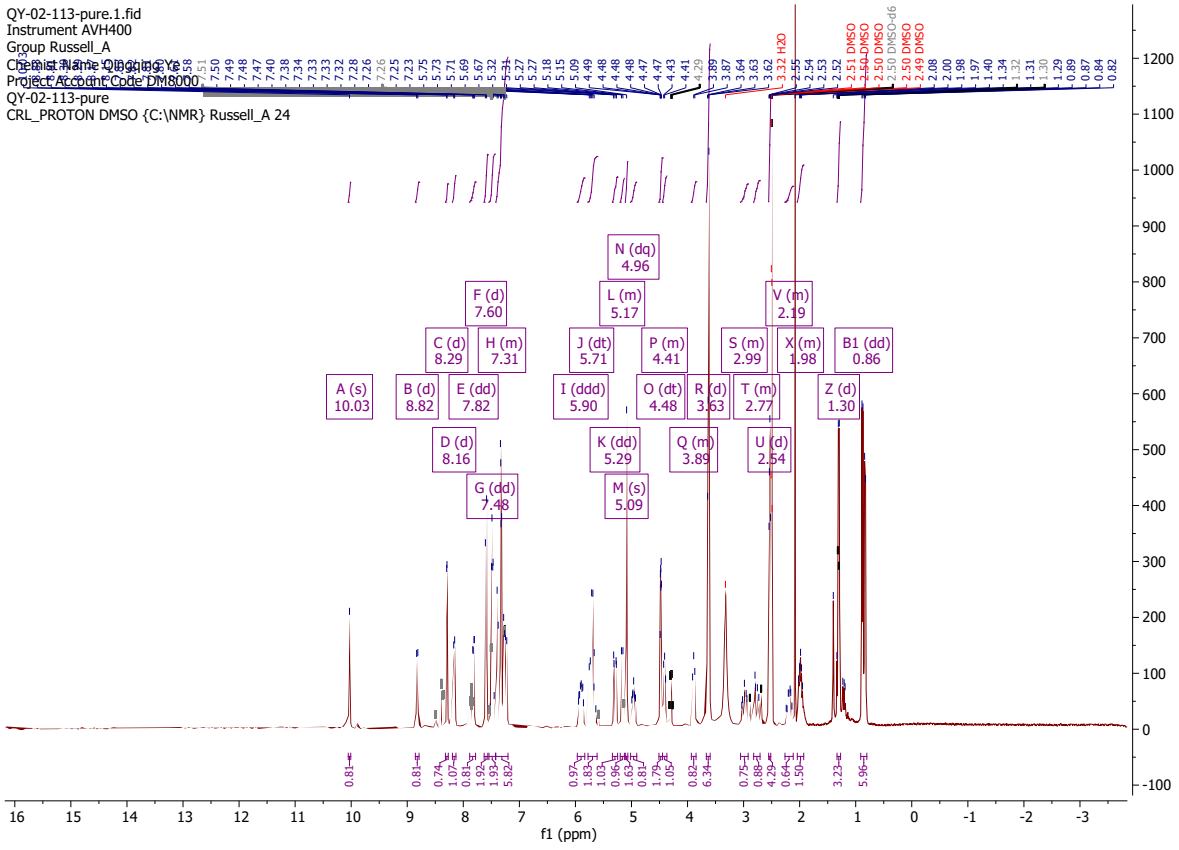

qy0034701706.2.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003470 Qingqing Ye 17/6/26
f1 (ppm)

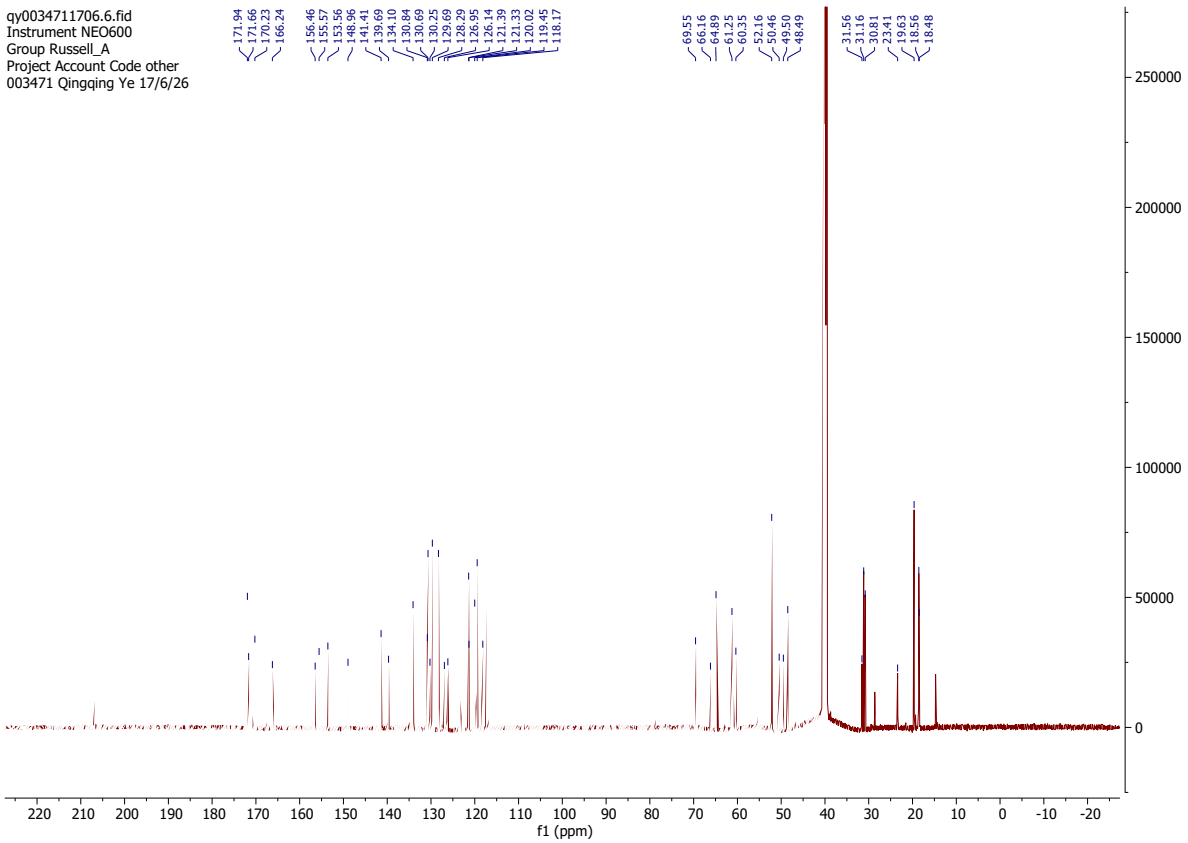


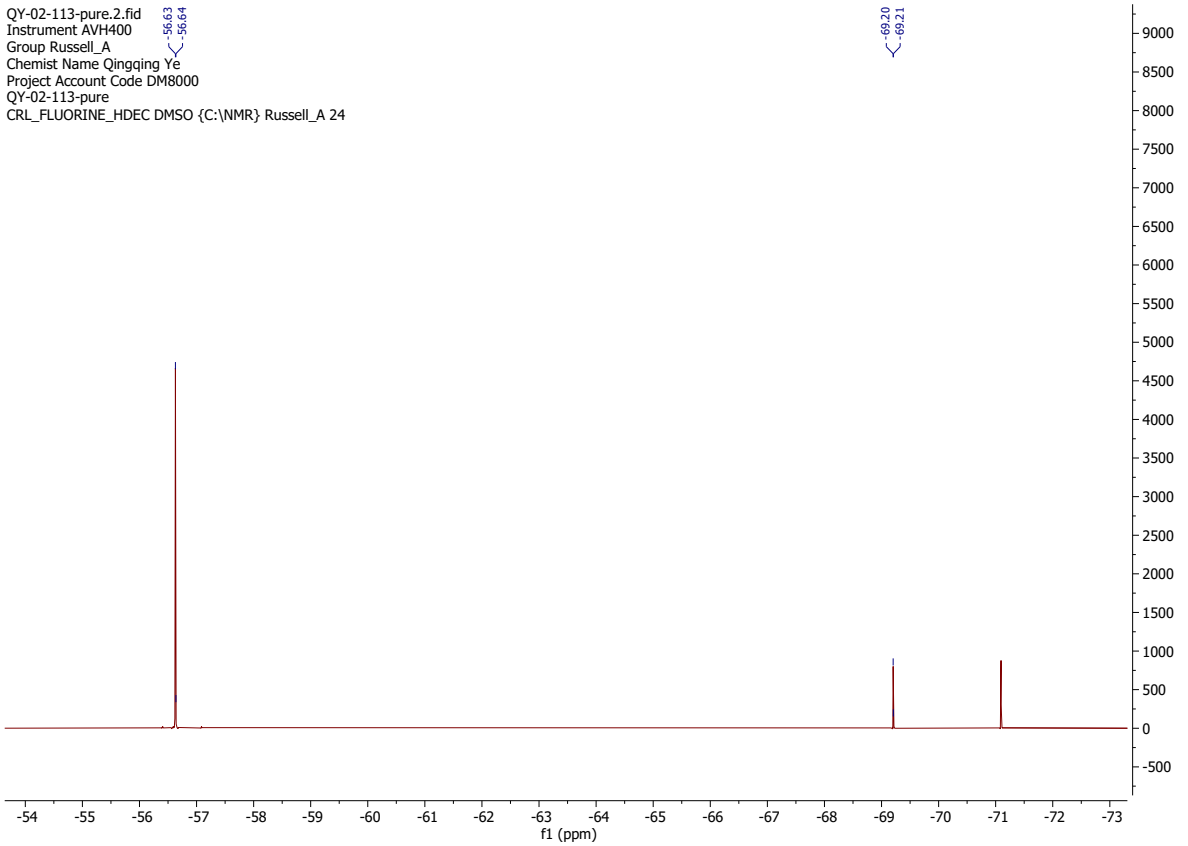

QY-01-088-fraction4.7.fid
Instrument AVH400
Group Russell_A
Project Account Code DM8000
QY-01-088-fraction4-conc.H
CRL_PROTON DMSO {C:\NMR} Russell_A 30
H (s) 5.46
C (m) 7.62
F (ddt) 5.91
L (dd) 4.48
P (dt) 2.70
R (m) 1.61
A (s) 10.20
B (d) 8.18
D (m) 7.29
E (s) 6.13
K (s) 5.08
N (dd) 3.90
O (dtt) 2.94
Q (m) 1.96
T (dd) 0.85
G (m) 5.65
M (m) 4.42
J (s) 1.40
I (m) 5.25
f1 (ppm)

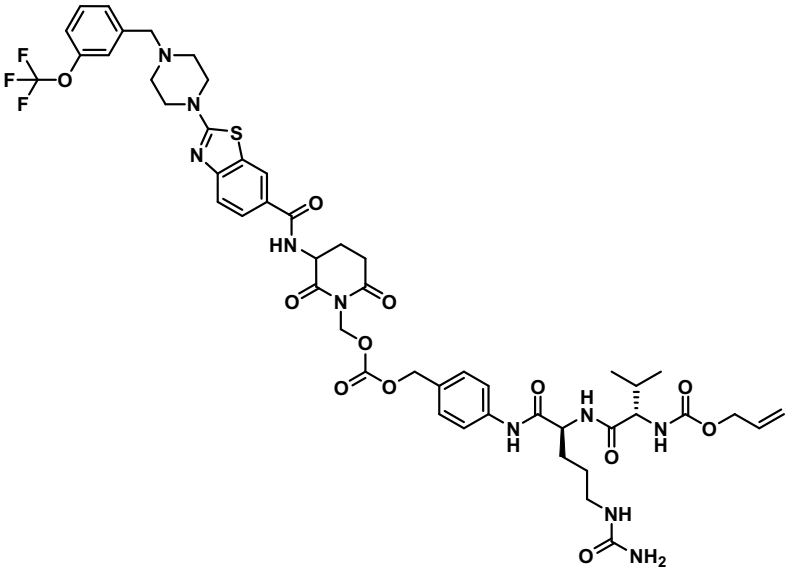

qy0031790505.2.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003179
Qingqing Ye
05/05/2026
f1 (ppm)

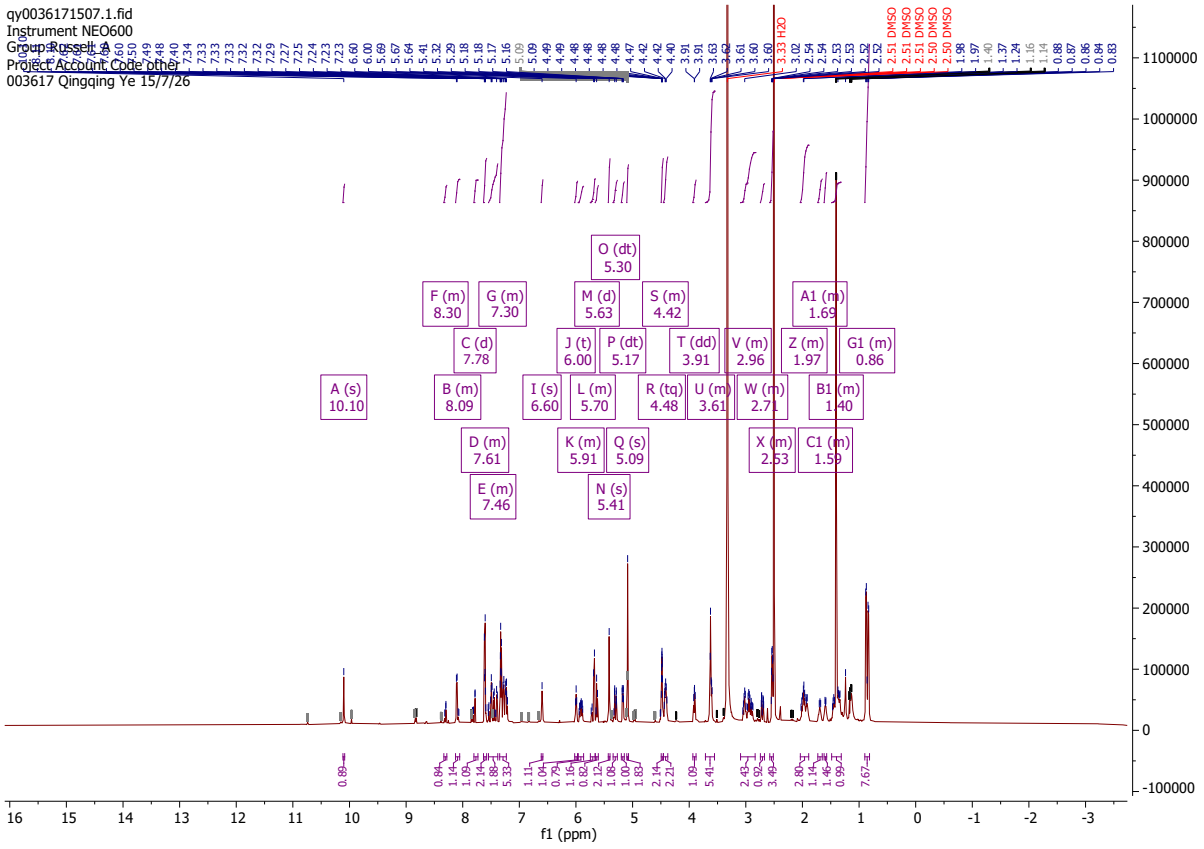



QY-02-113-pure.1.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingjing Ye
Project Account Code DM8000
QY-02-113-pure
CRL_PROTON DMSO {C:\NMR} Russell_A 24
A (s) 10.03
B (d) 8.82
C (d) 8.29
D (d) 8.16
E (dd) 7.82
F (d) 7.60
G (dd) 7.48
H (m) 7.31
I (ddd) 5.90
J (dt) 5.71
K (dd) 5.29
L (m) 5.17
M (s) 5.09
N (dq) 4.96
O (dt) 4.48
P (m) 4.41
Q (m) 3.89
R (d) 3.63
S (m) 2.99
T (m) 2.77
U (d) 2.54
V (m) 2.19
X (m) 1.98
Z (d) 1.30
B1 (dd) 0.86
f1 (ppm)

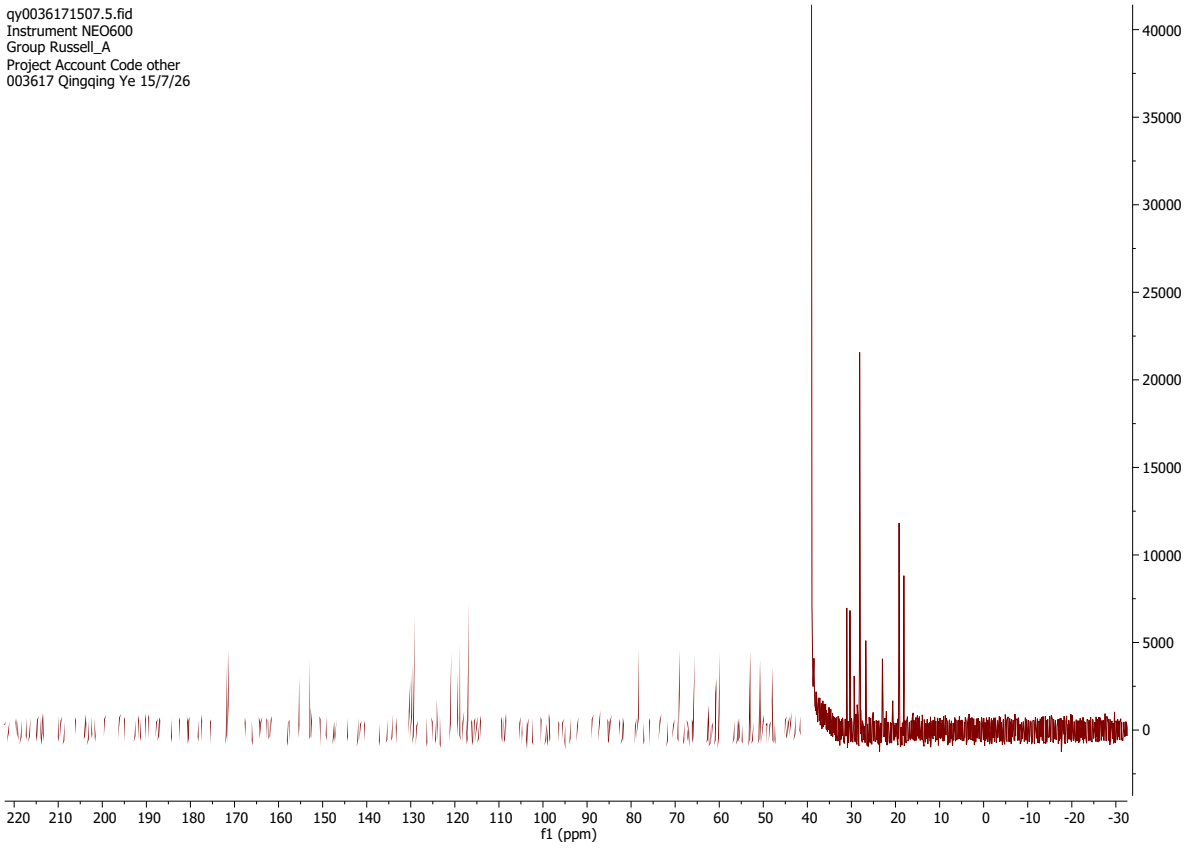

qy0034711706.6.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003471 Qingqing Ye 17/6/26
171.94
171.66
170.23
166.24
156.46
155.57
153.56
148.96
141.41
139.69
134.10
130.84
130.69
130.25
129.69
128.29
126.95
126.14
121.39
121.33
120.02
119.45
118.17
69.55
66.16
64.89
61.25
60.35
52.16
50.46
49.50
48.49
31.56
31.16
30.81
23.41
19.63
18.56
18.48
250000
200000
150000
100000
50000
0
220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20
f1 (ppm)


