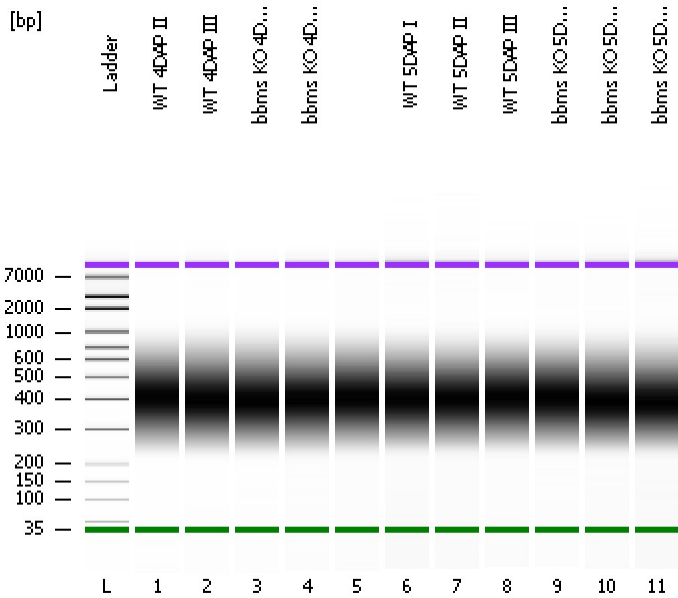


Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
Modified: 12/11/2018 1:53:25 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

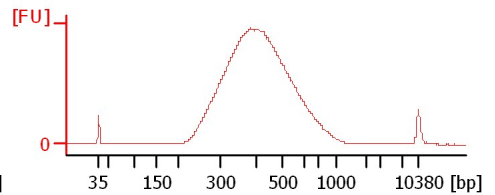
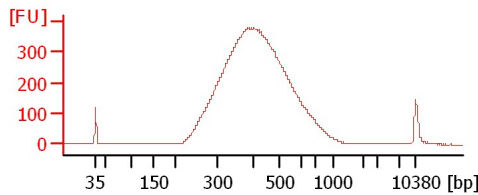
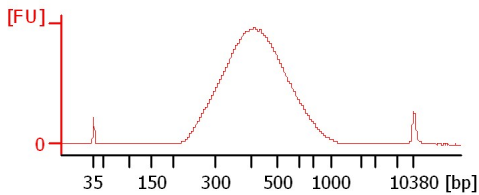
Chip Information:

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

**WT 4DAP II**

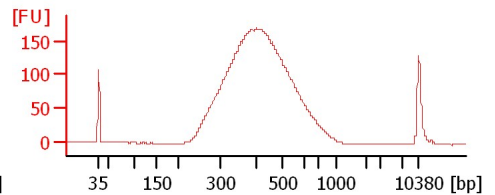
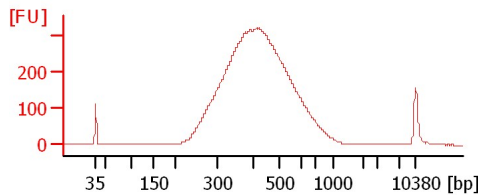
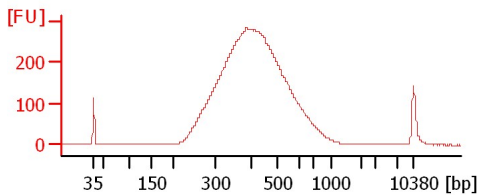
**WT 4DAP III**

**bbms KO 4DAP I**



**bbms KO 4DAP II**

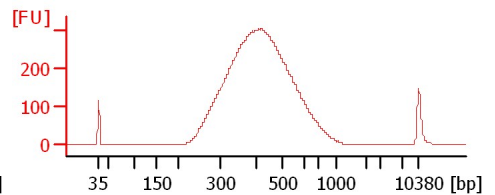
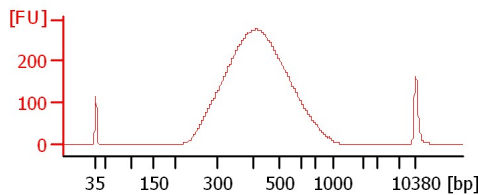
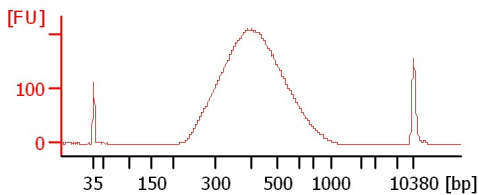
**WT 5DAP I**



**WT 5DAP II**

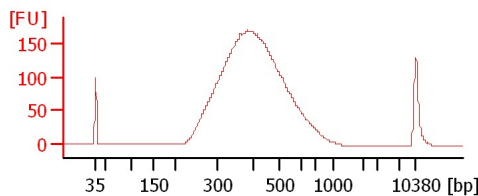
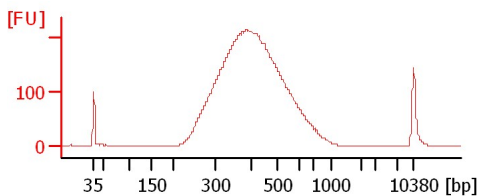
**WT 5DAP III**

**bbms KO 5DAP I**



**bbms KO 5DAP II**

**bbms KO 5DAP III**



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

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

Sample Name	Sample Comment	Rest. Digest	Status	Observation	Result Label	Result Color
WT 4DAP II		<input type="checkbox"/>	✓			
WT 4DAP III		<input type="checkbox"/>	✓			
bbms KO 4DAP I		<input type="checkbox"/>	✓			
bbms KO 4DAP II		<input type="checkbox"/>	✓			
WT 5DAP I		<input type="checkbox"/>	✓			
WT 5DAP II		<input type="checkbox"/>	✓			
WT 5DAP III		<input type="checkbox"/>	✓			
bbms KO 5DAP I		<input type="checkbox"/>	✓			
bbms KO 5DAP II		<input type="checkbox"/>	✓			
bbms KO 5DAP III		<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\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
Modified: 12/11/2018 1:53:25 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

