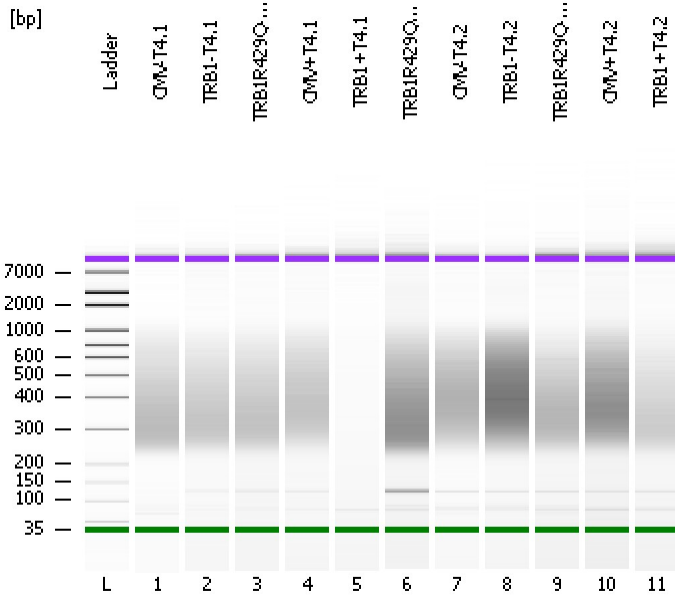


Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
Modified: 6/10/2015 3:19:16 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

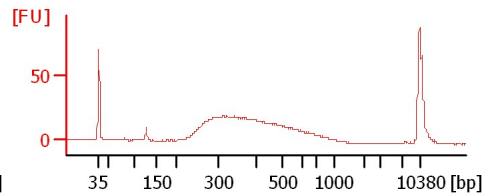
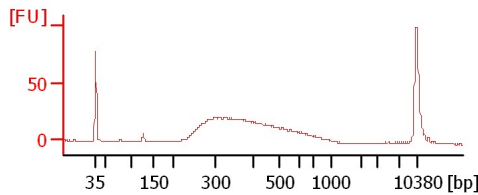
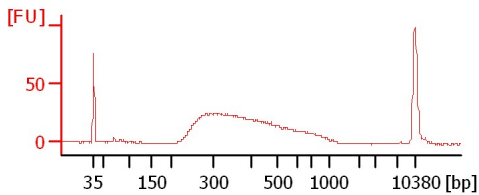
#### Chip Information:

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

CMV-T4.1

TRB1-T4.1

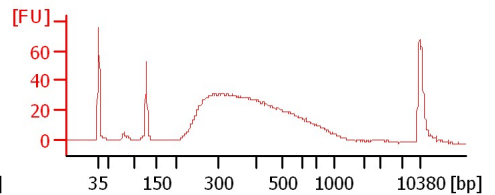
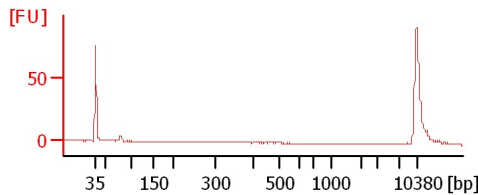
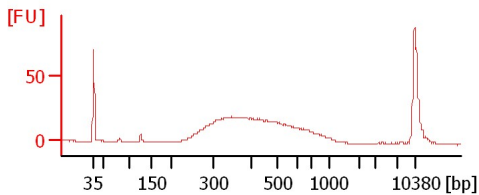
TRB1R429Q-T4.1



CMV+T4.1

TRB1+T4.1

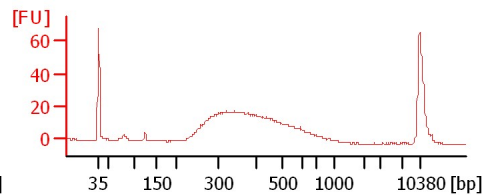
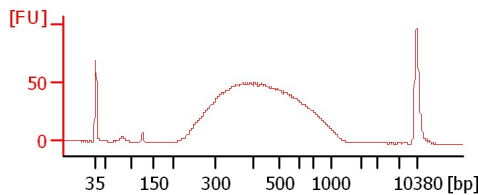
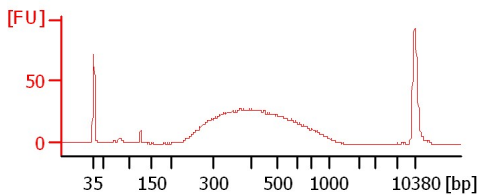
TRB1R429Q+T4.1



CMV-T4.2

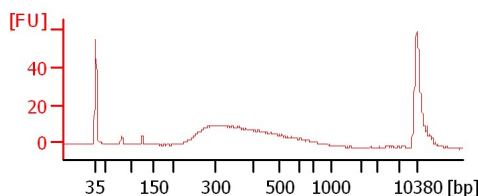
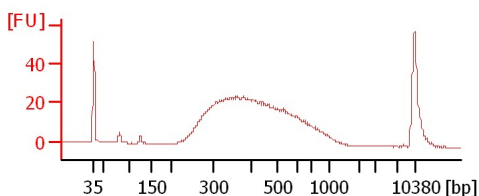
TRB1-T4.2

TRB1R429Q-T4.2



CMV+T4.2

TRB1+T4.2



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

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

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
CMV-T4.1		<input type="checkbox"/>	✓			
TRB1-T4.1		<input type="checkbox"/>	✓			
TRB1R429Q-T4.1		<input type="checkbox"/>	✓			
CMV+T4.1		<input type="checkbox"/>	✓			
TRB1+T4.1		<input type="checkbox"/>	✓			
TRB1R429Q+T4.1		<input type="checkbox"/>	✓			
CMV-T4.2		<input type="checkbox"/>	✓			
TRB1-T4.2		<input type="checkbox"/>	✓			
TRB1R429Q-T4.2		<input type="checkbox"/>	✓			
CMV+T4.2		<input type="checkbox"/>	✓			
TRB1+T4.2		<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\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
Modified: 6/10/2015 3:19:16 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

