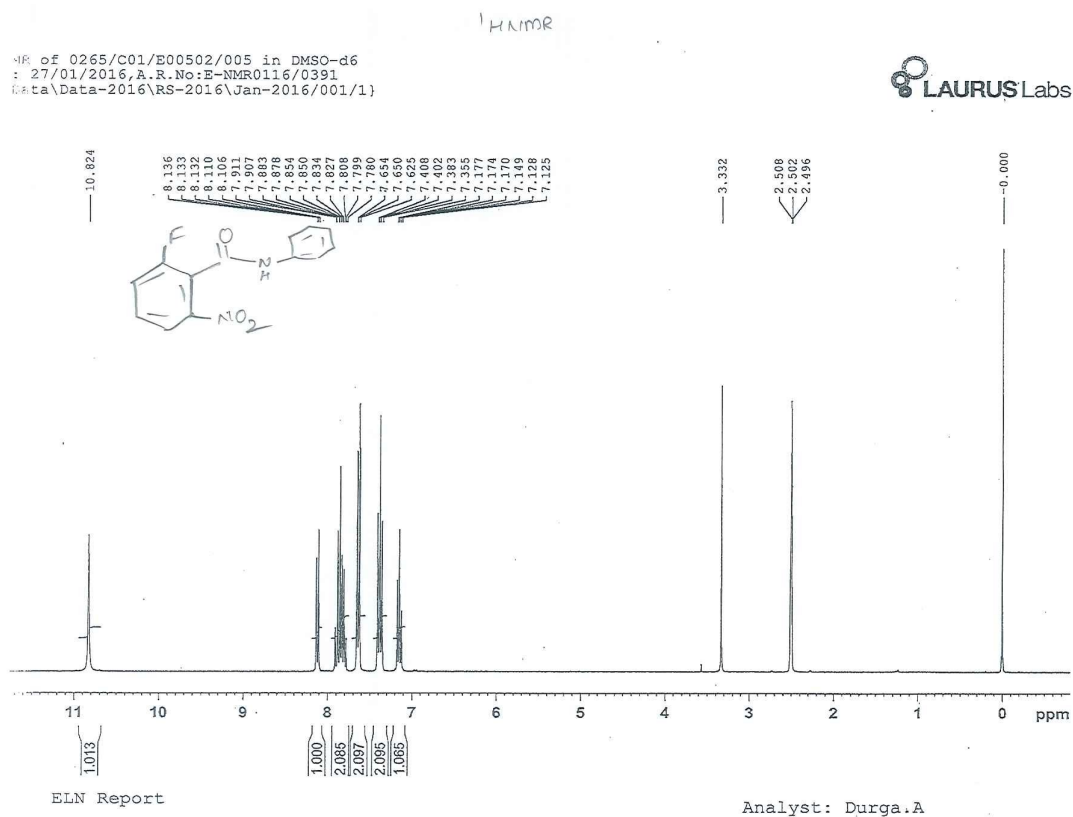
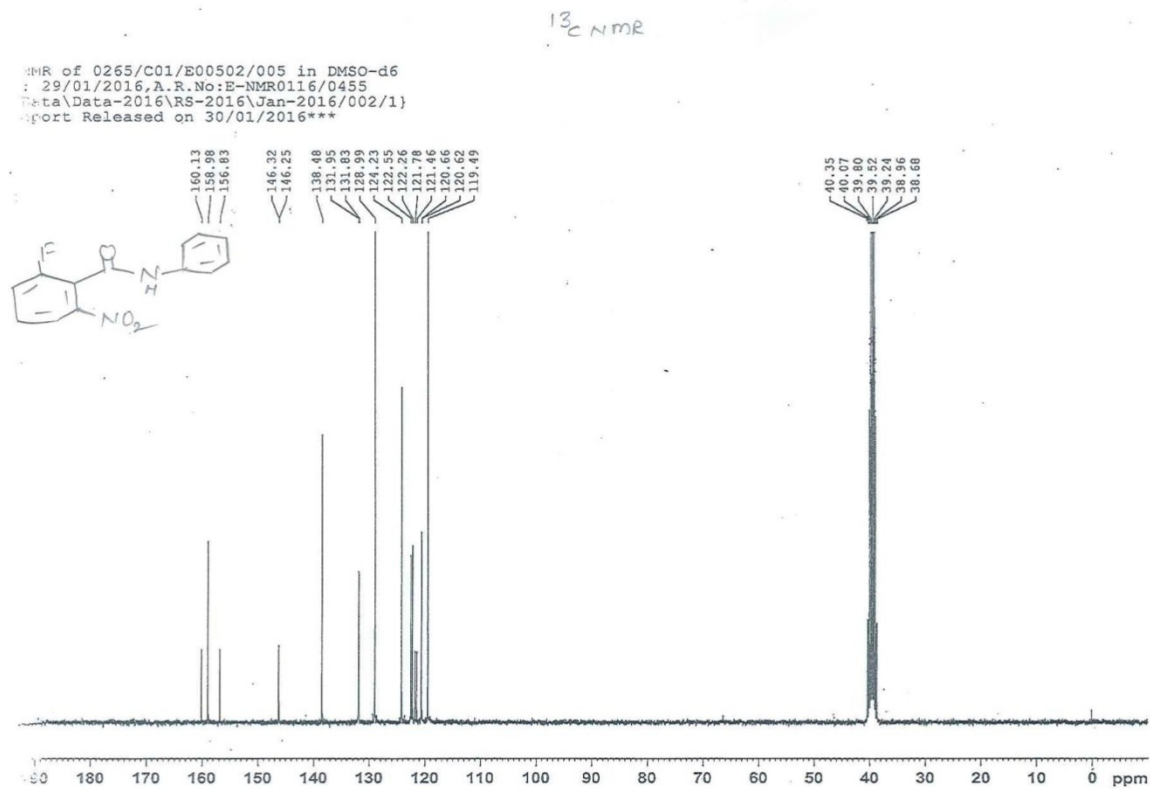


