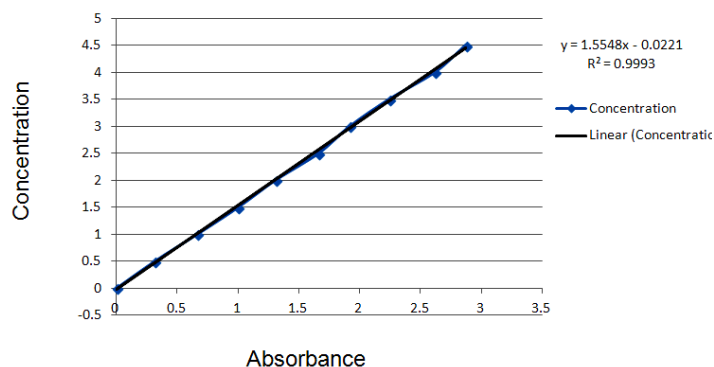


Annexure A

UV results for standard curve (Beer's law plot) used in solubility studies.

Table A1: Values of concentrations related to absorbance for RM.



Concentration in mg/100ml	Absorbance
0	0
0.5	0.315
1	0.664
1.5	1.002
2	1.308
2.5	1.664
3	1.921
3.5	2.244
4	2.621
4.5	2.874

Figure A1 Standard curve (Beer's law) plot showing the relation of absorbance to concentration values of ethionamide dissolved in water.

Table A2: Values obtained in solubility study by UV spectral analysis.

	RM	A	AN	AN-H	C	C-H	DM	DMF	D	D-H	E	EA	M	P1	P2	THF
Absorbance	2.096	2.353	2.126	2.257	1.991	2.066	1.777	3.457	1.958	1.866	1.768	1.866	1.715	1.669	2.24	1.602
30 minutes	1.849	1.836	2.1	2.293	1.808	1.609	1.718	3.107	1.682	1.888	1.741	1.749	1.755	1.655	2.243	1.637
	1.805	1.918	1.981	2.092	1.816	1.617	1.942	3.38	1.675	1.928	1.831	1.742	1.78	1.65	2.827	1.82
Average	1.916667	2.035667	2.069	2.214	1.871667	1.764	1.812333	3.314667	1.771667	1.894	1.78	1.785667	1.75	1.658	2.436667	1.686333
Concentration	47.32693	50.28272	51.1165	54.72364	46.20748	43.52908	44.73145	82.1047	43.7198	46.76306	43.9271	44.06807	43.1808	40.89213	60.26287	41.59698
Absorbance	1.882	2.039	2.105	1.854	1.943	1.556	1.901		2.341	1.895	1.881	1.862	1.713	1.684	3.282	1.831
60 minutes	2.015	2.294	1.738	1.966	2.026	1.734	1.826		2.08	1.592	2.003	1.918	1.756	1.778	3.182	1.767
	1.578	2.26	1.906	1.769	2.086	1.537	2.074		1.862	1.891	1.837	1.91	1.67	1.709	1.786	2.037
Average	1.825	2.197667	1.916333	1.863	2.018333	1.609	1.933667		2.094333	1.792667	1.907	1.896667	1.713	1.723667	2.75	1.878333
Concentration	45.04656	54.31731	47.31864	45.99188	49.85607	39.67317	47.74984	*	51.74671	44.24221	47.08646	46.8294	42.26036	42.52571	68.0576	46.37332
Absorbance	2.549	2.27	2.241	1.727	1.831	1.666	1.469		1.574	1.398	1.401	1.483	1.814	1.529	3.073	2.207
24 hours	2.454	2.557	2.37	1.651	1.663	1.408	1.469		1.391	1.277	1.243	1.269	1.433	1.453	2.859	1.802
	2.17	2.084	2.247	1.622	2.029	1.349	1.395		1.546	1.319	1.193	1.246	1.951	1.482	3.074	1.522
Average	2.391	2.303667	2.286	1.666667	1.841	1.474333	1.444333		1.503667	1.331333	1.279	1.332667	1.732667	1.488	3.002	1.843667
Concentration	77.60396	74.75246	74.17563	53.9539	59.64602	47.67406	46.69454	*	48.63182	43.005	41.29627	43.04853	56.10885	48.12029	97.5536	59.73309

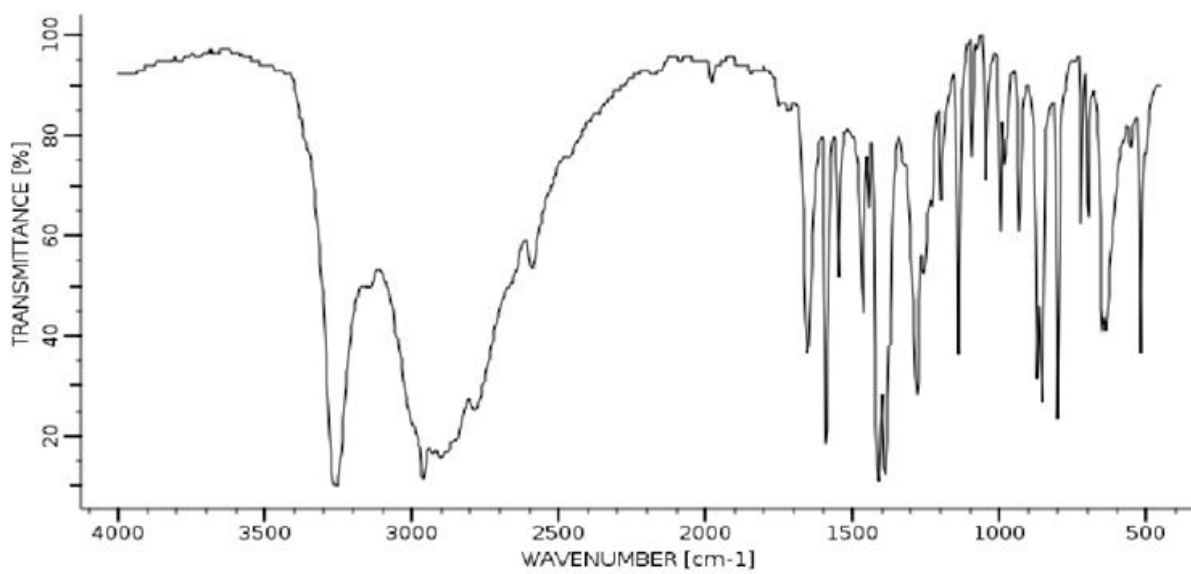
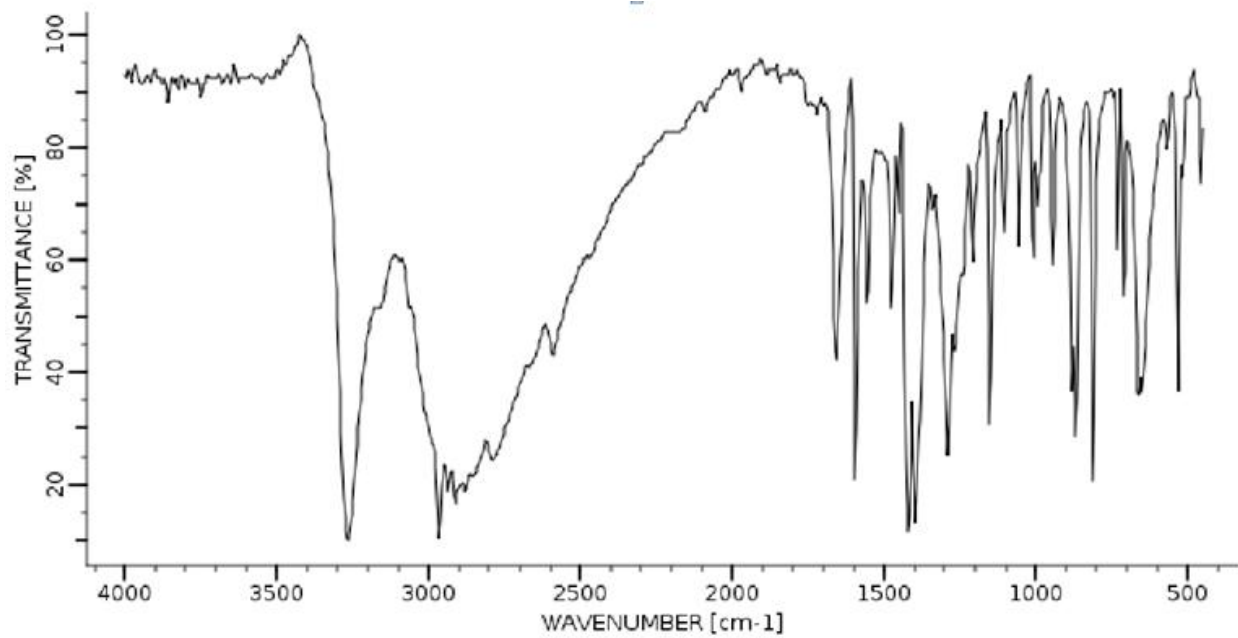


Figure A2 Predicted FTIR spectra from literature (BIORAD).

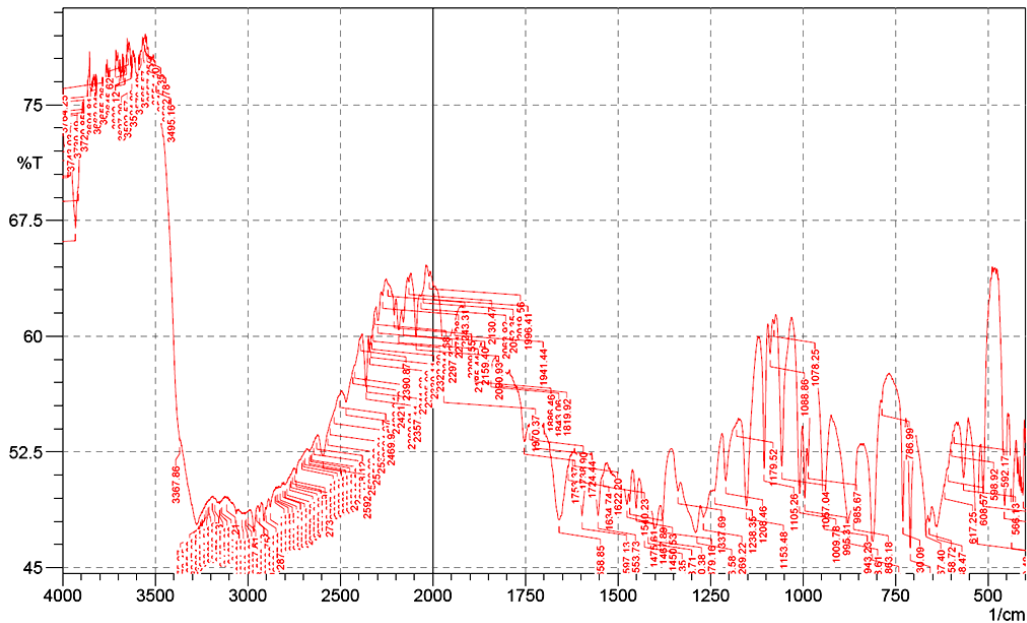


Figure A3 FTIR spectrum obtained with RM.

Table A2: FTIR wave number (cm^{-1}) and transmittance (T%) from results.

	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area
1	400.25	53.111926	1.156629	401.21	399.28	0.522978	0.009019
2	406.03	49.671352	1.380344	407	402.18	1.370321	0.032501
3	435.93	47.035126	7.238784	443.65	424.36	5.652348	0.49955
4	455.22	48.991608	8.764766	471.62	447.5	6.342444	0.818067
5	513.09	49.78259	5.611069	518.87	492.83	6.392548	0.341965
6	529.48	47.342388	6.04404	552.63	521.77	8.992834	0.676463
7	566.13	50.826828	3.777704	580.6	553.59	7.477363	0.380208
8	592.17	53.81804	0.076204	593.14	585.42	2.050543	0.000144
9	598.92	53.038593	0.22492	599.89	595.07	1.316047	0.007372
10	608.57	51.413016	0.188838	609.53	599.89	2.721852	0.011647
11	617.25	50.268328	0.355858	619.18	610.5	2.548694	0.008281
12	638.47	47.638502	0.2346	639.43	620.14	6.0023	0.036075
13	658.72	47.959041	0.486207	661.61	651	3.339588	0.020415
14	667.4	47.807828	0.456052	694.4	666.43	8.234115	0.024409
15	709.83	46.276163	7.767431	721.41	698.26	6.750119	0.559145
16	730.09	48.000033	7.289466	746.48	722.37	6.580963	0.430603
17	786.99	55.695012	0.389384	788.92	777.35	2.861828	0.007096
18	813.03	46.294587	8.155655	836.18	789.88	13.48689	1.269534
19	863.18	48.290162	1.160566	866.08	844.86	6.171505	0.052443
20	878.61	47.395548	2.781253	916.23	867.04	14.466871	0.314946
21	943.23	48.306279	8.002279	972.16	923.94	13.003177	1.084489
22	985.67	51.589265	2.468546	989.53	973.13	4.218679	0.081853
23	995.31	49.480019	3.877712	1001.1	990.49	3.061549	0.166954
24	1009.78	49.369646	6.729694	1030.03	1002.06	7.161843	0.460933
25	1057.04	51.561561	9.784749	1073.43	1031	10.124819	1.112871
26	1078.25	60.794575	0.420329	1081.15	1074.4	1.448312	0.011456
27	1088.86	58.846367	2.082042	1094.65	1082.11	2.787808	0.091866

28	1105.26	51.42148	8.995954	1117.8	1095.61	5.424483	0.564126
29	1153.48	48.972873	7.520543	1169.88	1122.62	12.589539	1.162619
30	1179.52	54.334126	0.108615	1180.49	1174.7	1.525843	0.00343
31	1208.46	50.617026	3.243401	1218.1	1181.45	10.166623	0.364027
32	1238.35	49.946443	0.702512	1242.21	1219.06	6.620148	0.044382
33	1269.22	48.256737	1.044391	1276.93	1249.93	8.383575	0.140576