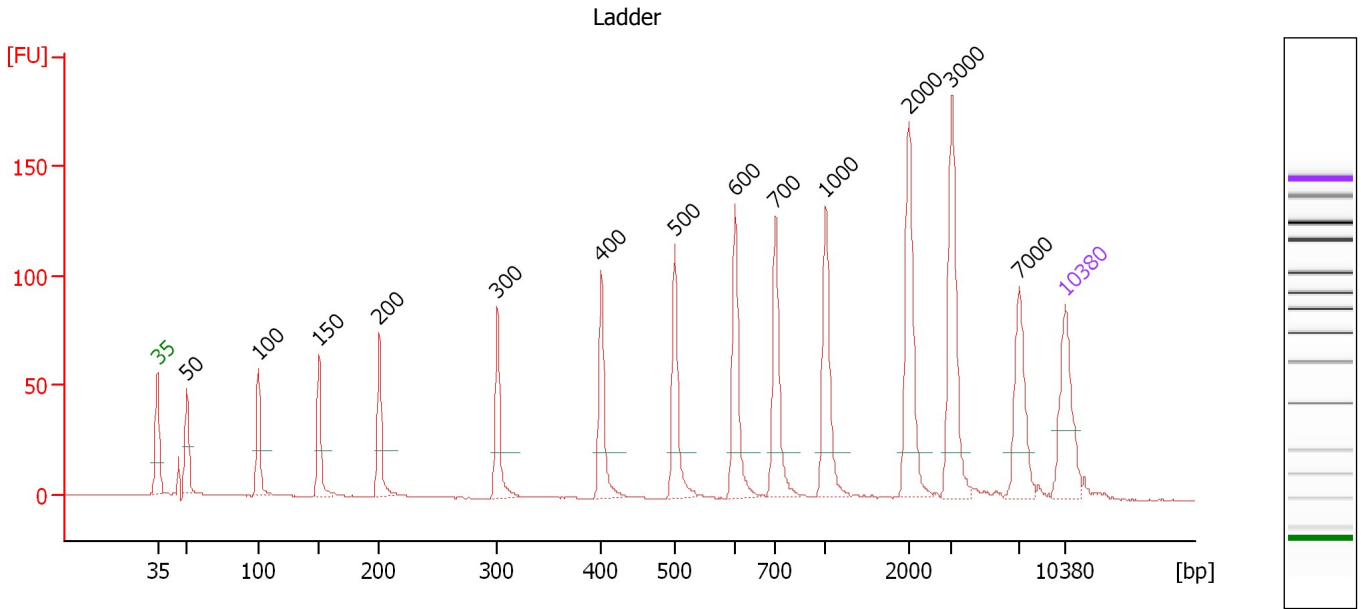
**Ladder**

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\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.1

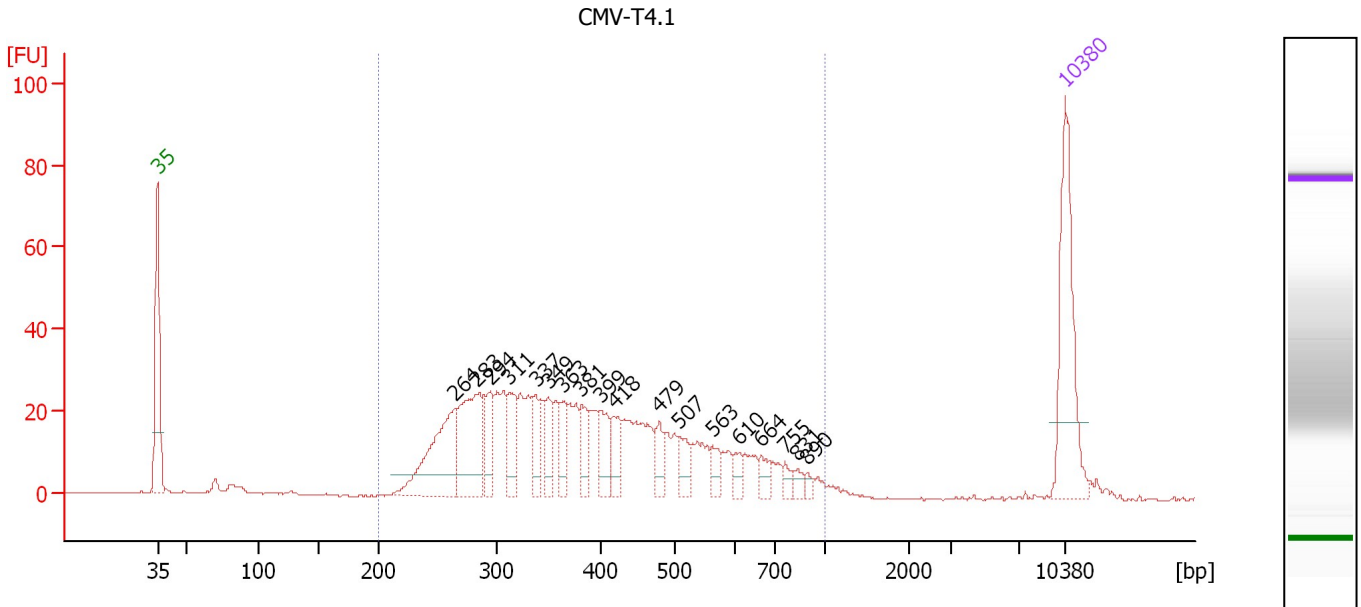
**Peak table for Ladder**

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	45.26
3	100	150.00	2,272.7	Ladder Peak	50.78
4	150	150.00	1,515.2	Ladder Peak	55.47
5	200	150.00	1,136.4	Ladder Peak	60.11
6	300	150.00	757.6	Ladder Peak	69.22
7	400	150.00	568.2	Ladder Peak	77.23
8	500	150.00	454.5	Ladder Peak	82.89
9	600	150.00	378.8	Ladder Peak	87.57
10	700	150.00	324.7	Ladder Peak	90.67
11	1,000	150.00	227.3	Ladder Peak	94.56
12	2,000	150.00	113.6	Ladder Peak	100.97
13	3,000	150.00	75.8	Ladder Peak	104.29
14	7,000	150.00	32.5	Ladder Peak	109.46
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 1 : CMV-T4.1**

Number of peaks found: 18                      Corr. Area 1: 734.9  
 Noise: 0.2

**Peak table for sample 1 : CMV-T4.1**

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	264	98.03	563.2		65.92
3	283	83.44	447.0		67.66
4	294	30.61	157.9		68.65
5	311	33.35	162.6		70.08
6	337	23.27	104.6		72.18
7	349	23.78	103.1		73.17
8	363	20.70	86.5		74.24
9	381	23.19	92.2		75.72
10	399	24.68	93.7		77.15
11	418	21.89	79.4		78.22
12	479	15.31	48.4		81.71
13	507	16.49	49.2		83.24
14	563	11.55	31.1		85.83
15	610	8.73	21.7		87.89
16	664	9.70	22.1		89.55
17	755	6.33	12.7		91.38
18	831	5.55	10.1		92.37
19	890	3.35	5.7		93.13
20	10,380	75.00	10.9	Upper Marker	113.00

