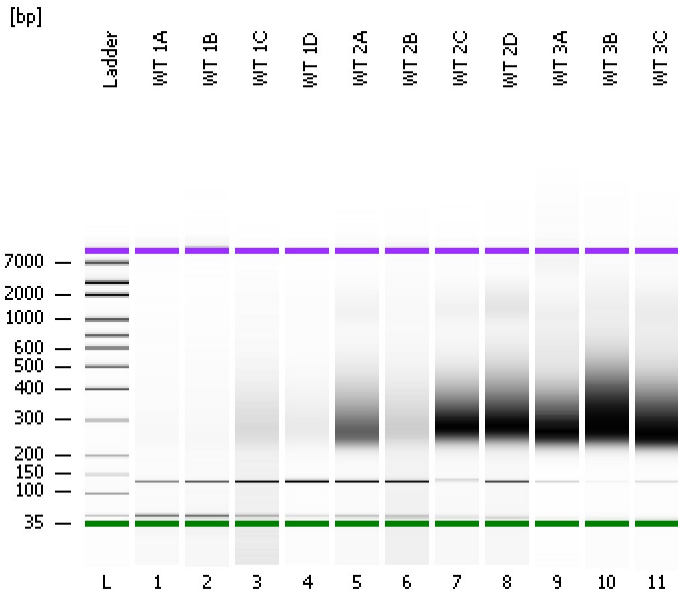


Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
Modified: 5/25/2016 11:33:11 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

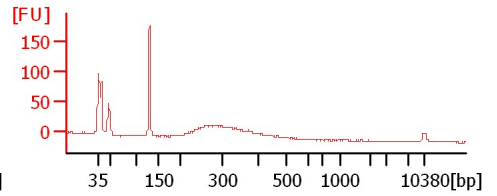
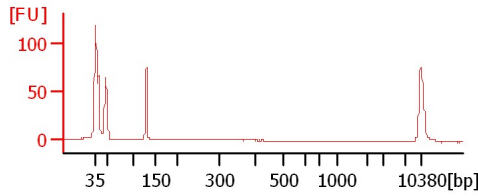
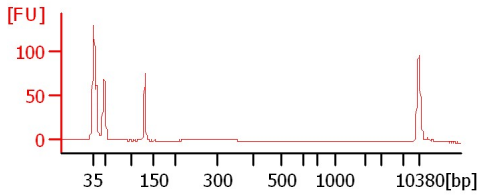
Chip Information:

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

WT 1A

WT 1B

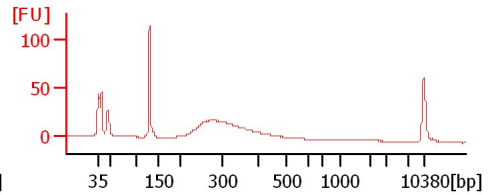
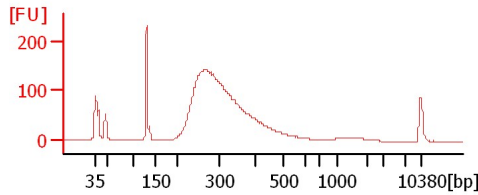
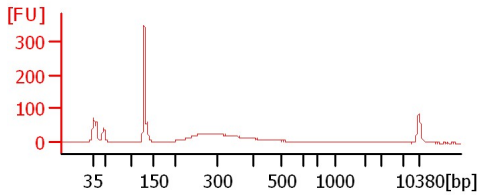
WT 1C



WT 1D

WT 2A

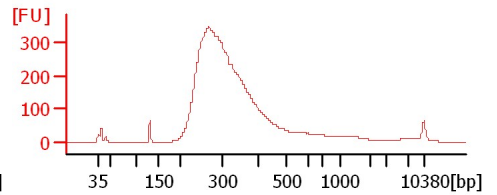
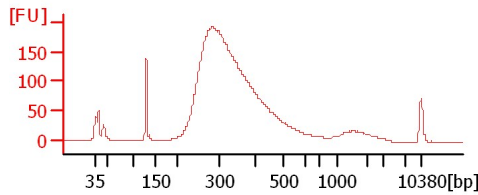
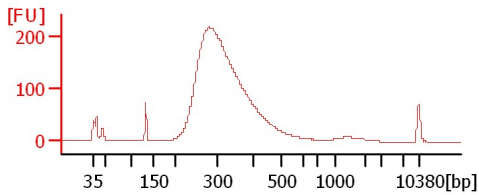
WT 2B



WT 2C

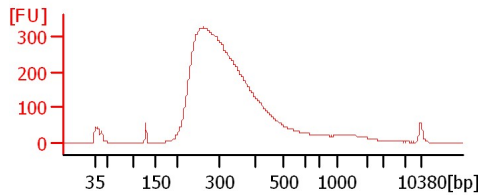
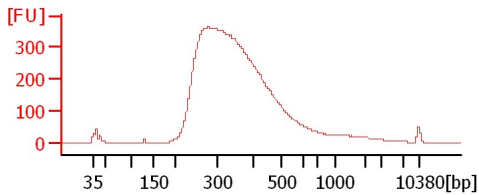
WT 2D

WT 3A



WT 3B

WT 3C



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
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WT 1B		<input type="checkbox"/>	✓			
WT 1C		<input type="checkbox"/>	✓			
WT 1D		<input type="checkbox"/>	✓			
WT 2A		<input type="checkbox"/>	✓			
WT 2B		<input type="checkbox"/>	✓			
WT 2C		<input type="checkbox"/>	✓			
WT 2D		<input type="checkbox"/>	✓			
WT 3A		<input type="checkbox"/>	✓			
WT 3B		<input type="checkbox"/>	✓			
WT 3C		<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\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
Modified: 5/25/2016 11:33:11 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

