Supporting Information

Photohormones Enable Optical Control of the Peroxisome Proliferator-Activated Receptor Gamma (PPARγ)

Konstantin Hinnah, Sabine Willems, Johannes Morstein, Jan Heering, Felix W. W. Hartrampf, Johannes Broichhagen, Philipp Leippe, Daniel Merk, Dirk Trauner

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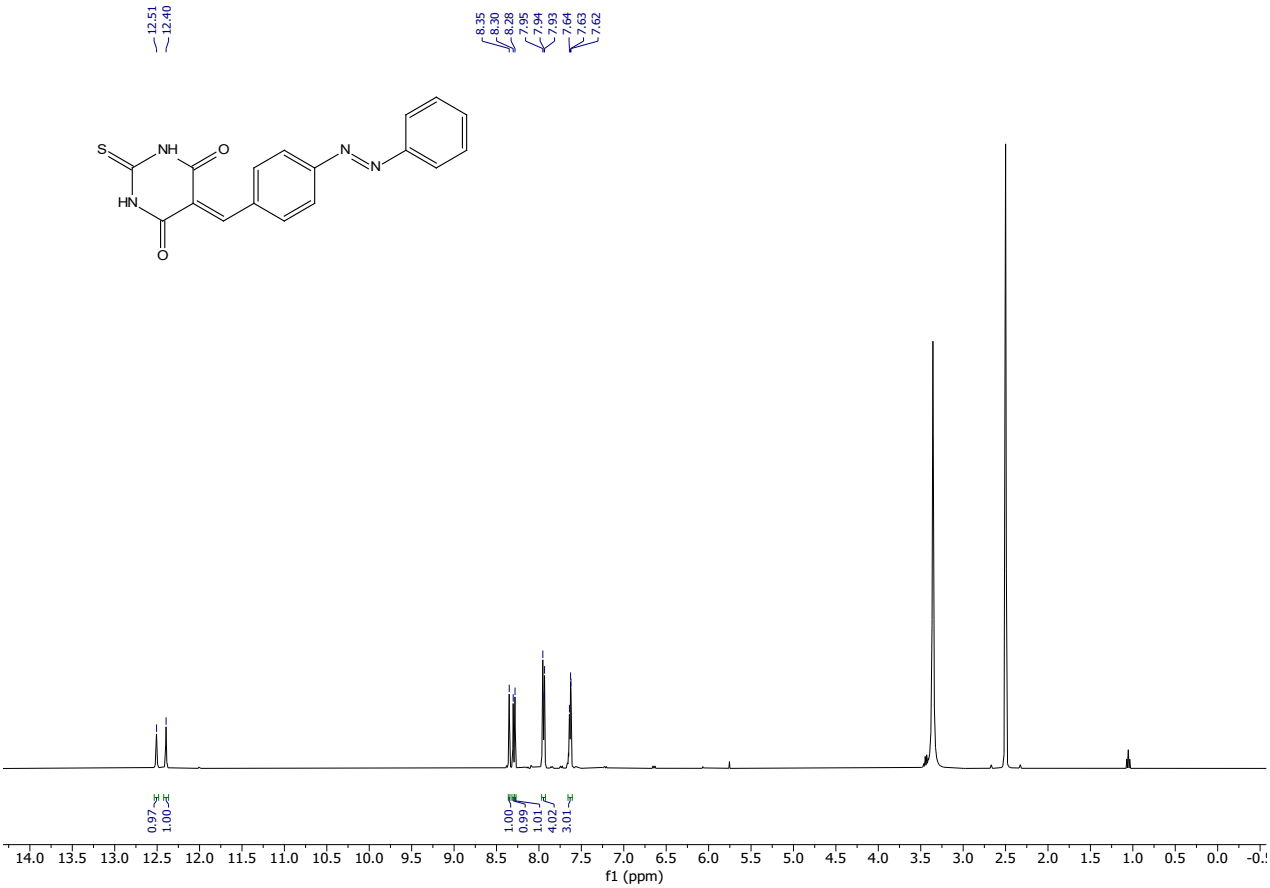
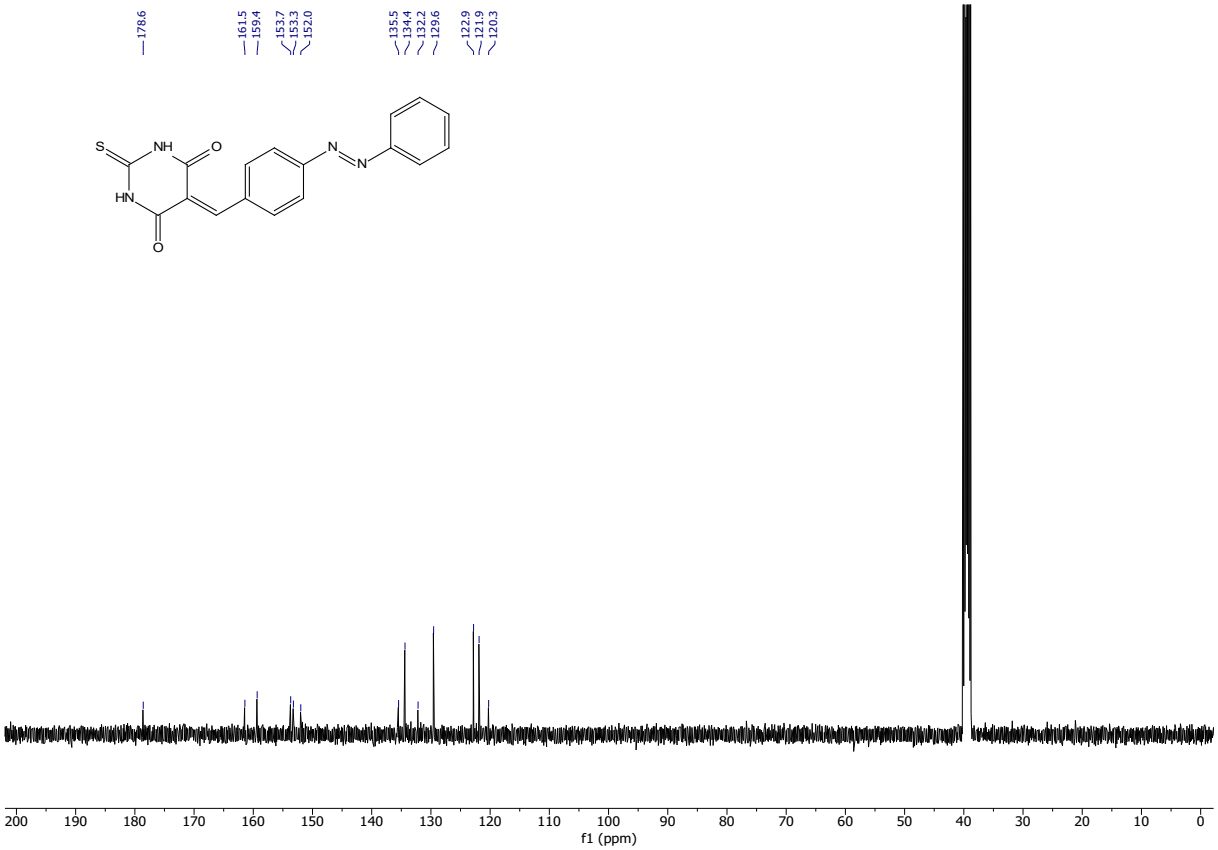
NMR-Spectra and HPLC

AzoMDG548

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S
NH
O
HN
O
N
N
200
190
180
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160
150
140
130
120
110
100
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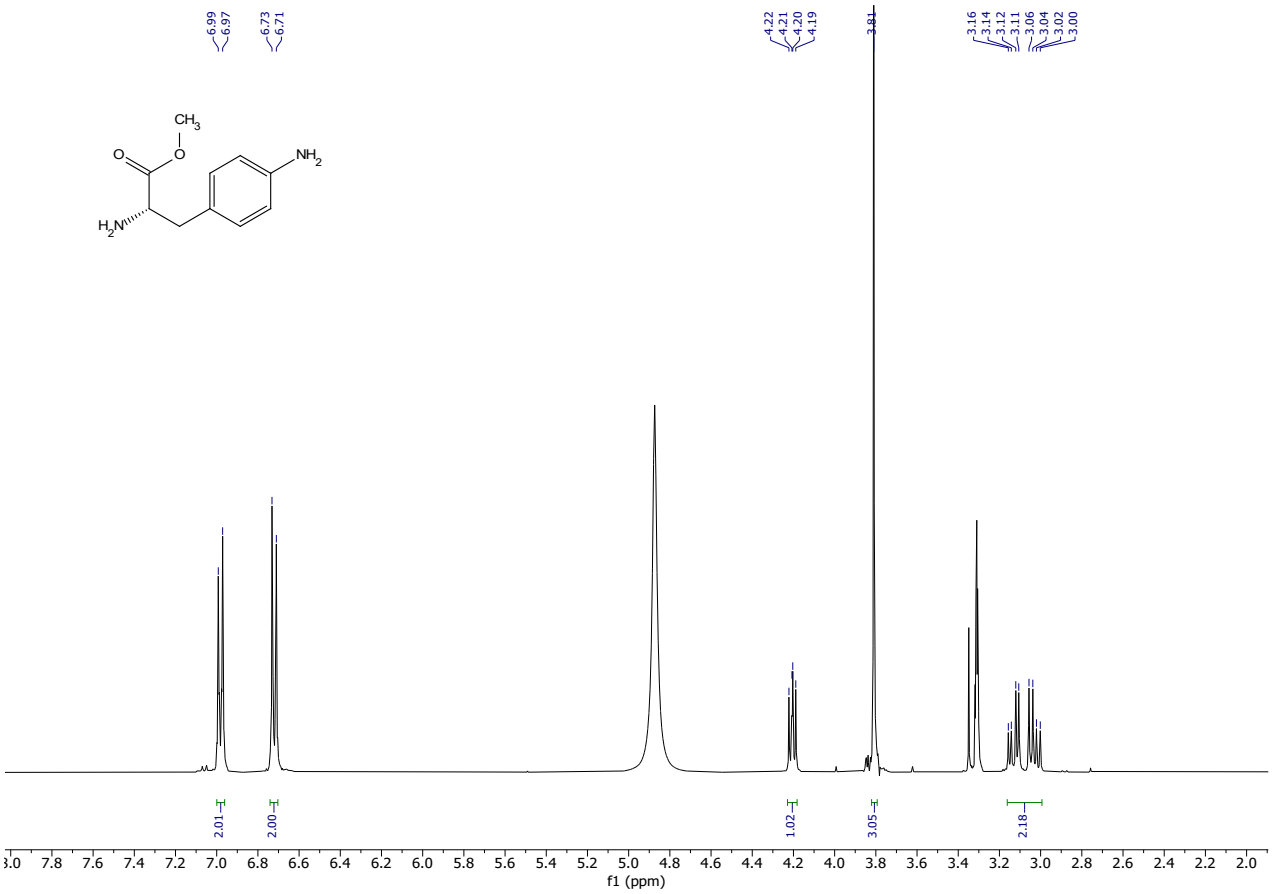
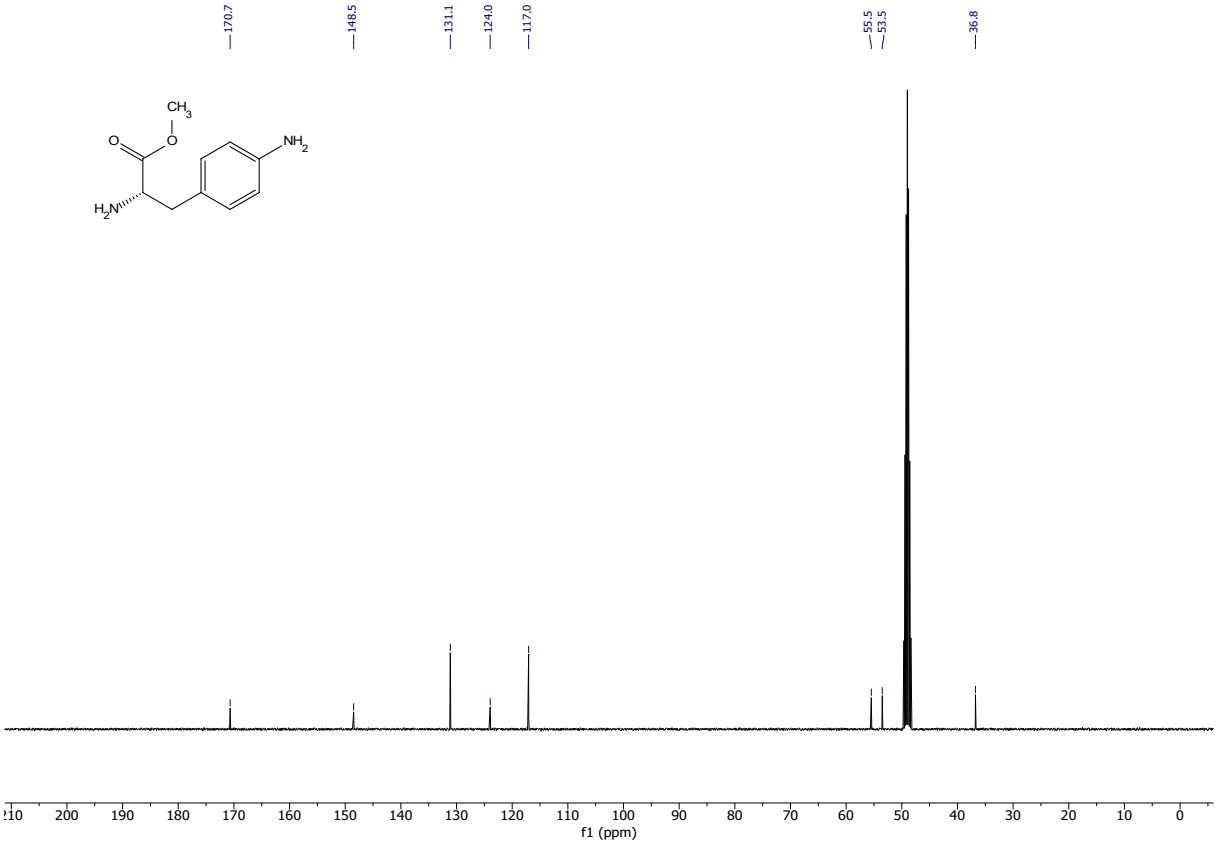
Methyl (S)-2-amino-3-(4-aminophenyl)propanoate 3

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148.5
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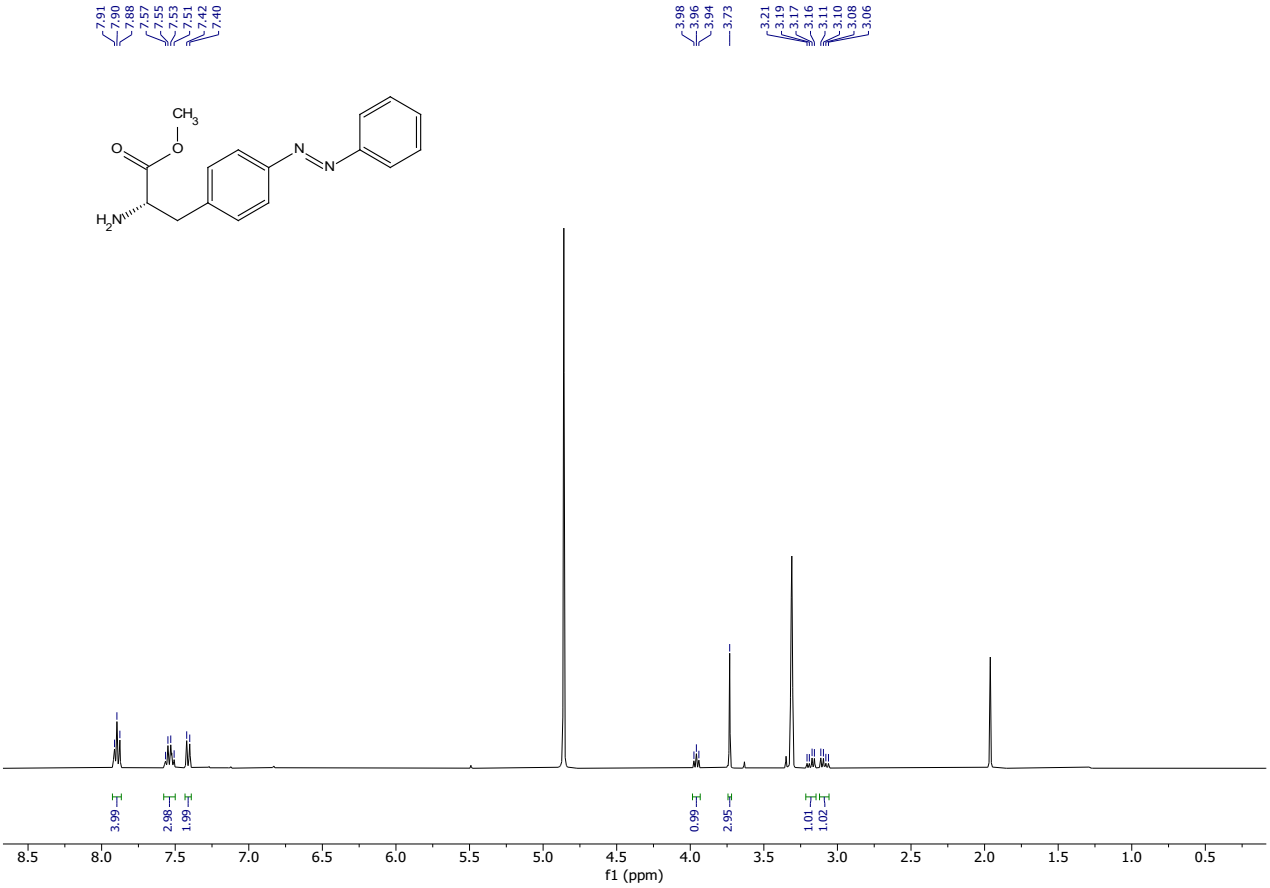