34	1286.58	47.326299	0.170819	1287.54	1277.9	3.056137	0.005054
35	1337.69	49.961242	1.111673	1355.05	1331.9	6.74634	0.095287
36	1379.16	48.093318	1.556676	1383.98	1356.02	8.203476	0.07603
37	1400.38	47.526932	1.26633	1409.06	1386.88	7.046507	0.143054
38	1418.71	47.38206	0.228676	1419.67	1410.02	3.067199	0.006039
39	1428.35	47.133874	0.935037	1442.82	1424.49	5.738763	0.074457
40	1450.53	48.834365	2.165043	1461.14	1443.78	5.193681	0.124267
41	1467.89	49.273531	1.030756	1470.79	1462.11	2.600414	0.034518
42	1475.61	49.079336	0.785487	1484.29	1471.75	3.822088	0.04
43	1540.23	50.919846	0.11921	1541.19	1534.44	1.953652	0.002373
44	1553.73	48.345338	3.161985	1570.12	1543.12	8.091754	0.340488
45	1597.13	48.33131	4.088092	1613.52	1577.84	10.517333	0.506269
46	1622.2	52.413017	0.153712	1623.17	1617.38	1.61799	0.006156
47	1634.74	51.485085	0.190537	1635.71	1628.95	1.924179	0.004943
48	1658.85	48.075586	3.827497	1681.04	1635.71	13.789054	0.873512
49	1724.44	53.559267	0.490884	1730.22	1718.65	3.12341	0.031132
50	1738.9	54.108264	0.223176	1739.87	1735.04	1.282941	0.005827
51	1753.37	53.172138	1.905057	1768.8	1743.72	6.637479	0.182
52	1819.92	57.591069	0.639956	1825.7	1813.16	2.980193	0.032786
53	1843.06	57.531568	0.352443	1844.99	1834.38	2.498456	0.006403
54	1886.46	57.852233	2.48705	1910.57	1871.03	8.906264	0.288484
55	1941.44	60.865373	0.110494	1942.4	1927.93	3.059757	0.00229
56	1970.37	56.522808	5.638872	1988.69	1943.37	10.068046	0.634663
57	1996.41	63.178545	0.16503	2013.77	1994.48	3.786816	0.009153
58	2019.56	63.889302	0.41883	2032.09	2014.73	3.347951	0.027139
59	2052.35	62.923636	0.100051	2053.31	2036.92	3.203342	0.007648
60	2063.92	62.586435	0.105902	2065.85	2055.24	2.149511	0.005472
61	2090.93	59.931606	3.315493	2117.93	2072.6	9.382785	0.399926
62	2130.47	63.526693	0.368903	2134.33	2121.79	2.452851	0.018855
63	2159.4	60.891012	1.401539	2169.05	2137.22	6.575896	0.132858
64	2185.44	60.402513	1.667641	2198.94	2170.01	6.178586	0.178549
65	2209.55	61.360057	1.24196	2218.23	2199.91	3.80131	0.071727
66	2243.31	63.412164	0.043336	2251.99	2242.34	1.900986	0.002527
67	2271.28	62.620587	0.469656	2277.06	2257.78	3.863319	0.027441
68	2297.32	61.014097	1.246488	2306.96	2279.96	5.661887	0.133016
69	2314.68	61.582446	0.051609	2315.64	2306.96	1.816954	0.001488
70	2322.39	60.487705	0.213123	2323.36	2315.64	1.648602	0.00224
71	2330.11	59.968781	0.189952	2332.04	2324.32	1.700949	0.006763
72	2335.9	59.44043	0.318734	2337.83	2333	1.079938	0.00428
73	2341.68	58.987071	0.738738	2347.47	2338.79	1.96626	0.026059
74	2357.11	57.196145	0.478134	2358.08	2348.43	2.237918	0.016139
75	2360.01	56.737005	0.659703	2381.23	2359.04	5.203029	0.060372
76	2390.87	59.885447	0.07455	2391.83	2386.05	1.284381	0.00206
77	2421.73	58.099341	0.099867	2422.7	2396.66	6.000245	0.033731
78	2432.34	57.738565	0.089828	2434.27	2423.66	2.514016	0.001892
79	2469.95	55.705744	0.864233	2480.56	2434.27	11.470365	0.168853
80	2504.67	56.143643	0.030302	2505.64	2495.99	2.405243	0.000297
81	2533.61	55.153885	0.039226	2534.57	2507.57	6.865857	0.005336
82	2554.83	54.424603	0.036346	2555.79	2534.57	5.548264	0.007214
83	2568.33	53.75497	0.0988	2570.26	2555.79	3.863993	0.00628
84	2592.44	52.249776	0.065179	2593.4	2570.26	6.389199	0.014453

85	2628.12	53.497712	0.034783	2630.05	2624.27	1.570731	0.001462
86	2643.56	53.154192	0.038114	2644.52	2635.84	2.375858	0.003716
87	2653.2	52.773388	0.039239	2654.16	2644.52	2.662394	0.002374
88	2659.95	52.667885	0.022326	2660.92	2656.09	1.340388	0.000274
89	2669.6	52.547434	0.084874	2671.52	2666.7	1.346409	0.001902
90	2690.81	52.485907	0.078816	2692.74	2684.06	2.423377	0.00286
91	2698.53	52.353145	0.03458	2699.49	2692.74	1.891976	0.000607
92	2707.21	52.186755	0.046636	2708.17	2700.46	2.173964	0.001634
93	2738.07	51.067175	0.508642	2743.86	2722.64	6.107397	0.030484
94	2745.79	51.397513	0.024926	2750.61	2744.82	1.672042	0.001206
95	2758.33	51.255962	0.056683	2760.25	2754.47	1.67766	0.00255

96	2767.01	51.01256	0.100579	2769.9	2760.25	2.811817	0.005205
97	2773.76	50.835692	0.107051	2775.69	2770.86	1.414171	0.002942
98	2788.22	50.516164	0.051013	2789.19	2785.33	1.14156	0.000685
99	2798.83	50.360393	0.076544	2800.76	2790.15	3.153887	0.003932
100	2809.44	50.376616	0.155382	2812.33	2805.58	2.006584	0.005629
101	2824.87	50.196145	0.076799	2826.8	2813.3	4.027334	0.00733
102	2838.37	50.141026	0.091452	2840.3	2835.48	1.443511	0.002213
103	2847.05	50.111336	0.104464	2848.98	2844.16	1.444993	0.002831
104	2852.84	50.017674	0.113918	2855.73	2849.95	1.737088	0.002378
105	2877.92	48.926385	0.740407	2888.53	2860.56	8.562076	0.078259
106	2901.06	48.781127	0.201652	2902.99	2893.35	2.990665	0.013689
107	2913.6	48.020744	1.015338	2920.35	2903.96	5.15469	0.076816
108	2936.75	48.61388	0.429639	2941.57	2927.1	4.495133	0.026403
109	2952.18	48.826345	0.066959	2954.11	2949.29	1.49859	0.001345
110	2968.58	47.308227	1.490539	2984.97	2954.11	9.801594	0.184824
111	2997.51	48.638951	0.050445	2999.44	2993.65	1.809061	0.00116
112	3009.08	48.545631	0.032822	3011.01	3006.19	1.512228	0.000665
113	3013.9	48.444606	0.121606	3018.73	3011.01	2.423259	0.003258
114	3031.26	48.484958	0.068714	3035.12	3029.34	1.818197	0.002628
115	3063.09	48.467231	0.347872	3075.63	3059.23	5.111525	0.016839
116	3114.21	49.492813	0.088193	3117.1	3111.31	1.765181	0.002118
117	3139.28	49.319842	0.097491	3142.18	3135.42	2.068866	0.003089
118	3147	49.242011	0.075808	3148.93	3143.14	1.778688	0.002725
119	3152.78	49.124197	0.142817	3155.68	3149.89	1.783016	0.003935
120	3178.83	49.469775	0.028313	3180.75	3176.9	1.178564	0.000375
121	3192.33	49.569948	0.048213	3193.29	3188.47	1.468508	0.000985
122	3209.69	49.345275	0.051117	3210.65	3205.83	1.478277	0.001359
123	3214.51	49.280117	0.066351	3216.44	3211.62	1.480002	0.001591
124	3225.12	49.10254	0.095374	3228.01	3222.23	1.785854	0.003705
125	3234.76	48.840501	0.121881	3236.69	3228.98	2.393229	0.005276
126	3247.3	48.531396	0.109105	3249.23	3237.66	3.616948	0.005238
127	3255.02	48.37435	0.052532	3255.98	3251.16	1.51623	0.001356
128	3270.45	47.893988	0.033452	3271.41	3256.95	4.591762	0.00289
129	3275.27	47.791038	0.061875	3276.23	3271.41	1.543549	0.000934
130	3367.86	53.204496	0.684933	3456.59	3364.96	18.815402	0.350716
131	3495.16	76.637846	0.288304	3499.02	3491.31	0.887521	0.008048
132	3532.78	77.967352	0.385876	3539.53	3528.92	1.134629	0.014059
133	3544.35	78.628937	0.48728	3547.24	3540.49	0.700292	0.010087
134	3551.1	79.058521	0.48061	3553.03	3548.21	0.487218	0.006964
135	3557.85	79.298627	0.102838	3559.78	3554	0.579761	0.00209
136	3565.57	78.865339	0.468934	3567.5	3562.68	0.490966	0.005984
137	3576.18	78.438344	0.148911	3577.14	3568.46	0.900185	0.011382
138	3584.86	77.620102	0.693704	3587.75	3580.04	0.829566	0.013335
139	3592.57	76.944623	0.280871	3593.54	3588.72	0.534016	0.0066
140	3627.29	76.751131	1.412643	3629.22	3620.54	0.95353	0.032209
141	3632.12	77.509669	0.851512	3641.76	3630.19	1.227729	0.017718

142	3645.62	78.406337	0.513335	3647.55	3642.73	0.500676	0.006513
143	3655.26	77.783721	0.617804	3656.23	3651.41	0.508528	0.011172
144	3663.94	77.141242	0.13273	3665.87	3661.05	0.540211	0.001878
145	3694.81	77.126172	0.588519	3698.66	3691.91	0.752321	0.013076
146	3720.85	76.032687	0.679315	3722.77	3713.13	1.095178	0.02847
147	3730.49	75.603824	0.551285	3732.42	3727.6	0.5807	0.009307
148	3743.03	74.76742	2.413688	3744.96	3736.28	1.052564	0.060076
149	3764.25	77.278832	0.37469	3766.17	3761.35	0.534386	0.005316
150	3777.75	75.510769	1.102747	3779.68	3770.03	1.155611	0.043717
151	3795.11	75.343283	0.742792	3797.04	3785.46	1.391519	0.038987
152	3805.72	74.810364	1.048505	3807.65	3802.82	0.596148	0.016532
153	3819.22	75.615221	1.192693	3822.11	3817.29	0.571509	0.018904
154	3825.01	76.188255	0.521325	3827.9	3823.08	0.563075	0.00779
155	3863.58	76.359912	0.576153	3865.51	3854.9	1.20025	0.032481
156	3869.37	74.512193	0.45936	3870.34	3865.51	0.592108	0.011208
157	3873.23	72.889344	1.00201	3875.16	3870.34	0.643132	0.01576
158	3889.62	74.50121	0.724033	3891.55	3886.73	0.60748	0.012717
159	3898.3	74.163861	0.315517	3899.27	3892.52	0.856218	0.006267
160	3916.63	69.611101	0.301711	3917.59	3900.23	2.47972	0.014383
161	3931.1	67.005996	2.938119	3957.14	3920.49	5.913215	0.307944
162	3960.99	71.215916	0.22335	3962.92	3958.1	0.708926	0.003321
163	3969.67	71.10784	0.731942	3980.28	3963.89	2.380123	0.03503
164	3988.96	72.218368	0.427848	4000.54	3986.07	2.006208	0.024351

VTXRD results

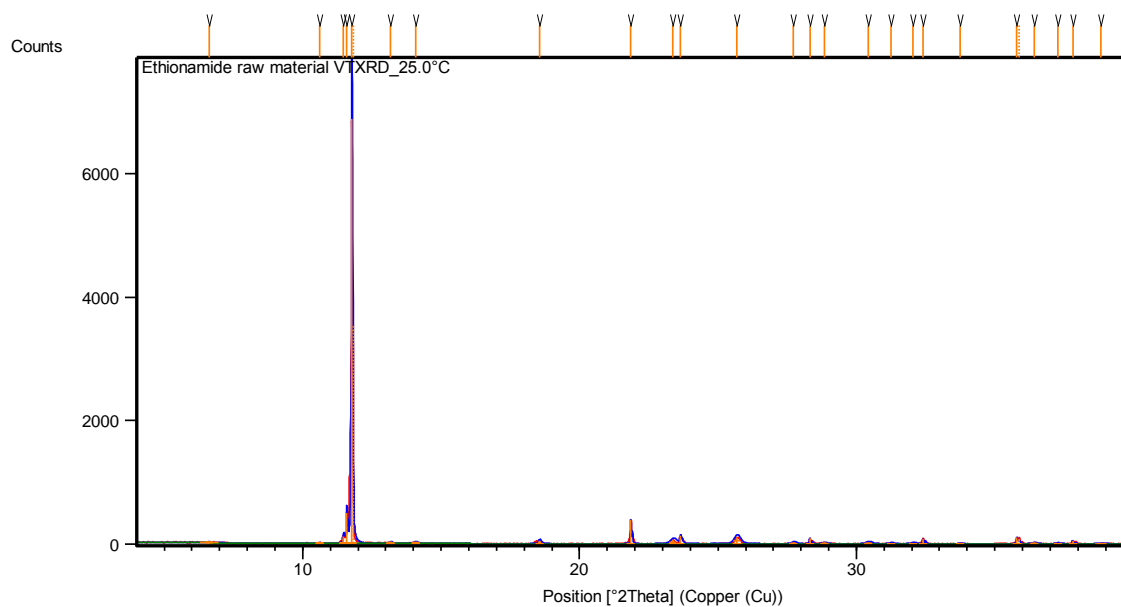


Figure A4 VTXRD of RM at ambient temperature.

Table A3: Peak Information from VTXRD of the RM.

Pos. [°2Th.]	Height [cts]	FWHM Left [°2Th.]	d-spacing [Å]	Rel. Int. [%]
6.6265	9.23	0.6612	13.33914	0.13
10.6173	10.95	0.0827	8.33258	0.16
11.4804	113.49	0.0689	7.70797	1.65
11.6004	494.25	0.0344	7.62855	7.18
11.7789	6879.71	0.0420	7.50709	100.00
11.8155	3523.92	0.0252	7.50255	51.22
13.1703	26.05	0.1344	6.71695	0.38
14.0752	23.32	0.1680	6.28708	0.34
18.5554	54.89	0.1008	4.77795	0.80
21.8552	386.55	0.0336	4.06343	5.62
23.3749	62.42	0.2688	3.80258	0.91
23.6460	125.95	0.0672	3.75959	1.83
25.6783	102.08	0.2688	3.46646	1.48
27.7311	27.42	0.1680	3.21434	0.40
28.3238	96.09	0.0420	3.14841	1.40
28.8384	18.38	0.1680	3.09339	0.27
30.4399	28.17	0.2352	2.93419	0.41
31.2570	13.29	0.2016	2.85933	0.19
32.0518	15.81	0.2688	2.79021	0.23
32.4056	80.24	0.0504	2.76055	1.17
33.7447	7.67	0.2016	2.65401	0.11
35.7958	106.80	0.0672	2.50649	1.55
35.8889	97.75	0.0504	2.50642	1.42

36.4148	17.50	0.2016	2.46529	0.25
37.2662	13.36	0.2016	2.41090	0.19
37.8114	45.56	0.0504	2.37738	0.66
38.8401	6.17	0.4032	2.31675	0.09

Annexure B

In this section the characterisation data obtained for all the ethionamide recrystallisations, will be listed.

Ethionamide recrystallised from acetone

Stereomicroscope results

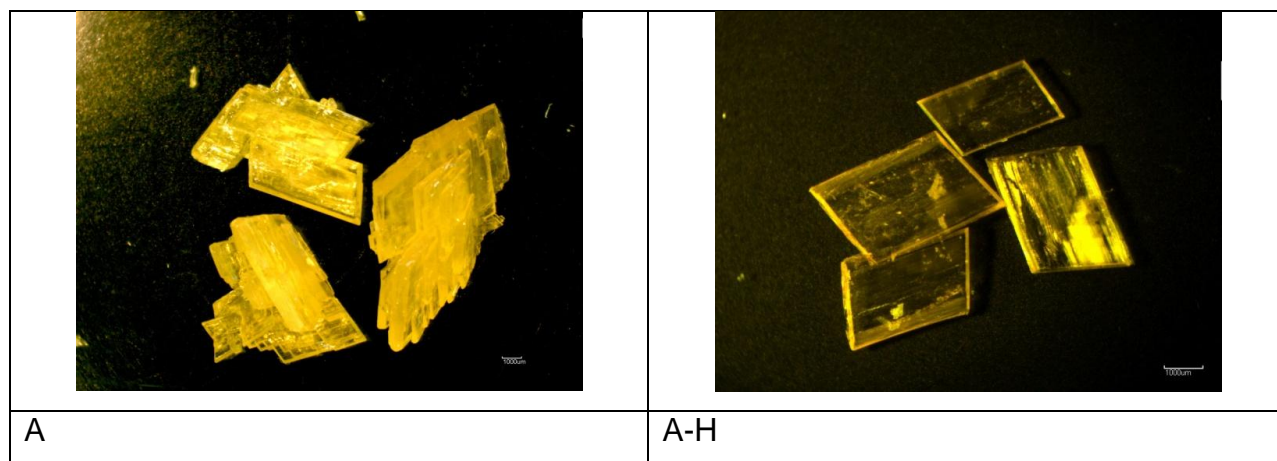


Figure B1: Images of ethionamide crystals obtained from recrystallisation from acetone, A being obtained from slow cooling and A-H from fast cooling.

