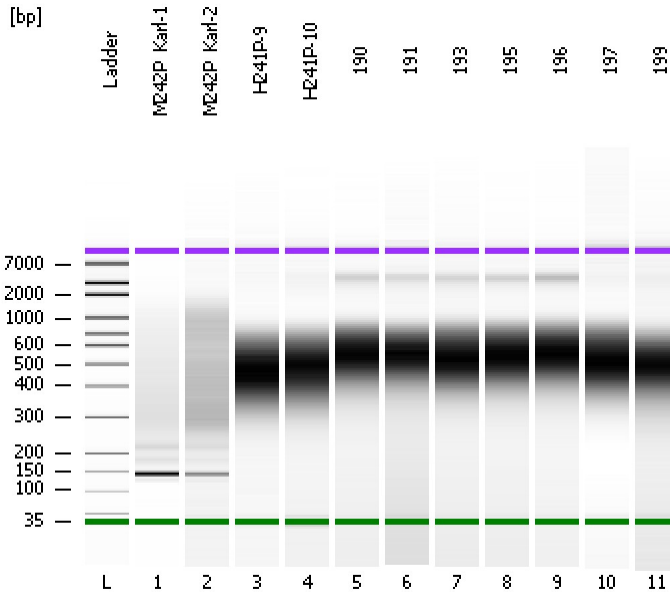


Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
Modified: 11/23/2015 1:57:43 PM

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

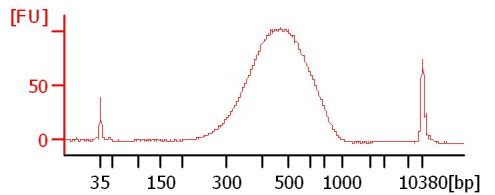
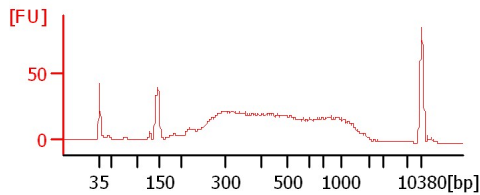
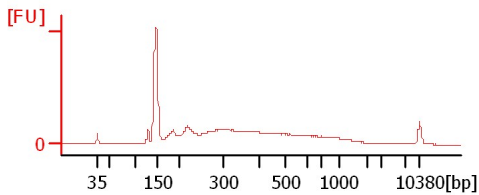
Chip Information:

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

M242P_Karl-1

M242P_Karl-2

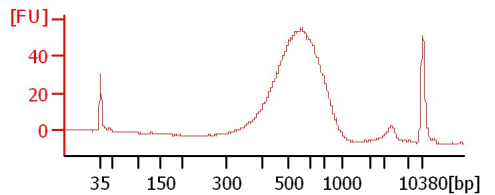
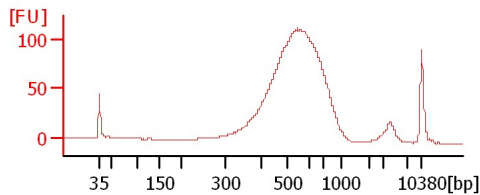
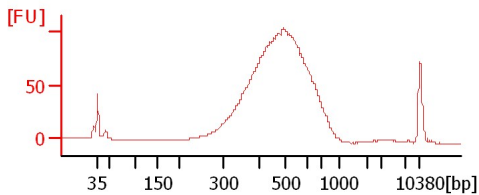
H241P-9



H241P-10

190

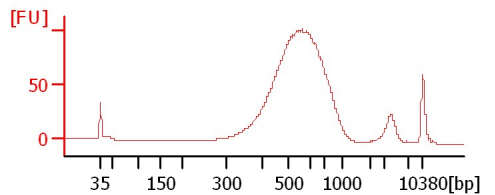
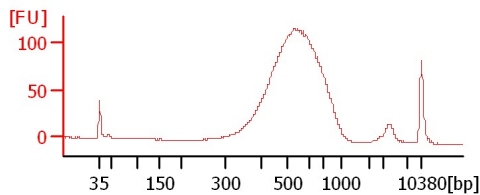
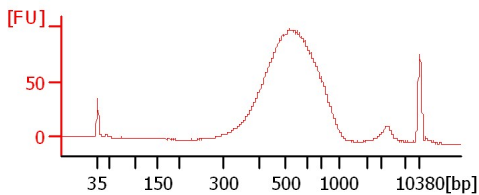
191



193

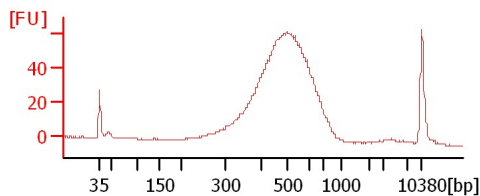
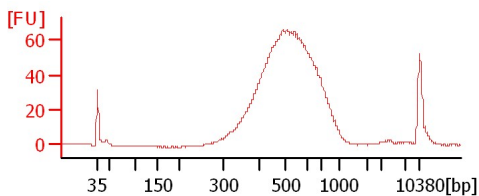
195

196



197

199



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
M242P_Karl-1		<input type="checkbox"/>	✓			
M242P_Karl-2		<input type="checkbox"/>	✓			
H241P-9		<input type="checkbox"/>	✓			
H241P-10		<input type="checkbox"/>	✓			
190		<input type="checkbox"/>	✓			
191		<input type="checkbox"/>	✓			
193		<input type="checkbox"/>	✓			
195		<input type="checkbox"/>	✓			
196		<input type="checkbox"/>	✓			
197		<input type="checkbox"/>	✓			
199		<input type="checkbox"/>	✓			
Ladder		<input type="checkbox"/>	✓			

Chip Lot #

Reagent Kit Lot #

Chip Comments :

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
Modified: 11/23/2015 1:57:43 PM

