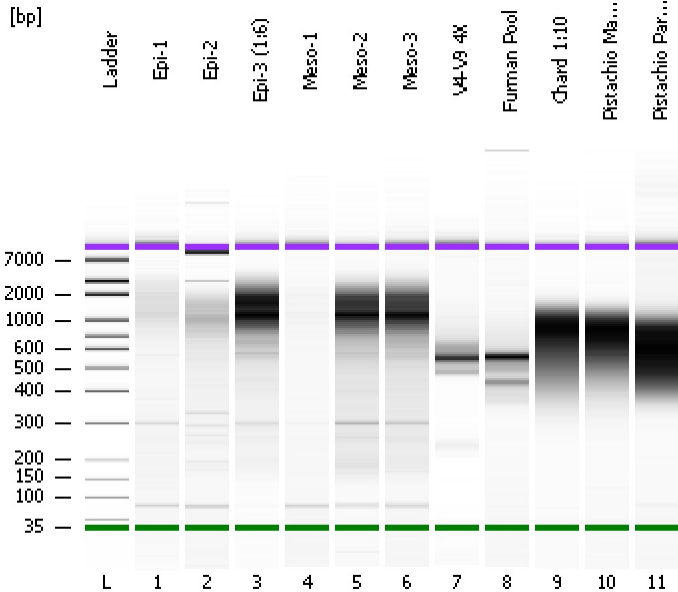


Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
Modified: 12/18/2014 6:17:53 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

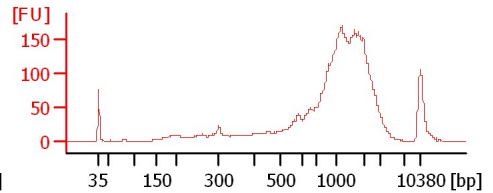
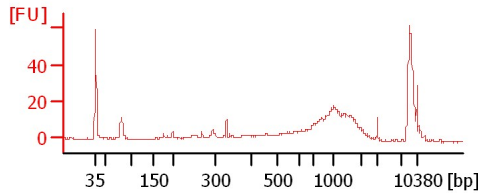
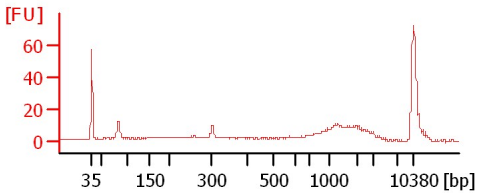
Chip Information:

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

Epi-1

Epi-2

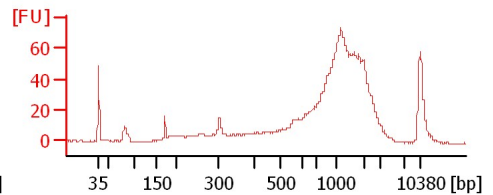
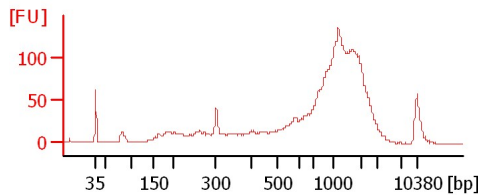
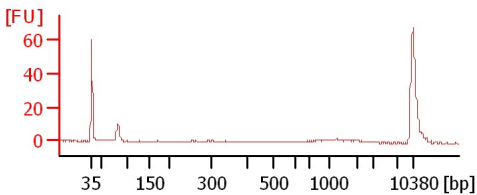
Epi-3 (1:6)



Meso-1

Meso-2

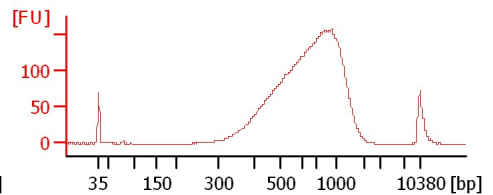
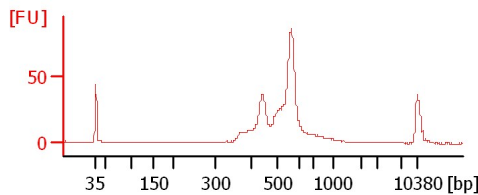
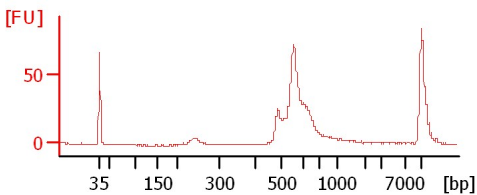
Meso-3



V4-V9 4X

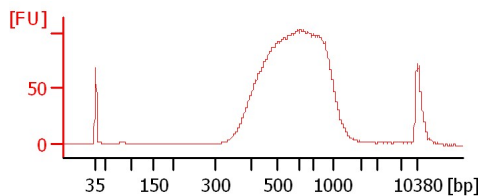
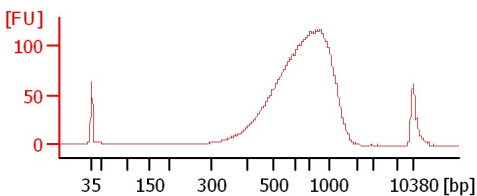
Furman Pool

Chard 1:10



Pistachio Mate Pair (1:2)

Pistachio Parent (1:5)



Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
Modified: 12/18/2014 6:17:53 PM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
Epi-1		<input type="checkbox"/>	✓			
Epi-2		<input type="checkbox"/>	✓			
Epi-3 (1:6)		<input type="checkbox"/>	✓			
Meso-1		<input type="checkbox"/>	✓			
Meso-2		<input type="checkbox"/>	✓			
Meso-3		<input type="checkbox"/>	✓			
V4-V9 4X		<input type="checkbox"/>	✓			
Furman Pool		<input type="checkbox"/>	✓			
Chard 1:10		<input type="checkbox"/>	✓			
Pistachio Mate Pair (1:2)		<input type="checkbox"/>	✓			
Pistachio Parent (1:5)		<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\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
Modified: 12/18/2014 6:17:53 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

