RESULTS

DIPLOID WHEAT (*EINKORN)*

Diploid wheat (DD) 2n=14 chromosome, as it can be seen form Figure (4, 5) that the total number of diploid wheat (14 chromosome).

CHROMOSOME (1)

1- I- GREY LEVEL

Figure (6,I,A-B)shows the black and white photograph at grey level elementary map of chromosome1.This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It can be seen that at grey level of chromosome number 1 numerical analysis shows the following mathematical values were: mean equal 124.30;standard deviation equal 28.19 ;median equal 124 ;pixels equal 1575;level equal 134;count equal 60;percentile equal 60.32 and cache level equal 1.

1-II- COLOURED LEVEL

Figure(6,II,A-B) shows the coloured photograph at RBG level elementary map of chromosome 1 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It can be seen that u shape of this chromosome and the degradation of chromosomal colour represented yellow, blue and small red area. This can be used to determine the structure of each chromosome rather than the other. It can be seen the following values mean =202.35; standard deviation =47.06; median= 226; pixels= 1019; level =172; count =15; percentile= 37.06 and cache level 1, which mean that RBG level more details not only on structure but also in the colour as one blue peaks as well as green peaks,

small yellow peaks inside green and shadow with separated red .Which represent more component structures.

CHROMOSOME (2)

2-I GREY LEVEL

As given in figure (7, I, A-B) the black and white photograph at grey level elementary map of this chromosome at different grey scale level as well as the chromosome structure after has been magnified (x=500).The numerical analysis of chromosome 2 shows many values viz: mean equal 81.52; standard deviation equal 27.35; median equal 80; pixels equal1352; level equal 103; count equal 39; percentile equal 73.15 and cache level equal 1.

2-II- COLOURED LEVEL

The results of coloured level of chromosome number 2 are given in figure (7, II, A-B) which shows the coloured photograph at RBG level of elementary map, as well as the chromosome structure after has been magnified(x=500).It is observed that degradation of chromosomal colour represented yellow, blue and small red area. This can be used to determine the structure of each chromosome rather than the other. The mathematical values were showed mean =181.22; standard deviation =41.42; median =161; pixels =1105; level =171; count =16; percentile =52.64 and cache level= 1, mean that RBG level more details not only on structure but also in the colour one blue area in figure (7, II, A) green in side blue but red separate as distinctive peaks in the right side of histogram represent more component structures.

CHROMOSOME (3)

3- I- GREY LEVEL

Figure (8, I, A-B)shows the black and white photograph at grey level and elementary map of chromosome 3.This shows the components of the chromosome histograph (peaks)after has been magnified(x=500).It

could be concluded that the grey level of chromosome3 numerical analysis shows the following values: 85.81; 28.37; 85; 1385; level 59; count 45; 24.26 and 1; for mean; standard deviation; median; pixels; level; count; percentile and cache level respectively.

3--II- COLOURED LEVEL

The result of the coloured level of chromosome 3 are showed in figure (8, II, A-B) which shows the coloured photograph at RBG level of elementary map of chromosome 3 shows many components of this chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).In conclusion the degradation of chromosomal colour represented yellow, blue and small red area which was used to determine the structure of each chromosome rather than the other. It can be seen also the following mathematical values viz: mean= 182.60 ;standard deviation= 47.69;median =161; pixels =1067 ; level=182 ; count =0; percentile= 59.11 and cache level =1.This investigation means that RBG level more details on structure shows as well as blue area in figure(8,II,A)contaminate with green in small area but shadow with separated red as distinctive peaks in the right side of histogram which represented more component structures.

CHROMOSOME (4)

4- I- GREY LEVEL

Figure (9, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 4.This shows the components of this chromosome after has been magnified(x=500). It can be concluded that at grey level of chromosome4 numerical analysis shows the following values viz: mean equal 37.97;standard deviation equal 25.10 ;median equal

32;pixels equal 1933;level equal 71; count equal 51; percentile equal 85.67 and cache level equal 1.

4-II- COLOURED LEVEL

Figure (9, II, A-B) shows the coloured photograph at RBG level of elementary map of chromosome4 .This figure shows the components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be observed that the degradation of chromosomal colour represented yellow, blue and small red area which can be used to determine the structure of each chromosome . The mathematical values were mean= 182.59; standard deviation= 47.55 ;median =162 ; pixels= 1134 ; level =217; count= 36; percentile =67.77 and cache level= 1 .This mean that RBG level shows details not only on structure but also on the colour of blue area and green shadow with separated red as distinctive peaks in the right side of histogram. This result shows more component structures.

CHROMOSOME (5)

5- I- GREY LEVEL

As given in the figure (10, I, A-B), the black and white photograph at grey level and elementary map of chromosome 5. The components of the chromosome histograph (peaks) have been magnified (x=500). The following mathematical values were as follows: mean equal 141.50; standard deviation equal 28.09; median equal 142; pixels equal 1422; level equal 132; count equal 51; percentile equal 40.23 and cache level equal 1.

5-II- COLOURED LEVEL

Figure (10, II, A-B) shows the coloured photograph at RBG level of elementary map of chromosome 5.This showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the

chromosome structure after has been magnified (x=500).It can be represented that degradation of chromosomal colour as yellow in small value, blue and red area. This can be used to determine the structure of each chromosome rather than the other .The following mathematical values were showed mean =200.96; standard deviation =48.37; median =222, pixels =1021; level =218; count= 0; percentile =48.94 and cache level =1.This mean that RBG level shows more details not only on structure but also on the shadows of RBG colour indicating on multicomponents of chromosome 5.

CHROMOSOME (6)

6- I- GREY LEVEL

Figure (11, I, A-B)shows black and white photograph at grey level and elementary map of chromosome 6 indicating many components of chromosome 6 after has been magnified(x=500).The computer values were as follows: mean =97.88; standard deviation =28.63; median =97; pixels =1490;level= 76; count =48; percentile =29.06 and cache level =1.

6-II- COLOURED LEVEL

Figure(11,II,A-B) shows the coloured photograph at RBG level elementary map of chromosome 6 indicating many components of this chromosome which has been magnified (x=500). The mathematical values were as follows: mean equal 183.03; standard deviation equal 46.37;median equal 165;pixels equal 1293; level equal 137; count equal 25;percentile equal 18.82 and cache level equal 1 .This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (7)

7- I- GREY LEVEL

Figure (12, I, A-B) shows the black and white photograph at grey level elementary map of chromosome 7.This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It can be seen that at grey level of chromosome number 7 numerical analysis shows that mean= 67.91; standard deviation =27.09; median =66;pixels =1676; level =79; count =21; percentile= 63.48 and cache level= 1.

7-II- COLOURED LEVEL

Figure(12,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 7.This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).Shows that the chromosomal colour degradation represented yellow in small value, blue and red area .This can be used to determine the structure of each chromosome. It can be seen the following values viz: mean =203.58; standard deviation =43.32 ;median =220 ; pixels= 1379 ;level =135; count =22; percentile =5.68 and cache level =1 ,which mean that RBG level more details not only on structure but also on the colour as contamination between green red and yellow color and blue separated peaks in left of histogram represent more component structures.

CHROMOSOME (8)

8- I- GREY LEVEL

As given in figure (13, I, A-B) the black and white photograph at grey level elementary map at different grey scale level as well as the

chromosome structure after has been magnified(x=500).The chromosome eight numerical analysis shows many values viz; mean equal 76.62; standard deviation equal 28.53; median equal 75; pixels equal 1619; level equal 81; count equal 45; percentile equal 56.58 and cache level equal 1.

8-II- COLOURED LEVEL

The results of coloured level of chromosome number 8 are given in figure(13,II,A-B) which shows the coloured photograph at RBG level of elementary map of chromosome 8 .This shows the components of this chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It observed that chromosomal colour degradation represented yellow in small value, blue and red area .Which can be used to determine the structure of each chromosome rather than the other . The mathematical values were showed mean =201.75; standard deviation =47.87; median =225; pixels =1097; level =235;count =25; percentile =55.76 and cache level =1.Which mean that RBG level more details not only on structure but also in the colour small contaminated area between green and red little amount of yellow color and shadow with separated blue peaks in histogram this results shows more component structures.

CHROMOSOME (9)

9- I- GREY LEVEL

Figure (14, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 9.This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It could be concluded that the grey level of chromosome 9 numerical analysis shows that the following values 84.29; 27.09; 83; 1526; 93.93; 42; 0.92 and 1;
Mean; standard deviation; median; pixels; level; count; percentile and cache level respectively.

9-II- COLOURED LEVEL

The results of the coloured level of chromosome 9 are showed in figure (14, II,A-B)which shows the coloured photograph at RBG level elementary map of chromosome 9 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).In conclusion the degradation of chromosomal colour represented yellow in small value, blue and red area. Which was used to determine the structure of each chromosome rather than the other following mathematical values viz: mean equal 203.53 ; standard deviation equal 45.19;median equal 223 ; pixels equal 1298 ; level equal 237 ;count equal 48;percentile equal 63.23 and cache level equal 1 .This investigation shows more details on structure small contaminated area between green and red little amount of yellow colour and separated blue peaks in histogram which represent more component structures .

CHROMOSOME (10)

10- I- GREY LEVEL

Figure (15, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 10.This shows the components of the chromosome after has been magnified(x=500).Numerical analysis shows the following computer values: mean 98.60; standard deviation 27.03; median 97; pixels 1547; level 83; count 57; percentile 34.97 and cache level 1.

10-II- COLOURED LEVEL

Figure(15,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 10 .This figure shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be

observed that the degradation of chromosomal colour represented yellow in small value, blue and red area .Which can be used to determine the structure of each chromosome rather than the other, The mathematical values were mean 202.71 ; standard deviation 47.35;median 228 ;pixels 1257 ; level 228 ; count 20;percentile 50.36 and cache level 1 .Which mean that RBG level more details not only on structure but also on the color small contaminated area between green and red little amount of yellow color and shadow with separated blue peaks in histogram .This results shows more component structure.

CHROMOSOME (11)

11- I- GREY LEVEL

As given in figure (16, I, A-B) the black and white photograph at grey level and elementary map for chromosome 11.The components of the chromosome histograph (peaks) have been magnified(x=500).Numerical analysis shows that mean =116.97; standard deviation= 28.40; median =117;pixels =1223; level =124; count =27;percentile =57.40 and cache level =1.

11-II- COLOURED LEVEL

Figure (16, II, A-B) shows the coloured photograph at RBG level of elementary map of chromosome 11.This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be concluded that the degradation of chromosomal colour as yellow in small value, blue and red area. This can be used to determine the structure of each chromosome rather than the other. The following mathematical values were showed mean 181.44 ; standard deviation 43.68;median 163; pixels 1038 ;level 178 ; count 17; percentile 57.55 and cache level 1 .This means that RBG level shows more details not only on the structure but also on the

shadows of RBG colours indicating on multicomponents of chromosome.

CHROMOSOME (12)

12- I- GREY LEVEL

As given in figure (17, I, A-B) the black and white photograph at grey level and elementary map of chromosome 12 showing the components of the chromosome histograph (peaks) have been magnified(x=500).The following mathematical values were as follows: mean= 119.06; standard deviation =29.82; median= 119; pixels =1543; level= 118; count =60;percentile= 49.71 and cache level 1.

12-II- COLOURED LEVEL

Figure(17,II,A-B) shows coloured photograph at RBG level of elementary map of chromosome 12 showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be observed that the degradation of chromosomal colour represented yellow in small value, blue and red area. This can be used to determine the structure of each chromosome rather than the other. The mathematical values were mean 203.72; standard deviation 42.64; median 222; pixels 1398; level 216; count 0; percentile 47.71 and cache level 1. This mean that RBG level shows more details not only on structure but also in the color clear contamination between red and green and present of yellow color in side contaminated zone ,and shadow with separated blue peaks in histogram this results shows more component structures.

CHROMOSOME (13)

13- I- GREY LEVEL

Figure (18,I,A-B) shows black and white photograph at grey level elementary map of chromosome 13 indicating many components of

chromosome 11 .The computer values were as follows: mean equal 69.87;standard deviation equal 28.43 ;median equal 67; pixels equal 1415 ; level equal 70 ; count equal 60; percentile equal 53.14 and cache level equal 1.

13-II- COLOURED LEVEL

Figure(18,II,A-B) shows the coloured photograph at RBG level elementary map of chromosome 13 observed many components of this chromosome .The mathematical values were: mean equal 201.67; standard deviation equal 47.56; median equal 226 ; pixels equal 945 ;level equal 223 ; count equal 19;percentile equal 49.52 and cache level equal 1. This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (14)

14- I- GREY LEVEL

Figure (19, I, A-B) shows the black and white photograph at grey level and elementary map for chromosome 14.This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500) .It could be concluded that the grey level of chromosome 14 numerical analysis shows that the following values: 56.06; 26.94; 53; 2109; 72; 42; 69.04 and 1; mean ; standard deviation ; median ; pixels ; level ; count ; percentile ; and cache level respectively.

14-II- COLOURED LEVEL

As given in figure(19,II,A-B) the coloured photograph at RBG level of elementary map of chromosome 14 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). In conclusion the

degradation of chromosomal colour as yellow colour in small value, blue and red area which was used to determine the structure of each chromosome rather than the other ,following mathematical values viz :mean =181.34; standard deviation =42.68; median =164 ;pixels =1472 ;level =166 ; count =38; percentile =51.77and cache level= 1.This investigation mean that RBG level more details not only on structure but also on the color as green peaks inside two blue peaks and separated red peaks in histogram this results shows more component structures.

HEXAPLOID WHEAT (*T. aestivum*)

Hexaploid wheat (DD) 2n=42chromosome, as it can be seen form Figure (4, 5) that the total number of hexaploid wheat (42 chromosome). Hexaploid wheat formed from crossing between diploid (DD) and tetraploid (AABB).

CHROMOSOME (1)

1- I- GREY LEVEL

As given in figure (20, I, A-B) the black and white photograph at grey level and elementary map of chromosome 1 shows the components of this chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500).Numerical analysis of chromosome one shows following values that: mean equal 42.87; standard deviation equal 18.48, median equal 41;pixels equal 3790;level equal 80; count equal 35; percentile equal 98.80 and cache level equal 1.

1-II- COLOURED LEVEL

The results of coloured level of chromosome number 1 are given in figure(20,II,A-B) which shows coloured photograph at RBG level of

elementary map of chromosome 1 shows many components of this chromosome after has been magnified (x=500). It can be observed that the degradation of chromosomal colour as yellow colour in small value marginal, blue inside, red and outside green area. This can be used to determine the structure of each chromosome rather than the other. The mathematical values were showed mean =82.83 ; standard deviation =40.54 ; median =81 ; pixels =2810 ;level =142 ; count =366;percentile =98.13 and cache level =1 .Which mean that RBG level more details not only on structure but also in the colour three clear distinctive peaks blue green and red in histogram this results shows more component structures.

CHROMOSOME (2)

2- I- GREY LEVEL

Figure (21,I,A-B) shows the black and white photograph at grey level and elementary map of chromosome 2 .This shows the components of this chromosome after has been magnified(x=500).Observed the following computer values: 41.93; 17.80 ; 40; 2623 ; 79 ;20,; 99.81 and 1; mean ;standard deviation ;median ; pixels ; level ;count ; percentile ;and cache level respectively.

2-II- COLOURED LEVEL

Figure(21,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 2 .This figure shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). Shows that the chromosomal colour degradation as yellow, blue, red and small green area which was used to determine the structure of each chromosome rather than the other .It could be concluded that the RBG level numerical analysis of chromosome 2 shows the following values: 192.05; 49.96 ; 195; 2051;l251; 75; 80.64 and 1; mean; standard deviation; median; pixels;

level; count; percentile and cache level respectively .Which mean that RBG level more details not only on structure but also in the colour as three clear distinctive peaks blue ,green and shadow with separated red in histogram represent more component structures.

CHROMOSOME (3)

3- I- GREY LEVEL

As given in figure (22, I, A-B) the black and white photograph at grey level and elementary map at different grey scale level as well as the chromosome structure after has been magnified(x=500).At grey level histographic presentation of chromosome three numerical analysis shows many values viz: mean =150.38; standard deviation =20.33; median =151; pixels= 3416; level =181; count =94; percentile =94.96 and cache level= 1.

3-II- COLOURED LEVEL

The results of coloured level of chromosome number 3 are given in figure(22,II,A-B)which shows the coloured photograph at RBG level of elementary map of chromosome 3 .Shows the components of the chromosome after has been magnified (x=500). It observed that the degradation of chromosomal colour between yellow, blue, red and green area. This can be used to determine the structure of each chromosome rather than the other. The mathematical values were showed mean= 196.38; standard deviation =48.27; median =197; pixels =3493; level= 236; count =66;percentile =66.87 and cache level =1.Which mean that RBG level more details not only on structure but also in the colour were three clear distinctive peaks blue, green in large area and red present of small yellow area in the beginning of green area in histogram this results shows more component structures.

CHROMOSOME (4)

4- I- GREY LEVEL

Figure (23, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 4 .This shows the components of the chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500).It can be concluded that numerical analysis of chromosome 4 at grey level shows the following values: mean equal 51.42; standard deviation equal 20.17;median equal 49;pixels equal 3420; level equal 87; count equal 91; percentile equal 97.35 and cache level equal 1.

4-II- COLOURED LEVEL

Figure(23,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 4 .This figure shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It can be observed that the degradation of chromosomal colour represented yellow, blue, red and green area which can be used to determine the structure of each chromosome rather than the other. The mathematical values were: mean =185.44; standard deviation =36.50; median= 179; pixels =2401; level= 238; count= 54; percentile =80.54 and cache level =1 .This mean that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponents of chromsome4.

CHROMOSOME (5)

5- I- GREY LEVEL

As given in figure (24,I,A-B) the black and white photograph at grey level and elementary map of chromosome 5 .The components of this chromosome histograph (peaks) have been magnified(x=500) .The

following computer values were as follow: mean equal128.30 ;standard deviation equal21.43;median equal129 ; pixels equal2989; level equal161 ; count equal 86; percentile equal 95.86 and cache level equal 1.

5-II- COLOURED LEVEL

Figure(24,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 5 .This shows the components of the chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It can be represented that two distinctive arm of chromosome and centromer position able to detected and the degradation of chromosomal color represented as yellow, blue ,red and green area .This can be used to determine the structure of each chromosome.Given the following values were: mean= 181.82 ; standard deviation =43.05 ; median =154 ; pixels 2420;level 236 ;count 41;percentile70.61 and cache level 1 .This mean that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponent structures .

CHROMOSOME (6)

6- I- GREY LEVEL

The results of grey level of chromosome number 6 are given in figure (25, I, A-B) which shows the black and white photograph at grey level and elementary map of chromosome 6 at different grey scale level as well as the chromosome structure after has been magnified(x=500). Numerical analysis of chromosome 6 given the following values: mean equal 72.12, standard deviation equal 22.46, median equal 72, pixels equal 2380, level equal 248, count equal 0, percentile equal 100.00 and cache level equal 1.

6-II- COLOURED LEVEL

As given in figure (25, II, A-B) the coloured photograph at RBG level of elementary map of chromosome 6 .This figure shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It observed that the degradation of chromosomal colour represented yellow, blue, red and green area which can be used to determine the structure of each chromosome rather than the other. It concluded that the following values mean= 188.34 ; standard deviation =50.51 ; median =185 ; pixels =1964; level =205; count =20; percentile= 56.72 and cache level =1 .Which mean that RBG level more details not only on structure but also in the colour as three clear distinctive green blue , and red peaks present in histogram this results shows more component structures.

CHROMOSOME (7)

7- I- GREY LEVEL

Figure (26, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 7 .This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500). It can be seen that at grey level the chromosome number 7 numerical analysis shows that mean= 43.33;standard deviation =20.93; median 41;pixels= 2925; level =89; count= 10; percentile =99.91 and cache level =1.

7-II- COLOURED LEVEL

Figure(26,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 7 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). Can be seen that colour degradation gives more component structures as yellow, blue, red

and green area. This can be used to determine the structure of each chromosome rather than the other. Gives the following computer values: mean =178.42; standard deviation =48.39;median= 153; pixels =2633; level =242; count =128; percentile =88.49 and cache level= 1 .Which mean that RBG level more details not only on structure but also in the colour were small contaminated area between blue and green peaks, and red present in right side in histogram this results shows more component structures.

CHROMOSOME (8)

8- I- GREY LEVEL

As given in figure (27, I, A-B) the black and white photograph at grey level and elementary map at different grey scale level as well as the chromosome structure after has been magnified(x=500). The grey level of chromosome eight numerical analysis shows many mathematical values were: mean equal136.84; standard deviation equal 23.29; median equal 137; pixels equal 3555; level equal 143; count equal 144; percentile equal 57.56 and cache level equal 1.

8-II- COLOURED LEVEL

The results of coloured level of chromosome number 8 given in figure(27,II,A-B) which shows coloured photograph at RBG level of elementary map of chromosome 8 .This figure shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It observed that the degradation of chromosomal colour as yellow, blue , red and green area which can be used to determine the structure of each chromosome rather than the other. Many values viz: mean =179.76; standard deviation =48.89; median=155 ; pixels =2682; level =252; count =106; percentile =96.25 and cache level 1.This values shows that the different colour in the RBG photograph reflects many chromosomal components.

CHROMOSOME (9)

9- I- GREY LEVEL

Figure (28, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 9 .This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It could be concluded that the grey level of chromosome 9 numerical analysis shows that mean =30.03; standard deviation =19.27; median =28; pixels =4901; level =74; count =35; percentile =99.87 and cache level =1.

9-II- COLOURED LEVEL

The results of coloured level of chromosome number 9 are given in figure(28,II,A-B)which shows the coloured photograph at RBG level of elementary map of chromosome 9 which the components of the chromosome 9 after has been magnified (x=500). Observed that the degradation of chromosomal colour represented yellow, blue , red and green area which can be used to determine the structure of each chromosome rather than the other .The mathematical values were showed that 184.46; 39.34 ;171 ; 2729; 231; 40; 72.97 and 1; mean ; standard deviation ; median ; pixels ; level ;count ; percentile and cache level respectively .Which mean that RBG level more details not only on structure but also in the colour as small green peaks present inside large blue one, and red present in right side in histogram which represent more component structures.

CHROMOSOME (10)

10- I- GREY LEVEL

Figure (29, I, A-B) shows black and white photograph at grey level and elementary map of chromosome 10 indicating many components of the chromosome 10 after has been magnified(x=500). Numerical analysis shows that 51.10; 21.25; 49; 4040; 159; 0; 100.00 and 1; means ; standard

deviation ; median ; pixels ; level ; count ; percentile and cache level respectively.

10-II- COLOURED LEVEL

Figure (29, II, A-B) shows the coloured photograph at RBG level of elementary map of chromosome 10 indicating many components of this chromosome which has been magnified (x=500).The computer values were: mean =178.61, standard deviation =47.70, median =154, pixels =2725, level =246, count =77, percentile =94.24 and cache level =1.This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (11)

11- I- GREY LEVEL

As given in figure (30,I,A-B) shows the black and white photograph at grey level and elementary map of chromosome 11 .This shows the components of the chromosome11 histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500) .Indicating that at grey level of chromosome 11 numerical analysis shows that many mathematical values: mean = 67.24 ;standard deviation= 23.38 ,median =67 ;pixels= 3688 ;level =103 ;count= 141; percentile =93.99 and cache level =1.

11-II- COLOURED LEVEL

The results of coloured photograph of chromosome number 11 are given in figure (30, II, A-B) shows the coloured photograph at RBG level of elementary map of chromosome 11 observed many components of this chromosome after has been magnified (x=500).The degradation chromosomal colour represented yellow, blue , red and green area which can be used to determine the structure of each chromosome rather than the other. The mathematical values were as follow: mean equal 179.16 ;

standard deviation equal 47.13; median equal 156 ; pixels equal 3597 ; level equal 241 ;count equal 1945; percentile equal 88.93 and cache level equal 1 ,which mean that RBG level more details not only on structure but also on the colour contaminated area between blue and green peaks , and shadow with separated red present in right side in histogram represented more component structures.

CHROMOSOME (12)

12- I- GREY LEVEL

Figure (31,I,A-B) shows the black and white photograph at grey level and elementary map of chromosome 12 .This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It can be seen that at grey level the chromosome number 12 numerical analysis shows that mean = 44.51 ;standard deviation =21.68 ;median =43 ; pixels =4132 ; level= 85 ;count =68 ; percentile =99.28 and cache level =1.

12-II- COLOURED LEVEL

Figure(31,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 12 after has been magnified (x=500). The chromosomal colour degradation give information that yellow, blue, red and green area this can be used to determine the structure of each chromosome rather than the other. It can be seen the following values: mean equal179.33; standard deviation equal 46.80 ; median equal156 ; pixels equal 2732 ; level equal 152;count equal 236; percentile equal 46.00 and cache level equal 1 .This means that RBG level shows more details not only on structure but also on the shadows of RBG colour indicating on multicomponents structures.

CHROMOSOME (13)

13- I- GREY LEVEL

As given in figure (32,I,A-B) Showing black and white photograph at grey level and elementary map at different grey scale level as well as the chromosome structure after has been magnified(x=500) .The chromosome 13 numerical analysis shows many values viz: mean = 110.59 ,standard deviation=22.38;median=111;pixels=3877;level=143;count =168;percentile =93.66 and cache level =1.

13-II- COLOURED LEVEL

The results of coloured level chromosome number 13are given in figure(32,II,A-B) which shows coloured photograph at RBG level of elementary map of chromosome 13 Showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It observed that the degradation of chromosomal colour as yellow, blue, red and green area .Which can be used to determine the structure of each chromosome rather than the other. The mathematical values were showed mean equal 179.30 ;standard deviation equal 47.77 ; median equal 156 ; pixels equal 3550; level equal 234; count equal 0; percentile equal 66.67 and cache level equal 1 .Which mean that RBG level more details not only on structure but also on the colour as small contaminated area between blue and green peaks , and shadow with separated red peak present in right side in histogram represented more component structures .

CHROMOSOME (14)

14- I- GREY LEVEL

The results of the grey level of chromosome 14 are showed in figure (33,I,A-B)which shows the black and white photograph at grey level and

elementary map of chromosome 14 indicates many components of this chromosome .It can be concluded that at grey level of chromosome 14 numerical analysis shows the following values: 41.00; 21.32; 40; 4166;78;96; 98.55 and 1;mean ; standard deviation ; median ; pixels ; level ;count ; percentile and cache level respectively.

14-II- COLOURED LEVEL

As given in figure(33,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome14 which shows many components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). In conclusion the degradation of chromosomal colour represented as yellow, blue , red and green area which can be used to determine the structure of each chromosome rather than the other, it can be seen that the mean =179.02 ; standard deviation =47.99; median =155 ;pixels =3276;level= 249; count =100; percentile=95.77 and cache level=1 .This investigation mean that RBG level shows more details not only on structure but also on the colour as small contaminated area between blue and green peaks , and shadows with separated red peaks present in right side in histogram which represented more component structures.

CHROMOSOME (15)

15- I- GREY LEVEL

Figure (34, I, A-B) shows the black and white photograph at grey level and elementary map for chromosome 15 .This shows the components of the chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500) .It can be seen that at grey level the chromosome number 15 numerical analysis shows that mean =75.28;

standard deviation =22.44;median= 75; pixels =3560; level =110;count =130;percentile =94.63 and cache level =1.

15-II- COLOURED LEVEL

Figure (34, II, A-B) shows the coloured photograph at RBG level elementary map of chromosome 15 .This indicated many components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500).Numerical analysis shows the following mathematical values were showed mean equal 181.03, standard deviation equal 43. 90 , median equal 154 , pixels equal 2855, level equal 166, count equal 12, percentile equal 55.73 and cache level equal 1.This means that RBG level shows more details not only on the structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 15.

CHROMOSOME (16)

16- I- GREY LEVEL

Figure (35, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 16 .This shows the components of this chromosome 16 after has been magnified(x=500) .Numerical analysis of this chromosome at grey level shows the following values viz: mean equal 64.00; standard deviation equal 22.01; median equal 62; pixels equal 2636; level equal 104; count equal 78; percentile equal 98.34 and cache level equal 1.

16-II- COLOURED LEVEL

As given in figure(35,II,A-B) which shows the coloured photograph at RBG level for elementary map of chromosome 16 .Indicating many components of this chromosome after has been magnified (x=500). The degradation in chromosomal colour represented blue inside, red and outside

yellow and green area. It can be seen also the following mathematical values: mean =182.40; standard deviation =42.08;median=159 ; pixels =1721 ; level= 239; count =29 ; percentile =74.39 and cache level =1 .Which mean that RBG level more details not only on structure but also in the color as green peaks between two blue one and shadow with separated red in histogram .This results shows more component structures.

CHROMOSOME (17)

17- I- GREY LEVEL

Figure (36, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 17 .This shows many components of this chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500).Histographic presentation at grey level of chromosome 17 numerical analysis shows that mean =56.95;standard deviation =21.15 ;median =57; pixels= 3917 ; level =89 ;count =156;percentile =93.70 and cache level =1.

17-II- COLOURED LEVEL

The results of coloured level of chromosome number 17 given in figure(36,II,A-B) the coloured photograph at RBG level for elementary map of chromosome 17 .It observed many components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). The degradation of chromosomal colour represented as yellow, blue, red and green area easily detected to centromer position .Which can be used for determine the structure of each chromosome rather than the other .The computer values were showed 182.08 ; 42.63 ; 156 ; 2981; 182 ; 50; 59.92 and 1 ;mean ; standard deviation ; median ; pixels ; level ; count ; percentile and cache level

respectively. This means that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponents of chromsome17.

CHROMOSOME (18)

18- I- GREY LEVEL

As given in figure (37, I, A-B) the black and white photograph at grey level and elementary map of chromosome 18.The component of the chromosome histograph (peaks) have been magnified(x=500).The following mathematical values were as follows: 86.43; 22.42; 86; 3438;123; 133; 97.75 and 1; mean ; standard deviation; median ; pixels ; level ; count ;percentile and cache level respectively.

18-II- COLOURED LEVEL

Figure(37,II,A-B) shows the coloured photograph at RBG level for elementary map of chromosome 18 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It can be represented that the degradation in chromosomal colour as yellow, blue ,red and green area .Which can be used for determine the structure of each chromosome rather than the other. The following mathematical values shows: mean=184.93 ; standard deviation=37.88;median=17 6;pixels =2496;level =238;count =46; percentile =79.10 and cache level =1 .This values shows that the different colour in RBG photograph reflects many chromosomal components.

CHROMOSOME (19)

19- I- GREY LEVEL

Figure (38, I, A-B) shows the black and white photograph at grey level and elementary map of chromosome 19 .The components of the

chromosome histograph (peaks) have been magnified(x=500).Following mathematical values viz: mean equal 92.12, standard deviation equal 22.55, median equal 92, pixels equal 2578, level equal 123, count equal 117, percentile equal 90.42 and cache level equal 1.

19-II- COLOURED LEVEL

As given in figure(38,II,A-B)the coloured photograph at RBG level elementary map of chromosome 19 .This shows many components of the chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). .It is observed that the degradation of chromosomal colour represented as yellow, blue, red and green area which can be used to determine the structure of each chromosome rather than the other. The numerical analysis shows the following values: mean equal 179.19; standard deviation equal 48.50;median equal 155; pixels equal 2428;level equal 248; count equal 102; percentile equal 93.73 and cache level equal 1.Which mean that RBG level more details not only on structure but also in the colour as small contamination between blue and green peaks and shadow with separated red peak in histogram. This represents more component structures.

CHROMOSOME (20)

20- I- GREY LEVEL

Figure (39,I,A-B) shows the black and white photograph at grey level elementary map of chromosome 20 indicating many components of this chromosome which have been magnified(x=500) .In conclusion the numerical analysis of chromosome 20 at grey level shows that mean equal 42.36;standered deviation equal 21.70;median equal 40; pixels equal 3459 ; level equal 82; count equal 114;percentile equal 98.28 and cache level equal 1.

20-II- COLOURED LEVEL

As given in figure(39,II,A-B) the coloured photograph at RBG level elementary map of chromosome 20 .This shows the components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). In conclusion two distinctive arm of chromosome and centromer position able to detect and the degradation of chromosomal colour represented yellow, blue , red and green area .Which was used for determine the structure of each chromosome rather than the other. It can be seen following computer values viz: mean =179.06; standard deviation =47.29; median =156 ; pixels= 2662; level =242 ; count =108; percentile =90.25 and cache level 1 .This investigation mean that RBG level more details on structure shows as contamination between blue and green peaks and shadow with separated red peak in histogram. This represents more component structures.

CHROMOSOME (21)

21- I- GREY LEVEL

Figure (40, I, A-B) shows the black and white photograph at grey level elementary map for chromosome 21 .This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500) .It can be seen that at grey level chromosome number 21 numerical analysis gives mean equal 133.40;standard deviation equal 22.07;median equal 134;pixel equal 3374;level equal 166;count equal 129;percentile equal 95.41 and cache level equal 1.

21-II- COLOURED LEVEL

Figure(40,II,A-B) shows the coloured photograph at RBG level elementary map of chromosome 21 .This shows the components of the chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). The degradation of

chromosomal colour represented yellow, blue , red and green and easily detected to centromer position .This can be used to determine the structure of each chromosome.It can be seen the following values: mean=207.73;standard deviation=44.52; median=233;pixels =3729;level=250; count=119;percentile=80.41 and cache level=1 .Which mean that RBG level more details not only on structure but also in the color as contamination between red and green and presence of yellow color and clear separated blue peaks present in histogram. This shows more component structures.

CHROMOSOME (22)

22- I- GREY LEVEL

As given in figure (41, I, A-B) the black and white photograph at grey level elementary map of chromosome 22 shows the components of this chromosome after has been magnified(x=500).Numerical analysis of chromosome number 22 shows many values viz; mean equal 43.95;standard deviation equal 21.67;median equal 42;pixels equal 3452; level equal 85;count equal 44;percentile equal 99.29 and cache level equal 1.

22-II- COLOURED LEVEL

The results of coloured level of chromosome number 22 are given in figure(41,II,A-B)which shows the coloured photograph at RBG level elementary map of chromosome 22 .This shows the components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It is observed the mathematical values were showed mean=179.07; standard deviation=48.39;median=155; pixels=2666; level=249;count=81 ; percentile=95.00 and cache level=1.This means that RBG level shows more details not only on

structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 22.

CHROMOSOME (23)

23- I- GREY LEVEL

Figure (42, I, A-B)shows the black and white photograph at grey level elementary map of chromosome 23 indicating many components of chromosome23 after has been magnified(x=500).The mathematical values were follow: mean=45.91;standard deviation=21.33;median=44, pixels=3733;level=88;count=30;percentile=99.59 and cache level 1.

23-II- COLOURED LEVEL

Figure(42,II,A-B)shows the coloured photograph at RBG level elementary map of chromosome 23 .This shows the components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500). The computer values were as follows: mean equal 180.22; standard deviation equal 49.16; median equal 155; pixels equal 2906;level equal 249;count equal 96;percentile equal 92.14 and cache level equal 1 .This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (24)

24- I- GREY LEVEL

As given in figure (43, I, A-B) the black and white photograph at grey level elementary map of chromosome 24 at different grey scale level as well as the chromosome structure after has been magnified(x=500). Numerical analysis of chromosome24 at grey level shows many values viz. mean=88.62; standard deviation=21.96; median=89;pixels=3514; level=127;count=44;percentile=99.64 and cache level=1.

24-II- COLOURED LEVEL

The results of coloured level of chromosome 24 are given in figure(43,II,A-B)which shows the coloured photograph at RBG level elementary map chromosome 24 .Showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500 seen). It observed that the degradation of chromosomal colour represented yellow, blue , red and green area .Which can be used to determine the structure of each chromosome rather than the other .The computer values shows many values viz. mean=185.16;standard deviation=35.60;median=183; pixels=2528;level=239;count=48;percentile=83.23 and cache level=1 .Which mean that RBG level more details not only on structure but also on the colour the small contamination at the end of blue one, and shadow with separated red present in right side in histogram .This represent more component structures.

CHROMOSOME (25)

25- I- GREY LEVEL

Figure (44, I, A-B)shows the black and white photograph at grey level and elementary map for chromosome 25.This shows the components of the chromosome 25 histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It could be concluded that at grey level chromosome25 numerical analysis shows that mean 98.30; 22.10; 98; 3643; 123; 129,; 83.23 and cache level 1;mean ; standard deviation ;median ; pixels ; level ; count ; percentile and cache level respectively.

25-II- COLOURED LEVEL

As given in figure(44,II,A-B) the coloured photograph at RBG level elementary map of chromosome 25 .This shows many components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It concluded that The degradation of chromosomal colour represented yellow, blue , red and green area .Which can be used to determine the structure of each chromosome rather than the other.The mathematical values were showed mean=78.98; standard deviation=46.25; median=53; pixels=3069;level=142 ;count=210; percentile=86.83 and cache level=1 .This means that RBG level shows more details not only on the structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 25.

