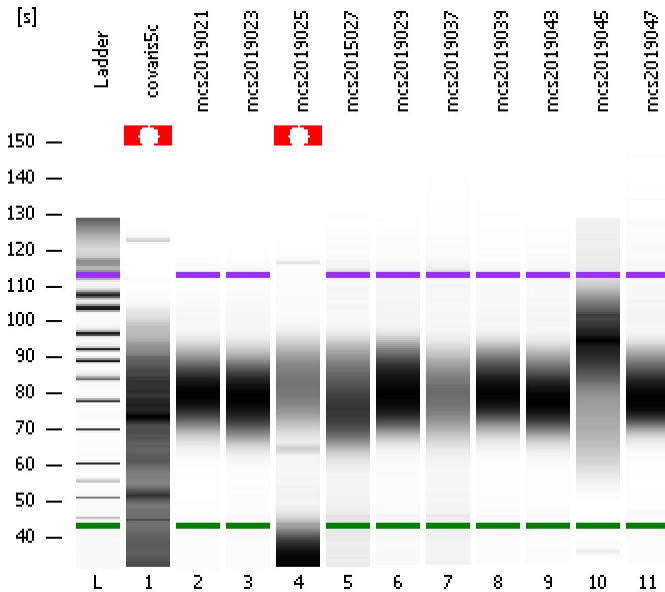


Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
Modified: 5/1/2019 5:22:30 PM

**Electrophoresis File Run Summary**



Instrument Information:

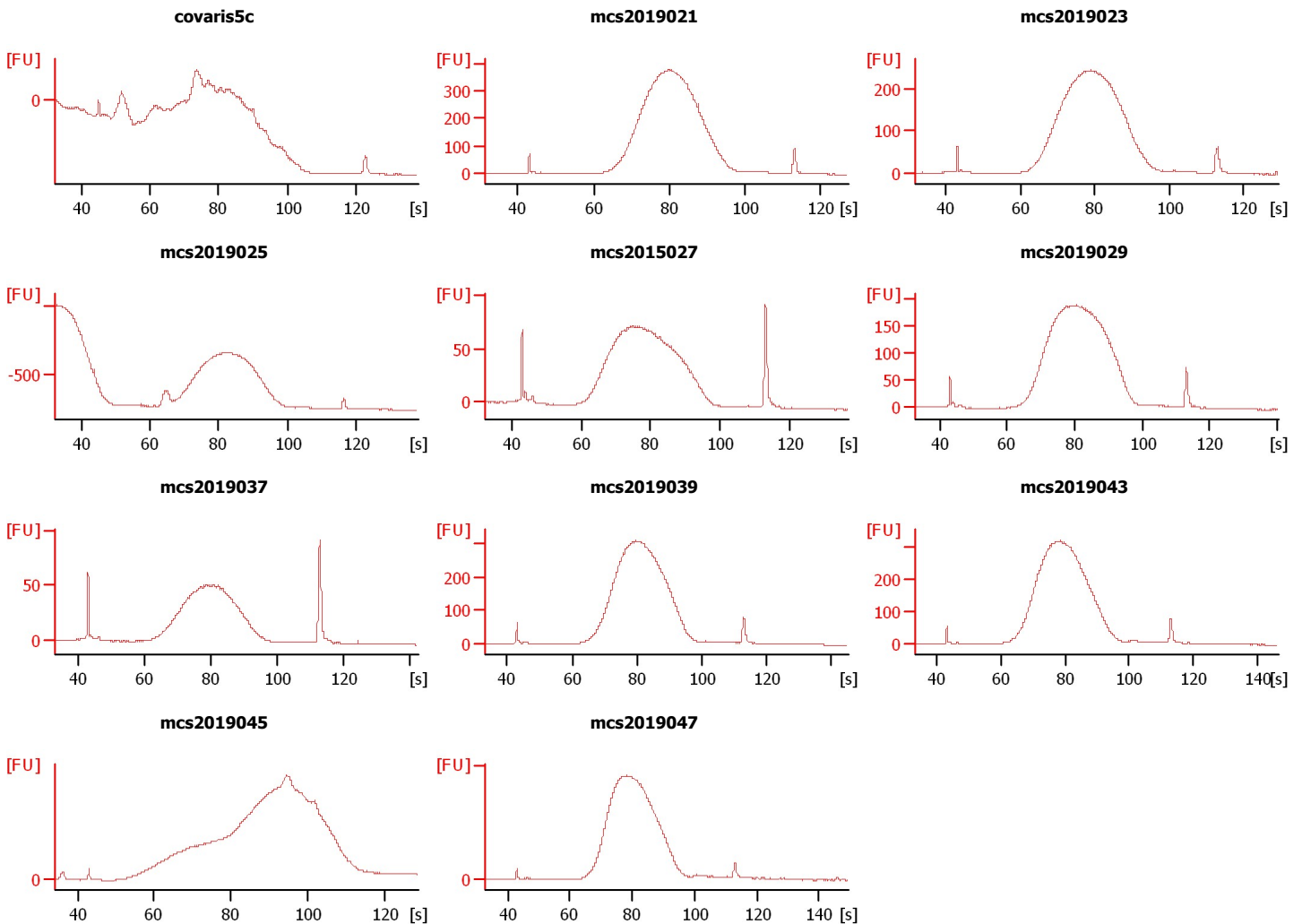
Instrument Name: DE34903152      Firmware: C.01.069  
Serial#: DE34903152      Type: G2938C

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\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

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

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
covaris5c		<input type="checkbox"/>	✓			
mcs2019021		<input type="checkbox"/>	✓			
mcs2019023		<input type="checkbox"/>	✓			
mcs2019025		<input type="checkbox"/>	✓			
mcs2015027		<input type="checkbox"/>	✓			
mcs2019029		<input type="checkbox"/>	✓			
mcs2019037		<input type="checkbox"/>	✓			
mcs2019039		<input type="checkbox"/>	✓			
mcs2019043		<input type="checkbox"/>	✓			
mcs2019045		<input type="checkbox"/>	✓			
mcs2019047		<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\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
Modified: 5/1/2019 5:22:30 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/ $\mu$ l] : 1950  
Uses Standard Area for Ladder Fragments  
Lower Marker Concentration [pg/ $\mu$ l] : 125  
Upper Marker Concentration [pg/ $\mu$ l] : 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

