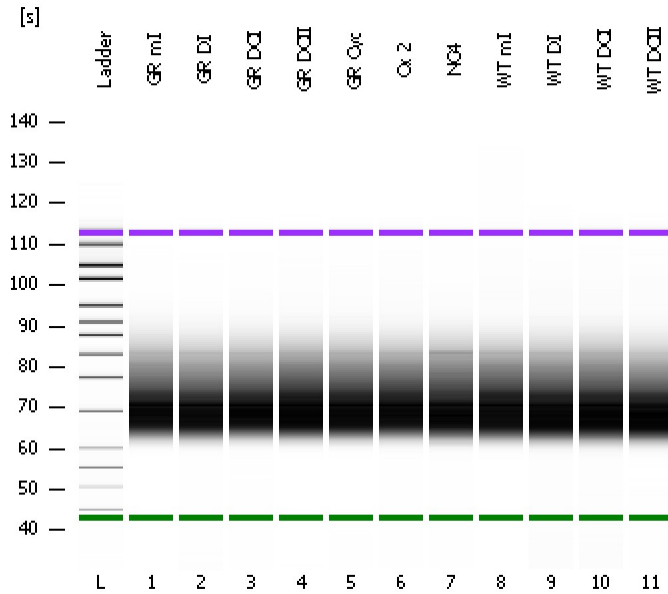


Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
Modified: 7/19/2016 11:10:16 AM

Electrophoresis File Run Summary



Instrument Information:

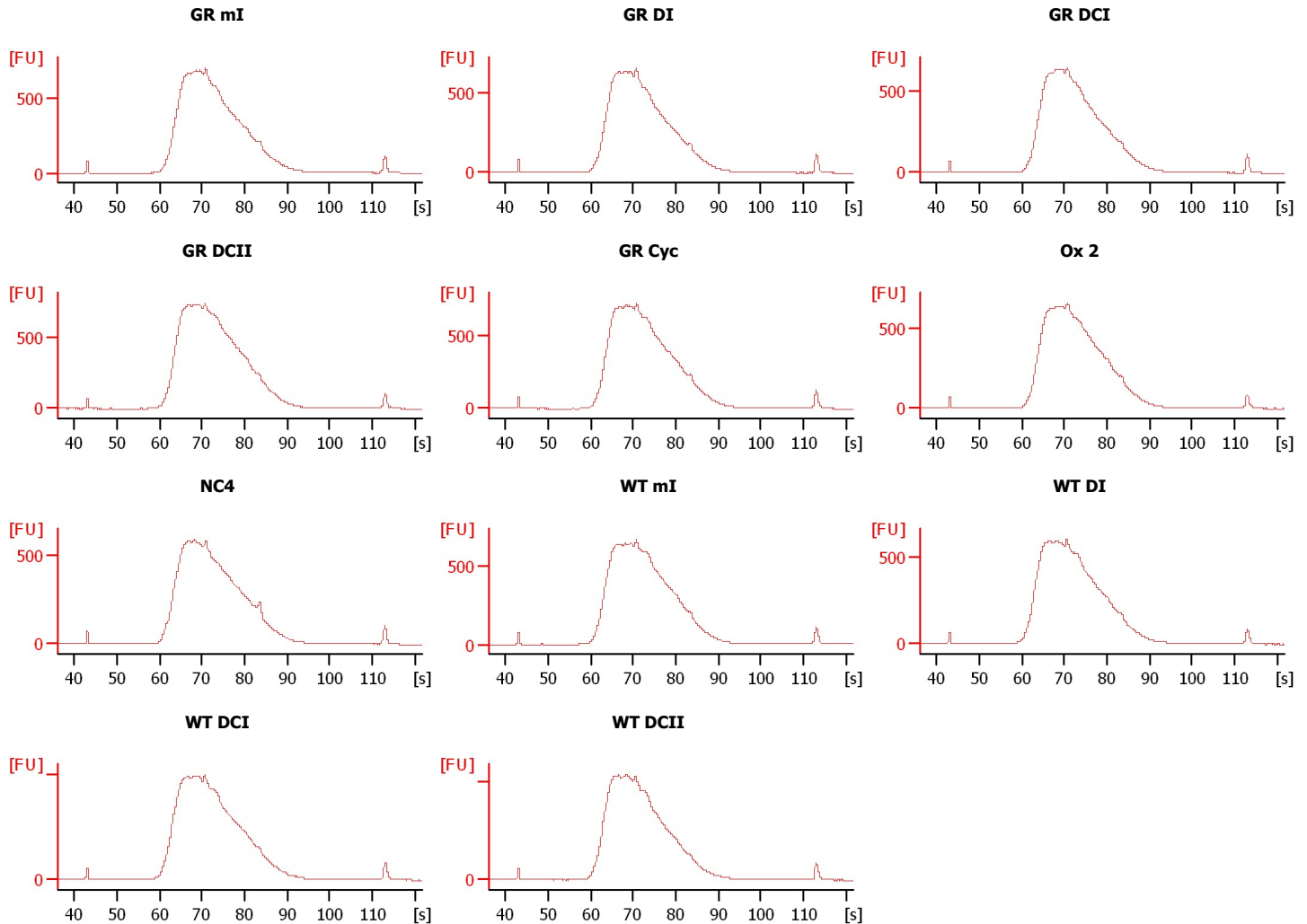
Instrument Name: DE13701086 Firmware: C.01.069
Serial#: DE13701086 Type: G2938B

Assay Information:

Assay Origin Path: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\assays\dsDNA\High Sensitivity DNA.xsy
Assay Class: High Sensitivity DNA Assay
Version: 1.03
Assay Comments: Copyright © 2003-2010 Agilent Technologies

Chip Information:

Chip Lot #:
Reagent Kit Lot #:
Chip Comments:



Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
Modified: 7/19/2016 11:10:16 AM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
GR mI		<input type="checkbox"/>	✓			
GR DI		<input type="checkbox"/>	✓			
GR DCI		<input type="checkbox"/>	✓			
GR DCII		<input type="checkbox"/>	✓			
GR Cyc		<input type="checkbox"/>	✓			
Ox 2		<input type="checkbox"/>	✓			
NC4		<input type="checkbox"/>	✓			
WT mI		<input type="checkbox"/>	✓			
WT DI		<input type="checkbox"/>	✓			
WT DCI		<input type="checkbox"/>	✓			
WT DCII		<input type="checkbox"/>	✓			
Ladder		<input type="checkbox"/>	✓			

Chip Lot #

Reagent Kit Lot #

Chip Comments :

Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
Modified: 7/19/2016 11:10:16 AM