DSC results

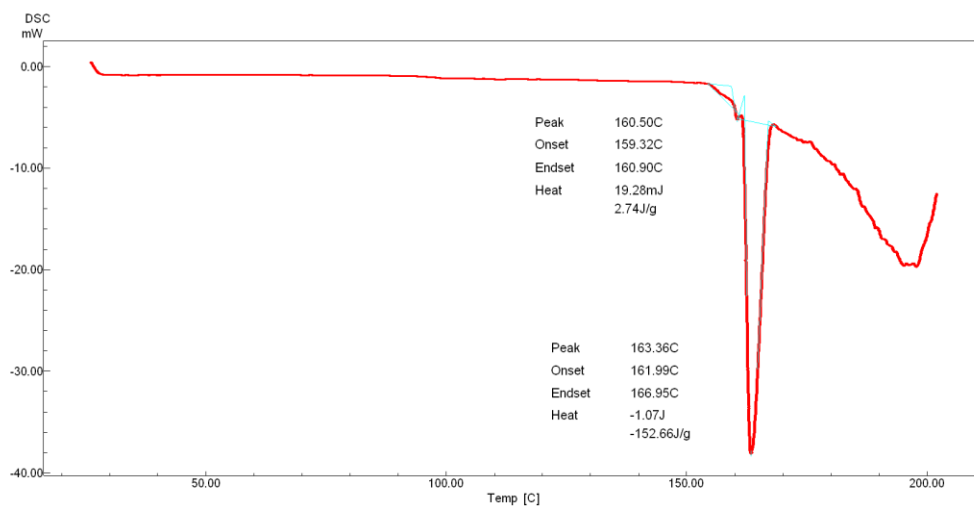


Figure B2: DSC thermogram obtained with crystals from recrystallisation with acetone.

TM results

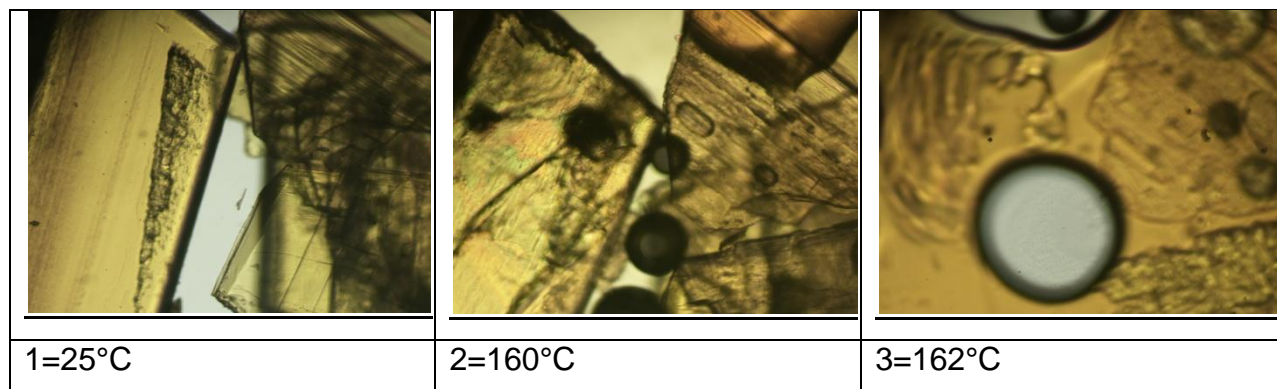


Figure B3: Micrographs depicting the thermal events occurring during heating of the crystals obtained from acetone.

SEM results

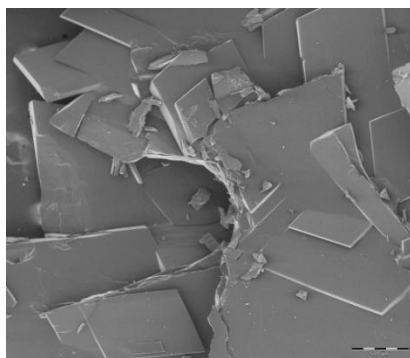


Figure B4: SEM micrographs of crystals obtaining from acetone.

Ethionamide recrystallised from acetonitrile

Stereomicroscope results

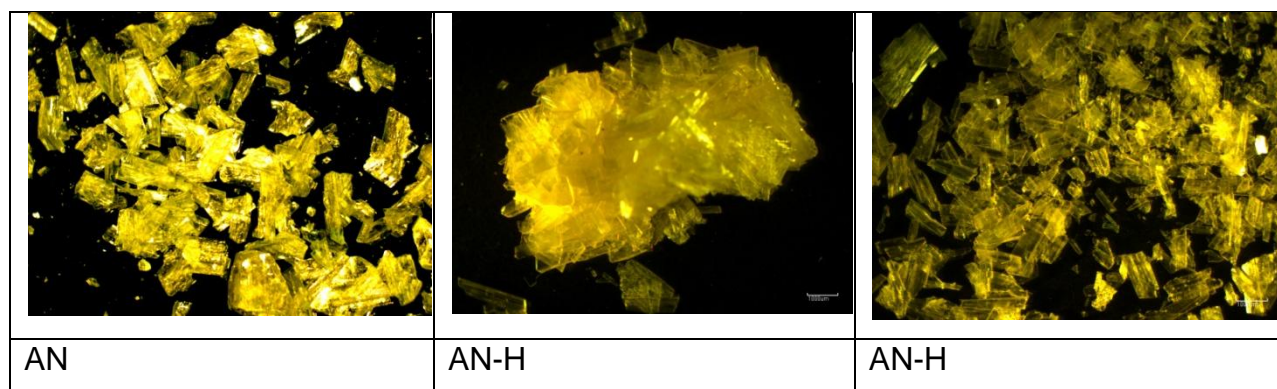


Figure B5: Images of ethionamide crystals obtained from recrystallisation from acetonitrile.

DSC results

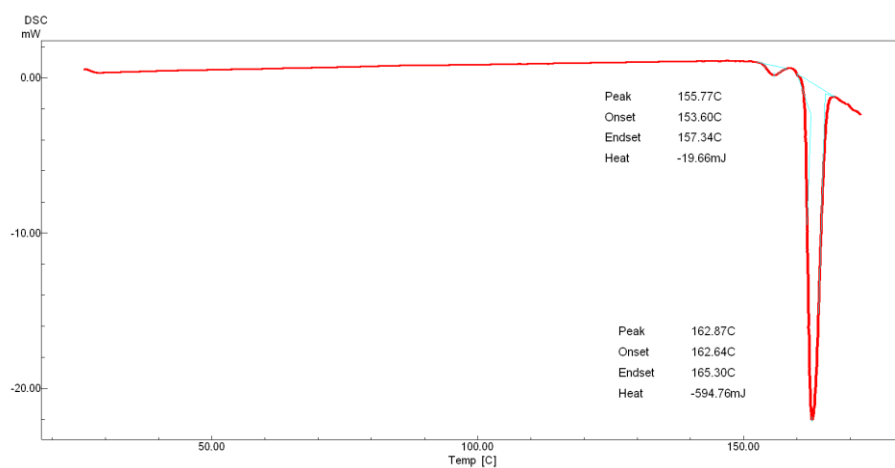


Figure B6: DSC thermogram obtained with crystals from recrystallisation with acetonitrile.

TM results

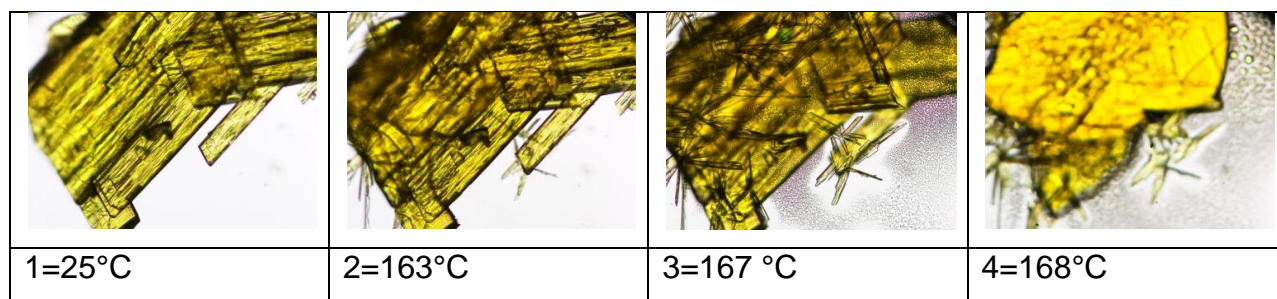


Figure B7: Micrographs depicting the thermal events occurring during heating of the crystals obtained from acetonitrile.

SEM results

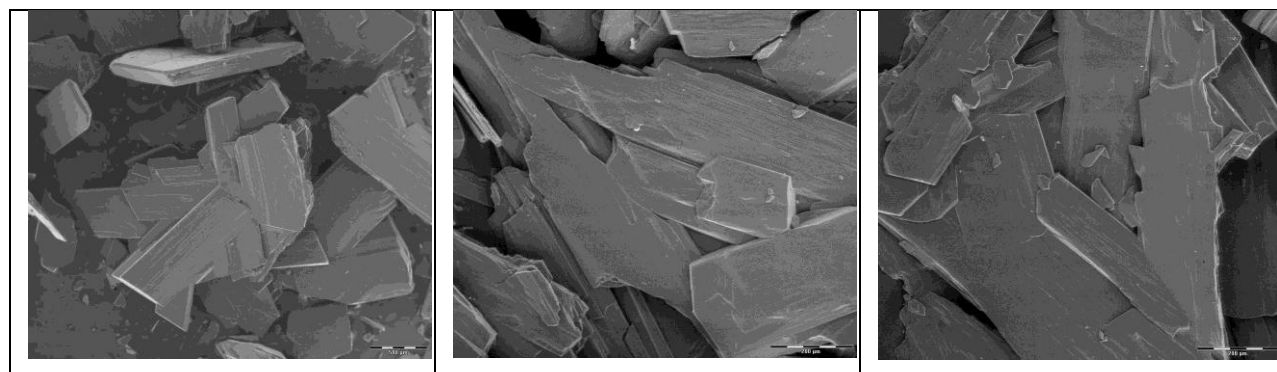


Figure B8: SEM micrographs of crystals obtaining from acetonitrile.

Ethionamide recrystallised from 1-butanol

Stereomicroscope results

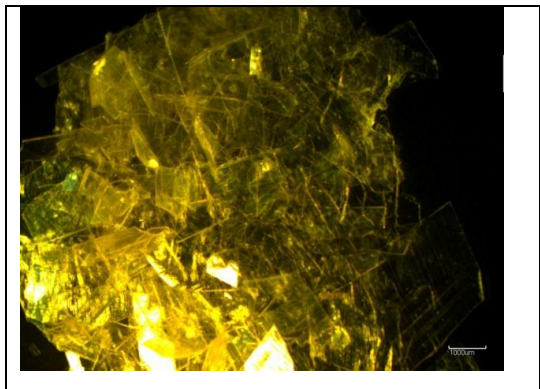


Figure B9: Images of ethionamide crystals obtained from recrystallisation from 1-butanol.

DSC results

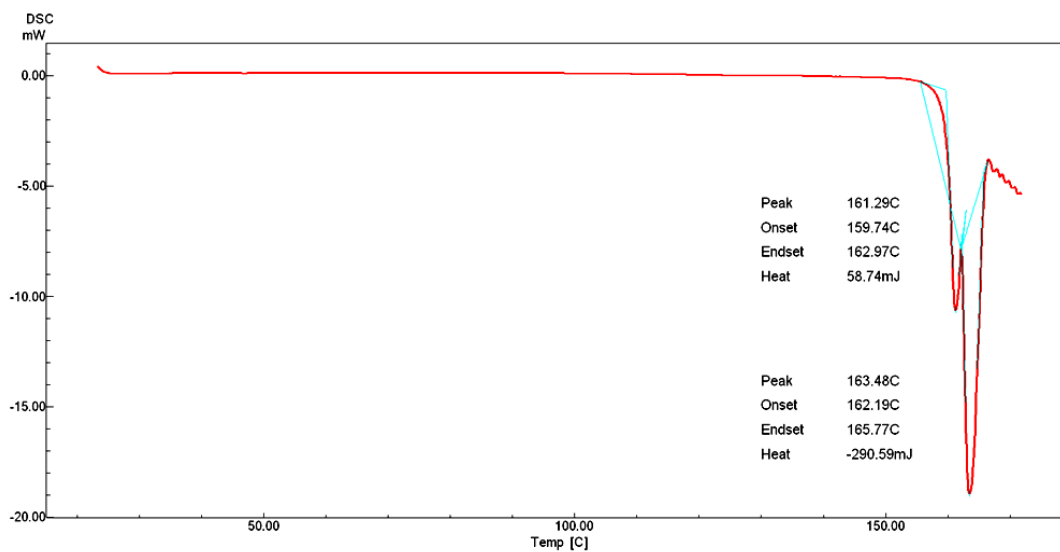


Figure B10: DSC thermogram obtained with crystals from recrystallisation with 1-butanol.

TM results

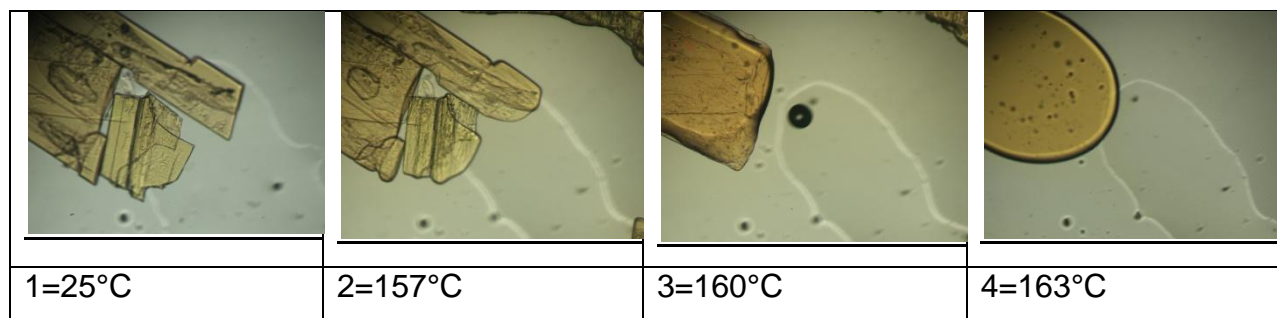


Figure B11: Micrographs depicting the thermal events occurring during heating of the crystals obtained from 1-butanol.

Ethionamide recrystallised from 2-butanol

Stereomicroscope results

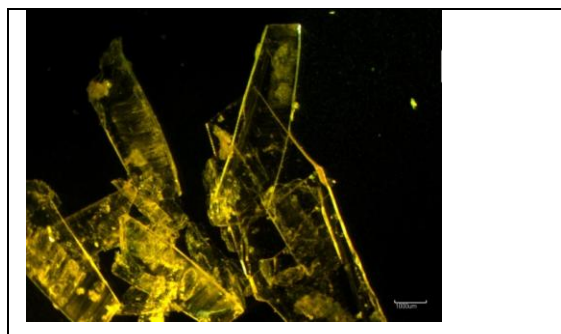


Figure B12: Image of ethionamide crystals obtained from recrystallisation from 2-butanol.

