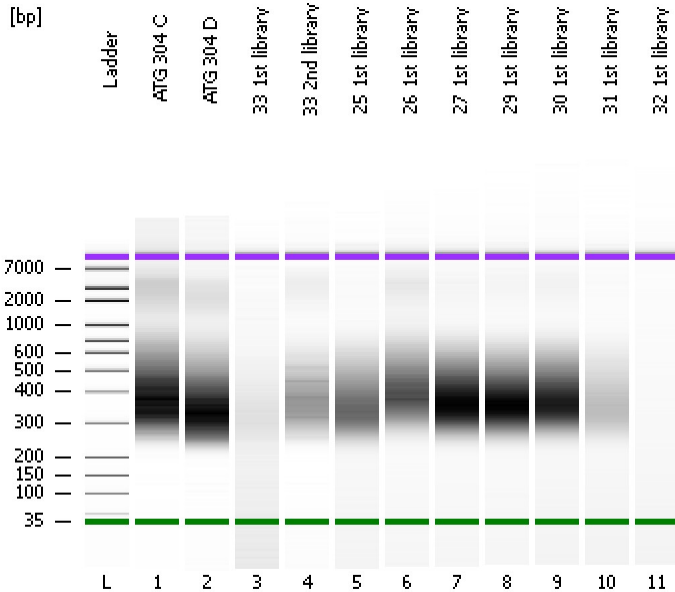


Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
Modified: 7/22/2014 11:45:44 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

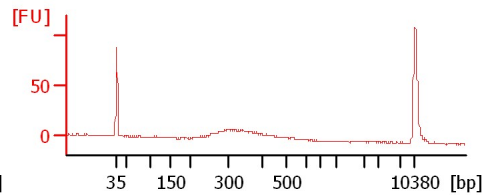
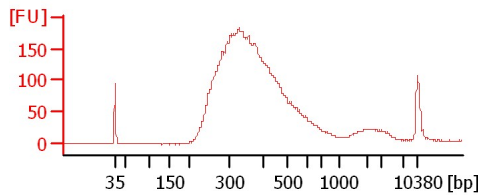
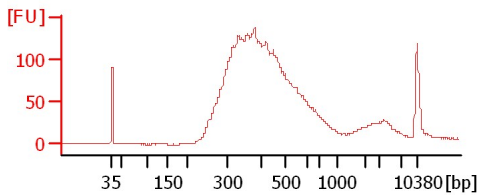
Chip Information:

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

**ATG 304 C**

**ATG 304 D**

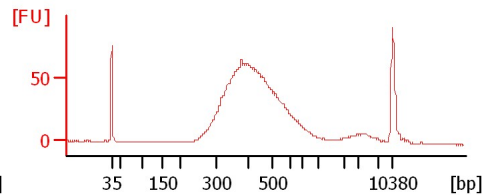
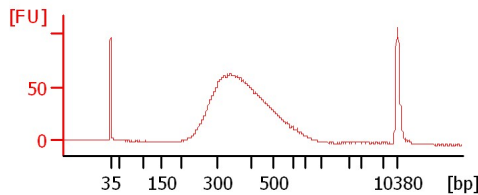
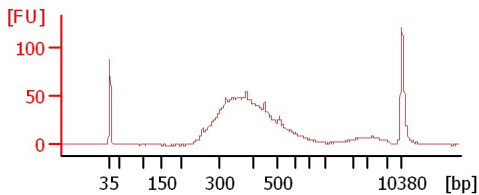
**33 1st library**



**33 2nd library**

**25 1st library**

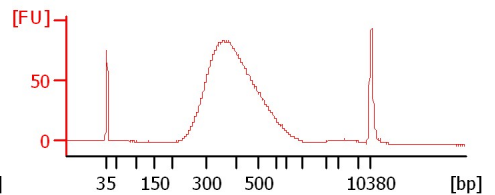
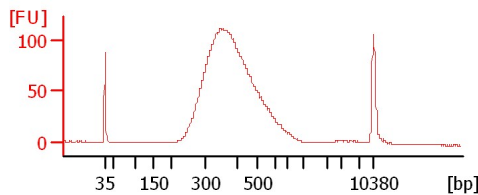
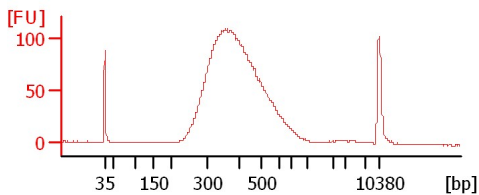
**26 1st library**



**27 1st library**

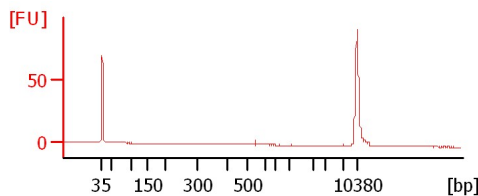
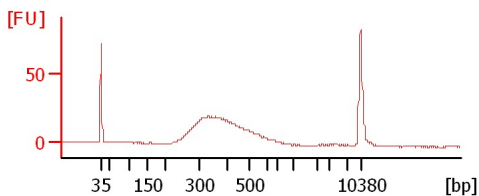
**29 1st library**

**30 1st library**



**31 1st library**

**32 1st library**



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
Modified: 7/22/2014 11:45:44 AM

**Electrophoresis File Run Summary (Chip Summary)**

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
ATG 304 C		<input type="checkbox"/>	✓			
ATG 304 D		<input type="checkbox"/>	✓			
33 1st library		<input type="checkbox"/>	✓			
33 2nd library		<input type="checkbox"/>	✓			
25 1st library		<input type="checkbox"/>	✓			
26 1st library		<input type="checkbox"/>	✓			
27 1st library		<input type="checkbox"/>	✓			
29 1st library		<input type="checkbox"/>	✓			
30 1st library		<input type="checkbox"/>	✓			
31 1st library		<input type="checkbox"/>	✓			
32 1st library		<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\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
Modified: 7/22/2014 11:45:44 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