Electrophoresis Assay Details

General Analysis Settings

Number of Available Sample and Ladder Wells (Max.) : 12
Minimum Visible Range [s] : 32
Maximum Visible Range [s] : 138
Start Analysis Time Range [s] : 33
End Analysis Time Range [s] : 137.5
Ladder Concentration [pg/μl] : 1950
Uses Standard Area for Ladder Fragments
Lower Marker Concentration [pg/μl] : 125
Upper Marker Concentration [pg/μl] : 75
Used Upper Marker for Quantitation
Standard Curve Fit is Point to Point
Show Data Aligned to Lower and Upper Marker

Integrator Settings

Integration Start Time [s] : 33.05
Integration End Time [s] : 137
Slope Threshold : 0.8
Height Threshold [FU] : 5
Area Threshold : 0.1
Width Threshold [s] : 0.6
Baseline Plateau [s] : 0.5

Filter Settings

Filter Width [s] : 0.5
Polynomial Order : 4

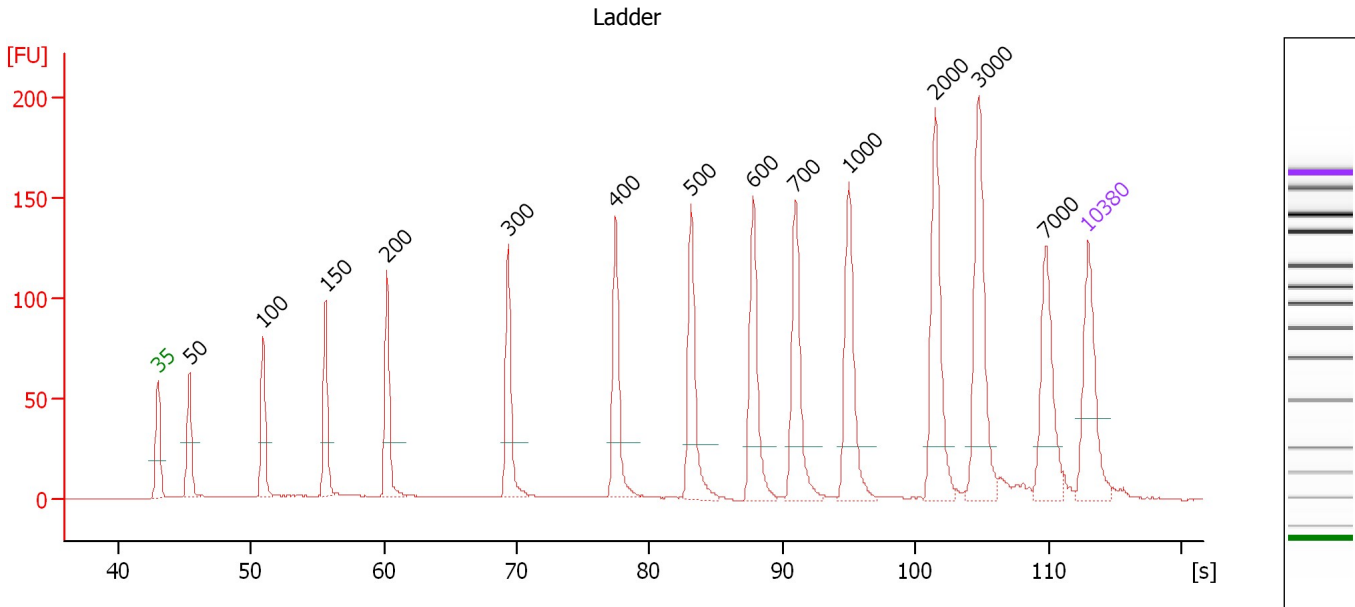
Ladder

Ladder Peak	Size	Area
1	35	160
2	50	210
3	100	208
4	150	221
5	200	242
6	300	270
7	400	305
8	500	306
9	600	336
10	700	321
11	1000	366
12	2000	413
13	3000	411
14	7000	400
15	10380	214

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

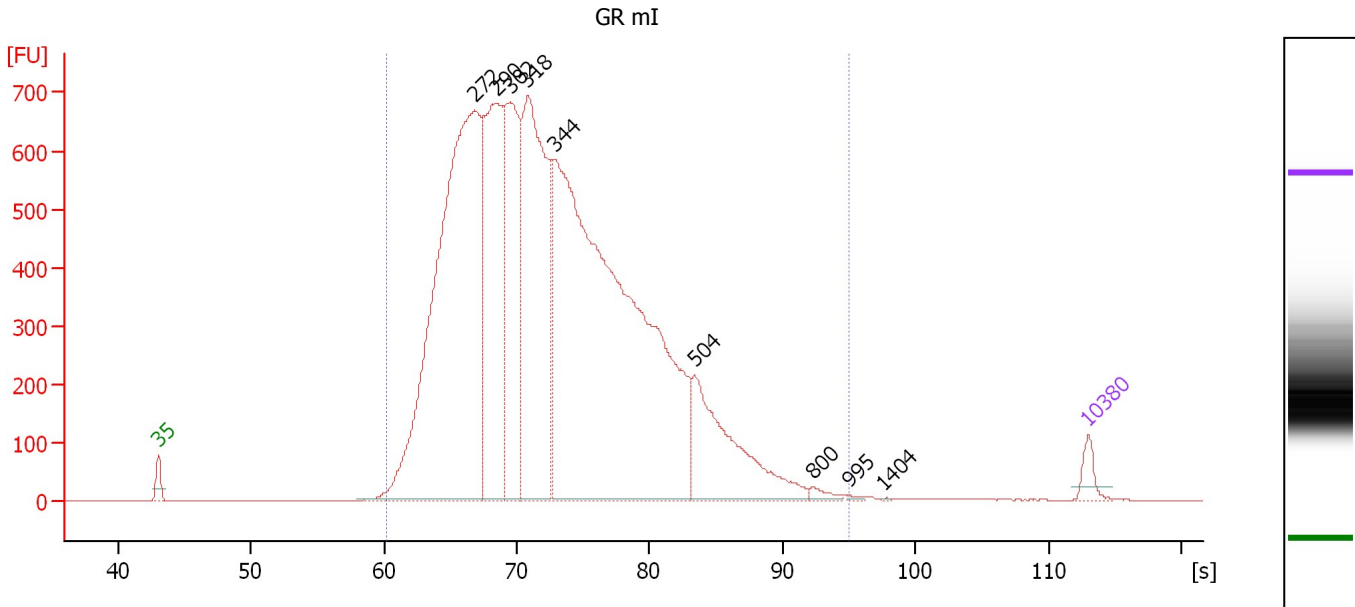
Peak table for Ladder

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	50	150.00	4,545.5	Ladder Peak	45.35
3	100	150.00	2,272.7	Ladder Peak	50.90
4	150	150.00	1,515.2	Ladder Peak	55.61
5	200	150.00	1,136.4	Ladder Peak	60.22
6	300	150.00	757.6	Ladder Peak	69.37
7	400	150.00	568.2	Ladder Peak	77.45
8	500	150.00	454.5	Ladder Peak	83.13
9	600	150.00	378.8	Ladder Peak	87.79
10	700	150.00	324.7	Ladder Peak	90.98
11	1,000	150.00	227.3	Ladder Peak	95.02
12	2,000	150.00	113.6	Ladder Peak	101.46
13	3,000	150.00	75.8	Ladder Peak	104.79
14	7,000	150.00	32.5	Ladder Peak	109.80
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 1 : GR mI