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

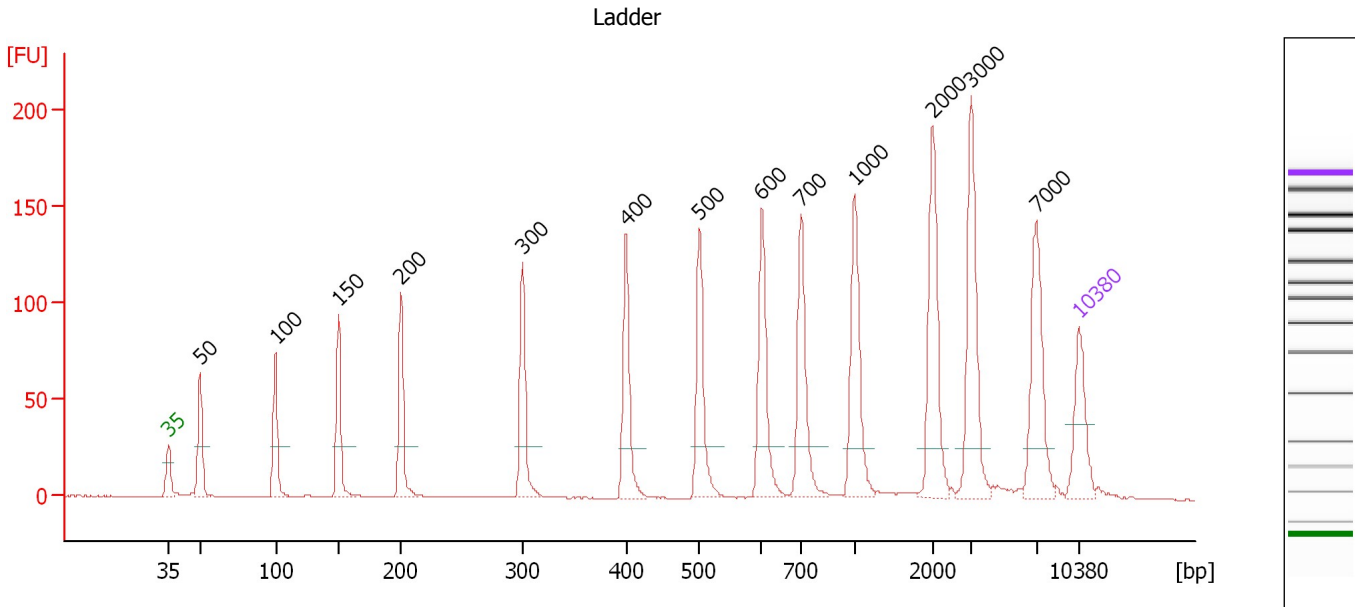
Ladder

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:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

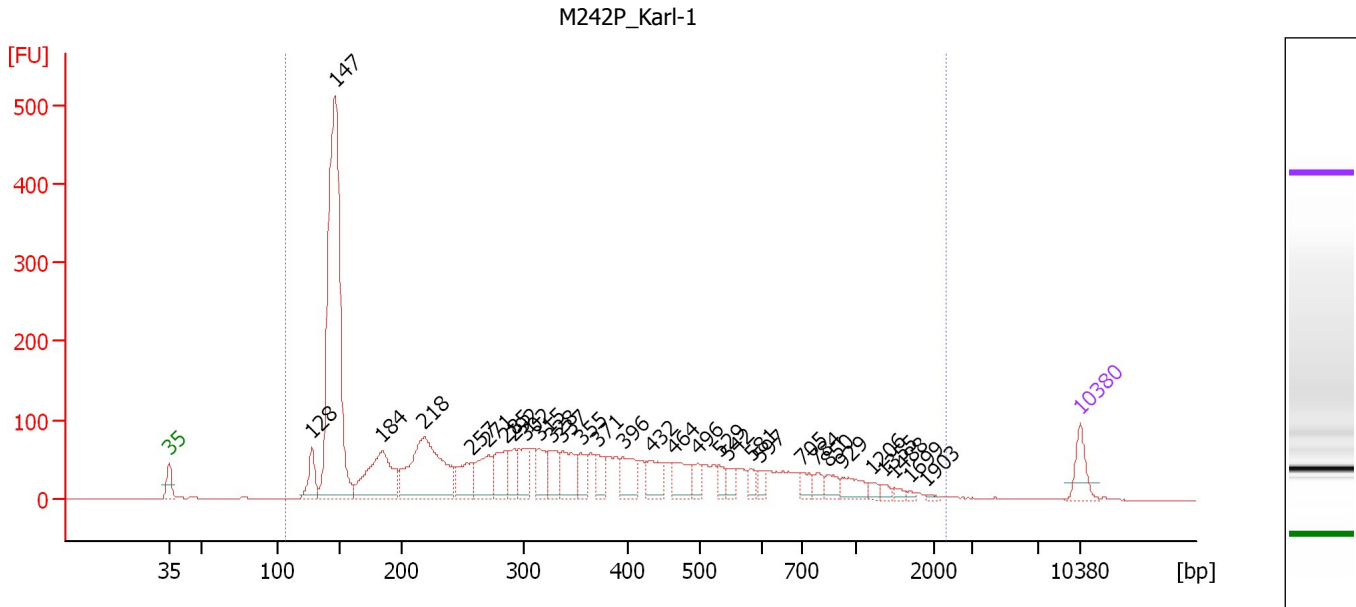
Peak table for Ladder

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	45.44
3	100	150.00	2,272.7	Ladder Peak	51.25
4	150	150.00	1,515.2	Ladder Peak	56.08
5	200	150.00	1,136.4	Ladder Peak	60.91
6	300	150.00	757.6	Ladder Peak	70.24
7	400	150.00	568.2	Ladder Peak	78.21
8	500	150.00	454.5	Ladder Peak	83.84
9	600	150.00	378.8	Ladder Peak	88.62
10	700	150.00	324.7	Ladder Peak	91.62
11	1,000	150.00	227.3	Ladder Peak	95.75
12	2,000	150.00	113.6	Ladder Peak	101.79
13	3,000	150.00	75.8	Ladder Peak	104.70
14	7,000	150.00	32.5	Ladder Peak	109.72
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 1 : M242P_Karl-1

Number of peaks found: 31 Corr. Area 1: 3,730.1
 Noise: 0.3

Peak table for sample 1 : M242P_Karl-1

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	128	135.51	1,599.9		53.99
3	147	1,902.76	19,617.2		55.79
4	184	418.69	3,443.5		59.39
5	218	627.60	4,358.2		62.61
6	257	154.25	910.2		66.21
7	271	181.60	1,015.4		67.53
8	285	148.16	787.1		68.86
9	292	114.43	593.2		69.52
10	302	120.25	603.9		70.37
11	315	120.91	582.0		71.42
12	328	108.99	503.7		72.46
13	337	158.90	713.7		73.22
14	355	90.02	384.0		74.64
15	371	69.39	283.7		75.87
16	396	130.87	500.5		77.91
17	432	105.53	369.7		80.04
18	464	120.83	394.9		81.79
19	496	59.26	180.9		83.64
20	529	40.24	115.2		85.25
21	542	43.55	121.7		85.86
22	581	34.11	89.0		87.71
23	597	35.32	89.7		88.47
24	705	43.17	92.8		91.69
25	784	43.88	84.8		92.78

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
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Electropherogram Summary Continued ...