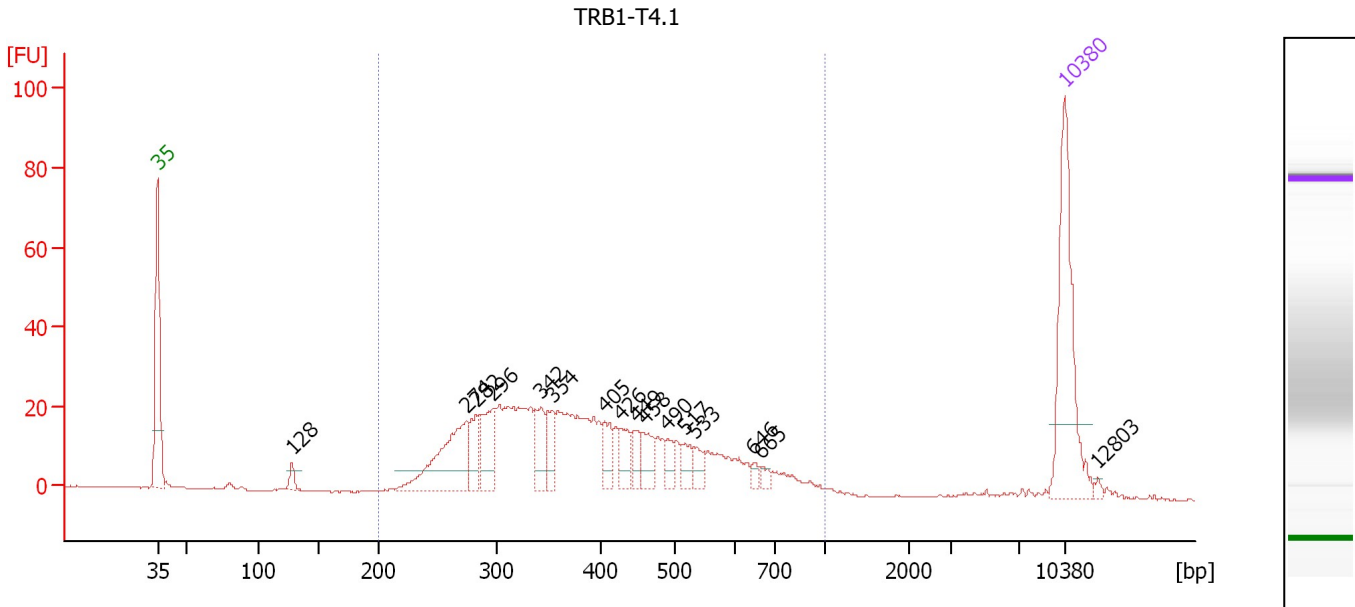
**Region table for sample 1 : CMV-T4.1**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	410	1,000	734.9	3,444.4	95	35.0	808.74

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : TRB1-T4.1**

Number of peaks found: 16                      Corr. Area 1: 586.3  
 Noise: 0.2

**Peak table for sample 2 : TRB1-T4.1**

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	128	8.06	95.8		53.37
3	274	76.85	424.9		66.86
4	282	22.42	120.5		67.59
5	296	38.18	195.1		68.90
6	342	25.53	113.0		72.61
7	354	20.47	87.7		73.52
8	405	17.30	64.7		77.50
9	426	16.43	58.5		78.68
10	449	12.40	41.9		79.99
11	458	17.02	56.2		80.54
12	490	9.42	29.1		82.35
13	517	12.24	35.8		83.71
14	533	9.94	28.3		84.43
15	646	4.40	10.3		89.00
16	665	4.13	9.4		89.59
17	10,380	75.00	10.9	Upper Marker	113.00
18	12,803	0.00	0.0		115.54

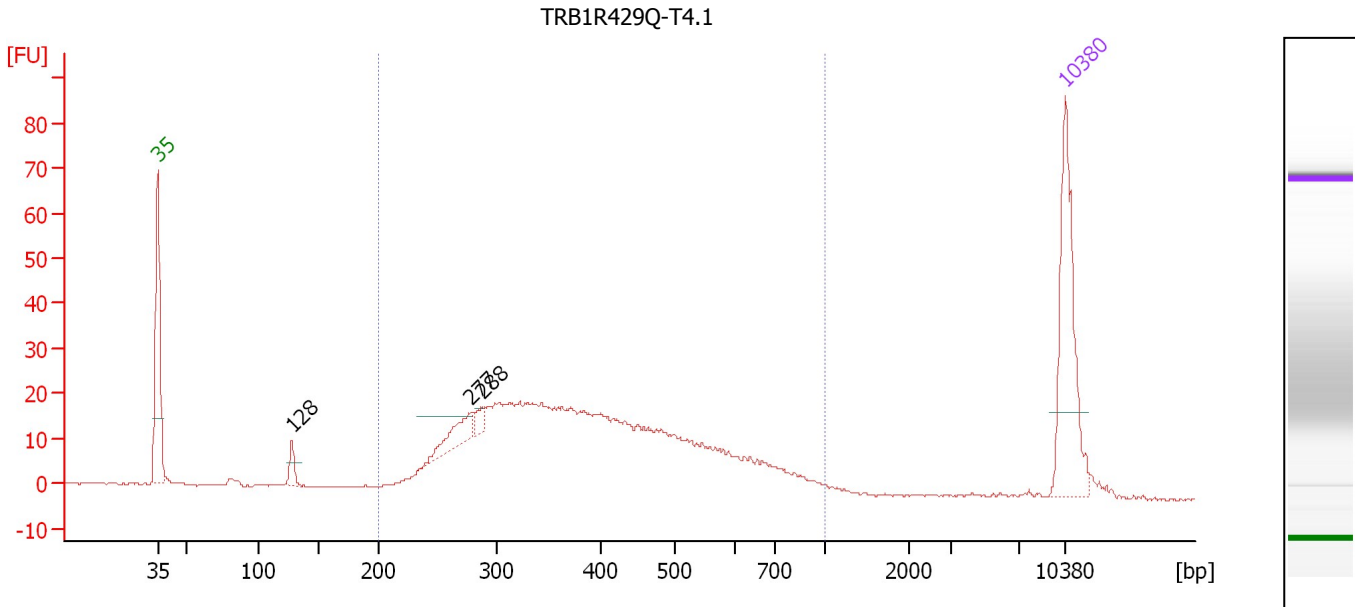
**Region table for sample 2 : TRB1-T4.1**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]	Conc. [pg/μl]
200	408	1,000	586.3	2,469.0	97	32.5	586.97