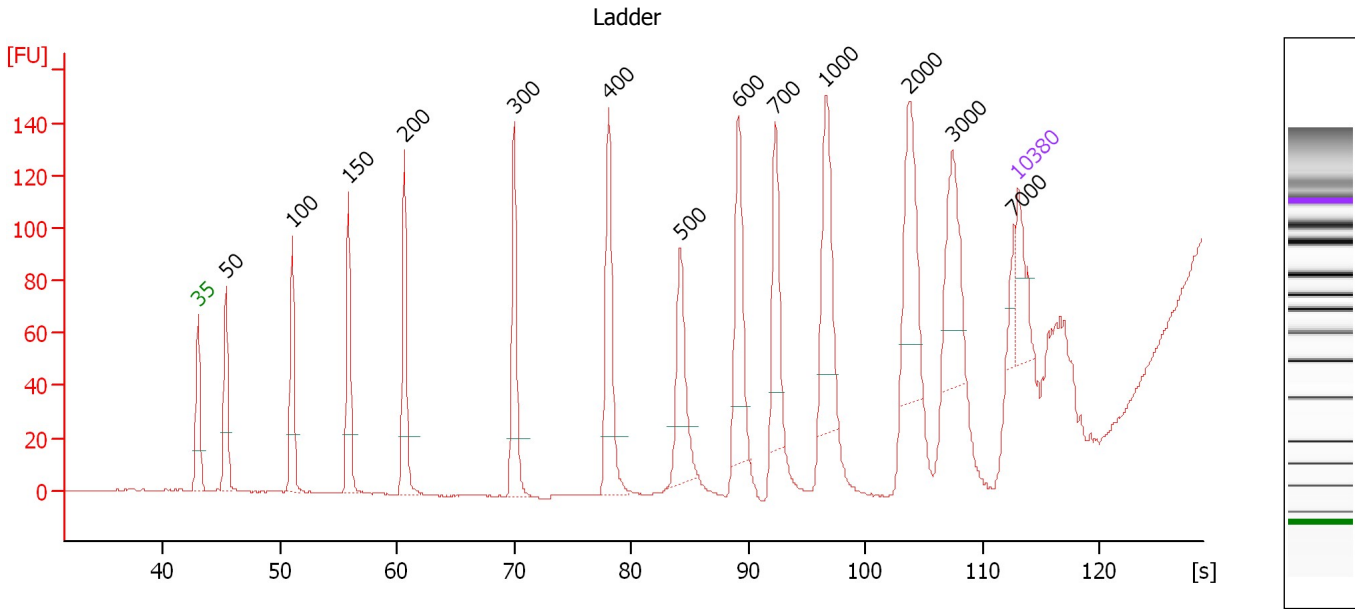
**Ladder**

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\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.3

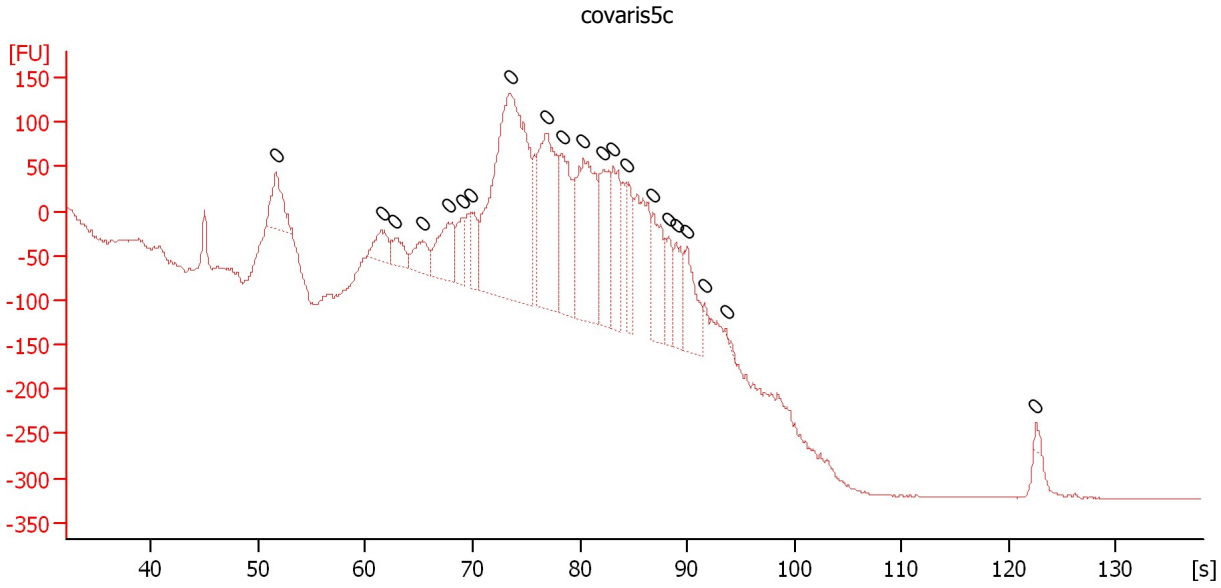
**Peak table for Ladder**

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	45.38
3	100	150.00	2,272.7	Ladder Peak	51.02
4	150	150.00	1,515.2	Ladder Peak	55.84
5	200	150.00	1,136.4	Ladder Peak	60.60
6	300	150.00	757.6	Ladder Peak	70.00
7	400	150.00	568.2	Ladder Peak	78.02
8	500	150.00	454.5	Ladder Peak	84.17
9	600	150.00	378.8	Ladder Peak	89.12
10	700	150.00	324.7	Ladder Peak	92.28
11	1,000	150.00	227.3	Ladder Peak	96.59
12	2,000	150.00	113.6	Ladder Peak	103.74
13	3,000	150.00	75.8	Ladder Peak	107.41
14	7,000	150.00	32.5	Ladder Peak	112.63
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 1 : covaris5c**