... Peak table for sample 1 : M242P_Karl-1

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
26	850	46.44	82.8		93.68
27	929	68.53	111.8		94.77
28	1,206	21.70	27.3		96.99
29	1,355	18.25	20.4		97.89
30	1,488	14.53	14.8		98.70
31	1,699	7.78	6.9		99.98
32	1,903	6.66	5.3		101.21
33	10,380	75.00	10.9	Upper Marker	113.00

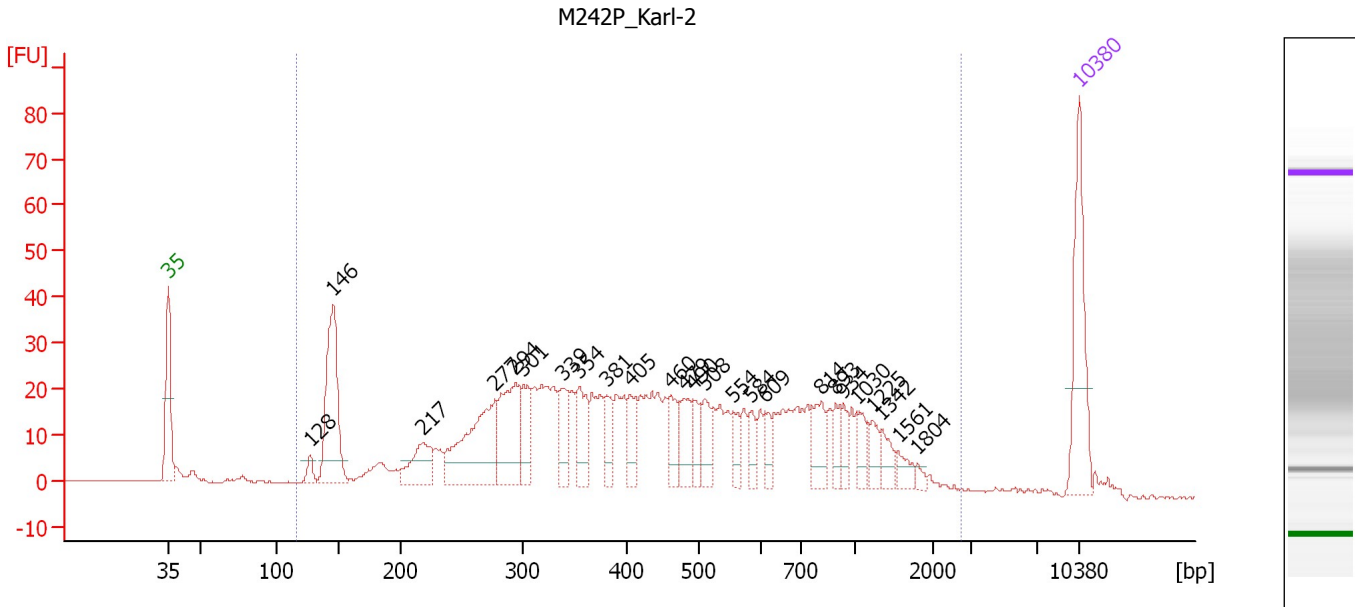
Region table for sample 1 : M242P_Karl-1

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
108	2,318	378	3,730.1	40,565.5	5,966.54	98	76.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 2 : M242P_Karl-2

Number of peaks found: 25 Corr. Area 1: 960.0
 Noise: 0.3

Peak table for sample 2 : M242P_Karl-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	128	12.87	152.7		53.93
3	146	156.82	1,629.7		55.68
4	217	52.91	369.6		62.49
5	277	137.66	752.4		68.11
6	294	93.60	482.4		69.68
7	301	38.78	195.5		70.29
8	339	41.75	186.5		73.36
9	354	42.88	183.5		74.55
10	381	27.23	108.4		76.68
11	405	29.94	111.9		78.52
12	460	28.07	92.4		81.59
13	479	34.43	109.0		82.64
14	490	23.41	72.3		83.30
15	508	28.97	86.3		84.24
16	554	17.28	47.3		86.42
17	584	17.47	45.4		87.84
18	609	16.17	40.2		88.88
19	814	31.34	58.4		93.18
20	893	16.13	27.4		94.27
21	934	15.50	25.1		94.84
22	1,030	19.71	29.0		95.93
23	1,225	14.77	18.3		97.11
24	1,342	15.65	17.7		97.82
25	1,561	11.82	11.5		99.14

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...

... Peak table for sample 2 : M242P_Karl-2

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
26	1,804	4.10	3.4		100.61
27	10,380	75.00	10.9	Upper Marker	113.00

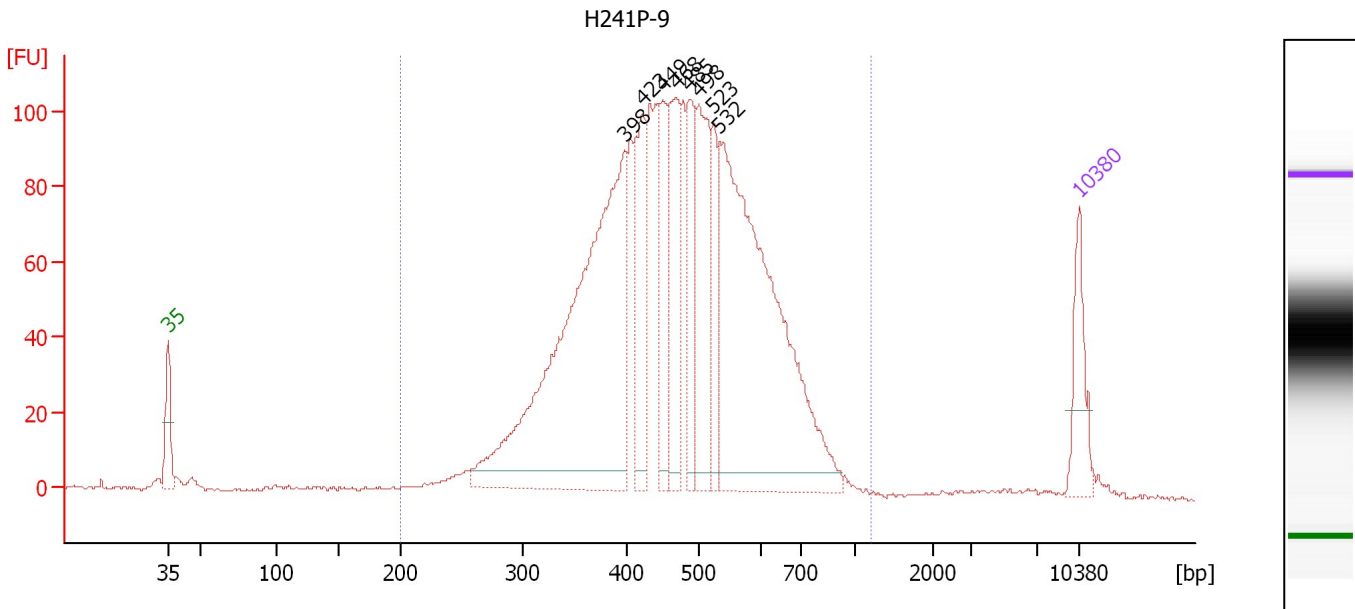
Region table for sample 2 : M242P_Karl-2