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : TRB1R429Q-T4.1**

Number of peaks found: 3                      Corr. Area 1: 555.8  
 Noise: 0.2

**Peak table for sample 3 : TRB1R429Q-T4.1**

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	128	12.86	152.6		53.38
3	277	27.10	148.0		67.16
4	288	7.56	39.8		68.09
5	10,380	75.00	10.9	Upper Marker	113.00

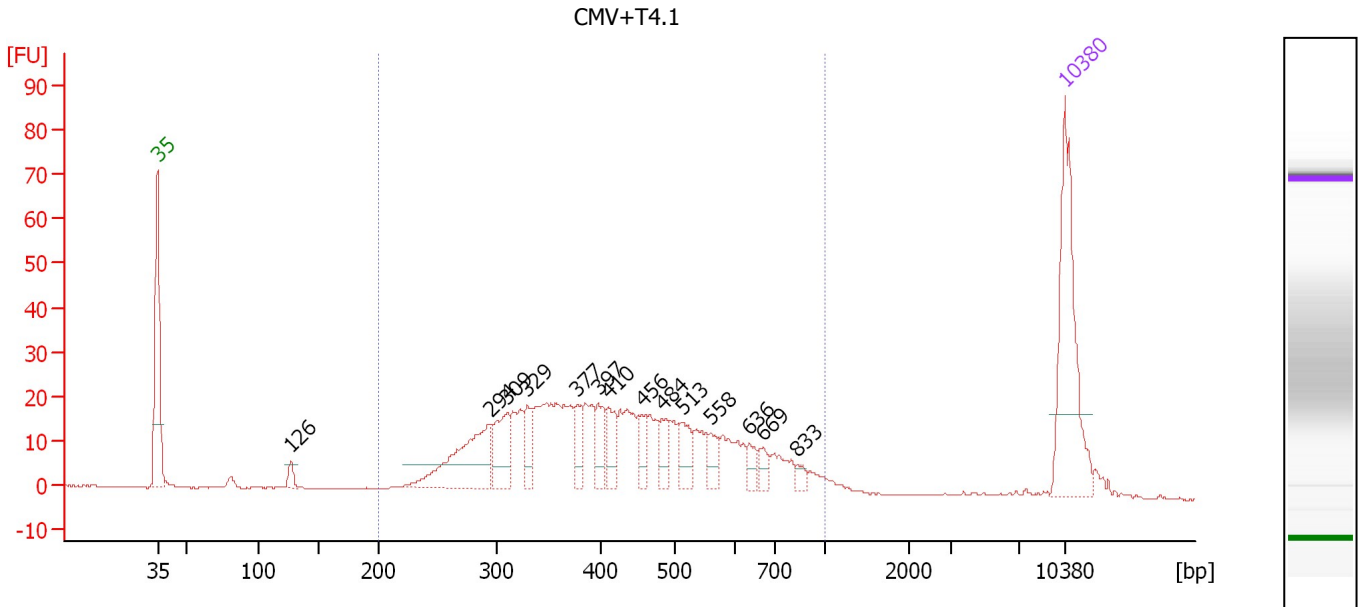
**Region table for sample 3 : TRB1R429Q-T4.1**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]	Conc. [pg/μl]
200	411	1,000	555.8	2,689.5	93	33.3	639.33

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 4 : CMV+T4.1**

Number of peaks found: 14                      Corr. Area 1: 571.9  
 Noise: 0.2

**Peak table for sample 4 : CMV+T4.1**

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	126	7.38	88.5		53.26
3	294	77.24	398.6		68.64
4	309	33.12	162.6		69.91
5	329	17.51	80.6		71.56
6	377	16.23	65.3		75.37
7	397	19.97	76.2		77.01
8	410	18.87	69.7		77.81
9	456	13.05	43.3		80.40
10	484	15.65	49.0		82.00
11	513	18.21	53.8		83.50
12	558	13.19	35.8		85.62
13	636	8.84	21.1		88.68
14	669	8.55	19.4		89.71
15	833	4.68	8.5		92.40
16	10,380	75.00	10.9	Upper Marker	113.00

**Region table for sample 4 : CMV+T4.1**

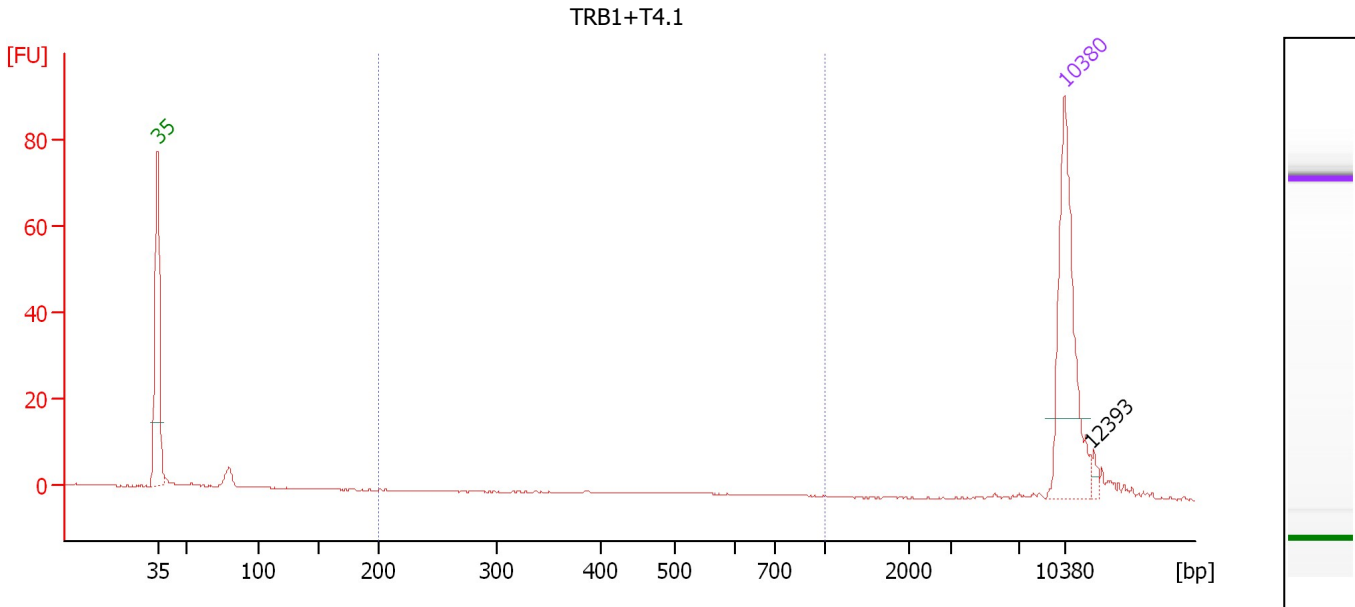
From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	442	1,000	571.9	2,311.8	94	32.9	590.87



