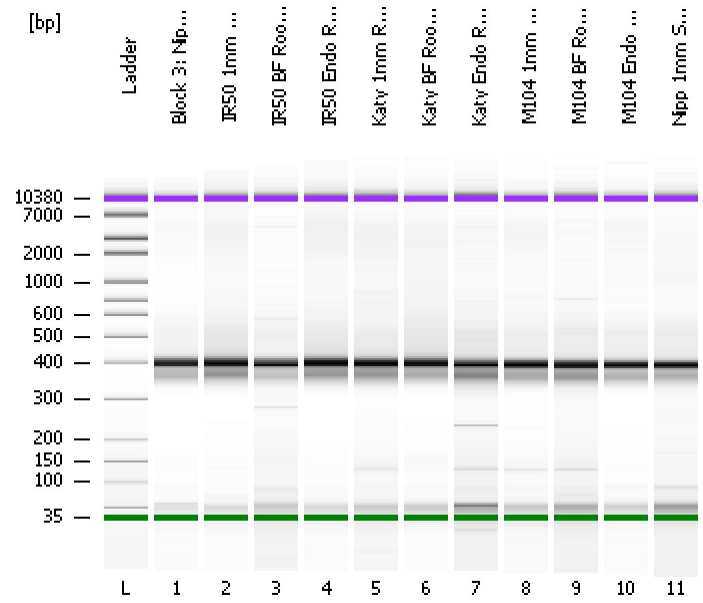
Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electrophoresis File Run Summary



Instrument Information:

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

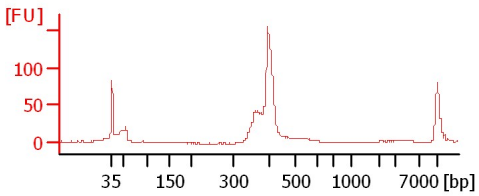
Assay Information:

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

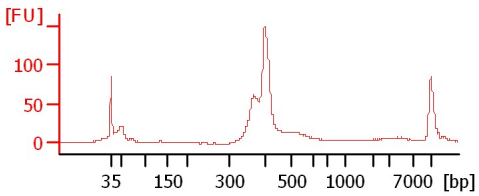
Chip Information:

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

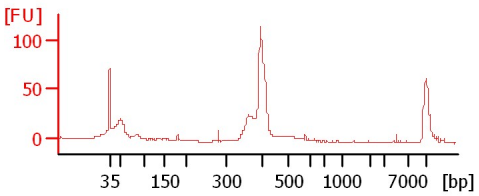
Block 3: Nipp Endo Root-N



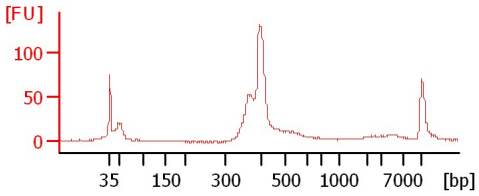
IR50 1mm Root-N



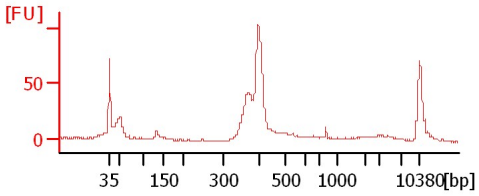
IR50 BF Root-N



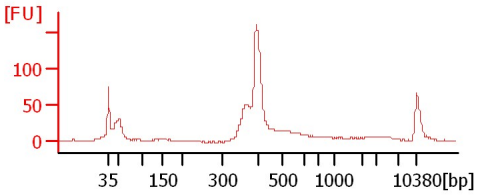
IR50 Endo Root-N



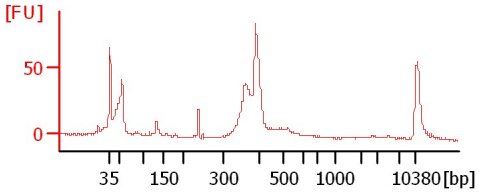
Katy 1mm Root-N



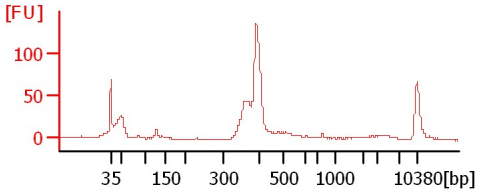
Katy BF Root-N



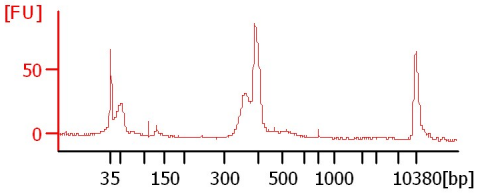
Katy Endo Root-N



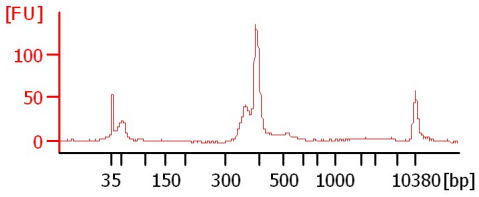
M104 1mm Root-N



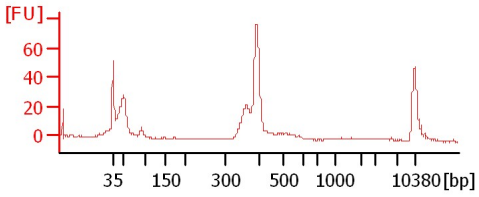
M104 BF Root-N



M104 Endo Root-N



Nipp 1mm Soil-N



Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electrophoresis File Run Summary (Chip Summary)

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
Block 3: Nipp Endo Root-N		☐	✔			
IR50 1mm Root-N		☐	✔			
IR50 BF Root-N		☐	✔			
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 1mm Soil-N		☐	✔			
Ladder		☐	✔			

Chip Lot # **Reagent Kit Lot #**

Chip Comments :

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 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