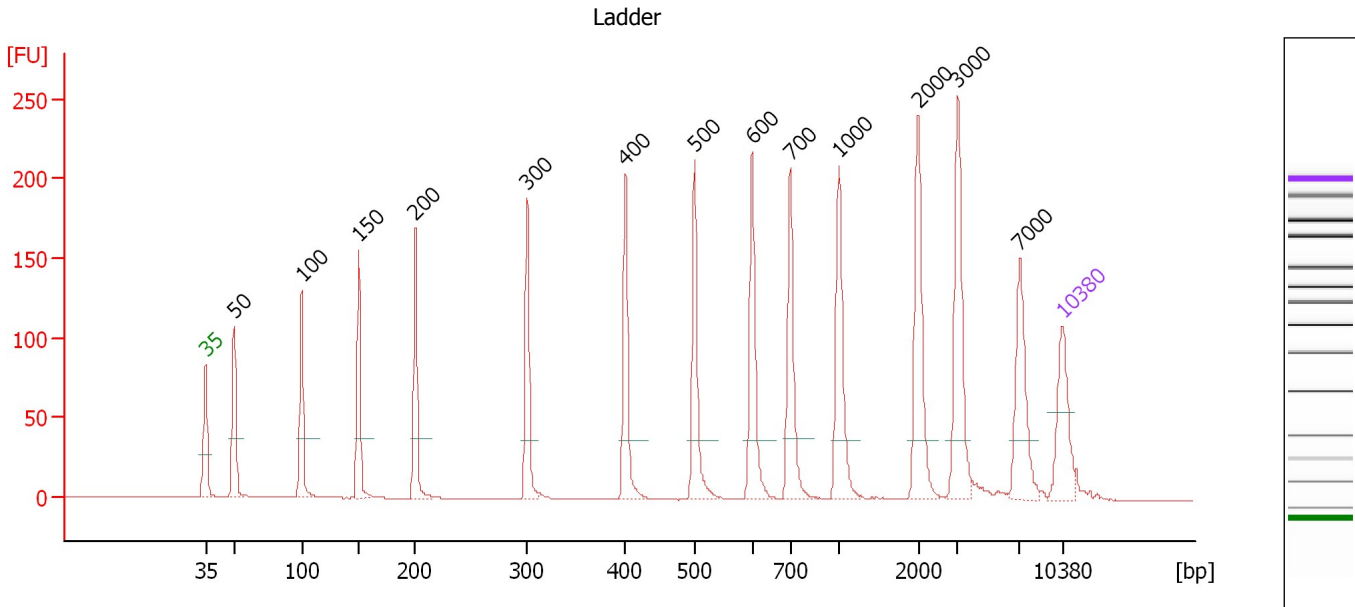
**Ladder**

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\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.2

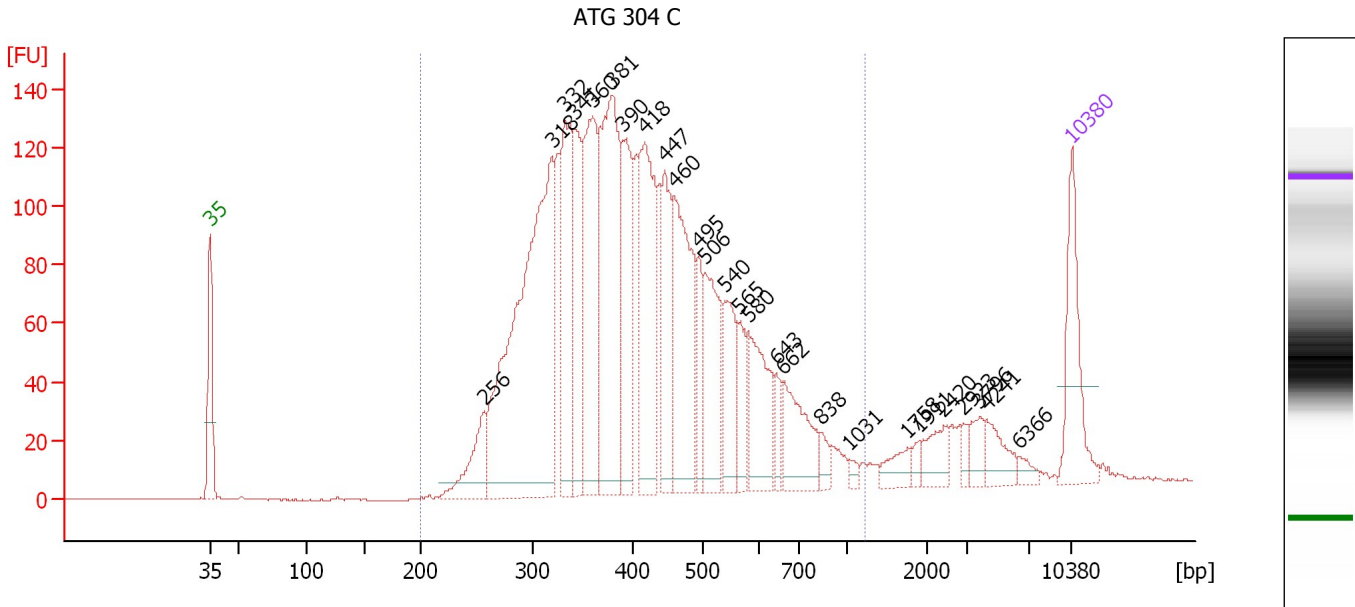
**Peak table for Ladder**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	50	150.00	4,545.5	Ladder Peak
3	100	150.00	2,272.7	Ladder Peak
4	150	150.00	1,515.2	Ladder Peak
5	200	150.00	1,136.4	Ladder Peak
6	300	150.00	757.6	Ladder Peak
7	400	150.00	568.2	Ladder Peak
8	500	150.00	454.5	Ladder Peak
9	600	150.00	378.8	Ladder Peak
10	700	150.00	324.7	Ladder Peak
11	1,000	150.00	227.3	Ladder Peak
12	2,000	150.00	113.6	Ladder Peak
13	3,000	150.00	75.8	Ladder Peak
14	7,000	150.00	32.5	Ladder Peak
15	10,380	75.00	10.9	Upper Marker

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 1 : ATG 304 C**

Number of peaks found: 26                      Corr. Area 1: 3,048.9  
 Noise: 0.2

**Peak table for sample 1 : ATG 304 C**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	256	73.07	432.3	
3	318	576.84	2,744.1	
4	332	191.60	874.4	
5	341	126.70	562.6	
6	360	217.63	915.7	
7	381	304.78	1,213.3	
8	390	140.60	546.5	
9	418	206.62	748.2	
10	447	106.39	360.9	
11	460	200.60	661.2	
12	495	49.68	152.1	
13	506	119.37	357.6	
14	540	74.82	210.0	
15	565	39.59	106.2	
16	580	96.47	251.9	
17	643	22.84	53.8	
18	662	78.07	178.6	
19	838	14.08	25.4	
20	1,031	6.67	9.8	
21	1,758	19.37	16.7	
22	1,911	7.52	6.0	
23	2,420	27.38	17.1	
24	2,923	7.86	4.1	
25	3,796	17.80	7.1	
26	4,241	27.87	10.0	