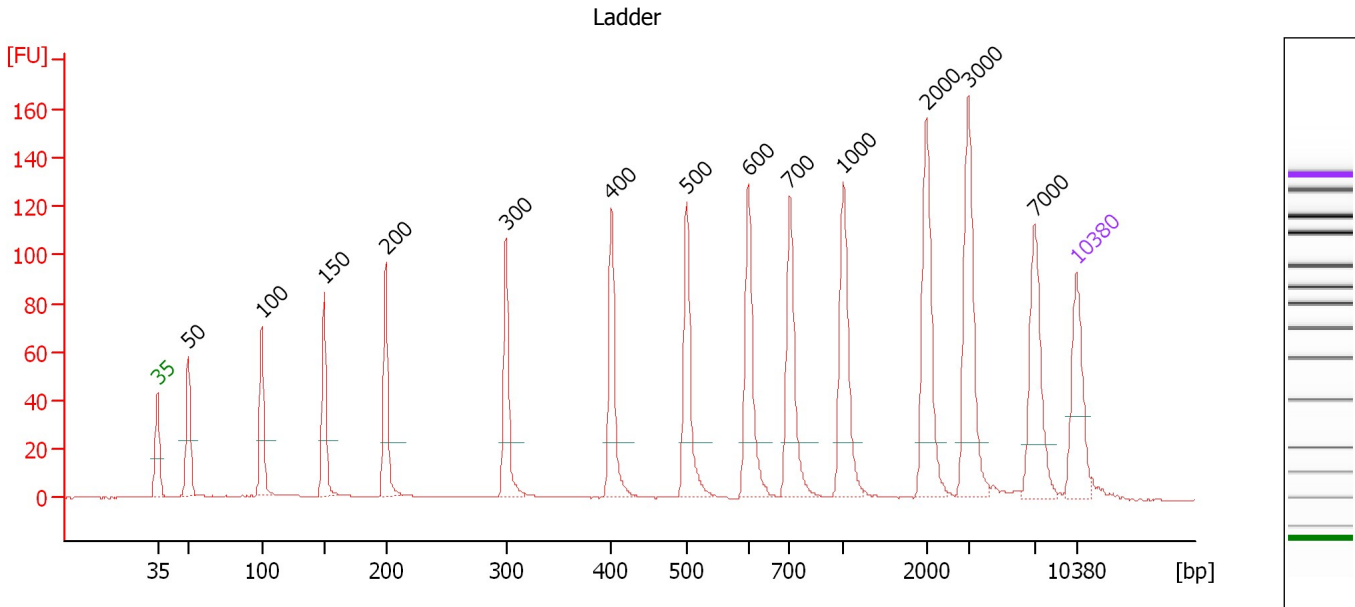
Ladder

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\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

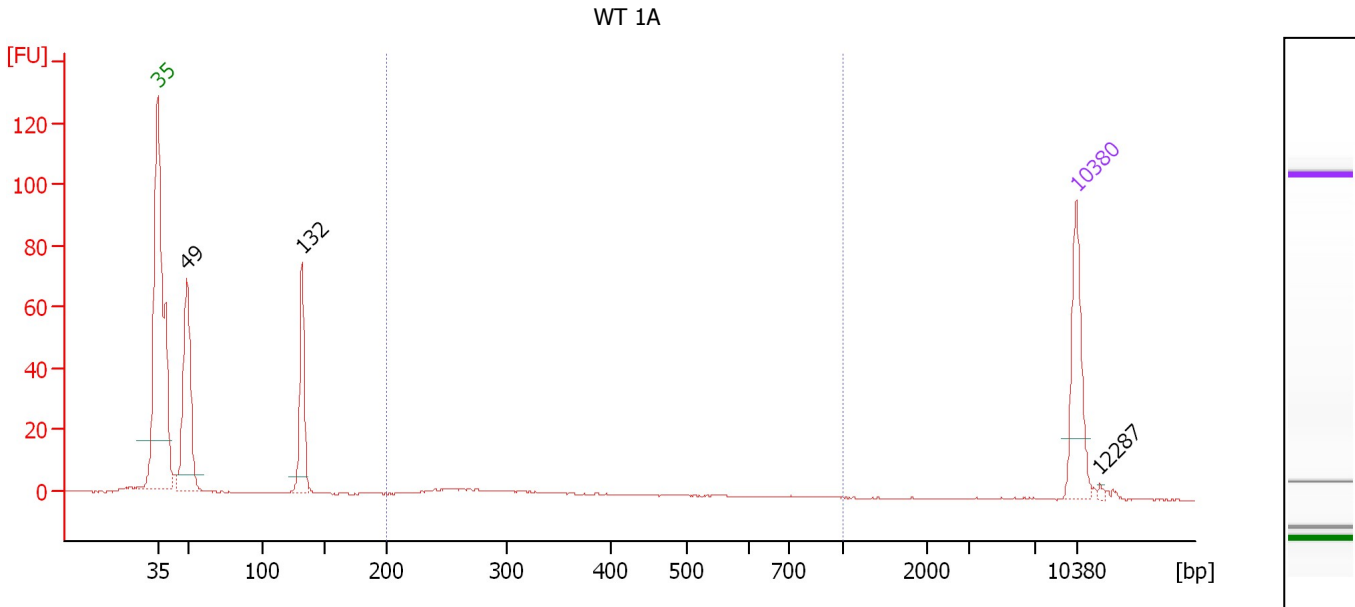
Peak table for Ladder

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	45.36
3	100	150.00	2,272.7	Ladder Peak	50.93
4	150	150.00	1,515.2	Ladder Peak	55.70
5	200	150.00	1,136.4	Ladder Peak	60.38
6	300	150.00	757.6	Ladder Peak	69.56
7	400	150.00	568.2	Ladder Peak	77.58
8	500	150.00	454.5	Ladder Peak	83.33
9	600	150.00	378.8	Ladder Peak	88.01
10	700	150.00	324.7	Ladder Peak	91.17
11	1,000	150.00	227.3	Ladder Peak	95.25
12	2,000	150.00	113.6	Ladder Peak	101.55
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\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 1 : WT 1A

Number of peaks found: 3 Corr. Area 1: 19.3
 Noise: 0.2

Peak table for sample 1 : WT 1A

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	49	222.66	6,872.2		45.22
3	132	117.20	1,342.2		54.01
4	10,380	75.00	10.9	Upper Marker	113.00
5	12,287	0.00	0.0		114.80