CHROMOSOME (26)

26- I- GREY LEVEL

Figure (45,I,A-B) shows the black and white photograph at grey level elementary map of chromosome 26 .This shows the components of the chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500).Numerical analysis of chromosome 26 at grey shows that mean equal 141.73;standard deviation equal 22.05;median equal 143; pixels equal 4971; level equal 158;count equal 193; percentile equal 71.08 and cache level equal 1.

26-II- COLOURED LEVEL

As given in figure(45,II,A-B) the coloured photograph at RBG level elementary map of chromosome 26 shows the components of this chromosome after has been magnified (x=500).It can be represented that the degradation of chromosomal color represented yellow, blue , red and

green area clear position of centromer. Which can be used to determine the structure of each chromosome rather than the other. It concluded many mathematical values were: mean=179.38;standard deviation=45.91;median=155;pixels=3991;level=179;count=64;percentile=64.61 and cache level=1,This mean that RBG level more details not only on structure but also in colour as green peak inside blue one, and shadow with separated red thin peak present in right side in histogram. Which represent more component structures.

CHROMOSOME (27)

27- I- GREY LEVEL

As given in figure (46,I,A-B) the black and white photograph at grey level elementary map of chromosome 27 indicating many components of this chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500). Showing that at grey level chromosome 27 numerical analysis shows that mean=76.61; standard deviation =22.89; median= 76; pixels =3241; level =117; count =33; percentile =99.42 and cache level 1.

27-II- COLOURED LEVEL

Figure (46, II, A-B) shows the coloured photograph at RBG level of elementary map and chromosome 27 after has been magnified (x=500). It can be observed that the degradation of chromosomal colour represented yellow, blue, red and green area .Which can be used to determine the structure of each chromosome rather than the other. The mathematical values were mean=179.37; standard deviation=45.99; median=155; pixels=2879; level =242; count=144; percentile=94.50 and cache level=1 .Which mean that RBG level more details not only on structure but also in the colour as green peaks inside blue one and shadow with separated red

one in right side in histogram,.This results shows more components structures.

CHROMOSOME (28)

28- I- GREY LEVEL

Figure (47,I,A-B) shows the black and white photograph at grey level and elementary map for chromosome 28 indicating many components of chromosome 28 after has been magnified(x=500) .the values were as follows: mean =48.05;standard deviation= 21.88 ;median =46; pixels =4017 ;level =77; count=133;percentile=87.24 and cache level=1.

28-II- COLOURED LEVEL

Figure(47,II,A-B) shows the coloured photograph at RBG level of elementary map and chromosome 28 indicating of components this chromsome after has been magnified (x=500). The computer values were as follows mean =194.42; standard deviation =49.55; median =201; pixels =3476; level =225;count =63;percentile= 62.71 and cache level 1 .This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (29)

29- I- GREY LEVEL

Figure (48,I,A-B)shows black and white photograph at grey level and elementary map for chromosome 29 indicating many components of chromosome 29 at different grey scale level after has been magnified(x=500).Numerical analysis of chromosome 29 at grey level shows that mean =67.34 ;standard deviation =21.43;median =66 ;pixels =3863; level =96; count =141;percentile =88.27 and cache level =1.

29-II- COLOURED LEVEL

Figure (48,II,A-B)shows the coloured photograph at RBG level elementary map of chromosome 29 which indicating many components this chromosome .The computer values were as follows: mean =179.81; standard deviation =48.90; median =155; pixels =3456 ; level =252; count =141; percentile =96.29 and cache level =1 .This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (30)

30- I- GREY LEVEL

As given in figure (49, I, A-B) the black and white photograph at grey level elementary map of chromosome 30.This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It could be concluded that grey level of chromosome number 30 that numerical analysis shows the following values: 60.89; 22.11; 60; 4156; 75; 158, 69.67 and 1for mean ; standard deviation ; median ; pixels ; level ; count ; percentile and cache level respectively.

30-II- COLOURED LEVEL

The results of coloured level of chromosome 30 are given in figure(49,II,A-B) which shows the coloured photograph at RBG level elementary map of chromosome 30 .Which indicating many components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be seen that the degradation of chromosomal colour represented yellow, blue , red and green area. This can be used to determine the structure of each chromosome rather than the other. It could be observed that the following values viz: mean equal 179.62; standard deviation equal 48.87; median

equal 155 , pixels equal 3660;level equal 185; count equal 11; percentile equal 61.38 and cache level equal 1 .This means that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 30.

CHROMOSOME (31)

31- I- GREY LEVEL

Figure (50, I, A-B) shows the black and white photograph at grey level elementary map of chromosome 31 .This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It can be seen that at grey level of chromosome 31 numerical analysis shows the following mathematical values: mean =86.22; standard deviation= 22.41; median =86;pixels =4101;level =108;count =154;percentile =78.80 and cache level 1.

31-II- COLOURED LEVEL

Figure(50,II,A-B) shows the coloured photograph at RBG level of elementary map of chromosome 31 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500). It can be seen that the degradation of chromosomal colour as yellow, blue , red and green area and .This can be used to determine the structure of each chromosome. It can be observed the following values: mean equal179.02, standard deviation equal 47.84, median equal 155, pixels equal 3674, level equal 243, count equal 108, percentile equal 90.23 and cache level equal 1.Which mean that RBG level more details not only on structure but also on the colour as small contamination between blue and green in fixed area and shadow with

separated red present in right side in histogram. This represents more component structures.

CHROMOSOME (32)

32- I- GREY LEVEL

As given in figure (51, I, A-B) the black and white photograph at grey level elementary map of chromosome 32 .This shows the components of this chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500) .At grey level of chromosome 32 numerical analysis shows this computer values: mean= 175.37;standard deviation =20.88;median =177;pixels =4809;level =192;count =256; percentile= 72.95 and cache level =1.

32-II- COLOURED LEVEL

The results of coloured level of chromosome 32 are given in figure(51,II,A-B)which shows the coloured photograph at RBG level of elementary map and chromosome 32 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It observed that the degradation of chromosomal colour represented yellow, blue , red and green area .Which can be used for determine the structure of each chromosome . The mathematical values were showed mean equal 196.76; standard deviation equal 49.35; median equal 205; pixels equal 2823; level equal 21; count equal 19; percentile equal 53.78 and cache level equal 1 .Which mean that RBG level more details not only on structure but also in the colour as three clear distinctive peaks blue, green and shadow with red in histogram. This represents more component structures.

CHROMOSOME (33)

33- I- GREY LEVEL

Figure (52, I, A-B) shows the black and white photograph at grey level elementary map of chromosome 33 .This shows the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500). It could be concluded that at grey level of chromosome number 33 numerical analysis shows that 92.80 ; 20.86; 92; 4131; 204; 0; 100.00 and 1for mean ;standard deviation ; median ; pixels ; level ; count ; percentile and cache level respectively.

33-II- COLOURED LEVEL

As given in figure(52,II,A-B)shows the coloured photograph at RBG level elementary map of chromosome 33 .This shows the components of this chromosome after has been magnified (x=500).In conclusion the degradation of chromosomal colour represented yellow, blue , red and green area and distinctive centromer position. Which was used to determine the structure of each chromosome rather than the other, following mathematical values viz. mean =178.90; standard deviation =48.27; median =155 ; pixels =3703; level= 187;count= 25;percentile =64.22 and cache level =1 .This investigation mean that RBG level more details on structure shows small contamination between blue and green in fixed area and red present in right side in histogram .This represents more component structures .

CHROMOSOME (34)

34- I- GREY LEVEL

The results of grey level of chromosome number 34 are given in figure (53, I, A-B)which shows black and white photograph .This shows

the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500,) .This figure shows that at grey level of chromosome 34 numerical analysis shows the following computer values: mean equal 60.17;standard deviation equal 20.91;median equal 59; pixels equal 4368; level equal 71;count equal 164; percentile equal 66.99 and cache level equal 1.

34-II- COLOURED LEVEL

Figure(53,II,A-B)shows the coloured photograph at RBG level elementary map of chromosome 34 at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be observed that the degradation of chromosomal color represented yellow, blue , red and green area and appear of centromer position which can be used for determine the structure . The mathematical values were: 204.74; 47.32;228; 4214; 249;184; 74.53 and 1 for mean ; standard deviation ; median ; pixels ; level ; count ; percentile and cache level respectively. Shows details not only on structure but also on colour as blue and green shadow with separated red.This results shows more components structure.

CHROMOSOME (35)

35- I- GREY LEVEL

Figure (54, I, A-B) shows black and white photograph at grey level elementary map of chromosome 35 indicating many components of this chromosome after has been magnified(x=500) .Numerical analysis were as follows :mean =115.79; standard deviation =22.63;median =117;pixels =2486; level =142; count= 100;percentile= 84.77 and cache level 1.

35-II- COLOURED LEVEL

Figure(54,II,A-B) shows the coloured photograph at RBG level elementary map of chromosome 35 indicating many components of this chromosome which has been magnified (x=500).The computer values were as follows: mean= 178.86; standard deviation =48.27; median =155 ;pixels=2152;level =245;count =58; percentile =91.45 and cache level= 1 .This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (36)

36- I- GREY LEVEL

Figure (55, I, A-B) shows the black and white photograph at grey level and elementary map for chromosome 36 .The components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500) .The following numerical values were as follows: mean 38.99; standered deviation 20.61;median 36; pixels 4297;level 49; count 163;percentile 67.86 and cache level 1.

36-II- COLOURED LEVEL

As given in figure(55,II,A-B) shows the coloured photograph at RBG level of elementary map and chromosome 36 indicating many the components of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500).The mathematical values were as follows: mean =179.09, standard deviation =48.05 , median =156 , pixels =2858, level= 249, count =99, percentile =95.59 and cache level =1.This values shows that the different colours in the RBG photograph reflects many chromosomal components.

CHROMOSOME (37)

37- I- GREY LEVEL

The results of grey level of chromosome number 37 are given in figure (56, I, A-B) which shows the black and white photograph at grey level elementary map of chromosome 37 indicating many components of this chromosome after has been magnified(x=500) .It can be seen that at grey level chromosome 37 numerical analysis shows many values viz. mean =56.51, standard deviation= 22.35, median=54, pixels =8238, level =86, count =266, percentile =87.09 and cache level =1.

37-II- COLOURED LEVEL

Figure(56,II,A-B) Showing coloured photograph at RBG level of elementary map and chromosome 37 shows the components of this chromosome which has been magnified (x=500).The degradation of chromosomal color represented yellow, blue , red and green area and can be used for determine the structure of each chromosome rather than the other, it can be seen that the mean 179.62 , standard deviation 48.87 , median 155 , pixels 3660, level 185, count 11, percentile 61.38 and cache level 1.This means that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 37.

CHROMOSOME (38)

38- I- GREY LEVEL

As given in figure (57, I, A-B) which shows black and white photograph at grey level elementary map of chromosome 38 at different grey scale level as well as the chromosome structure after has been magnified(x=500). Numerical analysis shows the following computer

values: mean =59.33; standard deviation= 22.16; median =57; pixels =7712; level =75; count =284; percentile =73.34 and cache level =1.

38-II- COLOURED LEVEL

Figure(57,II,A-B) Shows coloured photograph at RBG level of elementary map of chromosome 38 indicating many the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be seen that the degradation of chromosomal color represented yellow, blue , red and green area and can be used for determine the structure of each chromosome rather than the other, it can be seen that the mean 179.66 , standard deviation 45.47 , median 155 , pixels 5422, level 158, count 88, percentile 52.59 and cache level 1 .This investigation mean that RBG level more details not only on structure but also in the colour as small green peaks inside blue one and green in fixed area and shadow with separated red present in right side in histogram .This represents more component structures.

CHROMOSOME (39)

39- I- GREY LEVEL

Figure (58, I, A-B) shows the black and white photograph at grey level elementary map of chromosome 39 showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500).It can be seen that at grey level chromosome 39 numerical analysis shows many values viz. mean equal 54.76;standard deviation equal 20.11; median equal 53; pixels equal 4194; level equal 81; count equal 159;percentile equal 88.05 and cache level equal 1.

39-II- COLOURED LEVEL

The results of colorued level of chromosome number 39 are given in figure(58,II,A-B) which shows the coloured photograph at RBG level elementary map of chromosome 39 at different RBG scale level as well as the chromosome structure after has been magnified (x=500).The degradation in chromosomal colour represented yellow, blue , red and green area and which can be used to determine the structure of each chromosome . It could be concluded the following mathematical values: mean =181.93;standered deviation 43.14; median =154; pixels =3219; level =136;count =38;percentile =10.21 and cache level =1 .This means that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 39.

CHROMOSOME (40)

40- I- GREY LEVEL

As given in figure (59, I, A-B) which shows black and white photograph at grey level elementary map of chromosome 40 indicating many components of this chromosome after has been magnified(x=500). It can be seen that at grey level chromosome 40 numerical analysis shows that 38.98; 19.70; 36; 3617; 55..55;130; 1.20 and 1 for mean ; standered deviation ; median ;pixels ; level ; count ; percentile and cache level respectively.

40-II- COLOURED LEVEL

Figure(59,II,A-B) shows the coloured photograph at RBG level elementary map of chromosome 40 .This shows the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified (x=500).In conclusion the degradation of chromosomal colour represented yellow, blue , red and

green area which was be used to determine the structure of each chromosome rather than the other. It can be seen following mathematical values : mean =182.13 ;standard deviation =49.89; median =162; pixels =2615;level= =155;count= 48; percentile =46.96 and cache level= 1.This investigation means that RBG level more details not only on structure but also on the colour as three distinctive separated peaks blue ,green and red in histogram ,represent more component structures.

CHROMOSOME (41)

41- I- GREY LEVEL

As given in figure (60, I, A-B) which shows the black and white photograph at grey level and elementary map for chromosome 41.Which shows the components of this chromosome at different grey scale level as well as the chromosome structure after has been magnified(x=500). Numerical analysis shows that mean =87.46;standard deviation =21.87; median= 87; pixels= 4187; level =82;count =171;percentile= 44.48 and cache level= 1.

41-II- COLOURED LEVEL

The results of coloured level of chromosome 41 are given in figure(60,II,A-B) shows coloured photograph at RBG level of elementary map of this chromosome at different RBG scale level as well as the chromosome structure after has been magnified (x=500).It can be seen that the degradation of chromosomal colour represented yellow, blue , red and green area and can be used for determine the structure of each chromosome rather than the other, it can be seen that the mean equal 184.56 ;standard deviation equal 50.21 , median equal 169 , pixels equal 3607, level equal 165, count equal 20, percentile equal 54.43 sand cache level equal 1 .Which mean that RBG level more details not only on structure but also on

the colour as three clear distinctive separated peak blue ,green and redin histogram .This represents more component structures.

CHROMOSOME (42)

42- I- GREY LEVEL

Figure (61, I, A-B) shows black and white photograph at grey level and elementary map for chromosome 42 indicating many components of this chromosome after has been magnified(x=500) .The computer values were as follows: that mean equal 33.50;standered deviation equal 18.82; median equal 31; pixels equal 7558; level equal 37;count equal 372, percentile equal 60.40 and cache level equal 1.

42-II- COLOURED LEVEL

As given in figure(61,II,A-B) which shows the coloured photograph at RBG level elementary map of chromosome 42 .This shows the components of the chromosome 42 at different RBG scale level as well as the chromosome structure after has been magnified (x=500). The degradation of chromosomal colour represented yellow, blue, red and green area .Which can be used for determine the structure of each chromosome. It can be seen following mathematical values viz. mean =185.89; standard deviation =50.54; median= 178; pixels =3671; level =186; count =46, percentile =52.82 and cache level= 1. This means that RBG level shows more details not only on structure but also on the shadows of RBG colours indicating on multicomponents of chromosome 42.

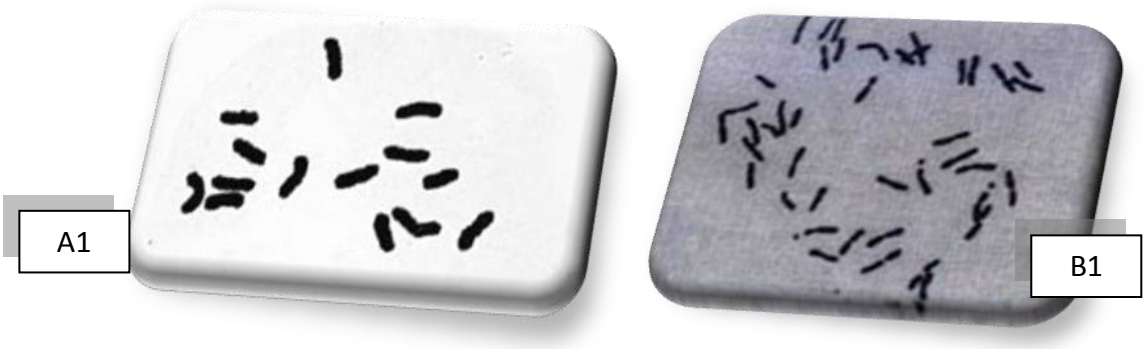
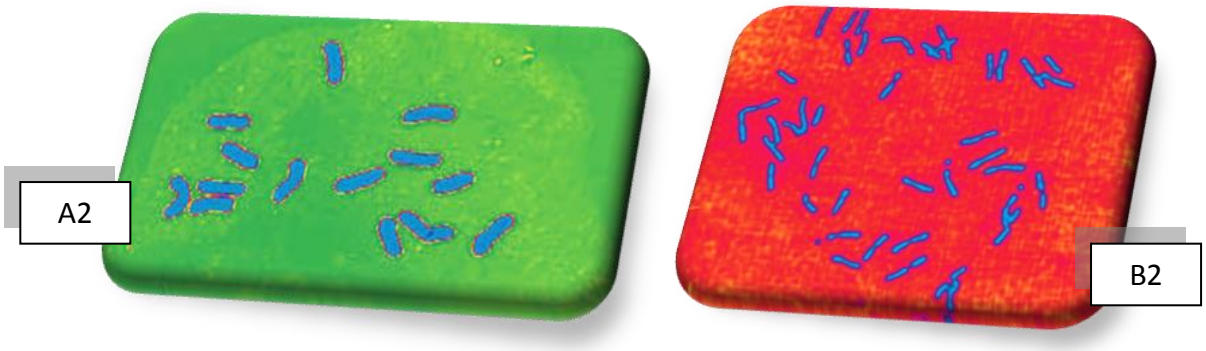


Figure 4: Classification of wheat according to chromosomes number at grey level

A1: Diplid wheat at grey level B1: Hexaploidiplod wheat at grey level



Figur5: Classification of wheat according to chromosomes number at RBG level

A2: Diplid wheat at RBG level B2: Hexaploidiplod wheat at RBG level

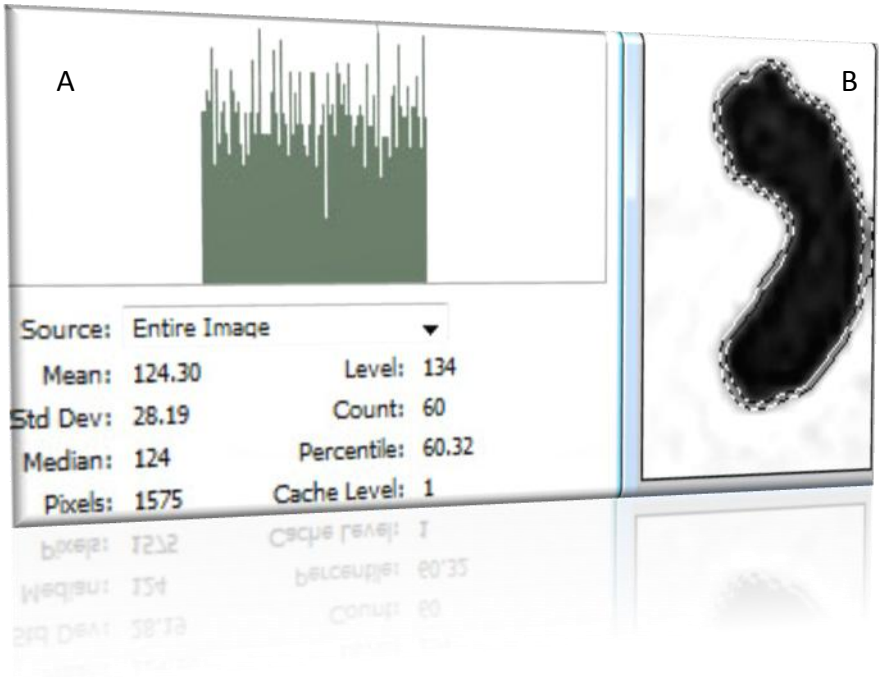


Figure (6_I): Photograph at grey level of elementary map (A)and chromosome1(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

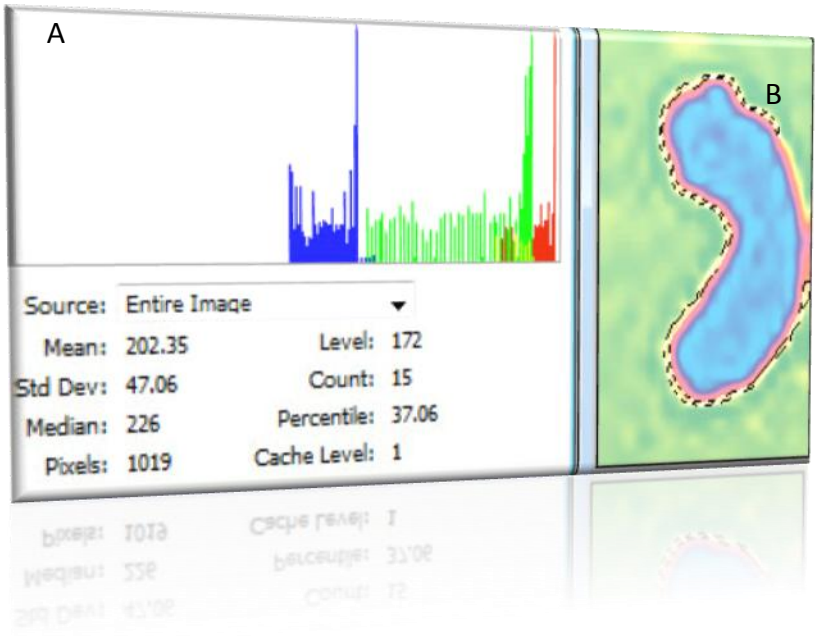


Figure (6_II): Photograph at RBG level of elementary map (A)and chromosome 1(B) indicating the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

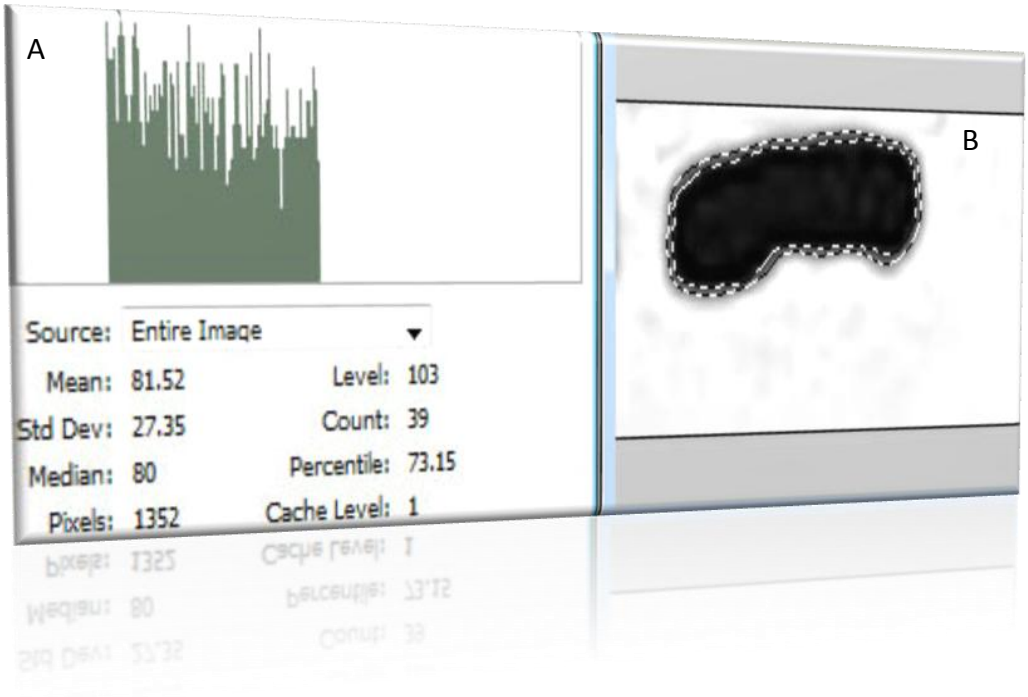


Figure (7_I): Photograph at grey level of elementary map (A)and chromosome 2(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

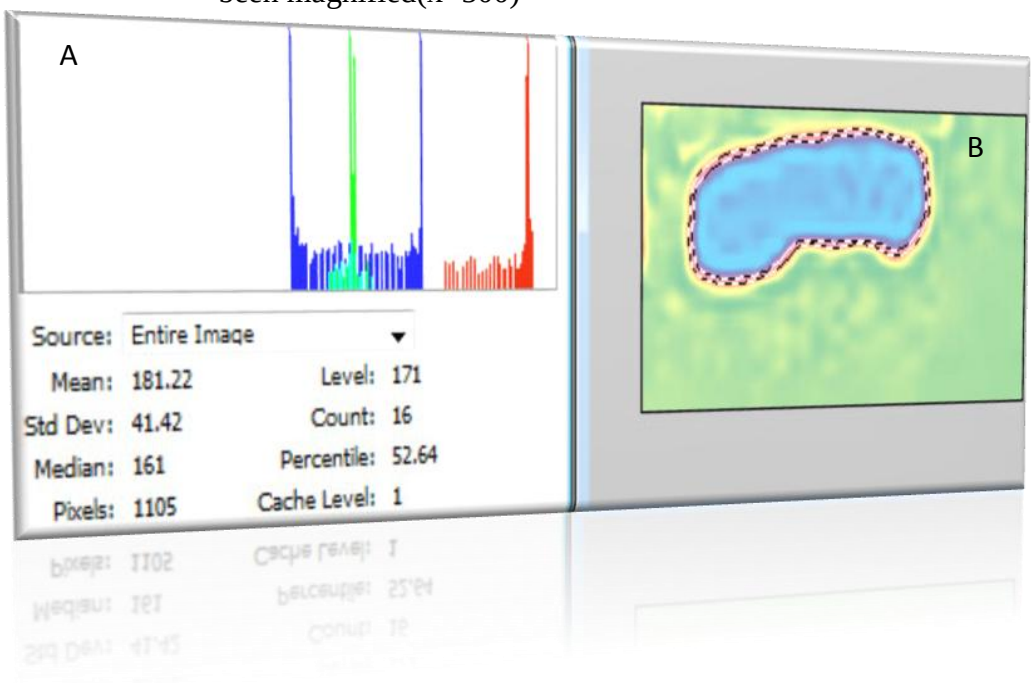


Figure (7_II): Photograph at RBG level of elementary map (A)and chromosome 2(B) Showing the components of the chromosome histograph (peaks) at Different RBG scale level as well as the chromosome structure after has been magnified(x=500)

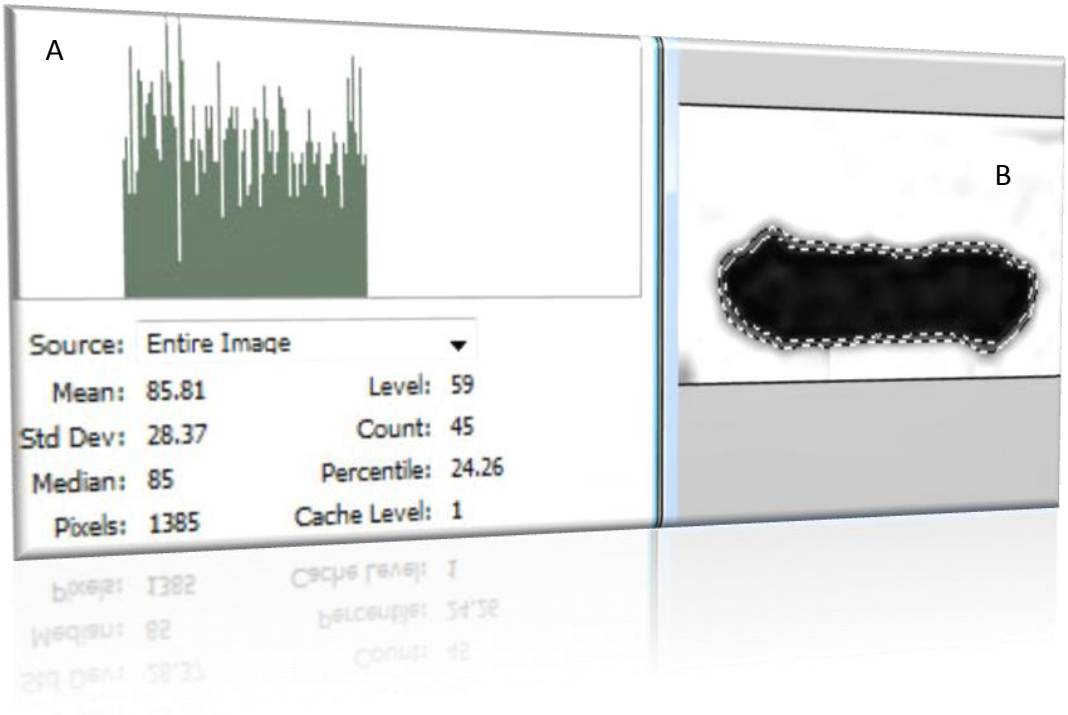


Figure (8_I): Photograph at grey level of elementary map (A)and chromosome3 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

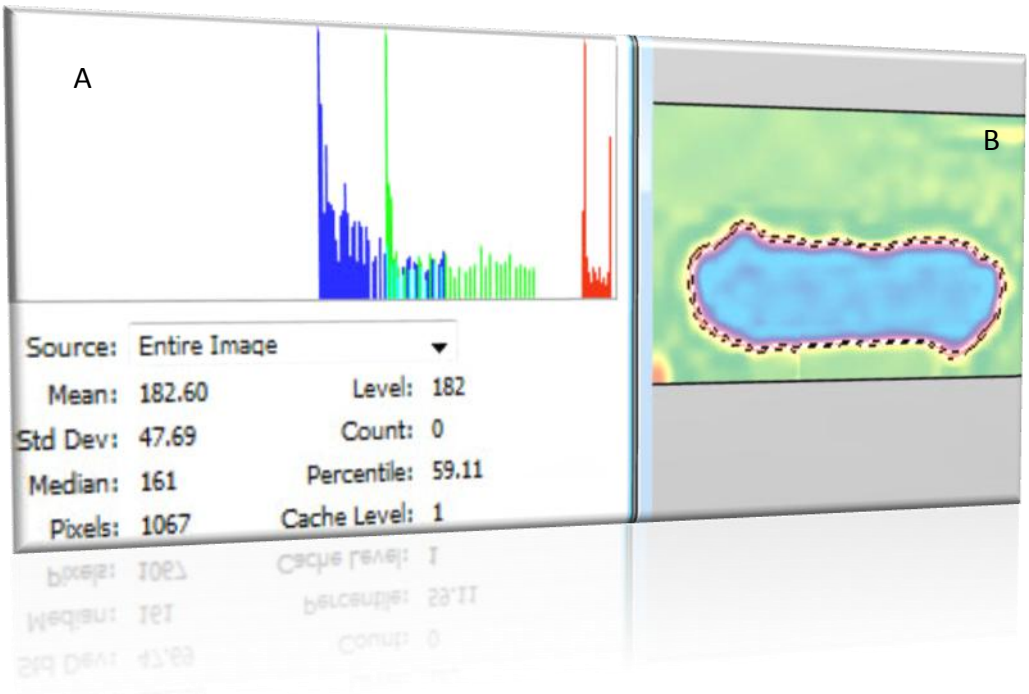


Figure (8_II): Photograph at RBG level of elementary map (A)and chromosome3(B) reflecting the components of the chromosome histograph (peaks) at different RBGscale level as well as the chromosome structure after has been magnified(x=500)

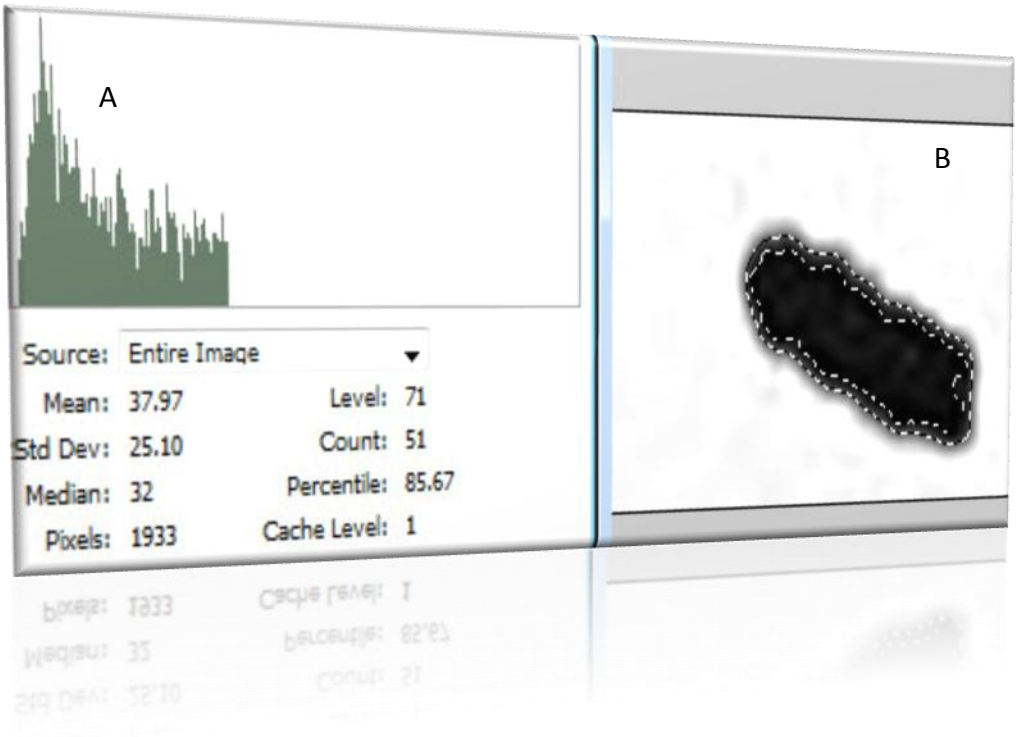


Figure (9_I): Photograph at grey level of elementary map (A)and chromosome4(B) assuming the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

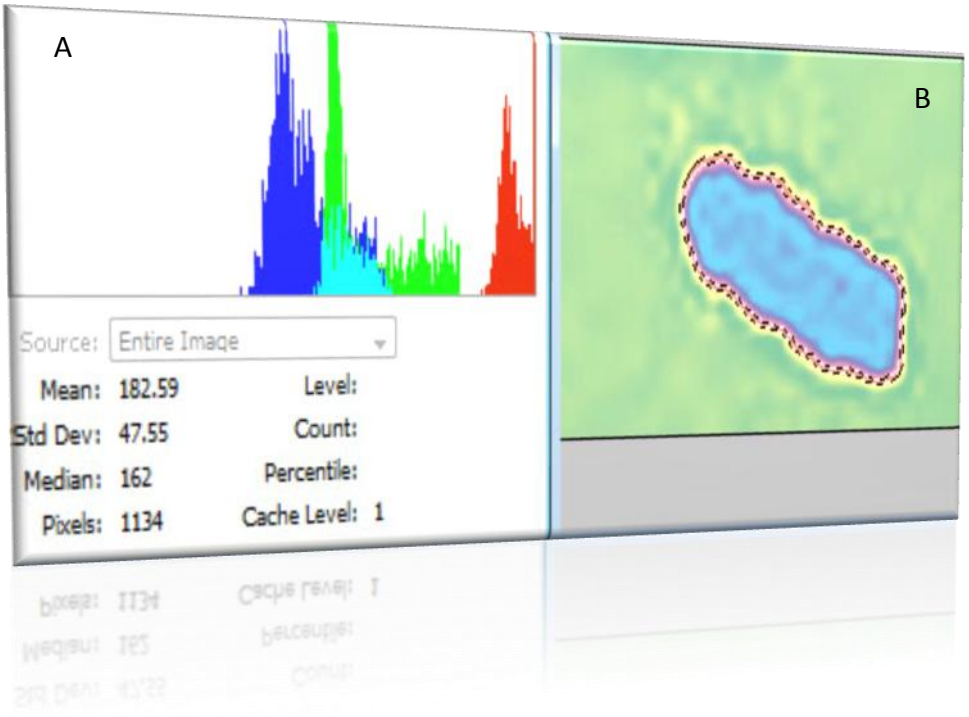


Figure (9_II): Photograph at RBG level of elementary map (A)and chromosome4(B) assuming the components of the chromosome histograph (peaks) at different RBGscale level as well as the chromosome structure after has been magnified(x=500)

