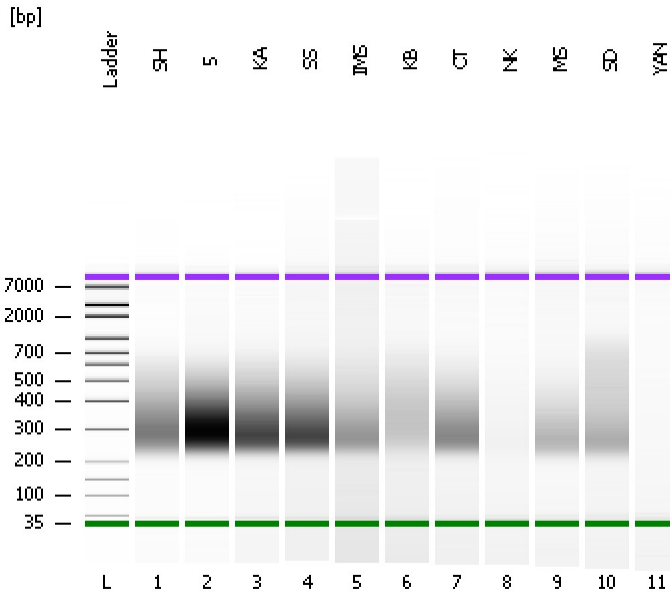


Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electrophoresis File Run Summary**



Instrument Information:

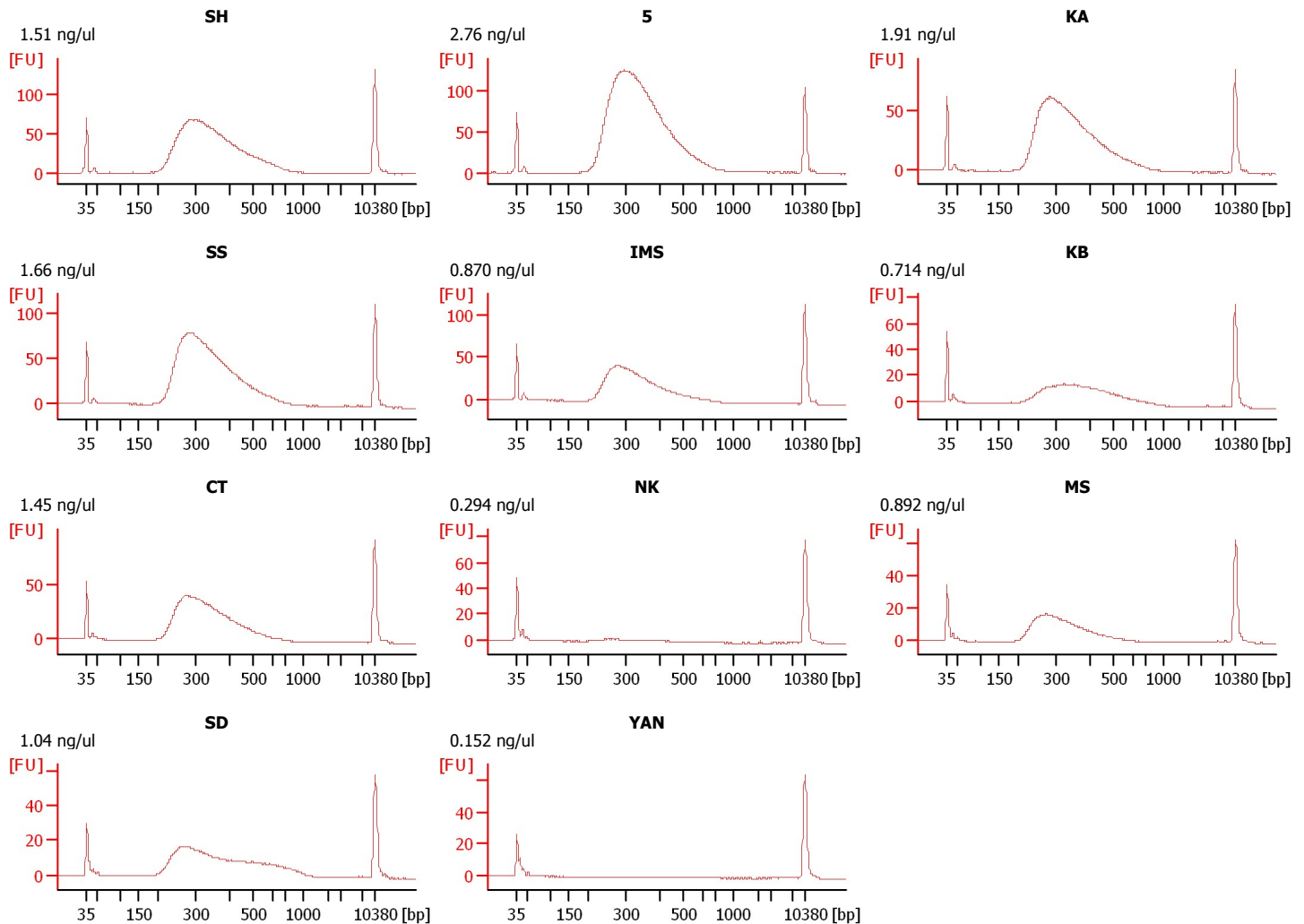
Instrument Name: DE13701086      Firmware: C.01.069  
 Serial#: DE13701086      Type: G2938B

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:



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
Modified: 11/16/2016 3:35:29 PM

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

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
SH	1.51 ng/ul	<input type="checkbox"/>	✓			
5	2.76 ng/ul	<input type="checkbox"/>	✓			
KA	1.91 ng/ul	<input type="checkbox"/>	✓			
SS	1.66 ng/ul	<input type="checkbox"/>	✓			
IMS	0.870 ng/ul	<input type="checkbox"/>	✓			
KB	0.714 ng/ul	<input type="checkbox"/>	✓			
CT	1.45 ng/ul	<input type="checkbox"/>	✓			
NK	0.294 ng/ul	<input type="checkbox"/>	✓			
MS	0.892 ng/ul	<input type="checkbox"/>	✓			
SD	1.04 ng/ul	<input type="checkbox"/>	✓			
YAN	0.152 ng/ul	<input type="checkbox"/>	✓			
Ladder		<input type="checkbox"/>	✓			

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

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
Modified: 11/16/2016 3:35:29 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

