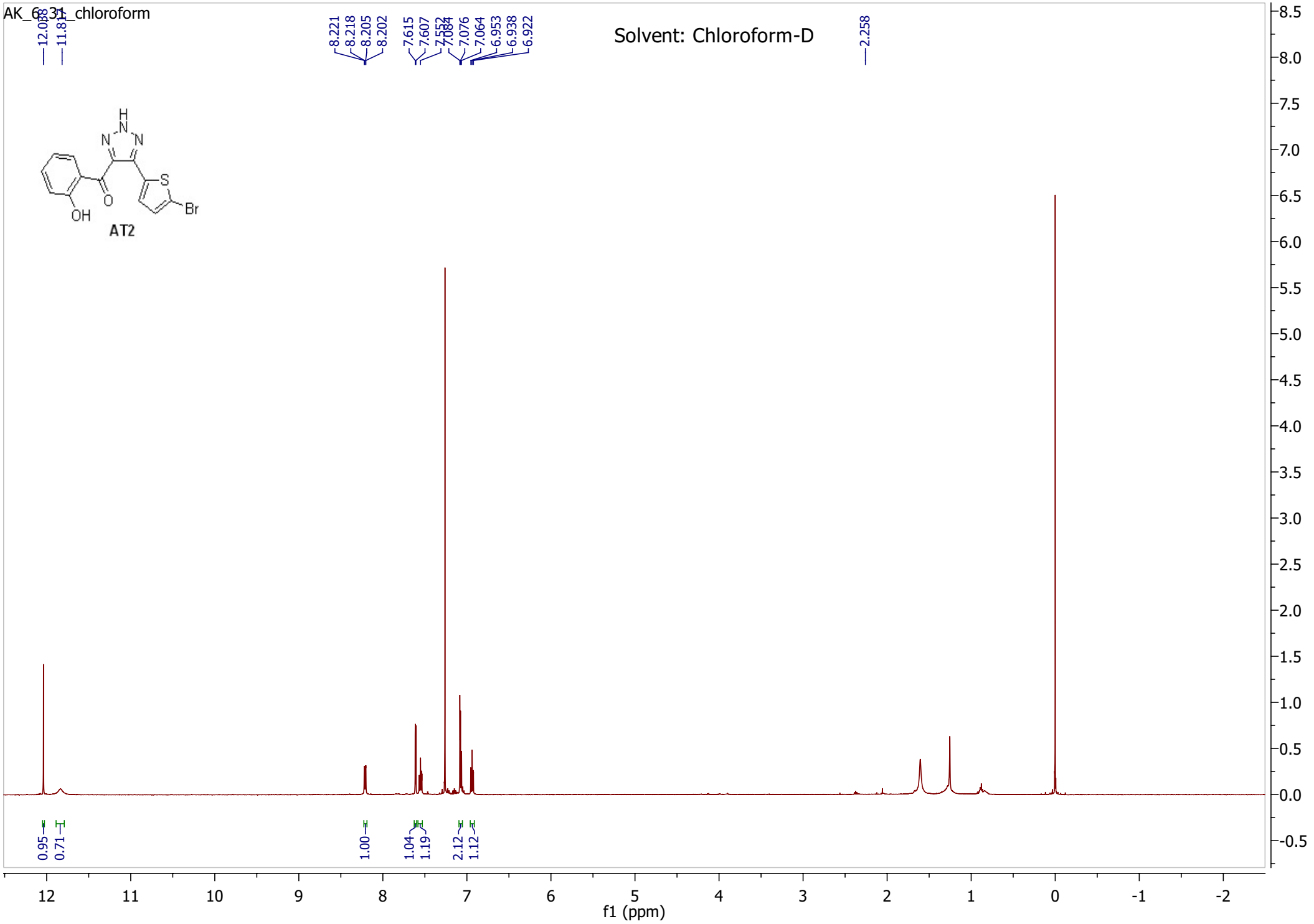
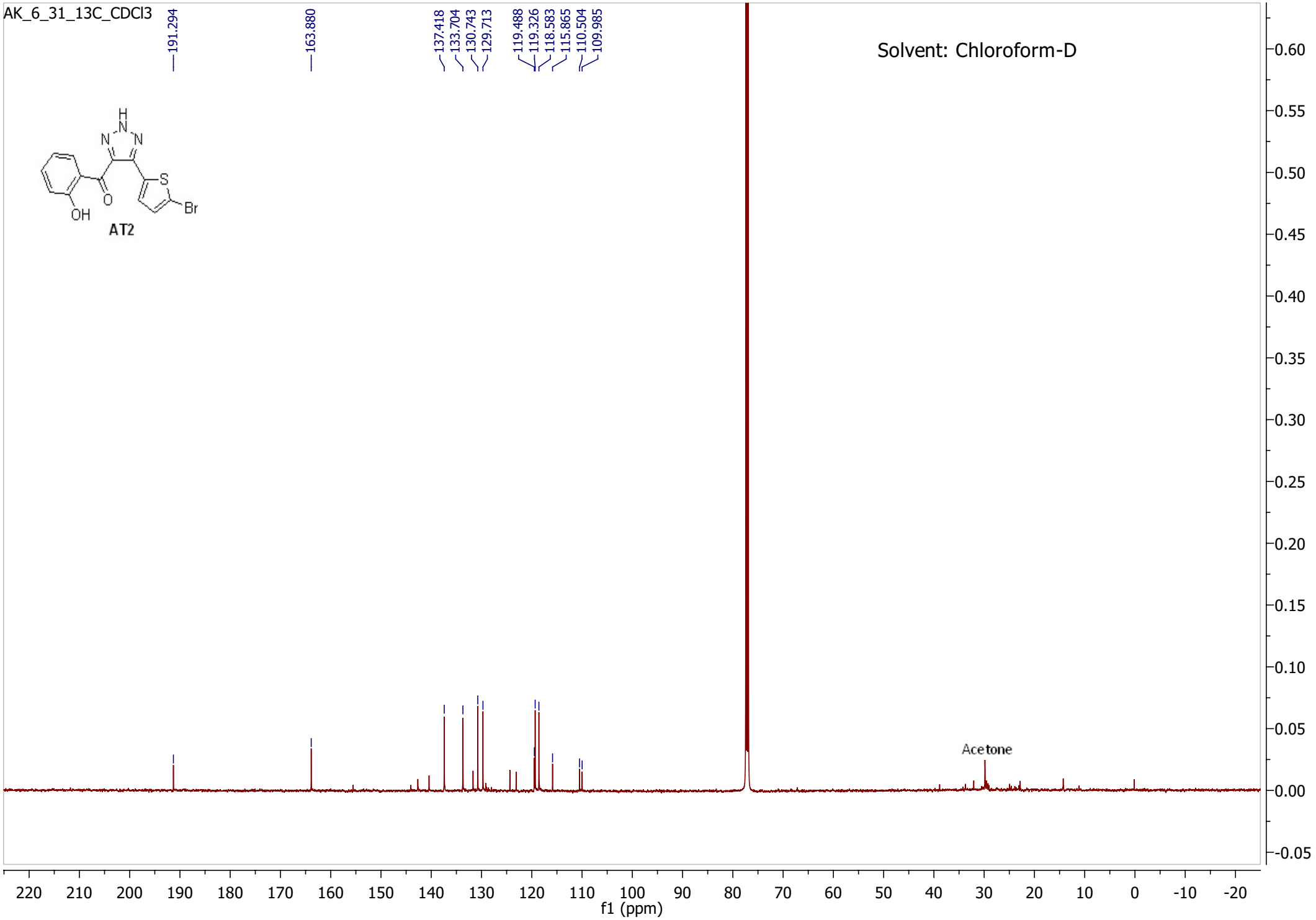