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 : TRB1+T4.1**

Number of peaks found: 1                      Corr. Area 1: 0.0  
 Noise: 0.1

**Peak table for sample 5 : TRB1+T4.1**

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	10,380	75.00	10.9	Upper Marker	113.00
3	12,393	0.00	0.0		115.11

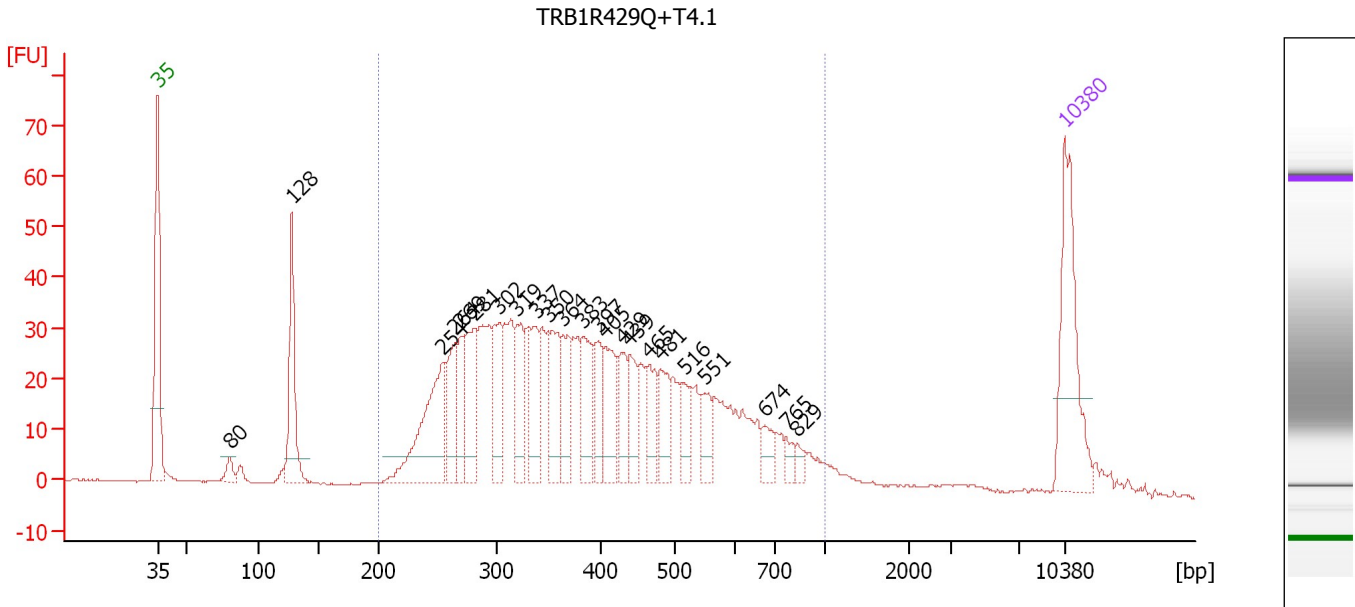
**Region table for sample 5 : TRB1+T4.1**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	361	1,000	0.0	0.0	0	16.7	0.01

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : TRB1R429Q+T4.1**

Number of peaks found: 23                      Corr. Area 1: 983.5  
 Noise: 0.1

**Peak table for sample 6 : TRB1R429Q+T4.1**


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	80	11.52	218.6		48.55
3	128	90.25	1,071.1		53.38
4	254	109.47	652.0		65.07
5	264	46.07	264.4		65.94
6	269	40.65	228.7		66.43
7	281	60.59	326.5		67.50
8	302	47.62	239.2		69.35
9	319	45.06	214.2		70.72
10	337	48.40	217.6		72.18
11	350	53.58	232.1		73.20
12	364	40.38	168.2		74.32
13	383	40.16	158.8		75.88
14	397	31.29	119.3		77.00
15	405	46.03	172.4		77.49
16	429	31.76	112.2		78.85
17	439	30.39	104.9		79.44
18	465	30.93	100.8		80.90
19	481	32.72	103.0		81.82
20	516	22.39	65.8		83.63
21	551	22.70	62.4		85.28
22	674	15.05	33.8		89.86
23	765	7.53	14.9		91.52
24	829	6.95	12.7		92.35
25	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**

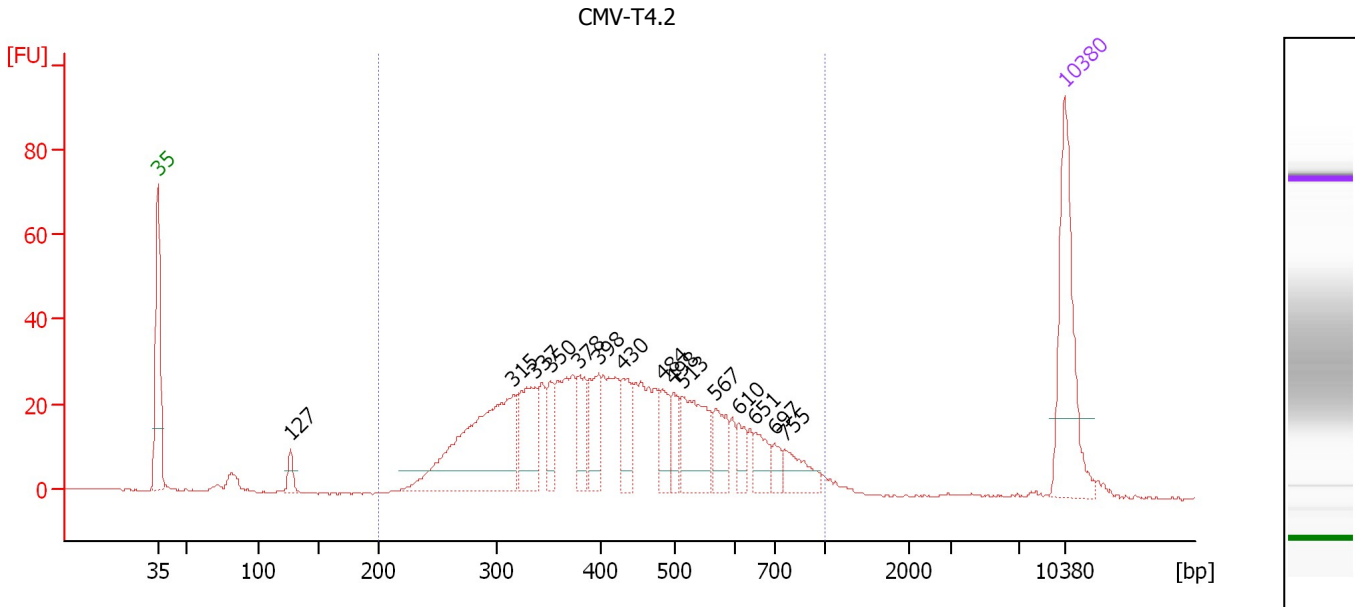
... Region table for sample 6 : TRB1R429Q+T4.1