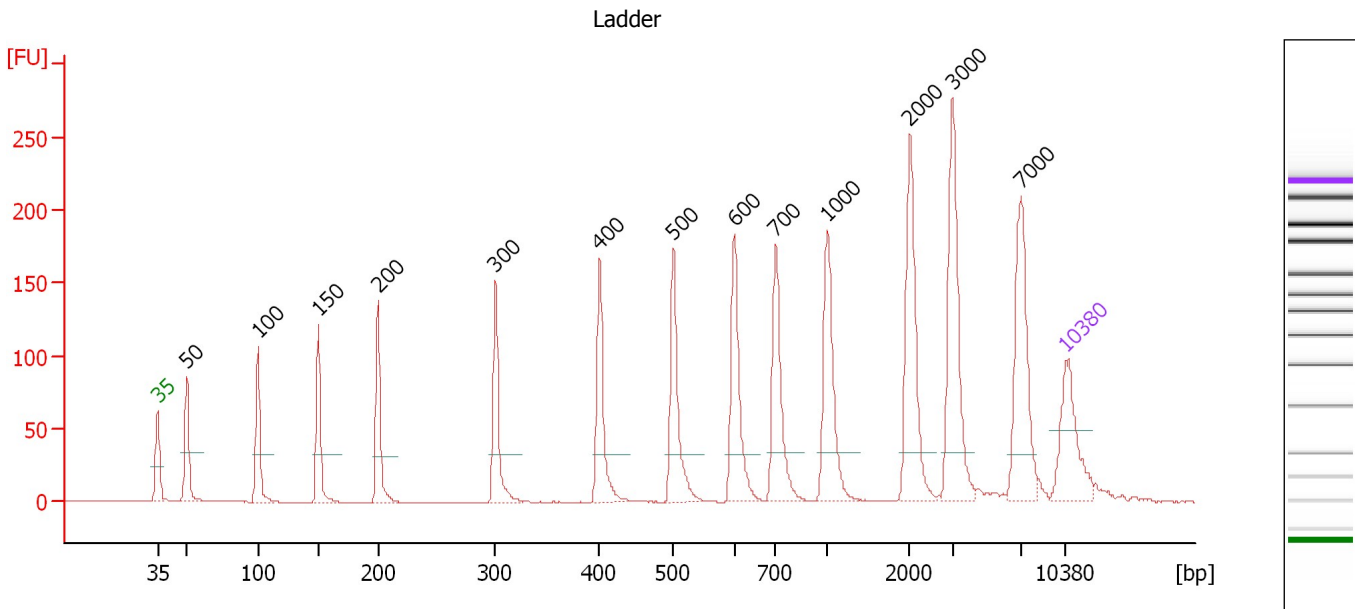
Ladder

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\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

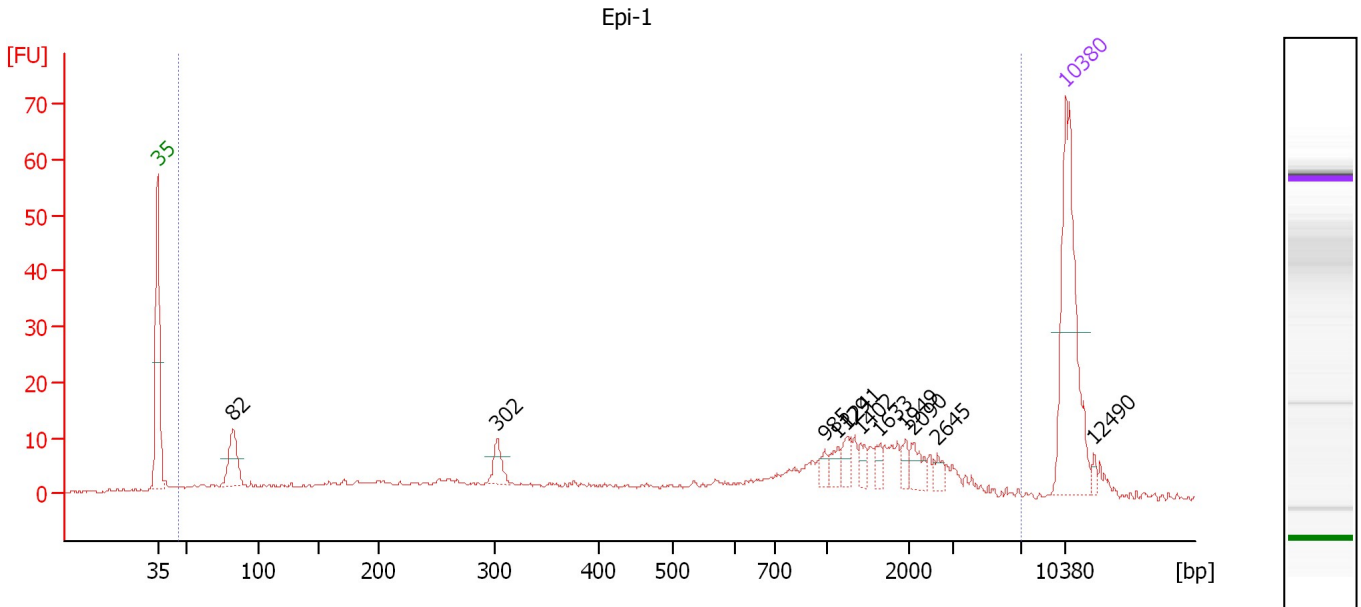
Peak table for Ladder

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	45.27
3	100	150.00	2,272.7	Ladder Peak	50.75
4	150	150.00	1,515.2	Ladder Peak	55.38
5	200	150.00	1,136.4	Ladder Peak	60.01
6	300	150.00	757.6	Ladder Peak	69.05
7	400	150.00	568.2	Ladder Peak	77.06
8	500	150.00	454.5	Ladder Peak	82.76
9	600	150.00	378.8	Ladder Peak	87.44
10	700	150.00	324.7	Ladder Peak	90.65
11	1,000	150.00	227.3	Ladder Peak	94.61
12	2,000	150.00	113.6	Ladder Peak	100.98
13	3,000	150.00	75.8	Ladder Peak	104.27
14	7,000	150.00	32.5	Ladder Peak	109.57
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 1 : Epi-1

Number of peaks found: 11 Corr. Area 1: 302.8
 Noise: 0.3

Peak table for sample 1 : Epi-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	82	33.10	610.3		48.80
3	302	12.82	64.4		69.17
4	985	4.22	6.5		94.41
5	1,129	6.51	8.7		95.43
6	1,241	7.05	8.6		96.15
7	1,402	5.75	6.2		97.17
8	1,633	5.27	4.9		98.64
9	1,949	4.83	3.8		100.65
10	2,090	8.64	6.3		101.27
11	2,645	4.29	2.5		103.10
12	10,380	75.00	10.9	Upper Marker	113.00
13	12,490	0.00	0.0		115.14