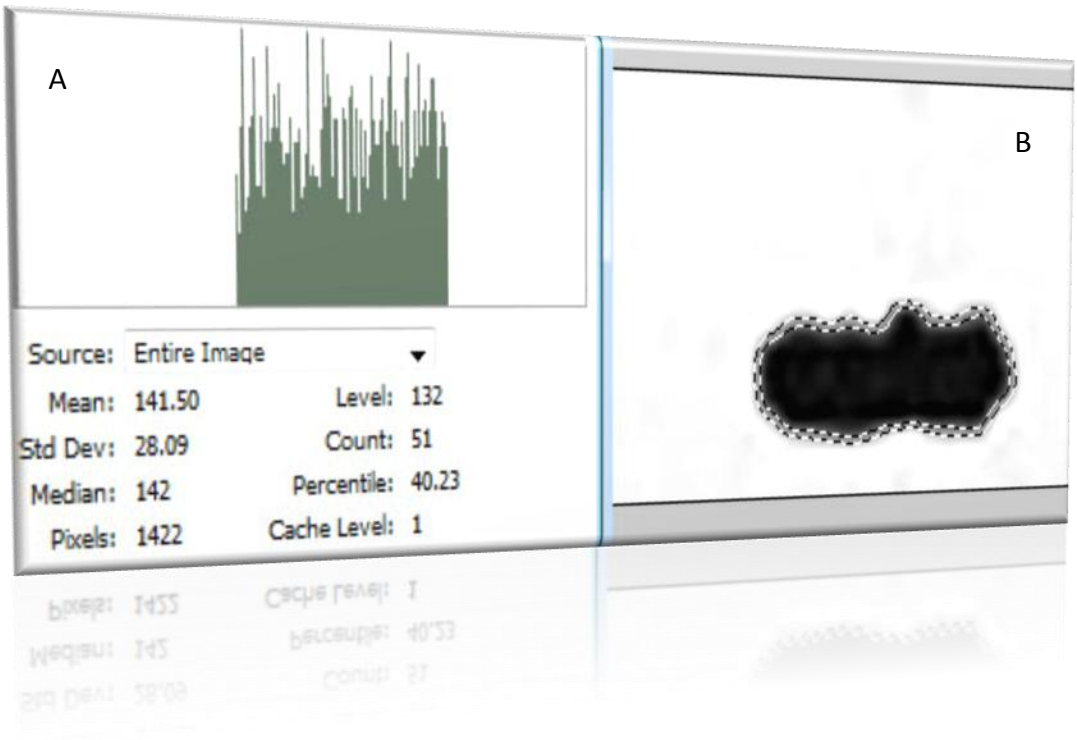


Figure (10_I): Photograph at grey level of elementary map (A)and chromosome5(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

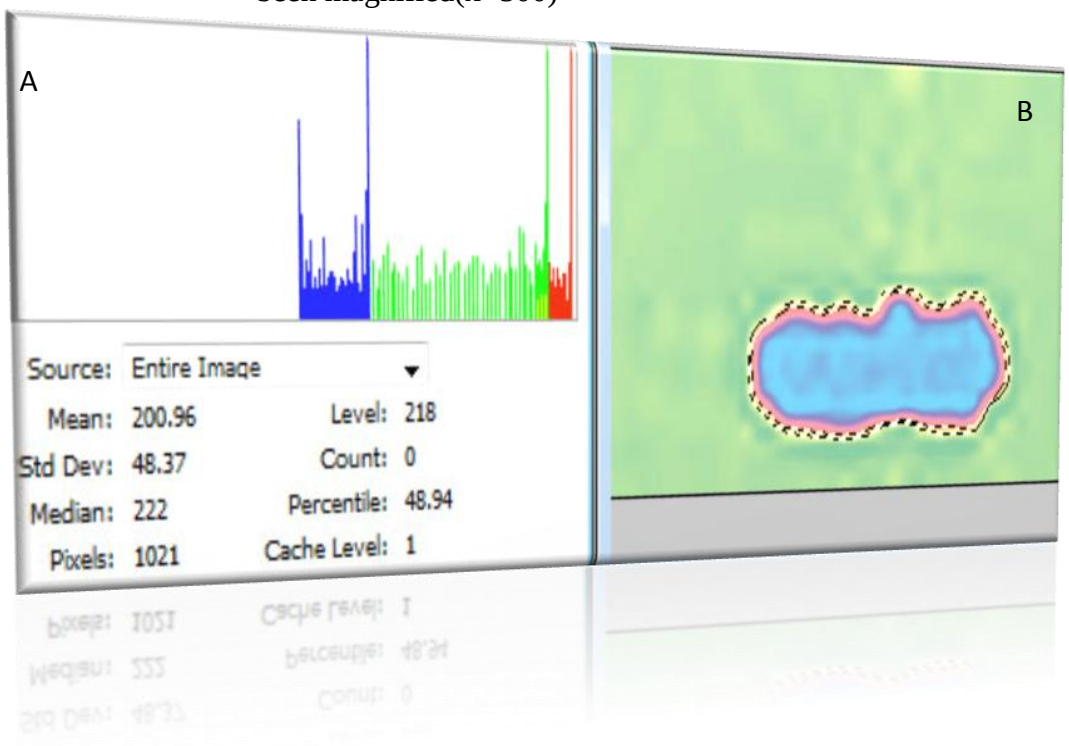


Figure (10_II):Photograph at RBG level of elementary map (A)and chromosome5(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

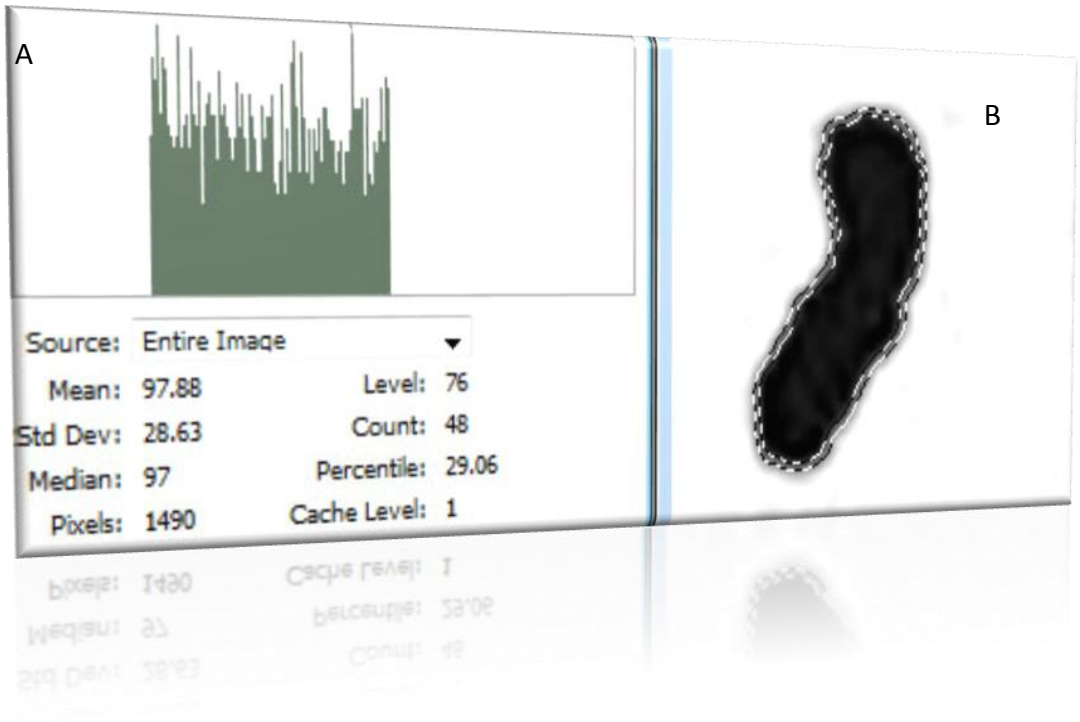


Figure (11_I): Photograph at grey level of elementary map (A)and chromosome6(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

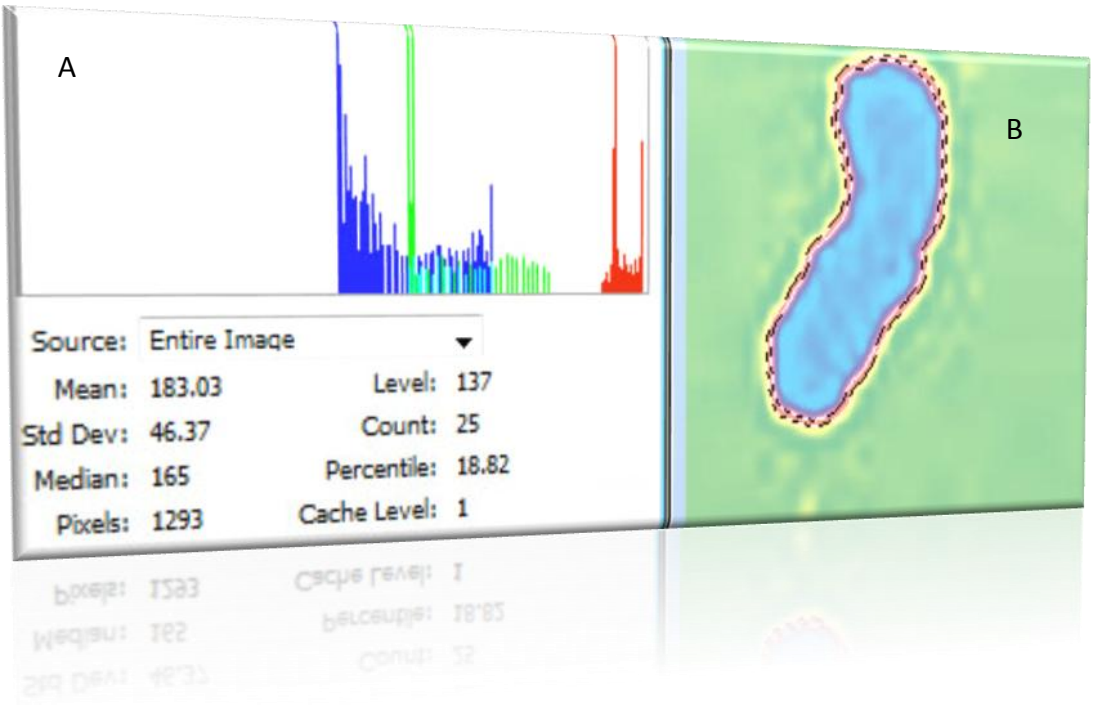


Figure (11_II):Photograph at RBG level of elementary map (A)and chromosome6(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

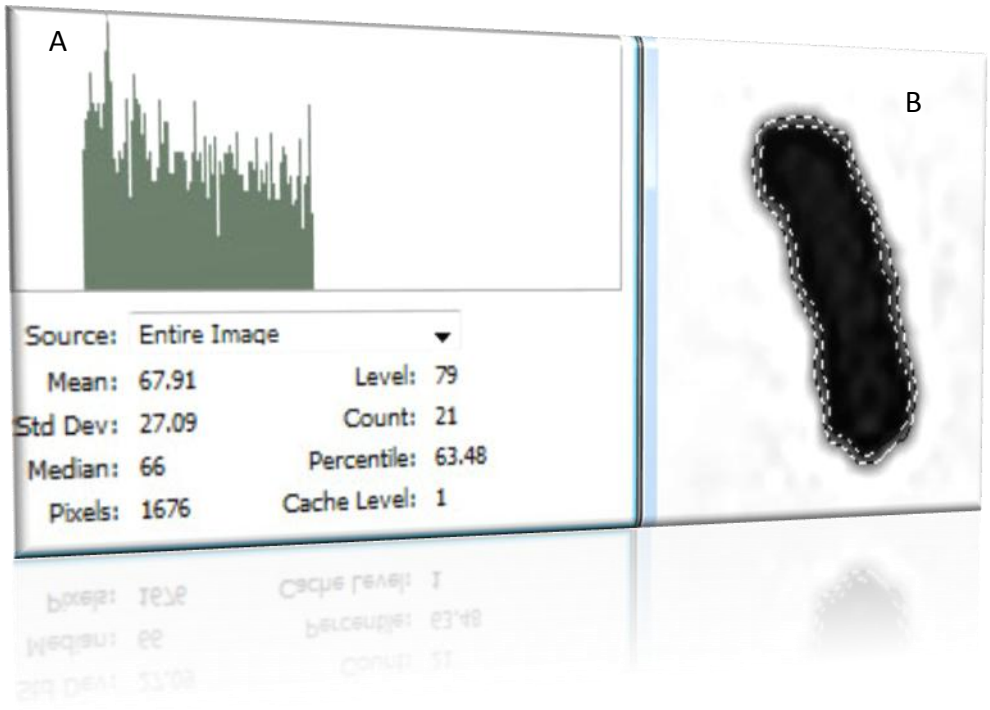


Figure (12_I):Photograph at grey level of elementary map (A)and chromosome7(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

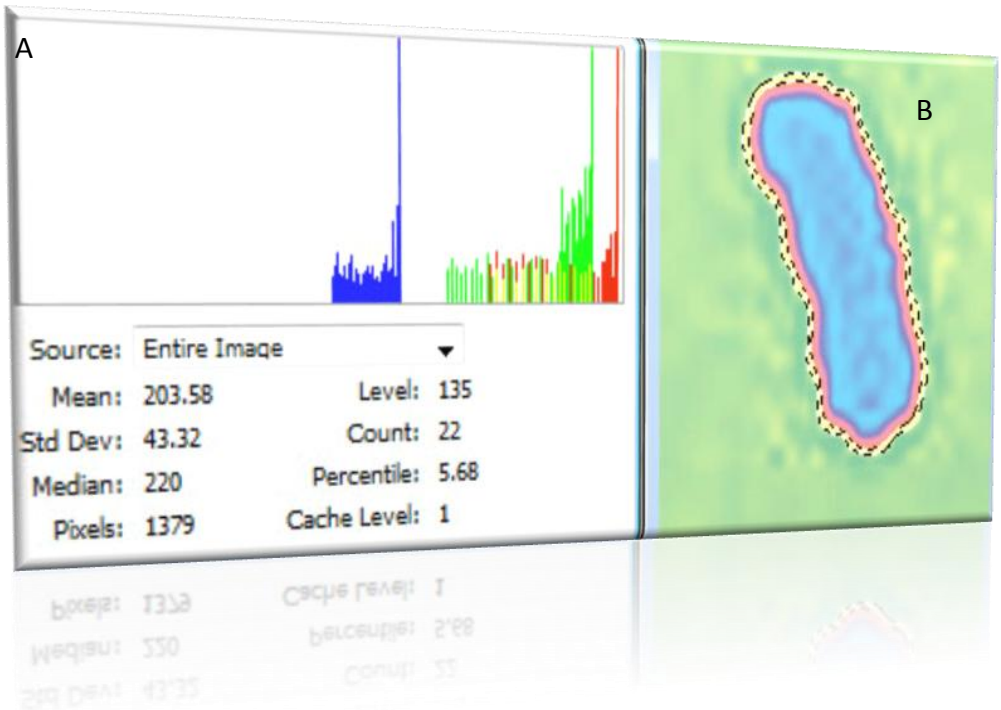


Figure (12_II): Photograph at RBG level of elementary map (A)and chromosome7(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

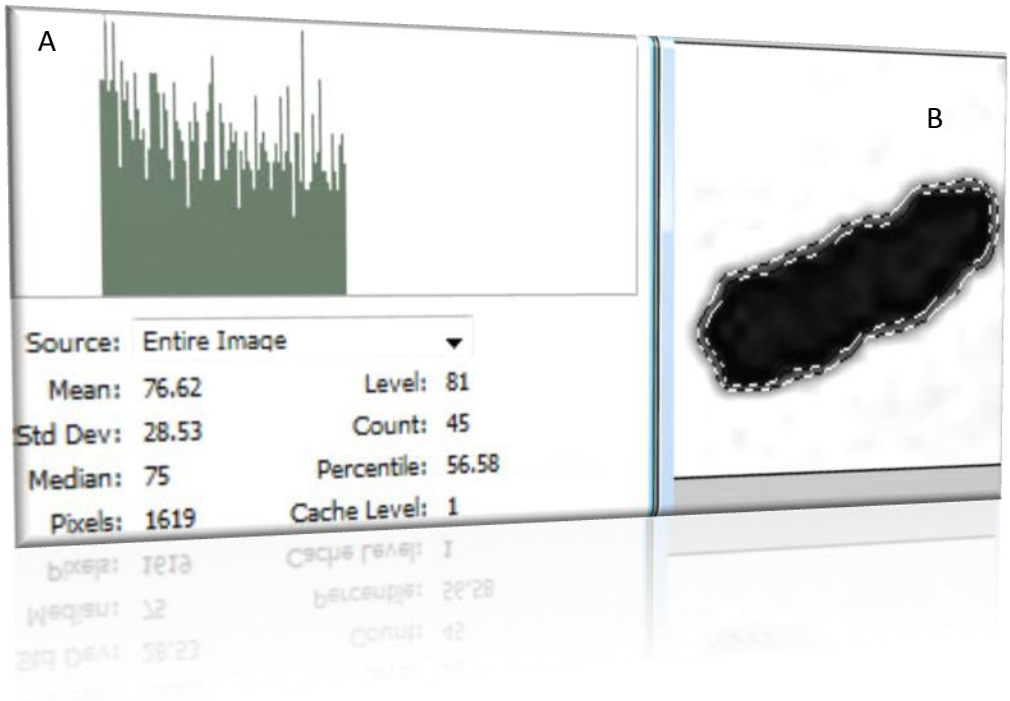


Figure (13_I): Photograph at grey level of elementary map (A)and chromosome8(B) obtaning the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

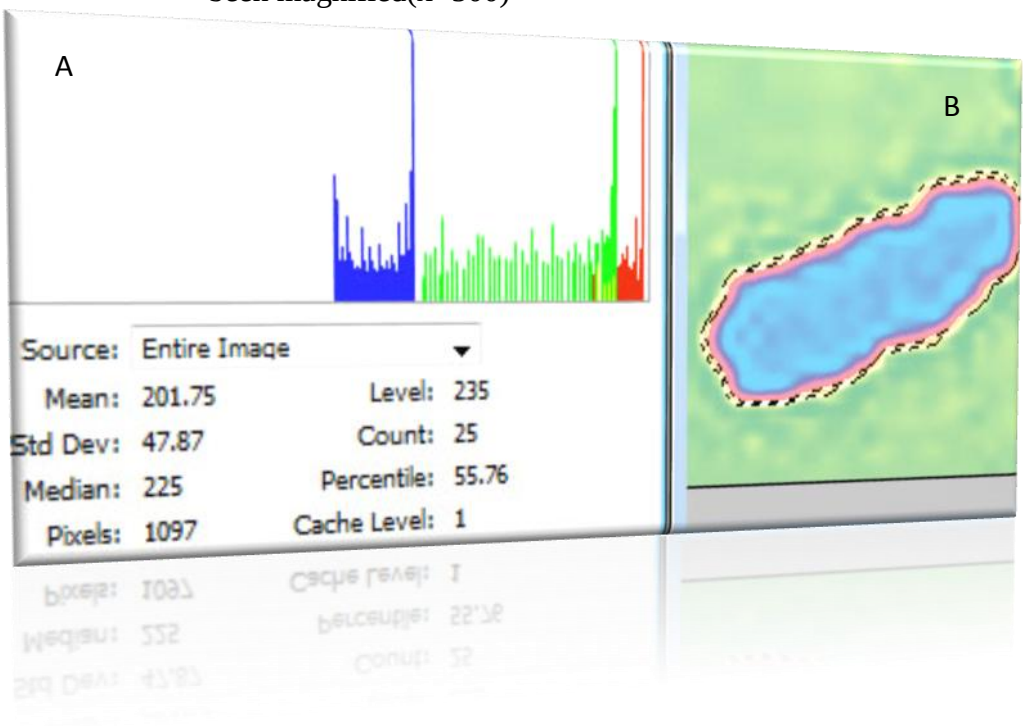


Figure (13_II):Photograph at RBG level of elementary map (A)and chromosome8(B) obtaining the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

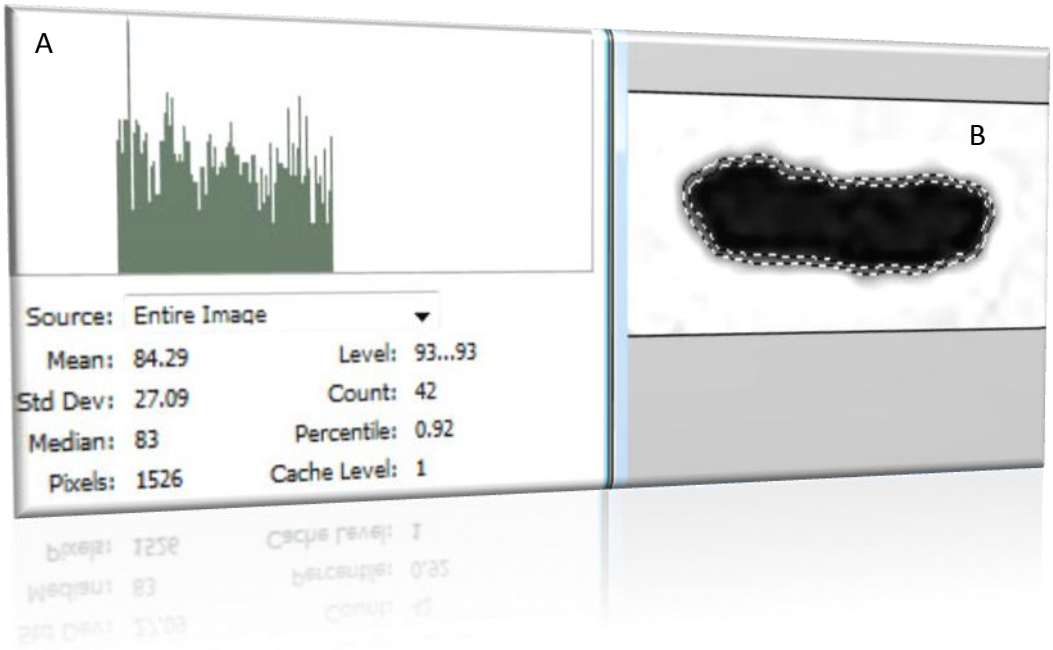


Figure (14_I): Photograph at grey level of elementary map (A)and chromosome9(B) giving the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

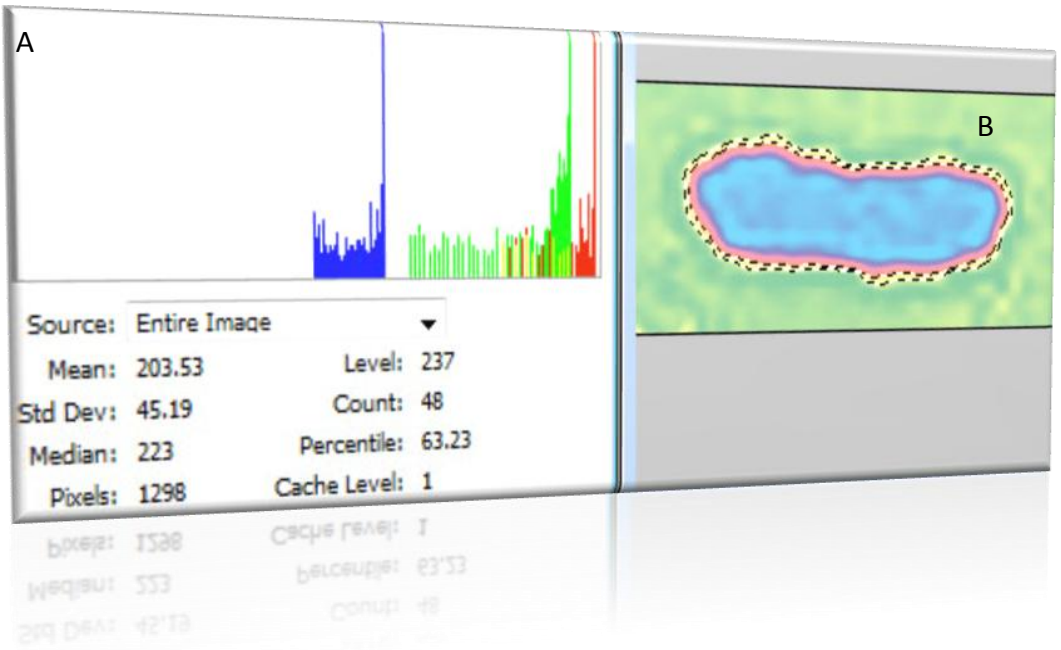


Figure (14_II):Photograph at RBG level of elementary map (A)and chromosome9(B) giving the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

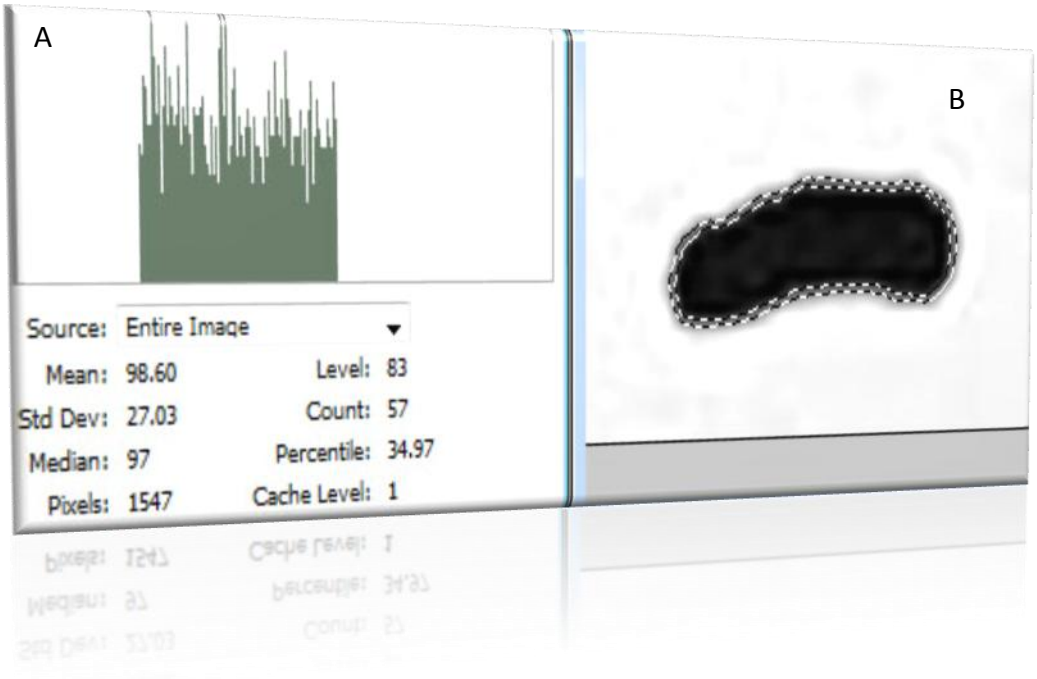
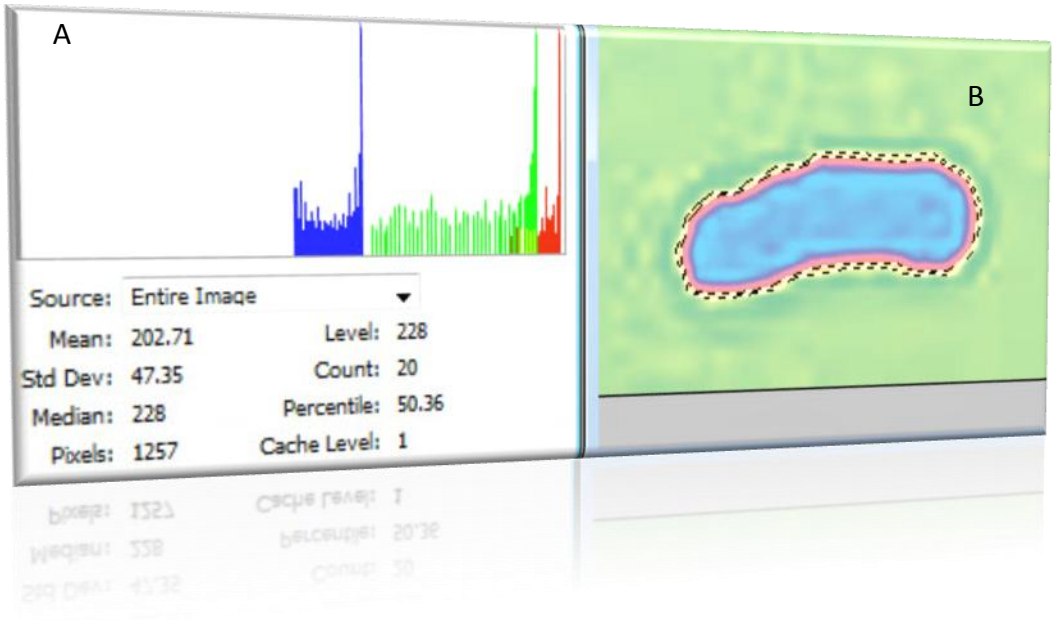


Figure (15_I): Photograph at grey level of elementary map (A)and chromosome10(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)



Figure(15_II):Photograph at RBG level of elementary map (A)and chromosome10(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

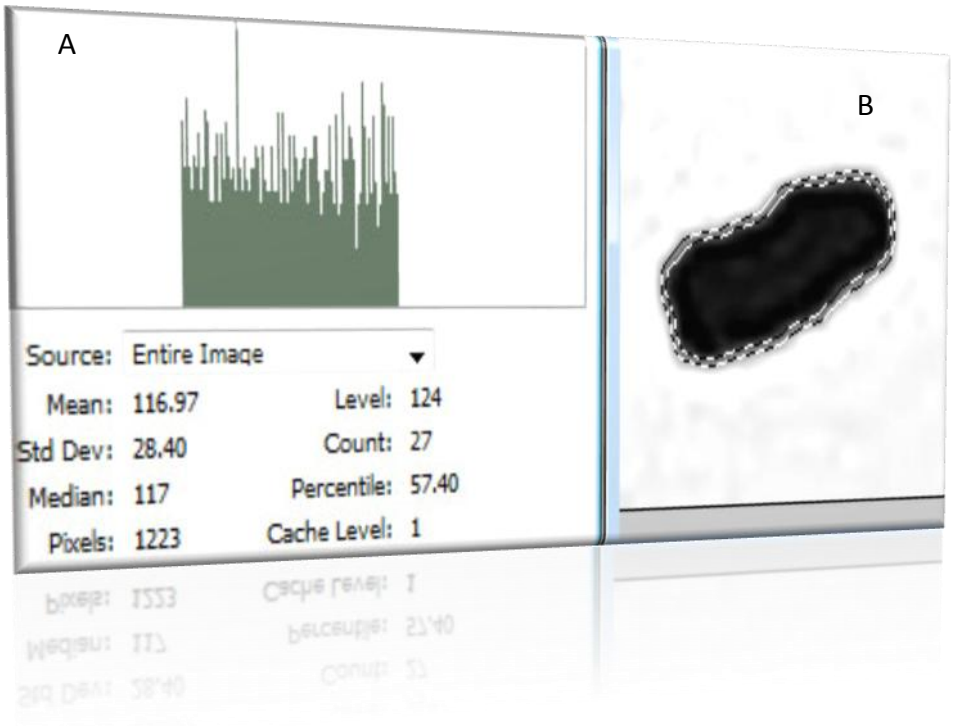
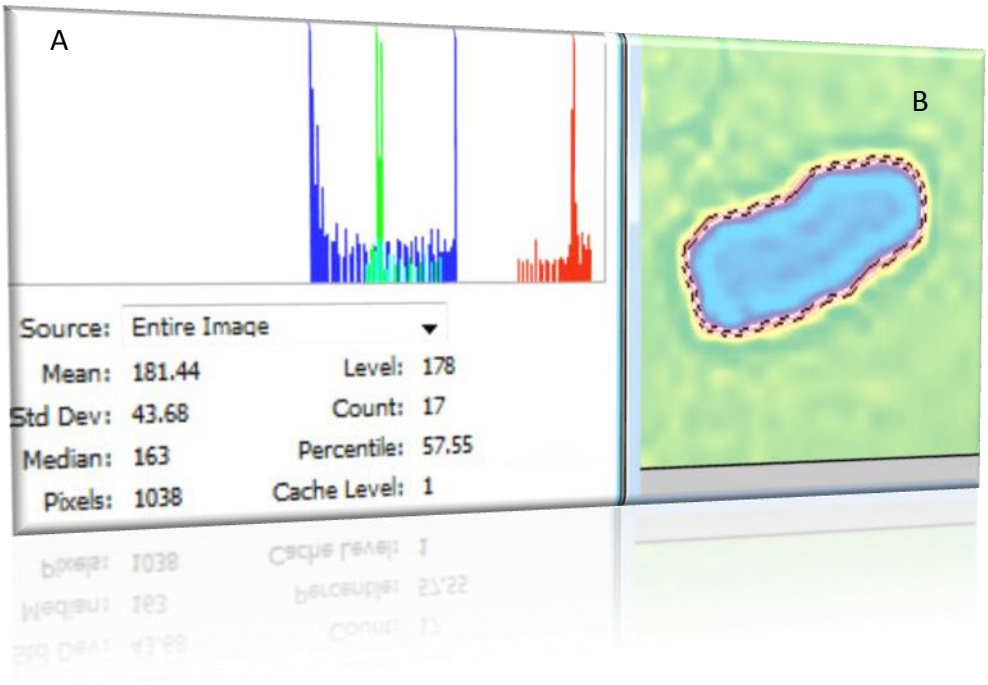


Figure (16_I): Photograph at grey level of elementary map (A)and chromosome 11(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)



Figure(16_II):Photograph at RBG level of elementary map (A)and chromosome11(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

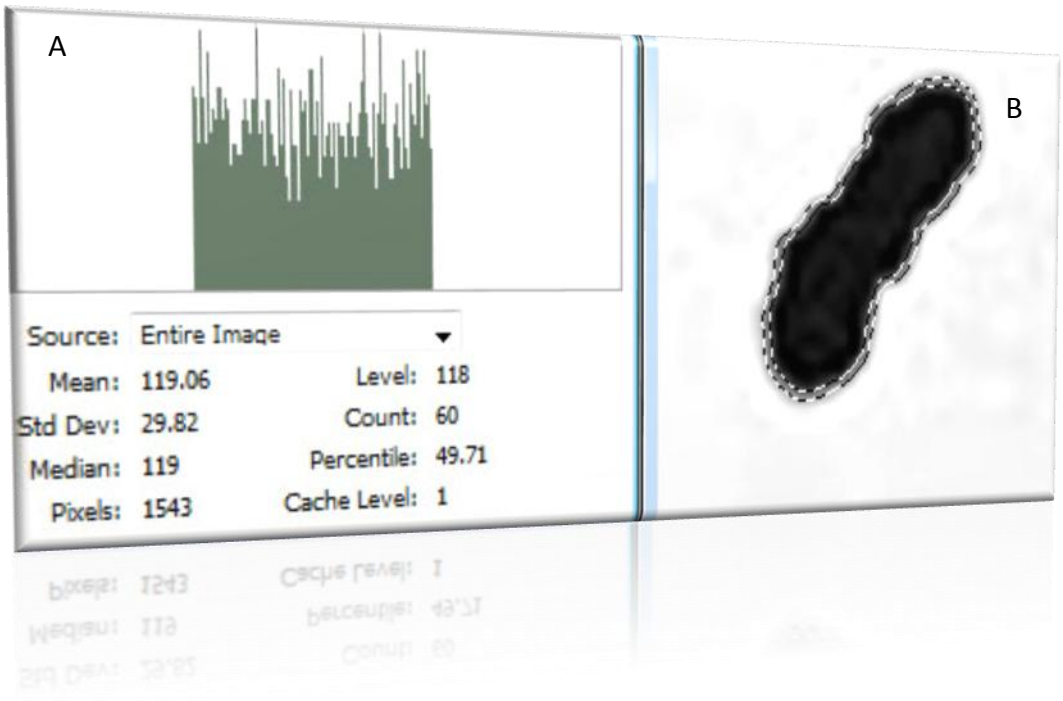
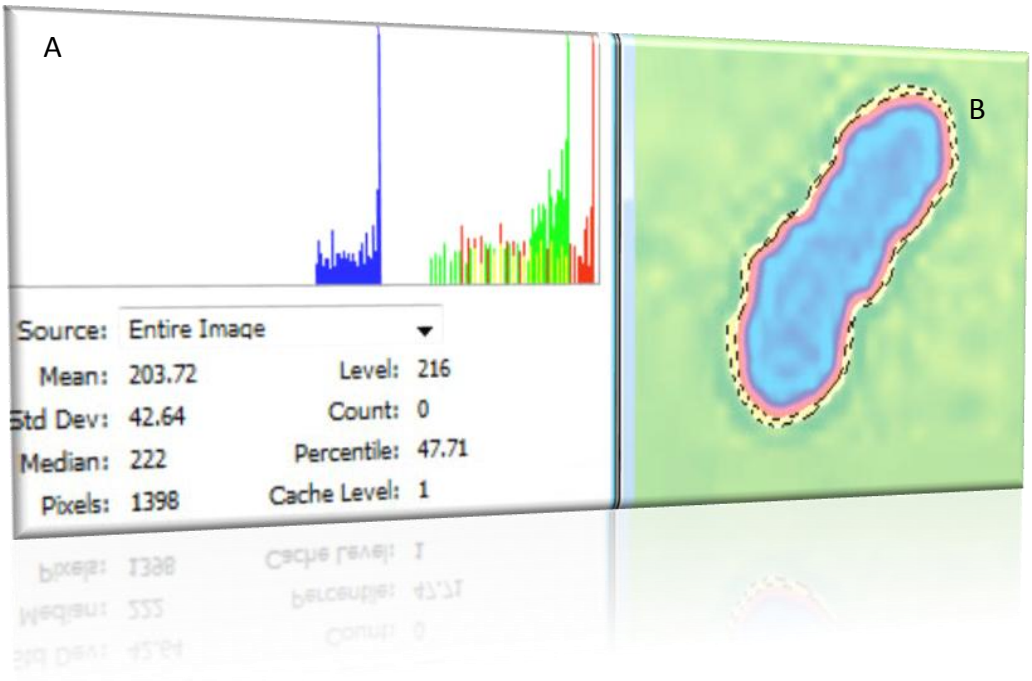
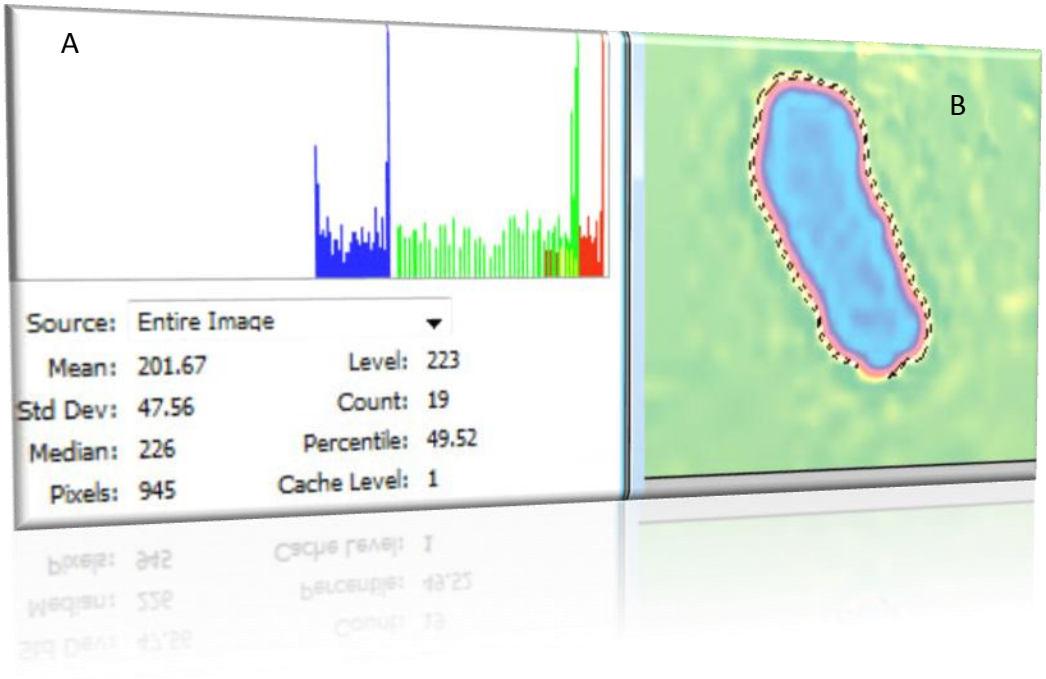