Number of peaks found: 0                      Noise: 0.6

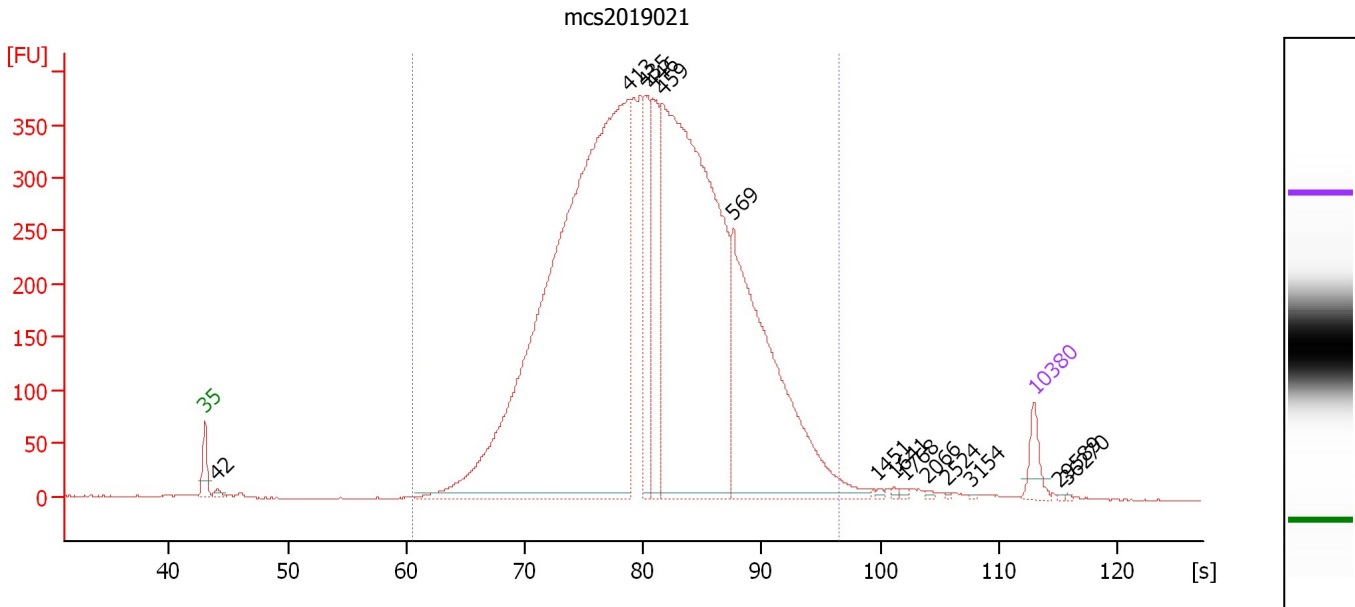
**Peak table for sample 1 : covaris5c**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	0	0.00	0.0		51.65
2	0	0.00	0.0		61.50
3	0	0.00	0.0		62.70
4	0	0.00	0.0		65.30
5	0	0.00	0.0		67.75
6	0	0.00	0.0		69.15
7	0	0.00	0.0		69.90
8	0	0.00	0.0		73.45
9	0	0.00	0.0		76.85
10	0	0.00	0.0		78.35
11	0	0.00	0.0		80.35
12	0	0.00	0.0		82.20
13	0	0.00	0.0		83.15
14	0	0.00	0.0		84.40
15	0	0.00	0.0		86.80
16	0	0.00	0.0		88.25
17	0	0.00	0.0		88.95
18	0	0.00	0.0		89.95
19	0	0.00	0.0		91.65
20	0	0.00	0.0		93.70
21	0	0.00	0.0		122.55

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : mcs2019021**

Number of peaks found: 14                      Corr. Area 1: 8,694.1  
 Noise: 0.4

**Peak table for sample 2 : mcs2019021**

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	42	28.21	1,021.7		44.09
3	413	4,929.68	18,105.7		78.79
4	435	406.21	1,413.6		80.20
5	446	456.17	1,550.7		80.83
6	459	3,174.30	10,478.3		81.65
7	569	1,578.98	4,204.5		87.58
8	1,451	7.74	8.1		99.82
9	1,641	6.48	6.0		101.17
10	1,768	8.93	7.7		102.08
11	2,066	6.07	4.5		103.98
12	2,524	3.52	2.1		105.66
13	3,154	2.97	1.4		107.61
14	10,380	75.00	10.9	Upper Marker	113.00
15	29,589	0.00	0.0		115.08
16	36,270	0.00	0.0		115.81

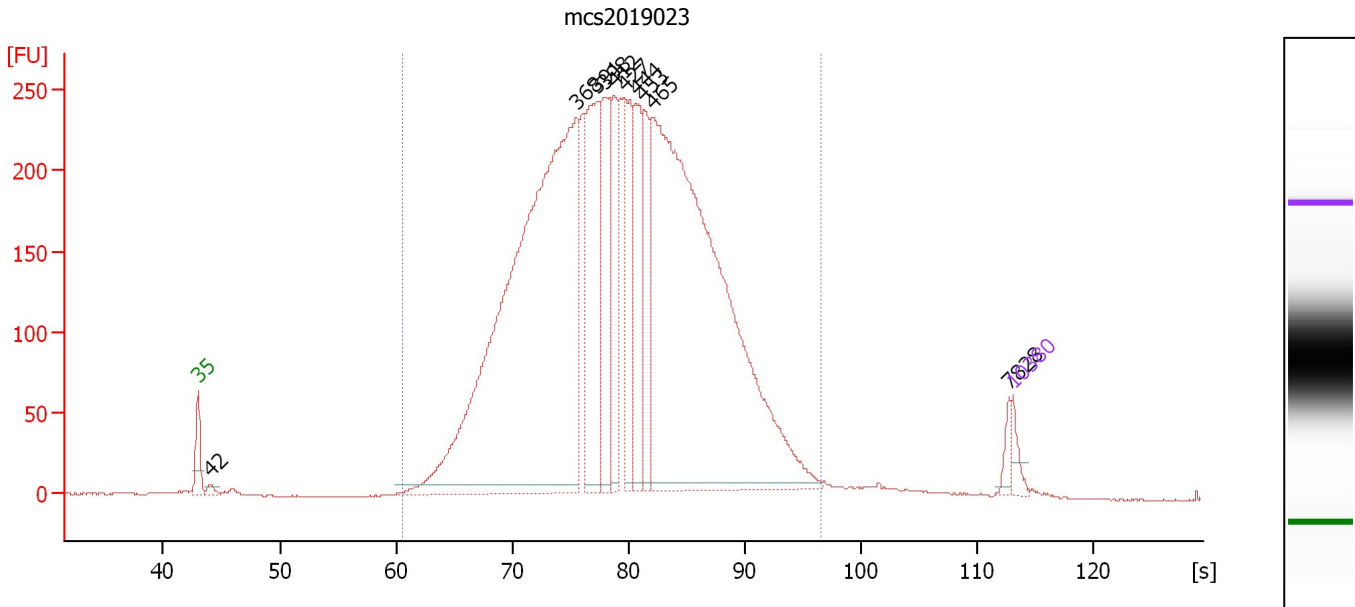
**Region table for sample 2 : mcs2019021**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]
200	1,000	455	11,641.34	8,694.1	42,318.8	98	25.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : mcs2019023**

Number of peaks found: 10                      Corr. Area 1: 6,180.3  
 Noise: 0.3