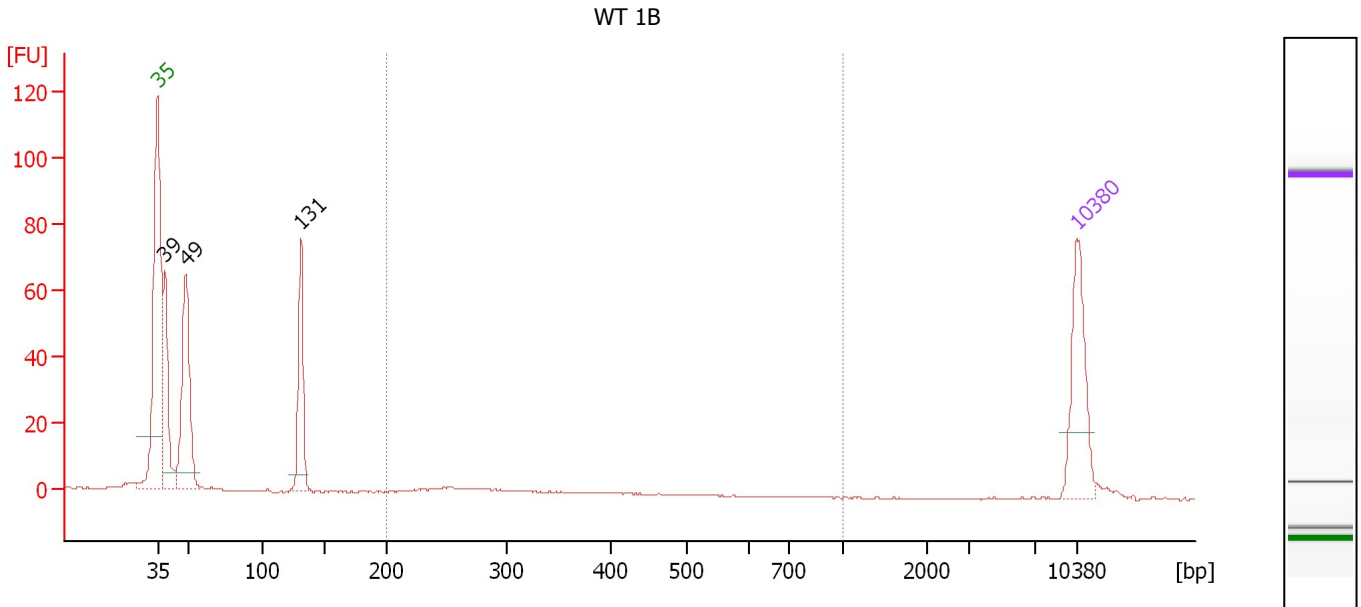
Region table for sample 1 : WT 1A

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	296	19.3	160.1	30.18	9	19.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 2 : WT 1B

Number of peaks found: 3 Corr. Area 1: 12.6
 Noise: 0.2

Peak table for sample 2 : WT 1B

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	39	131.87	5,153.5		43.59
3	49	195.44	6,088.7		45.15
4	131	112.26	1,294.3		53.93
5	10,380	75.00	10.9	Upper Marker	113.00

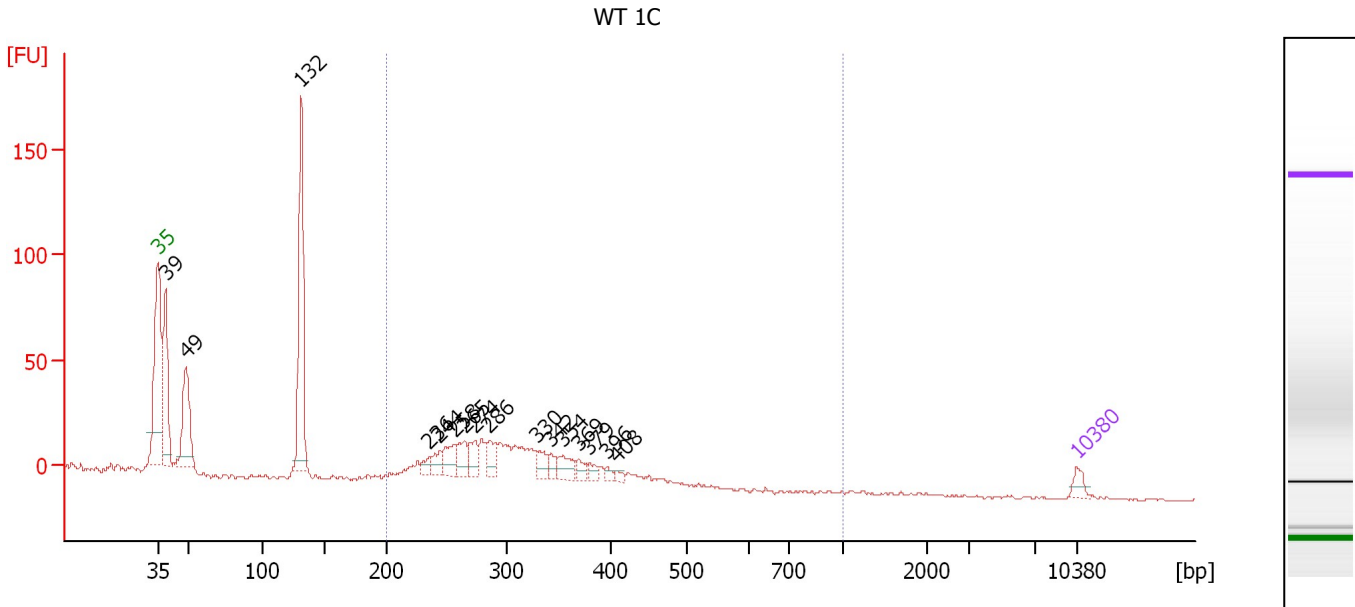
Region table for sample 2 : WT 1B

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	276	12.6	100.8	18.03	5	13.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 3 : WT 1C

Number of peaks found: 16 Corr. Area 1: 289.7
 Noise: 0.2

Peak table for sample 3 : WT 1C

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	39	1,166.87	45,500.2		43.61
3	49	901.35	28,073.5		45.15
4	132	1,688.90	19,449.4		53.94
5	236	98.80	634.9		63.67
6	244	149.69	927.8		64.46
7	258	244.64	1,438.4		65.68
8	265	226.00	1,290.6		66.38
9	274	200.75	1,108.1		67.22
10	286	191.55	1,014.0		68.30
11	330	147.26	676.8		71.94
12	342	112.58	498.9		72.93
13	354	181.62	778.2		73.86
14	369	88.56	363.9		75.08
15	379	71.89	287.6		75.87
16	396	53.33	204.3		77.23
17	408	42.47	157.9		78.02
18	10,380	75.00	10.9	Upper Marker	113.00