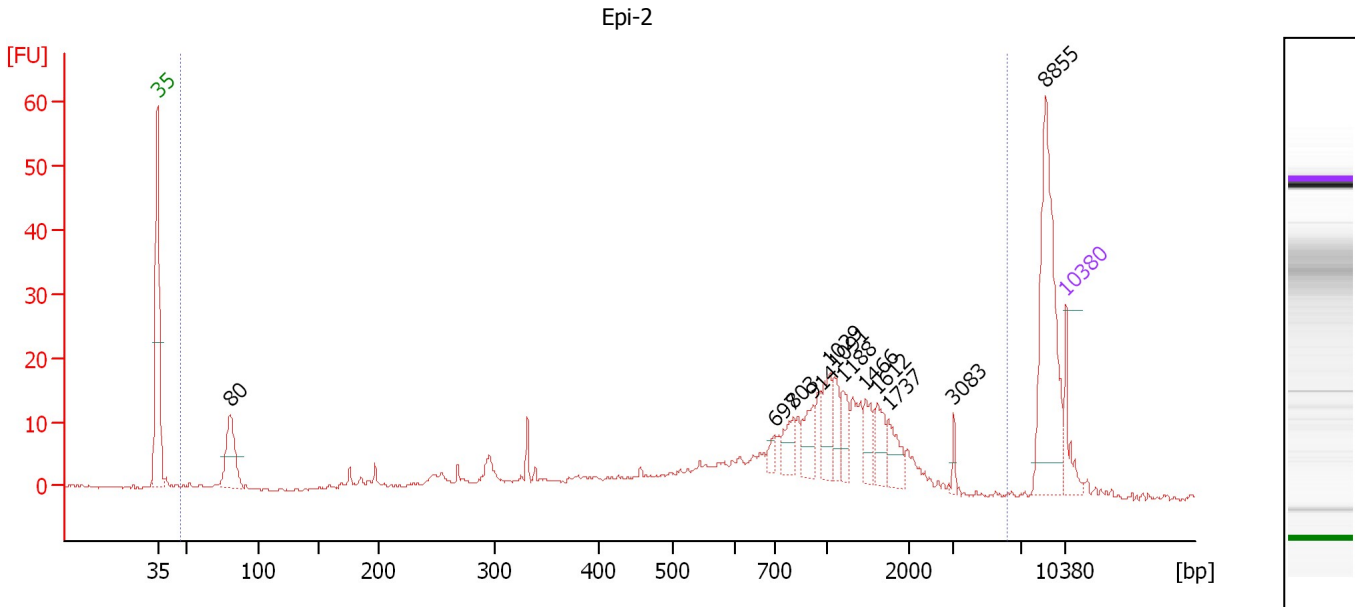
Region table for sample 1 : Epi-1

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
46	1,111	7,009	302.8	92	98.3	398.30	2,805.2	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 2 : Epi-2

Number of peaks found: 12 Corr. Area 1: 317.7
 Noise: 0.2

Peak table for sample 2 : Epi-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	80	272.62	5,156.9		48.57
3	697	33.87	73.6		90.55
4	803	77.45	146.1		92.01
5	914	84.63	140.4		93.47
6	1,029	109.07	160.6		94.79
7	1,091	69.86	97.0		95.19
8	1,188	69.89	89.1		95.81
9	1,466	72.61	75.0		97.58
10	1,612	81.15	76.3		98.51
11	1,737	74.03	64.6		99.30
12	3,083	20.00	9.8		104.38
13	8,855	464.53	79.5		111.45
14	10,380	75.00	10.9	Upper Marker	113.00

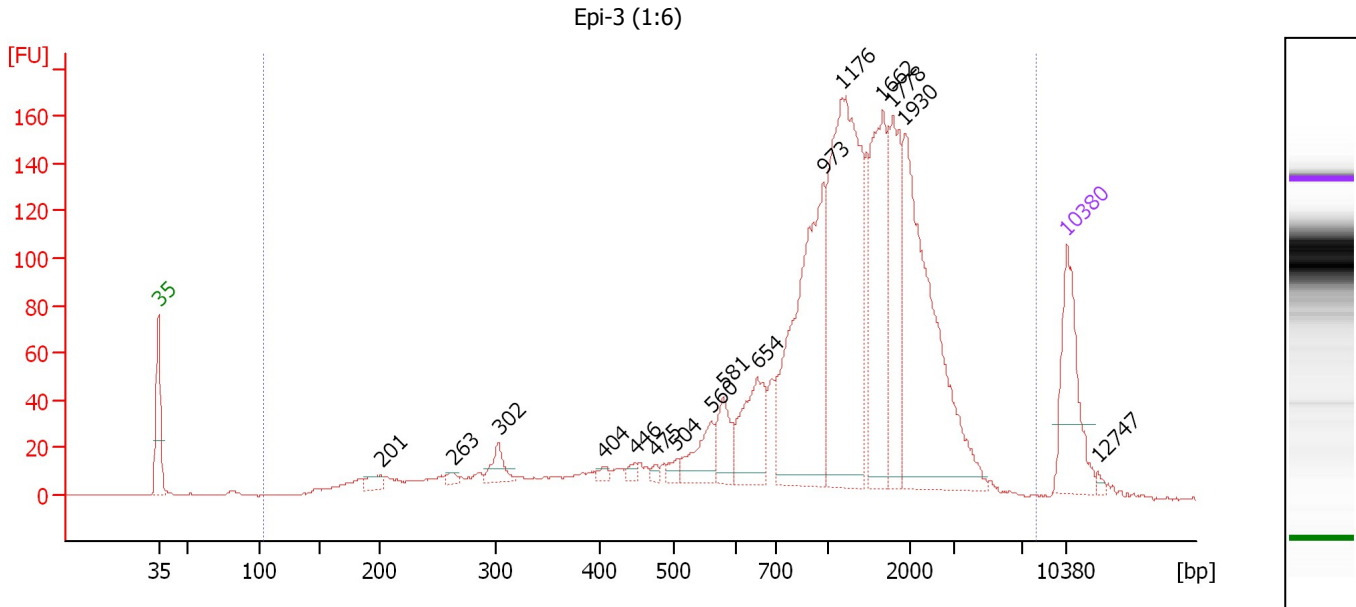
Region table for sample 2 : Epi-2

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
47	961	6,160	317.7	79	68.4	2,706.34	13,218.3	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 3 : Epi-3 (1:6)

Number of peaks found: 16 Corr. Area 1: 2,527.5
 Noise: 0.2

Peak table for sample 3 : Epi-3 (1:6)