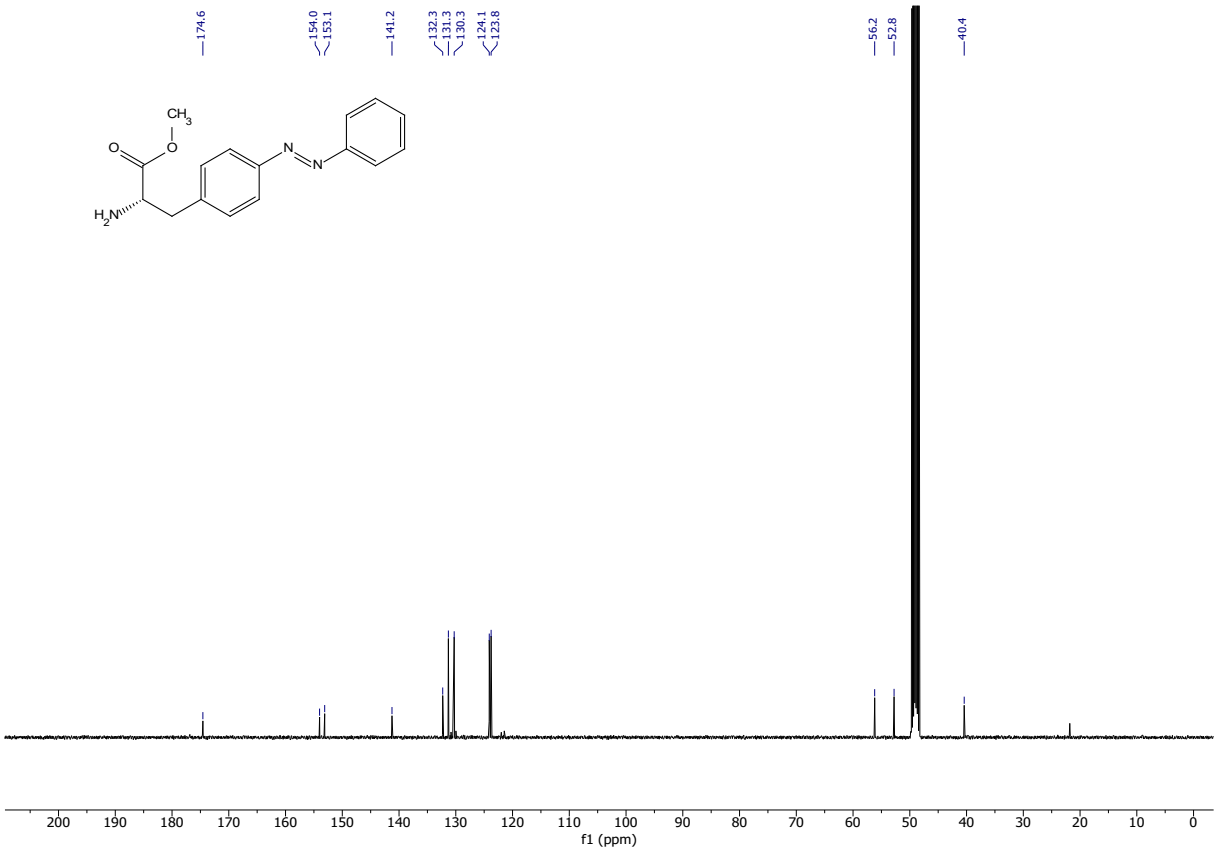
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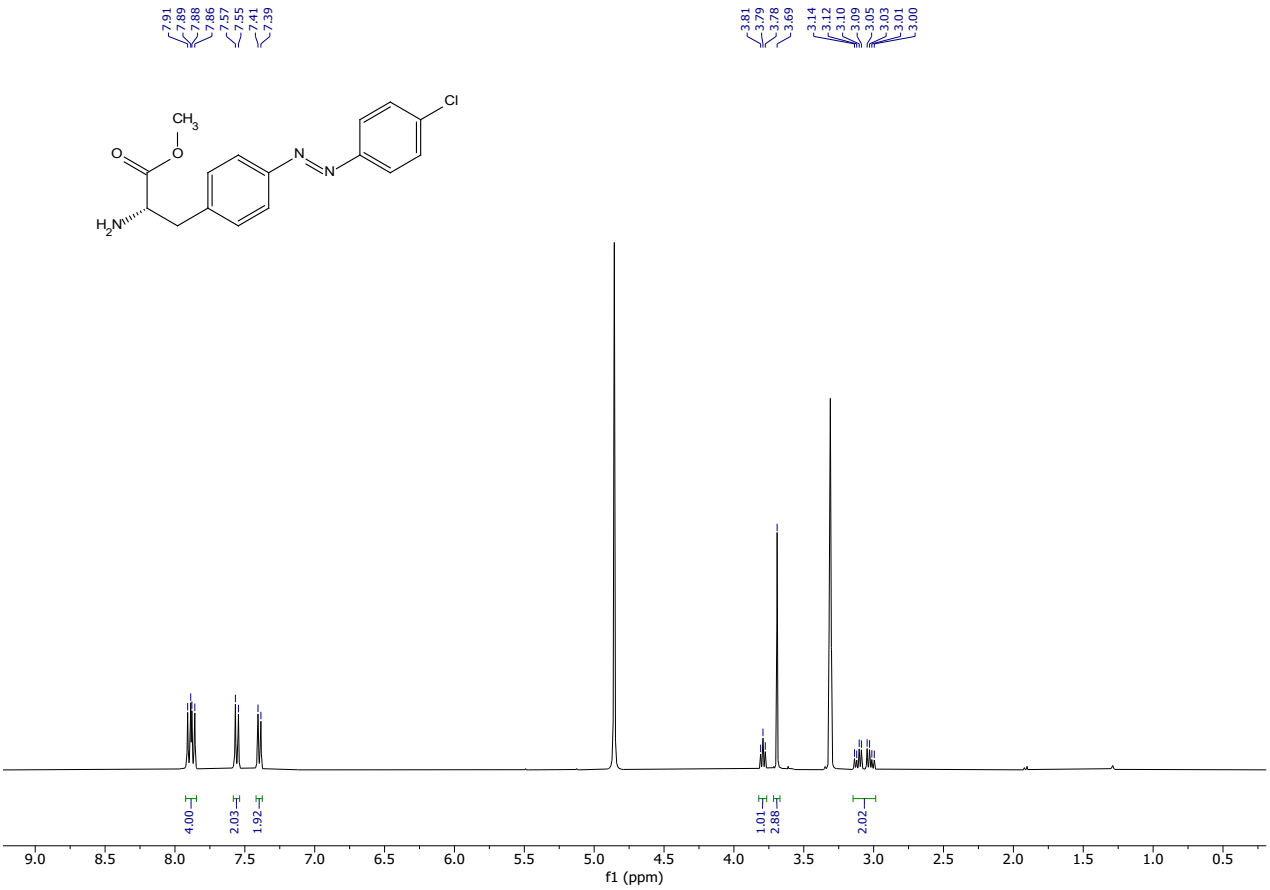
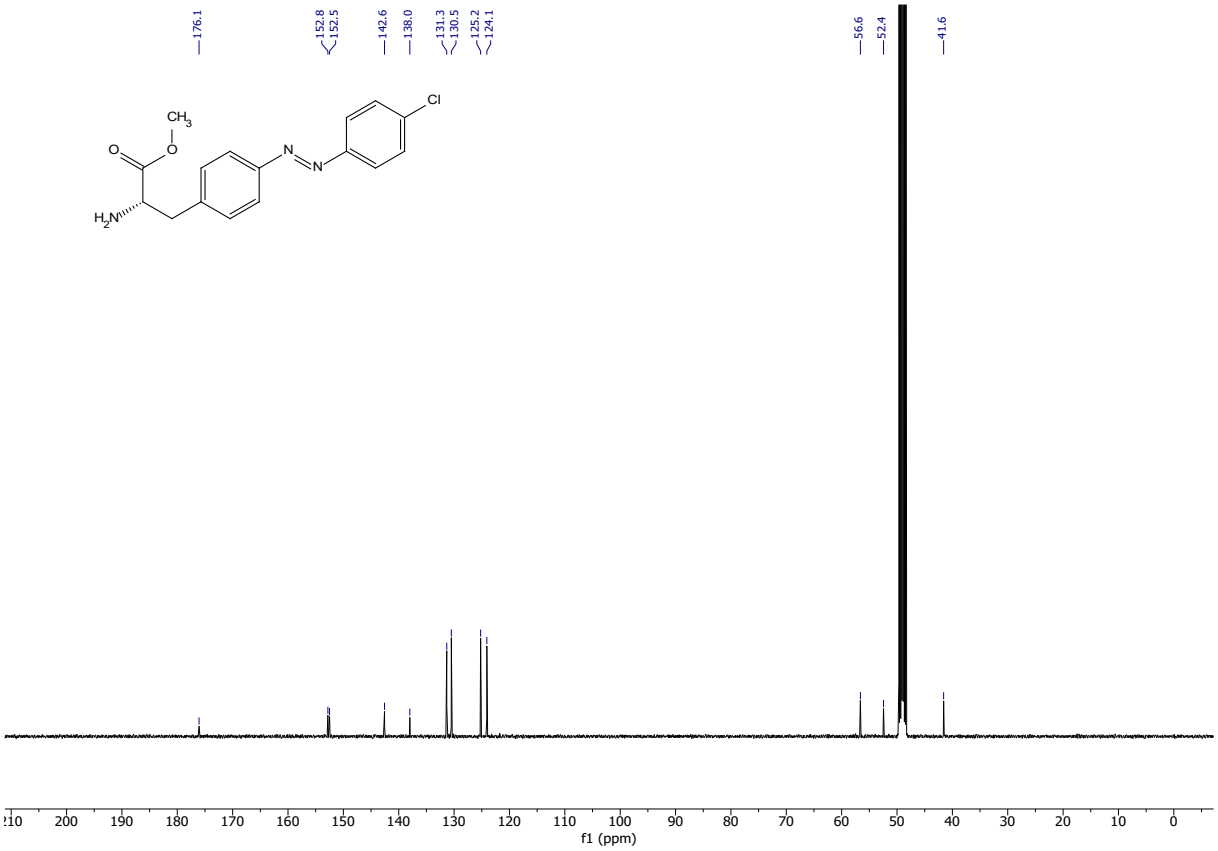
O
N
N
H2N
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

Methyl (S,E)-2-amino-3-(4-((4-chlorophenyl)diazenyl)phenyl)propanoate 5

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200
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180
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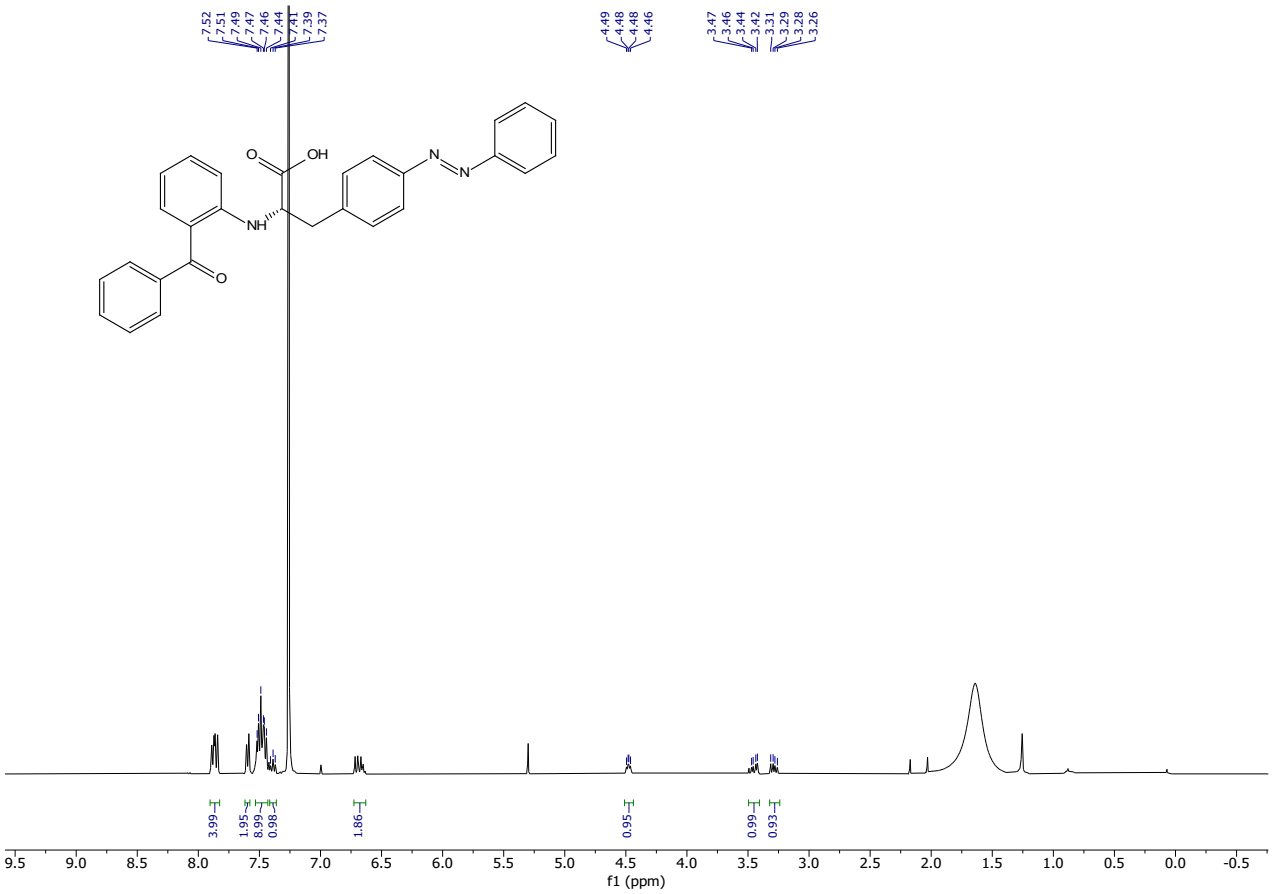
10
0
f1 (ppm)

AzoGW1929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3.28
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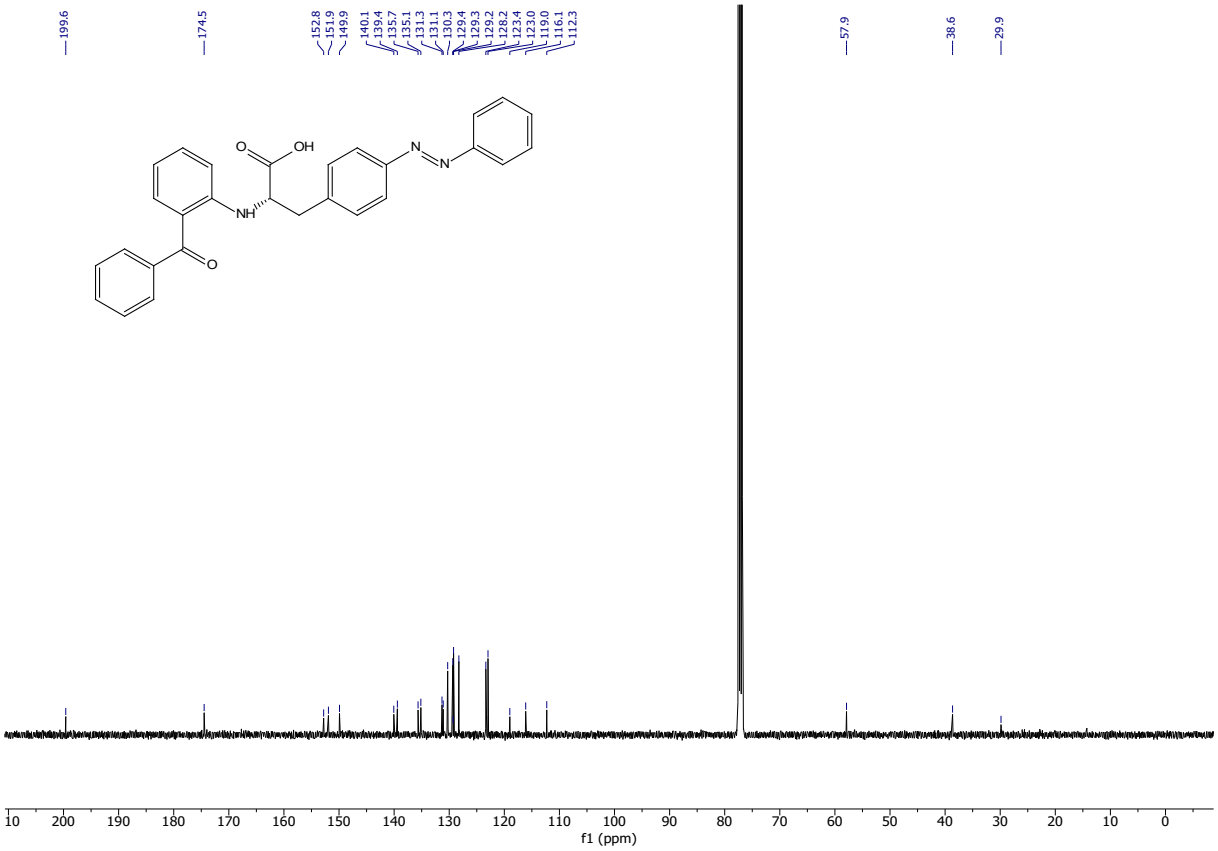
f1 (ppm)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129.4
129.3
129.2
128.2
123.4
123.0
119.0
116.1
112.3
57.9
38.6
29.9
O
OH
NH
O
N
N
10 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