**Peak table for sample 3 : mcs2019023**

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	42	48.98	1,780.7		44.06
3	368	5,973.94	24,571.8		75.49
4	391	1,113.37	4,310.3		77.33
5	398	796.48	3,030.0		77.88
6	412	510.62	1,877.7		78.76
7	427	652.87	2,316.4		79.68
8	444	673.20	2,299.5		80.70
9	453	510.16	1,707.9		81.25
10	465	5,459.10	17,803.0		81.99
11	7,828	61.05	11.8		112.72
12	10,380	75.00	10.9	Upper Marker	113.00

**Region table for sample 3 : mcs2019023**

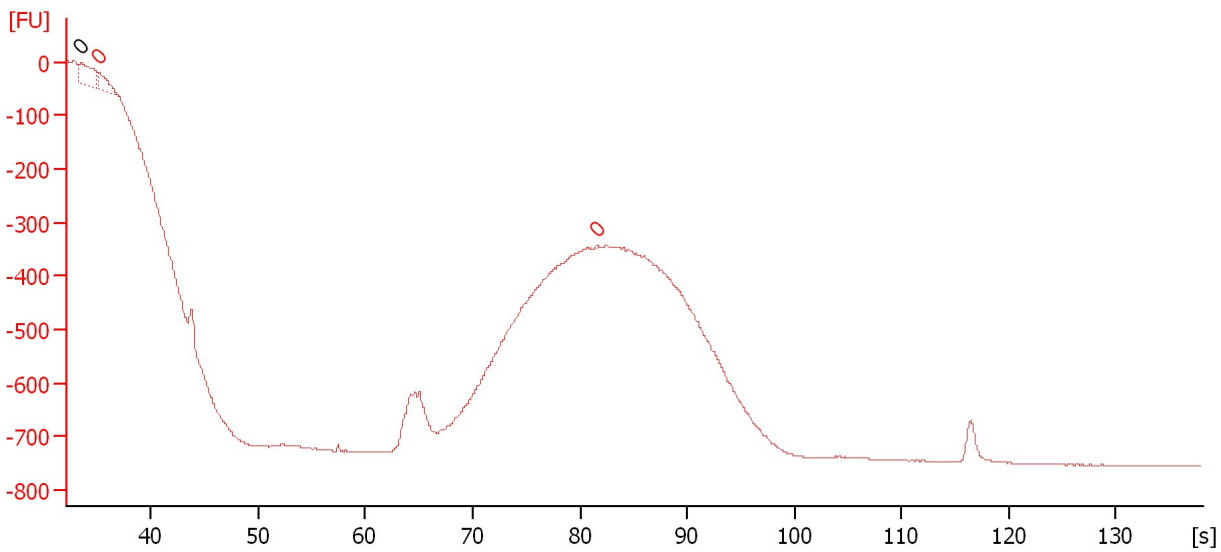
From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]
200	1,000	433	17,056.46	6,180.3	65,691.1	98	26.6

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**

mcs2019025



**Overall Results for sample 4 : mcs2019025**

Number of peaks found: 0                      Noise: 0.6

**Peak table for sample 4 : mcs2019025**

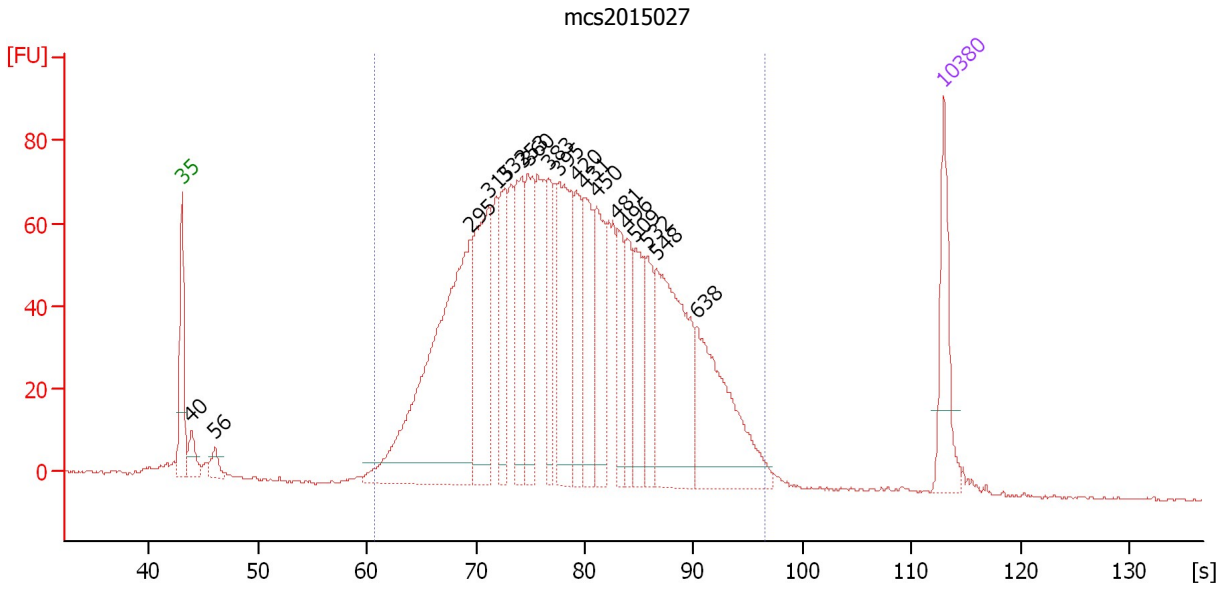
Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	0	0.00	0.0		33.45
2	0	0.00	0.0	excluded peak	35.15
3	0	0.00	0.0	excluded peak	81.50



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 : mcs2015027**

Number of peaks found: 18                      Corr. Area 1: 2,178.4  
 Noise: 0.3

**Peak table for sample 5 : mcs2015027**

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	39.91	1,501.2		43.84
3	56	25.77	702.9		46.01
4	295	562.00	2,890.7		69.49
5	315	228.37	1,100.0		71.17
6	332	111.38	507.7		72.60
7	353	137.91	592.5		74.23
8	360	123.29	518.8		74.82
9	383	83.92	332.2		76.64
10	395	184.38	707.1		77.63
11	420	93.41	336.9		79.26
12	431	118.65	416.8		79.95
13	450	116.71	393.1		81.08
14	481	67.77	213.4		83.01
15	496	73.76	225.5		83.89
16	509	91.12	271.0		84.63
17	532	72.25	205.6		85.77
18	548	251.52	695.0		86.56
19	638	202.70	481.6		90.31
20	10,380	75.00	10.9	Upper Marker	113.00