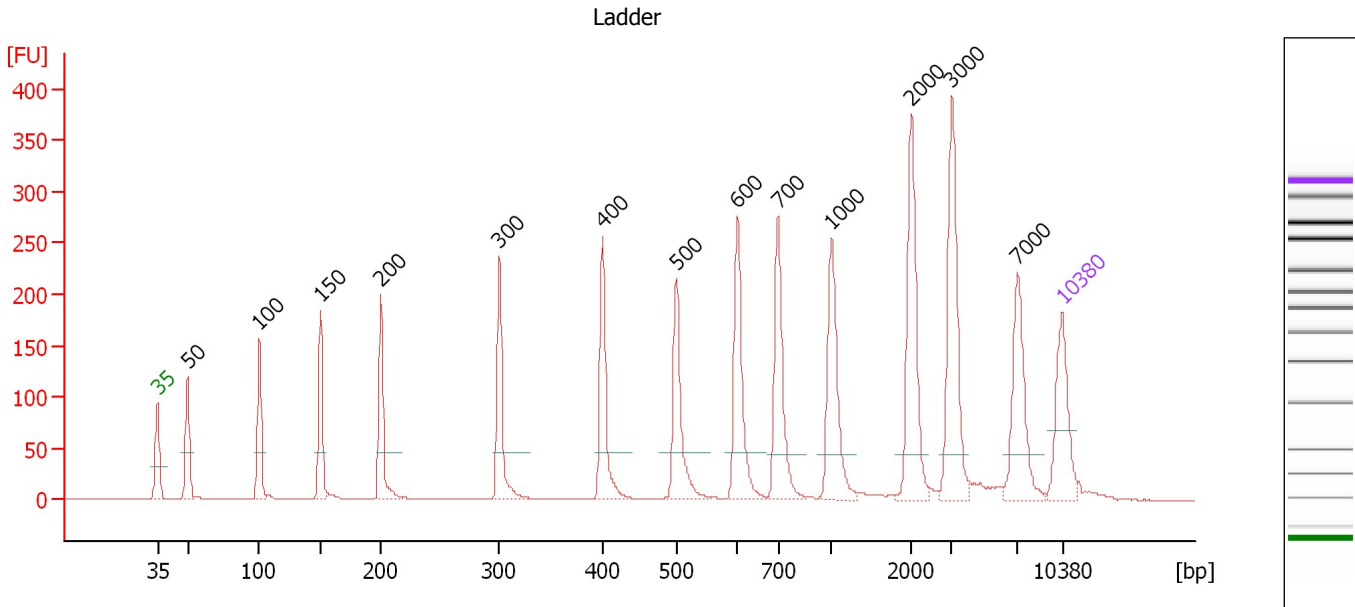
**Ladder**

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\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary**