Number of peaks found: 9 Corr. Area 1: 15,477.7
 Noise: 0.2

Peak table for sample 1 : GR mI

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	272	4,919.04	27,374.0		66.83
3	290	2,021.17	10,557.3		68.46
4	302	1,488.36	7,476.2		69.50
5	318	2,414.32	11,508.0		70.81
6	344	6,180.14	27,250.8		72.89
7	504	1,028.63	3,089.3		83.34
8	800	42.24	80.0		92.33
9	995	9.80	14.9		94.96
10	1,404	3.25	3.5		97.63
11	10,380	75.00	10.9	Upper Marker	113.00

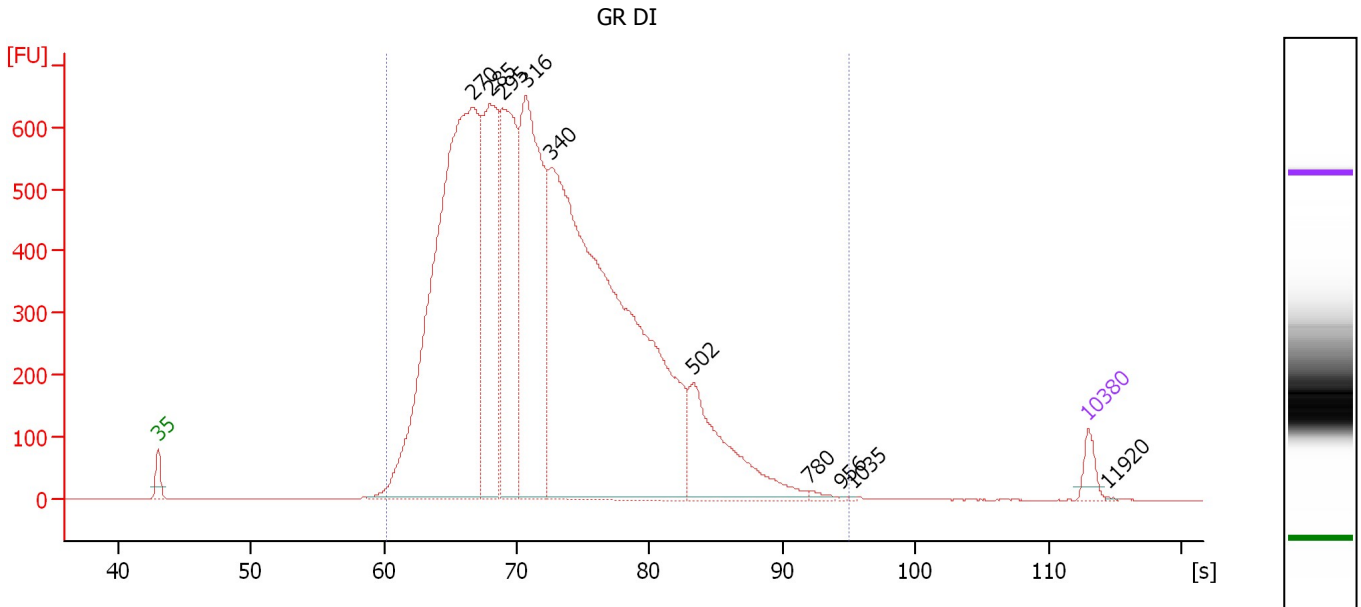
Region table for sample 1 : GR mI

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	349	15,477.7	83,591.9	17,672.60	100	27.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 2 : GR DI

Number of peaks found: 10 Corr. Area 1: 14,164.7
 Noise: 0.4

Peak table for sample 2 : GR DI

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	270	4,730.75	26,549.3		66.62
3	285	1,588.27	8,446.3		67.99
4	295	1,527.97	7,851.3		68.90
5	316	2,143.10	10,270.4		70.67
6	340	5,610.67	25,015.8		72.58
7	502	847.14	2,555.3		83.23
8	780	22.10	42.9		92.06
9	956	3.36	5.3		94.43
10	1,035	3.14	4.6		95.25
11	10,380	75.00	10.9	Upper Marker	113.00
12	11,920	0.00	0.0		114.46

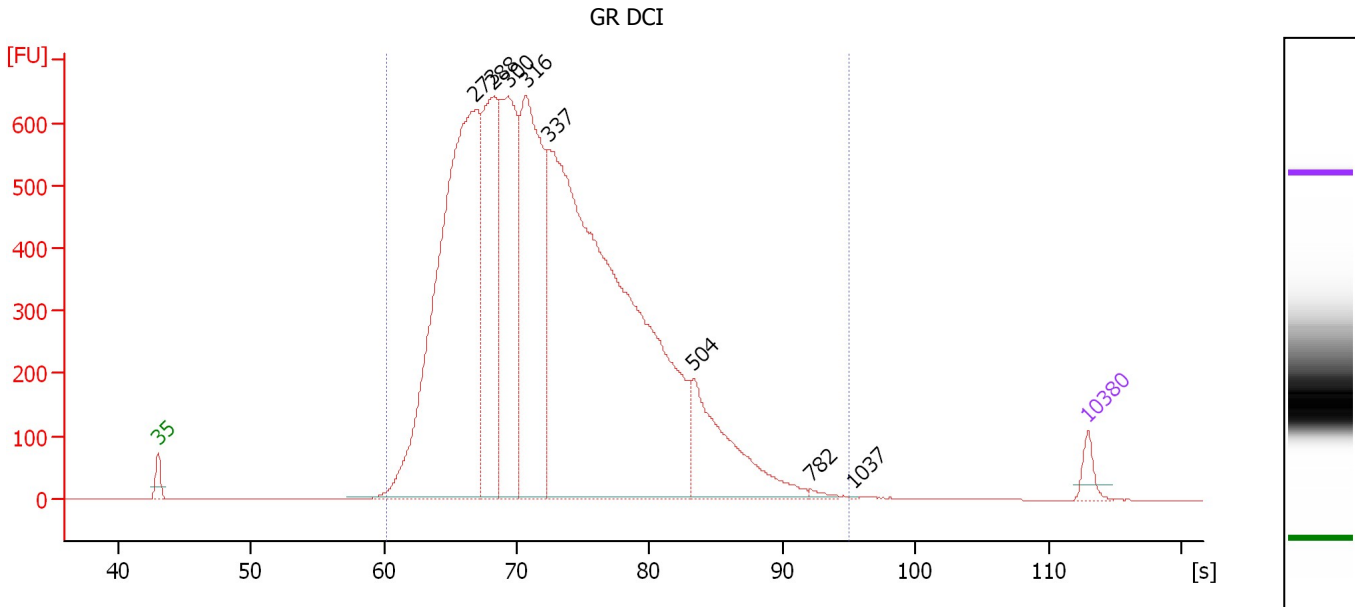
Region table for sample 2 : GR DI

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	342	14,164.7	77,139.9	16,051.85	100	26.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 3 : GR DCI