DSC results

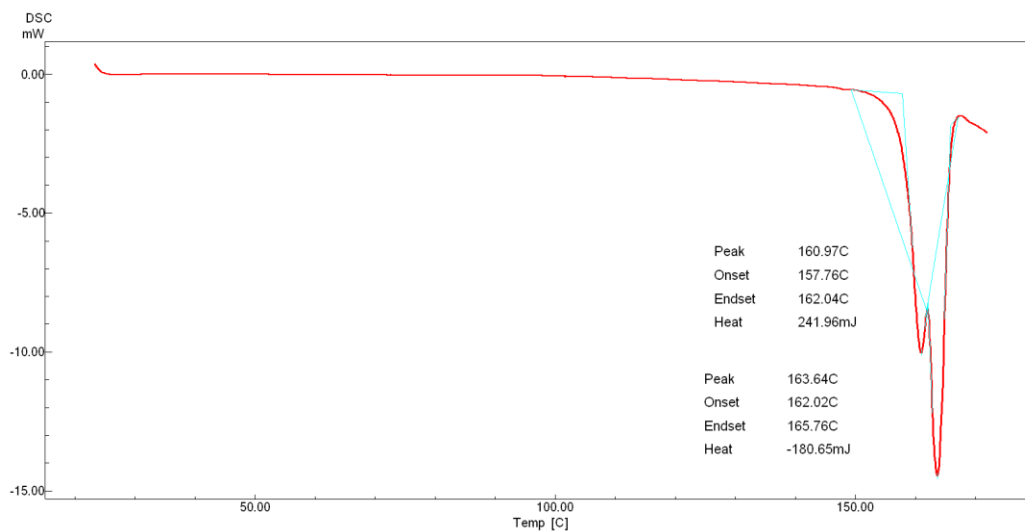


Figure B13: DSC thermogram obtained with crystals from recrystallisation with 2-butanol.

TM results

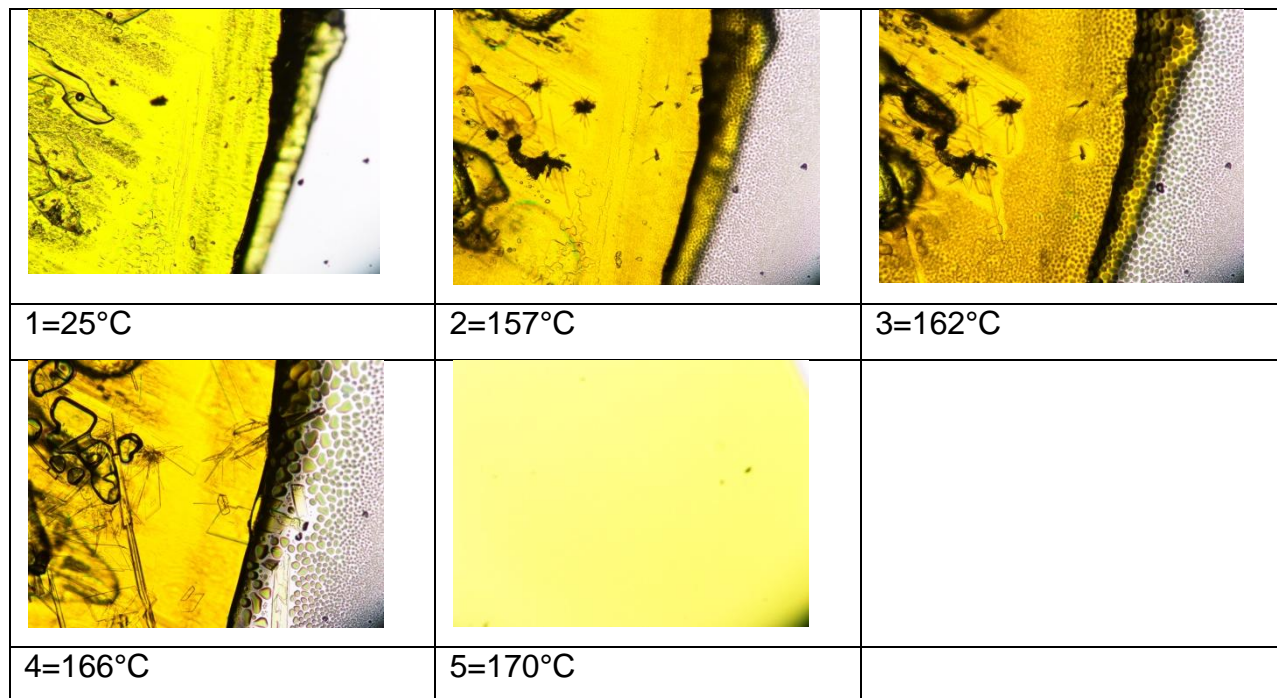


Figure B14: Micrographs depicting the thermal events occurring during heating of the crystals obtained from 2-butanol.

Ethionamide recrystallised from chloroform

Stereomicroscope results:

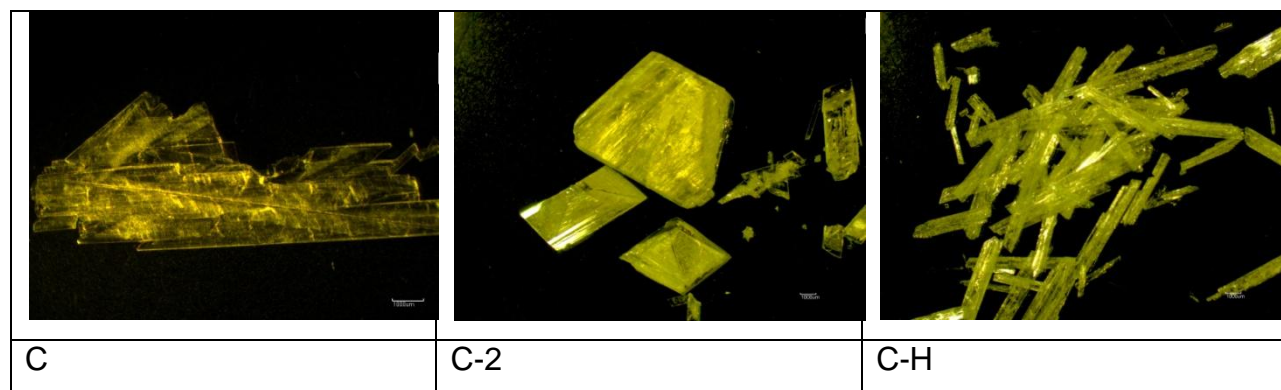


Figure B15: Images of ethionamide crystals obtained from chloroform recrystallisation.

DSC results

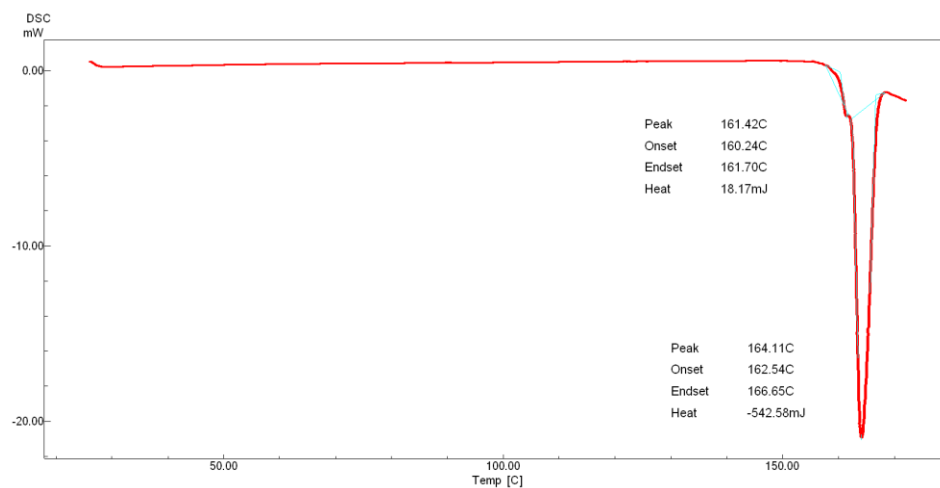


Figure B16: DSC thermogram obtained from chloroform recrystallisation.

TM results

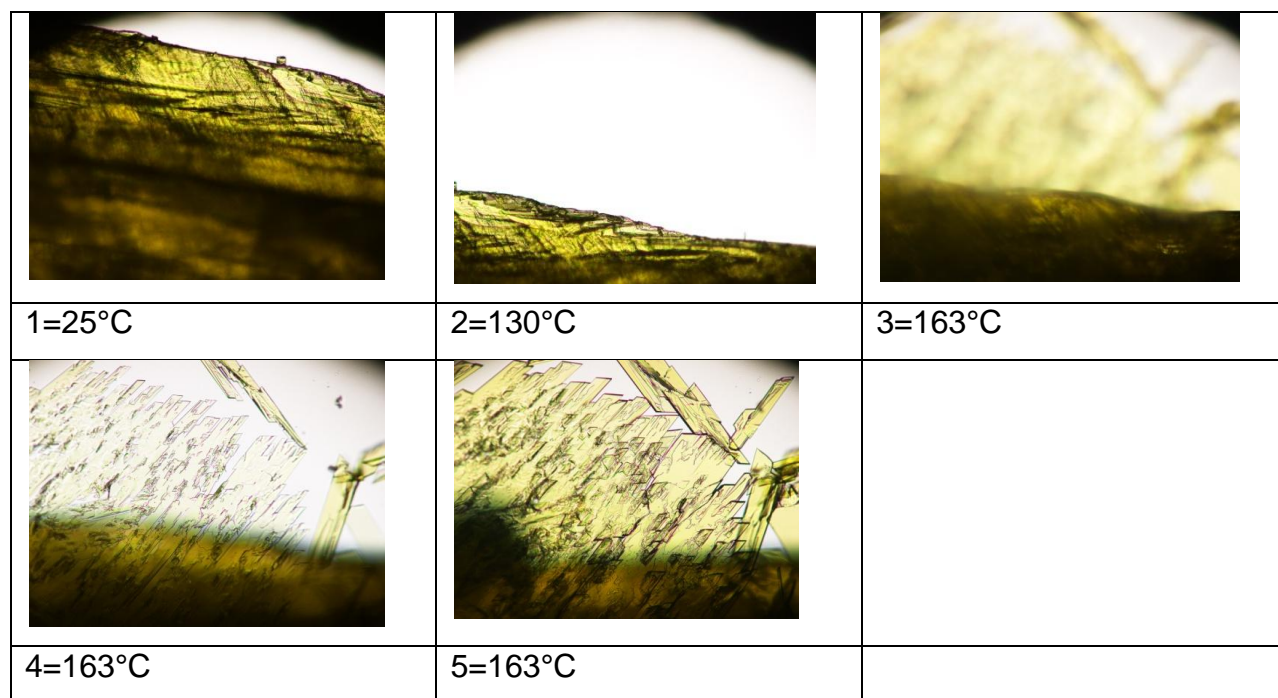


Figure B17: Micrographs depicting the thermal events occurring during heating of the crystals obtained from chloroform.

SEM results

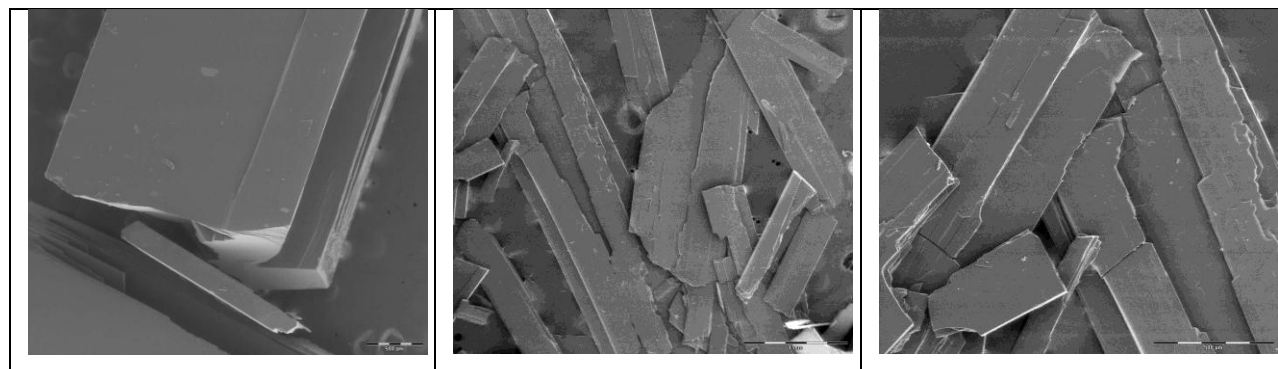


Figure B18: SEM micrographs of crystals obtained from chloroform.

Ethionamide recrystallised from dichloromethane

Stereomicroscope results:

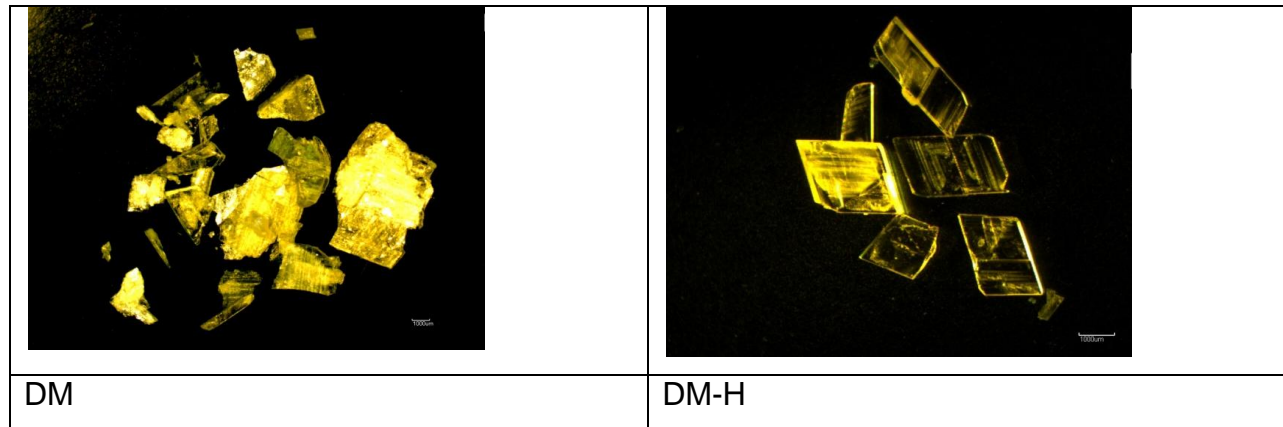


Figure B19: Images of ethionamide crystals obtained from dichloromethane recrystallisation.

DSC results

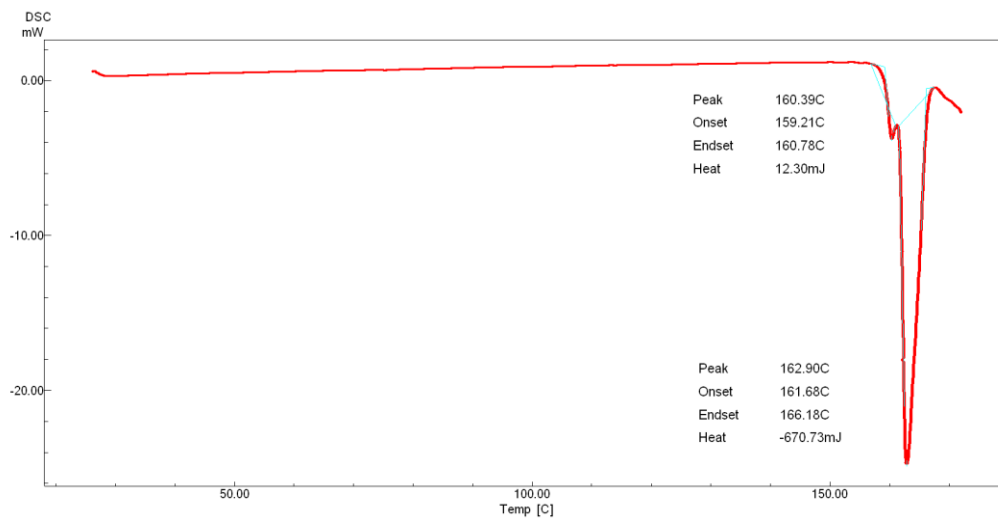


Figure B20: DSC thermogram obtained from dichloromethane recrystallisation.

