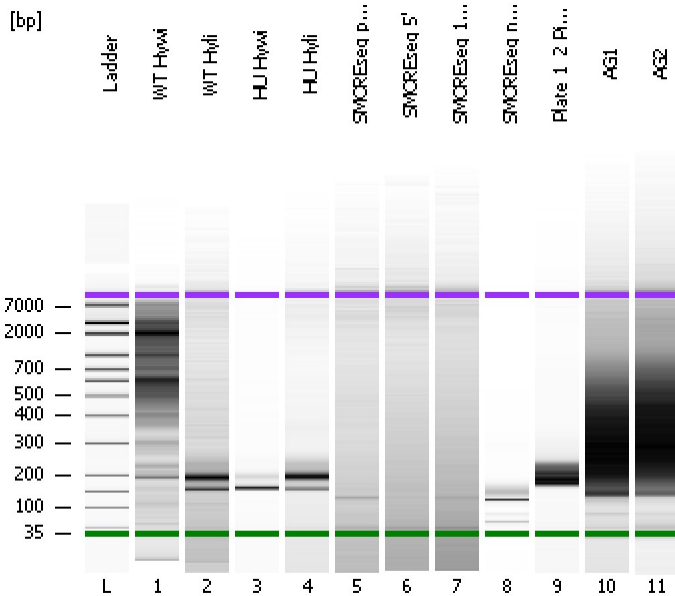


Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electrophoresis File Run Summary



Instrument Information:

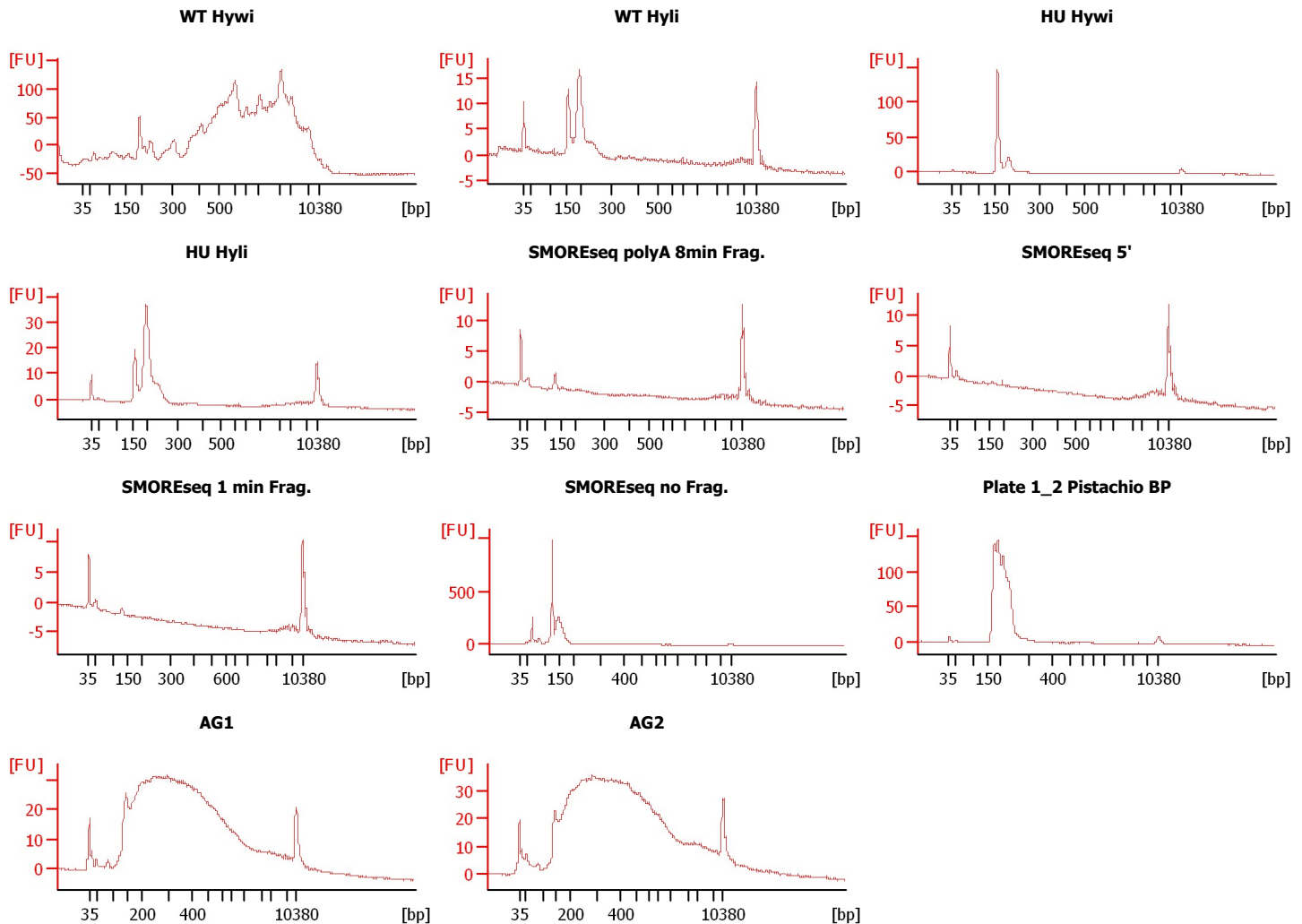
Instrument Name: DE13701086 Firmware: C.01.069
 Serial#: DE13701086 Type: G2938B

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:



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
WT Hywi		<input type="checkbox"/>	✓			
WT Hyli		<input type="checkbox"/>	✓			
HU Hywi		<input type="checkbox"/>	✓			
HU Hyli		<input type="checkbox"/>	✓			
SMOREseq polyA 8min Frag.		<input type="checkbox"/>	✓			
SMOREseq 5'		<input type="checkbox"/>	✓			
SMOREseq 1 min Frag.		<input type="checkbox"/>	✓			
SMOREseq no Frag.		<input type="checkbox"/>	✓			
Plate 1_2 Pistachio BP		<input type="checkbox"/>	✓			
AG1		<input type="checkbox"/>	✓			
AG2		<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\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
Modified: 2/14/2017 1:57:56 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/ μ l] : 1950
Uses Standard Area for Ladder Fragments
Lower Marker Concentration [pg/ μ l] : 125
Upper Marker Concentration [pg/ μ l] : 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