**Overall Results for Ladder**

Noise: 0.3

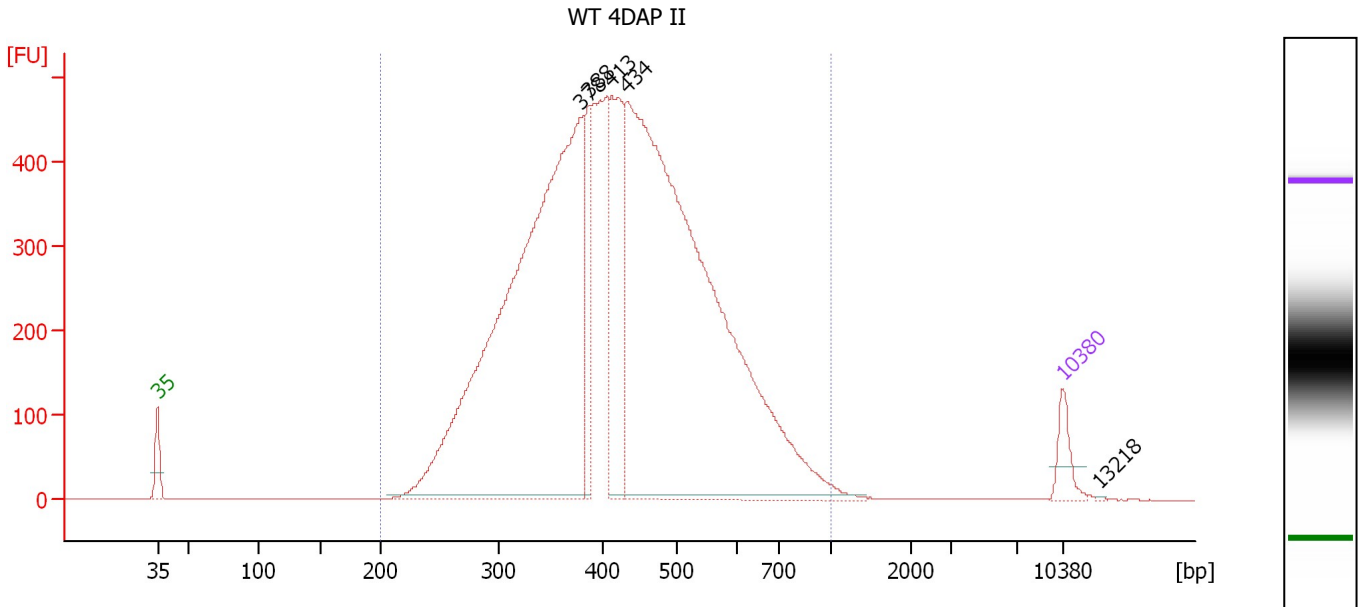
**Peak table for Ladder**

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	45.32
3	100	150.00	2,272.7	Ladder Peak	50.88
4	150	150.00	1,515.2	Ladder Peak	55.60
5	200	150.00	1,136.4	Ladder Peak	60.28
6	300	150.00	757.6	Ladder Peak	69.45
7	400	150.00	568.2	Ladder Peak	77.42
8	500	150.00	454.5	Ladder Peak	83.12
9	600	150.00	378.8	Ladder Peak	87.89
10	700	150.00	324.7	Ladder Peak	91.00
11	1,000	150.00	227.3	Ladder Peak	95.14
12	2,000	150.00	113.6	Ladder Peak	101.33
13	3,000	150.00	75.8	Ladder Peak	104.45
14	7,000	150.00	32.5	Ladder Peak	109.53
15	10,380	75.00	10.9	Upper Marker	113.00

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 1 : WT 4DAP II**

Number of peaks found: 5                      Corr. Area 1: 10,819.8  
 Noise: 0.3

**Peak table for sample 1 : WT 4DAP II**

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	378	3,434.42	13,766.7		75.67
3	388	305.03	1,192.5		76.43
4	413	602.48	2,212.9		78.13
5	434	3,866.77	13,506.4		79.35
6	10,380	75.00	10.9	Upper Marker	113.00
7	13,218	0.00	0.0		115.92

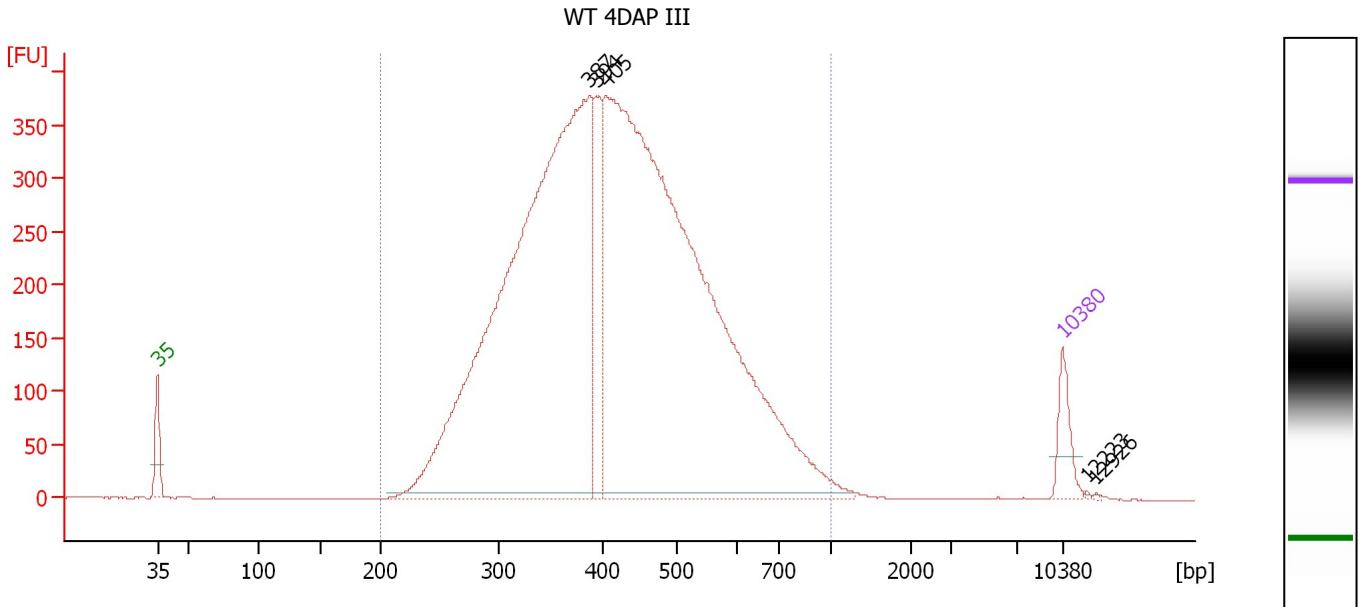
**Region table for sample 1 : WT 4DAP II**

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	433	9,022.61	10,819.8	34,532.5	99	26.5

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 2 : WT 4DAP III**

Number of peaks found: 5                      Corr. Area 1: 8,653.8  
 Noise: 0.3

**Peak table for sample 2 : WT 4DAP III**

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	387	3,065.51	11,987.7		76.42
3	394	292.43	1,123.9		76.96
4	405	3,573.42	13,381.2		77.68
5	10,380	75.00	10.9	Upper Marker	113.00
6	12,223	0.00	0.0		114.89
7	12,926	0.00	0.0		115.62