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

### Electropherogram Summary Continued ...

#### ... Peak table for sample 1 : ATG 304 C

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
27	6,366	8.55	2.0	
28	10,380	75.00	10.9	Upper Marker

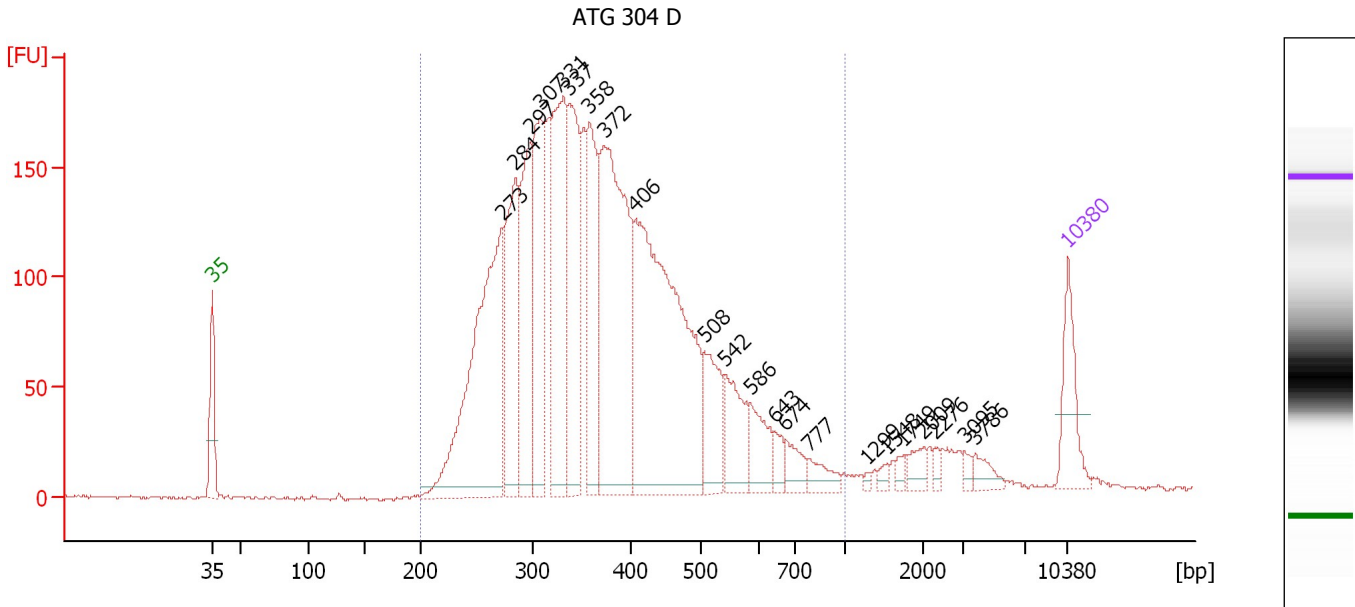
#### Region table for sample 1 : ATG 304 C

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,223	426	11,161.0	2,824.60	3,048.9	94	31.0

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : ATG 304 D**

Number of peaks found: 22                      Corr. Area 1: 4,070.0  
 Noise: 0.6

**Peak table for sample 2 : ATG 304 D**


Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	273	620.27	3,446.2	
3	284	290.61	1,549.6	
4	297	273.40	1,394.7	
5	307	270.25	1,331.7	
6	331	390.25	1,787.0	
7	337	282.43	1,270.3	
8	358	242.34	1,026.9	
9	372	577.59	2,351.0	
10	406	734.00	2,738.2	
11	508	121.80	363.6	
12	542	109.93	307.4	
13	586	72.90	188.4	
14	643	26.97	63.6	
15	674	38.68	87.0	
16	777	32.89	64.1	
17	1,299	3.93	4.6	
18	1,548	8.47	8.3	
19	1,749	10.10	8.8	
20	2,009	22.52	17.0	
21	2,276	9.34	6.2	
22	3,095	9.93	4.9	
23	3,786	20.90	8.4	
24	10,380	75.00	10.9	Upper Marker

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**

... Region table for sample 2 : ATG 304 D

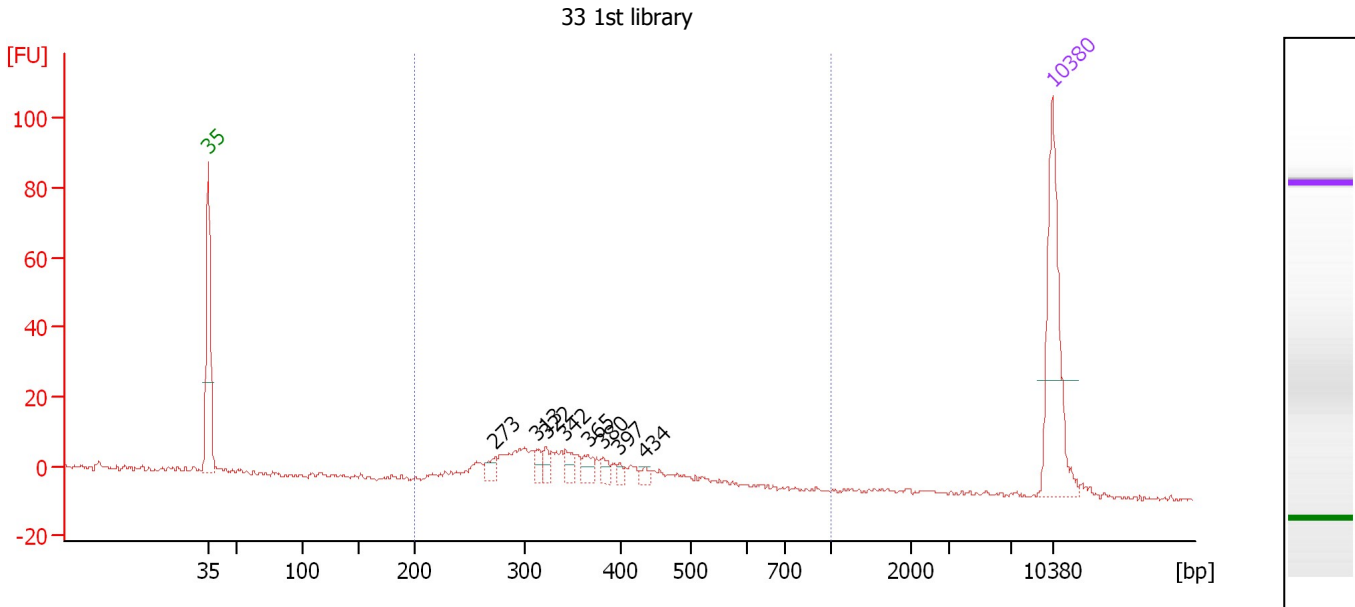
From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/ $\mu$ l]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	381	18,955.9	4,326.21	 4,070.0	95	29.3