QY-02-113-pure.2.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-02-113-pure
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 24
-56.63
-56.64
-69.20
-69.21
9000
8500
8000
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -69 -70 -71 -72 -73
f1 (ppm)

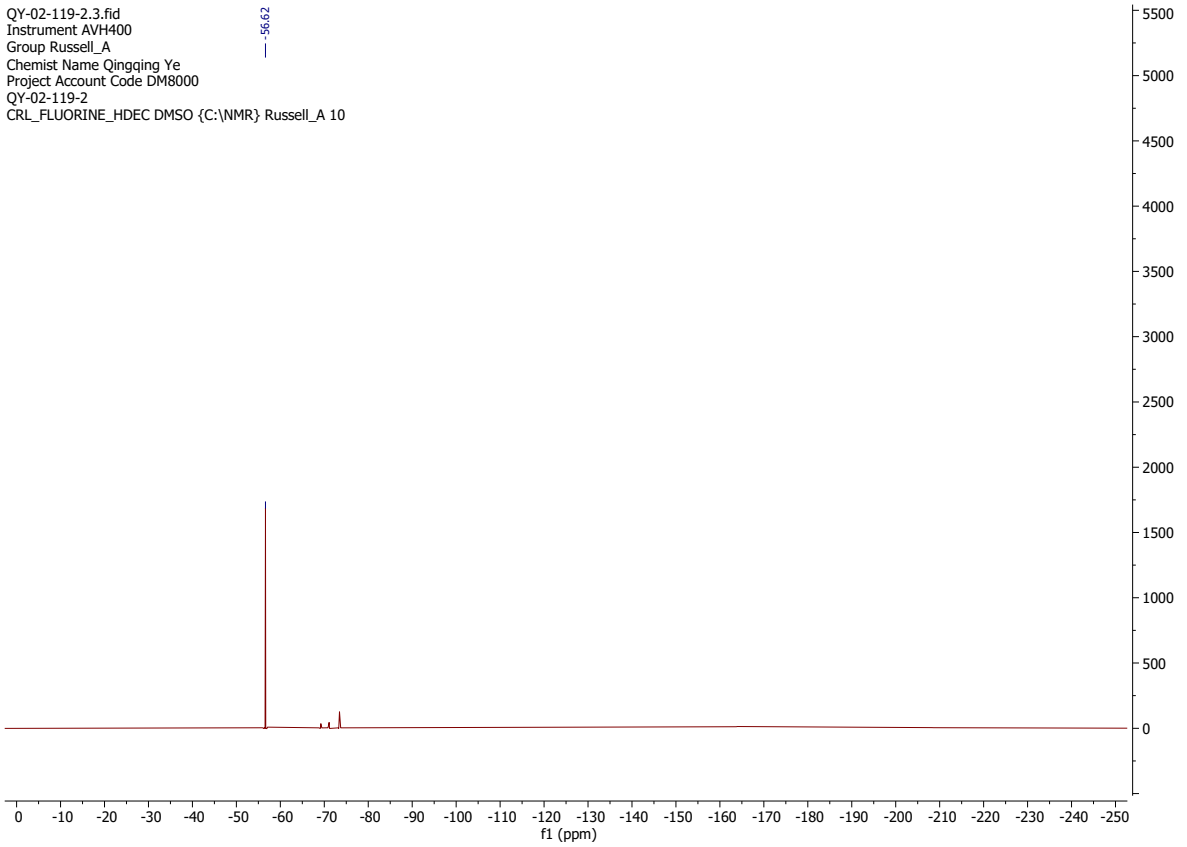


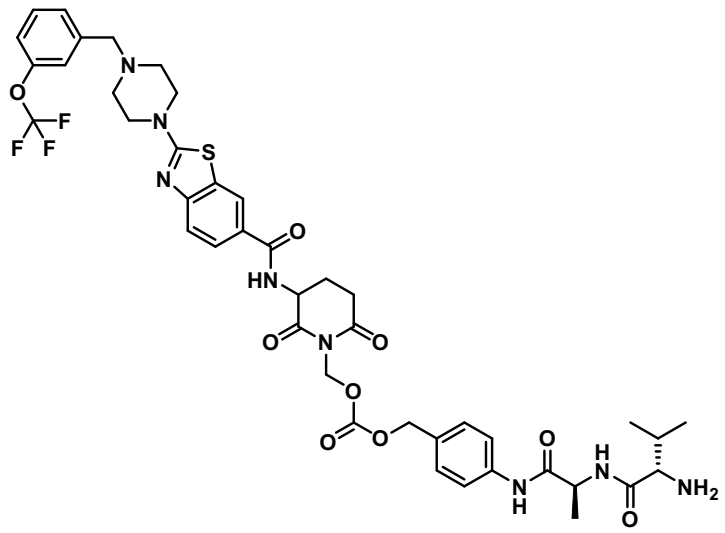

qy0036171507.1.fid
Instrument NEO600
Group:Russell_A
Project Account Code other
003617 Qingqing Ye 15/7/26
A (s) 10.10
B (m) 8.09
C (d) 7.78
D (m) 7.61
E (m) 7.46
F (m) 8.30
G (m) 7.30
I (s) 6.60
J (t) 6.00
K (m) 5.91
L (m) 5.70
M (d) 5.63
N (s) 5.41
O (dt) 5.30
P (dt) 5.17
Q (s) 5.09
R (tq) 4.48
S (m) 4.42
T (dd) 3.91
U (m) 3.61
V (m) 2.96
W (m) 2.71
X (m) 2.53
Z (m) 1.97
A1 (m) 1.69
B1 (m) 1.40
C1 (m) 1.59
G1 (m) 0.86
f1 (ppm)

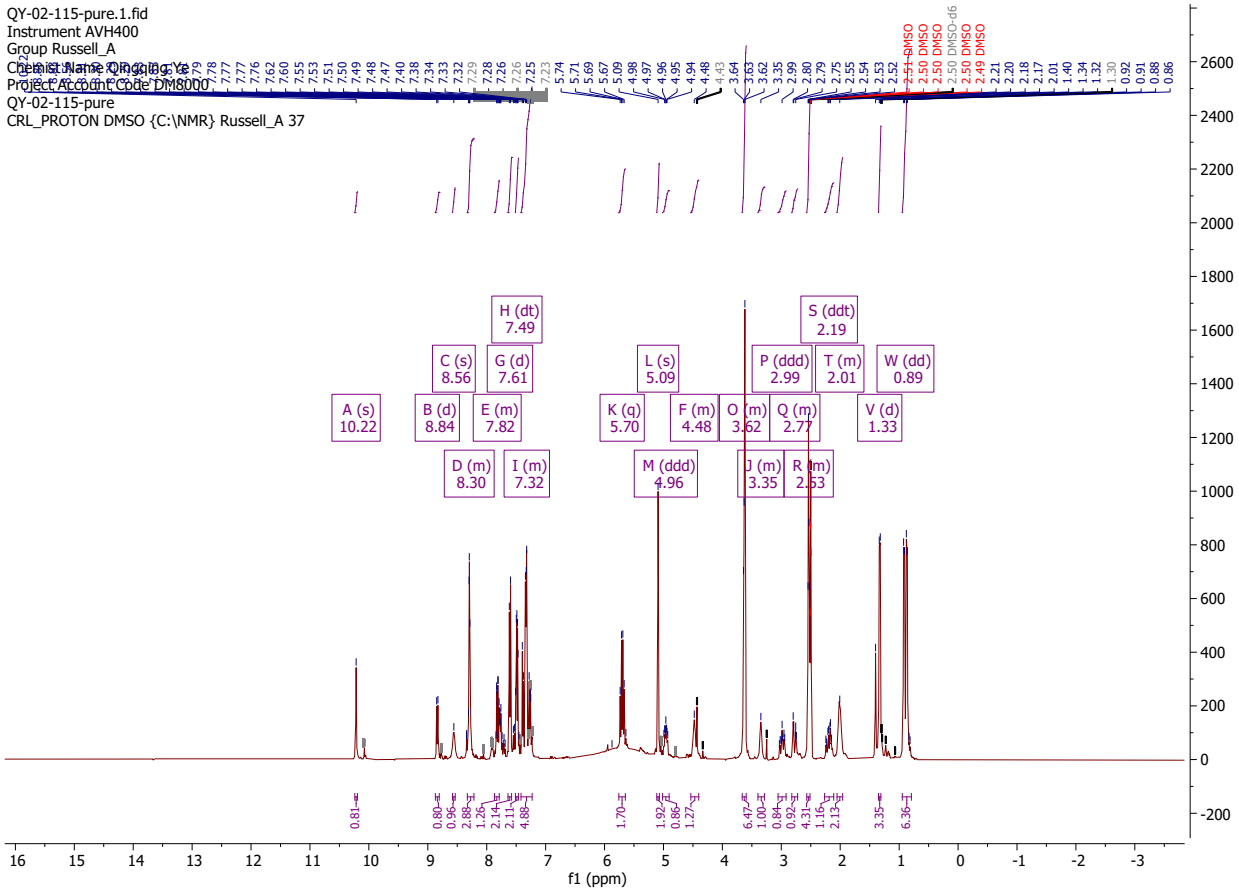
qy0036171507.5.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003617 Qingqing Ye 15/7/26

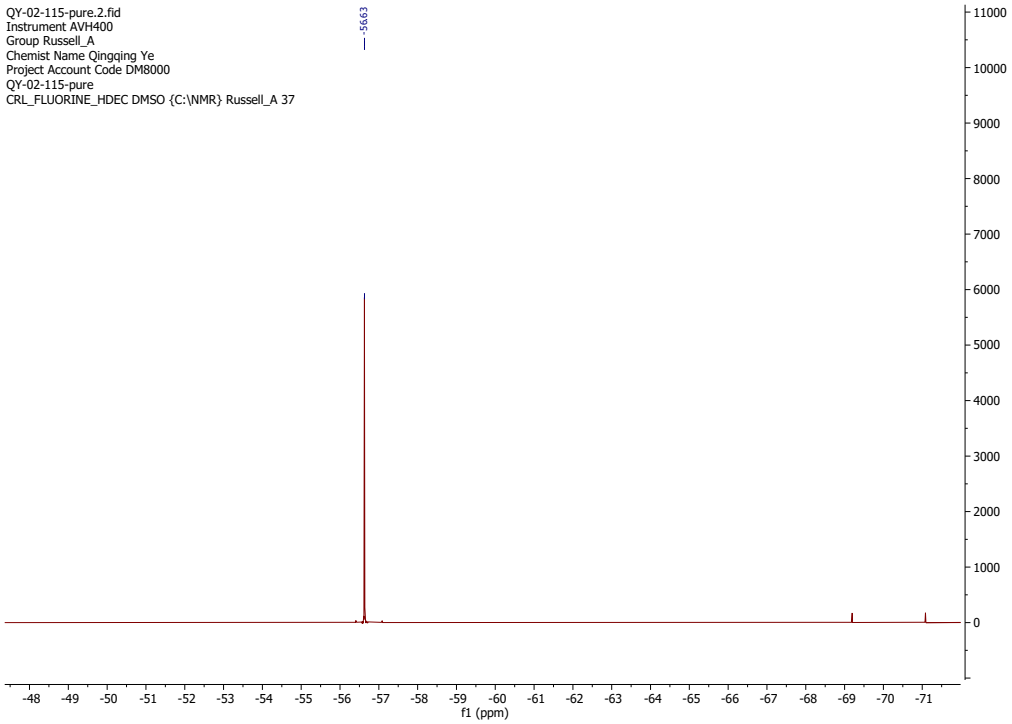


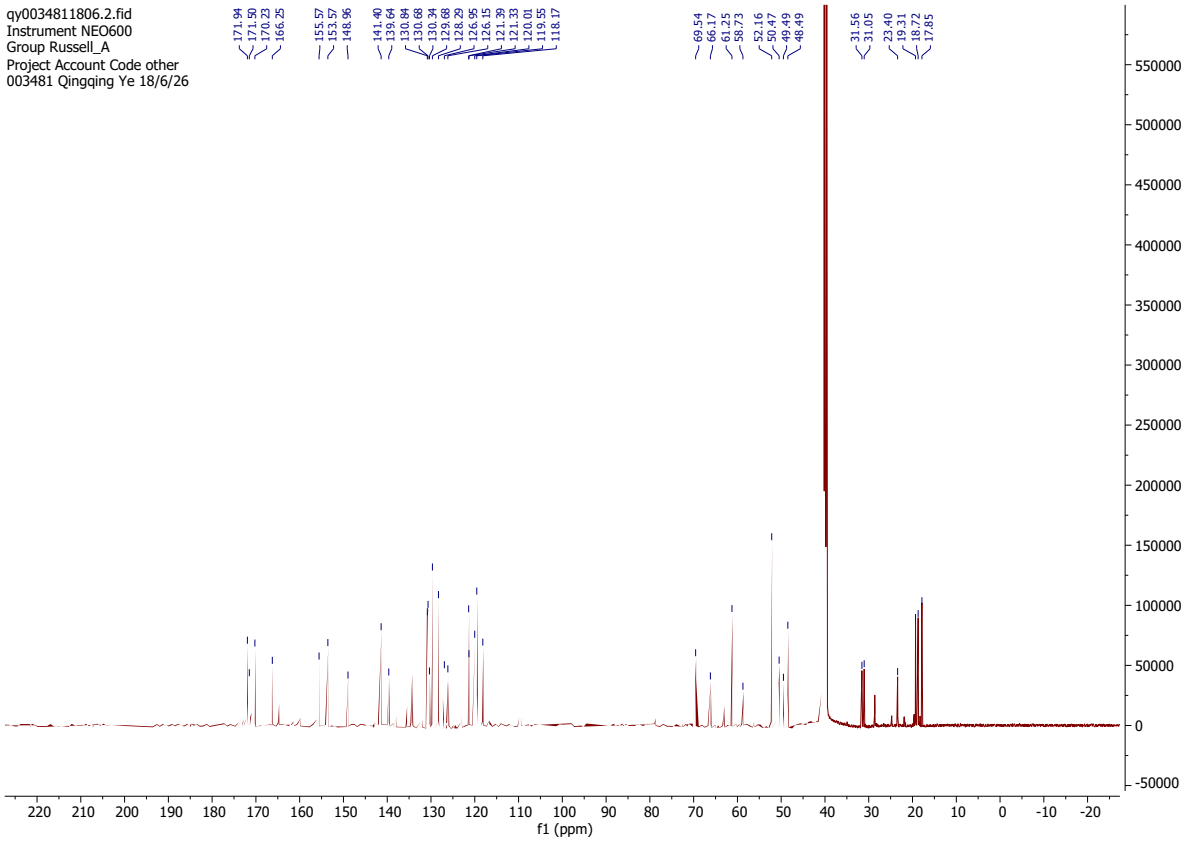
QY-02-119-2.3.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-02-119-2
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 10

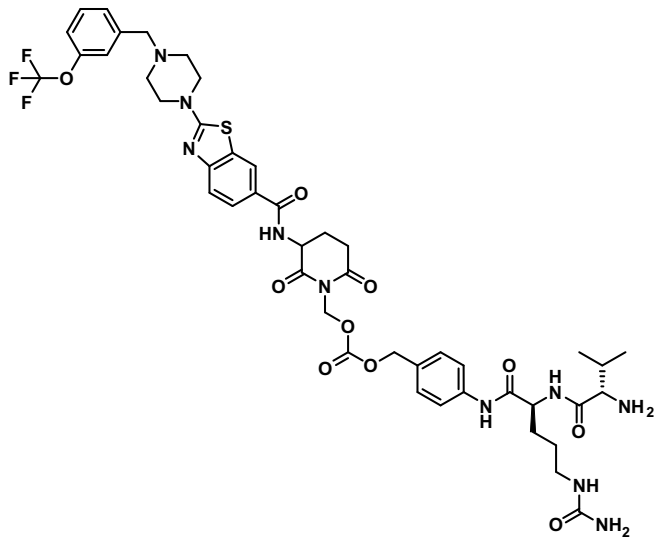


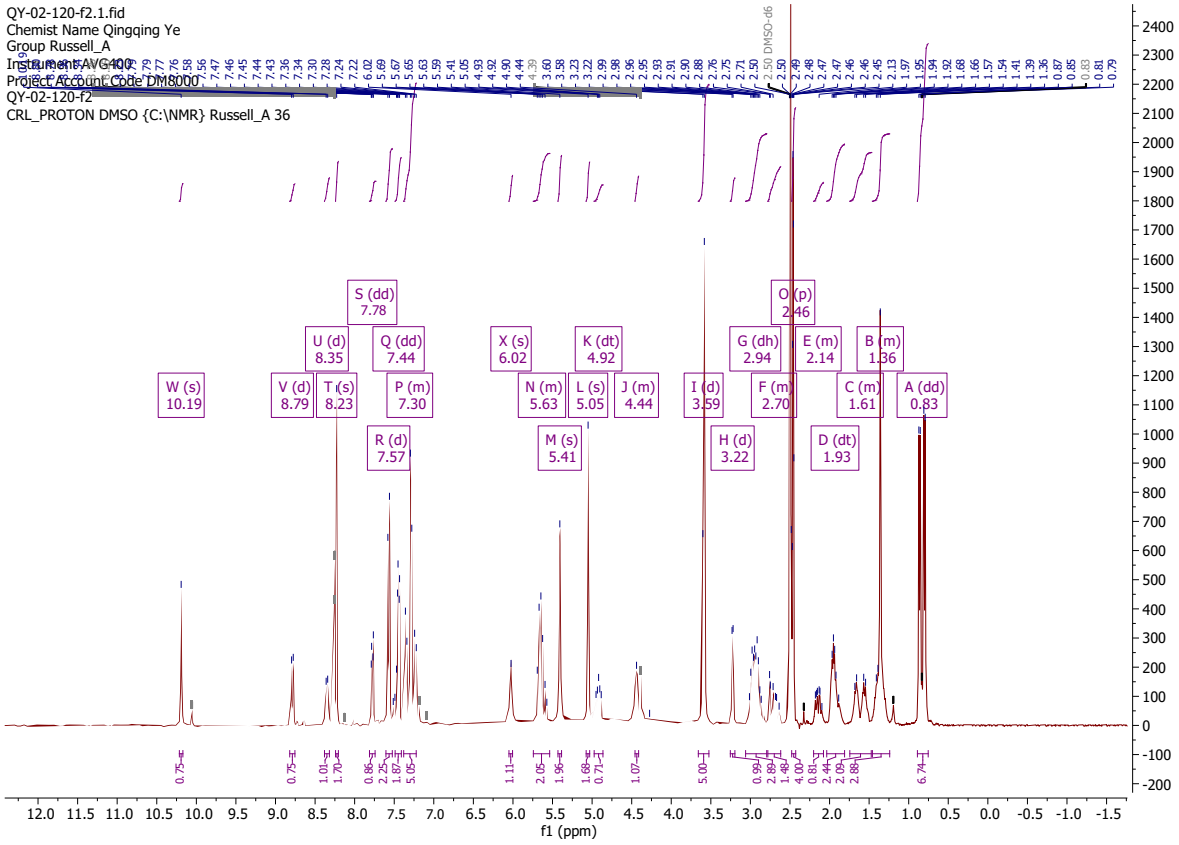



QY-02-115-pure.1.fid
Instrument AVH400
Group Russell_A
Project Account Code DM8000
QY-02-115-pure
CRL_PROTON DMSO {C:\NMR} Russell_A 37
A (s) 10.22
B (d) 8.84
C (s) 8.56
D (m) 8.30
E (m) 7.82
G (d) 7.61
H (dt) 7.49
I (m) 7.32
K (q) 5.70
L (s) 5.09
M (ddd) 4.96
F (m) 4.48
O (m) 3.62
J (m) 3.35
Q (m) 2.77
P (ddd) 2.99
R (m) 2.53
T (m) 2.01
S (ddt) 2.19
V (d) 1.33
W (dd) 0.89
f1 (ppm)


