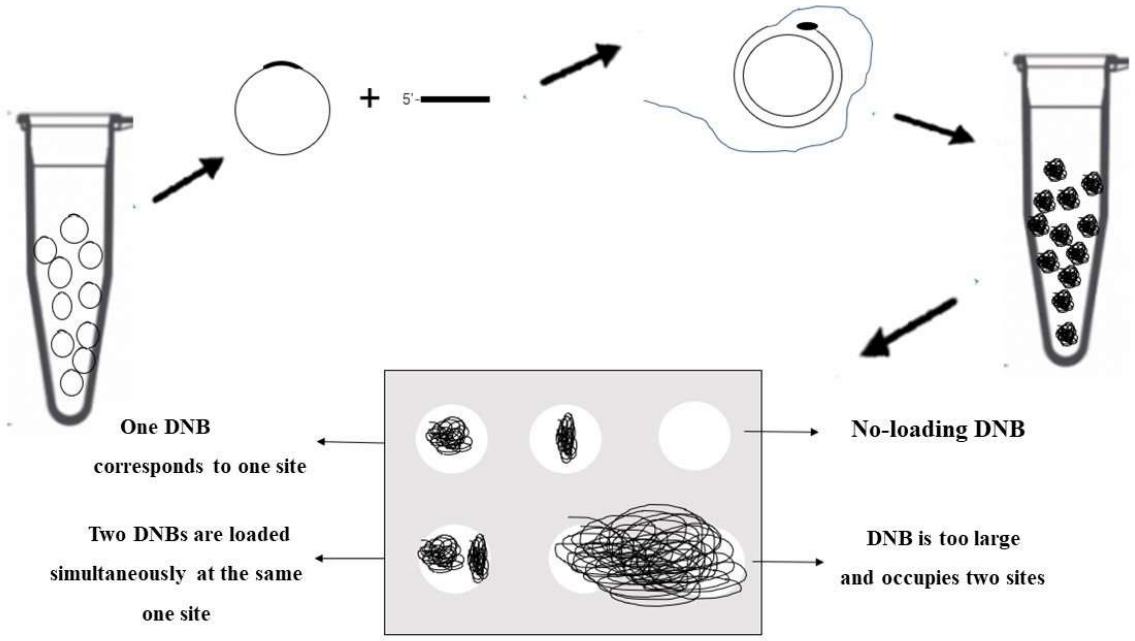
5'
One DNB
corresponds to one site
Two DNBs are loaded
simultaneously at the same
one site
No-loading DNB
DNB is too large
and occupies two sites

Fig. 1

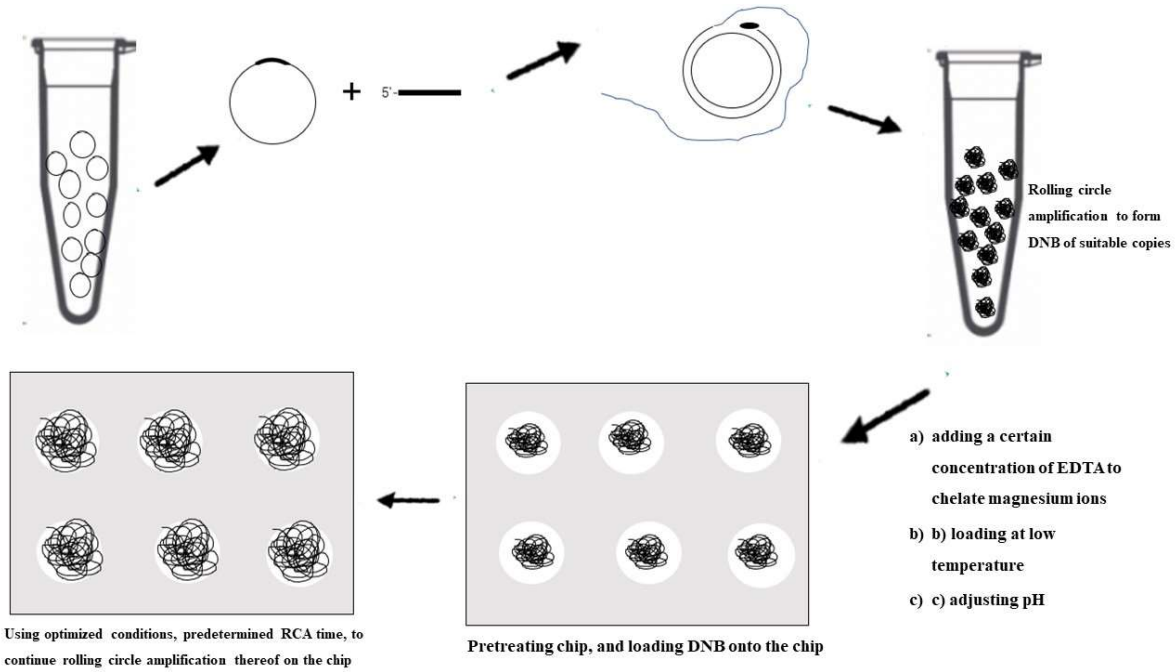
5'
Rolling circle
amplification to form
DNB of suitable copies
a) adding a certain
concentration of EDTA to
chelate magnesium ions
b) b) loading at low
temperature
c) c) adjusting pH
Pretreating chip, and loading DNB onto the chip
Using optimized conditions, predetermined RCA time, to
continue rolling circle amplification thereof on the chip