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
116	2,711	528	960.0	7,434.1	1,582.19	96	67.3

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 3 : H241P-9

Number of peaks found: 8 Corr. Area 1: 2,096.6
 Noise: 0.5

Peak table for sample 3 : H241P-9

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	398	933.61	3,554.6		78.05
3	423	176.18	631.8		79.48
4	449	145.23	490.3		80.96
5	468	172.77	559.0		82.05
6	485	132.01	412.2		83.01
7	498	225.75	686.9		83.72
8	523	107.98	313.1		84.91
9	532	811.38	2,308.7		85.39
10	10,380	75.00	10.9	Upper Marker	113.00

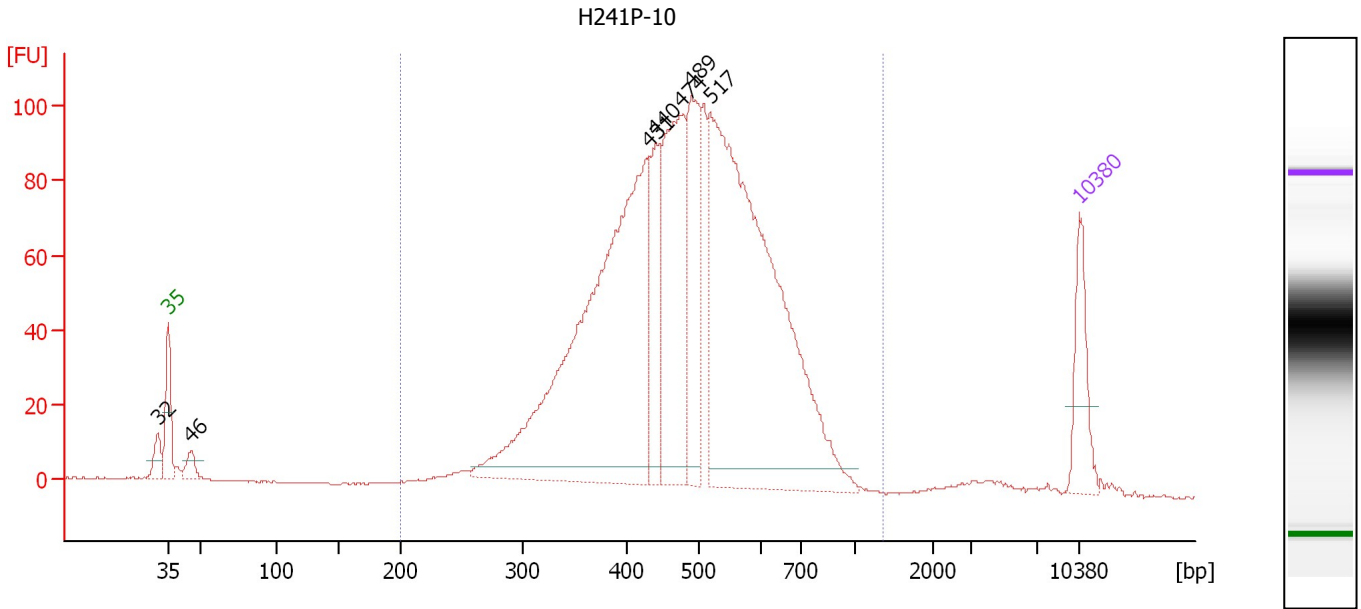
Region table for sample 3 : H241P-9

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,211	474	2,096.6	11,474.9	3,302.44	97	24.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 4 : H241P-10

Number of peaks found: 7 Corr. Area 1: 1,925.0
 Noise: 0.2

Peak table for sample 4 : H241P-10

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	32	0.00	0.0		42.18
2	35	125.00	5,411.3	Lower Marker	43.00
3	46	31.11	1,031.1		44.74
4	431	956.63	3,365.6		79.94
5	440	142.03	488.9		80.47
6	474	356.93	1,141.7		82.36
7	489	210.67	652.5		83.23
8	517	1,031.41	3,024.9		84.63
9	10,380	75.00	10.9	Upper Marker	113.00