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	201	14.57	109.6		60.13
3	263	5.90	34.0		65.67
4	302	21.66	108.6		69.23
5	404	5.60	21.0		77.31
6	446	5.85	19.8		79.71
7	475	4.63	14.8		81.32
8	504	8.39	25.2		82.94
9	560	39.64	107.2		85.57
10	581	37.34	97.4		86.54
11	654	75.97	176.0		89.17
12	973	239.23	372.5		94.25
13	1,176	298.94	385.1		95.73
14	1,662	140.79	128.4		98.82
15	1,778	101.13	86.2		99.56
16	1,930	239.99	188.4		100.53
17	10,380	75.00	10.9	Upper Marker	113.00
18	12,747	0.00	0.0		115.40

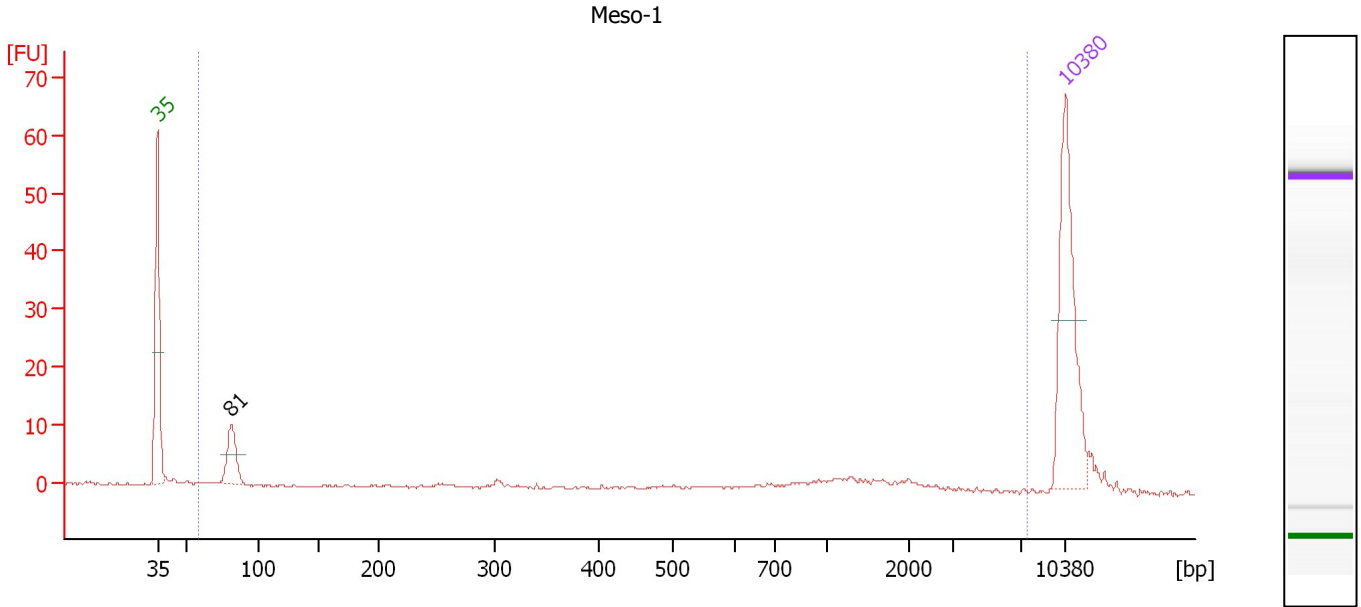
Region table for sample 3 : Epi-3 (1:6)

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
103	1,346	8,018	2,527.5	99	62.0	1,662.92	3,614.9	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 4 : Meso-1

Number of peaks found: 1 Corr. Area 1: 78.3
 Noise: 0.2

Peak table for sample 4 : Meso-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	81	34.89	651.6		48.68
3	10,380	75.00	10.9	Upper Marker	113.00

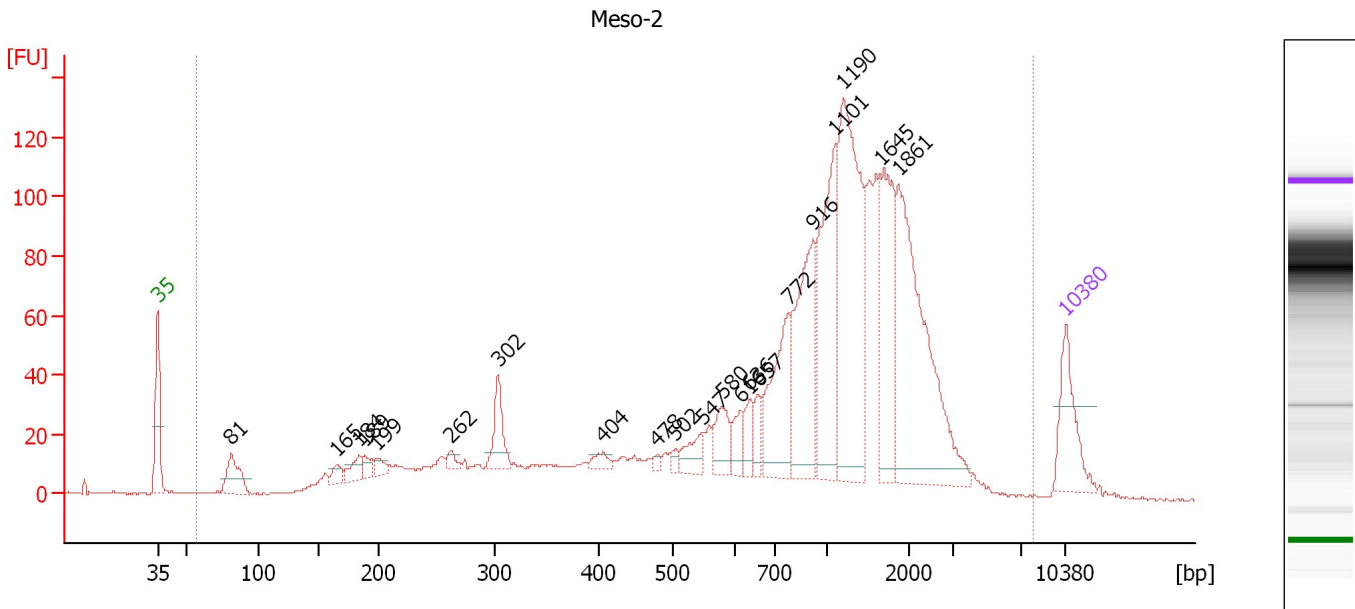
Region table for sample 4 : Meso-1

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
58	1,168	7,461	78.3	79	100.0	112.96	1,027.5	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 5 : Meso-2