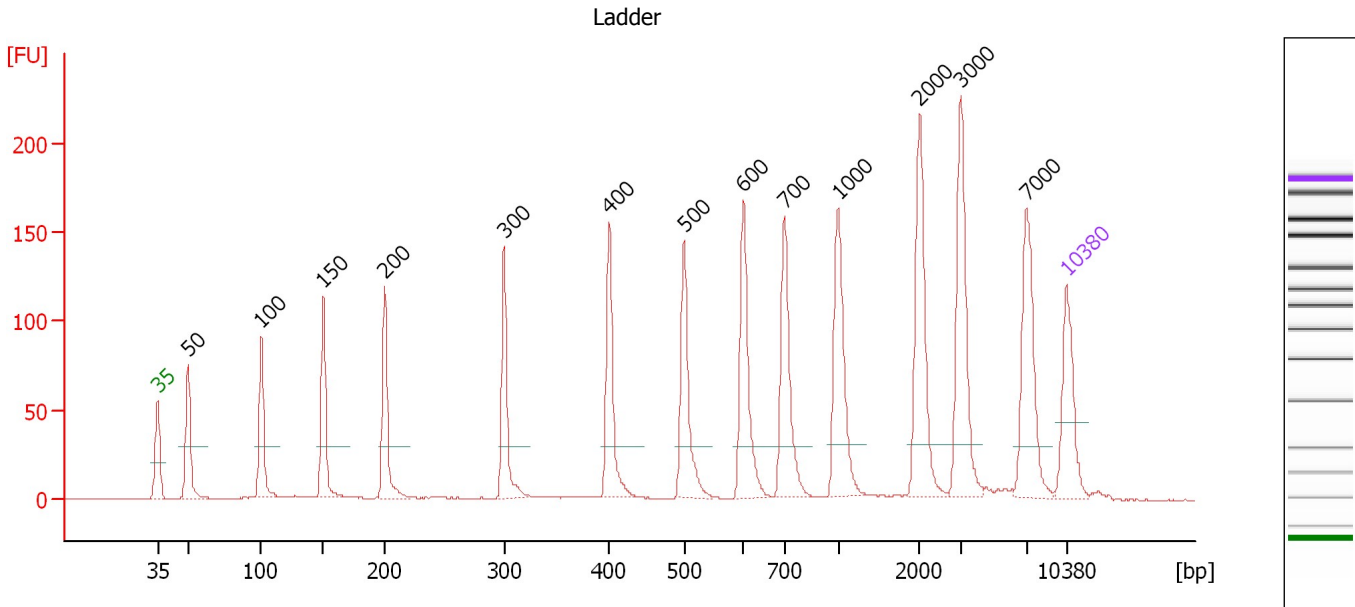
**Ladder**

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:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.2

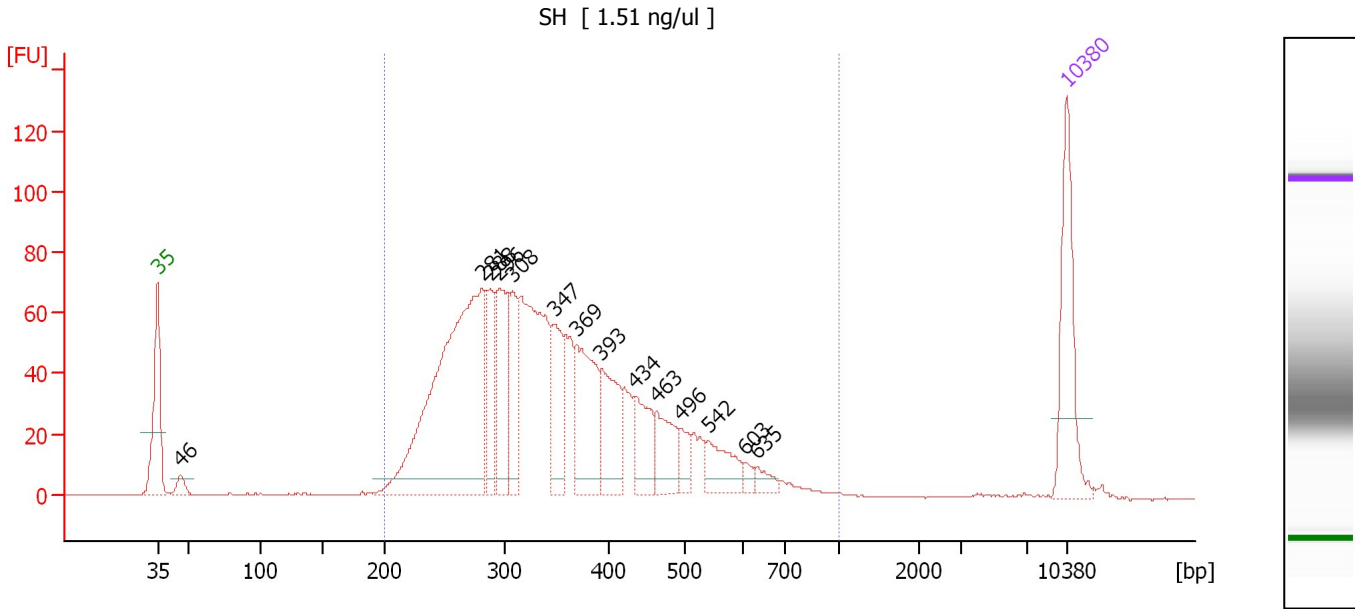
**Peak table for Ladder**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	50	150.00	4,545.5	Ladder Peak	45.34
3	100	150.00	2,272.7	Ladder Peak	50.99
4	150	150.00	1,515.2	Ladder Peak	55.77
5	200	150.00	1,136.4	Ladder Peak	60.50
6	300	150.00	757.6	Ladder Peak	69.71
7	400	150.00	568.2	Ladder Peak	77.80
8	500	150.00	454.5	Ladder Peak	83.55
9	600	150.00	378.8	Ladder Peak	88.12
10	700	150.00	324.7	Ladder Peak	91.28
11	1,000	150.00	227.3	Ladder Peak	95.45
12	2,000	150.00	113.6	Ladder Peak	101.71
13	3,000	150.00	75.8	Ladder Peak	104.86
14	7,000	150.00	32.5	Ladder Peak	109.90
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 1 : SH**