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : 33 1st library**

Number of peaks found: 8                      Corr. Area 1: 163.1  
 Noise: 0.8

**Peak table for sample 3 : 33 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	273	10.12	56.2	
3	313	7.74	37.5	
4	322	8.40	39.5	
5	342	10.53	46.6	
6	365	10.57	43.9	
7	380	7.45	29.7	
8	397	4.39	16.7	
9	434	4.49	15.7	
10	10,380	75.00	10.9	Upper Marker

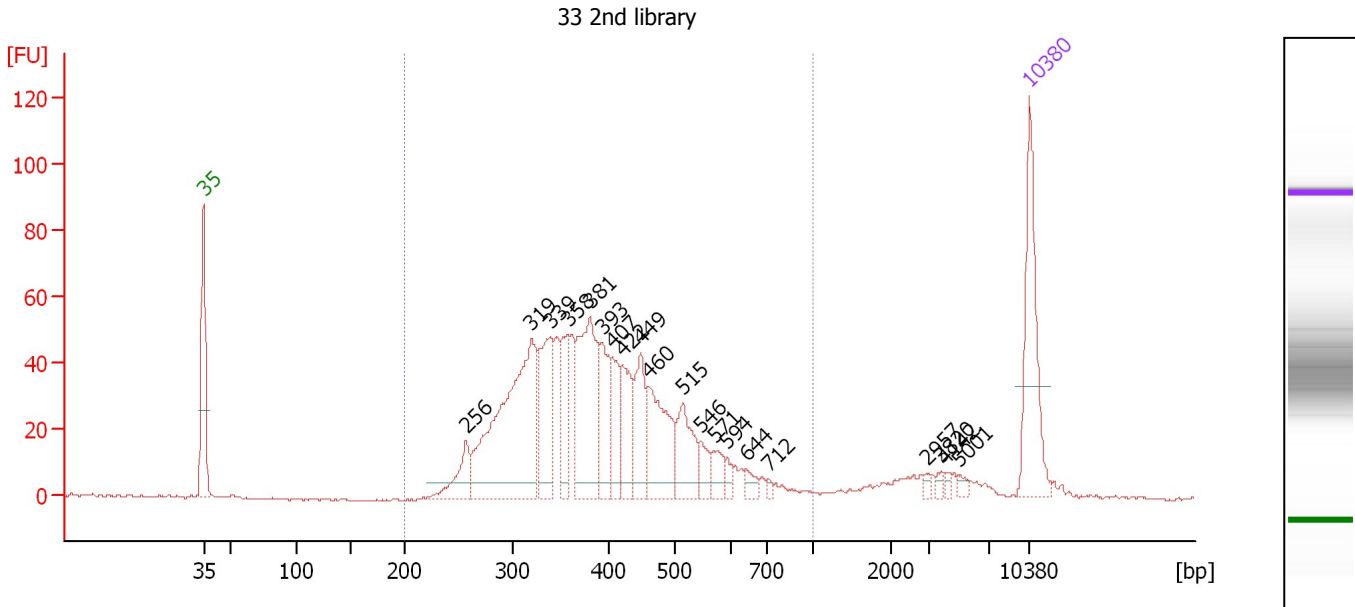
**Region table for sample 3 : 33 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	354	723.7	159.22	163.1	94	21.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 4 : 33 2nd library**

Number of peaks found: 20                      Corr. Area 1: 1,061.8  
 Noise: 0.3

**Peak table for sample 4 : 33 2nd library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	256	41.54	245.9	
3	319	258.04	1,225.5	
4	339	87.75	392.5	
5	358	49.61	210.0	
6	381	134.96	536.6	
7	393	50.04	192.7	
8	407	38.17	142.2	
9	422	50.27	180.6	
10	449	51.58	174.0	
11	460	82.08	270.3	
12	515	51.11	150.5	
13	546	17.81	49.4	
14	571	17.17	45.5	
15	594	7.31	18.6	
16	644	8.85	20.8	
17	712	3.22	6.9	
18	2,957	2.93	1.5	
19	3,820	3.23	1.3	
20	4,142	3.09	1.1	
21	5,001	4.12	1.2	
22	10,380	75.00	10.9	Upper Marker

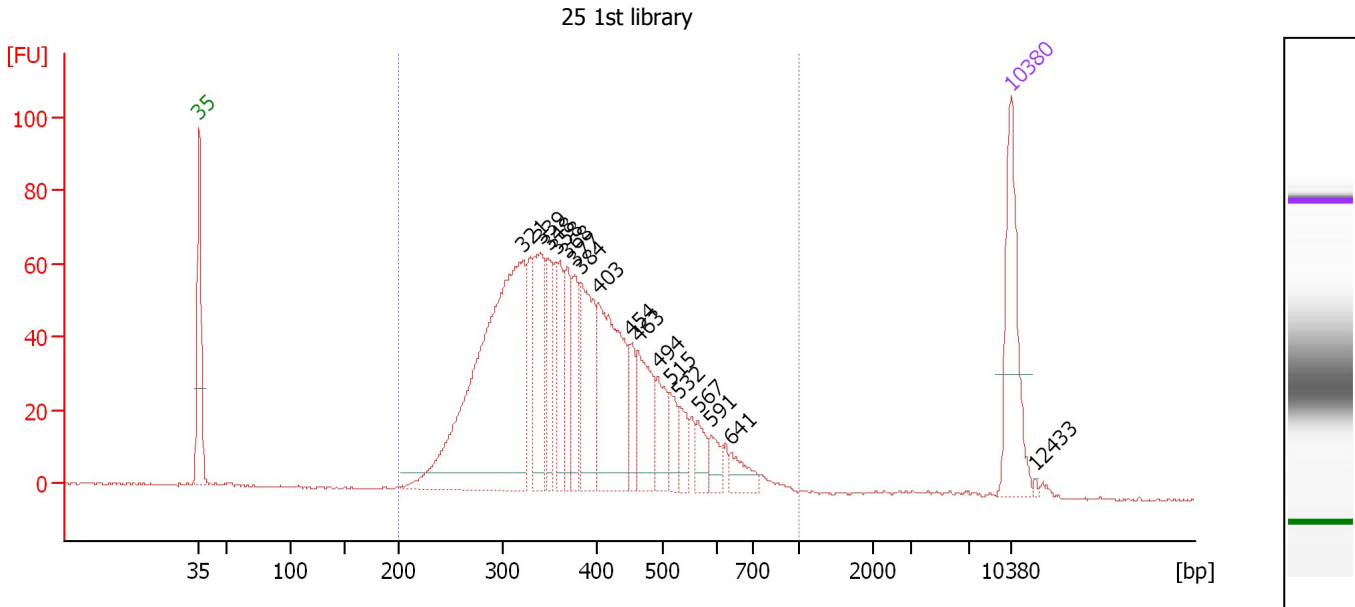
**Region table for sample 4 : 33 2nd library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	401	4,335.6	1,058.61	1,061.8	93	25.9