¹H NMR Spectrum of Stage-1

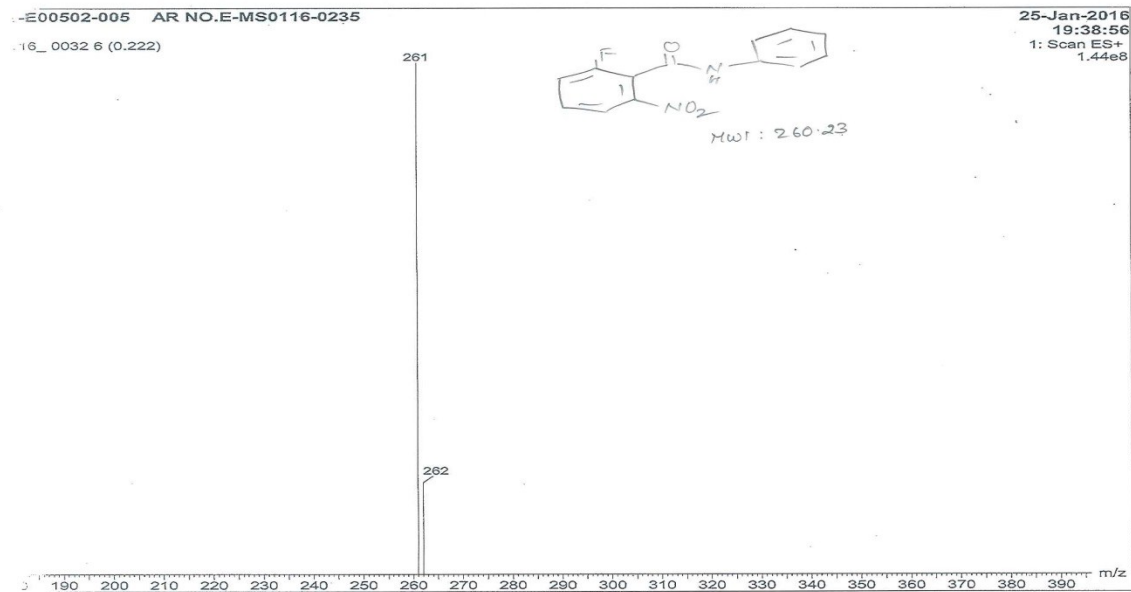


¹³C NMR Spectrum of Stage-1

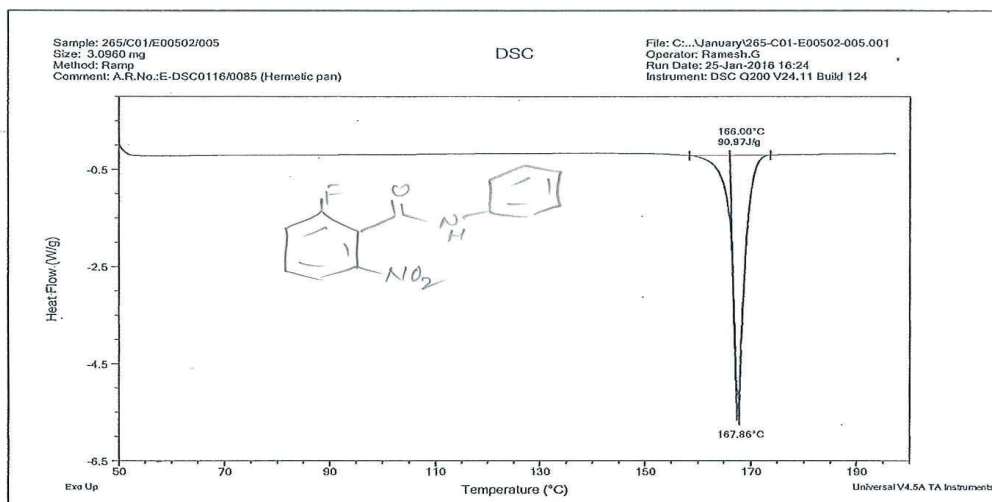


Analyst:Ranjith Kumar.V

Mass spectrum of Stage-1



DSC Thermogram of Stage-1



Method Log:

- 1: Equilibrate at 50.00°C
- 2: Ramp 10.00°C/min to 200.00°C
- 3: End of method

Peak Integration

Start	Onset	Maximum	Stop	Area
°C	°C	°C	°C	J/g
158.27	166.00	167.86	173.76	90.97

ELN

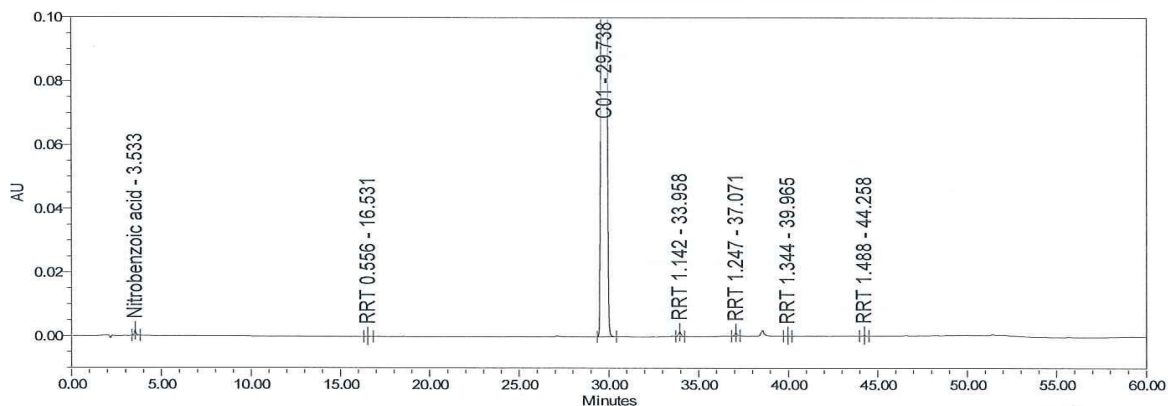
HPLC Chromatogram of Stage-1



Analytical Development

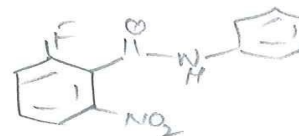
SAMPLE INFORMATION

Sample Name: 0265/C01/E00502/005	Instrument Method Id 1663
Sample Type: Unknown	Acquired By: divyakumarteam
Vial: 26	Date Acquired: 1/30/2016 7:39:06 PM IST
Injection #: 1	Date Processed: 2/3/2016 8:47:17 AM IST
Injection Volume: 10.00 ul	Processing Method: 0265_Pro
Sample Set Id 1709	Processing Method Id 1761
Sample Set Name: 300116_INT_073	Proc. Chnl. Descr.: W2489 ChA 245nm
Project Name: HYD1 AD-Generics\0265 Jan 2016	System Name LL_AD_LC_073
Result Id 1765 Result Set Id	Software: Empower 3 Software Build 3471



Peak Results

	Name	RT	Area ($\mu V \cdot sec$)	% Area
1	Nitrobenzoic acid	3.53	13417	0.0517
2	RRT 0.556	16.53	1155	0.0045
3	C01	29.74	25898749	99.8368
4	RRT 1.142	33.96	14432	0.0556
5	RRT 1.247	37.07	10115	0.0390
6	RRT 1.344	39.96	1316	0.0051
7	RRT 1.488	44.26	1913	0.0074



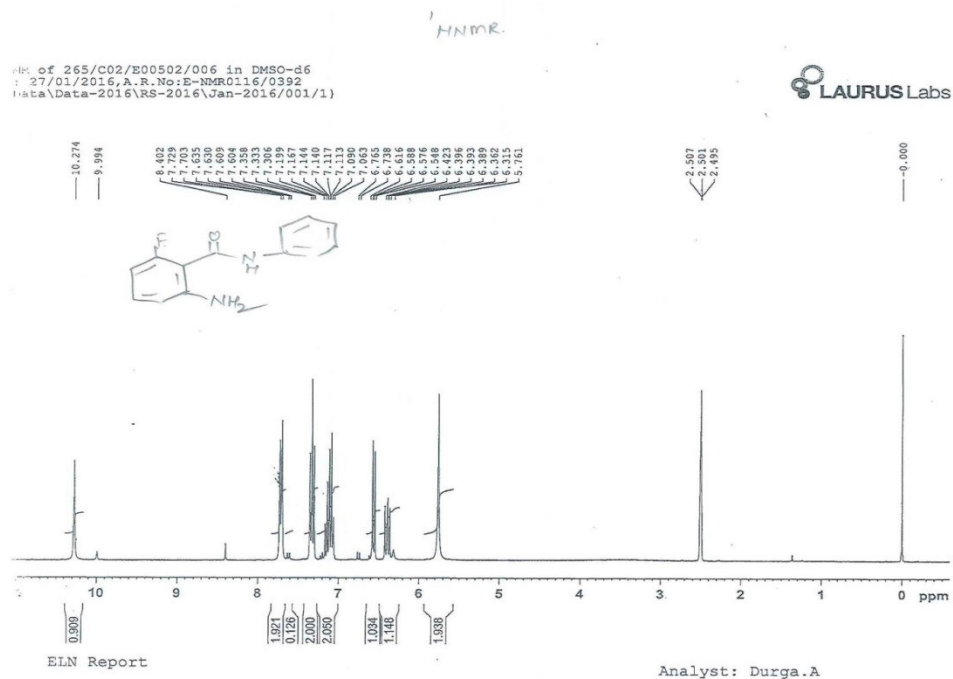
SampleName 0265/C01/E00502/005

Date Acquired 1/30/2016 7:39:06 PM IST

Signature / Date:

Page: 1 of 1

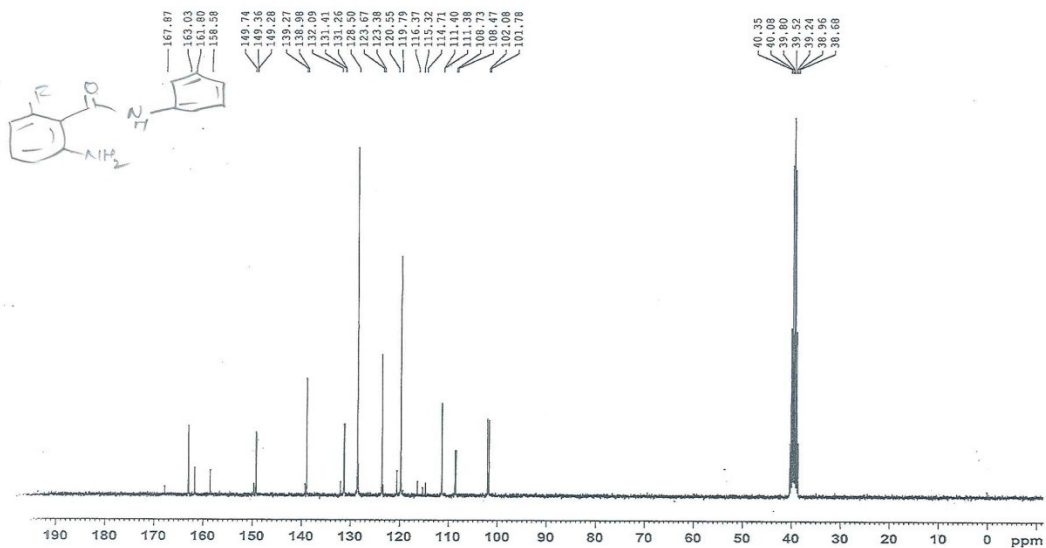
¹H NMR Spectrum of Stage-2



¹³CNMR Spectrum of Stage-2

¹³C NMR

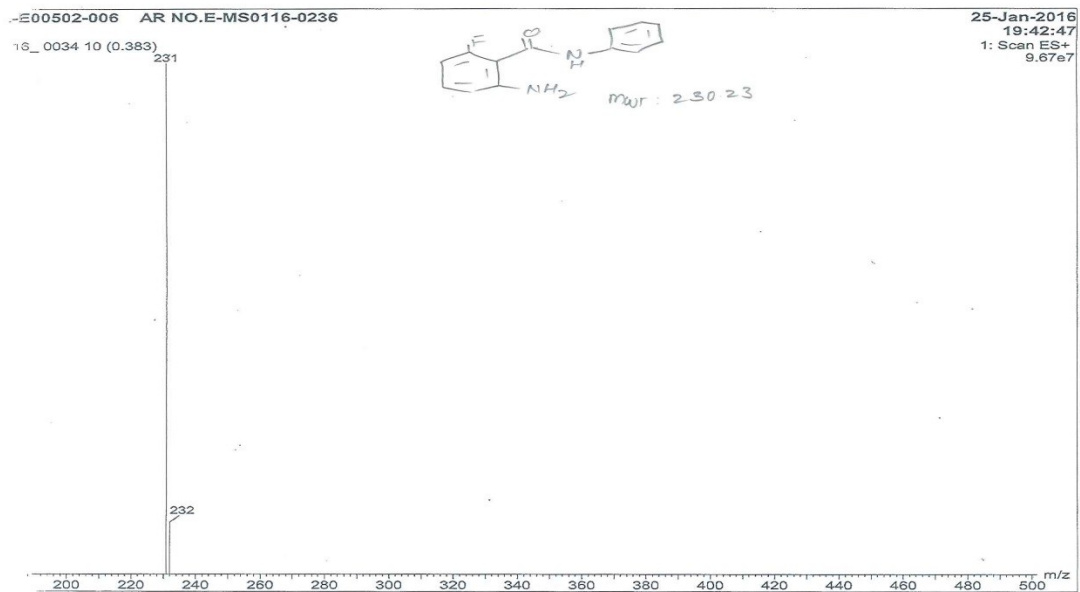
HNMR of 265/C02/E00502/006 in DMSO-d6
: 30/01/2016, A.R.No:E-SE0116//0456
*Data\2016\RS-2016\Jan-2016\002\1}



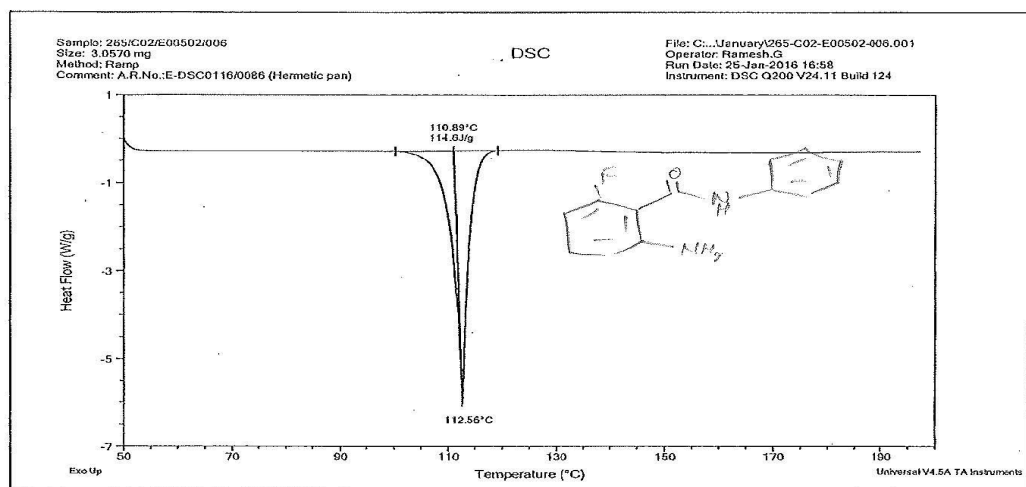
ELN Report

Analyst:Durga.A

Mass Spectrum of Stage-2



DSC Thermogram of Stage-2



Method Log:

- 1: Equilibrate at 50.00°C
- 2: Ramp 10.00°C/min to 200.00°C
- 3: End of method

Peak Integration

Start	Onset	Maximum	Stop	Area
°C	°C	°C	°C	J/g
100.16	110.89	112.56	119.20	114.6

ELN

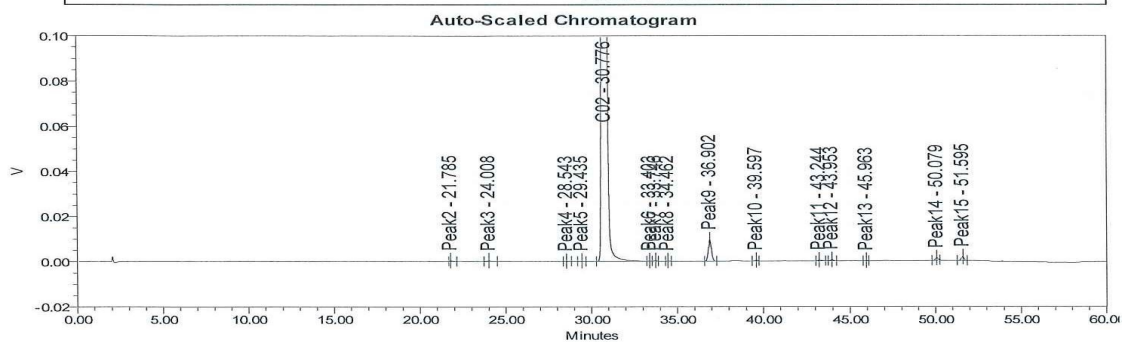
HPLC Chromatogram of Stage-2



Analytical Development

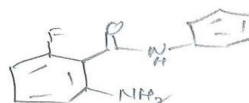
SAMPLE INFORMATION

Sample Name: 0265/C02/E00541/164	Method Id ****
Sample Type: Unknown	Acquired By: Anjaneyuluteam
Vial: 20	Date Acquired: 07/16/2016 19:16:55 IST
Injection #: 1	Date Processed: 07/16/2016 20:52:57 IST
Injection Volume: 10.00 uL	Processing Method 0265 PRoc
Run Time: 60.0 Minutes	Processing Method Id 3744
Sample Set Name 0265_C01_60Min_160716	Proc. Chnl. Descr.: Detector A 247nm
Sample Set ID: 3627	System Name AL_AD_LC_39_142
Project Name HYD1_AD-Generics\0265_JULY_	Empower 3 Software Build 3471 SPs Installed:
Result Id 3761	Result Set Id
	Feature Release 2 DB ID: 2487711617



