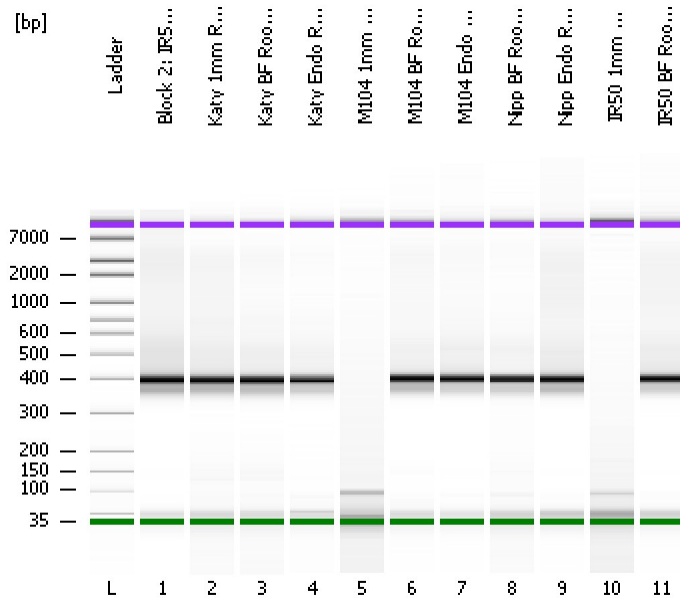


Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
Modified: 1/2/2013 4:25:51 PM

**Electrophoresis File Run Summary**



Instrument Information:

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

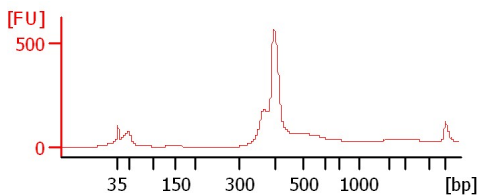
Assay Information:

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

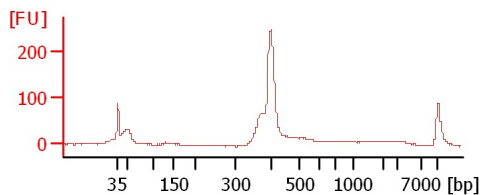
Chip Information:

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

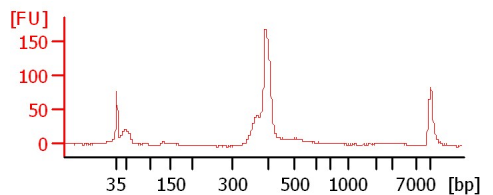
**Block 2: IR50 Endo Root-N**



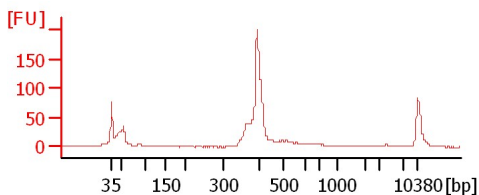
**Katy 1mm Root-N**



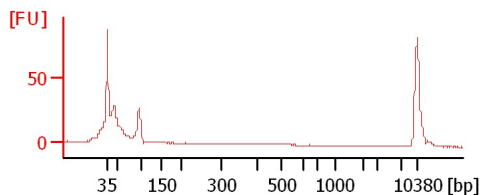
**Katy BF Root-N**



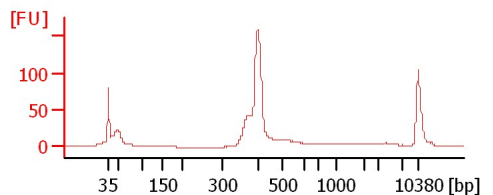
**Katy Endo Root-N**



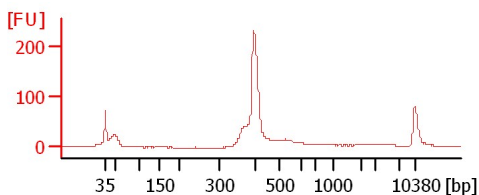
**M104 1mm Root-N**



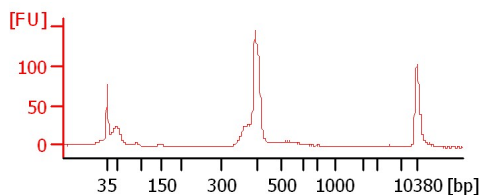
**M104 BF Root-N**



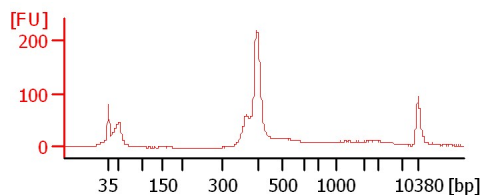
**M104 Endo Root-N**



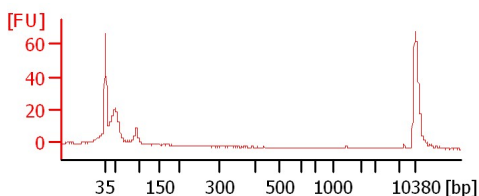
**Nipp BF Root-N**



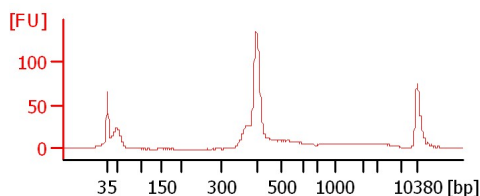
**Nipp Endo Root-N**



**IR50 1mm Root-N**



**IR50 BF Root-N**



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

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

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
Block 2: IR50 Endo Root-N		<input type="checkbox"/>	✓			
Katy 1mm Root-N		<input type="checkbox"/>	✓			
Katy BF Root-N		<input type="checkbox"/>	✓			
Katy Endo Root-N		<input type="checkbox"/>	✓			
M104 1mm Root-N		<input type="checkbox"/>	✓			
M104 BF Root-N		<input type="checkbox"/>	✓			
M104 Endo Root-N		<input type="checkbox"/>	✓			
Nipp BF Root-N		<input type="checkbox"/>	✓			
Nipp Endo Root-N		<input type="checkbox"/>	✓			
IR50 1mm Root-N		<input type="checkbox"/>	✓			
IR50 BF Root-N		<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\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
Modified: 1/2/2013 4:25:51 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

