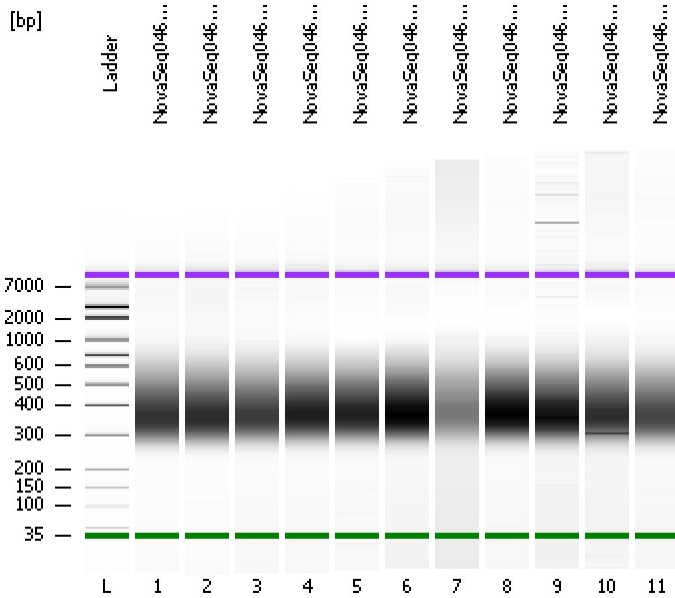


Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
Modified: 5/20/2019 10:43:52 AM

Electrophoresis File Run Summary



Instrument Information:

Instrument Name: DE34903152 Firmware: C.01.069
Serial#: DE34903152 Type: G2938C

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

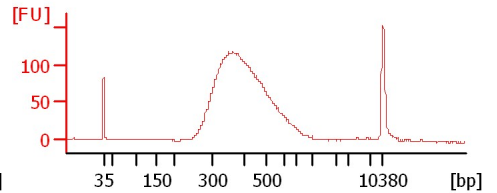
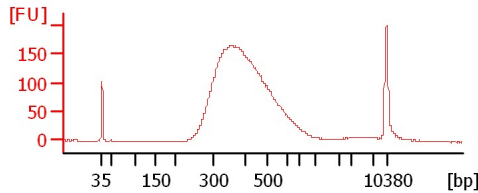
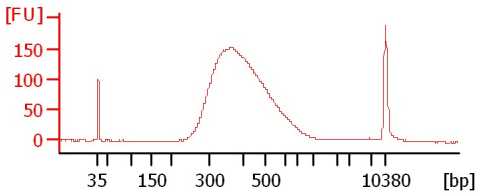
Chip Information:

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

NovaSeq046 - 1 library (1:2)

NovaSeq046 - 2 library (1:2)

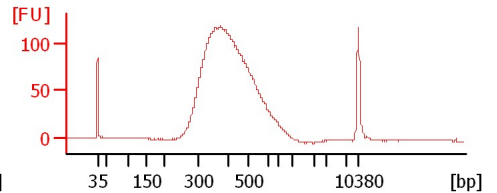
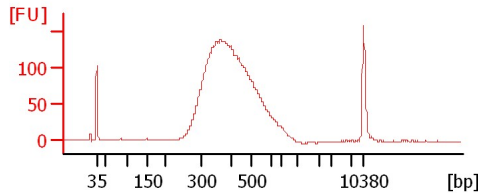
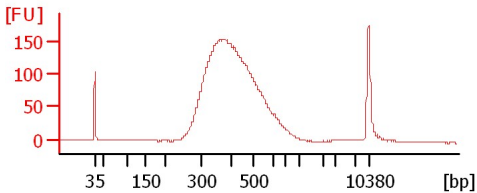
NovaSeq046 - 3 library (1:3)



NovaSeq046 - 4 library (1:3)

NovaSeq046 - 5 library (1:3)

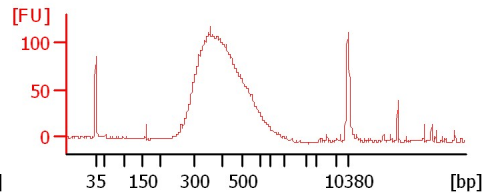
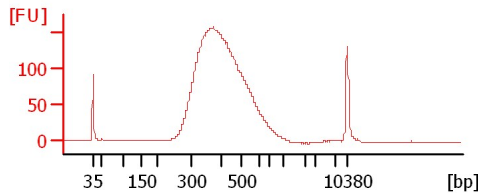
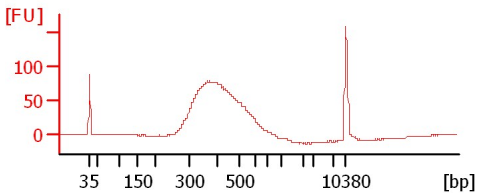
NovaSeq046 - 6 library (1:2)



NovaSeq046 - 7 library (1:3)

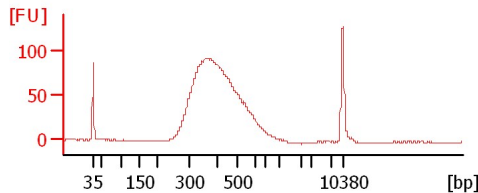
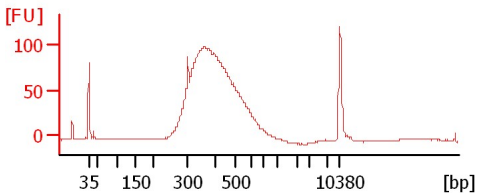
NovaSeq046 - 8 library (1:2)

NovaSeq046 - 9 library (1:3)



NovaSeq046 - 10 library (1:3)

NovaSeq046 - 11 library (1:3)



Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
Modified: 5/20/2019 10:43:52 AM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
NovaSeq046 - 1 library (1:2)		<input type="checkbox"/>	✓			
NovaSeq046 - 2 library (1:2)		<input type="checkbox"/>	✓			
NovaSeq046 - 3 library (1:3)		<input type="checkbox"/>	✓			
NovaSeq046 - 4 library (1:3)		<input type="checkbox"/>	✓			
NovaSeq046 - 5 library (1:3)		<input type="checkbox"/>	✓			
NovaSeq046 - 6 library (1:2)		<input type="checkbox"/>	✓			
NovaSeq046 - 7 library (1:3)		<input type="checkbox"/>	✓			
NovaSeq046 - 8 library (1:2)		<input type="checkbox"/>	✓			
NovaSeq046 - 9 library (1:3)		<input type="checkbox"/>	✓			
NovaSeq046 - 10 library (1:3)		<input type="checkbox"/>	✓			
NovaSeq046 - 11 library (1:3)		<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\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
Modified: 5/20/2019 10:43:52 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

