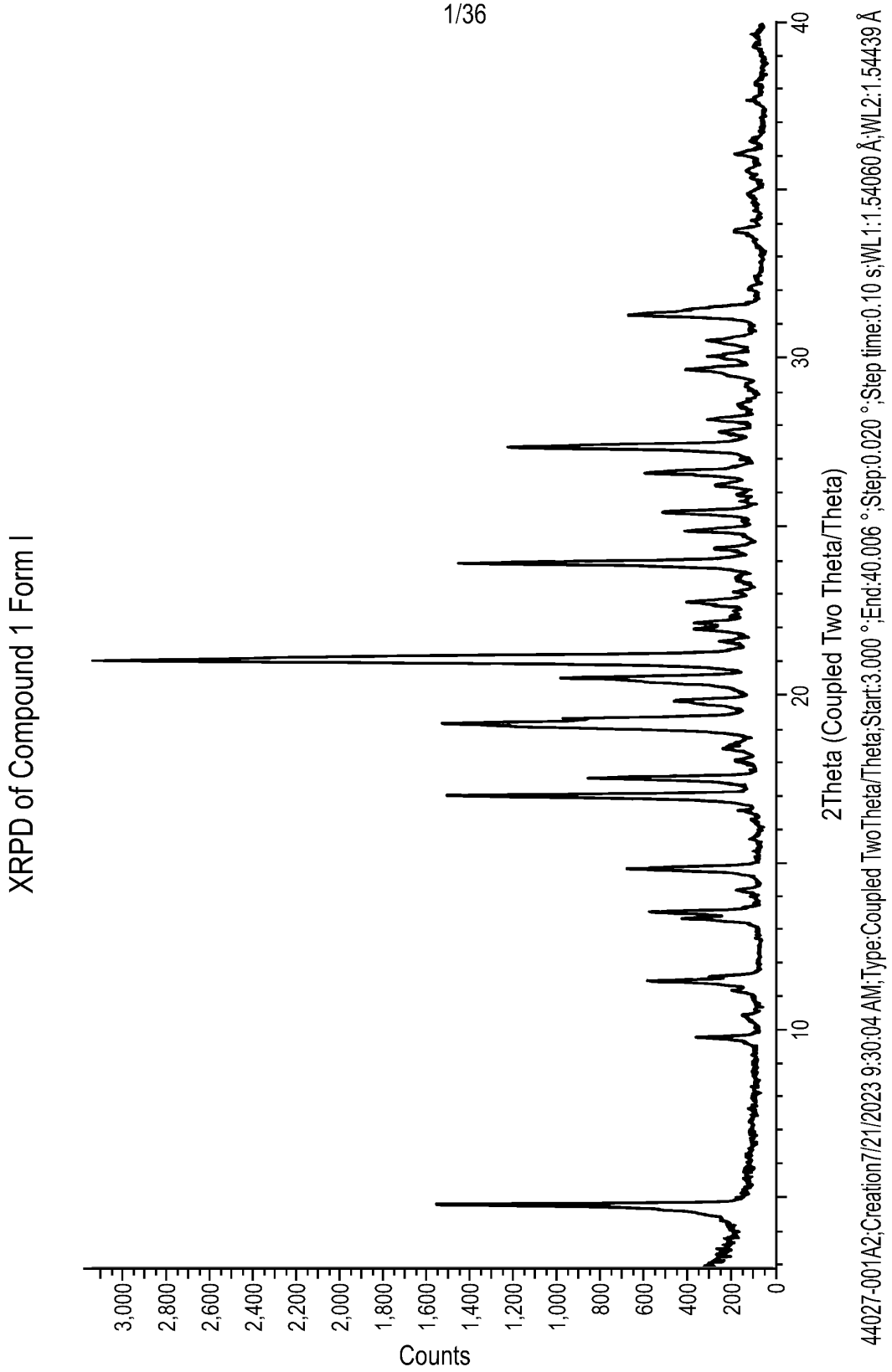
XRPD of Compound 1 Form I
Counts
3,000
2,800
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
10
20
30
40
2Theta (Coupled Two Theta/Theta)
44027-001A2;Creation7/21/2023 9:30:04 AM;Type:Coupled TwoTheta/Theta;Start:3.000 °;End:40.006 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 1

DSC and TGA of Compound 1 Form I

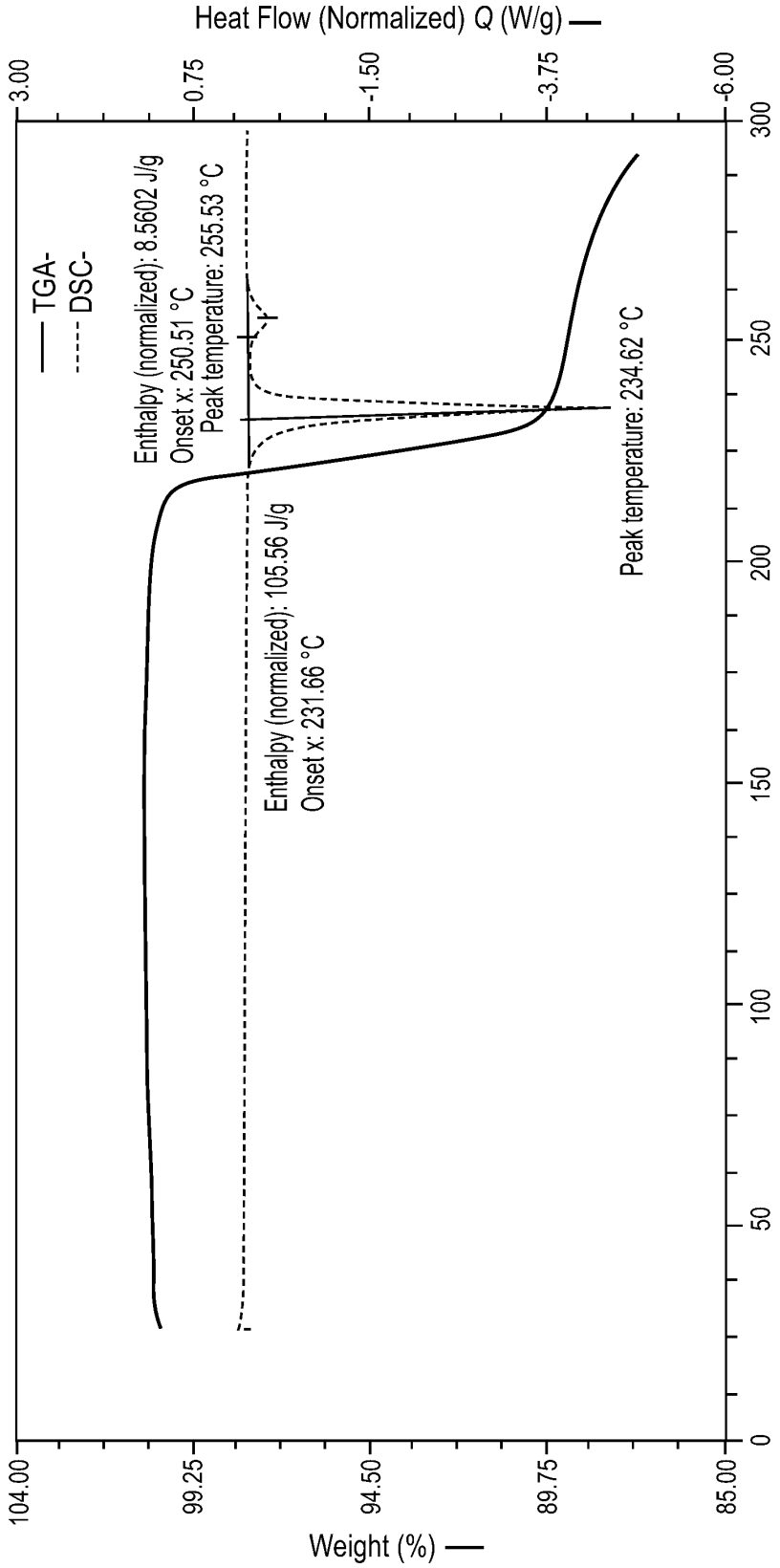

FIG. 2

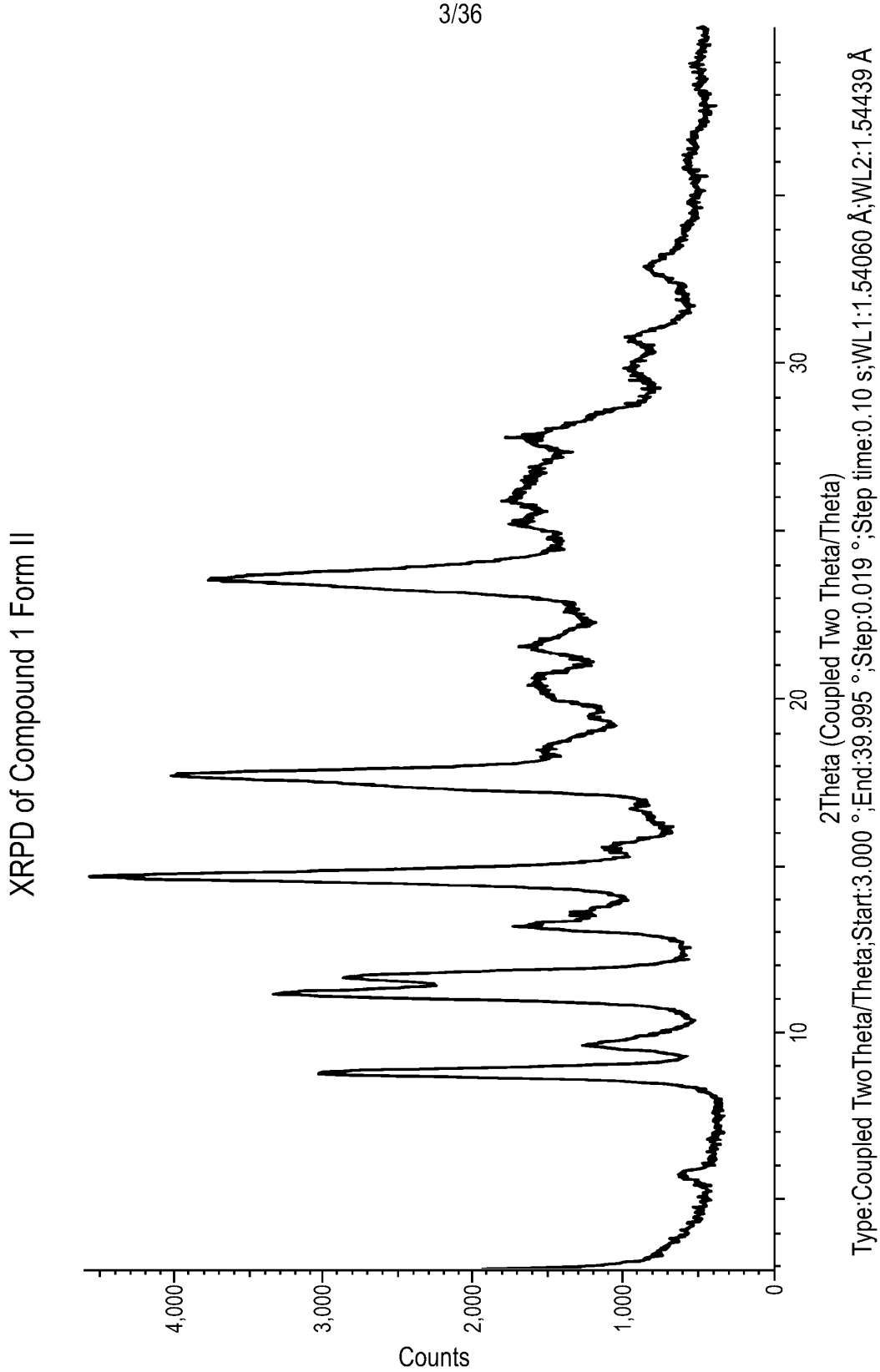
XRPD of Compound 1 Form II
Counts
4,000
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:39.995 °;Step:0.019 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 3

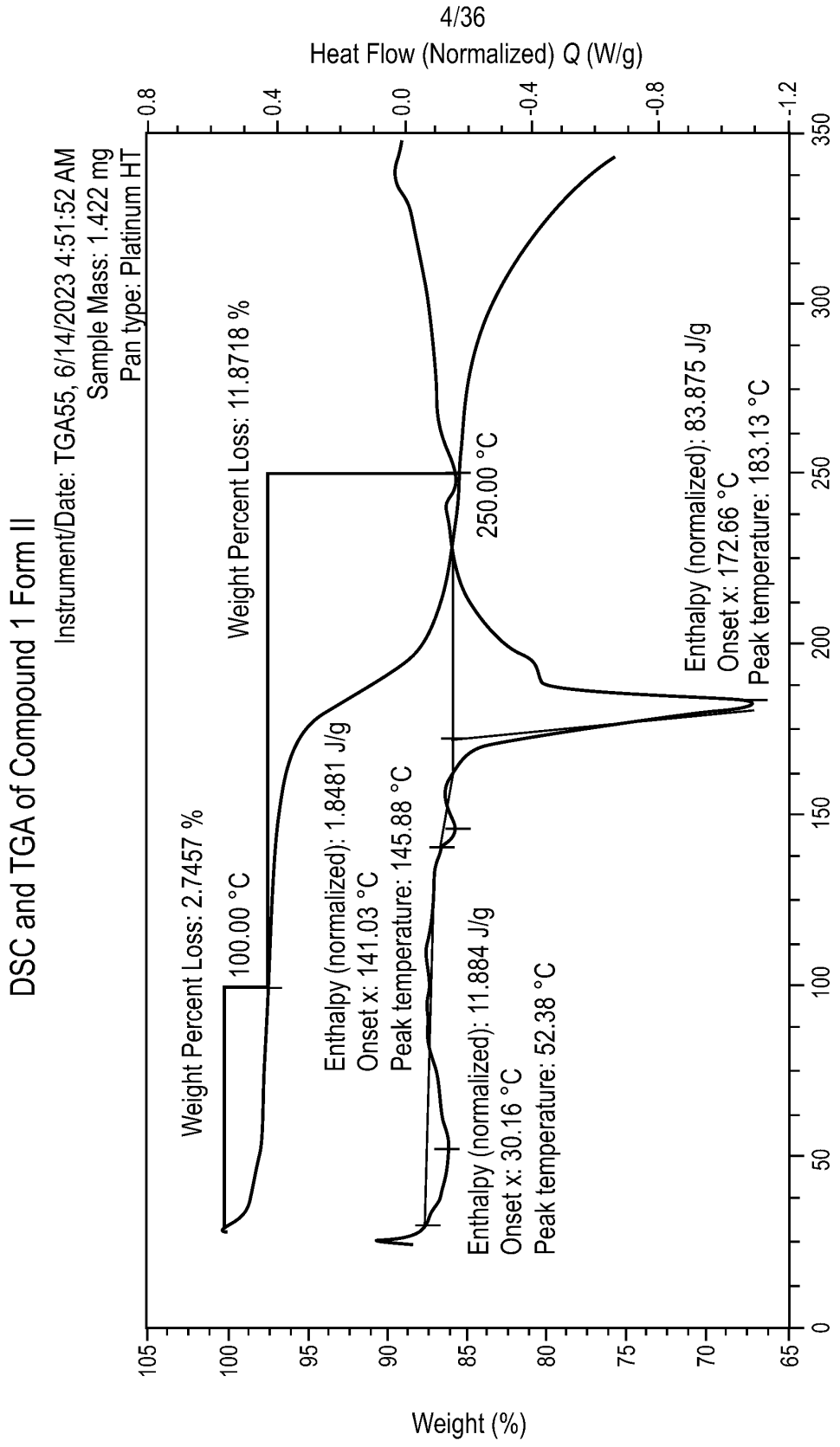
DSC and TGA of Compound 1 Form II
Instrument/Date: TGA55, 6/14/2023 4:51:52 AM
Sample Mass: 1.422 mg
Pan type: Platinum HT
Heat Flow (Normalized) Q (W/g)
Weight (%)
Temperature T (°C)
Weight Percent Loss: 2.7457 %
100.00 °C
Weight Percent Loss: 11.8718 %
250.00 °C
Enthalpy (normalized): 1.8481 J/g
Onset x: 141.03 °C
Peak temperature: 145.88 °C
Enthalpy (normalized): 11.884 J/g
Onset x: 30.16 °C
Peak temperature: 52.38 °C
Enthalpy (normalized): 83.875 J/g
Onset x: 172.66 °C
Peak temperature: 183.13 °C

FIG. 4

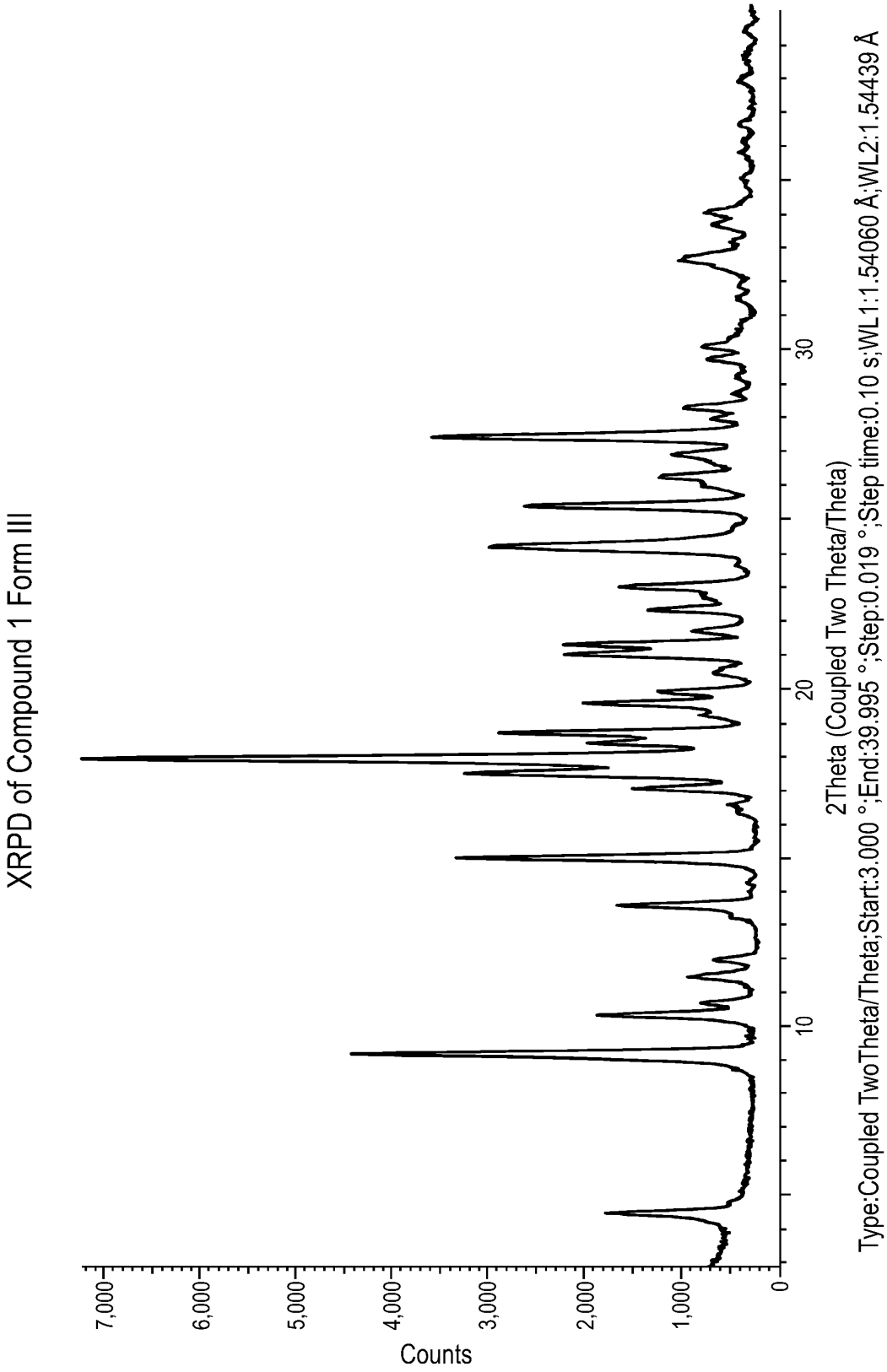
XRPD of Compound 1 Form III
Counts
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:39.995 °;Step:0.019 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 5