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]	Conc. [pg/ $\mu$ l]
200	413	1,000	983.5	5,503.2	 89	35.1	1,295.30

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : CMV-T4.2**

Number of peaks found: 15                      Corr. Area 1: 791.1  
 Noise: 0.1

**Peak table for sample 7 : CMV-T4.2**

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	127	11.92	142.7		53.27
3	315	173.57	834.1		70.45
4	337	58.80	264.5		72.17
5	350	24.48	105.8		73.26
6	378	28.23	113.3		75.43
7	398	34.18	130.2		77.06
8	430	32.30	113.8		78.94
9	484	24.88	77.8		82.00
10	498	19.57	59.5		82.79
11	513	60.04	177.4		83.48
12	567	27.48	73.4		86.05
13	610	13.88	34.5		87.87
14	651	18.19	42.3		89.16
15	697	9.74	21.2		90.59
16	755	21.87	43.9		91.38
17	10,380	75.00	10.9	Upper Marker	113.00

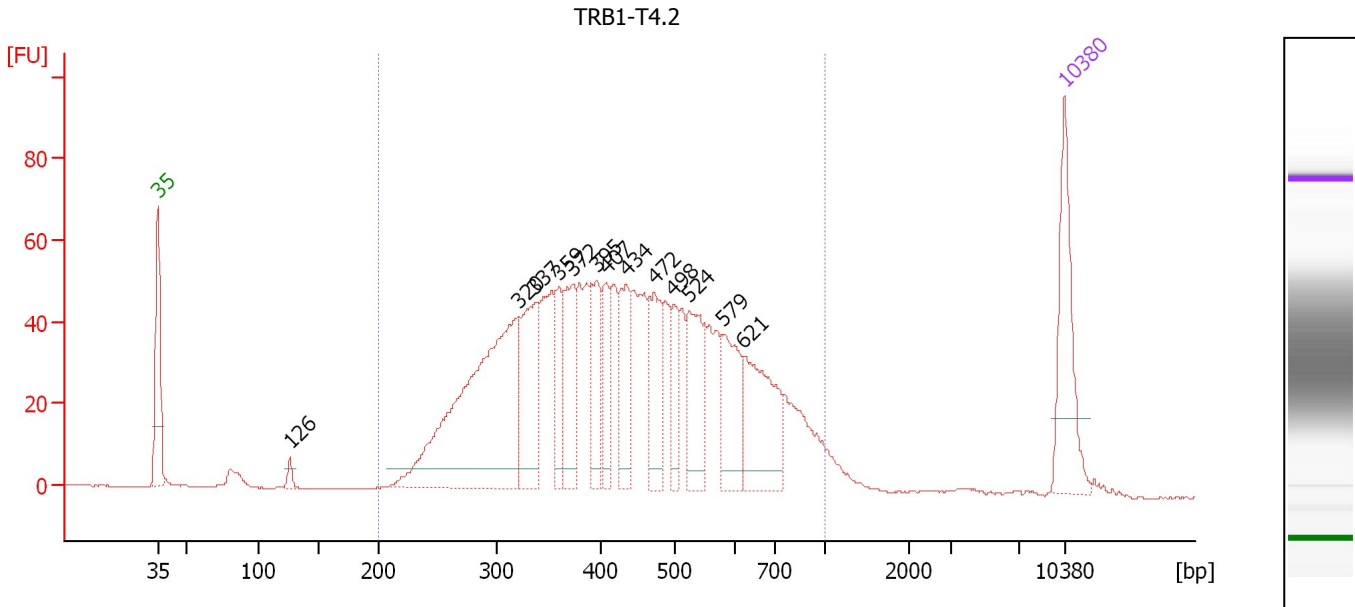
**Region table for sample 7 : CMV-T4.2**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	444	1,000	791.1	3,192.7	95	32.0	822.41

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : TRB1-T4.2**

Number of peaks found: 13                      Corr. Area 1: 1,506.7  
 Noise: 0.1

**Peak table for sample 8 : TRB1-T4.2**

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	126	9.66	116.5		53.19
3	320	348.94	1,653.0		70.81
4	337	111.96	503.9		72.16
5	359	49.49	209.1		73.91
6	372	74.59	303.6		75.00
7	395	64.86	248.6		76.85
8	407	45.82	170.7		77.60
9	434	61.24	213.8		79.15
10	472	63.00	202.3		81.30
11	498	41.28	125.5		82.79
12	524	80.71	233.6		83.99
13	579	66.75	174.7		86.59
14	621	98.92	241.2		88.24
15	10,380	75.00	10.9	Upper Marker	113.00

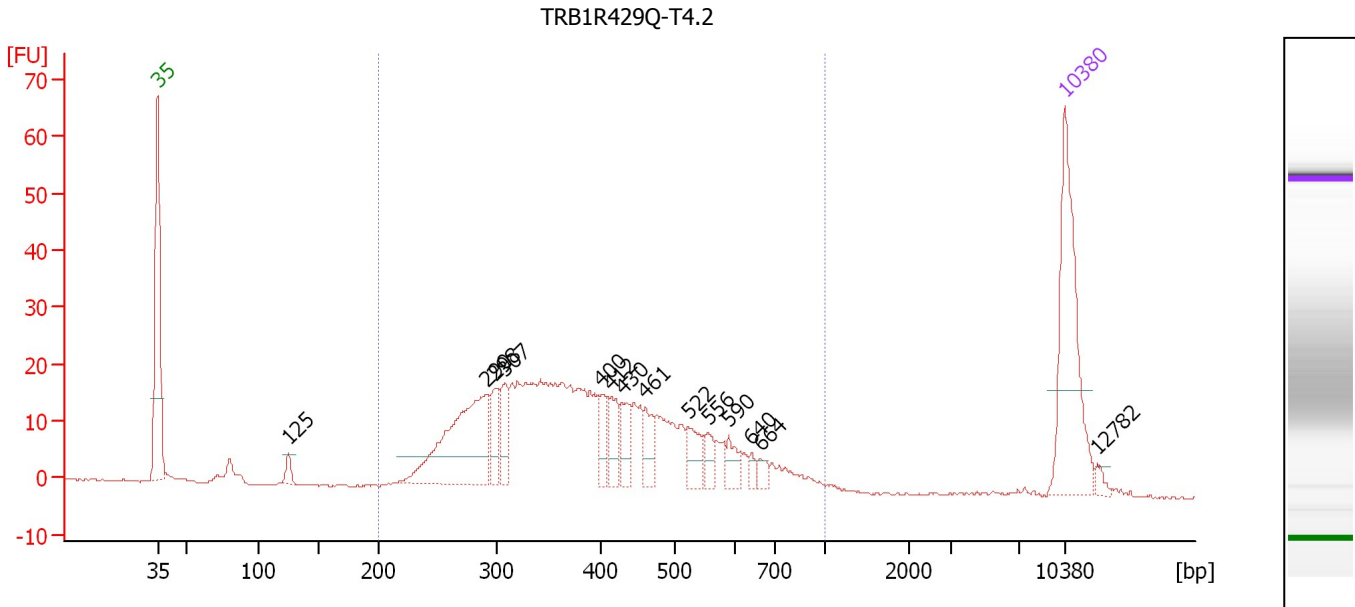
**Region table for sample 8 : TRB1-T4.2**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	454	1,000	1,506.7	6,383.0	96	33.0	1,662.96