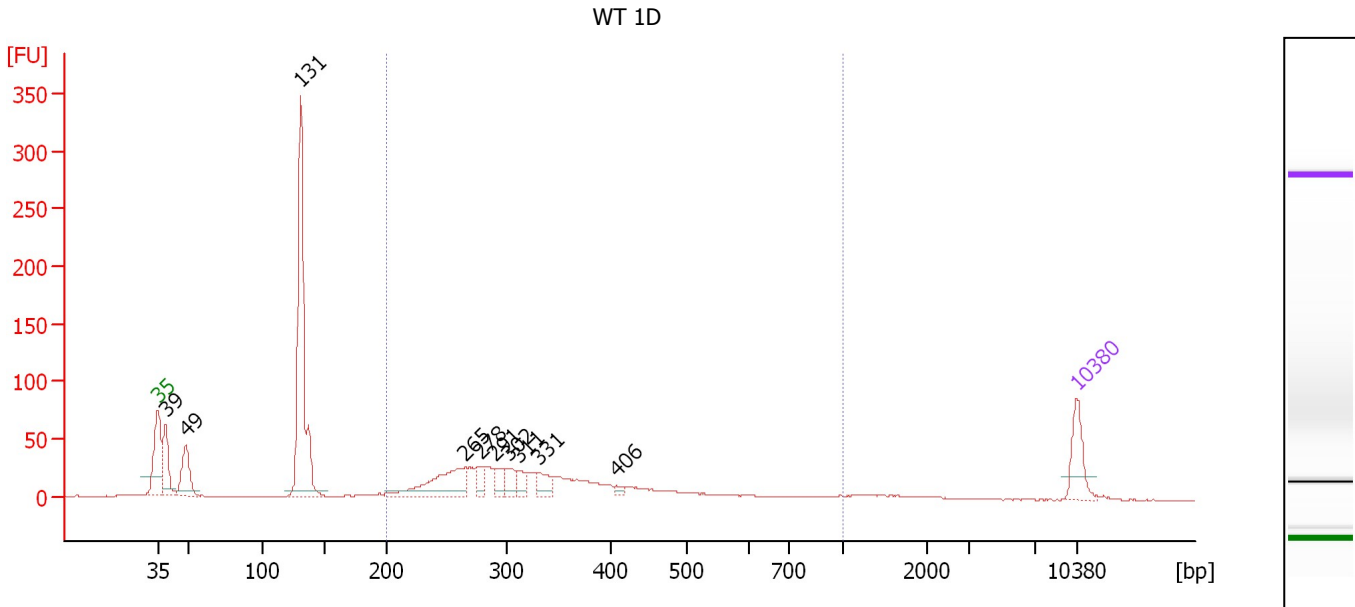
Region table for sample 3 : WT 1C

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	309	289.7	14,601.7	2,868.20	48	17.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 4 : WT 1D

Number of peaks found: 10 Corr. Area 1: 551.7
 Noise: 0.2

Peak table for sample 4 : WT 1D

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	39	147.14	5,728.3		43.62
3	49	146.96	4,584.7		45.14
4	131	712.59	8,245.1		53.88
5	265	202.62	1,157.1		66.38
6	278	39.19	213.4		67.57
7	291	46.55	242.2		68.76
8	302	44.18	221.8		69.71
9	311	37.59	183.0		70.47
10	331	48.98	223.9		72.08
11	406	12.39	46.2		77.93
12	10,380	75.00	10.9	Upper Marker	113.00

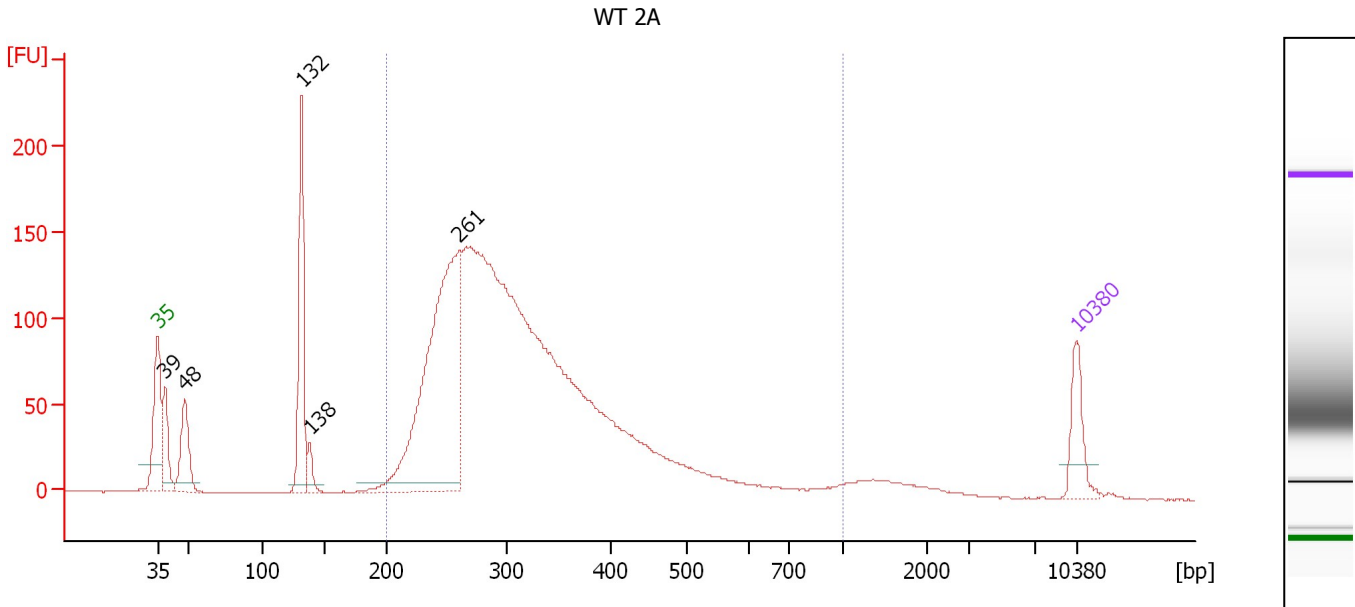
Region table for sample 4 : WT 1D

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	348	551.7	4,138.7	851.72	50	34.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 5 : WT 2A

Number of peaks found: 5 Corr. Area 1: 2,556.4
 Noise: 0.2

Peak table for sample 5 : WT 2A

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	39	122.23	4,789.8		43.58
3	48	162.72	5,122.2		45.07
4	132	336.43	3,863.7		53.98
5	138	40.31	441.1		54.60
6	261	940.21	5,462.4		65.96
7	10,380	75.00	10.9	Upper Marker	113.00