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                                                 Inj Volume : 5.000 µl
Method           : D:\1\Data\2020-03\SEQUENCE 2020-04-07 11-44-30\AZO 25% to100%B over5 min
                   uvvis 1 mlmin.M (Sequence Method)
Last changed     : 4/18/2018 2:31:20 PM by SYSTEM
Method Info      : FULL uv spectrum recording; eq 1 min with prerun macro; inject; 25  to 100%
                   B over 5 min, flush at 100% B for 1 min, no postrun, FULL uv spectrum
                   recording
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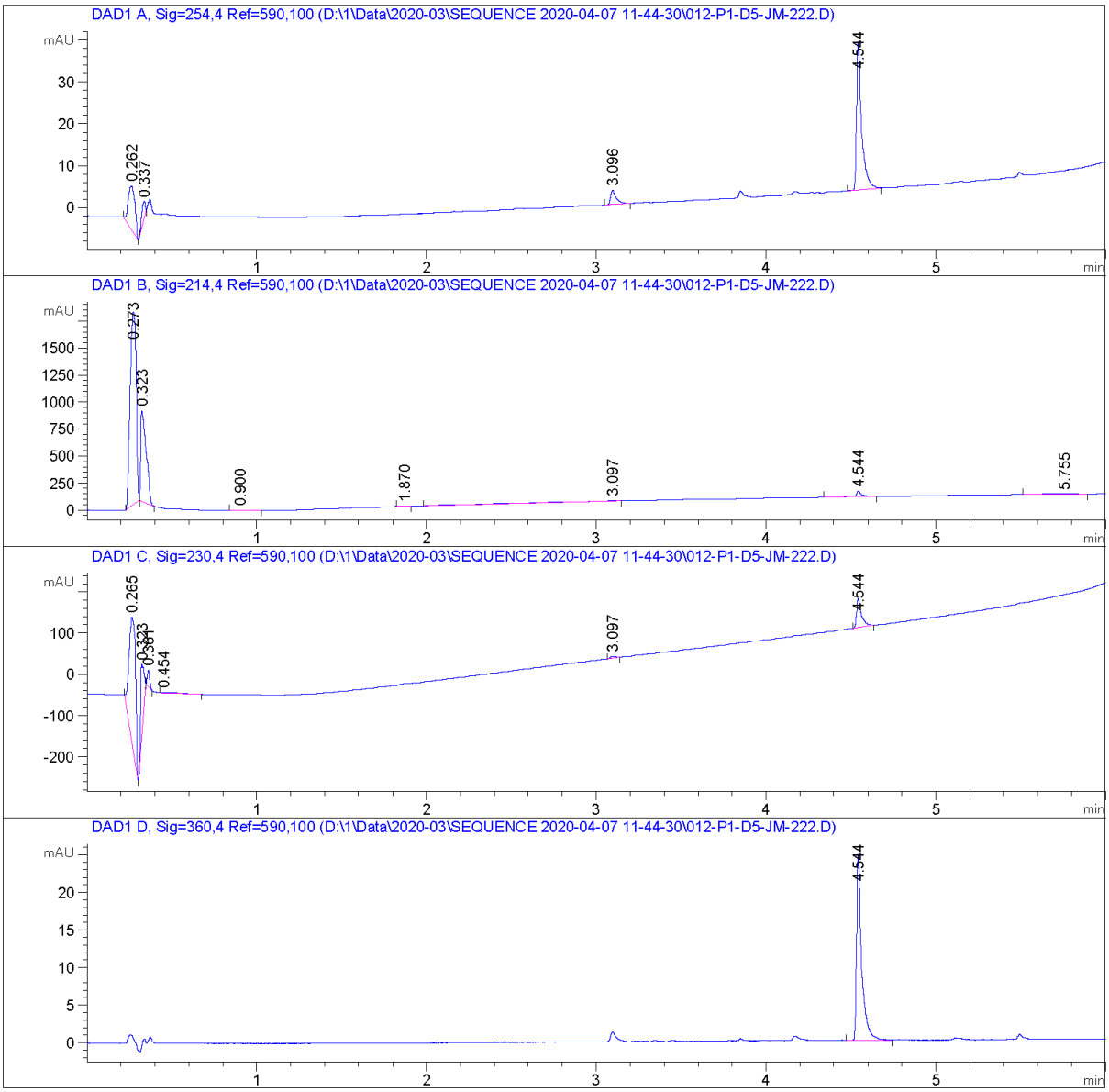

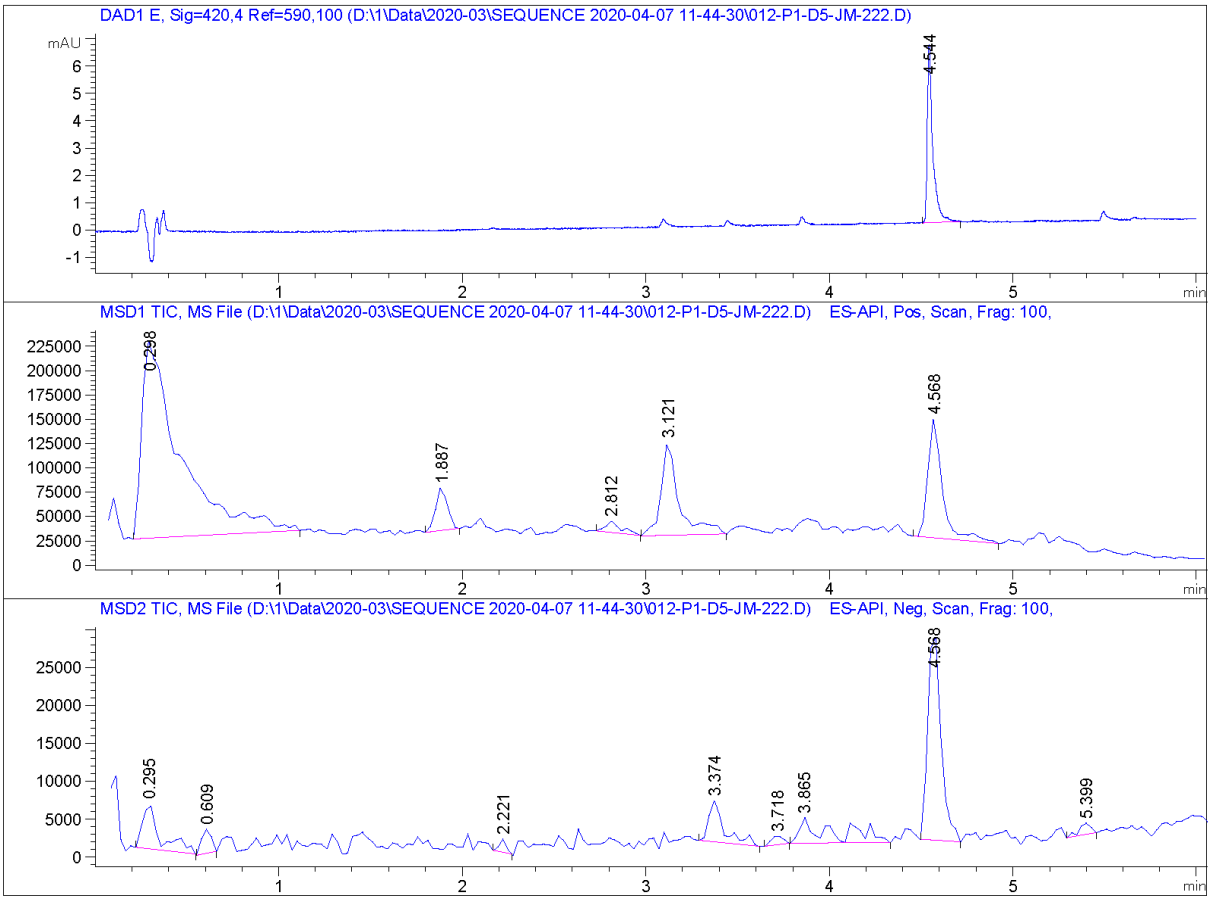


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=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 A, Sig=254,4 Ref=590,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   0.262 BB    0.0375   27.90848   10.33663  24.2471
   2   0.337 BB    0.0265    6.50088    4.10729   5.6480
   3   3.096 BB    0.0334    7.96568    3.44863   6.9206
   4   4.544 BB    0.0294   72.72526   35.46495  63.1842

Totals :                   115.10031   53.35750
```

Signal 2: DAD1 B, Sig=214,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.273	BB	0.0401	4365.83691	1782.35706	67.7716
2	0.323	BB	0.0292	1848.05823	837.58618	28.6877
3	0.900	BB	0.0573	5.10932	1.08727	0.0793
4	1.870	BB	0.0352	9.78878	4.19642	0.1520
5	3.097	BB	0.2220	68.55415	3.69350	1.0642
6	4.544	BB	0.0297	103.65650	49.92537	1.6091
7	5.755	BB	0.1409	40.98670	3.46874	0.6362
Totals :				6441.99059	2682.31454	

Signal 3: DAD1 C, Sig=230,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.265	BB	0.0431	805.95990	302.01370	65.6306
2	0.323	BB	0.0177	225.54097	178.56525	18.3662
3	0.361	BB	0.0159	38.53959	39.49973	3.1383
4	0.454	BB	0.1148	10.02569	1.07524	0.8164
5	3.097	BB	0.0279	9.13874	4.98535	0.7442
6	4.544	BB	0.0285	138.81964	70.32796	11.3043
Totals :				1228.02452	596.46723	

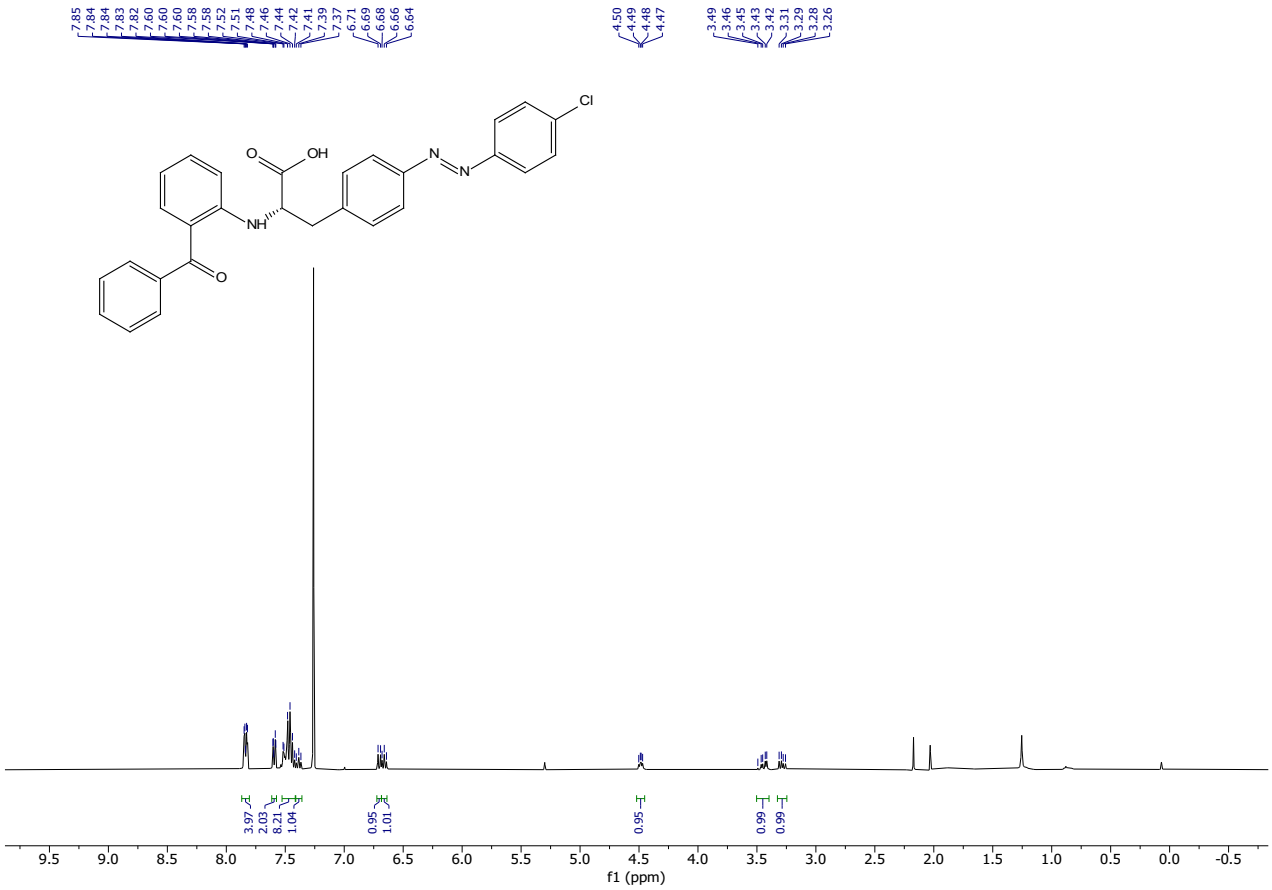
Signal 4: DAD1 D, Sig=360,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.544	BB	0.0299	51.72208	24.77613	100.0000
Totals :				51.72208	24.77613	

Signal 5: DAD1 E, Sig=420,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.544	BB	0.0298	13.55693	6.50382	100.0000
Totals :				13.55693	6.50382	

AzoGW1929-2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3.26
Cl
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OH
N
N
NH
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8.21
1.04
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9.5
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7.5
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6.0
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5.0
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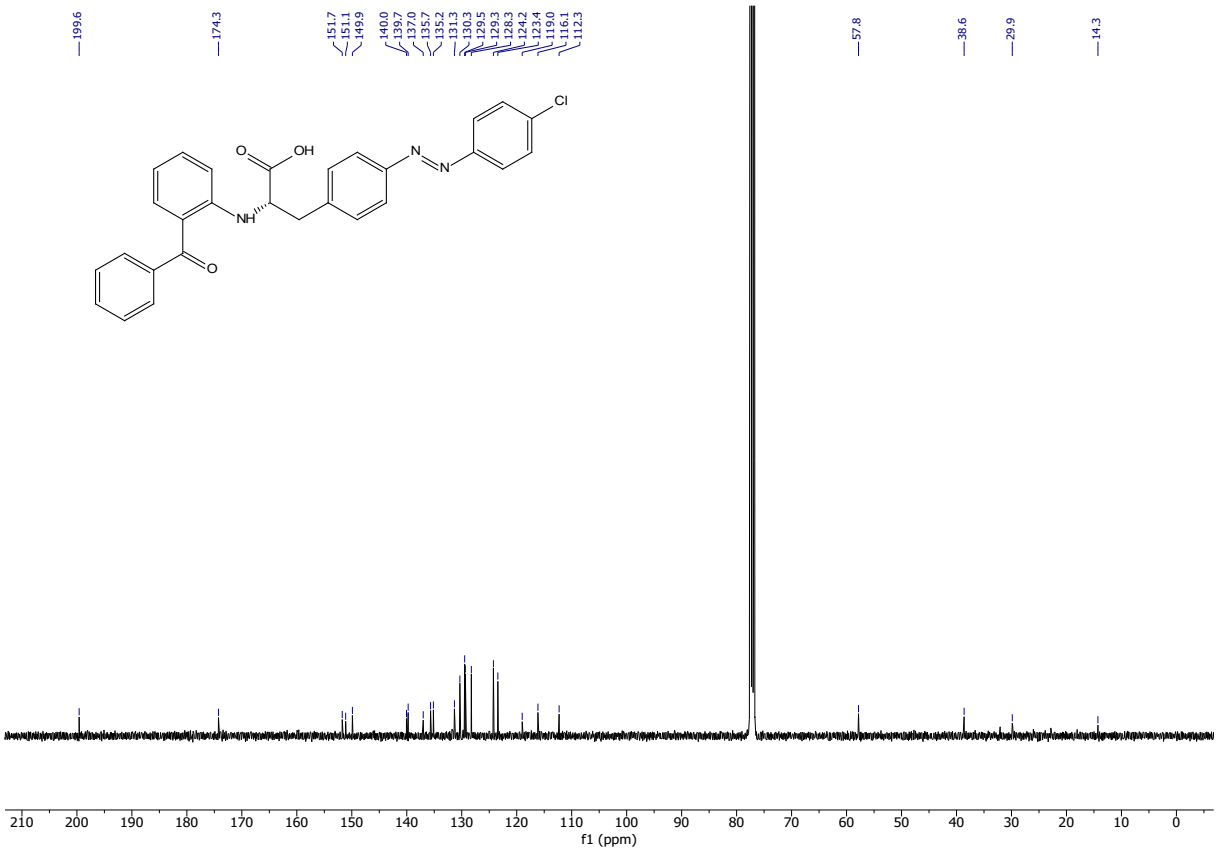
f1 (ppm)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151.1
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137.0
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131.3
130.3
129.5
129.3
128.3
124.2
123.4
119.0
116.1
112.3
57.8
38.6
29.9
14.3
O
OH
NH
O
N
N
Cl
210
200
190
180
170
160
150
140
130
120
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100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)

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Acq. Instrument  : LCMS                             Location :   P1-D6
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                                                 Inj Volume : 5.000 µl
Method           : D:\1\Data\2020-03\SEQUENCE 2020-04-07 11-44-30\AZO 25% to100%B over5 min
                   uvvis 1 mlmin.M (Sequence Method)
Last changed     : 4/18/2018 2:31:20 PM by SYSTEM
Method Info      : FULL uv spectrum recording; eq 1 min with prerun macro; inject; 25  to 100%
                   B over 5 min, flush at 100% B for 1 min, no postrun, FULL uv spectrum
                   recording
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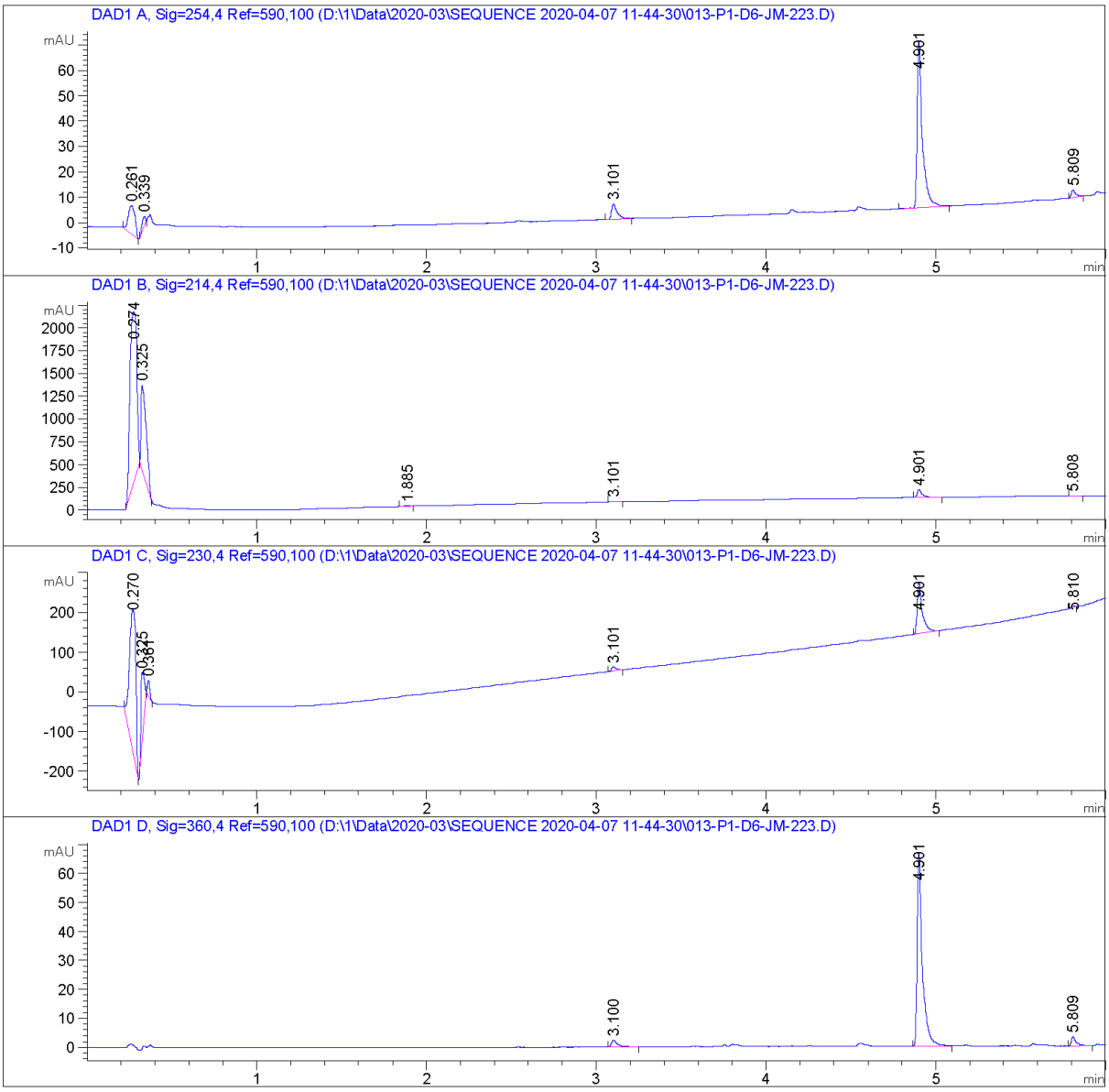

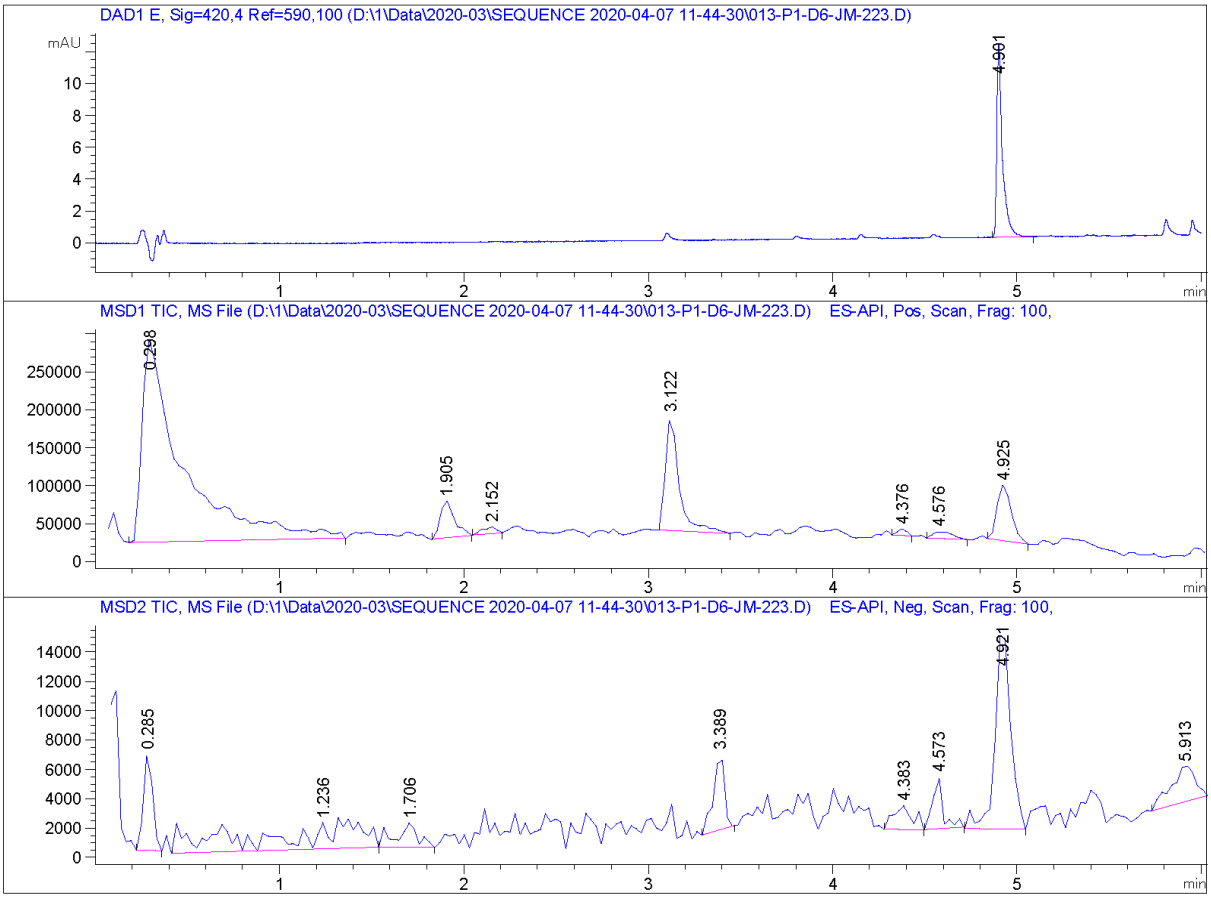


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==================================================================
                        Area Percent Report
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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 A, Sig=254,4 Ref=590,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   0.261 BB    0.0385   30.35172   11.08144  15.5292
   2   0.339 BB    0.0273    6.07196    3.77485   3.1067
   3   3.101 BB    0.0335   14.16368    6.12669   7.2467
   4   4.901 BB    0.0309  139.56461   65.50099  71.4070
   5   5.809 BB    0.0262    5.29757    2.98812   2.7105

Totals :                   195.44954   89.47209
```