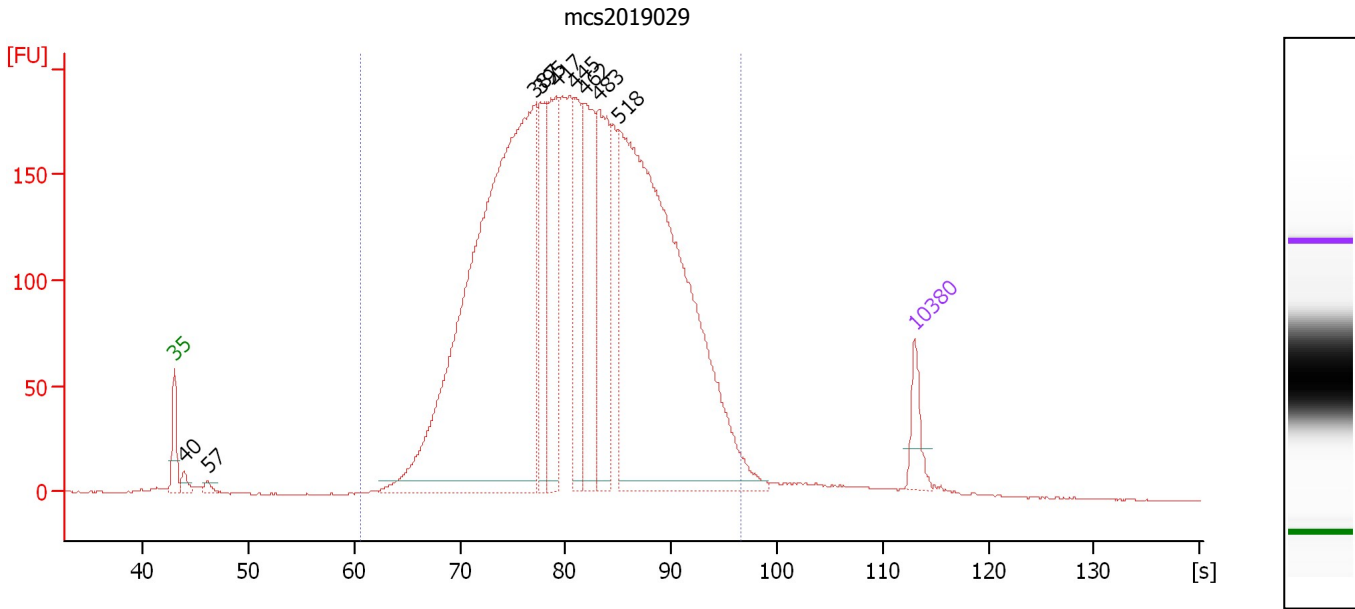
**Region table for sample 5 : mcs2015027**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	431	2,998.92	2,178.4	12,038.4	97	32.0

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : mcs2019029**

Number of peaks found: 9                      Corr. Area 1: 4,927.8  
 Noise: 0.3

**Peak table for sample 6 : mcs2019029**

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	44.50	1,667.5		43.86
3	57	25.20	672.2		46.15
4	387	2,854.71	11,175.1		76.98
5	395	366.07	1,405.4		77.59
6	417	379.91	1,380.4		79.07
7	445	311.76	1,061.2		80.79
8	462	490.70	1,607.6		81.86
9	483	488.66	1,532.4		83.13
10	518	2,391.39	6,993.7		85.06
11	10,380	75.00	10.9	Upper Marker	113.00

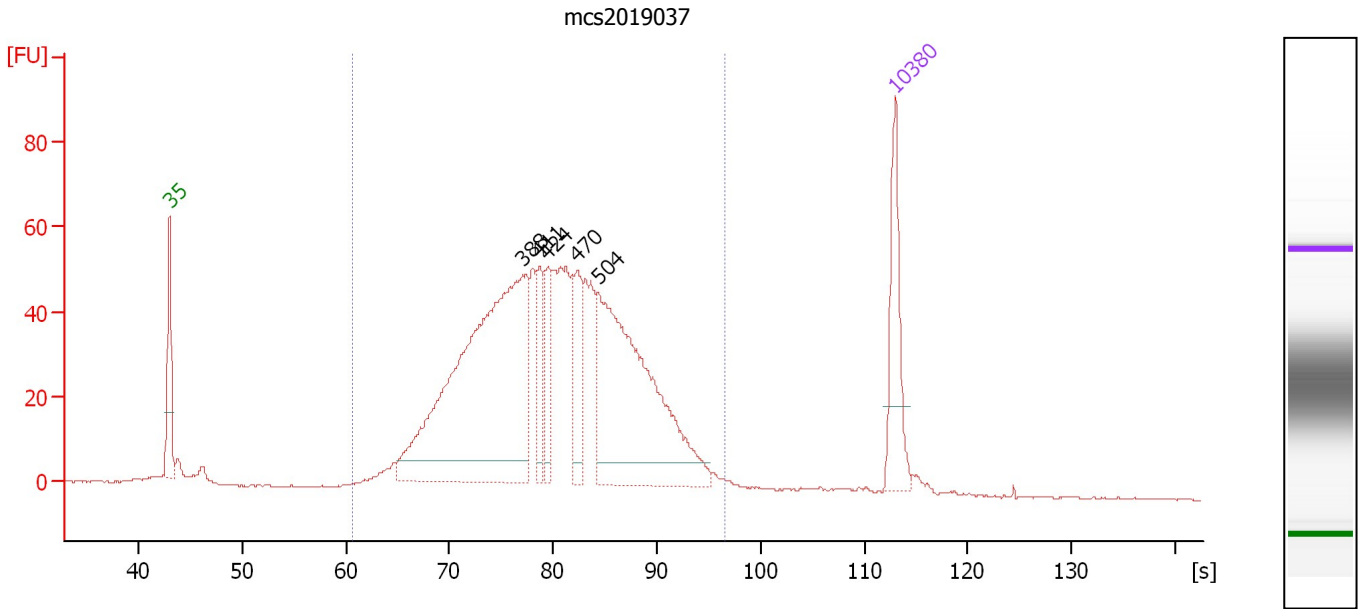
**Region table for sample 6 : mcs2019029**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	470	8,330.60	4,927.8	29,893.7	97	28.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : mcs2019037**

Number of peaks found: 5                      Corr. Area 1: 1,286.3  
 Noise: 0.2

**Peak table for sample 7 : mcs2019037**

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	388	612.76	2,390.3		77.09
3	411	54.19	199.8		78.70
4	424	58.05	207.6		79.48
5	470	85.39	275.2		82.33
6	504	399.58	1,202.0		84.35
7	10,380	75.00	10.9	Upper Marker	113.00

