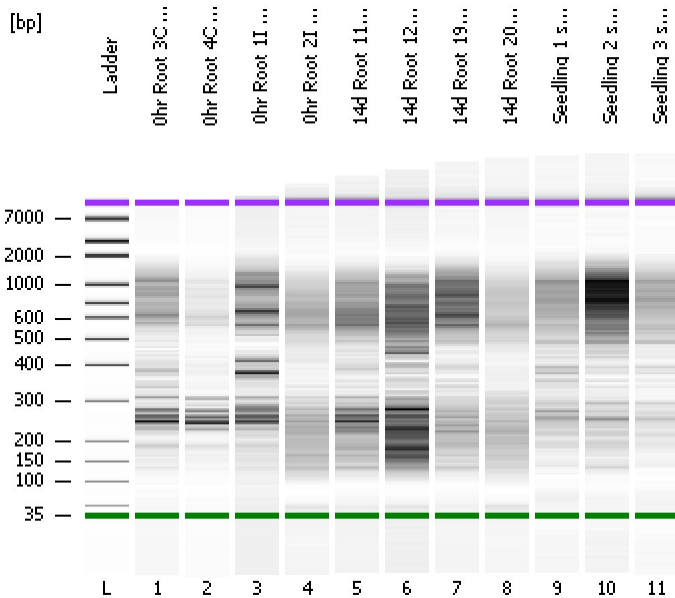


Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
Modified: 3/21/2014 11:16:59 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

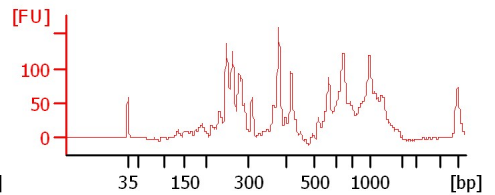
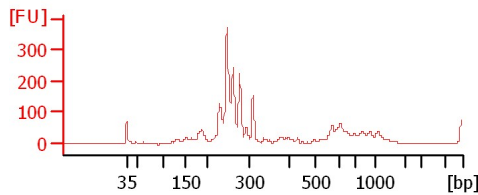
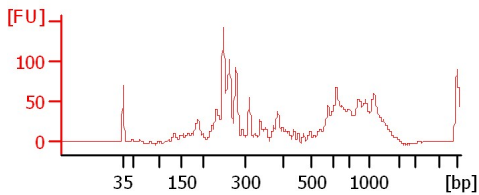
Chip Information:

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

0hr Root 3C Shear

0hr Root 4C Shear

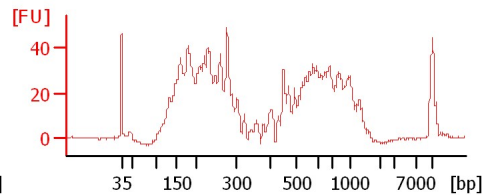
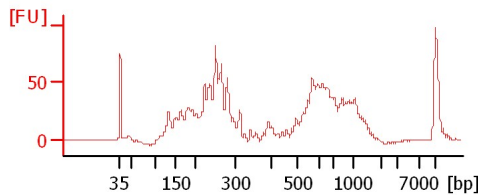
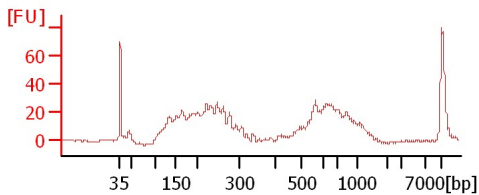
0hr Root 1I Shear



0hr Root 2I Shear

14d Root 11I Shear

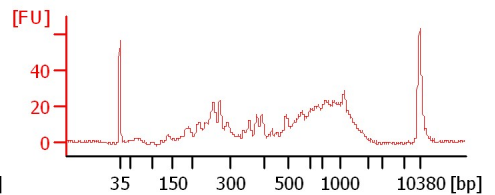
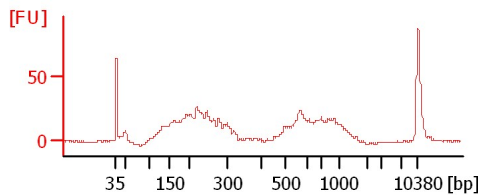
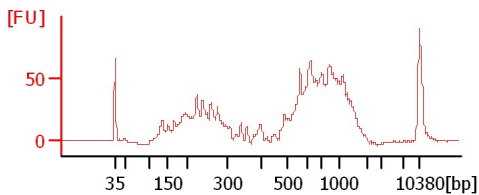
14d Root 12I Shear



14d Root 19C Shear

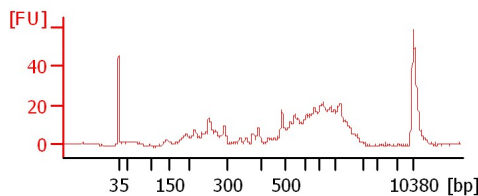
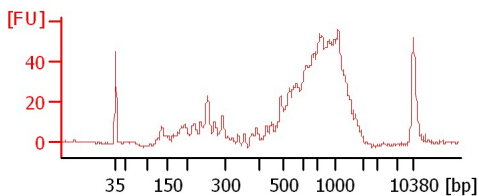
14d Root 20C Shear

Seedling 1 sheared



Seedling 2 sheared

Seedling 3 sheared



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
0hr Root 3C Shear		<input type="checkbox"/>	✓			
0hr Root 4C Shear		<input type="checkbox"/>	✓			
0hr Root 1I Shear		<input type="checkbox"/>	✓			
0hr Root 2I Shear		<input type="checkbox"/>	✓			
14d Root 11I Shear		<input type="checkbox"/>	✓			
14d Root 12I Shear		<input type="checkbox"/>	✓			
14d Root 19C Shear		<input type="checkbox"/>	✓			
14d Root 20C Shear		<input type="checkbox"/>	✓			
Seedling 1 sheared		<input type="checkbox"/>	✓			
Seedling 2 sheared		<input type="checkbox"/>	✓			
Seedling 3 sheared		<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\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 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

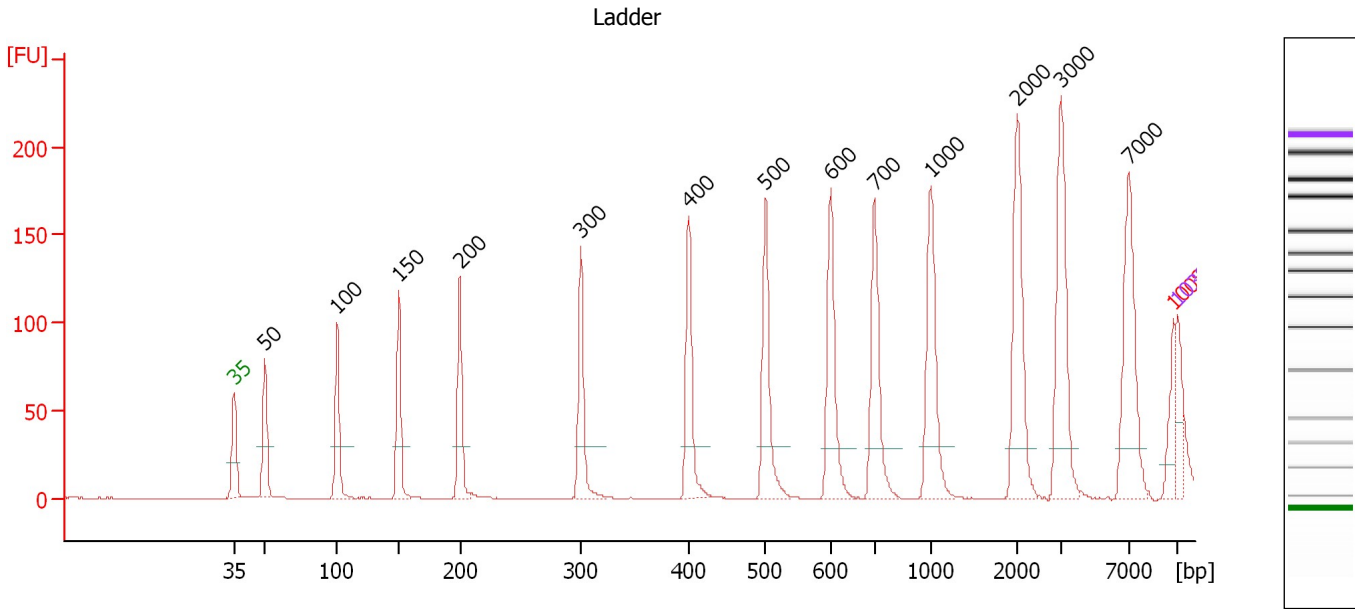
Ladder

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:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.2