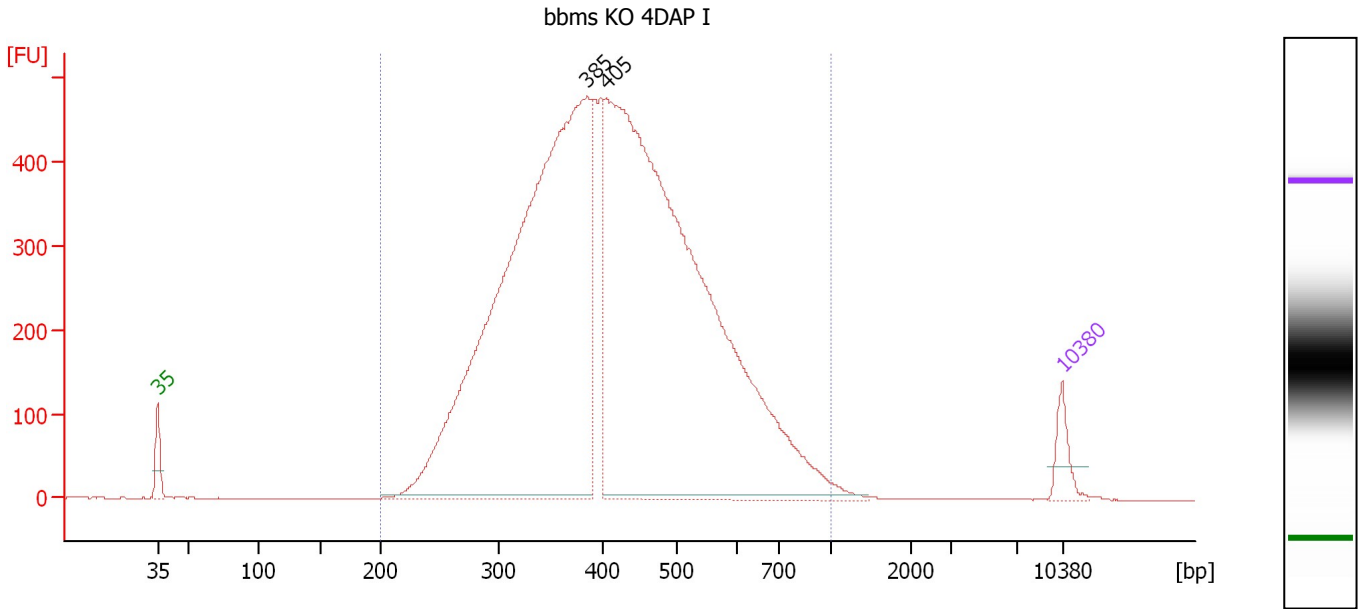
**Region table for sample 2 : WT 4DAP III**

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	430	7,059.33	8,653.8	27,321.1	99	27.4

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 3 : bbms KO 4DAP I**

Number of peaks found: 2                      Corr. Area 1: 10,936.9  
Noise: 0.3

**Peak table for sample 3 : bbms KO 4DAP I**

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	3,880.53	15,270.3		76.23
3	405	4,343.93	16,254.8		77.70
4	10,380	75.00	10.9	Upper Marker	113.00

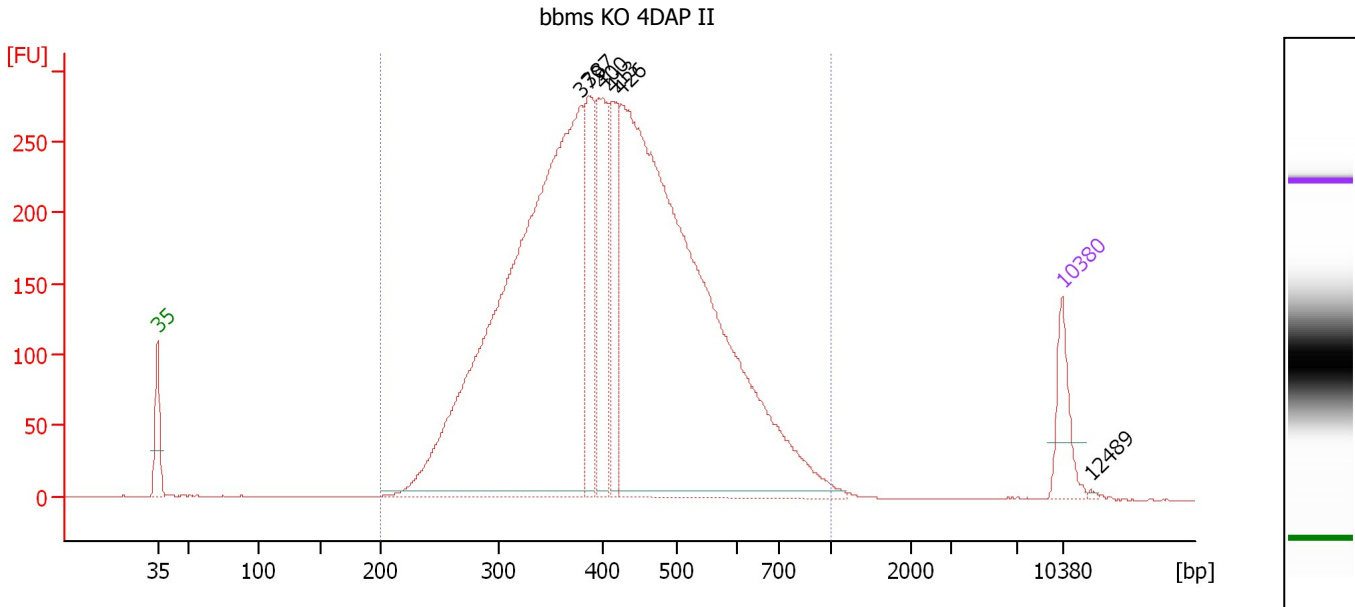
**Region table for sample 3 : bbms KO 4DAP I**

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	427	8,793.20	10,936.9	34,251.8	99	27.3

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 4 : bbms KO 4DAP II**

Number of peaks found: 6                      Corr. Area 1: 6,314.0  
 Noise: 0.2

**Peak table for sample 4 : bbms KO 4DAP II**

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	379	1,950.73	7,800.7		75.74
3	387	244.54	958.4		76.35
4	400	289.56	1,098.0		77.39
5	413	206.72	757.5		78.19
6	426	2,046.95	7,282.8		78.90
7	10,380	75.00	10.9	Upper Marker	113.00
8	12,489	0.00	0.0		115.17