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

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 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 : 25 1st library**

Number of peaks found: 17      Corr. Area 1: 1,415.3  
 Noise: 0.3

**Peak table for sample 5 : 25 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	321	442.12	2,088.0	
3	339	94.77	423.3	
4	348	51.41	224.0	
5	358	49.02	207.4	
6	368	50.25	206.6	
7	377	51.34	206.6	
8	384	96.57	381.0	
9	403	150.18	564.2	
10	454	29.60	98.9	
11	463	66.52	217.5	
12	494	34.75	106.7	
13	515	24.72	72.8	
14	532	20.43	58.1	
15	567	19.20	51.3	
16	591	16.53	42.4	
17	641	18.76	44.3	
18	10,380	75.00	10.9	Upper Marker
19	12,433	0.00	0.0	

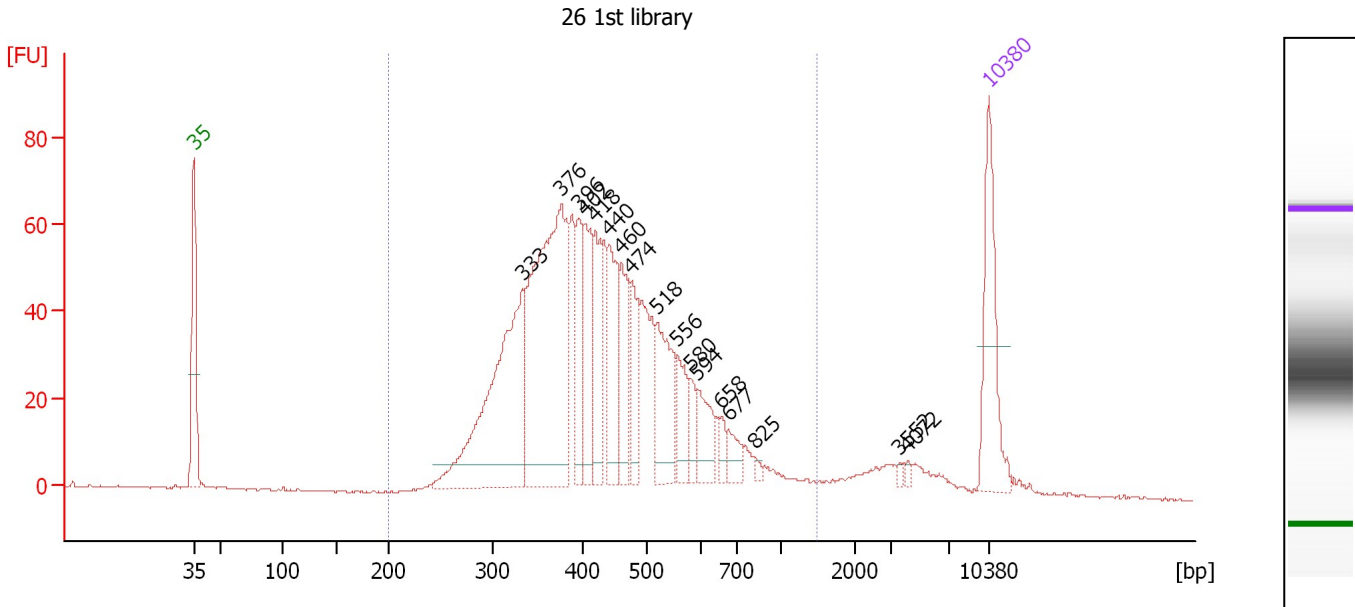
**Region table for sample 5 : 25 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	390	5,799.7	1,369.35	1,415.3	98	26.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : 26 1st library**

Number of peaks found: 17      Corr. Area 1: 1,308.9  
 Noise: 0.2

**Peak table for sample 6 : 26 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	333	272.65	1,242.3	
3	376	347.13	1,399.3	
4	396	61.49	235.4	
5	402	71.58	269.6	
6	418	68.20	247.2	
7	440	83.85	288.4	
8	460	63.22	208.4	
9	474	54.03	172.8	
10	518	81.30	237.7	
11	556	34.35	93.6	
12	580	21.79	56.9	
13	594	36.02	91.9	
14	658	10.41	24.0	
15	677	17.08	38.2	
16	825	4.16	7.6	
17	3,552	2.58	1.1	
18	4,072	2.77	1.0	
19	10,380	75.00	10.9	Upper Marker