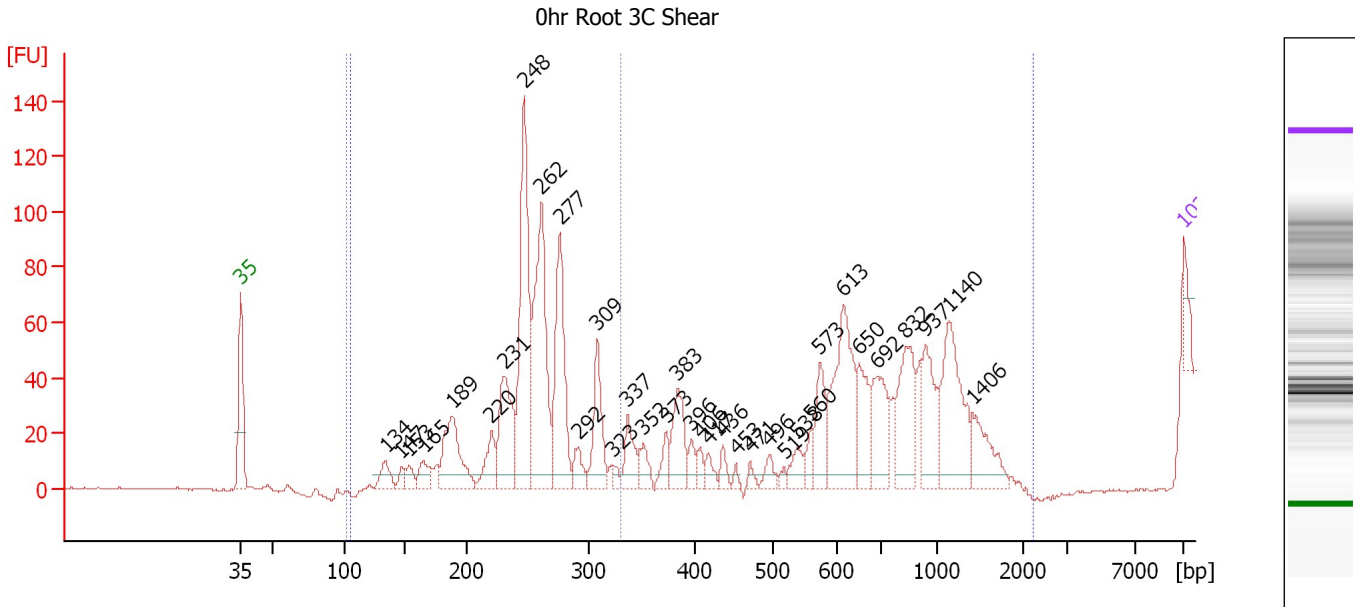
Peak table for Ladder

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	45.29	50	150.00	4,545.5	Ladder Peak
3	50.67	100	150.00	2,272.7	Ladder Peak
4	55.22	150	150.00	1,515.2	Ladder Peak
5	59.77	200	150.00	1,136.4	Ladder Peak
6	68.75	300	150.00	757.6	Ladder Peak
7	76.73	400	150.00	568.2	Ladder Peak
8	82.43	500	150.00	454.5	Ladder Peak
9	87.25	600	150.00	378.8	Ladder Peak
10	90.50	700	150.00	324.7	Ladder Peak
11	94.69	1,000	150.00	227.3	Ladder Peak
12	101.10	2,000	150.00	113.6	Ladder Peak
13	104.34	3,000	150.00	75.8	Ladder Peak
14	109.36	7,000	150.00	32.5	Ladder Peak
15	112.68	10,086	0.00	0.0	excluded peak
16	113.00	10,380	75.00	10.9	Upper Marker

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 1 : 0hr Root 3C Shear

Number of peaks found: 36 Corr. Area 1: 287.0
 Noise: 0.3 Corr. Area 2: 297.9

Peak table for sample 1 : 0hr Root 3C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	4.50	0	0.00	0.0	
2	43.00	35	125.00	5,411.3	Lower Marker
3	53.76	134	141.85	1,604.1	
4	54.91	147	63.49	656.2	
5	55.50	153	84.90	840.1	
6	56.57	165	133.94	1,230.9	
7	58.75	189	535.67	4,299.0	
8	61.60	220	217.30	1,494.0	
9	62.51	231	583.97	3,838.3	
10	64.05	248	1,256.39	7,684.9	
11	65.32	262	1,203.74	6,966.2	
12	66.66	277	828.00	4,532.3	
13	68.05	292	121.39	629.4	
14	69.47	309	389.47	1,909.1	
15	70.62	323	38.73	181.4	
16	71.69	337	197.20	887.0	
17	72.88	352	117.06	504.3	
18	74.58	373	109.30	444.0	
19	75.41	383	305.83	1,208.6	
20	76.44	396	81.33	311.0	
21	77.07	406	66.75	249.2	
22	77.70	417	68.74	249.8	
23	78.77	436	64.11	222.9	
24	79.76	453	27.68	92.5	
25	80.79	471	37.88	121.8	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 1 : 0hr Root 3C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
26	82.21	496	73.69	225.0	
27	83.32	519	29.68	86.7	
28	84.27	538	106.43	299.6	
29	85.34	560	78.64	212.6	
30	85.97	573	254.24	671.7	
31	87.67	613	718.96	1,777.1	
32	88.86	650	283.99	662.4	
33	90.25	692	363.49	795.6	
34	92.34	832	423.95	771.9	
35	93.81	937	322.99	522.3	
36	95.59	1,140	556.94	739.9	
37	97.29	1,406	238.95	257.5	
38	113.00	10,380	75.00	10.9	Upper Marker

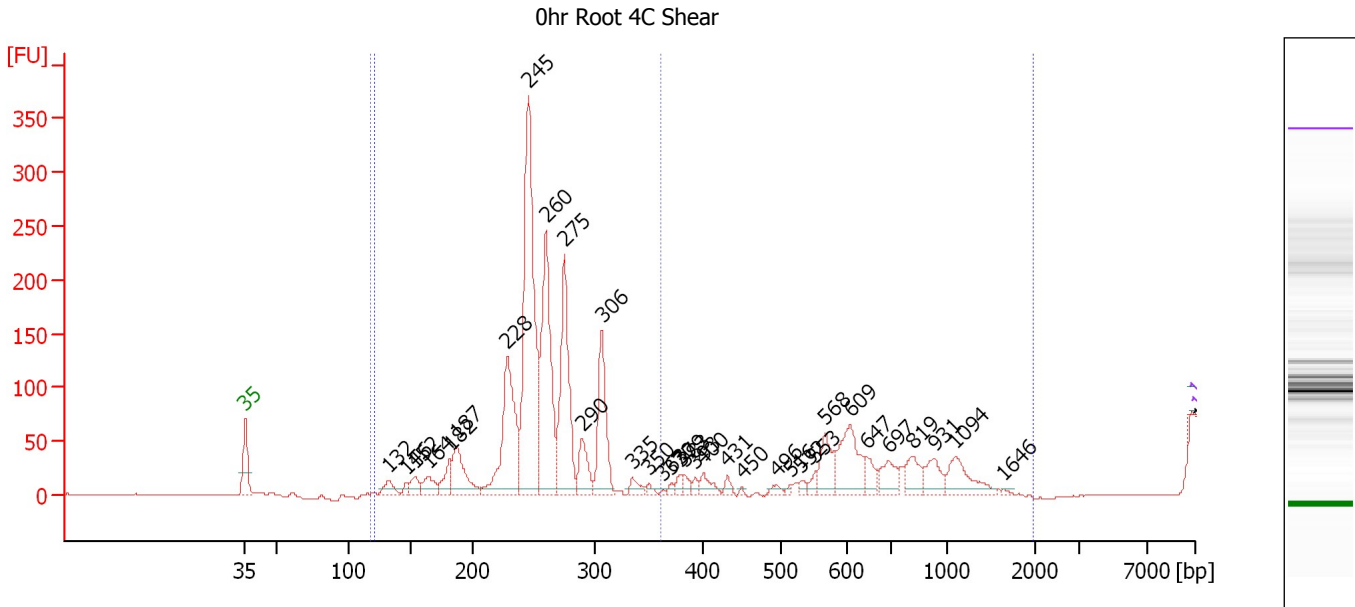
Region table for sample 1 : 0hr Root 3C Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
103	331	259	12,148.1	2,069.18	287.0	96	6.1
105	2,197	280	12,289.8	2,129.41	297.9	100	35.6

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
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Electropherogram Summary Continued ...