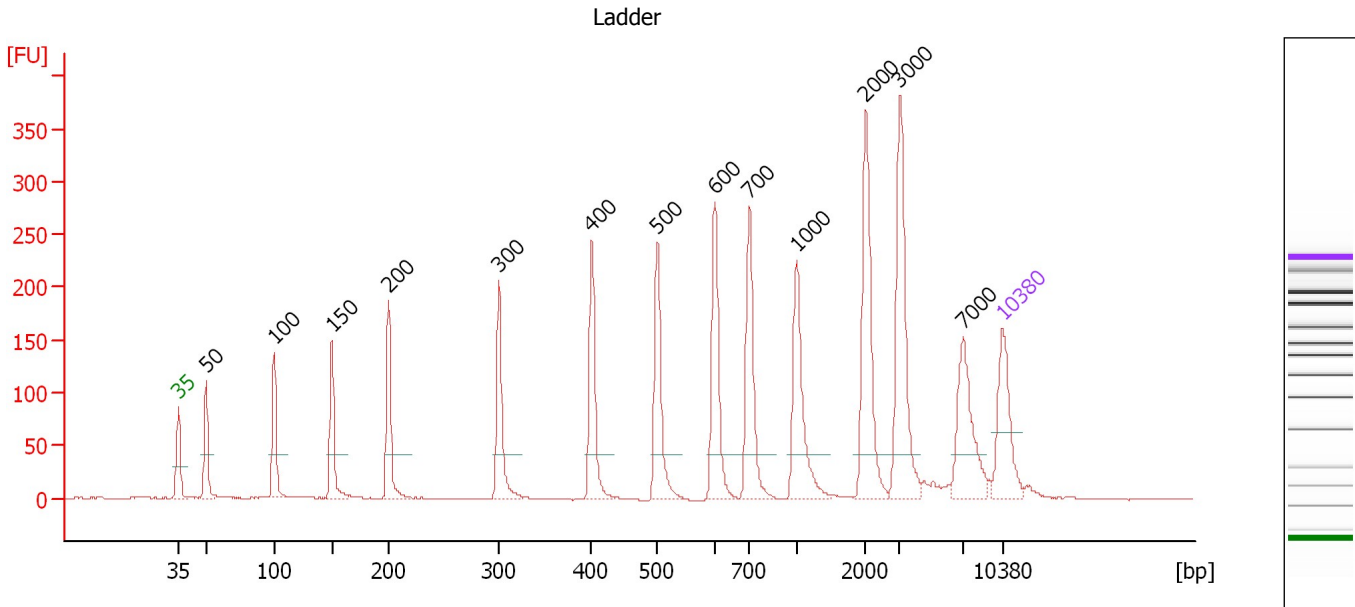
Ladder

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\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.5

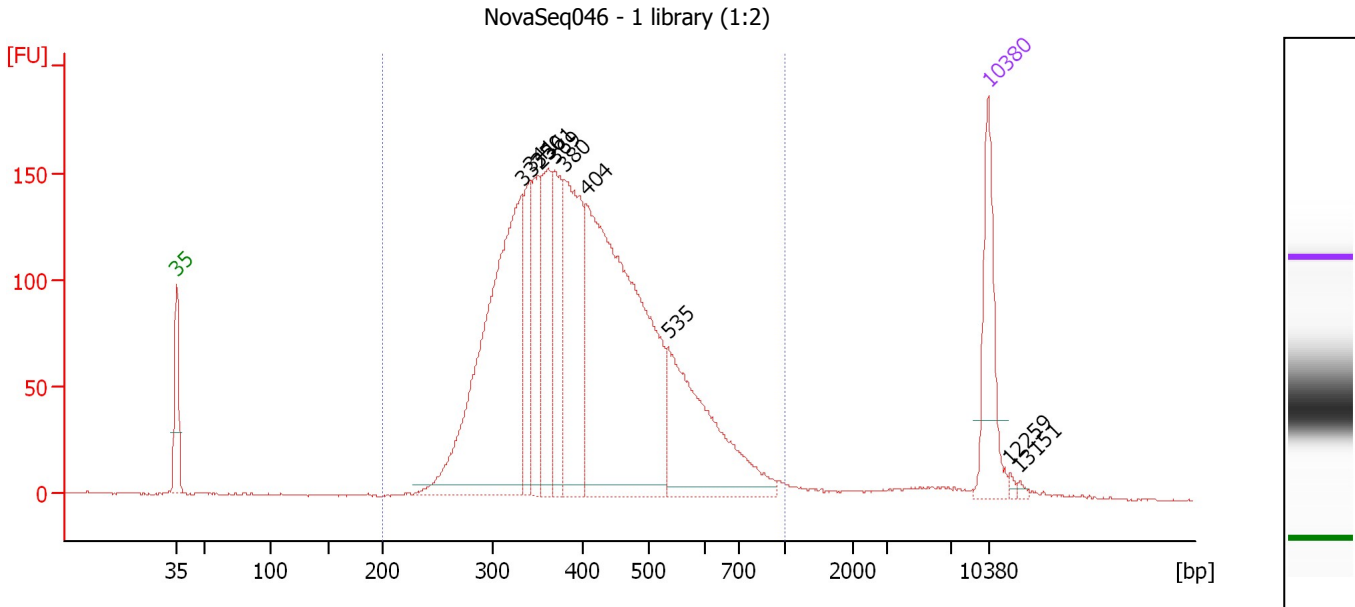
Peak table for Ladder

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	51.16
4	150	150.00	1,515.2	Ladder Peak	56.05
5	200	150.00	1,136.4	Ladder Peak	60.85
6	300	150.00	757.6	Ladder Peak	70.23
7	400	150.00	568.2	Ladder Peak	78.11
8	500	150.00	454.5	Ladder Peak	83.69
9	600	150.00	378.8	Ladder Peak	88.58
10	700	150.00	324.7	Ladder Peak	91.52
11	1,000	150.00	227.3	Ladder Peak	95.51
12	2,000	150.00	113.6	Ladder Peak	101.40
13	3,000	150.00	75.8	Ladder Peak	104.30
14	7,000	150.00	32.5	Ladder Peak	109.69
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 1 : NovaSeq046 - 1 library (1:2)

Number of peaks found: 10 Corr. Area 1: 3,238.4
 Noise: 0.4

Peak table for sample 1 : NovaSeq046 - 1 library (1:2)