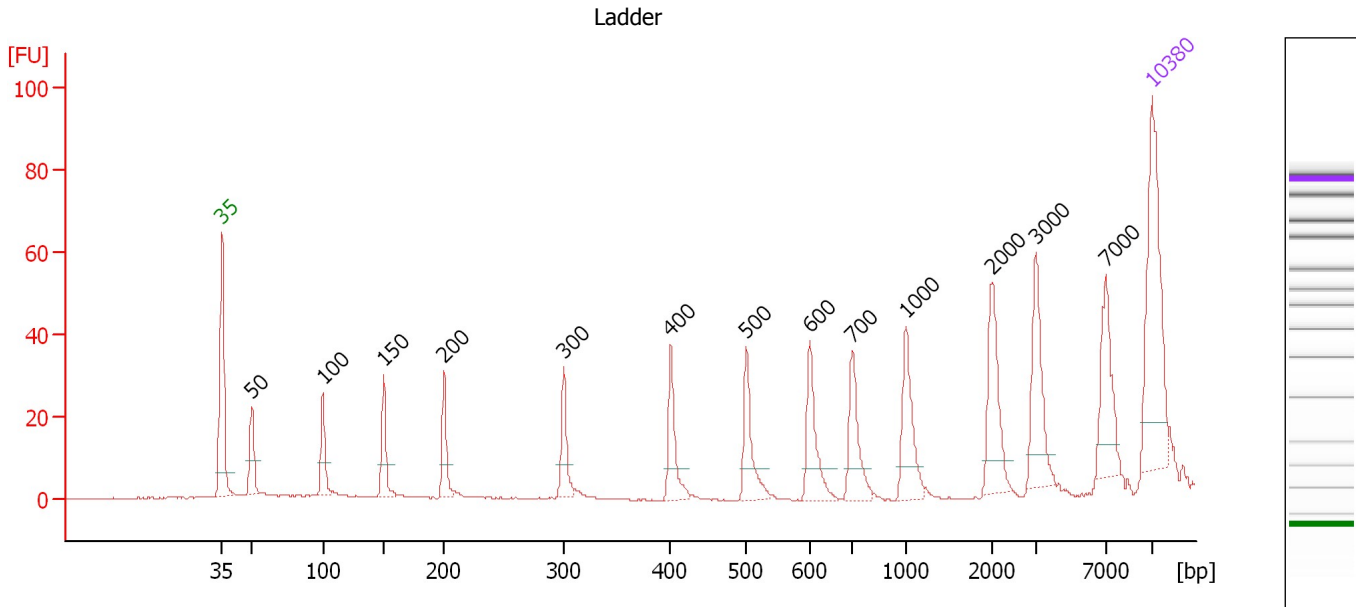
**Ladder**

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\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.1

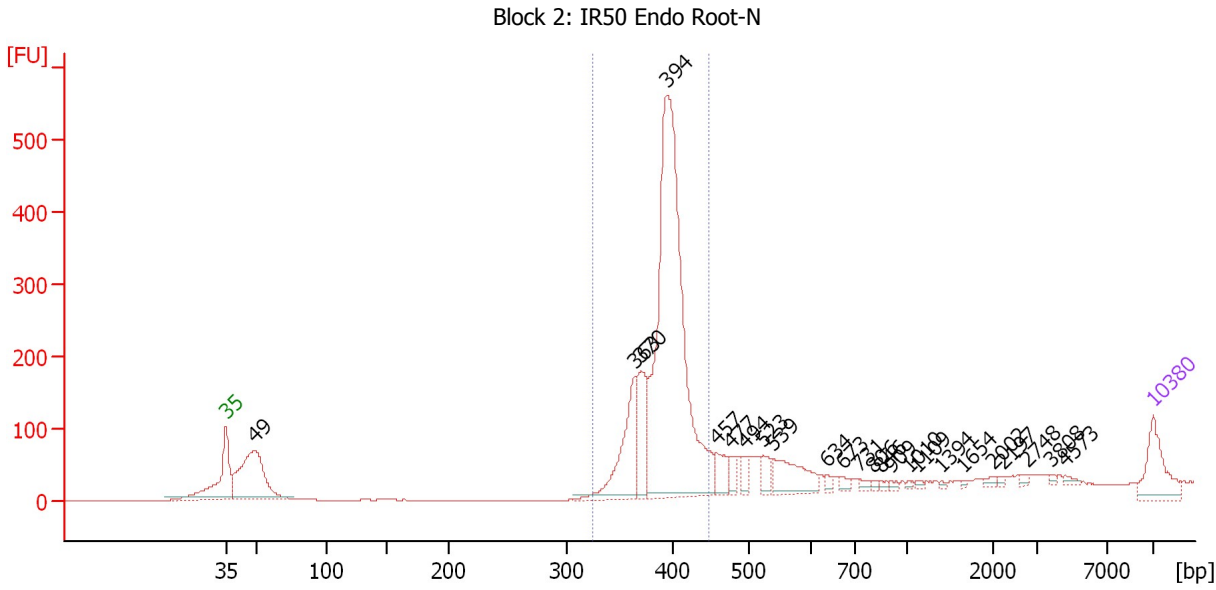
**Peak table for Ladder**

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:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 1 : Block 2: IR50 Endo Root-N**

Number of peaks found: 24                      Corr. Area 1: 2,076.5  
 Noise: 0.2

**Peak table for sample 1 : Block 2: IR50 Endo Root-N**


Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	49	342.76	10,547.6	
3	363	196.84	821.4	
4	370	145.56	595.9	
5	394	1,113.60	4,285.8	
6	457	50.41	166.9	
7	477	28.80	91.4	
8	494	23.00	70.5	
9	523	31.37	90.8	
10	539	102.80	289.2	
11	634	10.81	25.8	
12	673	12.07	27.2	
13	731	8.63	17.9	
14	806	5.08	9.6	
15	846	6.21	11.1	
16	909	5.80	9.7	
17	1,010	4.01	6.0	
18	1,109	4.61	6.3	
19	1,394	2.87	3.1	
20	1,654	2.76	2.5	
21	2,002	6.78	5.1	
22	2,197	4.43	3.1	
23	2,748	5.76	3.2	
24	3,808	4.42	1.8	
25	4,573	5.81	1.9	
26	10,380	75.00	10.9	Upper Marker