Number of peaks found: 21 Corr. Area 1: 2,084.5
 Noise: 0.2


Peak table for sample 5 : Meso-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	81	74.20	1,383.5		48.69
3	165	20.62	188.9		56.81
4	184	28.82	237.5		58.52
5	189	18.64	149.9		58.95
6	199	17.55	133.8		59.89
7	262	13.61	78.6		65.64
8	302	61.72	309.2		69.24
9	404	15.21	57.0		77.31
10	478	6.75	21.4		81.49
11	502	9.95	30.0		82.86
12	547	35.84	99.3		84.95
13	580	49.13	128.3		86.52
14	616	28.88	71.1		87.94
15	636	34.68	82.6		88.61
16	657	27.69	63.9		89.27
17	772	146.83	288.2		91.60
18	916	189.86	314.2		93.49
19	1,101	216.01	297.3		95.25
20	1,190	327.01	416.3		95.82
21	1,645	157.98	145.5		98.72
22	1,861	318.13	259.0		100.09
23	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
Modified: 12/18/2014 6:17:53 PM

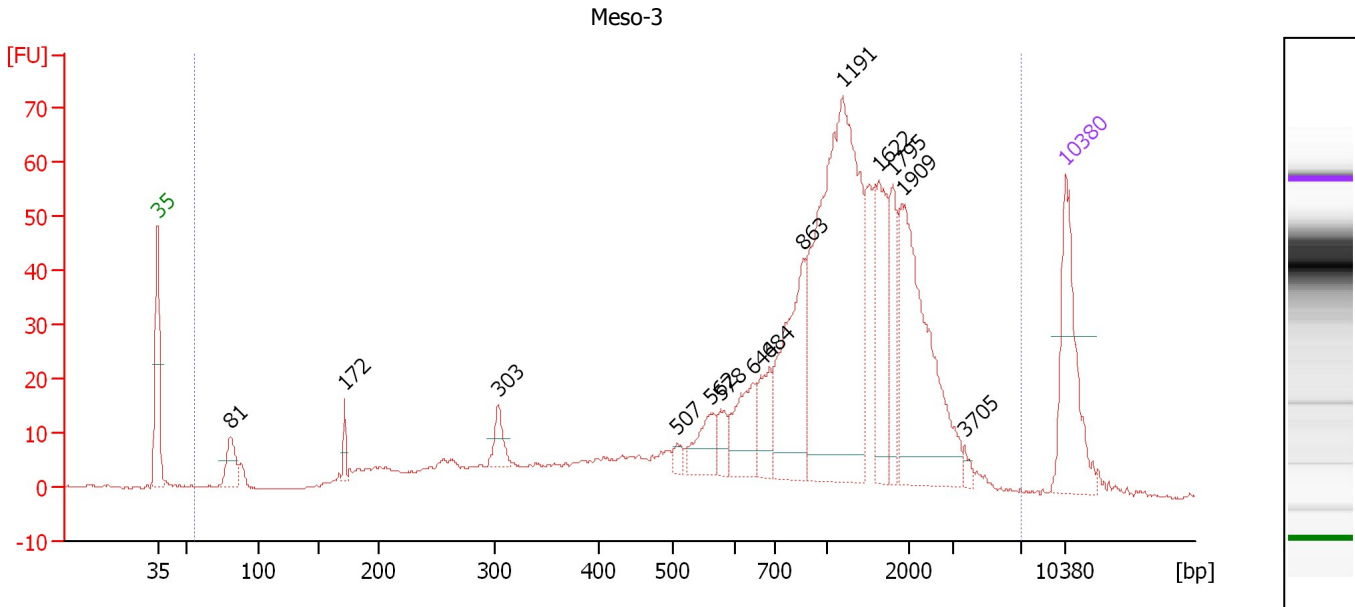
Electropherogram Summary Continued ...**... Region table for sample 5 : Meso-2**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Co lor
57	1,181	7,848	2,084.5	99	68.1	2,958.52	9,574.4	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 6 : Meso-3

Number of peaks found: 14 Corr. Area 1: 1,083.7
 Noise: 0.1

Peak table for sample 6 : Meso-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	81	36.48	685.3		48.63
3	172	13.97	123.0		57.43
4	303	21.99	110.1		69.27
5	507	7.88	23.6		83.08
6	562	31.54	85.0		85.67
7	578	16.55	43.4		86.40
8	644	50.74	119.4		88.85
9	684	36.37	80.5		90.15
10	863	112.85	198.2		92.79
11	1,191	334.19	425.2		95.82
12	1,622	68.57	64.1		98.57
13	1,795	41.27	34.8		99.67
14	1,909	156.99	124.6		100.40
15	3,705	4.61	1.9		105.21
16	10,380	75.00	10.9	Upper Marker	113.00