Number of peaks found: 8 Corr. Area 1: 14,156.9
 Noise: 0.4

Peak table for sample 3 : GR DCI

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	273	4,614.43	25,654.7		66.85
3	288	1,657.99	8,734.6		68.23
4	300	1,714.36	8,668.0		69.34
5	316	2,155.05	10,329.0		70.67
6	337	6,544.14	29,456.9		72.32
7	504	905.15	2,721.7		83.31
8	782	26.94	52.2		92.09
9	1,037	4.28	6.3		95.26
10	10,380	75.00	10.9	Upper Marker	113.00

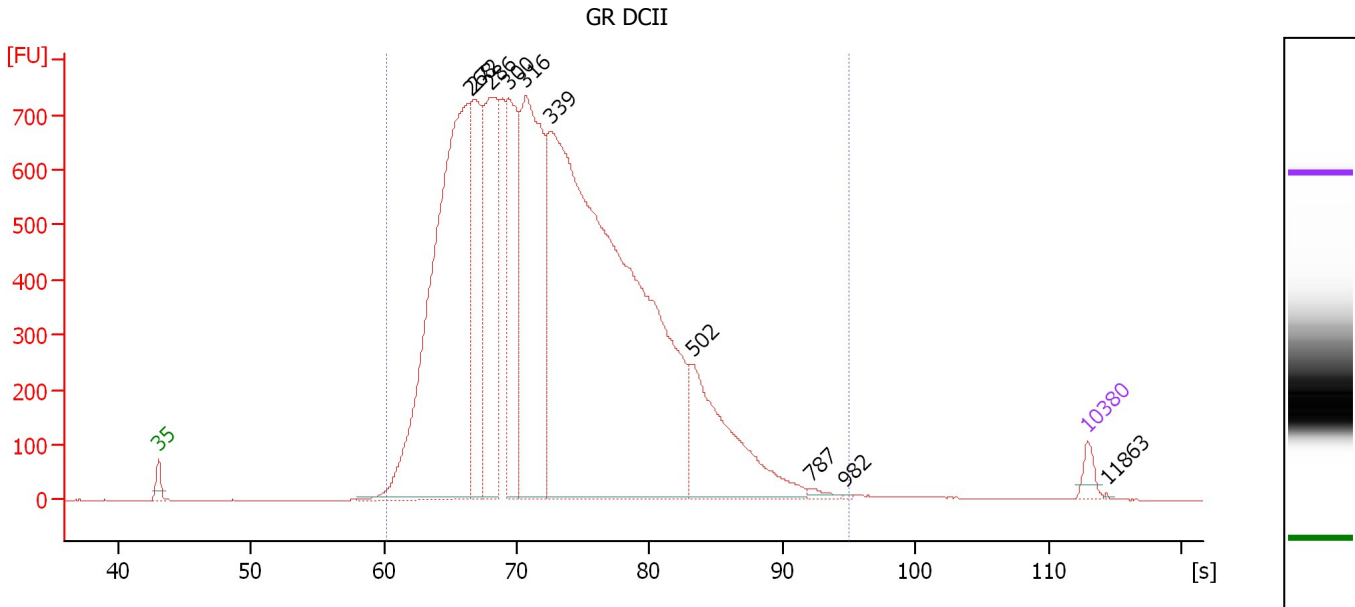
Region table for sample 3 : GR DCI

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	348	14,156.8	81,044.6	17,124.09	100	26.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 4 : GR DCII

Number of peaks found: 10 Corr. Area 1: 17,360.2
 Noise: 0.4

Peak table for sample 4 : GR DCII

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	268	5,024.51	28,386.0		66.46
3	272	1,346.39	7,506.3		66.79
4	286	1,925.49	10,198.0		68.09
5	300	1,381.27	6,979.0		69.36
6	316	2,647.36	12,691.3		70.66
7	339	8,729.39	39,060.2		72.49
8	502	1,303.58	3,932.2		83.23
9	787	33.58	64.6		92.16
10	982	4.24	6.5		94.78
11	10,380	75.00	10.9	Upper Marker	113.00
12	11,863	0.00	0.0		114.40