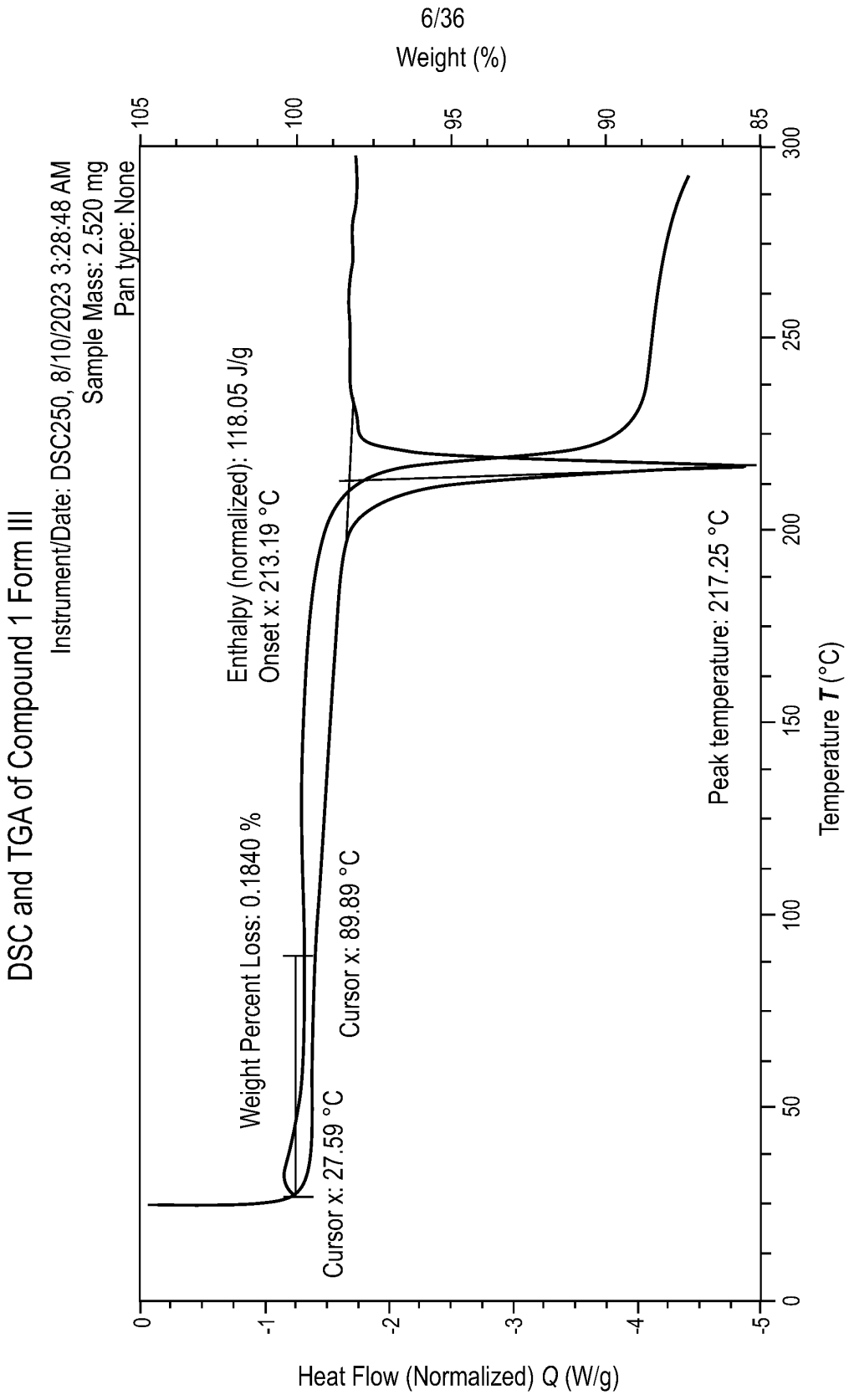
DSC and TGA of Compound 1 Form III
Instrument/Date: DSC250, 8/10/2023 3:28:48 AM
Sample Mass: 2.520 mg
Pan type: None
Weight (%)
105
100
95
90
85
Enthalpy (normalized): 118.05 J/g
Onset x: 213.19 °C
Weight Percent Loss: 0.1840 %
Cursor x: 89.89 °C
Cursor x: 27.59 °C
Peak temperature: 217.25 °C
0
-1
-2
-3
-4
-5
Heat Flow (Normalized) Q (W/g)
0
50
100
150
200
250
300
Temperature T (°C)

FIG. 6

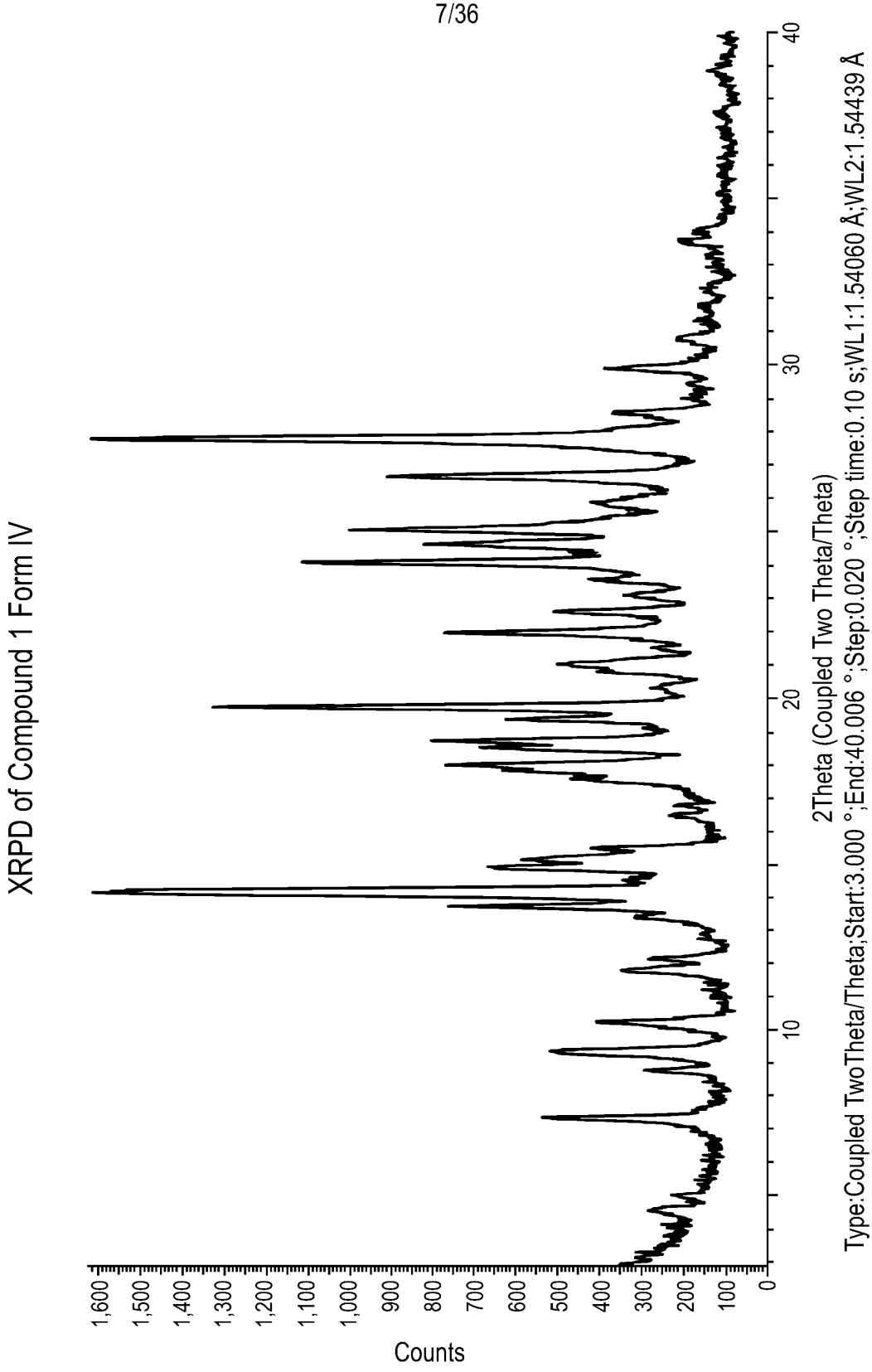
XRPD of Compound 1 Form IV
Counts
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
10
20
30
40
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:40.006 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 7

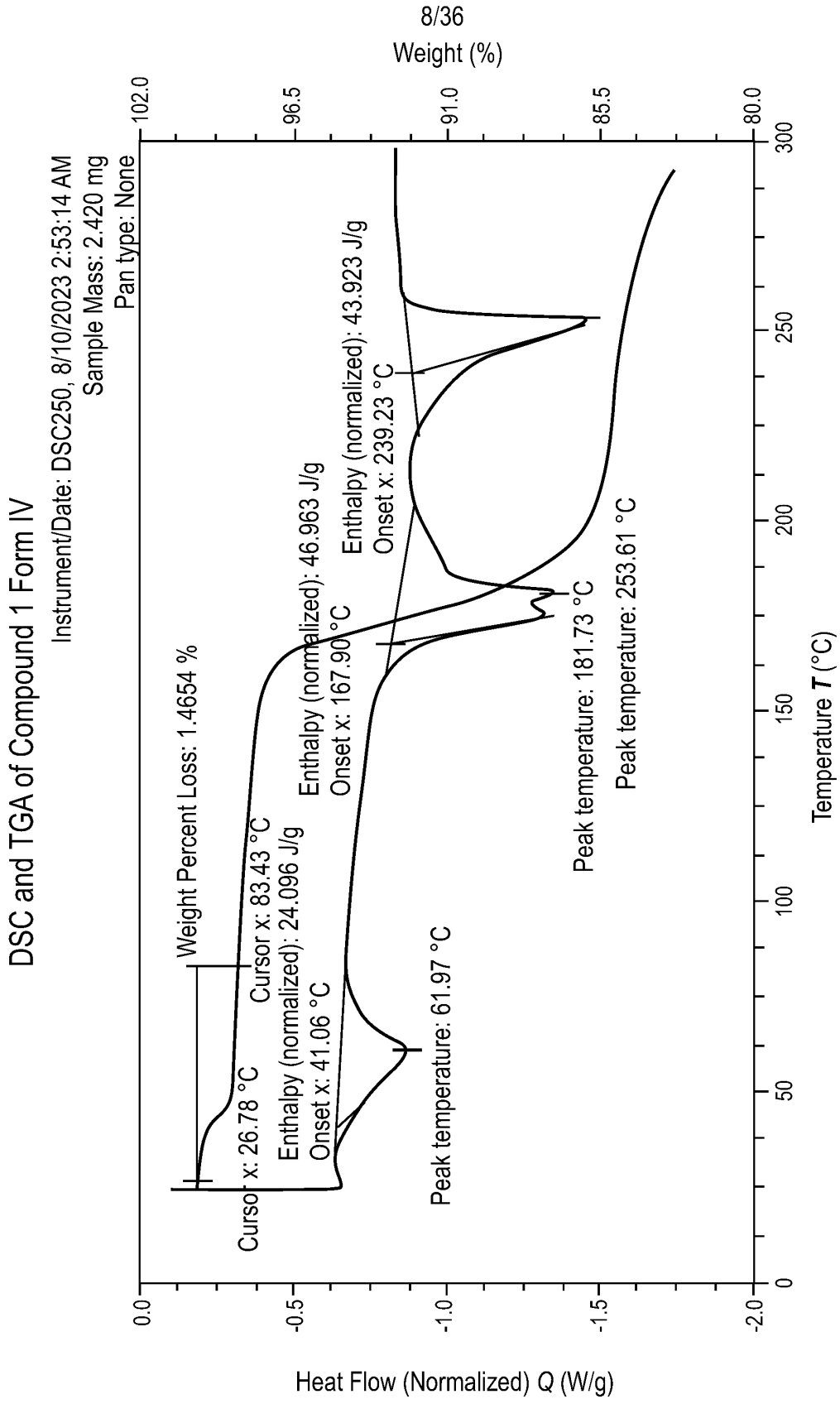
DSC and TGA of Compound 1 Form IV
Instrument/Date: DSC250, 8/10/2023 2:53:14 AM
Sample Mass: 2.420 mg
Pan type: None
Weight Percent Loss: 1.4654 %
Cursor x: 26.78 °C
Cursor x: 83.43 °C
Enthalpy (normalized): 24.096 J/g
Onset x: 41.06 °C
Peak temperature: 61.97 °C
Enthalpy (normalized): 46.963 J/g
Onset x: 167.90 °C
Peak temperature: 181.73 °C
Enthalpy (normalized): 43.923 J/g
Onset x: 239.23 °C
Peak temperature: 253.61 °C
Weight (%)
102.0
96.5
91.0
85.5
80.0
Heat Flow (Normalized) Q (W/g)
0.0
-0.5
-1.0
-1.5
-2.0
Temperature T (°C)
0
50
100
150
200
250
300

FIG. 8

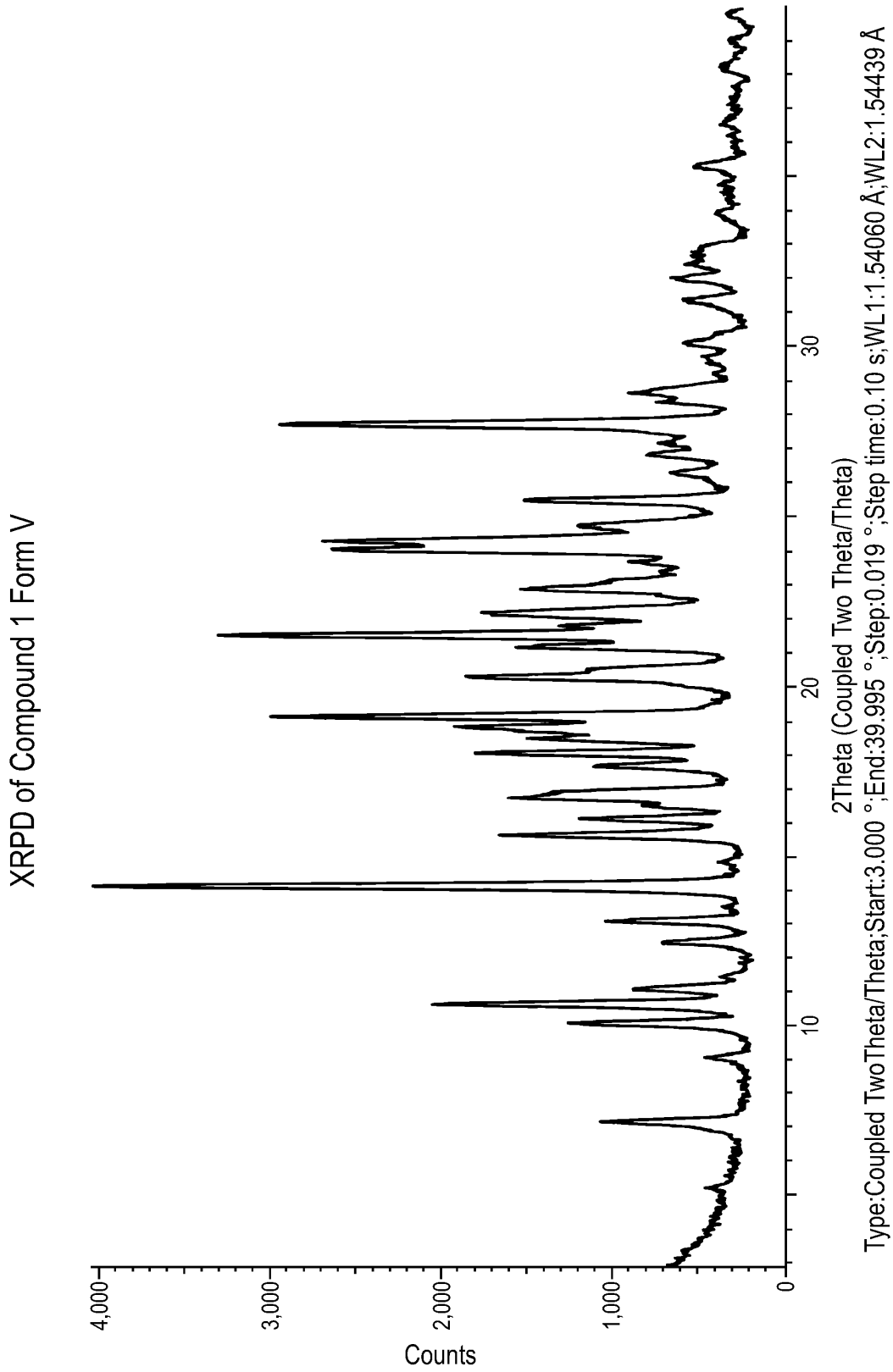
XRPD of Compound 1 Form V
Counts
4,000
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:39.995 °;Step:0.019 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 9