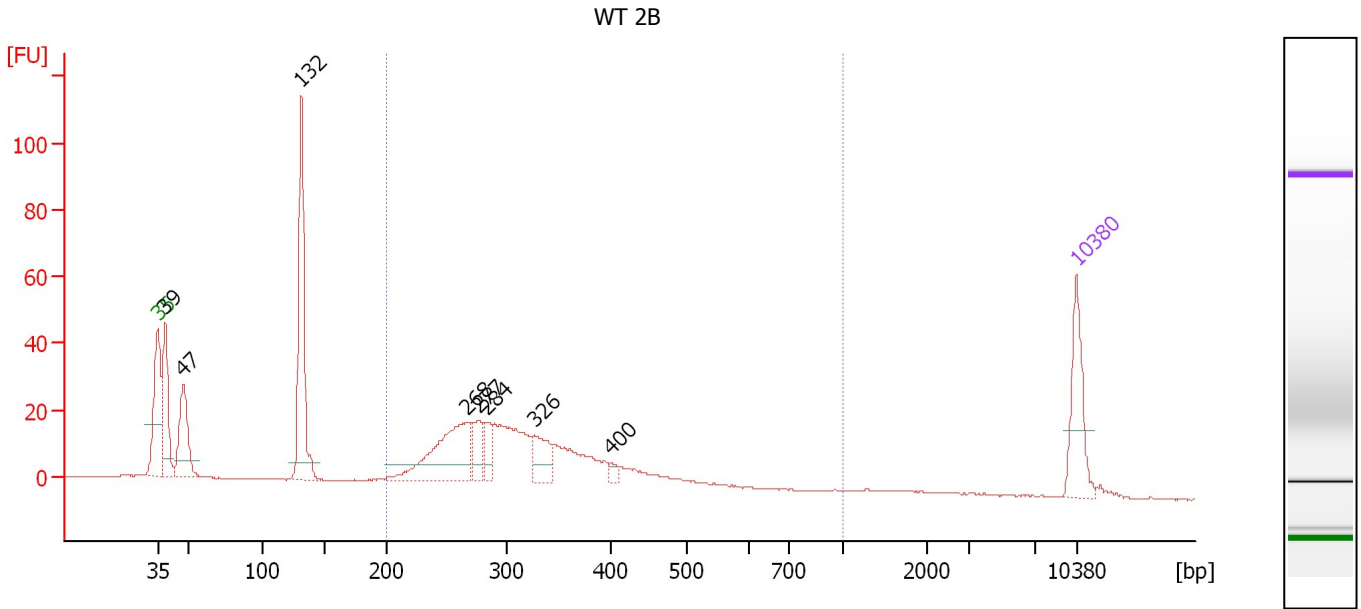
Region table for sample 5 : WT 2A

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	327	2,556.4	17,846.6	3,541.95	84	30.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 6 : WT 2B

Number of peaks found: 8 Corr. Area 1: 349.6
 Noise: 0.2

Peak table for sample 6 : WT 2B

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	39	148.94	5,830.2		43.58
3	47	131.27	4,200.2		44.95
4	132	283.13	3,257.7		53.95
5	268	189.63	1,072.8		66.61
6	277	51.79	282.9		67.49
7	284	36.42	194.1		68.12
8	326	57.42	266.6		71.67
9	400	10.96	41.5		77.56
10	10,380	75.00	10.9	Upper Marker	113.00

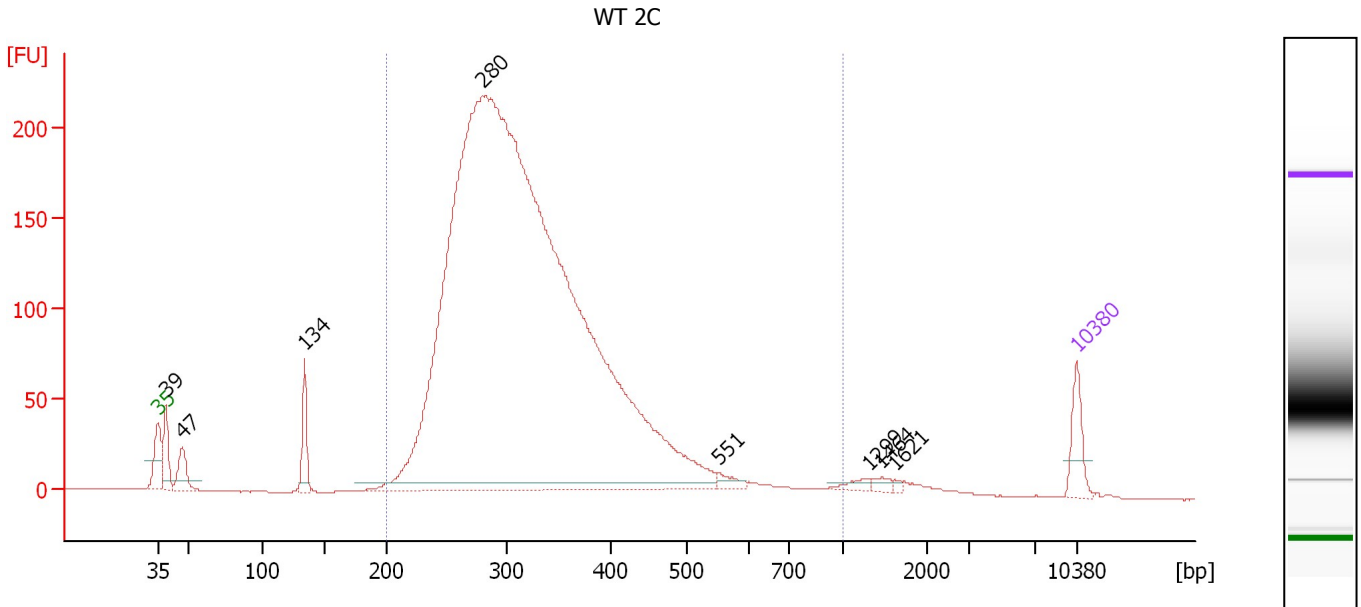
Region table for sample 6 : WT 2B

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	325	349.6	3,663.3	735.45	59	24.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 7 : WT 2C