Figure (17_I): Photograph at grey level of elementary map (A)and chromosome 12(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)



Figure(17_II):Photograph at RBG level of elementary map (A)and chromosom 12(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

Figure (18_I): Photograph at grey level of elementary map (A)and chromosome 13(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)



Figure(18_II):Photograph at RBG level of elementary map (A)and chromosome13(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

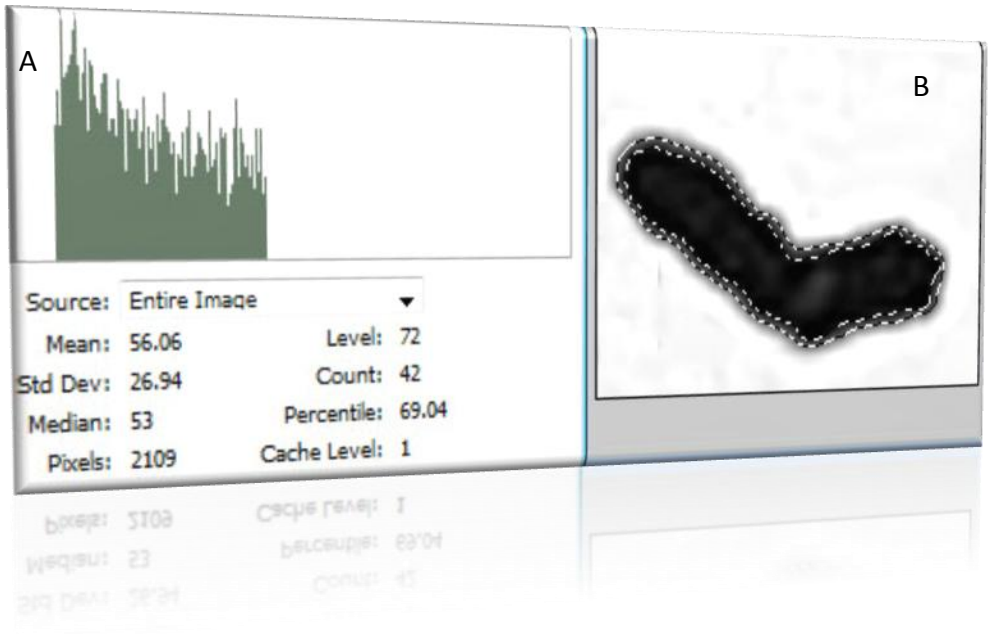
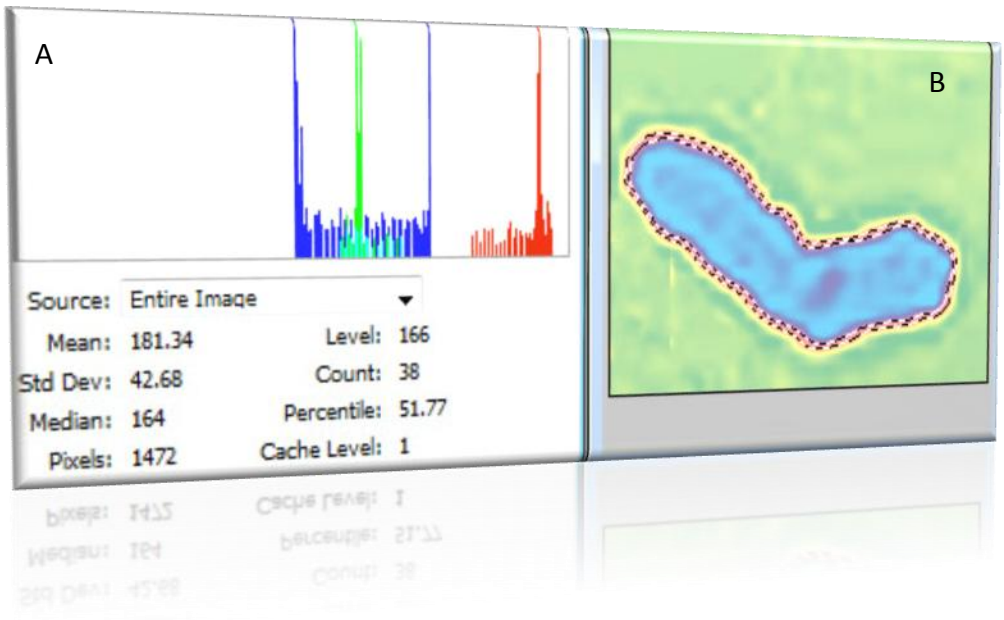


Figure (19_I): Photograph at grey level of elementary map (A)and chromosome 14(B) assuming the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)



Figure(19_II):Photograph at RBG level of elementary map (A)and chromosome14(B) assuming the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

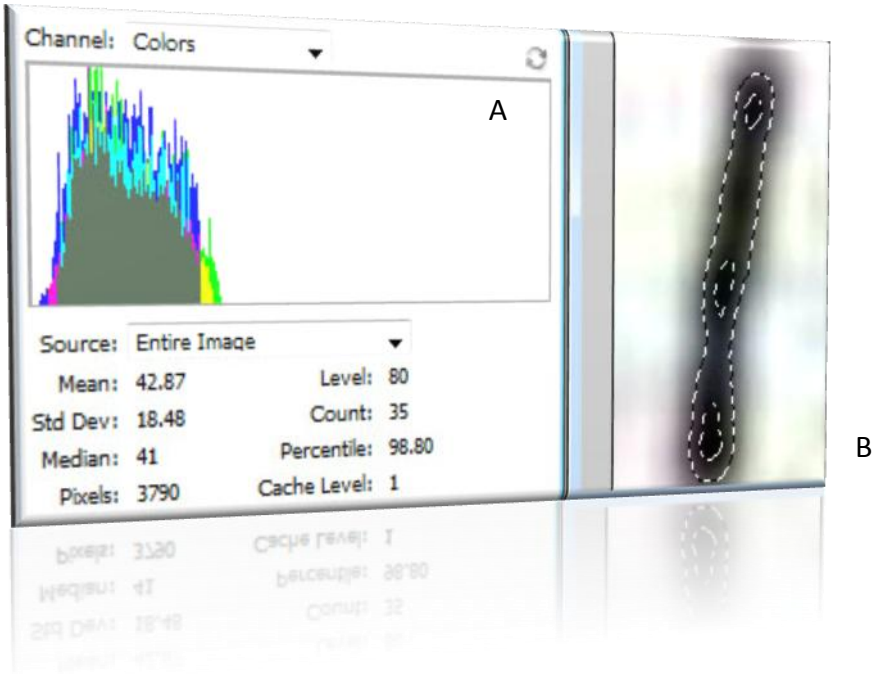


Figure (20_I): Photograph at grey level of elementary map (A)and chromosome1 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

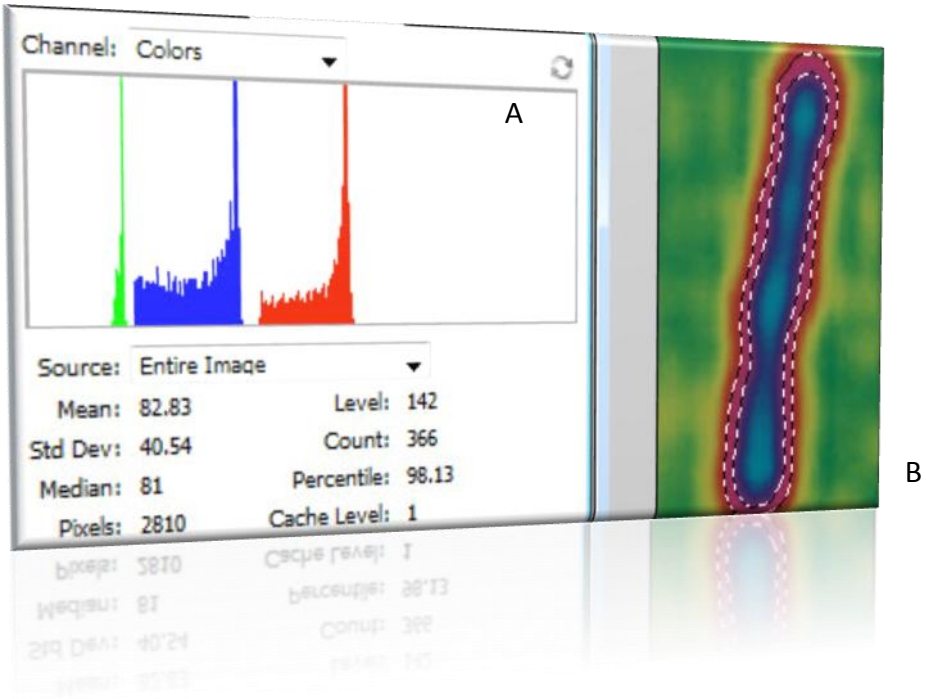


Figure (20_II): Photograph at RBG level of elementary map (A)and chromosome1 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

Figure (21_I): Photograph at grey level of elementary map (A)and chromosome2 (B) obtaining the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

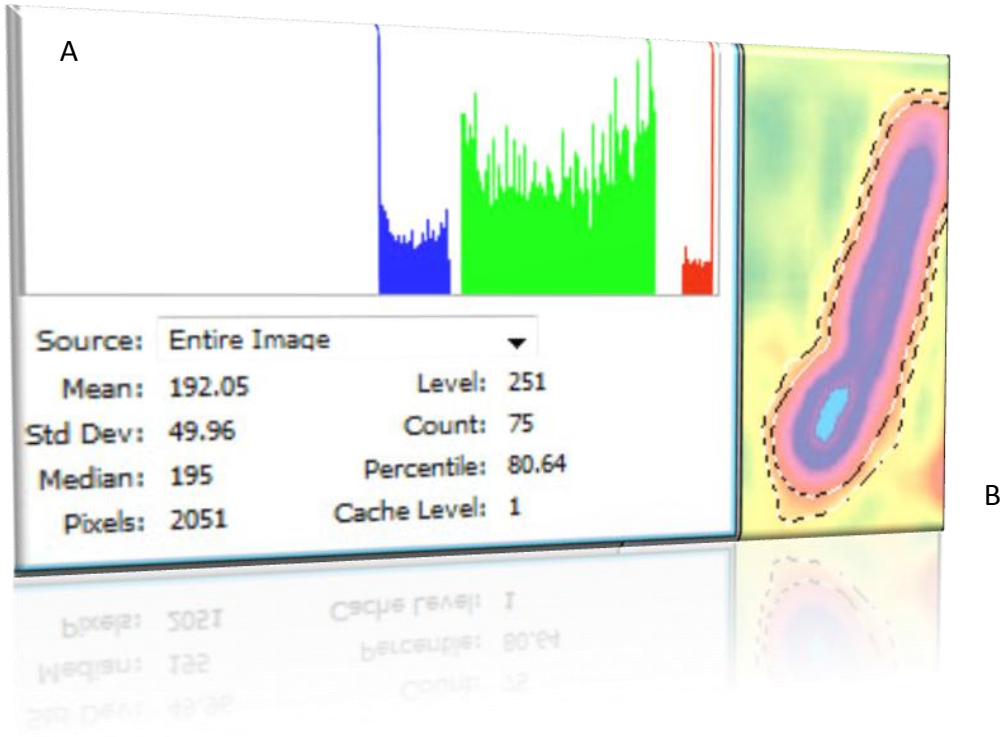


Figure (21_II): Photograph at RBG level of elementary map (A)and chromosome2 (B) obtaining the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

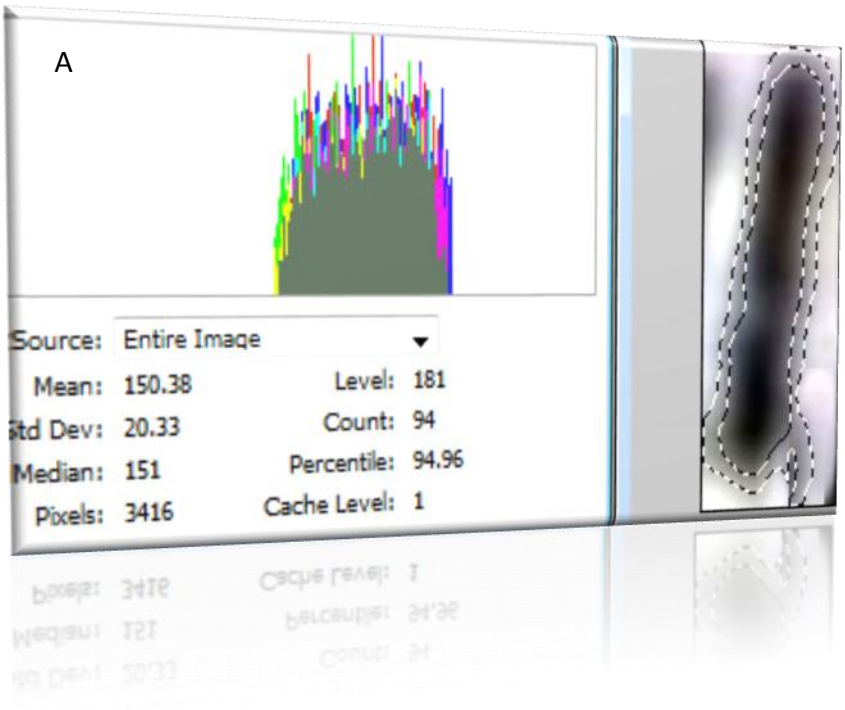


Figure (22_I): Photograph at grey level of elementary map (A)and chromosome 3 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

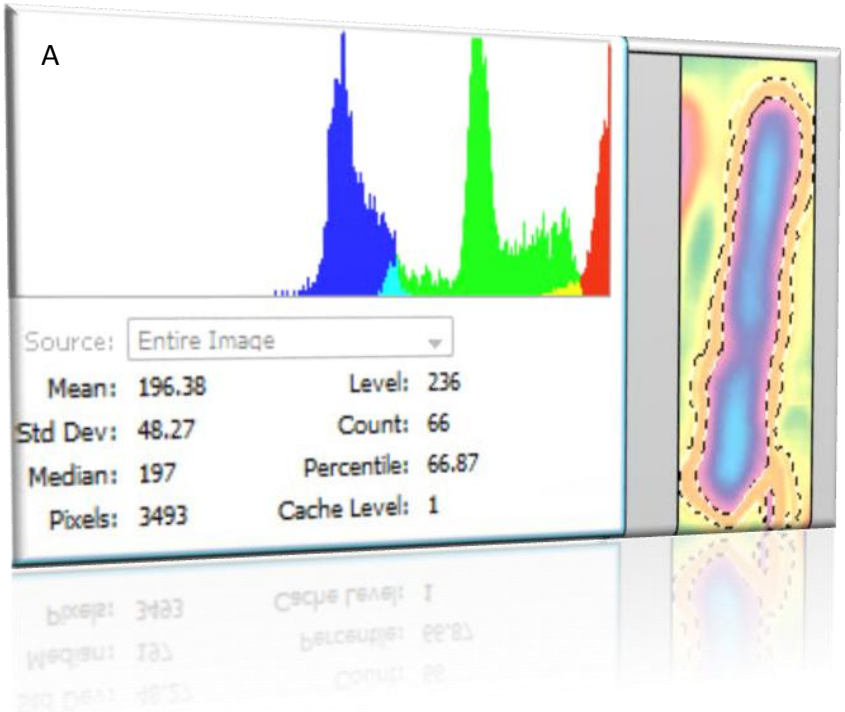


Figure (22_II): Photograph at RBG level of elementary map (A)and chromosome 3 (B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

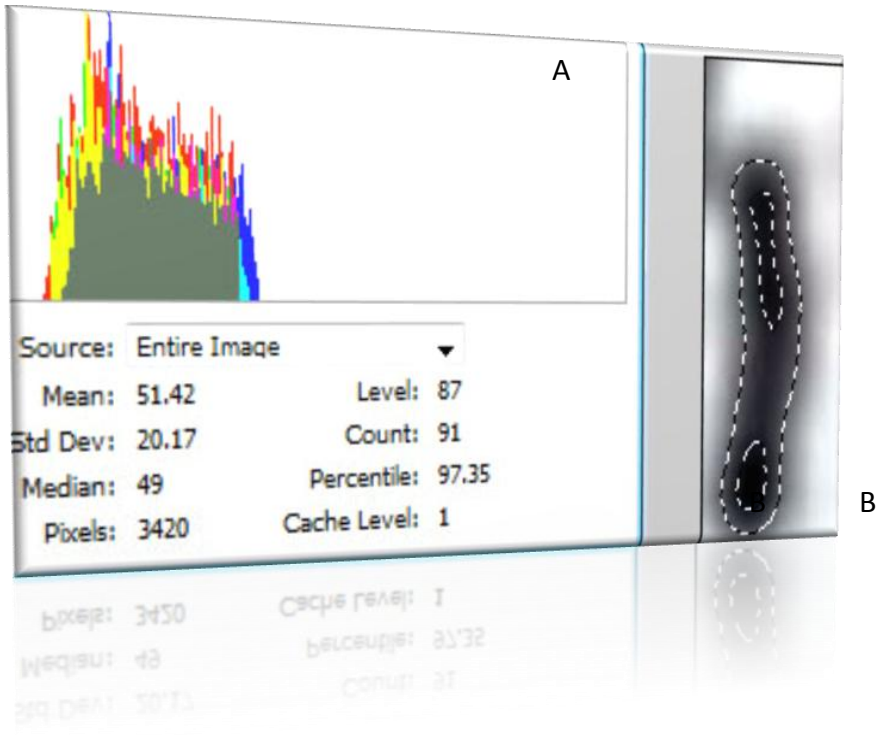


Figure (23_I): Photograph at grey level of elementary map (A)and chromosome 4 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

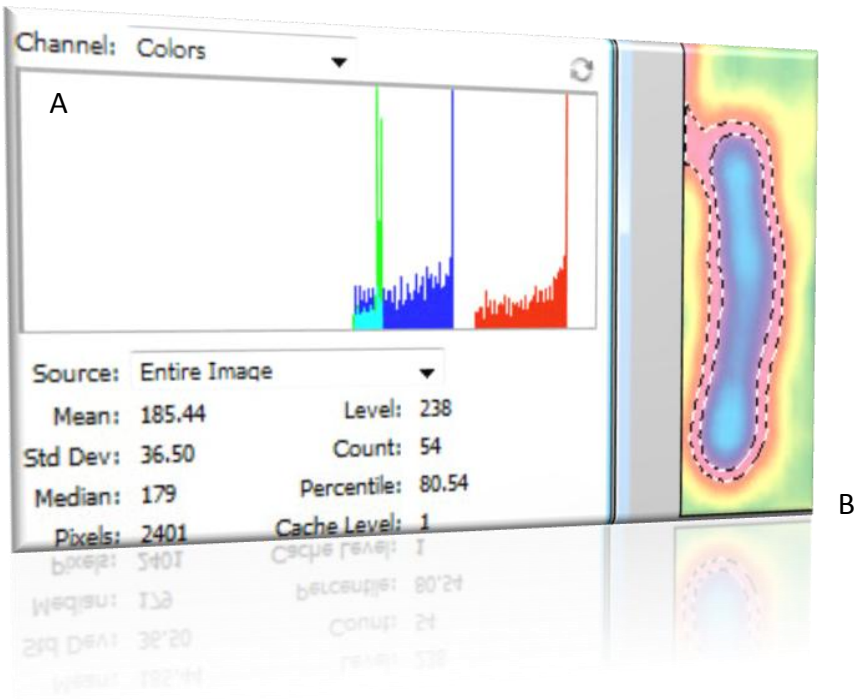


Figure (23_II): Photograph at RBG level of elementary map (A)and chromosome 4 (B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

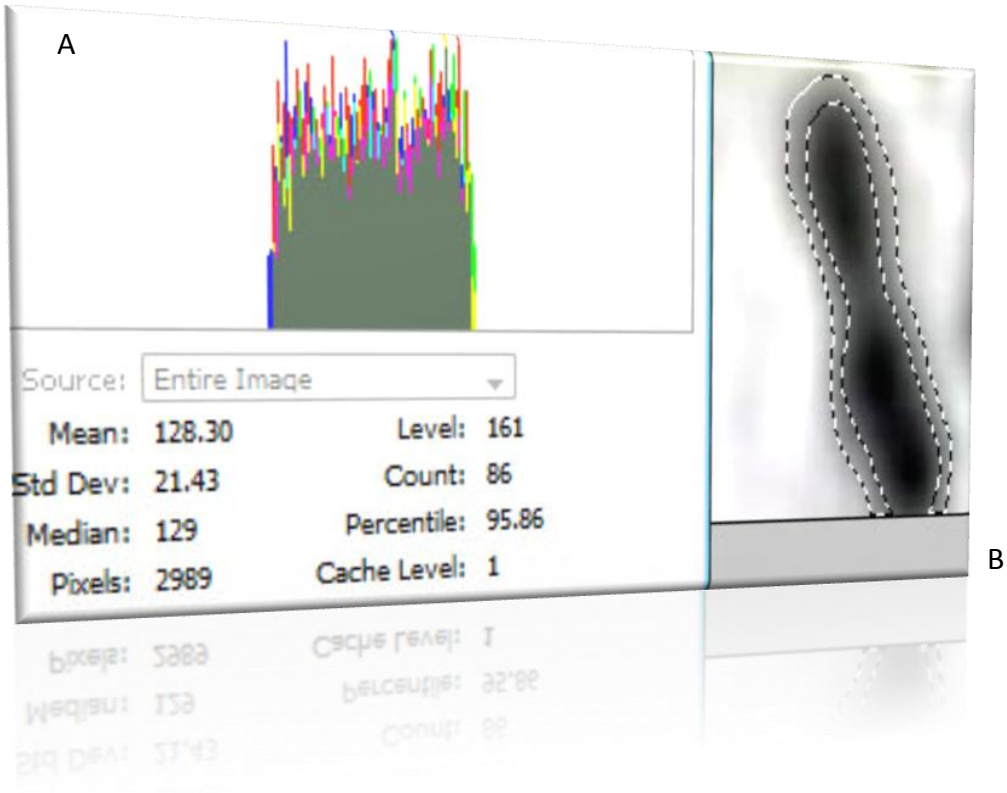


Figure (24_I): Photograph at grey level of elementary map (A)and chromosome 5 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

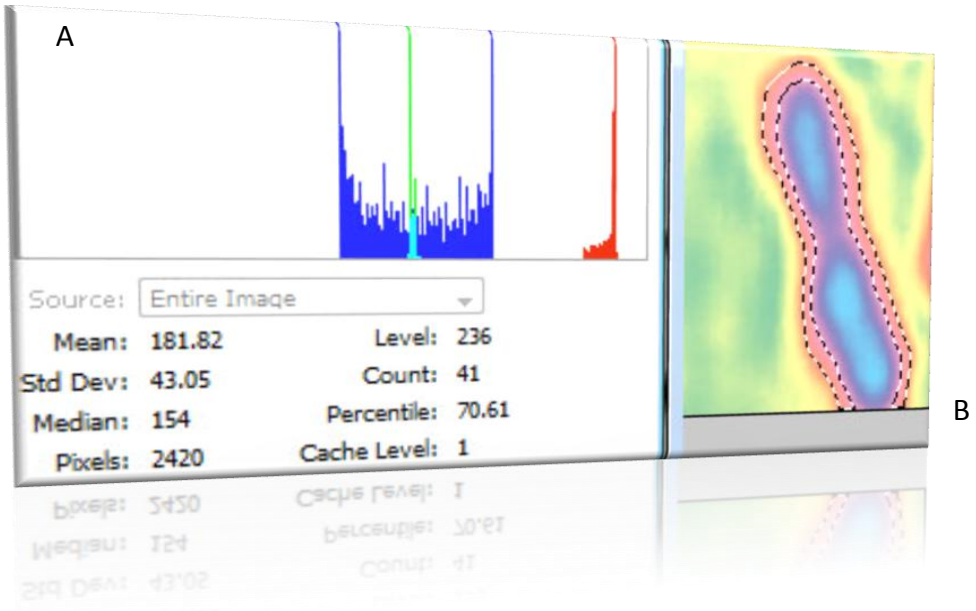


Figure (24_II): Photograph at RBG level of elementary map (A)and chromosome5 (B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

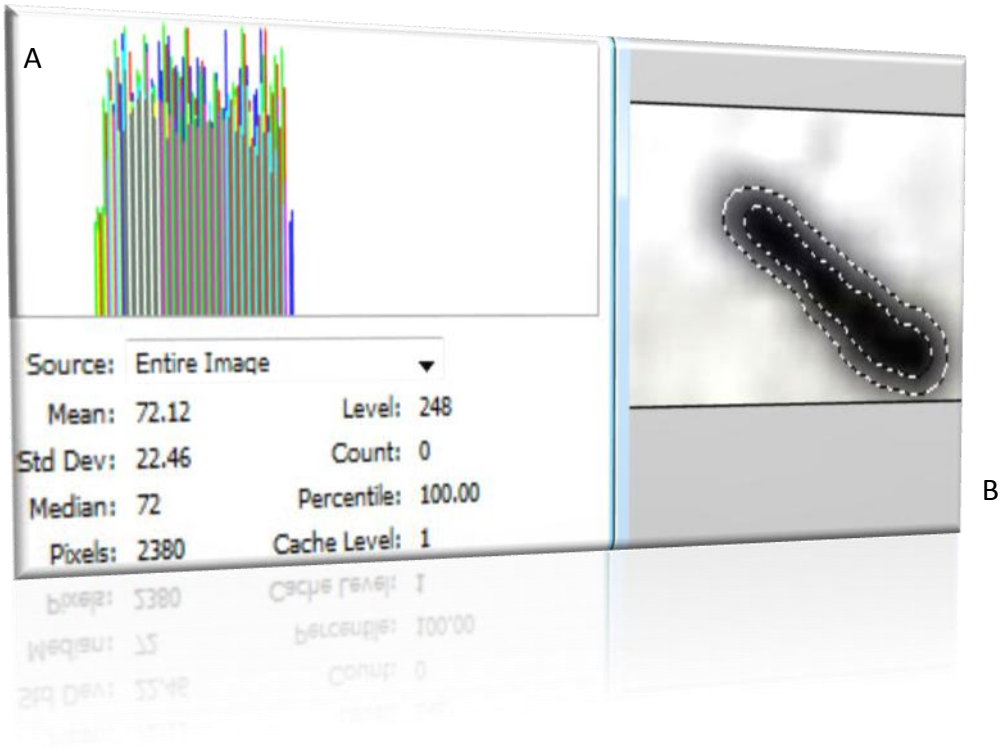


Figure (25_I): Photograph at grey level of elementary map (A)and chromosome 6 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

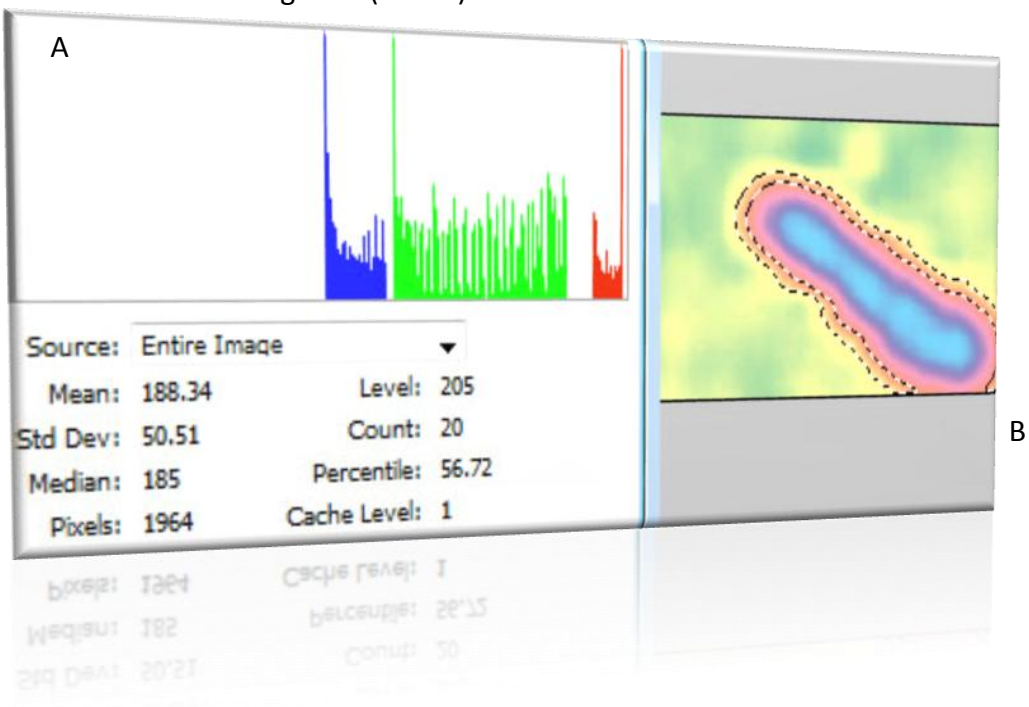


Figure (25_II): Photograph at RBG level of elementary map (A)and chromosome 6 (B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

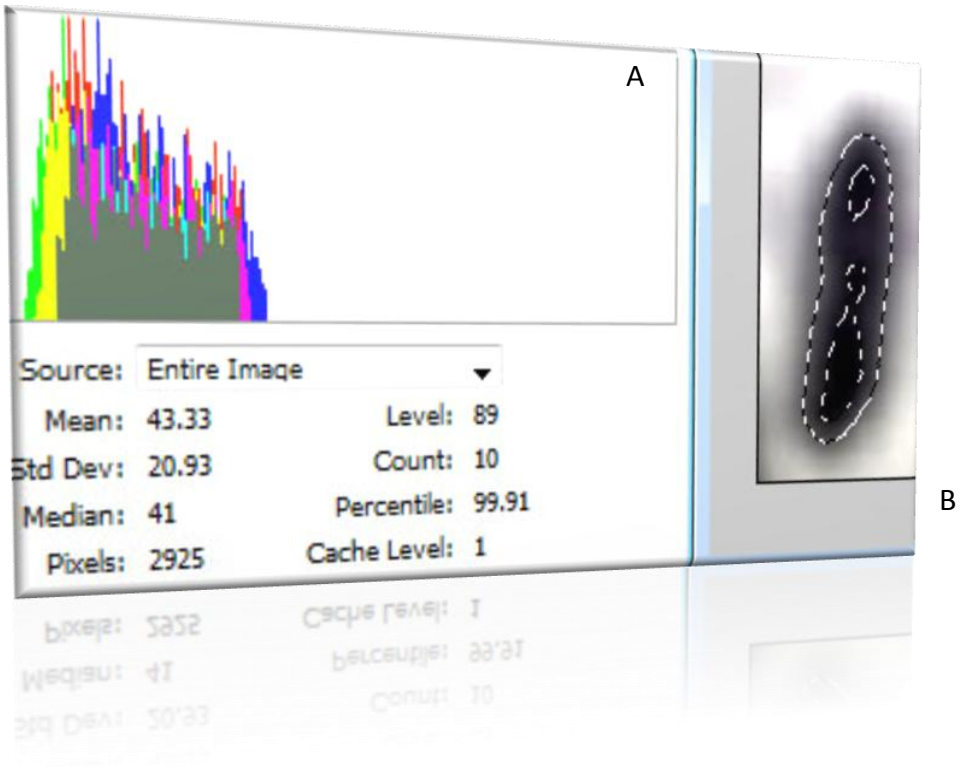


Figure (26_I): Photograph at grey level of elementary map (A)and chromosome7 (B) indicating the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

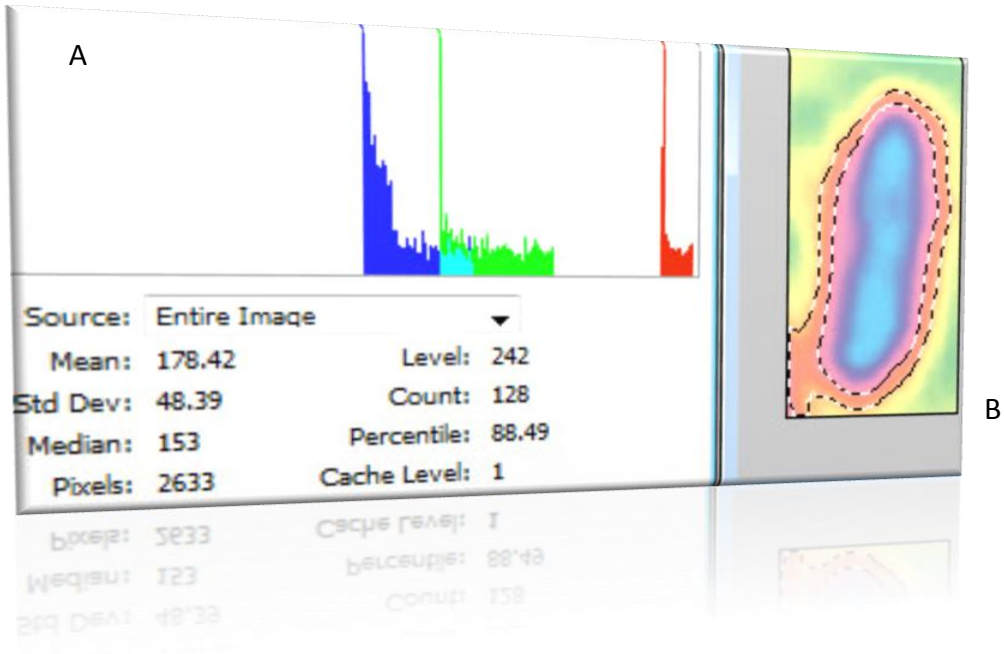


Figure (26_II): Photograph at RBG level of elementary map (A)and chromosome 7 (B) indicating the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