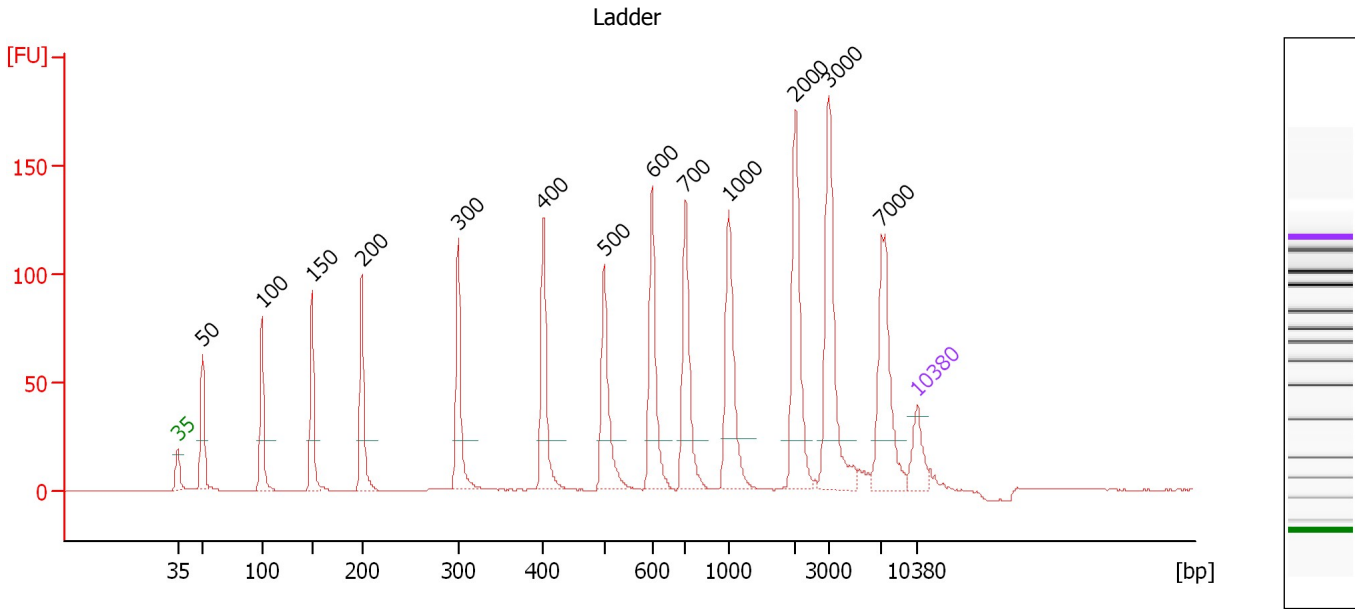
Ladder

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\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

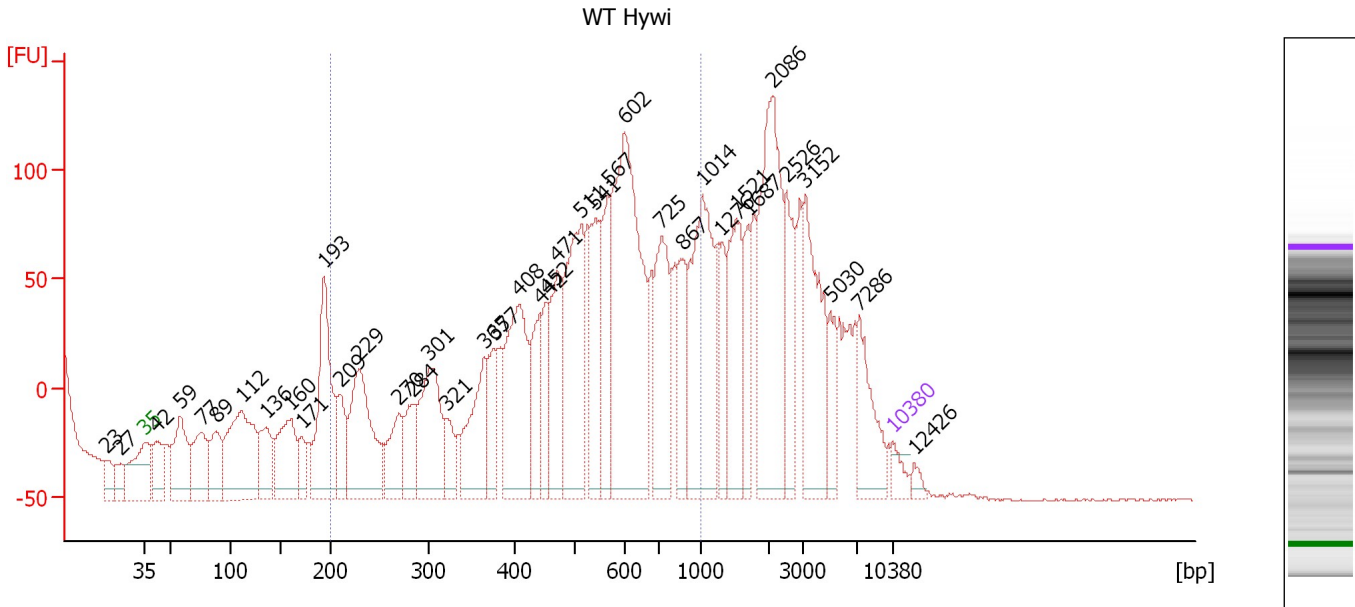
Peak table for Ladder

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	45.37
3	100	150.00	2,272.7	Ladder Peak	50.97
4	150	150.00	1,515.2	Ladder Peak	55.71
5	200	150.00	1,136.4	Ladder Peak	60.45
6	300	150.00	757.6	Ladder Peak	69.58
7	400	150.00	568.2	Ladder Peak	77.60
8	500	150.00	454.5	Ladder Peak	83.35
9	600	150.00	378.8	Ladder Peak	87.88
10	700	150.00	324.7	Ladder Peak	91.06
11	1,000	150.00	227.3	Ladder Peak	95.15
12	2,000	150.00	113.6	Ladder Peak	101.45
13	3,000	150.00	75.8	Ladder Peak	104.63
14	7,000	150.00	32.5	Ladder Peak	109.62
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 1 : WT Hywi