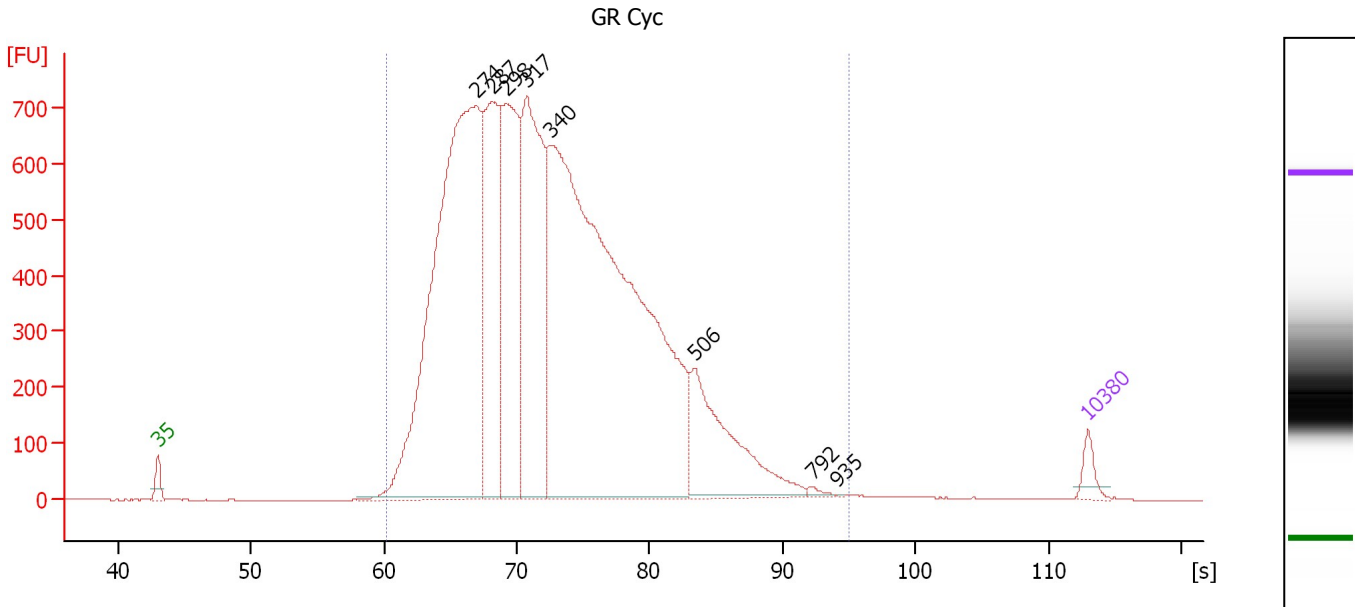
Region table for sample 4 : GR DCII

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	350	17,360.2	106,057.7	22,456.53	99	27.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 5 : GR Cyc

Number of peaks found: 8 Corr. Area 1: 16,415.7
 Noise: 0.4

Peak table for sample 5 : GR Cyc

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	274	5,000.74	27,698.9		66.95
3	287	1,547.36	8,169.6		68.18
4	298	1,711.25	8,705.9		69.17
5	317	2,068.24	9,890.8		70.73
6	340	6,641.25	29,576.8		72.62
7	506	993.49	2,977.6		83.38
8	792	24.91	47.7		92.22
9	935	2.95	4.8		94.15
10	10,380	75.00	10.9	Upper Marker	113.00

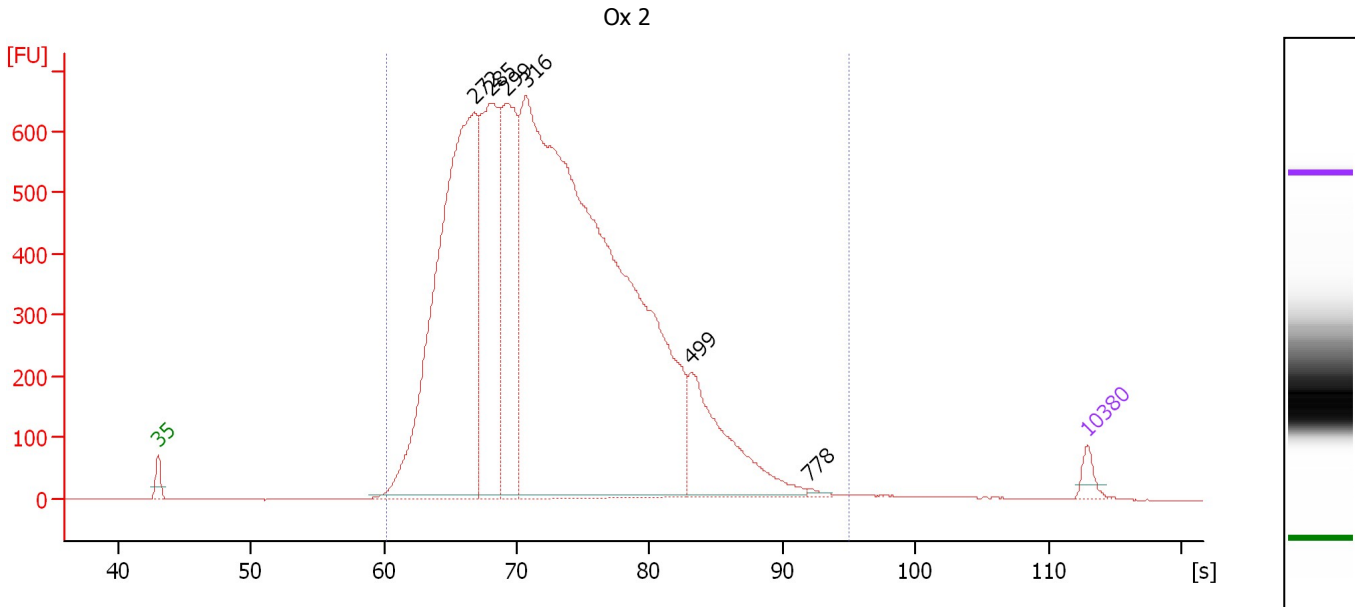
Region table for sample 5 : GR Cyc

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	349	16,415.7	83,226.3	17,582.57	99	27.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 6 : Ox 2

Number of peaks found: 6 Corr. Area 1: 14,726.8
 Noise: 0.5

Peak table for sample 6 : Ox 2

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	272	5,387.57	29,988.6		66.82
3	285	2,268.87	12,075.4		67.97
4	299	1,929.58	9,769.9		69.30
5	316	11,467.25	54,945.2		70.68
6	499	1,165.63	3,537.0		83.09
7	778	21.61	42.1		92.03
8	10,380	75.00	10.9	Upper Marker	113.00