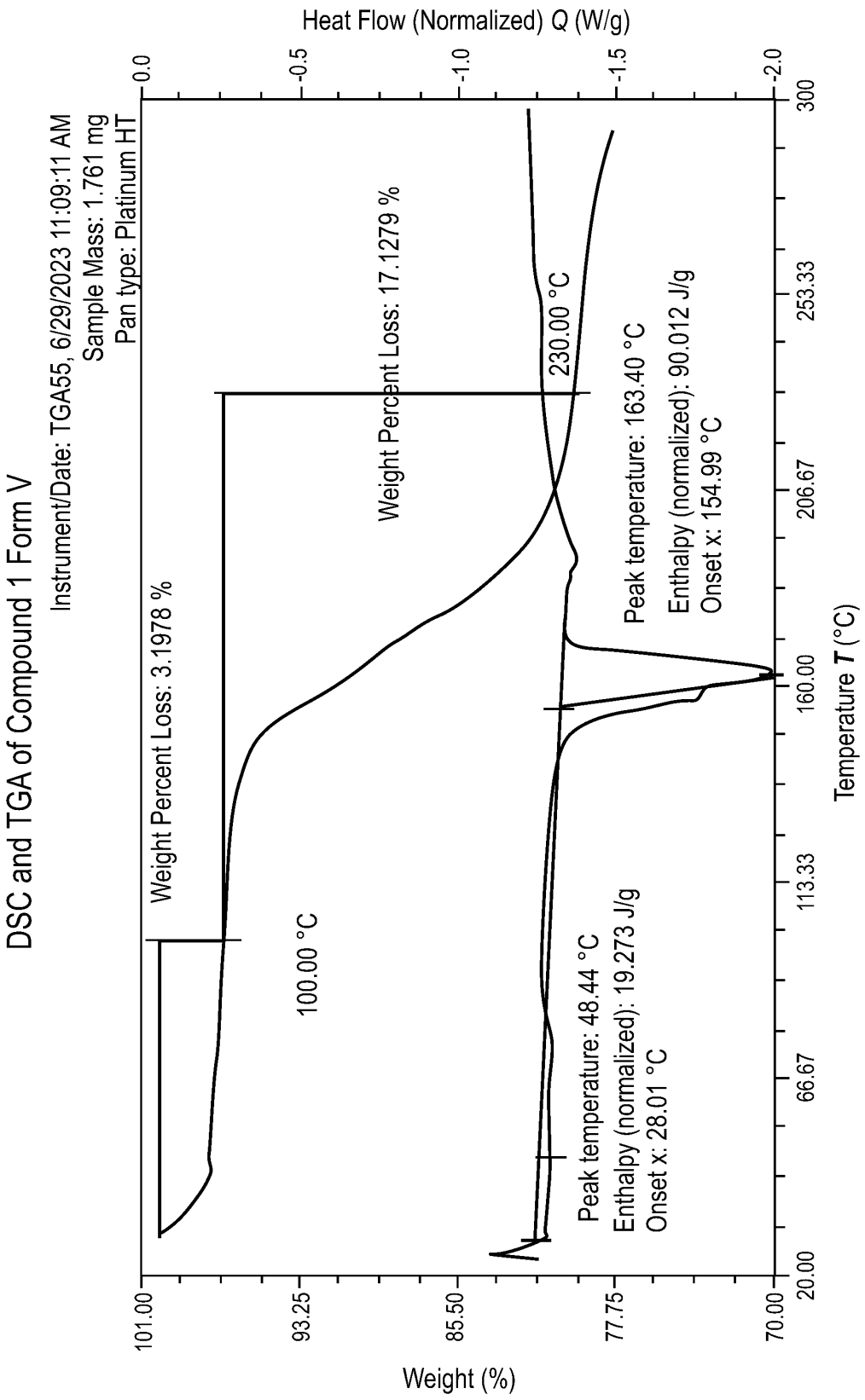
DSC and TGA of Compound 1 Form V
Instrument/Date: TGA55, 6/29/2023 11:09:11 AM
Sample Mass: 1.761 mg
Pan type: Platinum HT
Heat Flow (Normalized) Q (W/g)
0.0
-0.5
-1.0
-1.5
-2.0
Weight Percent Loss: 3.1978 %
100.00 °C
Weight Percent Loss: 17.1279 %
230.00 °C
Peak temperature: 48.44 °C
Enthalpy (normalized): 19.273 J/g
Onset x: 28.01 °C
Peak temperature: 163.40 °C
Enthalpy (normalized): 90.012 J/g
Onset x: 154.99 °C
101.00
93.25
85.50
77.75
70.00
Weight (%)
20.00
66.67
113.33
160.00
206.67
253.33
300
Temperature T (°C)

FIG. 10

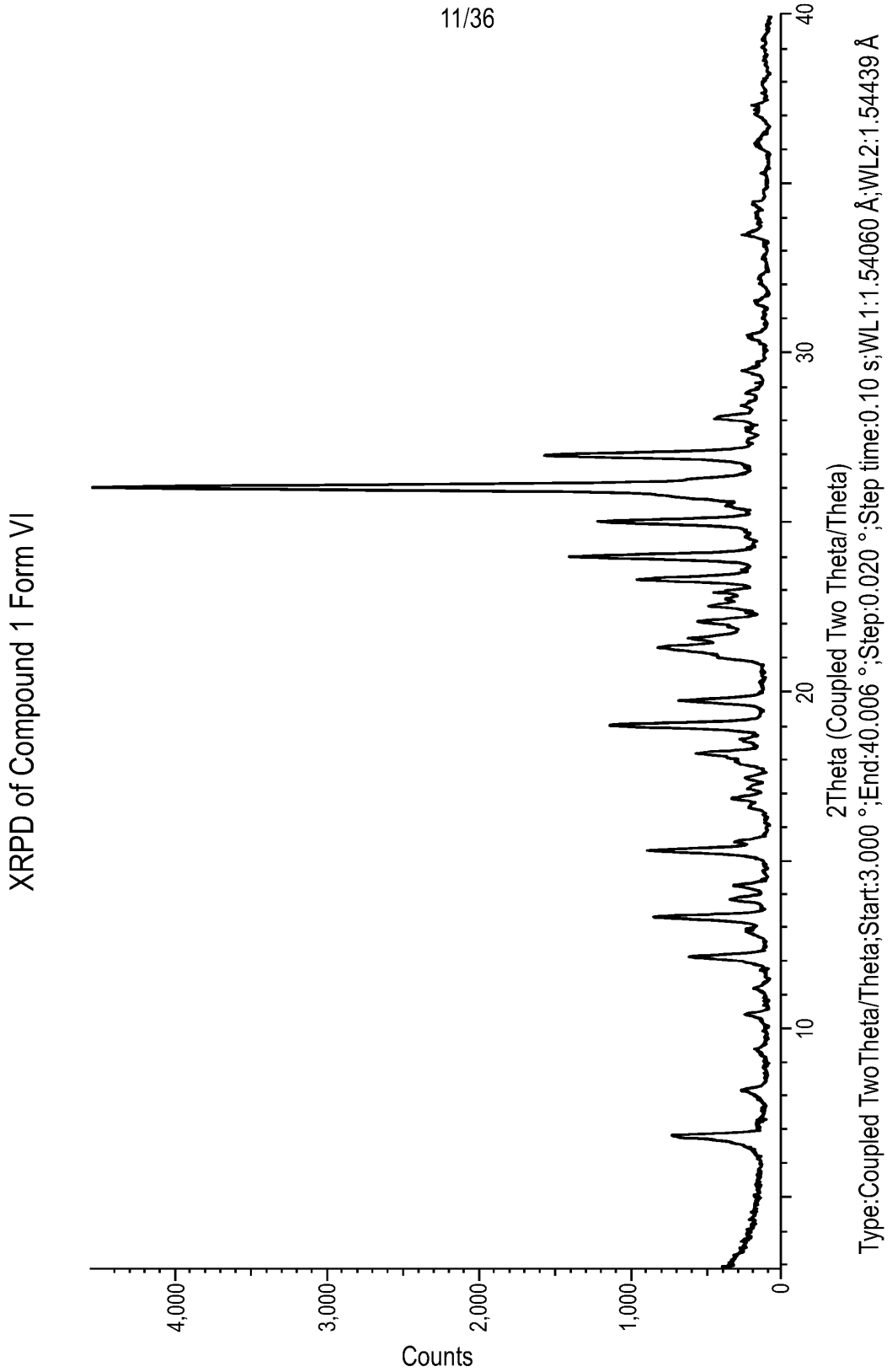
XRPD of Compound 1 Form VI
Counts
4,000
3,000
2,000
1,000
0
10
20
30
40
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:40.006 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 11

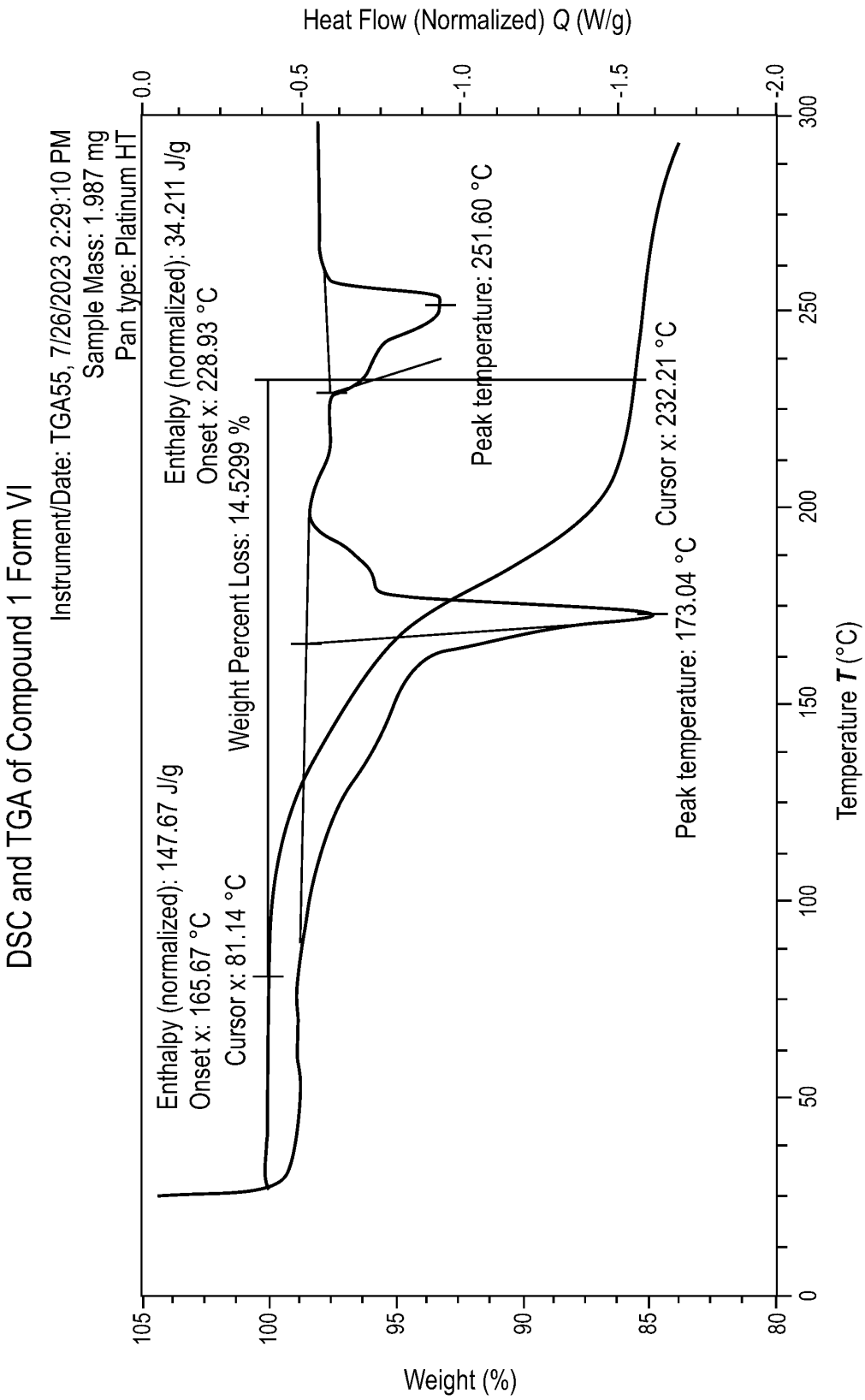
DSC and TGA of Compound 1 Form VI
Instrument/Date: TGA55, 7/26/2023 2:29:10 PM
Sample Mass: 1.987 mg
Pan type: Platinum HT
Enthalpy (normalized): 147.67 J/g
Onset x: 165.67 °C
Cursor x: 81.14 °C
Weight Percent Loss: 14.5299 %
Enthalpy (normalized): 34.211 J/g
Onset x: 228.93 °C
Peak temperature: 251.60 °C
Peak temperature: 173.04 °C
Cursor x: 232.21 °C
Heat Flow (Normalized) Q (W/g)
Weight (%)
Temperature T (°C)
0.0
-0.5
-1.0
-1.5
-2.0
105
100
95
90
85
80
0
50
100
150
200
250
300

FIG. 12

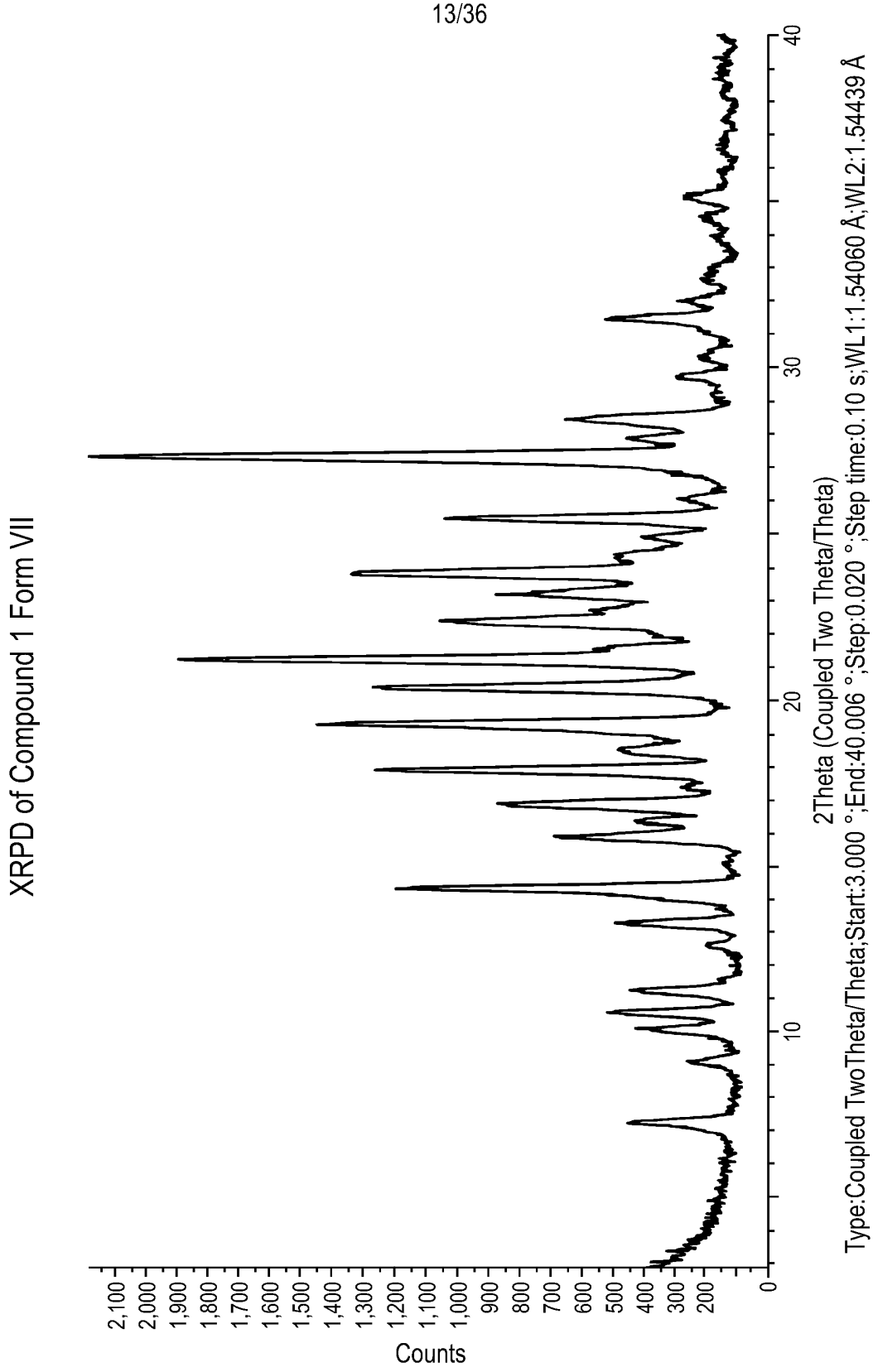
XRPD of Compound 1 Form VII
Counts
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:40.006 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 13

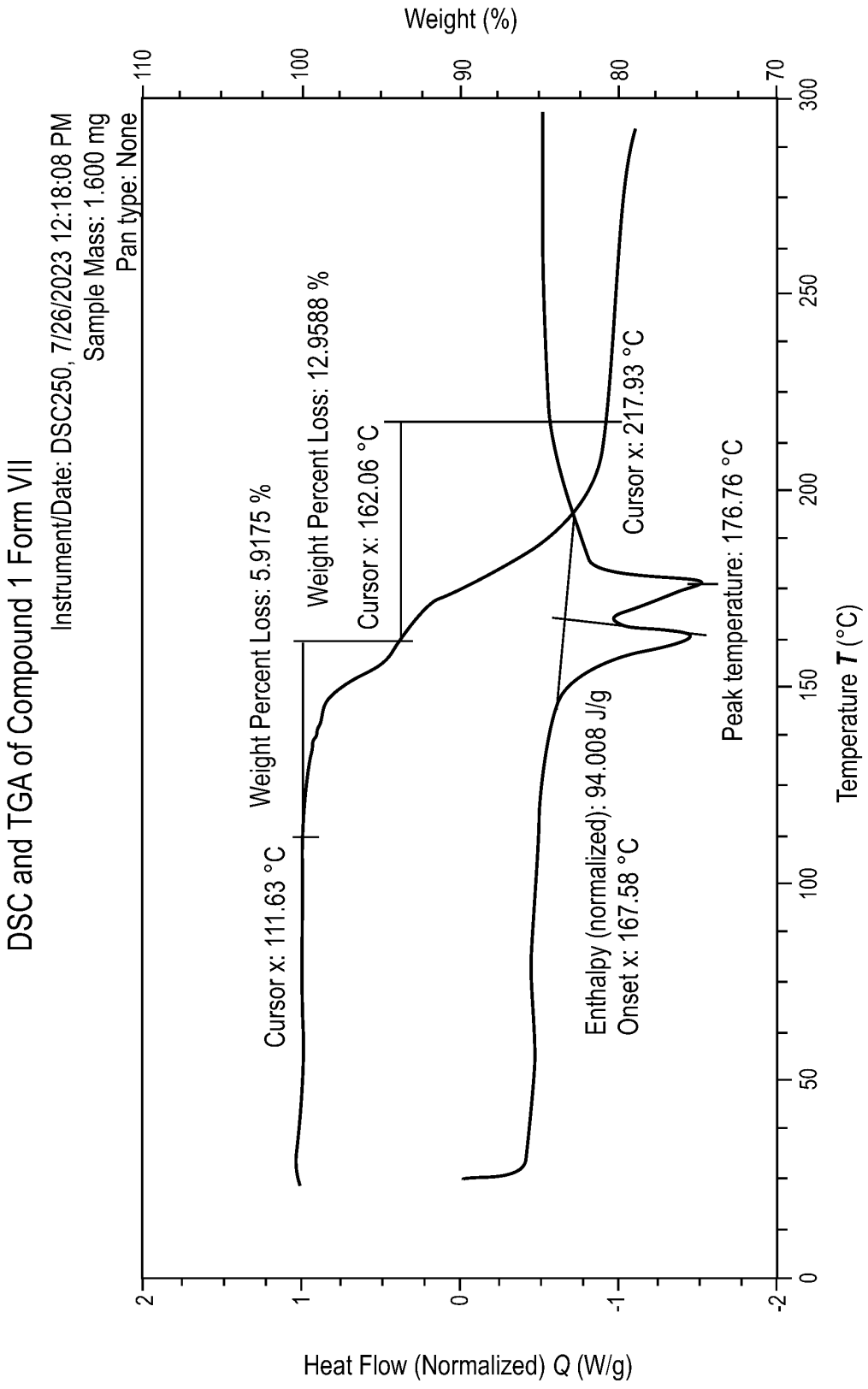
DSC and TGA of Compound 1 Form VII
Instrument/Date: DSC250, 7/26/2023 12:18:08 PM
Sample Mass: 1.600 mg
Pan type: None
Weight (%)
110
100
90
80
70
Weight Percent Loss: 5.9175 %
Cursor x: 111.63 °C
Weight Percent Loss: 12.9588 %
Cursor x: 162.06 °C
Cursor x: 217.93 °C
Peak temperature: 176.76 °C
Enthalpy (normalized): 94.008 J/g
Onset x: 167.58 °C
2
1
0
-1
-2
Heat Flow (Normalized) Q (W/g)
0
50
100
150
200
250
300
Temperature T (°C)