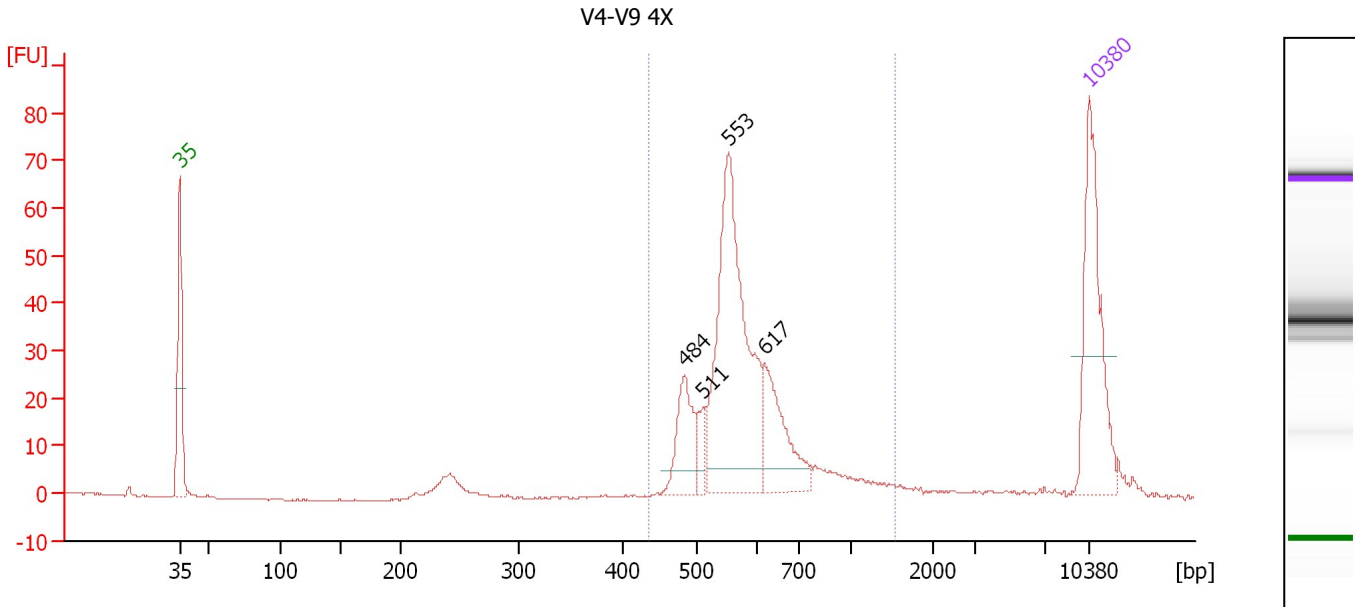
Region table for sample 6 : Meso-3

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
55	1,221	7,046	1,083.7	98	65.9	1,435.41	4,383.1	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 7 : V4-V9 4X

Number of peaks found: 4 Corr. Area 1: 389.8
 Noise: 0.2

Peak table for sample 7 : V4-V9 4X

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	484	45.54	142.5		81.86
3	511	15.99	47.4		83.29
4	553	202.87	556.3		85.22
5	617	57.47	141.2		87.97
6	10,380	75.00	10.9	Upper Marker	113.00

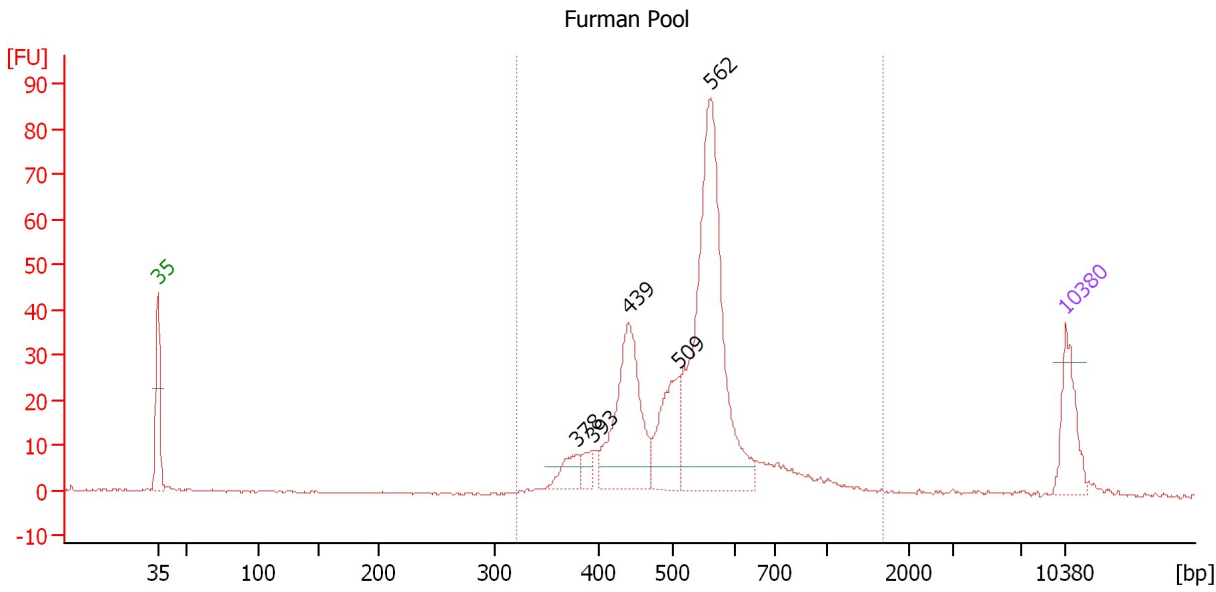
Region table for sample 7 : V4-V9 4X

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
435	602	1,534	389.8	92	23.8	346.02	909.2	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 8 : Furman Pool

Number of peaks found: 5 Corr. Area 1: 519.9
 Noise: 0.3

Peak table for sample 8 : Furman Pool

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	378	45.73	183.2		75.32
3	393	26.74	103.1		76.49
4	439	276.74	954.0		79.32
5	509	139.19	414.6		83.17
6	562	607.16	1,637.5		85.65
7	10,380	75.00	10.9	Upper Marker	113.00

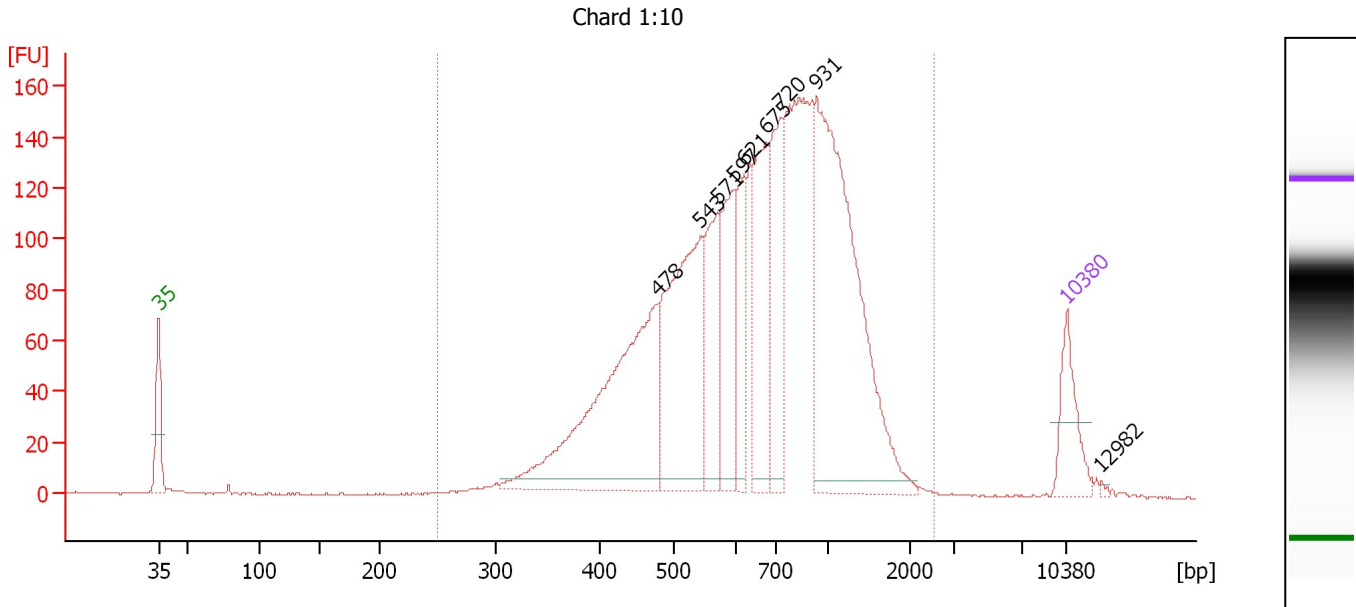
Region table for sample 8 : Furman Pool

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
321	546	1,673	519.9	92	28.0	1,309.10	3,880.4	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 9 : Chard 1:10