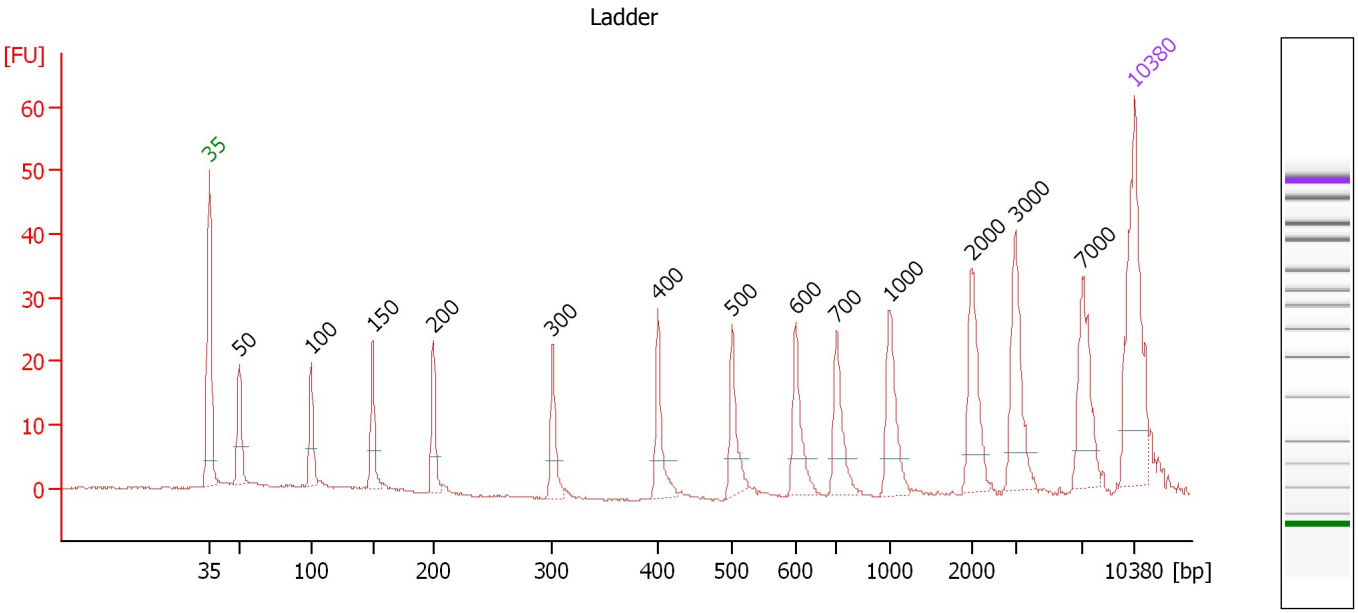
Ladder

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\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary



Overall Results for Ladder

Noise: 0.1

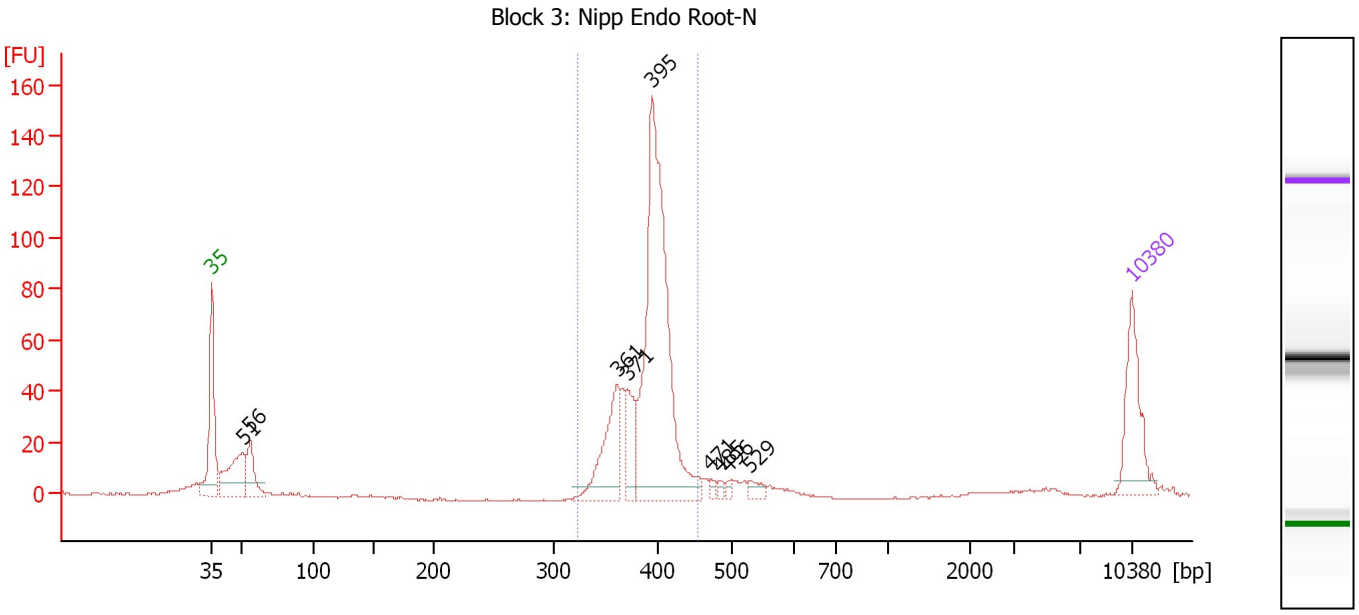
Peak table for Ladder

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\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 1 : Block 3: Nipp Endo Root-N

Number of peaks found:	9	Corr. Area 1:	537.5
Noise:	0.2		

Peak table for sample 1 : Block 3: Nipp Endo Root-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	51	117.96	3,514.5	
3	56	63.55	1,717.5	
4	361	118.00	495.1	
5	371	63.80	260.4	
6	395	494.56	1,899.0	
7	471	6.81	21.9	
8	485	6.00	18.8	
9	496	6.59	20.1	
10	529	13.75	39.4	
11	10,380	75.00	10.9	Upper Marker