FIG. 14

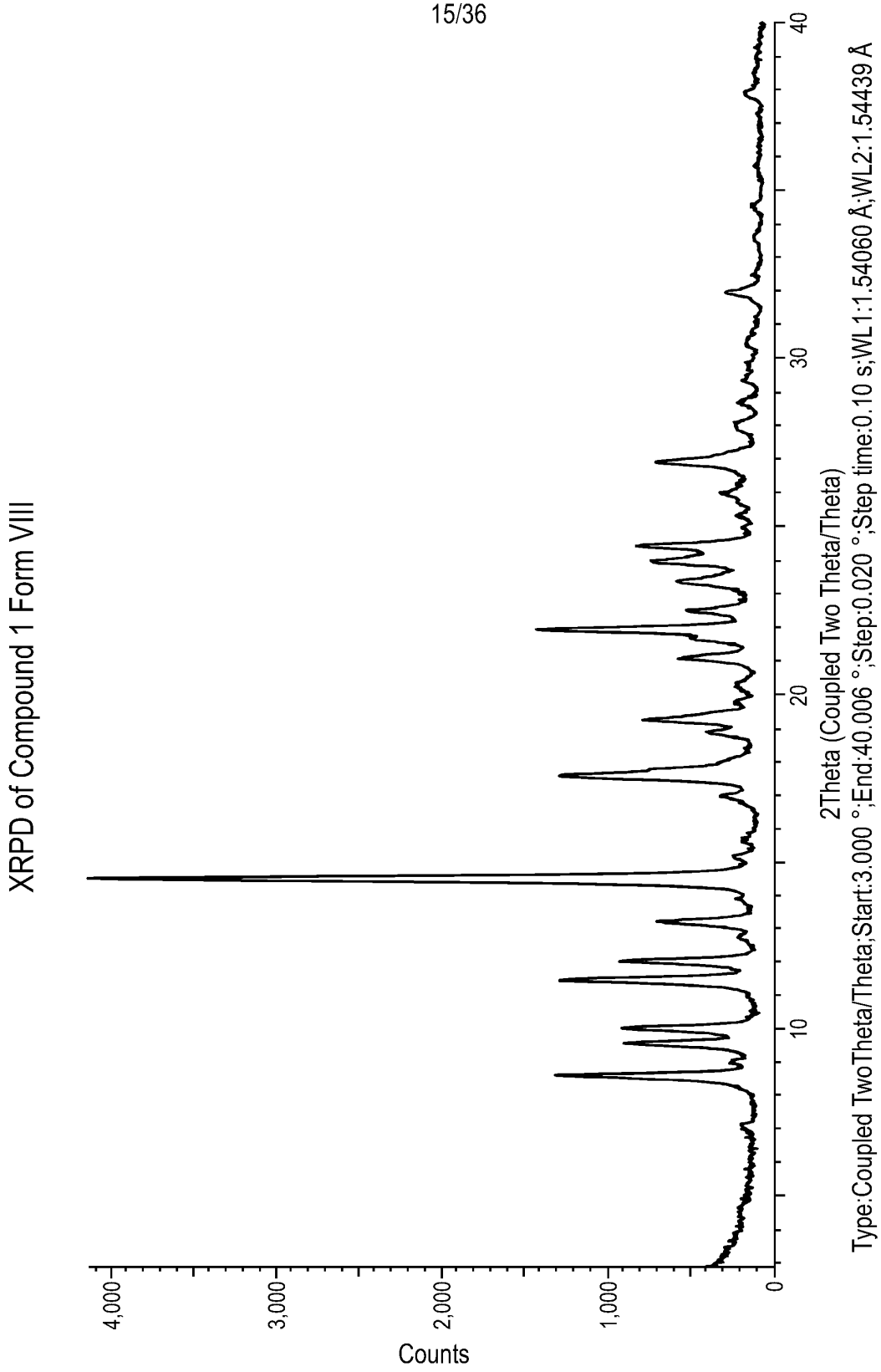
XRPD of Compound 1 Form VIII
Counts
4,000
3,000
2,000
1,000
0
10
20
30
40
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:40.006 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 15

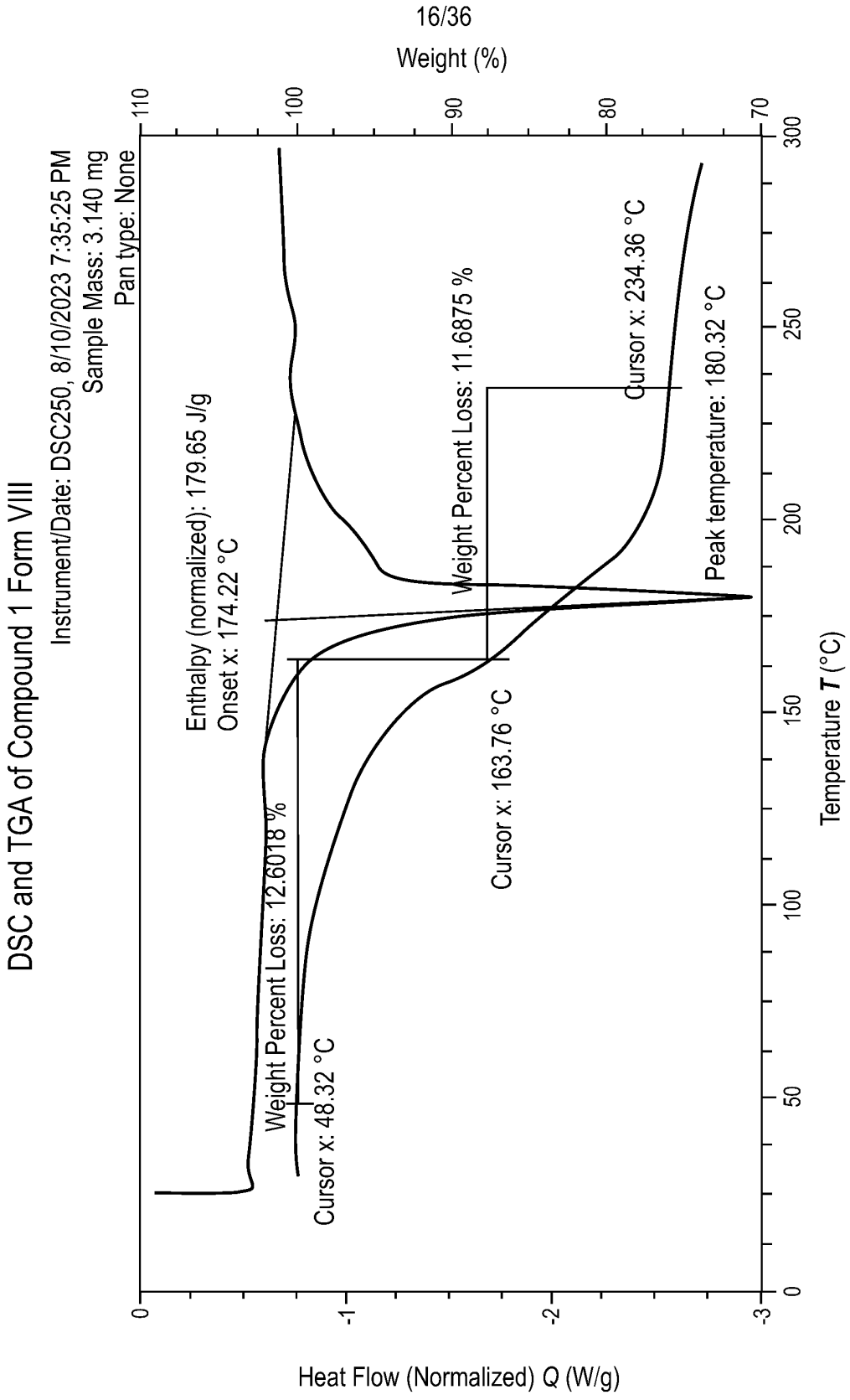
DSC and TGA of Compound 1 Form VIII
Instrument/Date: DSC250, 8/10/2023 7:35:25 PM
Sample Mass: 3.140 mg
Pan type: None
Enthalpy (normalized): 179.65 J/g
Onset x: 174.22 °C
Weight Percent Loss: 12.6018 %
Cursor x: 48.32 °C
Weight Percent Loss: 11.6875 %
Cursor x: 163.76 °C
Cursor x: 234.36 °C
Peak temperature: 180.32 °C
Weight (%)
Heat Flow (Normalized) Q (W/g)
Temperature T (°C)

FIG. 16

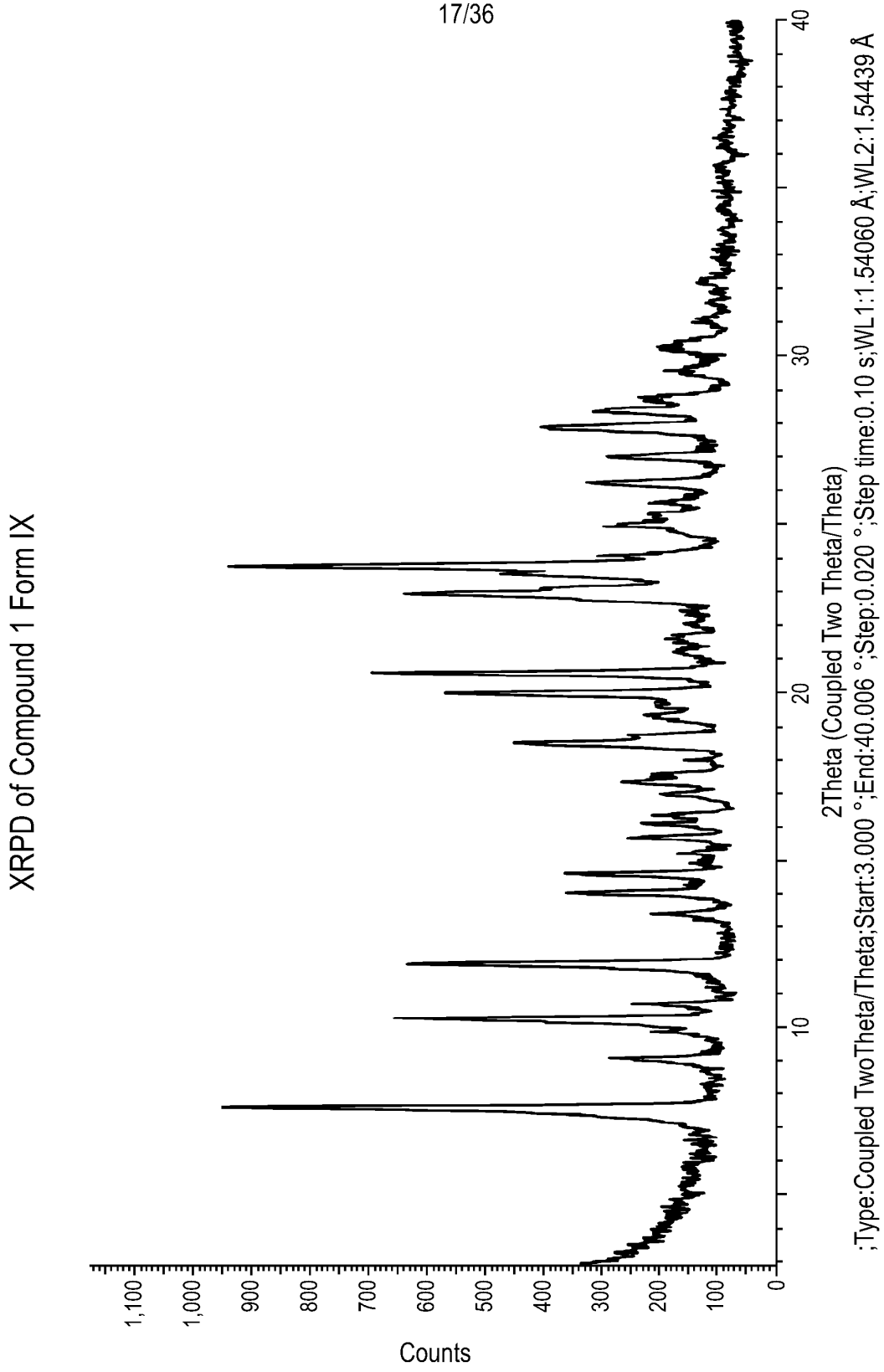
XRPD of Compound 1 Form IX
Counts
1,100
1,000
900
800
700
600
500
400
300
200
100
0
10
20
30
40
2Theta (Coupled Two Theta/Theta)
;Type:Coupled TwoTheta/Theta;Start:3.000 °;End:40.006 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 17

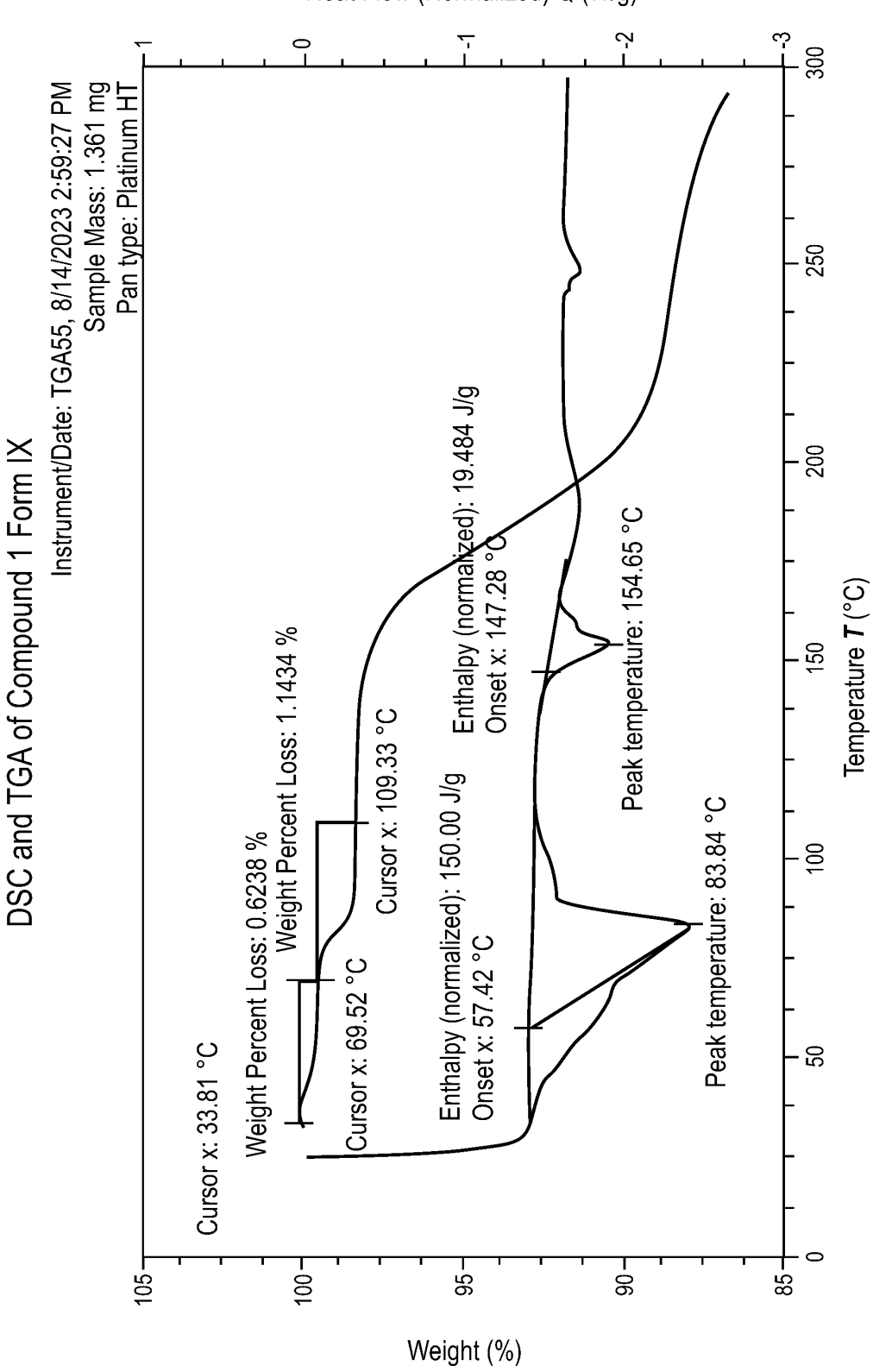
DSC and TGA of Compound 1 Form IX
Instrument/Date: TGA55, 8/14/2023 2:59:27 PM
Sample Mass: 1.361 mg
Pan type: Platinum HT
Heat Flow (Normalized) Q (W/g)
Weight (%)
Temperature T (°C)
Cursor x: 33.81 °C
Weight Percent Loss: 0.6238 %
Weight Percent Loss: 1.1434 %
Cursor x: 69.52 °C
Cursor x: 109.33 °C
Enthalpy (normalized): 150.00 J/g
Onset x: 57.42 °C
Enthalpy (normalized): 19.484 J/g
Onset x: 147.28 °C
Peak temperature: 83.84 °C
Peak temperature: 154.65 °C