Overall Results for sample 2 : 0hr Root 4C Shear

Number of peaks found: 35 Corr. Area 1: 1,388.9
 Noise: 0.4 Corr. Area 2: 1,486.6

Peak table for sample 2 : 0hr Root 4C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	53.56	132	2,579.63	29,664.8	
3	54.86	146	1,066.78	11,070.9	
4	55.45	152	2,631.64	26,151.0	
5	56.47	164	3,326.05	30,785.6	
6	58.11	182	3,830.24	31,917.7	
7	58.59	187	8,847.46	71,684.8	
8	62.32	228	23,797.62	157,884.4	
9	63.85	245	50,448.70	311,441.3	
10	65.14	260	29,248.18	170,534.0	
11	66.52	275	23,400.83	128,851.1	
12	67.81	290	5,869.63	30,709.1	
13	69.26	306	13,522.58	66,848.3	
14	71.50	335	1,603.25	7,261.9	
15	72.76	350	689.56	2,983.1	
16	73.78	363	226.38	944.9	
17	74.37	370	538.63	2,203.4	
18	75.08	379	1,127.30	4,503.9	
19	75.35	383	1,113.50	4,408.8	
20	76.17	393	851.61	3,283.3	
21	76.72	400	2,082.82	7,892.0	
22	78.49	431	987.16	3,471.6	
23	79.59	450	281.74	948.3	
24	82.18	496	806.69	2,466.0	
25	83.20	516	372.36	1,093.3	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 2 : 0hr Root 4C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
26	83.99	532	757.30	2,155.7	
27	85.01	553	1,105.17	3,025.6	
28	85.71	568	5,299.54	14,134.4	
29	87.56	609	8,763.01	21,786.7	
30	88.78	647	2,373.04	5,557.7	
31	90.39	697	3,715.29	8,081.2	
32	92.15	819	3,581.40	6,629.6	
33	93.72	931	3,127.91	5,091.1	
34	95.29	1,094	4,953.85	6,858.6	
35	98.83	1,646	207.51	191.0	
36	113.00	10,380	75.00	10.9	Upper Marker
37	113.12	10,489	0.00	0.0	Upper Marker
38	113.27	10,635	0.00	0.0	

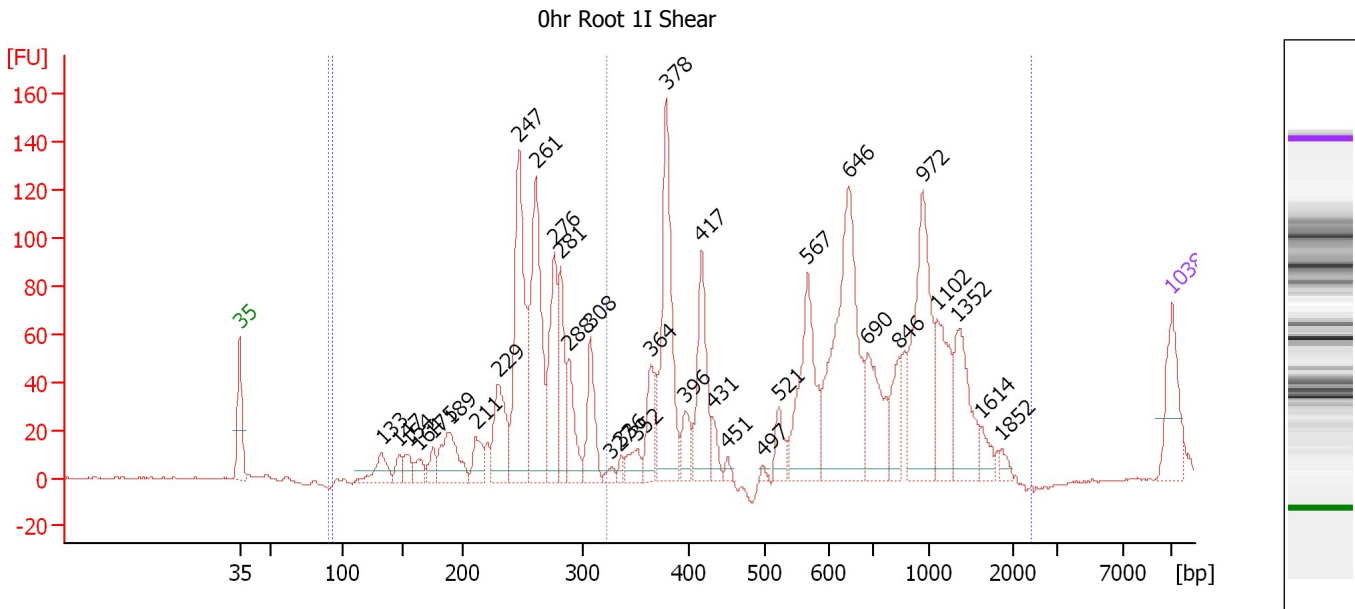
Region table for sample 2 : 0hr Root 4C Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Color Area	% of Total	Size distribution in CV [%]
118	361	256	773,894.4	128,918.64	1,388.9	93	10.2
120	1,979	289	791,136.2	135,917.14	1,486.6	100	39.1

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 3 : 0hr Root 1I Shear

Number of peaks found: 34 Corr. Area 1: 789.6
 Noise: 0.4 Corr. Area 2: 2,009.8

Peak table for sample 3 : 0hr Root 1I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	53.65	133	62.00	707.6	
3	54.97	147	25.60	263.4	
4	55.61	154	34.75	341.1	
5	56.46	164	31.32	290.1	
6	57.54	175	33.19	286.6	
7	58.78	189	119.27	955.6	
8	60.74	211	52.46	377.0	
9	62.38	229	142.73	943.9	
10	63.98	247	371.93	2,281.9	
11	65.23	261	341.34	1,983.2	
12	66.63	276	189.09	1,036.5	
13	67.07	281	130.94	705.3	
14	67.71	288	95.05	499.3	
15	69.35	308	104.78	516.2	
16	70.91	327	12.17	56.4	
17	71.63	336	11.67	52.6	
18	72.87	352	37.84	163.0	
19	73.84	364	80.64	335.9	
20	75.00	378	300.57	1,204.0	
21	76.44	396	46.66	178.4	
22	77.68	417	160.00	581.9	
23	78.48	431	28.69	100.9	
24	79.64	451	10.82	36.3	
25	82.28	497	6.14	18.7	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 3 : 0hr Root 1I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
26	83.45	521	44.15	128.4	
27	85.65	567	208.33	557.0	
28	88.73	646	400.76	940.6	
29	90.17	690	131.42	288.6	
30	92.54	846	64.33	115.2	
31	94.30	972	249.30	388.6	
32	95.34	1,102	114.67	157.7	
33	96.94	1,352	115.35	129.3	
34	98.62	1,614	25.16	23.6	
35	100.15	1,852	11.95	9.8	
36	113.00	10,380	75.00	10.9	Upper Marker

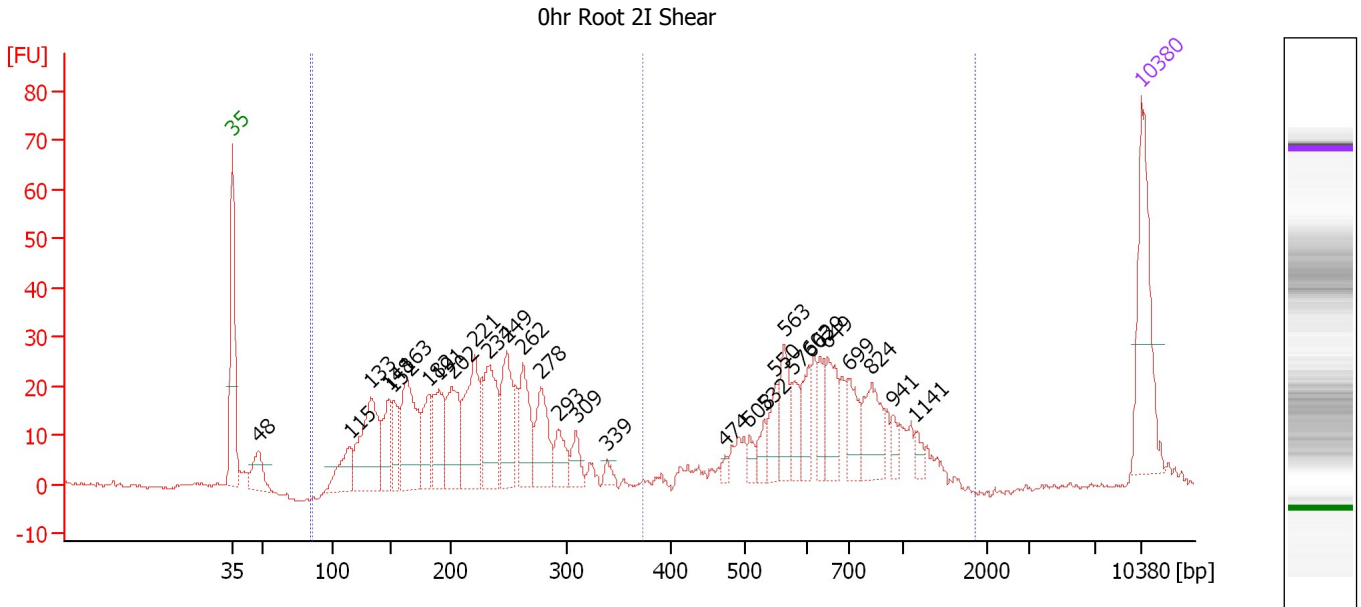
Region table for sample 3 : 0hr Root 1I Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. for Area	% of Total	Size distribution in CV [%]
91	324	255	8,955.3	1,457.14	789.6	39	13.4
93	2,413	583	13,519.2	3,207.04	2,009.8	100	60.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 4 : 0hr Root 2I Shear