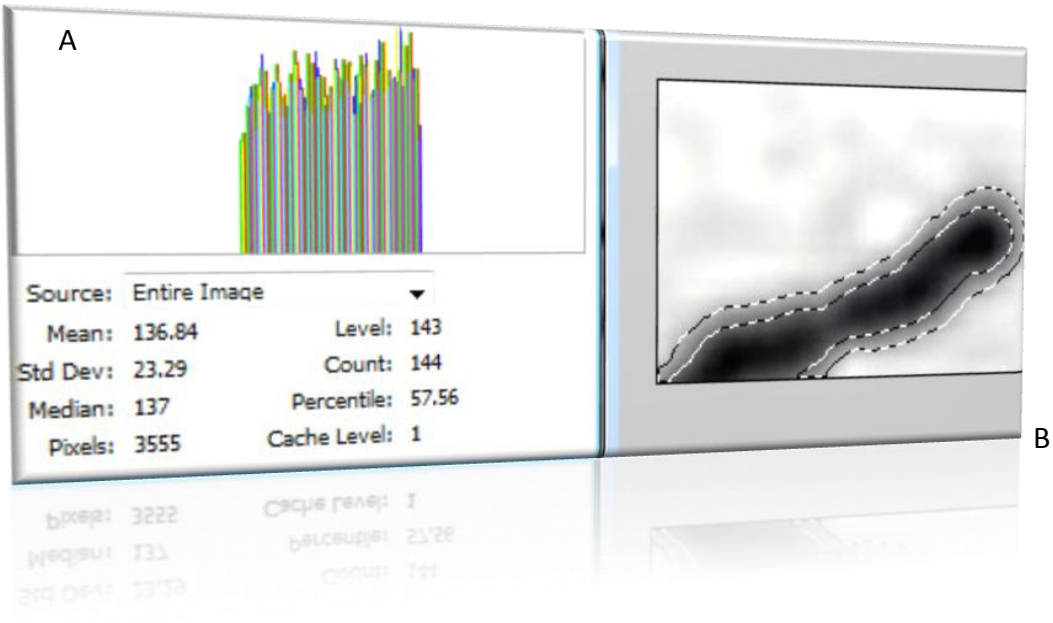


Figure (27_I): Photograph at grey level of elementary map (A)and chromosome 8 (B) reflecting the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

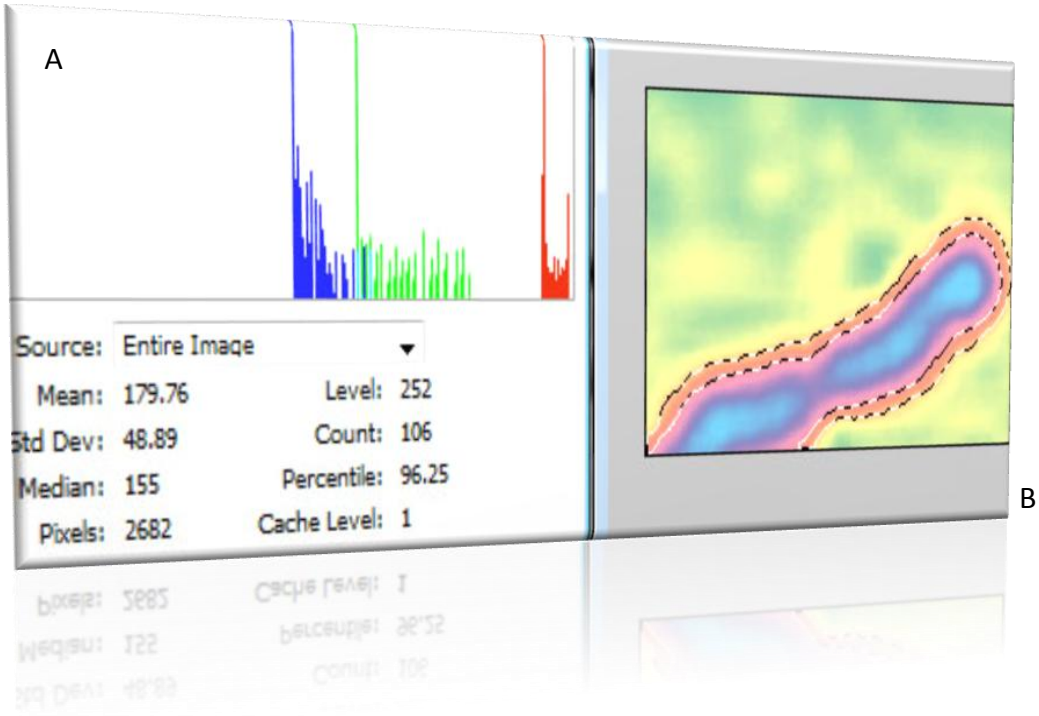


Figure (27_II): Photograph at RBG level of elementary map (A)and chromosome 8 (B) reflecting the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

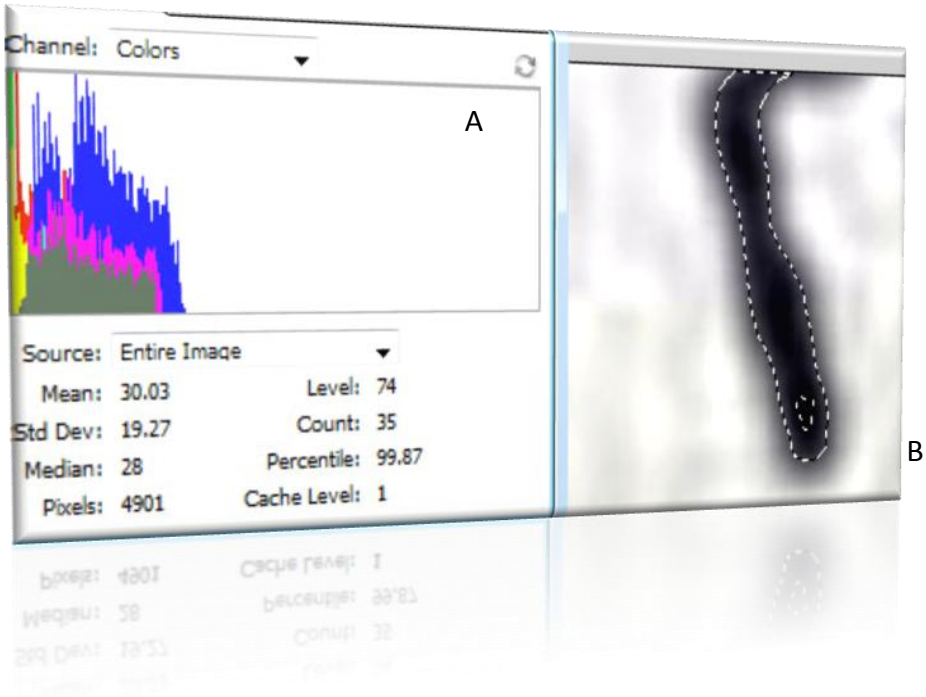


Figure (28_I): Photograph at grey level of elementary map (A)and chromosome 9 (B) giving the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

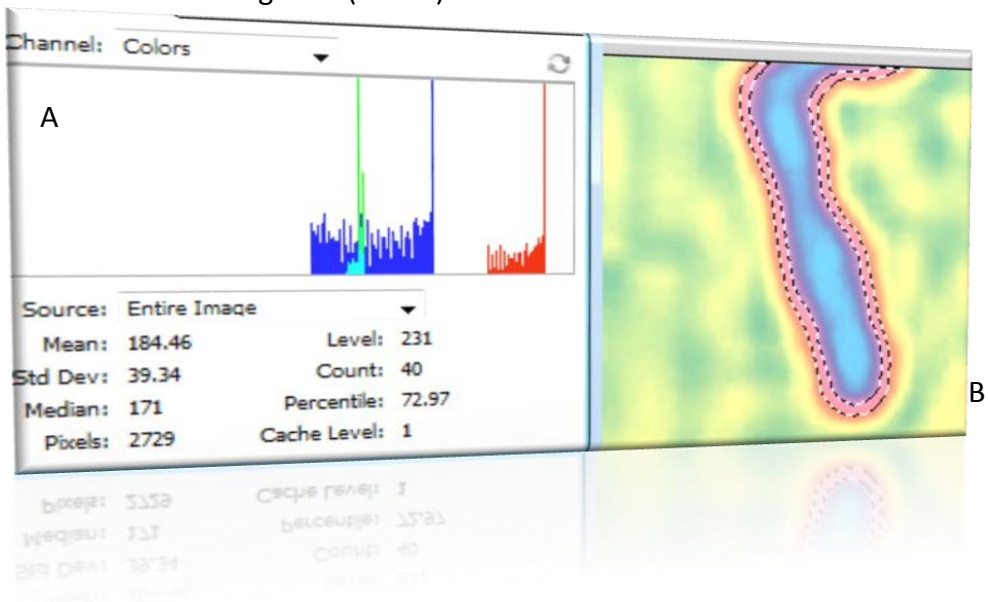


Figure (28_II): Photograph at RBG level of elementary map (A)and chromosome 9 (B) giving the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

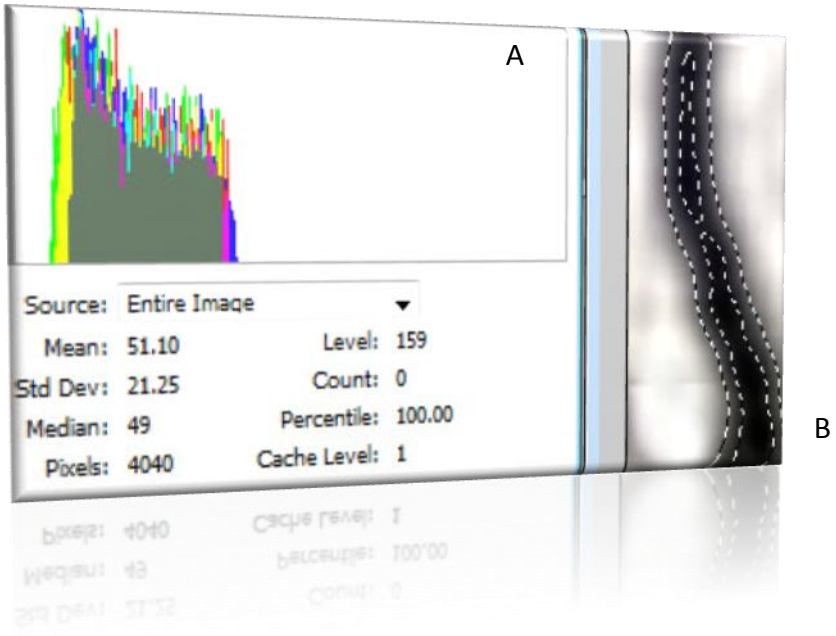


Figure (29_I): Photograph at grey level of elementary map (A)and chromosome 10(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

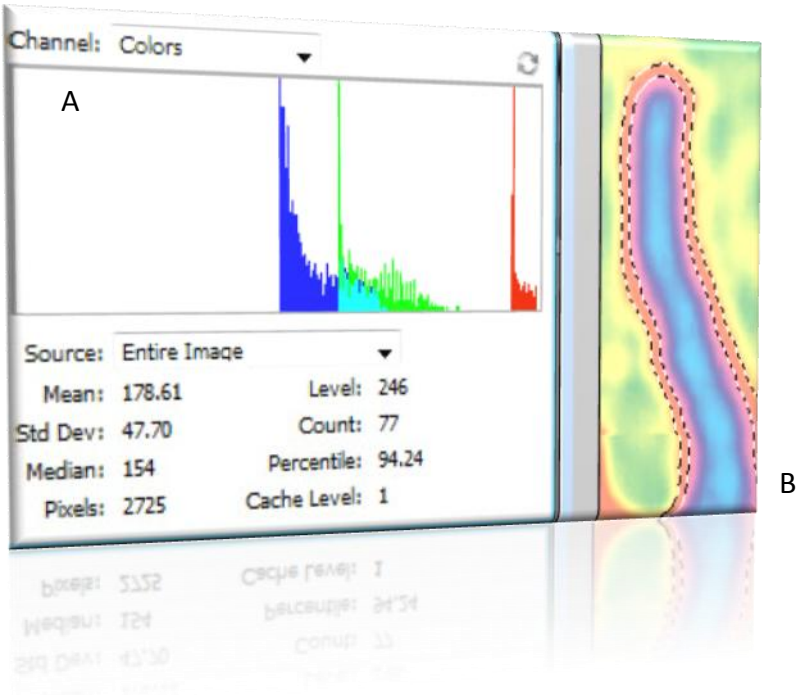


Figure (29_II): Photograph at RBG level of elementary map (A)and chromosome10(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

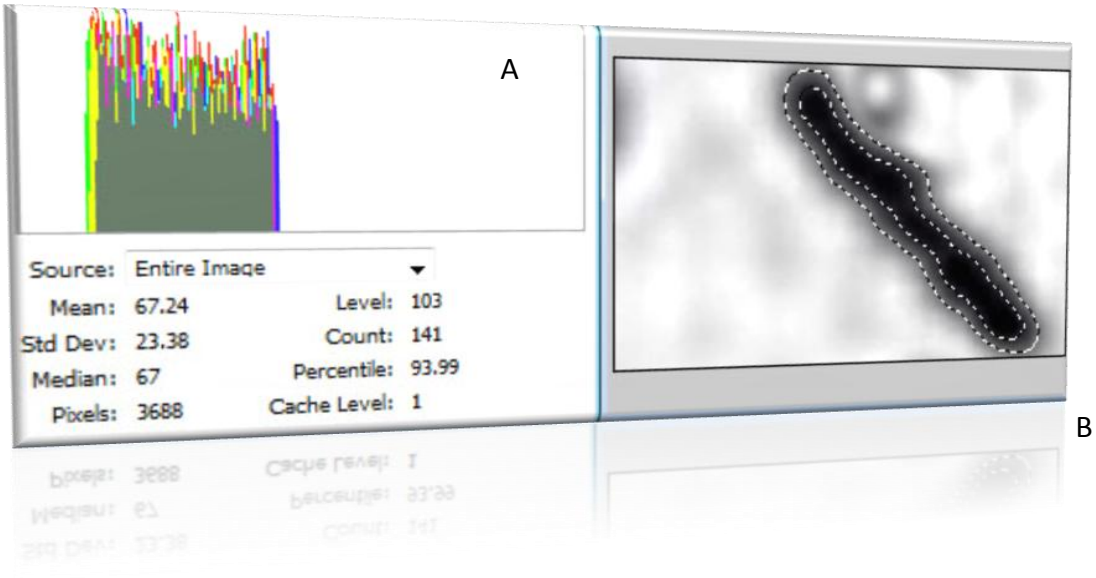


Figure (30_I): Photograph at grey level of elementary map (A)and chromosome11 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

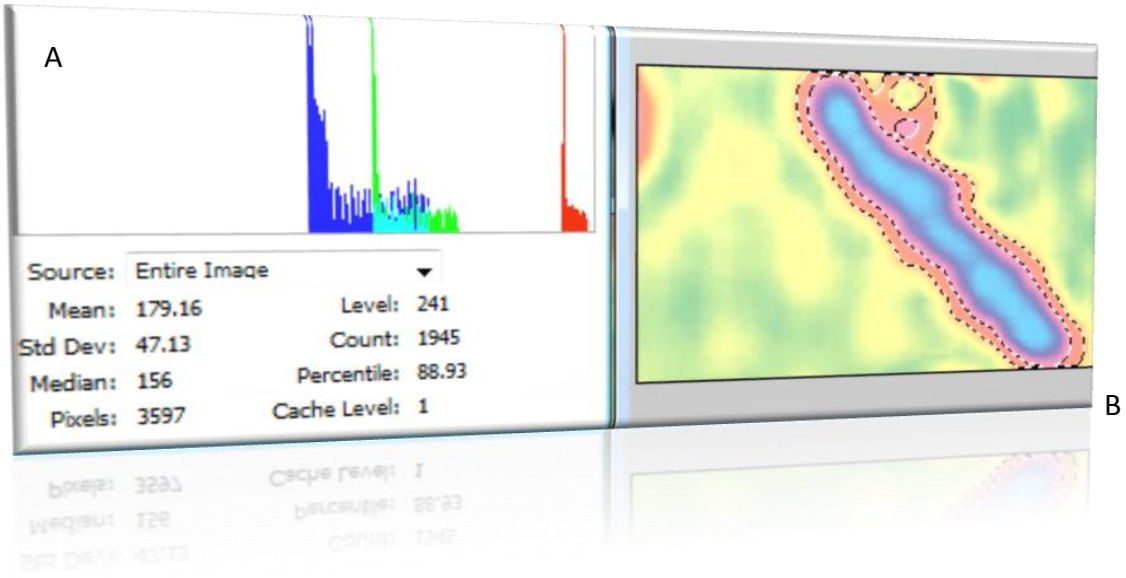


Figure (30_II): Photograph at RBG level of elementary map (A)and chromosome11(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

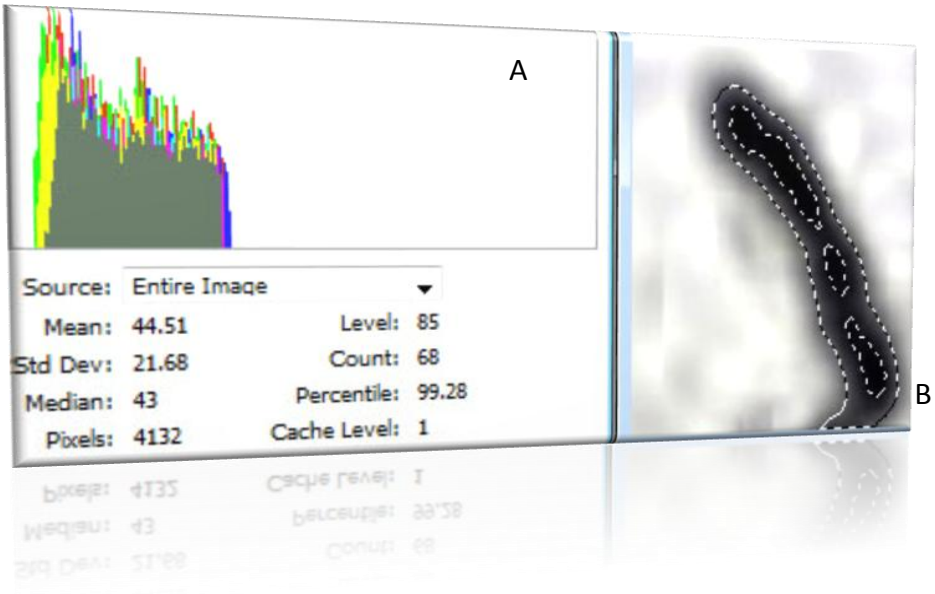


Figure (31_I): Photograph at grey level of elementary map (A)and chromosome 12(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

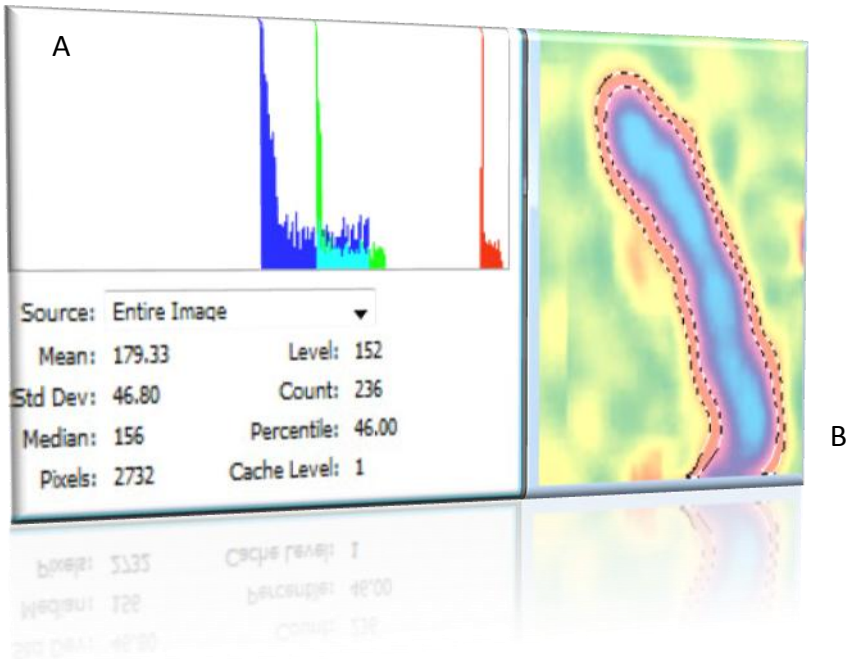


Figure (31_II): Photograph at RBG level of elementary map (A)and chromosome12(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

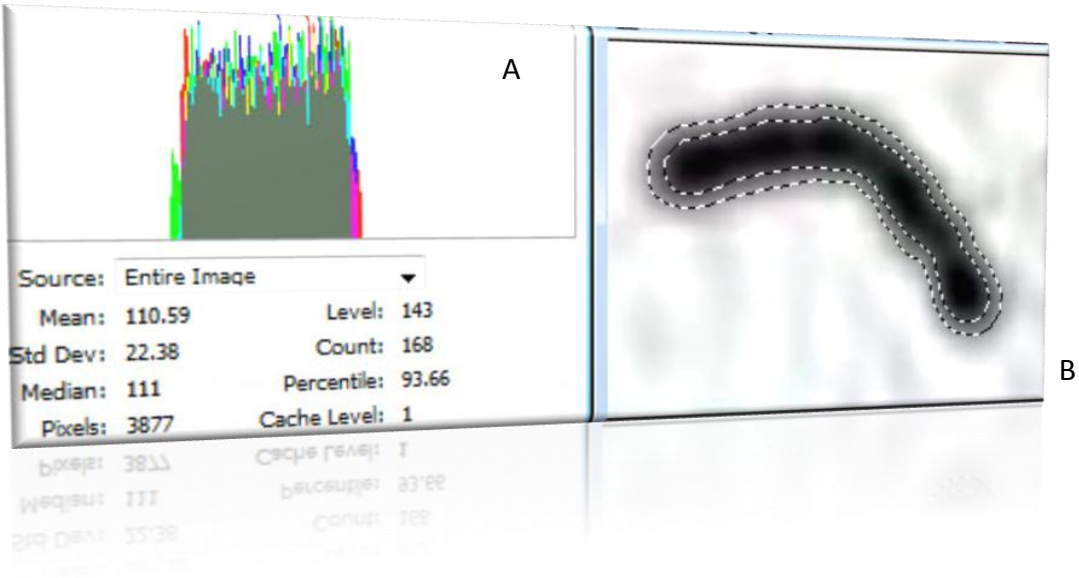


Figure (32_I): Photograph at grey level of elementary map (A)and chromosome 13(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

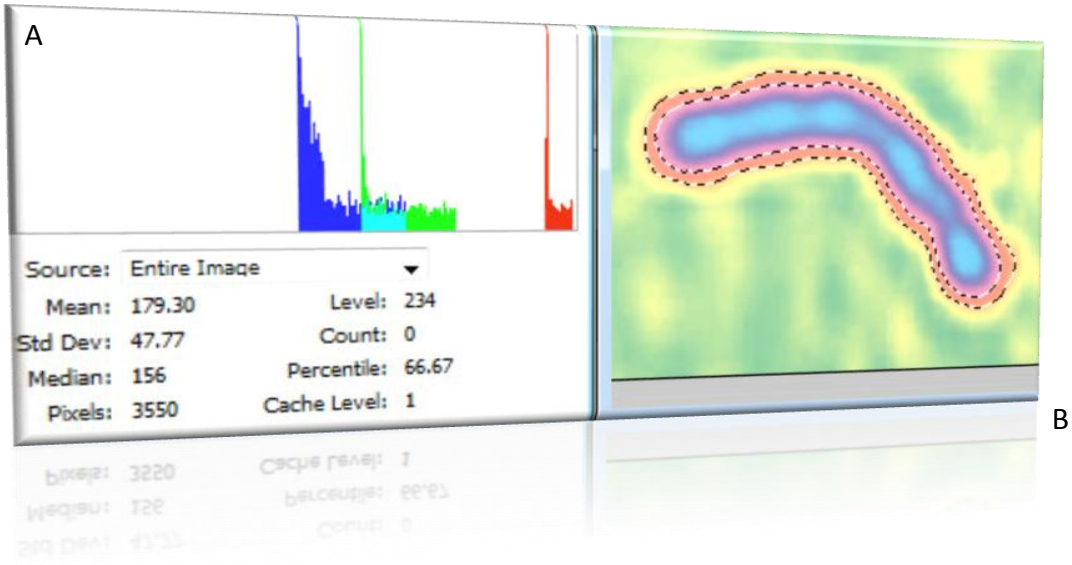


Figure (32_II): Photograph at RBG level of elementary map (A)and chromosome13(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

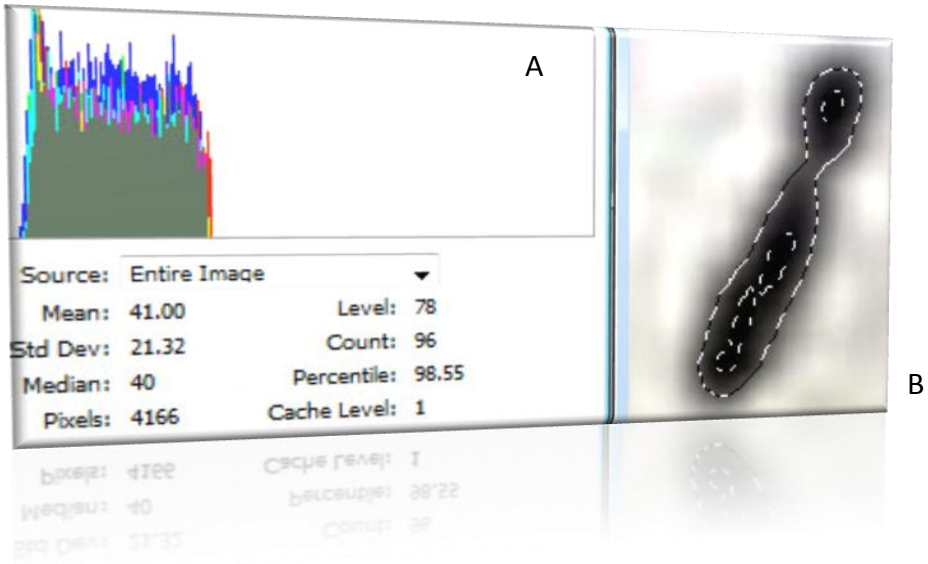


Figure (33_I): Photograph at grey level of elementary map (A)and chromosome 14(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

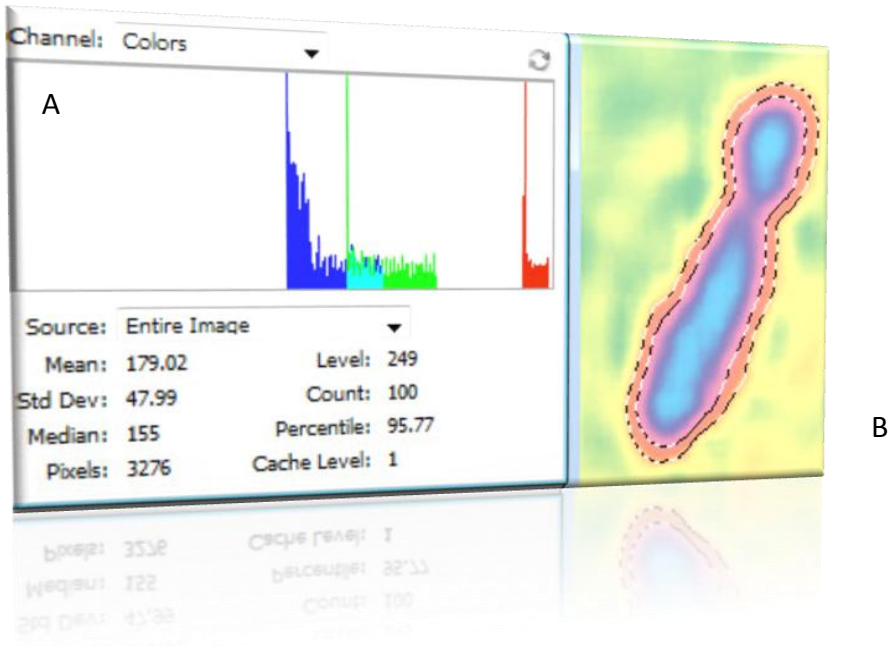


Figure (33_II):Photograph at RBG level of elementary map (A)and chromosome 14(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

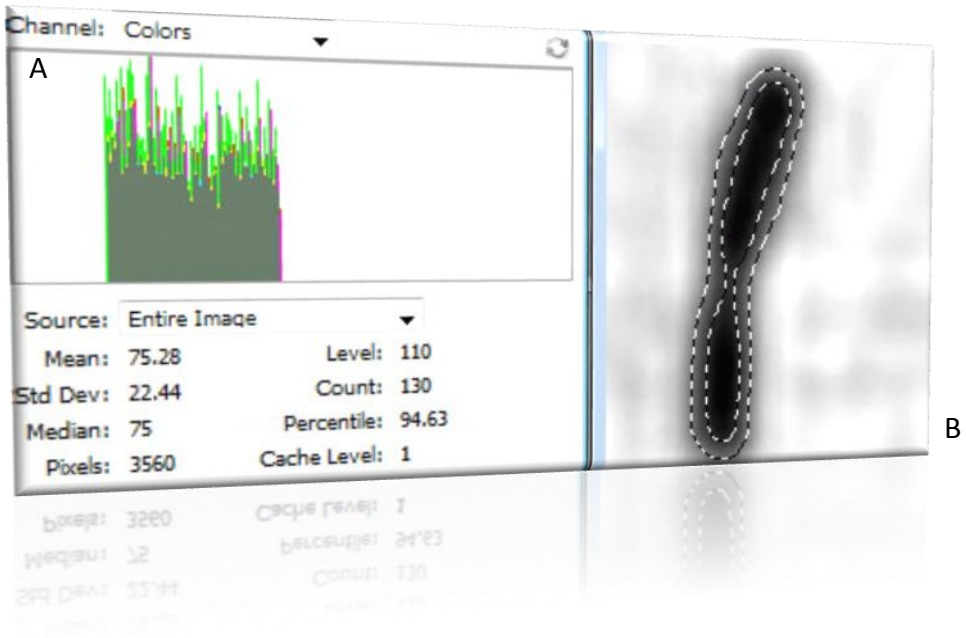


Figure (34_I): Photograph at grey level of elementary map (A)and chromosome 15(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

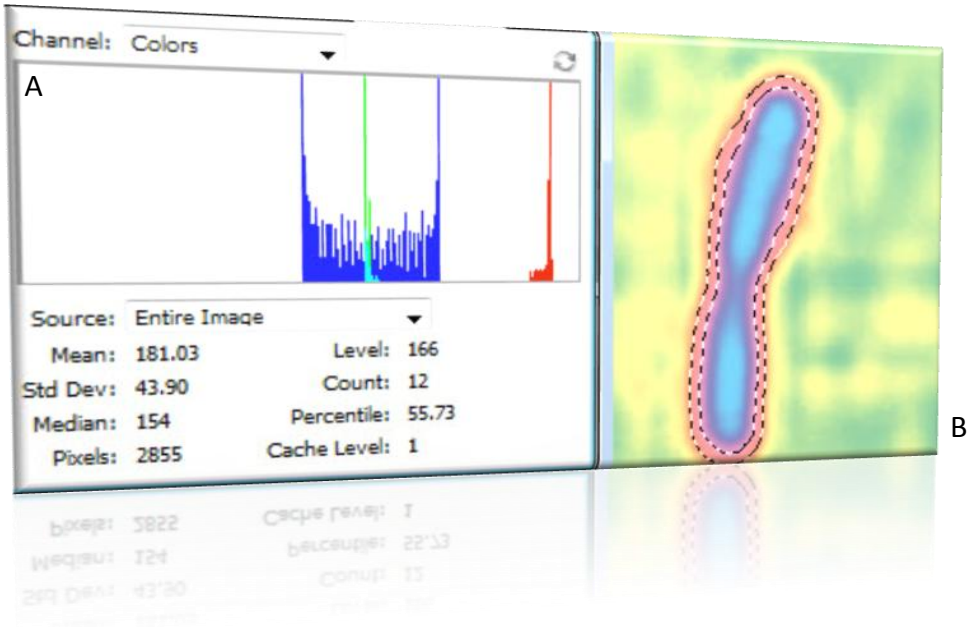


Figure (34_II): Photograph at RBG level of elementary map (A)and chromosome15(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

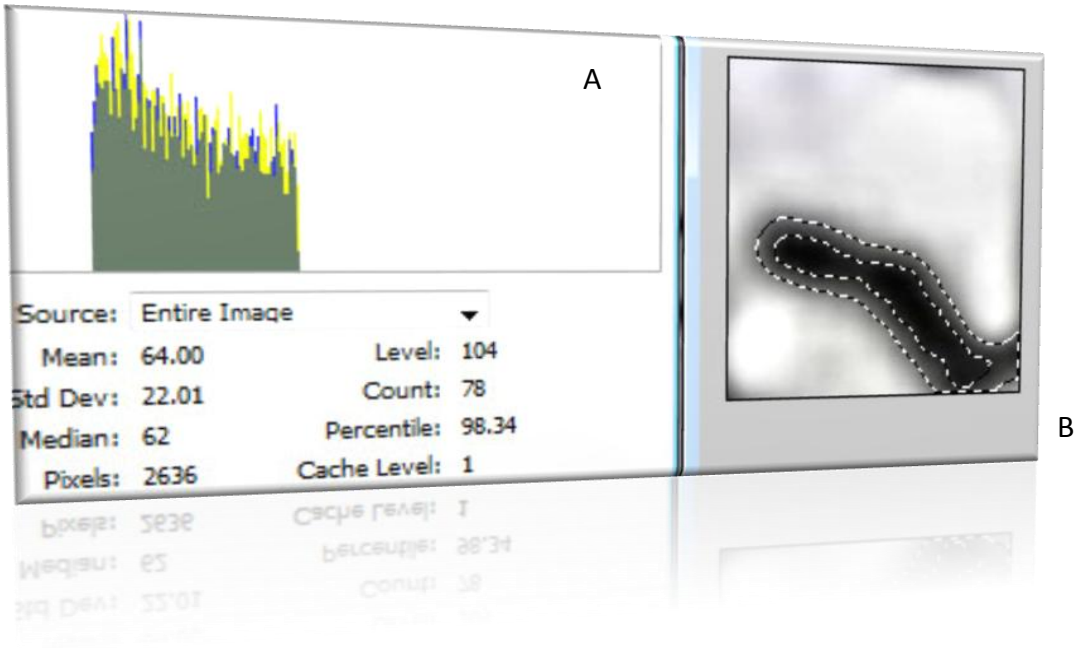


Figure (35_I): Photograph at grey level of elementary map (A)and chromosome 16(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

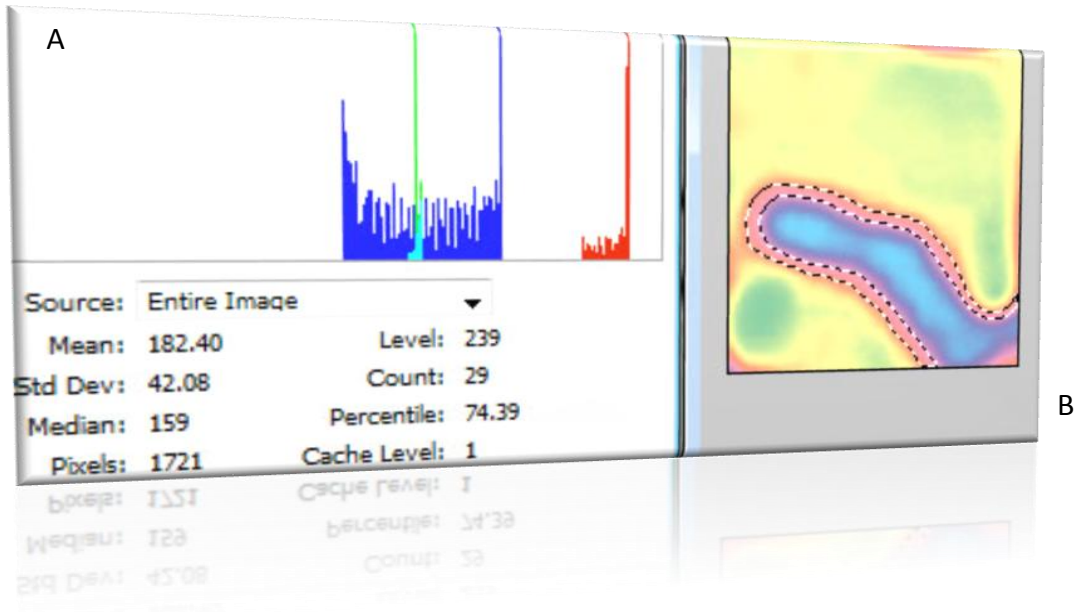


Figure (35_II): Photograph at RBGlevel of elementary map (A)and chromosome 16(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