QY-02-115-pure.2.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-02-115-pure
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 37
-56.63
f1 (ppm)

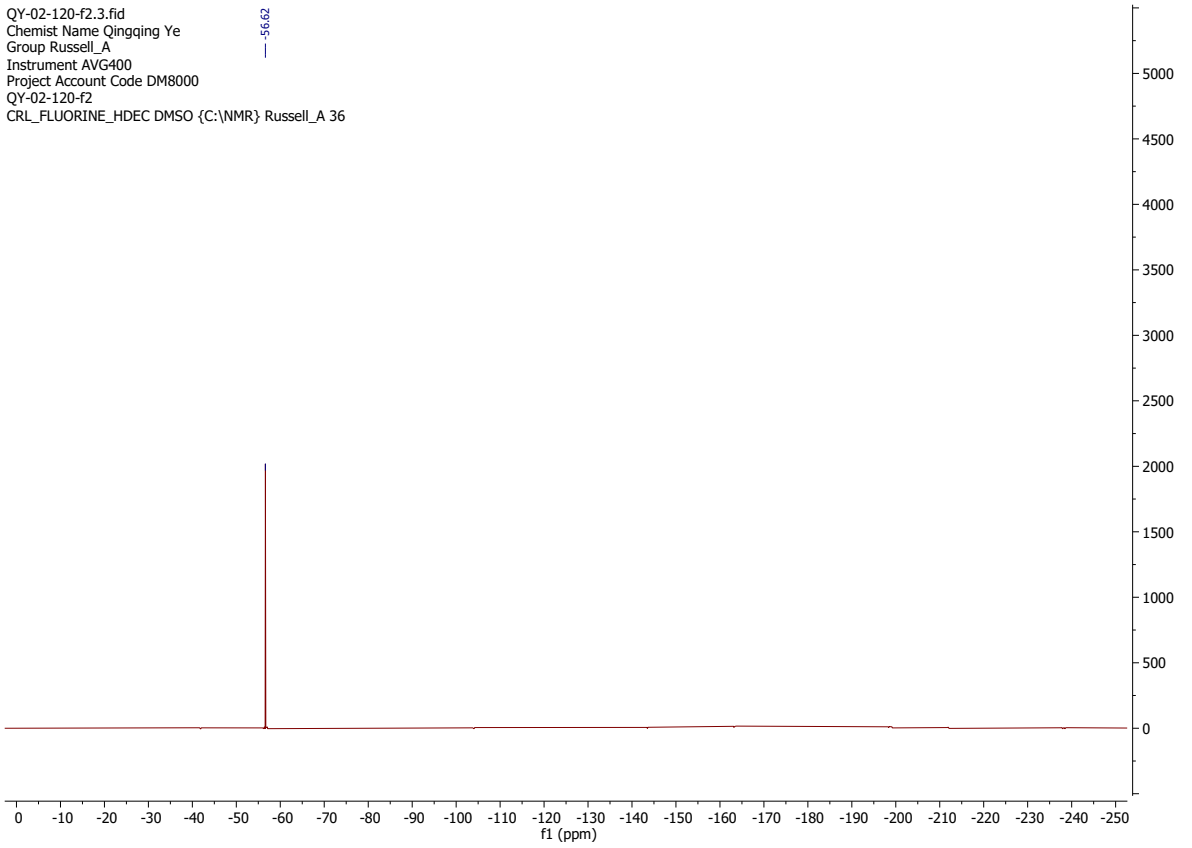

qy0034811806.2.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003481 Qingqing Ye 18/6/26
171.94
171.50
170.23
166.25
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153.57
148.96
141.40
139.64
130.84
130.68
130.34
129.68
128.29
126.95
126.15
121.39
121.33
120.01
119.55
118.17
69.54
66.17
61.25
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19.72
17.85
f1 (ppm)



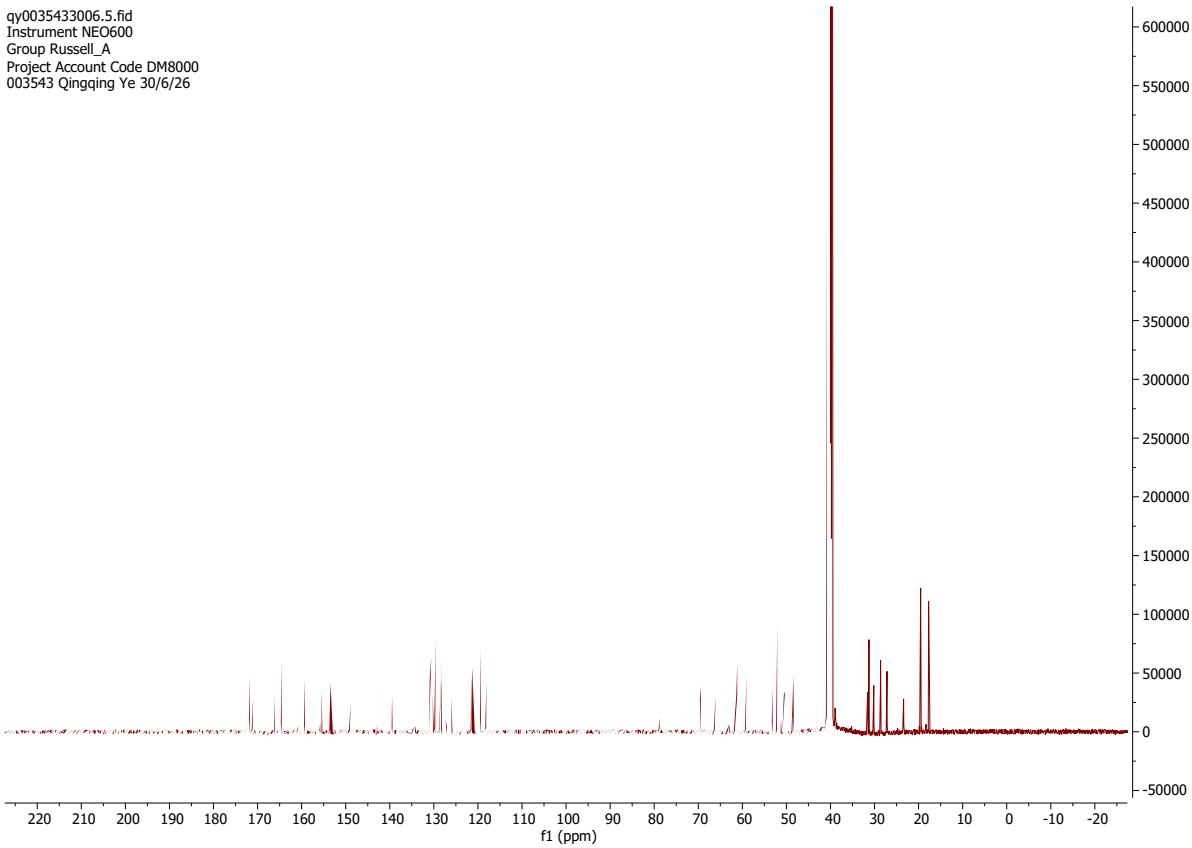

QY-02-120-f2.1.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-120-f2
CRL_PROTON DMSO {C:\NMR} Russell_A 36
DMSO-d6
W (s) 10.19
V (d) 8.79
U (d) 8.35
T (s) 8.23
S (dd) 7.78
R (d) 7.57
Q (dd) 7.44
P (m) 7.30
X (s) 6.02
N (m) 5.63
M (s) 5.41
L (s) 5.05
K (dt) 4.92
J (m) 4.44
I (d) 3.59
H (d) 3.22
G (dh) 2.94
F (m) 2.70
O (p) 2.46
E (m) 2.14
D (dt) 1.93
C (m) 1.61
B (m) 1.36
A (dd) 0.83
f1 (ppm)

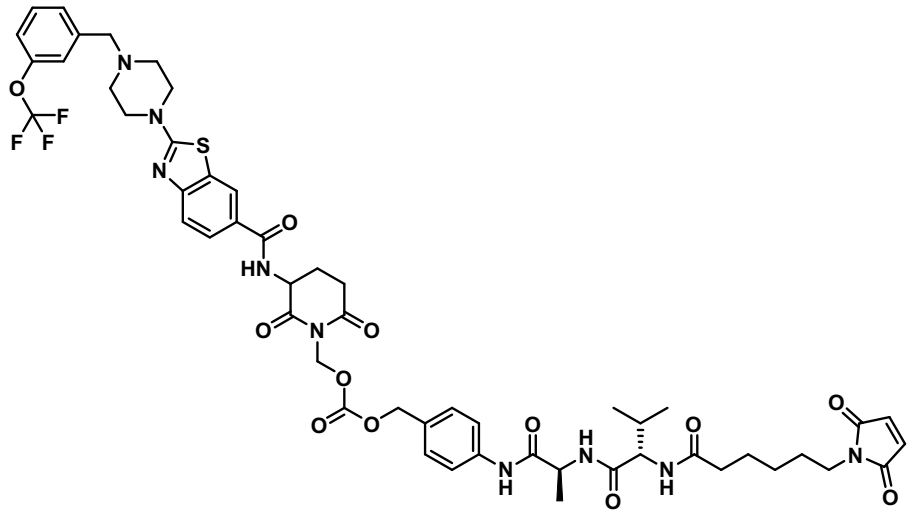
QY-02-120-f2.3.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-120-f2
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 36

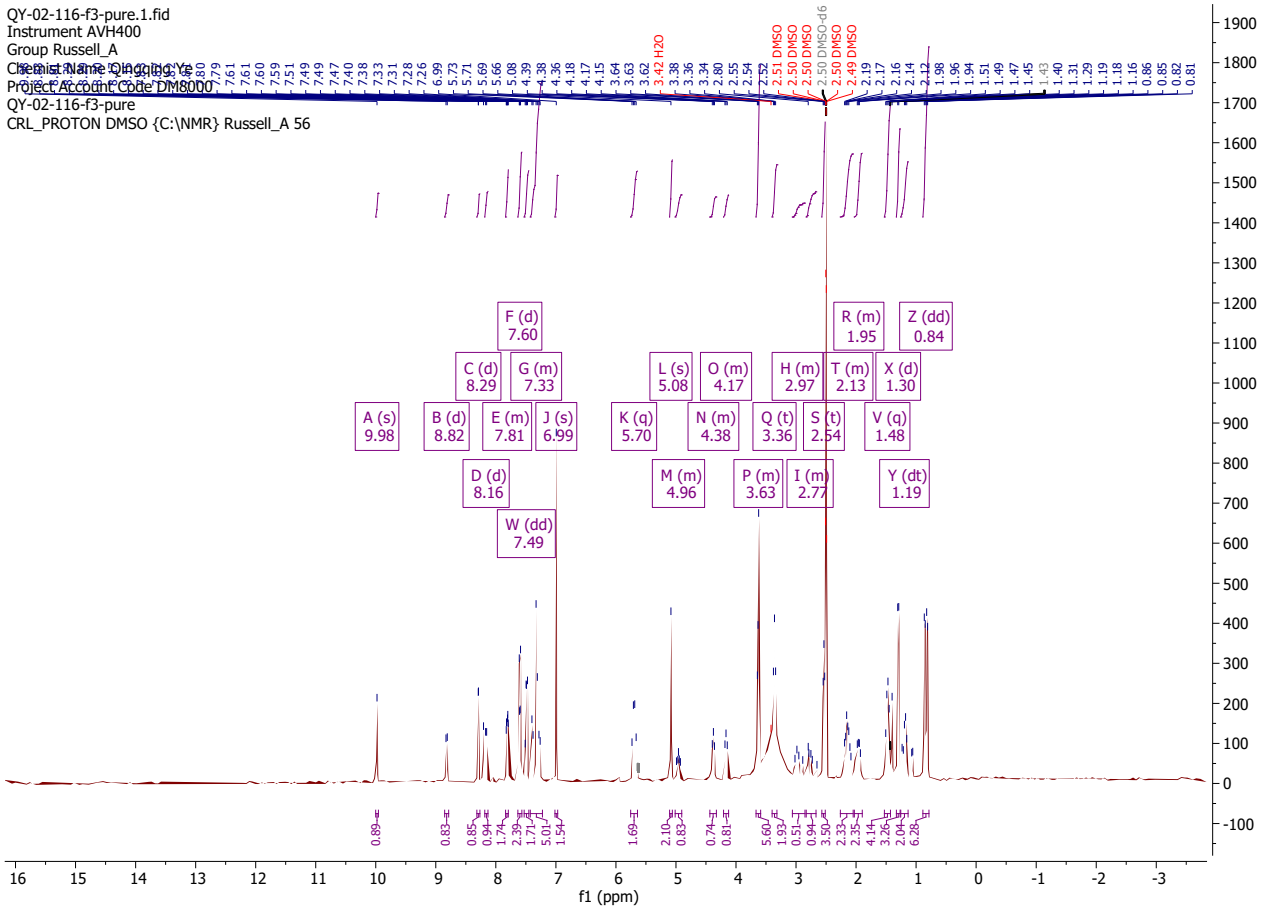
-56.62



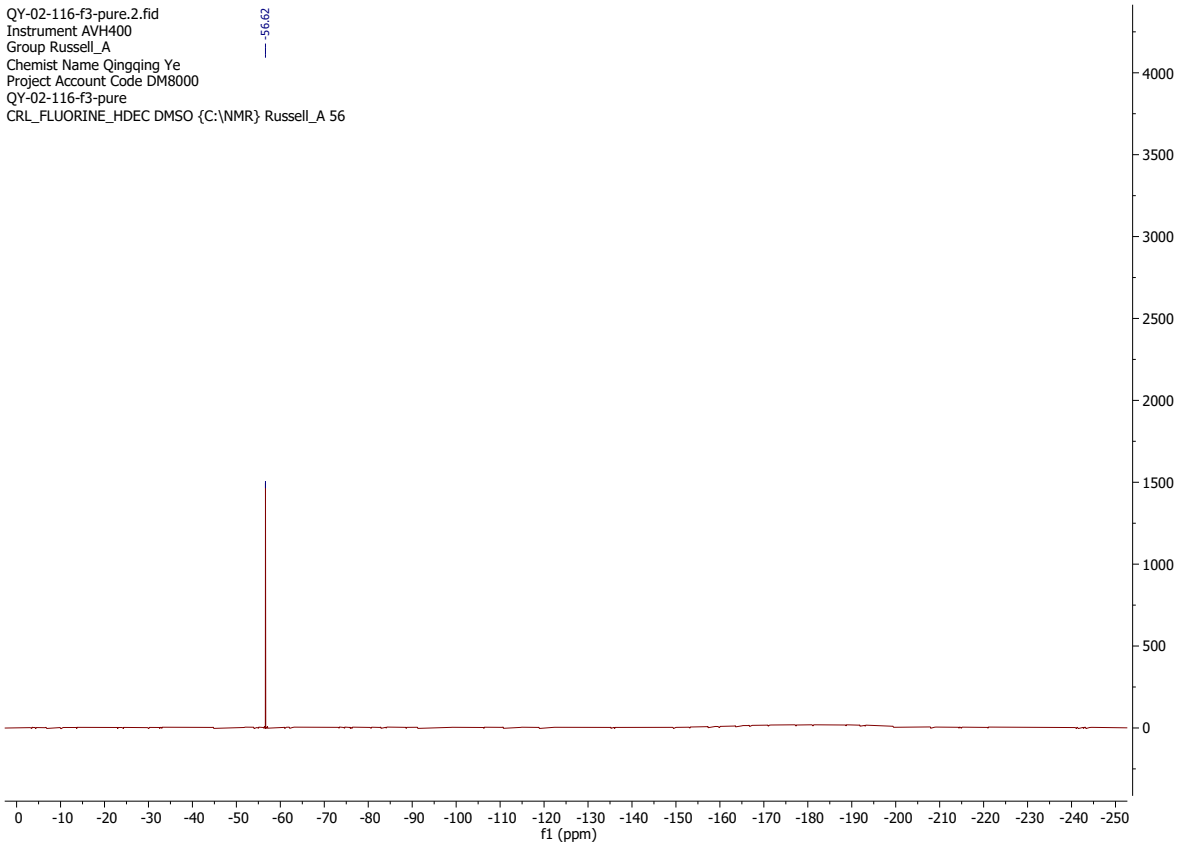
qy0035433006.5.fid
Instrument NEO600
Group Russell_A
Project Account Code DM8000
003543 Qingqing Ye 30/6/26