TM results

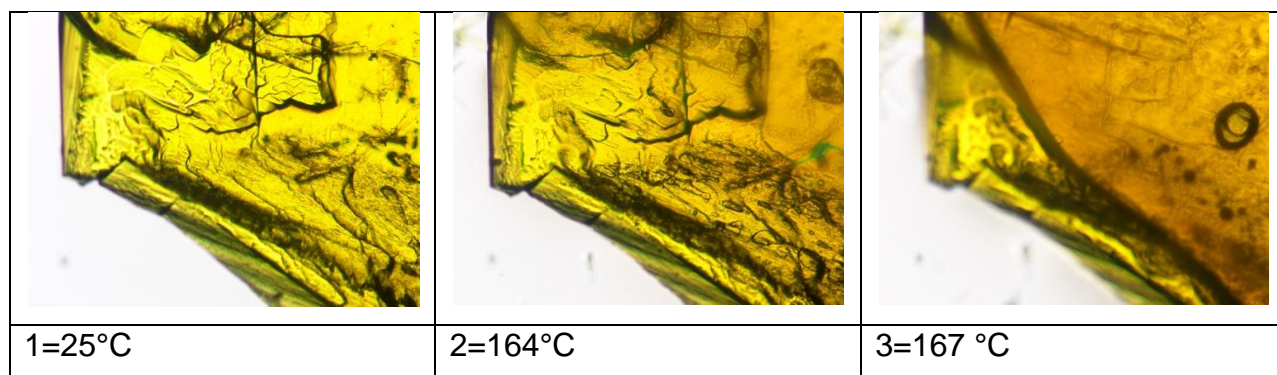


Figure B21: Micrographs depicting the thermal events occurring during heating of the crystals obtained from chloroform.

SEM results

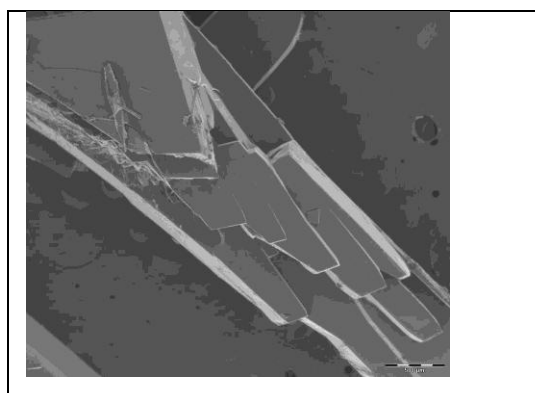


Figure B22: SEM micrographs of crystals obtaining from chloroform.

Ethionamide recrystallised from dimethylformamide (DMF)

Stereomicroscope results

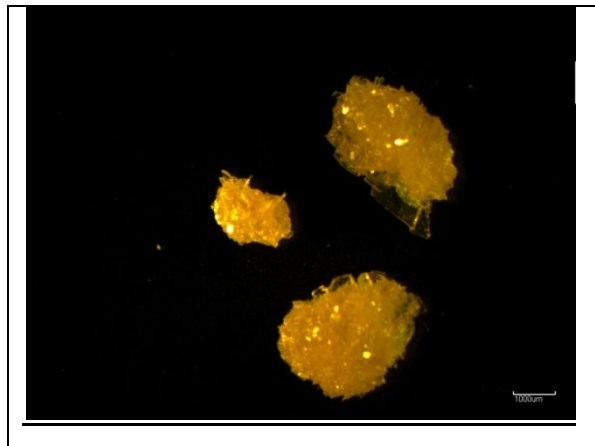


Figure B23: Images of ethionamide crystals obtained from DMF recrystallisation.

DSC results

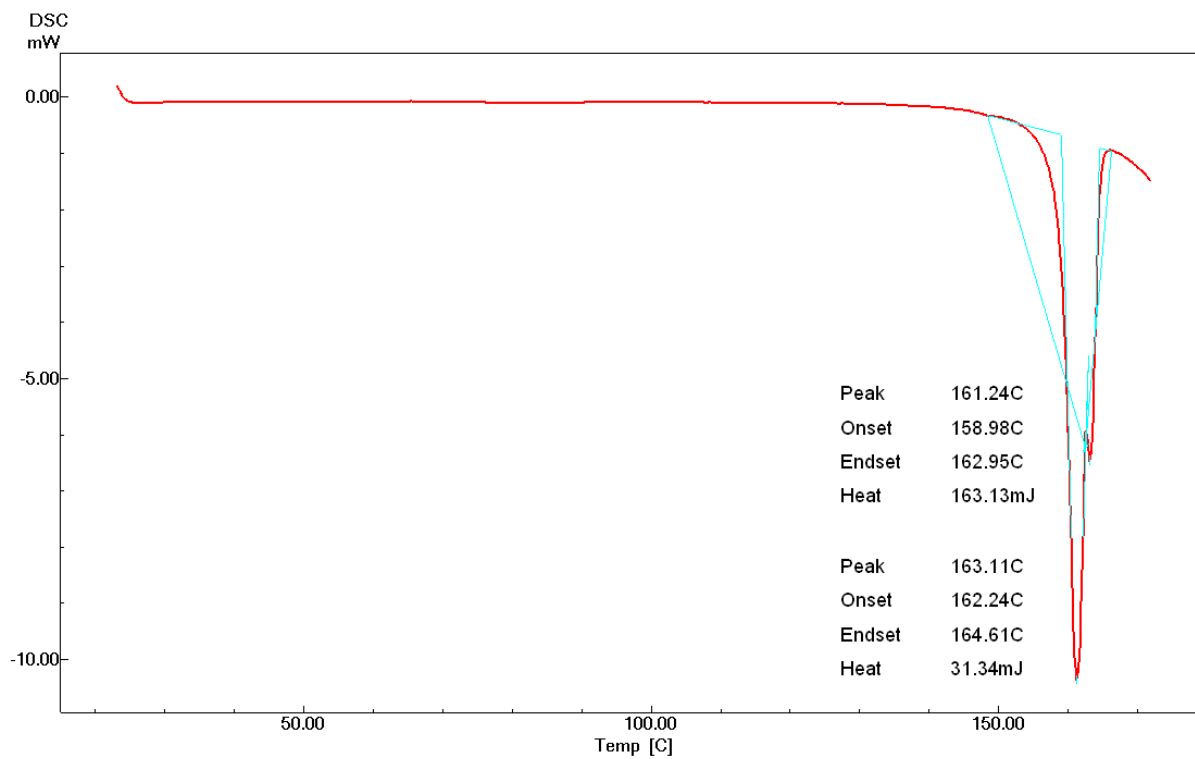


Figure B24: DSC thermogram obtained from DMF recrystallisation.

SEM results

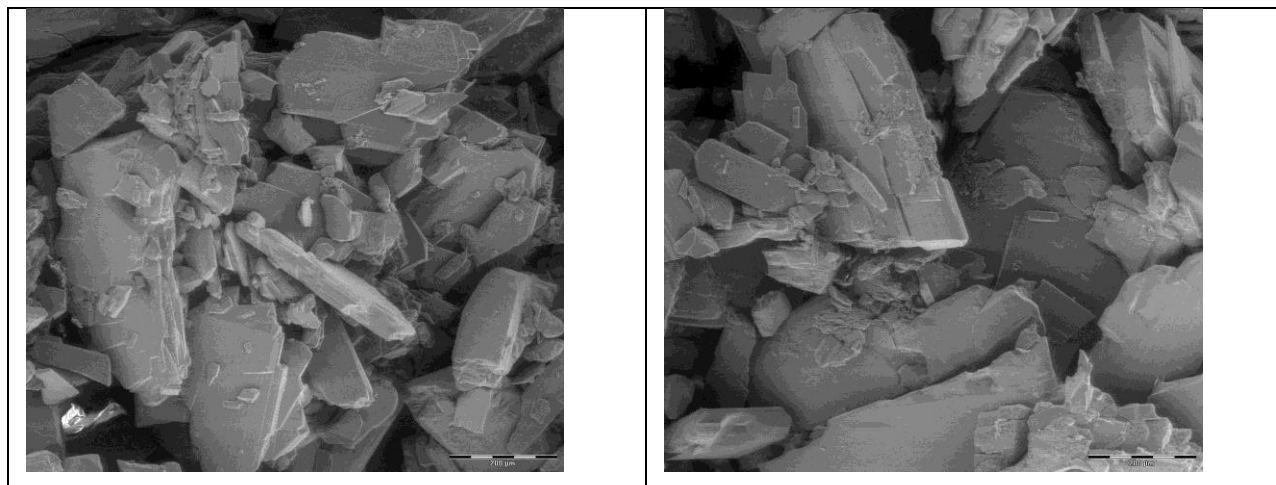


Figure B25: SEM micrographs of crystals obtaining from DMF.

Ethionamide recrystallised from 1,4-dioxane

Stereomicroscope results:

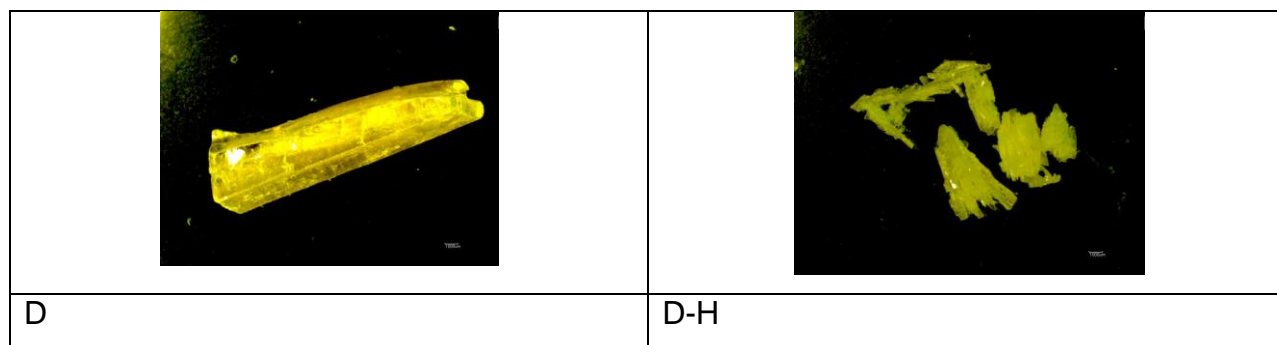


Figure B26: Images of ethionamide crystals obtained from 1,4-dioxane recrystallisation.

DSC results

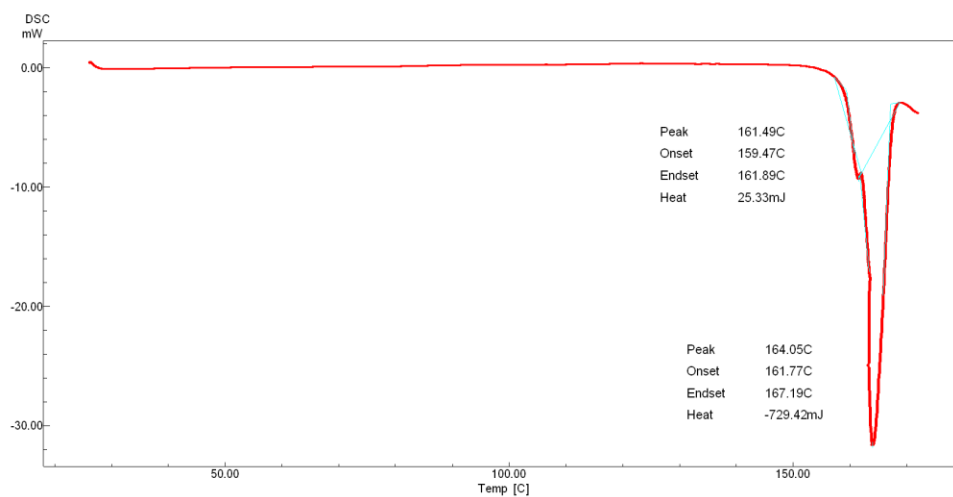


Figure B27: DSC thermogram obtained from 1,4-dioxane recrystallisation.

TM results

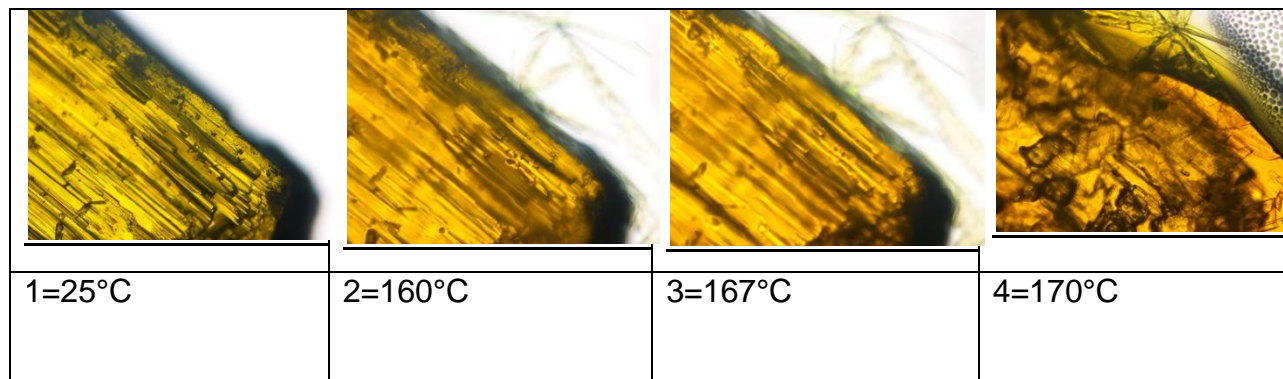


Figure B28: Micrographs depicting the thermal events occurring during heating of the crystals obtained from 1,4-dioxane.

SEM results

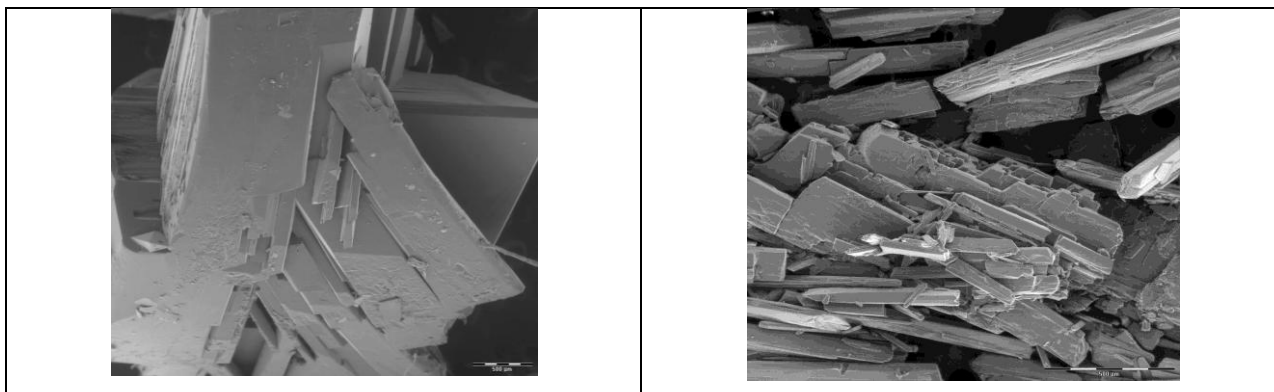


Figure B29: SEM micrographs of crystals obtaining from dioxane.