Number of peaks found: 30 Corr. Area 1: 541.2
 Noise: 0.4 Corr. Area 2: 867.7

Peak table for sample 4 : 0hr Root 2I Shear


Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	45.01	48	36.94	1,162.2	
3	52.03	115	44.67	588.8	
4	53.67	133	118.58	1,350.8	
5	55.03	148	48.75	499.4	
6	55.40	152	37.87	377.6	
7	56.38	163	108.82	1,012.8	
8	58.15	182	47.15	392.1	
9	58.93	191	67.56	536.5	
10	59.91	202	73.31	550.9	
11	61.68	221	94.74	648.7	
12	62.79	234	81.53	528.7	
13	64.14	249	71.12	433.2	
14	65.38	262	60.72	350.5	
15	66.77	278	55.64	303.2	
16	68.09	293	30.63	158.6	
17	69.48	309	20.78	101.8	
18	71.86	339	8.08	36.1	
19	80.94	474	5.07	16.2	
20	82.82	508	9.69	28.9	
21	83.97	532	13.68	39.0	
22	84.84	550	24.23	66.8	
23	85.49	563	37.82	101.7	
24	86.11	576	21.93	57.7	
25	87.34	603	25.87	65.0	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad



Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 4 : 0hr Root 2I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/ μ l]	Molarity [pmol/l]	Observations
26	88.20	629	21.63	52.1	
27	88.86	649	36.50	85.1	
28	90.46	699	31.40	68.1	
29	92.23	824	42.75	78.6	
30	93.87	941	9.36	15.1	
31	95.59	1,141	7.91	10.5	
32	 113.00	10,380	75.00	10.9	Upper Marker

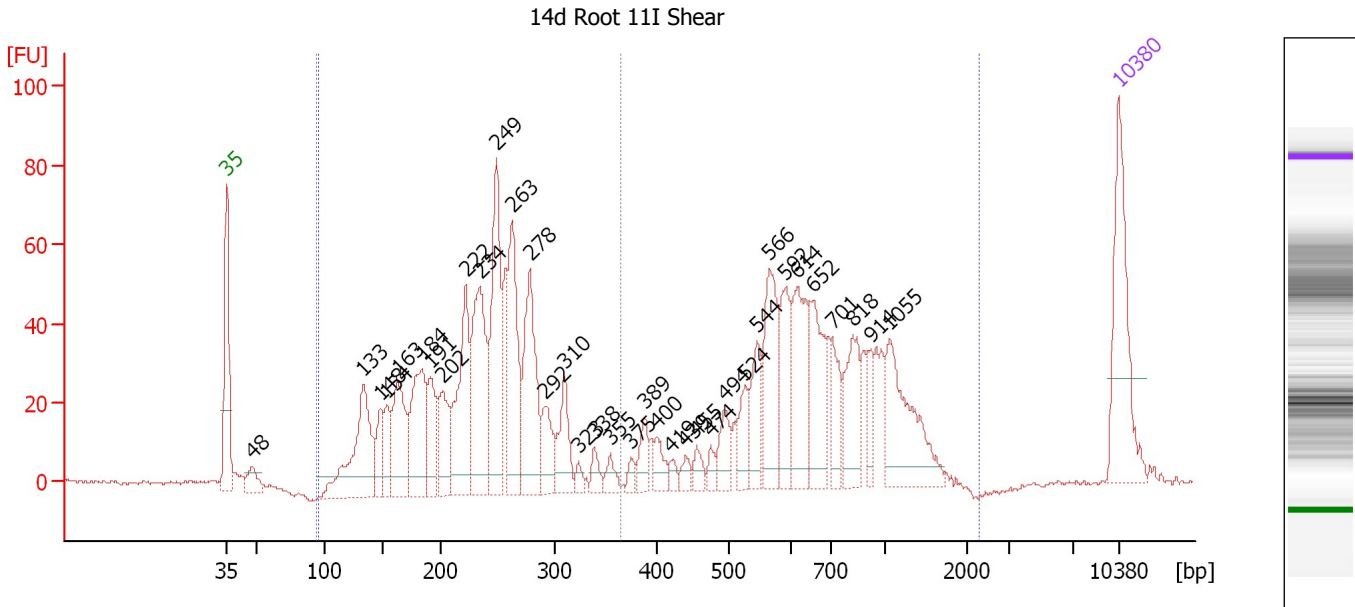
Region table for sample 4 : 0hr Root 2I Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/ μ l]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
85	1,869	446	8,610.2	1,391.69	 867.7	97	64.7
86	372	213	7,609.5	966.52	 541.2	61	25.6

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 5 : 14d Root 11I Shear

Number of peaks found: 36 Corr. Area 1: 872.0
 Noise: 0.4 Corr. Area 2: 1,563.9

Peak table for sample 5 : 14d Root 11I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	44.93	48	22.92	729.8	
3	53.72	133	132.59	1,505.1	
4	55.06	148	32.81	335.4	
5	55.56	154	37.20	366.7	
6	56.40	163	82.99	771.8	
7	58.32	184	96.96	797.9	
8	58.99	191	51.77	409.6	
9	59.96	202	53.72	402.8	
10	61.76	222	112.11	764.7	
11	62.84	234	135.35	875.4	
12	64.14	249	131.25	799.5	
13	65.40	263	110.72	638.6	
14	66.78	278	111.78	609.0	
15	67.99	292	36.30	188.6	
16	69.54	310	45.90	224.3	
17	70.59	323	8.10	38.0	
18	71.80	338	12.40	55.5	
19	73.10	355	11.74	50.2	
20	74.73	375	7.73	31.2	
21	75.82	389	20.67	80.6	
22	76.70	400	16.52	62.6	
23	77.83	419	7.39	26.7	
24	78.96	439	9.27	32.0	
25	79.88	455	11.72	39.0	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 5 : 14d Root 11I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
26	80.97	474	8.91	28.5	
27	82.06	494	25.17	77.3	
28	83.61	524	26.56	76.7	
29	84.57	544	39.23	109.2	
30	85.62	566	76.16	203.8	
31	86.88	592	50.12	128.3	
32	87.71	614	73.55	181.5	
33	88.93	652	65.32	151.9	
34	90.52	701	34.12	73.7	
35	92.15	818	51.06	94.5	
36	93.49	914	18.16	30.1	
37	95.04	1,055	79.91	114.8	
38	113.00	10,380	75.00	10.9	Upper Marker