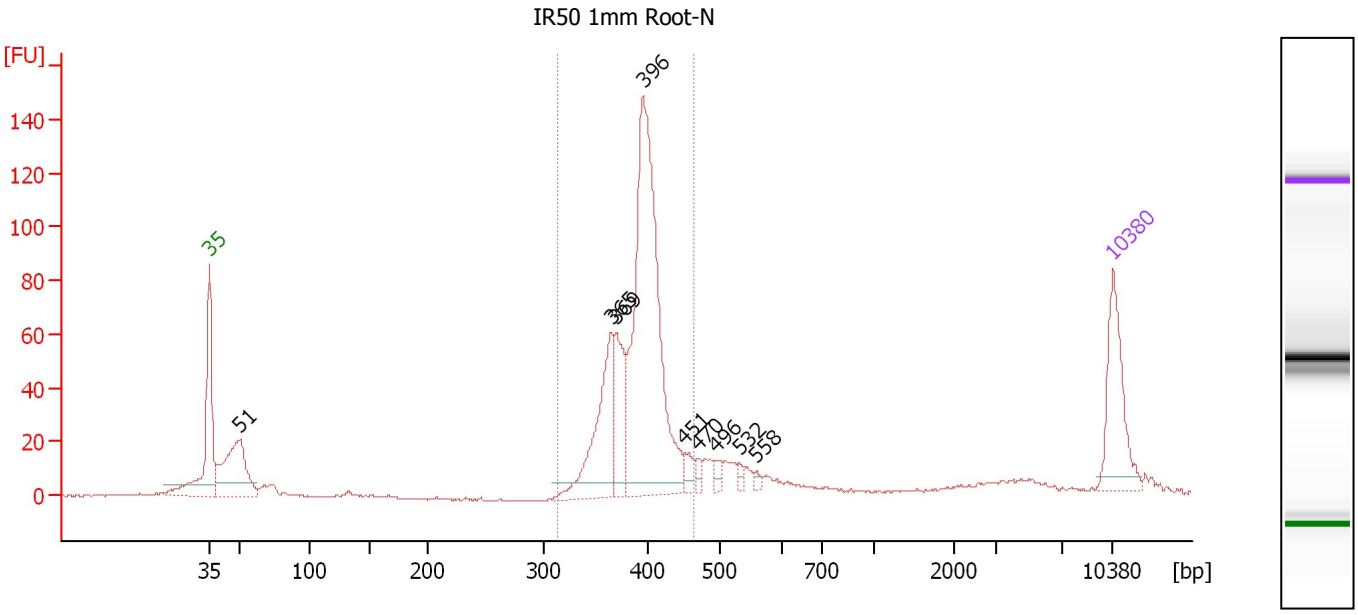
Region table for sample 1 : Block 3: Nipp Endo Root-N

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/µl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
324	455	391	2,567.1	661.02	537.5	77	5.6	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 2 : IR50 1mm Root-N

Number of peaks found:	9	Corr. Area 1:	653.0
Noise:	0.2		

Peak table for sample 2 : IR50 1mm Root-N

Peak		Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1		35	125.00	5,411.3	Lower Marker
2		51	156.32	4,654.9	
3		365	147.07	610.9	
4		369	81.04	332.8	
5		396	457.90	1,752.9	
6		451	17.02	57.2	
7		470	9.86	31.8	
8		496	10.18	31.1	
9		532	7.06	20.1	
10		558	4.19	11.4	
11		10,380	75.00	10.9	Upper Marker

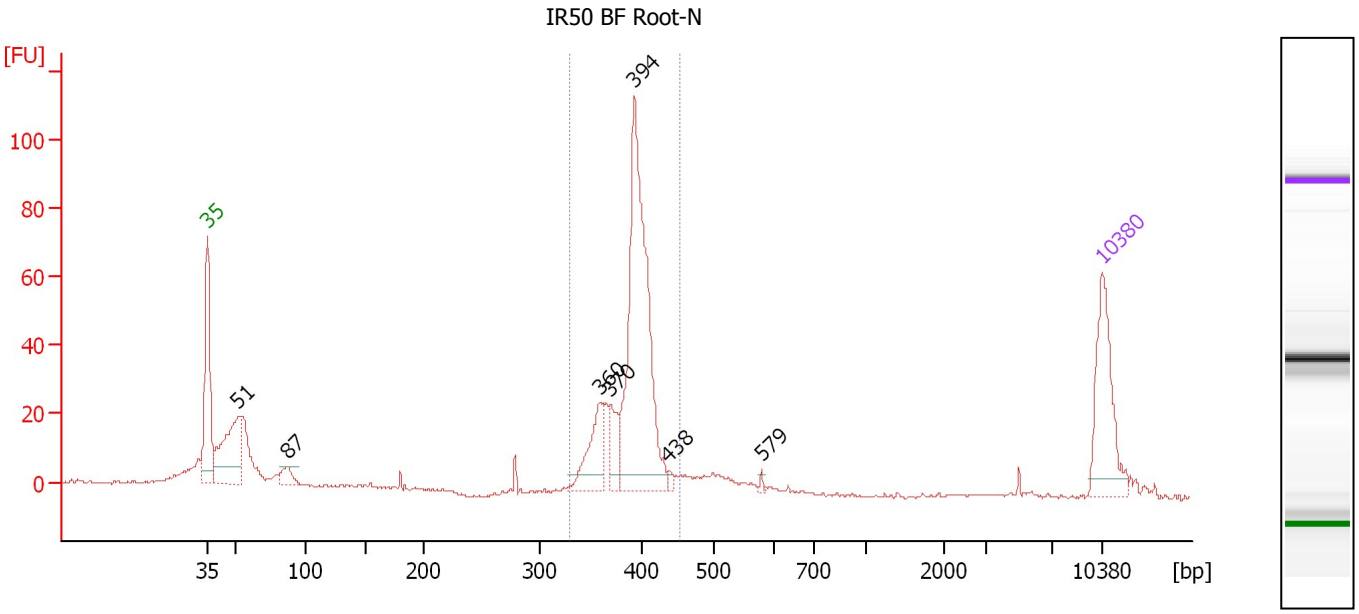
Region table for sample 2 : IR50 1mm Root-N

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/µl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
313	465	392	2,689.9	693.28	653.0	71	6.5	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 3 : IR50 BF Root-N

Number of peaks found:	7	Corr. Area 1:	342.1
Noise:	0.4		

Peak table for sample 3 : IR50 BF Root-N

Peak		Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1		35	125.00	5,411.3	Lower Marker
2		51	139.17	4,096.8	
3		87	22.15	387.0	
4		360	64.22	270.6	
5		370	31.04	127.1	
6		394	328.25	1,263.8	
7		438	5.02	17.4	
8		579	2.45	6.4	
9		10,380	75.00	10.9	Upper Marker

Region table for sample 3 : 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
331	453	391	1,687.1	434.54	342.1	66	5.2	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