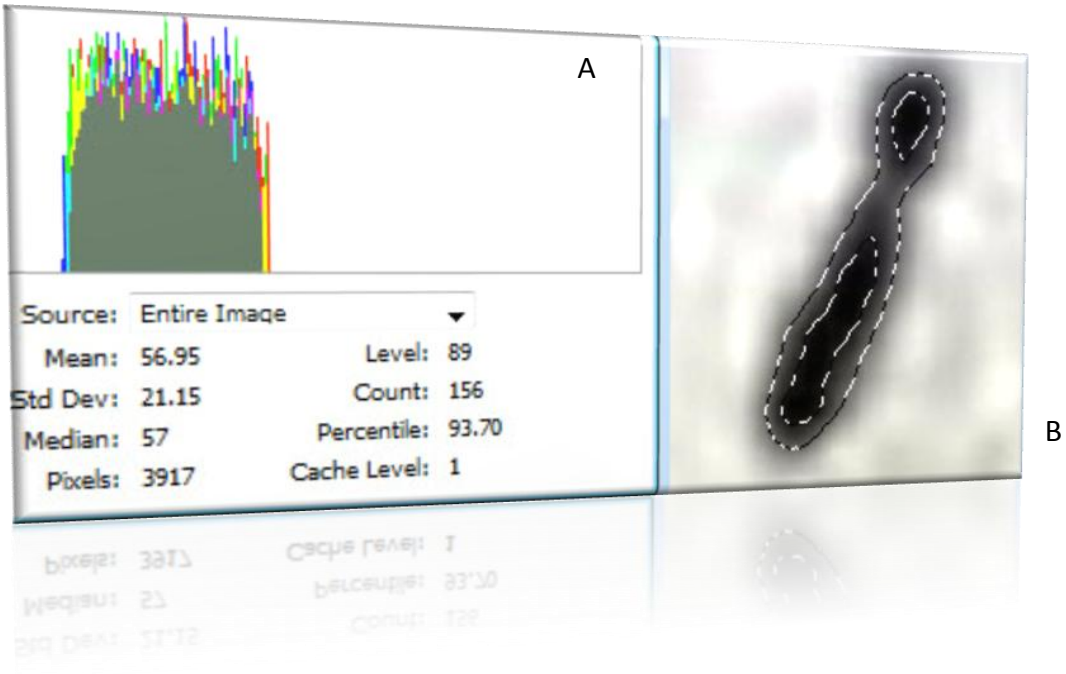


Figure (36_I): Photograph at grey level of elementary map (A)and chromosome 17(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

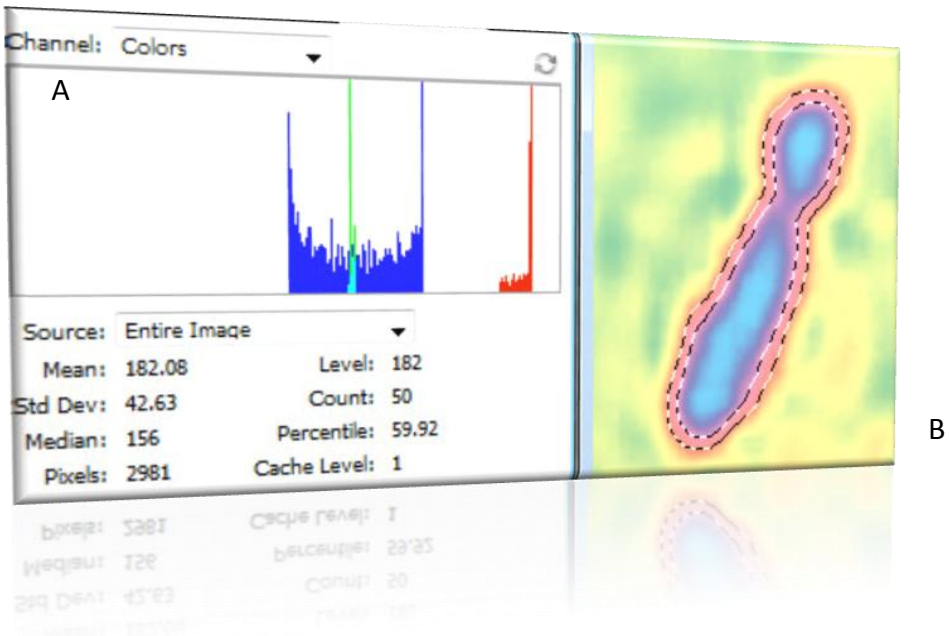


Figure (36_II): Photograph at RBG level of elementary map (A)and chromosome17(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

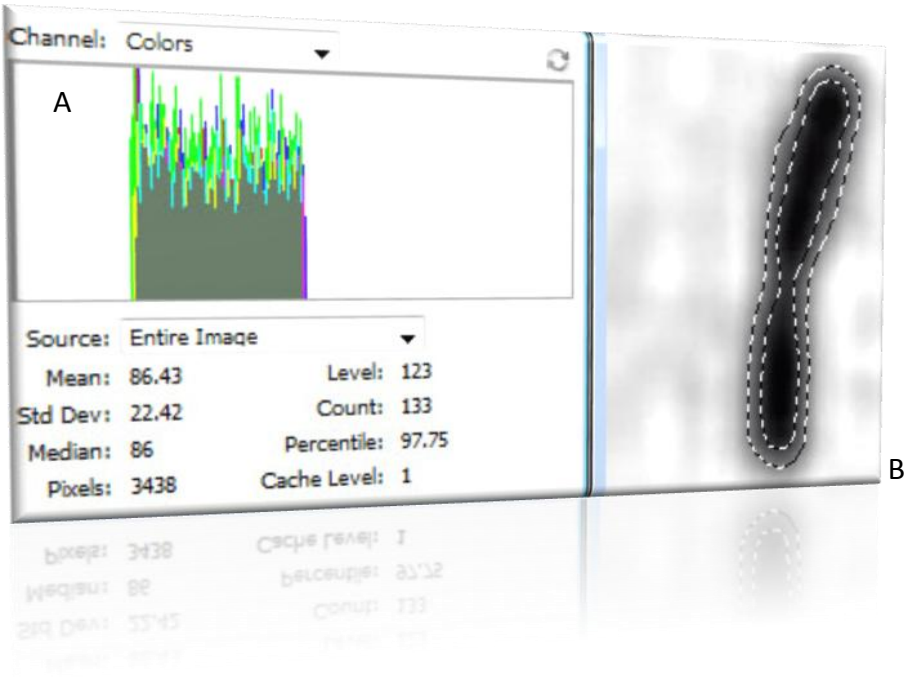
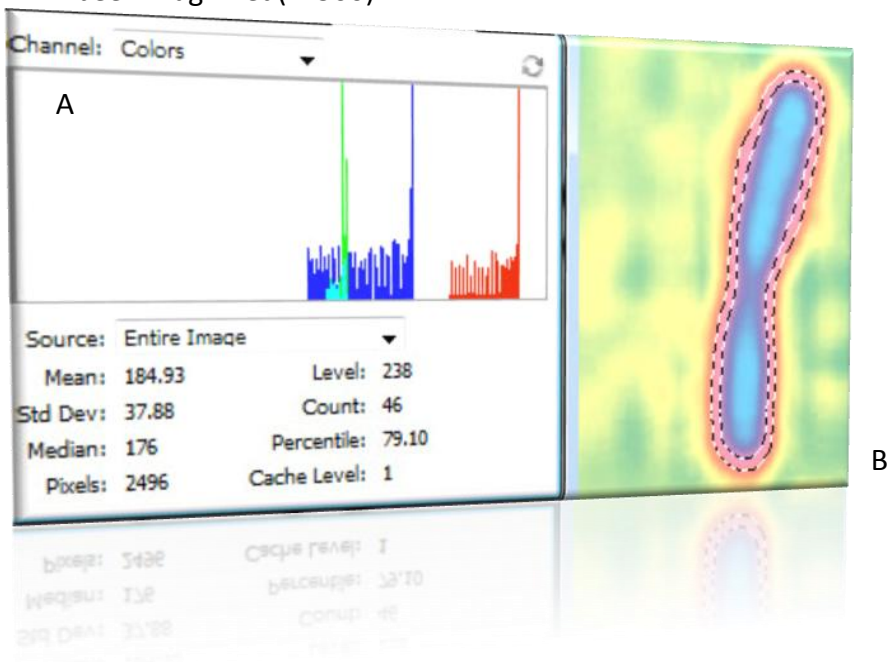


Figure (37_I): Photograph at grey level of elementary map (A)and chromosome 18(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)



Figure(37_II): Photograph at RBG level of elementary map (A)and chromosome 18(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

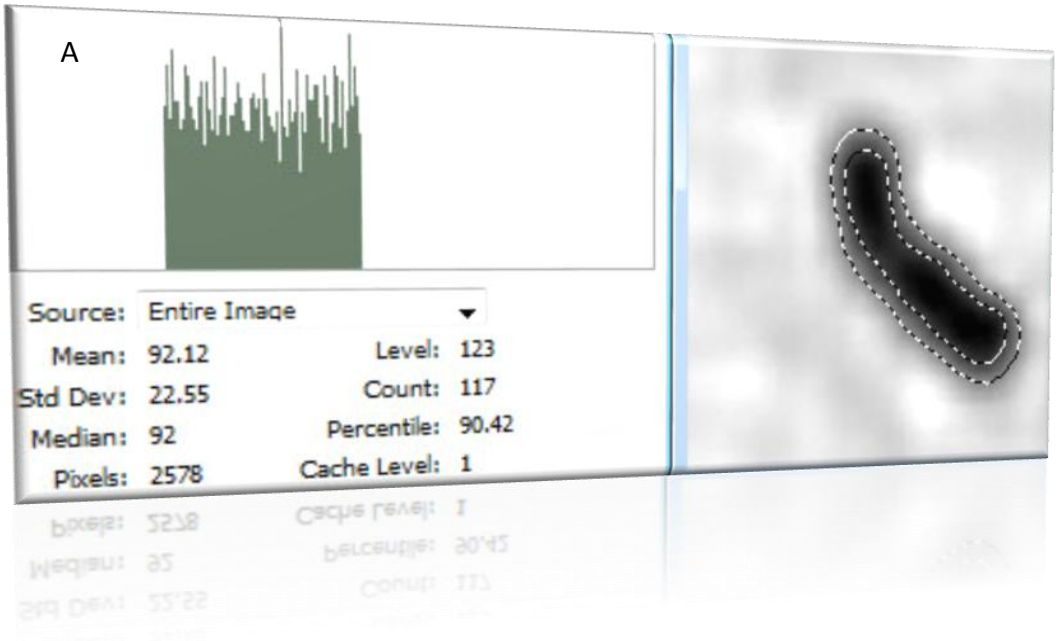


Figure (38_I): Photograph at grey level of elementary map (A)and chromosome 19(B) obtaining the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

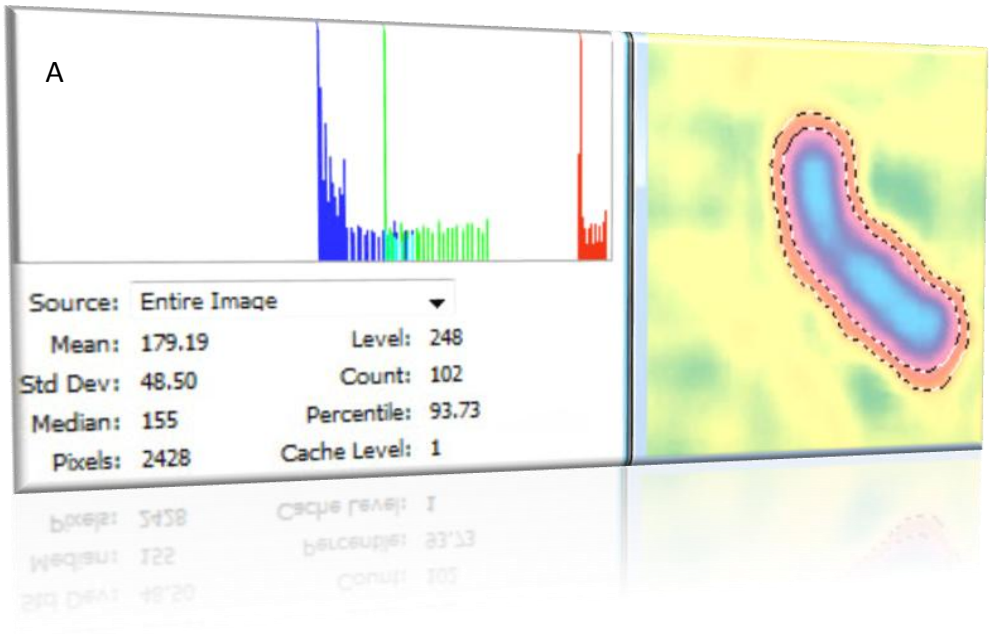


Figure (38_II): Photograph at RBG level of elementary map (A)and chromosome19(B) obtaining the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

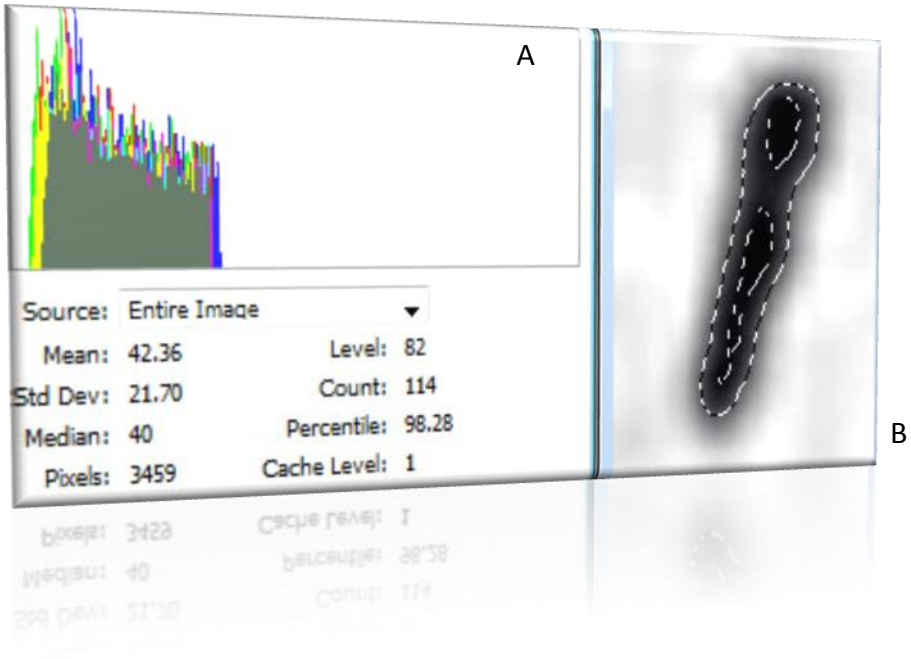


Figure (39_I): Photograph at grey level of elementary map (A)and chromosome 20(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

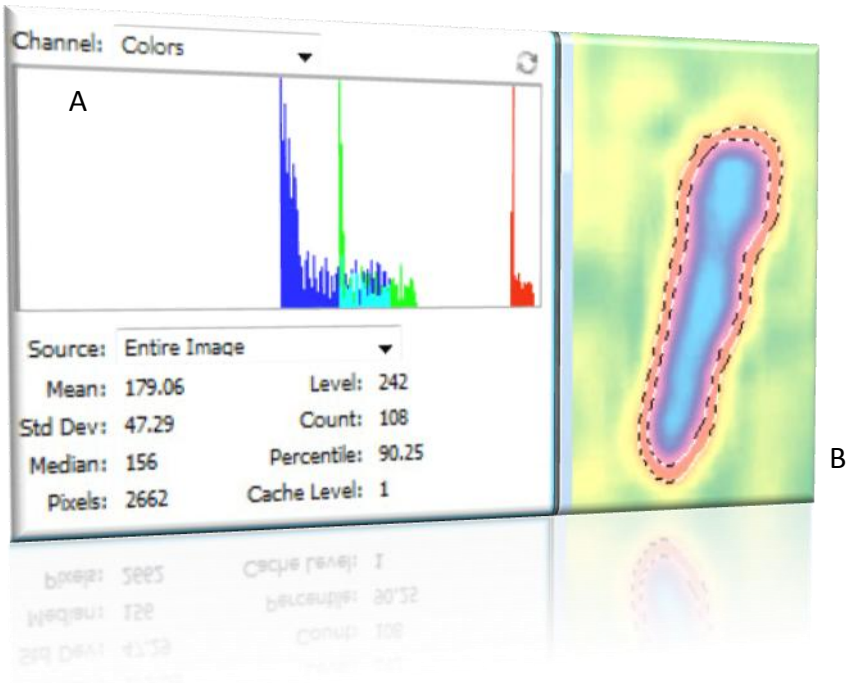


Figure (39_II): Photograph at RBG level of elementary map (A)and chromosome20(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

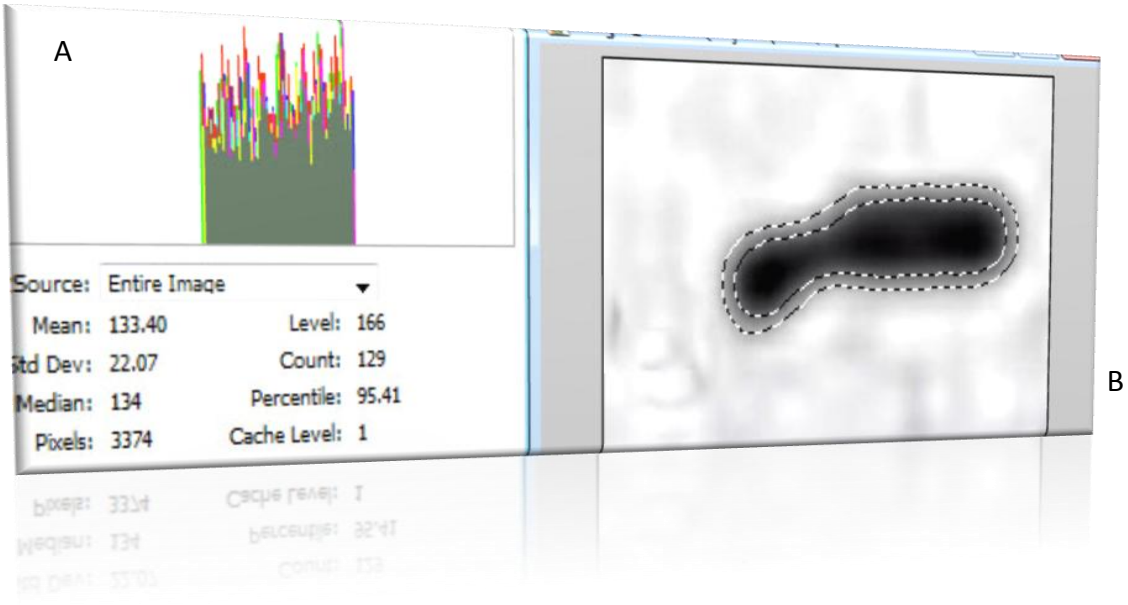


Figure (40_I): Photograph at grey level of elementary map (A)and chromosome 21(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

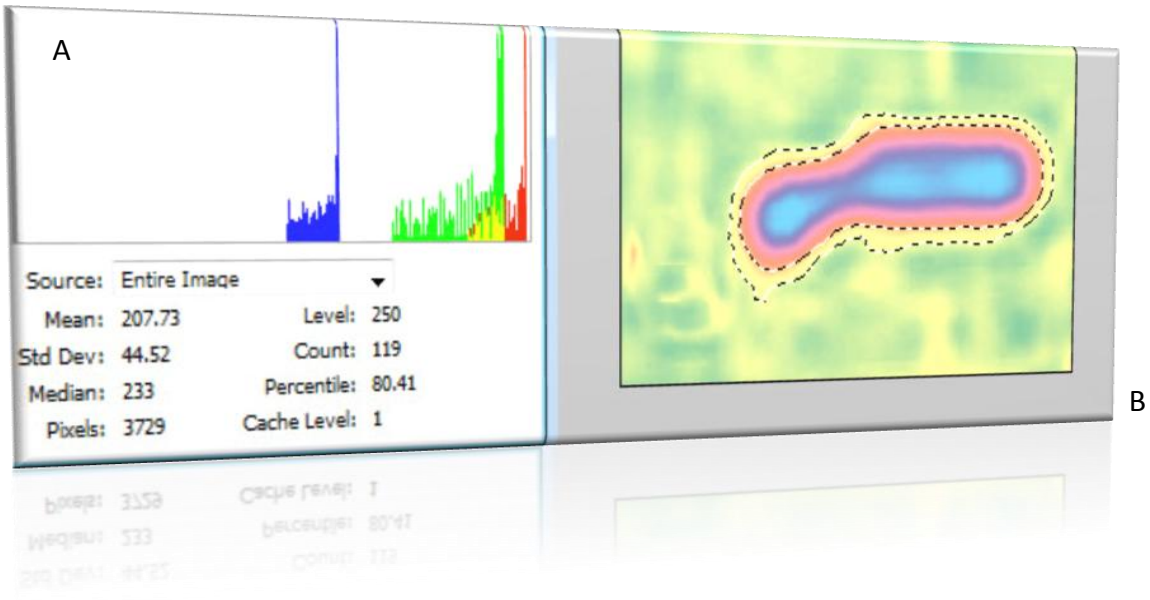


Figure (40_II): Photograph at RBG level of elementary map (A)and chromosome21(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

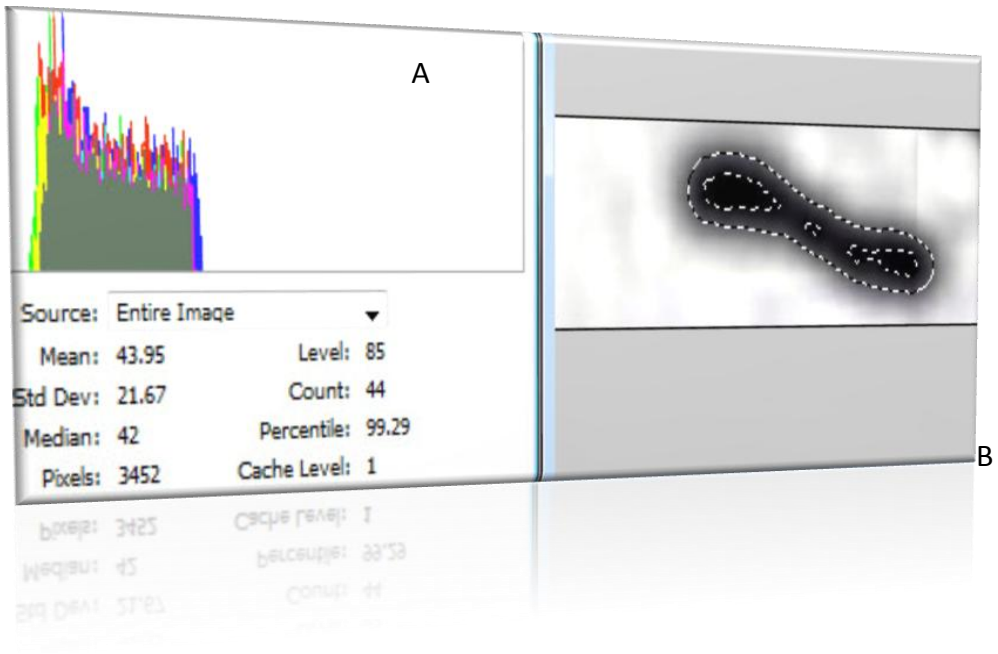


Figure (41_I): Photograph at grey level of elementary map (A)and chromosome 22(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

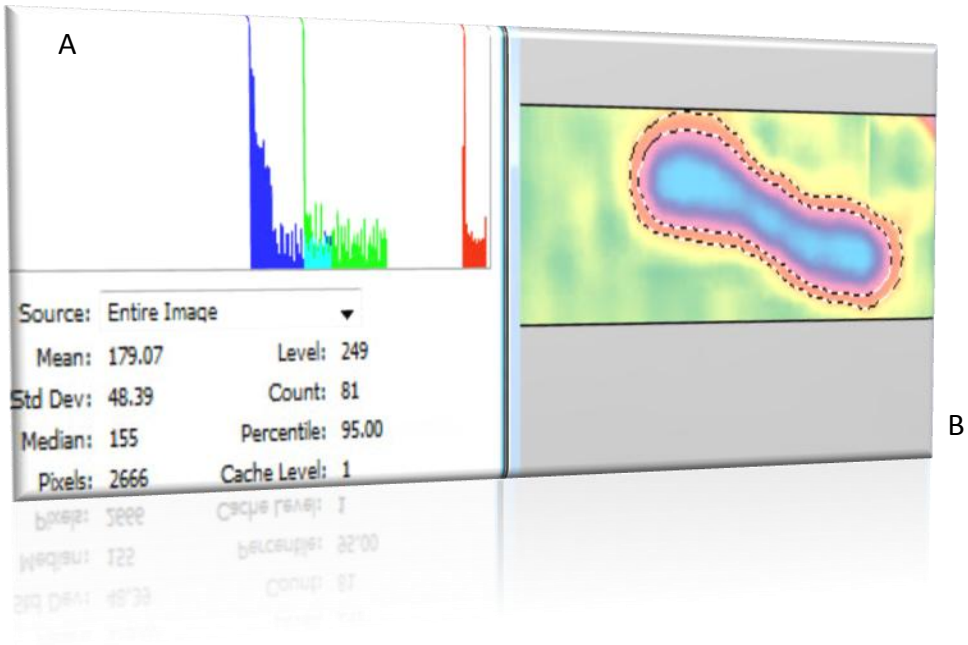


Figure (41_II): Photograph at RBG level of elementary map (A)and chromosome22(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

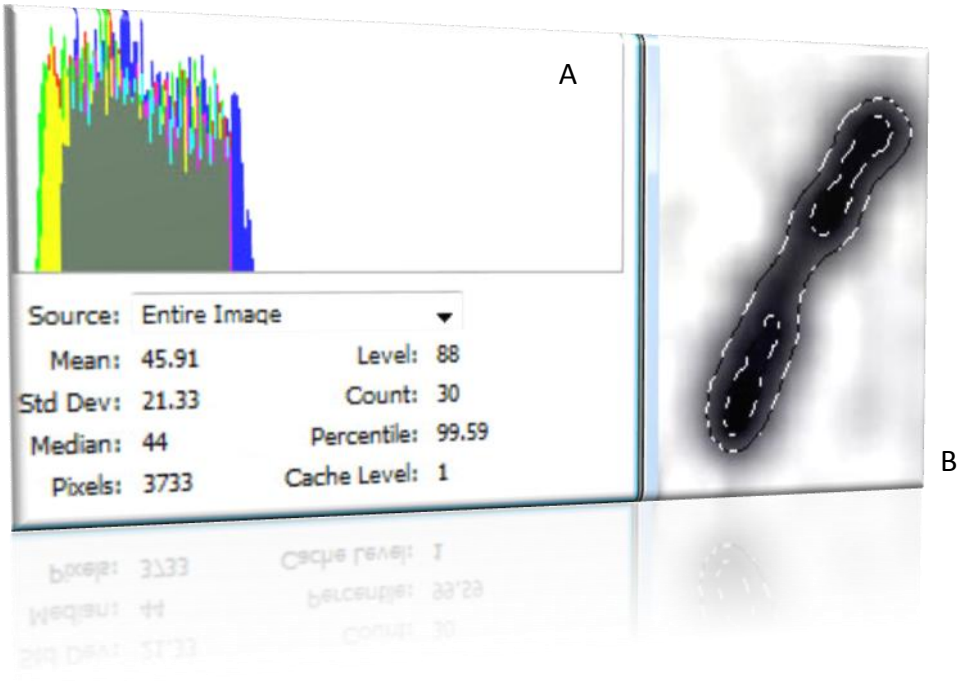


Figure (42_I): Photograph at grey level of elementary map (A)and chromosome 23(B) giving the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

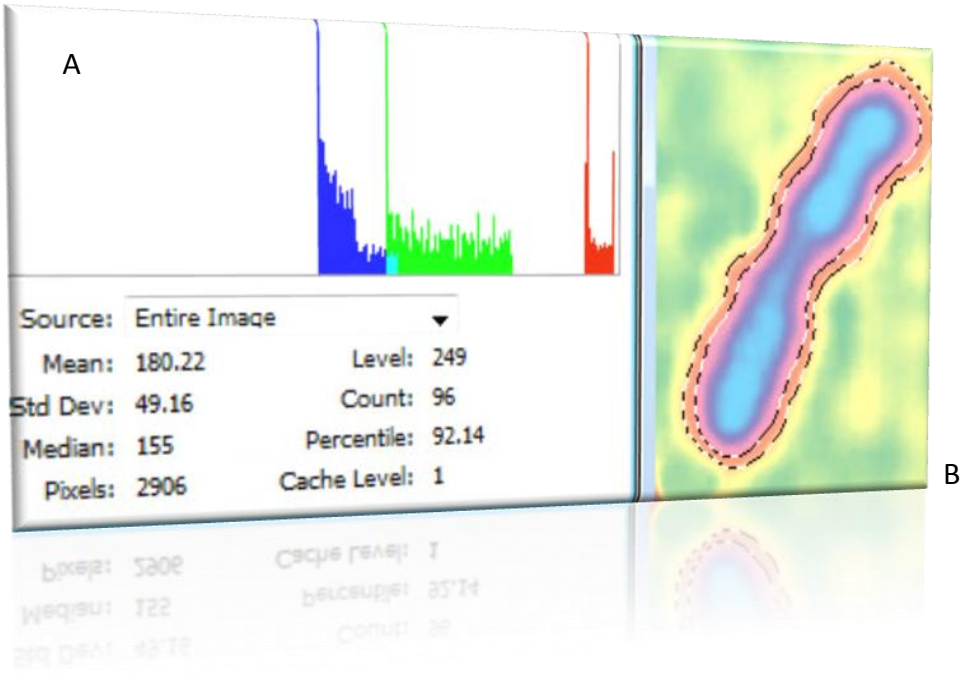


Figure (42_II): Photograph at RBG level of elementary map (A)and chromosome23(B) giving the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

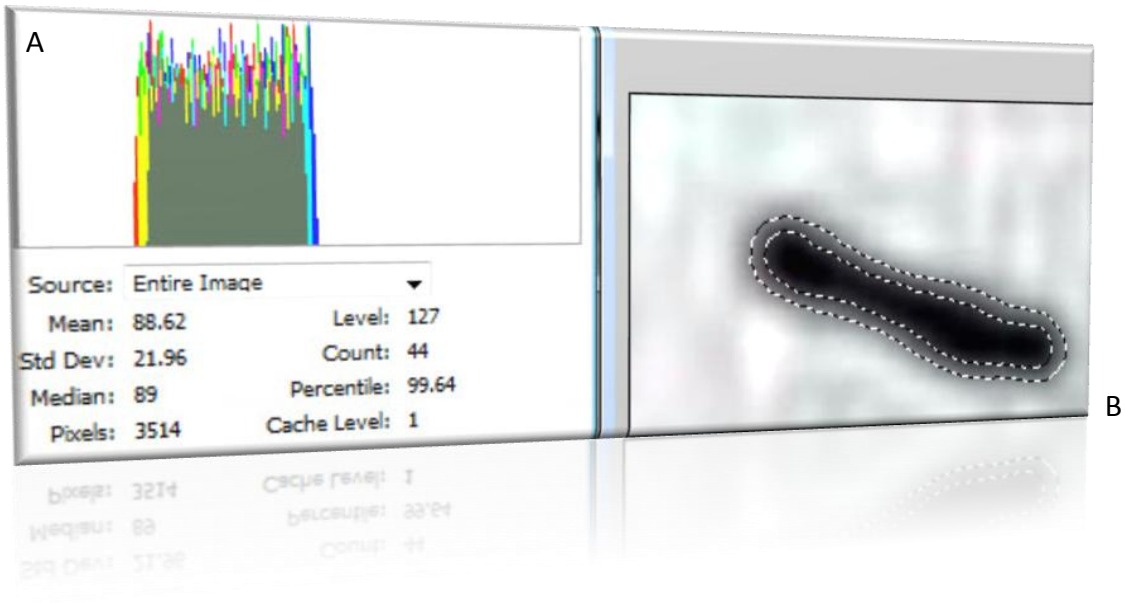


Figure (43_I): Photograph at grey level of elementary map (A)and chromosome 24(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

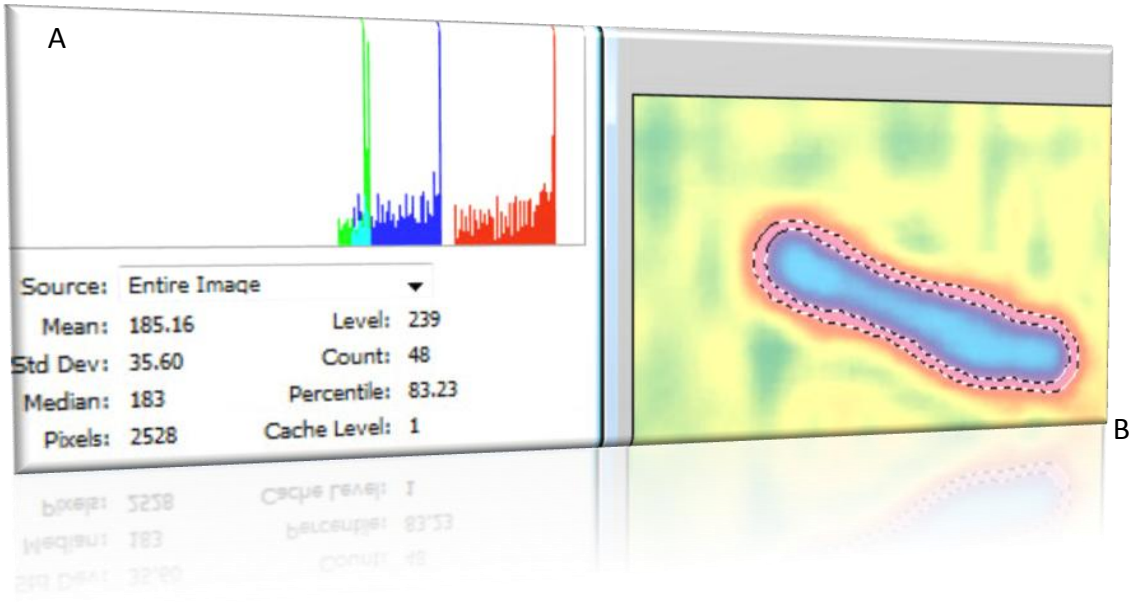


Figure (43_II): Photograph at RBG level of elementary map (A)and chromosome24(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

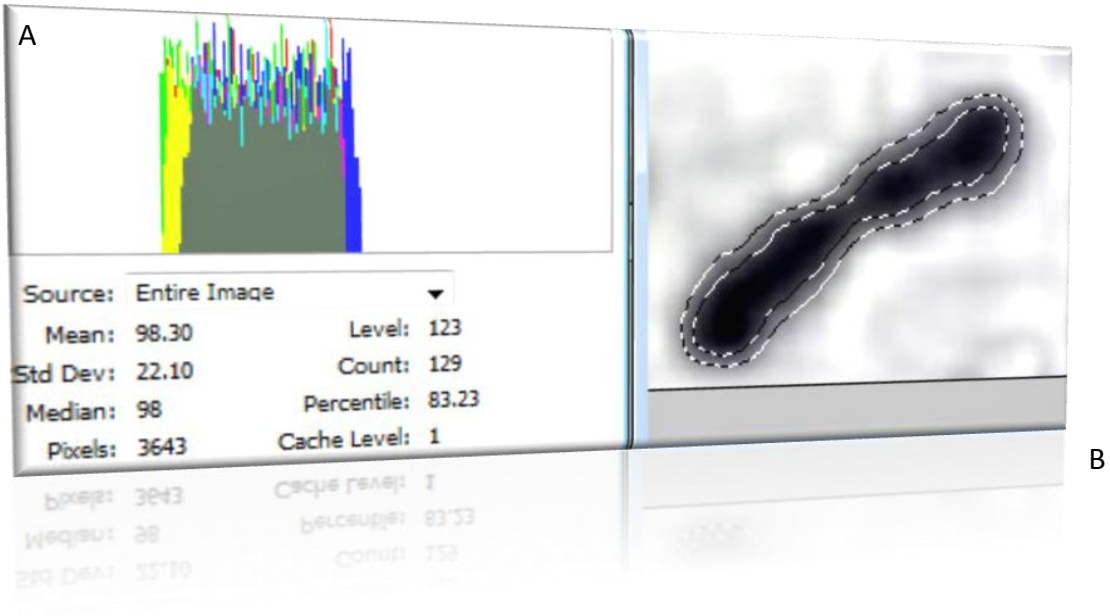


Figure (44_I): Photograph at grey level of elementary map (A)and chromosome 25(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