Number of peaks found: 8 Corr. Area 1: 3,550.4
 Noise: 0.1

Peak table for sample 7 : WT 2C

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	39	138.97	5,388.2		43.64
3	47	107.35	3,466.8		44.88
4	134	140.08	1,578.0		54.22
5	280	7,389.01	39,922.0		67.77
6	551	29.75	81.8		85.71
7	1,299	19.36	22.6		97.13
8	1,464	15.89	16.5		98.17
9	1,621	6.21	5.8		99.16
10	10,380	75.00	10.9	Upper Marker	113.00

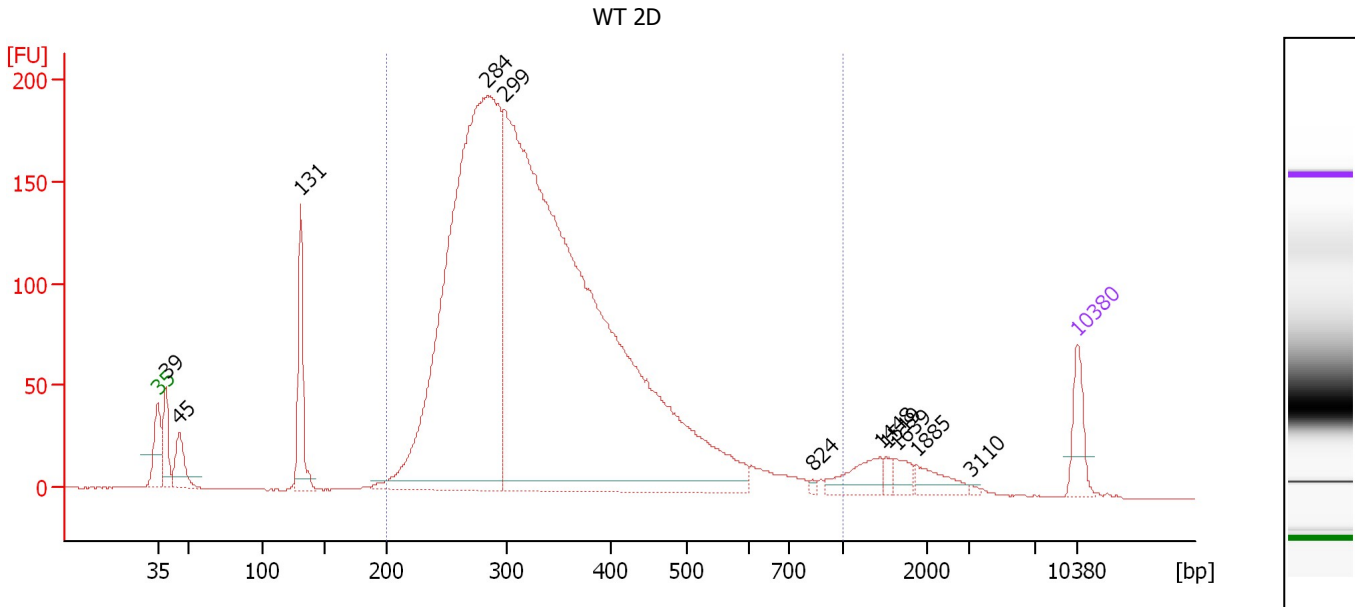
Region table for sample 7 : WT 2C

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	330	3,550.4	34,523.2	7,045.26	94	25.9

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 8 : WT 2D

Number of peaks found: 11 Corr. Area 1: 3,500.9
 Noise: 0.2

Peak table for sample 8 : WT 2D

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	39	148.13	5,782.5		43.60
3	45	126.28	4,206.0		44.65
4	131	274.57	3,179.3		53.87
5	284	2,662.79	14,200.9		68.10
6	299	4,259.20	21,594.4		69.46
7	824	7.93	14.6		92.86
8	1,448	76.63	80.2		98.07
9	1,519	16.08	16.0		98.52
10	1,639	35.75	33.1		99.27
11	1,885	51.30	41.2		100.82
12	3,110	4.91	2.4		104.93
13	10,380	75.00	10.9	Upper Marker	113.00

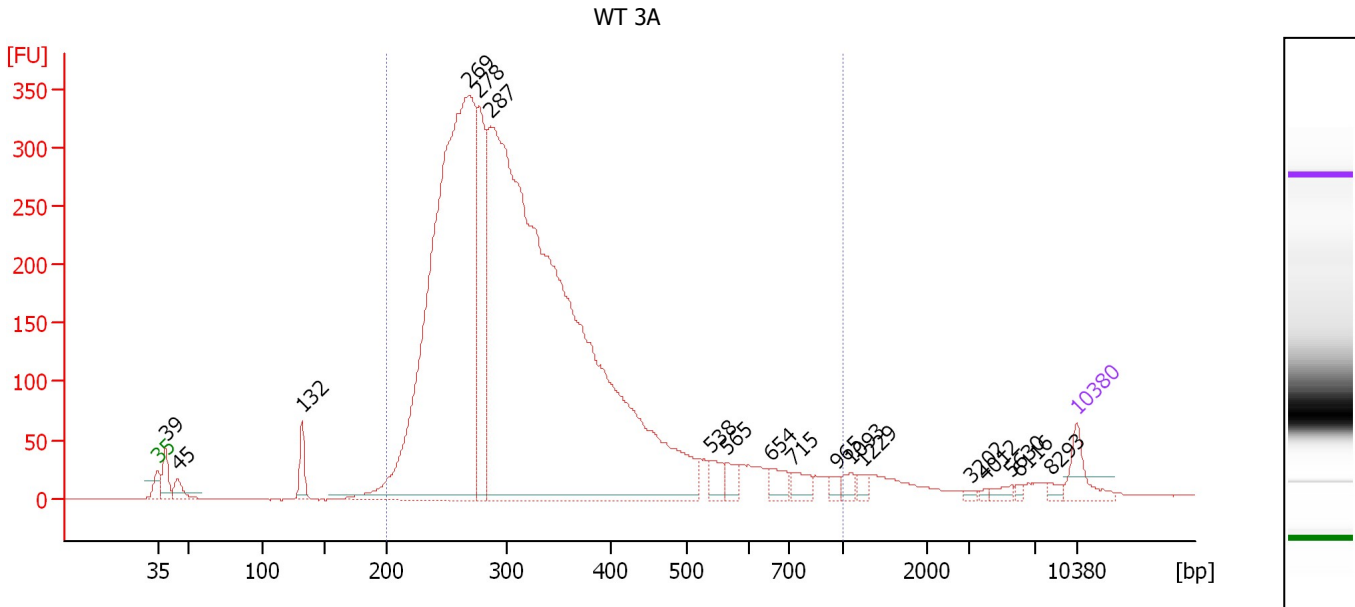
Region table for sample 8 : WT 2D

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	347	3,500.9	31,447.9	6,607.02	90	29.6