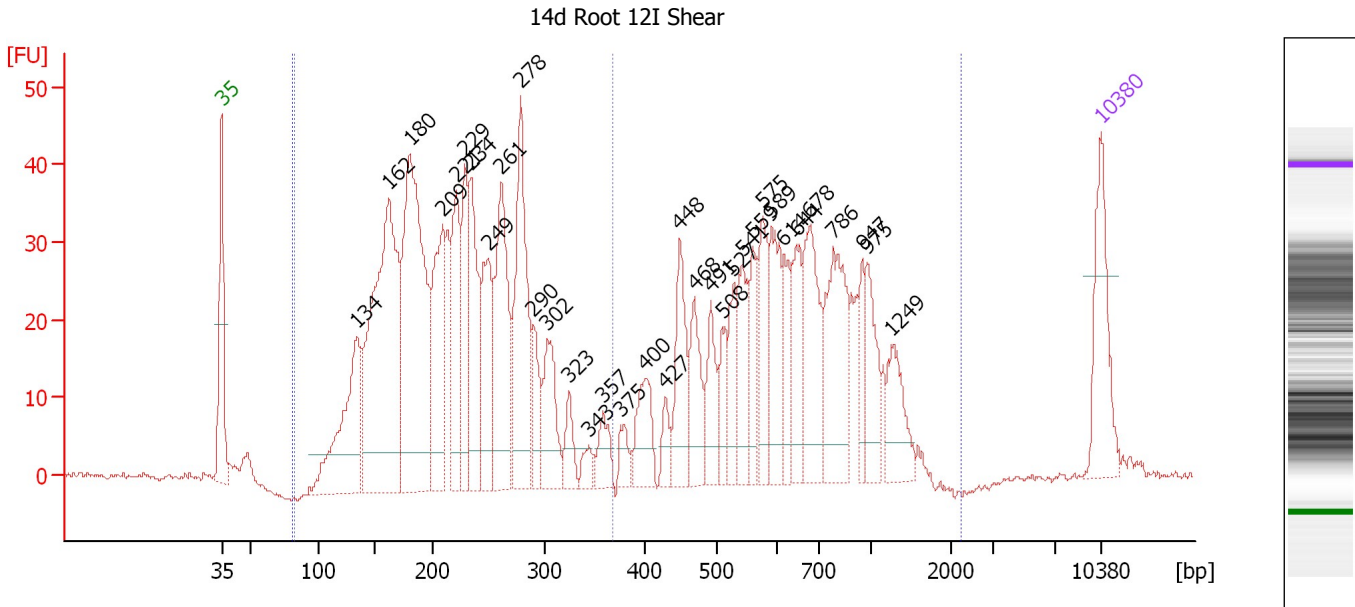
Region table for sample 5 : 14d Root 11I Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Color Area	% of Total	Size distribution in CV [%]
93	365	231	7,770.2	1,091.65	872.0	55	21.7
95	2,282	499	9,288.0	1,735.64	1,563.9	99	63.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 6 : 14d Root 12I Shear

Number of peaks found: 34 Corr. Area 1: 826.1
 Noise: 0.4 Corr. Area 2: 1,376.1

Peak table for sample 6 : 14d Root 12I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	53.78	134	208.92	2,360.2	
3	56.32	162	479.75	4,484.2	
4	57.98	180	424.93	3,571.1	
5	60.56	209	179.27	1,300.5	
6	61.67	221	131.56	901.4	
7	62.35	229	103.29	684.3	
8	62.81	234	141.19	914.6	
9	64.21	249	113.68	690.4	
10	65.27	261	190.31	1,103.4	
11	66.80	278	199.05	1,083.6	
12	67.82	290	44.34	231.9	
13	68.92	302	82.17	412.0	
14	70.62	323	32.10	150.4	
15	72.19	343	15.69	69.3	
16	73.33	357	30.93	131.1	
17	74.73	375	20.17	81.5	
18	76.73	400	56.10	212.6	
19	78.25	427	21.97	78.0	
20	79.44	448	82.88	280.6	
21	80.59	468	66.50	215.4	
22	81.90	491	53.96	166.6	
23	82.84	508	34.21	101.9	
24	83.73	527	47.08	135.4	
25	84.41	541	67.39	188.8	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 6 : 14d Root 12I Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
26	85.30	559	46.34	125.5	
27	86.06	575	66.37	174.8	
28	86.74	589	78.32	201.4	
29	87.72	614	45.76	112.9	
30	88.69	644	62.06	145.9	
31	89.79	678	108.08	241.4	
32	91.70	786	128.68	248.0	
33	93.95	947	30.16	48.2	
34	94.33	975	55.97	87.0	
35	96.28	1,249	52.39	63.5	
36	113.00	10,380	75.00	10.9	Upper Marker

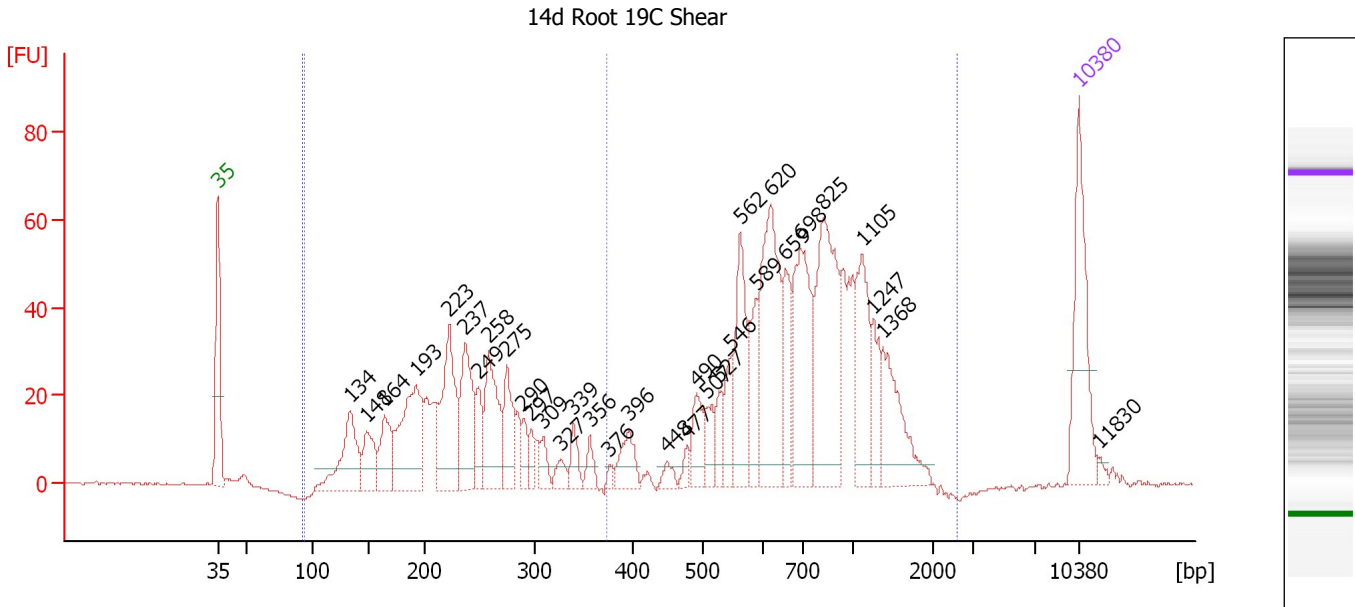
Region table for sample 6 : 14d Root 12I Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. for Area	% of Total	Size distribution in CV [%]
81	2,204	450	19,839.8	3,375.77	1,376.1	99	64.9
83	367	220	17,048.4	2,258.76	826.1	60	24.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 7 : 14d Root 19C Shear

Number of peaks found: 33 Corr. Area 1: 524.3
 Noise: 0.2 Corr. Area 2: 1,358.1

Peak table for sample 7 : 14d Root 19C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	53.75	134	96.88	1,096.8	
3	55.05	148	46.71	477.8	
4	56.52	164	52.71	486.0	
5	59.12	193	133.52	1,048.6	
6	61.81	223	120.56	820.0	
7	63.11	237	91.19	582.4	
8	64.20	249	33.55	203.9	
9	64.98	258	88.24	518.2	
10	66.49	275	52.44	289.0	
11	67.84	290	18.12	94.7	
12	68.44	297	15.39	78.6	
13	69.44	309	16.70	82.0	
14	70.87	327	13.47	62.5	
15	71.87	339	19.16	85.6	
16	73.25	356	14.00	59.5	
17	74.81	376	4.11	16.6	
18	76.42	396	29.56	113.1	
19	79.50	448	9.52	32.2	
20	81.10	477	8.66	27.5	
21	81.88	490	35.24	108.9	
22	82.75	507	21.89	65.5	
23	83.74	527	21.67	62.3	
24	84.65	546	28.87	80.1	
25	85.43	562	79.19	213.4	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad



Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

... Peak table for sample 7 : 14d Root 19C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
26	86.73	589	42.98	110.5	
27	87.90	620	140.88	344.3	
28	89.16	659	50.29	115.7	
29	90.42	698	114.20	248.0	
30	92.24	825	148.97	273.7	
31	95.36	1,105	65.78	90.2	
32	96.27	1,247	30.55	37.1	
33	97.05	1,368	64.06	70.9	
34	113.00	10,380	75.00	10.9	Upper Marker
35	114.56	11,830	0.00	0.0	