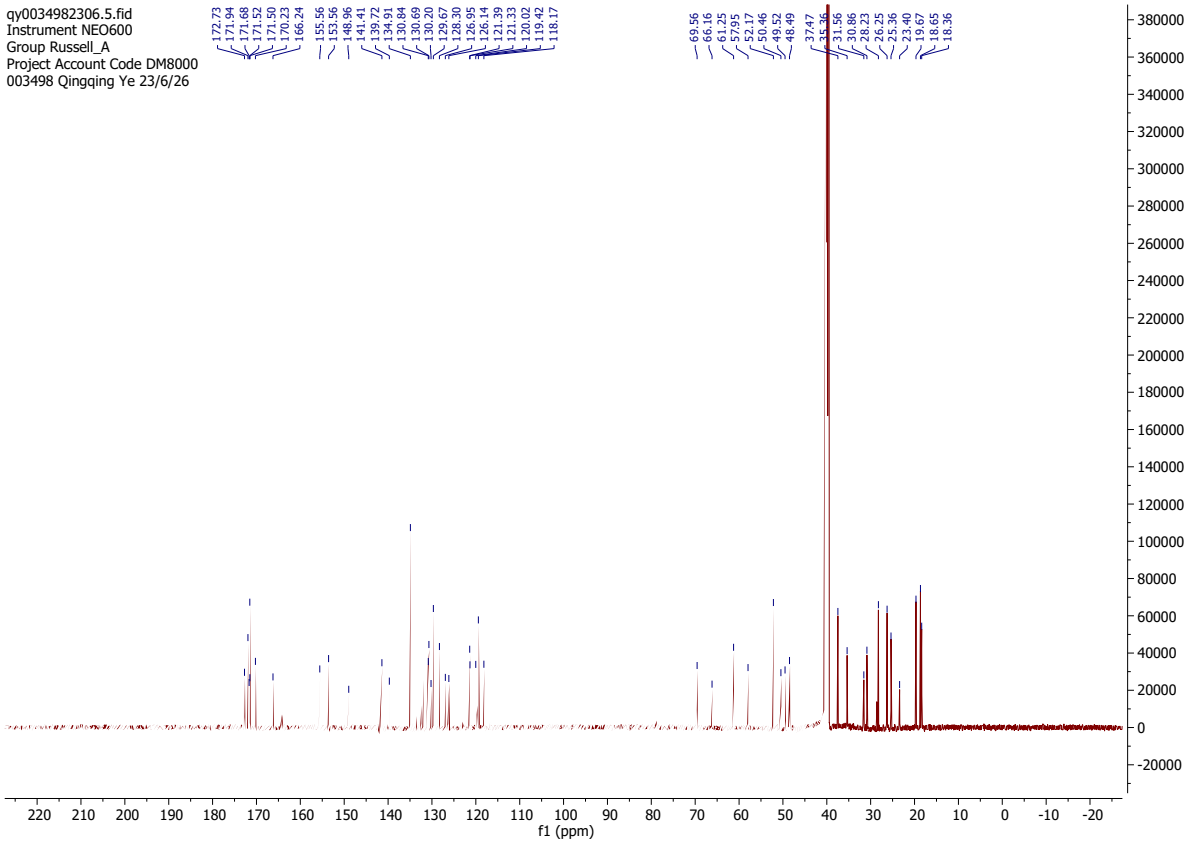


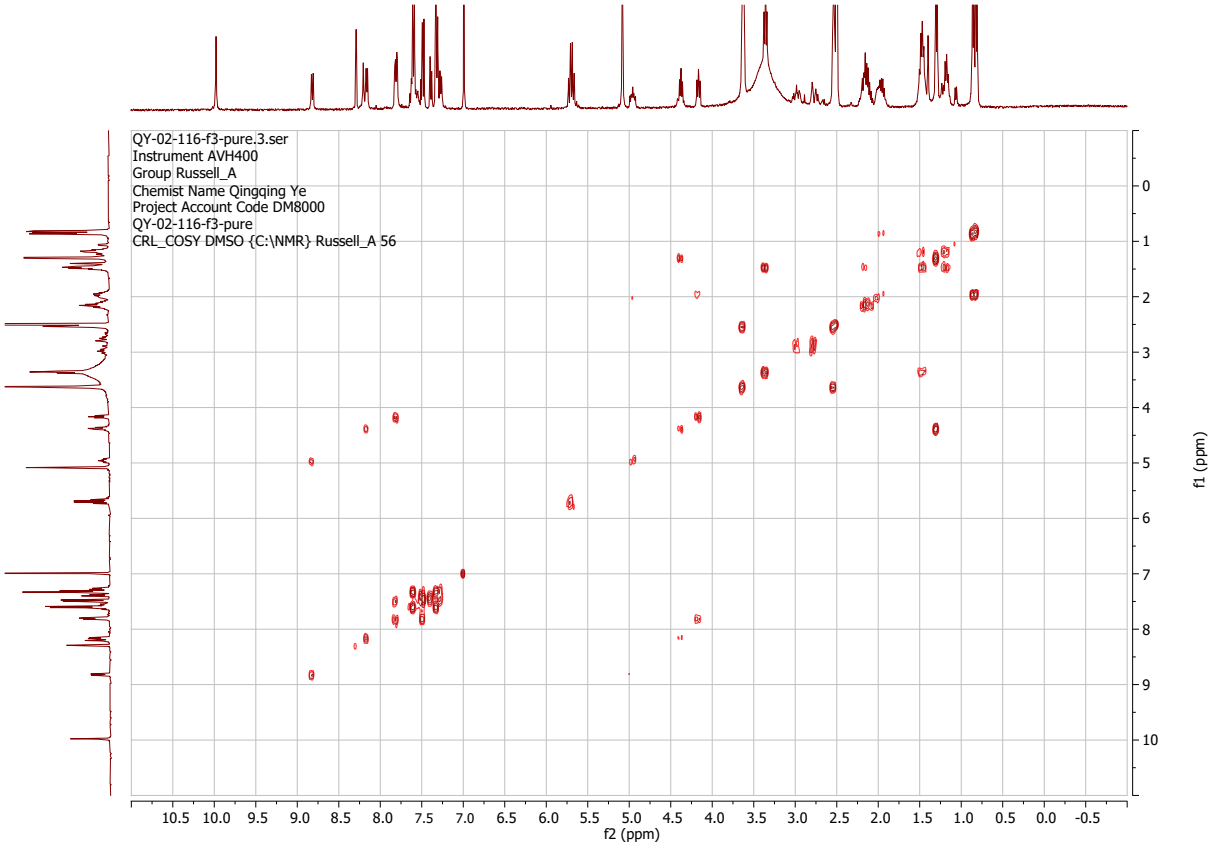

QY-02-116-f3-pure.1.fid
Instrument AVH400
Group Russell_A
Project Account Code DM8000
QY-02-116-f3-pure
CRL_PROTON DMSO {C:\NMR} Russell_A 56
A (s) 9.98
B (d) 8.82
C (d) 8.29
D (d) 8.16
E (m) 7.81
F (d) 7.60
G (m) 7.33
W (dd) 7.49
J (s) 6.99
K (q) 5.70
L (s) 5.08
M (m) 4.96
N (m) 4.38
O (m) 4.17
P (m) 3.63
Q (t) 3.36
H (m) 2.97
I (m) 2.77
S (t) 2.54
T (m) 2.13
R (m) 1.95
X (d) 1.30
V (q) 1.48
Z (dd) 0.84
Y (dt) 1.19
f1 (ppm)

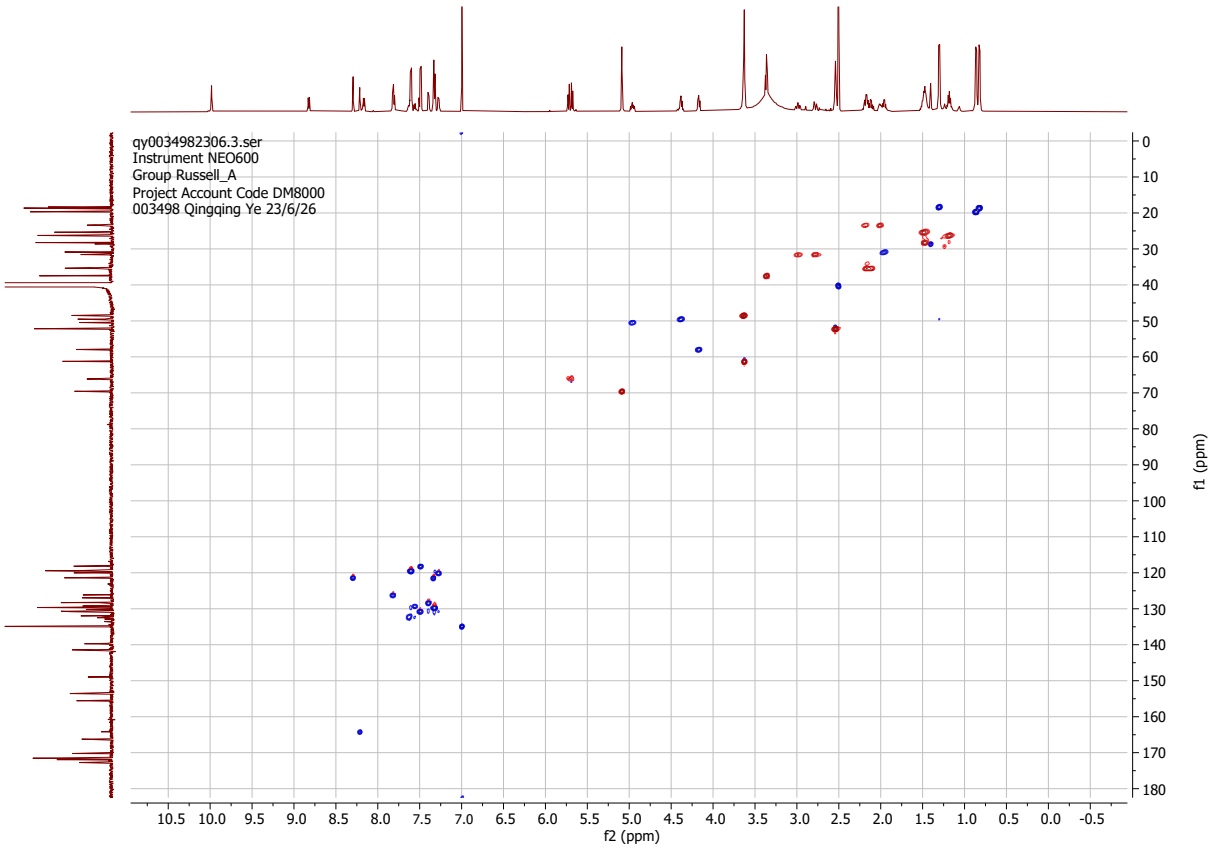
QY-02-116-f3-pure.2.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-02-116-f3-pure
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 56

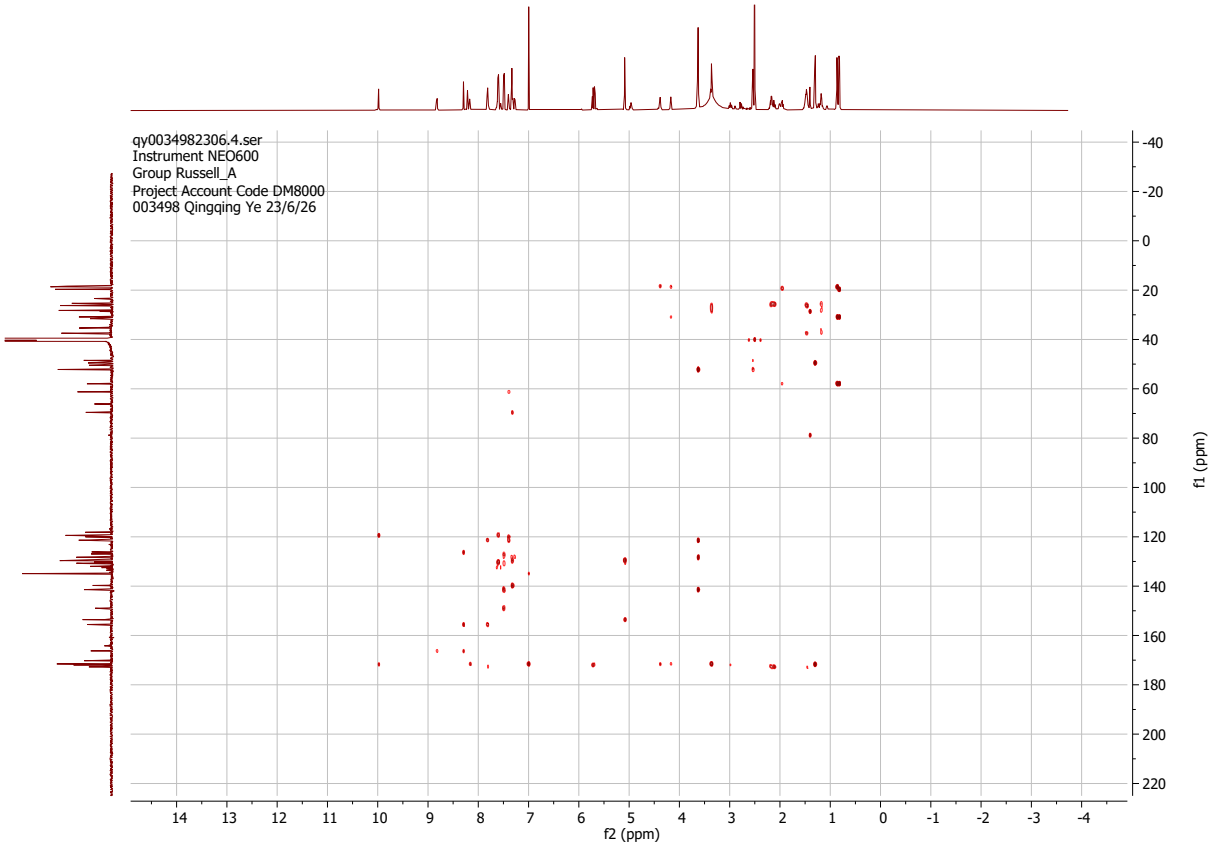


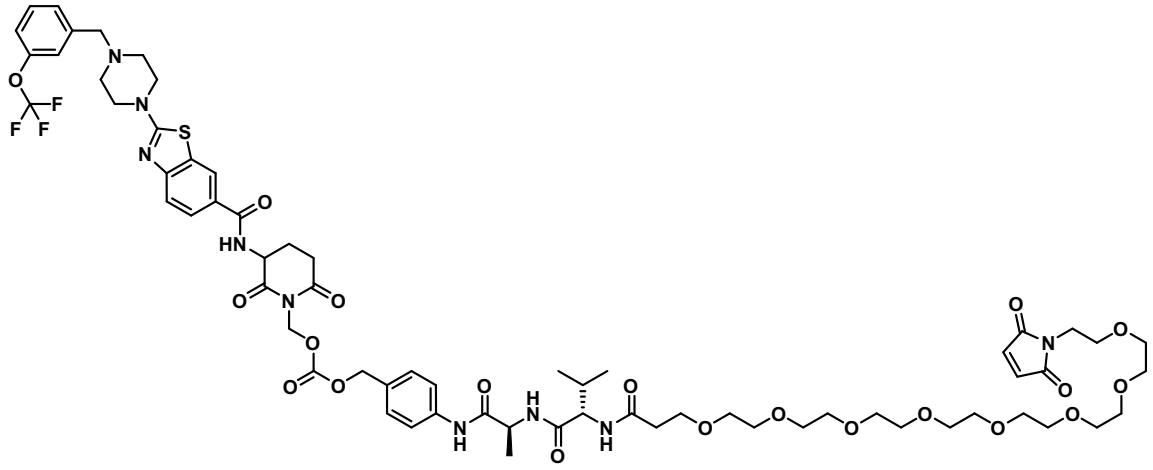
qy0034982306.5.fid
Instrument NEO600
Group Russell_A
Project Account Code DM8000
003498 Qingqing Ye 23/6/26

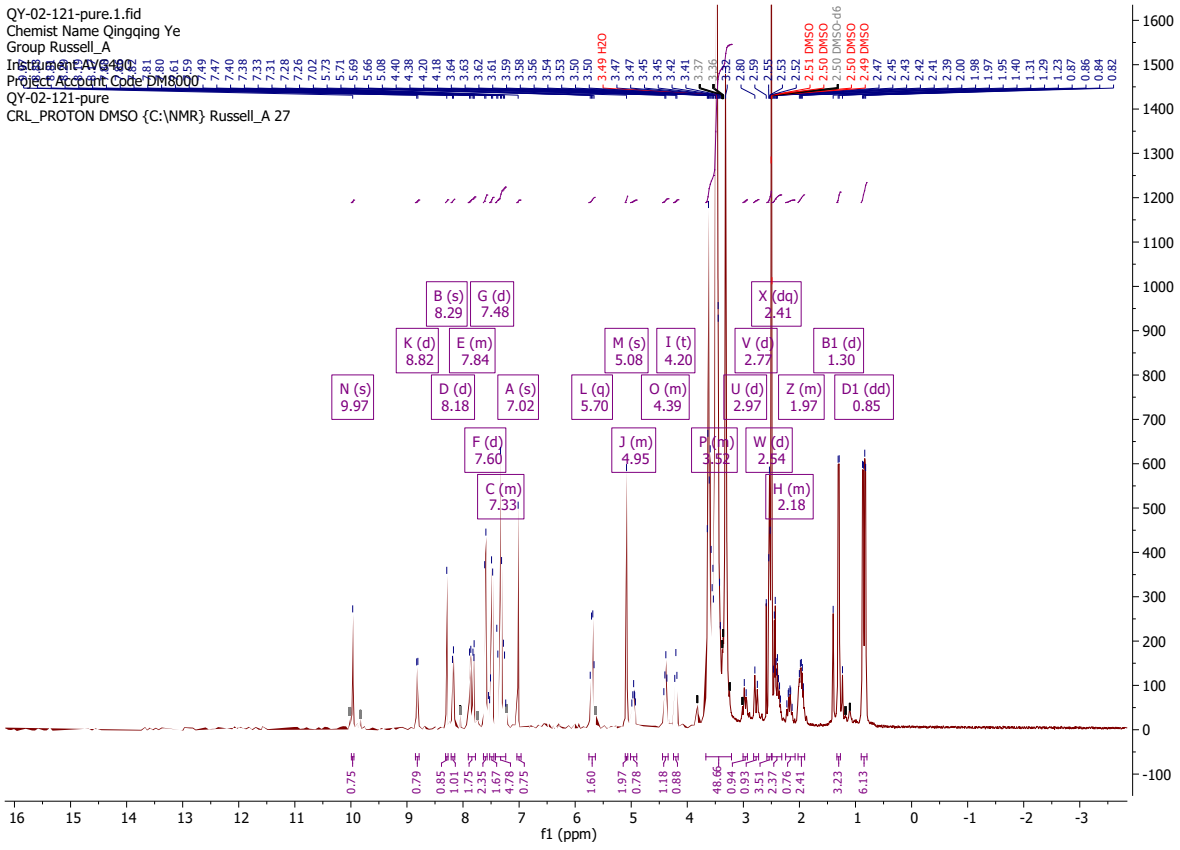


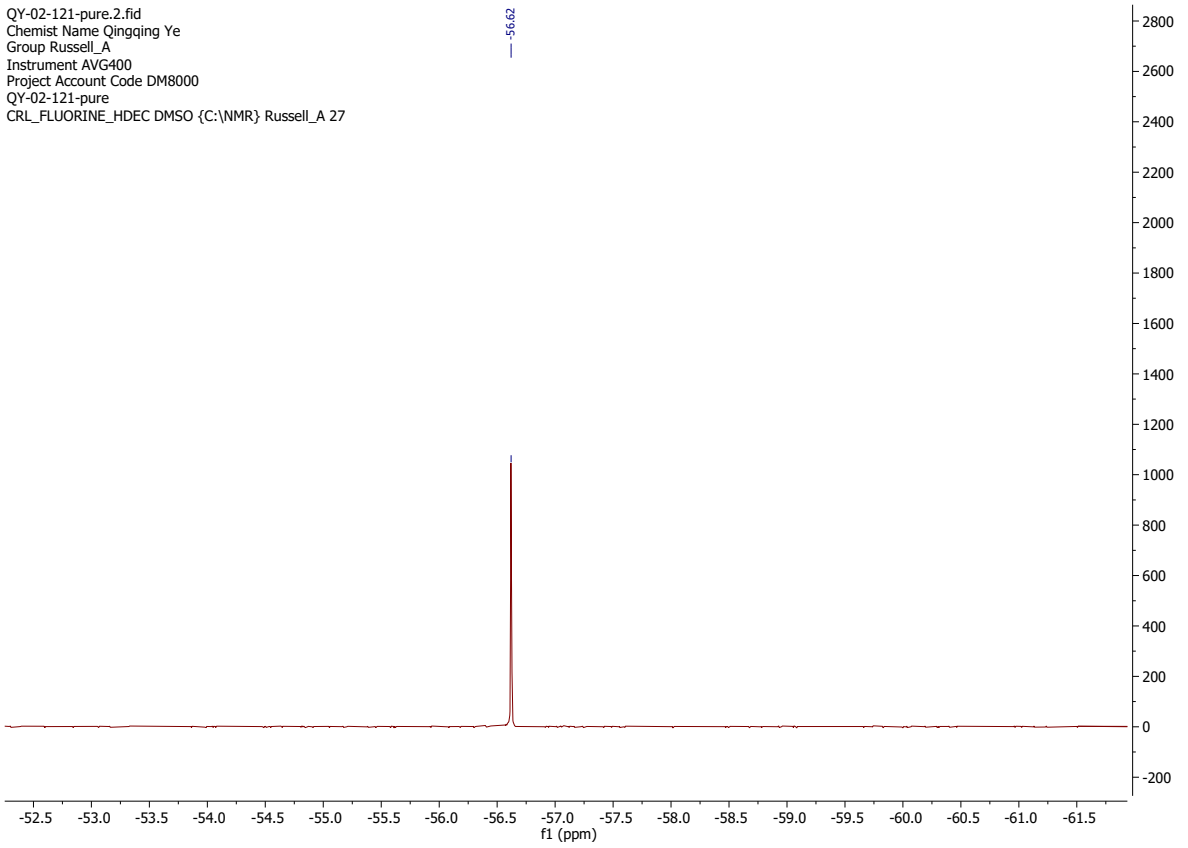

QY-02-116-f3-pure.3.ser
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-02-116-f3-pure
CRL_COSY DMSO {C:\NMR} Russell_A 56
f2 (ppm)
f1 (ppm)