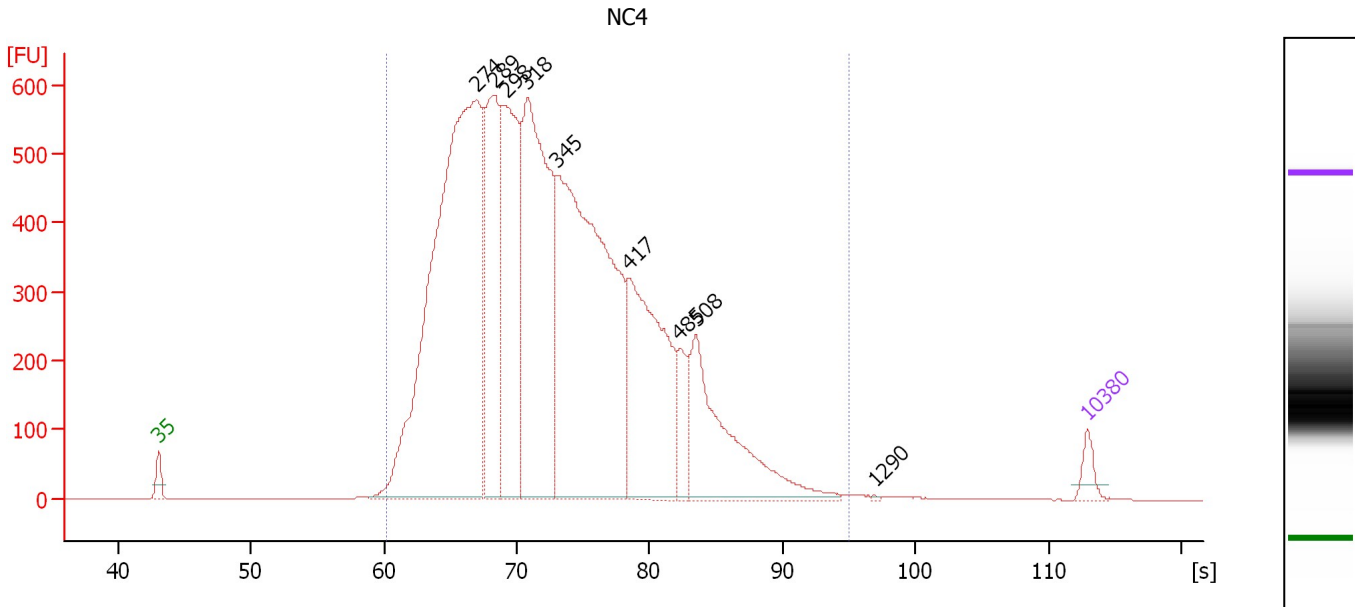
Region table for sample 6 : Ox 2

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	350	14,726.8	100,460.8	21,325.24	99	26.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 7 : NC4

Number of peaks found: 9 Corr. Area 1: 13,436.1
 Noise: 0.4

Peak table for sample 7 : NC4

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	274	5,120.65	28,334.5		66.97
3	289	1,432.79	7,524.7		68.32
4	298	1,623.91	8,258.3		69.18
5	318	2,506.82	11,949.8		70.81
6	345	3,674.56	16,158.7		72.97
7	417	1,551.04	5,630.8		78.43
8	485	266.56	833.0		82.27
9	508	1,145.14	3,413.5		83.51
10	1,290	4.49	5.3		96.89
11	10,380	75.00	10.9	Upper Marker	113.00

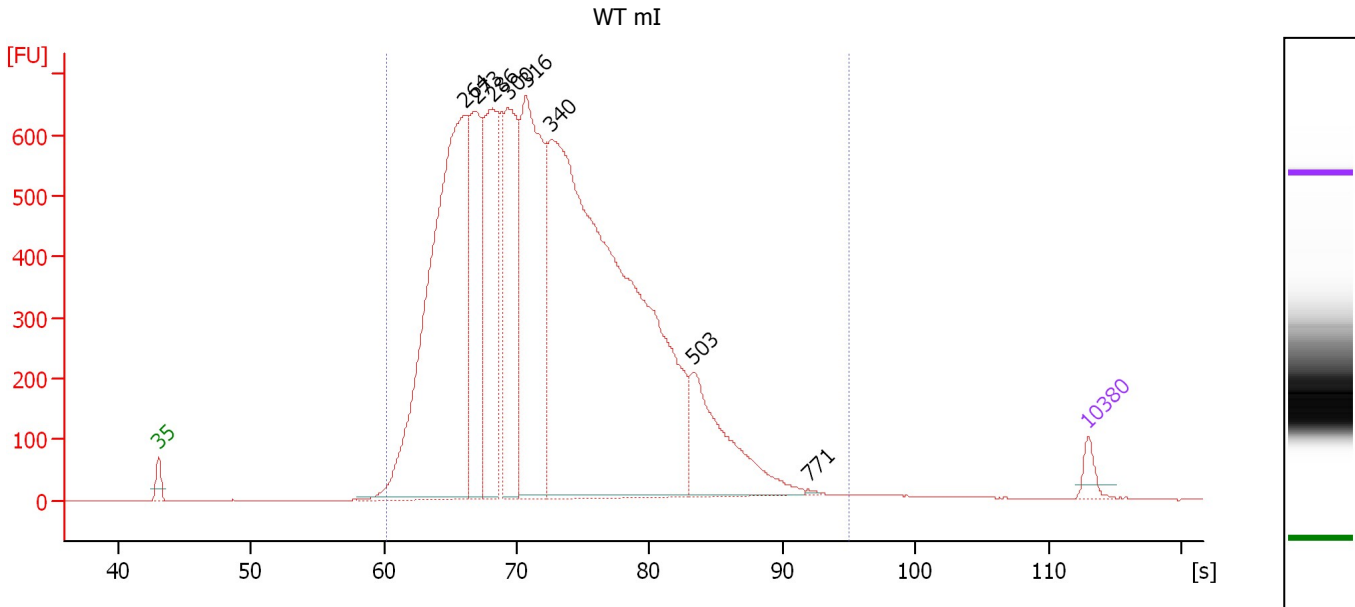
Region table for sample 7 : NC4

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	349	13,436.1	82,180.2	17,306.76	99	27.9

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 8 : WT mI

Number of peaks found: 8 Corr. Area 1: 15,137.2
 Noise: 0.3

Peak table for sample 8 : WT mI

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	264	4,500.35	25,810.7		66.09
3	273	1,334.93	7,403.9		66.91
4	286	1,608.31	8,508.0		68.12
5	300	1,495.56	7,562.1		69.33
6	316	2,354.56	11,275.9		70.69
7	340	7,448.92	33,218.8		72.58
8	503	1,000.55	3,012.6		83.28
9	771	10.37	20.4		91.94
10	10,380	75.00	10.9	Upper Marker	113.00