Signal 2: DAD1 B, Sig=214,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.274	BB	0.0462	5281.47070	1881.68628	70.2185
2	0.325	BB	0.0340	2025.44312	925.29602	26.9288
3	1.885	BB	0.0358	10.01634	4.35787	0.1332
4	3.101	BB	0.0294	13.50913	6.72264	0.1796
5	4.901	BB	0.0306	184.27742	87.51632	2.4500
6	5.808	BB	0.0260	6.76451	3.94204	0.0899
Totals :				7521.48122	2909.52116	

Signal 3: DAD1 C, Sig=230,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.270	BB	0.0418	911.26532	356.31747	62.1523
2	0.325	BB	0.0187	228.41936	174.83612	15.5792
3	0.361	BB	0.0150	35.27077	37.44576	2.4056
4	3.101	BB	0.0298	18.66773	9.35178	1.2732
5	4.901	BB	0.0297	266.89438	128.89406	18.2034
6	5.810	BB	0.0199	5.66301	4.58458	0.3862
Totals :				1466.18057	711.42977	

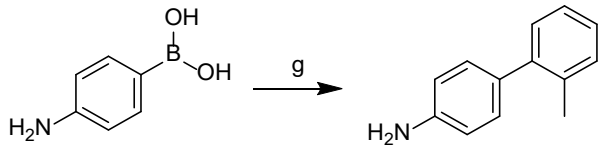
Signal 4: DAD1 D, Sig=360,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	3.100	BB	0.0347	5.69685	2.36090	3.7284
2	4.901	BB	0.0302	140.89314	66.51421	92.2089
3	5.809	BB	0.0290	6.20779	3.07748	4.0628
Totals :				152.79778	71.95258	

Signal 5: DAD1 E, Sig=420,4 Ref=590,100

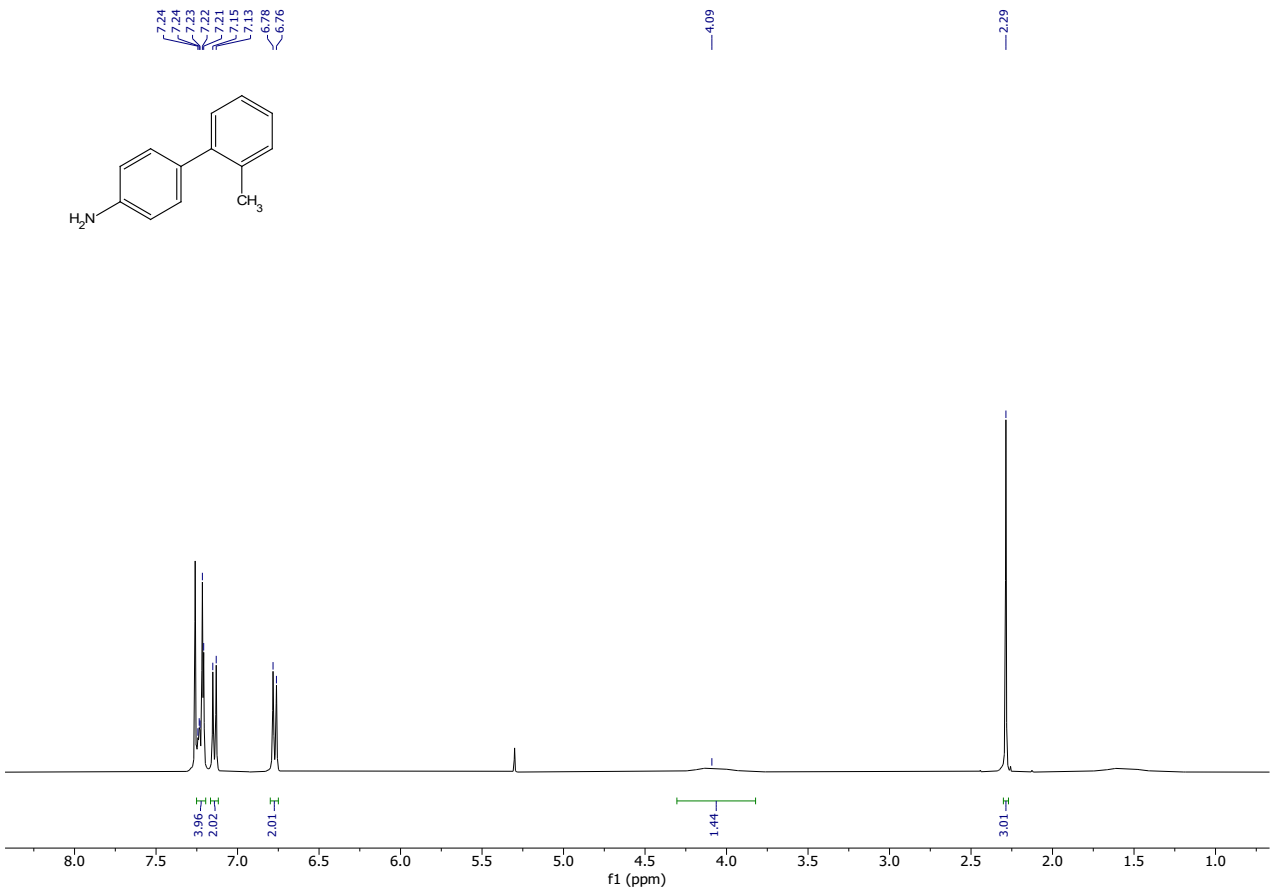
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.901	BB	0.0308	25.72222	12.08782	100.0000
Totals :				25.72222	12.08782	

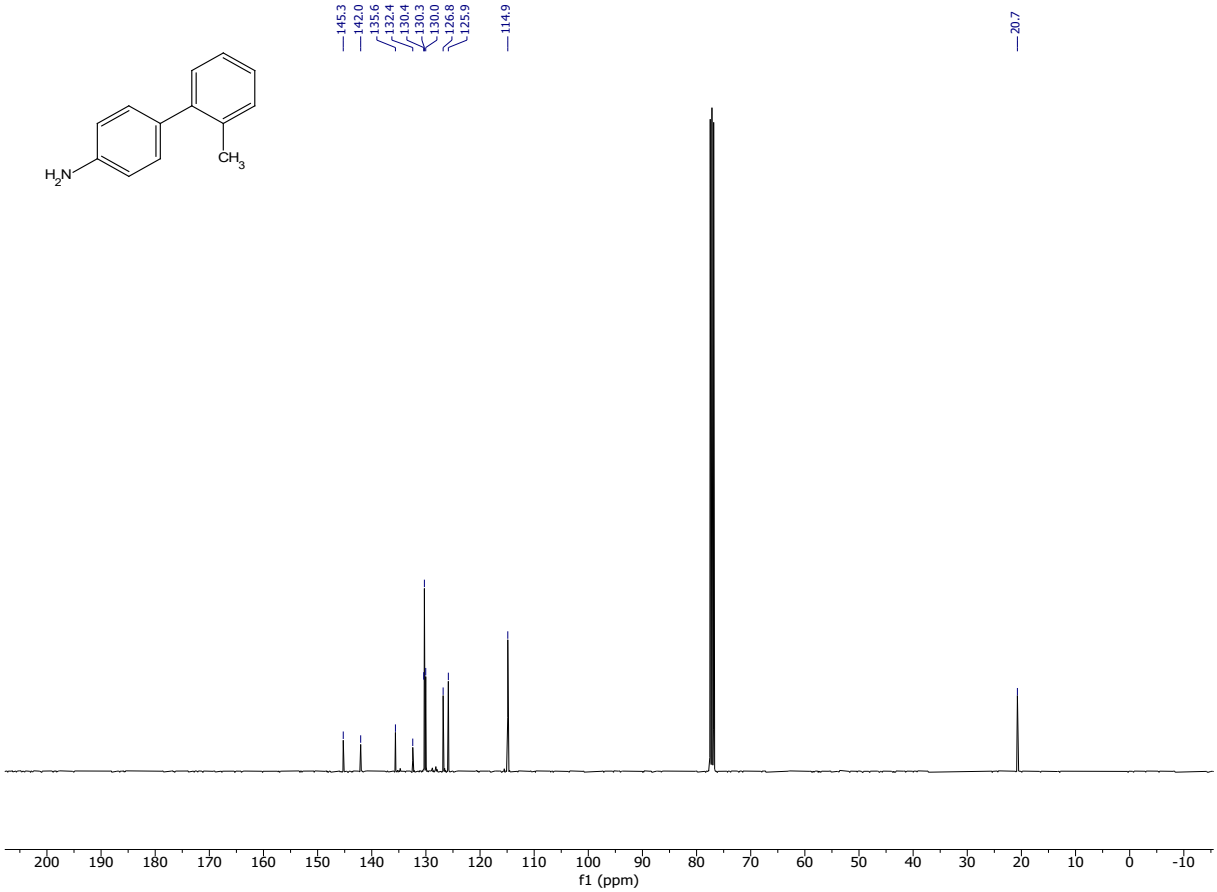
2'-methyl-[1,1'-biphenyl]-4-amine 9



8 **9**

Scheme S1 g) 2-bromotoluene, $Pd(PPh_3)_4$, K_2CO_3, H_2O, DMF, 85 °C, 16 h (55 %).

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132.4
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130.0
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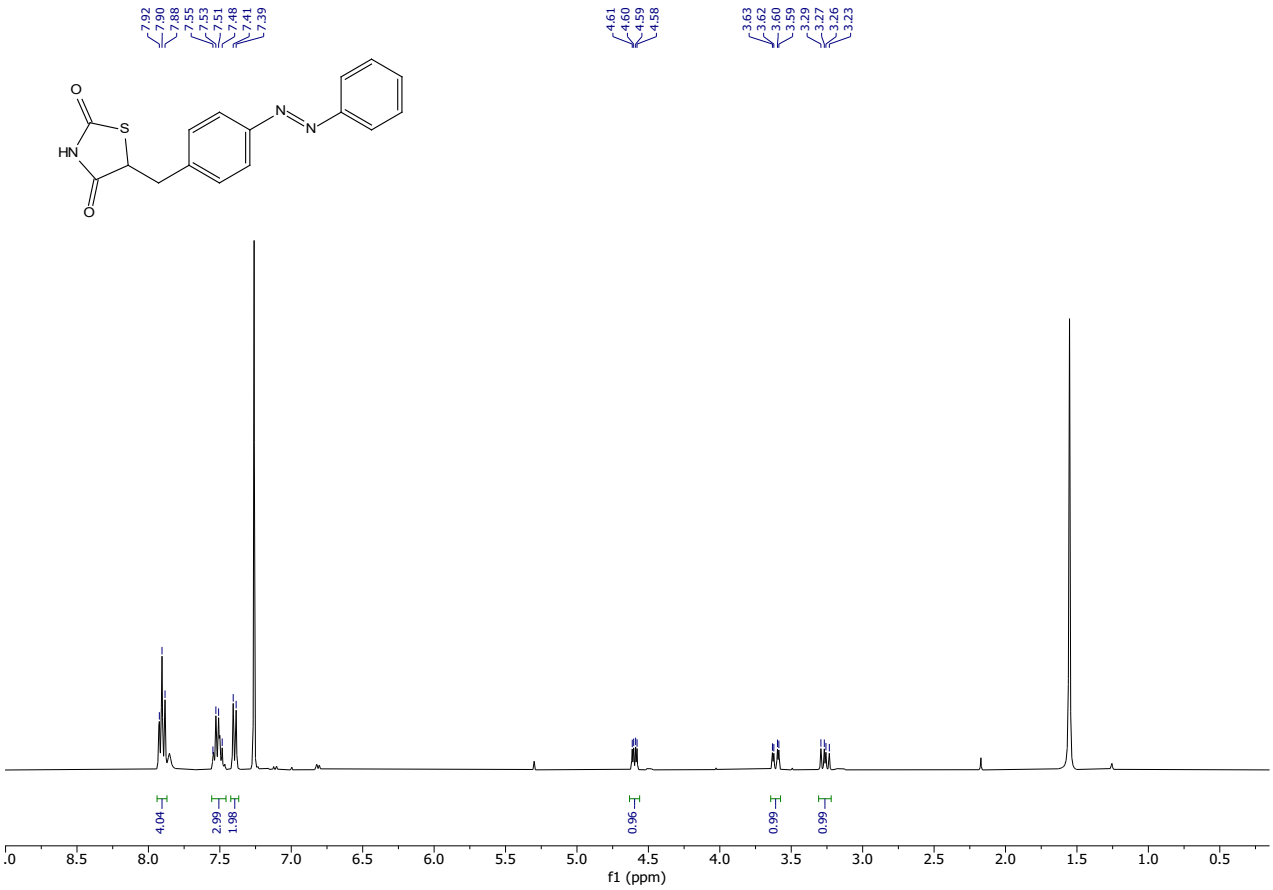
125.9
114.9
20.7
H2N
CH3
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