FIG. 18

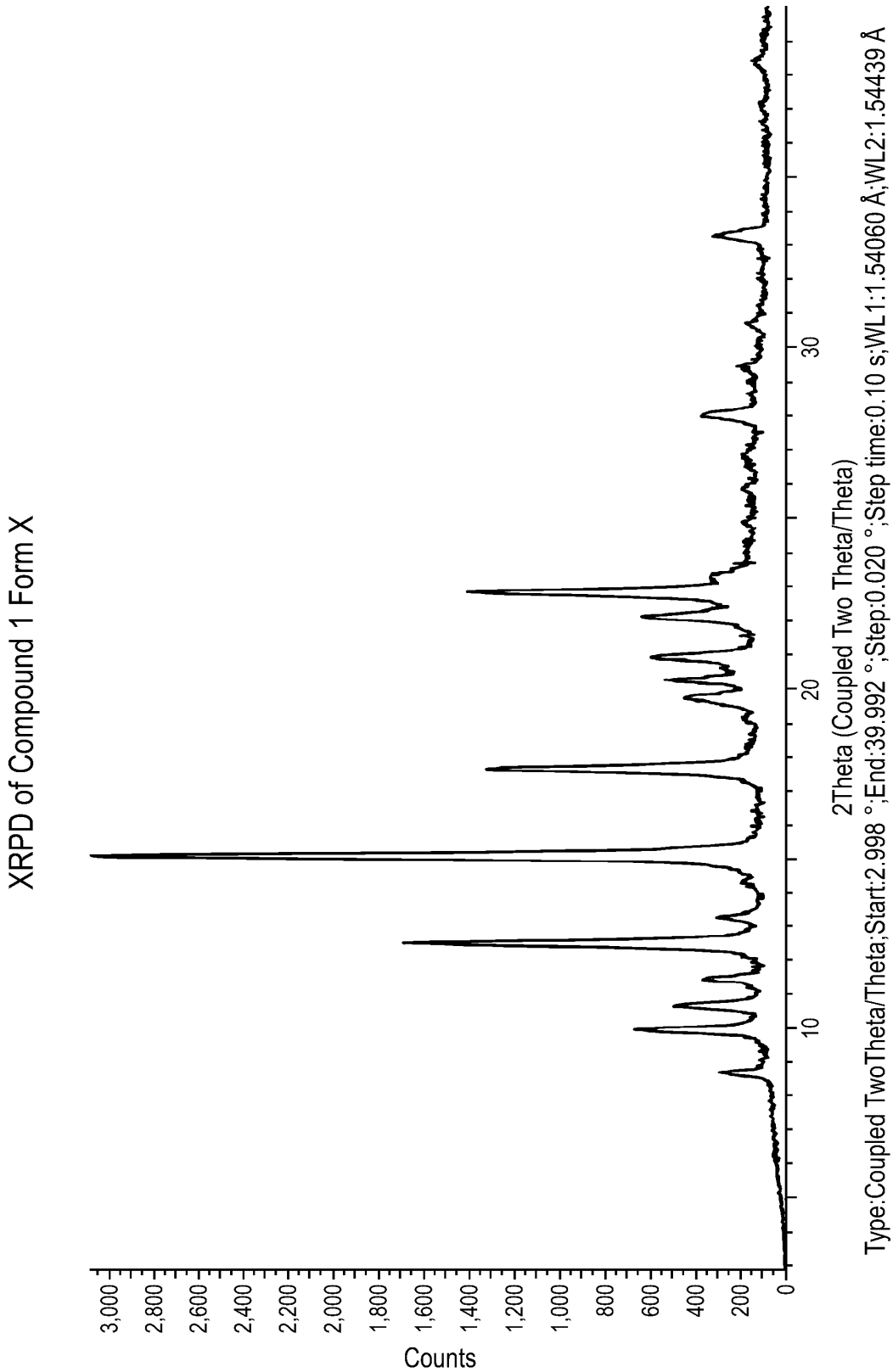
XRPD of Compound 1 Form X
Counts
3,000
2,800
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
10
20
30
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:2.998 °;End:39.992 °;Step:0.020 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 19

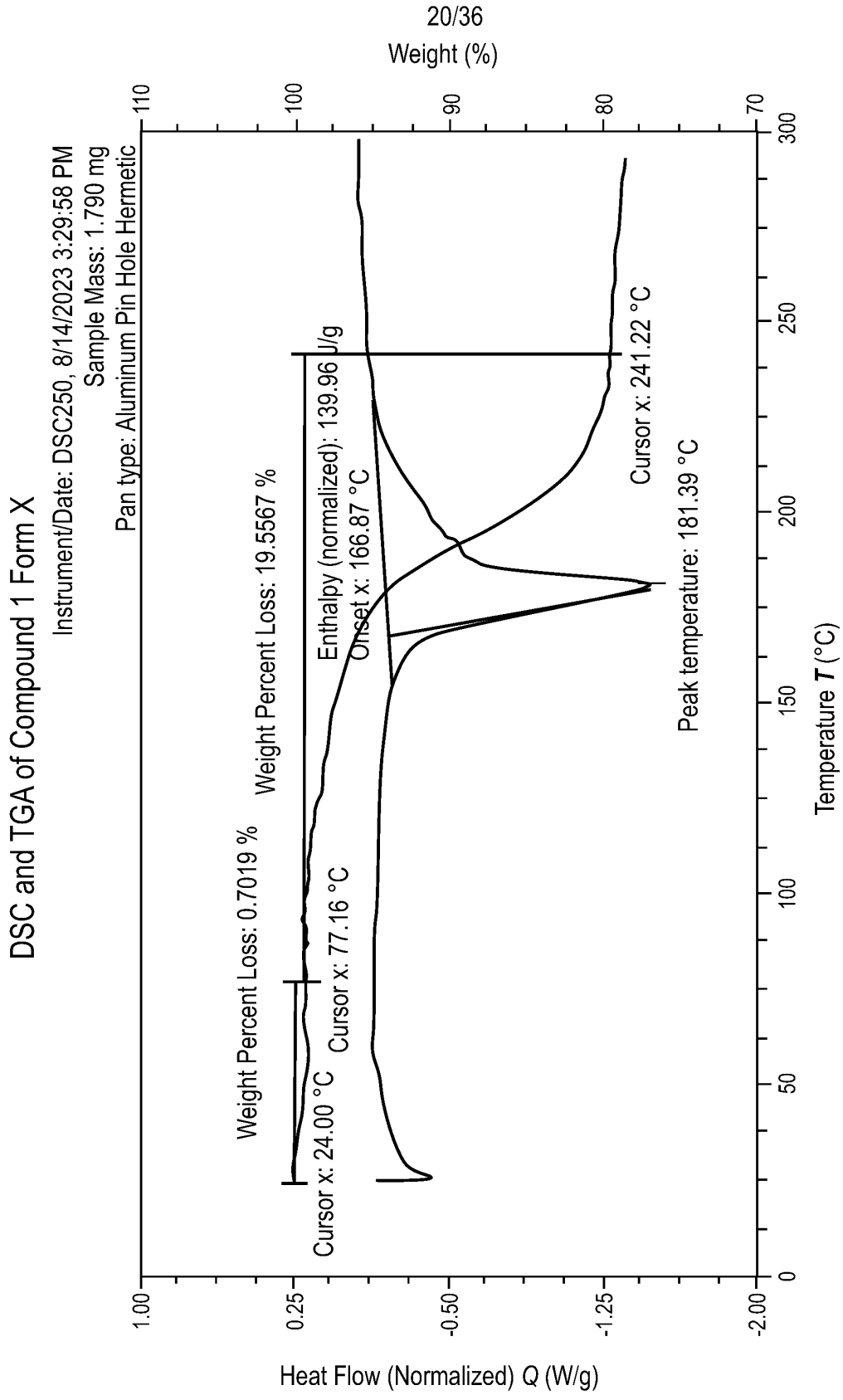
DSC and TGA of Compound 1 Form X
Instrument/Date: DSC250, 8/14/2023 3:29:58 PM
Sample Mass: 1.790 mg
Pan type: Aluminum Pin Hole Hermetic
Weight (%)
Heat Flow (Normalized) Q (W/g)
Temperature T (°C)
Weight Percent Loss: 0.7019 %
Cursor x: 24.00 °C
Cursor x: 77.16 °C
Weight Percent Loss: 19.5567 %
Enthalpy (normalized): 139.96 J/g
Onset x: 166.87 °C
Peak temperature: 181.39 °C
Cursor x: 241.22 °C

FIG. 20

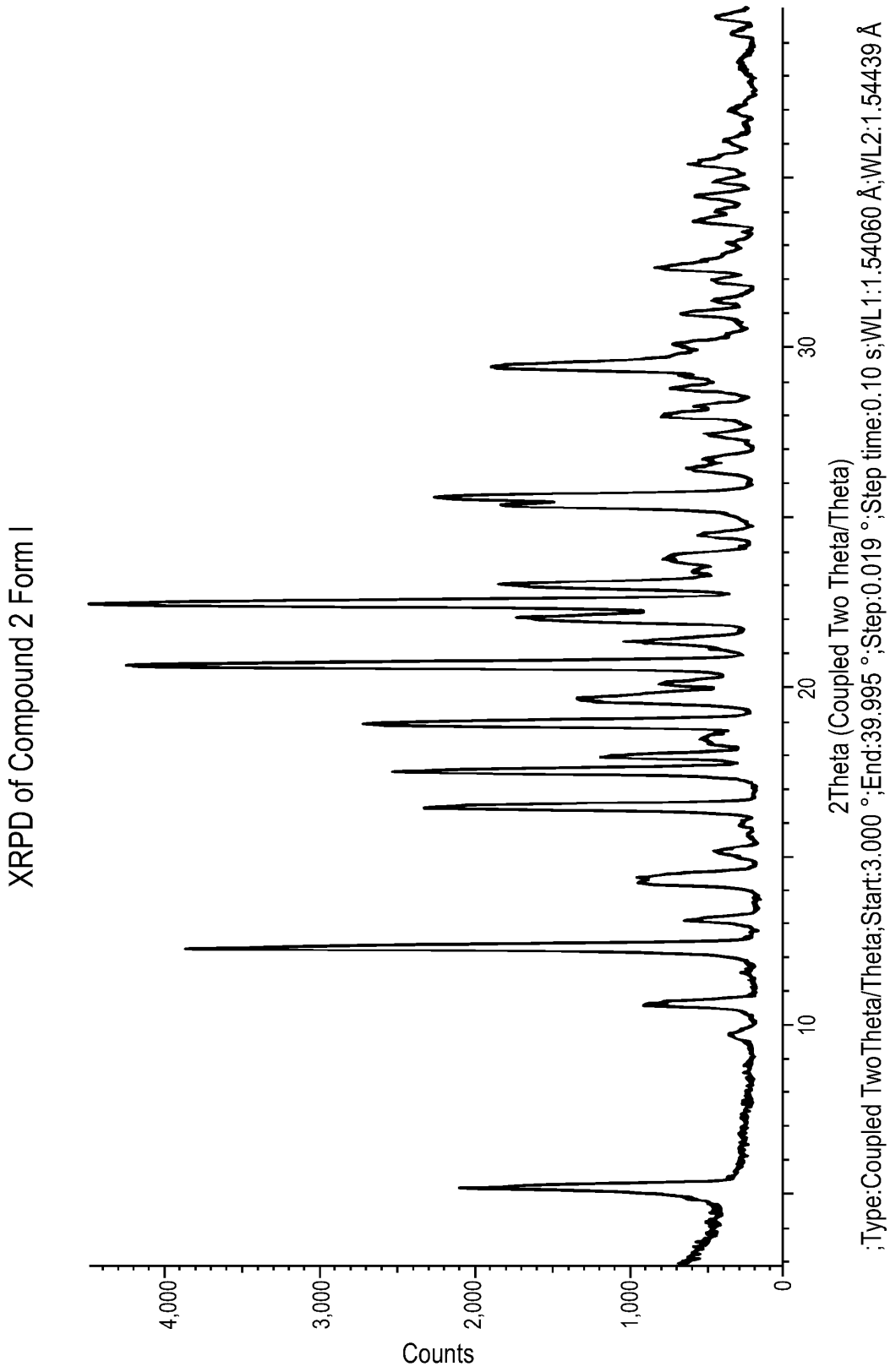
XRPD of Compound 2 Form I
Counts
4,000
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)
;Type:Coupled TwoTheta/Theta;Start:3.000 °;End:39.995 °;Step:0.019 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 21

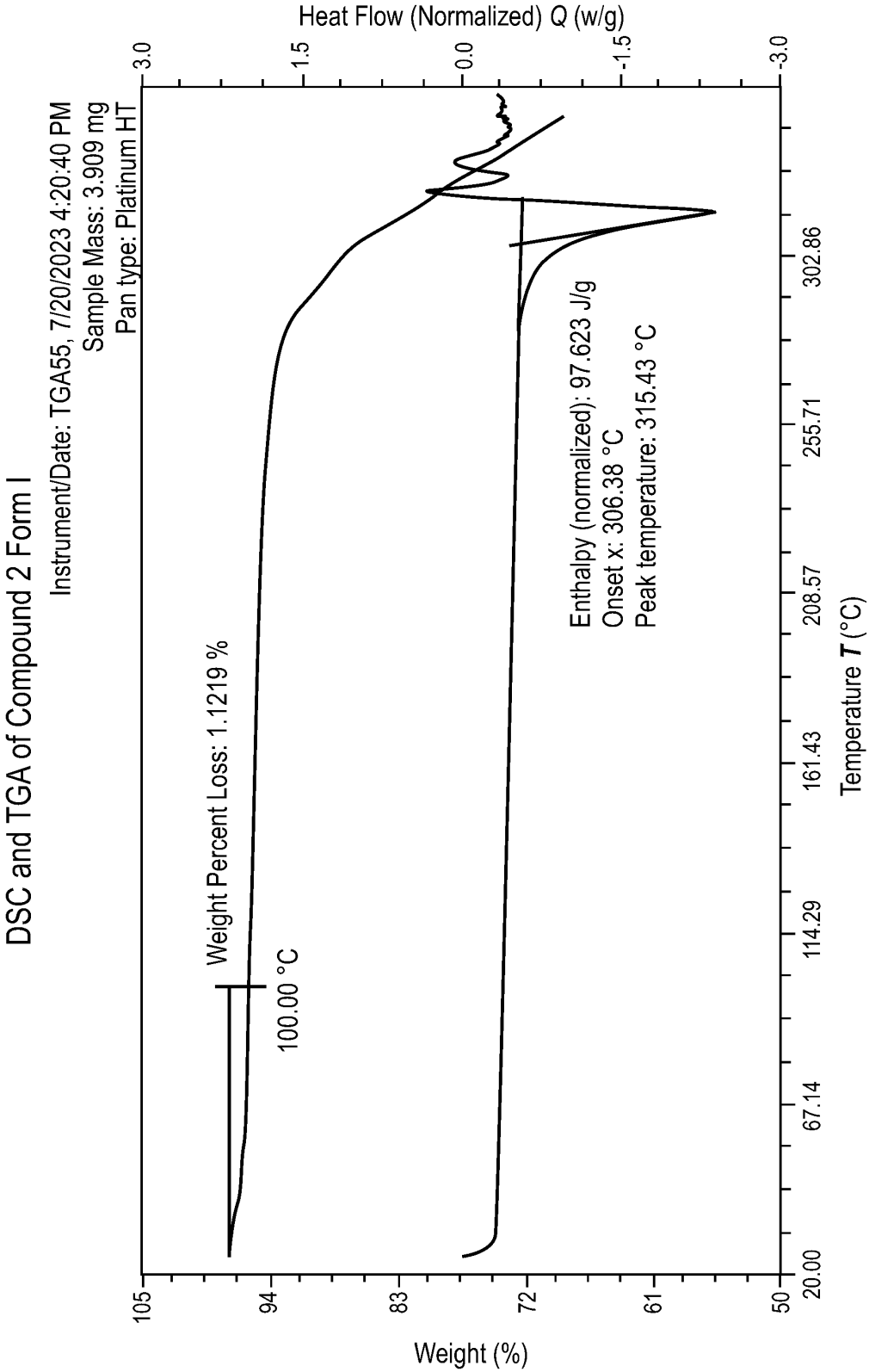
DSC and TGA of Compound 2 Form I
Instrument/Date: TGA55, 7/20/2023 4:20:40 PM
Sample Mass: 3.909 mg
Pan type: Platinum HT
Heat Flow (Normalized) Q (w/g)
3.0
1.5
0.0
-1.5
-3.0
Weight Percent Loss: 1.1219 %
100.00 °C
Enthalpy (normalized): 97.623 J/g
Onset x: 306.38 °C
Peak temperature: 315.43 °C
105
94
83
72
61
50
Weight (%)
20.00
67.14
114.29
161.43
208.57
255.71
302.86
Temperature T (°C)

FIG. 22

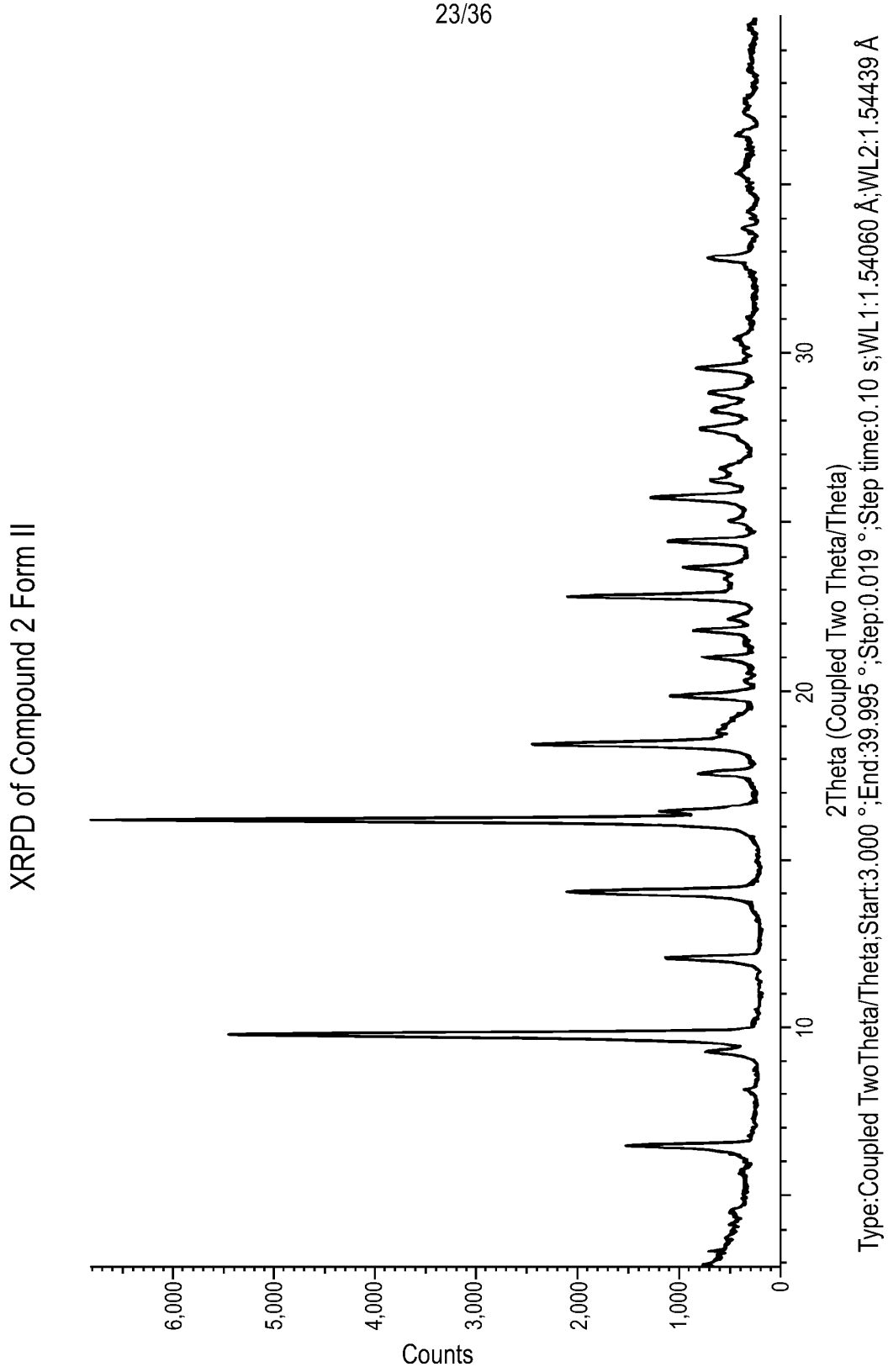
XRPD of Compound 2 Form II
Counts
6,000
5,000
4,000
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)
Type:Coupled TwoTheta/Theta;Start:3.000 °;End:39.995 °;Step:0.019 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 23