Number of peaks found: 39 Corr. Area 1: 2,607.6
 Noise: 0.5

Peak table for sample 1 : WT Hywi

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	23	0.00	0.0		39.51
2	27	0.00	0.0		40.75
3	35	125.00	5,411.3	Lower Marker	43.00
4	42	362.29	13,086.2		44.10
5	59	685.99	17,710.7		46.34
6	77	525.52	10,346.6		48.39
7	89	425.78	7,286.0		49.69
8	112	1,223.13	16,508.7		52.13
9	136	410.07	4,570.6		54.38
10	160	657.93	6,224.8		56.67
11	171	192.69	1,705.3		57.72
12	193	1,123.37	8,805.5		59.81
13	209	336.96	2,437.7		61.31
14	229	989.72	6,545.2		63.11
15	270	368.73	2,072.6		66.80
16	284	330.40	1,764.2		68.10
17	301	798.55	4,022.2		69.64
18	321	217.30	1,026.6		71.24
19	365	581.85	2,416.0		74.78
20	377	288.68	1,161.1		75.73
21	408	966.97	3,588.1		78.07
22	442	387.90	1,329.2		80.02
23	452	265.00	888.9		80.57
24	471	598.74	1,926.9		81.67
25	511	1,036.87	3,072.1		83.86

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...

... Peak table for sample 1 : WT Hywi

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
26	541	580.95	1,626.9		85.21
27	567	428.81	1,145.0		86.41
28	602	1,893.82	4,765.1		87.95
29	725	663.22	1,386.9		91.40
30	867	378.78	661.6		93.34
31	1,014	1,044.00	1,559.3		95.24
32	1,276	229.16	272.2		96.88
33	1,521	551.95	549.8		98.43
34	1,687	227.13	204.0		99.48
35	2,086	1,101.21	799.9		101.72
36	2,526	365.27	219.1		103.12
37	3,152	666.97	320.6		104.82
38	5,030	190.79	57.5		107.16
39	7,286	356.65	74.2		109.91
40	10,380	75.00	10.9	Upper Marker	113.00
41	12,426	0.00	0.0		115.05

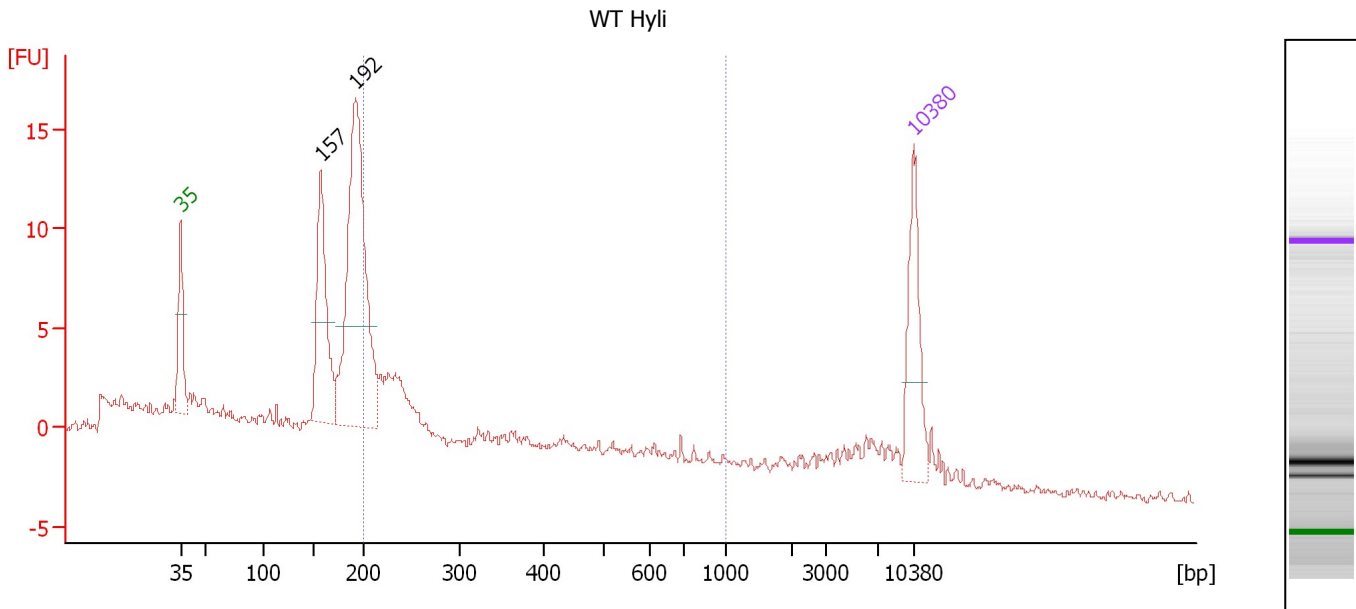
Region table for sample 1 : WT Hywi

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	560	2,607.6	29,526.9	9,059.80	58	32.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 2 : WT HylI

Number of peaks found: 2 Corr. Area 1: 42.2
 Noise: 0.3

Peak table for sample 2 : WT HylI

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	157	181.15	1,746.3		56.39
3	192	400.90	3,162.4		59.70
4	10,380	75.00	10.9	Upper Marker	113.00