Number of peaks found: 14                      Corr. Area 1: 1,533.5  
 Noise: 0.2

**Peak table for sample 1 : SH**

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	46	14.15	462.0		44.78
3	281	421.45	2,269.1		68.00
4	288	70.00	368.2		68.61
5	296	88.12	451.4		69.32
6	308	60.78	299.2		70.34
7	347	70.29	306.5		73.55
8	369	105.79	434.5		75.28
9	393	75.51	291.3		77.21
10	434	48.95	170.9		79.76
11	463	47.23	154.5		81.44
12	496	18.62	56.9		83.32
13	542	39.39	110.2		85.46
14	603	6.94	17.4		88.21
15	635	10.67	25.5		89.23
16	10,380	75.00	10.9	Upper Marker	113.00

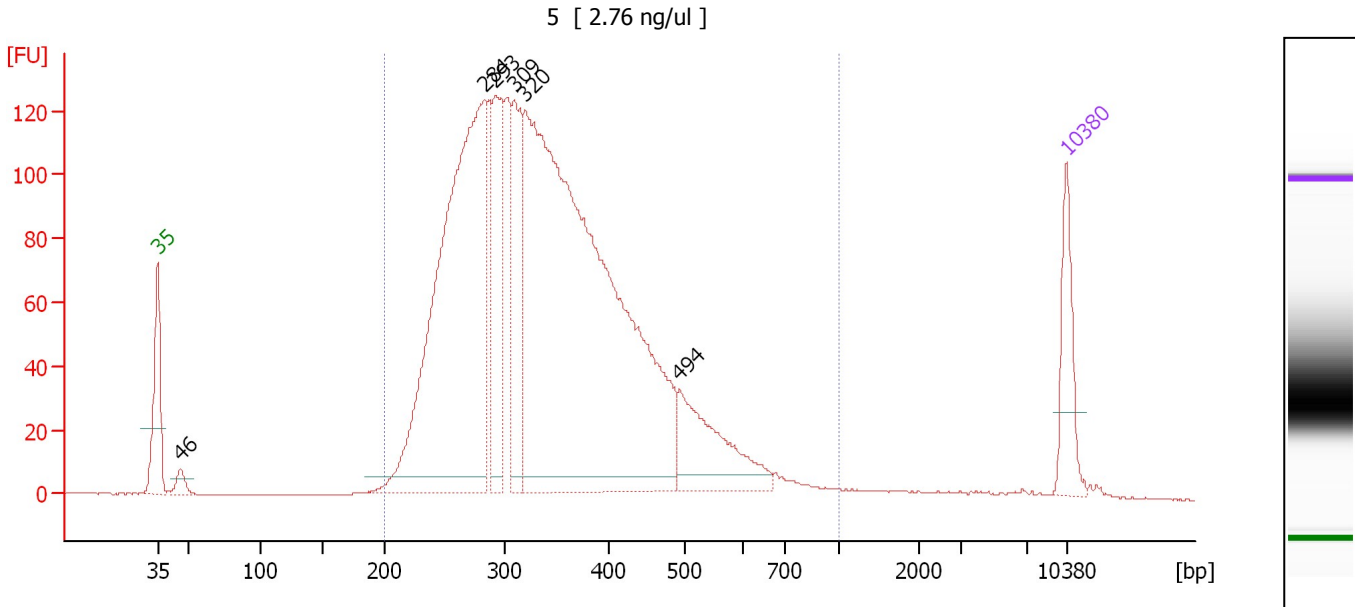
**Region table for sample 1 : SH**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	359	1,533.5	6,844.7	1,466.38	97	29.9

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : 5**

Number of peaks found: 6                      Corr. Area 1: 2,611.8  
 Noise: 0.1

**Peak table for sample 2 : 5**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	35	125.00	5,411.3	Lower Marker	43.00
2	46	24.01	787.2		44.75
3	284	993.60	5,307.5		68.20
4	293	210.64	1,090.8		69.02
5	309	197.88	969.2		70.47
6	320	1,611.46	7,625.9		71.34
7	494	173.55	531.9		83.22
8	10,380	75.00	10.9	Upper Marker	113.00

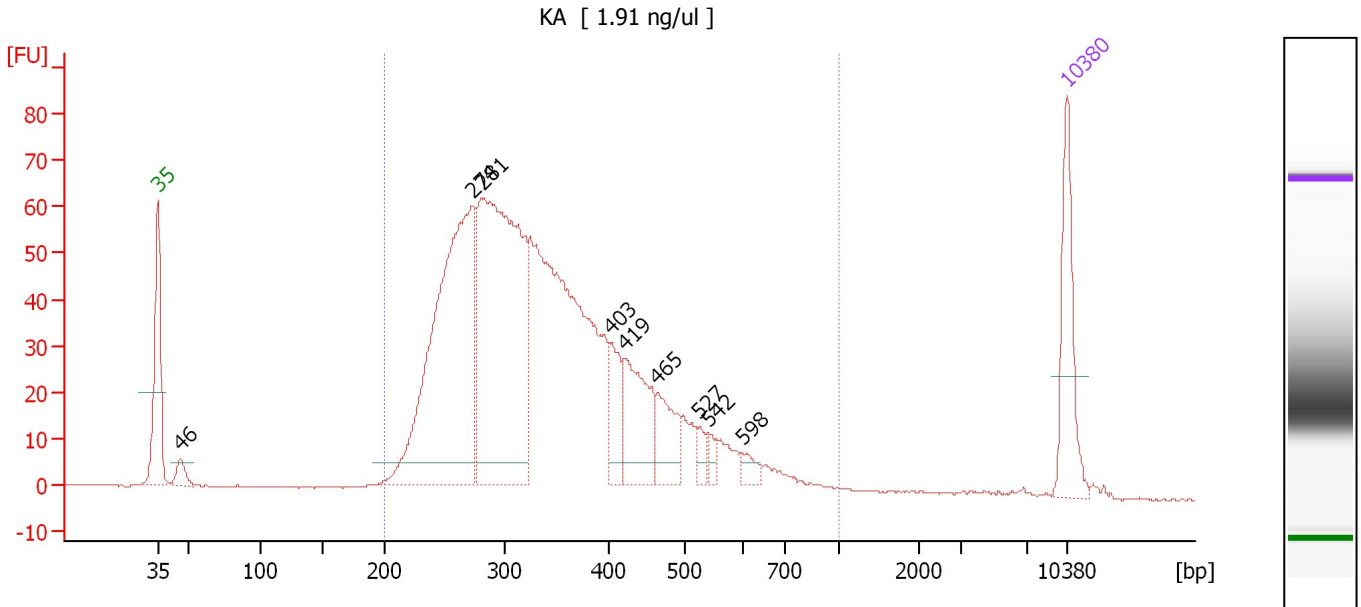
**Region table for sample 2 : 5**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	350	2,611.8	16,047.3	3,408.40	98	27.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : KA**