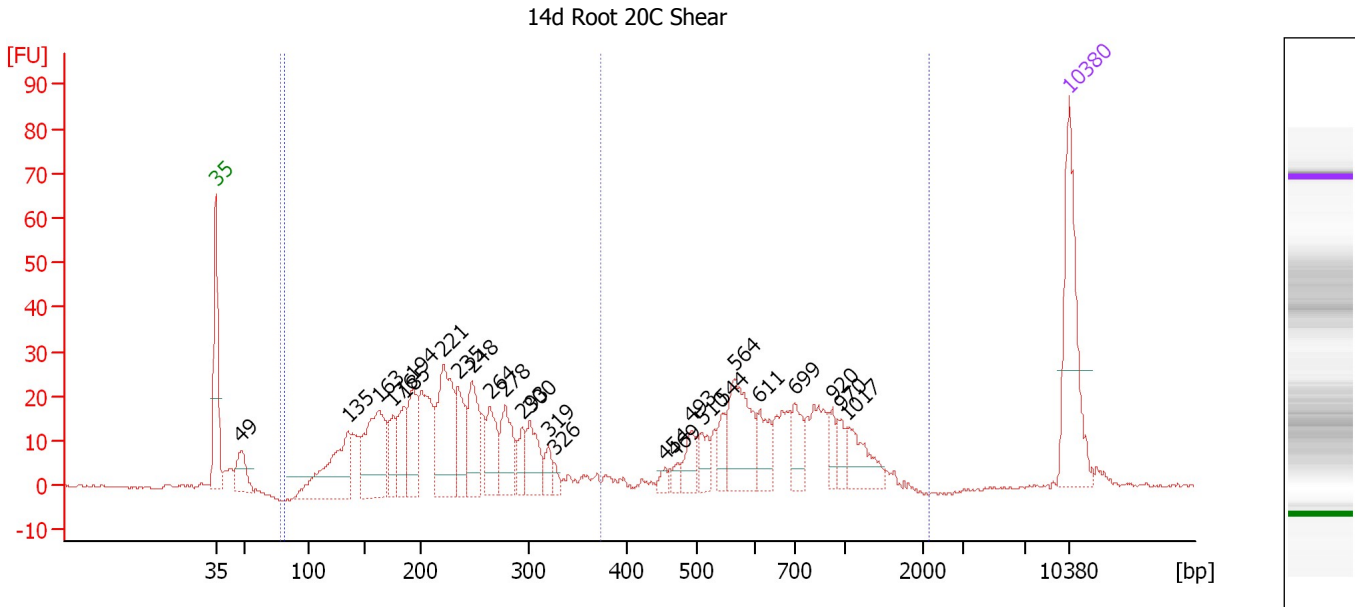
Region table for sample 7 : 14d Root 19C Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
93	2,624	638	7,884.7	1,760.37	 1,358.1	99	58.0
94	374	230	5,845.9	814.33	 524.3	38	23.7

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 8 : 14d Root 20C Shear

Number of peaks found: 26 Corr. Area 1: 500.1
 Noise: 0.2 Corr. Area 2: 790.2

Peak table for sample 8 : 14d Root 20C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	45.10	49	34.16	1,062.1	
3	53.85	135	105.19	1,181.1	
4	56.39	163	105.80	984.5	
5	57.57	176	28.34	244.3	
6	58.44	185	45.80	374.3	
7	59.19	194	52.66	412.1	
8	61.68	221	105.95	725.4	
9	62.91	235	48.29	311.4	
10	64.04	248	57.61	352.5	
11	65.53	264	41.89	240.3	
12	66.76	278	46.79	255.2	
13	68.16	293	21.76	112.4	
14	68.77	300	37.98	191.6	
15	70.30	319	13.91	66.0	
16	70.82	326	6.12	28.5	
17	79.79	454	6.55	21.9	
18	80.67	469	6.35	20.5	
19	82.03	493	20.66	63.5	
20	82.90	510	16.57	49.3	
21	84.56	544	16.71	46.5	
22	85.53	564	67.21	180.5	
23	87.63	611	25.93	64.2	
24	90.47	699	24.42	52.9	
25	93.57	920	10.52	17.3	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
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Electropherogram Summary Continued ...

... Peak table for sample 8 : 14d Root 20C Shear

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/ μ l]	Molarity [pmol/l]	Observations
26	94.28	970	12.78	20.0	
27	94.80	1,017	30.29	45.1	
28	113.00	10,380	75.00	10.9	Upper Marker

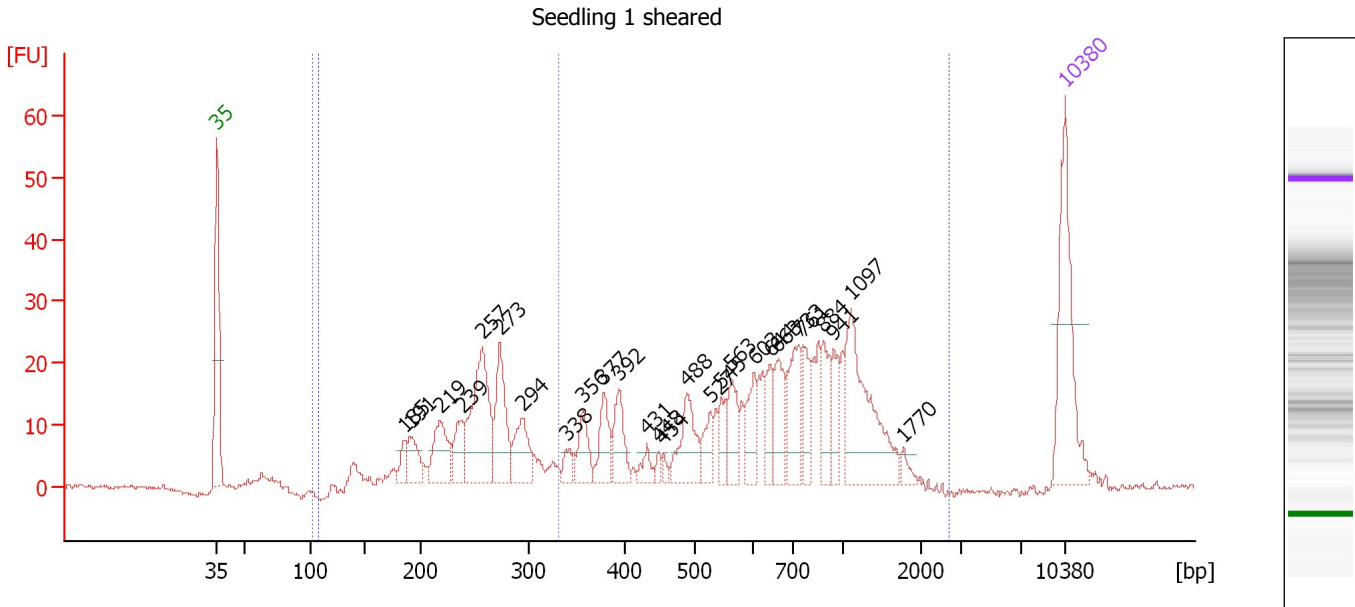
Region table for sample 8 : 14d Root 20C Shear

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/ μ l]	Color Area	% of Total	Size distribution in CV [%]
78	372	221	5,551.7	734.12	500.1	61	25.1
81	2,120	454	6,279.6	1,046.90	790.2	96	67.1

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 9 : Seedling 1 sheared

Number of peaks found: 27 Corr. Area 1: 209.1
 Noise: 0.4 Corr. Area 2: 642.7

Peak table for sample 9 : Seedling 1 sheared

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	58.44	185	13.35	109.1	
3	58.93	191	28.90	229.5	
4	61.43	219	47.76	331.1	
5	63.24	239	26.92	170.9	
6	64.91	257	108.32	637.9	
7	66.36	273	63.34	351.0	
8	68.17	294	39.91	206.0	
9	71.82	338	10.38	46.5	
10	73.18	356	26.22	111.8	
11	74.90	377	31.00	124.6	
12	76.13	392	32.15	124.1	
13	78.51	431	10.77	37.9	
14	79.47	448	5.22	17.7	
15	79.83	454	4.49	15.0	
16	81.76	488	43.78	135.9	
17	83.74	527	19.08	54.8	
18	84.62	545	17.88	49.7	
19	85.46	563	26.77	72.1	
20	87.35	603	28.38	71.3	
21	88.67	644	20.31	47.8	
22	89.29	663	33.98	77.7	
23	90.96	733	44.28	91.5	
24	91.35	761	25.57	50.9	
25	93.07	884	27.32	46.8	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
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Electropherogram Summary Continued ...