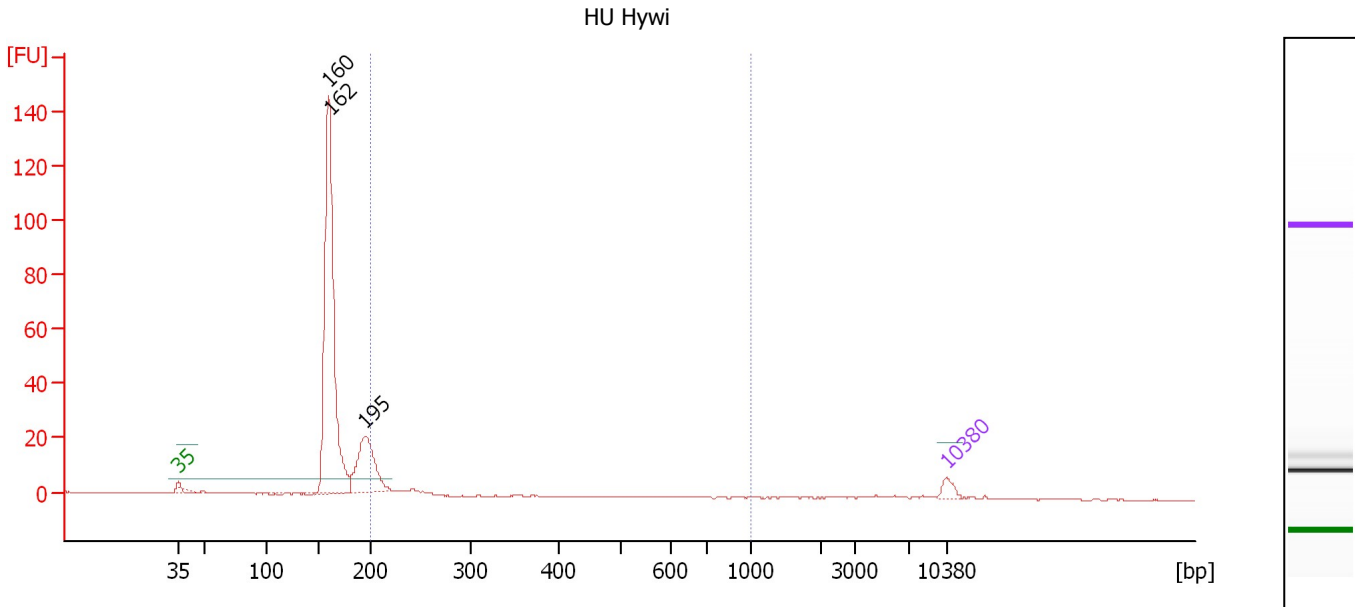
Region table for sample 2 : WT HylI

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	287	42.2	1,751.3	284.45	26	45.1

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 3 : HU Hywi

Number of peaks found: 3 Corr. Area 1: 30.4
 Noise: 0.1

Peak table for sample 3 : HU Hywi

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	160	0.00	0.0		56.65
2	35	125.00	5,411.3	Lower Marker	43.00
3	162	4,275.87	40,103.9		56.80
4	195	1,026.01	7,957.8		60.01
5	10,380	75.00	10.9	Upper Marker	113.00

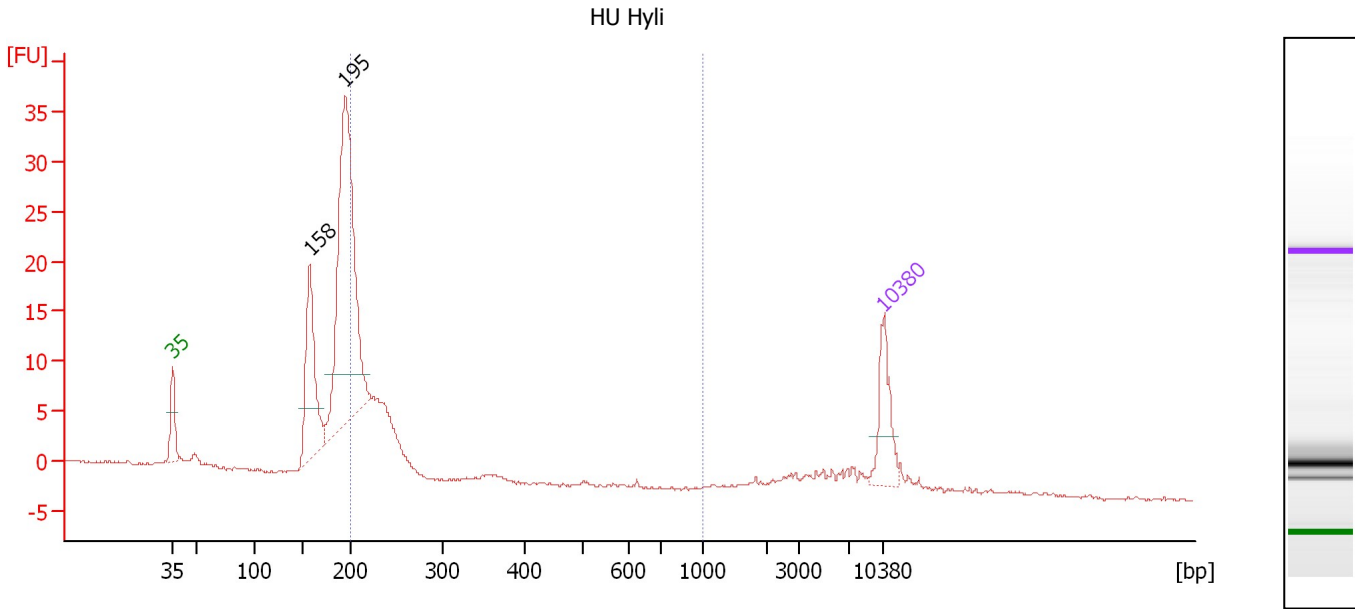
Region table for sample 3 : HU Hywi

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	215	30.4	3,488.0	493.79	9	11.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 4 : HU HylI

Number of peaks found: 2 Corr. Area 1: 80.3
 Noise: 0.2

Peak table for sample 4 : HU HylI

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	158	265.18	2,539.9		56.49
3	195	703.80	5,460.9		60.00
4	10,380	75.00	10.9	Upper Marker	113.00