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 9 : WT 3A

Number of peaks found: 18 Corr. Area 1: 5,957.6
 Noise: 0.1

Peak table for sample 9 : WT 3A

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	39	101.55	3,960.0		43.61
3	45	64.49	2,188.8		44.52
4	132	97.81	1,121.9		53.99
5	269	3,262.67	18,386.5		66.70
6	278	547.71	2,988.4		67.52
7	287	5,471.04	28,875.8		68.38
8	538	58.79	165.7		85.09
9	565	46.60	125.0		86.36
10	654	56.89	131.9		89.70
11	715	49.55	105.0		91.37
12	965	20.04	31.5		94.77
13	1,093	28.59	39.6		95.83
14	1,229	23.09	28.5		96.69
15	3,202	8.07	3.8		105.05
16	4,012	5.60	2.1		106.06
17	5,630	19.00	5.1		108.09
18	6,116	8.19	2.0		108.69
19	8,293	15.49	2.8		111.02
20	10,380	75.00	10.9	Upper Marker	113.00

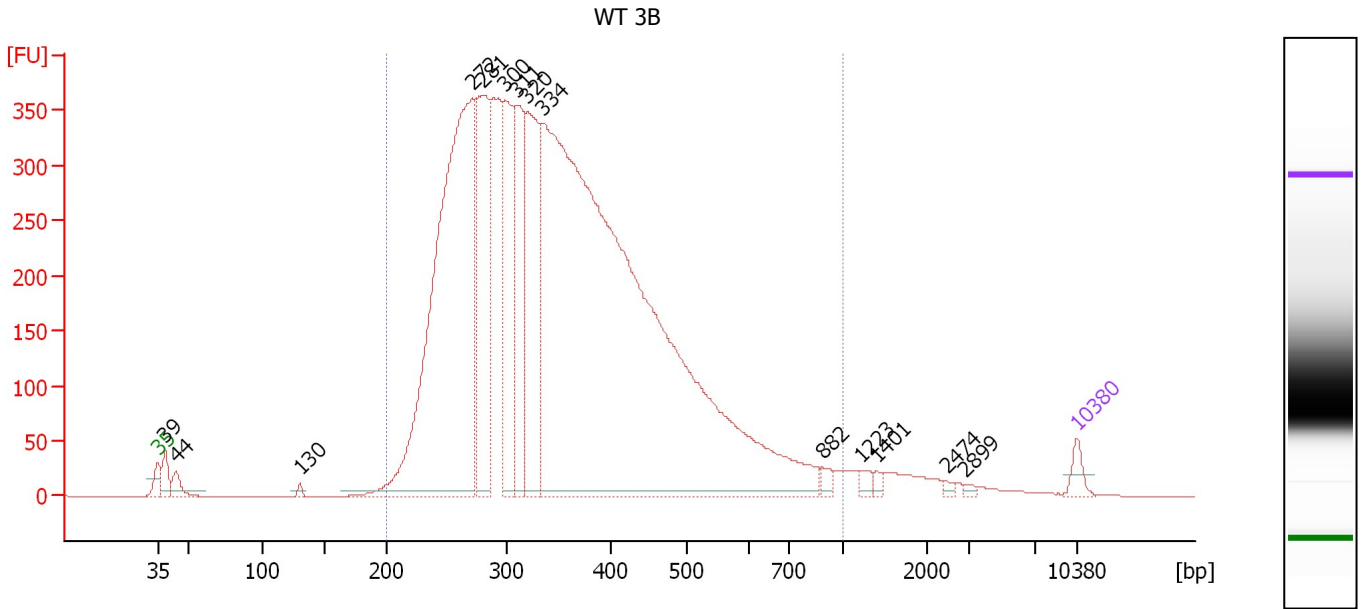
Region table for sample 9 : WT 3A

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	336	5,957.6	45,437.8	9,129.22	93	33.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 10 : WT 3B

Number of peaks found: 14 Corr. Area 1: 8,518.9
 Noise: 0.2

Peak table for sample 10 : WT 3B

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	39	180.46	7,089.8		43.56
3	44	143.93	4,984.2		44.38
4	130	28.78	334.3		53.83
5	272	5,069.90	28,274.6		66.96
6	281	1,528.06	8,235.1		67.83
7	300	1,097.95	5,554.2		69.52
8	311	989.38	4,821.5		70.44
9	320	1,448.94	6,864.1		71.15
10	334	11,075.69	50,170.9		72.33
11	882	53.74	92.4		93.64
12	1,223	46.35	57.4		96.65
13	1,401	30.86	33.4		97.77
14	2,474	19.84	12.2		103.09
15	2,899	18.84	9.8		104.47
16	10,380	75.00	10.9	Upper Marker	113.00