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	332	483.41	2,203.5		72.78
3	341	81.43	361.7		73.47
4	350	99.48	430.8		74.16
5	361	128.14	537.9		75.04
6	369	118.95	488.2		75.68
7	380	209.44	834.6		76.55
8	404	557.34	2,089.4		78.34
9	535	213.61	605.5		85.38
10	10,380	75.00	10.9	Upper Marker	113.00
11	12,259	0.00	0.0		114.84
12	13,151	0.00	0.0		115.71

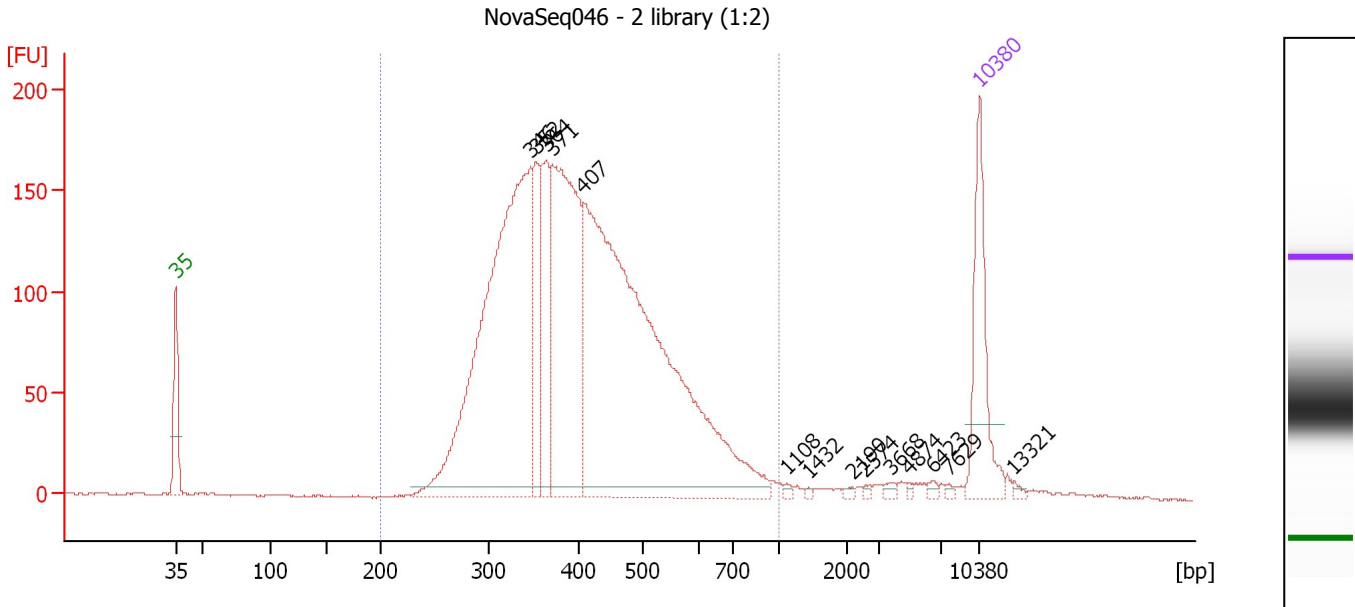
Region table for sample 1 : NovaSeq046 - 1 library (1:2)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	416	1,897.87	3,238.4	7,496.9	97	26.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 2 : NovaSeq046 - 2 library (1:2)

Number of peaks found: 14 Corr. Area 1: 3,491.0
 Noise: 0.5

Peak table for sample 2 : NovaSeq046 - 2 library (1:2)

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	346	589.77	2,581.5		73.87
3	352	92.46	397.9		74.33
4	364	95.98	399.7		75.26
5	371	321.40	1,313.0		75.82
6	407	749.63	2,789.8		78.51
7	1,108	2.58	3.5		96.15
8	1,432	1.20	1.3		98.05
9	2,190	2.03	1.4		101.95
10	2,574	1.75	1.0		103.07
11	3,668	3.11	1.3		105.20
12	4,874	1.74	0.5		106.83
13	6,423	3.35	0.8		108.92
14	7,629	1.95	0.4		110.31
15	10,380	75.00	10.9	Upper Marker	113.00
16	13,321	0.00	0.0		115.88

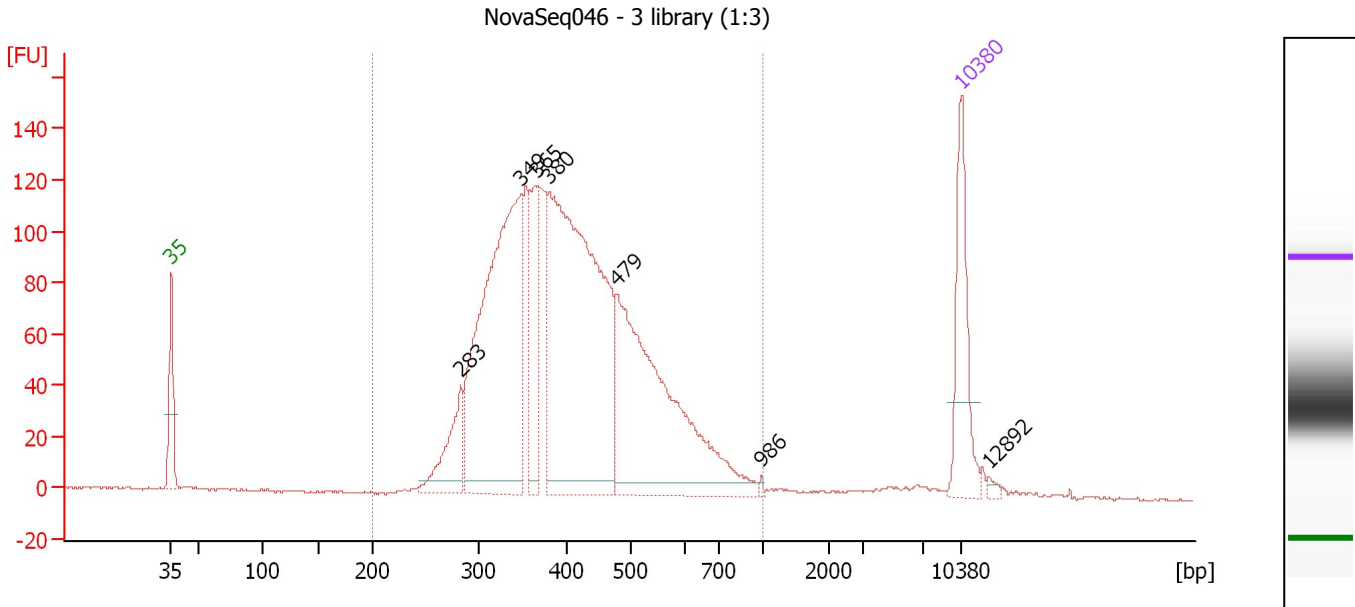
Region table for sample 2 : NovaSeq046 - 2 library (1:2)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	416	1,826.14	3,491.0	7,209.3	96	26.4