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**

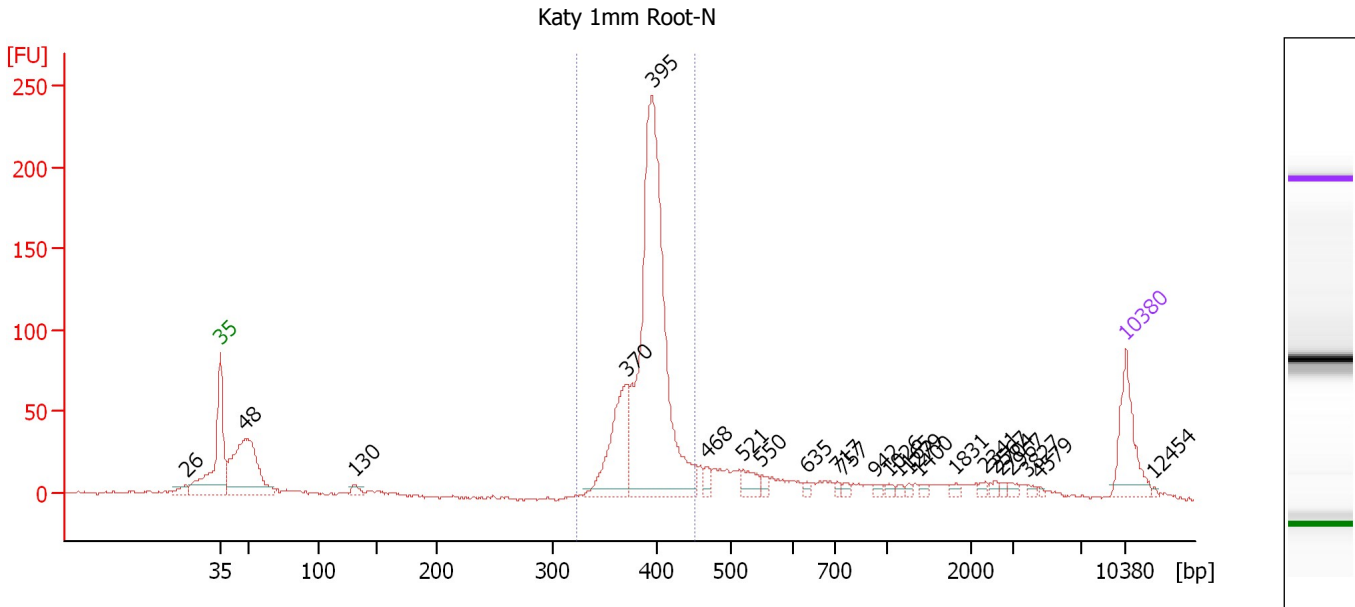
... Region table for sample 1 : **Block 2: IR50 Endo Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/ $\mu$ l]	Corr. Area	% of Total	Size distribution in CV [%]	Color
325	448	393	5,232.8	1,352.69	2,076.5	67	5.2	

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : Katy 1mm Root-N**

Number of peaks found: 24                      Corr. Area 1: 861.2  
 Noise: 0.7

**Peak table for sample 2 : Katy 1mm Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	26	0.00	0.0	
2	35	125.00	5,411.3	Lower Marker
3	48	301.34	9,527.4	
4	130	15.64	182.2	
5	370	181.66	743.7	
6	395	763.54	2,927.1	
7	468	14.99	48.6	
8	521	27.73	80.7	
9	550	8.84	24.3	
10	635	6.26	14.9	
11	717	5.30	11.2	
12	757	6.17	12.3	
13	942	4.99	8.0	
14	1,026	5.72	8.4	
15	1,165	4.32	5.6	
16	1,279	3.88	4.6	
17	1,400	4.53	4.9	
18	1,831	5.64	4.7	
19	2,341	5.28	3.4	
20	2,567	5.68	3.4	
21	2,704	4.21	2.4	
22	2,967	5.48	2.8	
23	3,827	4.35	1.7	
24	4,579	2.13	0.7	
25	10,380	75.00	10.9	Upper Marker
26	12,454	0.00	0.0	

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...****... Region table for sample 2 : Katy 1mm Root-N**

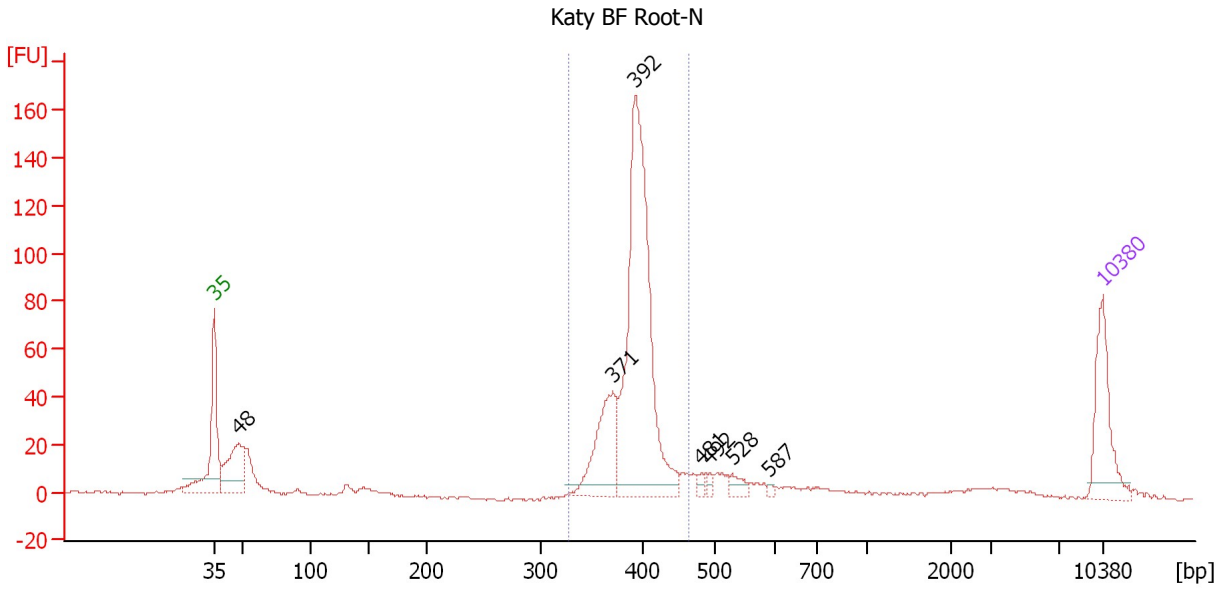
<b>From [bp]</b>	<b>To [bp]</b>	<b>Average Size [bp]</b>	<b>Molarity [pmol/l]</b>	<b>Conc. [pg/μl]</b>	<b>Corr. Area</b>	<b>% of Total</b>	<b>Size distribution in CV [%]</b>	<b>Co lor</b>
323	453	392	3,638.8	939.98	861.2	60	5.2	■



