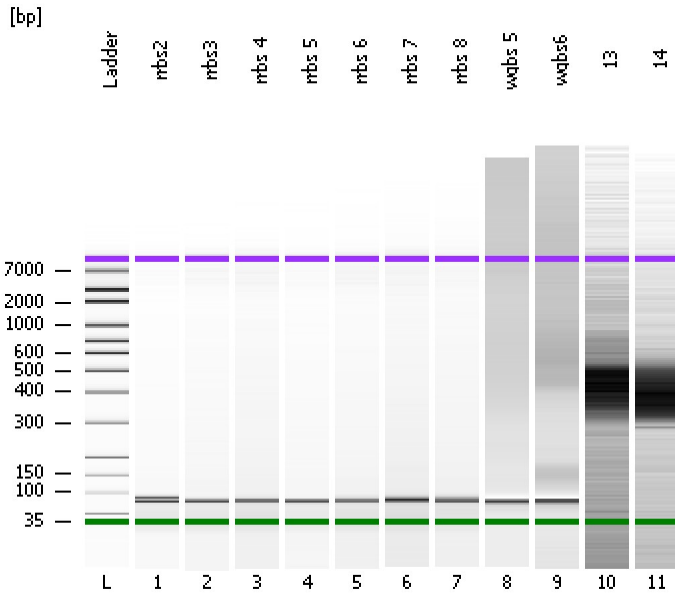


Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
Modified: 2/4/2016 3:28:11 PM

Electrophoresis File Run Summary



Instrument Information:

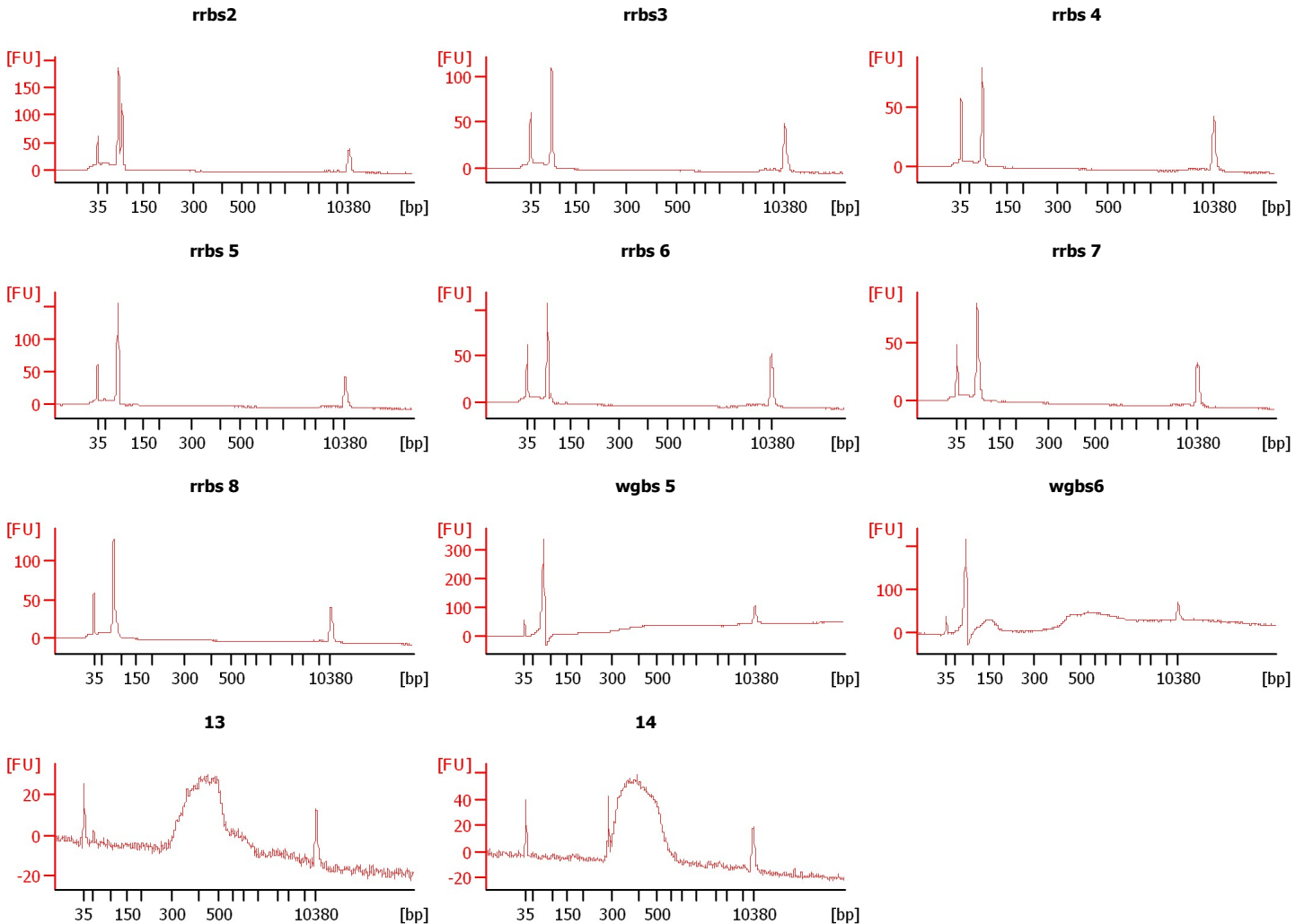
Instrument Name: DE13701086 Firmware: C.01.069
Serial#: DE13701086 Type: G2938B

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:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
rrbs2		<input type="checkbox"/>	✓			
rrbs3		<input type="checkbox"/>	✓			
rrbs 4		<input type="checkbox"/>	✓			
rrbs 5		<input type="checkbox"/>	✓			
rrbs 6		<input type="checkbox"/>	✓			
rrbs 7		<input type="checkbox"/>	✓			
rrbs 8		<input type="checkbox"/>	✓			
wgbs 5		<input type="checkbox"/>	✓			
wgbs6		<input type="checkbox"/>	✓			
13		<input type="checkbox"/>	✓			
14		<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\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
Modified: 2/4/2016 3:28:11 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