**Region table for sample 4 : bbms KO 4DAP II**

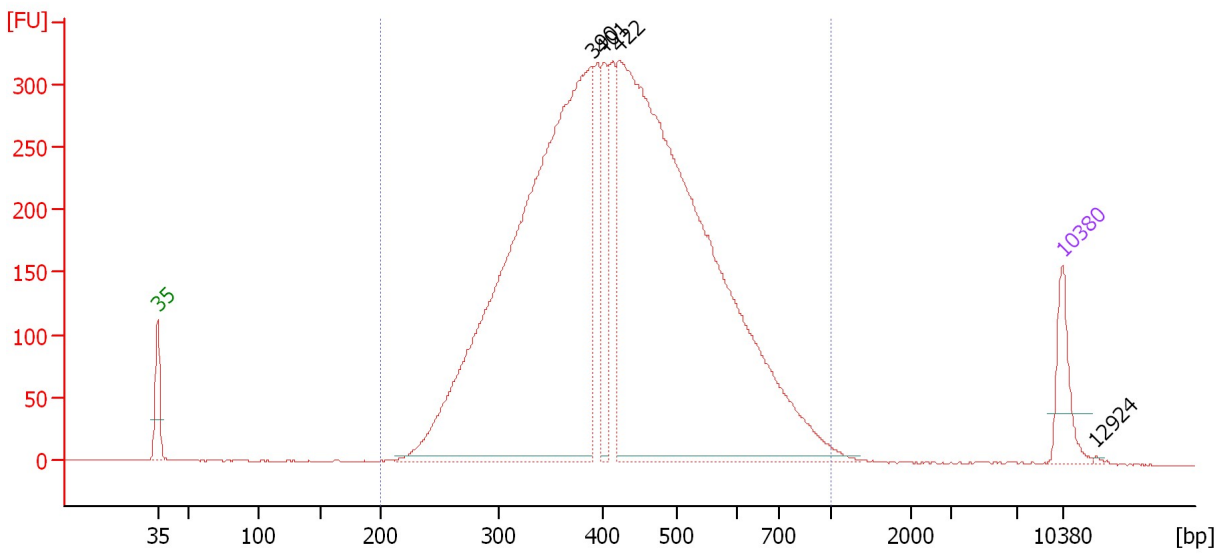
From [bp]	To [bp]	Average Size [bp]	Conc. [pg/μl]	Corr. Area	Molarity [pmol/l]	Co % of Ior Total	Size distribution in CV [%]
200	1,000	427	4,889.87	6,314.0	19,011.0	99	26.9



Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 5 :**

Number of peaks found: 4                      Corr. Area 1: 7,115.5  
 Noise: 0.3

**Peak table for sample 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	390	2,039.67	7,931.3		76.60
3	401	177.45	670.8		77.47
4	422	2,293.99	8,235.5		78.68
5	10,380	75.00	10.9	Upper Marker	113.00
6	12,924	0.00	0.0		115.61

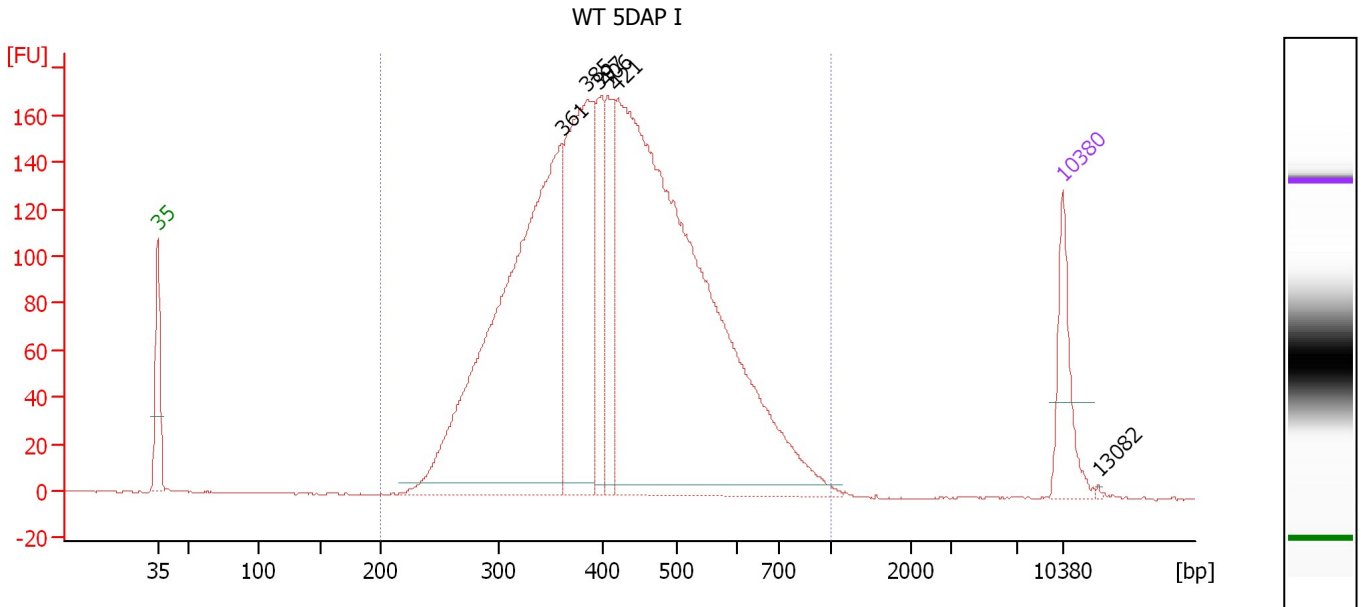
**Region table for sample 5 :**

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	435	4,913.28	7,115.5	18,772.3	99	26.8

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 6 : WT 5DAP I**

Number of peaks found: 6                      Corr. Area 1: 3,681.0  
 Noise: 0.2