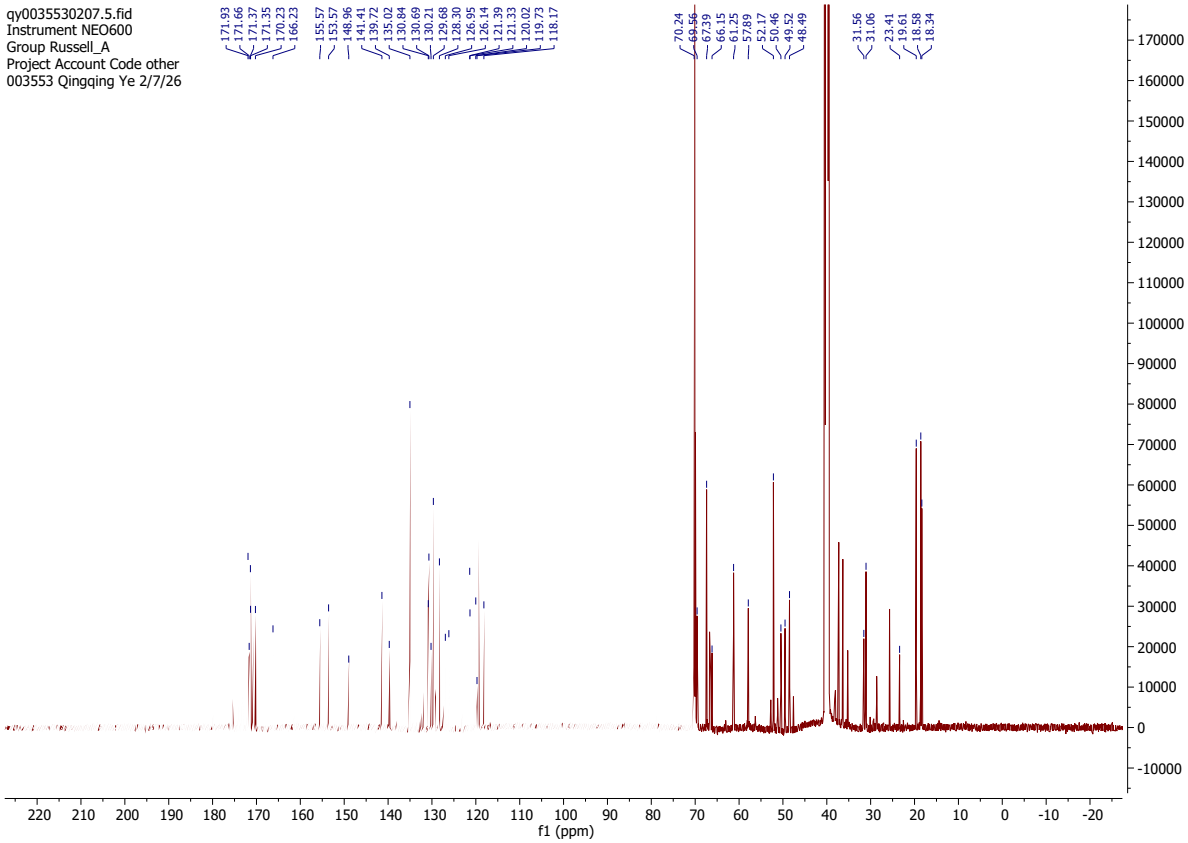

qy0034982306.3.ser
Instrument NEO600
Group Russell_A
Project Account Code DM8000
003498 Qingqing Ye 23/6/26
f2 (ppm)
f1 (ppm)

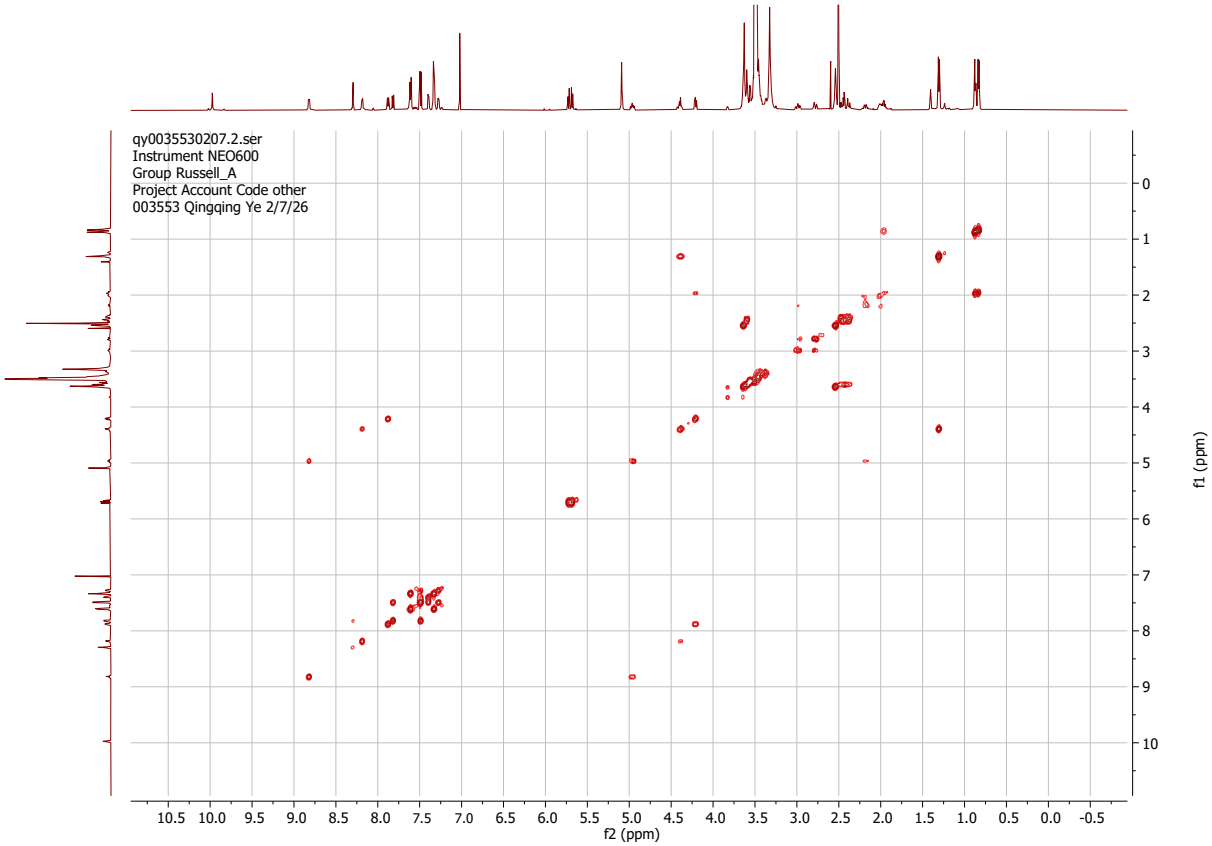

qy0034982306.4.ser
Instrument NEO600
Group Russell_A
Project Account Code DM8000
003498 Qingqing Ye 23/6/26
f2 (ppm)
f1 (ppm)

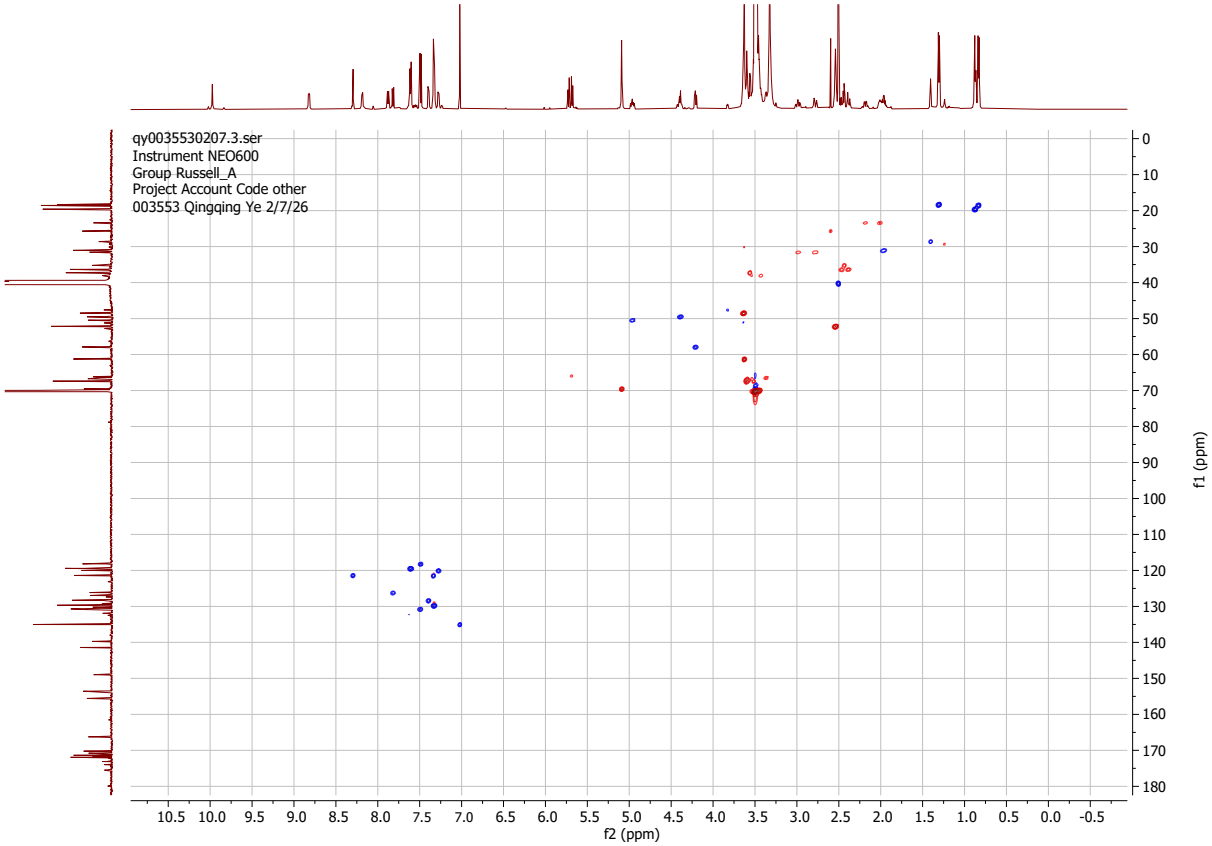


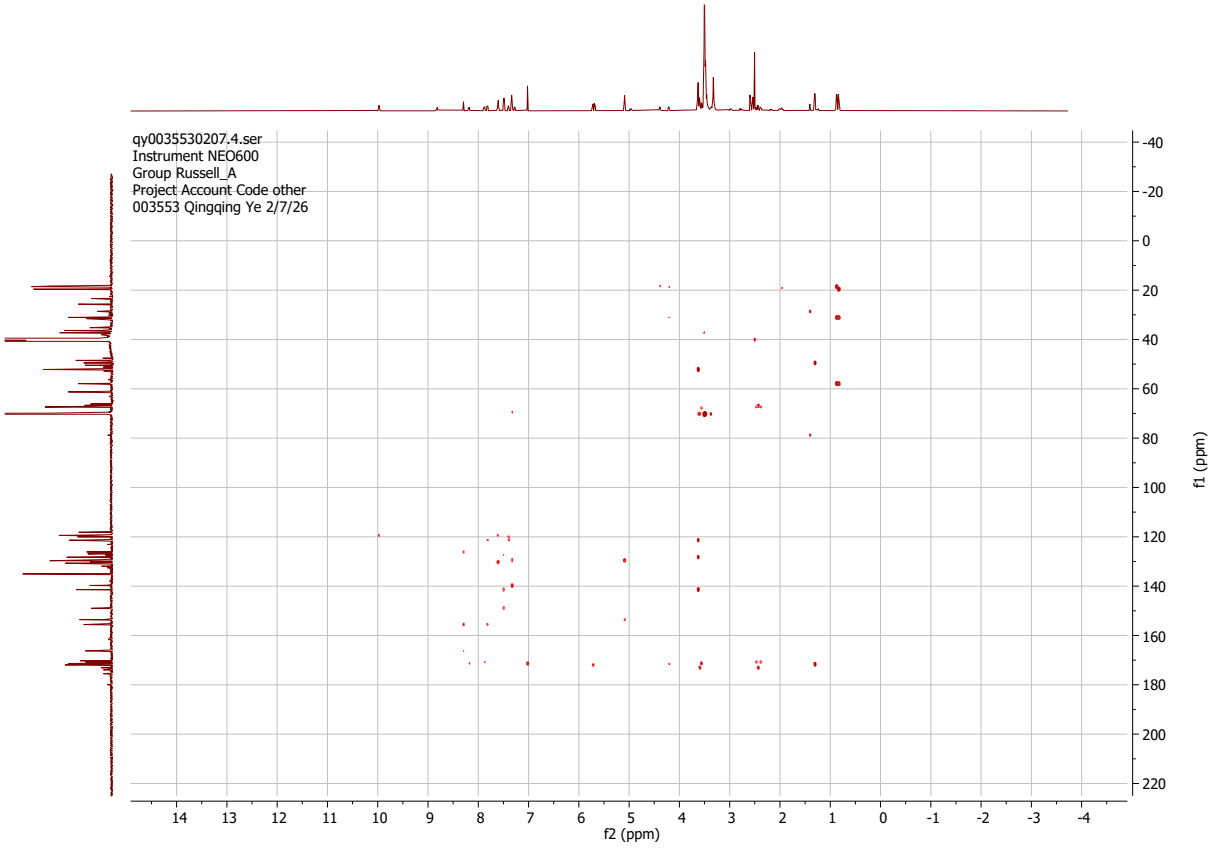

QY-02-121-pure.1.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-121-pure
CRL_PROTON DMSO {C:\NMR} Russell_A 27
B (s) 8.29
G (d) 7.48
K (d) 8.82
E (m) 7.84
M (s) 5.08
I (t) 4.20
X (dq) 2.41
V (d) 2.77
B1 (d) 1.30
N (s) 9.97
D (d) 8.18
A (s) 7.02
L (q) 5.70
O (m) 4.39
U (d) 2.97
Z (m) 1.97
D1 (dd) 0.85
F (d) 7.60
J (m) 4.95
P (m) 3.52
W (d) 2.54
C (m) 7.33
H (m) 2.18
f1 (ppm)

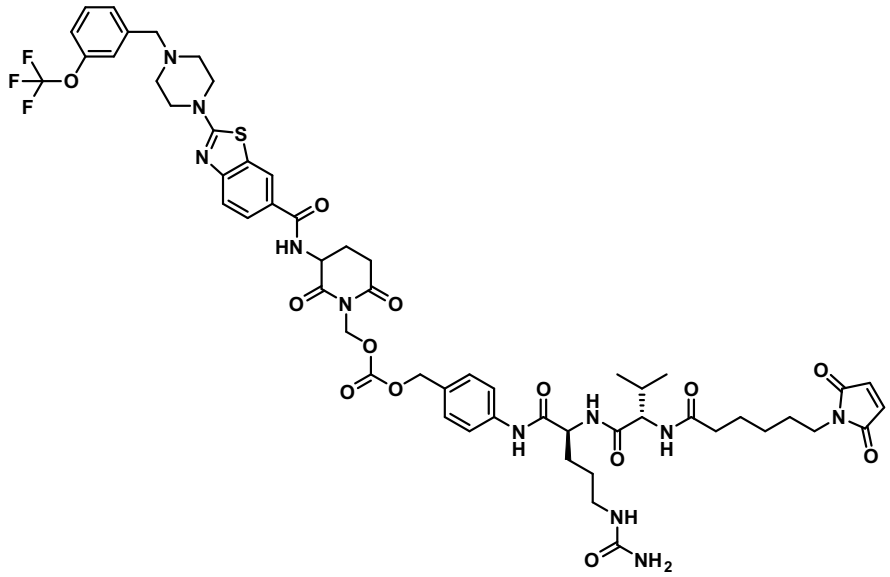

QY-02-121-pure.2.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-121-pure
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 27
-56.62
f1 (ppm)