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : Katy BF Root-N**

Number of peaks found: 7                      Corr. Area 1: 577.9  
 Noise: 0.5

**Peak table for sample 3 : Katy BF Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	48	117.15	3,706.2	
3	371	123.48	504.6	
4	392	492.75	1,903.5	
5	481	8.00	25.2	
6	492	7.03	21.6	
7	528	14.70	42.2	
8	587	3.28	8.5	
9	10,380	75.00	10.9	Upper Marker

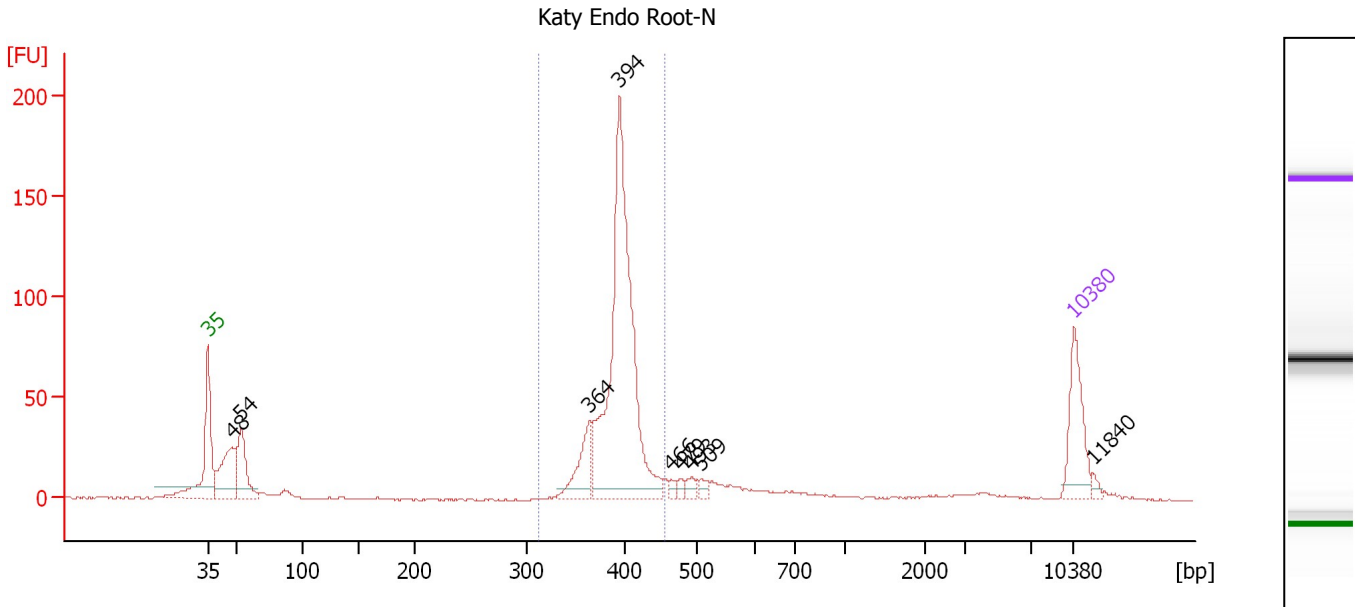
**Region table for sample 3 : Katy BF Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
328	462	392	2,409.6	622.69	577.9	69	5.4	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 4 : Katy Endo Root-N**

Number of peaks found: 9                      Corr. Area 1: 585.2  
 Noise: 0.4

**Peak table for sample 4 : Katy Endo Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	48	139.00	4,392.6	
3	54	111.33	3,101.9	
4	364	76.39	318.0	
5	394	582.11	2,238.4	
6	466	8.45	27.5	
7	479	7.36	23.3	
8	493	14.20	43.6	
9	509	10.96	32.6	
10	10,380	75.00	10.9	Upper Marker
11	11,840	0.00	0.0	

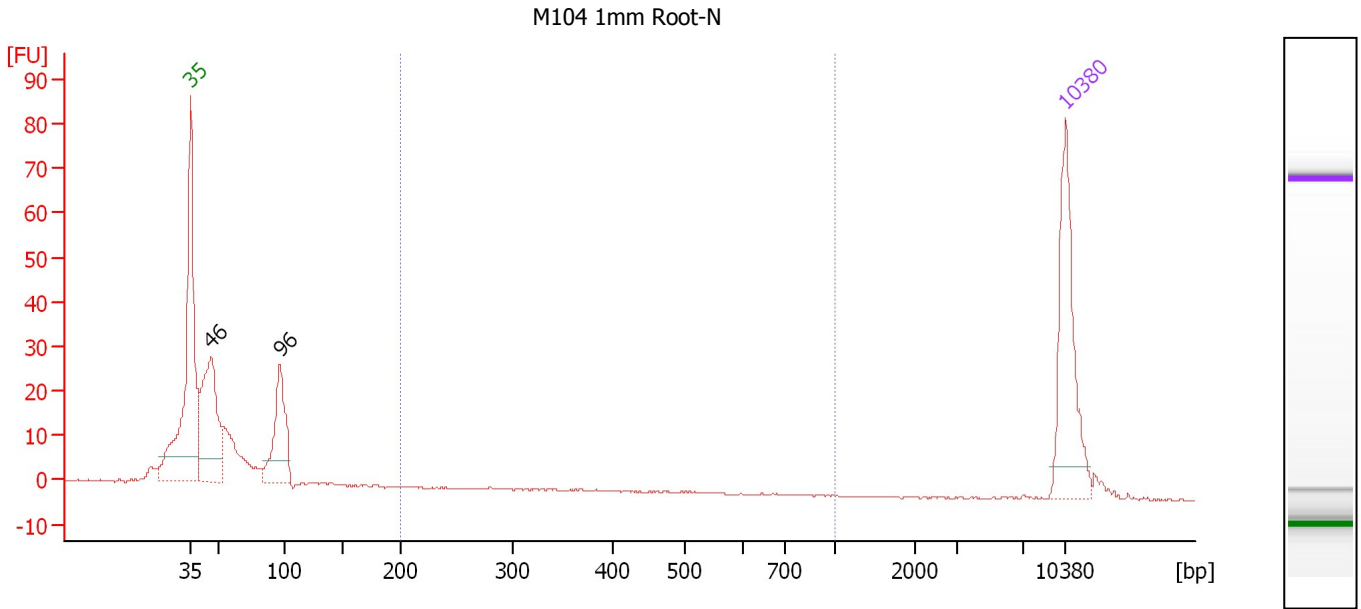
**Region table for sample 4 : Katy Endo Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
313	456	393	2,599.0	672.88	585.2	64	5.2	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 : M104 1mm Root-N**