Number of peaks found: 9                      Corr. Area 1: 1,291.8  
 Noise: 0.2

**Peak table for sample 3 : KA**

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	46	21.80	712.2		44.77
3	274	514.81	2,845.5		67.33
4	281	541.16	2,912.8		68.00
5	403	54.10	203.4		77.97
6	419	106.53	384.8		78.91
7	465	55.26	180.1		81.52
8	527	13.84	39.8		84.76
9	542	11.05	30.9		85.49
10	598	12.49	31.6		88.05
11	10,380	75.00	10.9	Upper Marker	113.00

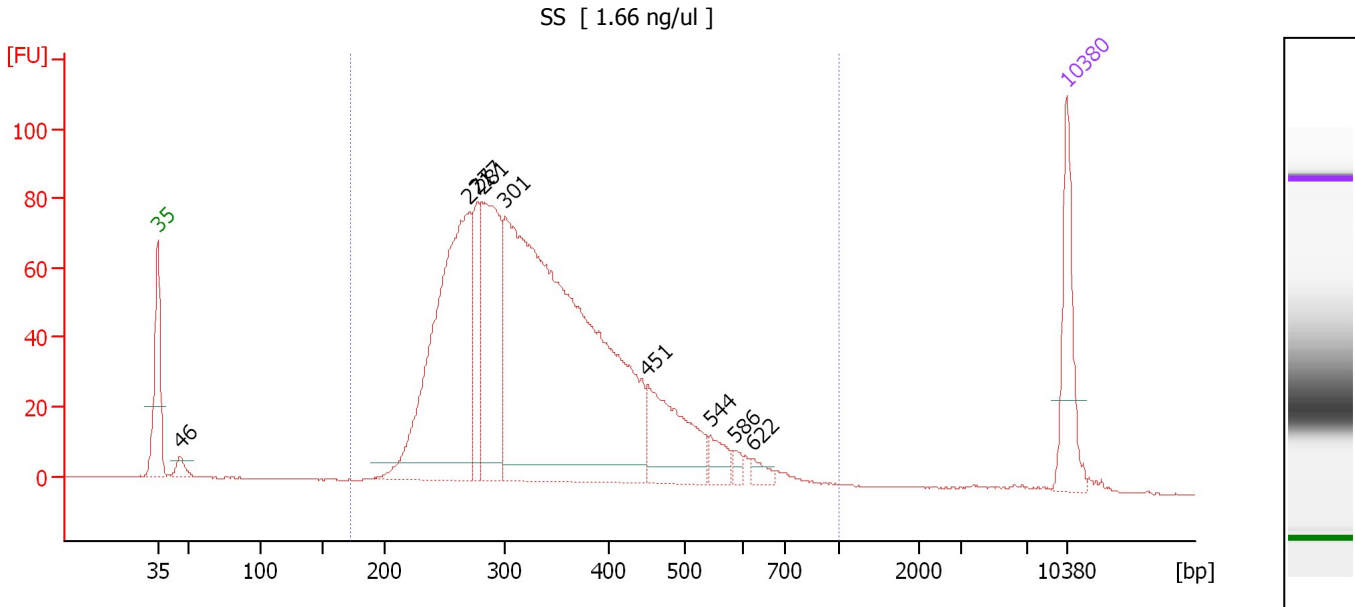
**Region table for sample 3 : KA**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	352	1,291.8	9,384.7	1,981.16	97	29.6

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 4 : SS**

Number of peaks found: 9                      Corr. Area 1: 1,630.2  
 Noise: 0.1

**Peak table for sample 4 : SS**

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	46	18.27	598.7		44.75
3	271	505.51	2,827.8		67.02
4	277	105.26	575.3		67.61
5	281	239.19	1,288.6		67.98
6	301	1,041.73	5,243.9		69.79
7	451	135.62	455.5		80.74
8	544	27.23	75.8		85.57
9	586	8.25	21.3		87.49
10	622	12.06	29.4		88.82
11	10,380	75.00	10.9	Upper Marker	113.00

**Region table for sample 4 : SS**

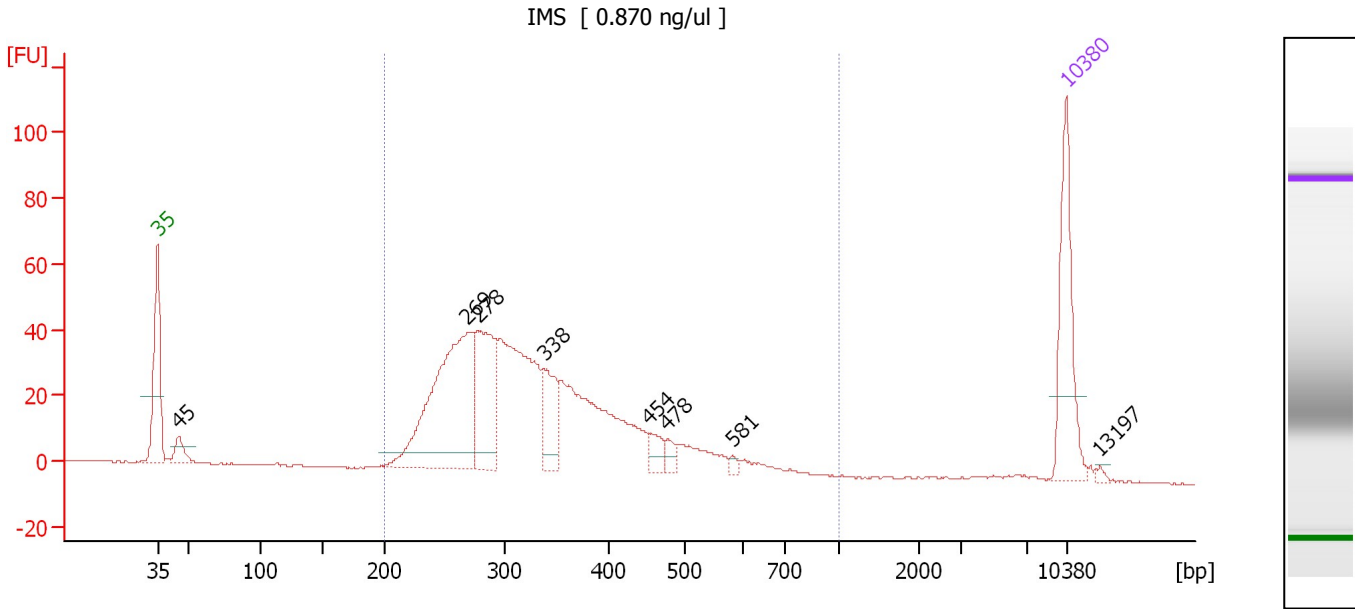
From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
173	1,000	349	1,630.2	9,777.6	2,052.91	96	29.0