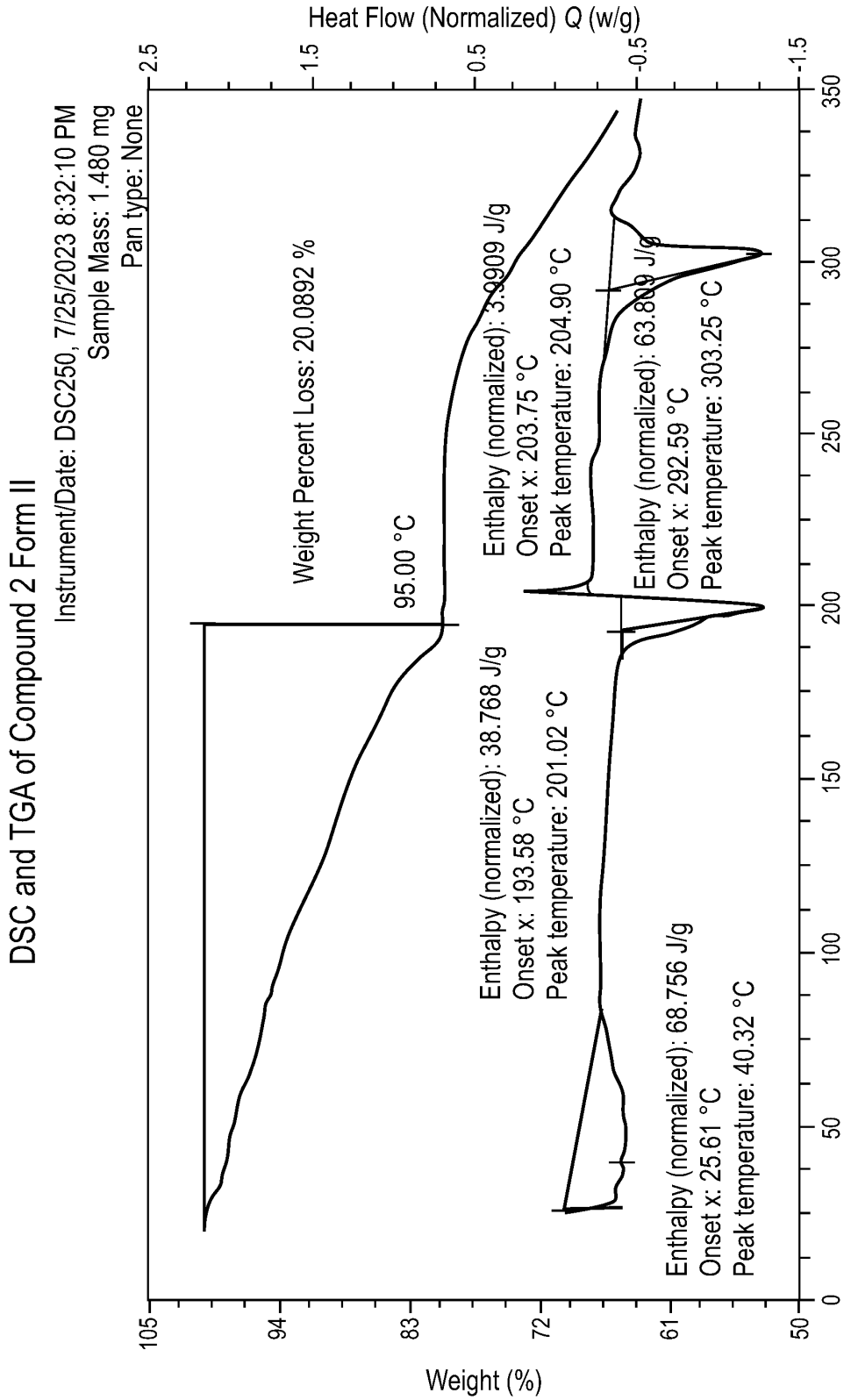
DSC and TGA of Compound 2 Form II
Instrument/Date: DSC250, 7/25/2023 8:32:10 PM
Sample Mass: 1.480 mg
Pan type: None
Weight Percent Loss: 20.0892 %
95.00 °C
Enthalpy (normalized): 38.768 J/g
Onset x: 193.58 °C
Peak temperature: 201.02 °C
Enthalpy (normalized): 3.9909 J/g
Onset x: 203.75 °C
Peak temperature: 204.90 °C
Enthalpy (normalized): 63.809 J/g
Onset x: 292.59 °C
Peak temperature: 303.25 °C
Enthalpy (normalized): 68.756 J/g
Onset x: 25.61 °C
Peak temperature: 40.32 °C
Heat Flow (Normalized) Q (w/g)
2.5
1.5
0.5
-0.5
-1.5
Weight (%)
105
94
83
72
61
50
Temperature T (°C)
0
50
100
150
200
250
300
350

FIG. 24

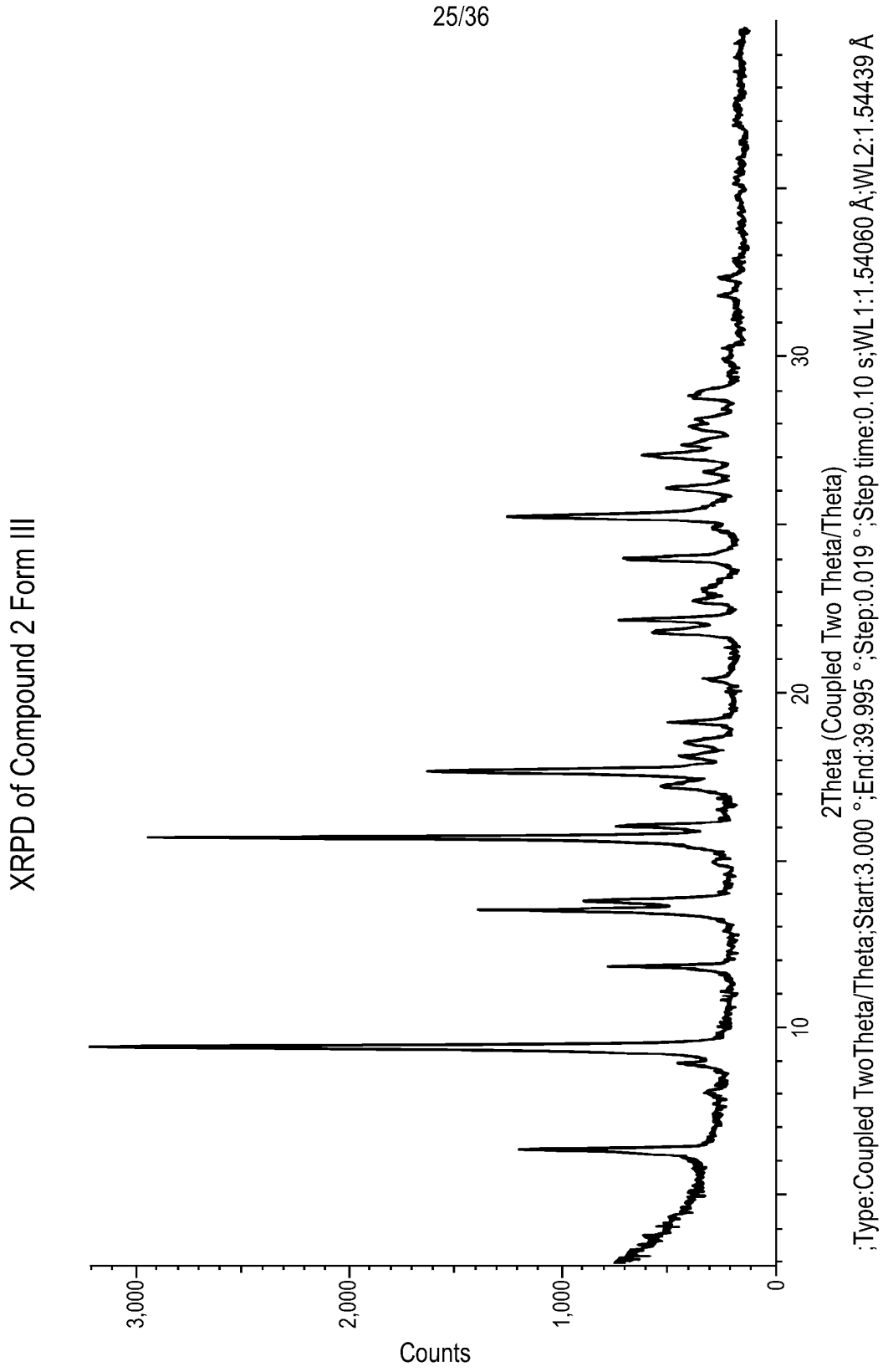
XRPD of Compound 2 Form III
Counts
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)
;Type:Coupled TwoTheta/Theta;Start:3.000 °;End:39.995 °;Step:0.019 °;Step time:0.10 s;WL1:1.54060 Å;WL2:1.54439 Å

FIG. 25

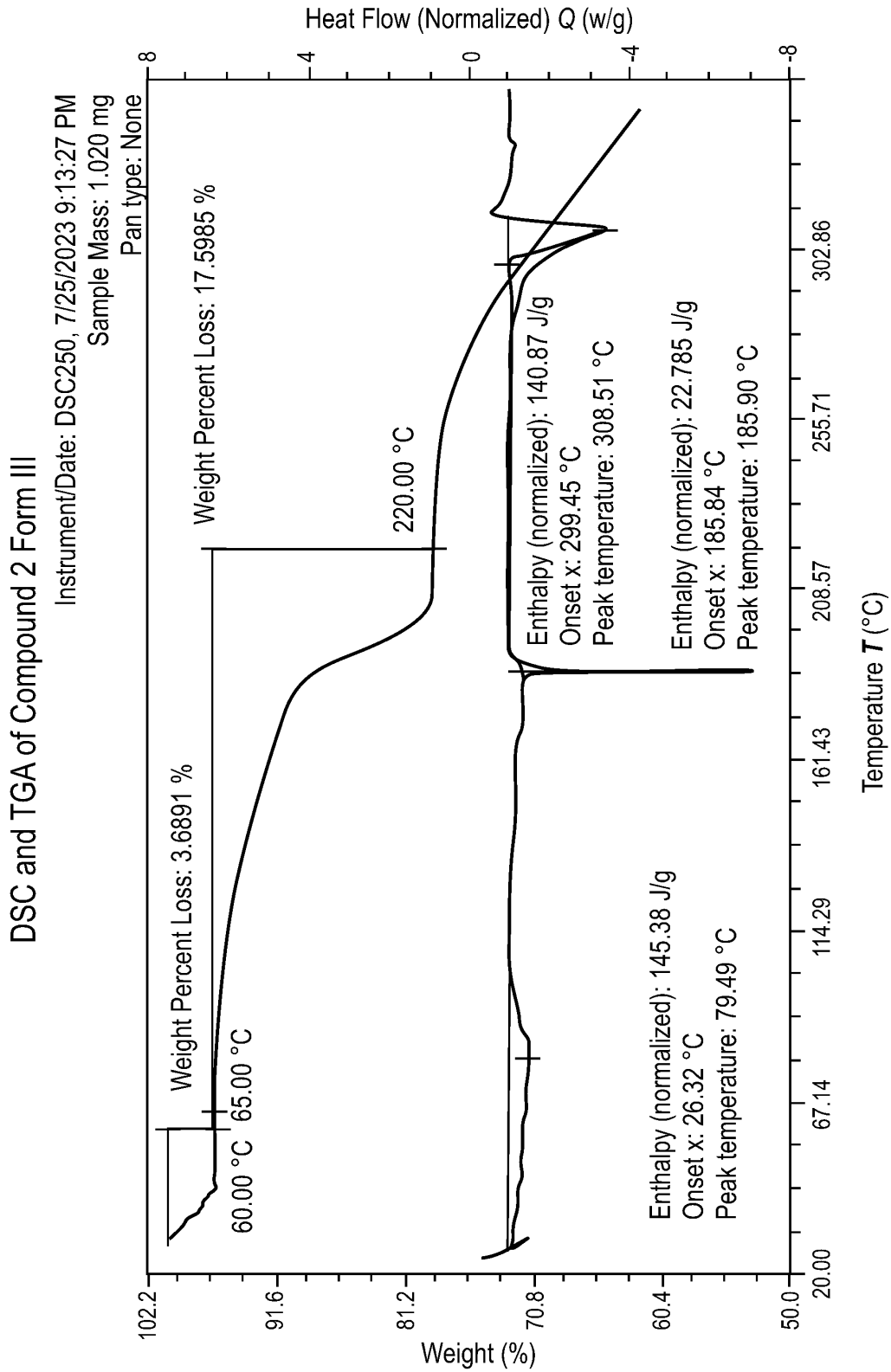
DSC and TGA of Compound 2 Form III
Instrument/Date: DSC250, 7/25/2023 9:13:27 PM
Sample Mass: 1.020 mg
Pan type: None
Heat Flow (Normalized) Q (w/g)
8
4
0
-4
-8
Weight Percent Loss: 17.5985 %
220.00 °C
Enthalpy (normalized): 140.87 J/g
Onset x: 299.45 °C
Peak temperature: 308.51 °C
Enthalpy (normalized): 22.785 J/g
Onset x: 185.84 °C
Peak temperature: 185.90 °C
Weight Percent Loss: 3.6891 %
60.00 °C
65.00 °C
Enthalpy (normalized): 145.38 J/g
Onset x: 26.32 °C
Peak temperature: 79.49 °C
102.2
91.6
81.2
70.8
60.4
50.0
Weight (%)
20.00
67.14
114.29
161.43
208.57
255.71
302.86
Temperature T (°C)

FIG. 26

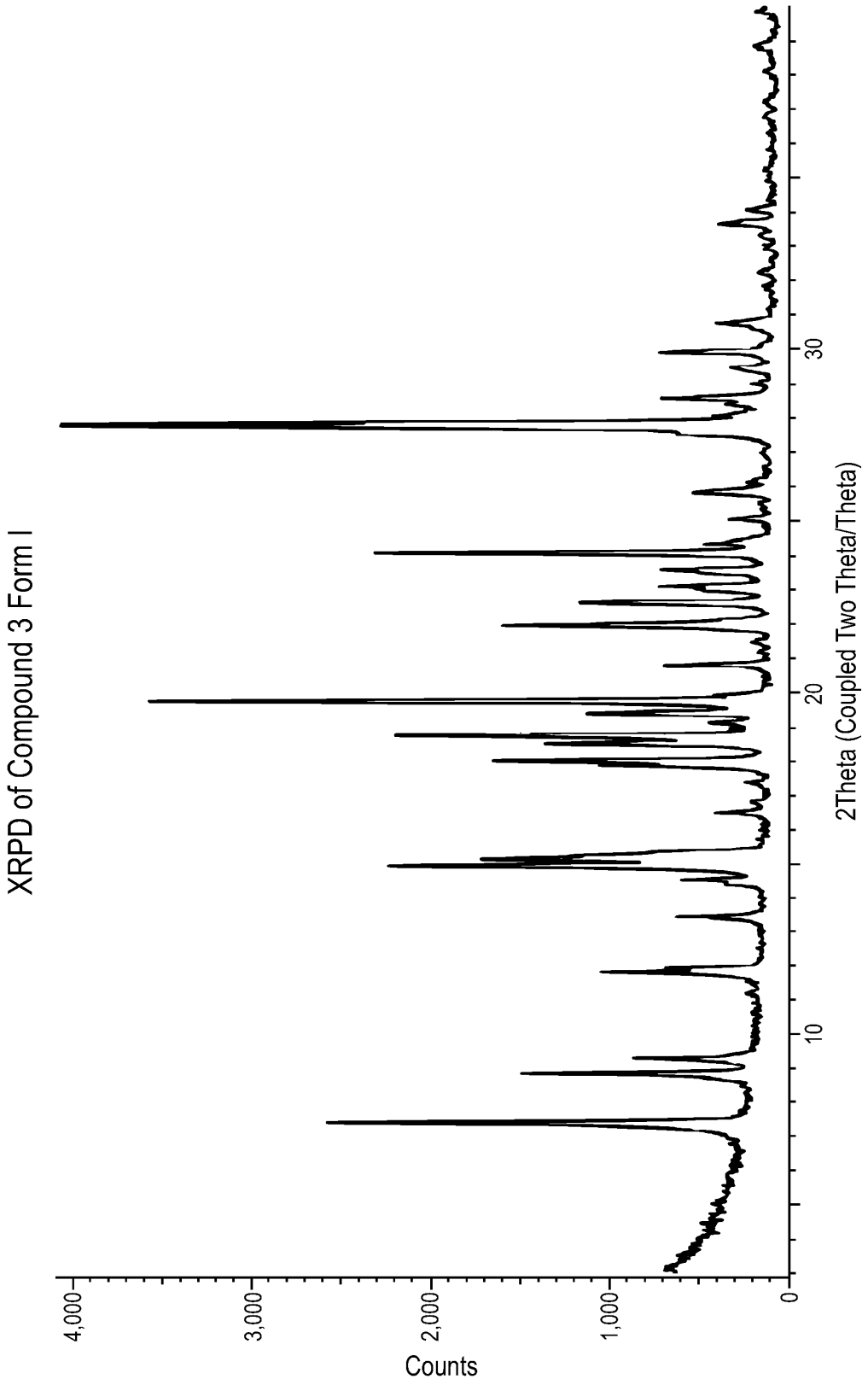
XRPD of Compound 3 Form I
Counts
4,000
3,000
2,000
1,000
0
10
20
30
2Theta (Coupled Two Theta/Theta)