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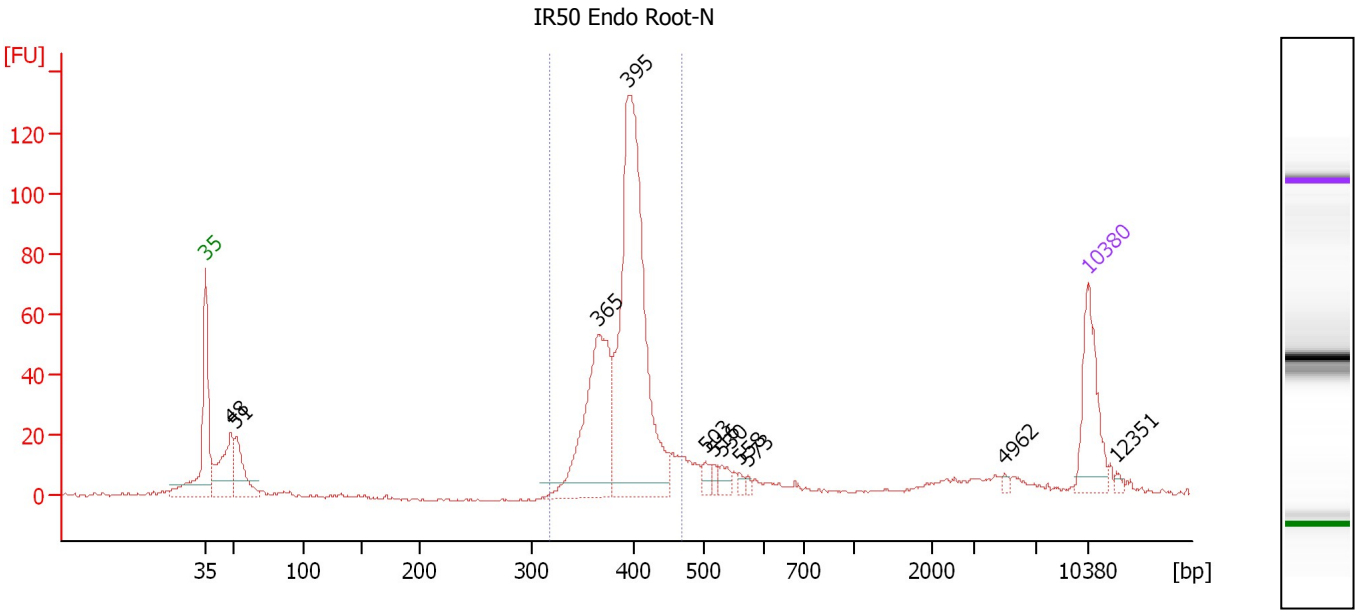

Overall Results for sample 4 : IR50 Endo Root-N

Number of peaks found:	11	Corr. Area 1:	591.0
Noise:	0.4		

Peak table for sample 4 : IR50 Endo Root-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	48	116.37	3,657.1	
3	51	80.54	2,373.2	
4	365	249.56	1,036.3	
5	395	528.26	2,025.8	
6	503	13.64	41.1	
7	516	8.64	25.4	
8	530	13.66	39.0	
9	558	6.34	17.2	
10	573	4.37	11.6	
11	4,962	3.68	1.1	
12	10,380	75.00	10.9	Upper Marker
13	12,351	0.00	0.0	

Region table for sample 4 : IR50 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
317	468	393	2,996.6	773.70	591.0	69	6.6	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

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Modified: 1/4/2013 2:47:18 PM

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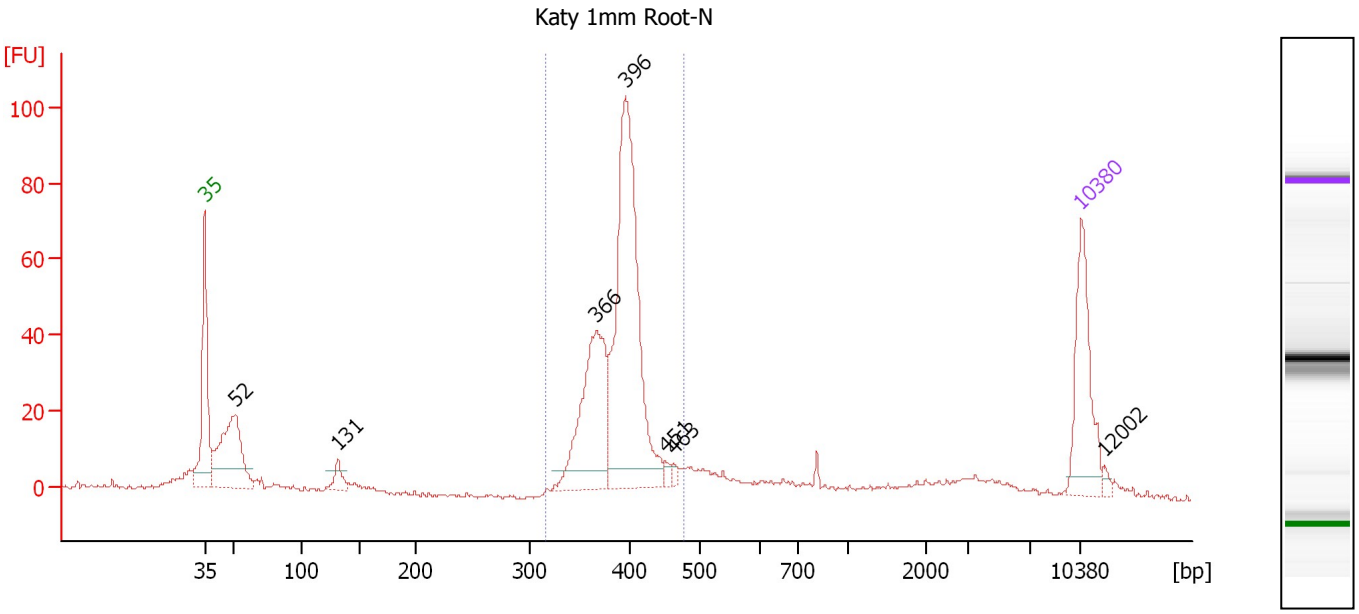

Overall Results for sample 5 : Katy 1mm Root-N

Number of peaks found:	7	Corr. Area 1:	453.8
Noise:	0.4		

Peak table for sample 5 : Katy 1mm Root-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	52	161.98	4,724.8	
3	131	19.66	226.9	
4	366	170.54	705.7	
5	396	341.67	1,307.1	
6	451	5.33	17.9	
7	463	4.63	15.1	
8	10,380	75.00	10.9	Upper Marker
9	12,002	0.00	0.0	