AzoRosi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3.29
3.27
3.26
3.23
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O
N
N
4.04
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1.98
0.96
0.99
0.99
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7.5
7.0
6.5
6.0
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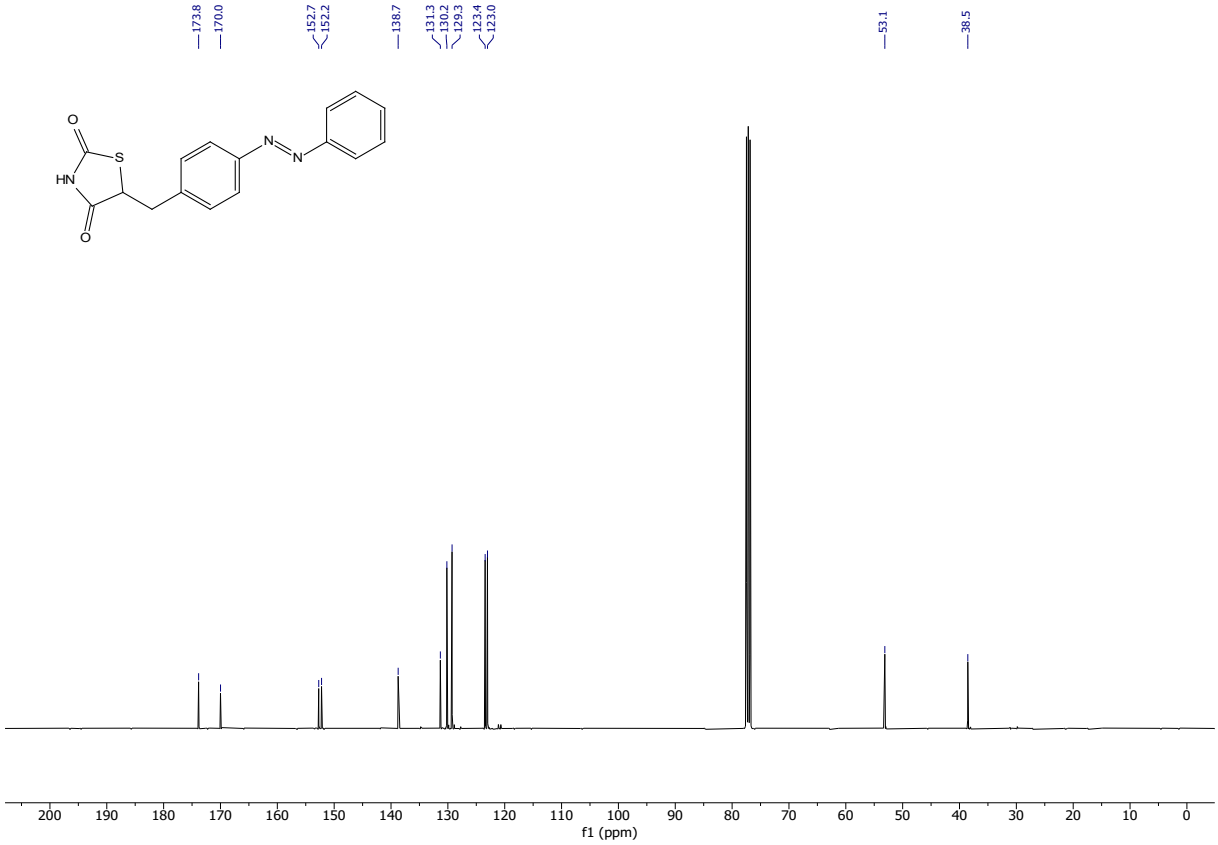
1.5
1.0
0.5
f1 (ppm)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129.3
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38.5
O
S
HN
O
N
N
200
190
180
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150
140
130
120
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100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)

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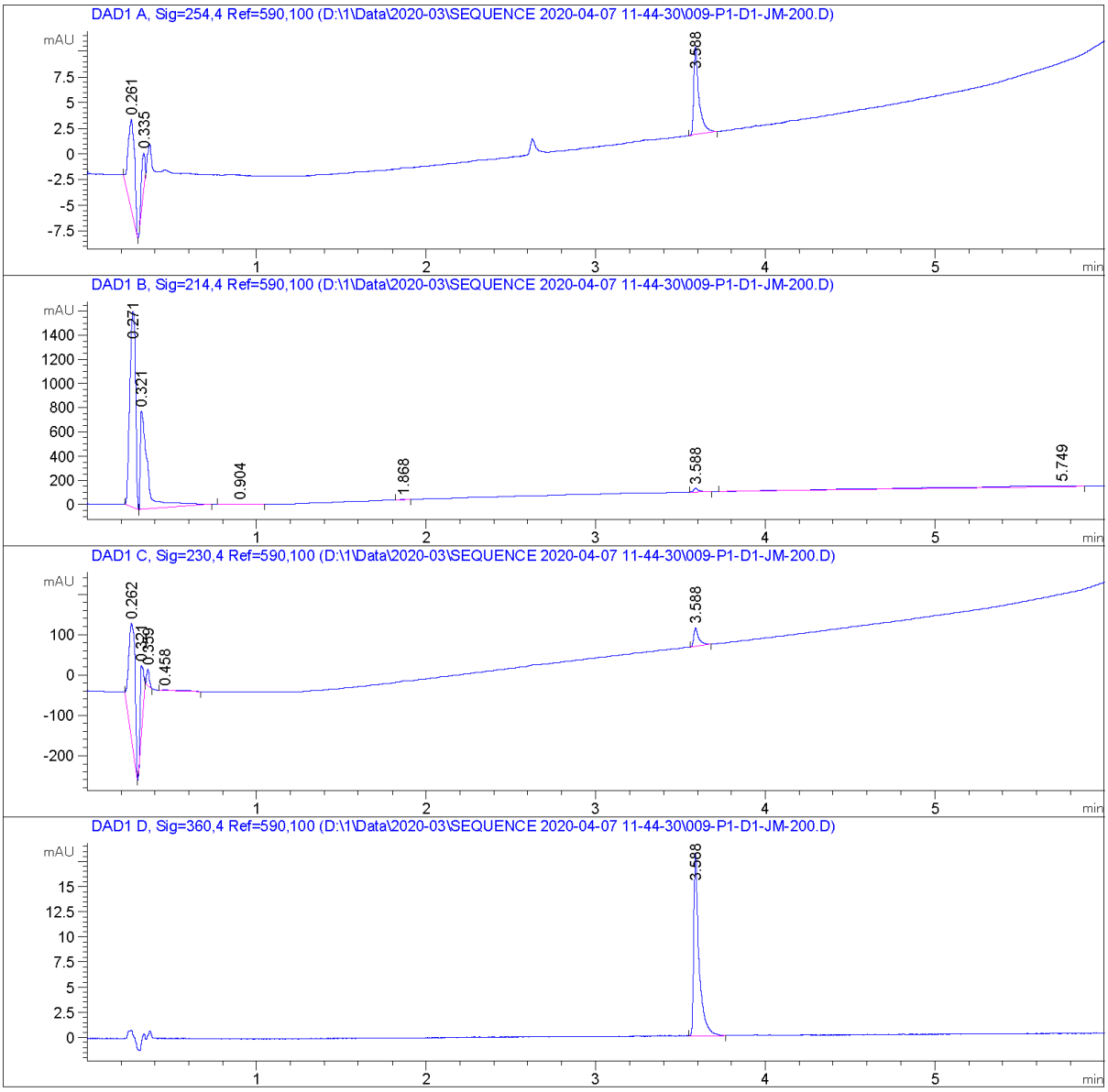
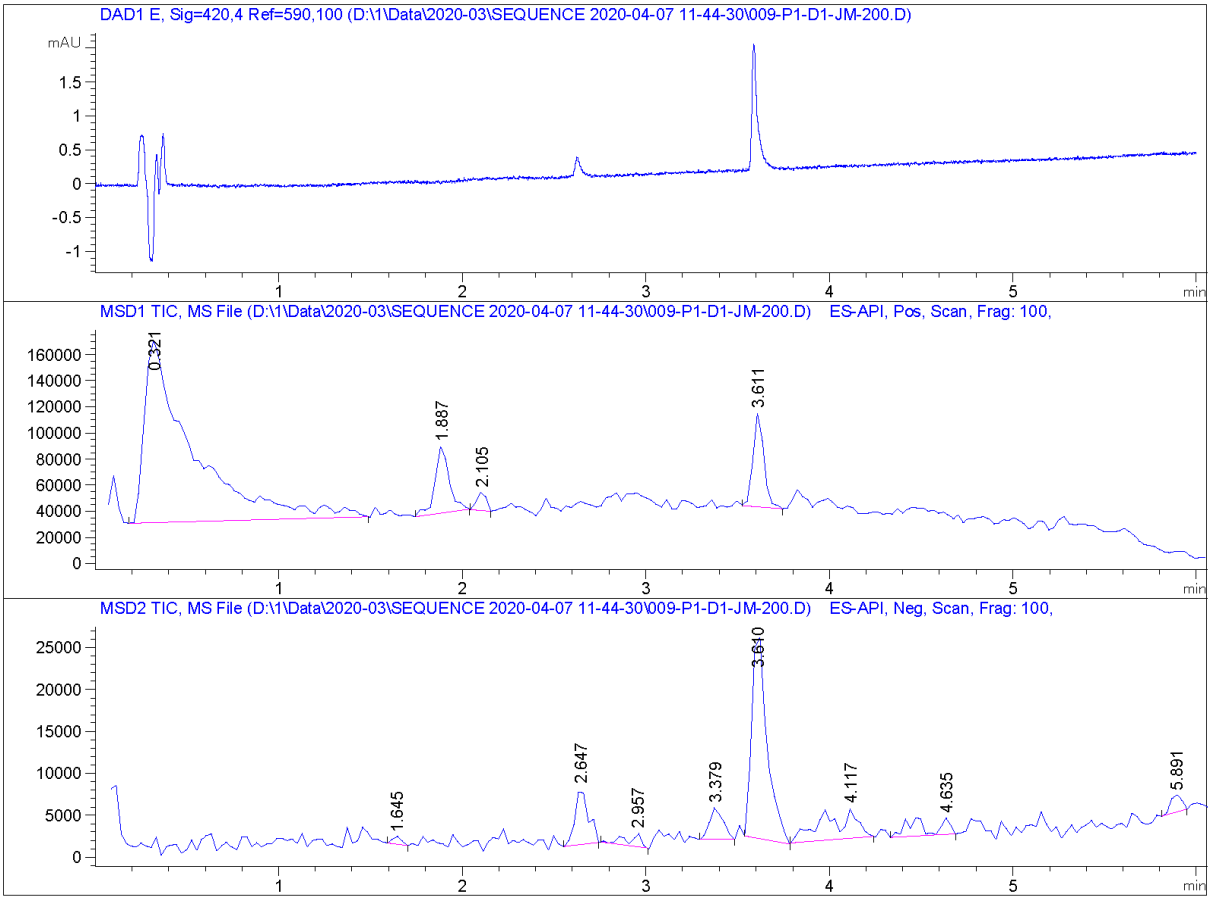
                                                 Inj Volume : 5.000 µl
Method           : D:\1\Data\2020-03\SEQUENCE 2020-04-07 11-44-30\AZO 25% to100%B over5 min
                   uvvis 1 mlmin.M (Sequence Method)
Last changed     : 4/18/2018 2:31:20 PM by SYSTEM
Method Info      : FULL uv spectrum recording; eq 1 min with prerun macro; inject; 25  to 100%
                   B over 5 min, flush at 100% B for 1 min, no postrun, FULL uv spectrum
                   recording
```






```
==================================================================
                        Area Percent Report
==================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 A, Sig=254,4 Ref=590,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   0.261 BB    0.0354   23.37692    8.82044  49.4039
   2   0.335 BB    0.0272    5.97125    3.72908  12.6194
   3   3.588 BB    0.0302   17.96977    8.48414  37.9767