Number of peaks found: 9 Corr. Area 1: 2,880.8
 Noise: 0.3

Peak table for sample 9 : Chard 1:10

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	478	555.31	1,759.6		81.52
3	543	410.77	1,145.3		84.79
4	571	175.48	466.0		86.07
5	597	162.18	411.8		87.29
6	621	119.26	290.9		88.12
7	675	214.82	482.5		89.83
8	720	192.28	404.9		90.91
9	931	652.13	1,061.9		93.69
10	10,380	75.00	10.9	Upper Marker	113.00
11	12,982	0.00	0.0		115.64

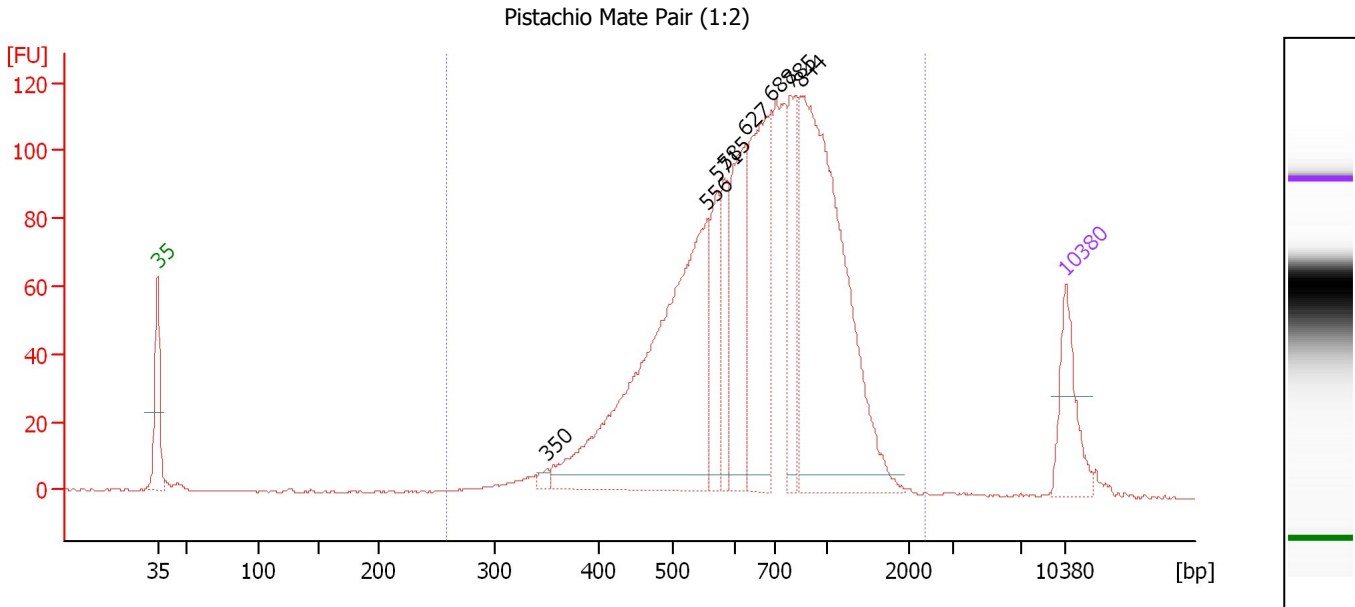
Region table for sample 9 : Chard 1:10

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
249	751	2,534	2,880.8	98	42.8	3,126.93	7,702.9	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 10 : Pistachio Mate Pair (1:2)

Number of peaks found: 8 Corr. Area 1: 1,941.2
 Noise: 0.3

Peak table for sample 10 : Pistachio Mate Pair (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	350	10.01	43.4		73.03
3	556	648.24	1,767.9		85.36
4	571	109.03	289.2		86.10
5	585	82.67	214.2		86.73
6	627	182.32	440.8		88.30
7	688	282.10	621.5		90.25
8	785	122.32	236.1		91.77
9	844	595.08	1,067.9		92.55
10	10,380	75.00	10.9	Upper Marker	113.00

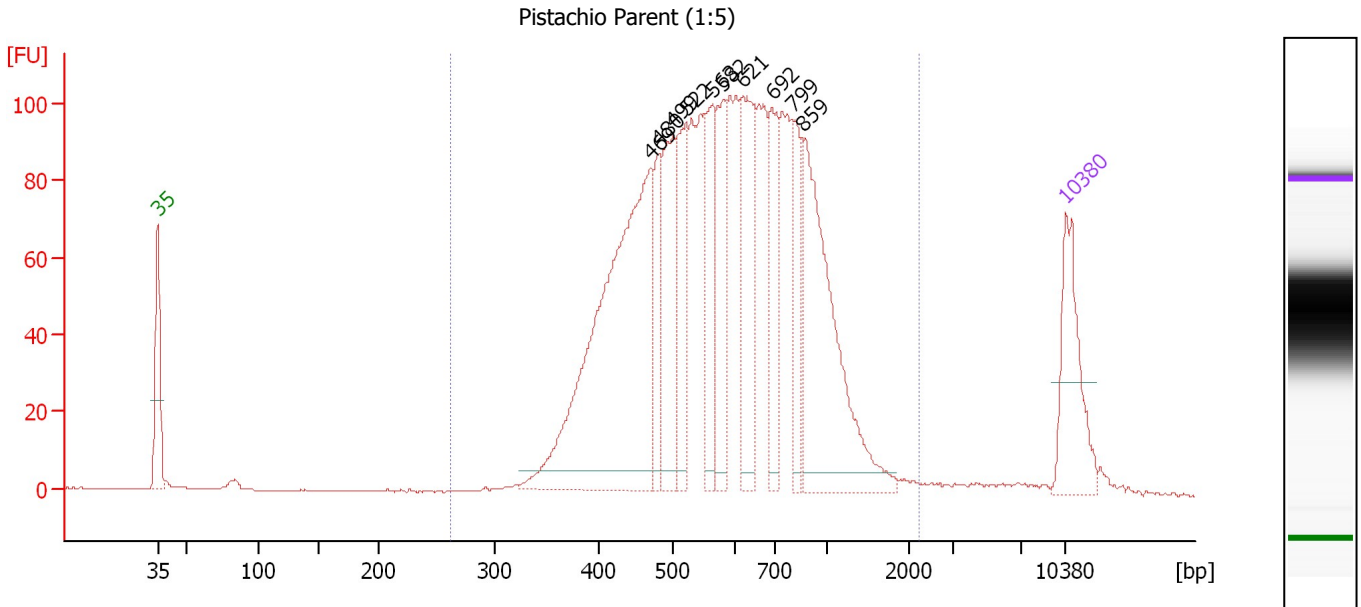
Region table for sample 10 : Pistachio Mate Pair (1:2)