Region table for sample 5 : Katy 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
316	476	391	2,146.9	551.83	453.8	61	6.8	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

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Modified: 1/4/2013 2:47:18 PM

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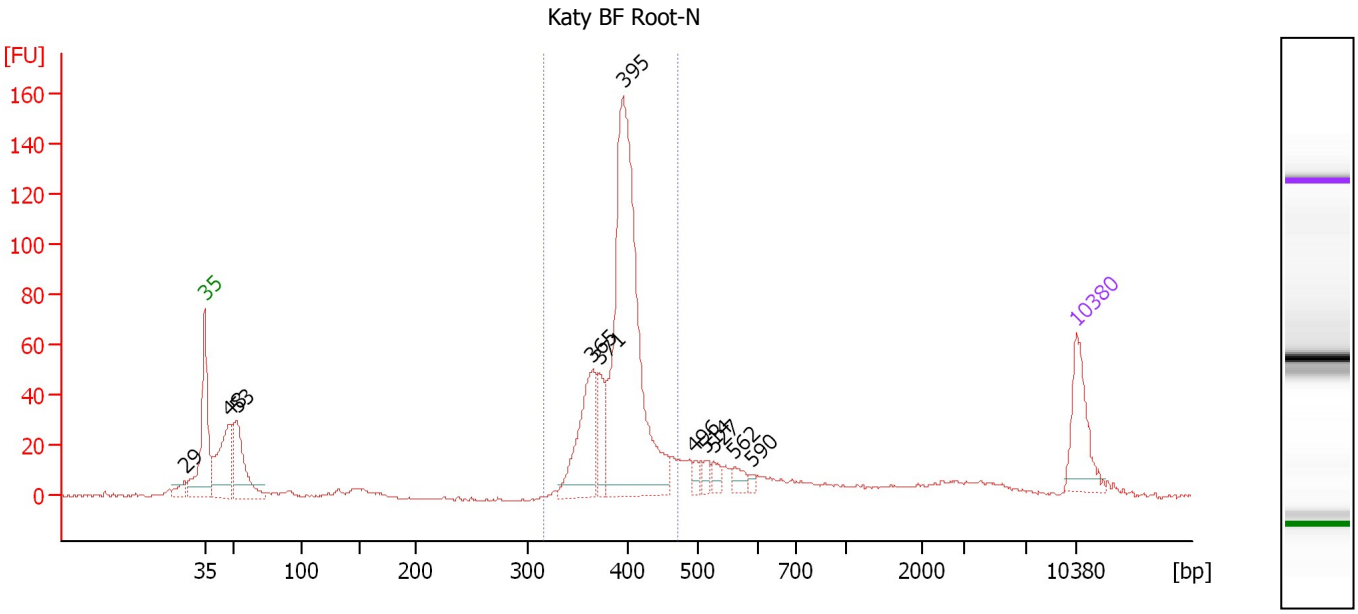

Overall Results for sample 6 : Katy BF Root-N

Number of peaks found:	11	Corr. Area 1:	653.4
Noise:	0.5		

Peak table for sample 6 : Katy BF Root-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	29	0.00	0.0	
2	35	125.00	5,411.3	Lower Marker
3	48	170.98	5,357.0	
4	53	155.36	4,454.9	
5	365	168.39	699.2	
6	371	60.31	246.1	
7	395	635.11	2,433.5	
8	496	12.35	37.7	
9	514	16.44	48.5	
10	527	17.11	49.2	
11	562	18.63	50.2	
12	590	6.04	15.5	
13	10,380	75.00	10.9	Upper Marker

Region table for sample 6 : 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
316	473	395	3,407.6	884.80	653.4	61	6.7	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

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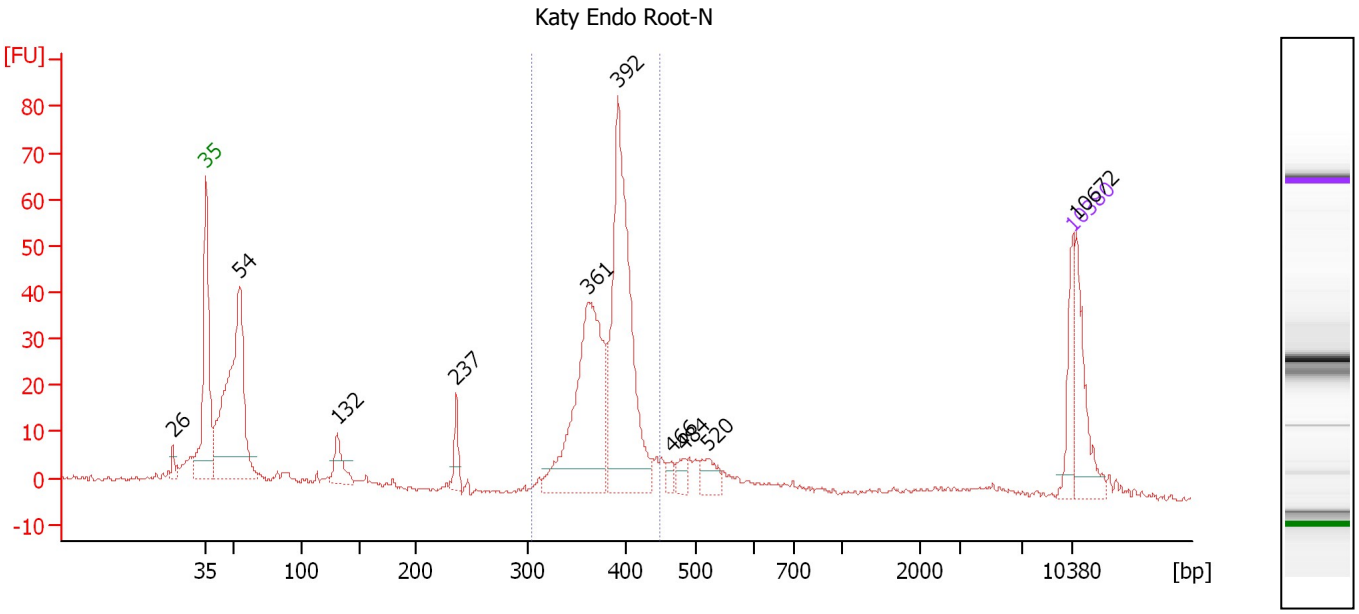
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 7 : Katy Endo Root-N