Peak Results

Name	RT	Area	% Area	RT Ratio
Peak2	21.79	4115	0.02	0.71
Peak3	24.01	6523	0.04	0.78
Peak4	28.54	979	0.01	0.93
Peak5	29.43	2587	0.02	0.96
C02	30.78	16992284	98.91	1.00
Peak6	33.40	1450	0.01	1.09
Peak7	33.75	2658	0.02	1.10
Peak8	34.46	1241	0.01	1.12
Peak9	36.90	120476	0.70	1.20
Peak10	39.60	3509	0.02	1.29
Peak11	43.24	6144	0.04	1.41
Peak12	43.95	5797	0.03	1.43
Peak13	45.96	1479	0.01	1.49
Peak14	50.08	11373	0.07	1.63
Peak15	51.59	19354	0.11	1.68



Sample Name: 0265/C02/E00541/164
Date Acquired: 07/16/2016 19:16:55 IST

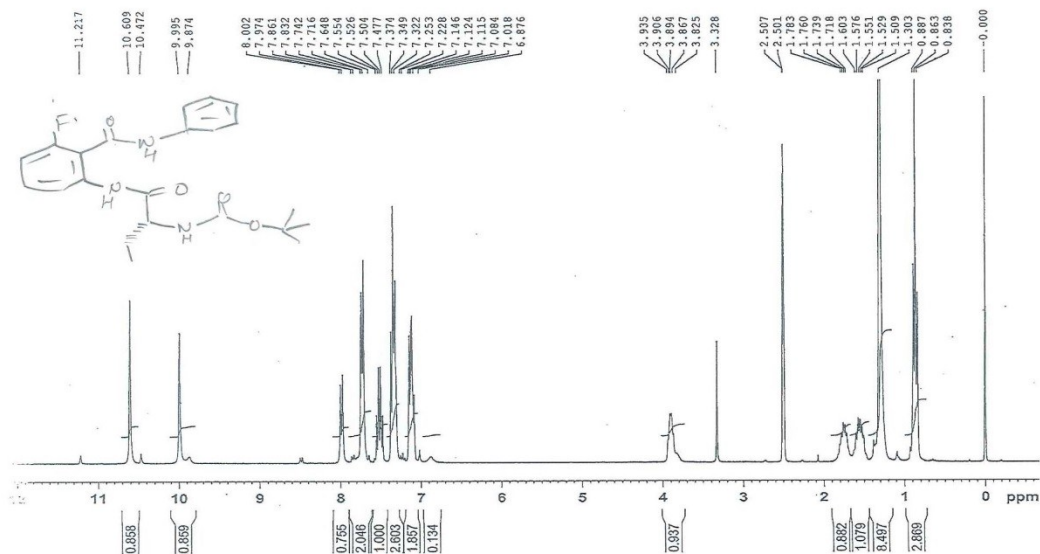
Signature / Date

Page: 1 of 1

¹H NMR Spectrum of Stage-3

of 0265/C03/E00502/010 in DMSO-d6
: 01/02/2016, A.P. No: 5-NMR0116/0516
Data\Data-2016\RS-2016\Jan-2016\001\1}

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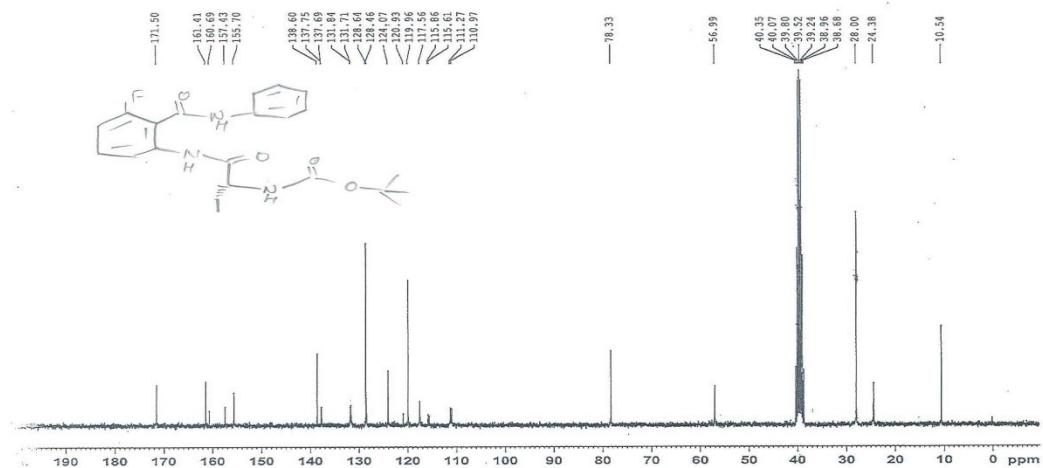


ELN Report

Analyst: Durga.A

¹³C NMR Spectrum of Stage-3

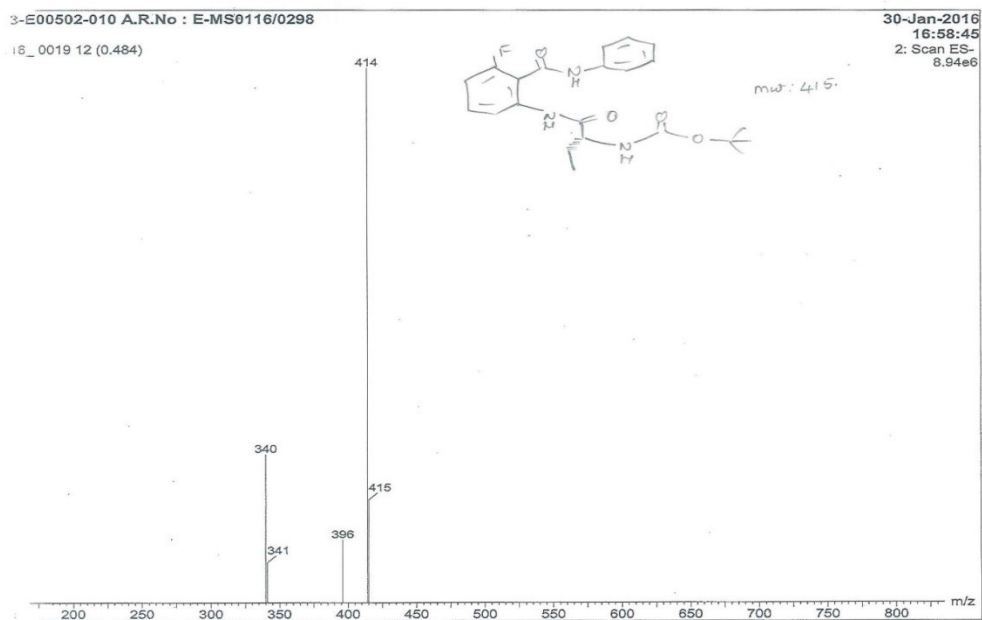
¹³C NMR
NMR of 0265/C03/E00502/010 in DMSO-d₆
01/02/2016, A. R. No: E-NMR0116/0520
(Data-2016\RS-2016\Jan-2016\002\1)