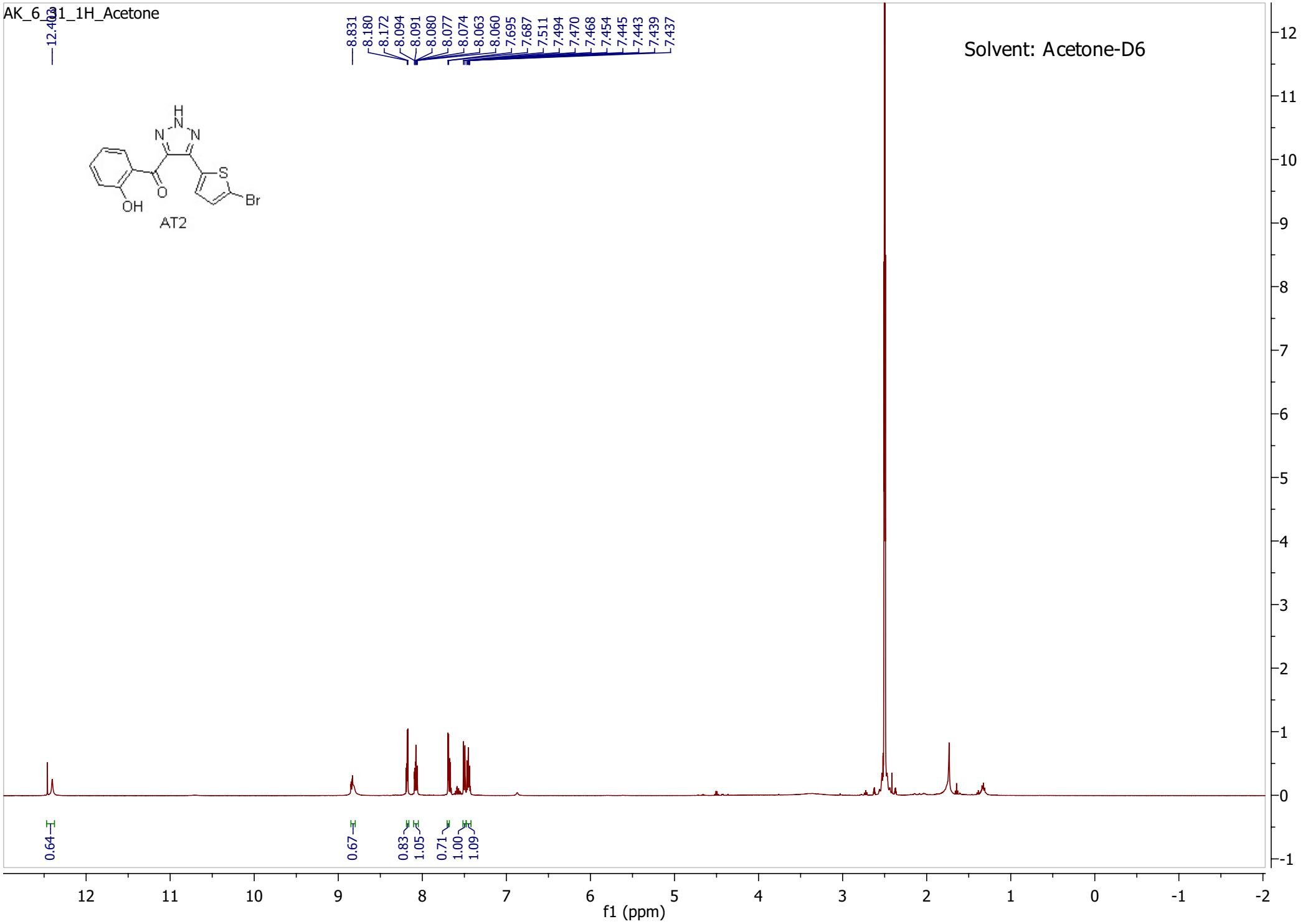
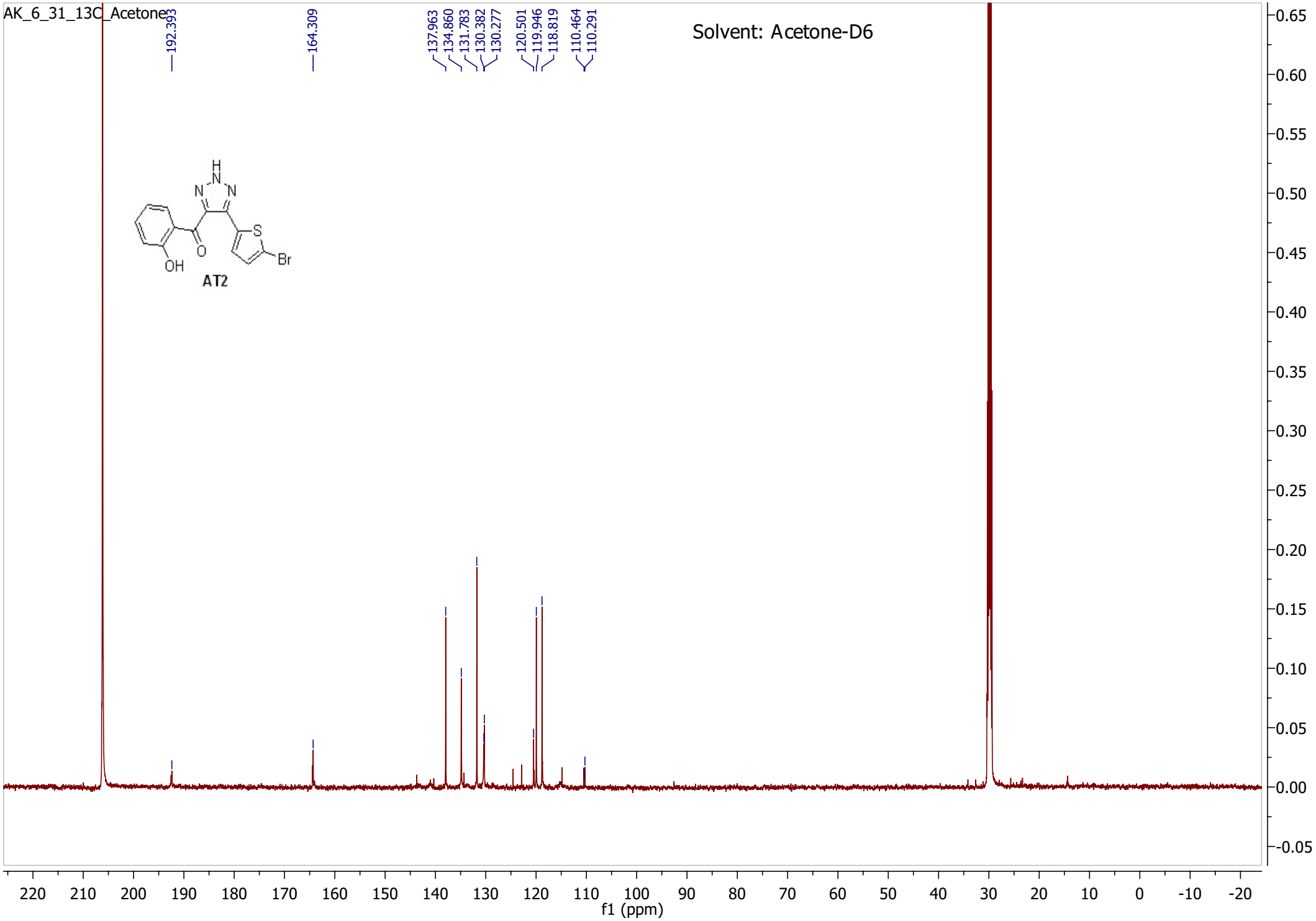
Supplementary figures and information:

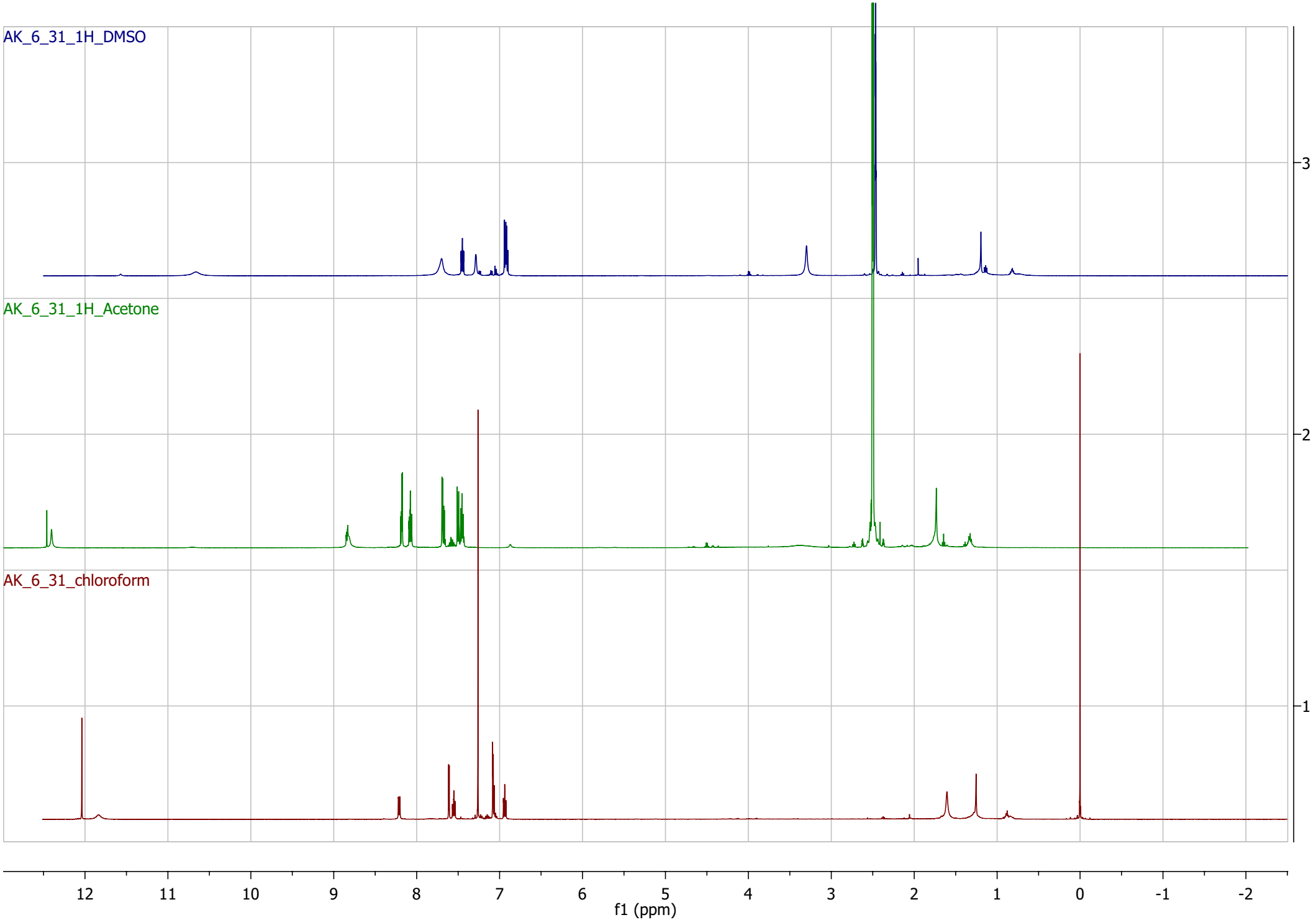
Figure S1: NMR spectra for AT2 and AT5

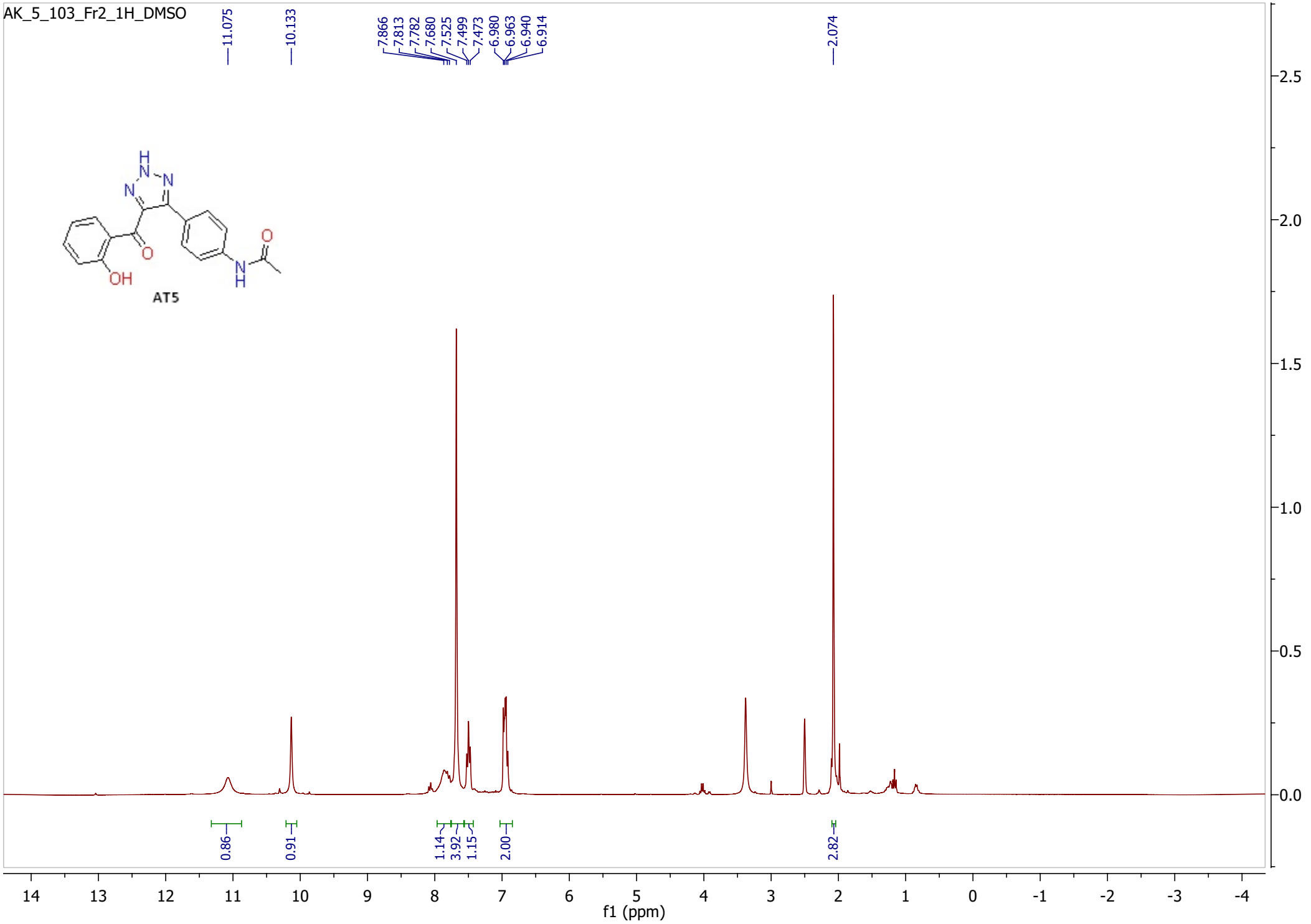

AK_6.31_chloroform
12.088
11.817
8.221
8.218
8.205
8.202
7.615
7.607
7.552
7.084
7.076
7.064
6.953
6.938
6.922
2.258
Solvent: Chloroform-D
H