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : TRB1R429Q-T4.2**

Number of peaks found: 14                      Corr. Area 1: 478.2  
 Noise: 0.1

**Peak table for sample 9 : TRB1R429Q-T4.2**

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	125	7.85	95.3		53.11
3	290	119.46	623.3		68.34
4	298	22.10	112.5		69.00
5	307	22.42	110.6		69.80
6	400	16.78	63.5		77.25
7	412	19.49	71.7		77.90
8	430	17.34	61.2		78.91
9	461	16.16	53.1		80.67
10	522	18.77	54.4		83.93
11	556	10.09	27.5		85.49
12	590	10.72	27.5		87.10
13	640	4.83	11.4		88.81
14	664	5.55	12.7		89.57
15	10,380	75.00	10.9	Upper Marker	113.00
16	12,782	0.00	0.0		115.51

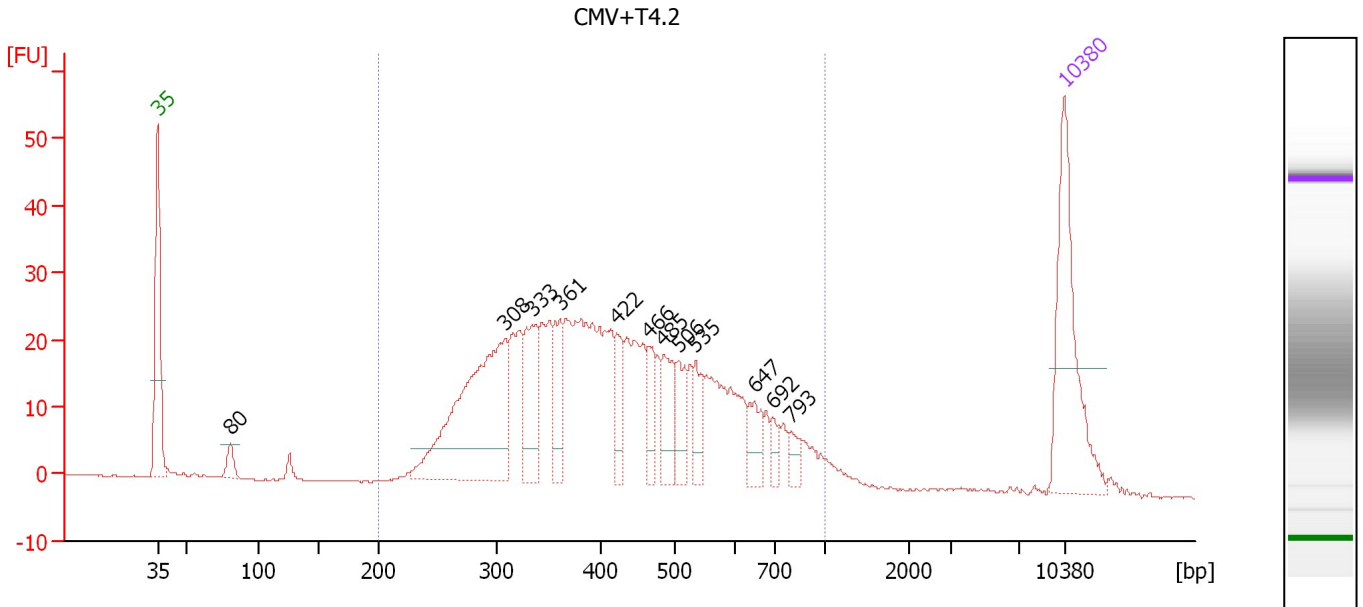
**Region table for sample 9 : TRB1R429Q-T4.2**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]	Conc. [pg/μl]
200	407	1,000	478.2	2,549.9	96	30.8	611.79

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

Created: 6/10/2015 2:29:51 PM  
 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : CMV+T4.2**

Number of peaks found: 12                      Corr. Area 1: 675.4  
 Noise: 0.1

**Peak table for sample 10 : CMV+T4.2**

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	11.63	219.1		48.62
3	308	185.46	913.0		69.85
4	333	52.36	238.2		71.87
5	361	33.17	139.2		74.10
6	422	23.91	85.9		78.46
7	466	21.12	68.7		80.94
8	485	29.86	93.2		82.05
9	506	23.74	71.1		83.17
10	535	21.89	62.0		84.53
11	647	19.34	45.3		89.04
12	692	9.30	20.4		90.41
13	793	9.14	17.5		91.88
14	10,380	75.00	10.9	Upper Marker	113.00