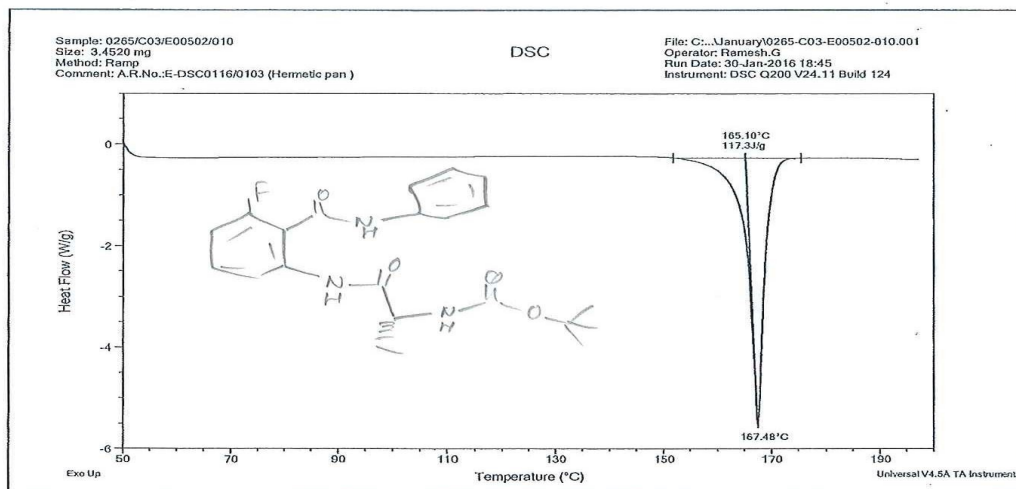
ELN Report

Analyst: Durga.A

Mass Spectrum of Stage-3



DSC Thermogram of Stage-3



Method Log:

- 1: Equilibrate at 50.00°C
- 2: Ramp 10.00°C/min to 200.00°C
- 3: End of method

Peak Integration

Start	Onset	Maximum	Stop	Area
°C	°C	°C	°C	J/g
151.74	165.10	167.48	175.46	117.3

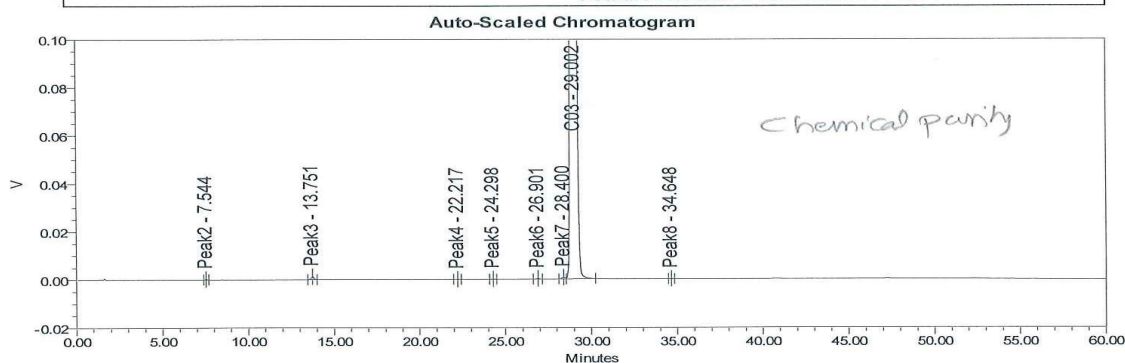
ELN

HPLC Chromatogram of Stage-3 (Chemical purity)



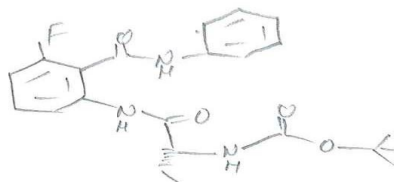
Analytical Development

SAMPLE INFORMATION			
Sample Name:	0265/C03/E00502/169	Method Id	****
Sample Type:	Unknown	Acquired By:	Anjaneyuluteam
Vial:	12	Date Acquired:	07/20/2016 11:43:07 IST
Injection #:	1	Date Processed:	07/20/2016 13:52:23 IST
Injection Volume:	10.00 ul	Processing Method	0265_Proc17
Run Time:	60.0 Minutes	Processing Method Id	5004
Sample Set Name	0265_C04_60Min_200716	Proc. Chnl. Descr.:	Detector A 245nm
Sample Set ID:	4935	System Name	LL_AD_LC_55_176
Project Name	HYD1_AD-Generics\0265_JULY_	Empower 3 Software Build 3471 SPs Installed:	
Result Id 5014	Result Set Id	Feature Release 2 DB ID: 2487711617	



Peak Results

	Name	RT	Area	% Area	RT Ratio
1	Peak2	7.54	1719	0.01	0.26
2	Peak3	13.75	15152	0.09	0.47
3	Peak4	22.22	748	0.00	0.77
4	Peak5	24.30	1885	0.01	0.84
5	Peak6	26.90	3451	0.02	0.93
6	Peak7	28.40	9567	0.06	0.98
7	C03	29.00	17080795	99.81	1.00
8	Peak8	34.65	817	0.00	1.19



Sample Name: 0265/C03/E00502/169
Date Acquired: 07/20/2016 11:43:07 IST

Signature / Date

Page: 1 of 1

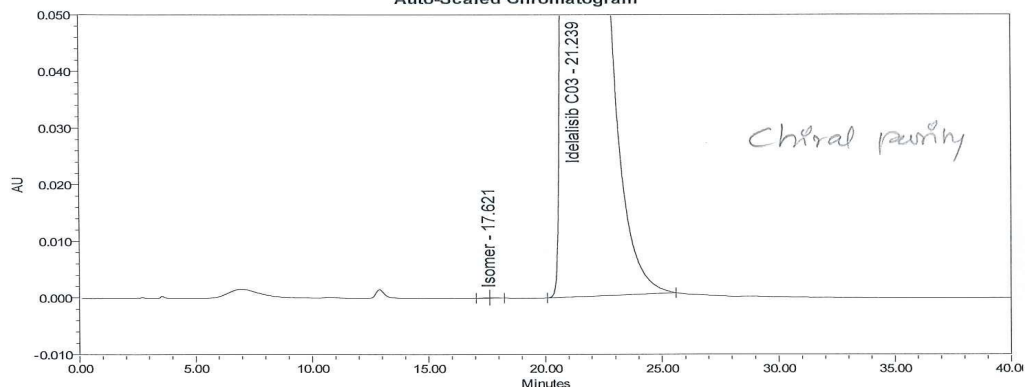
HPLC Chromatogram of Stage-3 (Chiral purity)



SAMPLE INFORMATION

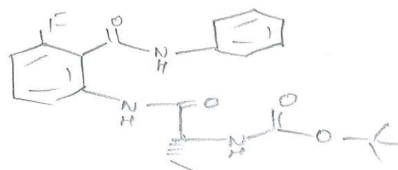
Sample Name: 0265/C03/E00502/169 Method Id ****
 Sample Type: Unknown Acquired By: divyakumarteam
 Vial: 51 Date Acquired: 07/20/2016 20:14:39 IST
 Injection #: 1 Date Processed: 07/21/2016 8:42:26 IST
 Injection Volume: 20.00 ul Processing Method 0265 C03 Rev chiral pro
 Run Time: 40.0 Minutes Processing Method Id 2682
 Sample Set Name 0265_C03 chiral_75_200716 Proc. Chnl. Descr.: W2489 ChA 245nm
 Sample Set ID: 2670 System Name LL_AD_LC_075
 Project Name HYD1_AD-Generics0265_July_2 Empower 3 Software Build 3471 SPs Installed:
 Result Id 2687 Result Set Id Feature Release 2 DB ID: 2487711617

Auto-Scaled Chromatogram



Peak Results

	Name	RT	Area	% Area	RT Ratio	USP Resolution	USP Plate Count	USP Tailing
1	Isomer	17.621	3550	0.009	0.830		4194.4	1.0
2	Idelalisib C03	21.239	38854856	99.991		2.41	1973.9	2.0