Totals :                    47.31795   21.03366
```

Signal 2: DAD1 B, Sig=214,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.271	BB	0.0375	3814.06641	1620.68970	55.0159
2	0.321	BB	0.0395	2516.03198	814.41064	36.2924
3	0.904	BB	0.0651	6.54737	1.25098	0.0944
4	1.868	BB	0.0334	10.25311	4.45158	0.1479
5	3.588	BB	0.0294	66.52601	32.49927	0.9596
6	5.749	BB	1.0335	519.24066	5.87013	7.4898
Totals :				6932.66554	2479.17230	

Signal 3: DAD1 C, Sig=230,4 Ref=590,100

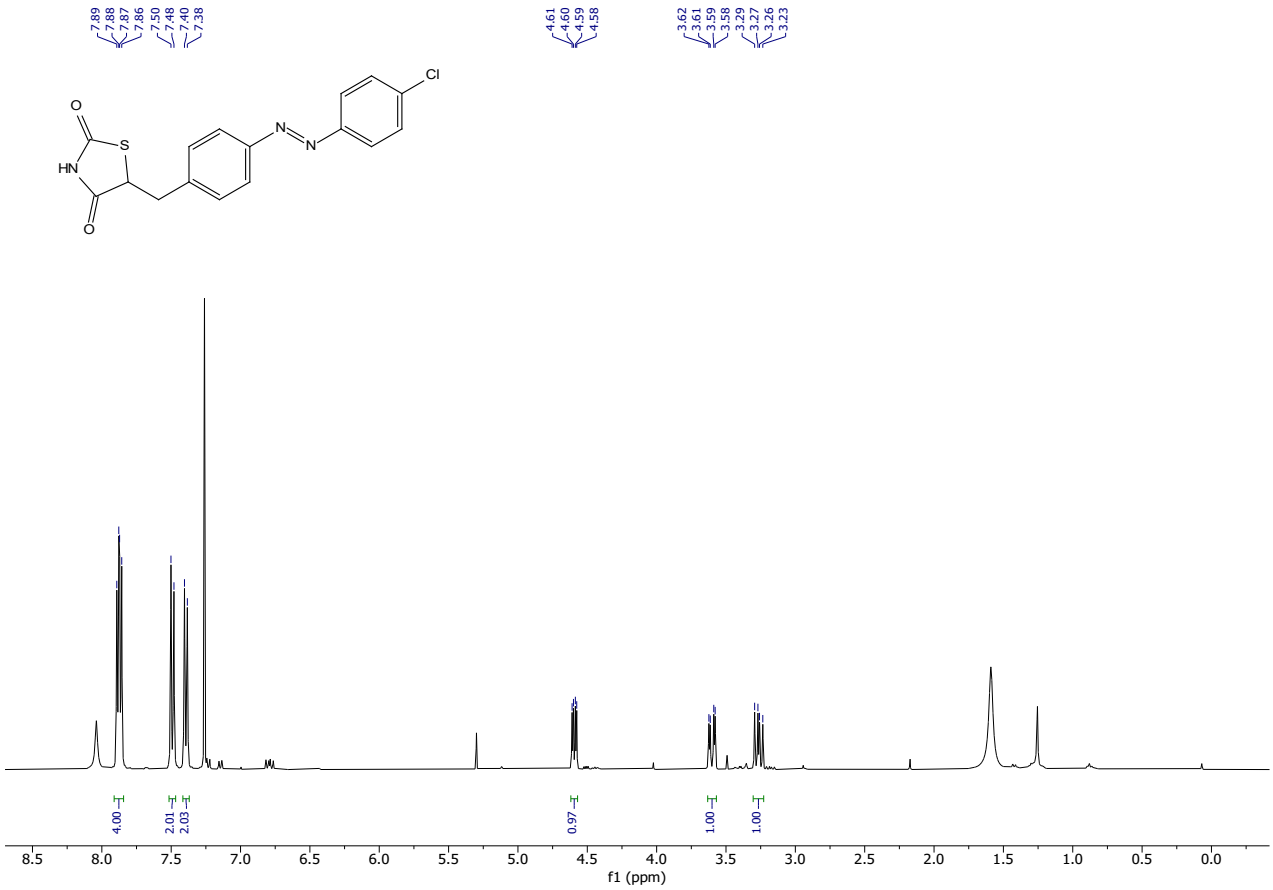
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.262	BB	0.0422	752.18109	281.60706	67.2772
2	0.321	BB	0.0177	219.80719	174.09190	19.6602
3	0.359	BB	0.0160	39.76826	40.27479	3.5570
4	0.458	BB	0.1122	13.59028	1.48641	1.2156
5	3.588	BB	0.0291	92.68646	45.77426	8.2901
Totals :				1118.03329	543.23441	

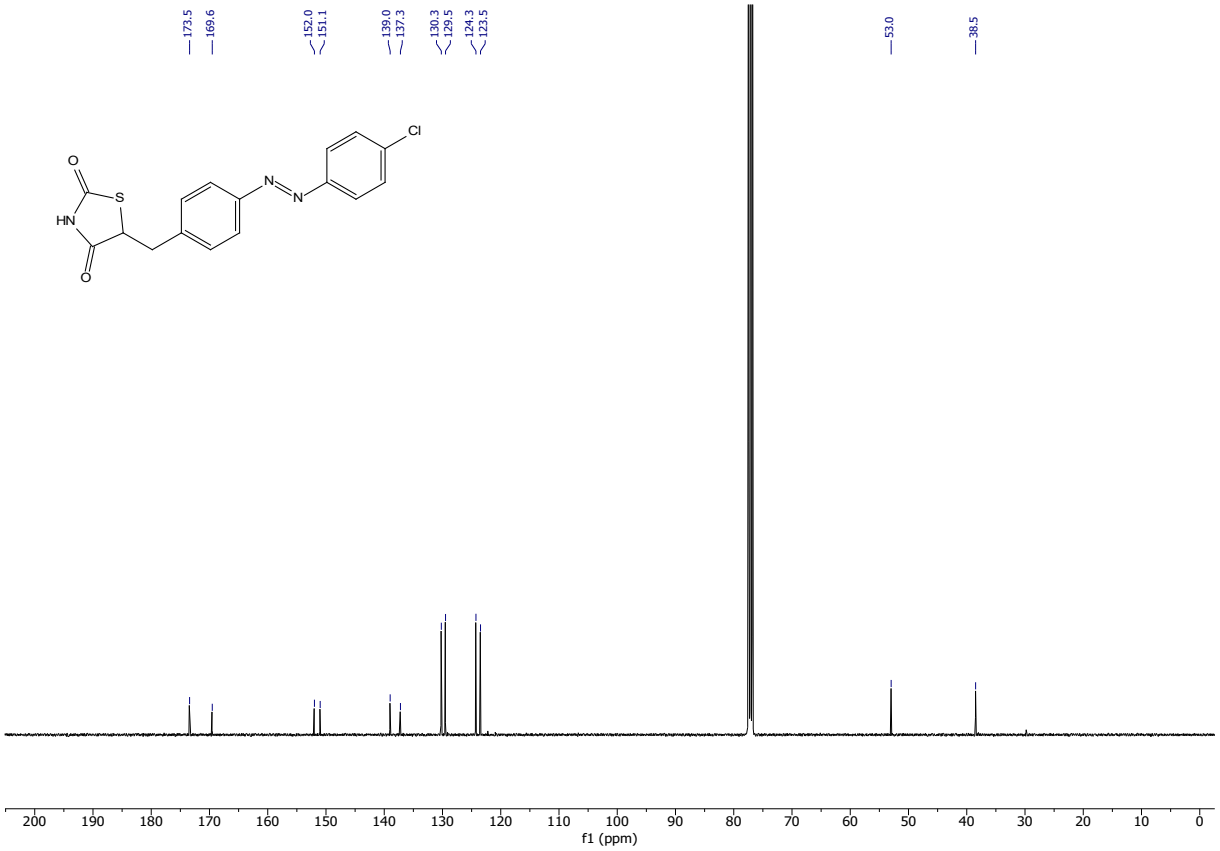
Signal 4: DAD1 D, Sig=360,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	3.588	BB	0.0305	39.05832	18.20165	100.0000
Totals :				39.05832	18.20165	

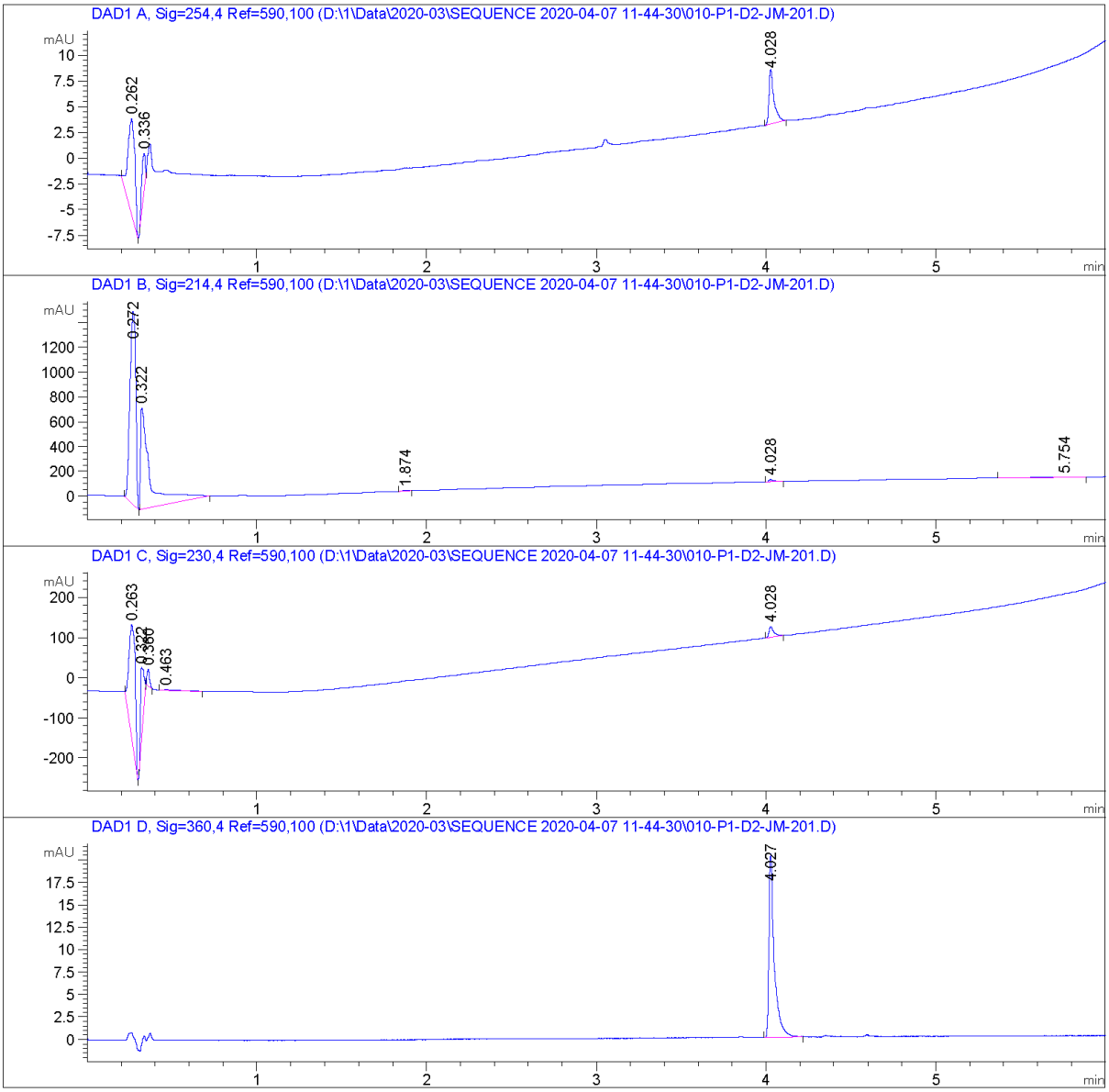
Signal 5: DAD1 E, Sig=420,4 Ref=590,100

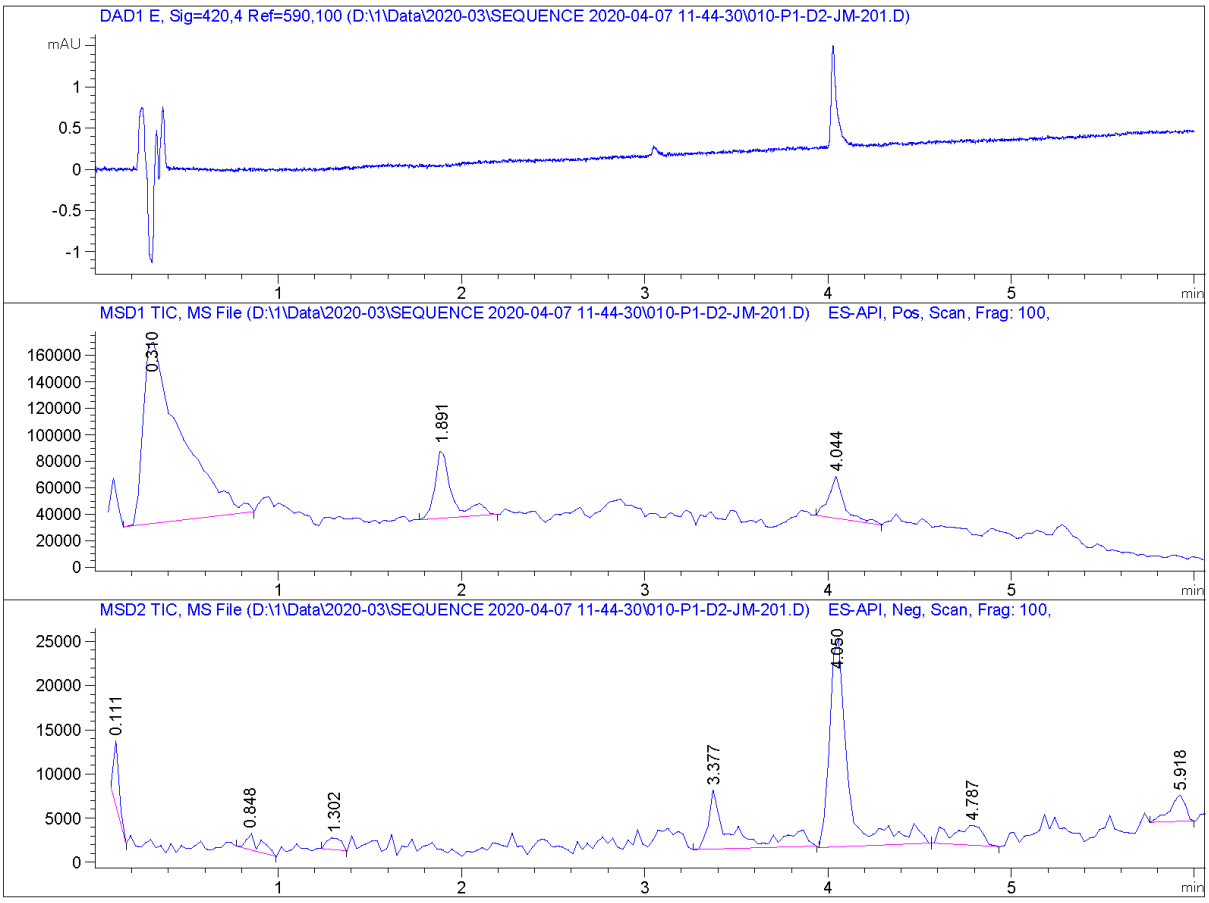
AzoRosi-2


7.89
7.88
7.87
7.86
7.50
7.48
7.40
7.38
4.61
4.60
4.59
4.58
3.62
3.61
3.59
3.58
3.29
3.27
3.26
3.23
O
S
HN
O
N
N
Cl
4.00
2.01
2.03
0.97
1.00
1.00
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
f1 (ppm)


173.5
169.6
152.0
151.1
139.0
137.3
130.3
129.5
124.3
123.5
53.0
38.5
O
S
HN
O
N
N
Cl
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)

```
==================================================================
Acq. Operator   : SYSTEM                        Seq. Line :  10
Acq. Instrument : LCMS                           Location :   P1-D2
Injection Date  : 4/7/2020 12:58:36 PM                Inj :   1
                                              Inj Volume : 5.000 µl
Method          : D:\1\Data\2020-03\SEQUENCE 2020-04-07 11-44-30\AZO 25% to100%B over5 min
                  uvvis 1 mlmin.M (Sequence Method)
Last changed    : 4/18/2018 2:31:20 PM by SYSTEM
Method Info     : FULL uv spectrum recording; eq 1 min with prerun macro; inject; 25  to 100%
                  B over 5 min, flush at 100% B for 1 min, no postrun, FULL uv spectrum
                  recording
```






```
==================================================================
                        Area Percent Report
==================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 A, Sig=254,4 Ref=590,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   0.262 BB    0.0385   25.82895    9.27723  60.7570
   2   0.336 BB    0.0272    5.89526    3.67283  13.8673
   3   4.028 BB    0.0291   10.78769    5.32349  25.3757