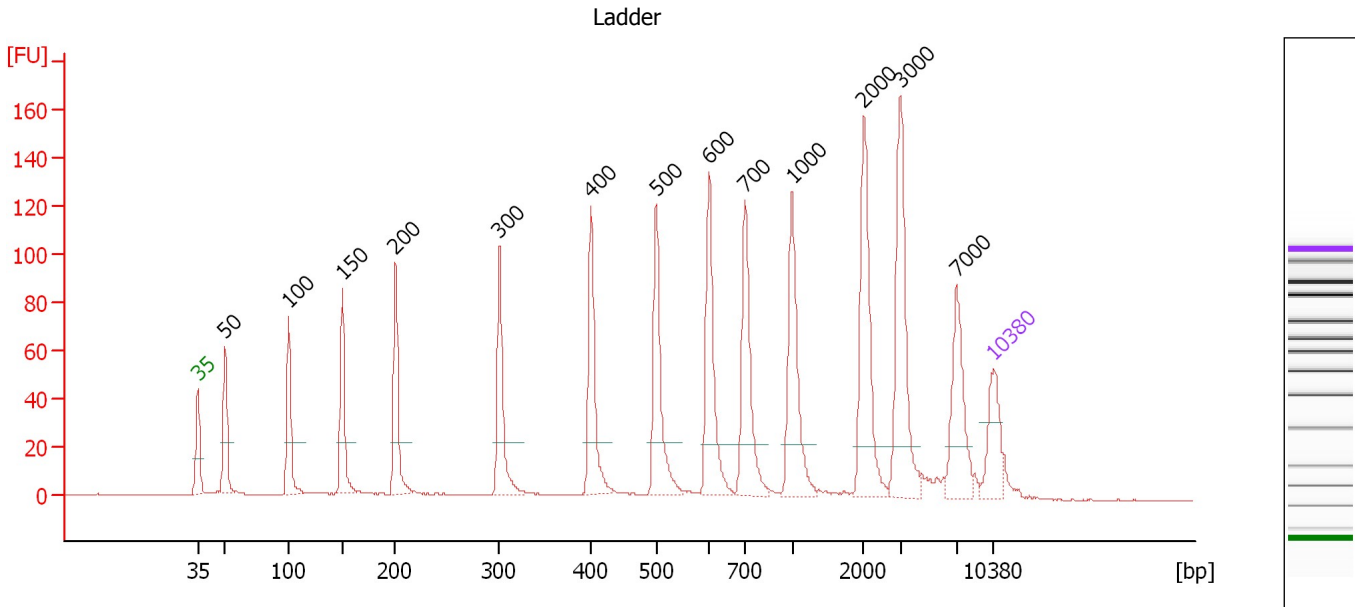
Ladder

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\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

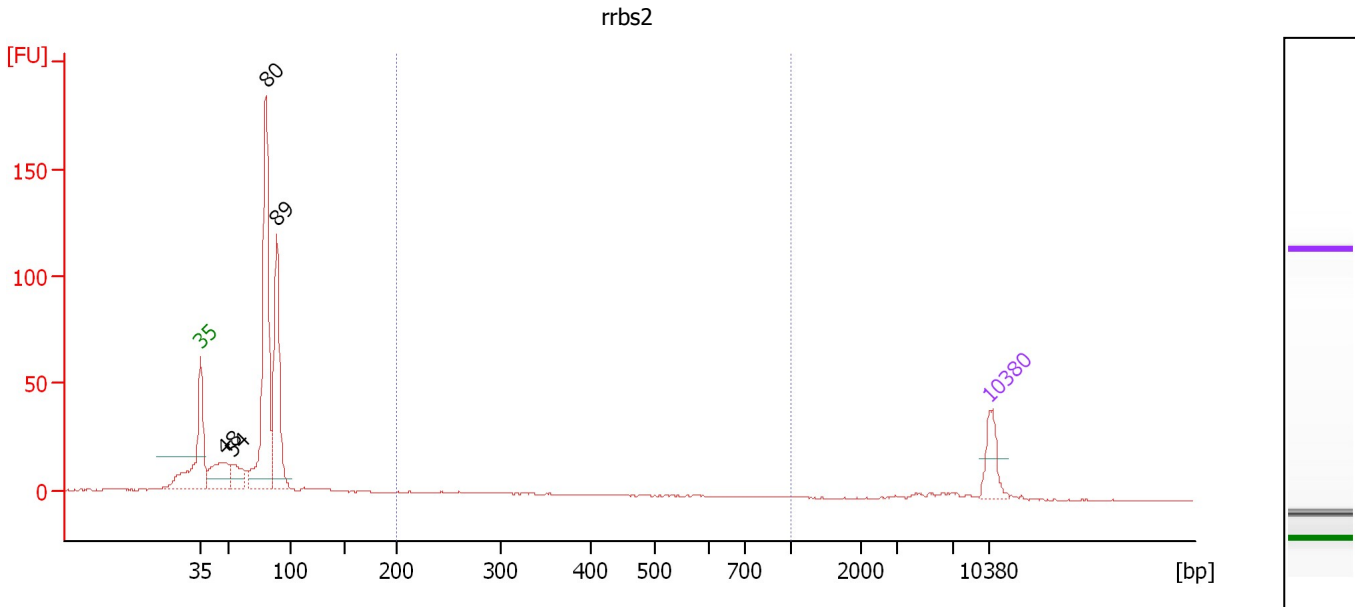
Peak table for Ladder

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	45.40
3	100	150.00	2,272.7	Ladder Peak	50.99
4	150	150.00	1,515.2	Ladder Peak	55.68
5	200	150.00	1,136.4	Ladder Peak	60.38
6	300	150.00	757.6	Ladder Peak	69.54
7	400	150.00	568.2	Ladder Peak	77.62
8	500	150.00	454.5	Ladder Peak	83.36
9	600	150.00	378.8	Ladder Peak	88.01
10	700	150.00	324.7	Ladder Peak	91.20
11	1,000	150.00	227.3	Ladder Peak	95.34
12	2,000	150.00	113.6	Ladder Peak	101.63
13	3,000	150.00	75.8	Ladder Peak	104.87
14	7,000	150.00	32.5	Ladder Peak	109.81
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 1 : rrbs2

Number of peaks found: 4 Corr. Area 1: 9.0
 Noise: 0.2

Peak table for sample 1 : rrbs2

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	48	194.69	6,103.0		45.13
3	54	107.37	2,991.0		45.89
4	80	889.30	16,798.0		48.77
5	89	520.53	8,893.7		49.72
6	10,380	75.00	10.9	Upper Marker	113.00