**Peak table for sample 6 : WT 5DAP I**

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	361	999.73	4,200.4		74.28
3	385	448.60	1,766.0		76.22
4	397	149.03	569.2		77.16
5	406	147.38	550.3		77.75
6	421	1,451.40	5,228.5		78.59
7	10,380	75.00	10.9	Upper Marker	113.00
8	13,082	0.00	0.0		115.78

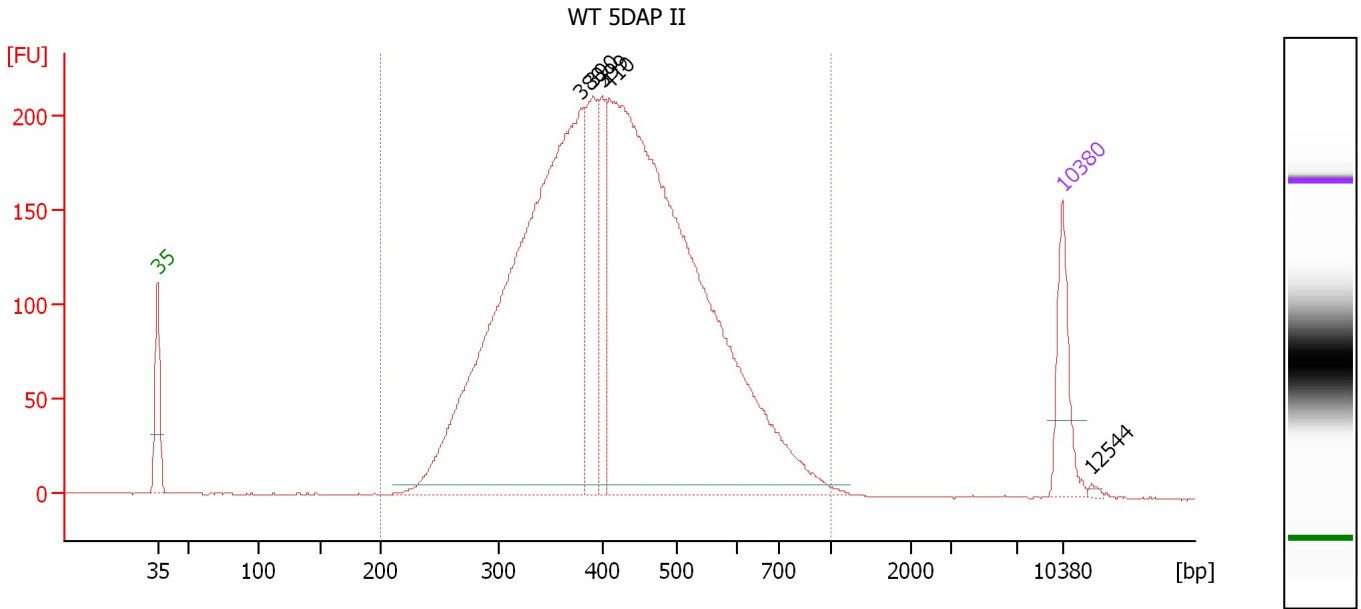
**Region table for sample 6 : WT 5DAP I**

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	430	3,181.55	3,681.0	12,233.8	100	26.1

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 7 : WT 5DAP II**

Number of peaks found: 5                      Corr. Area 1: 4,518.9  
 Noise: 0.2

**Peak table for sample 7 : WT 5DAP II**

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	380	1,363.82	5,442.5		75.80
3	390	206.37	800.8		76.66
4	399	132.15	501.4		77.37
5	410	1,647.72	6,093.4		77.97
6	10,380	75.00	10.9	Upper Marker	113.00
7	12,544	0.00	0.0		115.22

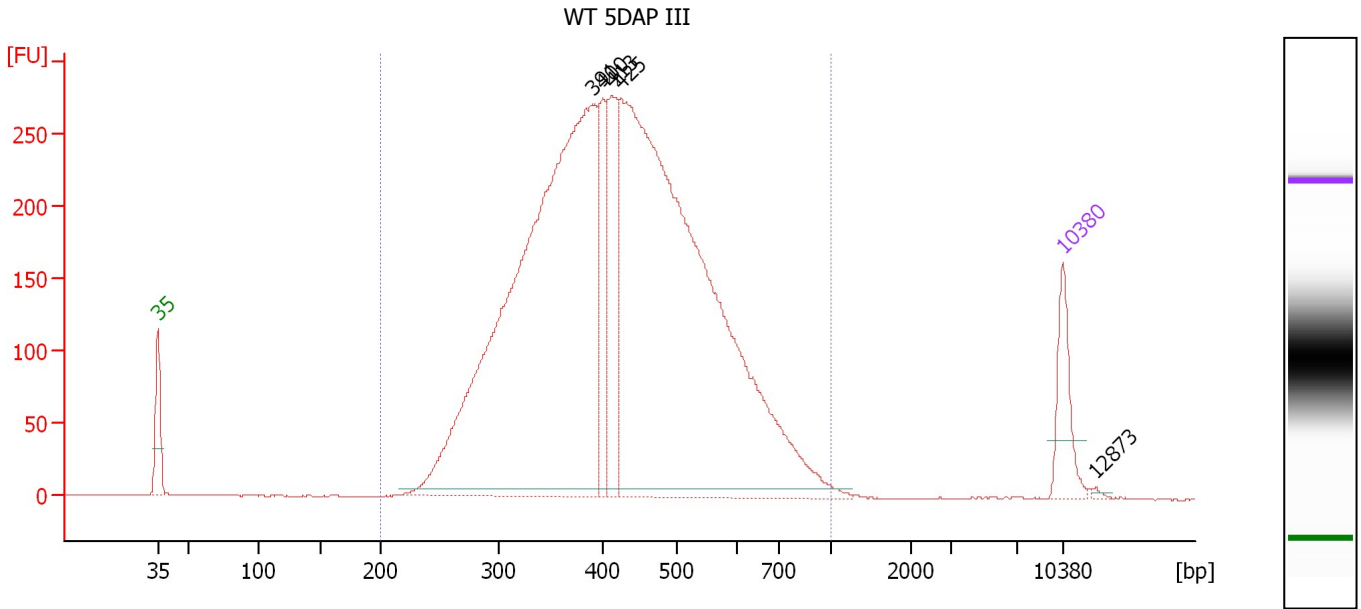
**Region table for sample 7 : WT 5DAP II**