N
N
N
S
O
OH
Br
AT2
0.95
0.71
1.00
1.04
1.19
2.12
1.12
f1 (ppm)

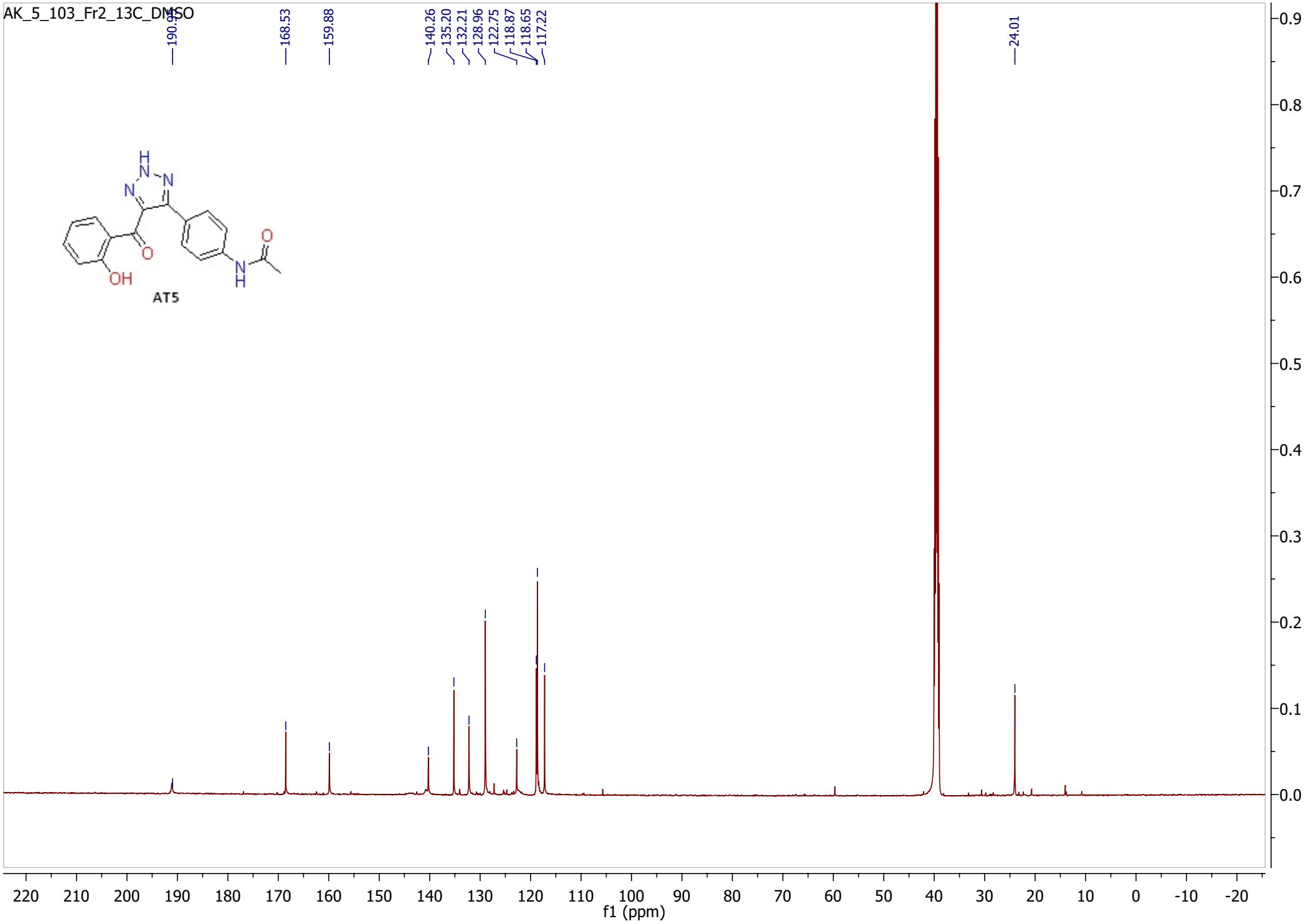

AK_6_31_13C_CDCl3
191.294
163.880
137.418
133.704
130.743
129.713
119.488
119.326
118.583
115.865
110.504
109.985
Solvent: Chloroform-D
AT2
Acetone
f1 (ppm)