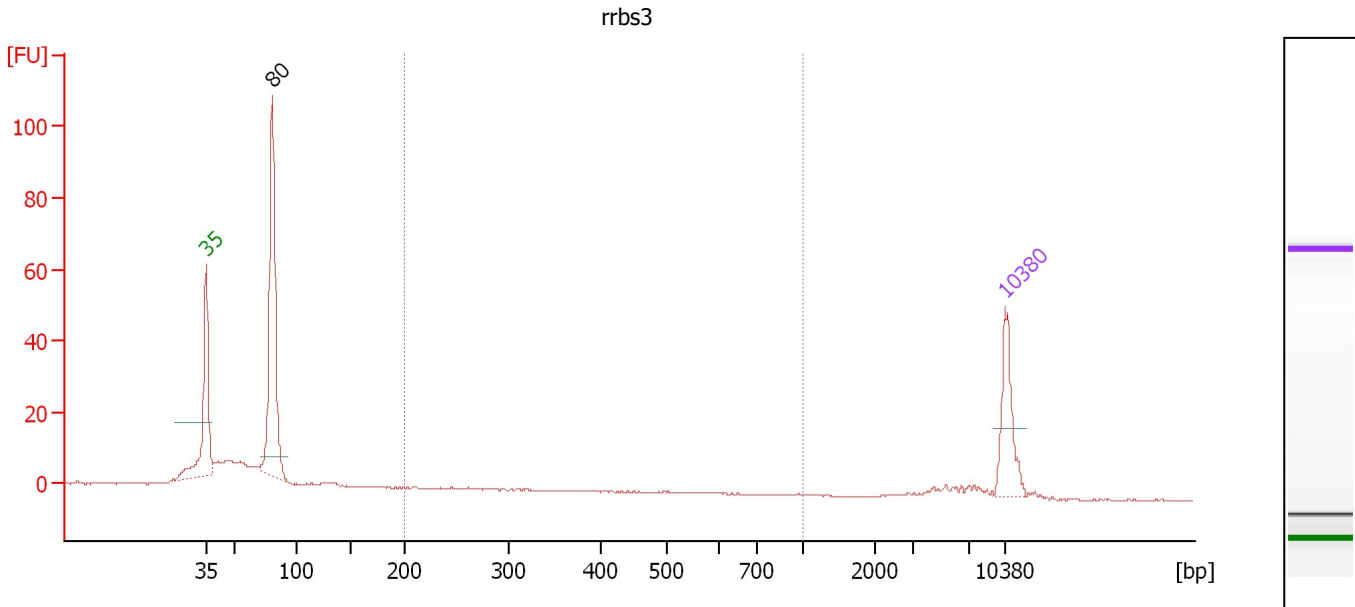
Region table for sample 1 : rrbs2

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	286	9.0	146.6	26.11	2	26.3

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 2 : rrbs3

Number of peaks found: 1 Corr. Area 1: 3.6
 Noise: 0.1

Peak table for sample 2 : rrbs3

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	80	423.87	7,988.6		48.79
3	10,380	75.00	10.9	Upper Marker	113.00

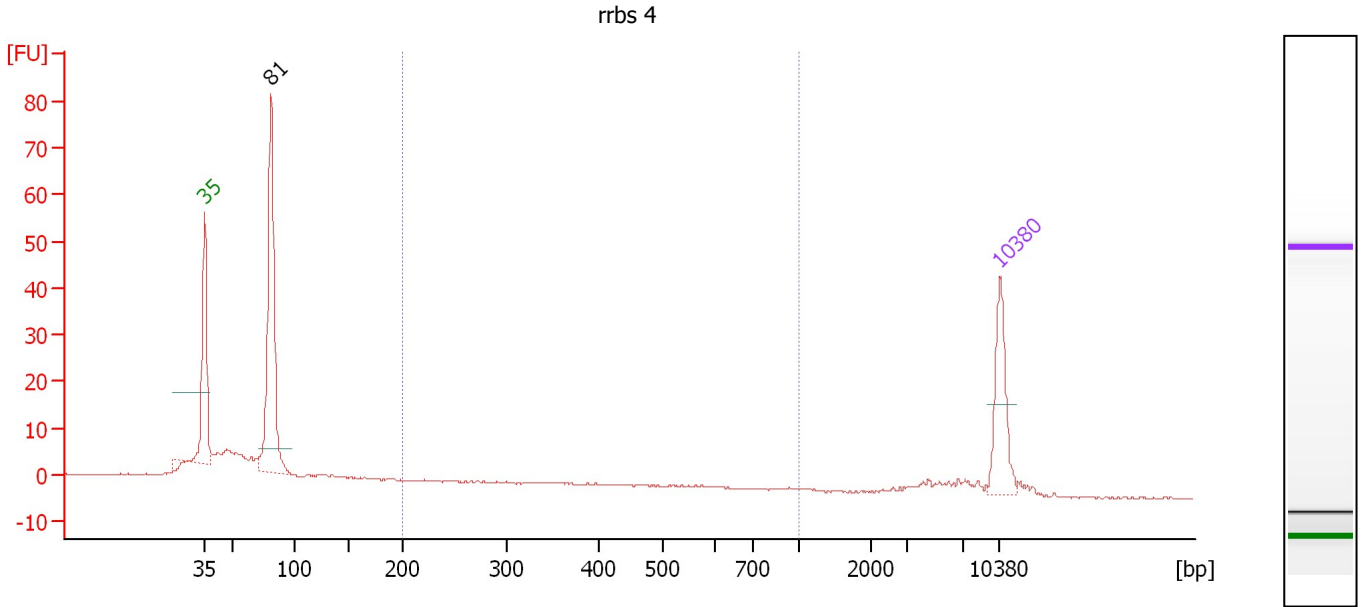
Region table for sample 2 : rrbs3

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	323	3.6	48.5	8.85	1	41.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 3 : rrbs 4

Number of peaks found: 1 Corr. Area 1: 13.8
 Noise: 0.2

Peak table for sample 3 : rrbs 4

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	81	389.85	7,325.2		48.82
3	10,380	75.00	10.9	Upper Marker	113.00