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 : IMS**

Number of peaks found: 8                      Corr. Area 1: 798.7  
 Noise: 0.1

**Peak table for sample 5 : IMS**

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	45	21.15	706.3		44.62
3	269	253.24	1,425.3		66.87
4	278	115.24	628.1		67.68
5	338	52.51	235.7		72.75
6	454	16.29	54.4		80.88
7	478	9.49	30.1		82.28
8	581	3.77	9.8		87.24
9	10,380	75.00	10.9	Upper Marker	113.00
10	13,197	0.00	0.0		115.59

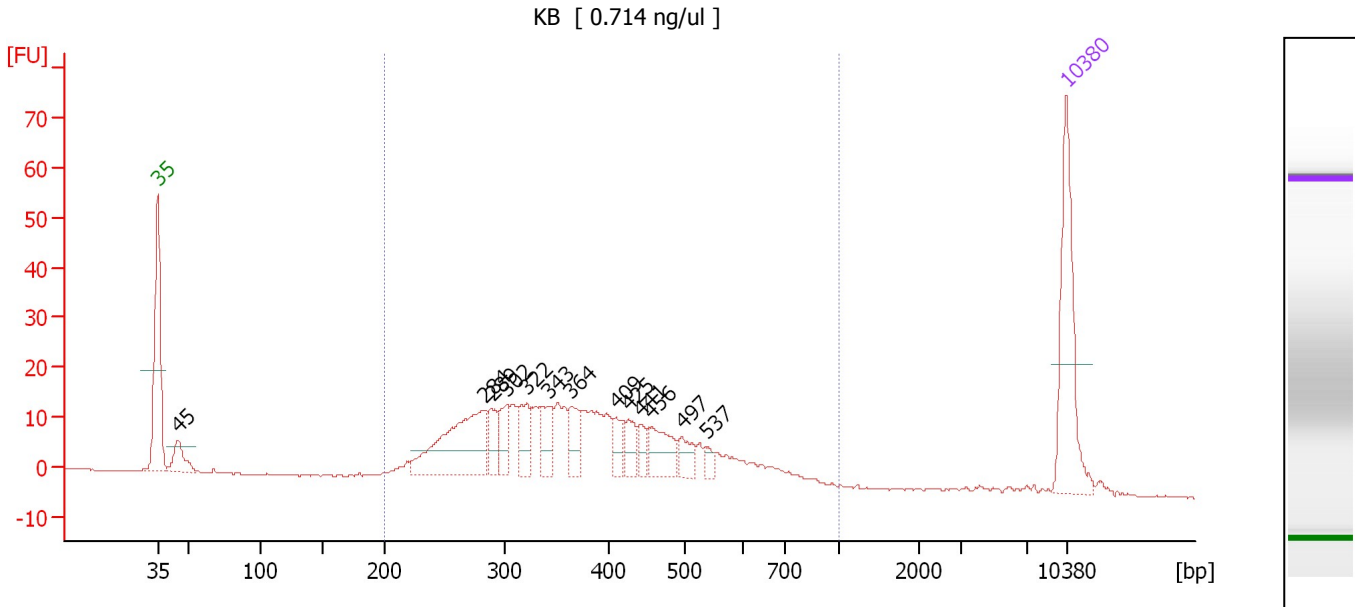
**Region table for sample 5 : IMS**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	341	798.7	4,263.4	881.62	95	28.1

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : KB**

Number of peaks found: 13                      Corr. Area 1: 381.0  
 Noise: 0.1

**Peak table for sample 6 : KB**

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	45	27.07	908.2		44.58
3	284	114.36	609.8		68.25
4	289	23.16	121.2		68.74
5	302	21.80	109.3		69.89
6	322	29.44	138.6		71.47
7	343	29.32	129.6		73.16
8	364	23.05	96.0		74.86
9	409	16.71	61.9		78.30
10	425	17.99	64.1		79.23
11	441	12.63	43.4		80.16
12	456	33.97	112.8		81.03
13	497	15.75	48.0		83.38
14	537	6.42	18.1		85.24
15	10,380	75.00	10.9	Upper Marker	113.00