Totals :                    42.51190   18.27355
```

Signal 2: DAD1 B, Sig=214,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.272	BB	0.0389	3655.89795	1554.87585	52.5946
2	0.322	BB	0.0489	3175.53784	815.24115	45.6840
3	1.874	BB	0.0338	10.25463	4.55460	0.1475
4	4.028	BB	0.0281	34.25156	17.31449	0.4928
5	5.754	BB	0.2143	75.15277	4.14849	1.0812
Totals :				6951.09475	2396.13458	

Signal 3: DAD1 C, Sig=230,4 Ref=590,100

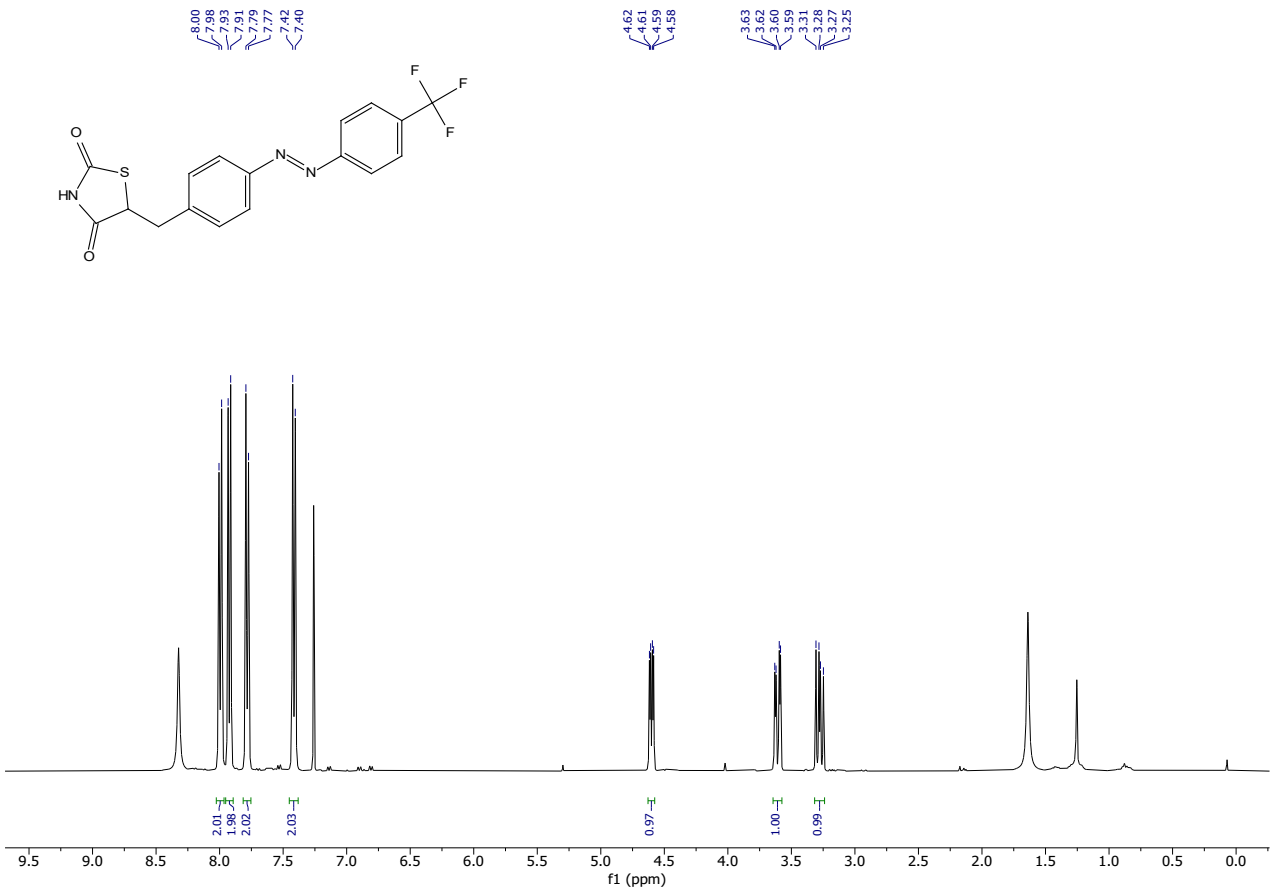
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.263	BB	0.0424	749.61902	282.66257	69.7345
2	0.322	BB	0.0180	217.63289	169.42757	20.2456
3	0.360	BB	0.0156	41.53300	41.68375	3.8637
4	0.463	BB	0.1078	14.36261	1.63725	1.3361
5	4.028	BB	0.0284	51.81408	26.45210	4.8201
Totals :				1074.96160	521.86323	

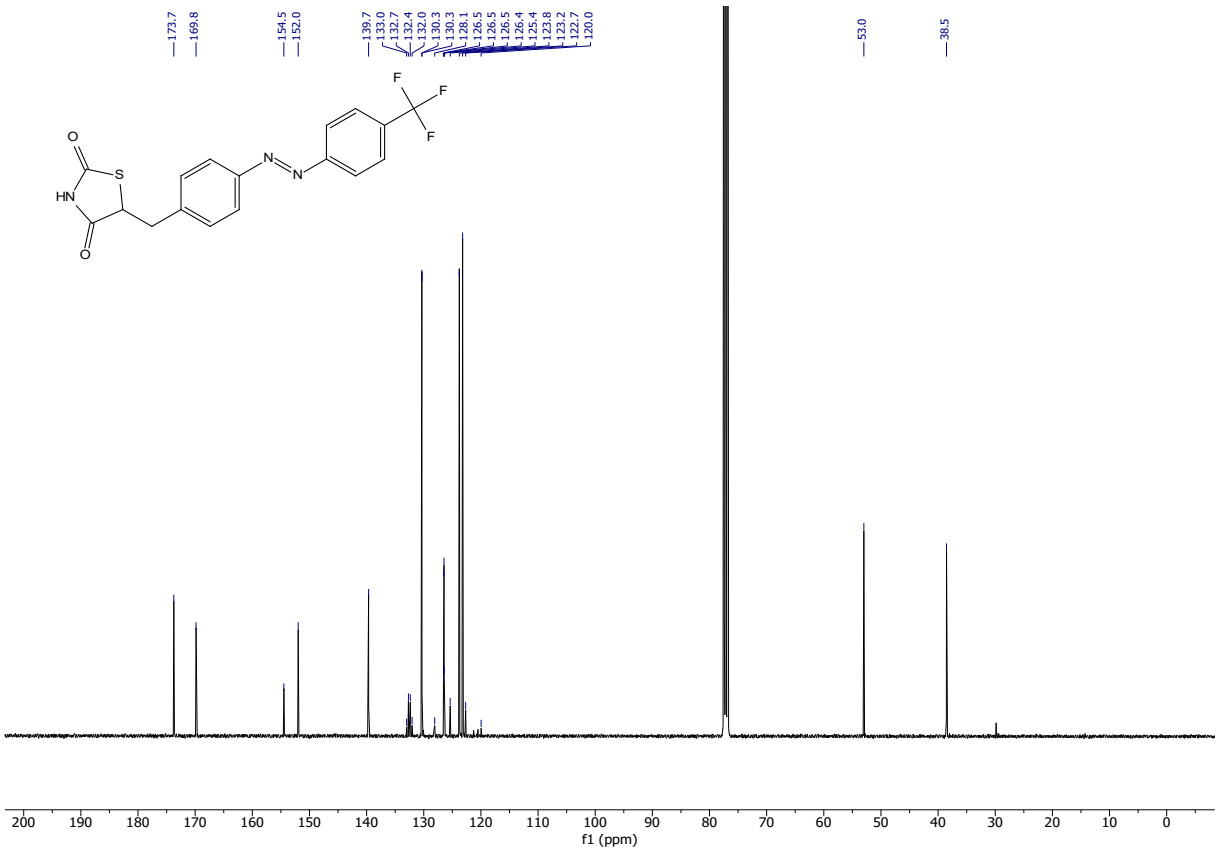
Signal 4: DAD1 D, Sig=360,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.027	BB	0.0307	44.24614	20.46470	100.0000
Totals :				44.24614	20.46470	

Signal 5: DAD1 E, Sig=420,4 Ref=590,100

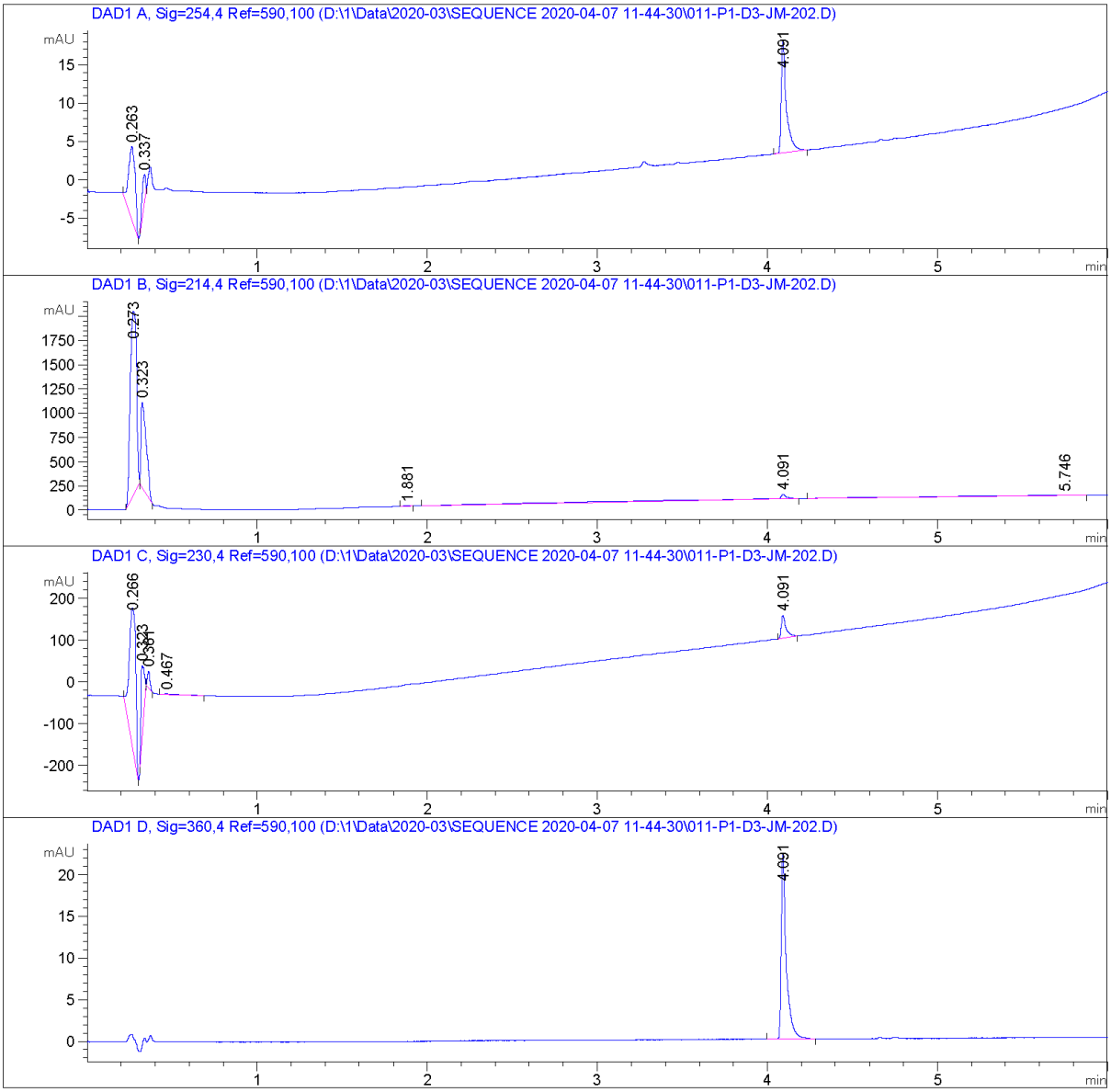
AzoRosi-3

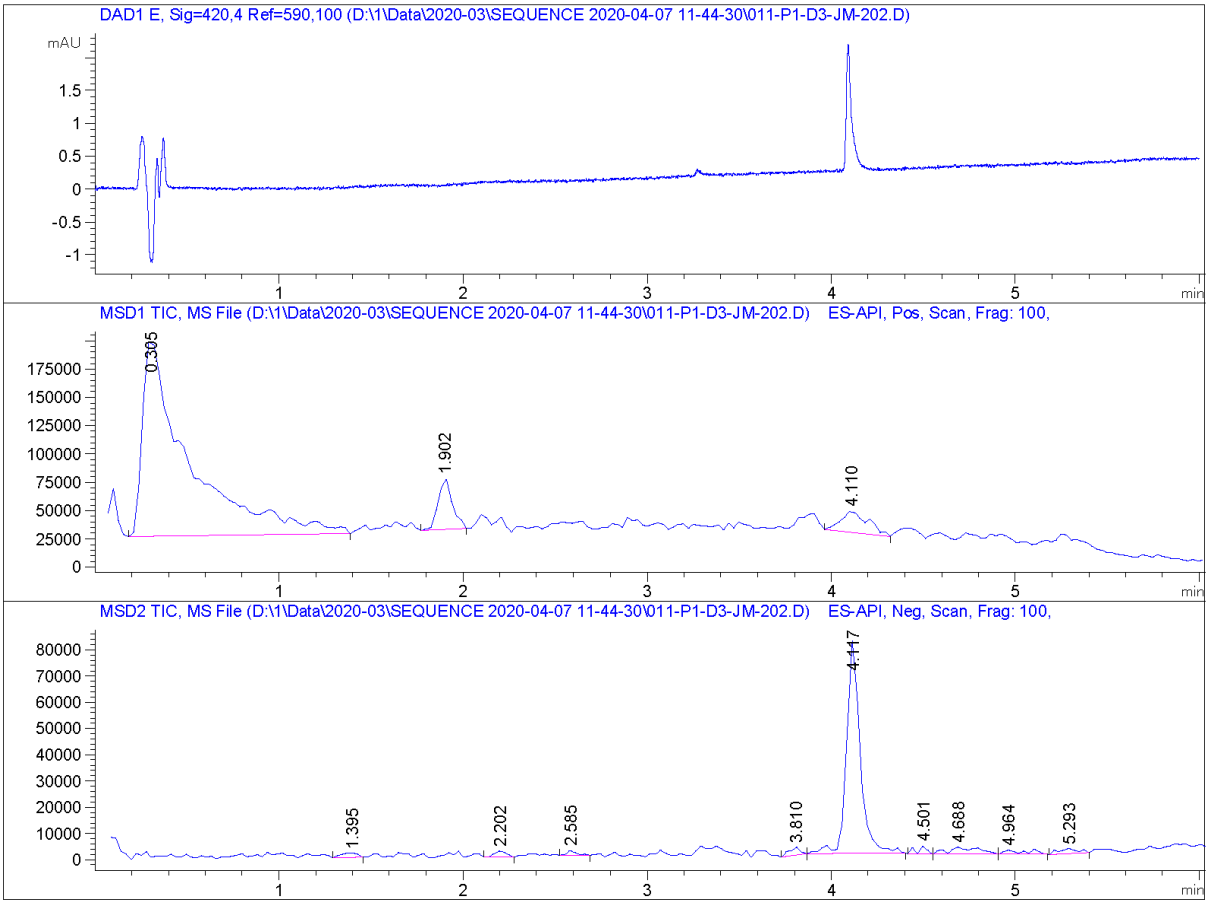

8.00
7.98
7.93
7.91
7.79
7.77
7.42
7.40
4.62
4.61
4.59
4.58
3.63
3.62
3.60
3.59
3.31
3.28
3.27
3.25
F
F
F
O
S
HN
O
N
N
2.01
1.98
2.02
2.03
0.97
1.00
0.99
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
f1 (ppm)


173.7
169.8
154.5
152.0
139.7
133.0
132.7
132.4
132.0
130.3
130.3
128.1
126.5
126.5
126.5
126.4
125.4
123.8
123.2
122.7
120.0
53.0
38.5
F
F
F
O
S
HN
O
N
N
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

0.29
0.17
F
F
F
O
S
HN
O
N
N
70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 -5 -10 -15 -20 -25 -30 -35 -40 -45 -50 -55 -60
f1 (ppm)

```
==================================================================
Acq. Operator   : SYSTEM                        Seq. Line :  11
Acq. Instrument : LCMS                           Location :   P1-D3
Injection Date  : 4/7/2020 1:06:31 PM                 Inj :   1
                                               Inj Volume : 5.000 µl
Method          : D:\1\Data\2020-03\SEQUENCE 2020-04-07 11-44-30\AZO 25% to100%B over5 min
                  uvvis 1 mlmin.M (Sequence Method)
Last changed    : 4/18/2018 2:31:20 PM by SYSTEM
Method Info     : FULL uv spectrum recording; eq 1 min with prerun macro; inject; 25  to 100%
                  B over 5 min, flush at 100% B for 1 min, no postrun, FULL uv spectrum
                  recording
```






```
======================================================================
                          Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 A, Sig=254,4 Ref=590,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   0.263 BB    0.0381   25.51149    9.43239  41.3674
   2   0.337 BB    0.0273    5.84364    3.62553   9.4756
   3   4.091 BB    0.0296   30.31535   14.65060  49.1570

Totals :                    61.67049   27.70852
```

Signal 2: DAD1 B, Sig=214,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.273	BB	0.0429	4863.40820	1898.63660	63.4639
2	0.323	BB	0.0327	1900.50647	878.64752	24.8002
3	1.881	BB	0.0345	9.54535	4.36023	0.1246
4	4.091	BB	0.1565	583.50250	45.07872	7.6143
5	5.746	BB	0.6802	306.30579	5.26560	3.9971
Totals :				7663.26832	2831.98867	

Signal 3: DAD1 C, Sig=230,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.266	BB	0.0432	866.26727	329.47742	69.8498
2	0.323	BB	0.0179	220.52608	173.05574	17.7817
3	0.361	BB	0.0157	37.51884	39.21706	3.0253
4	0.467	BB	0.1084	11.00784	1.26665	0.8876
5	4.091	BB	0.0280	104.86537	54.32415	8.4556
Totals :				1240.18540	597.34102	

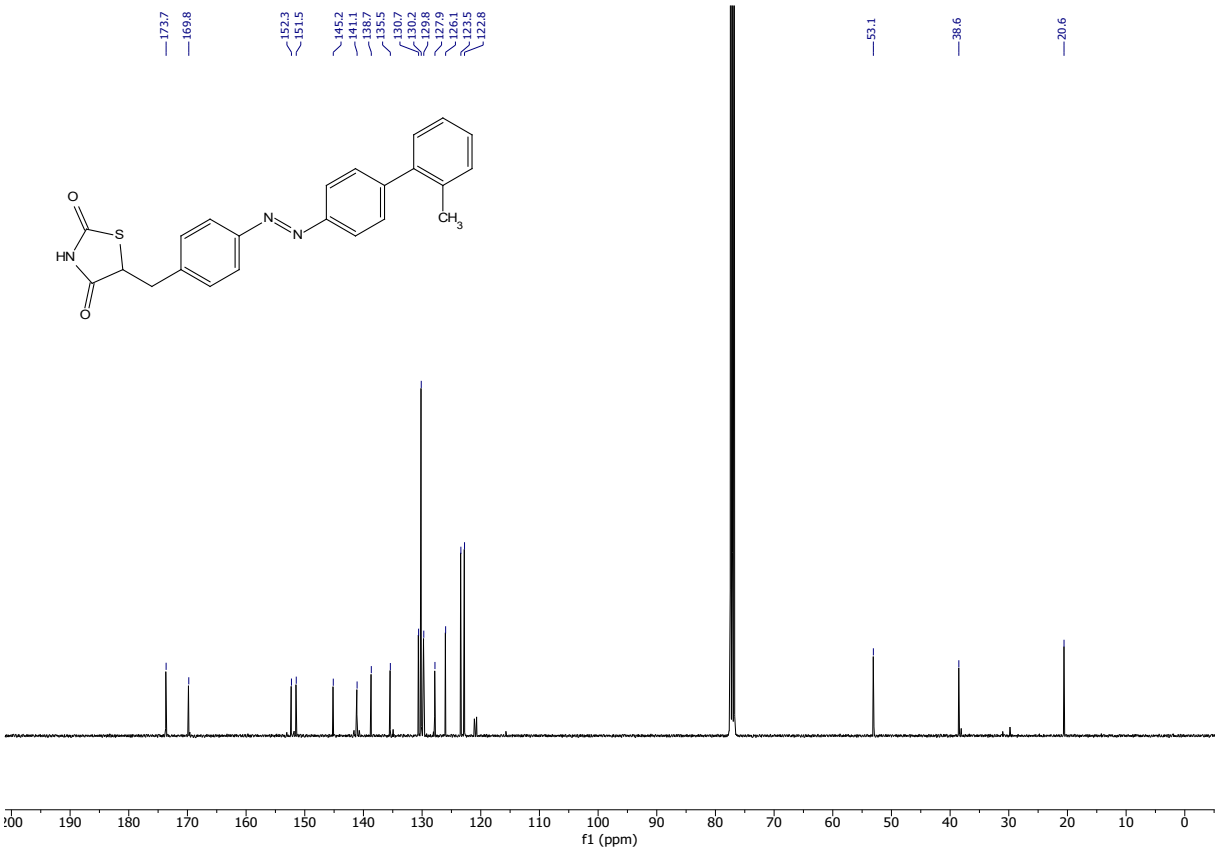
Signal 4: DAD1 D, Sig=360,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.091	BB	0.0294	45.68192	22.28056	100.0000
Totals :				45.68192	22.28056	

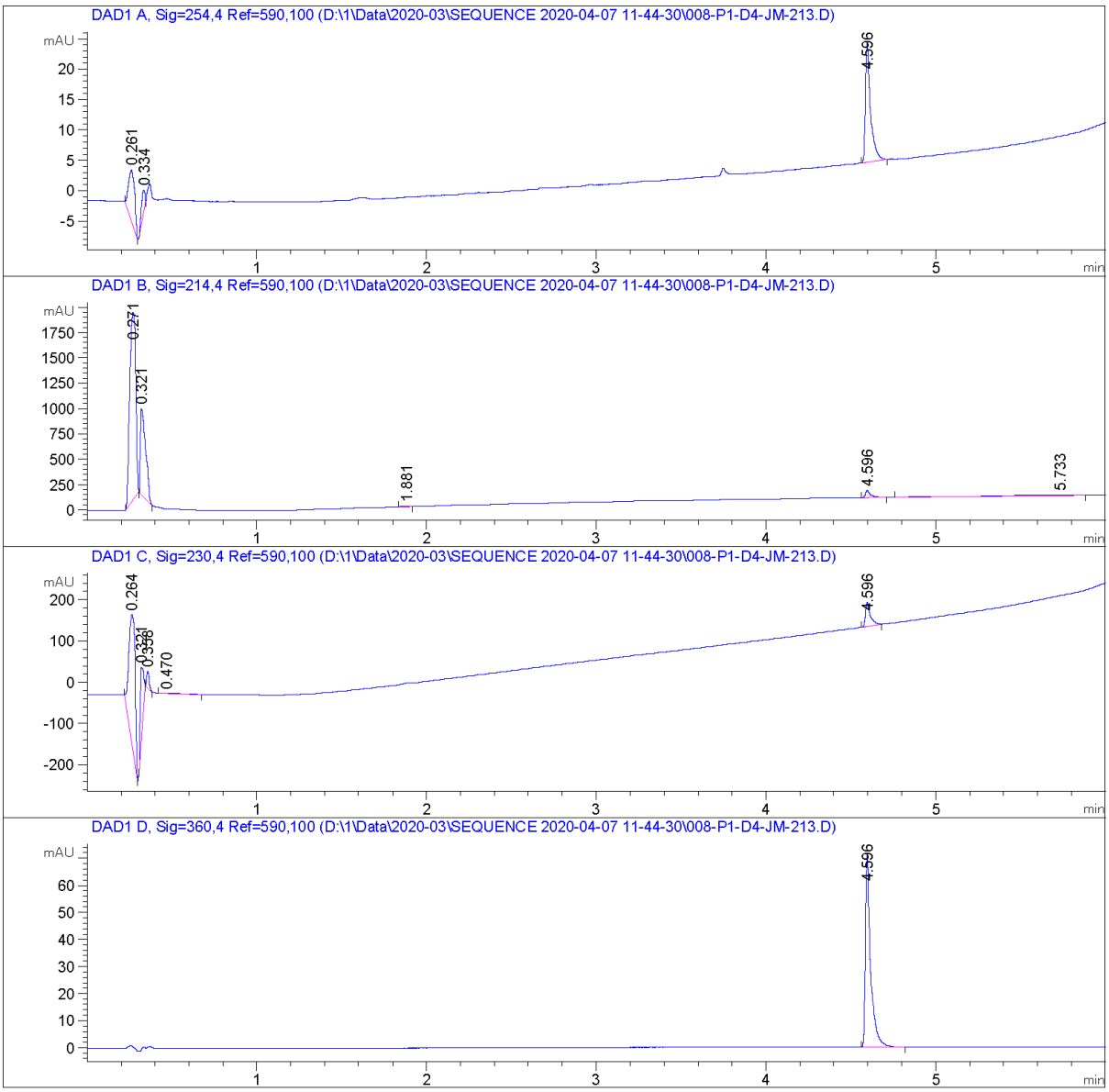
Signal 5: DAD1 E, Sig=420,4 Ref=590,100

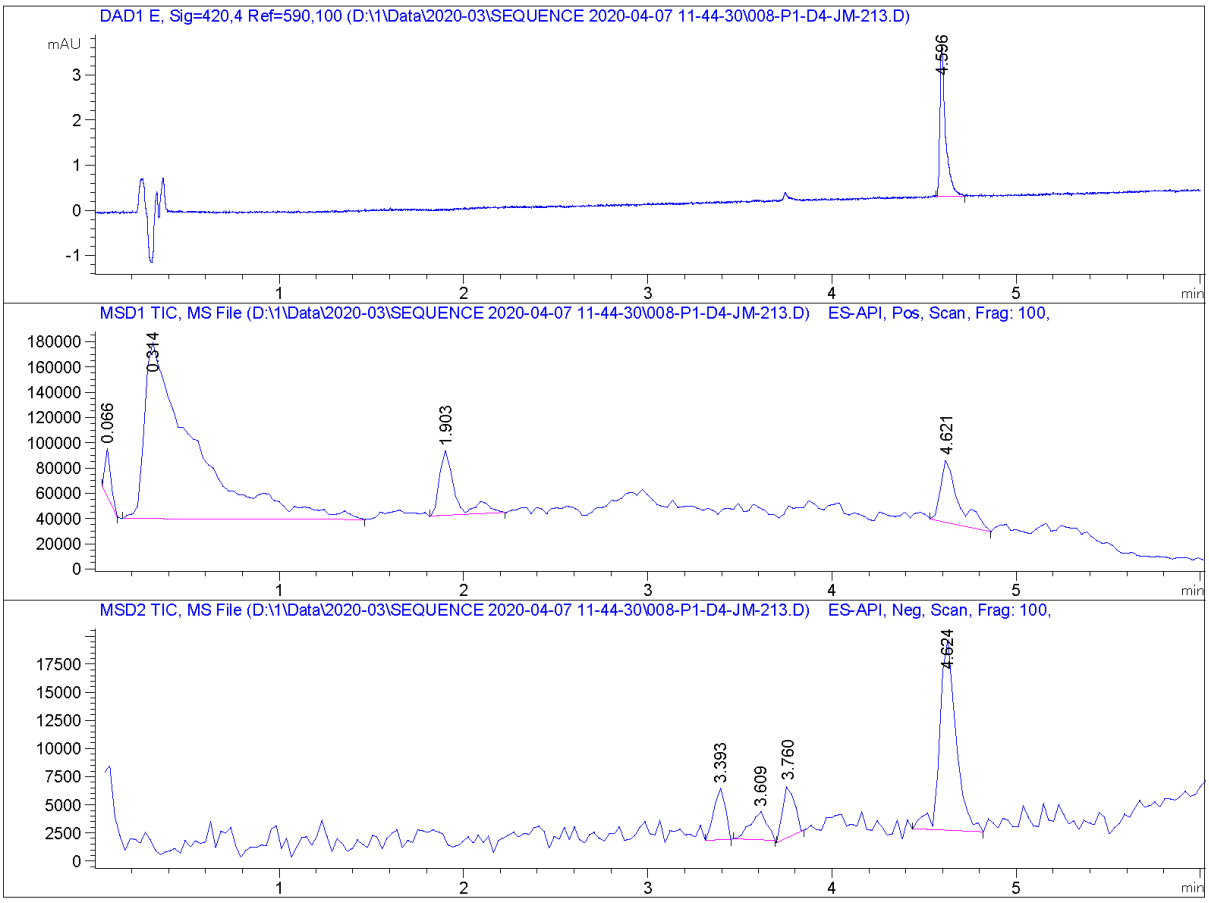
AzoRosi-4

7.98
7.96
7.92
7.90
7.50
7.48
7.42
7.40
7.30
7.29
4.62
4.61
4.59
4.59
3.64
3.63
3.61
3.60
3.29
3.27
3.26
3.24
2.32
O
S
HN
O
N
N
CH3
2.03
2.01
2.06
2.10
4.01
1.01
1.04
1.03
3.13
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
f1 (ppm)


173.7
169.8
152.3
151.5
145.2
141.1
138.7
135.5
130.7
130.2
129.8
127.9
126.1
123.5
122.8
53.1
38.6
20.6
O
S
HN
O
N
N
CH3
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)