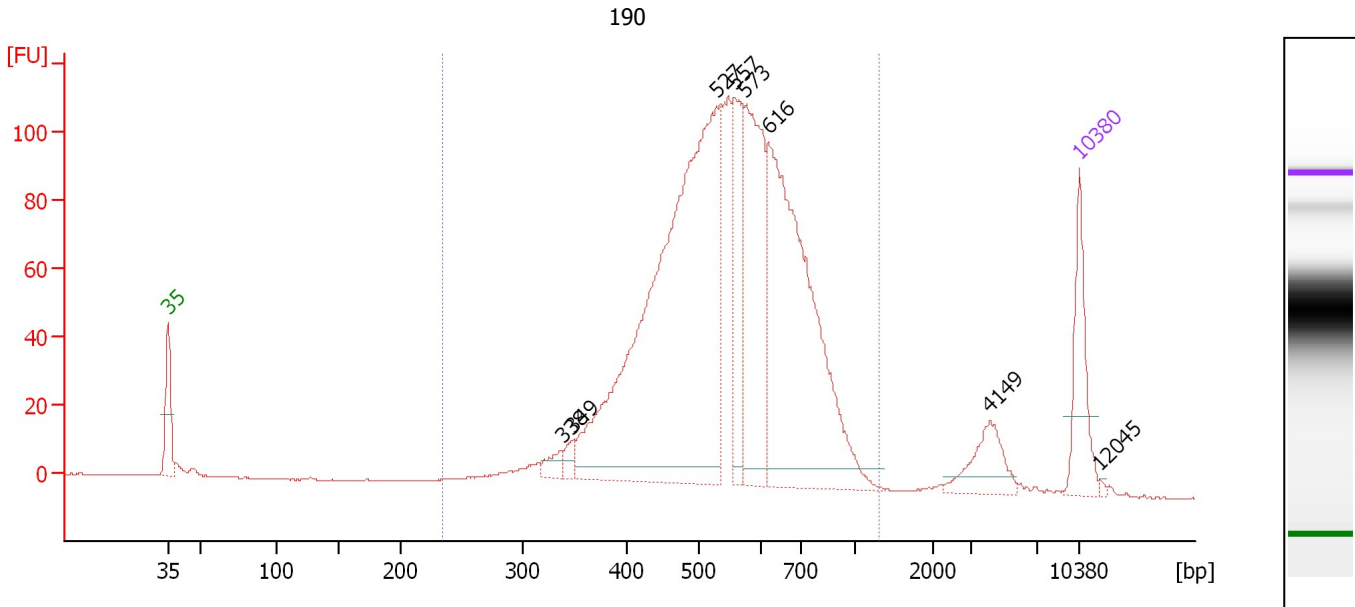
Region table for sample 4 : H241P-10

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,354	488	1,925.0	9,810.1	2,911.01	96	24.2

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 5 : 190

Number of peaks found: 8 Corr. Area 1: 1,759.0
 Noise: 0.2

Peak table for sample 5 : 190

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	338	20.07	90.0		73.27
3	349	16.86	73.2		74.15
4	527	956.37	2,749.7		85.13
5	557	135.11	367.7		86.55
6	573	264.19	698.5		87.33
7	616	533.85	1,313.4		89.10
8	4,149	53.74	19.6		106.14
9	10,380	75.00	10.9	Upper Marker	113.00
10	12,045	0.00	0.0		114.62

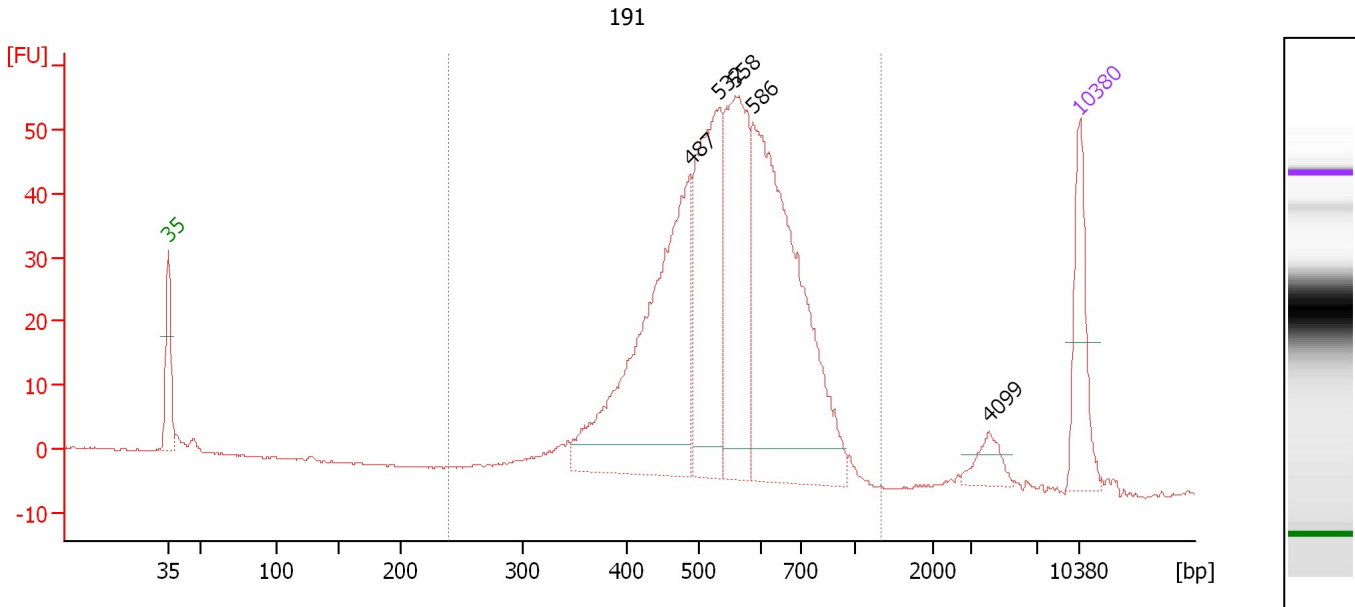
Region table for sample 5 : 190

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
234	1,320	556	1,759.0	6,571.9	2,238.66	95	23.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 6 : 191

Number of peaks found: 5 Corr. Area 1: 821.0
 Noise: 0.2

Peak table for sample 6 : 191

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	487	455.55	1,418.0		83.09
3	532	271.28	772.7		85.37
4	558	258.13	701.2		86.60
5	586	473.68	1,225.3		87.94
6	4,099	24.74	9.1		106.08
7	10,380	75.00	10.9	Upper Marker	113.00