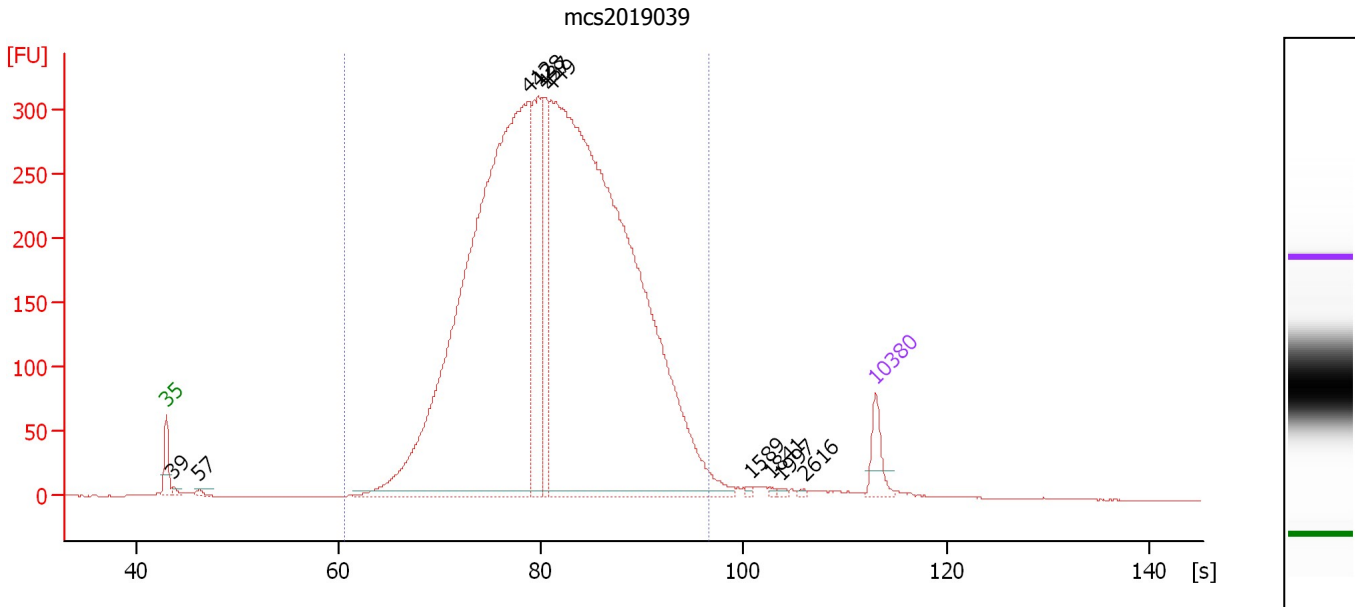
**Region table for sample 7 : mcs2019037**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]
200	1,000	446	1,659.98	1,286.3	6,241.8	95	27.5

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : mcs2019039**

Number of peaks found: 10                      Corr. Area 1: 7,022.7  
 Noise: 0.2

**Peak table for sample 8 : mcs2019039**

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	39	18.73	721.3		43.69
3	57	18.02	478.3		46.18
4	412	3,891.25	14,320.2		78.74
5	428	525.63	1,860.3		79.75
6	437	357.98	1,241.9		80.28
7	449	4,864.54	16,421.4		81.02
8	1,589	6.77	6.5		100.80
9	1,841	4.42	3.6		102.61
10	1,997	6.50	4.9		103.72
11	2,616	4.73	2.7		106.00
12	10,380	75.00	10.9	Upper Marker	113.00

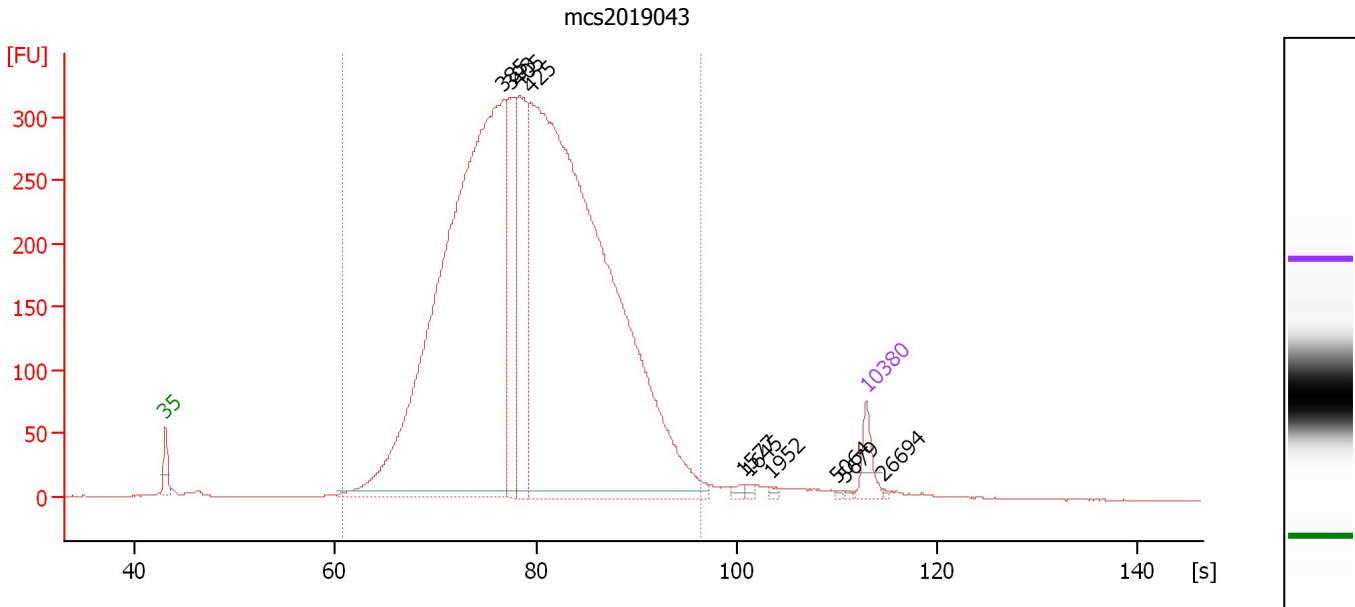
**Region table for sample 8 : mcs2019039**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	467	9,652.62	7,022.7	34,262.0	97	26.6

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : mcs2019043**

Number of peaks found: 10                      Corr. Area 1: 7,347.4  
 Noise: 0.2

**Peak table for sample 9 : mcs2019043**

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	385	4,211.85	16,589.7		76.79
3	393	549.83	2,121.4		77.44
4	405	657.42	2,457.6		78.35
5	425	5,035.27	17,971.6		79.53
6	1,577	14.56	14.0		100.72
7	1,645	10.40	9.6		101.20
8	1,952	8.16	6.3		103.40
9	5,064	4.42	1.3		110.10
10	5,679	4.43	1.2		110.91
11	10,380	75.00	10.9	Upper Marker	113.00
12	26,694	0.00	0.0		114.77