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 3 : NovaSeq046 - 3 library (1:3)

Number of peaks found: 7 Corr. Area 1: 2,428.1
 Noise: 0.4

Peak table for sample 3 : NovaSeq046 - 3 library (1:3)

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	283	77.32	413.5		68.67
3	349	456.19	1,983.3		74.05
4	365	91.90	381.8		75.33
5	380	553.52	2,208.9		76.51
6	479	359.33	1,136.7		82.51
7	986	1.99	3.1		95.32
8	10,380	75.00	10.9	Upper Marker	113.00
9	12,892	0.00	0.0		115.46

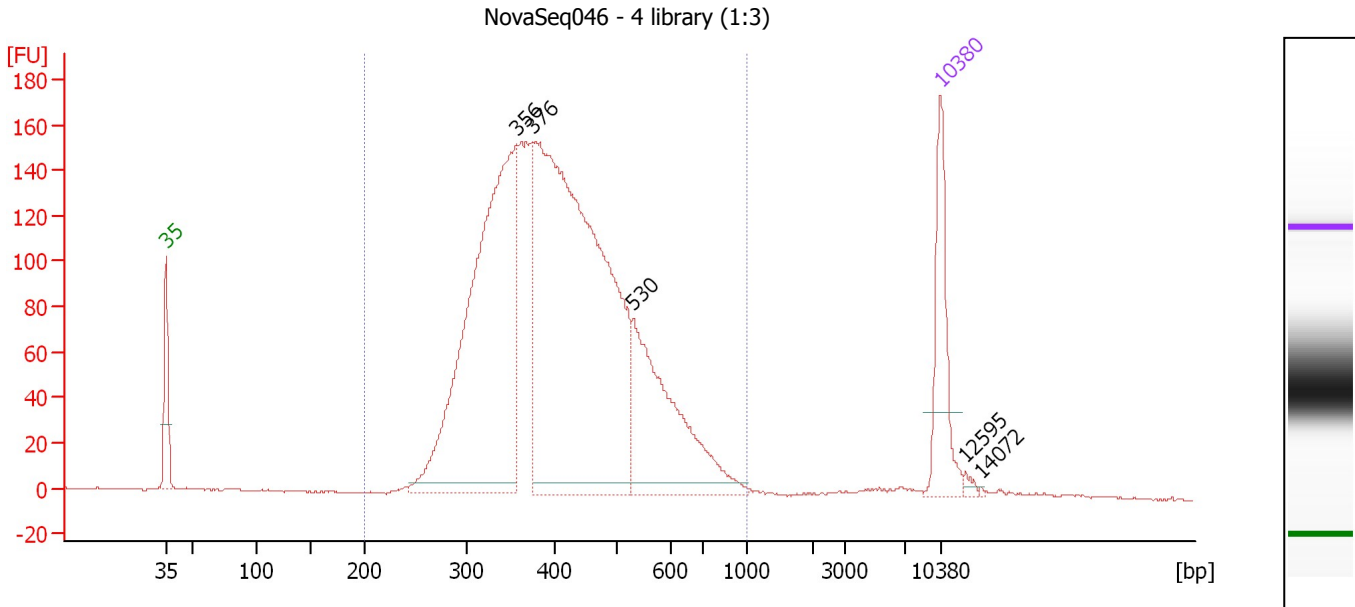
Region table for sample 3 : NovaSeq046 - 3 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]
200	1,000	418	1,661.63	2,428.1	6,504.2	97	25.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 4 : NovaSeq046 - 4 library (1:3)

Number of peaks found: 5 Corr. Area 1: 3,156.3
 Noise: 0.3

Peak table for sample 4 : NovaSeq046 - 4 library (1:3)

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	356	607.48	2,584.8		74.65
3	376	863.14	3,481.4		76.19
4	530	228.92	654.4		85.15
5	10,380	75.00	10.9	Upper Marker	113.00
6	12,595	0.00	0.0		115.17
7	14,072	0.00	0.0		116.61

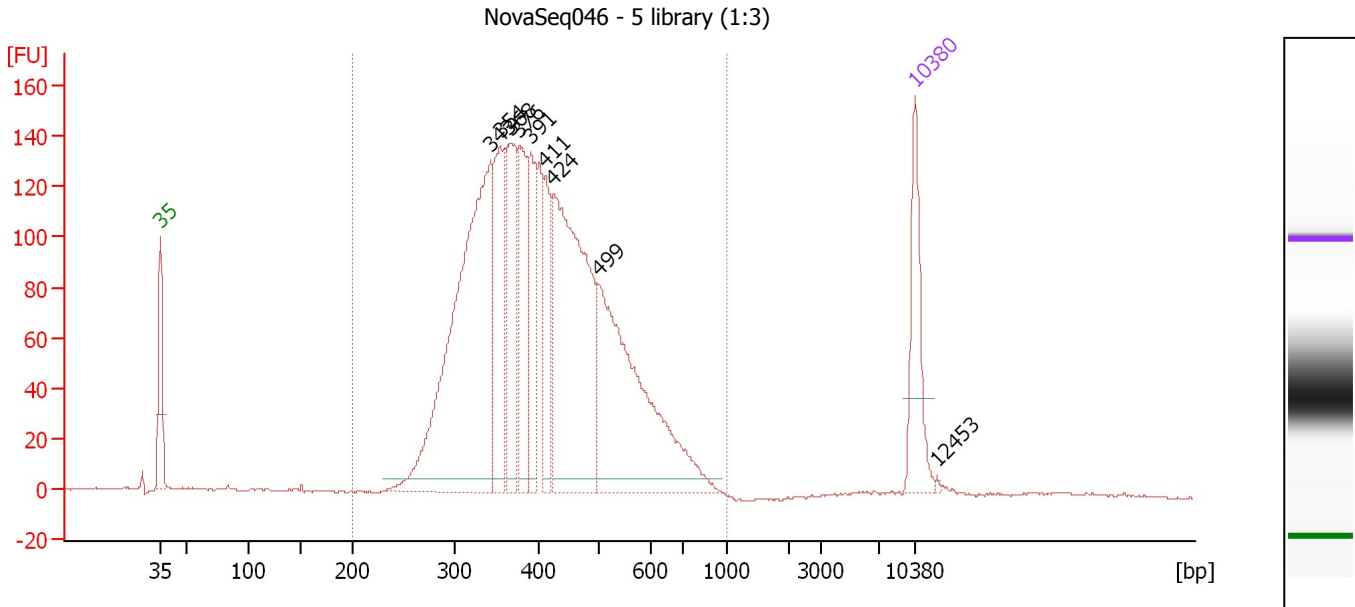
Region table for sample 4 : NovaSeq046 - 4 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	421	1,837.59	3,156.3	7,127.6	98	25.1