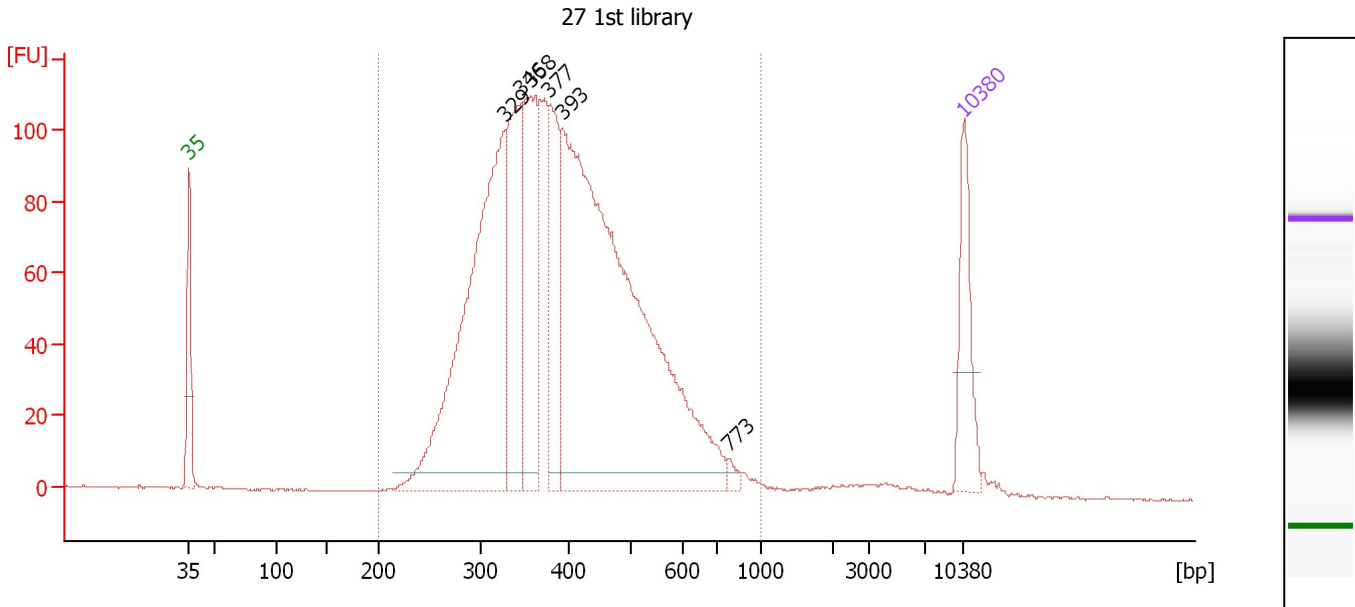
**Region table for sample 6 : 26 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,479	447	5,766.2	1,542.07	1,308.9	94	31.9

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : 27 1st library**

Number of peaks found: 6                      Corr. Area 1: 2,330.5  
 Noise: 0.2

**Peak table for sample 7 : 27 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	329	615.48	2,836.9	
3	346	245.59	1,075.0	
4	358	210.09	890.2	
5	377	158.85	637.7	
6	393	1,018.23	3,925.2	
7	773	8.63	16.9	
8	10,380	75.00	10.9	Upper Marker

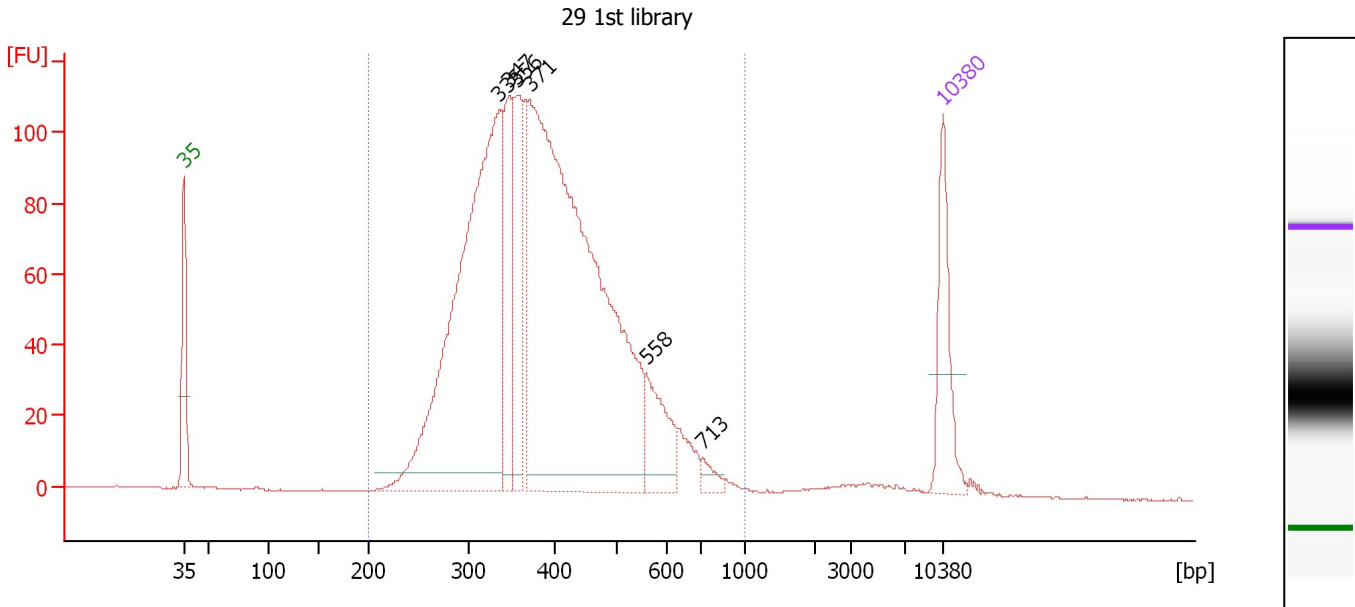
**Region table for sample 7 : 27 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	407	9,645.3	2,390.25	2,330.5	97	26.2

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : 29 1st library**

Number of peaks found: 6      Corr. Area 1: 2,213.7  
 Noise: 0.2

**Peak table for sample 8 : 29 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	335	730.12	3,302.1	
3	347	144.99	632.6	
4	356	143.54	610.1	
5	371	1,036.62	4,238.0	
6	558	82.12	223.2	
7	713	13.93	29.6	
8	10,380	75.00	10.9	Upper Marker