Ethionamide recrystallised from ethanol

Stereomicroscope results:

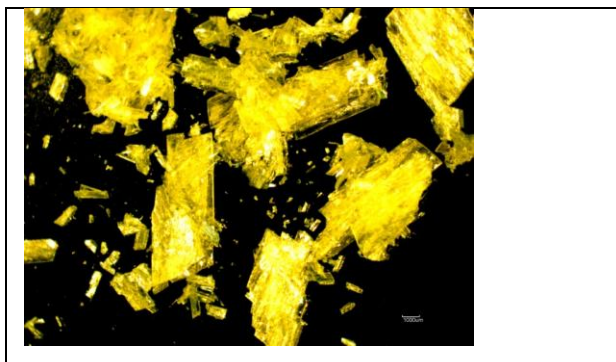


Figure B30: Image of ethionamide crystals obtained from ethanol recrystallisation.

DSC results

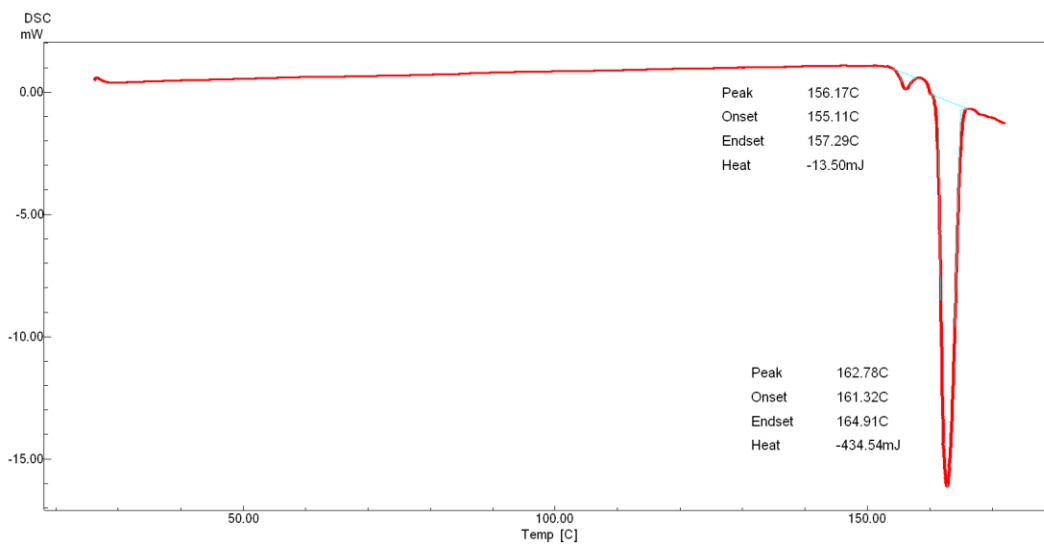


Figure B31: DSC thermogram obtained from ethanol recrystallisation.

TM results

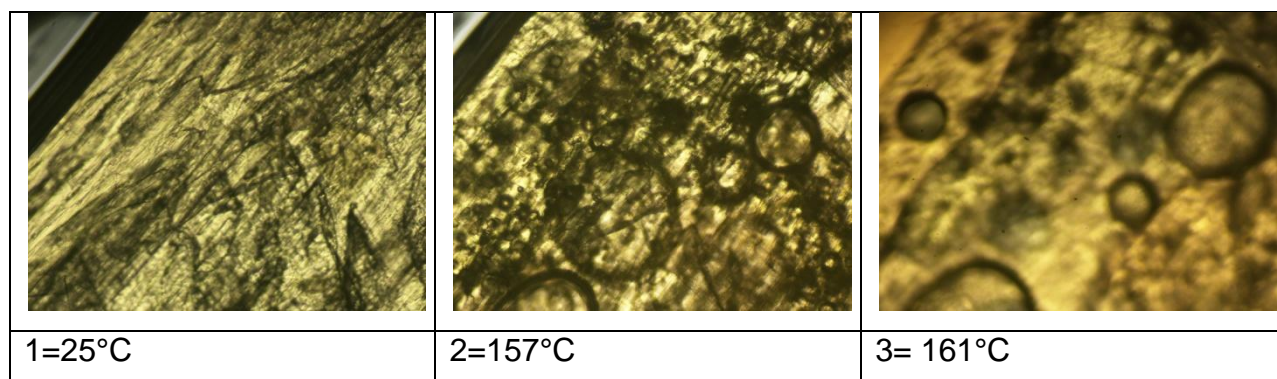


Figure B32: Micrographs depicting the thermal events occurring during heating of the crystals obtained from ethanol.

SEM results

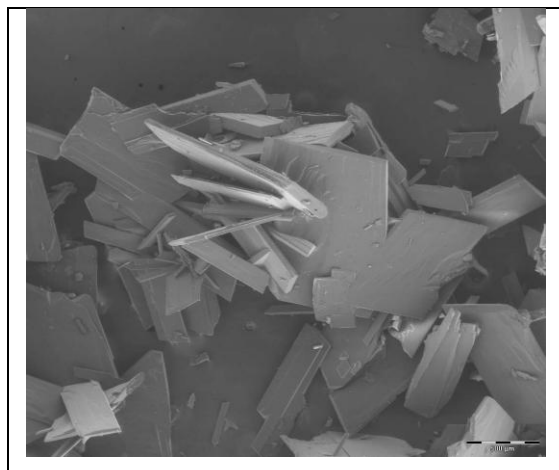


Figure B33: SEM micrographs of crystals obtaining from ethanol.

Ethionamide recrystallised from ethyl acetate

Stereomicroscope results:

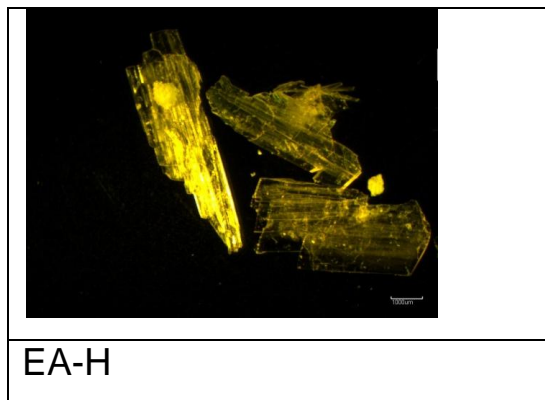
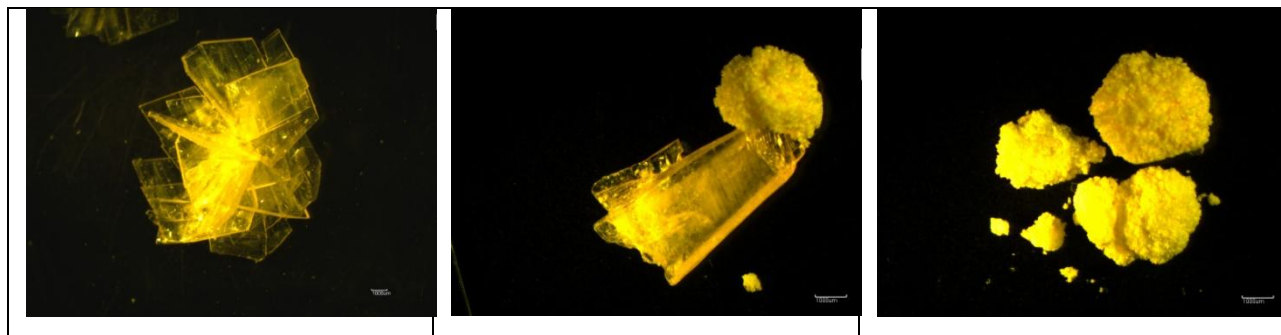


Figure B34: Images of ethionamide crystals obtained from ethyl acetate recrystallisation.

DSC results

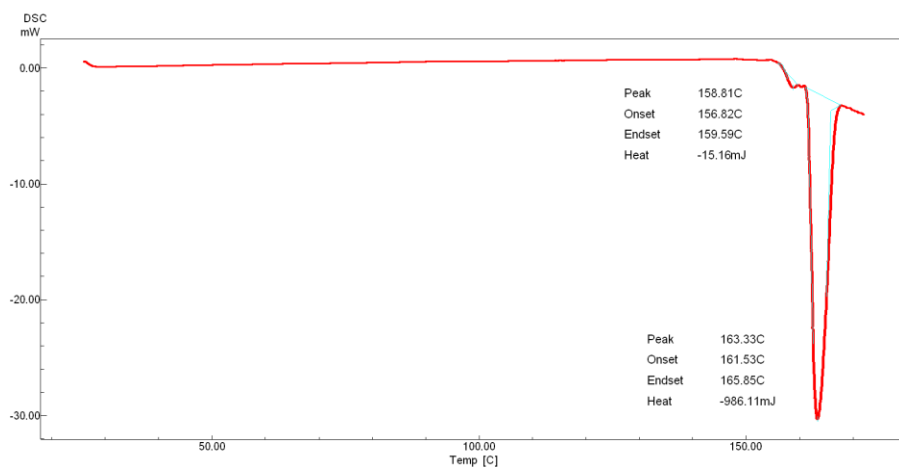


Figure B35: DSC thermogram obtained from ethyl acetate recrystallisation.

TM results

1=25°C	2=157°C	3=168°C
4= 170°C	5= 25°C after cooling	

TM of EA sphere shaped conglomerate crystals

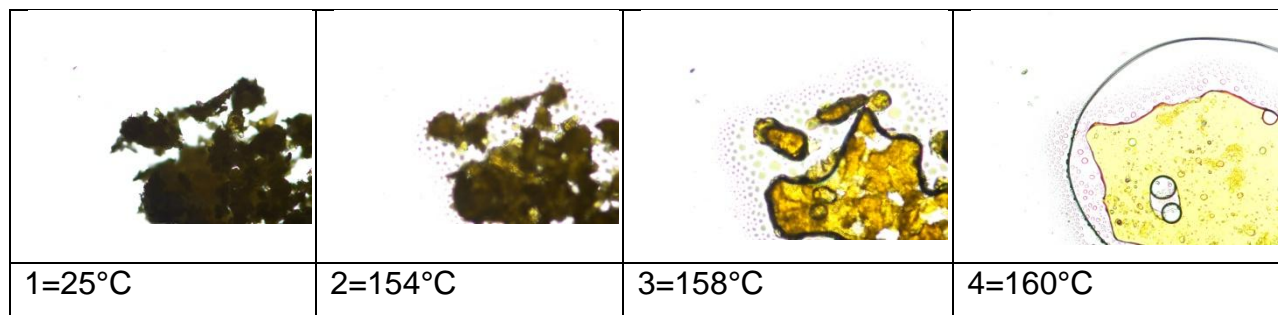


Figure B36: Micrographs depicting the thermal events occurring during heating of the crystals obtained from ethyl acetate.

SEM results

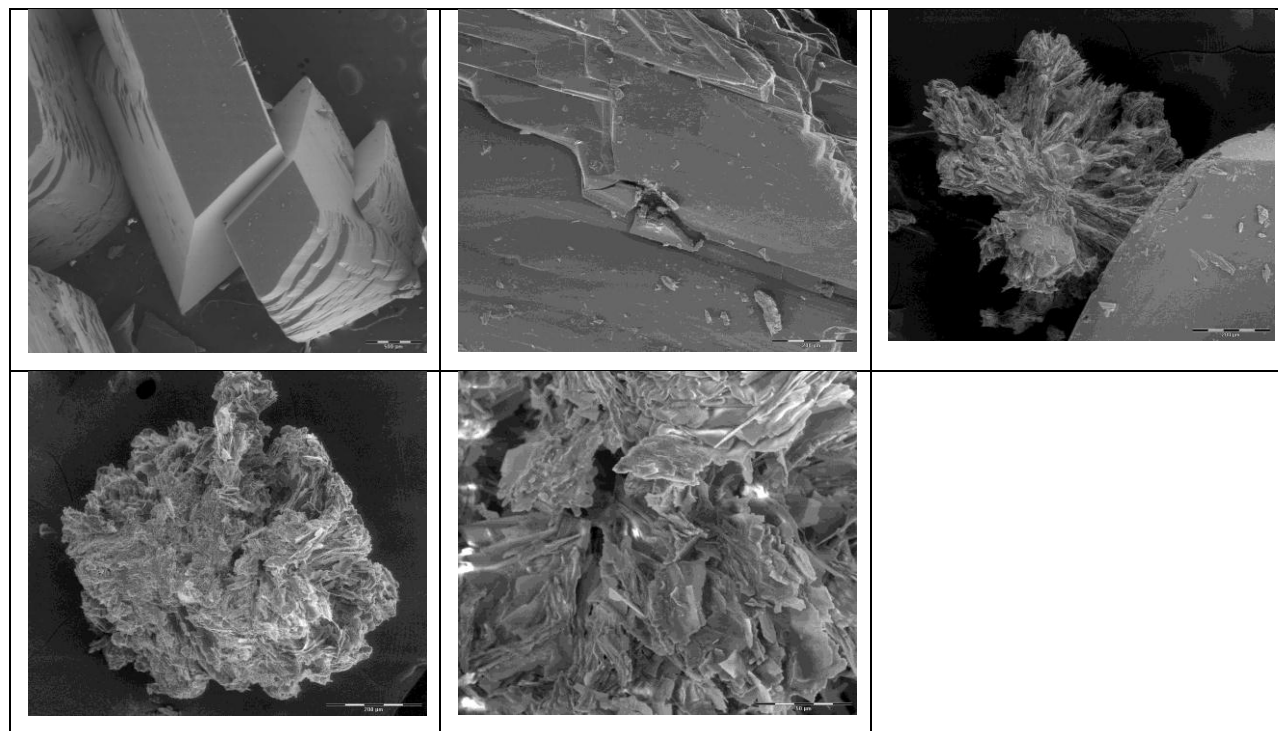


Figure B37: SEM micrographs of crystals obtaining from ethyl acetate.

Ethionamide recrystallised from methanol

Stereomicroscope results

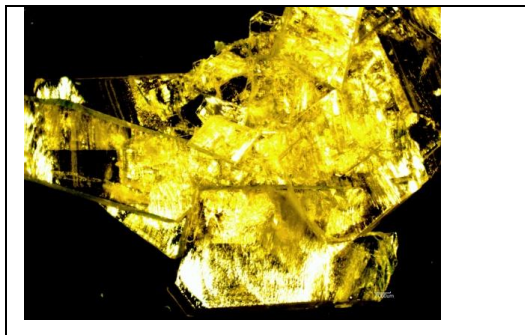


Figure B38: Images of ethionamide crystals obtained from methanol recrystallisation.

DSC results

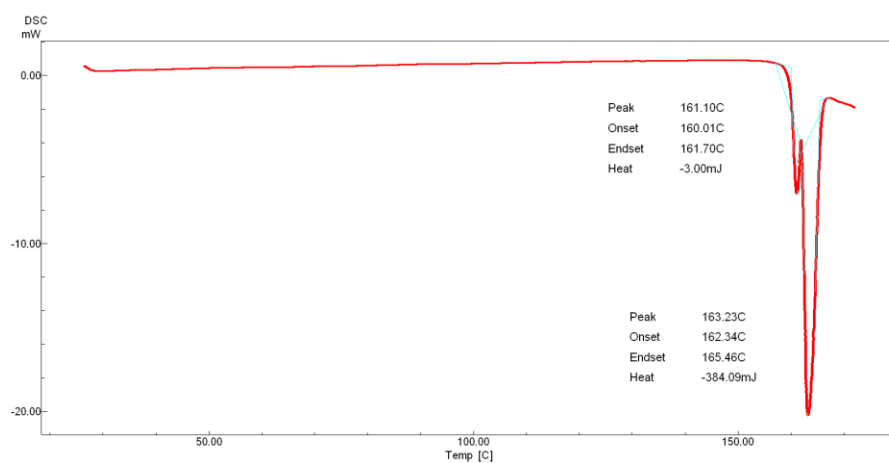


Figure B39: DSC thermogram obtained from methanol recrystallisation.