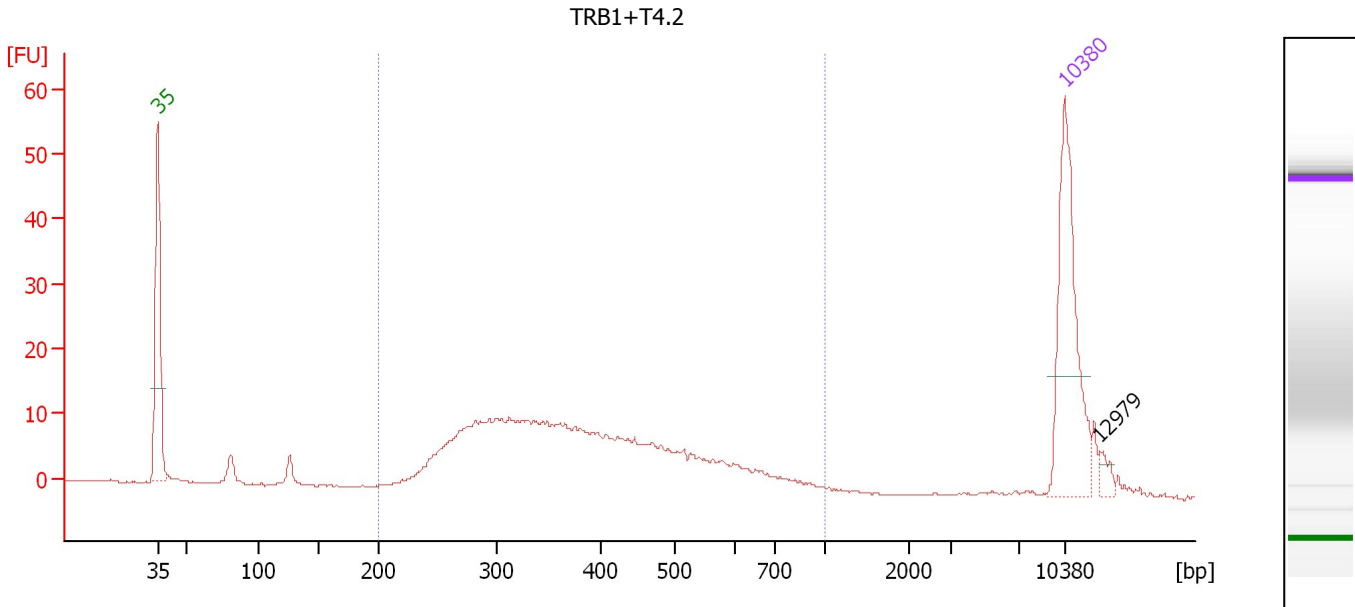
**Region table for sample 10 : CMV+T4.2**

From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	438	1,000	675.4	3,532.5	97	32.8	896.71

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

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 Modified: 6/10/2015 3:19:16 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 11 : TRB1+T4.2**

Number of peaks found: 1                      Corr. Area 1: 261.8  
 Noise: 0.1

**Peak table for sample 11 : TRB1+T4.2**

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	10,380	75.00	10.9	Upper Marker	113.00
3	12,979	0.00	0.0		115.72

**Region table for sample 11 : TRB1+T4.2**

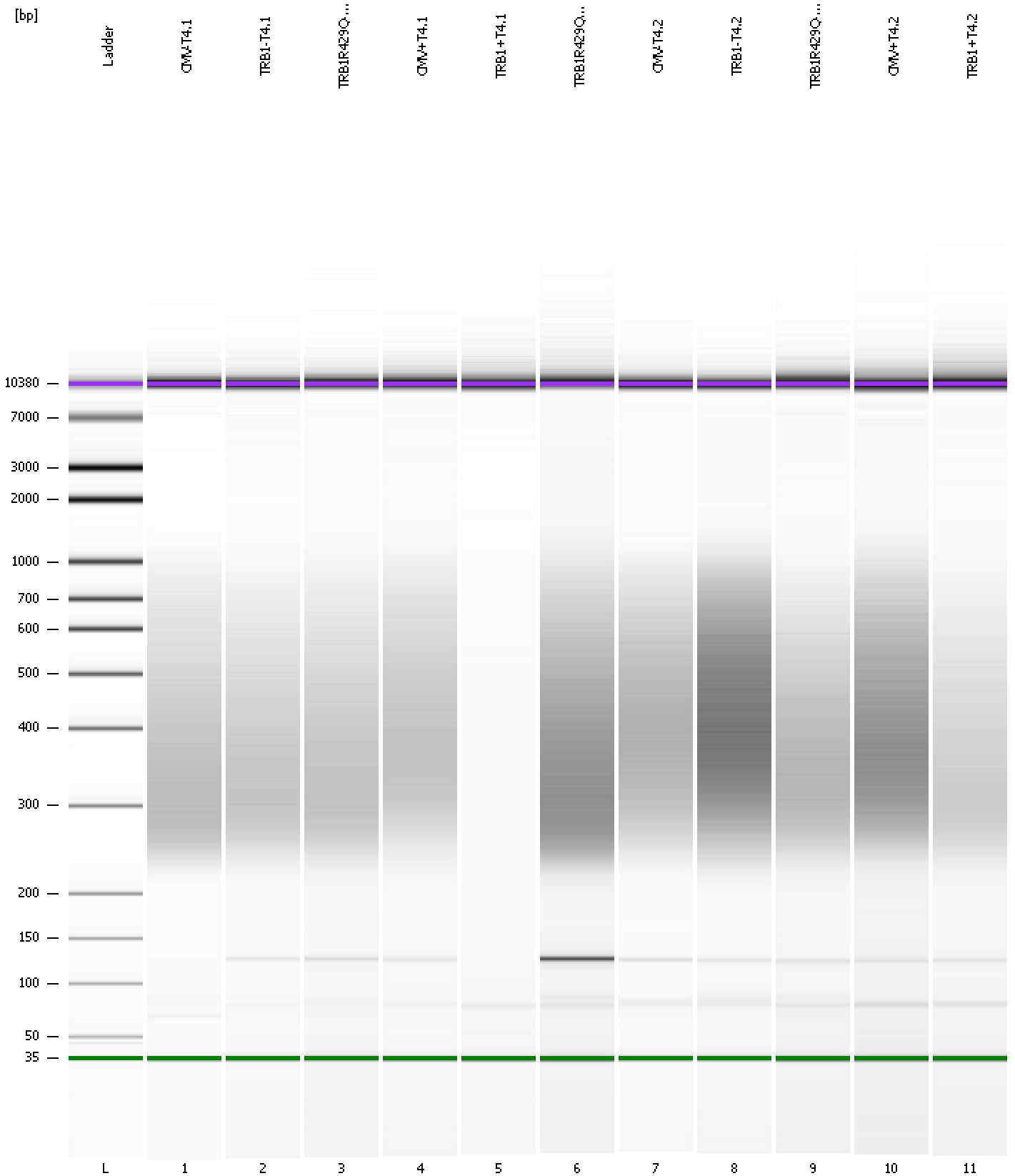
From [bp]	Average Size [bp]	To [bp]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]	Conc. [pg/μl]
200	398	1,000	261.8	1,511.2	92	31.5	353.06



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

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Modified: 6/10/2015 3:19:16 PM

**Gel Image**



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\...ents and Settings\Bioanalyzer\2015-06-10\2015-06-10\_004.xad

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**Curves**

**Standard Curve**