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 5 : NovaSeq046 - 5 library (1:3)

Number of peaks found: 9 Corr. Area 1: 2,770.7
 Noise: 0.4

Peak table for sample 5 : NovaSeq046 - 5 library (1:3)

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	343	576.04	2,544.4		73.62
3	354	157.30	672.6		74.51
4	368	141.58	583.7		75.55
5	376	129.75	522.5		76.24
6	391	103.27	400.5		77.38
7	411	87.00	320.8		78.72
8	424	401.86	1,435.5		79.46
9	499	353.74	1,074.7		83.61
10	10,380	75.00	10.9	Upper Marker	113.00
11	12,453	0.00	0.0		115.03

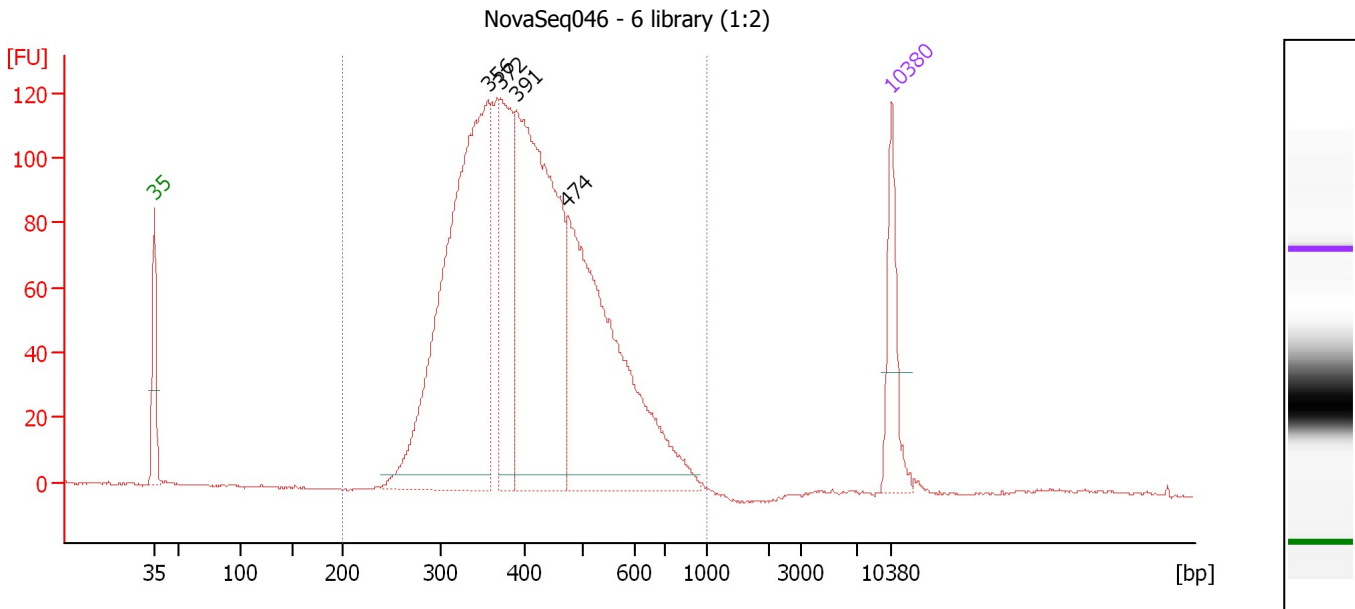
Region table for sample 5 : NovaSeq046 - 5 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	418	2,092.69	2,770.7	8,133.7	98	24.3

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 6 : NovaSeq046 - 6 library (1:2)

Number of peaks found: 4 Corr. Area 1: 2,418.7
 Noise: 0.3

Peak table for sample 6 : NovaSeq046 - 6 library (1:2)

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	356	837.10	3,560.5		74.66
3	372	228.60	930.4		75.93
4	391	662.99	2,570.0		77.39
5	474	582.99	1,862.7		82.25
6	10,380	75.00	10.9	Upper Marker	113.00

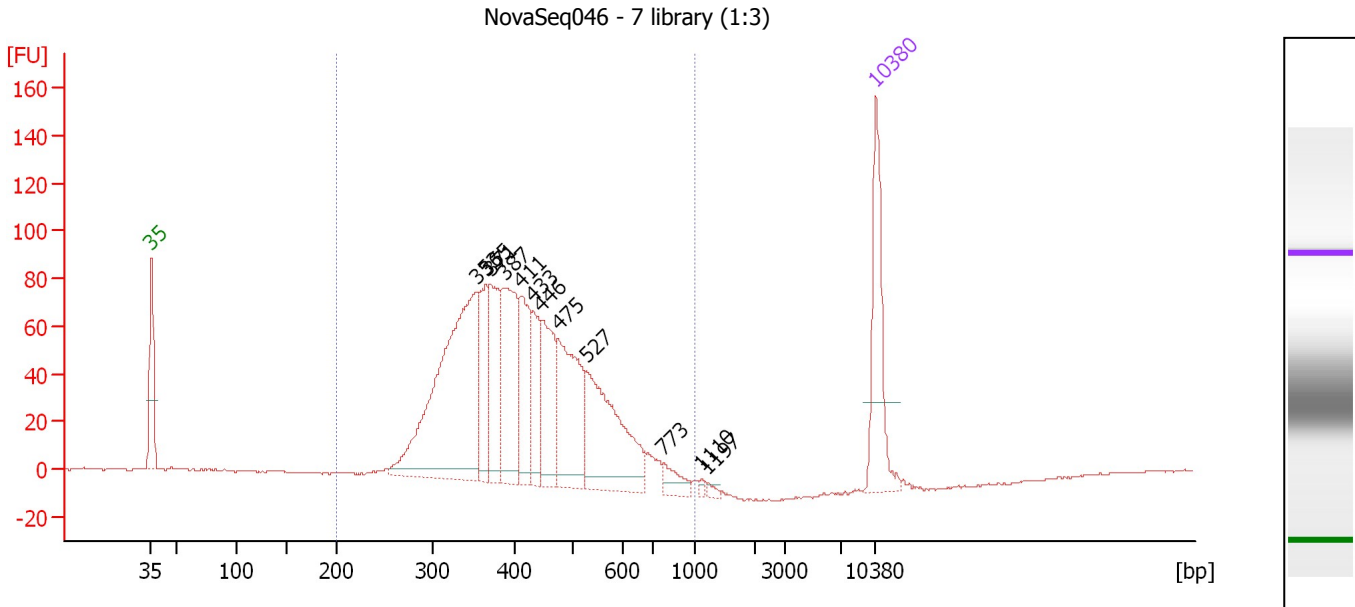
Region table for sample 6 : NovaSeq046 - 6 library (1:2)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	421	2,421.69	2,418.7	9,371.9	99	24.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 7 : NovaSeq046 - 7 library (1:3)