TM results

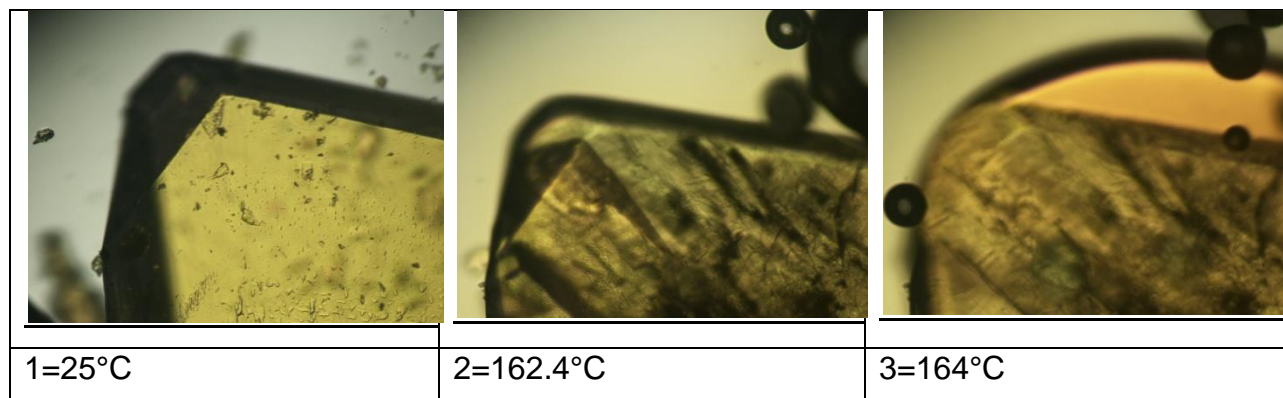


Figure B40: Micrographs depicting the thermal events occurring during heating of the crystals obtained from methanol.

SEM results

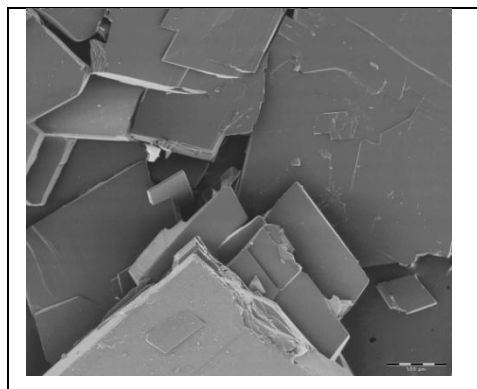


Figure B41: SEM micrographs of crystals obtaining from methanol.

Ethionamide recrystallised from 1-propanol

Stereomicroscope results

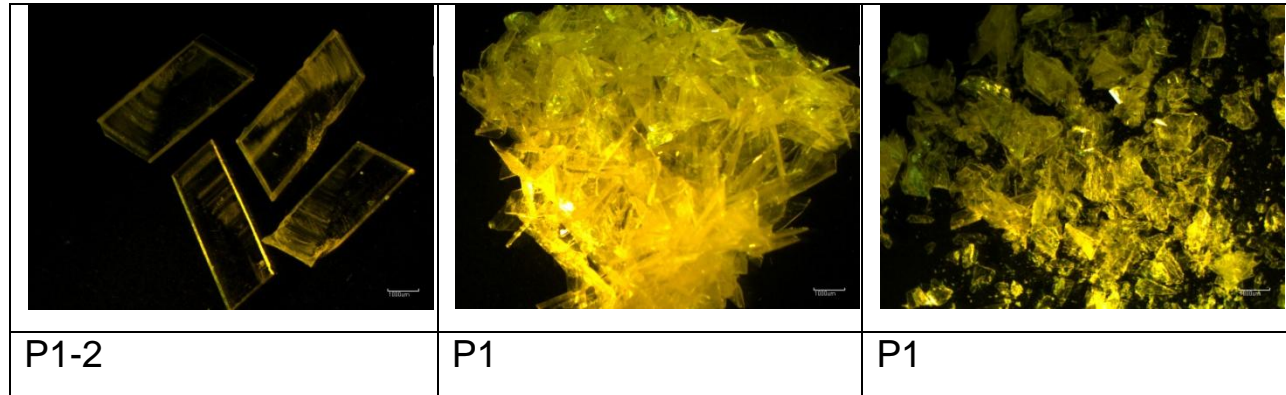


Figure B42: Images of ethionamide crystals obtained from 1-propanol recrystallisation.

DSC results

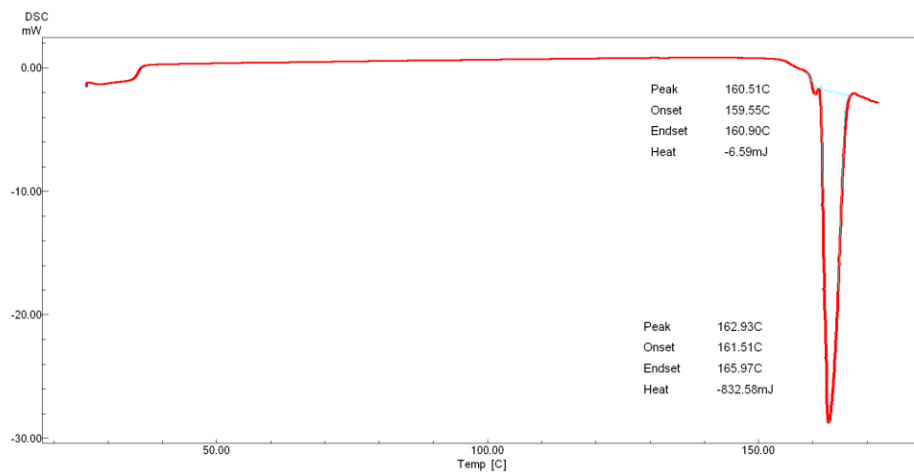


Figure B43: DSC thermogram obtained from 1-propanol recrystallisation.

TM results

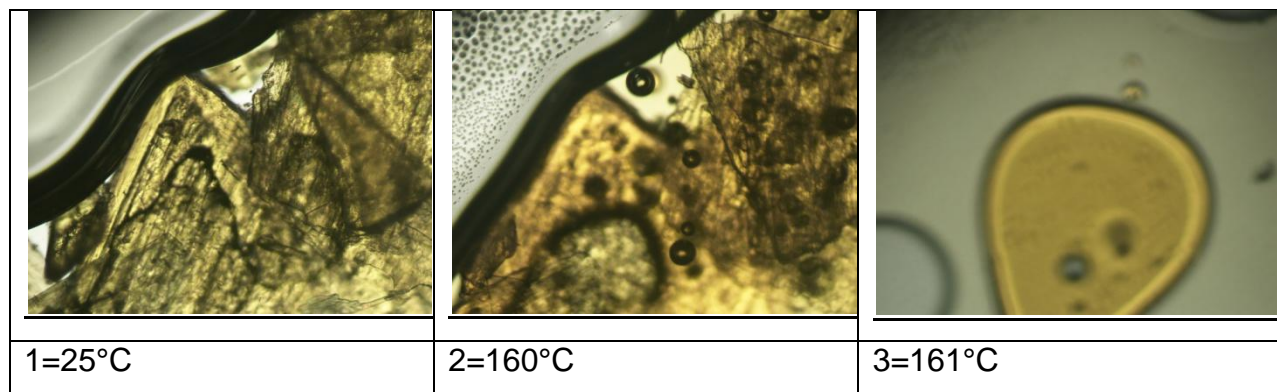


Figure B44: Micrographs depicting the thermal events occurring during heating of the crystals obtained from 1-propanol.

Ethionamide recrystallised from 2-propanol

Stereomicroscope results:

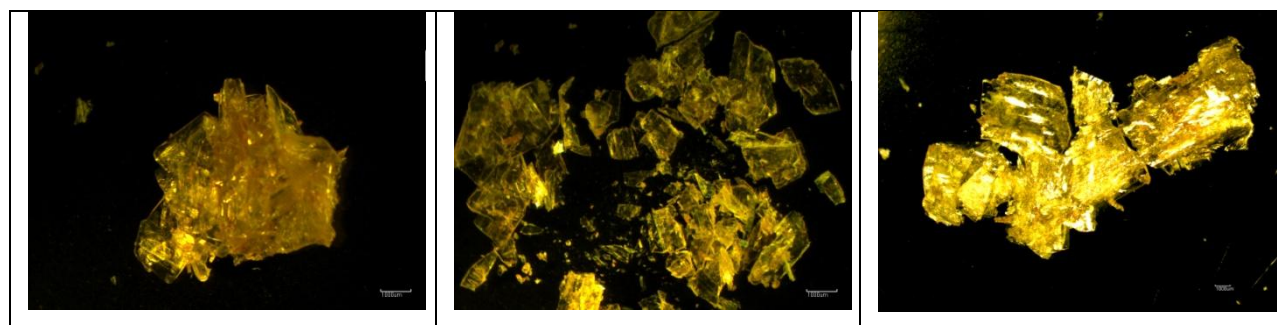
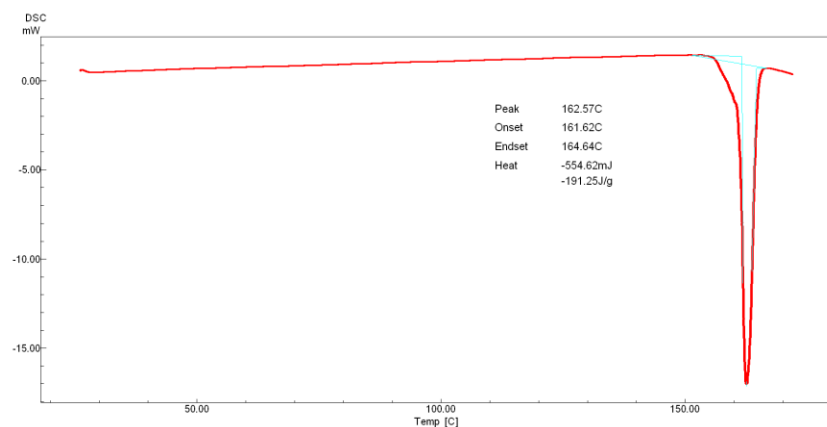
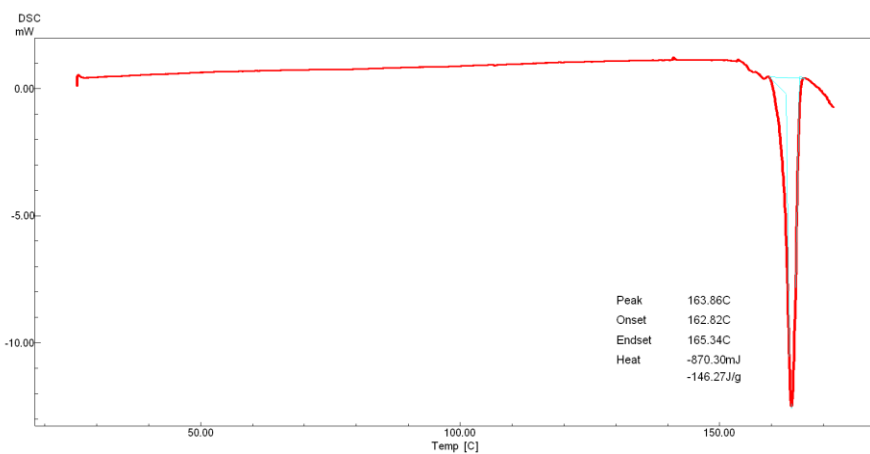


Figure B45: Images of ethionamide crystals obtained from 2-propanol recrystallisation.

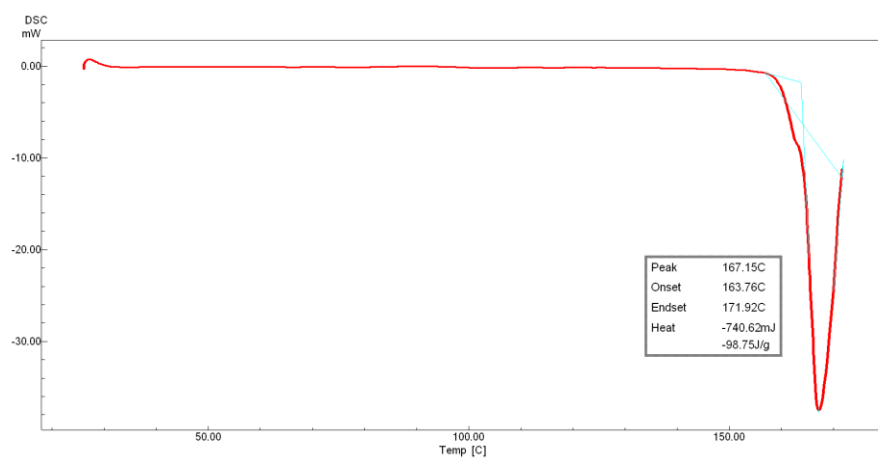
DSC results



Heating rate of 5°C/minute



Heating rate of 2°C/minute



Heating rate of 10°C/minute

Figure B46: DSC traces obtained from 2-propanol recrystallisation. Different heating rates were used.

TM results

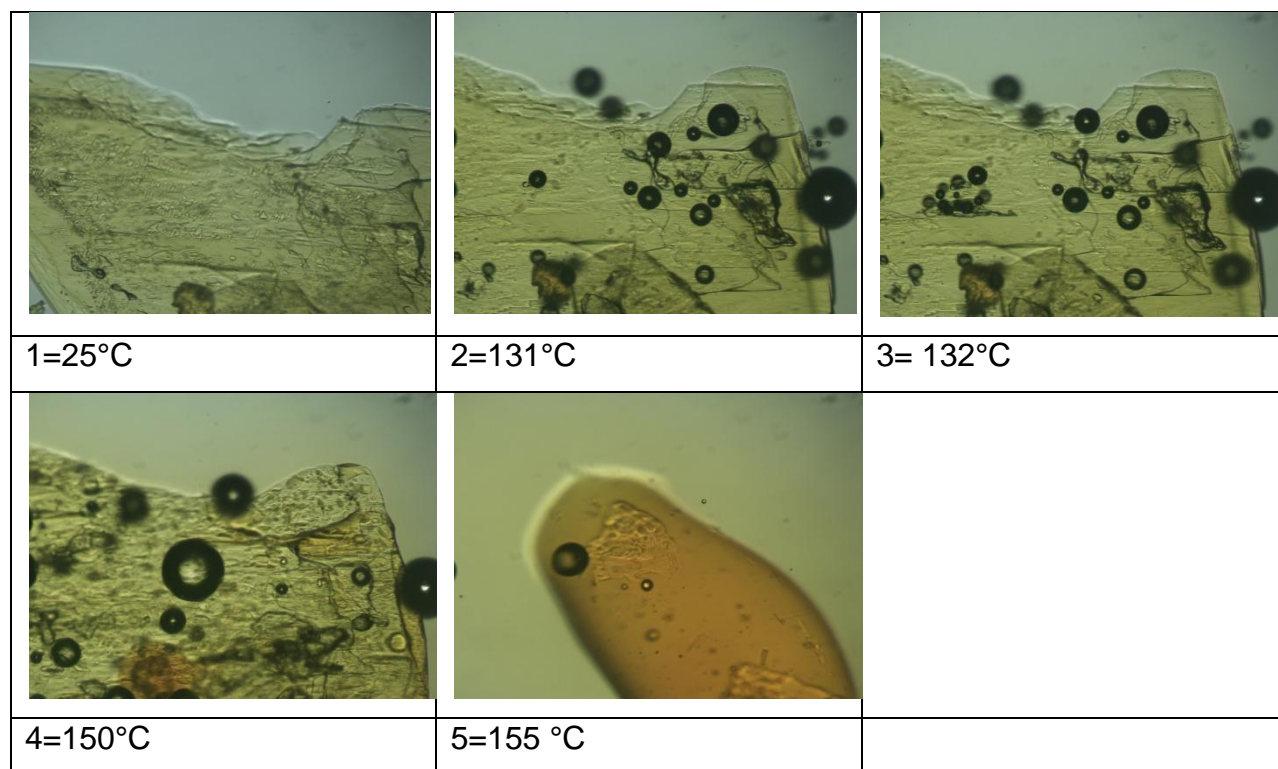


Figure B47: Micrographs depicting the thermal events occurring during heating of the crystals obtained from 1-propanol.