Number of peaks found: 2                      Corr. Area 1: 0.3  
 Noise: 0.2

**Peak table for sample 5 : M104 1mm Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	46	148.71	4,915.5	
3	96	91.55	1,445.7	
4	10,380	75.00	10.9	Upper Marker

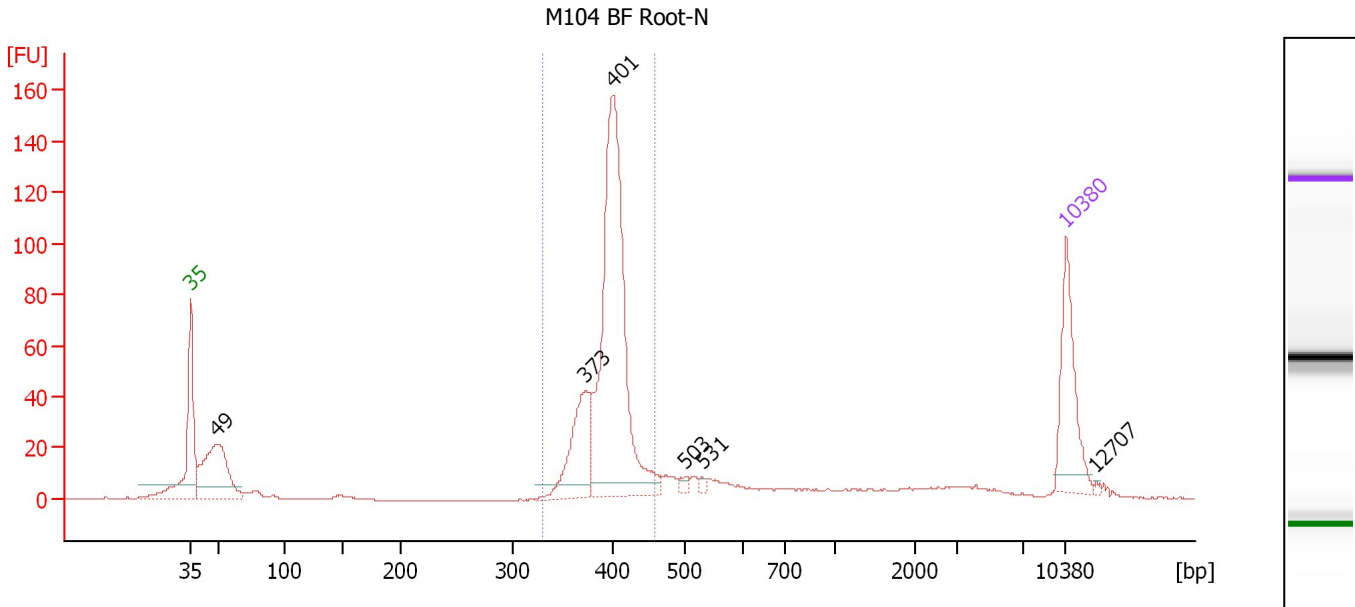
**Region table for sample 5 : M104 1mm Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	1,000	338	1.5	0.30	0.3	0	23.9	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : M104 BF Root-N**

Number of peaks found: 6                      Corr. Area 1: 540.9  
 Noise: 0.2

**Peak table for sample 6 : M104 BF Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	49	163.74	5,035.8	
3	373	99.56	404.6	
4	401	416.56	1,575.0	
5	503	6.39	19.3	
6	531	3.92	11.2	
7	10,380	75.00	10.9	Upper Marker
8	12,707	0.00	0.0	

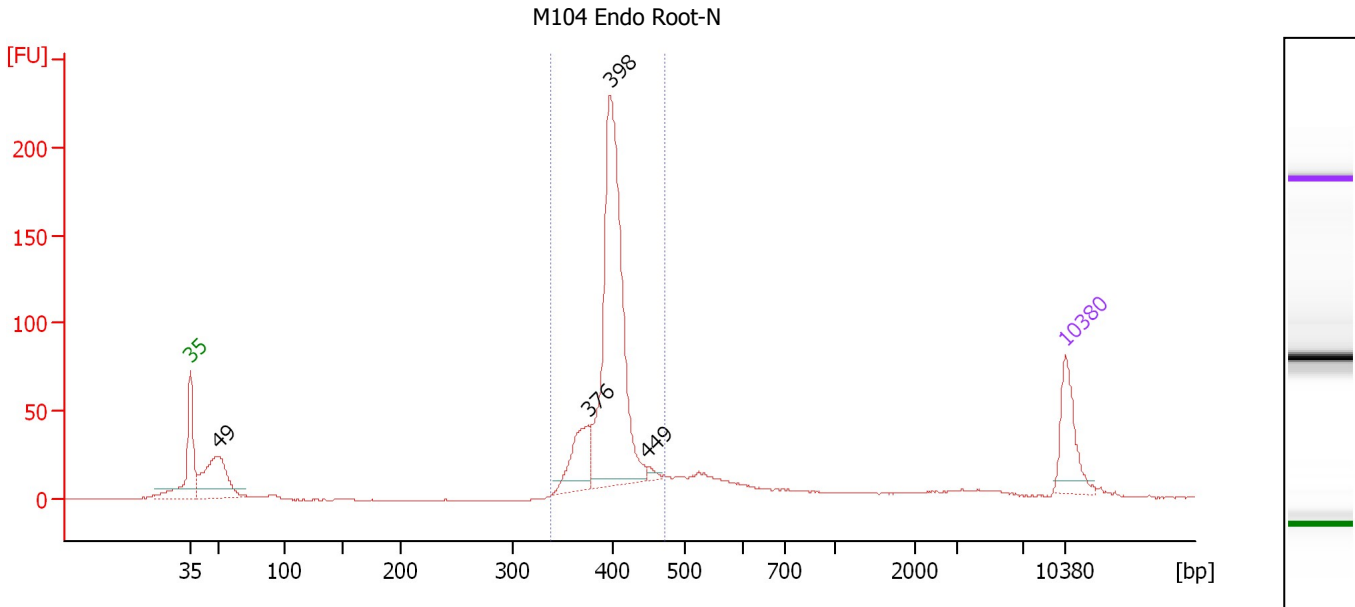
**Region table for sample 6 : M104 BF Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
331	459	397	2,013.5	525.91	540.9	64	5.2	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : M104 Endo Root-N**