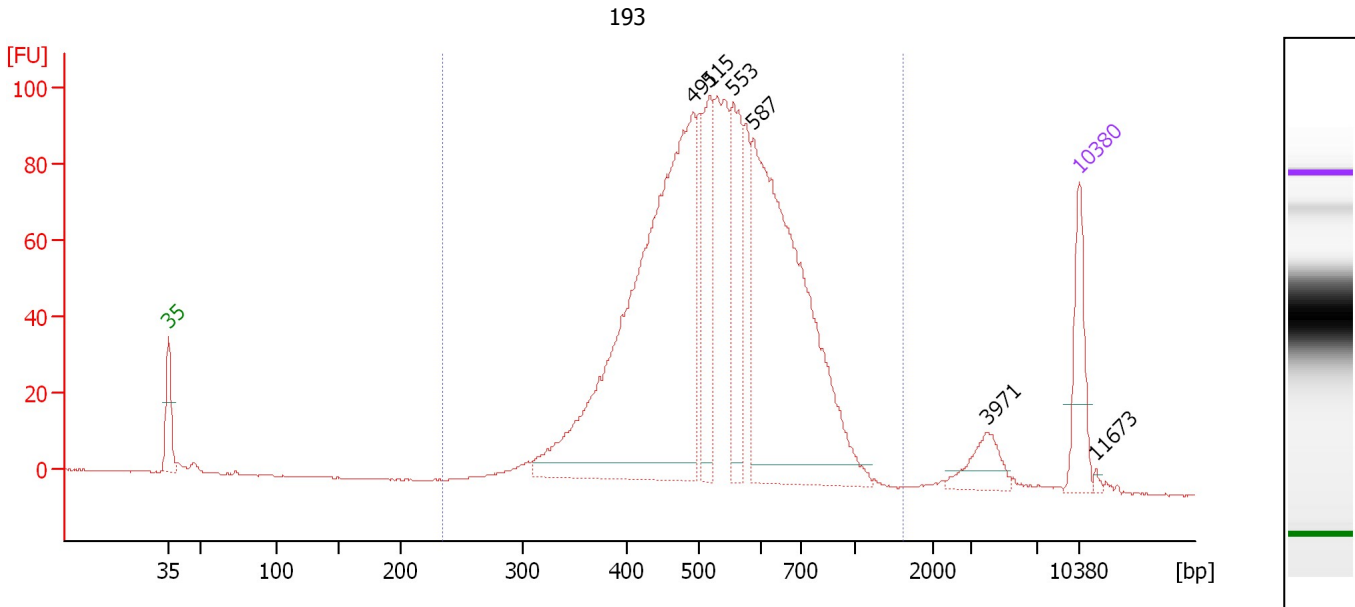
Region table for sample 6 : 191

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
239	1,347	552	821.0	4,345.4	1,498.55	95	20.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 7 : 193

Number of peaks found: 6 Corr. Area 1: 1,642.2
 Noise: 0.1

Peak table for sample 7 : 193

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	491	1,018.19	3,142.9		83.32
3	515	165.24	485.7		84.58
4	553	170.11	465.8		86.39
5	587	692.04	1,786.6		87.99
6	3,971	46.13	17.6		105.92
7	10,380	75.00	10.9	Upper Marker	113.00
8	11,673	0.00	0.0		114.26

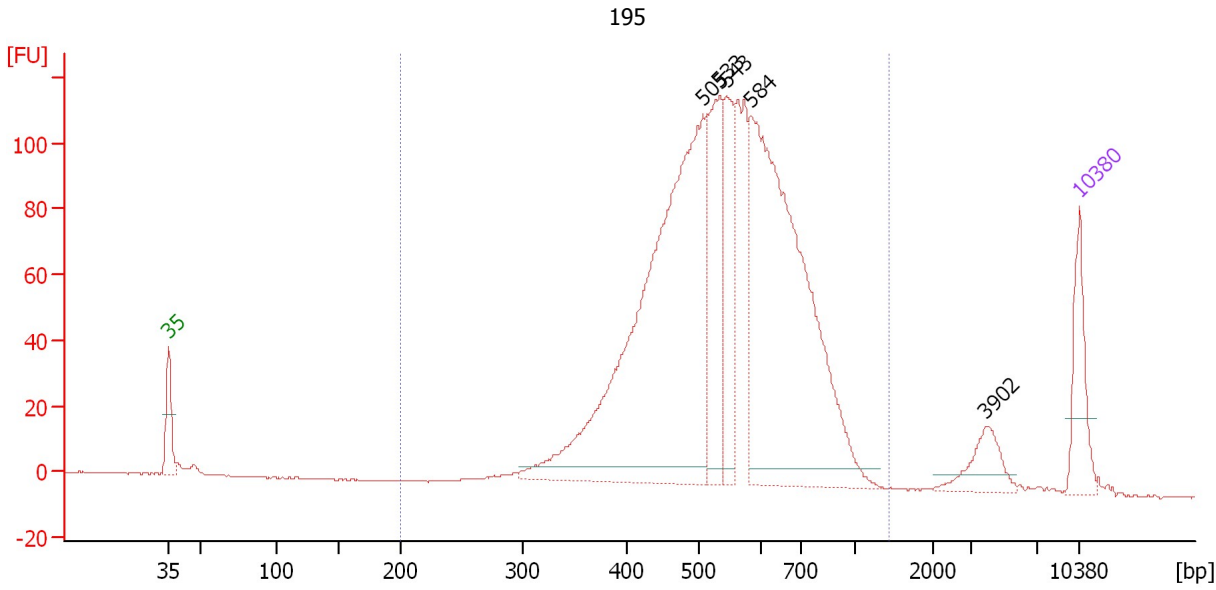
Region table for sample 7 : 193

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
234	1,614	544	1,642.2	7,606.2	2,539.75	96	24.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 8 : 195

Number of peaks found: 5 Corr. Area 1: 1,820.4
 Noise: 0.1

Peak table for sample 8 : 195

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	505	1,013.26	3,040.3		84.07
3	533	250.90	713.8		85.40
4	543	148.49	414.2		85.90
5	584	797.62	2,070.7		87.84
6	3,902	52.47	20.4		105.83
7	10,380	75.00	10.9	Upper Marker	113.00