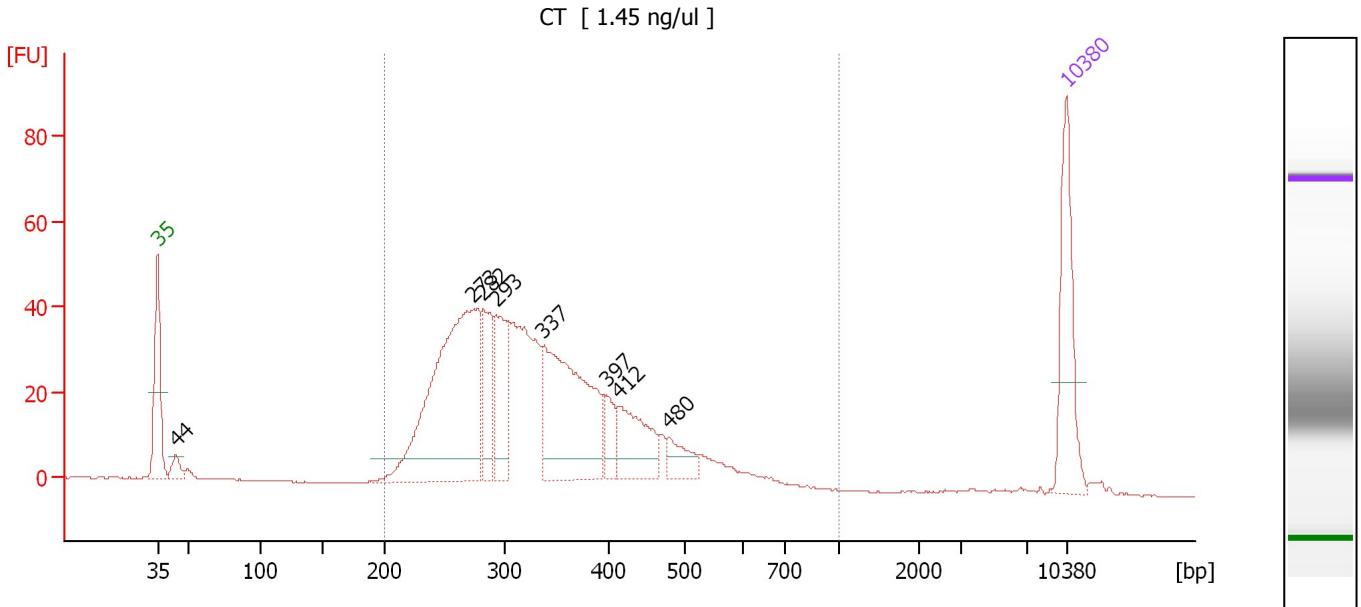
**Region table for sample 6 : KB**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	387	381.0	2,548.4	583.11	96	30.1

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : CT**

Number of peaks found: 8                      Corr. Area 1: 802.7  
 Noise: 0.1

**Peak table for sample 7 : CT**

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	44	15.91	548.9		44.39
3	273	344.22	1,907.5		67.26
4	282	67.55	362.3		68.10
5	293	84.67	438.2		69.04
6	337	217.97	979.5		72.71
7	397	25.71	98.1		77.55
8	412	67.39	247.7		78.50
9	480	25.27	79.8		82.40
10	10,380	75.00	10.9	Upper Marker	113.00

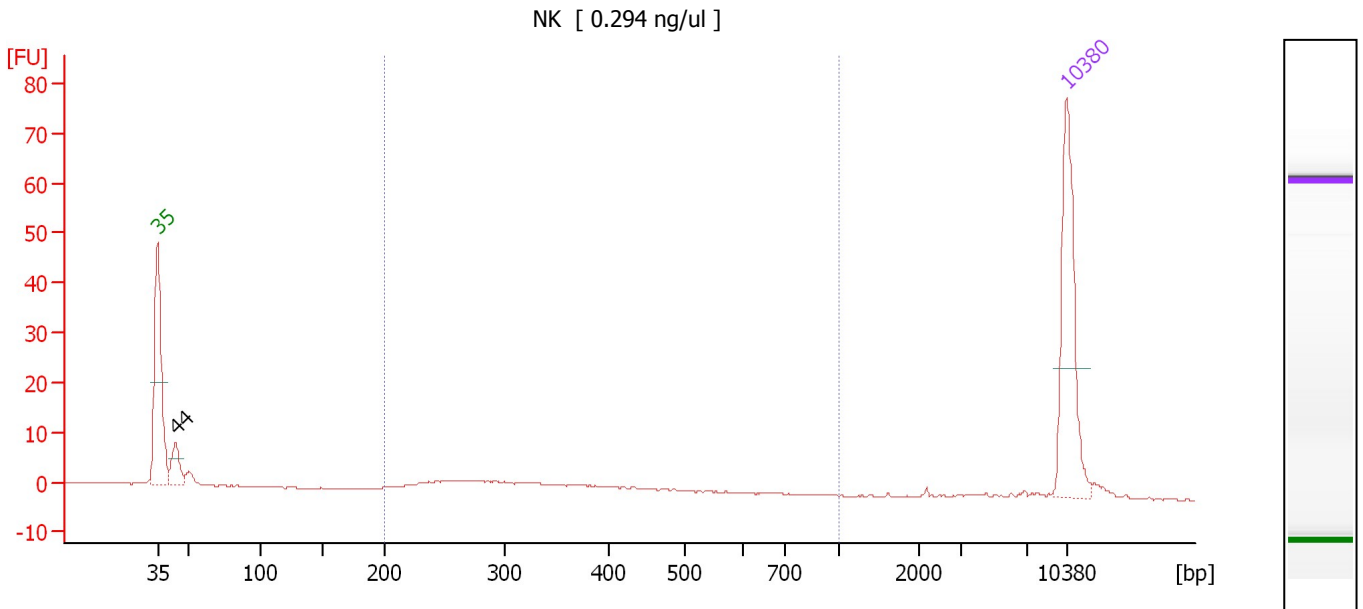
**Region table for sample 7 : CT**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	341	802.7	5,431.2	1,128.52	97	26.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : NK**

Number of peaks found: 1                      Corr. Area 1: 25.1  
 Noise: 0.1

**Peak table for sample 8 : NK**

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	44	25.49	878.3		44.40
3	10,380	75.00	10.9	Upper Marker	113.00