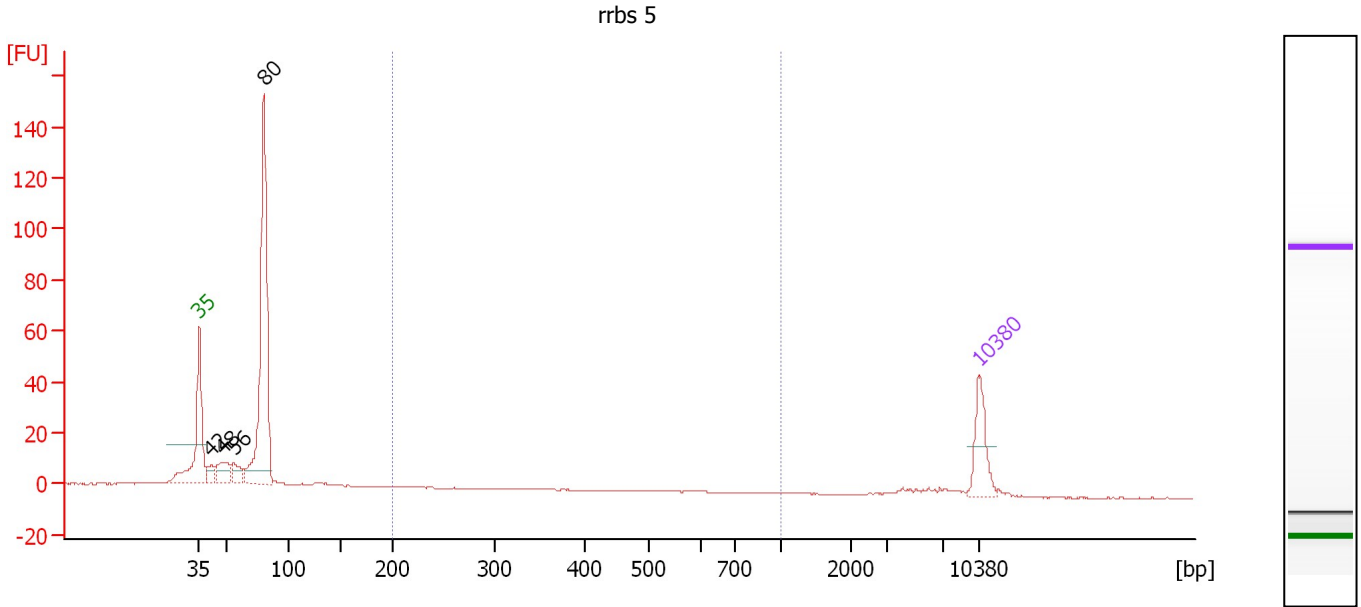
Region table for sample 3 : rrbs 4

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	425	13.8	154.1	34.61	6	42.5

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

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 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 4 : rrbs 5

Number of peaks found: 4 Corr. Area 1: 6.2
 Noise: 0.1

Peak table for sample 4 : rrbs 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	42	40.35	1,469.7		44.05
3	48	68.23	2,144.8		45.11
4	56	47.83	1,284.3		46.11
5	80	719.50	13,555.5		48.80
6	10,380	75.00	10.9	Upper Marker	113.00

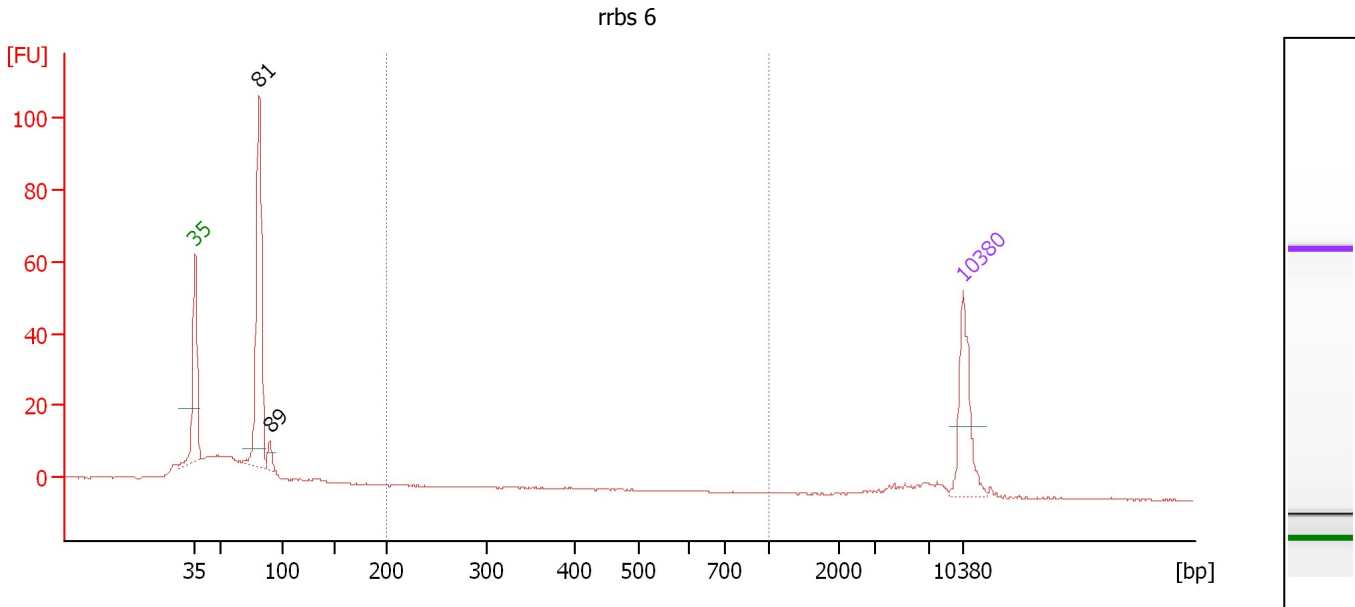
Region table for sample 4 : rrbs 5

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	341	6.2	81.3	15.68	2	38.3

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

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 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 5 : rrbs 6

Number of peaks found: 2 Corr. Area 1: 0.0
 Noise: 0.2

Peak table for sample 5 : rrbs 6

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	81	337.08	6,328.2		48.83
3	89	20.81	352.8		49.80
4	10,380	75.00	10.9	Upper Marker	113.00