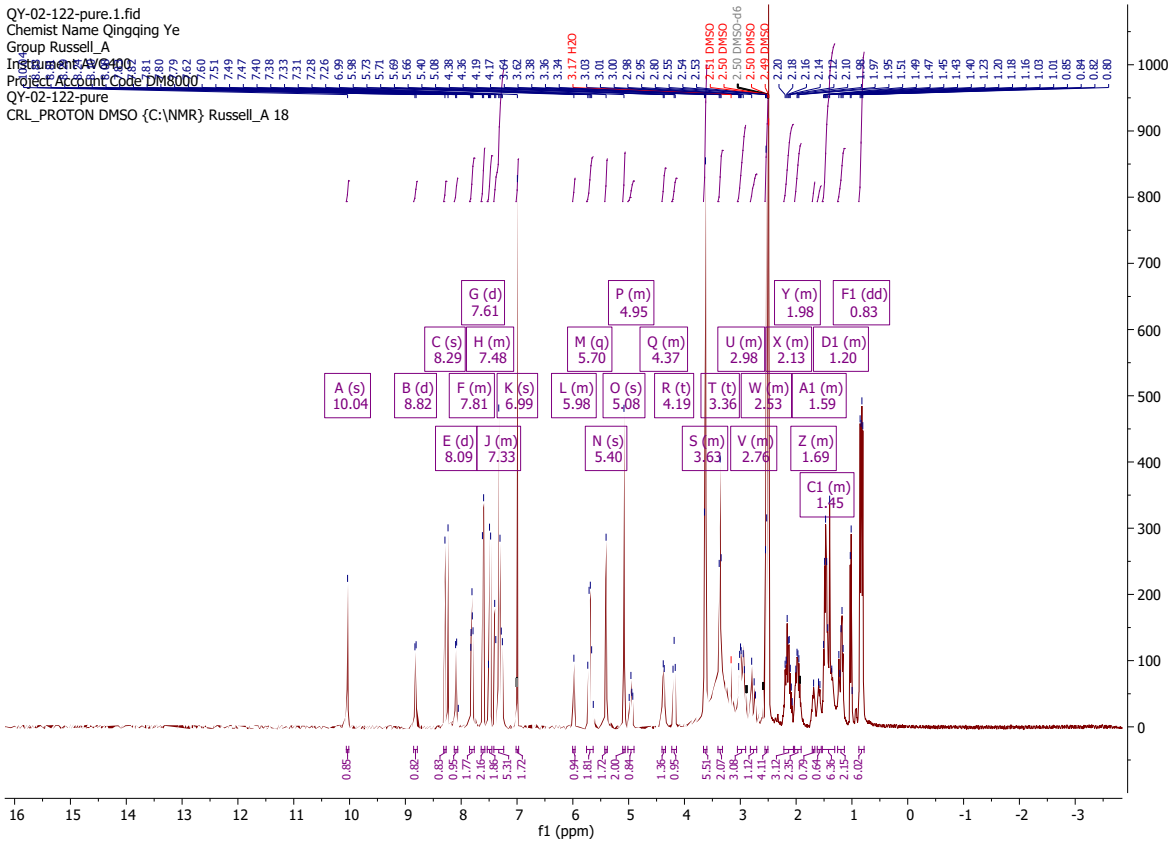

qy0035530207.5.fid
Instrument NEO600
Group Russell_A
Project Account Code other
003553 Qingqing Ye 2/7/26
171.93
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166.23
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153.57
148.96
141.41
139.72
135.02
130.84
130.69
130.21
129.68
128.30
126.95
126.14
121.39
121.33
120.02
119.73
118.17
70.24
69.96
67.39
66.15
61.25
57.69
52.17
50.46
49.52
48.49
31.56
31.06
23.41
19.61
18.58
18.34
f1 (ppm)


qy0035530207.2.ser
Instrument NEO600
Group Russell_A
Project Account Code other
003553 Qingqing Ye 2/7/26
f2 (ppm)
f1 (ppm)


qy0035530207.3.ser
Instrument NEO600
Group Russell_A
Project Account Code other
003553 Qingqing Ye 2/7/26
f2 (ppm)
f1 (ppm)

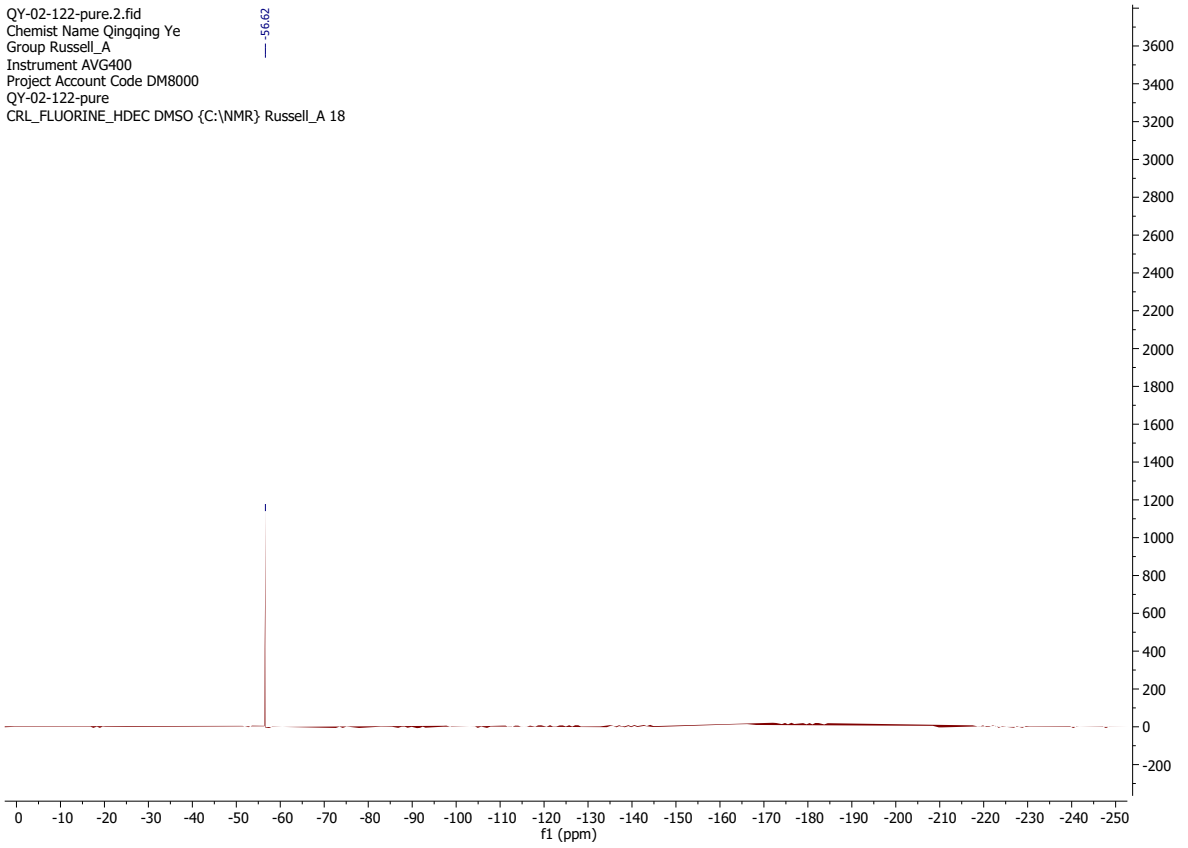

qy0035530207.4.ser
Instrument NEO600
Group Russell_A
Project Account Code other
003553 Qingqing Ye 2/7/26
f2 (ppm)
f1 (ppm)




QY-02-122-pure.1.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-122-pure
CRL_PROTON DMSO {C:\NMR} Russell_A 18
A (s) 10.04
B (d) 8.82
C (s) 8.29
E (d) 8.09
F (m) 7.81
G (d) 7.61
H (m) 7.48
J (m) 7.33
K (s) 6.99
L (m) 5.98
M (q) 5.70
N (s) 5.40
O (s) 5.08
P (m) 4.95
Q (m) 4.37
R (t) 4.19
S (m) 3.63
T (t) 3.36
U (m) 2.98
V (m) 2.76
W (m) 2.53
X (m) 2.13
Y (m) 1.98
Z (m) 1.69
A1 (m) 1.59
C1 (m) 1.45
D1 (m) 1.20
F1 (dd) 0.83
f1 (ppm)

QY-02-122-pure.2.fid
Chemist Name Qingqing Ye
Group Russell_A
Instrument AVG400
Project Account Code DM8000
QY-02-122-pure
CRL_FLUORINE_HDEC DMSO {C:\NMR} Russell_A 18

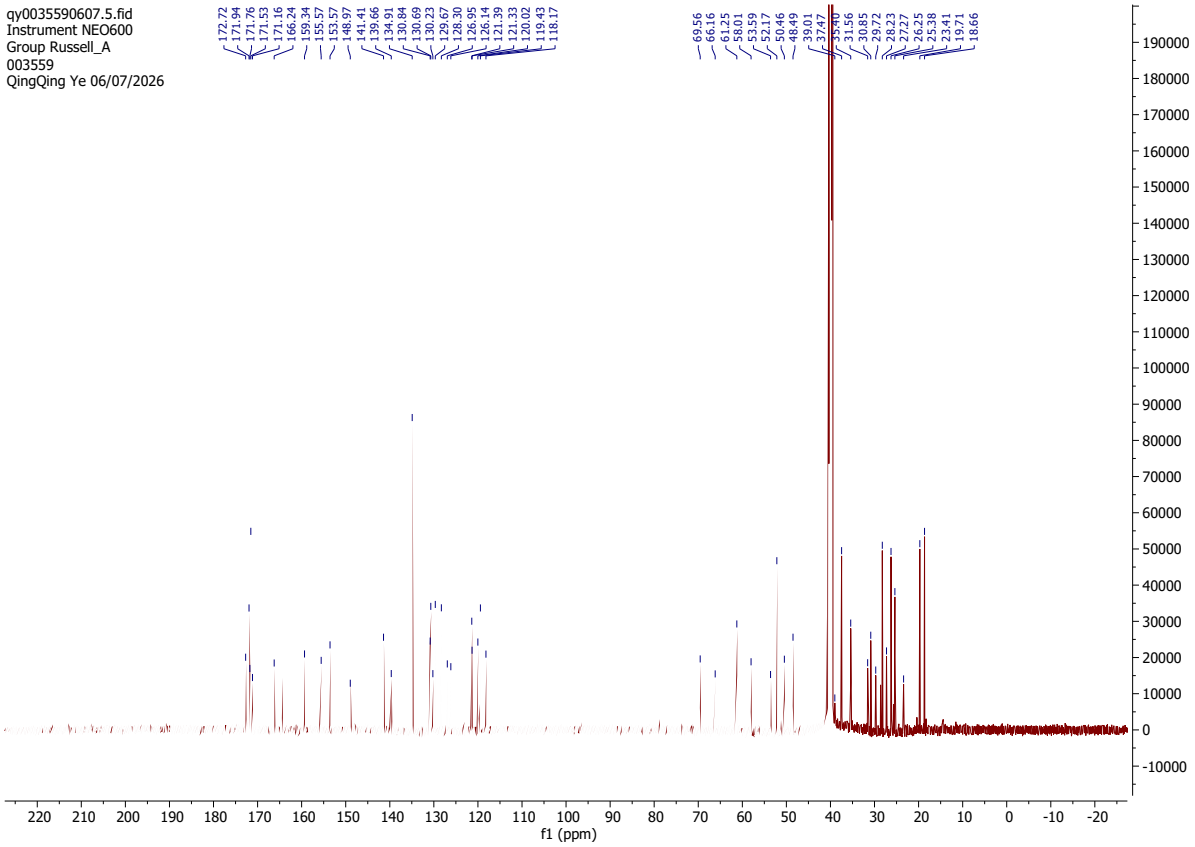
-56.62

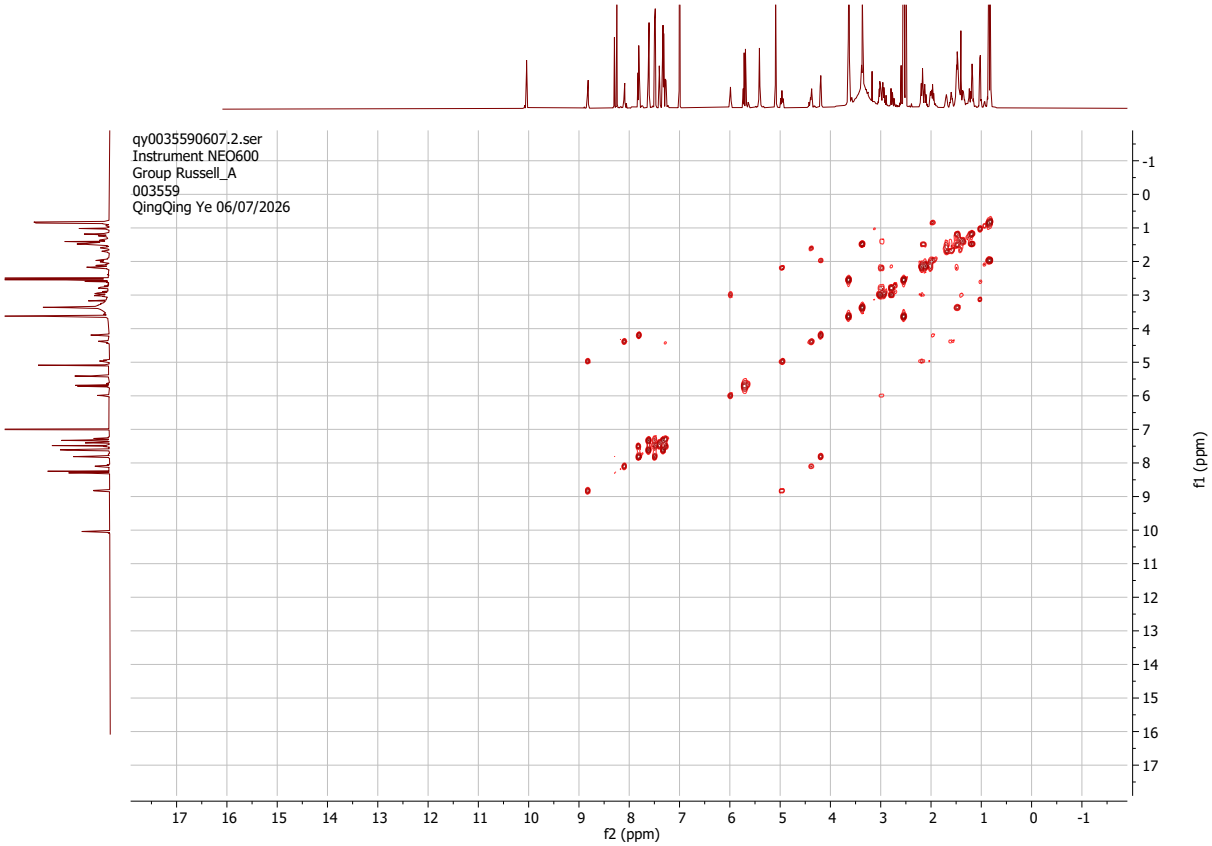


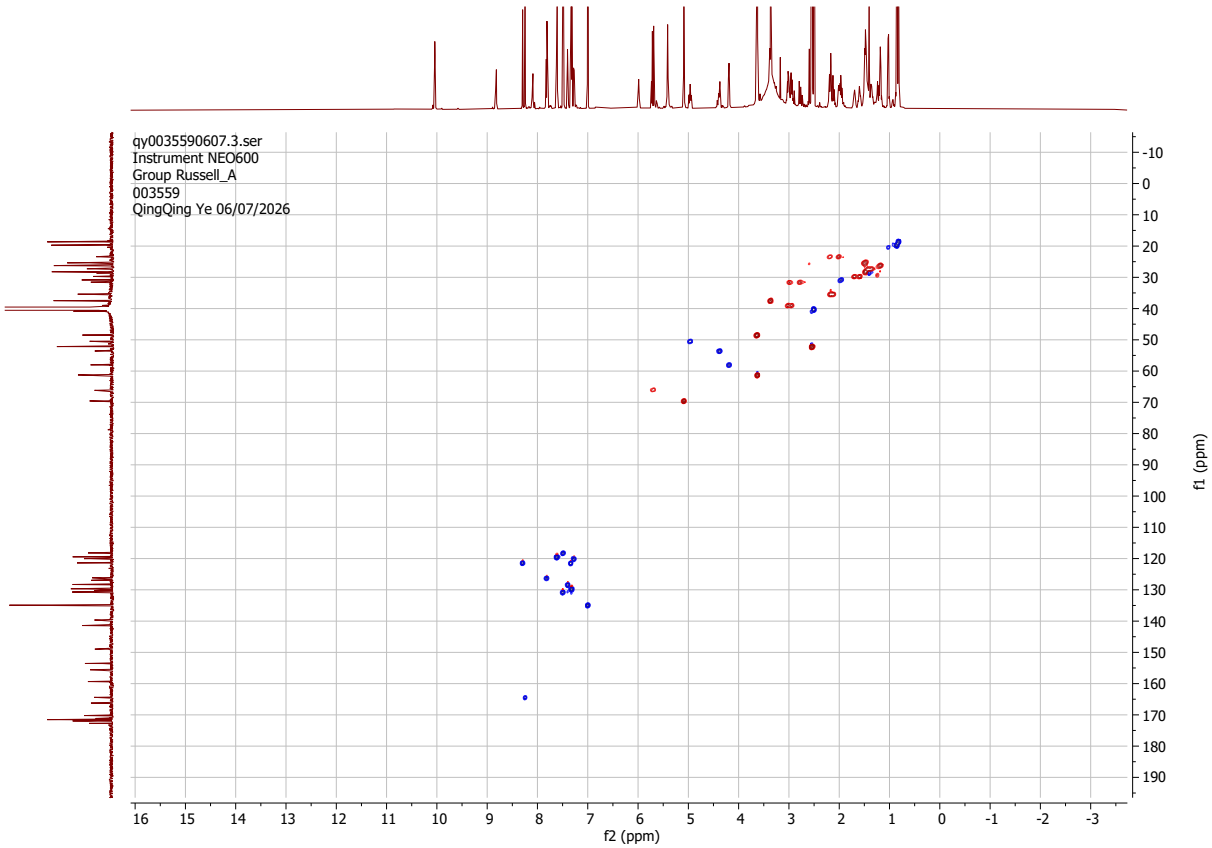
qy0035590607.5.fid
Instrument NEO600
Group Russell_A
003559
QingQing Ye 06/07/2026

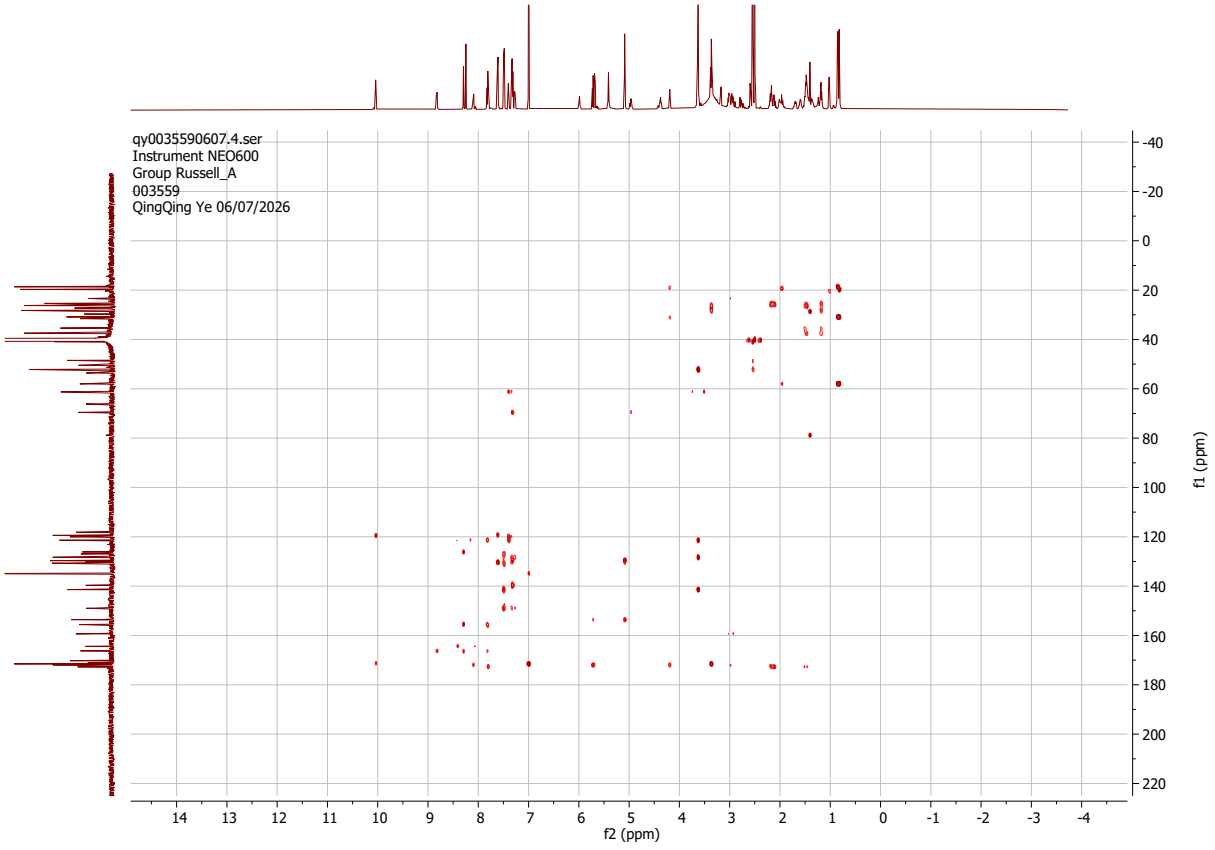
172.72
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171.76
171.53
171.16
166.24
159.34
155.57
153.57
148.97
141.41
139.66
134.91
130.84
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130.23
129.67
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126.14
121.39
121.33
120.02
119.43
118.17