Number of peaks found: 4                      Corr. Area 1: 700.9  
 Noise: 0.1

**Peak table for sample 7 : M104 Endo Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	49	198.29	6,080.4	
3	376	103.86	418.9	
4	398	594.73	2,266.5	
5	449	9.86	33.3	
6	10,380	75.00	10.9	Upper Marker

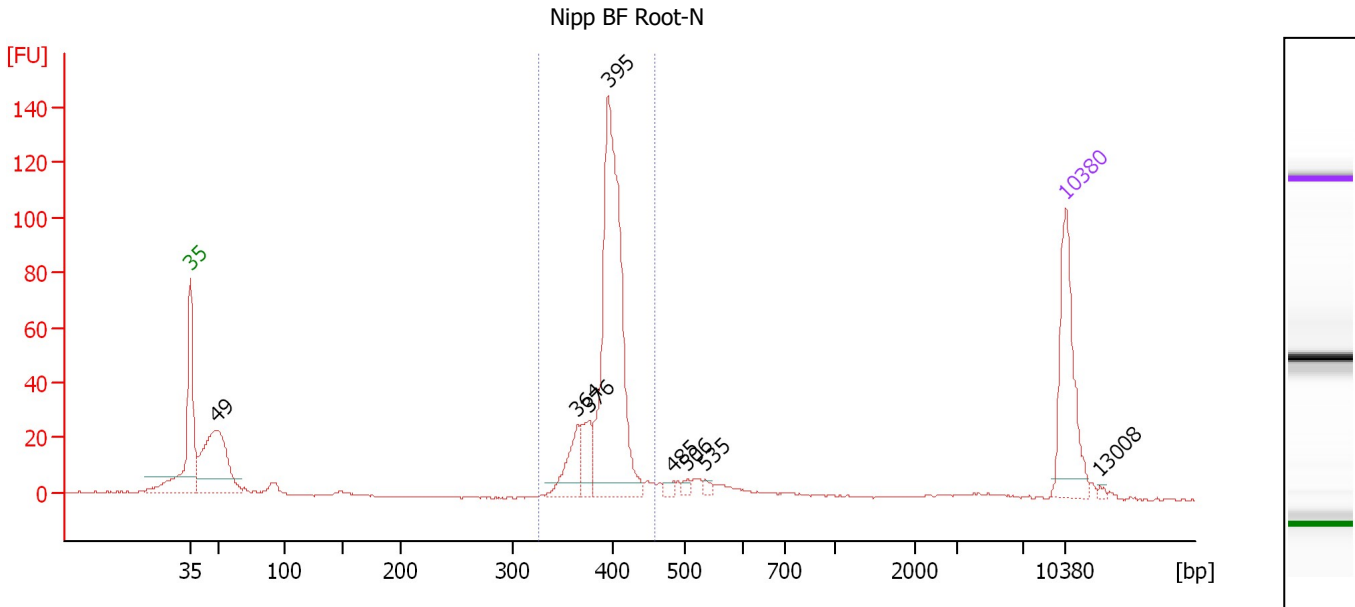
**Region table for sample 7 : M104 Endo Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
338	474	400	3,028.0	797.57	700.9	70	5.5	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : Nipp BF Root-N**

Number of peaks found: 8                      Corr. Area 1: 418.2  
 Noise: 0.3

**Peak table for sample 8 : Nipp BF Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	49	160.19	4,995.2	
3	364	42.25	175.6	
4	376	30.86	124.2	
5	395	301.69	1,155.8	
6	485	4.95	15.5	
7	506	4.33	13.0	
8	535	4.23	12.0	
9	10,380	75.00	10.9	Upper Marker
10	13,008	0.00	0.0	

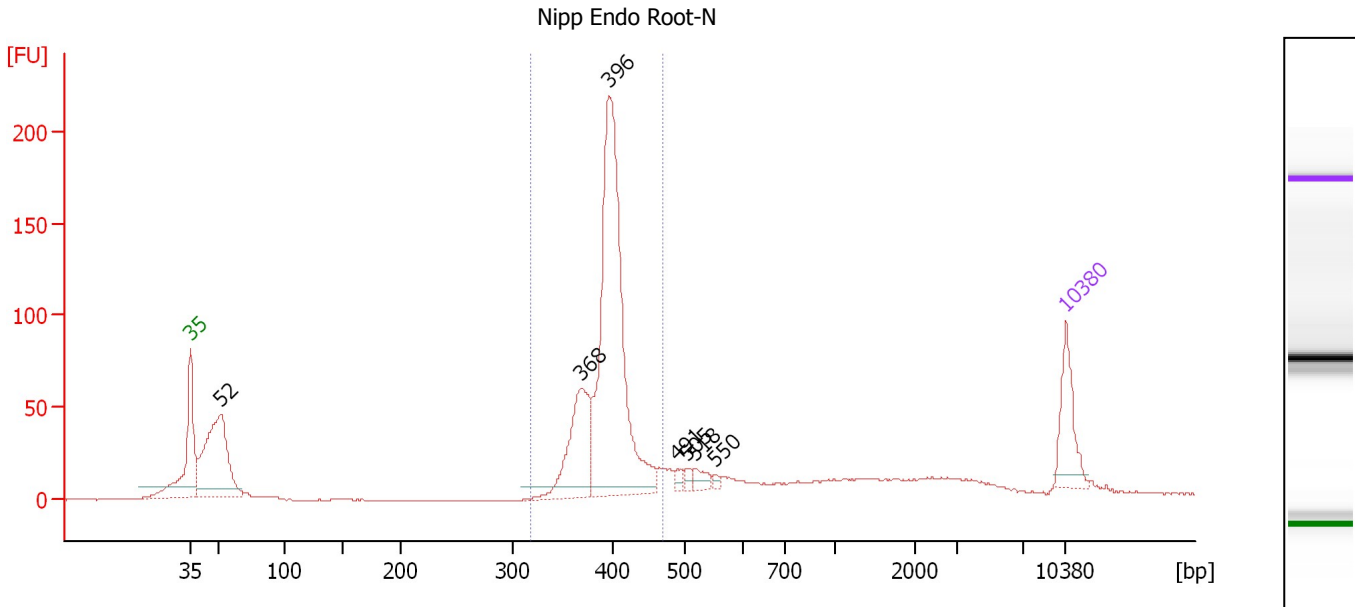
**Region table for sample 8 : Nipp BF Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
326	458	395	1,452.6	378.45	418.2	64	4.8	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : Nipp Endo Root-N**