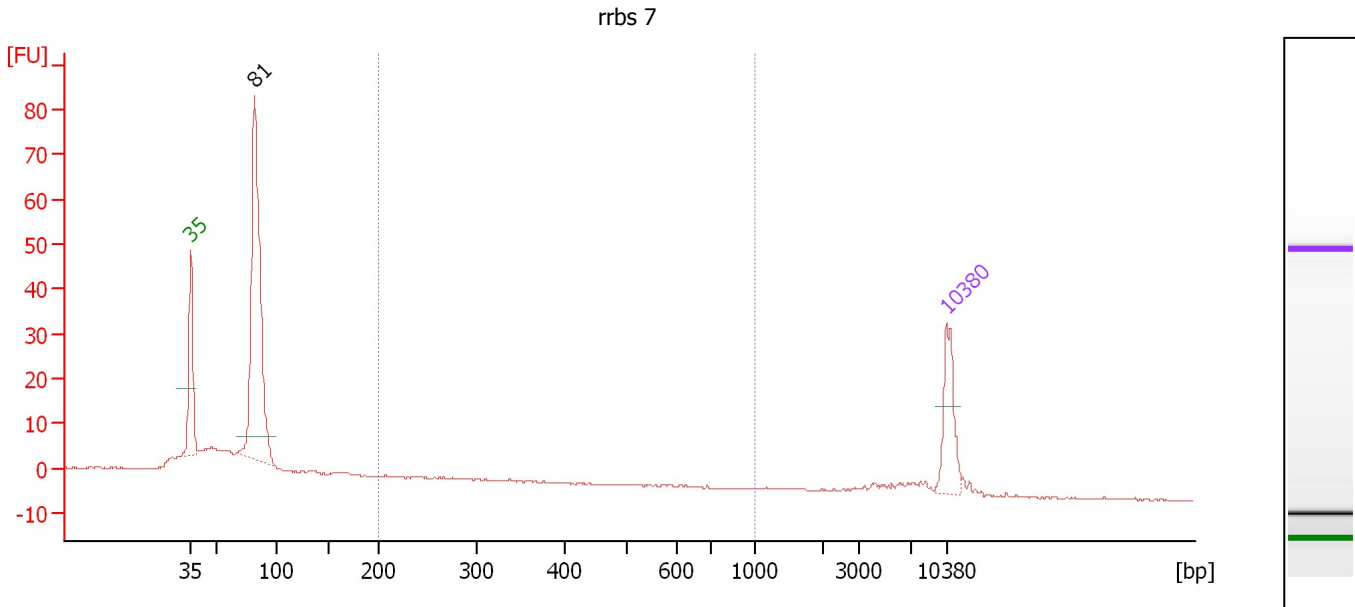
Region table for sample 5 : rrbs 6

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	556	0.0	0.1	0.05	0	16.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

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 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 6 : rrbs 7

Number of peaks found: 1 Corr. Area 1: 1.9
 Noise: 0.2

Peak table for sample 6 : rrbs 7

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	81	634.65	11,850.0		48.88
3	10,380	75.00	10.9	Upper Marker	113.00

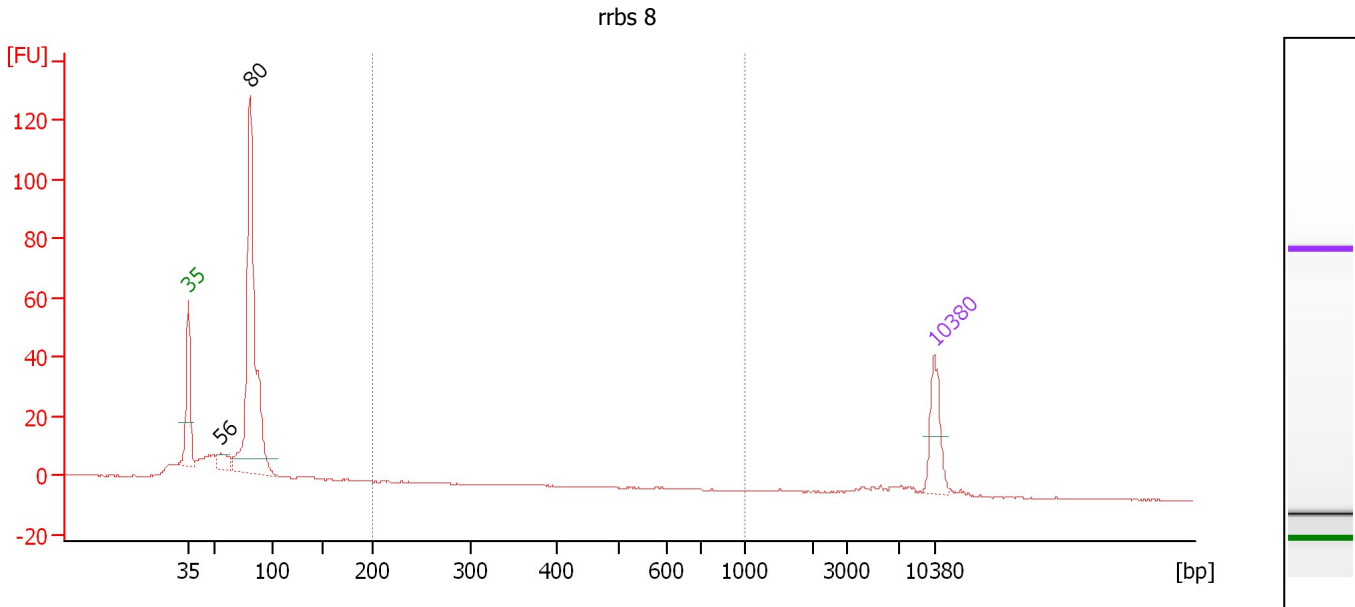
Region table for sample 6 : rrbs 7

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	271	1.9	37.0	6.28	1	29.2

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

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 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 7 : rrbs 8

Number of peaks found: 2 Corr. Area 1: 7.0
 Noise: 0.2

Peak table for sample 7 : rrbs 8

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	56	51.16	1,376.3		46.10
3	80	784.39	14,767.1		48.80
4	10,380	75.00	10.9	Upper Marker	113.00