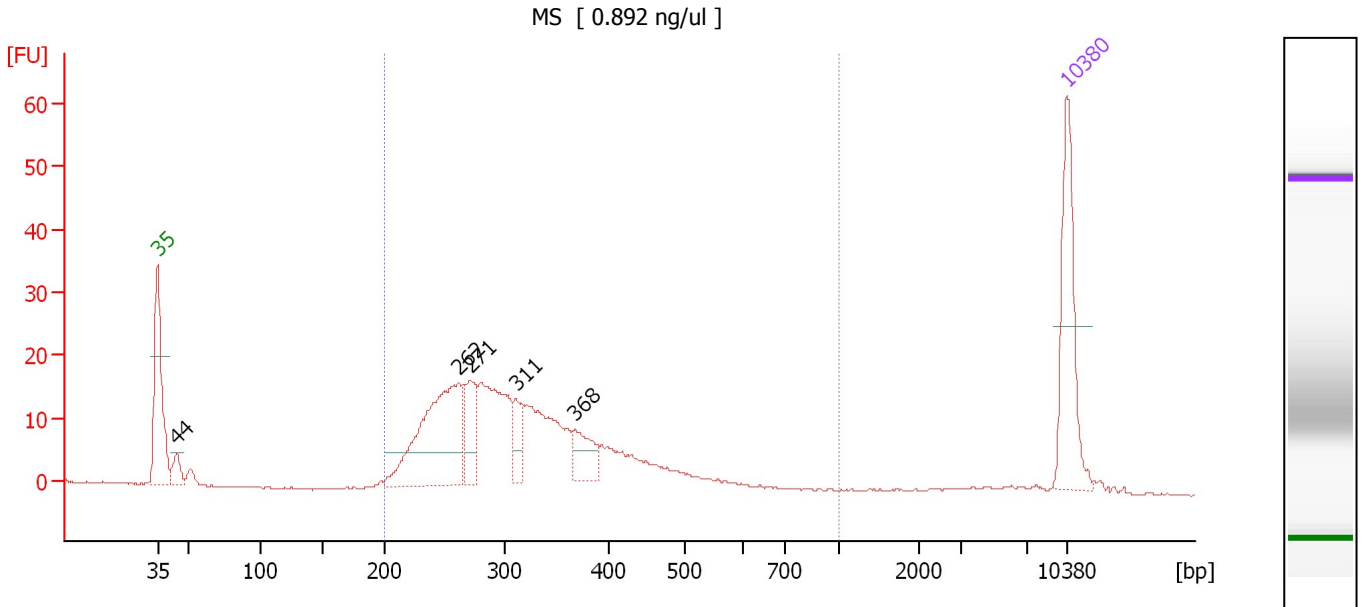
**Region table for sample 8 : NK**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	314	25.1	197.3	38.88	54	20.2

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : MS**

Number of peaks found: 5                      Corr. Area 1: 304.7  
 Noise: 0.1

**Peak table for sample 9 : MS**

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	44	18.90	646.4		44.45
3	262	172.93	1,001.1		66.18
4	271	42.27	236.0		67.08
5	311	27.06	131.8		70.60
6	368	32.50	133.9		75.18
7	10,380	75.00	10.9	Upper Marker	113.00

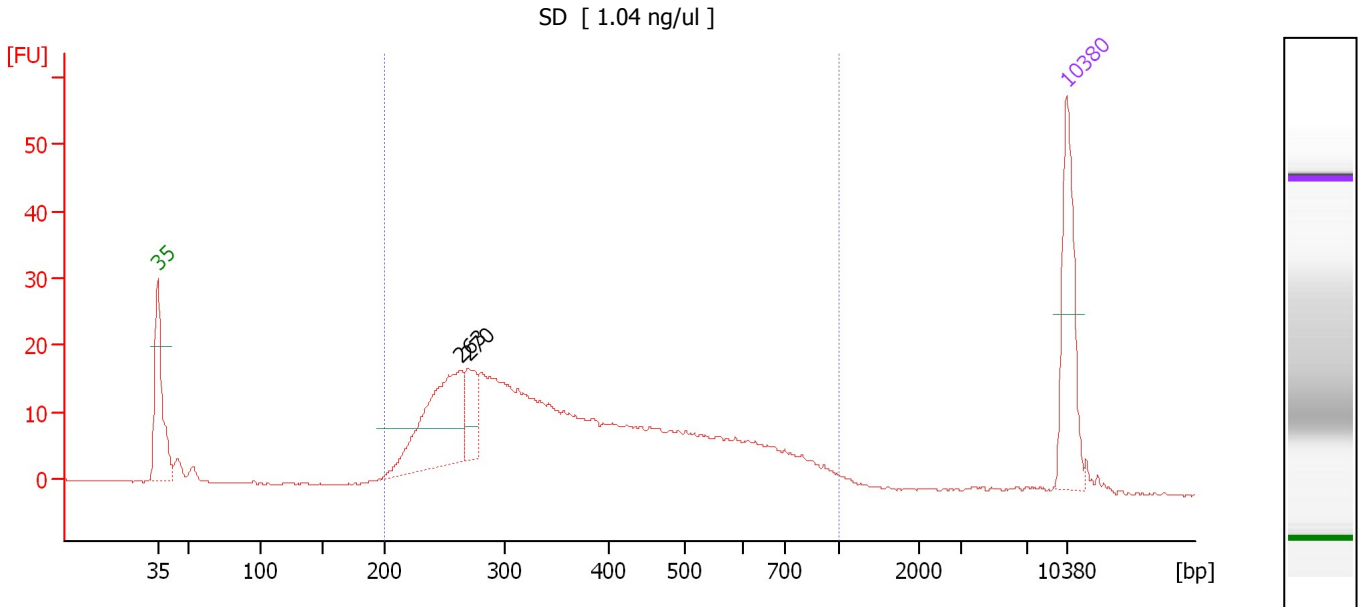
**Region table for sample 9 : MS**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	327	304.7	3,080.8	614.58	92	28.0

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : SD**

Number of peaks found: 2                      Corr. Area 1: 419.9  
 Noise: 0.1

**Peak table for sample 10 : SD**

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	263	160.62	925.5		66.30
3	270	45.46	255.4		66.91
4	10,380	75.00	10.9	Upper Marker	113.00