Sample Name: 0265/C03/E00502/169
 Date Acquired: 07/20/2016 20:14:39 IST

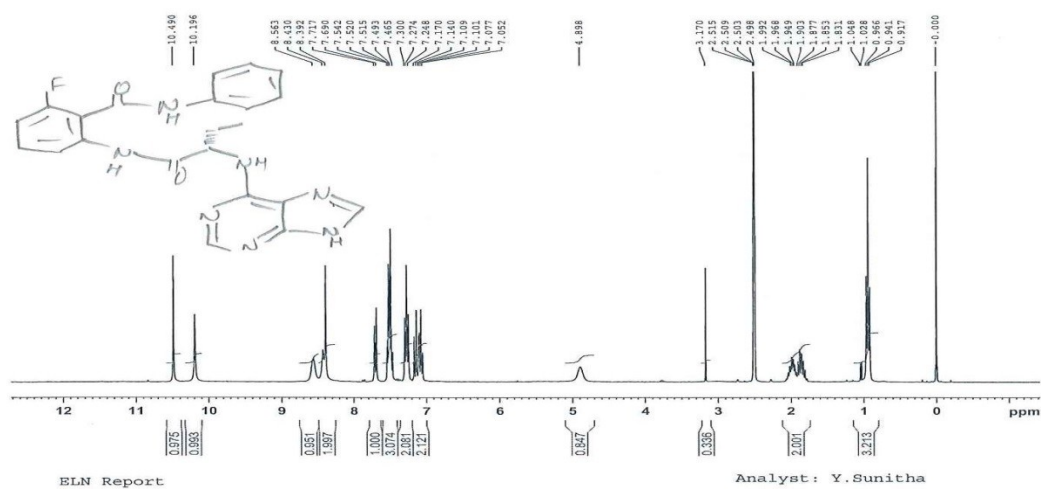
Signature / Date

Page: 1 of 1

¹H NMR Spectrum of stage-4

¹H NMR of 0265-C04-E00502-066 in DMSO-D₆
Date: 10/03/2016, A.R.No: E-NMR0316/0251
{C:\Data\Data-2016\RS-2016\Mar-2016\001\1}

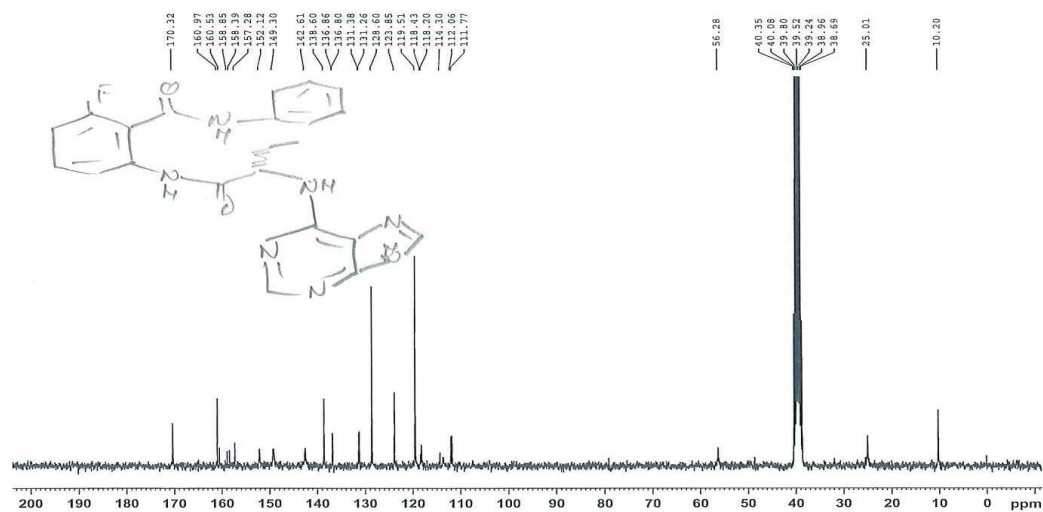
LAURUS Labs



¹³CNMR Spectrum of stage-4

¹³C NMR of 0265-C04-E00502-066 in DMSO-D6
Date: 10/03/2016, A.R.No:E-NMR0316/0259
{C:\Data\Data-2016\RS-2016\Mar-2016\002\1}
Low sample quantity

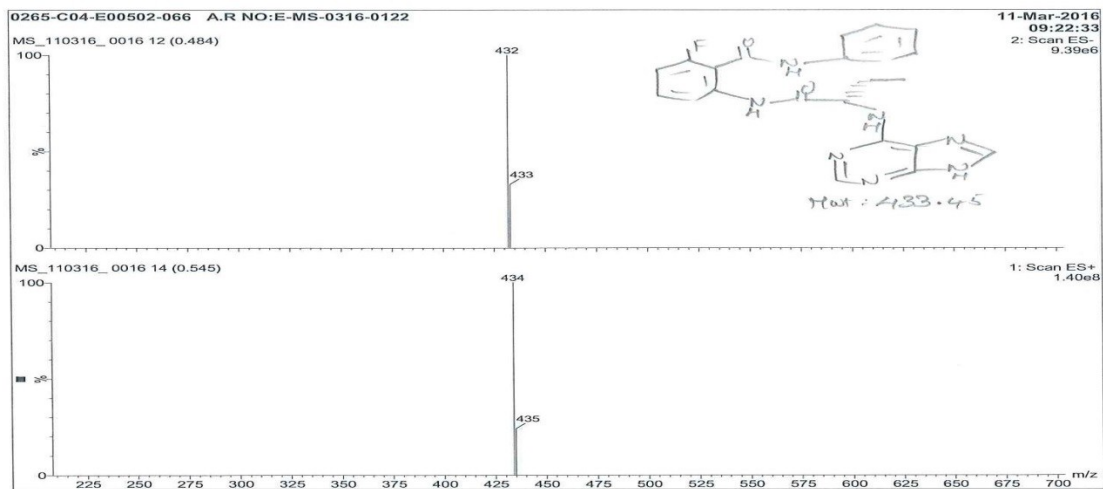
LAURUS Labs



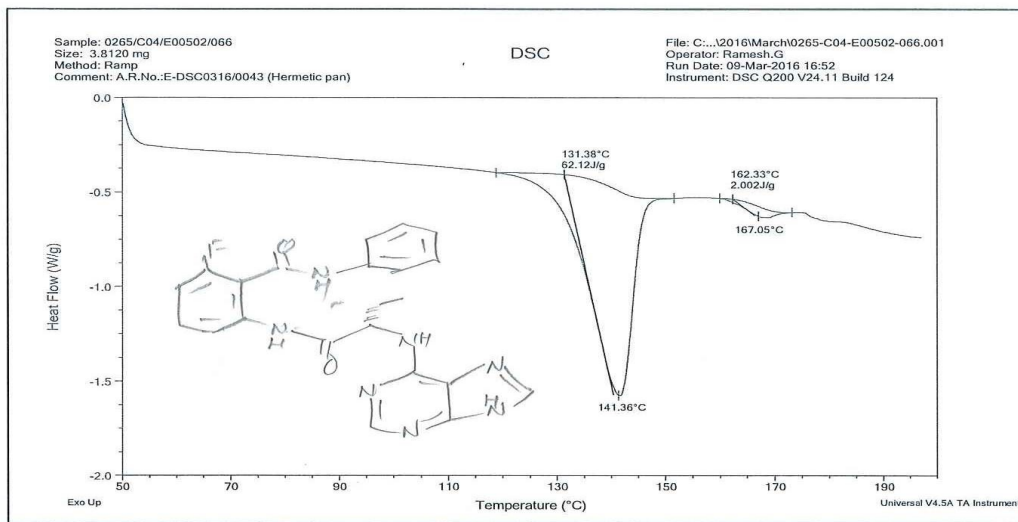
ELN Report

Analyst: Y. Sunitha

Mass Spectrum of stage-4



DSC Thermogram of stage-4



Method Log:

- 1: Equilibrate at 50.00°C
- 2: Ramp 10.00°C/min to 200.00°C
- 3: End of method

Peak Integration

Start	Onset	Maximum	Stop	Area
°C	°C	°C	°C	J/g
118.79	131.38	141.36	151.56	62.12
159.97	162.33	167.05	173.22	2.002