```
==================================================================
Acq. Operator   : SYSTEM                        Seq. Line :   8
Acq. Instrument : LCMS                           Location :   P1-D4
Injection Date  : 4/7/2020 12:42:48 PM                Inj :   1
                                               Inj Volume : 5.000 µl
Method          : D:\1\Data\2020-03\SEQUENCE 2020-04-07 11-44-30\AZO 25% to100%B over5 min
                  uvvis 1 mlmin.M (Sequence Method)
Last changed    : 4/18/2018 2:31:20 PM by SYSTEM
Method Info     : FULL uv spectrum recording; eq 1 min with prerun macro; inject; 25  to 100%
                  B over 5 min, flush at 100% B for 1 min, no postrun, FULL uv spectrum
                  recording
```






```
==================================================================
                        Area Percent Report
==================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 A, Sig=254,4 Ref=590,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   0.261 BB    0.0338   21.03139    8.36906  31.0741
   2   0.334 BB    0.0269    5.63250    3.57943   8.3221
   3   4.596 BB    0.0296   41.01757   19.83499  60.6038

Totals :                    67.68147   31.78348
```

Signal 2: DAD1 B, Sig=214,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.271	BB	0.0424	4597.81152	1853.67236	67.7838
2	0.321	BB	0.0323	1839.37866	849.63068	27.1173
3	1.881	BB	0.0362	10.31890	4.50889	0.1521
4	4.596	BB	0.0297	145.21613	70.08344	2.1409
5	5.733	BB	0.3946	190.32539	5.64810	2.8059
Totals :				6783.05061	2783.54346	

Signal 3: DAD1 C, Sig=230,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	0.264	BB	0.0431	806.65173	312.26050	67.8114
2	0.321	BB	0.0185	214.92200	166.82777	18.0675
3	0.358	BB	0.0154	38.83908	39.66283	3.2650
4	0.470	BB	0.1117	14.47311	1.59019	1.2167
5	4.596	BB	0.0286	114.66630	57.88530	9.6395
Totals :				1189.55222	578.22659	

Signal 4: DAD1 D, Sig=360,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.596	BB	0.0302	150.97096	71.44523	100.0000
Totals :				150.97096	71.44523	

Signal 5: DAD1 E, Sig=420,4 Ref=590,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.596	BB	0.0303	7.12706	3.35655	100.0000
Totals :				7.12706	3.35655	

Photophysical Characterization and Photostationary States (PSS)

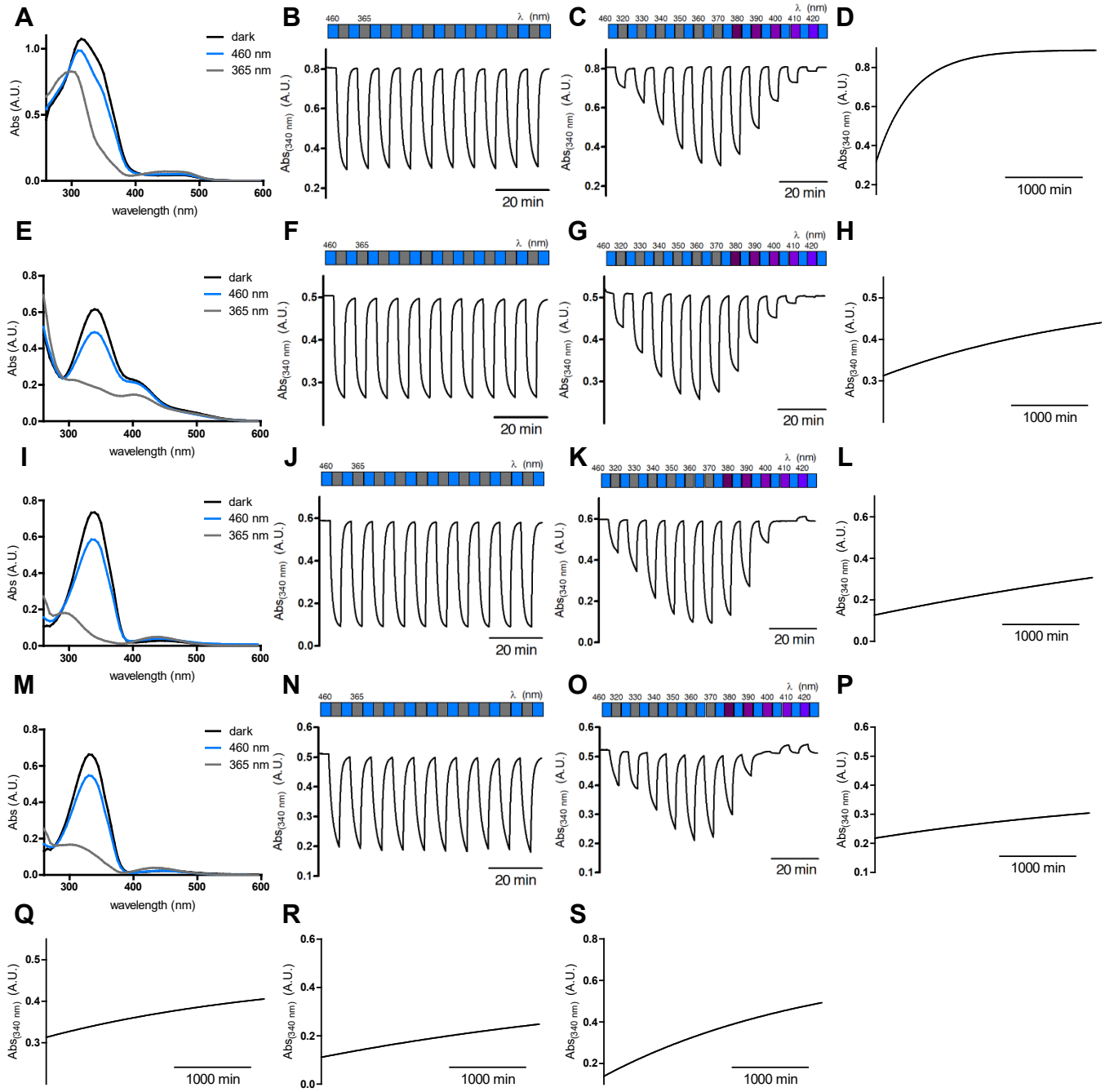


Figure S1 Photophysical evaluation of PPARγ photohormones **AzoMDG548** (A-D), **AzoGW1929-2** (E-H), **AzoRosi-2** (I-L), **AzoRosi-3** (M-P), **AzoGW1929** (Q), **AzoRosi** (R) and **AzoRosi-4** (*S*) The UV-Vis spectra of the photohormones (25 μM in DMSO) in the dark-adapted (*trans*, black), 365 nm-adapted (*cis,* gray) and 460 nm-adapted (*trans*, blue*)* photostationary states (A,E,I,M).

Reversible cycling of the photohormones (25 μM in DMSO) between photoisomers with alternating illumination at the two distinct wavelengths 365 nm and 460 nm (B,F,J,N). Reversible cycling between photoisomers of the photohormones (25 μM in DMSO) with alternating illumination at varying wavelengths between 320 nm and 420 nm (C,G,K,O). Natural thermal relaxation rates of the *cis*-isomers of the photohormones (25 μM in DMSO) at room temperature in the dark (D,H,L,P,Q,R,S).

Crystallography

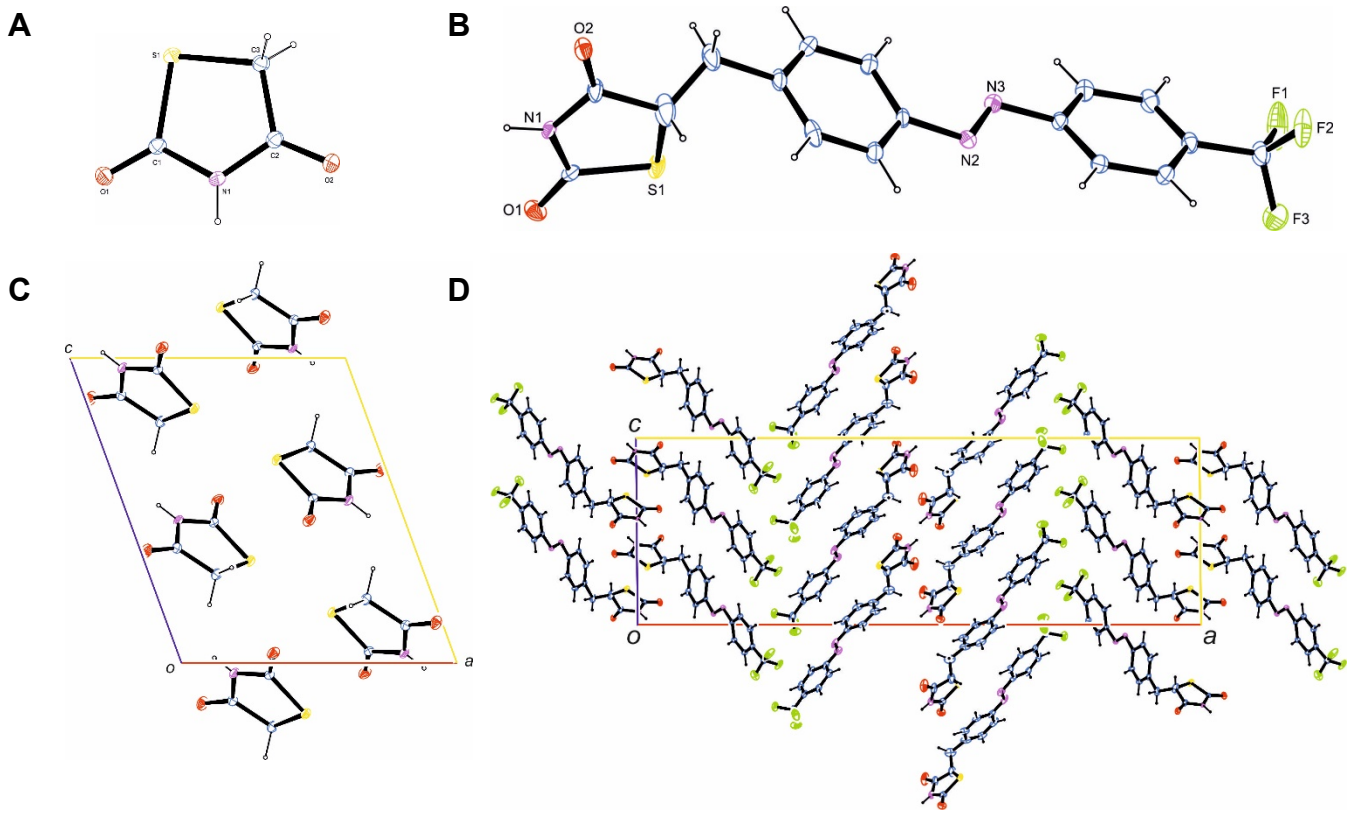


Figure S2 (A) Structure of thiazolidinedione **6** drawn at the 50% ellipsoid probability level. (B) Structure of *trans*-**AzoRosi-3** drawn at the 50% ellipsoid probability level. (C) Cell of thiazolidinedione **6**. (D) Cell of *trans*-**AzoRosi-3**.

Table S1 Crystallographic data for thiazolidionedione **6** and *trans*-**AzoRosi-3**.

	Thiazolidinedione **6**	*trans*-**AzoRosi-3**
net formula	$C_3H_3NO_2S$	$C_{17}H_{12}F_3N_3O_2S$
M_r/g mol^{-1}	117.127	379.36
crystal size/mm	0.466 × 0.264 × 0.162	0.100 × 0.090 × 0.060
T/K	173(2)	100(2)
radiation	MoKα	MoKα
diffractometer	'Oxford XCalibur'	'Bruker D8 Venture TXS'
crystal system	monoclinic	monoclinic
space group	$P2_1/c$	'P 21/c'
a/Å	8.6725(6)	41.211(2)
b/Å	5.3541(3)	5.7604(3)
c/Å	10.2330(8)	13.6180(7)
α/°	90	90
β/°	110.081(8)	90.4930(10)
γ/°	90	90
V/Å^3	446.27(5)	3232.7(3)
Z	4	8
calc. density/g cm^{-3}	1.74332(20)	1.559
μ/mm^{-1}	0.585	0.251
absorption correction	'multi-scan'	multi-scan
transmission factor range	0.97519–1.00000	0.8803–0.9585
refls. measured	2322	38444
R_{int}	0.0223	0.0587
mean σ(I)/I	0.0257	0.0525
θ range	4.24–26.37	2.966–26.47
observed refls.	820	4920
x, y (weighting scheme)	0.0292, 0.1830	0.0585, 15.7648
hydrogen refinement	H(C) constr, H(N) refall	constr
refls in refinement	916	6598
parameters	68	469
restraints	0	0
$R(F_{obs})$	0.0260	0.0847
$R_w(F^2)$	0.0670	0.2055
S	1.093	1.020
shift/error$_{max}$	0.001	0.001
max electron density/e Å^{-3}	0.335	1.890
min electron density/e Å^{-3}	−0.258	−0.870

Isothermal titration calorimetry (ITC)

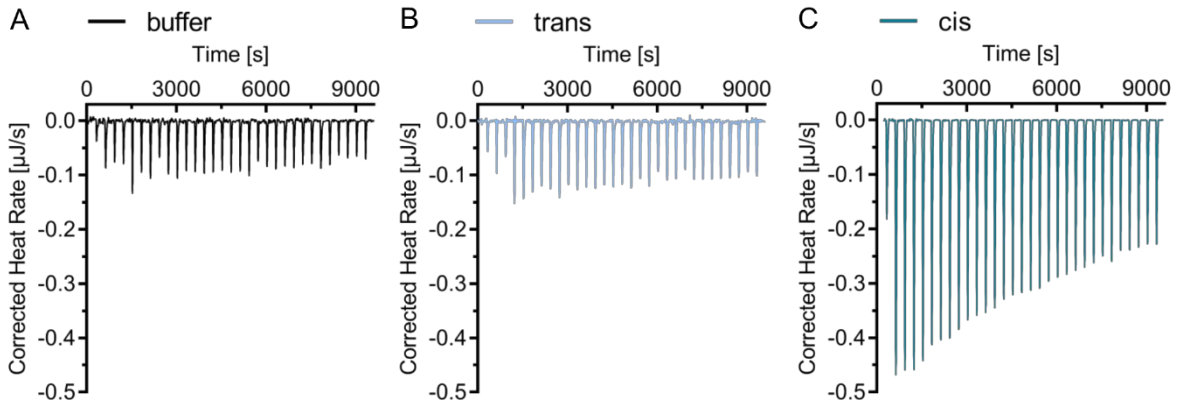


Figure S3 Isothermal titration calorimetry experiments show exclusive binding of *cis*-**AzoRosi4** to recombinant PPARγ LBD protein.