Number of peaks found:	10	Corr. Area 1:	343.3
Noise:	0.5		

Peak table for sample 7 : Katy Endo 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	54	803.75	22,480.1	
4	132	86.34	993.9	
5	237	59.30	379.2	
6	361	599.65	2,514.4	
7	392	718.31	2,775.8	
8	466	21.93	71.4	
9	484	29.26	91.6	
10	520	53.40	155.6	
11	10,380	75.00	10.9	Upper Marker
12	10,672	0.00	0.0	

Region table for sample 7 : 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
304	449	382	5,133.8	1,292.62	343.3	49	6.3	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

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Modified: 1/4/2013 2:47:18 PM

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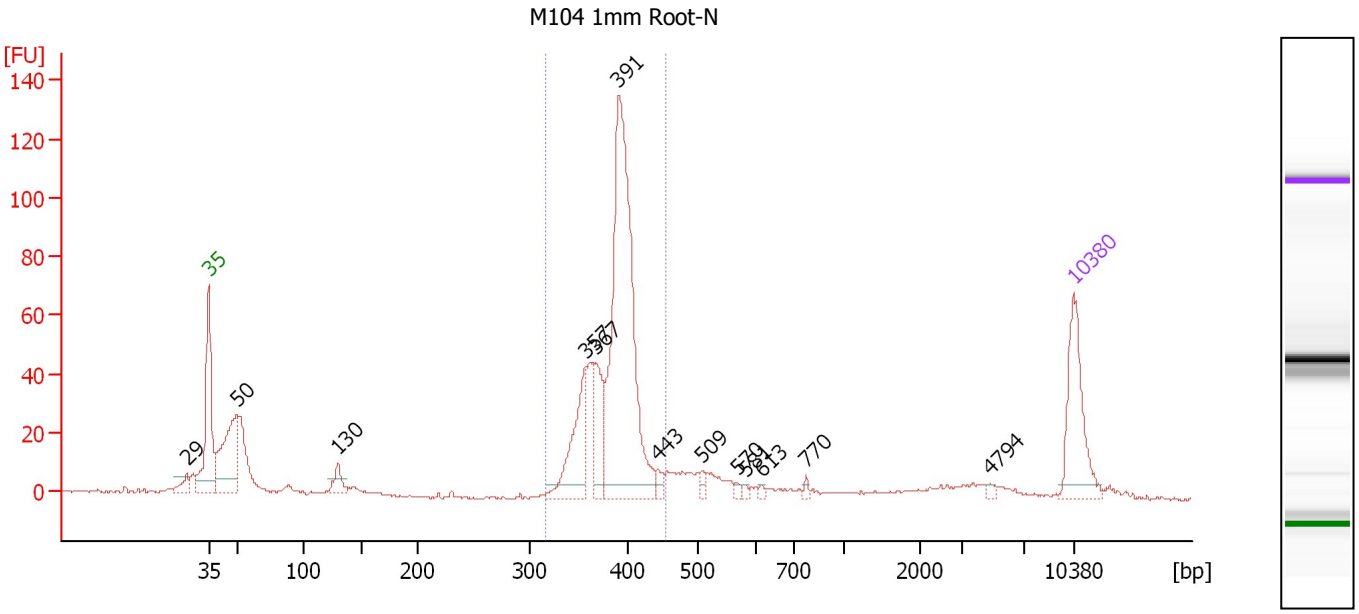

Overall Results for sample 8 : M104 1mm Root-N

Number of peaks found:	13	Corr. Area 1:	518.9
Noise:	0.4		

Peak table for sample 8 : M104 1mm Root-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	29	0.00	0.0	
2	35	125.00	5,411.3	Lower Marker
3	50	152.98	4,612.2	
4	130	23.84	278.0	
5	357	102.23	433.6	
6	367	66.82	275.9	
7	391	431.57	1,673.7	
8	443	10.44	35.7	
9	509	7.90	23.5	
10	570	4.26	11.3	
11	581	3.71	9.7	
12	613	3.35	8.3	
13	770	3.99	7.8	
14	4,794	3.66	1.2	
15	10,380	75.00	10.9	Upper Marker

Region table for sample 8 : 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
316	455	386	2,535.4	644.36	518.9	60	5.9	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

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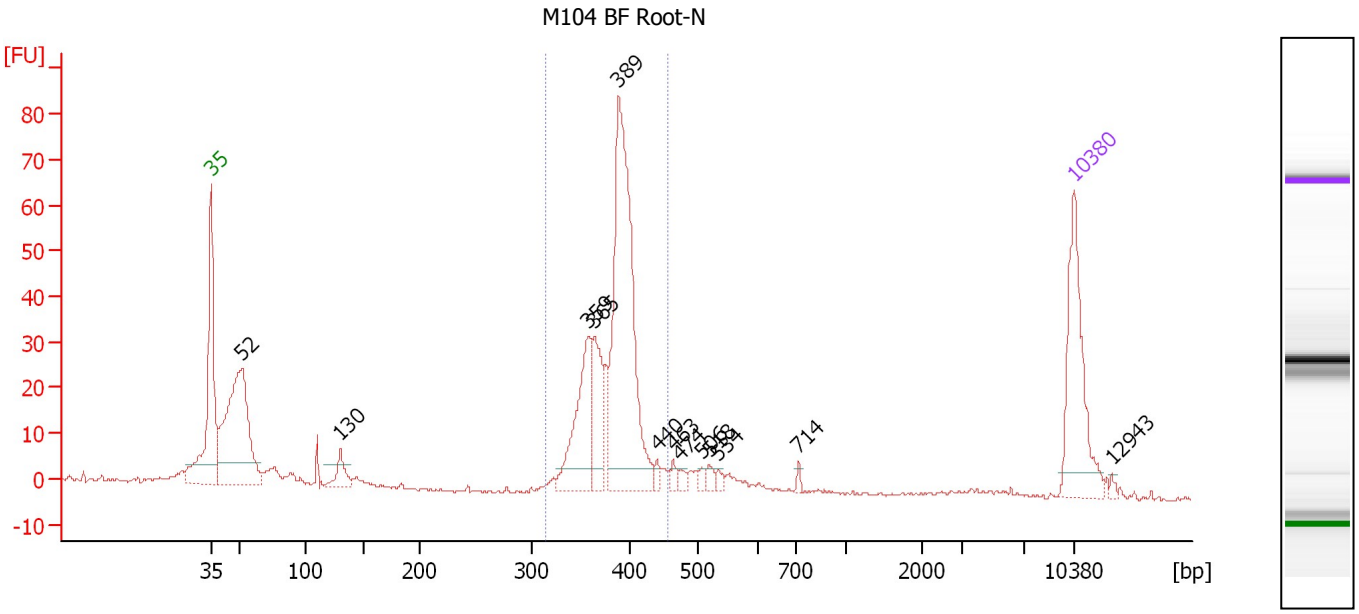
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 9 : M104 BF Root-N