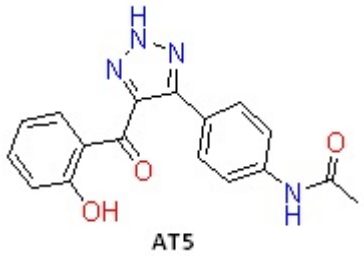

AK_6_31_1H_Acetone
12.403
8.831
8.180
8.172
8.094
8.091
8.080
8.077
8.074
8.063
8.060
7.695
7.687
7.511
7.494
7.470
7.468
7.454
7.445
7.443
7.439
7.437
Solvent: Acetone-D6
H
N
N
N
O
S
OH
Br
AT2
0.64
0.67
0.83
1.05
0.71
1.00
1.09
f1 (ppm)


AK_6_31_13C_Acetone
192.393
164.309
137.963
134.860
131.783
130.382
130.277
120.501
119.946
118.819
110.464
110.291
Solvent: Acetone-D6
AT2
f1 (ppm)

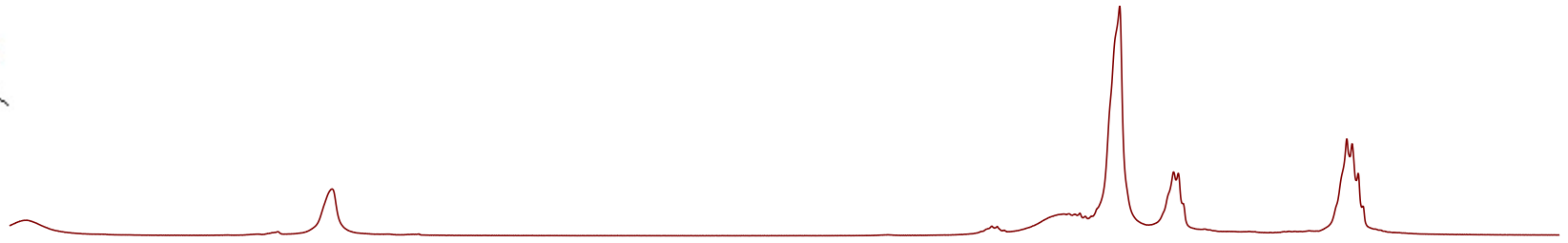

AK_6_31_1H_DMSO
AK_6_31_1H_Acetone
AK_6_31_chloroform
3
2
1
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
f1 (ppm)

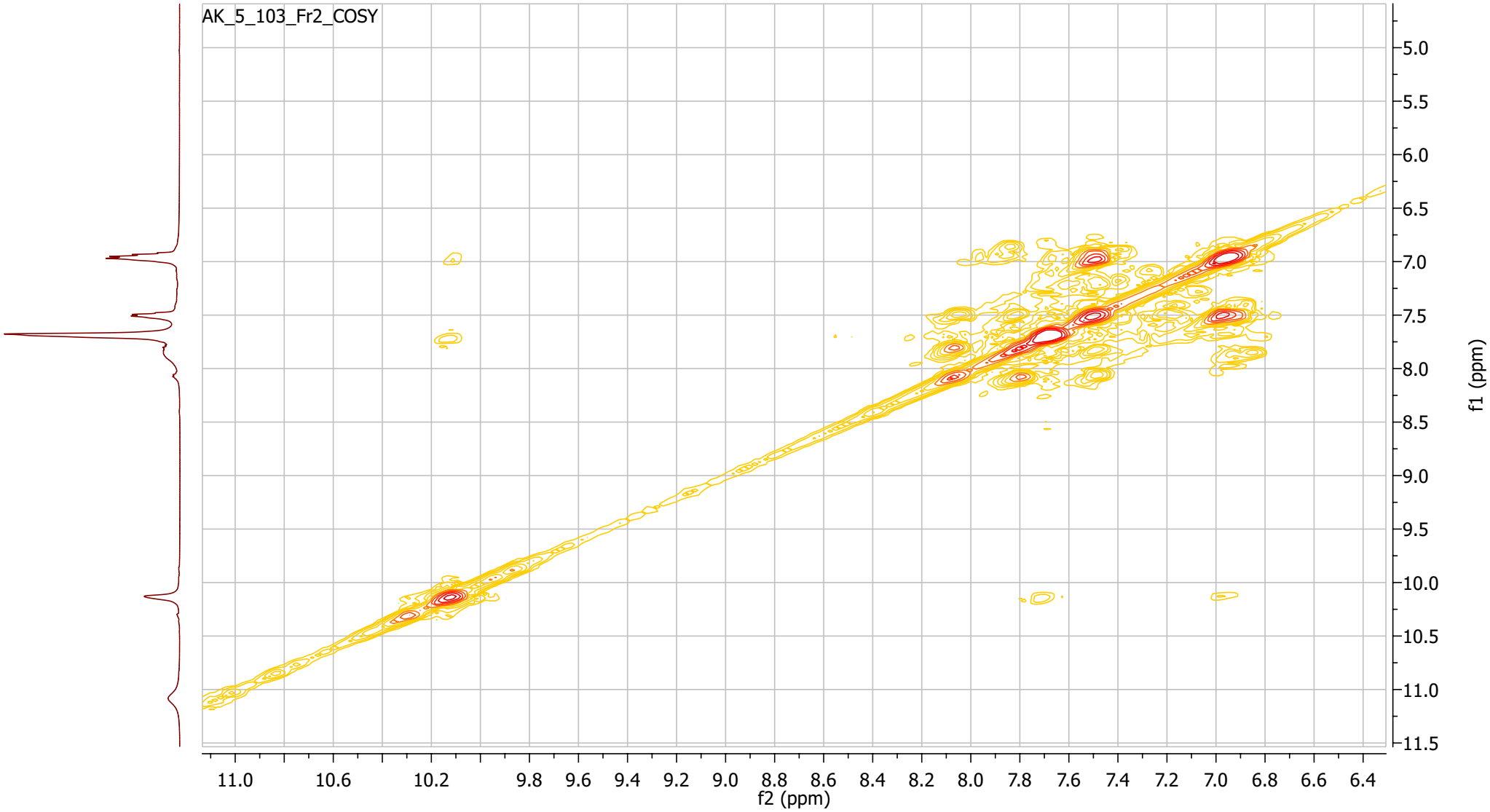

AK_5_103_Fr2_1H_DMSO
11.075
10.133
7.866
7.813
7.782
7.680
7.525
7.499
7.473
6.980
6.963
6.940
6.914
2.074
AT5
0.86
0.91
1.14
3.92
1.15
2.00
2.82
f1 (ppm)