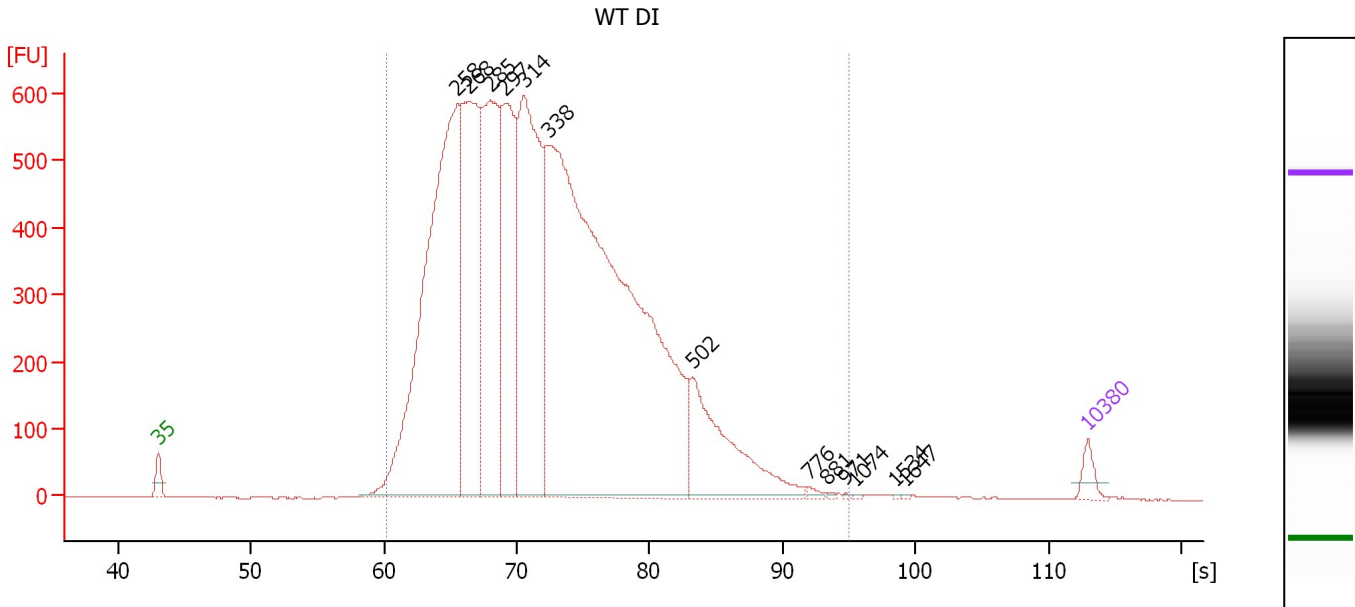
Region table for sample 8 : WT mI

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	346	15,137.2	94,275.7	19,781.46	99	27.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 9 : WT DI

Number of peaks found: 13 Corr. Area 1: 13,745.1
 Noise: 0.4

Peak table for sample 9 : WT DI

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	258	4,160.95	24,419.8		65.54
3	268	2,107.79	11,929.3		66.41
4	285	1,892.54	10,054.0		68.01
5	297	1,514.97	7,718.2		69.13
6	314	2,363.50	11,388.0		70.53
7	338	7,347.95	32,893.7		72.47
8	502	1,023.13	3,086.0		83.24
9	776	24.07	47.0		92.01
10	881	7.21	12.4		93.42
11	971	5.80	9.1		94.63
12	1,074	5.73	8.1		95.50
13	1,534	3.94	3.9		98.46
14	1,647	3.54	3.3		99.18
15	10,380	75.00	10.9	Upper Marker	113.00

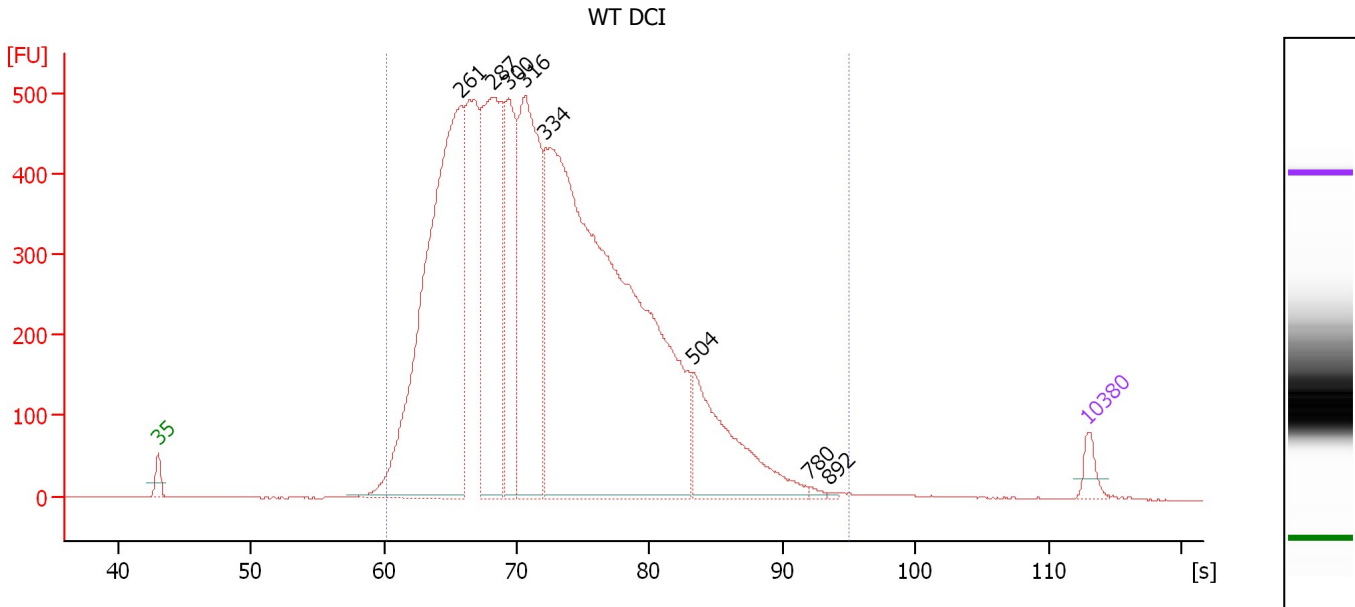
Region table for sample 9 : WT DI

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	343	13,745.1	95,768.3	19,851.71	99	27.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 10 : WT DCI

Number of peaks found: 8 Corr. Area 1: 11,548.0
 Noise: 0.4

Peak table for sample 10 : WT DCI

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	261	4,058.60	23,578.2		65.78
3	287	1,959.67	10,332.3		68.21
4	300	1,070.73	5,405.3		69.38
5	316	1,993.24	9,564.1		70.64
6	334	6,672.72	30,232.8		72.15
7	504	925.05	2,780.2		83.32
8	780	19.78	38.4		92.06
9	892	7.27	12.4		93.57
10	10,380	75.00	10.9	Upper Marker	113.00