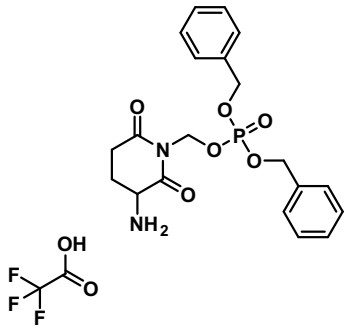
69.56
66.16
61.25
58.01
53.59
52.17
50.46
48.49
39.01
37.47
35.40
31.56
30.85
29.72
28.23
27.27
26.25
25.38
23.41
19.71
18.66

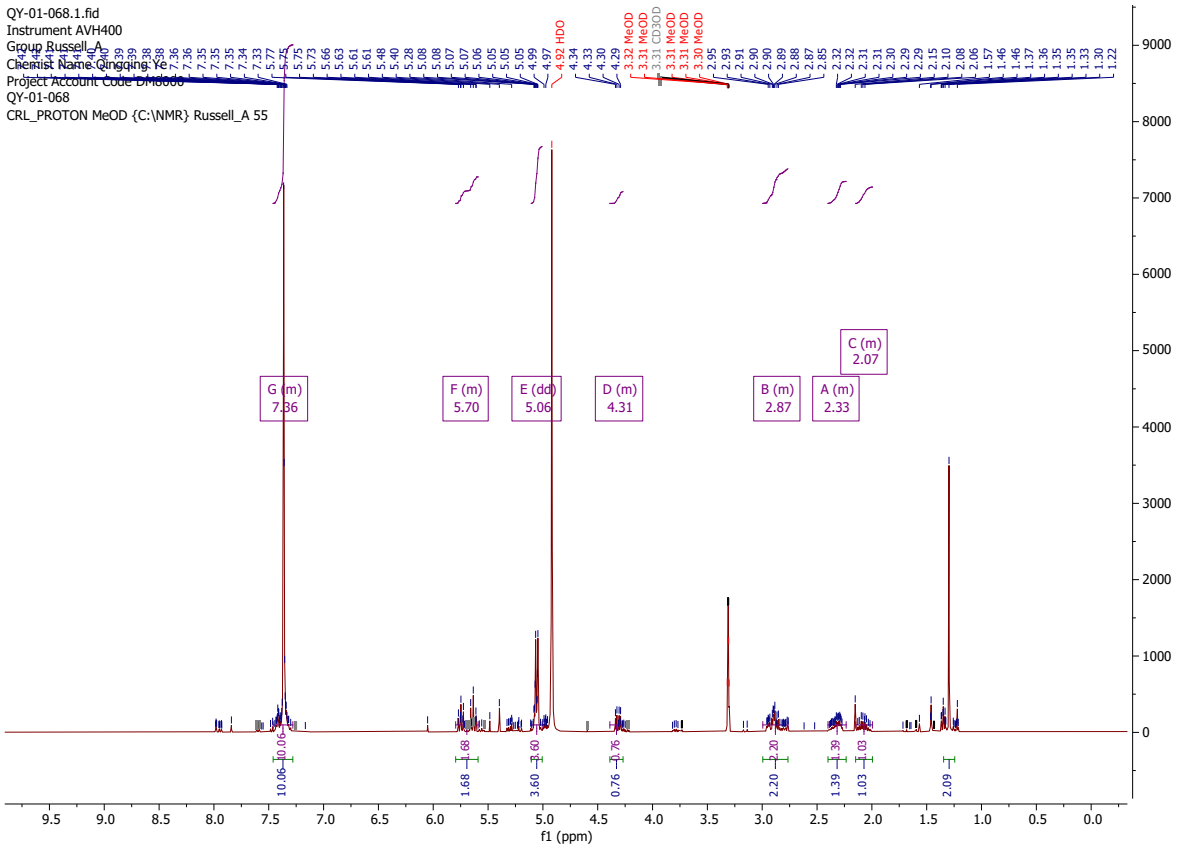


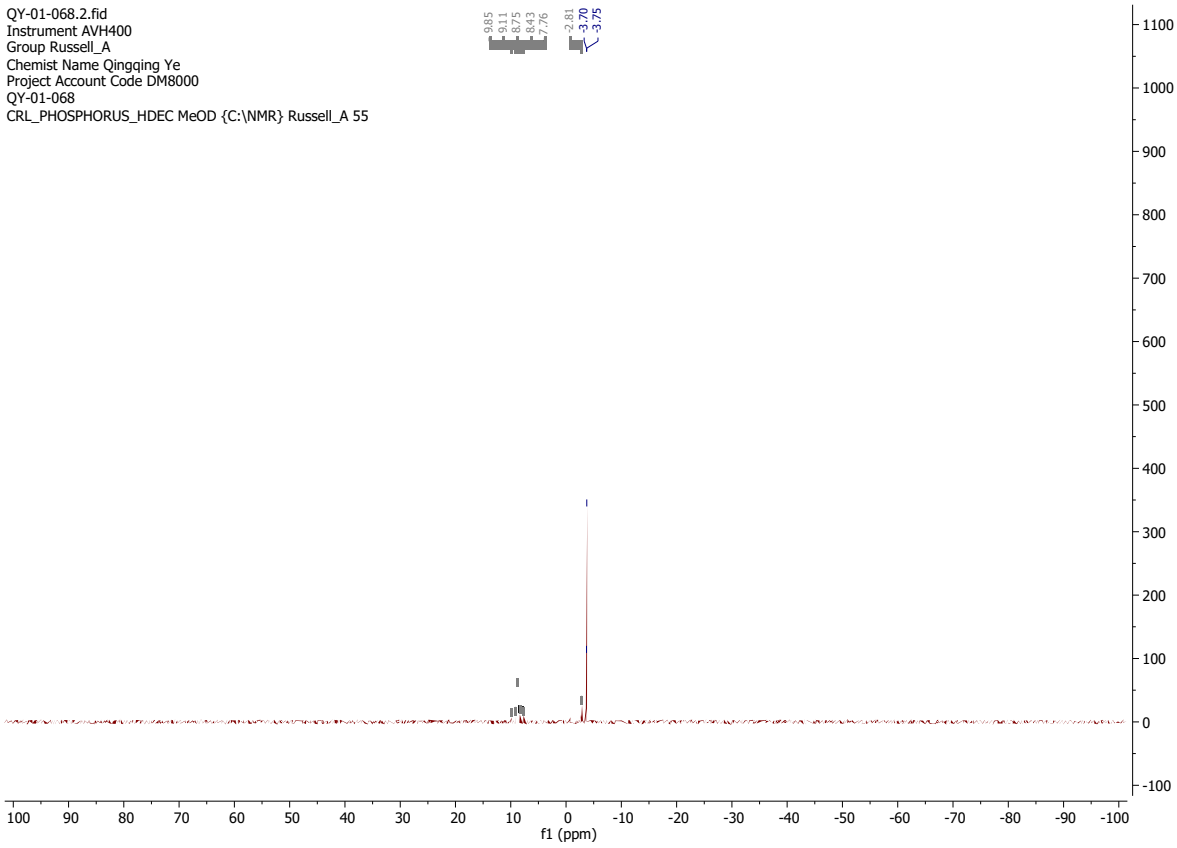

qy0035590607.2.ser
Instrument NEO600
Group Russell_A
003559
QingQing Ye 06/07/2026
f2 (ppm)
f1 (ppm)

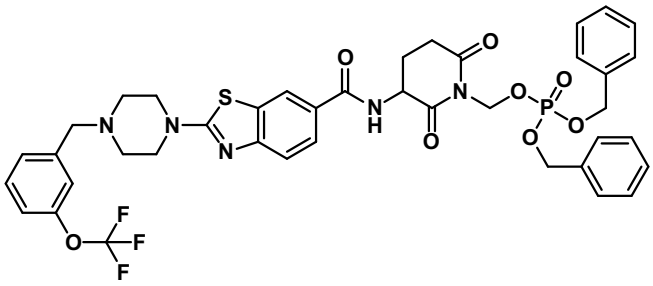

qy0035590607.3.ser
Instrument NEO600
Group Russell_A
003559
QingQing Ye 06/07/2026
f2 (ppm)
f1 (ppm)

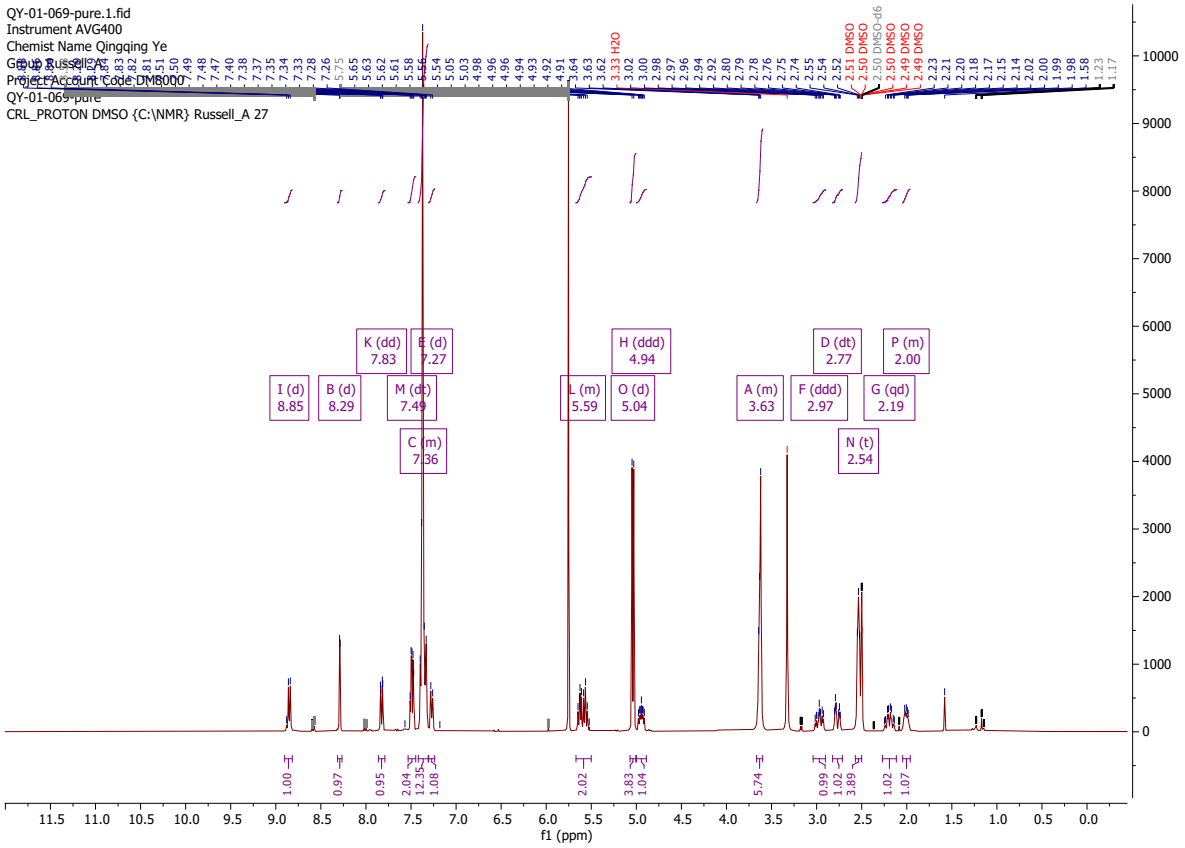

qy0035590607.4.ser
Instrument NEO600
Group Russell_A
003559
QingQing Ye 06/07/2026
f2 (ppm)
f1 (ppm)

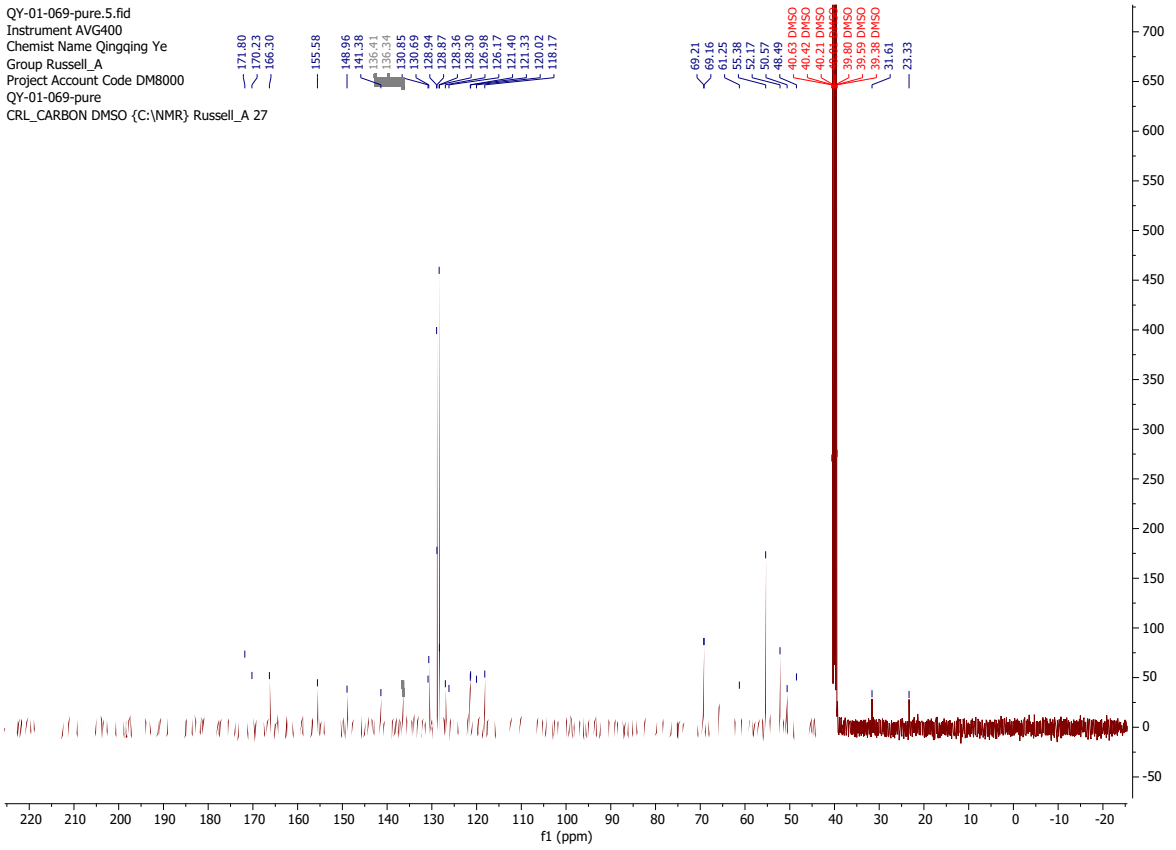

O
O
N
O
O
P
O
O
O
NH2
OH
F
F
F
O

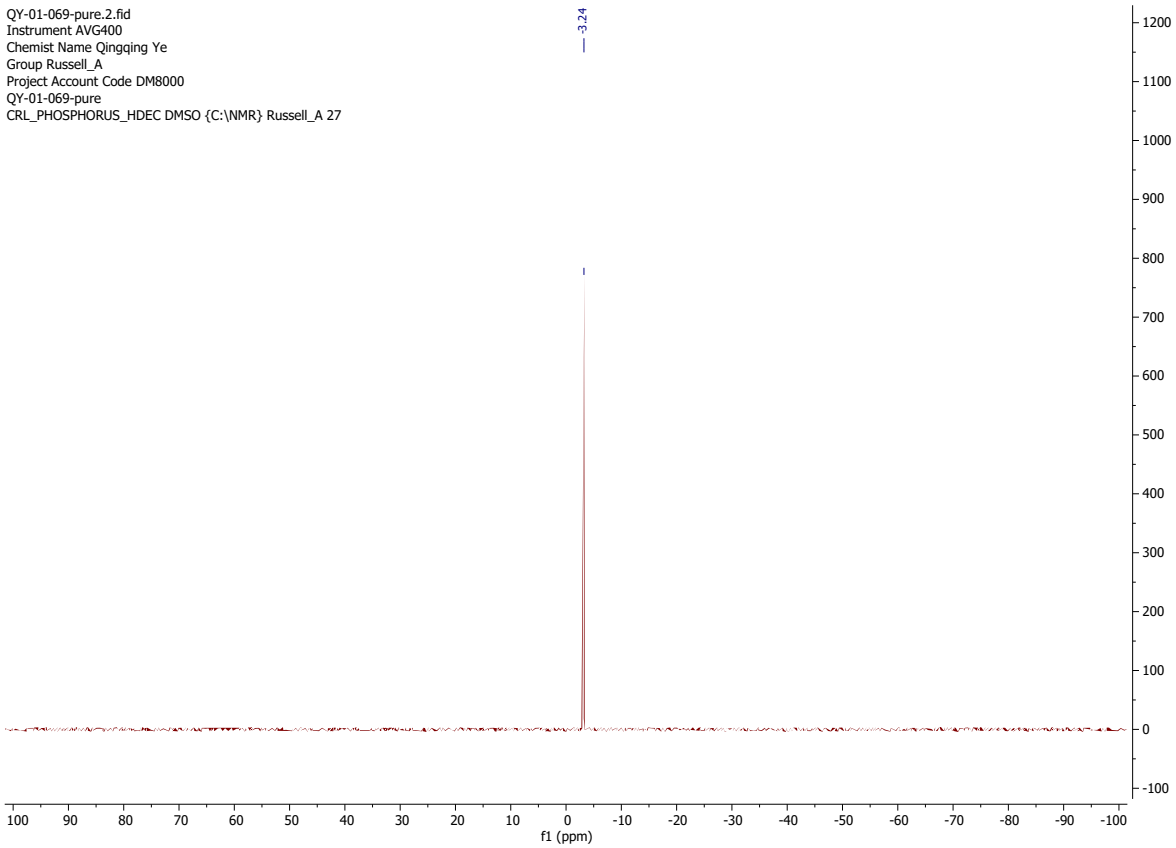

QY-01-068.1.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM0000
QY-01-068
CRL_PROTON MeOD {C:\NMR} Russell_A 55
4.92 HDO
3.32 MeOD
3.31 MeOD
3.31 CD3OD
3.31 MeOD
3.31 MeOD
3.30 MeOD
G (m) 7.36
F (m) 5.70
E (dd) 5.06
D (m) 4.31
B (m) 2.87
A (m) 2.33
C (m) 2.07
10.06
1.68
3.60
0.76
2.20
1.39
1.03
2.09
f1 (ppm)