Number of peaks found: 12 Corr. Area 1: 1,472.9
 Noise: 0.3

Peak table for sample 7 : NovaSeq046 - 7 library (1:3)

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	353	338.12	1,450.7		74.42
3	365	67.29	279.4		75.35
4	371	86.77	354.6		75.81
5	387	120.13	470.2		77.10
6	411	78.53	289.2		78.75
7	433	56.30	197.2		79.93
8	446	83.45	283.2		80.70
9	475	123.20	392.9		82.30
10	527	147.66	424.1		85.03
11	773	16.08	31.5		92.50
12	1,110	2.59	3.5		96.16
13	1,197	3.49	4.4		96.67
14	10,380	75.00	10.9	Upper Marker	113.00

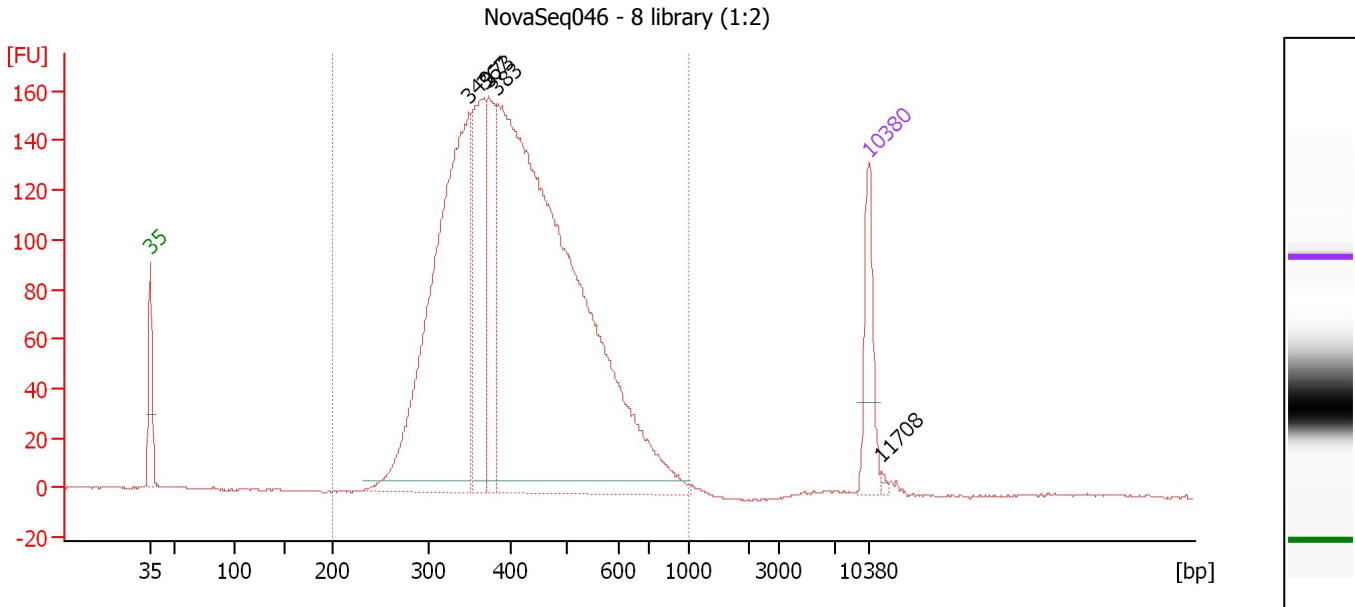
Region table for sample 7 : NovaSeq046 - 7 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	417	1,013.97	1,472.9	3,905.6	100	21.3

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 8 : NovaSeq046 - 8 library (1:2)

Number of peaks found: 5 Corr. Area 1: 3,143.2
 Noise: 0.3

Peak table for sample 8 : NovaSeq046 - 8 library (1:2)

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	349	849.41	3,689.8		74.08
3	367	272.91	1,125.9		75.53
4	373	180.72	735.0		75.95
5	383	1,665.80	6,588.7		76.78
6	10,380	75.00	10.9	Upper Marker	113.00
7	11,708	0.00	0.0		114.30

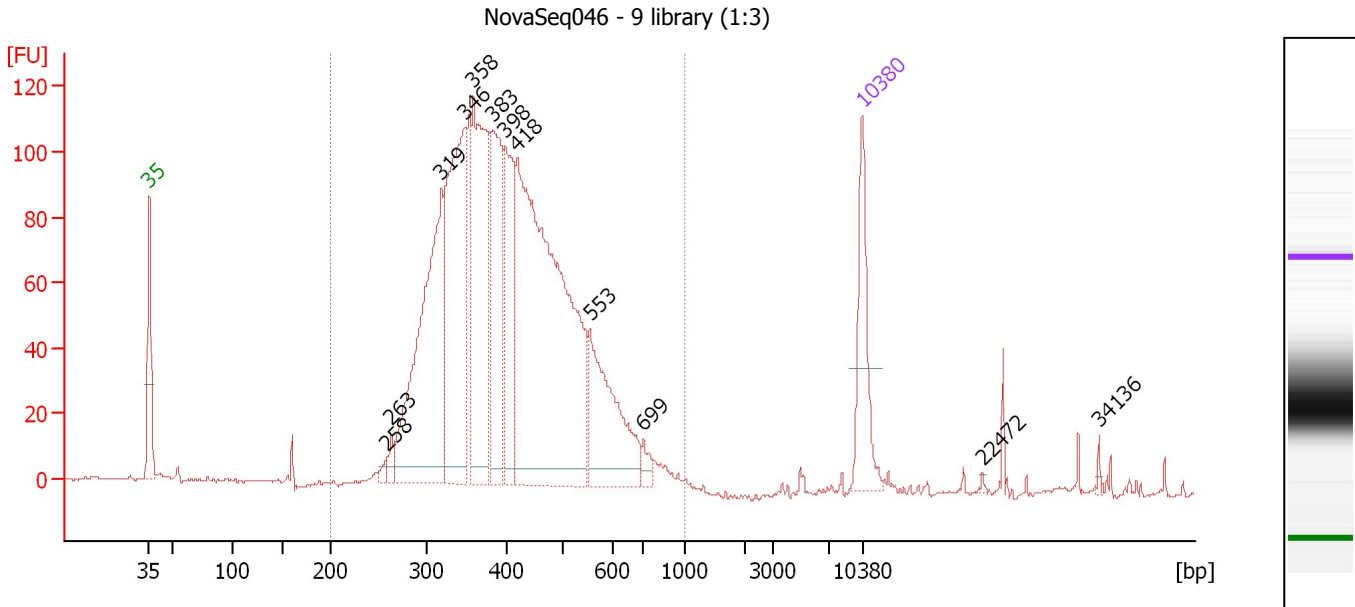
Region table for sample 8 : NovaSeq046 - 8 library (1:2)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	422	2,853.63	3,143.2	11,009.3	99	24.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 9 : NovaSeq046 - 9 library (1:3)