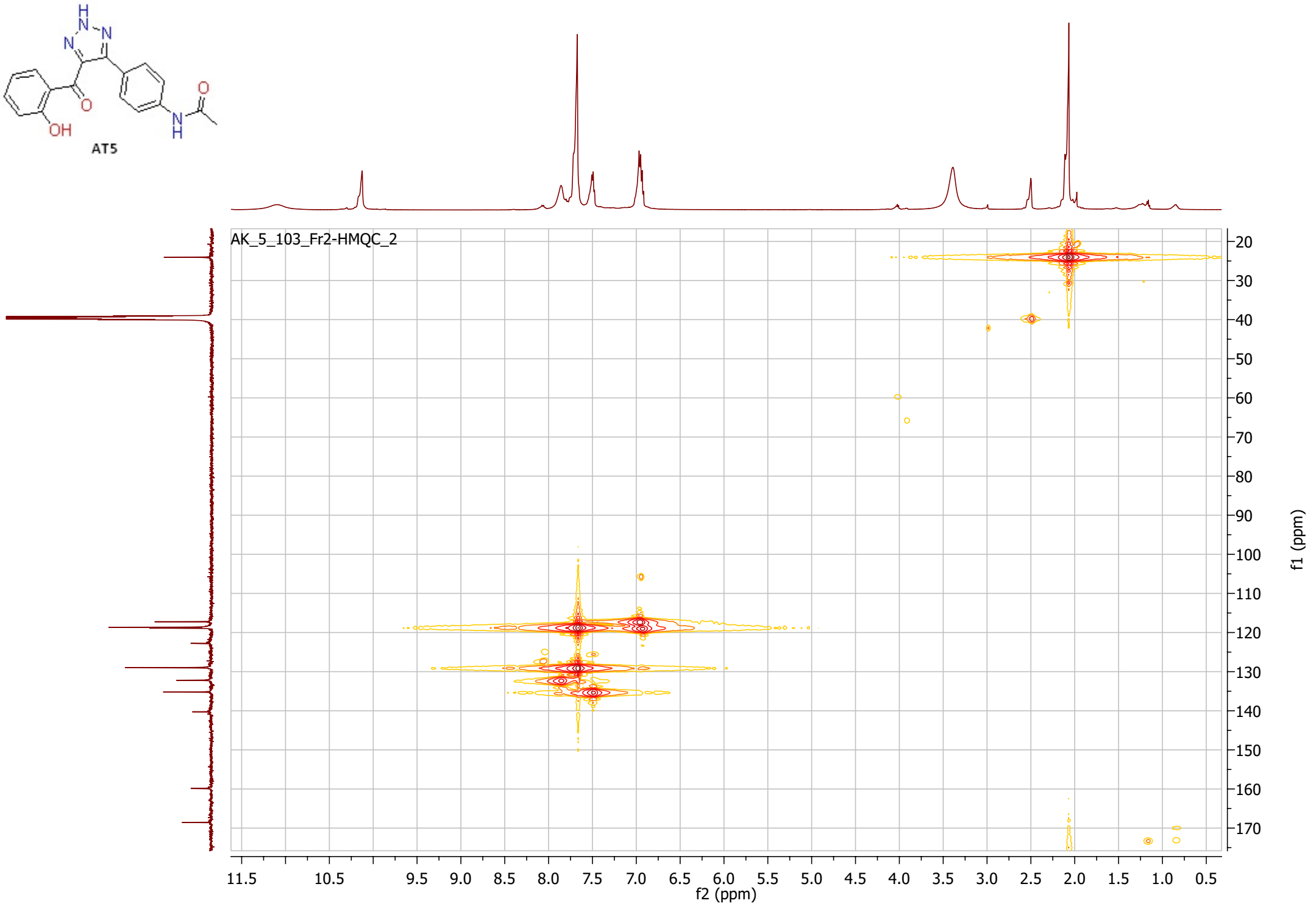

AK_5_103_Fr2_13C_DMSO
190.95
168.53
159.88
140.26
135.20
132.21
128.96
122.75
118.87
118.65
117.22
24.01
AT5
f1 (ppm)


H
N
N
N
O
O
OH
N
H
O

AT5




AK_5_103_Fr2_COSY
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
10.0
10.5
11.0
11.5
f1 (ppm)
11.0
10.6
10.2
9.8
9.6
9.4
9.2
9.0
8.8
8.6
8.4
8.2
8.0
7.8
7.6
7.4
7.2
7.0
6.8
6.6
6.4
f2 (ppm)


AT5
AK_5_103_Fr2-HMQC_2
f2 (ppm)
f1 (ppm)