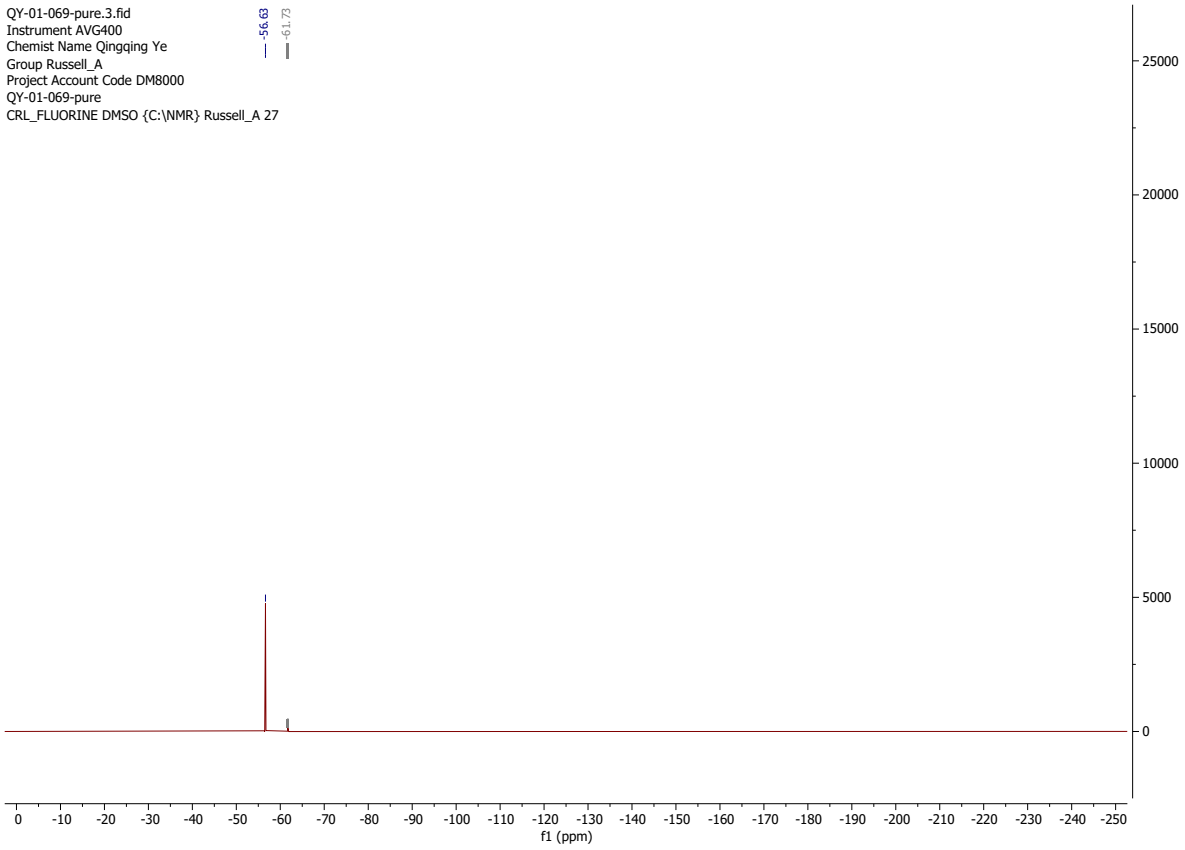

QY-01-068.2.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-01-068
CRL_PHOSPHORUS_HDEC MeOD {C:\NMR} Russell_A 55
9.85
9.11
8.75
8.43
7.76
2.81
-3.70
-3.75
1100
1000
900
800
700
600
500
400
300
200
100
0
-100
100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100
f1 (ppm)

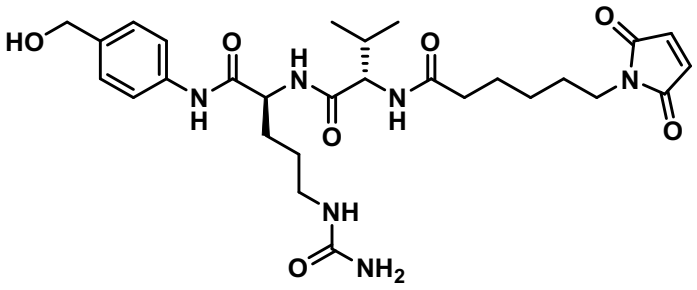

O
S
N
N
N
N
H
O
O
N
O
P
O
O
O
F
F
F
O

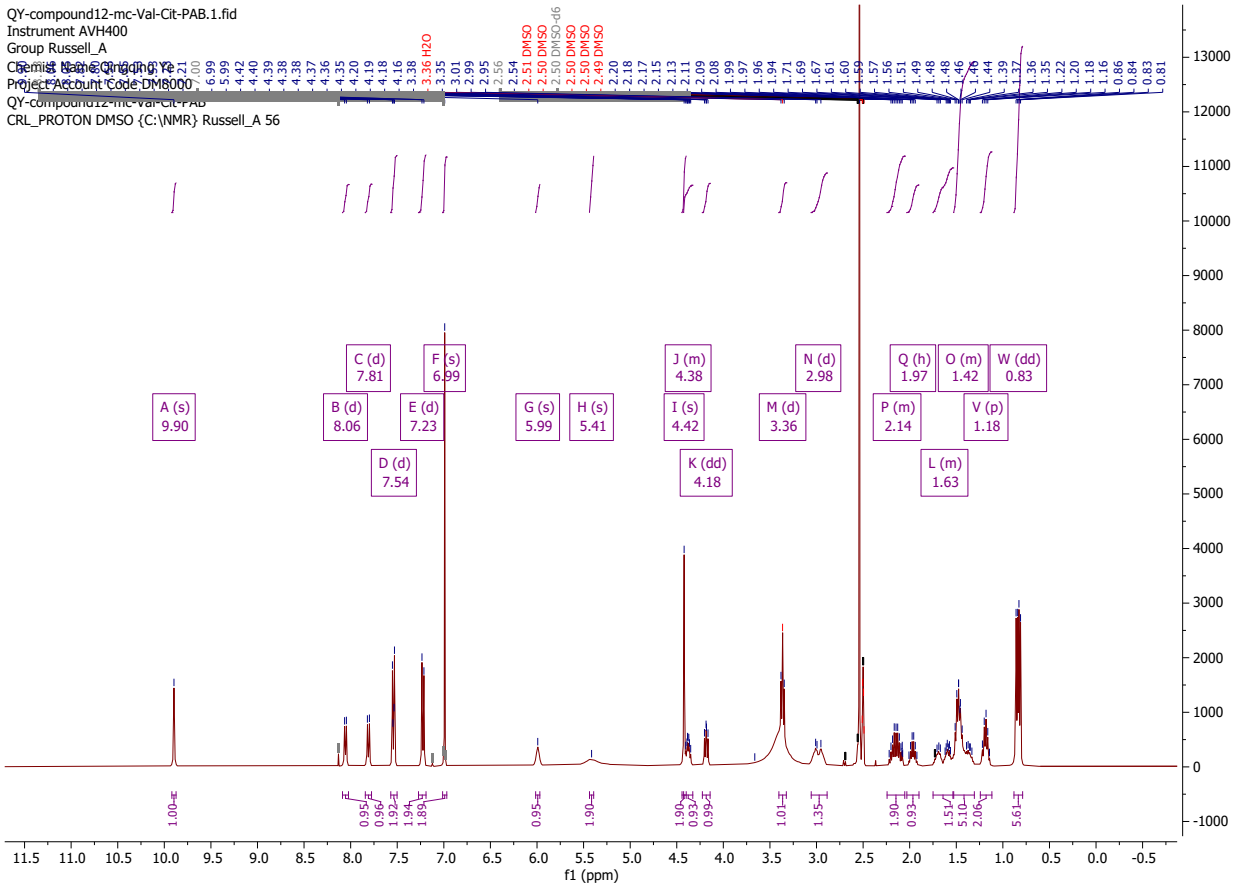

QY-01-069-pure.1.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DMB000
QY-01-069-pure
CRL_PROTON DMSO {C:\NMR} Russell_A 27
3.33 H2O
2.51 DMSO
2.50 DMSO
2.50 DMSO-d6
2.49 DMSO
I (d) 8.85
B (d) 8.29
K (dd) 7.83
E (d) 7.27
M (dt) 7.49
C (m) 7.36
L (m) 5.59
H (ddd) 4.94
O (d) 5.04
A (m) 3.63
F (ddd) 2.97
D (dt) 2.77
N (t) 2.54
G (qd) 2.19
P (m) 2.00
1.00
0.97
0.95
2.04
12.35
1.08
2.02
3.83
1.04
5.74
0.99
1.02
3.89
1.02
1.07
f1 (ppm)

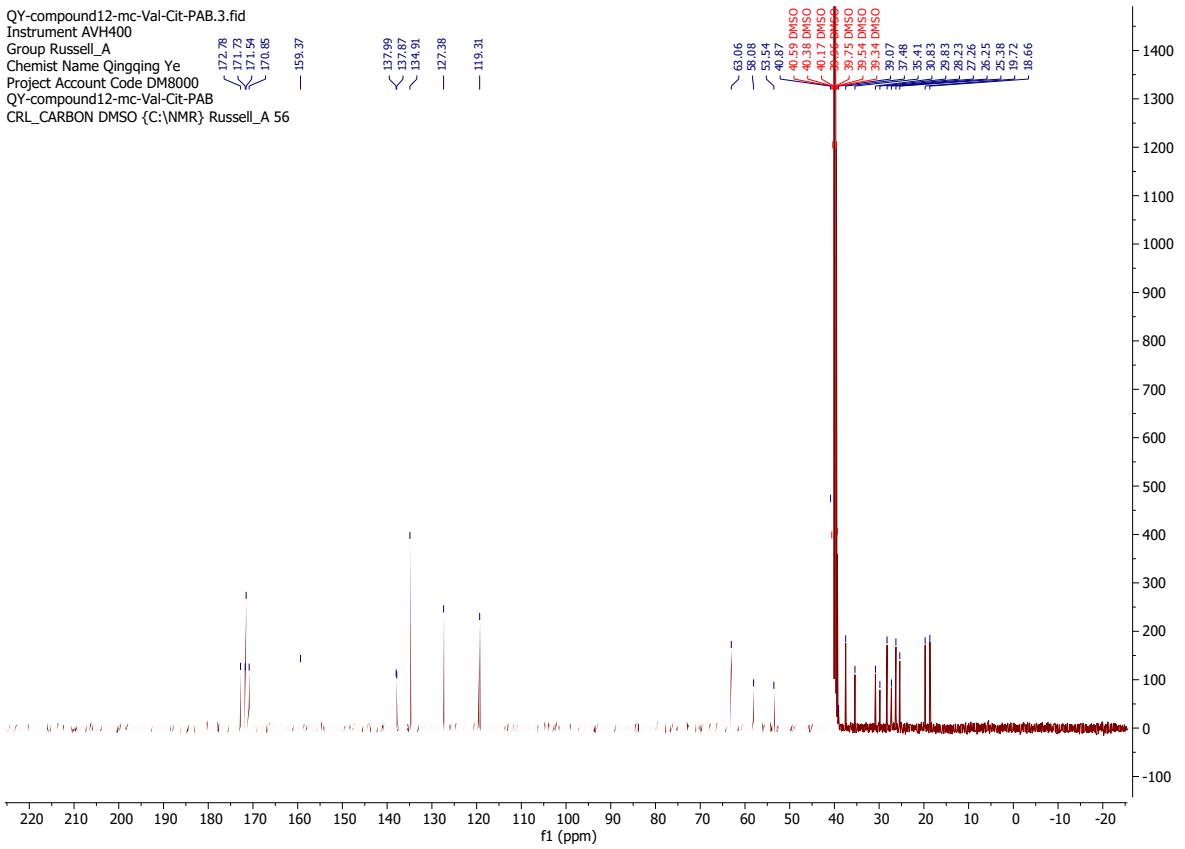

QY-01-069-pure.5.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-069-pure
CRL_CARBON DMSO {C:\NMR} Russell_A 27
171.80
170.23
166.30
155.58
148.96
141.38
136.41
136.34
130.85
130.69
128.94
128.87
128.36
128.30
126.98
126.17
121.40
121.33
120.02
118.17
69.21
69.16
61.25
55.38
52.17
50.57
48.49
40.63 DMSO
40.42 DMSO
40.21 DMSO
39.80 DMSO
39.59 DMSO
39.38 DMSO
31.61
23.33
f1 (ppm)

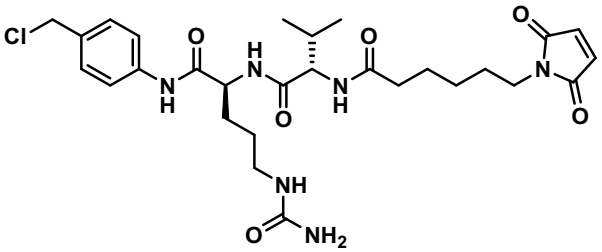

QY-01-069-pure.2.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-069-pure
CRL_PHOSPHORUS_HDEC DMSO {C:\NMR} Russell_A 27
-3.24
f1 (ppm)

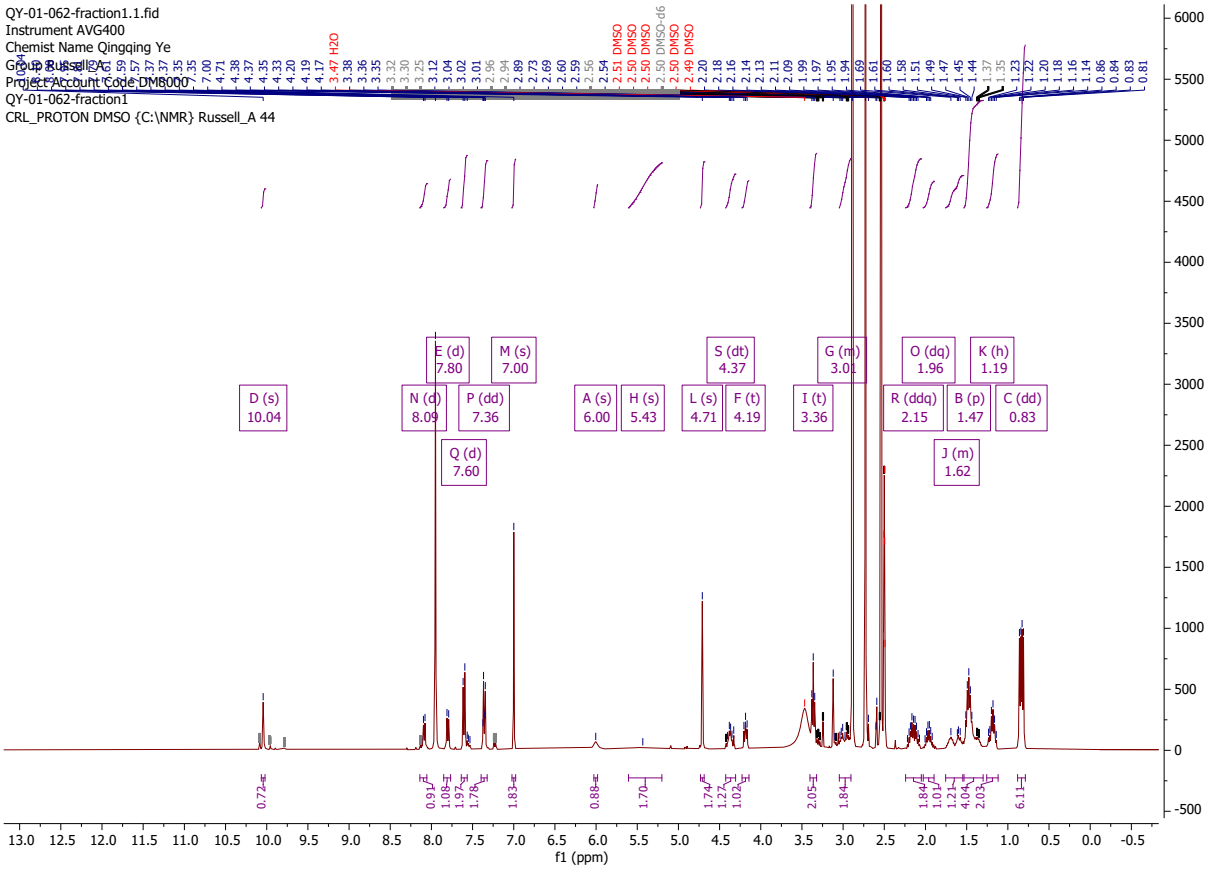

QY-01-069-pure.3.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-069-pure
CRL_FLUORINE DMSO {C:\NMR} Russell_A 27
-56.63
-61.73
25000
20000
15000
10000
5000
0
0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120 -130 -140 -150 -160 -170 -180 -190 -200 -210 -220 -230 -240 -250
f1 (ppm)


HO
O
H
N
O
N
H
O
N
H
O
N
O
O
NH
O
NH2


QY-compound12-mc-Val-Cit-PAB.1.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-compound12-mc-Val-Cit-PAB
CRL_PROTON DMSO {C:\NMR} Russell_A 56
A (s) 9.90
B (d) 8.06
C (d) 7.81
D (d) 7.54
E (d) 7.23
F (s) 6.99
G (s) 5.99
H (s) 5.41
I (s) 4.42
J (m) 4.38
K (dd) 4.18
L (m) 1.63
M (d) 3.36
N (d) 2.98
P (m) 2.14
Q (h) 1.97
V (p) 1.18
O (m) 1.42
W (dd) 0.83
f1 (ppm)


QY-compound12-mc-Val-Cit-PAB.3.fid
Instrument AVH400
Group Russell_A
Chemist Name Qingqing Ye
Project Account Code DM8000
QY-compound12-mc-Val-Cit-PAB
CRL_CARBON DMSO {C:\NMR} Russell_A 56
f1 (ppm)


Cl
O
H
N
N
H
O
H
N
O
O
N
O
O
NH
O
NH2


QY-01-062-fraction1.1.fid
Instrument AVG400
Chemist Name Qingqing Ye
Group Russell_A
Project Account Code DM8000
QY-01-062-fraction1
CRL_PROTON DMSO {C:\NMR} Russell_A 44
D (s) 10.04
N (d) 8.09
E (d) 7.80
Q (d) 7.60
P (dd) 7.36
M (s) 7.00
A (s) 6.00
H (s) 5.43
L (s) 4.71
F (t) 4.19
S (dt) 4.37
I (t) 3.36
G (m) 3.01
R (ddq) 2.15
J (m) 1.62
O (dq) 1.96
B (p) 1.47
K (h) 1.19
C (dd) 0.83
f1 (ppm)