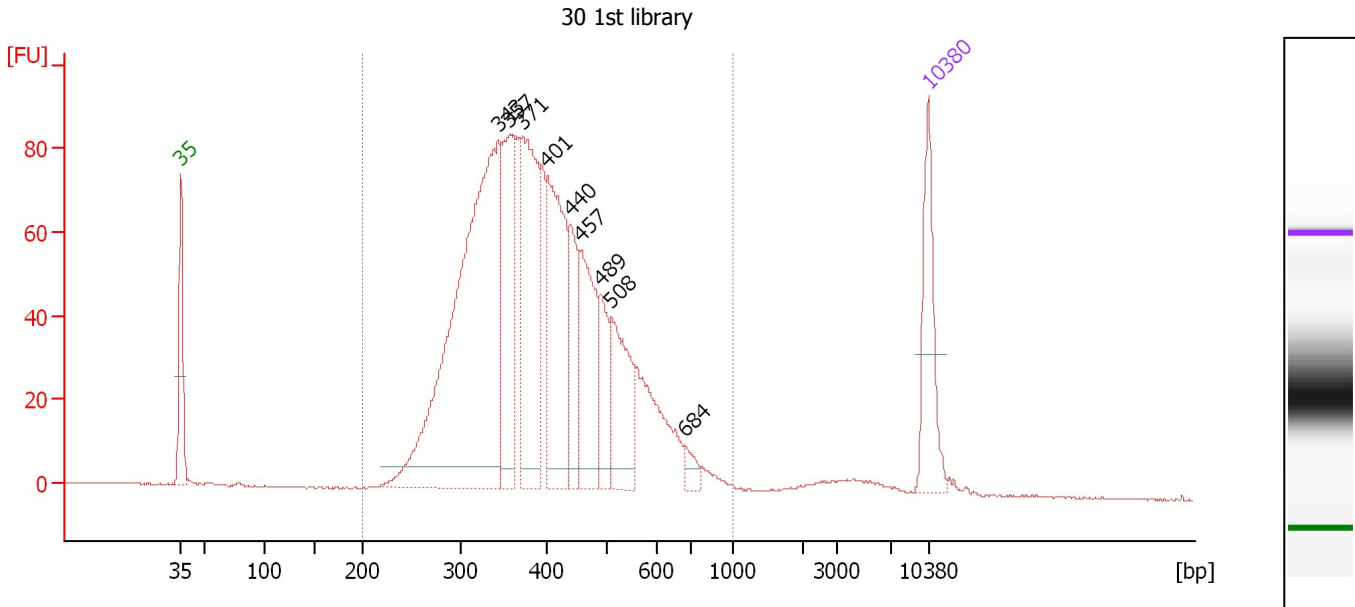
**Region table for sample 8 : 29 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	398	9,110.8	2,222.58	2,213.7	98	25.2

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : 30 1st library**

Number of peaks found: 9                      Corr. Area 1: 1,698.9  
 Noise: 0.2

**Peak table for sample 9 : 30 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	343	654.26	2,890.6	
3	357	173.97	739.1	
4	371	225.48	920.9	
5	401	205.12	774.6	
6	440	80.76	278.1	
7	457	133.44	442.6	
8	489	59.23	183.4	
9	508	108.59	323.6	
10	684	14.61	32.4	
11	10,380	75.00	10.9	Upper Marker

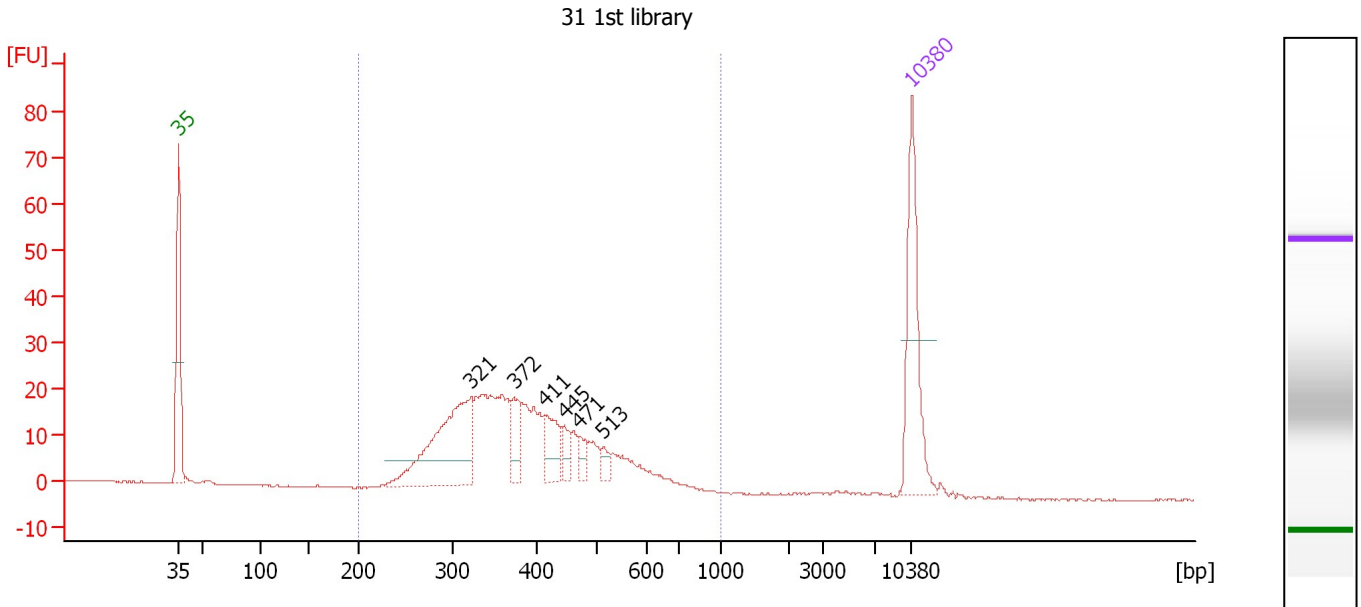
**Region table for sample 9 : 30 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	407	7,934.0	1,975.57	1,698.9	97	25.5

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : 31 1st library**

Number of peaks found: 6                      Corr. Area 1: 418.6  
 Noise: 0.1

**Peak table for sample 10 : 31 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	321	148.01	698.7	
3	372	30.52	124.4	
4	411	35.01	128.9	
5	445	15.66	53.4	
6	471	9.68	31.2	
7	513	8.61	25.4	
8	10,380	75.00	10.9	Upper Marker