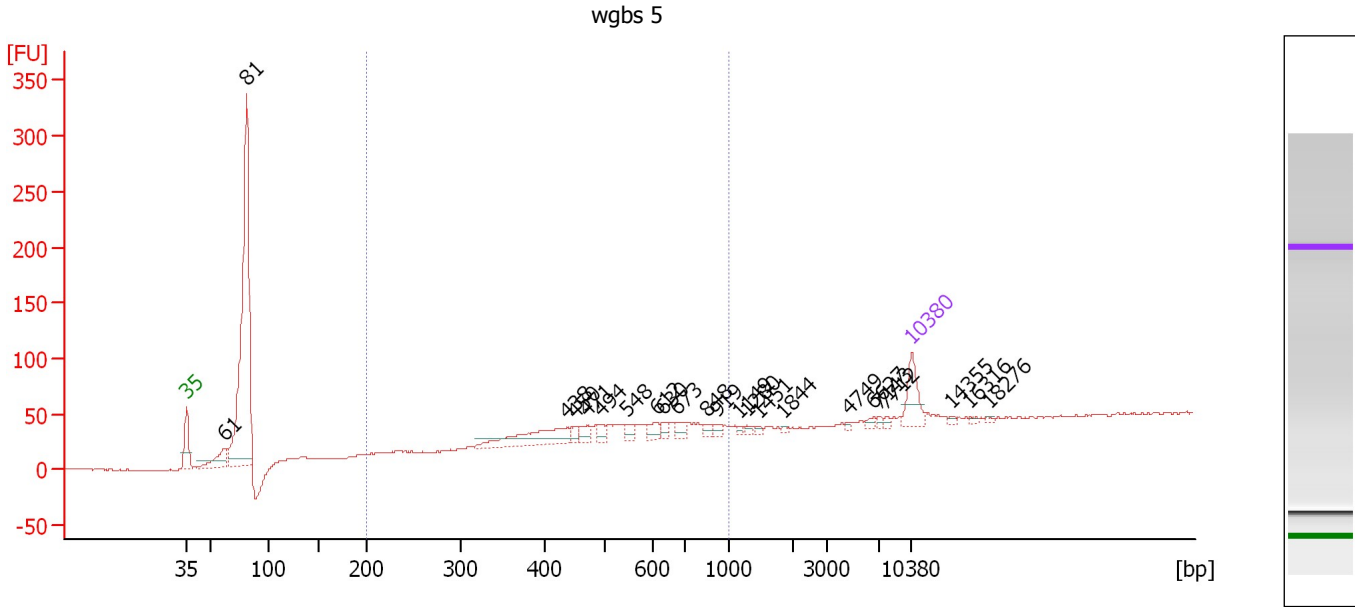
Region table for sample 7 : rrbs 8

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	431	7.0	81.2	17.77	2	43.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

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 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 8 : wgbs 5

Number of peaks found: 23 Corr. Area 1: 350.0
 Noise: 0.1

Peak table for sample 8 : wgbs 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	61	99.44	2,459.7		46.65
3	81	1,232.76	23,177.1		48.82
4	438	175.76	608.0		79.80
5	450	18.97	63.9		80.47
6	471	36.43	117.1		81.71
7	494	23.55	72.3		82.99
8	548	21.53	59.6		85.57
9	612	29.40	72.8		88.40
10	630	18.50	44.5		88.96
11	673	26.59	59.8		90.35
12	848	16.33	29.2		93.24
13	919	12.16	20.1		94.21
14	1,149	7.23	9.5		96.27
15	1,280	8.84	10.5		97.10
16	1,451	6.72	7.0		98.18
17	1,844	4.30	3.5		100.65
18	4,749	4.87	1.6		107.03
19	6,627	9.98	2.3		109.35
20	7,113	7.39	1.6		109.91
21	7,712	7.33	1.4		110.48
22	10,380	75.00	10.9	Upper Marker	113.00
23	14,355	0.00	0.0		116.76
24	16,316	0.00	0.0		118.61
25	18,276	0.00	0.0		120.46

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...

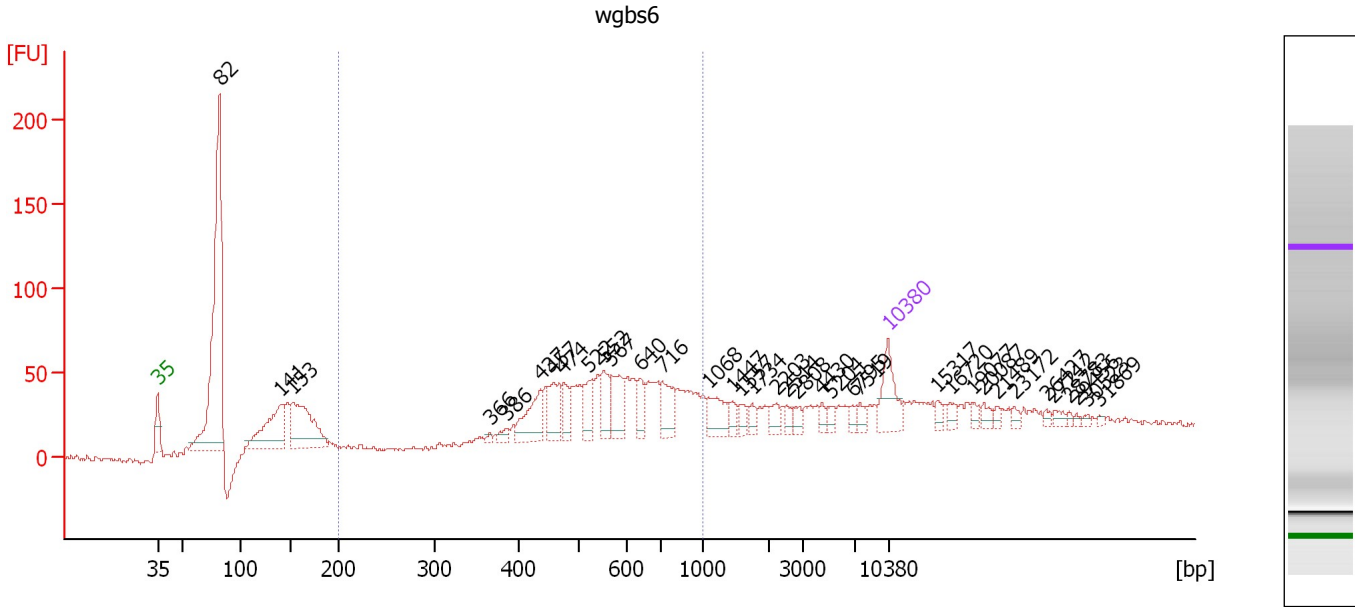
... Region table for sample 8 : wgbs 5

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	540	350.0	1,705.7	540.71	34	29.9

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 9 : wgbs6

Number of peaks found: 36 Corr. Area 1: 695.0
 Noise: 1.7

Peak table for sample 9 : wgbs6

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	82	858.63	15,925.4		48.94
3	141	210.25	2,261.5		54.83
4	153	241.23	2,393.4		55.94
5	366	7.42	30.7		74.87
6	386	16.40	64.4		76.46
7	437	104.44	362.0		79.75
8	457	79.26	263.0		80.86
9	474	47.12	150.6		81.87
10	522	66.59	193.4		84.36
11	552	68.36	187.5		85.80
12	567	84.14	224.7		86.48
13	640	41.85	99.0		89.30
14	716	69.49	147.1		91.42
15	1,068	59.38	84.2		95.77
16	1,447	21.21	22.2		98.15
17	1,557	16.69	16.2		98.84
18	1,734	17.83	15.6		99.95
19	2,203	22.22	15.3		102.29
20	2,514	16.90	10.2		103.30
21	2,808	15.05	8.1		104.25
22	4,430	13.62	4.7		106.64
23	5,204	15.52	4.5		107.59
24	6,795	11.95	2.7		109.55
25	7,519	16.38	3.3		110.30

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...