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	426	3,405.88	4,518.9	13,174.5	100	25.9

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 8 : WT 5DAP III**

Number of peaks found: 5                      Corr. Area 1: 5,945.9  
 Noise: 0.2

**Peak table for sample 8 : WT 5DAP III**

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	391	1,753.79	6,803.9		76.67
3	400	171.32	648.5		77.44
4	413	195.49	717.4		78.15
5	425	1,886.17	6,717.3		78.87
6	10,380	75.00	10.9	Upper Marker	113.00
7	12,873	0.00	0.0		115.56

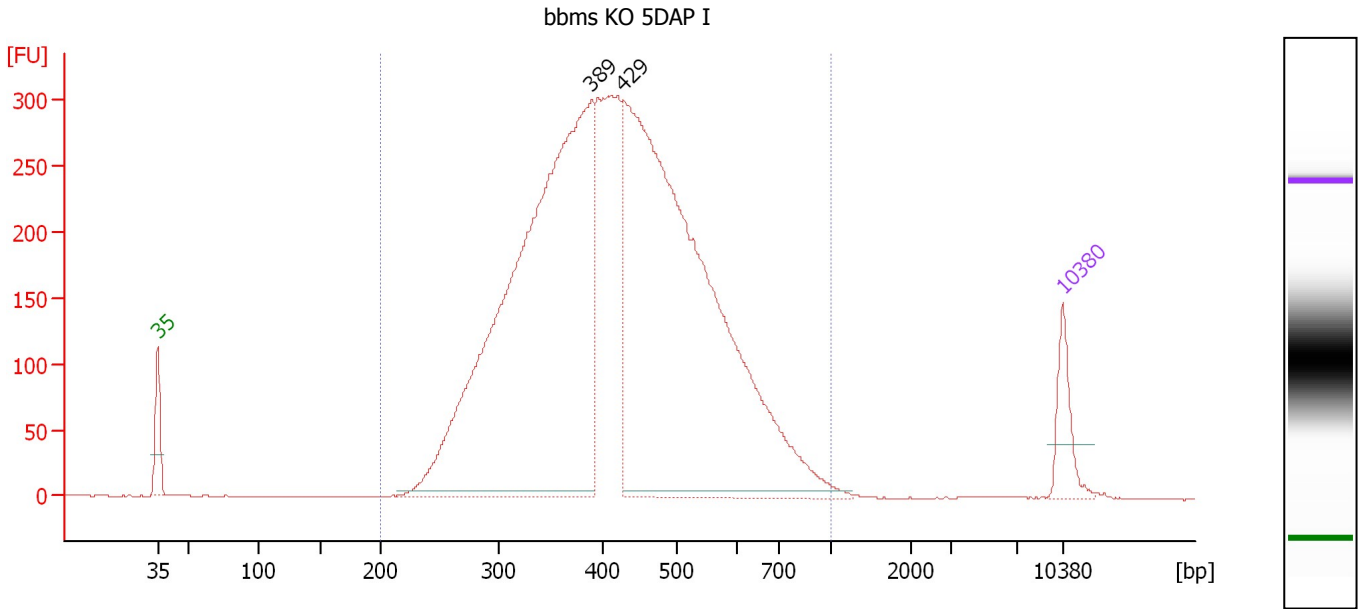
**Region table for sample 8 : WT 5DAP III**

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	434	4,079.66	5,945.9	15,516.5	99	26.0

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 9 : bbms KO 5DAP I**

Number of peaks found: 2                      Corr. Area 1: 6,591.0  
 Noise: 0.3

**Peak table for sample 9 : bbms KO 5DAP I**

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	389	2,076.07	8,077.1		76.58
3	429	2,092.57	7,395.1		79.06
4	10,380	75.00	10.9	Upper Marker	113.00

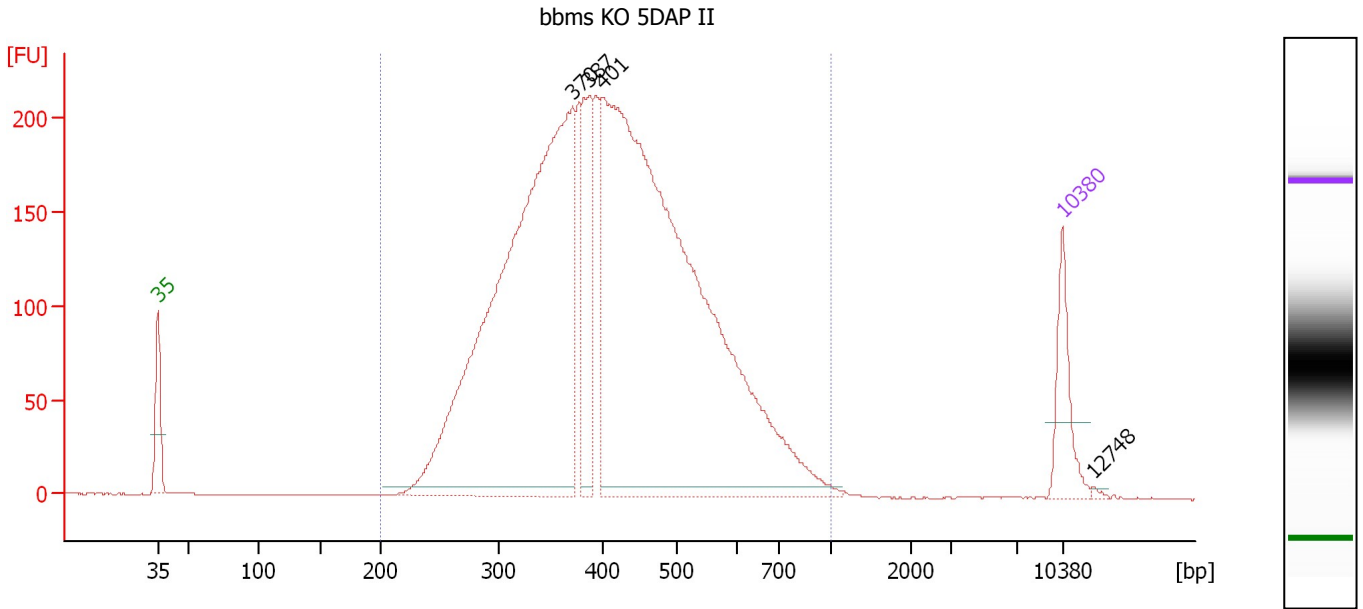
**Region table for sample 9 : bbms KO 5DAP I**