Number of peaks found:	13	Corr. Area 1:	329.5
Noise:	0.4		

Peak table for sample 9 : M104 BF Root-N

Peak		Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	◀	35	125.00	5,411.3	Lower Marker
2		52	232.40	6,733.4	
3		130	23.68	276.4	
4		359	92.02	388.7	
5		365	54.42	226.1	
6		389	264.54	1,030.4	
7		440	5.49	18.9	
8		463	5.52	18.1	
9		474	5.88	18.8	
10		506	5.12	15.3	
11		518	6.07	17.8	
12		534	4.36	12.4	
13		714	2.80	5.9	
14	▶	10,380	75.00	10.9	Upper Marker
15		12,943	0.00	0.0	

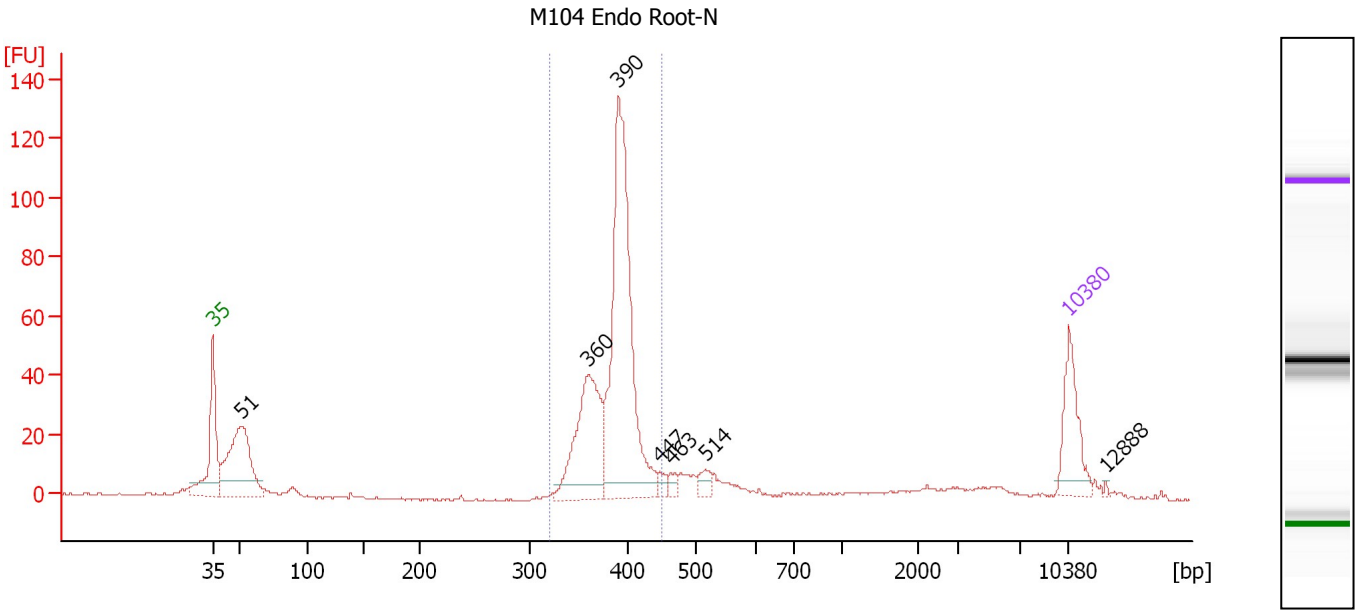
Region table for sample 9 : M104 BF Root-N

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/µl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
315	455	384	1,674.2	423.06	329.5	63	5.9	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 10 : M104 Endo Root-N

Number of peaks found:	7	Corr. Area 1:	454.3
Noise:	0.4		

Peak table for sample 10 : M104 Endo Root-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	51	275.02	8,128.2	
3	360	233.15	981.5	
4	390	522.59	2,030.7	
5	447	13.09	44.4	
6	463	13.35	43.7	
7	514	18.85	55.5	
8	10,380	75.00	10.9	Upper Marker
9	12,888	0.00	0.0	

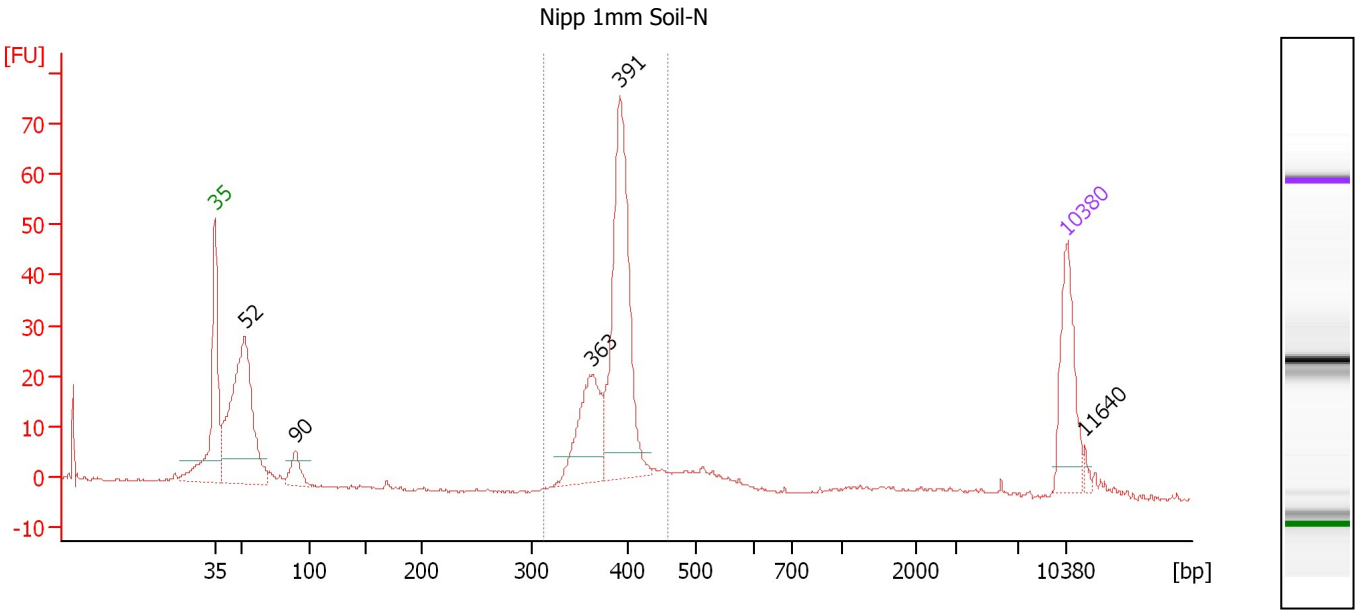
Region table for sample 10 : M104 Endo Root-N