... Peak table for sample 9 : wgbs6

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
26	10,380	75.00	10.9	Upper Marker	113.00
27	15,317	0.00	0.0		117.67
28	16,720	0.00	0.0		118.99
29	19,077	0.00	0.0		121.22
30	20,087	0.00	0.0		122.17
31	21,489	0.00	0.0		123.50
32	23,172	0.00	0.0		125.09
33	26,427	0.00	0.0		128.17
34	27,212	0.00	0.0		128.91
35	28,783	0.00	0.0		130.39
36	29,457	0.00	0.0		131.03
37	30,523	0.00	0.0		132.04
38	31,869	0.00	0.0		133.31

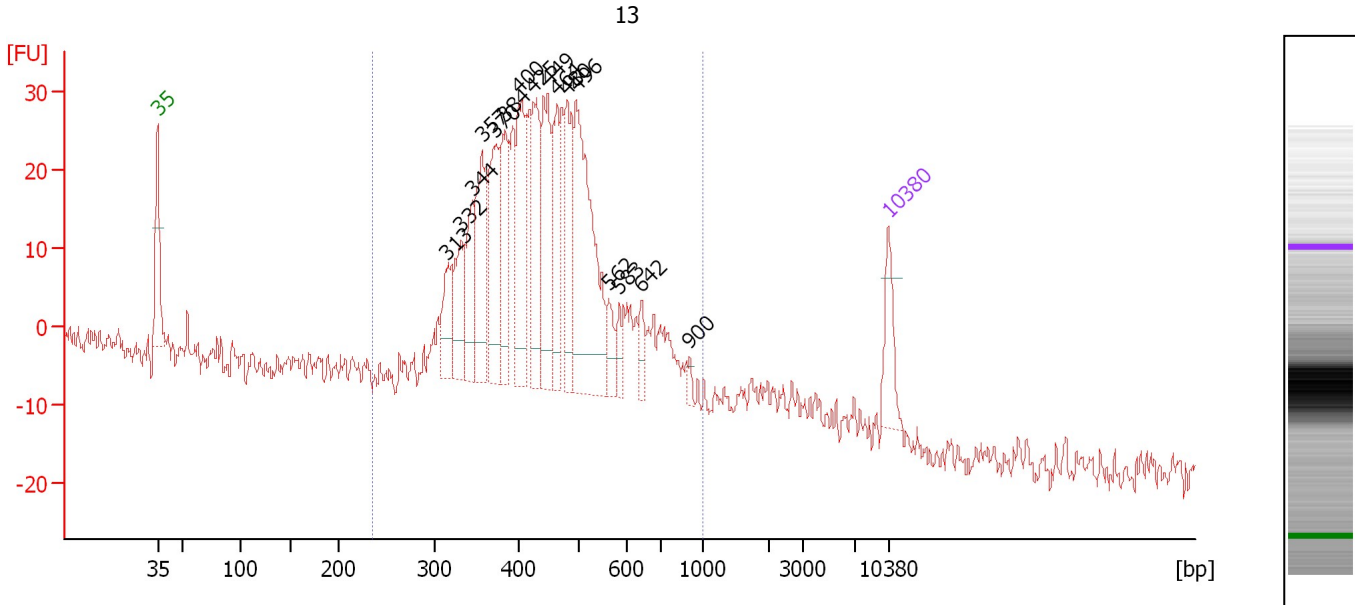
Region table for sample 9 : wgbs6

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	588	695.0	3,073.4	1,088.93	38	26.3

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 10 : 13

Number of peaks found: 16 Corr. Area 1: 676.0
 Noise: 2.4

Peak table for sample 10 : 13

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	313	102.08	493.7		70.62
3	332	138.58	633.1		72.10
4	344	126.26	556.0		73.11
5	357	222.42	945.2		74.11
6	370	212.67	870.2		75.22
7	384	186.02	733.9		76.33
8	400	224.09	849.4		77.60
9	425	224.37	800.7		79.03
10	449	231.92	783.4		80.41
11	464	167.33	546.1		81.31
12	480	170.98	539.8		82.21
13	496	461.31	1,410.2		83.11
14	562	52.17	140.7		86.23
15	583	36.85	95.7		87.23
16	642	41.25	97.3		89.35
17	900	14.88	25.1		93.95
18	10,380	75.00	10.9	Upper Marker	113.00