ELN

HPLC Chromatogram of stage-4

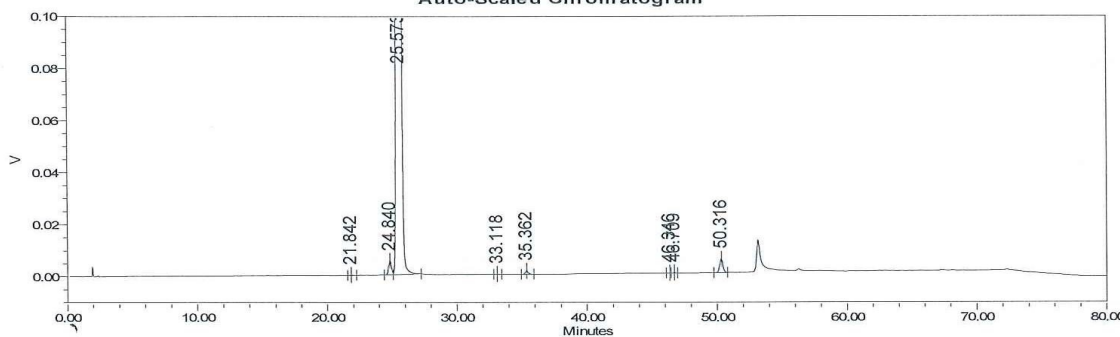


Analytical Development

SAMPLE INFORMATION

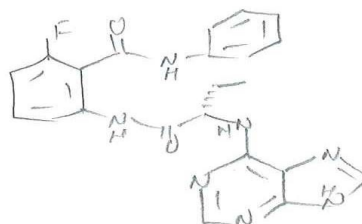
Sample Name: 0265/C04/E00502/066	Method Id ****
Sample Type: Unknown	Acquired By: Anjaneyuluteam
Vial: 7	Date Acquired: 3/10/2016 3:12:23 AM IST
Injection #: 1	Date Processed: 3/10/2016 8:57:13 AM IST
Injection Volume: 10.00 ul	Processing Method: 0265_PRO1
Run Time: 80.0 Minutes	Processing Method Id 1327
Sample Set Name: 100316_C05	Proc. Chnl. Descr.: Detector A 268nm
Sample Set ID: 1234	System Name AL_AD_LC_32_125
Project Name: HYD1_AD-Generics\0265_MAR_	Empower 3 Software Build 3471 SPs Installed: Feature
Result Id 1337	Release 2 DB ID: 2487711617

Auto-Scaled Chromatogram



Peak Results

	Name	RT	Area	% Area	RT Ratio
1	Peak2	21.842	2361	0.010	0.854
2	Peak3	24.840	81196	0.360	0.971
3	C04	25.573	2237864	99.117	1.000
4	Peak4	33.118	1144	0.005	1.295
5	Peak5	35.362	20213	0.090	1.383
6	Peak6	46.346	515	0.002	1.812
7	Peak7	46.709	1828	0.008	1.827
8	Peak8	50.316	92194	0.408	1.968

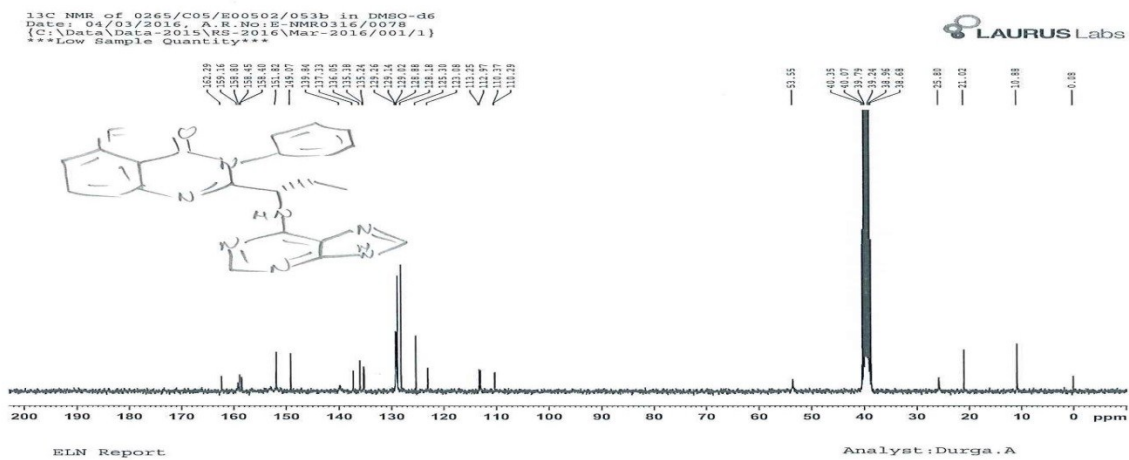


Sample Name: 0265/C04/E00502/066
Date Acquired: 3/10/2016 3:12:23 AM IST

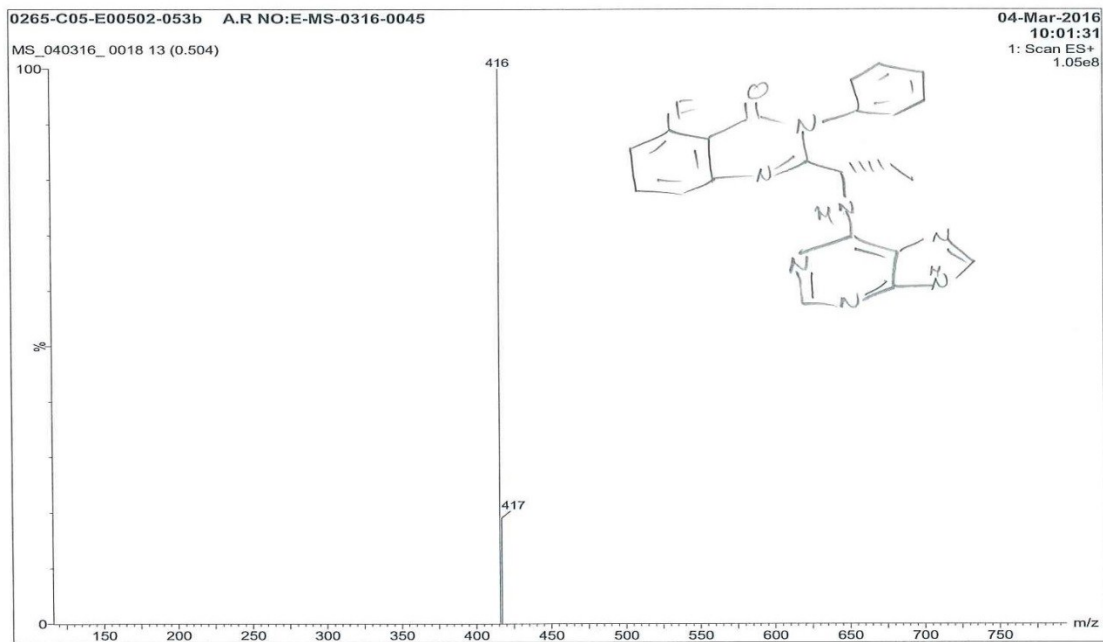
Signature / Date

Page: 1 of 1

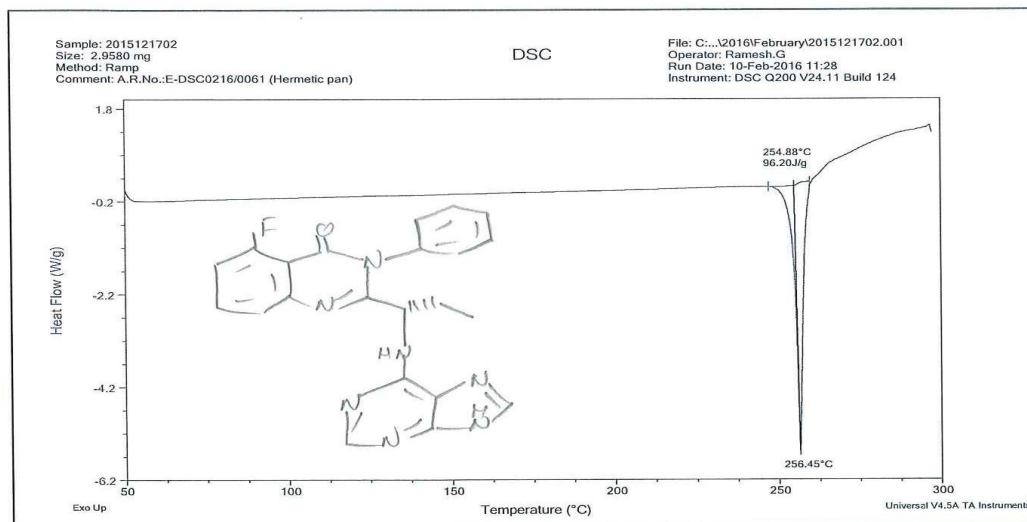
¹³CNMR Spectrum of stage-5/ Idelalisib



Mass Spectrum of stage-5/ Idelalisib



DSC Thermogram of stage-5/ Idelalisib



Method Log:

- 1: Equilibrate at 50.00°C
- 2: Ramp 10.00°C/min to 300.00°C
- 3: End of method

Peak Integration

Start	Onset	Maximum	Stop	Area
°C	°C	°C	°C	J/g
247.21	254.88	256.45	259.85	96.20

ELN

HPLC Chromatogram of stage-5/ Idelalisib (Chemical purity)

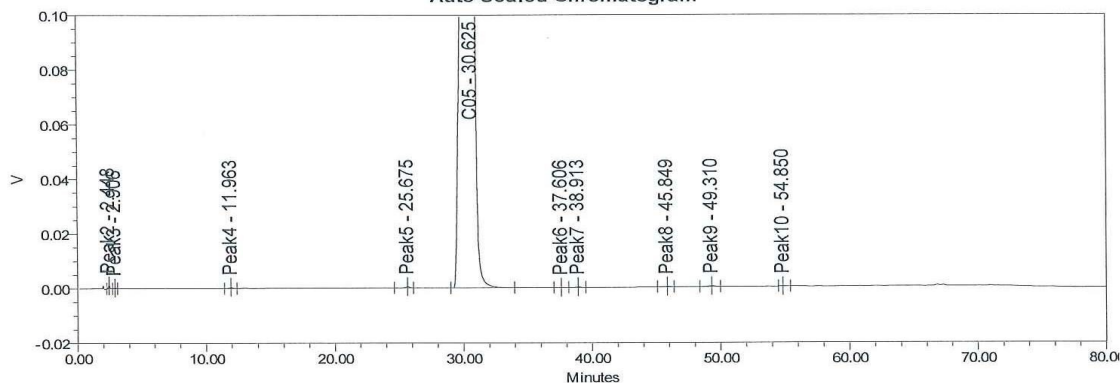


Analytical Development

SAMPLE INFORMATION

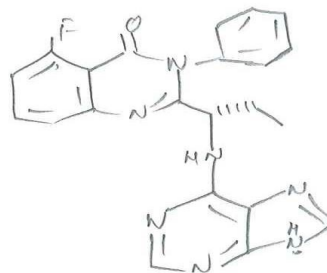
Sample Name:	0265/C05/E00502/149	Method Id ****
Sample Type:	Unknown	Acquired By: Anjaneyuluteam
Vial:	2:3	Date Acquired: 07/02/2016 12:36:03 IST
Injection #:	1	Date Processed: 07/02/2016 14:15:50 IST
Injection Volume:	10.00 uI	Processing Method 0265 PR01
Run Time:	80.0 Minutes	Processing Method Id 1262
Sample Set Name	0265_C05_80Min_020716	Proc. Chnl. Descr.: Detector A 268nm
Sample Set ID:	1238	System Name LL_AD_LC_56_177
Project Name	HYD1_AD-Generics\0265_JULY_	Empower 3 Software Build 3471 SPs Installed:
Result Id 1274	Result Set Id	Feature Release 2 DB ID: 2487711617

Auto-Scaled Chromatogram



Peak Results

Name	RT	Area	% Area	RT Ratio
Peak2	2.45	8615	0.02	0.08
Peak3	2.91	2627	0.01	0.09
Peak4	11.96	7442	0.02	0.39
Peak5	25.68	13446	0.03	0.84
C05	30.63	4540977	99.87	1.00
Peak6	37.61	2321	0.01	1.23
Peak7	38.91	5640	0.01	1.27
Peak8	45.85	4815	0.01	1.50
Peak9	49.31	9733	0.02	1.61
Peak10	54.85	2499	0.01	1.79



Sample Name: 0265/C05/E00502/149
Date Acquired: 07/02/2016 12:36:03 IST

Signature / Date

Page: 1 of 1

HPLC Chromatogram of stage-5/ Idelalisib

(Chiral purity)

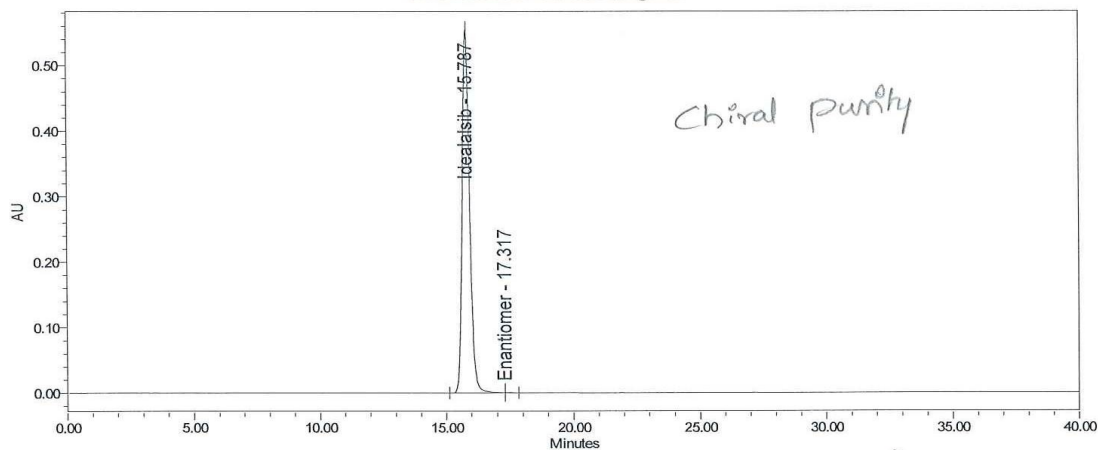


Analytical Development

SAMPLE INFORMATION

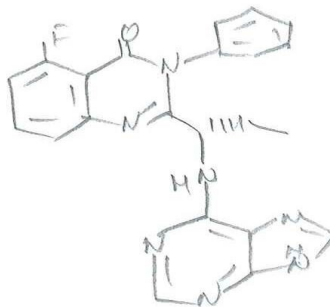
Sample Name:	0265/C05/E00502/149	Method Id ****
Sample Type:	Unknown	Acquired By: divyakumarteam
Vial:	1	Date Acquired: 7/2/2016 11:00:00 AM IST
Injection #:	1	Date Processed: 7/2/2016 2:30:27 PM IST
Injection Volume:	10.00 ul	Processing Method: 0265 C05 chiral pro
Run Time:	40.0 Minutes	Processing Method Id 1024
Sample Set Name:	0265_C05_chiral	Proc. Chnl. Descr.: W2489 ChA 268nm
Sample Set ID:	1007	System Name LL_AD_LC_075
Project Name:	HYD1_AD-Generics\0265_July_2	Empower 3 Software Build 3471 SPs Installed: Feature
Result Id 1031	Result Set Id	Release 2 DB ID: 2487711617

Auto-Scaled Chromatogram



Peak Results

	Name	RT	Area	% Area	RT Ratio
1	Idealisib	15.787	1148212	99.951	
2	Enantiomer	17.317	5666	0.049	



Signature / Date