Number of peaks found: 12 Corr. Area 1: 2,189.2
 Noise: 0.4

Peak table for sample 9 : NovaSeq046 - 9 library (1:3)

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	8.23	48.3		66.30
3	263	14.31	82.4		66.77
4	319	385.51	1,833.7		71.69
5	346	323.24	1,413.7		73.89
6	358	302.05	1,277.0		74.83
7	383	192.10	760.0		76.77
8	398	147.78	562.3		77.97
9	418	666.54	2,415.1		79.13
10	553	162.63	445.3		86.30
11	699	14.61	31.7		91.48
12	10,380	75.00	10.9	Upper Marker	113.00
13	22,472	0.00	0.0		124.83
14	34,136	0.00	0.0		136.25

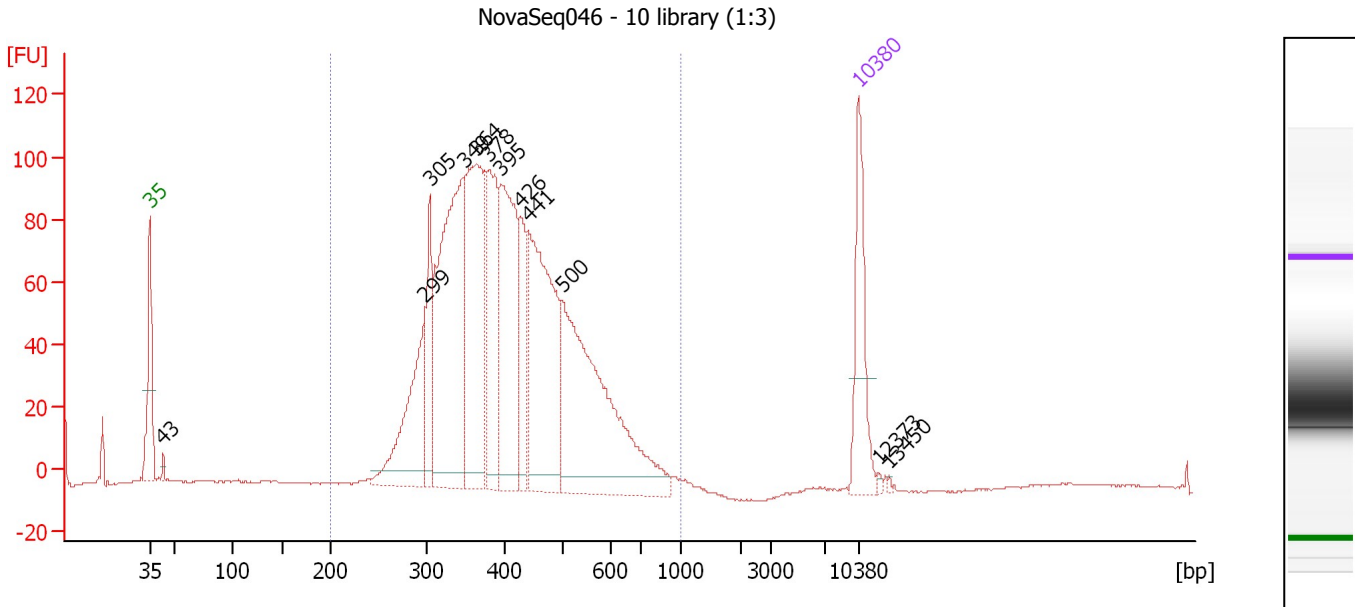
Region table for sample 9 : NovaSeq046 - 9 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	416	2,315.47	2,189.2	9,066.2	96	24.8

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 10 : NovaSeq046 - 10 library (1:3)

Number of peaks found: 12 Corr. Area 1: 1,919.2
 Noise: 0.3

Peak table for sample 10 : NovaSeq046 - 10 library (1:3)

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	7.60	267.3		44.27
3	299	156.51	792.8		70.15
4	305	81.49	404.9		70.62
5	349	352.04	1,528.0		74.10
6	364	242.18	1,008.7		75.26
7	378	140.05	561.6		76.37
8	395	212.56	816.3		77.68
9	426	76.53	272.0		79.58
10	441	259.47	892.4		80.37
11	500	338.66	1,026.0		83.69
12	10,380	75.00	10.9	Upper Marker	113.00
13	12,373	0.00	0.0		114.95
14	13,450	0.00	0.0		116.00