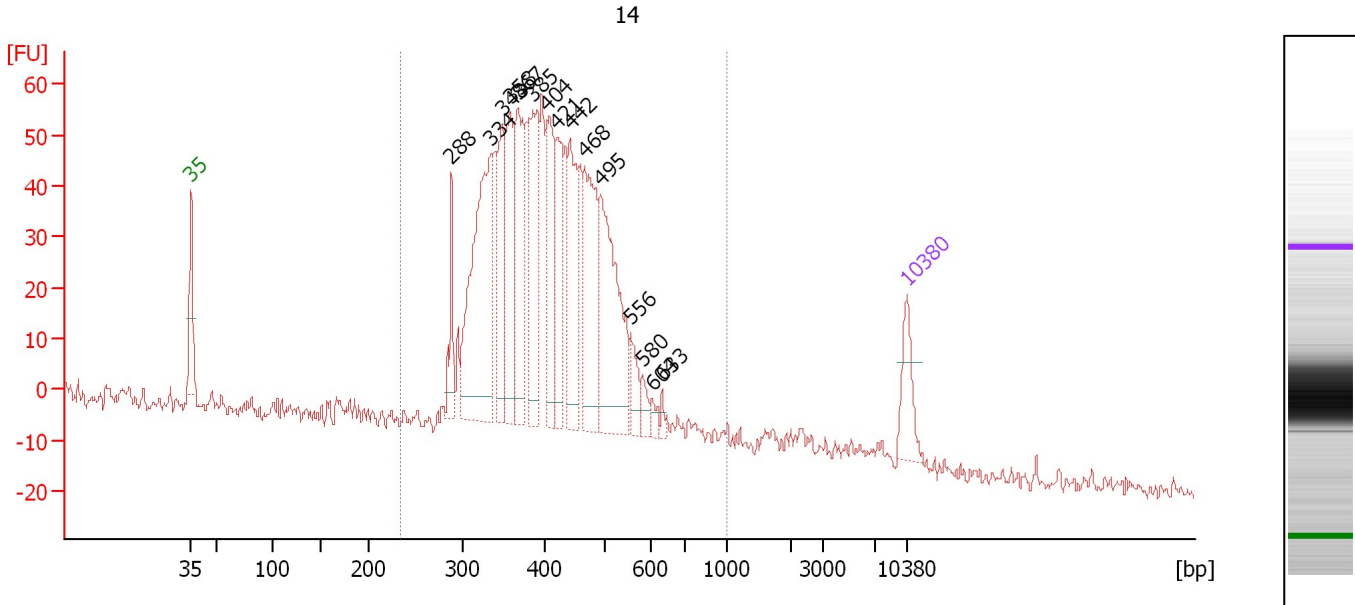
Region table for sample 10 : 13

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
236	1,000	459	676.0	12,464.5	3,505.21	87	25.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 PM

Electropherogram Summary Continued ...



Overall Results for sample 11 : 14

Number of peaks found: 15 Corr. Area 1: 1,140.4
 Noise: 2.0

Peak table for sample 11 : 14

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	288	98.76	519.4		68.45
3	334	540.39	2,454.0		72.26
4	348	217.32	946.6		73.41
5	358	252.48	1,070.0		74.19
6	367	292.54	1,207.1		74.97
7	385	246.11	967.8		76.44
8	404	228.90	858.8		77.84
9	421	167.96	604.3		78.83
10	442	213.36	731.3		80.03
11	468	281.09	910.9		81.49
12	495	393.53	1,205.0		83.06
13	556	55.19	150.3		85.98
14	580	29.40	76.8		87.08
15	604	19.36	48.6		88.12
16	633	12.82	30.7		89.06
17	10,380	75.00	10.9	Upper Marker	113.00

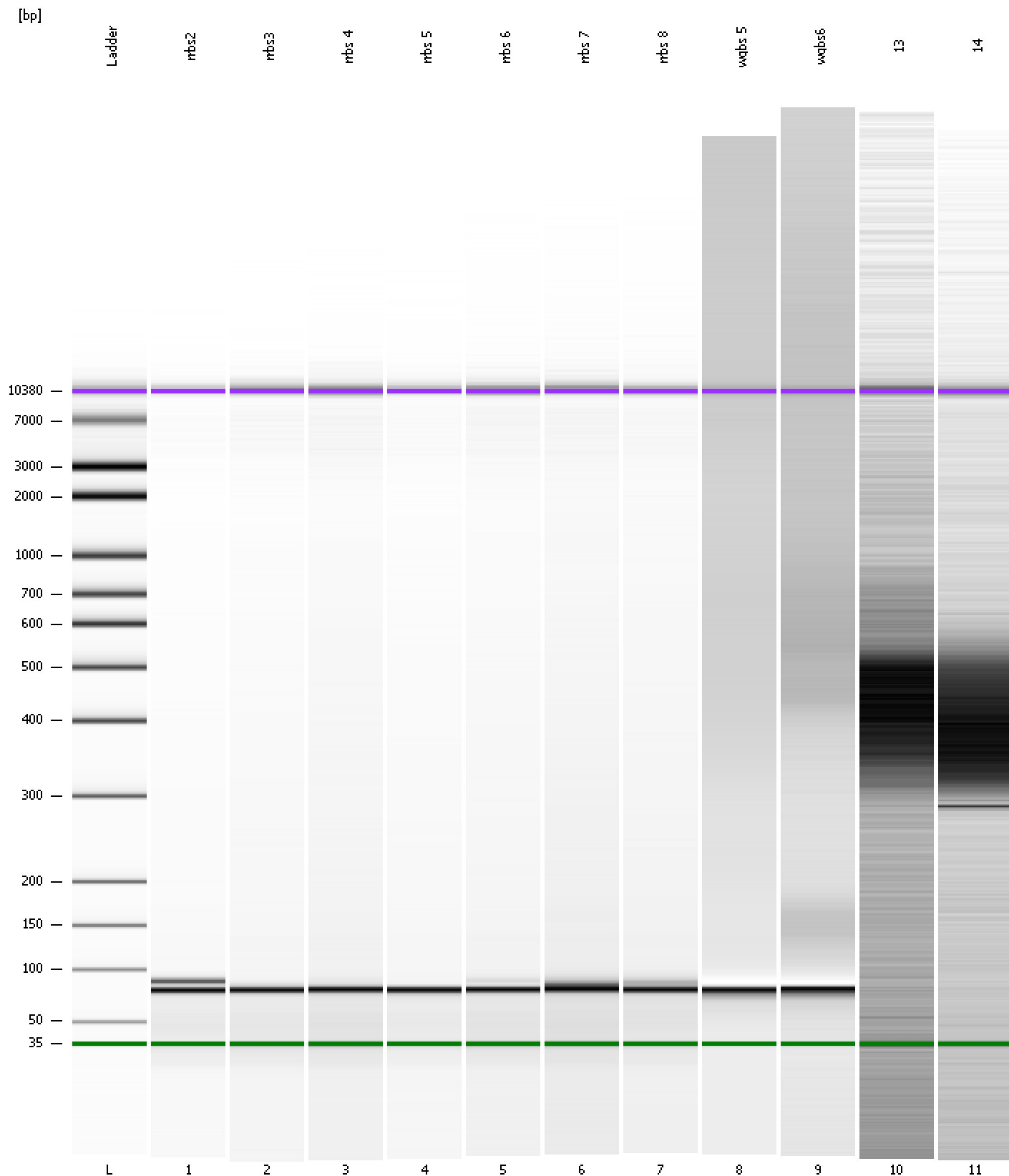
Region table for sample 11 : 14

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
234	1,000	418	1,140.4	14,896.3	3,893.45	94	22.3

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
Modified: 2/4/2016 3:28:11 PM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad

Created: 2/4/2016 2:47:40 PM
 Modified: 2/4/2016 3:28:11 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		2/4/2016 3:28:09 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2016-02-04\2016-02-04_002.xad)		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		2/4/2016 2:47:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1