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	432	4,883.55	6,591.0	18,706.1	99	26.2

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 10 : bbms KO 5DAP II**

Number of peaks found: 4                      Corr. Area 1: 4,634.7  
 Noise: 0.2

**Peak table for sample 10 : bbms KO 5DAP II**

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	370	1,426.53	5,837.9		75.05
3	387	200.94	786.4		76.39
4	401	1,795.51	6,783.0		77.48
5	10,380	75.00	10.9	Upper Marker	113.00
6	12,748	0.00	0.0		115.43

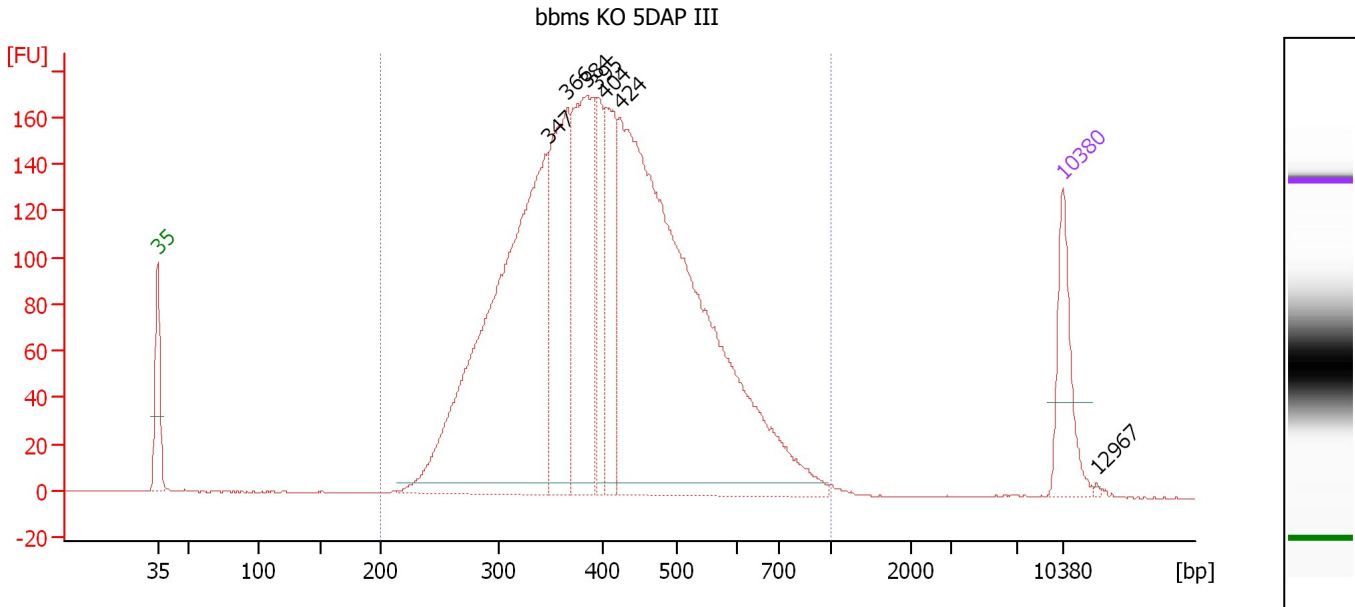
**Region table for sample 10 : bbms KO 5DAP II**

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	422	3,659.37	4,634.7	14,342.9	99	26.4

Assay Class: High Sensitivity DNA Assay  
 Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
 Modified: 12/11/2018 1:53:25 PM

**Electropherogram Summary Continued ...**



**Overall Results for sample 11 : bbms KO 5DAP III**

Number of peaks found: 7                      Corr. Area 1: 3,610.1  
 Noise: 0.2

**Peak table for sample 11 : bbms KO 5DAP III**

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	347	823.68	3,592.1		73.23
3	366	276.78	1,146.6		74.69
4	384	319.23	1,259.4		76.15
5	395	112.50	432.1		76.98
6	404	158.18	592.9		77.66
7	424	1,108.83	3,959.3		78.81
8	10,380	75.00	10.9	Upper Marker	113.00
9	12,967	0.00	0.0		115.66

**Region table for sample 11 : bbms KO 5DAP III**

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	419	2,828.94	3,610.1	11,139.2	99	26.1

Assay Class: High Sensitivity DNA Assay  
Data Path: C:\... bioanalyzer\2100 expert\data\2018-12-11\2018-12-11\_002.xad

Created: 12/11/2018 1:11:25 PM  
Modified: 12/11/2018 1:53:25 PM

**Gel Image**