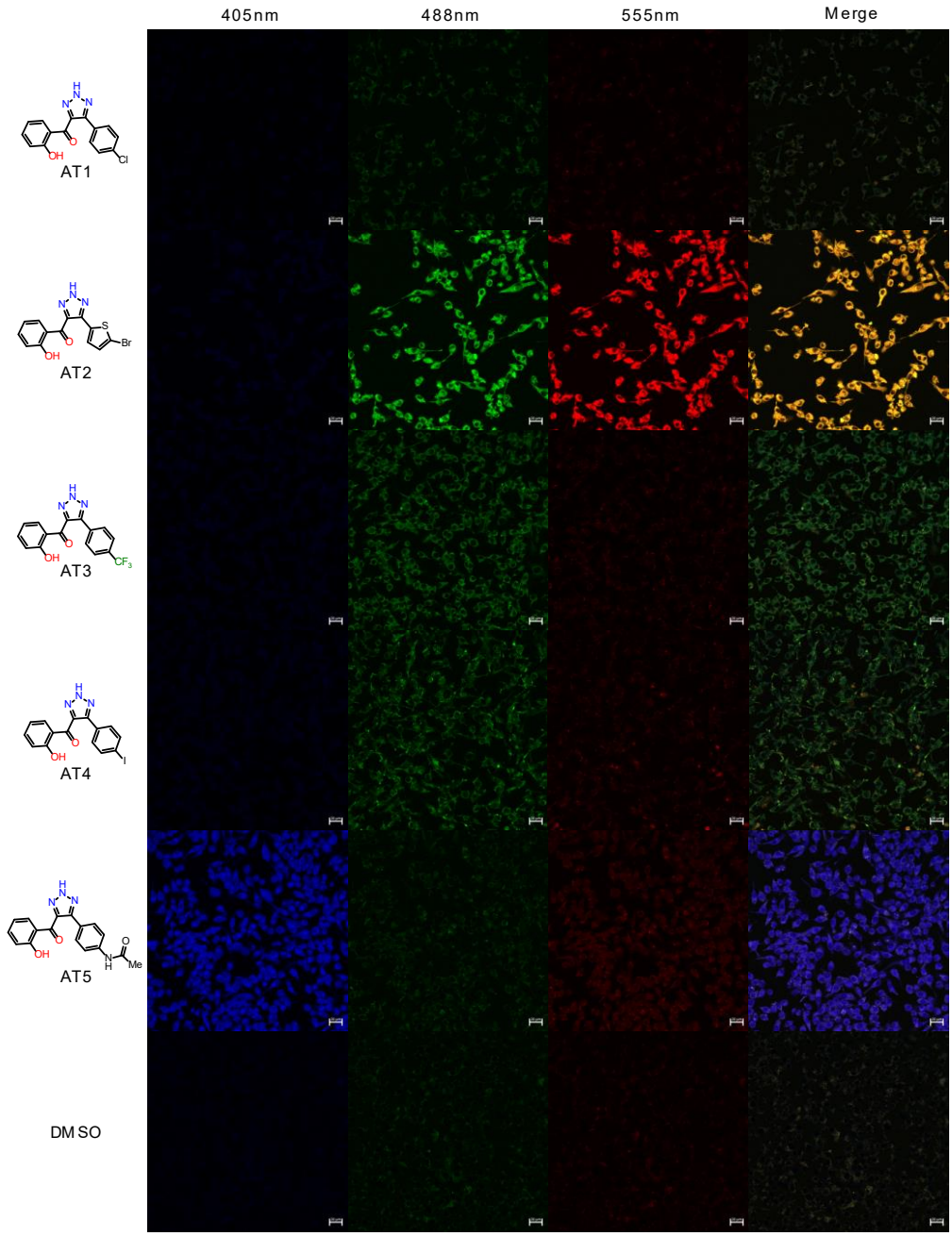


Figure S2: Full set of structures and images for figure 2. Brightness across all images was adjusted equally post analysis. Scale bars are 20µm.

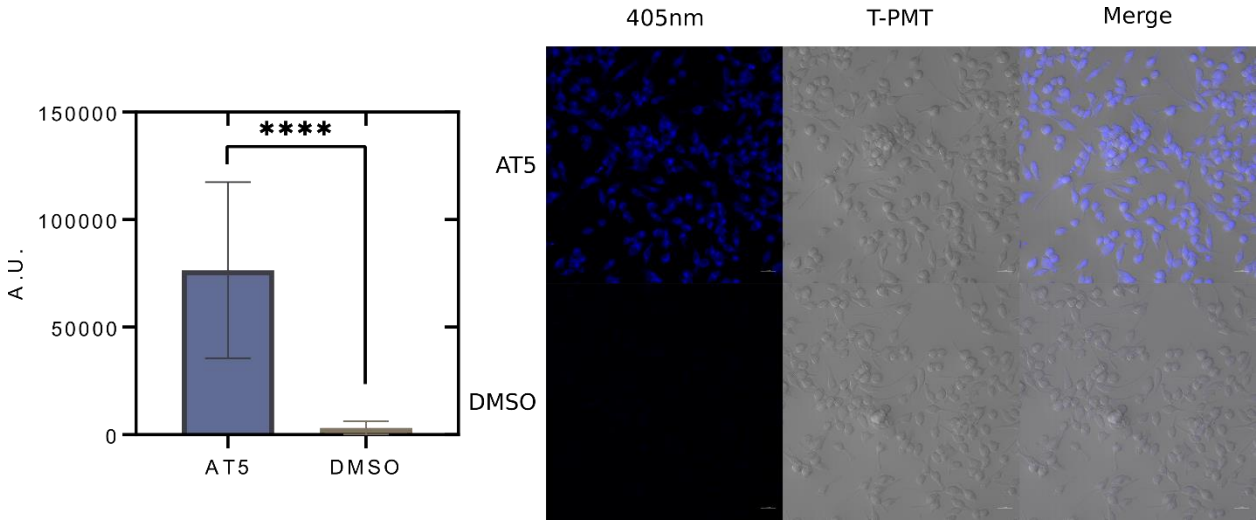


Figure S3: Fluorescent signal of **AT5** in fixed RAW 264.7 cells/unit area (pixel). Data is shown as the mean ± SD, *n=300* cells across three, independent replicates. ****p<0.0001 using a two-tailed t-test with a Welch's correction. Values where the fluorescence intensity of the cell was less than the background (negative values) were set to zero. Brightness across all images was adjusted equally post analysis.

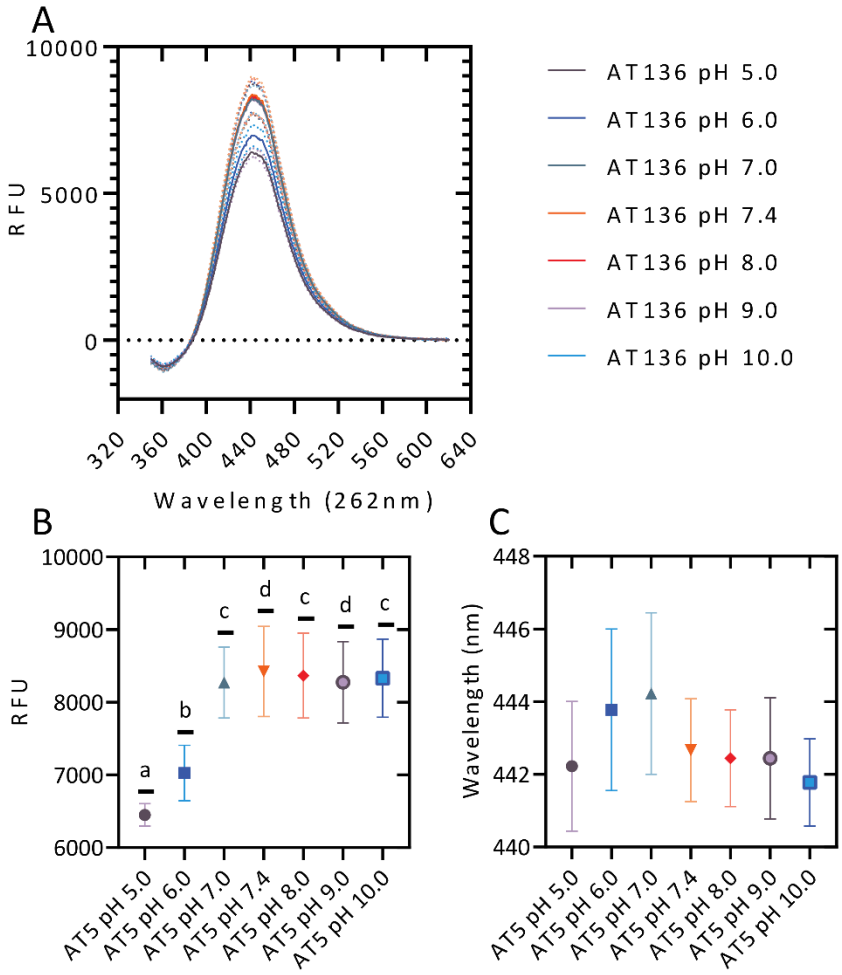


Figure S4: Effect of pH on emission of **AT5**. **A.** Emissions spectra of 100µM **AT5** in PBS at various pH. **B.** Peak emissions ± SD of 100µM **AT5** in PBS at various pH. **C.** Peak emission wavelengths of 100µM **AT5** in PBS at various pH. Each value was measured using the CLARIOstar microplate reader in triplicate for three, independent replicates (*n=9*). Statistical analysis was done using a Brown-Forsythe and Welch ANOVA; a-b, $p<0.05$; a-c/d, $p\leq0.0001$; b-c, $p< 0.0010$; b-d, $p< 0.0014$; c-d, $p> 0.9999$.