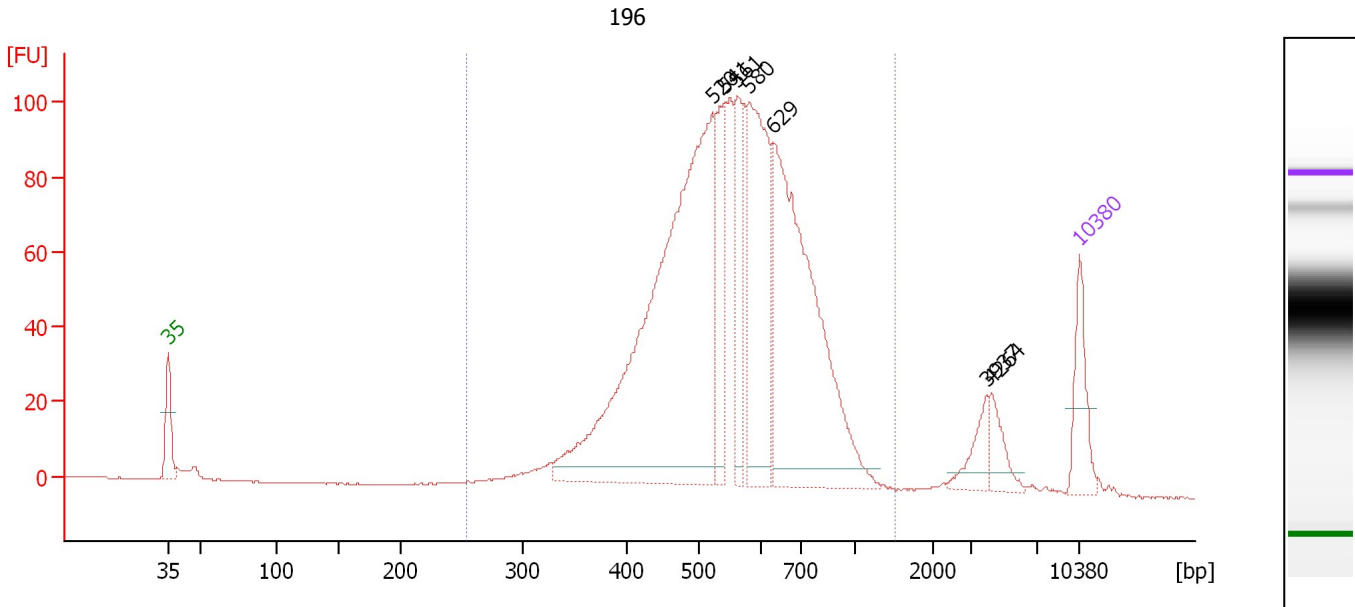
Region table for sample 8 : 195

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,442	554	1,820.4	7,270.9	2,480.73	96	23.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 9 : 196

Number of peaks found: 7 Corr. Area 1: 1,564.9
 Noise: 0.2

Peak table for sample 9 : 196

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	520	1,186.17	3,453.2		84.82
3	541	165.12	462.6		85.79
4	561	152.79	412.5		86.76
5	580	383.20	1,000.2		87.69
6	629	673.12	1,622.4		89.48
7	3,937	45.77	17.6		105.88
8	4,264	43.75	15.5		106.29
9	10,380	75.00	10.9	Upper Marker	113.00

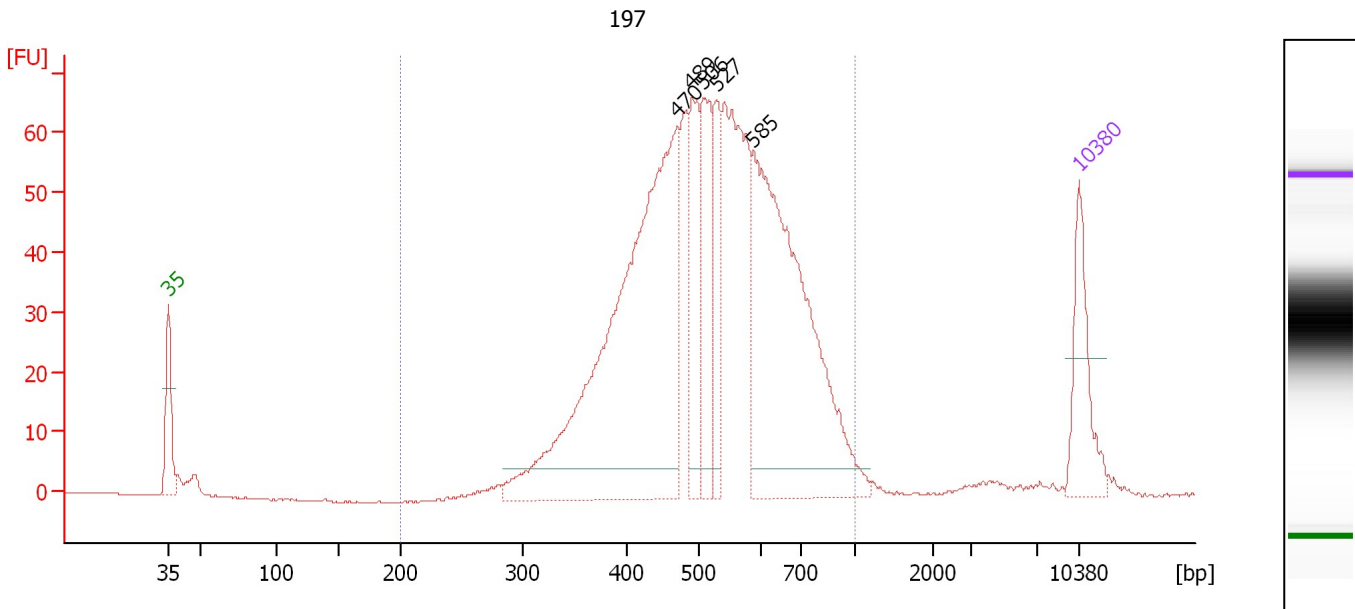
Region table for sample 9 : 196

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
254	1,526	567	1,564.9	8,359.7	2,908.47	95	24.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 10 : 197

Number of peaks found: 5 Corr. Area 1: 1,111.5
 Noise: 0.1

Peak table for sample 10 : 197

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	470	763.38	2,462.3		82.13
3	489	131.11	406.3		83.21
4	506	136.40	408.2		84.14
5	527	89.96	258.8		85.11
6	585	521.45	1,351.3		87.89
7	10,380	75.00	10.9	Upper Marker	113.00