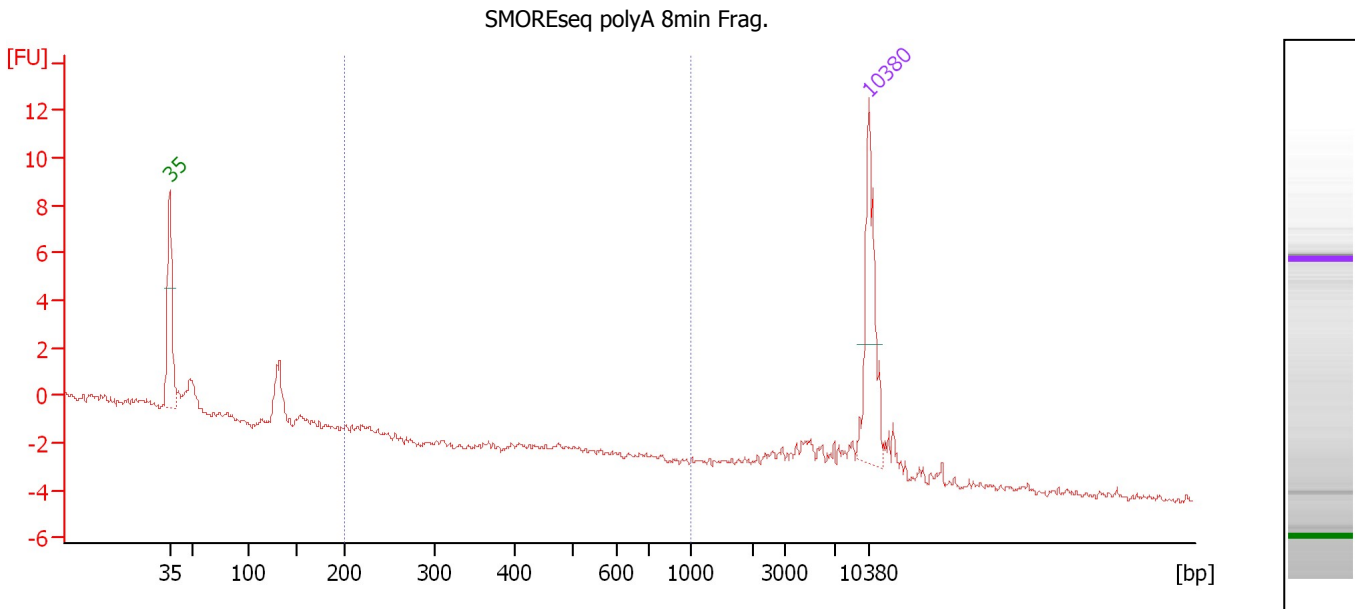
Region table for sample 4 : HU HylI

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	219	80.3	3,842.5	555.20	36	8.6

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 5 : SMOREseq polyA 8min Frag.

Number of peaks found: 0 Corr. Area 1: 0.0
 Noise: 0.2

Peak table for sample 5 : SMOREseq polyA 8min Frag.

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	10,380	75.00	10.9	Upper Marker	113.00

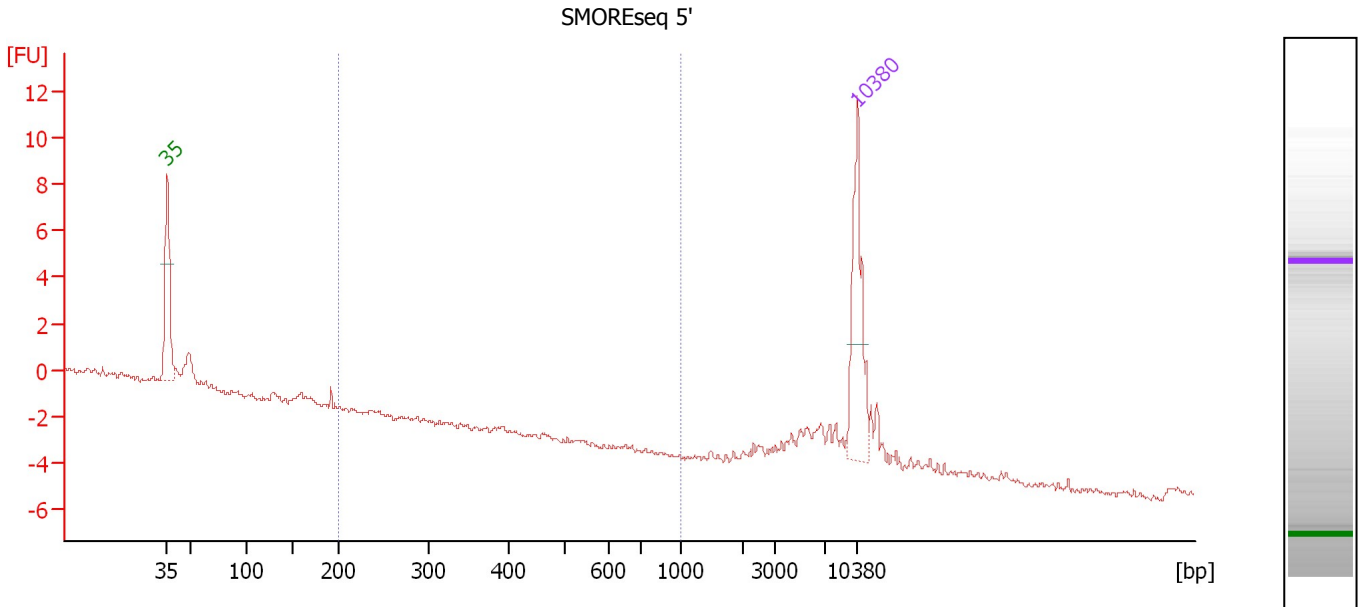
Region table for sample 5 : SMOREseq polyA 8min Frag.

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	0	0.0	0.0	0.00	0	0.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 6 : SMOREseq 5'

Number of peaks found: 0 Corr. Area 1: 0.0
 Noise: 0.1

Peak table for sample 6 : SMOREseq 5'

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	10,380	75.00	10.9	Upper Marker	113.00

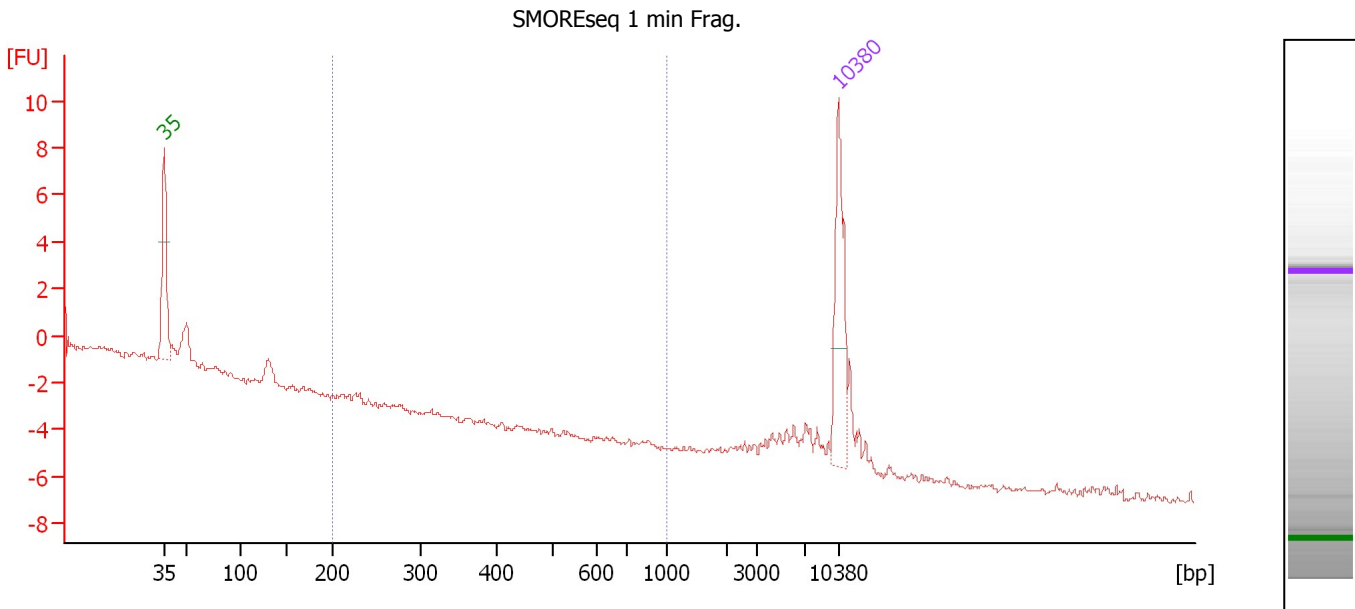
Region table for sample 6 : SMOREseq 5'