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/µl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
320	448	385	2,919.6	741.42	454.3	65	5.6	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Electropherogram Summary Continued ...



Overall Results for sample 11 : Nipp 1mm Soil-N

Number of peaks found:	5	Corr. Area 1:	248.5
Noise:	0.2		

Peak table for sample 11 : Nipp 1mm Soil-N

Peak	Size [bp]	Conc. [pg/µl]	Molarity [pmol/l]	Observations
1	35	125.00	5,411.3	Lower Marker
2	52	352.44	10,313.1	
3	90	34.72	584.7	
4	363	121.17	505.1	
5	391	293.61	1,136.5	
6	10,380	75.00	10.9	Upper Marker
7	11,640	0.00	0.0	

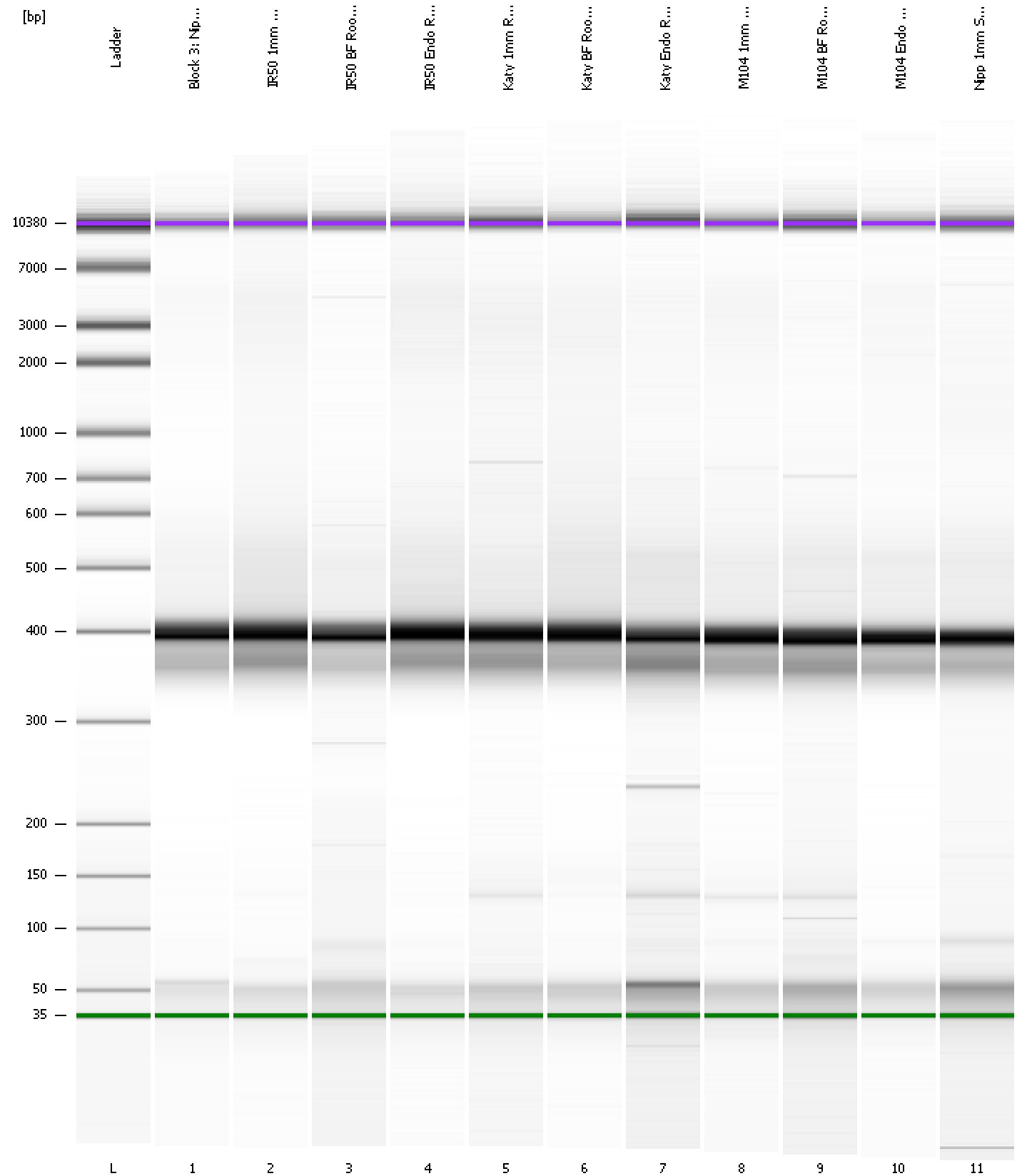
Region table for sample 11 : Nipp 1mm Soil-N

From [bp]	To [bp]	Average Size [bp]	Molarity [pmol/l]	Conc. [pg/µl]	Corr. Area	% of Total	Size distribution in CV [%]	Color
314	457	386	1,776.7	451.51	248.5	55	5.5	

Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 PM

Gel Image



Assay Class: High Sensitivity DNA Assay
Data Path: C:\...ents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad

Created: 1/4/2013 2:03:41 PM
Modified: 1/4/2013 2:47:18 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		1/4/2013 2:45:00 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2013-01-04\2013-01-04_003.xad)		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		1/4/2013 2:03:46 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1