... Peak table for sample 9 : Seedling 1 sheared

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/ μ l]	Molarity [pmol/l]	Observations
26	93.86	941	22.47	36.2	
27	95.31	1,097	92.74	128.1	
28	99.62	1,770	5.52	4.7	
29	▶ 113.00	10,380	75.00	10.9	Upper Marker

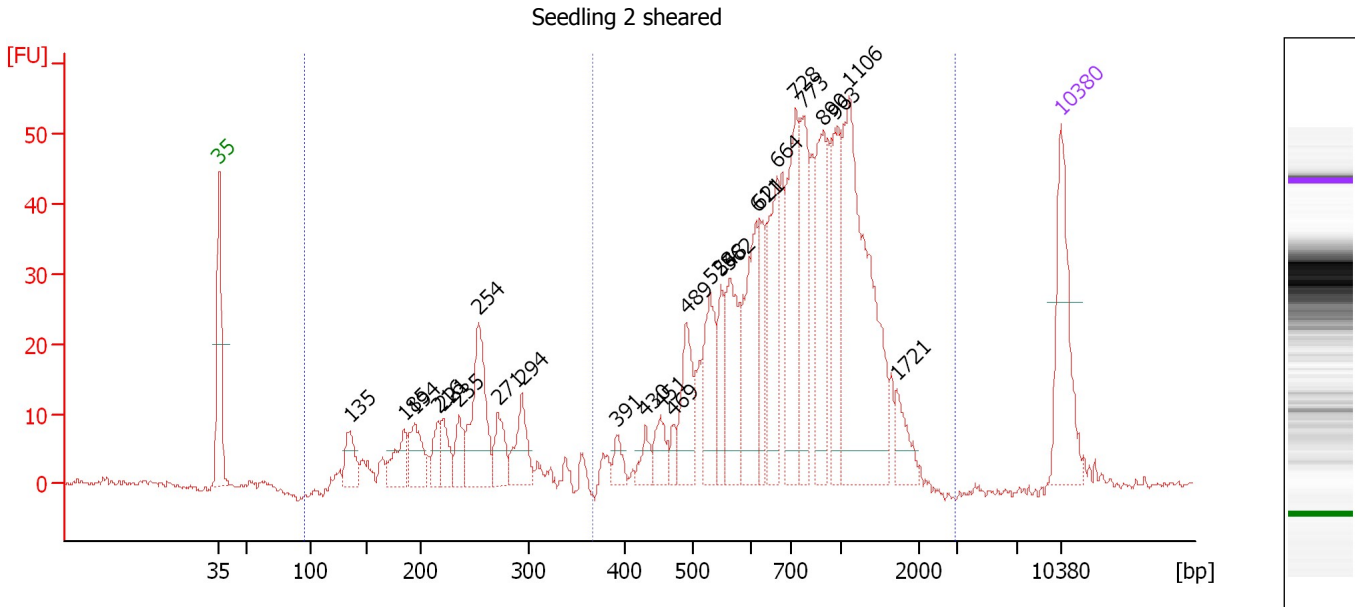
Region table for sample 9 : Seedling 1 sheared

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/ μ l]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
103	330	248	2,650.2	415.32	209.1	32	16.4
108	2,730	634	4,293.3	1,076.36	642.7	98	59.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 10 : Seedling 2 sheared

Number of peaks found: 26 Corr. Area 1: 181.8
 Noise: 0.5 Corr. Area 2: 944.6

Peak table for sample 10 : Seedling 2 sheared

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	53.85	135	37.49	420.8	
3	58.37	185	39.69	325.7	
4	59.26	194	44.81	349.2	
5	61.21	216	22.31	156.5	
6	61.65	221	29.16	199.9	
7	62.94	235	26.11	168.1	
8	64.58	254	106.15	634.3	
9	66.17	271	34.16	190.8	
10	68.16	294	46.02	237.6	
11	76.01	391	15.27	59.2	
12	78.44	430	16.97	59.8	
13	79.64	451	26.14	87.8	
14	80.66	469	12.11	39.1	
15	81.81	489	60.69	188.0	
16	83.80	528	65.29	187.2	
17	84.73	548	37.96	105.0	
18	85.40	562	72.00	194.3	
19	87.61	611	93.93	232.9	
20	87.92	621	43.00	105.0	
21	89.34	664	89.39	203.9	
22	90.89	728	114.46	238.1	
23	91.51	773	81.71	160.2	
24	93.15	890	93.37	159.0	
25	94.17	963	72.57	114.2	

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
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Electropherogram Summary Continued ...

... Peak table for sample 10 : Seedling 2 sheared

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/ μ l]	Molarity [pmol/l]	Observations
26	95.37	1,106	226.72	310.7	
27	99.31	1,721	23.33	20.5	
28	▶ 113.00	10,380	75.00	10.9	Upper Marker

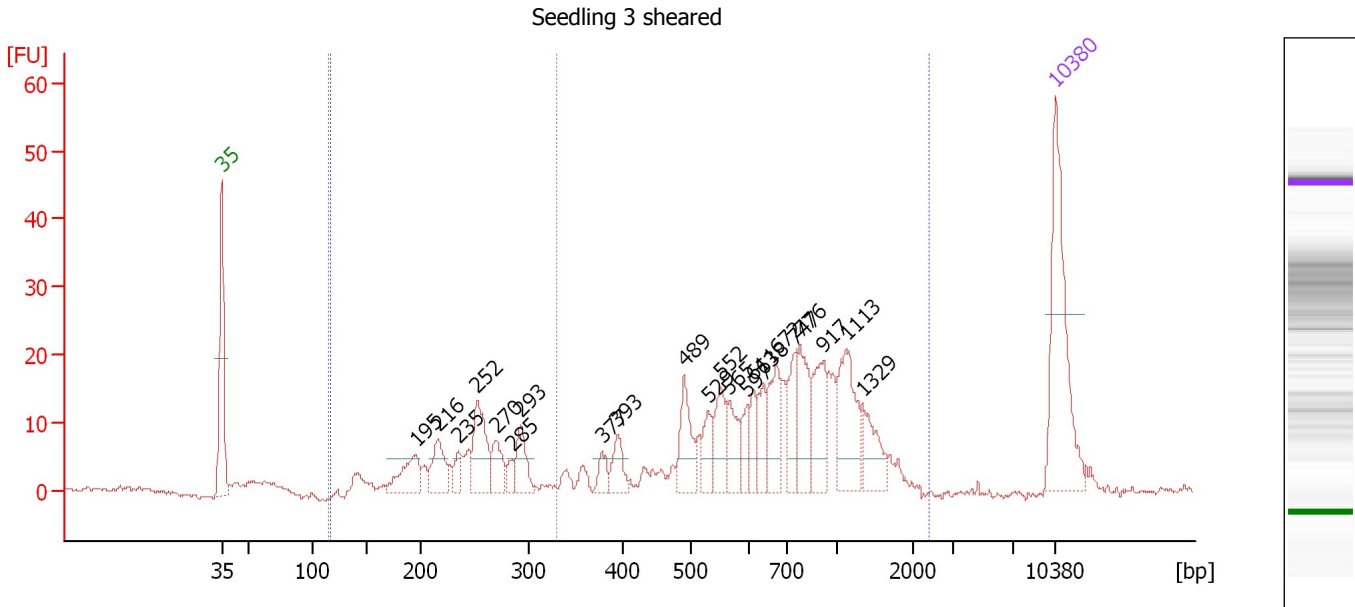
Region table for sample 10 : Seedling 2 sheared

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/ μ l]	Color Area	% of Total	Size distribution in CV [%]
95	366	236	2,892.5	415.79	181.8	19	21.8
95	2,940	758	5,593.2	1,695.34	944.6	100	49.0

Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...