**Region table for sample 10 : 31 1st library**

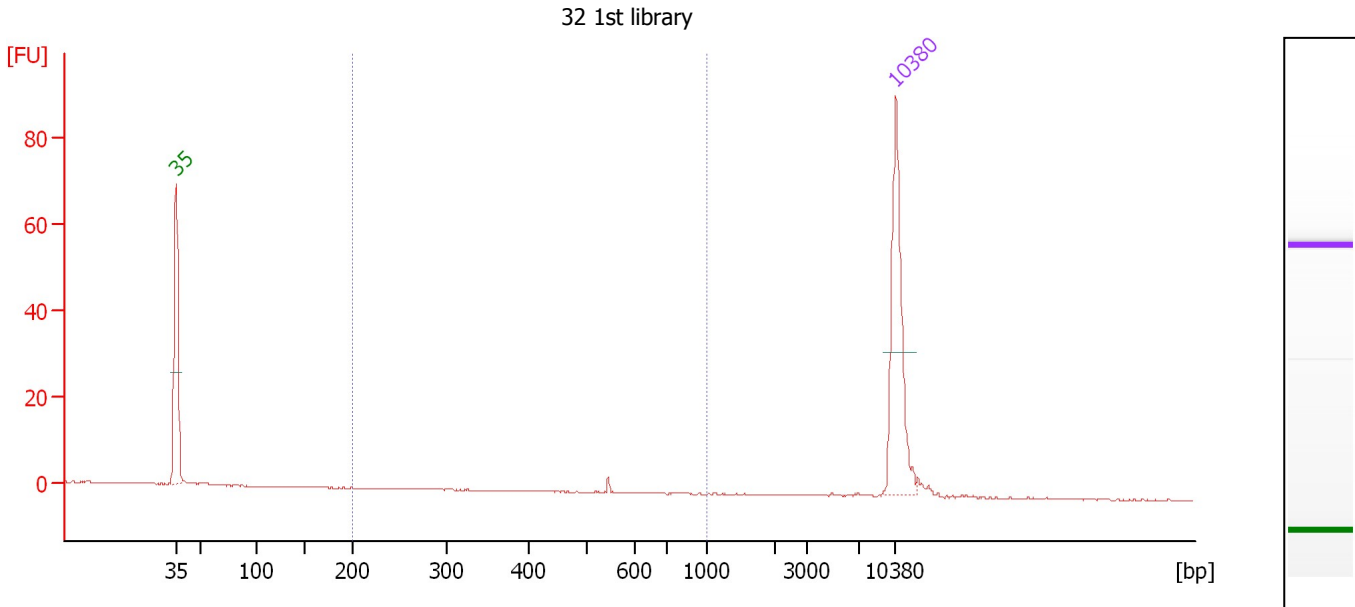
From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	394	2,224.8	535.67	418.6	98	25.1



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 AM

**Electropherogram Summary Continued ...**



**Overall Results for sample 11 : 32 1st library**

Number of peaks found: 0                      Corr. Area 1: 0.8  
 Noise: 0.1

**Peak table for sample 11 : 32 1st library**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	10,380	75.00	10.9	Upper Marker

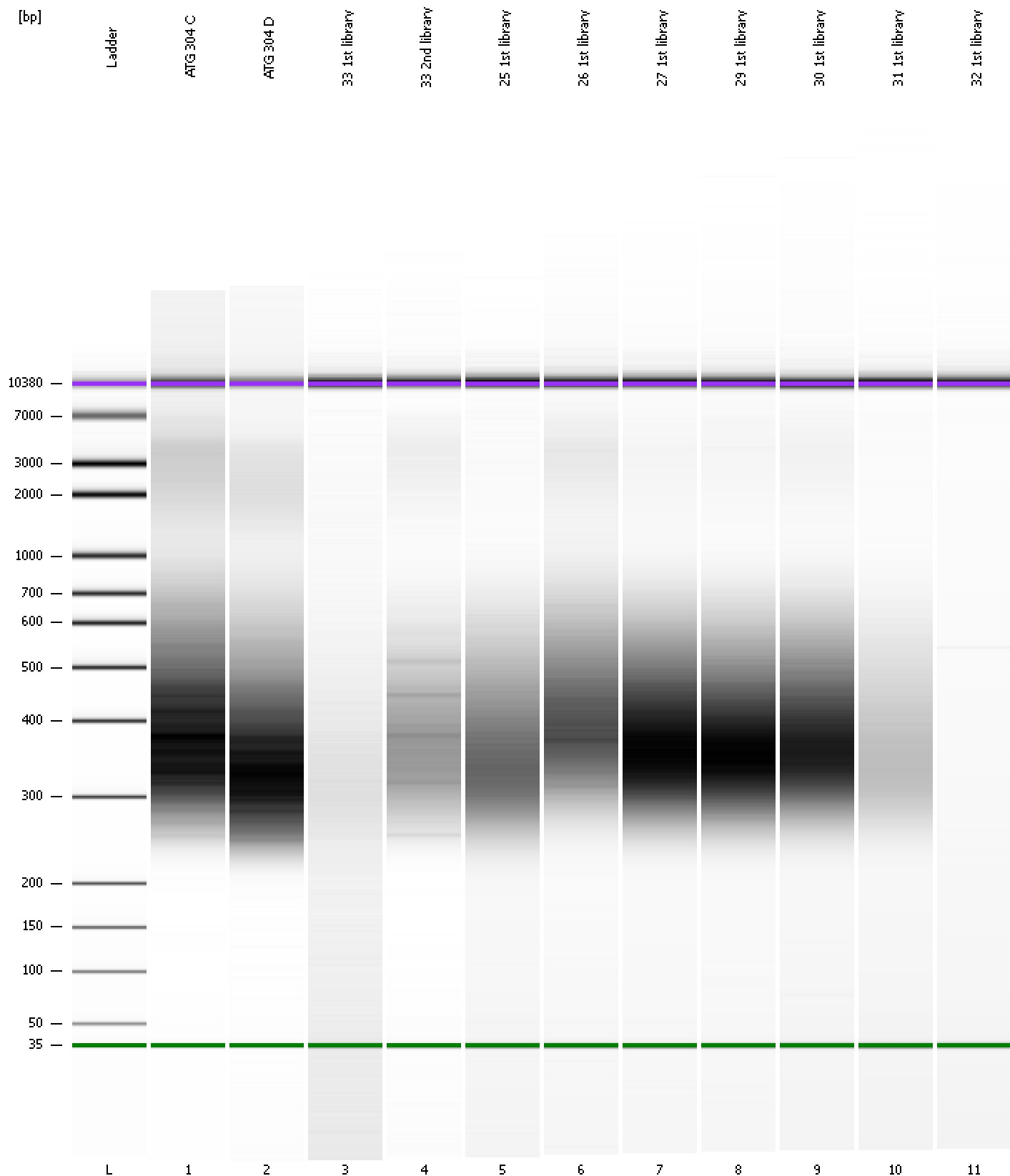
**Region table for sample 11 : 32 1st library**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
200	1,000	545	2.4	0.86	0.8	10	0.3

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
Modified: 7/22/2014 11:45:44 AM

**Gel Image**



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2014-07-16\2014-07-16\_004.xad

Created: 7/16/2014 2:00:13 PM  
 Modified: 7/22/2014 11:45:44 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		7/16/2014 2:40:41 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\Data\2014-07-16\2014-07-16_004.xad)		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		7/16/2014 2:00:19 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1