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	0	0.0	0.0	0.00	0	0.0

Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 7 : SMOREseq 1 min Frag.

Number of peaks found: 0 Corr. Area 1: 0.0
Noise: 0.1

Peak table for sample 7 : SMOREseq 1 min Frag.

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	10,380	75.00	10.9	Upper Marker	113.00

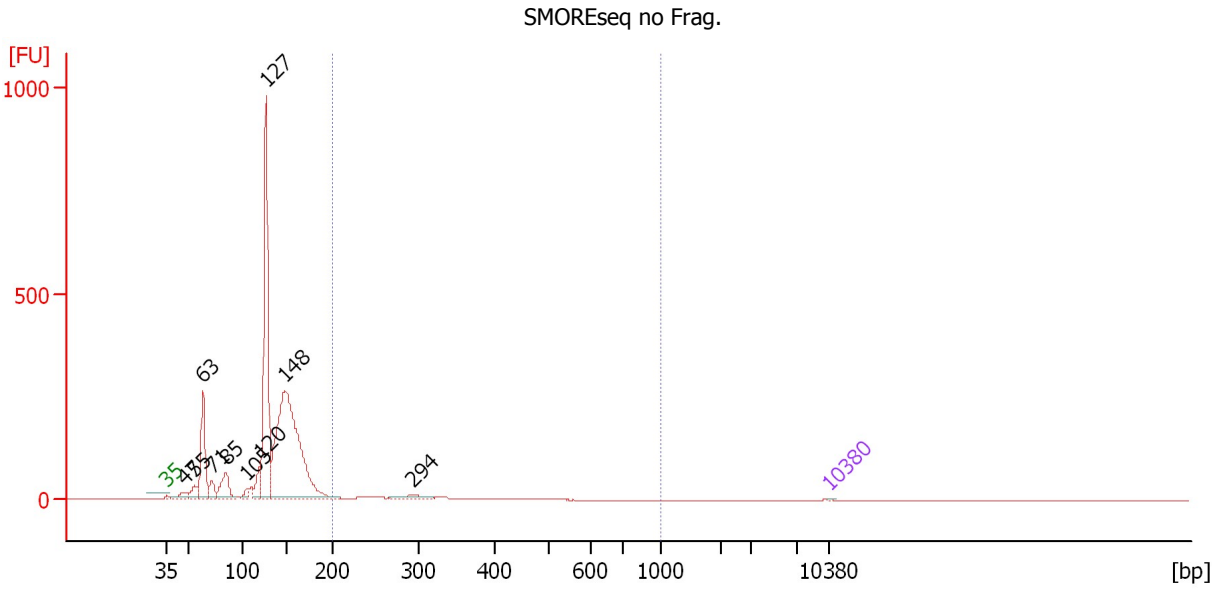
Region table for sample 7 : SMOREseq 1 min Frag.

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	0	0.0	0.0	0.00	0	0.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 8 : SMOREseq no Frag.

Number of peaks found: 10 Corr. Area 1: 170.0
 Noise: 0.1

Peak table for sample 8 : SMOREseq no Frag.

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	47	2,883.37	92,854.9		44.90
3	55	3,319.31	90,881.8		45.97
4	63	18,604.95	445,038.2		46.86
5	71	3,741.76	79,464.5		47.76
6	85	8,114.74	144,905.1		49.27
7	105	1,342.38	19,453.3		51.40
8	120	5,331.93	67,372.9		52.86
9	127	54,560.98	650,942.8		53.53
10	148	77,218.11	792,288.1		55.49
11	294	1,420.31	7,317.0		69.04
12	10,380	75.00	10.9	Upper Marker	113.00

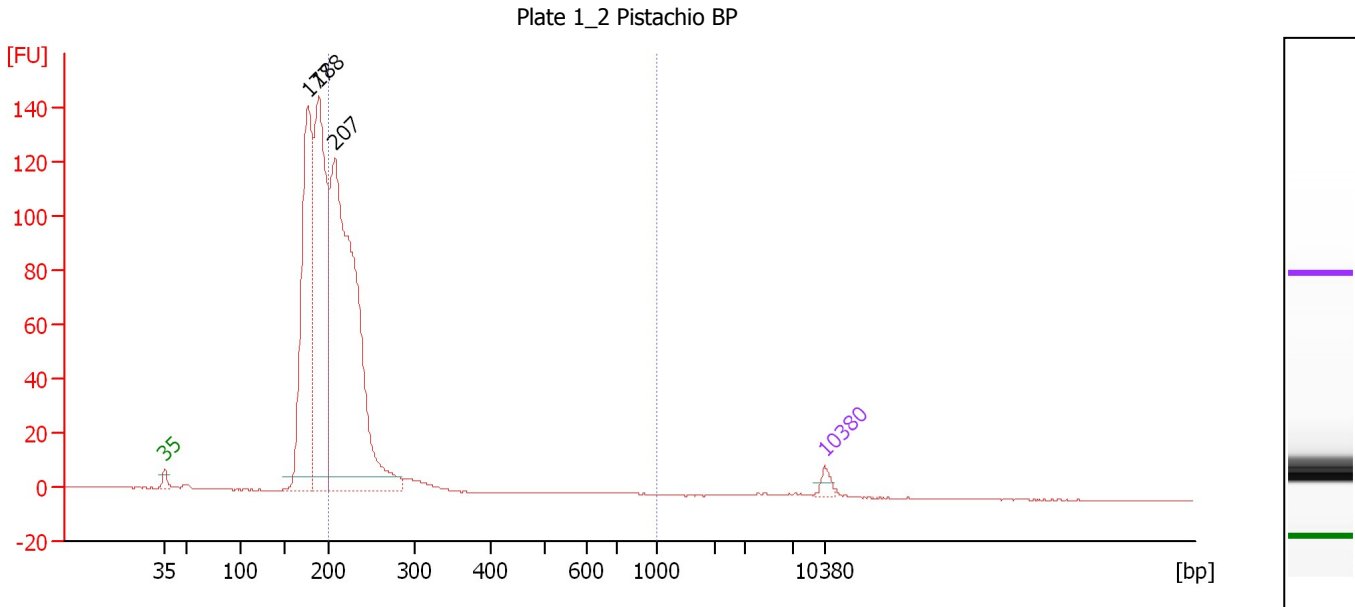
Region table for sample 8 : SMOREseq no Frag.