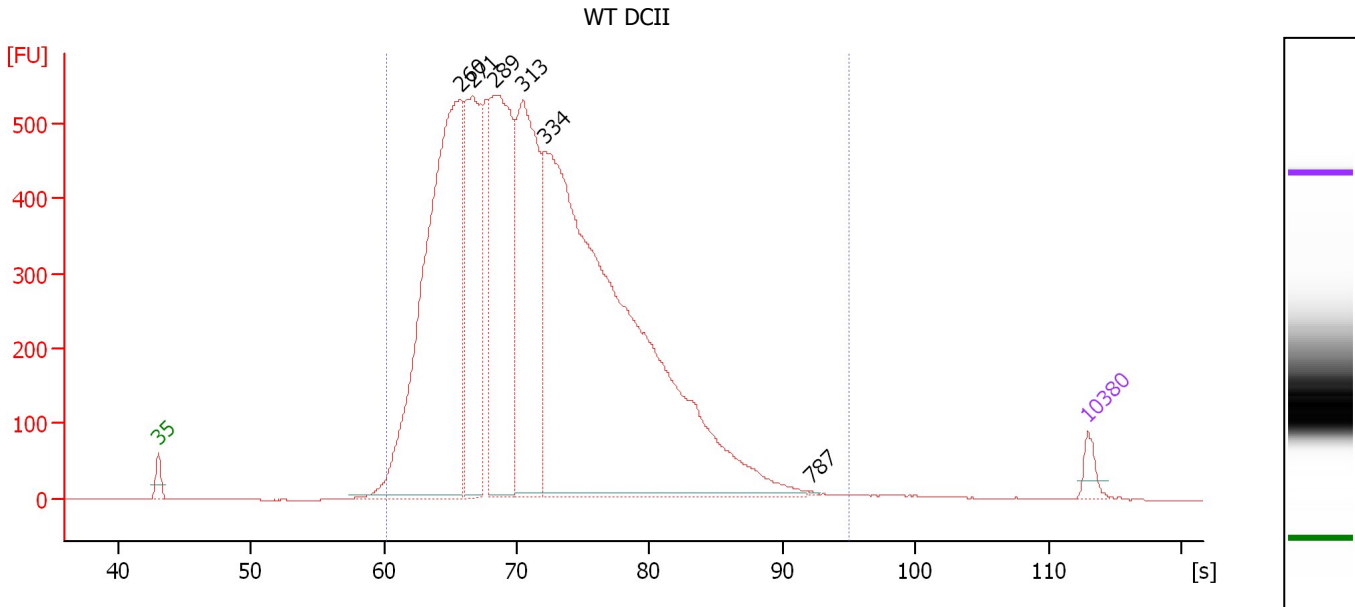
Region table for sample 10 : WT DCI

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	345	11,548.0	85,431.2	17,761.49	99	28.1

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Electropherogram Summary Continued ...



Overall Results for sample 11 : WT DCII

Number of peaks found: 6 Corr. Area 1: 11,887.0
 Noise: 0.5

Peak table for sample 11 : WT DCII

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	260	4,474.59	26,033.4		65.75
3	271	1,704.73	9,546.4		66.68
4	289	2,398.77	12,565.2		68.38
5	313	2,198.86	10,637.0		70.43
6	334	7,490.90	34,006.5		72.09
7	787	5.68	10.9		92.16
8	10,380	75.00	10.9	Upper Marker	113.00

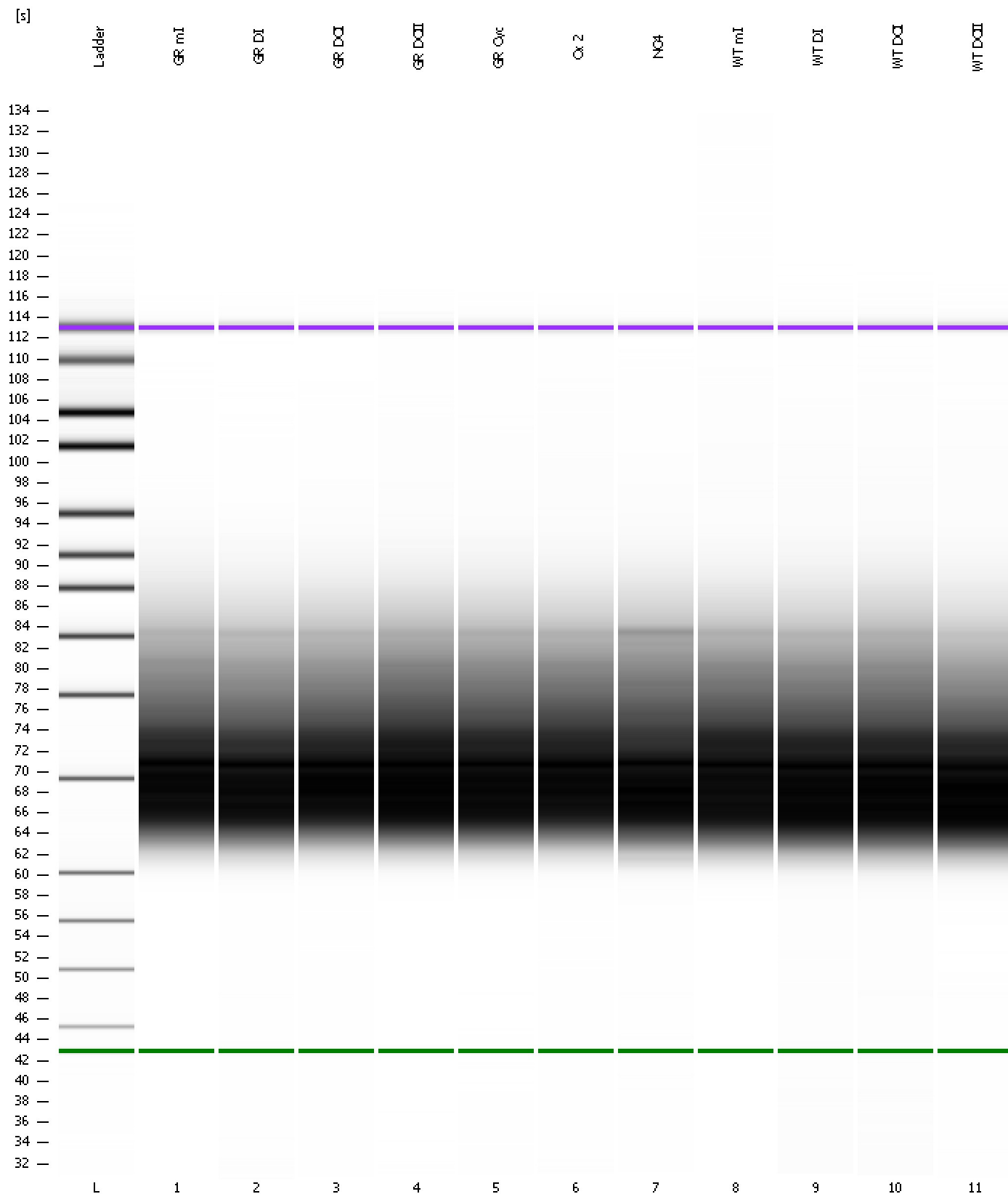
Region table for sample 11 : WT DCII

From [s]	To [s]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
60.22	95.02	336	11,887.0	90,529.9	18,497.94	99	27.1

Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
Modified: 7/19/2016 11:10:16 AM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad

Created: 7/19/2016 9:59:38 AM
 Modified: 7/19/2016 11:10:16 AM

Run Logbook

Description	Number	Source	Category	Sub Category	Time	Time Zone	User	Host
Run ended on port 1 (Number of wells acquired: 12)		Instrument	Run		7/19/2016 10:40:55 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\data\2016-07-19\2016-07-19_001.xad)		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		7/19/2016 9:59:43 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1