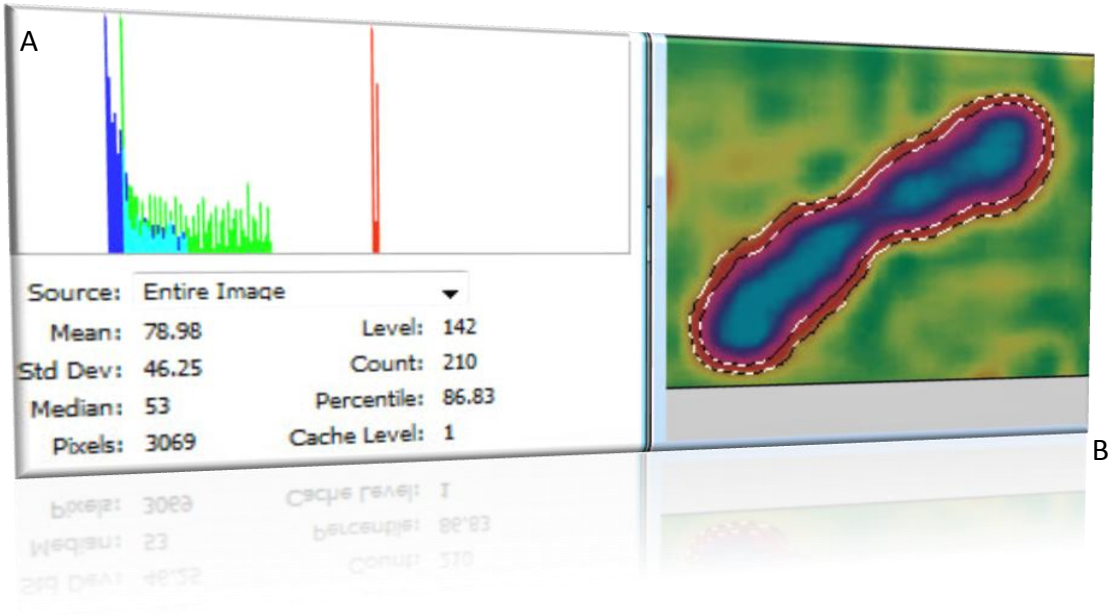


Figure (44_II): Photograph at RBG level of elementary map (A)and chromosome25(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

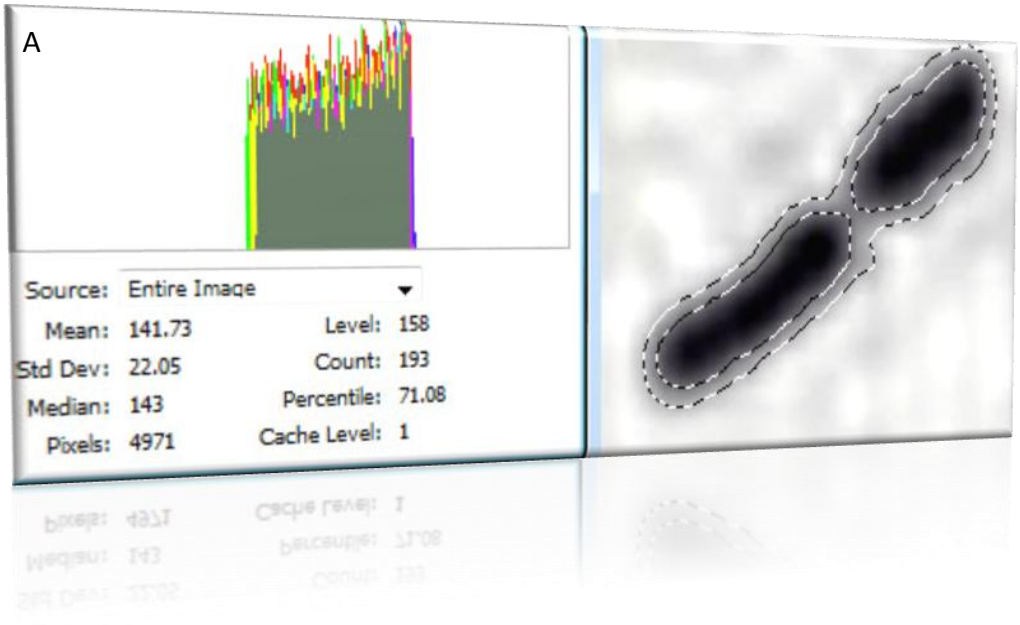


Figure (45_I): Photograph at grey level of elementary map (A)and chromosome 26(B) reflecting the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

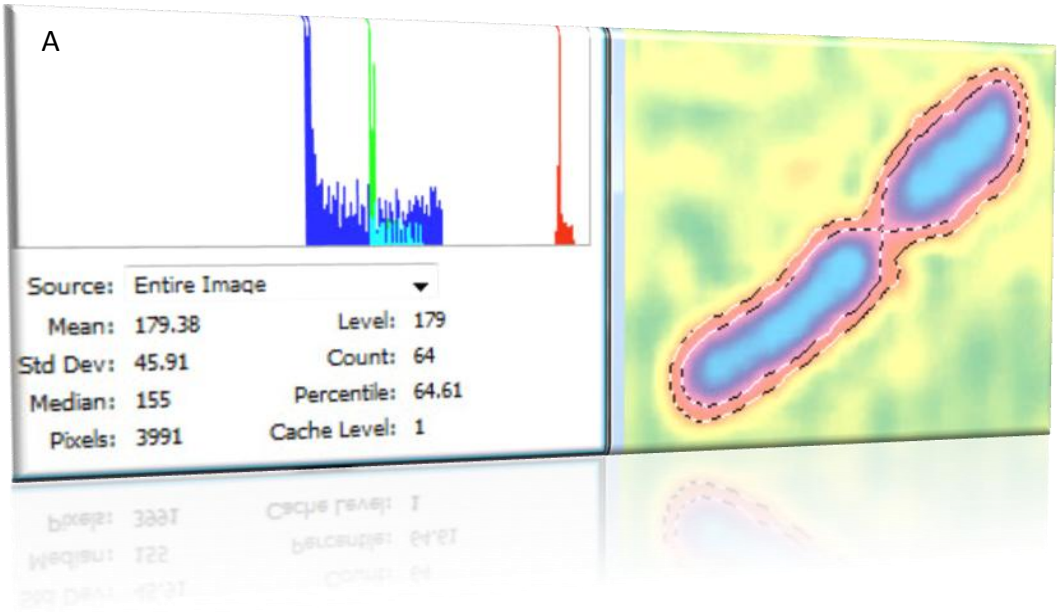


Figure (45_II): Photograph at RBG level of elementary map (A)and chromosome26(B) reflecting the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

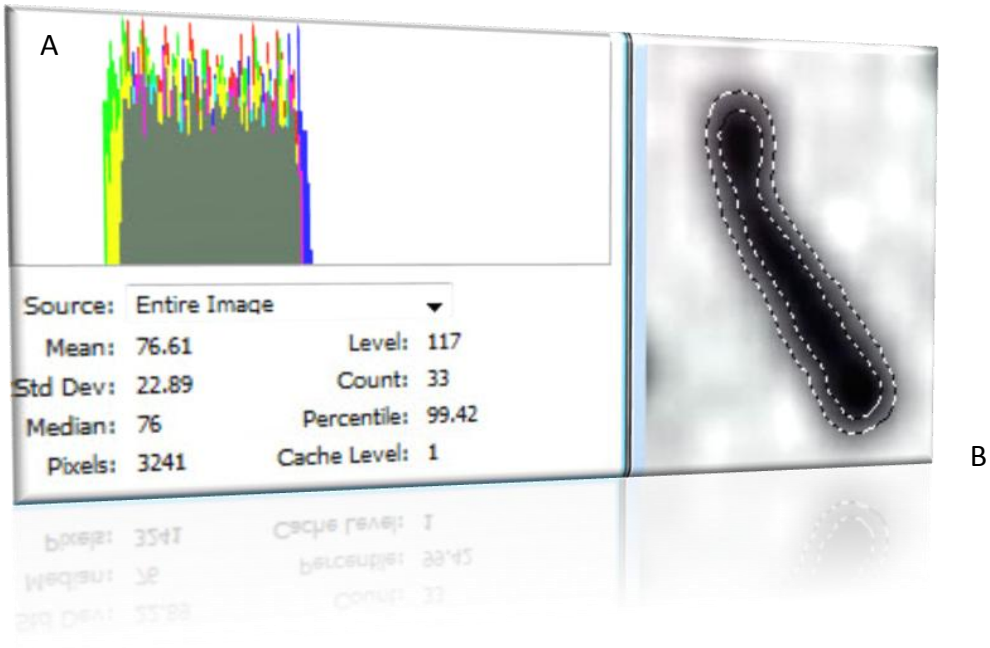


Figure (46_I): Photograph at grey level of elementary map (A)and chromosome 27(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

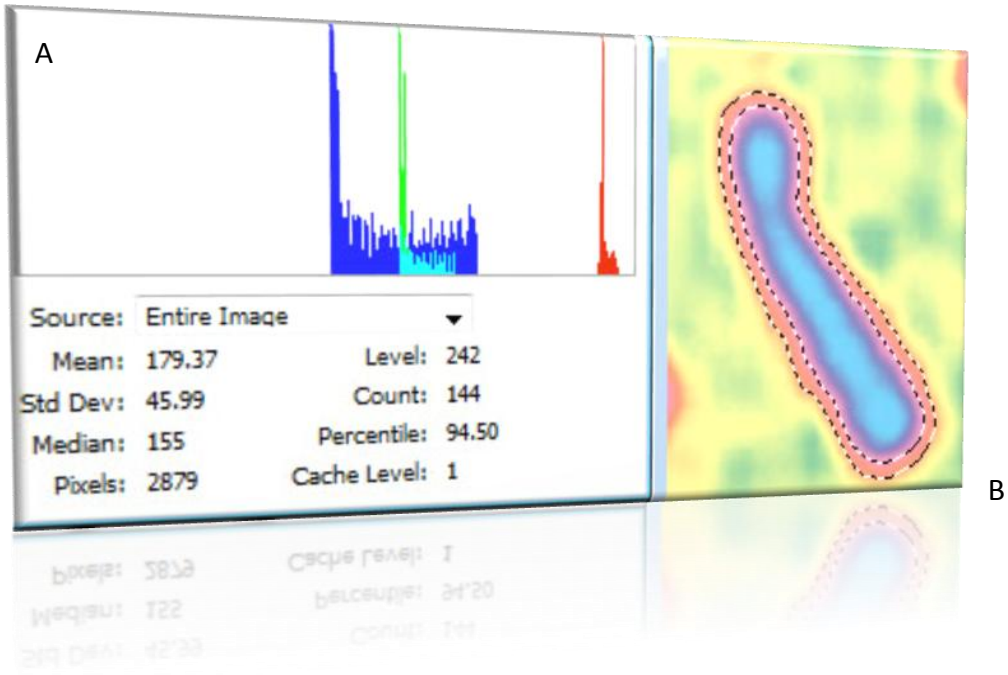


Figure (46_II): Photograph at RBG level of elementary map (A)and chromosome27(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

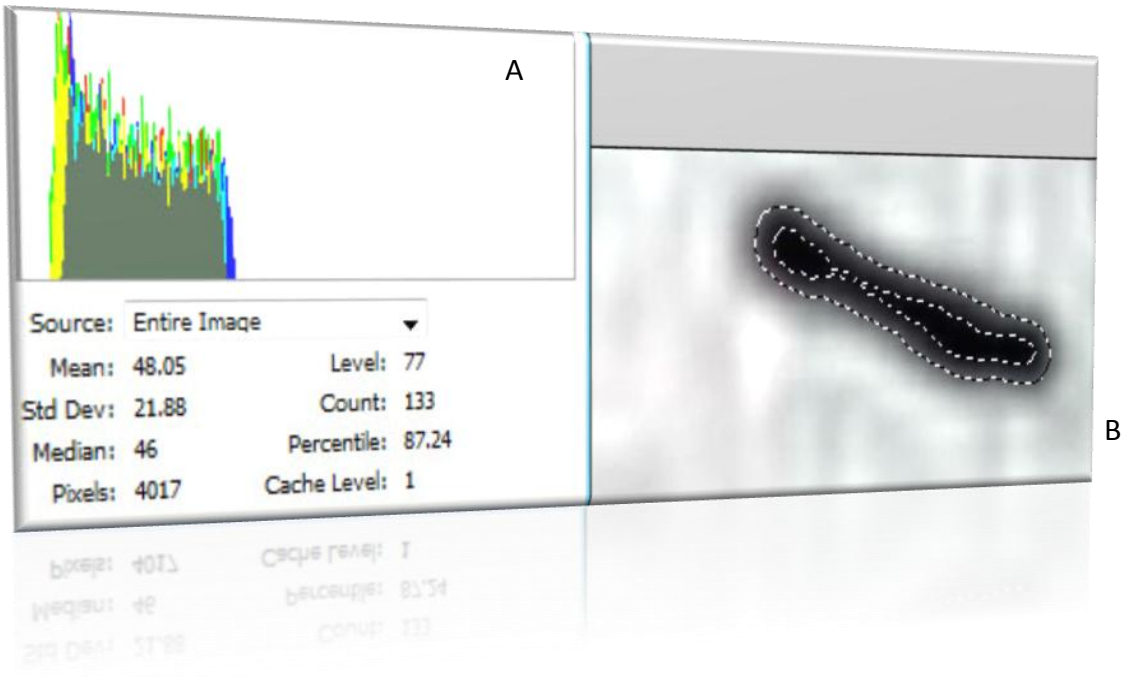


Figure (47_I): Photograph at grey level of elementary map (A)and chromosome 28(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

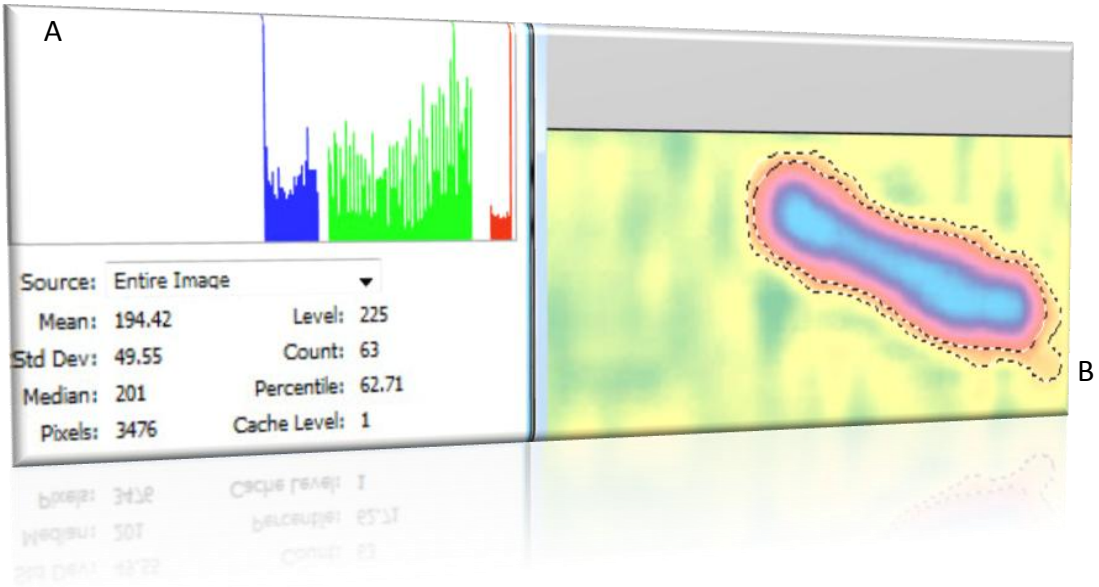


Figure (47_II): Photograph at RBG level of elementary map (A)and chromosome28(B) Showing the components of the chromosome histograph (peaks) at Different RBG scale level as well as the chromosome structure after has been magnified(x=500)

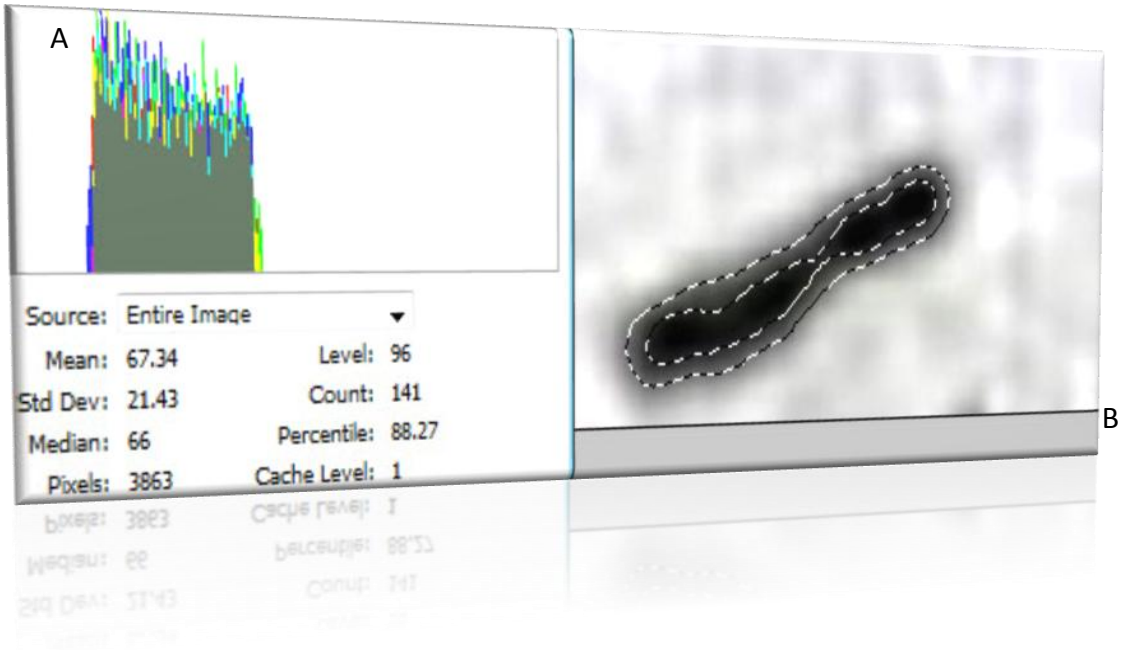


Figure (48_I): photograph at grey level of elementary map (A)and chromosome29 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

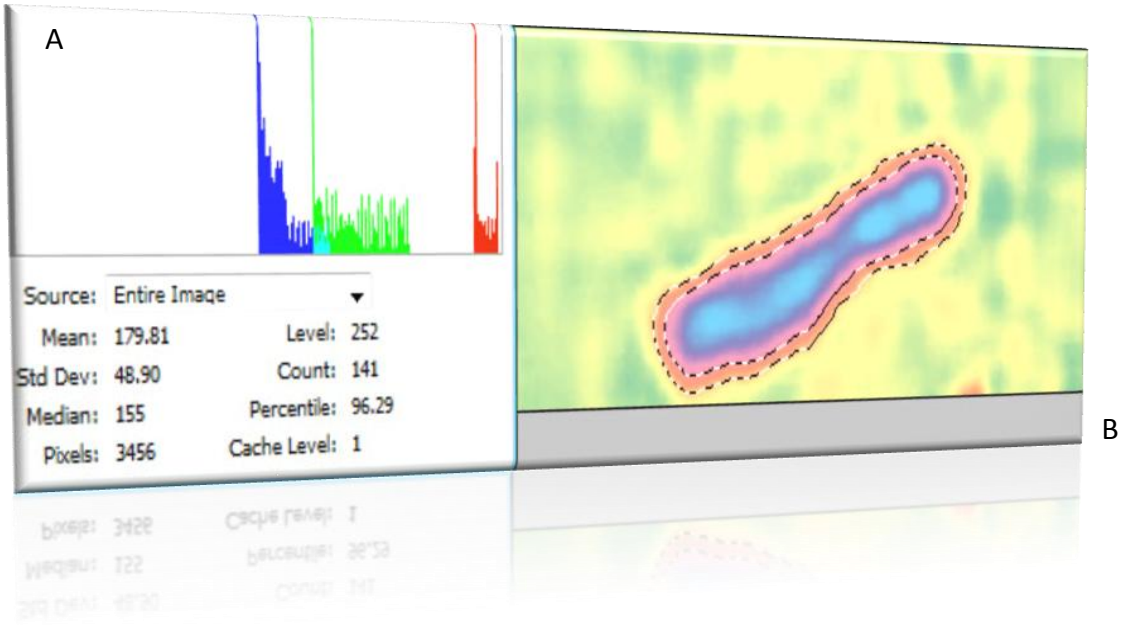


Figure (48_II): Photograph at RBG level of elementary map (A)and chromosome29(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

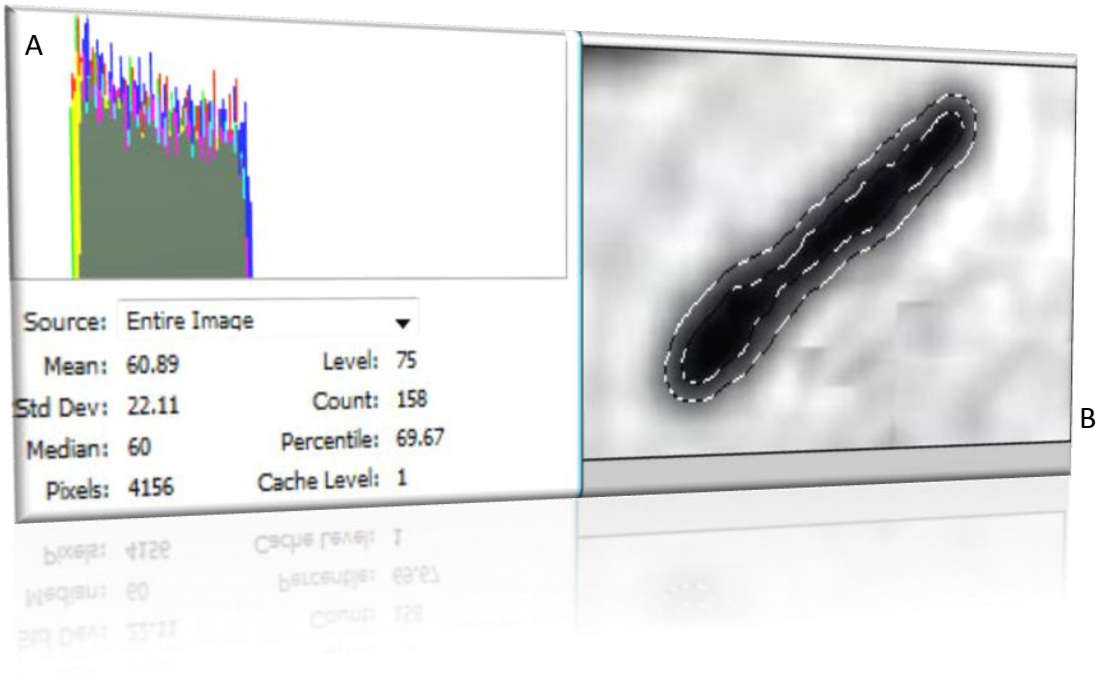


Figure (49_I): Photograph at grey level of elementary map (A)and chromosome 30(B) indicating the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

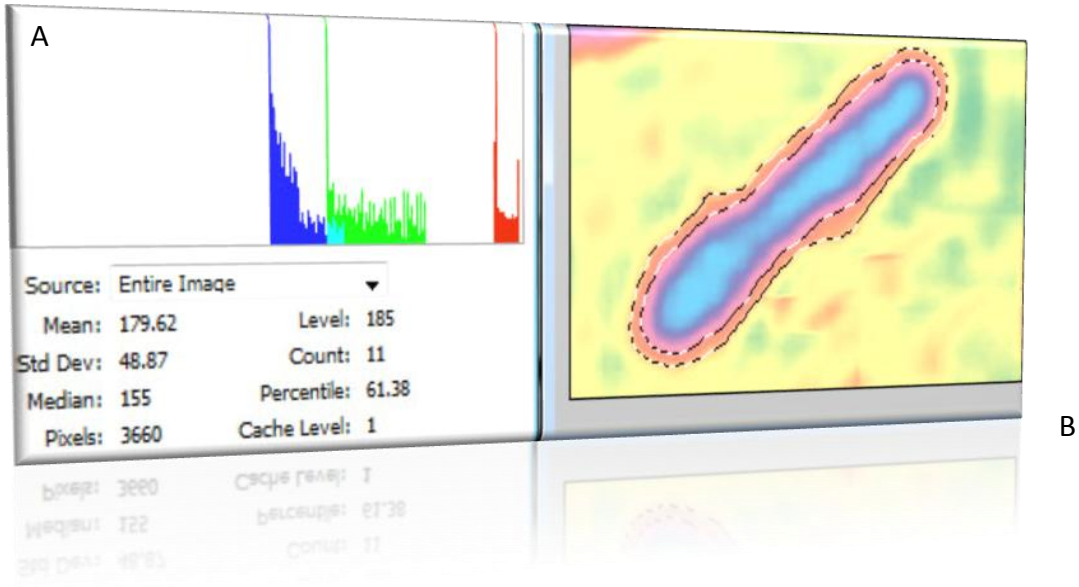


Figure (49_II): Photograph at RBG level of elementary map (A)and chromosome30(B) indicating the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

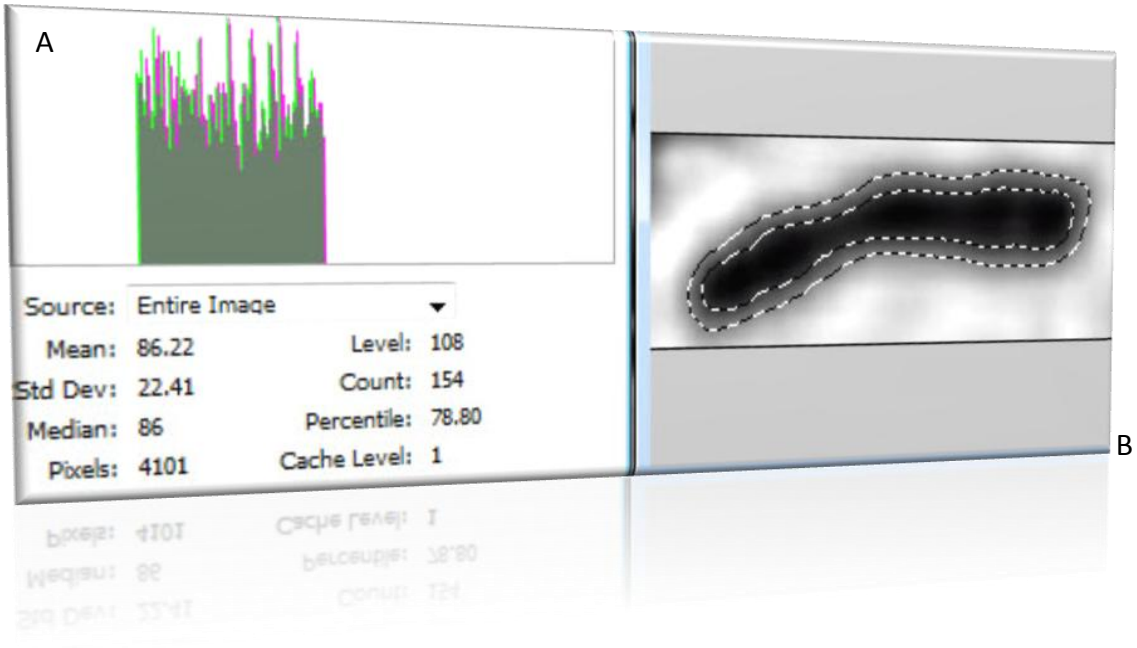


Figure (50_I): Photograph at grey level of elementary map (A)and chromosome31(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

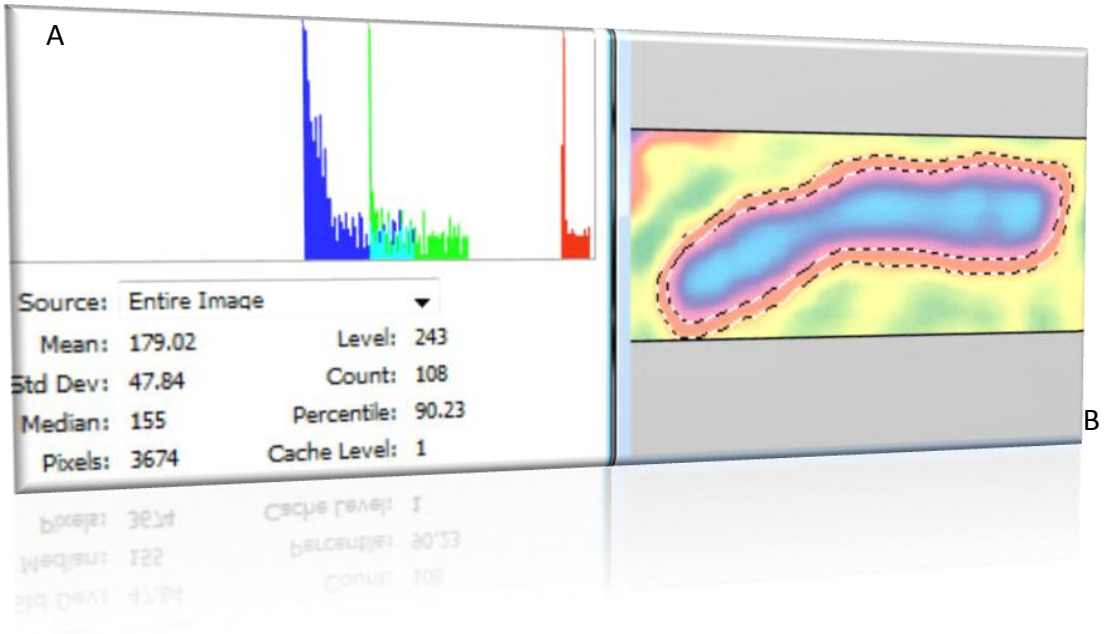


Figure (50_II): Photograph at RBG level of elementary map (A)and chromosome31(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

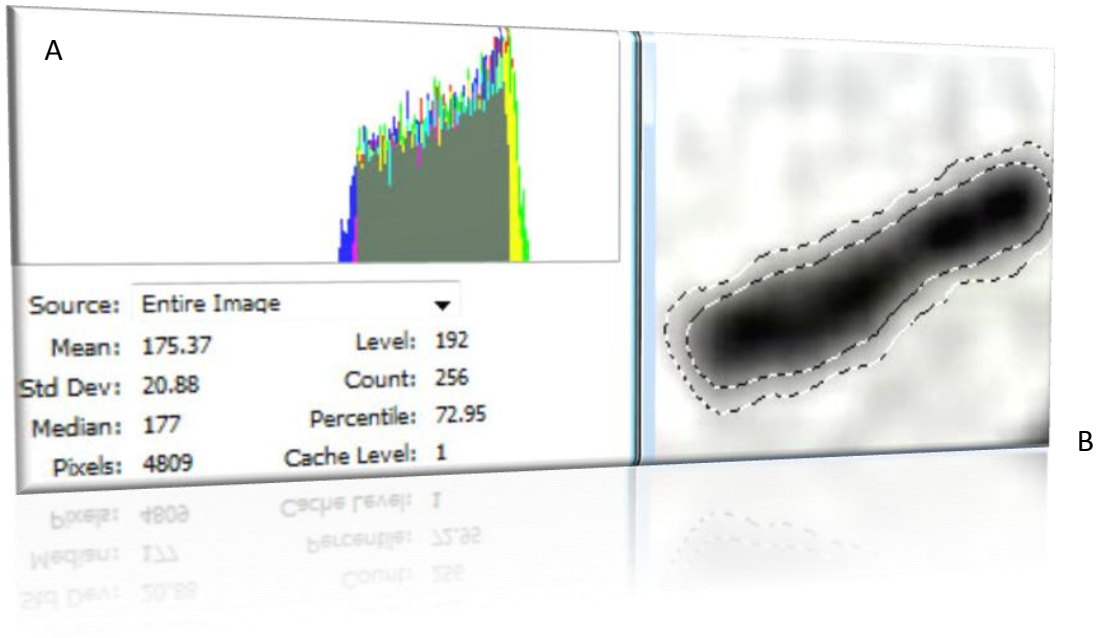


Figure (51_I): Photograph at grey level of elementary map (A)and chromosome 32(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

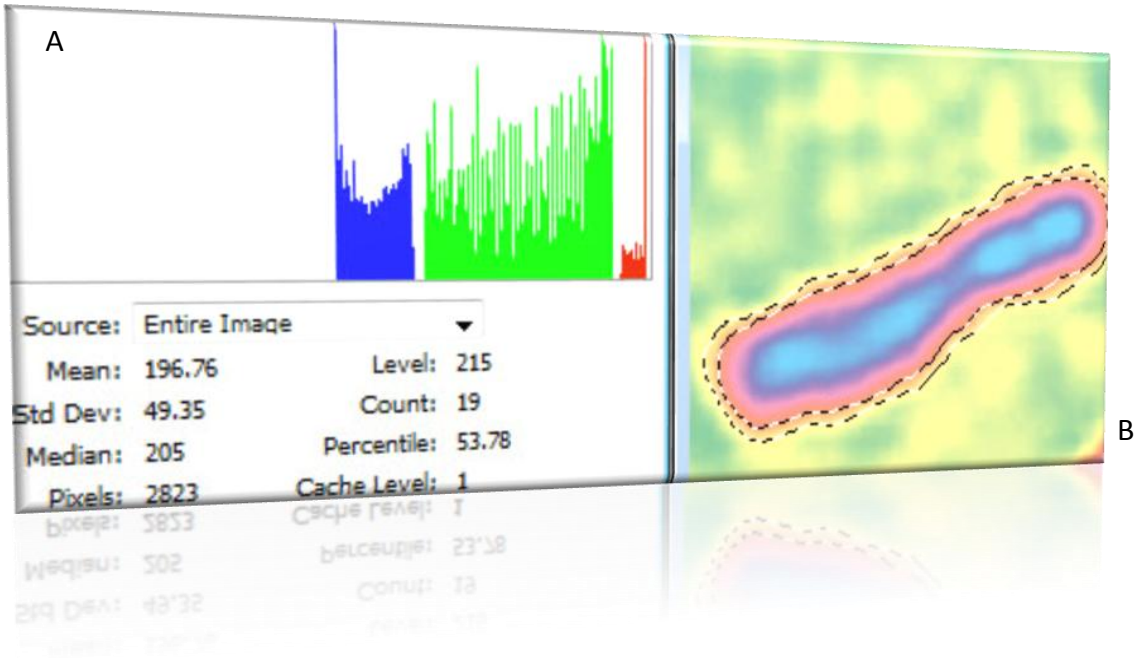


Figure (51_II): Photograph at RBG level of elementary map (A)and chromosome32(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

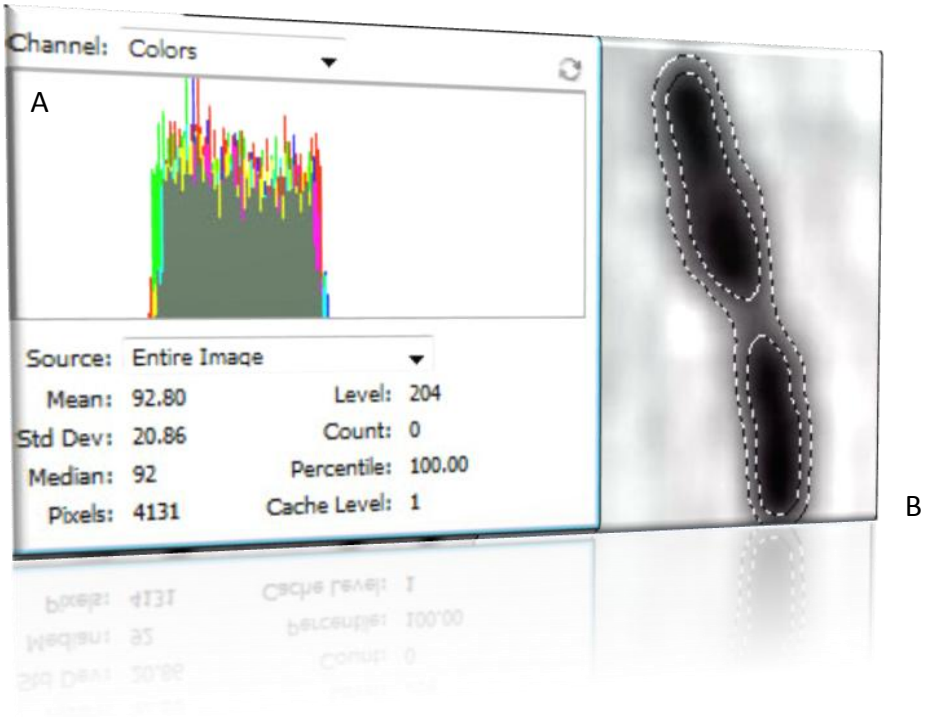


Figure (52_I): Photograph at grey level of elementary map (A)and chromosome 33(B) assuming the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