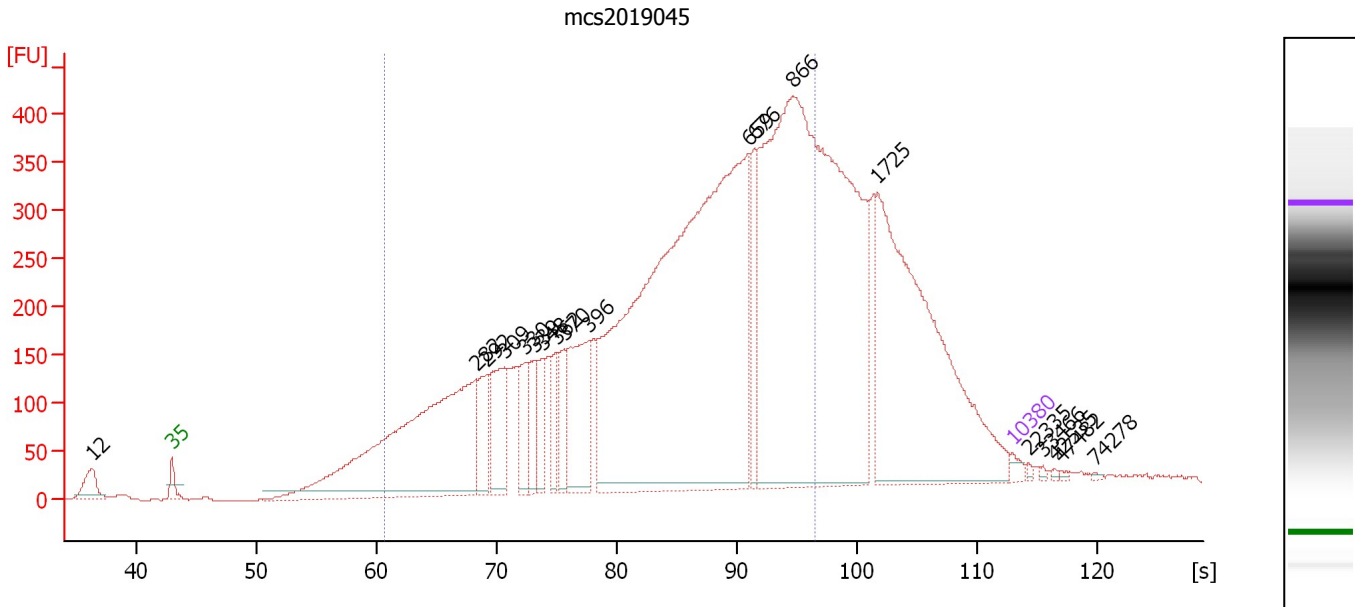
**Region table for sample 9 : mcs2019043**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	438	10,568.03	7,347.4	40,095.3	97	26.7

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : mcs2019045**

Number of peaks found: 19                      Corr. Area 1: 9,357.8  
 Noise: 0.3

**Peak table for sample 10 : mcs2019045**

Peak	Size [bp]	Conc. [pg/μl]	Molarity [pmol/l]	Observations	Aligned Migration Time [s]
1	12	0.00	0.0		36.29
2	35	125.00	5,411.3	Lower Marker	43.00
3	282	6,463.53	34,777.0		68.27
4	292	797.24	4,135.8		69.26
5	309	1,207.32	5,928.5		70.69
6	330	616.88	2,834.5		72.39
7	339	650.82	2,911.7		73.10
8	348	465.48	2,029.1		73.82
9	362	466.69	1,955.9		74.94
10	370	611.82	2,506.2		75.61
11	396	1,511.81	5,783.1		77.71
12	659	12,913.62	29,675.1		90.99
13	676	821.56	1,840.6		91.53
14	866	11,972.25	20,951.1		94.66
15	1,725	4,964.01	4,360.2		101.77
16	10,380	75.00	10.9	Upper Marker	113.00
17	22,335	0.00	0.0		114.30
18	33,466	0.00	0.0		115.50
19	42,535	0.00	0.0		116.49
20	47,482	0.00	0.0		117.03
21	74,278	0.00	0.0		119.93

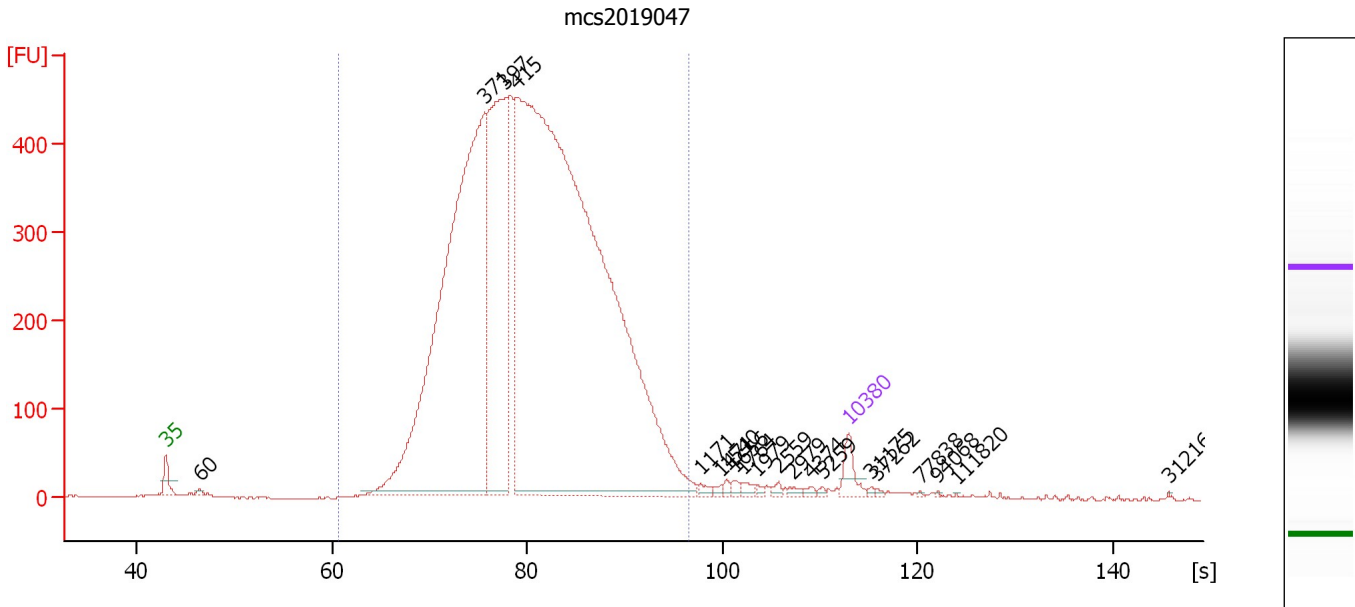
**Region table for sample 10 : mcs2019045**