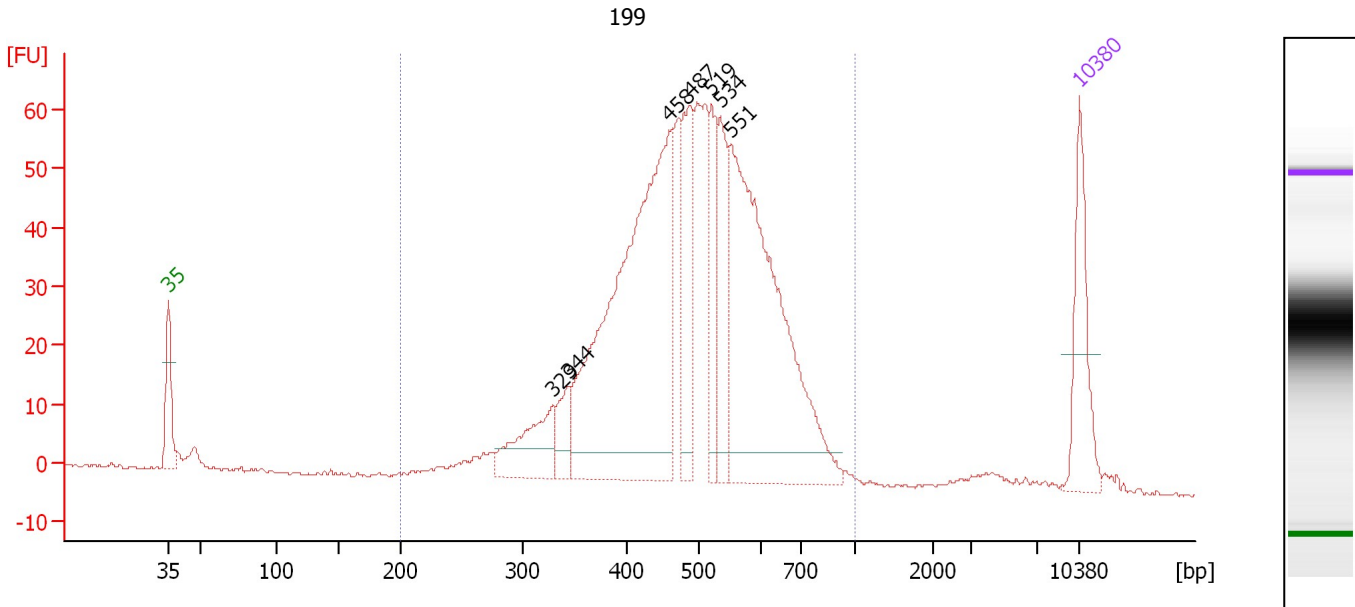
Region table for sample 10 : 197

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	530	1,111.5	6,077.0	1,979.57	97	23.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

Electropherogram Summary Continued ...



Overall Results for sample 11 : 199

Number of peaks found: 7 Corr. Area 1: 1,025.4
 Noise: 0.2

Peak table for sample 11 : 199

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	329	89.11	409.9		72.58
3	344	38.82	171.2		73.72
4	458	579.96	1,919.8		81.46
5	487	129.73	403.5		83.11
6	519	80.89	236.0		84.76
7	534	92.83	263.2		85.49
8	551	455.15	1,252.4		86.26
9	10,380	75.00	10.9	Upper Marker	113.00

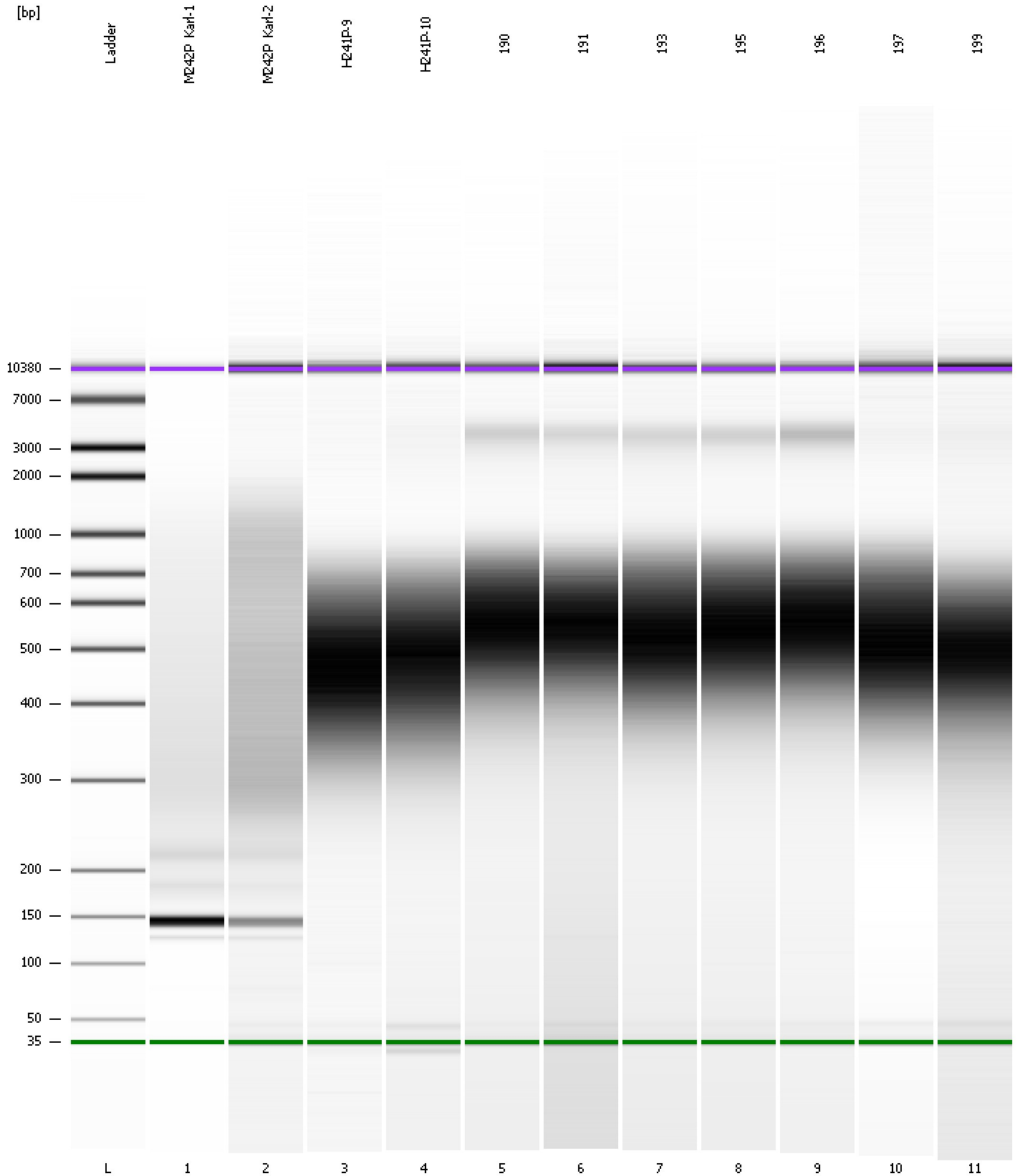
Region table for sample 11 : 199

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	494	1,025.4	5,715.0	1,735.18	97	22.2

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
Modified: 11/23/2015 1:57:43 PM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad

Created: 11/23/2015 1:16:25 PM
 Modified: 11/23/2015 1:57:43 PM

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		11/23/2015 1:57:42 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2015-11-23\2015-11-23_004.xad)		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		11/23/2015 1:16:31 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1