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	170.0	44,178.4	8,676.32	6	36.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 9 : **Plate 1 2 Pistachio BP**

Number of peaks found: 3 Corr. Area 1: 628.0
 Noise: 0.1

Peak table for sample 9 : **Plate 1 2 Pistachio BP**

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	177	3,777.43	32,425.4		58.22
3	188	4,131.29	33,216.6		59.35
4	207	6,988.18	51,250.3		61.05
5	10,380	75.00	10.9	Upper Marker	113.00

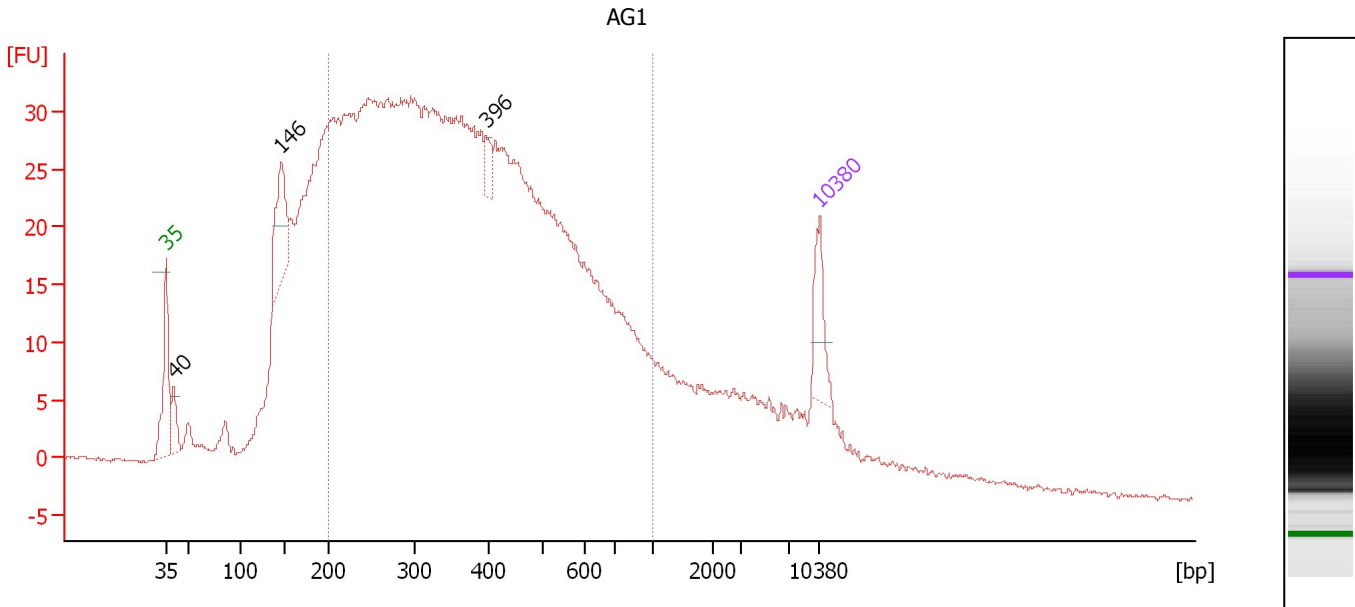
Region table for sample 9 : **Plate 1 2 Pistachio BP**

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	226	628.0	48,082.3	7,111.64	49	14.2

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 10 : AG1

Number of peaks found: 3 Corr. Area 1: 1,118.3
 Noise: 0.2

Peak table for sample 10 : AG1

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	40	75.24	2,846.0		43.80
3	146	211.40	2,193.4		55.33
4	396	32.60	124.8		77.26
5	10,380	75.00	10.9	Upper Marker	113.00