Number of peaks found: 7                      Corr. Area 1: 747.8  
 Noise: 0.2

**Peak table for sample 9 : Nipp Endo Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	52	375.31	11,014.0	
3	368	196.23	807.4	
4	396	677.34	2,590.6	
5	491	11.82	36.5	
6	505	11.05	33.1	
7	518	21.95	64.3	
8	550	6.30	17.3	
9	10,380	75.00	10.9	Upper Marker

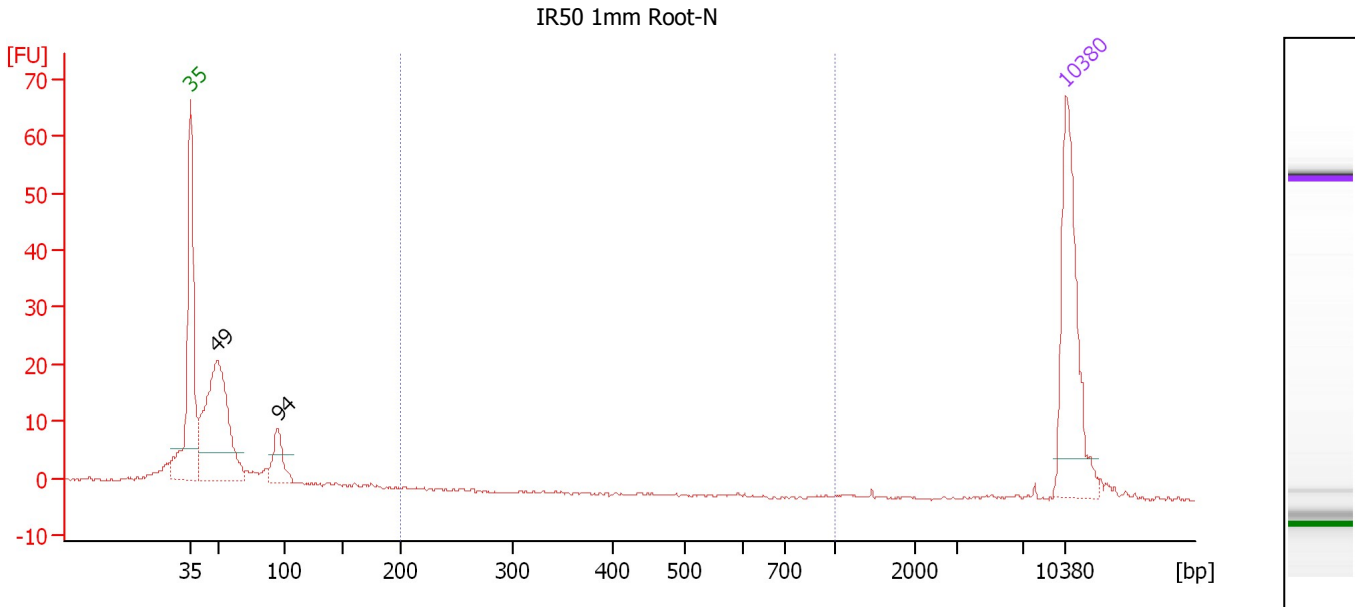
**Region table for sample 9 : Nipp Endo Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
319	470	396	3,421.5	892.70	747.8	58	5.8	Blue

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : IR50 1mm Root-N**

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

**Peak table for sample 10 : IR50 1mm Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	49	182.97	5,638.6	
3	94	31.26	502.8	
4	10,380	75.00	10.9	Upper Marker

**Region table for sample 10 : IR50 1mm Root-N**

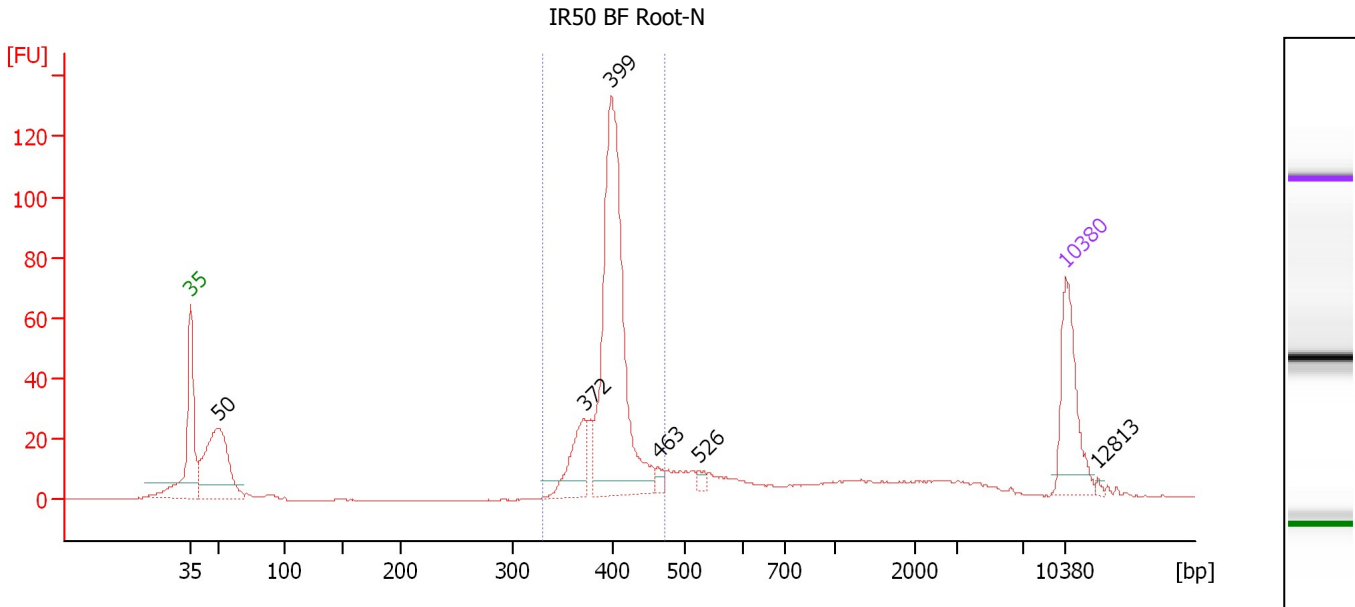
From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
200	1,000	0	0.0	0.00	0.0	0	0.0	Blue