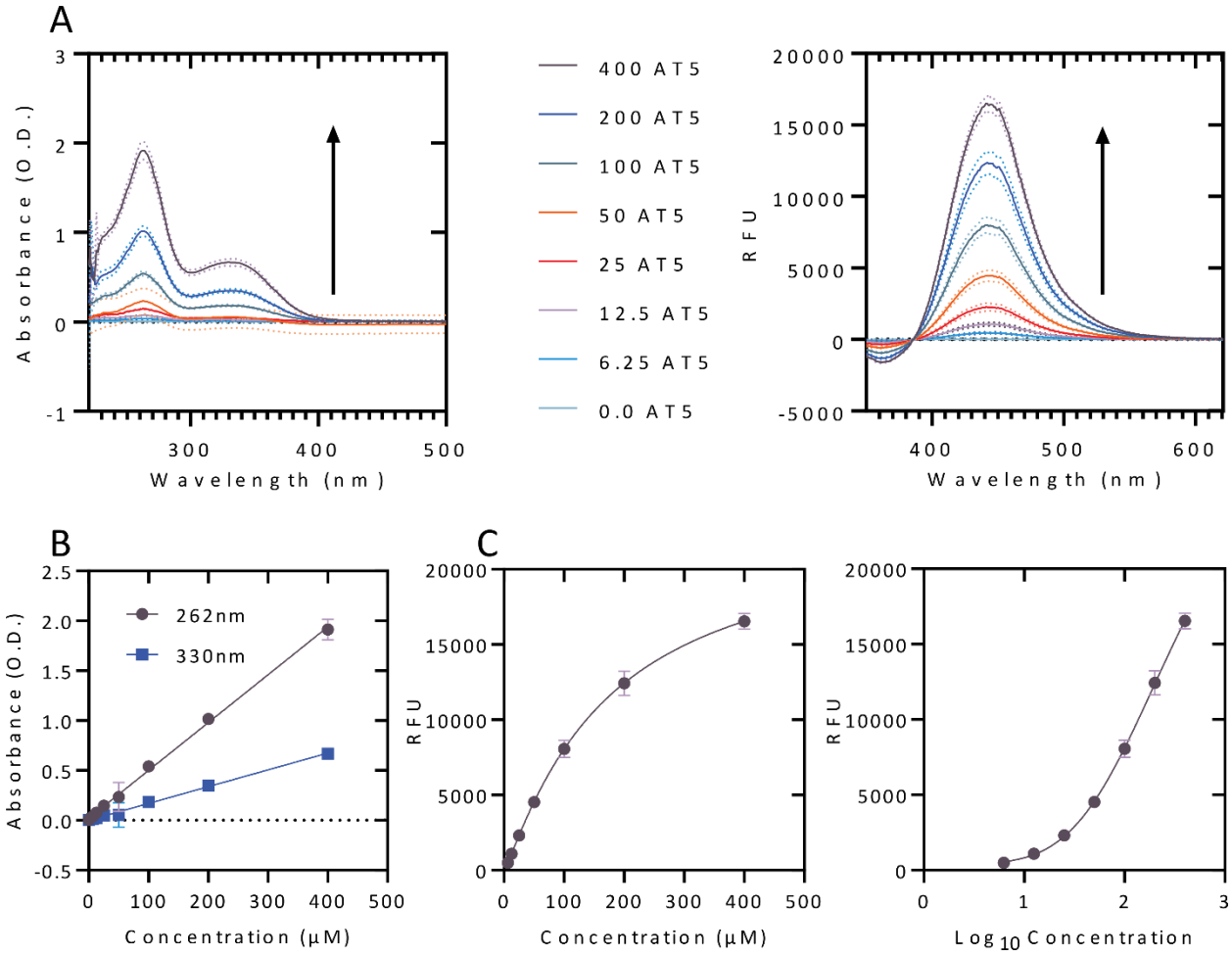


Figure S5: Absorbance and emission spectra for **AT5** at varying concentrations in PBS. **A.** Absorbance (left) and emissions (right) spectra of increasing concentrations (arrow) of **AT5** in µM**.** Absorbance at wavelengths above 500nm not shown. **B**. Absorbance at 262nm and 330nm for increasing concentrations of **AT5** including a linear regression analysis for each (r^2_{262nm} = 0.988 and r^2_{330nm} = 0.958). **C.** Peak emissions for increasing concentrations (left) and the $\log_{10}$ of each concentration (right) of **AT5**. Peak emissions for 0.0µM could not be determined due to lack of signal. Each value was measured using the CLARIOstar microplate reader in triplicate for three, independent replicates (*n=9*).

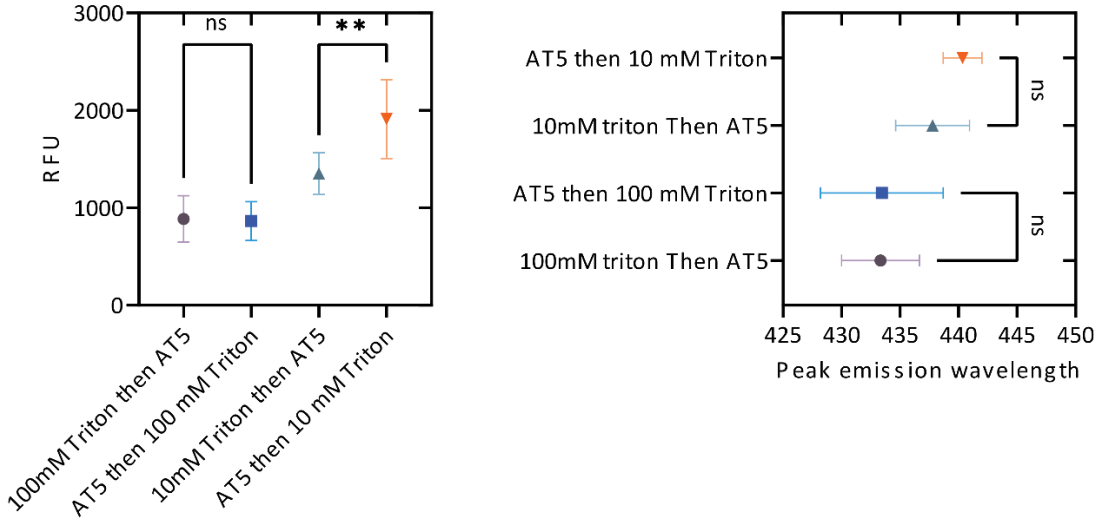


Figure S6: Order of mixing of **AT5** in Triton X-100. **AT5** was added to PBS either 30min before or 30min after the addition of Triton X-100. The solutions were then mixed and pipetted in triplicate into UV 96-well plates. Peak fluorescent intensity and peak emission wavelength for each is represented as the mean ± SD. Statistical analysis performed is a Brown-Forsythe and Welch ANOVA, *n=9* wells across three, independent replicates. **p<0.01.