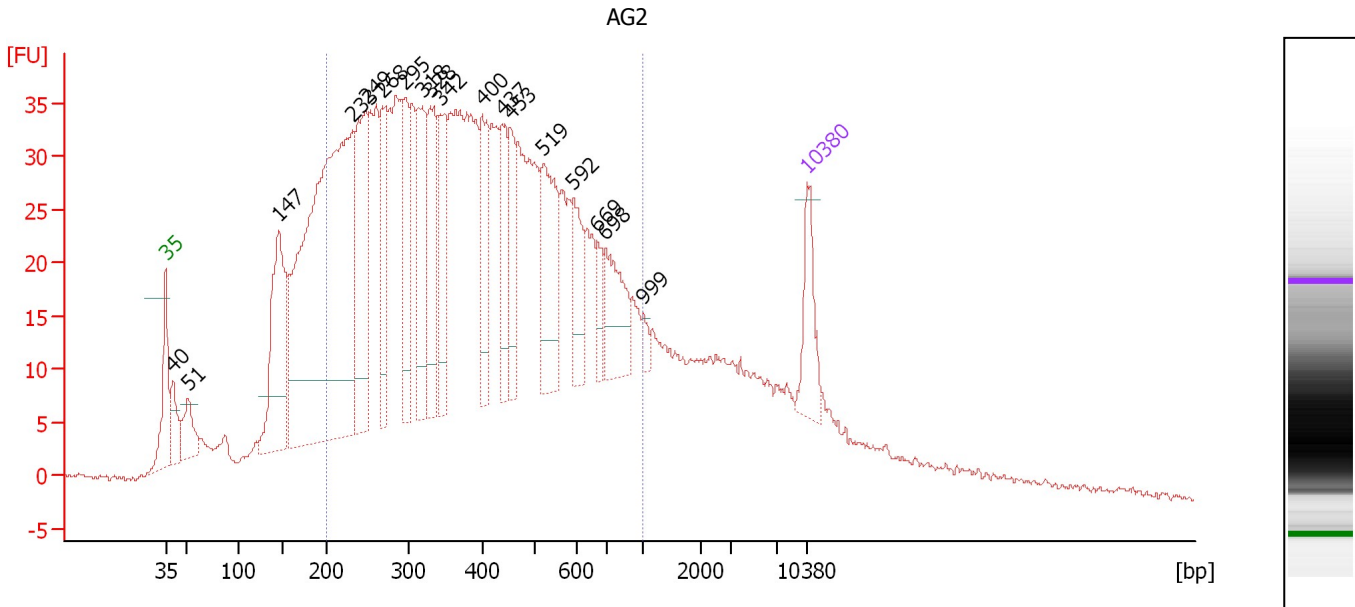
Region table for sample 10 : AG1

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	402	1,118.3	37,041.9	8,087.81	71	40.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 PM

Electropherogram Summary Continued ...



Overall Results for sample 11 : AG2

Number of peaks found: 18 Corr. Area 1: 1,306.6
 Noise: 0.3

Peak table for sample 11 : AG2

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	40	79.10	2,984.6		43.81
3	51	88.32	2,641.7		45.44
4	147	358.62	3,704.5		55.39
5	233	1,259.32	8,203.8		63.42
6	249	284.63	1,735.3		64.88
7	268	168.34	953.0		66.62
8	295	147.67	758.3		69.13
9	318	197.89	944.1		70.99
10	328	180.67	833.4		71.86
11	342	152.34	674.4		72.97
12	400	143.19	542.9		77.56
13	437	111.62	387.1		79.72
14	453	107.45	359.3		80.65
15	519	185.59	542.1		84.20
16	592	94.10	240.9		87.51
17	669	42.84	97.0		90.07
18	698	120.02	260.5		91.00
19	999	14.74	22.4		95.14
20	10,380	75.00	10.9	Upper Marker	113.00

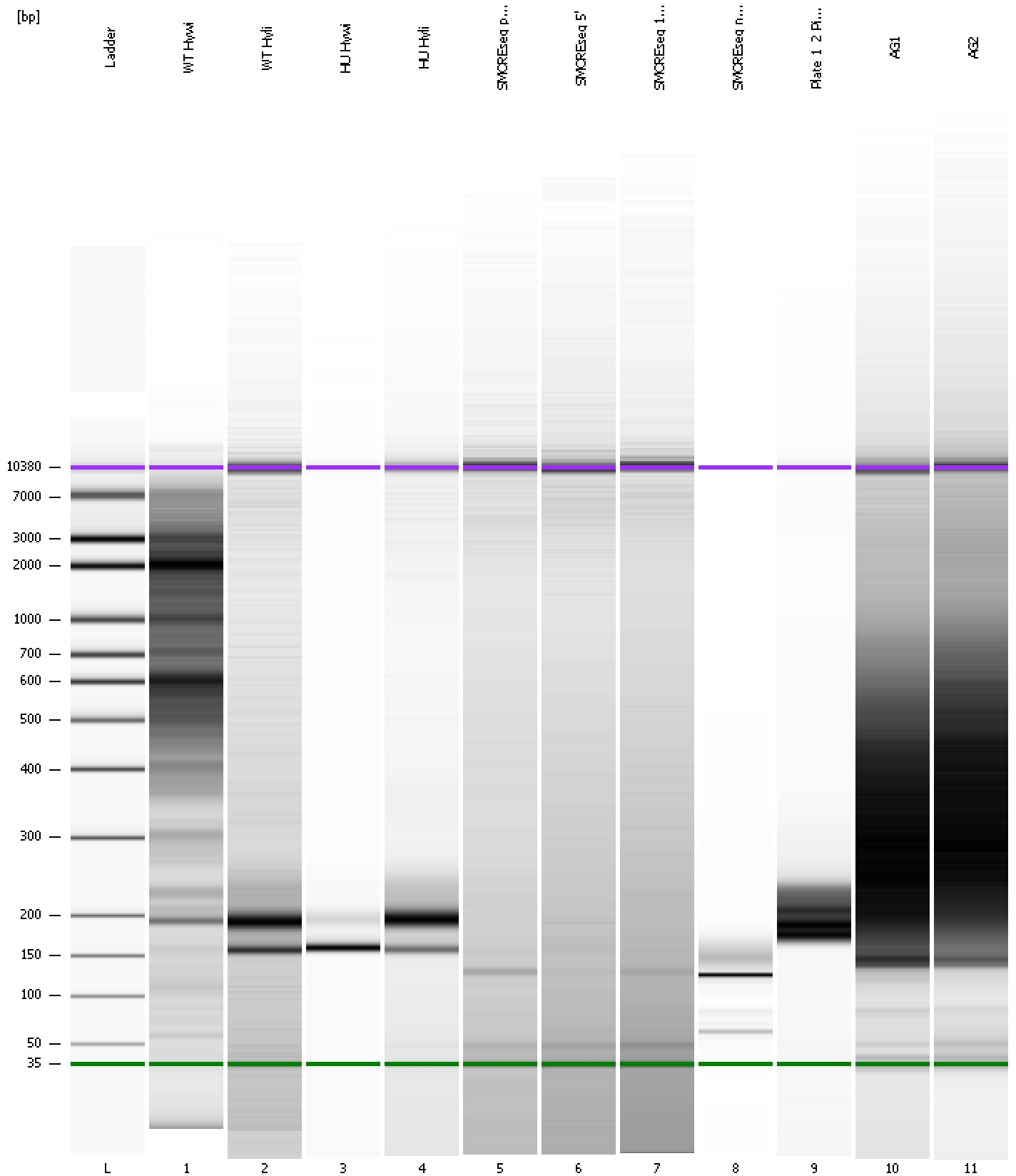
Region table for sample 11 : AG2

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	419	1,306.6	26,229.5	5,908.52	71	41.1

Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
Modified: 2/14/2017 1:57:56 PM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad

Created: 2/14/2017 1:15:00 PM
 Modified: 2/14/2017 1:57:56 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		2/14/2017 1:56:19 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\data\2017-02-14\2017-02-14_005.xad)		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		2/14/2017 1:15:05 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1