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
 Modified: 1/2/2013 4:25:51 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 11 : IR50 BF Root-N**

Number of peaks found: 6                      Corr. Area 1: 415.3  
 Noise: 0.1

**Peak table for sample 11 : IR50 BF Root-N**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	50	204.90	6,259.3	
3	372	65.98	268.7	
4	399	381.11	1,448.3	
5	463	9.02	29.5	
6	526	7.43	21.4	
7	10,380	75.00	10.9	Upper Marker
8	12,813	0.00	0.0	

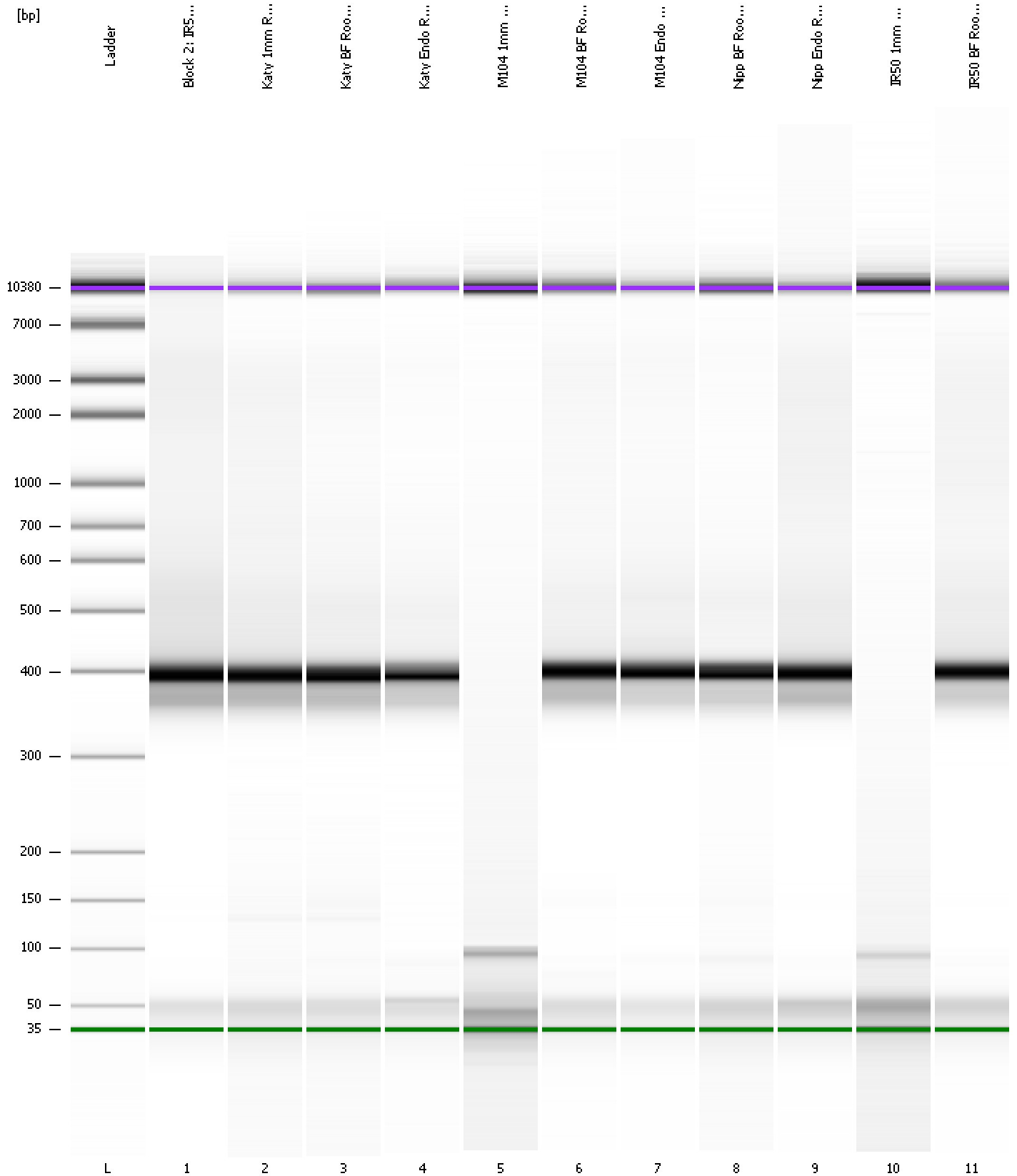
**Region table for sample 11 : IR50 BF Root-N**

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/μl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
330	473	400	1,849.6	486.89	415.3	58	5.7	Blue

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad

Created: 1/2/2013 3:43:46 PM  
Modified: 1/2/2013 4:25:51 PM

**Gel Image**



Assay Class: High Sensitivity DNA Assay Created: 1/2/2013 3:43:46 PM  
 Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-02\2013-01-02\_005.xad Modified: 1/2/2013 4:25:51 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		1/2/2013 4:25:04 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2013-01-02\2013-01-02_005.xad)		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		1/2/2013 3:43:51 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1