FIG. 27

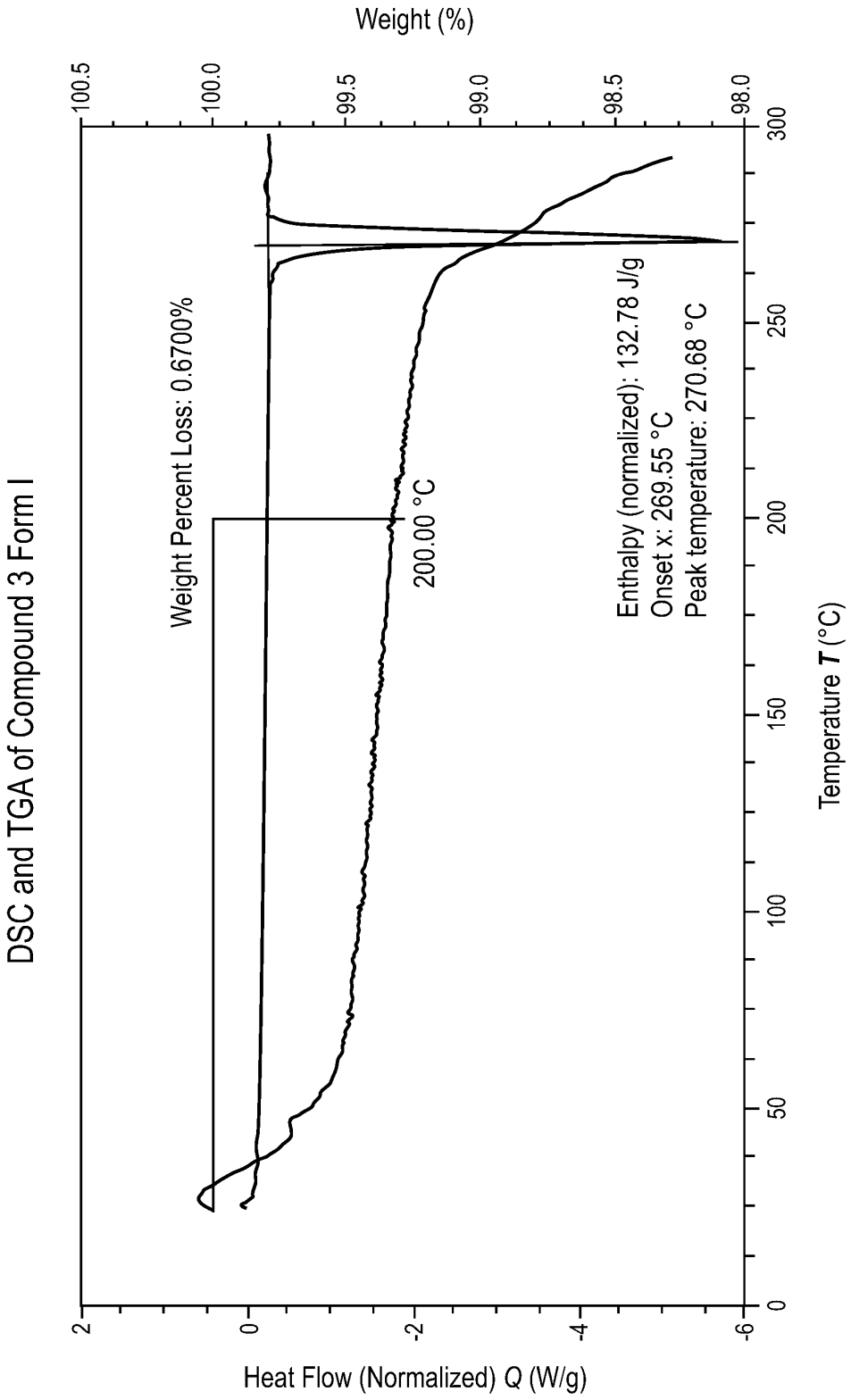
DSC and TGA of Compound 3 Form I
Weight (%)
100.5
100.0
99.5
99.0
98.5
98.0
Weight Percent Loss: 0.6700%
200.00 °C
Enthalpy (normalized): 132.78 J/g
Onset x: 269.55 °C
Peak temperature: 270.68 °C
Heat Flow (Normalized) Q (W/g)
2
0
-2
-4
-6
Temperature T (°C)
0
50
100
150
200
250
300

FIG. 28

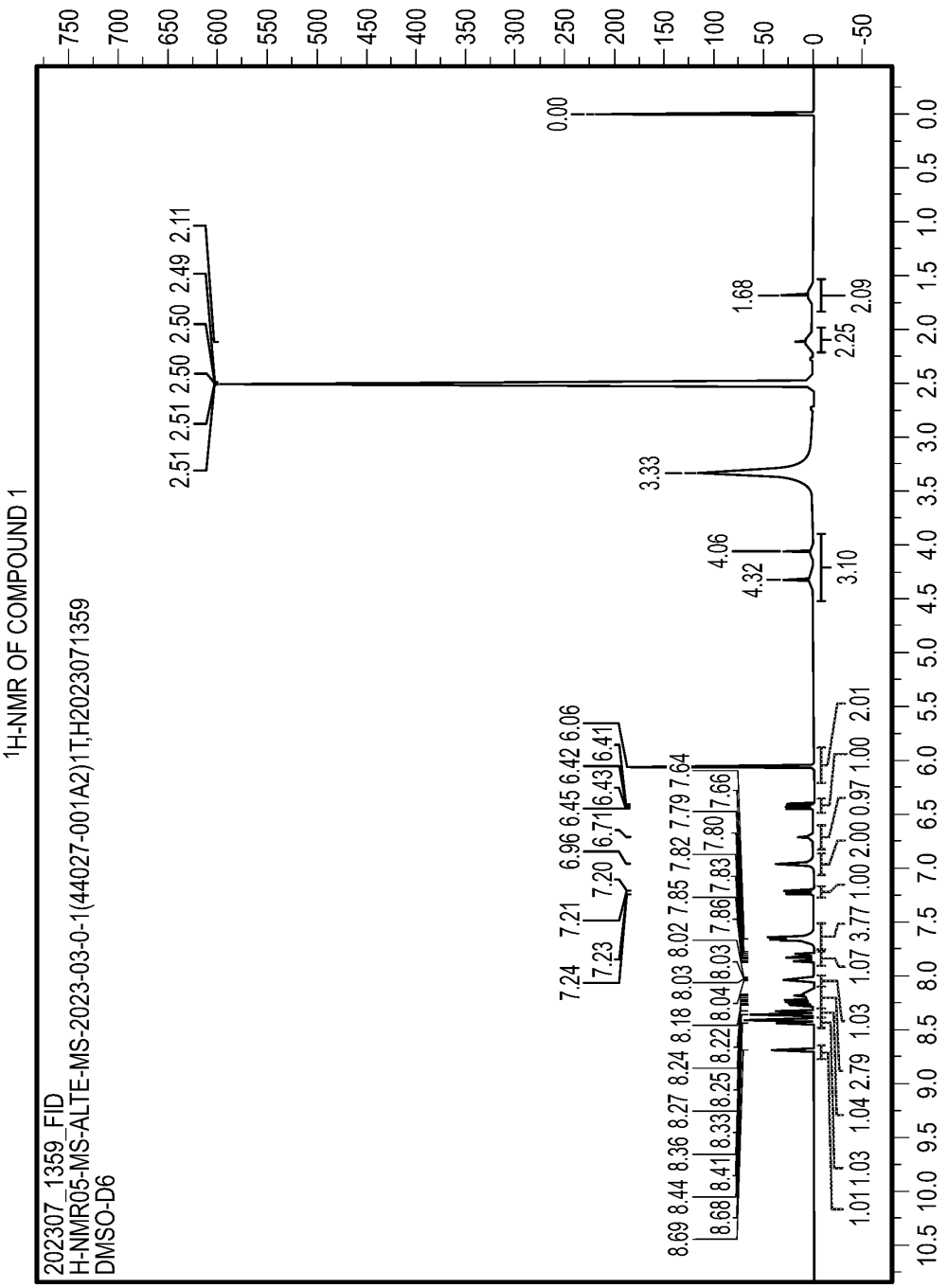
^{1}H-NMR OF COMPOUND 1
202307_1359_FID
H-NMR05-MS-ALTE-MS-2023-03-0-1(44027-001A2)1T,H2023071359
DMSO-D6
F1 (PPM)

FIG. 29

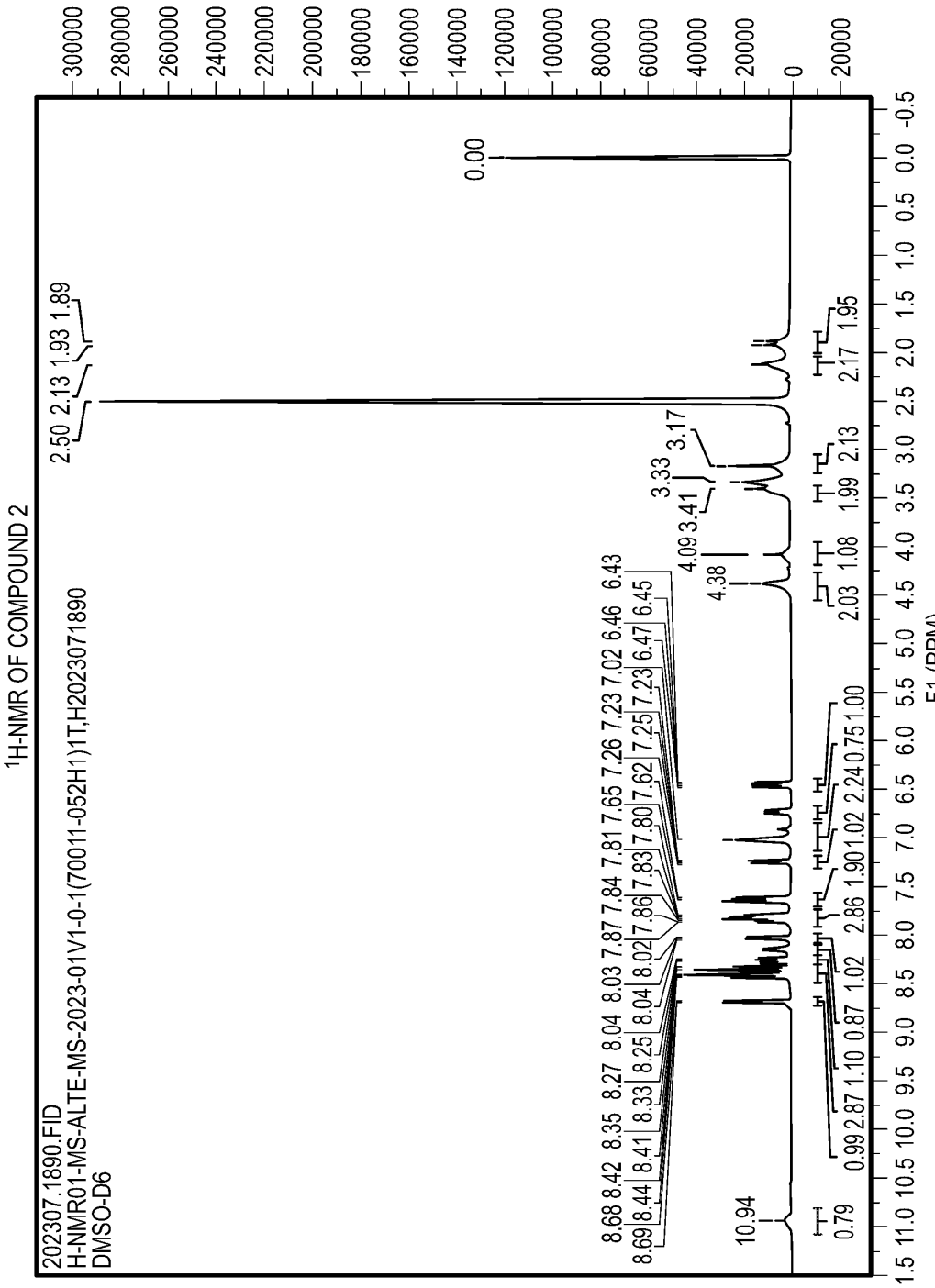
^{1}H-NMR OF COMPOUND 2
202307.1890.FID
H-NMR01-MS-ALTE-MS-2023-01V1-0-1(70011-052H1)1T,H2023071890
DMSO-D6
F1 (PPM)

FIG. 30

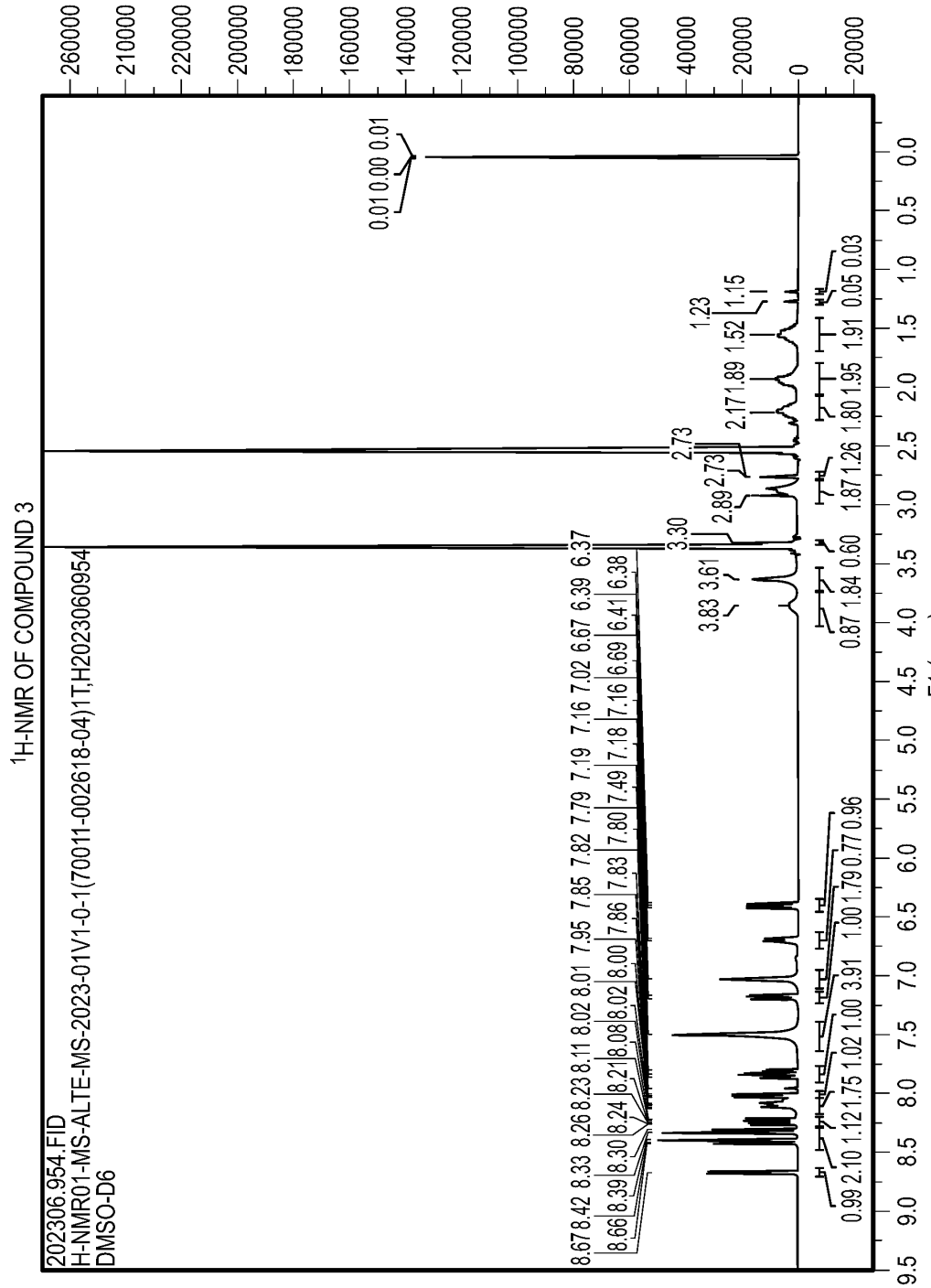
^{1}H-NMR OF COMPOUND 3
202306.954.FID
H-NMR01-MS-ALTE-MS-2023-01V1-0-1(70011-002618-04)1T,H2023060954
DMSO-D6
F1 (ppm)

FIG. 31

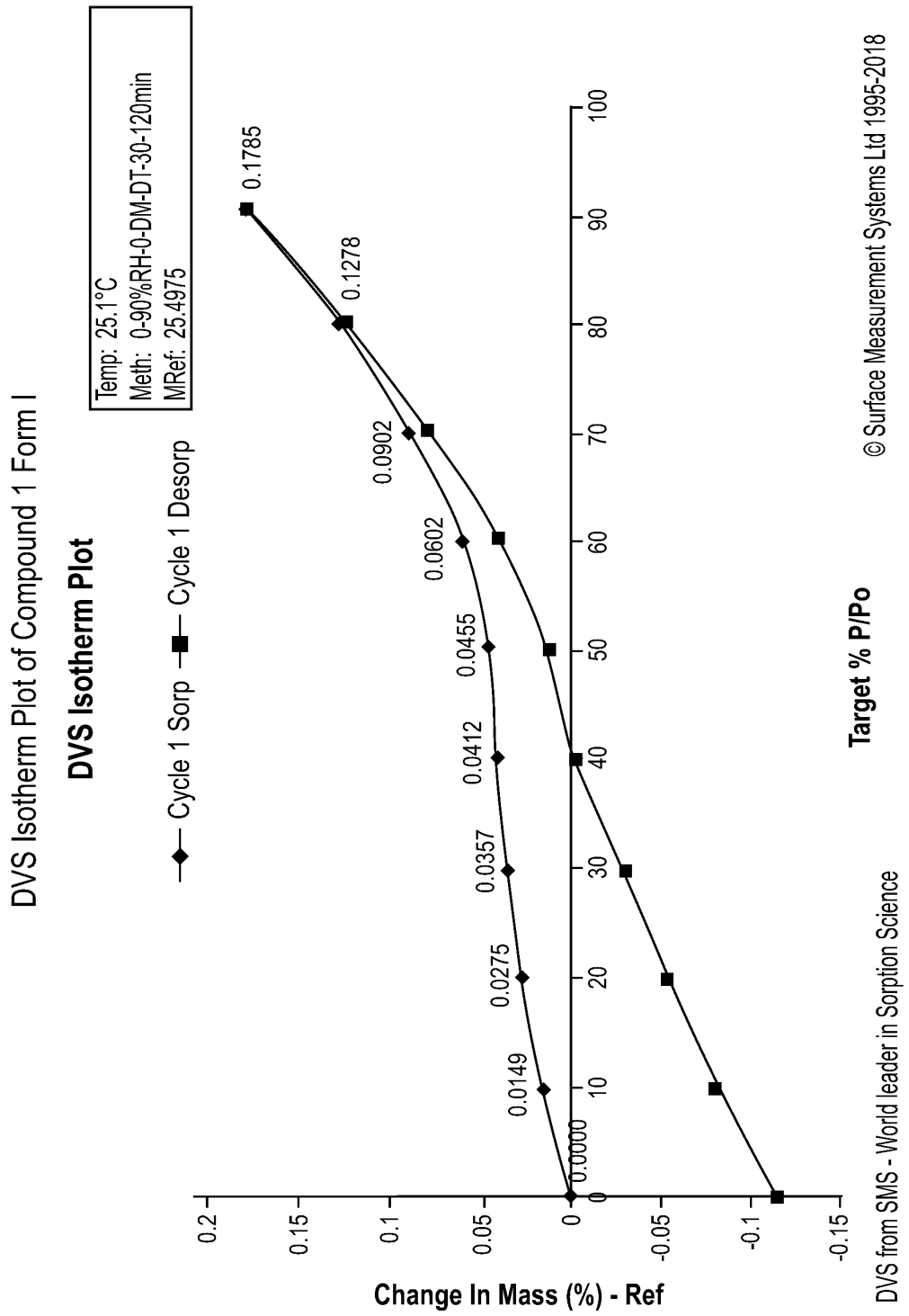
DVS Isotherm Plot of Compound 1 Form I
DVS Isotherm Plot
Temp: 25.1°C
Meth: 0-90%RH-0-DM-DT-30-120min
MRef: 25.4975
Cycle 1 Sorp
Cycle 1 Desorp
0.1785
0.1278
0.0902
0.0602
0.0455
0.0412
0.0357
0.0275
0.0149
0.0000
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
0
10
20
30
40
50
60
70
80
90
100
Change In Mass (%) - Ref
Target % P/Po
DVS from SMS - World leader in Sorption Science
© Surface Measurement Systems Ltd 1995-2018