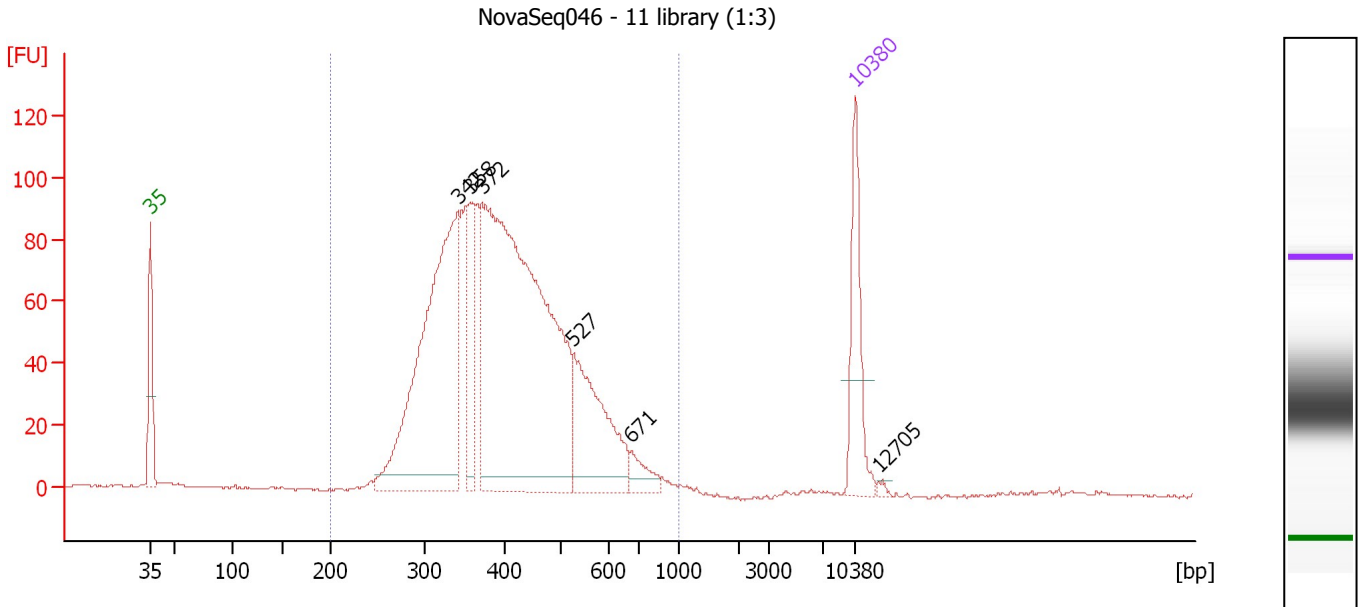
Region table for sample 10 : NovaSeq046 - 10 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	411	1,757.19	1,919.2	6,893.0	97	22.6

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 AM

Electropherogram Summary Continued ...



Overall Results for sample 11 : NovaSeq046 - 11 library (1:3)

Number of peaks found: 6 Corr. Area 1: 1,820.8
 Noise: 0.3

Peak table for sample 11 : NovaSeq046 - 11 library (1:3)

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	342	475.78	2,108.7		73.53
3	358	84.91	359.4		74.80
4	372	788.53	3,211.2		75.91
5	527	164.96	474.2		85.01
6	671	24.81	56.0		90.67
7	10,380	75.00	10.9	Upper Marker	113.00
8	12,705	0.00	0.0		115.28

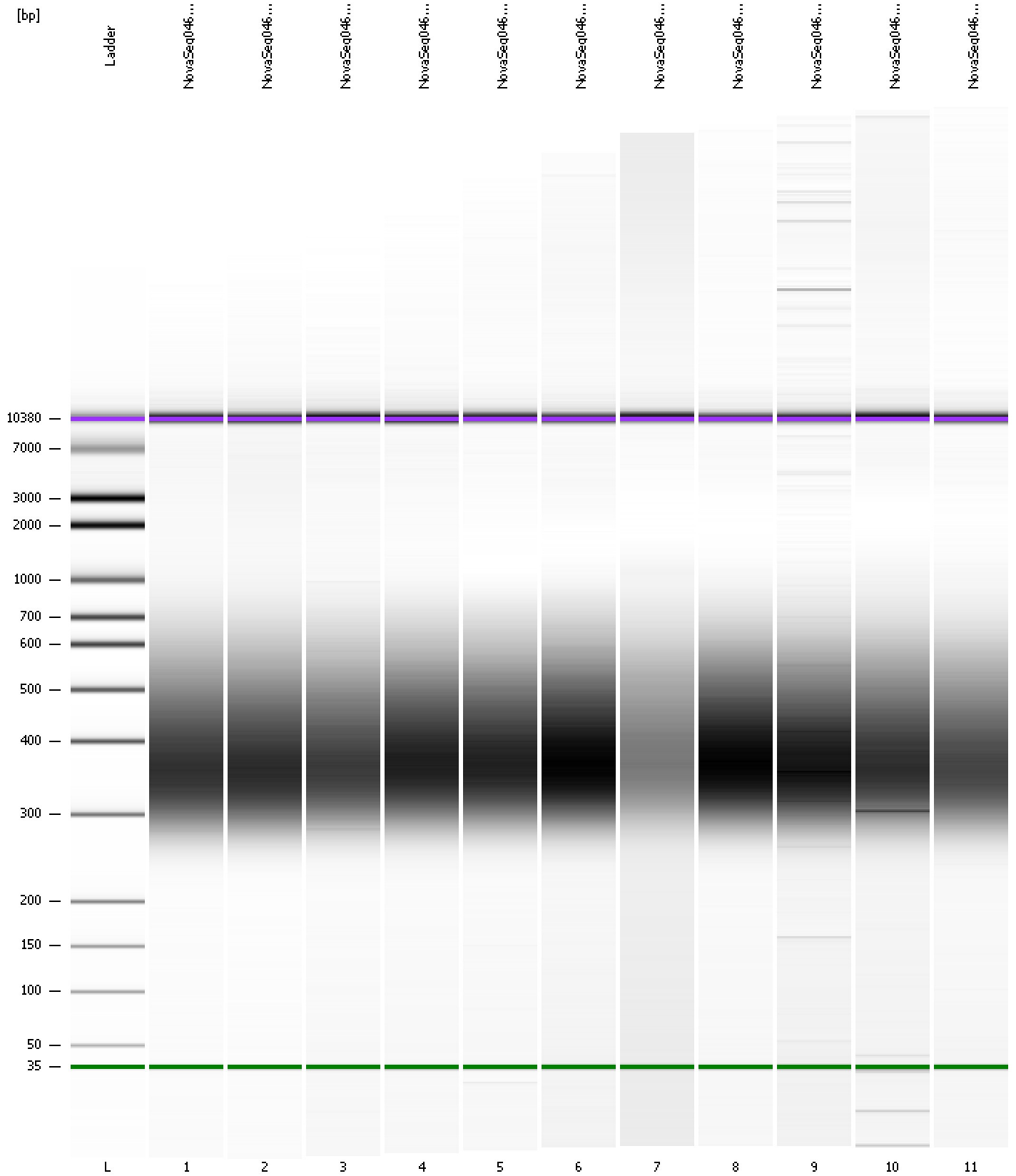
Region table for sample 11 : NovaSeq046 - 11 library (1:3)

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	414	1,634.39	1,820.8	6,424.8	99	24.6

Assay Class: High Sensitivity DNA Assay
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
Modified: 5/20/2019 10:43:52 AM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-20\2019-05-20_001.xad

Created: 5/20/2019 10:02:32 AM
 Modified: 5/20/2019 10:43:52 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		5/20/2019 10:43:50 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\2019-05-20\2019-05-20_001.xad)		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938C		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE34903152		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		5/20/2019 10:02:38 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1