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
258	731	2,368	1,941.2	98	37.4	2,368.99	5,727.8	Blue

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 PM

Electropherogram Summary Continued ...



Overall Results for sample 11 : Pistachio Parent (1:5)

Number of peaks found: 10 Corr. Area 1: 2,126.5
 Noise: 0.1

Peak table for sample 11 : Pistachio Parent (1:5)

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	469	472.57	1,528.2		80.97
3	480	67.94	214.5		81.61
4	499	123.87	376.2		82.70
5	522	92.01	267.1		83.79
6	563	91.72	246.7		85.72
7	582	90.42	235.3		86.61
8	621	125.80	307.1		88.10
9	692	81.78	179.2		90.38
10	799	69.58	131.9		91.96
11	859	240.53	424.1		92.75
12	10,380	75.00	10.9	Upper Marker	113.00

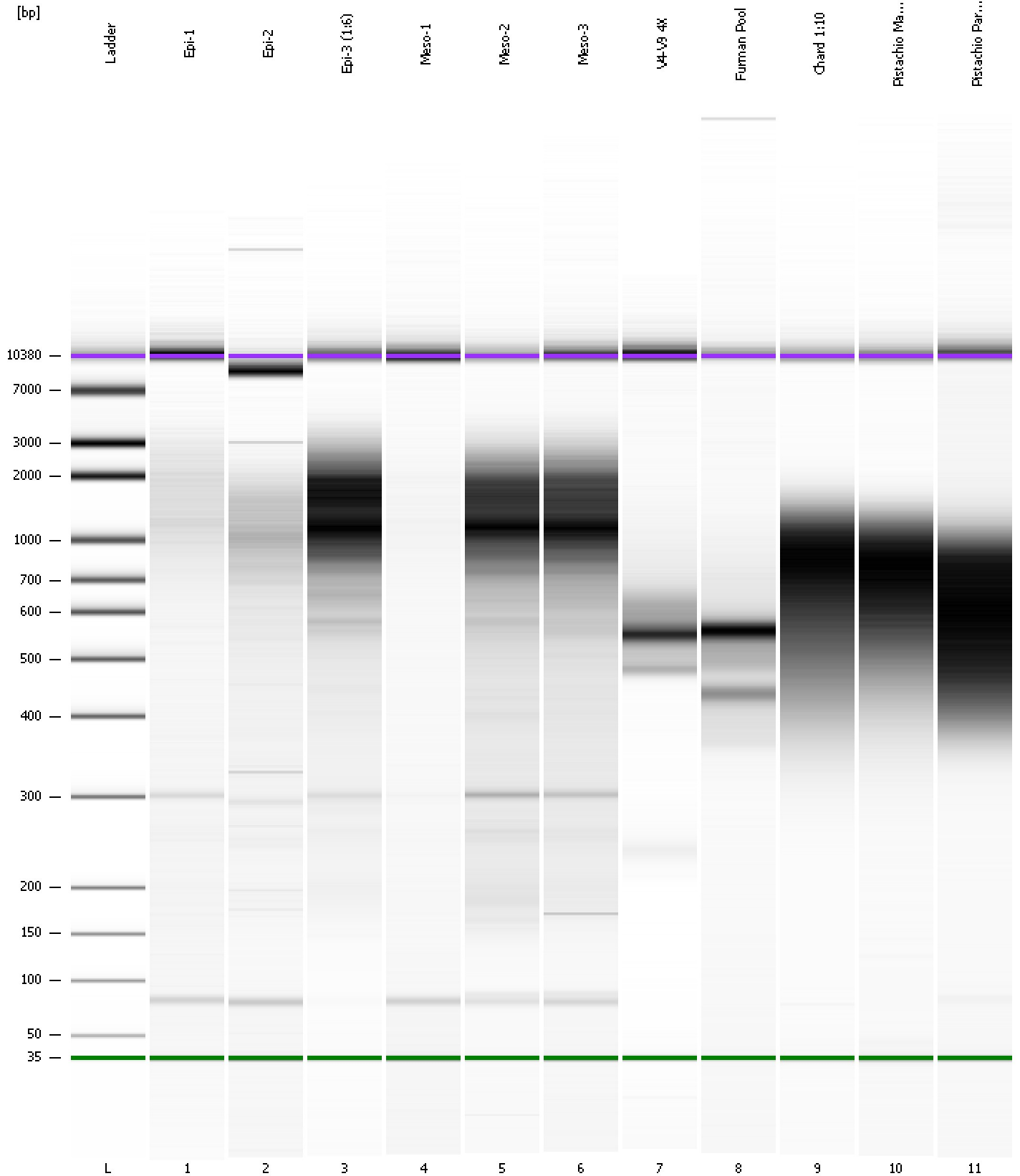
Region table for sample 11 : Pistachio Parent (1:5)

From [bp]	Average Size [bp]	To [bp]	Corr. Area	% of Total	Size distribution in CV [%]	Conc. [pg/μl]	Molarity [pmol/l]	Color
261	638	2,221	2,126.5	96	37.3	1,986.00	5,374.4	Blue

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
Modified: 12/18/2014 6:17:53 PM

Gel Image



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad

Created: 12/18/2014 5:13:39 PM
 Modified: 12/18/2014 6:17:53 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		12/18/2014 5:54:06 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2014-12-18\2014-12-18_006.xad)		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		12/18/2014 5:13:45 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1