FIG. 32

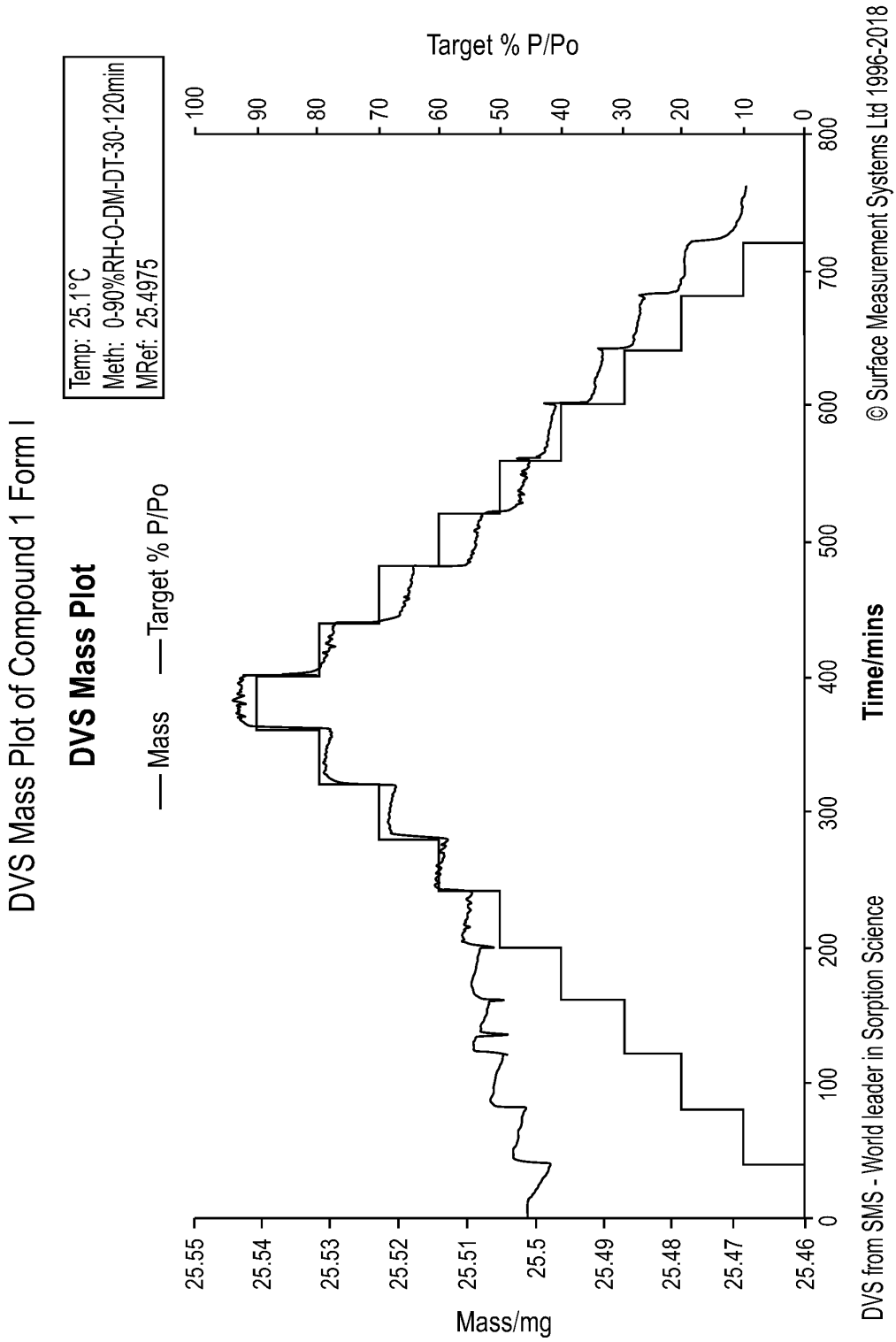
DVS Mass Plot of Compound 1 Form I
DVS Mass Plot
Temp: 25.1°C
Meth: 0-90%RH-O-DM-DT-30-120min
MRef: 25.4975
Mass
Target % P/Po
Target % P/Po
Mass/mg
Time/mins
DVS from SMS - World leader in Sorption Science
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FIG. 33

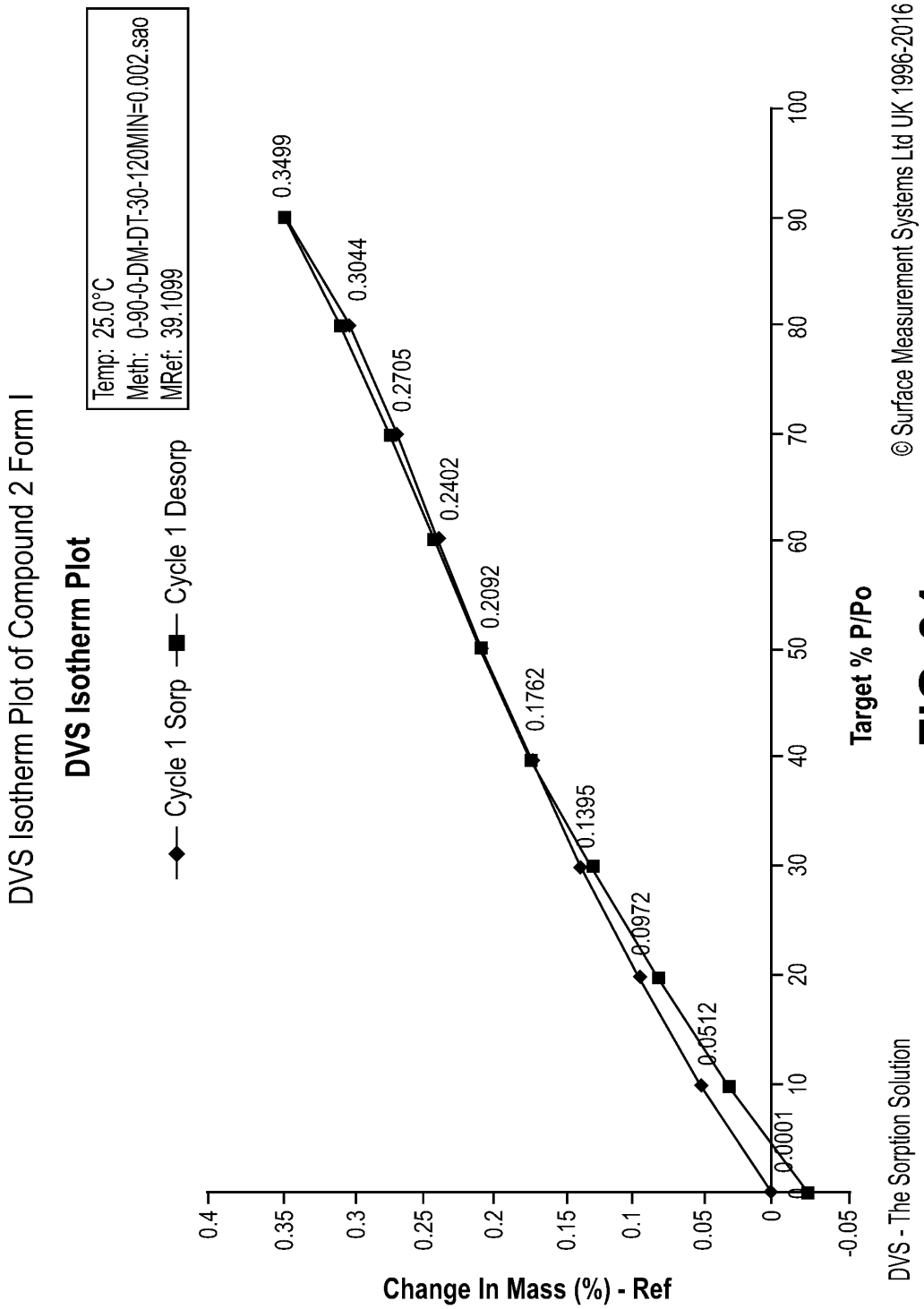
DVS Isotherm Plot of Compound 2 Form I
DVS Isotherm Plot
Temp: 25.0°C
Meth: 0-90-0-DM-DT-30-120MIN=0.002.sao
MRef: 39.1099
Cycle 1 Sorp
Cycle 1 Desorp
0.3499
0.3044
0.2705
0.2402
0.2092
0.1762
0.1395
0.0972
0.0512
0.0001
Change In Mass (%) - Ref
Target % P/Po
DVS - The Sorption Solution
© Surface Measurement Systems Ltd UK 1996-2016

FIG. 34

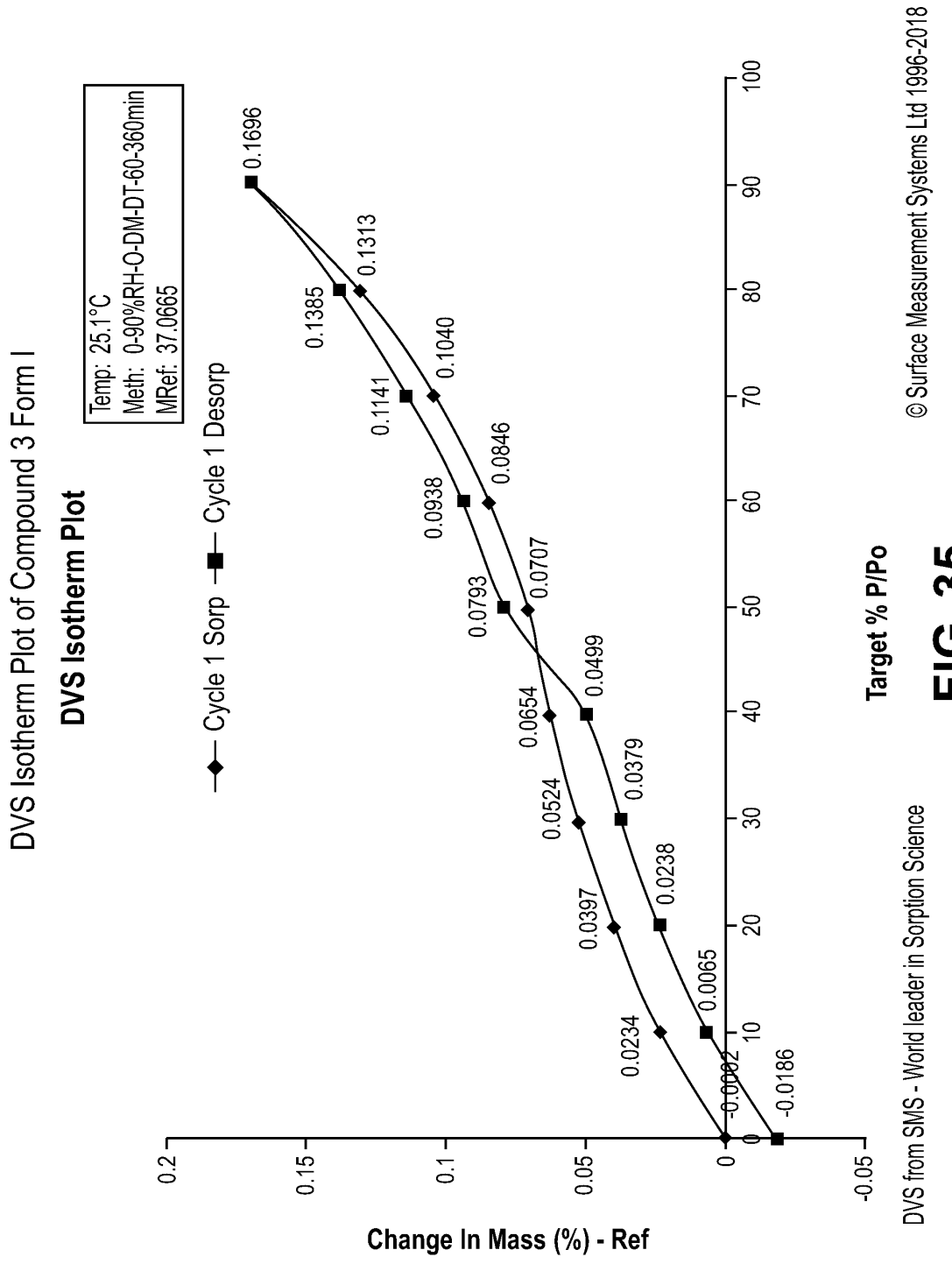
DVS Isotherm Plot of Compound 3 Form I
DVS Isotherm Plot
Temp: 25.1°C
Meth: 0-90%RH-O-DM-DT-60-360min
MRef: 37.0665
Cycle 1 Sorp
Cycle 1 Desorp
0.1696
0.1385
0.1313
0.1141
0.1040
0.0938
0.0846
0.0793
0.0707
0.0654
0.0499
0.0524
0.0379
0.0397
0.0238
0.0234
0.0065
-0.0002
-0.0186
0.2
0.15
0.1
0.05
0
-0.05
0
10
20
30
40
50
60
70
80
90
100
Change In Mass (%) - Ref
Target % P/Po
DVS from SMS - World leader in Sorption Science
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FIG. 35

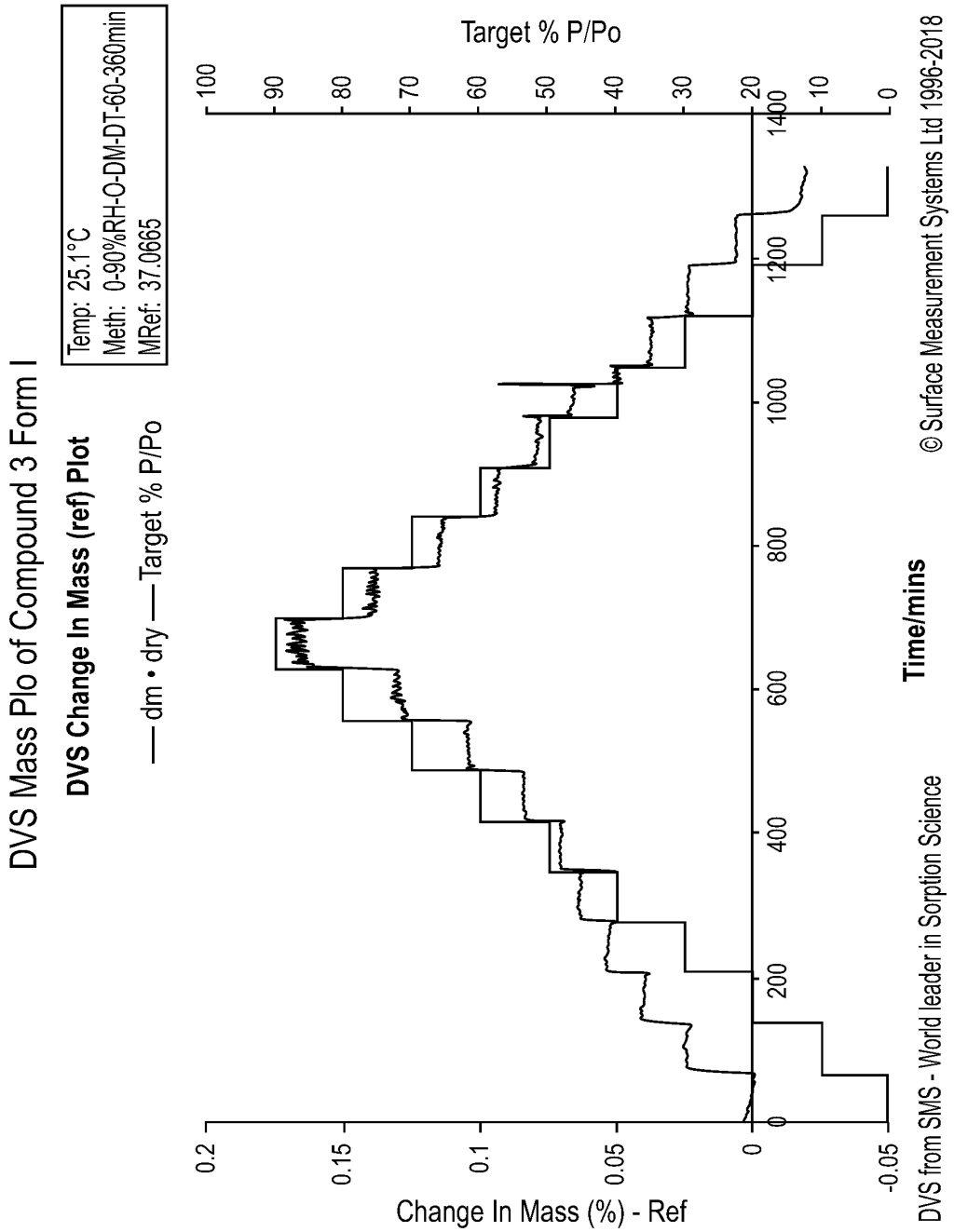
DVS Mass Plo of Compound 3 Form I
DVS Change In Mass (ref) Plot
Temp: 25.1°C
Meth: 0-90%RH-O-DM-DT-60-360min
MRef: 37.0665
— dm • dry — Target % P/Po
Target % P/Po
100
90
80
70
60
50
40
30
20
10
0
0.2
0.15
0.1
0.05
0
-0.05
Change In Mass (%) - Ref
0
200
400
600
800
1000
1200
1400
Time/mins
DVS from SMS - World leader in Sorption Science
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FIG. 36