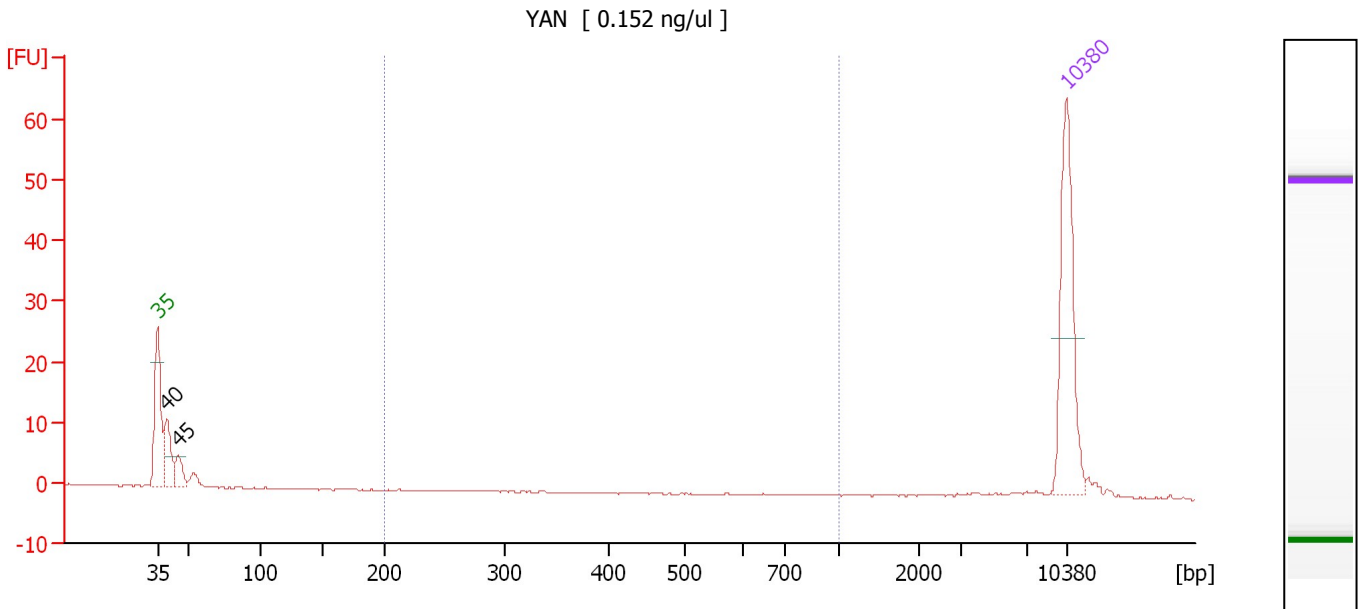
**Region table for sample 10 : SD**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	399	419.9	4,081.2	902.00	94	39.5

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 11 : YAN**

Number of peaks found: 2                      Corr. Area 1: 0.0  
 Noise: 0.1

**Peak table for sample 11 : YAN**

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	40	34.13	1,303.6		43.73
3	45	15.88	529.9		44.62
4	10,380	75.00	10.9	Upper Marker	113.00

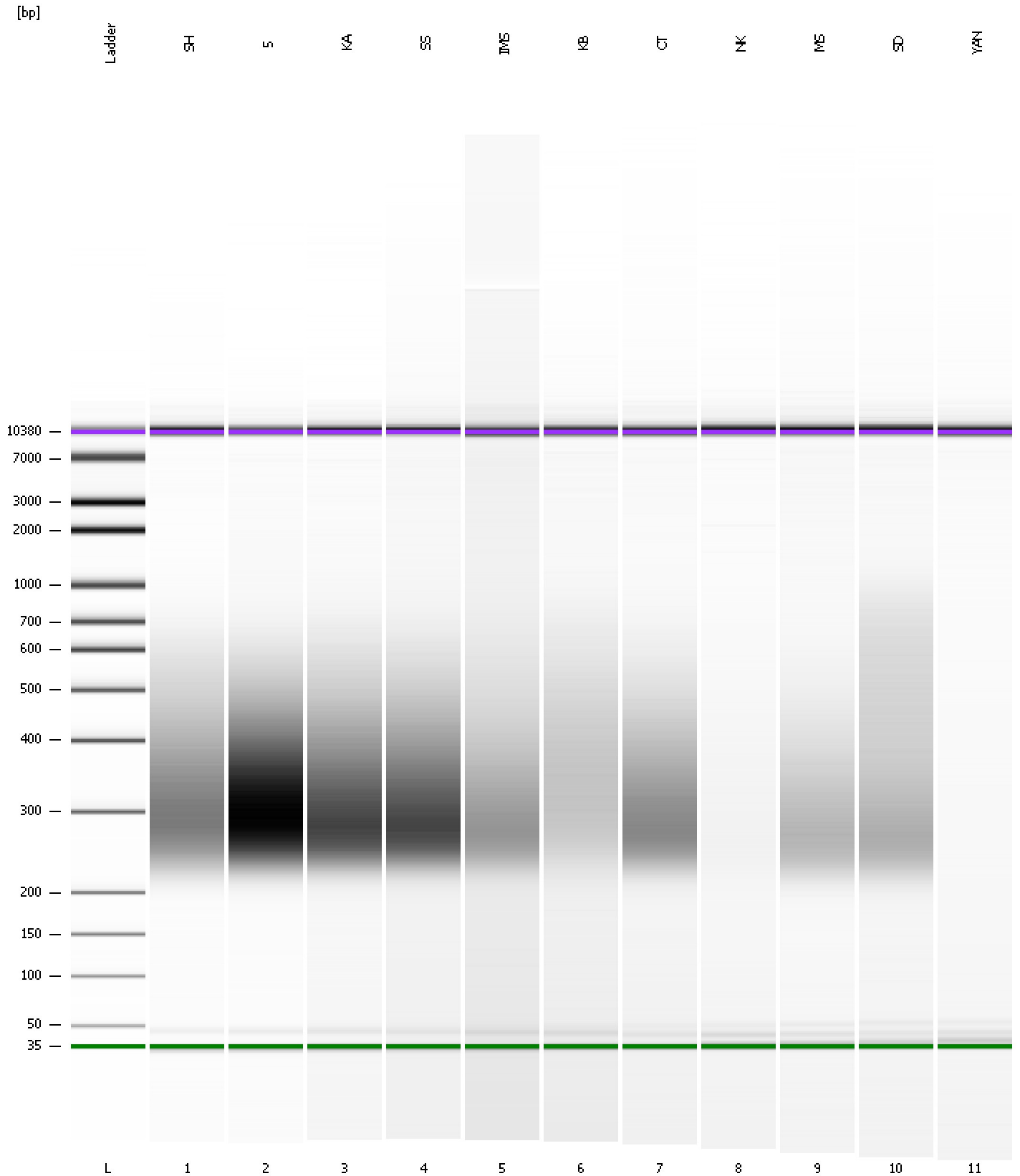
**Region table for sample 11 : YAN**

From [bp]	To [bp]	Average Size [bp]	Corr. Area	Molarity [pmol/l]	Co Conc. lor [pg/μl]	% of Total	Size distribution in CV [%]
200	1,000	337	0.0	0.0	0.00	0	0.0

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
Modified: 11/16/2016 3:35:29 PM

**Gel Image**





Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2016-11-16\2016-11-16\_001.xad

Created: 11/16/2016 2:54:11 PM  
 Modified: 11/16/2016 3:35:29 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		11/16/2016 3:35:28 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\data\2016-11-16\2016-11-16_001.xad)		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		11/16/2016 2:54:16 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1