Ethionamide recrystallised from tetrahydrofuran (THF)

Stereomicroscope results:



Figure B48: Images of ethionamide crystals obtained from THF recrystallisation.

DSC results

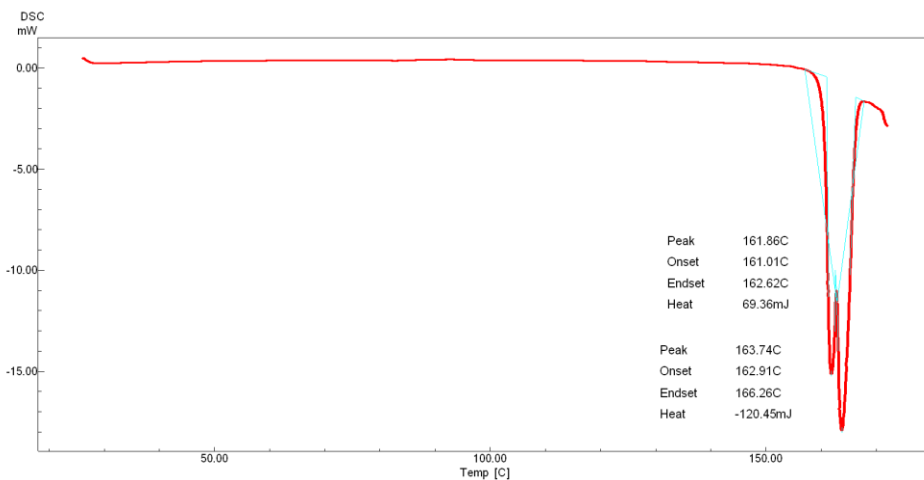


Figure B49: DSC trace obtained from THF recrystallisation.

TM results

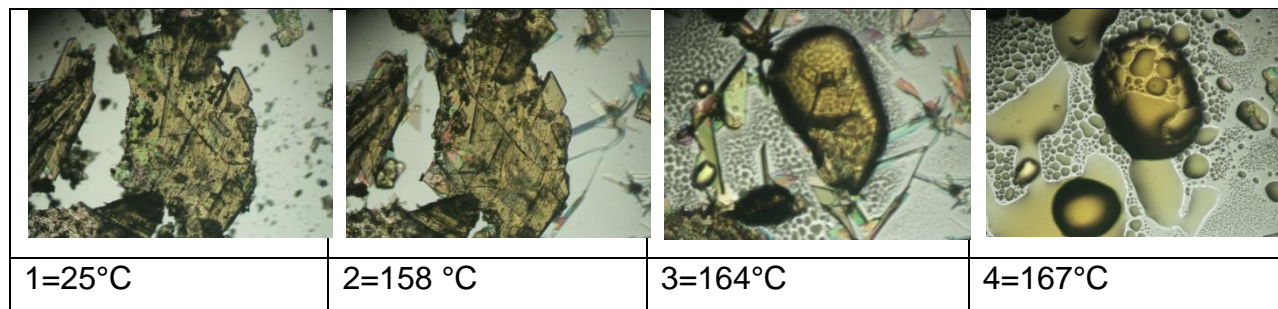


Figure B50: Micrographs depicting the thermal events occurring during heating of the crystals obtained from THF.

SEM results

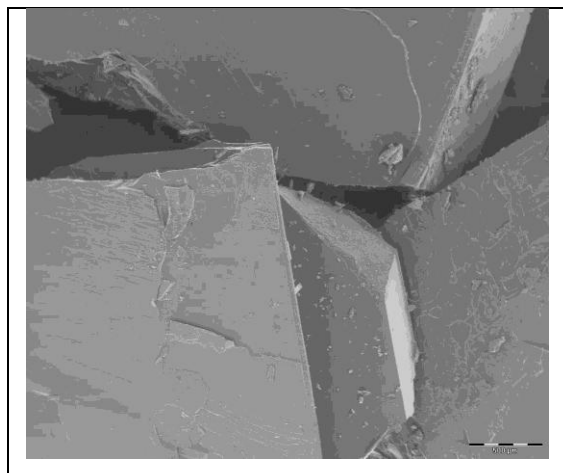


Figure B51: SEM micrographs of crystals obtaining from THF.

Annexure C

Additional DSC traces for tables 5.2 – 5.5

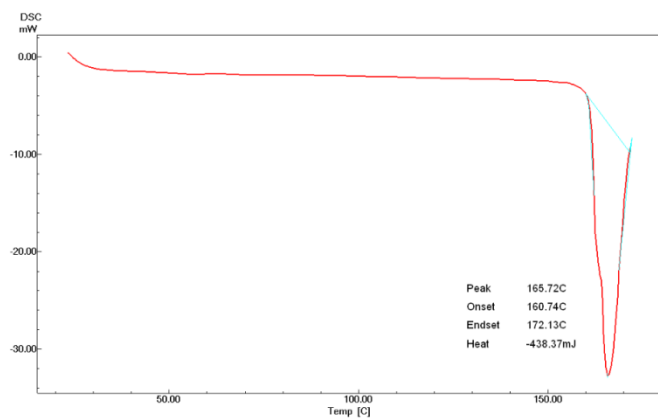


Figure C1.1 (Table 5.2 no 1).

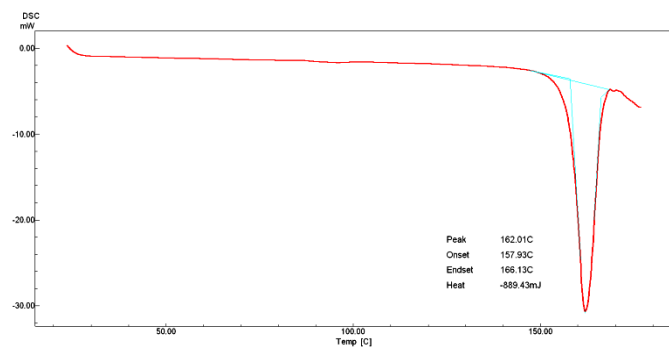


Figure C1.2 (Table 5.3 no 5).

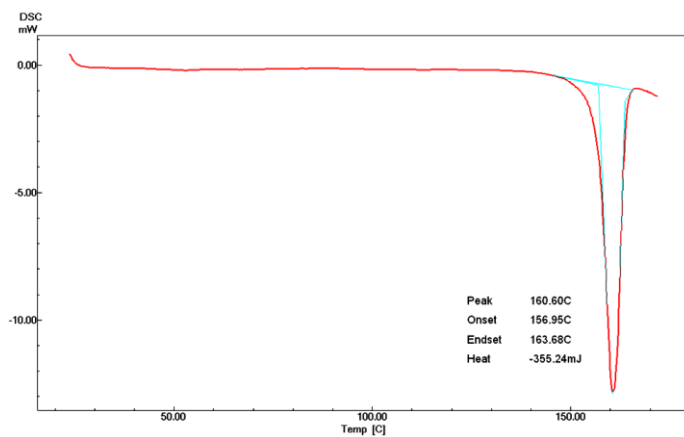


Figure C1.3 (Table 5.3 no 6).

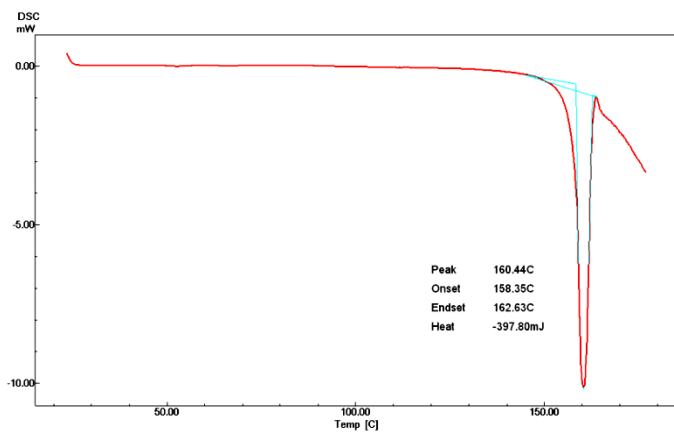


Figure C1.4 (Table 5.3 no 7).

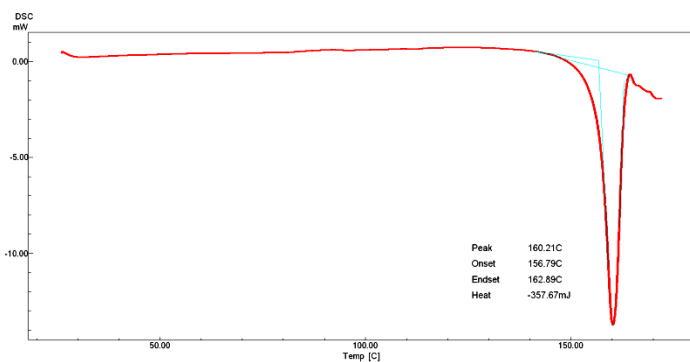


Figure C1.5 (Table 5.4 no 1).

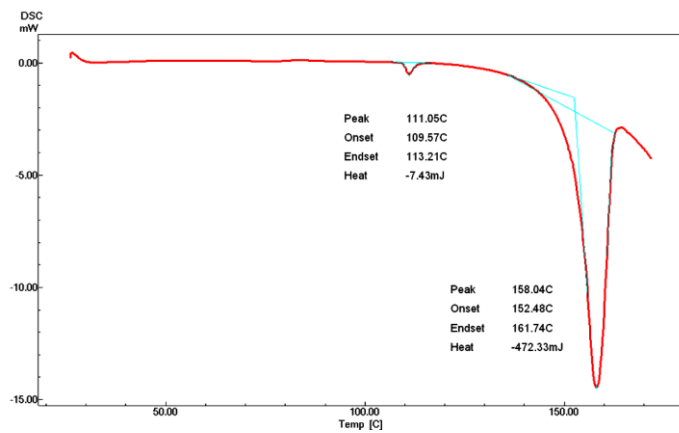


Figure C1.6 (Table 5.4 no 2).

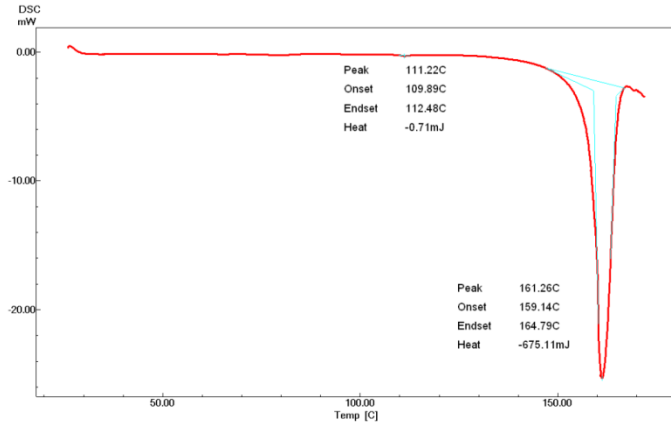


Figure C1.7 (Table 5.4 no 4).

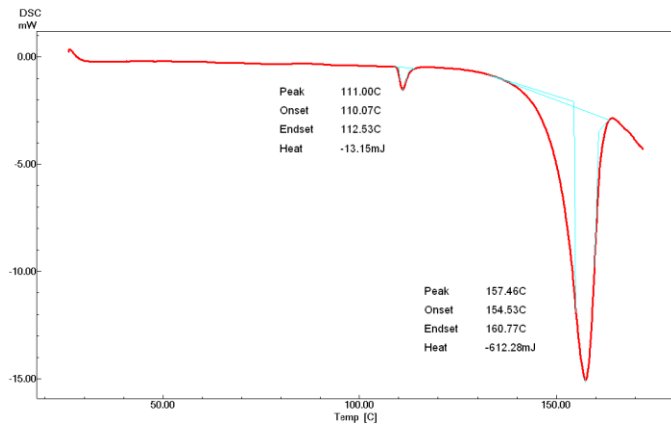


Figure C1.8 (Table 5.4 no 5).

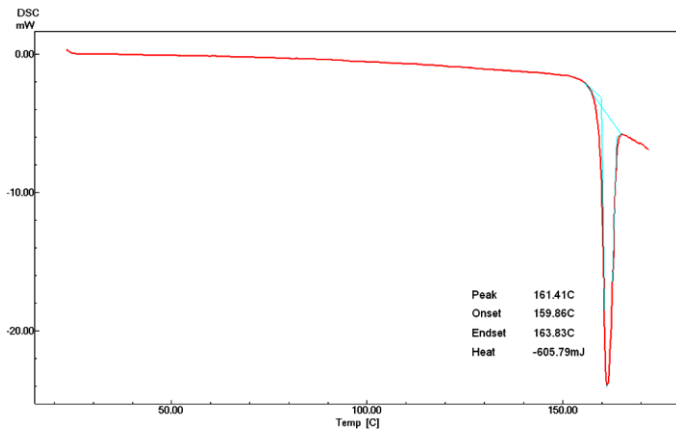


Figure C1.9 (Table 5.5 no 1).

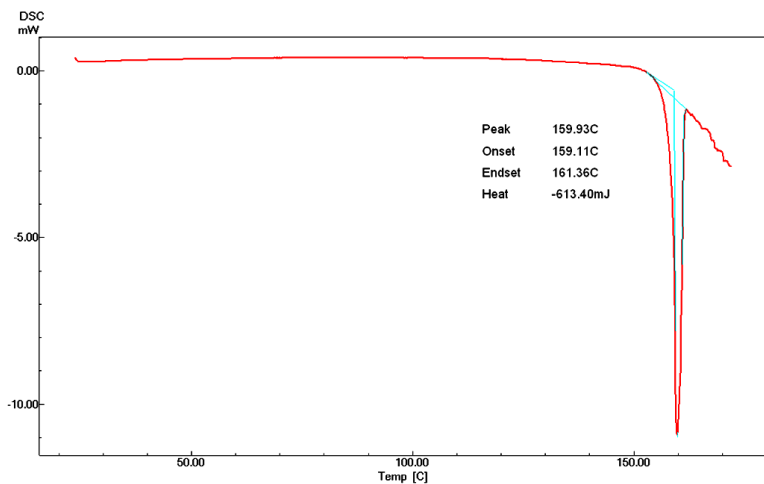


Figure C1.10 (Table 5.5 no 2).

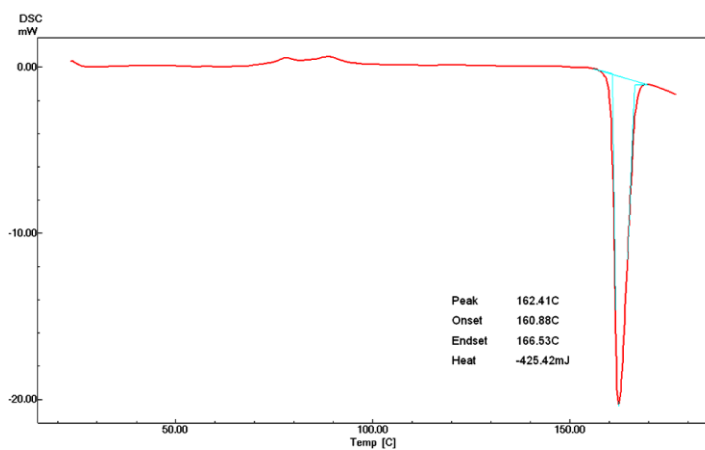


Figure C1.11 (Table 5.5 no 4).

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