From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	552	34,424.22	9,357.8	119,856.0	70	37.0

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
 Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 11 : mcs2019047**

Number of peaks found: 20                      Corr. Area 1: 9,931.3  
 Noise: 0.6

**Peak table for sample 11 : mcs2019047**

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	60	14.50	368.6		46.47
3	371	4,076.87	16,654.1		75.69
4	397	1,680.34	6,413.5		77.78
5	415	8,018.87	29,286.7		78.94
6	1,171	19.70	25.5		97.81
7	1,471	12.47	12.8		99.96
8	1,540	12.59	12.4		100.45
9	1,656	17.17	15.7		101.28
10	1,764	20.38	17.5		102.05
11	1,979	9.86	7.5		103.59
12	2,559	14.40	8.5		105.79
13	2,979	13.23	6.7		107.33
14	4,374	11.98	4.1		109.20
15	5,259	7.65	2.2		110.36
16	10,380	75.00	10.9	Upper Marker	113.00
17	31,175	0.00	0.0		115.26
18	37,262	0.00	0.0		115.92
19	77,838	0.00	0.0		120.32
20	94,068	0.00	0.0		122.08
21	111,821	0.00	0.0		124.01
22	312,166	0.00	0.0		145.74

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
Modified: 5/1/2019 5:22:30 PM

**Electropherogram Summary Continued ...**

... Region table for sample 11 : mcs2019047

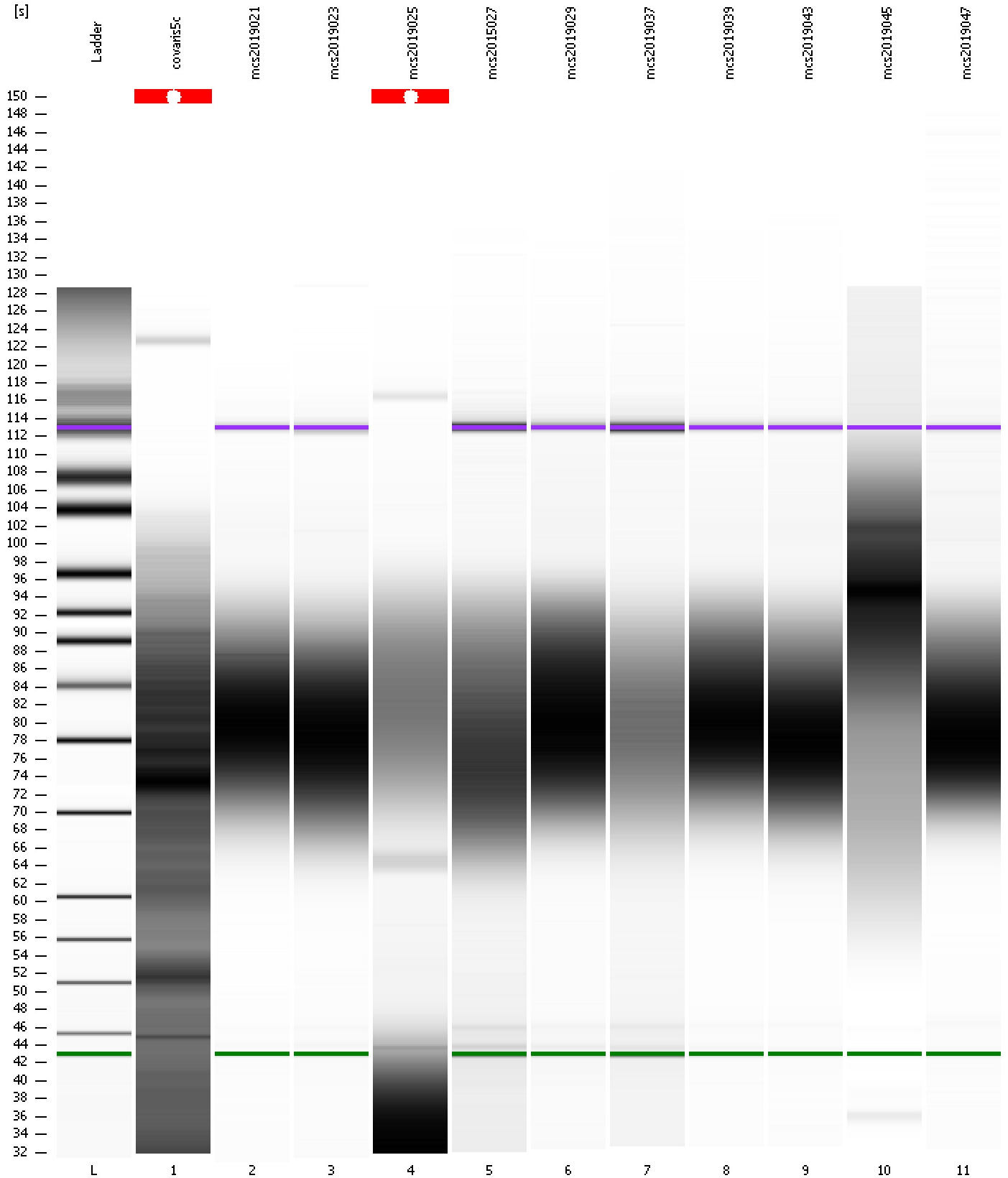
From [bp]	To [bp]	Average Size [bp]	Conc. [pg/ $\mu$ l]	Corr. Area	Molarity [pmol/l]	Co % of lor Total	Size distribution in CV [%]
200	1,000	453	14,109.74	9,931.3	51,257.0	 96	25.8



Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad

Created: 5/1/2019 4:38:37 PM  
Modified: 5/1/2019 5:22:30 PM

Gel Image



Assay Class: High Sensitivity DNA Assay Created: 5/1/2019 4:38:37 PM  
 Data Path: C:\... bioanalyzer\2100 expert\data\2019-05-01\2019-05-01\_001.xad Modified: 5/1/2019 5:22:30 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		5/1/2019 5:19:56 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\data\2019-05-01\2019-05-01_001.xad)		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938C		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE34903152		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		5/1/2019 4:38:42 PM	(GMT --07:00) Pacific Standard Time	UC Davis	D8XSMGH1