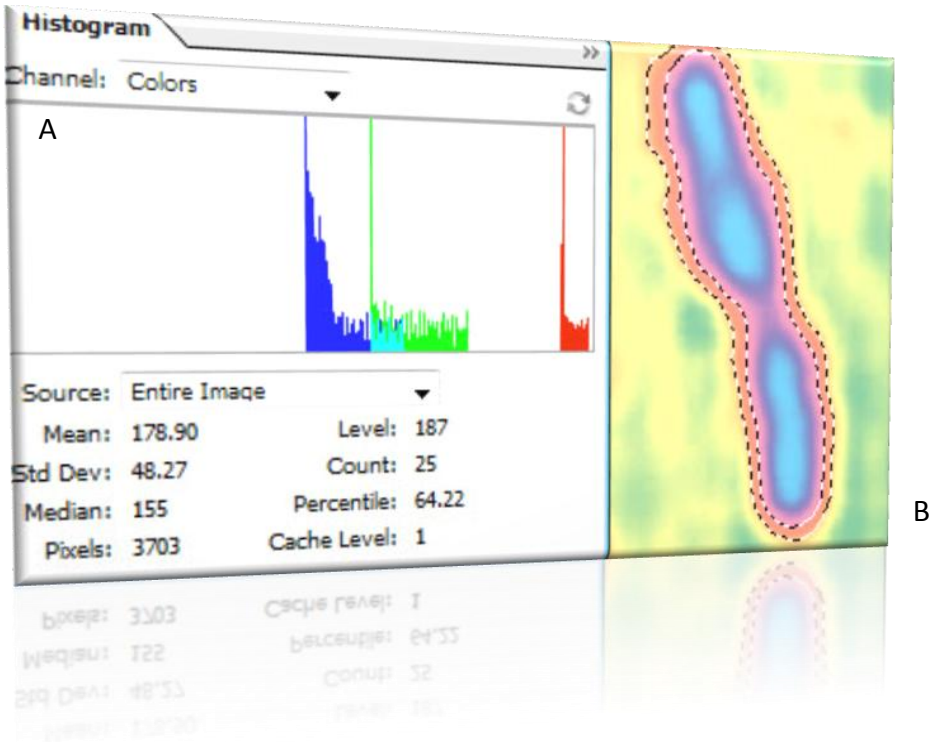


Figure (52_II): Photograph at RBG level of elementary map (A)and chromosome33(B) assuming the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

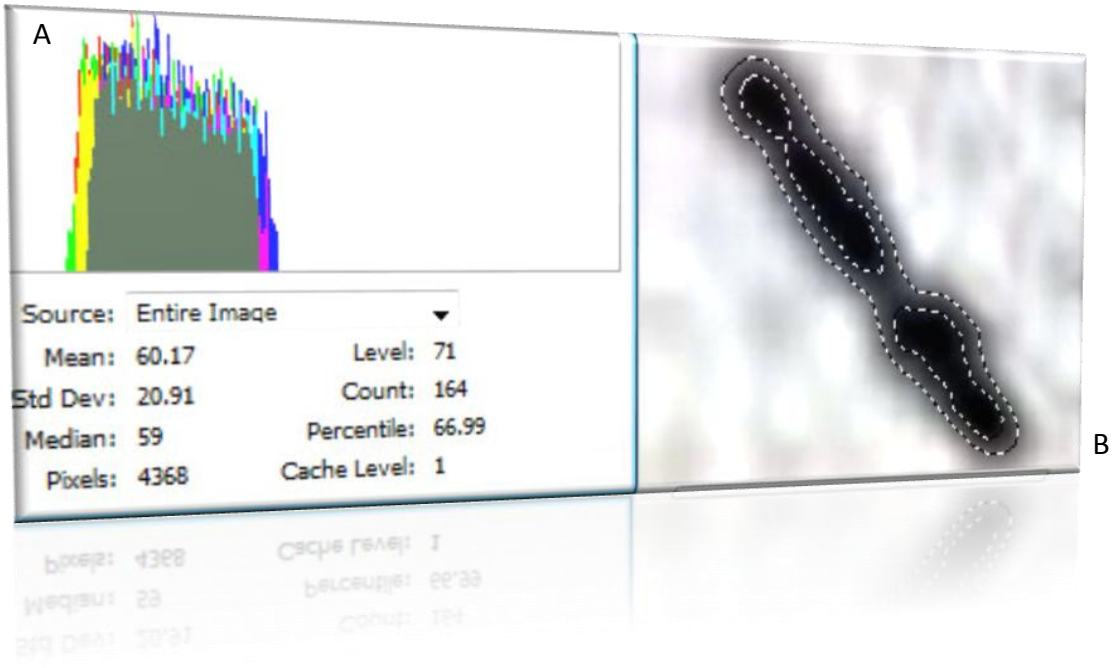


Figure (53_I): Photograph at grey level of elementary map (A)and chromosome34 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

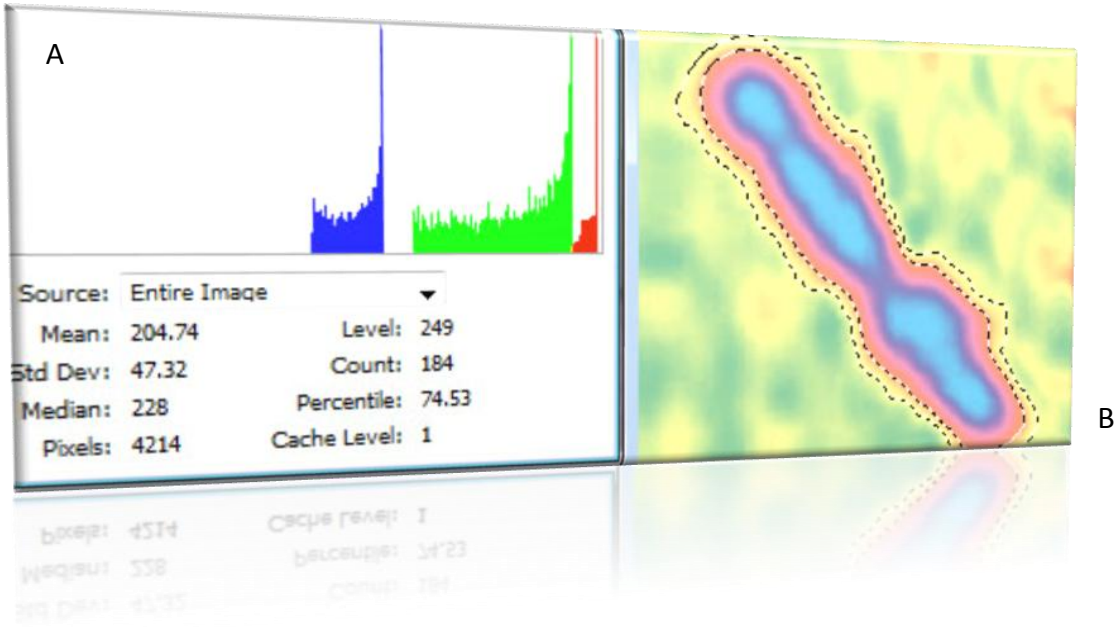


Figure (53_II): Photograph at RBG level of elementary map (A)and chromosome34(B) showing the components of the chromosome histograph (peaks) at different RBGX scale level as well as the chromosome structure after has been magnified(x=500)

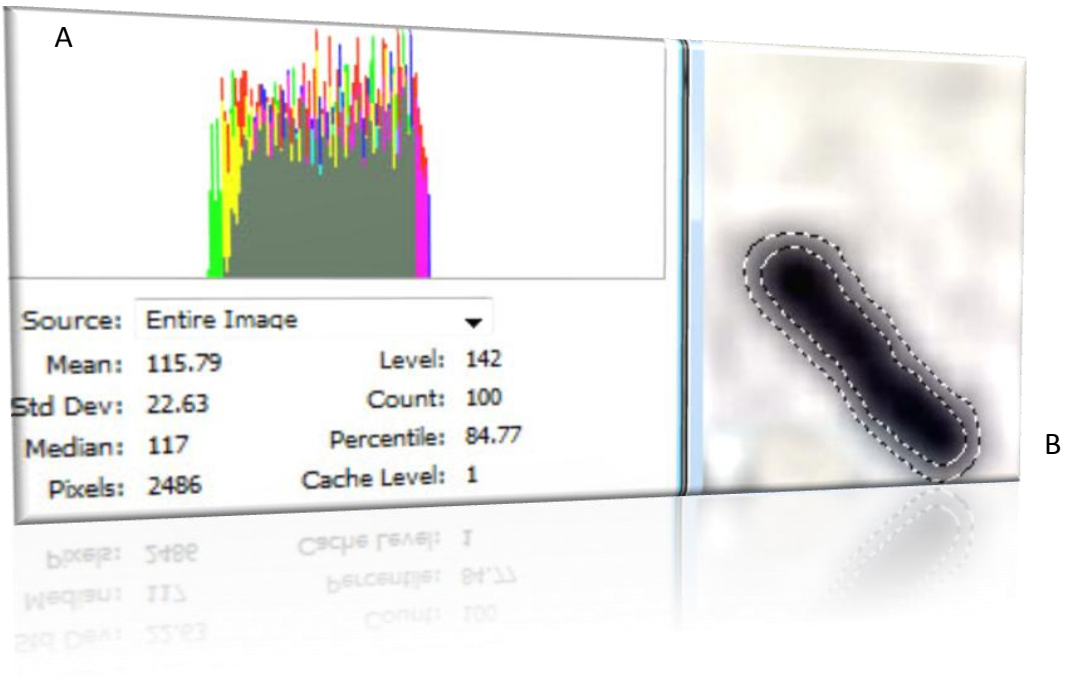


Figure (54_I): Photograph at grey level of elementary map (A)and chromosome 35(B) reflecting the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

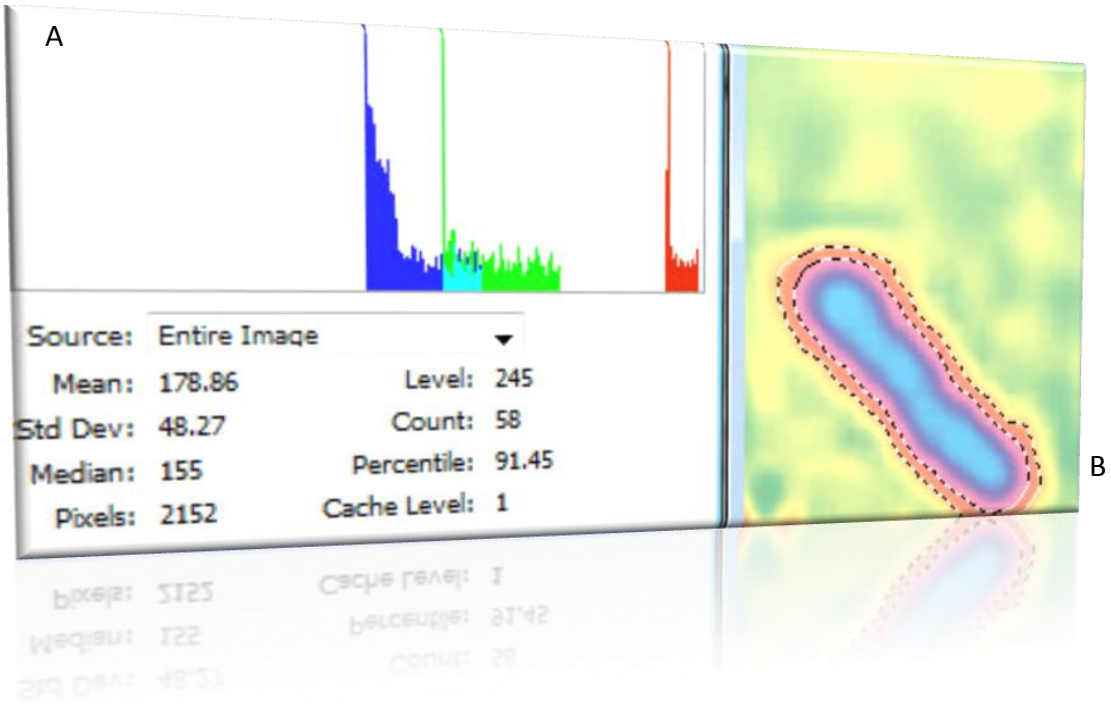


Figure (54_II):Photograph at RBG level of elementary map (A)and chromosome 35(B) reflecting the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

Figure (55_I): Photograph at grey level of elementary map (A)and chromosome36 (B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

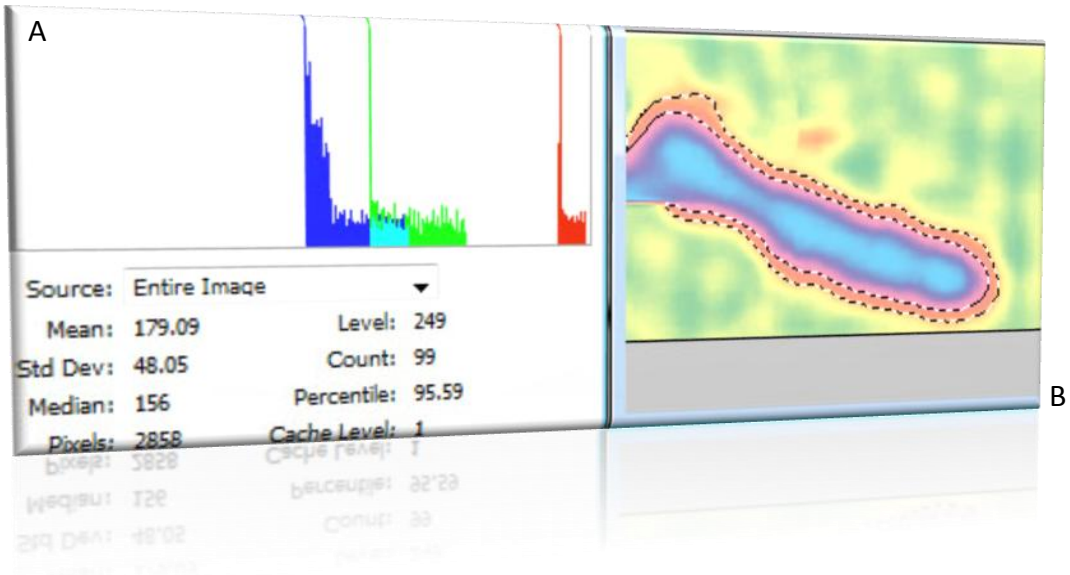


Figure (55_II): photograph at RBG level of elementary map (A)and chromosome36(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

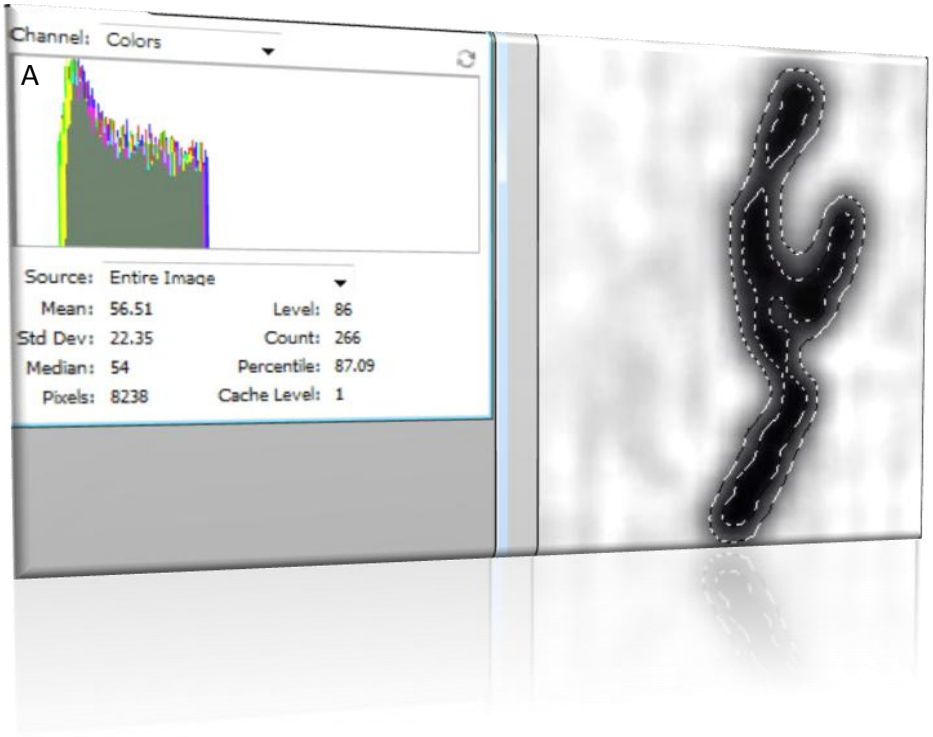


Figure (56_I): Photograph at grey level of elementary map (A)and chromosome 37(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

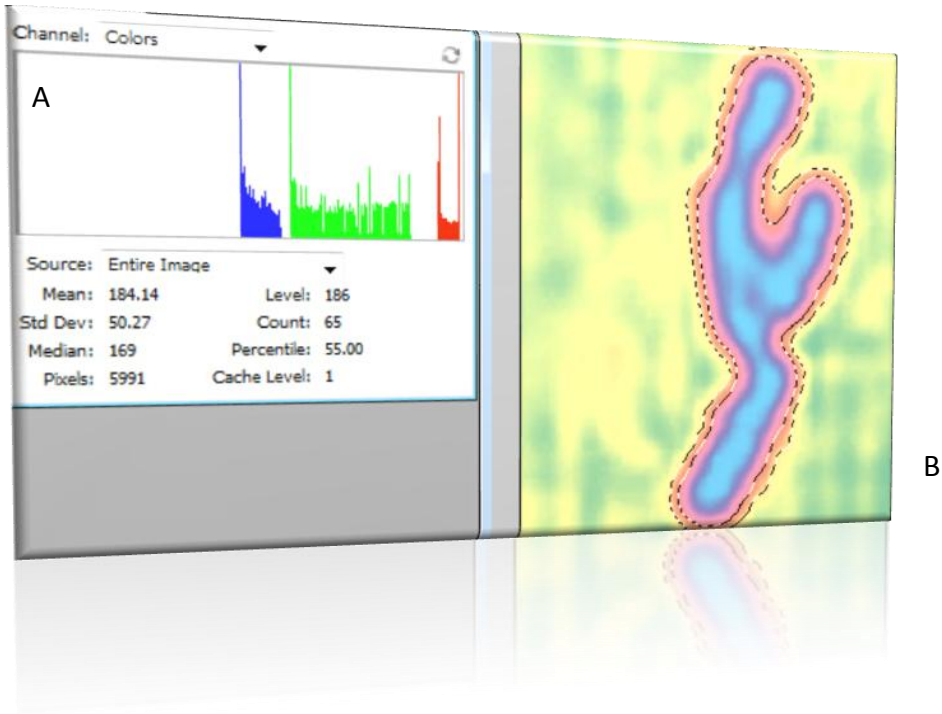


Figure (56_II): Photograph at RBG level of elementary map (A)and chromosome 37(B showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

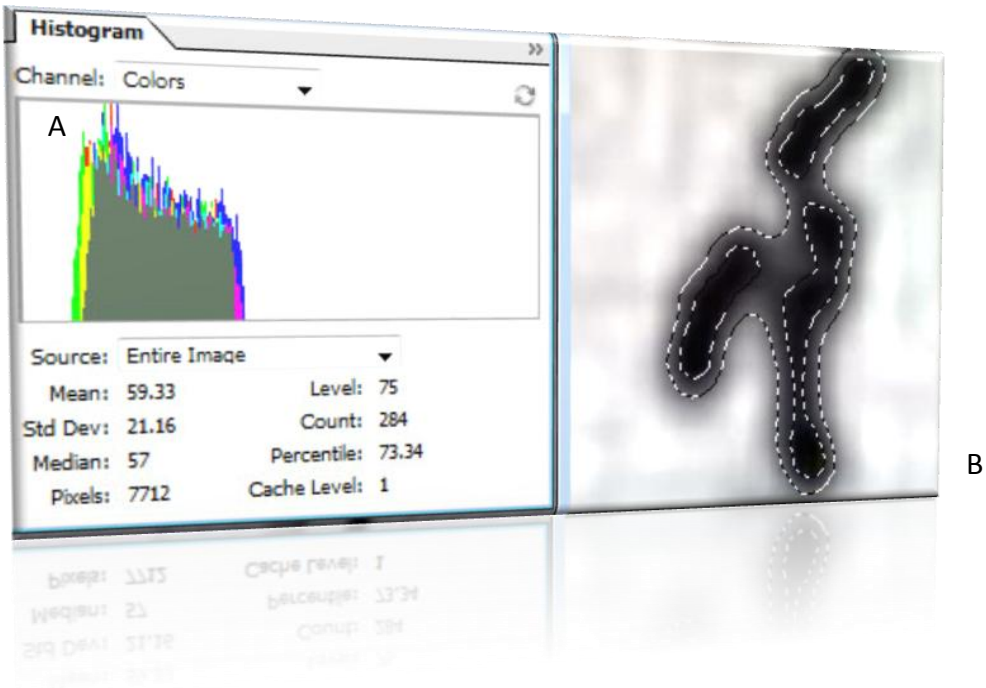


Figure (57_I): Photograph at grey level of elementary map (A)and chromosome 38(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

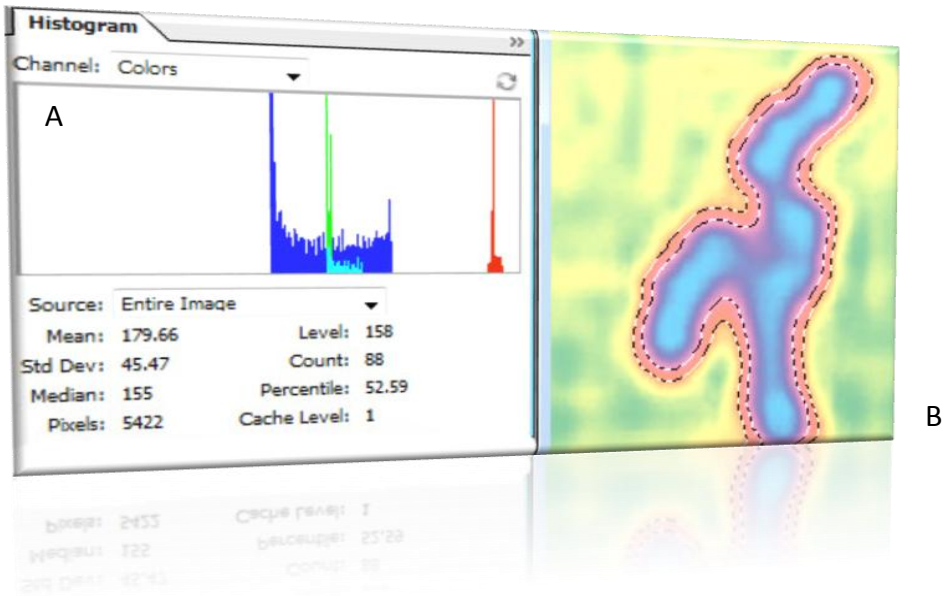


Figure (57_II): Photograph at RBG level of elementary map (A)and chromosome38(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

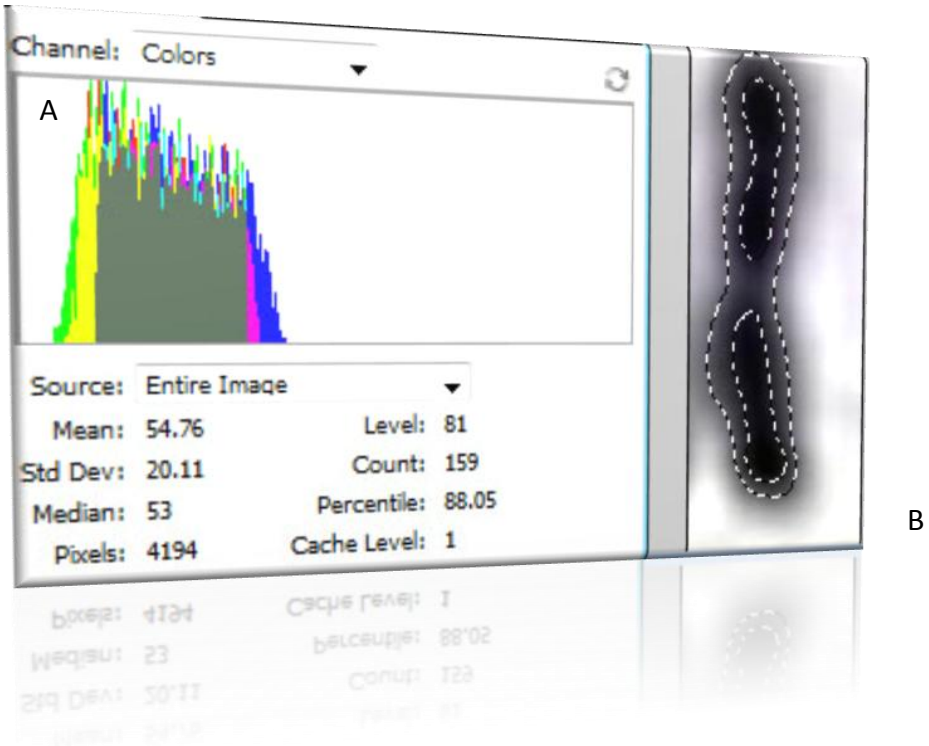


Figure (58_I): Photograph at grey level of elementary map (A)and chromosome 39(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

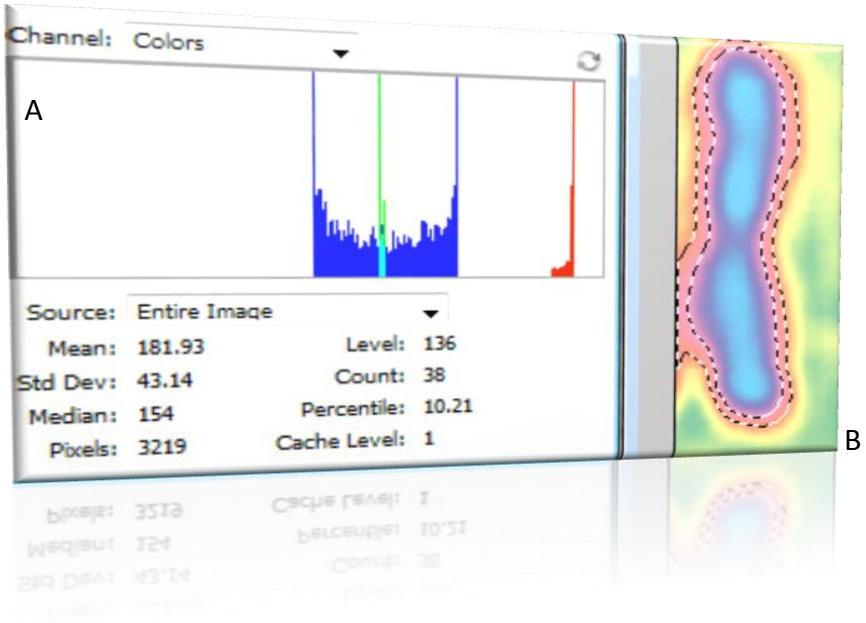


Figure (58_II): Photograph at RBG level of elementary map (A)and chromosome39(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

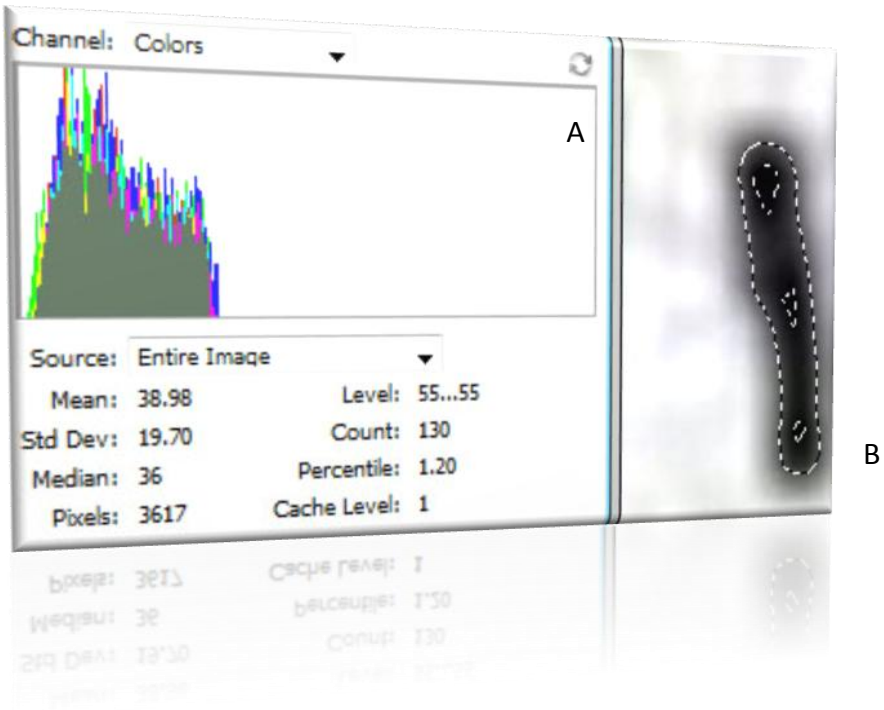


Figure (59_I): Photograph at grey level of elementary map (A)and chromosome 40(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

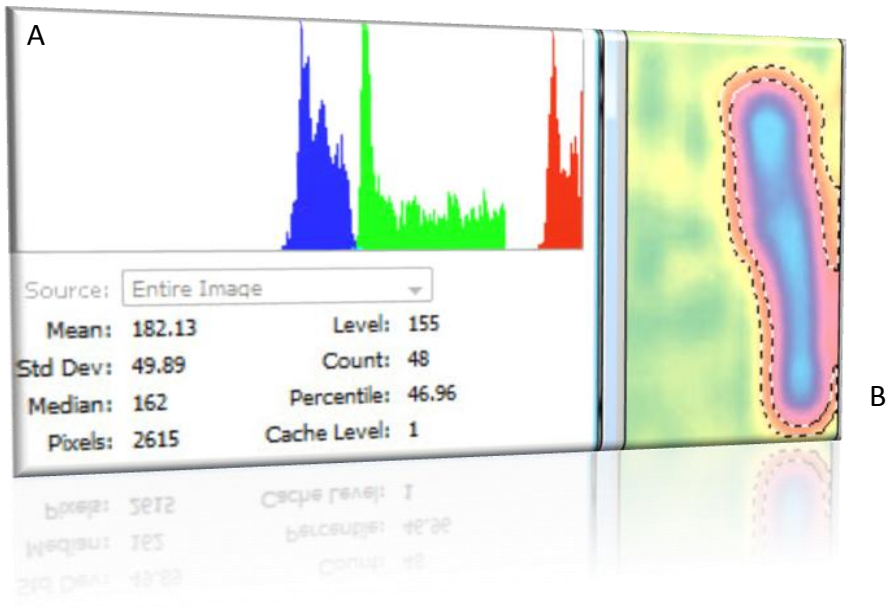


Figure (59_II): Photograph at RBG level of elementary map (A)and chromosome40(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

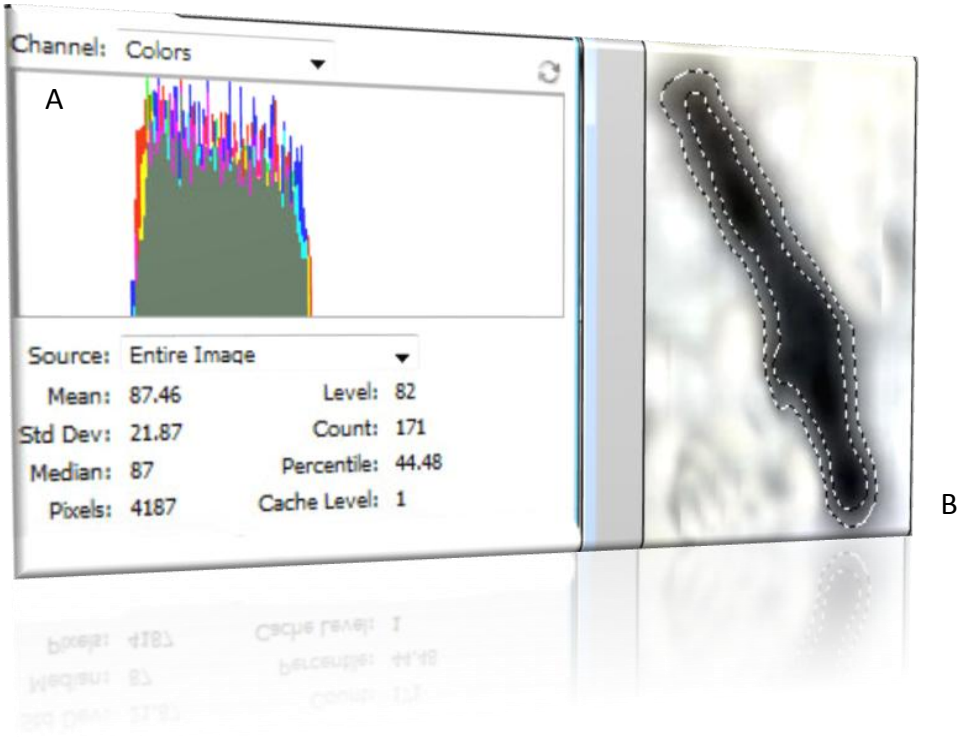


Figure (60_I): Photograph at grey level of elementary map (A)and chromosome 41(B) showing the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

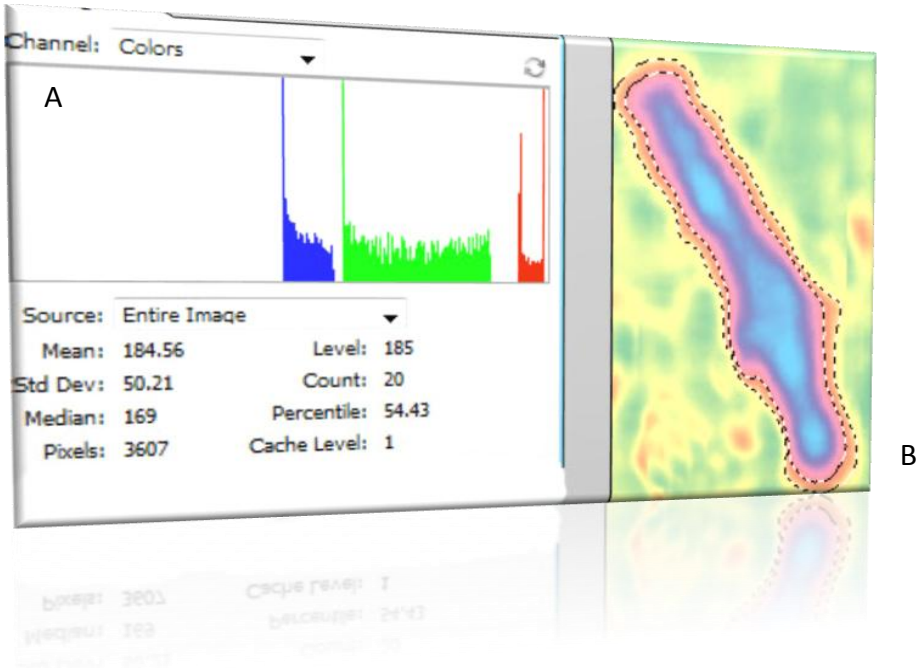


Figure (60_II): Photograph at RBG level of elementary map (A)and chromosome41(B) showing the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)

Figure (61_I): Photograph at grey level of elementary map (A)and chromosome 42(B) obtaining the components of the chromosome histograph (peaks) at different grey scale level as well as the chromosome structure after has been magnified(x=500)

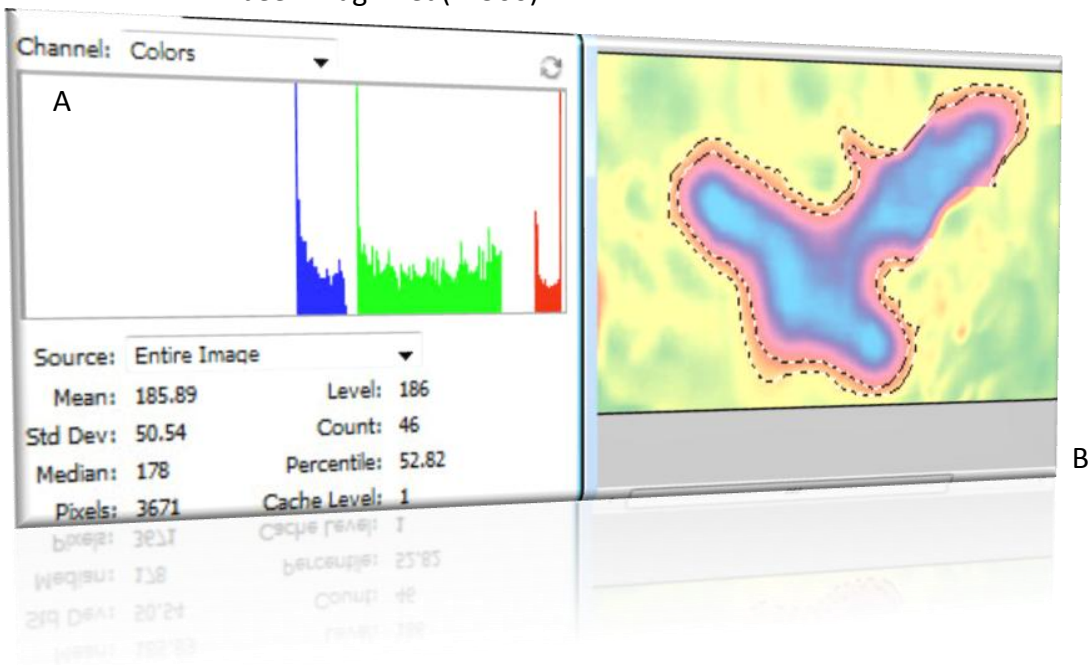


Figure (61_II): Photograph at RBG level of elementary map (A)and chromosome42(B) obtaining the components of the chromosome histograph (peaks) at different RBG scale level as well as the chromosome structure after has been magnified(x=500)