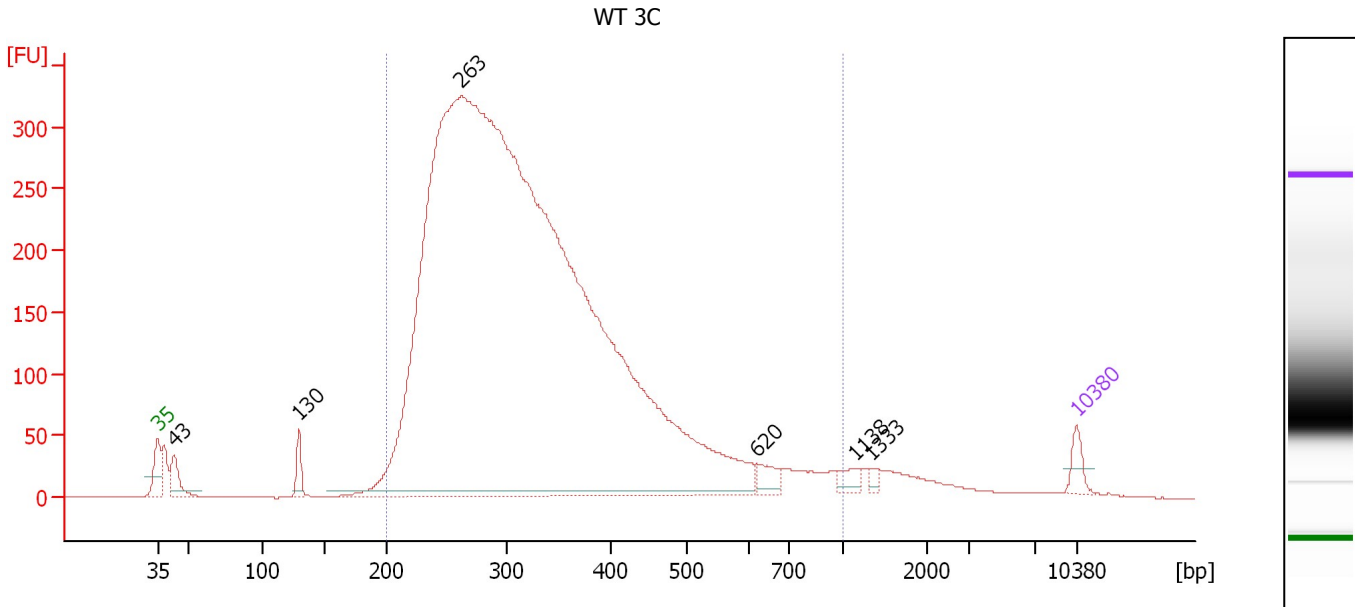
Region table for sample 10 : WT 3B

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	364	8,518.9	100,101.9	21,652.88	95	31.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 AM

Electropherogram Summary Continued ...



Overall Results for sample 11 : WT 3C

Number of peaks found: 6 Corr. Area 1: 6,447.8
 Noise: 0.2

Peak table for sample 11 : WT 3C

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	43	199.01	7,046.6		44.23
3	130	131.58	1,533.0		53.80
4	263	17,886.41	103,207.0		66.13
5	620	97.57	238.5		88.64
6	1,138	67.53	89.9		96.11
7	1,333	28.45	32.3		97.34
8	10,380	75.00	10.9	Upper Marker	113.00

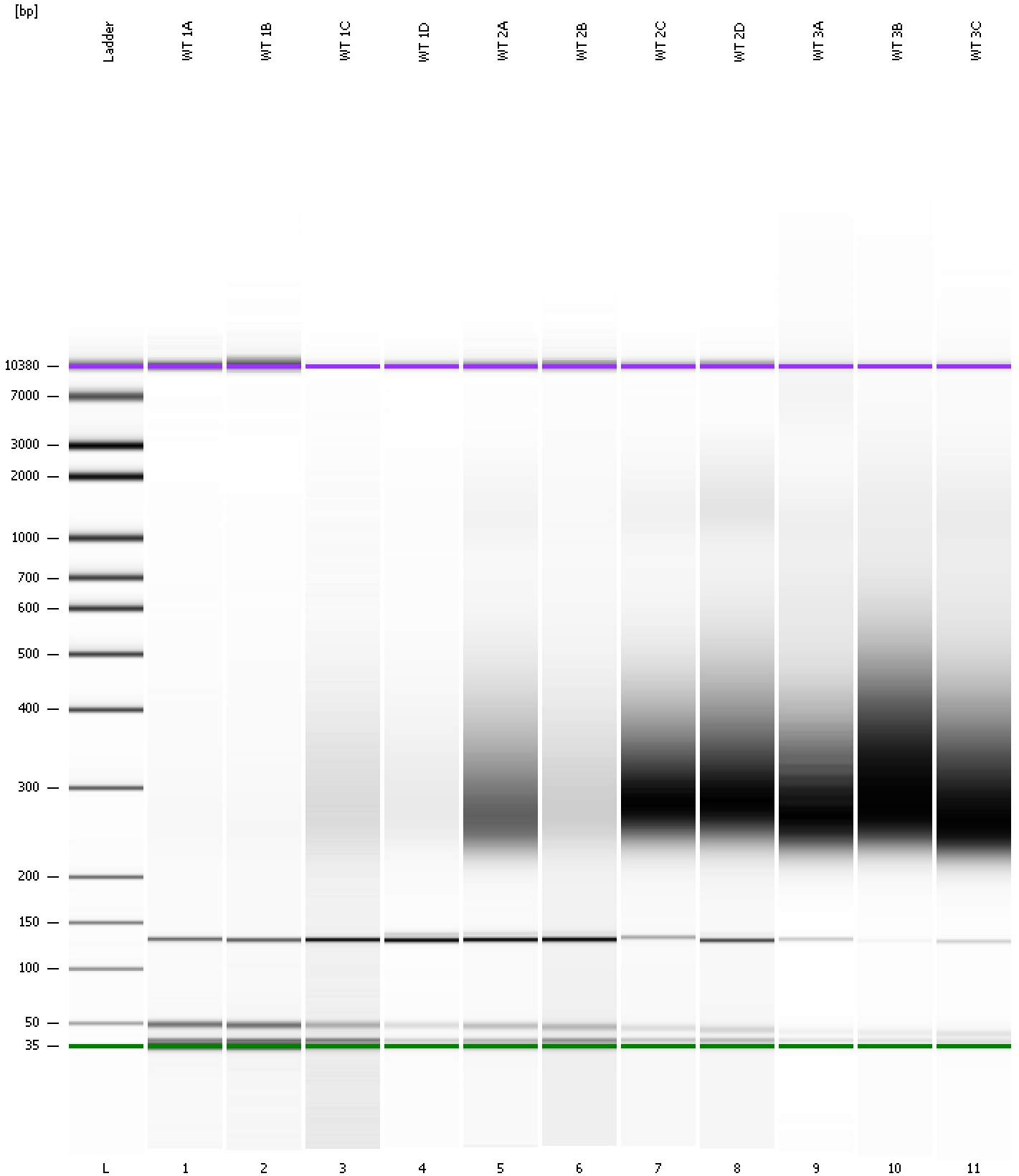
Region table for sample 11 : WT 3C

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	339	6,447.8	81,776.4	16,459.19	94	34.0

Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
Modified: 5/25/2016 11:33:11 AM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-05-25\2016-05-25_001.xad

Created: 5/25/2016 10:51:51 AM
 Modified: 5/25/2016 11:33:11 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		5/25/2016 11:33:10 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\2016-05-25\2016-05-25_001.xad)		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		5/25/2016 10:51:56 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1