Overall Results for sample 11 : Seedling 3 sheared

Number of peaks found: 22 Corr. Area 1: 111.3
 Noise: 0.4 Corr. Area 2: 432.5

Peak table for sample 11 : Seedling 3 sheared

Peak	Aligned Migration Time [s]	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	43.00	35	125.00	5,411.3	Lower Marker
2	59.29	195	33.99	264.4	
3	61.17	216	30.38	213.5	
4	62.87	235	12.79	82.6	
5	64.44	252	47.93	288.2	
6	66.05	270	21.49	120.6	
7	67.39	285	7.75	41.2	
8	68.11	293	24.59	127.2	
9	74.91	377	10.33	41.5	
10	76.21	393	17.73	68.3	
11	81.80	489	34.18	105.9	
12	83.82	529	20.03	57.4	
13	84.94	552	25.99	71.3	
14	85.56	565	21.93	58.8	
15	87.13	597	14.83	37.6	
16	87.62	611	13.49	33.4	
17	88.47	638	19.70	46.8	
18	89.59	672	33.61	75.8	
19	91.16	747	25.81	52.3	
20	91.56	776	34.26	66.9	
21	93.53	917	36.59	60.5	
22	95.41	1,113	46.76	63.7	
23	96.80	1,329	24.60	28.0	
24	113.00	10,380	75.00	10.9	Upper Marker

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
Modified: 3/21/2014 11:16:59 AM

Electropherogram Summary Continued ...

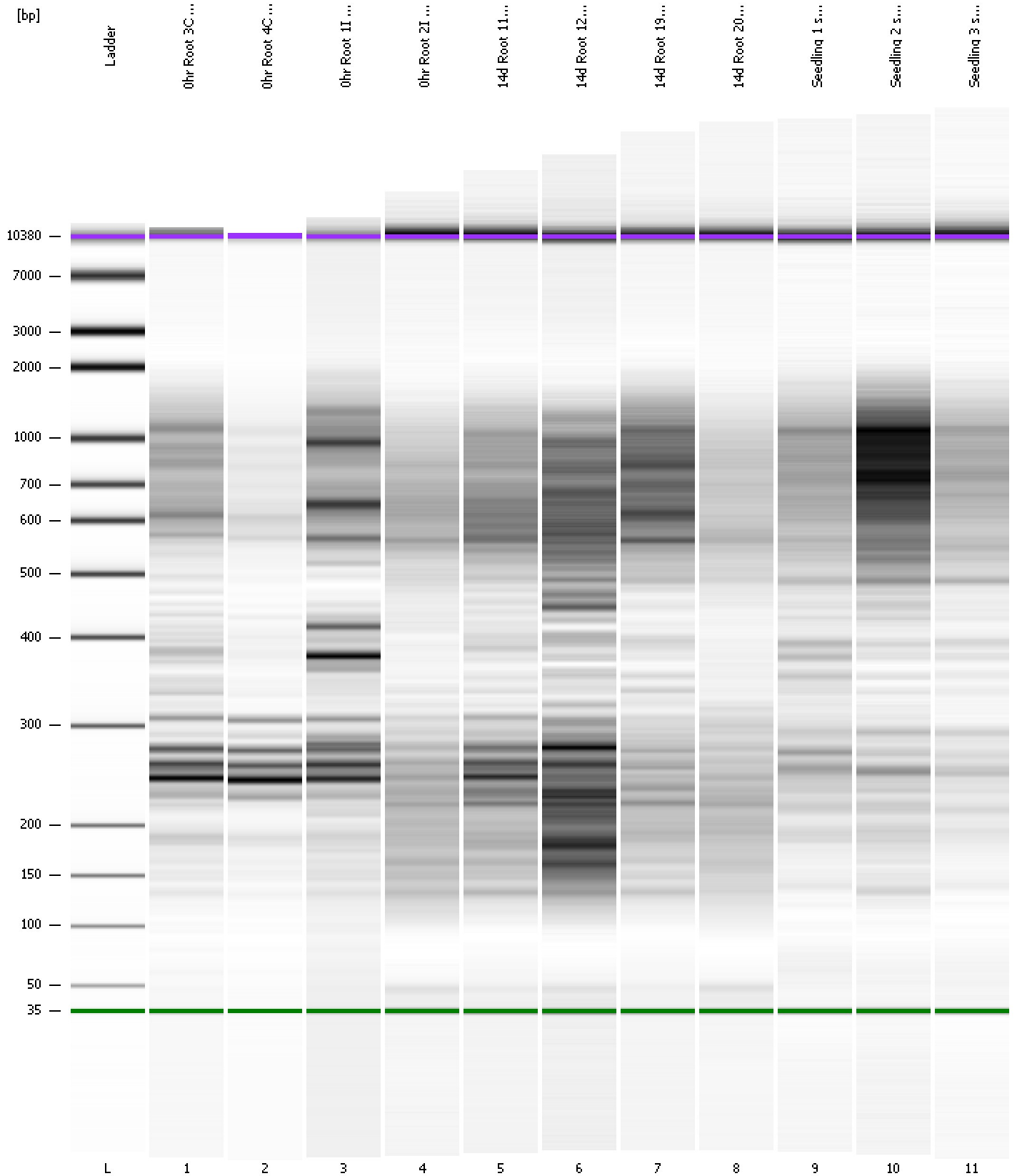
... Region table for sample 11 : Seedling 3 sheared

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Co Corr. lor Area	% of Total	Size distribution in CV [%]
114	330	240	1,379.5	209.85	111.3	25	17.0
117	2,388	686	2,431.2	665.65	432.5	96	53.7

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
Modified: 3/21/2014 11:16:59 AM

Gel Image

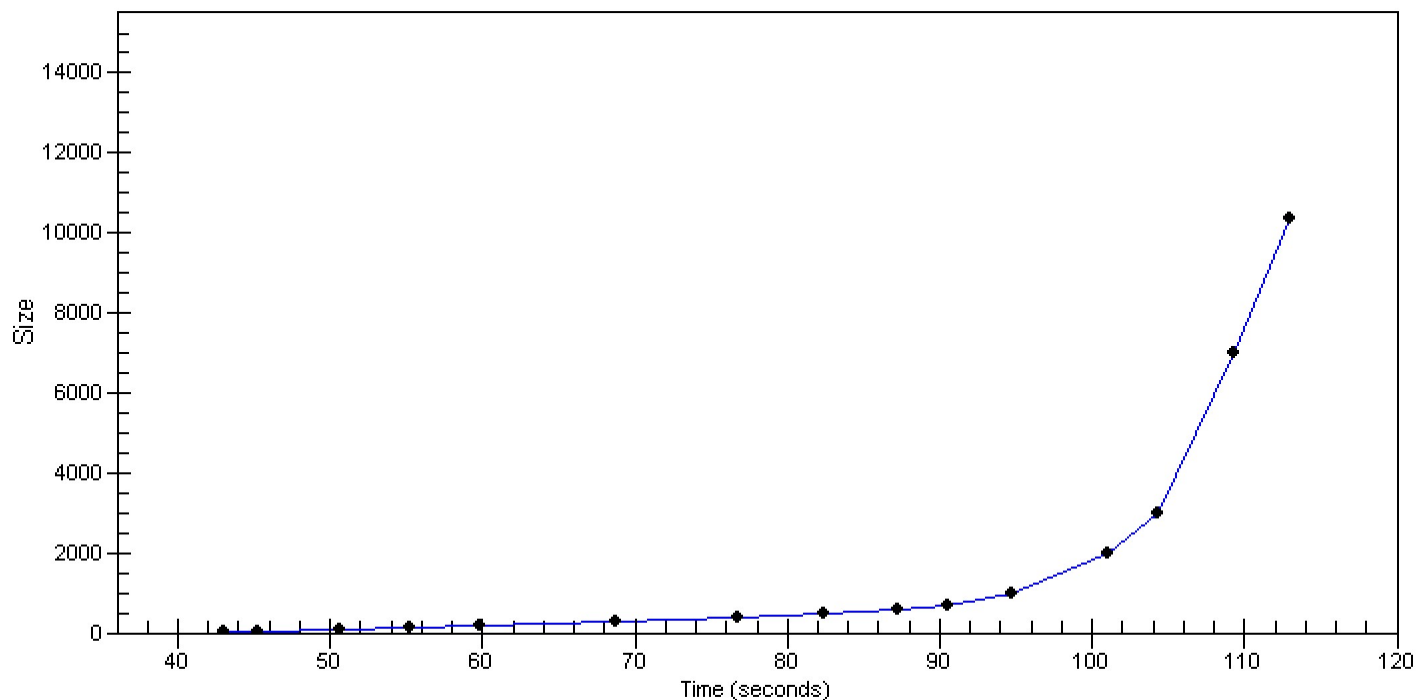


Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
Modified: 3/21/2014 11:16:59 AM

Curves

Standard Curve



Assay Class: High Sensitivity DNA Assay
 Data Path: C:\...ents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad

Created: 3/21/2014 10:30:31 AM
 Modified: 3/21/2014 11:16:59 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		3/21/2014 11:11:53 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2014-03-21\2014-03-21_001.xad)		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		3/21/2014 10:30:37 AM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1