Fig. 2

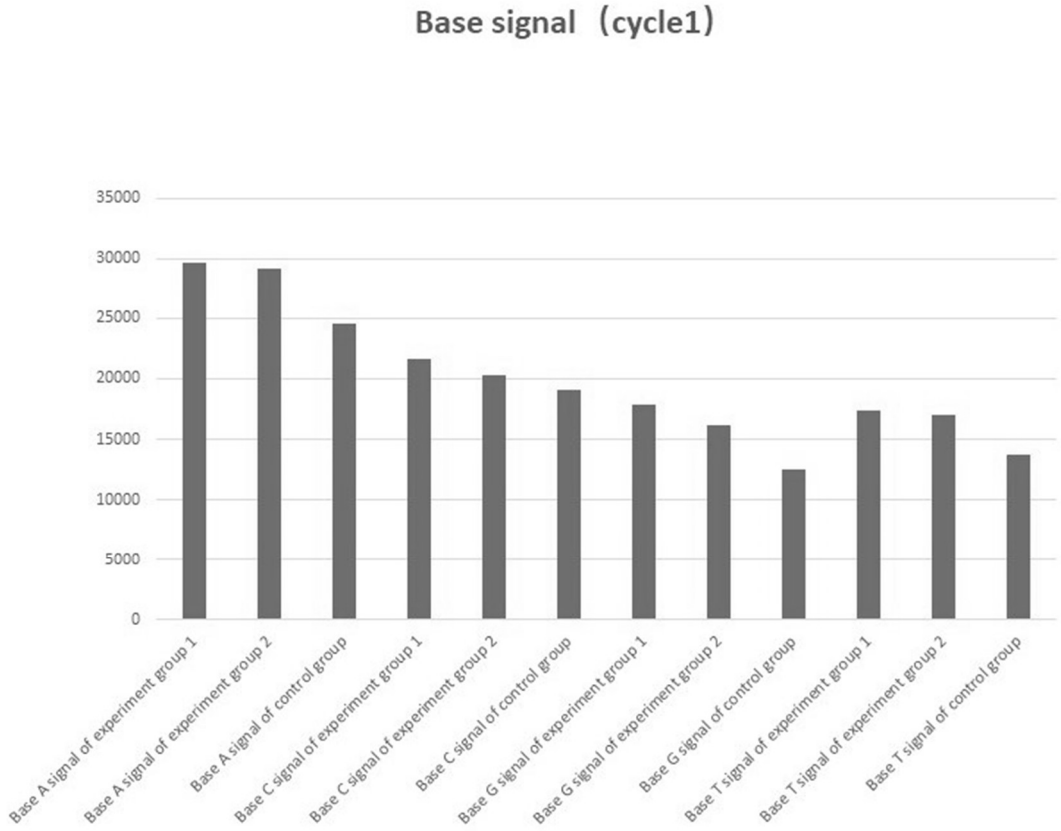
Base signal（cycle1）
35000
30000
25000
20000
15000
10000
5000
0
Base A signal of experiment group 1
Base A signal of experiment group 2
Base A signal of control group
Base C signal of experiment group 1
Base C signal of experiment group 2
Base C signal of control group
Base G signal of experiment group 1
Base G signal of experiment group 2
Base G signal of control group
Base T signal of experiment group 1
Base T signal of experiment group 2
Base T signal of control group

Fig. 3

A

FOV	dupRate						
C030R030	10.09						
6.08	8.1	10.45	10.89	10.92	10.79	10.18	9.39
6.17	8.16	10.2	10.99	10.84	10.9	10.16	9.76
6.24	8.37	10.16	10.92	11.1	10.98	10.29	9.3
6.49	8.34	10.39	11.02	11.09	10.95	10.48	9.43
6.86	8.48	10.35	11.08	11.05	10.98	10.27	9.68
6.12	8.34	10.32	11.05	10.99	10.86	10.33	9.43
6.28	8.5	10.51	10.95	10.93	10.93	10.59	9.67
6.71	8.55	10.49	11.14	11.17	11.09	10.31	9.48

B

FOV	dupRate						
C003R003	1.14						
0.88	1.18	1.22	1.24	1.24	1.03	0.78	1.05
0.96	1.27	1.16	1.31	1.11	1.02	0.81	0.9
0.99	1.14	1.26	1.32	1.26	0.97	0.82	0.82
1.04	1.25	1.29	1.32	1.13	1.01	0.8	0.89
1.11	1.27	1.29	1.28	1.23	0.96	0.86	0.89
1.19	1.3	1.32	1.31	1.32	1.1	0.75	0.85
1.09	1.2	1.33	1.35	1.33	1.12	0.78	0.84
1.01	1.23	1.51	1.27	1.31	1.18	0.95	0.81

C

FOV	dupRate						
C030R030	1.6						
1.33	1.46	1.6	1.75	1.66	1.62	1.54	1.22
1.38	1.52	1.65	1.7	1.69	1.66	1.58	1.48
1.46	1.53	1.6	1.65	1.68	1.67	1.57	1.5
1.5	1.59	1.7	1.69	1.76	1.65	1.58	1.41
1.64	1.54	1.64	1.65	1.67	1.69	1.6	1.42
1.32	1.43	1.68	1.59	1.67	1.61	1.55	1.44
1.28	1.47	1.7	1.59	1.7	1.63	1.5	1.44
1.22	1.57	1.63	1.55	1.65	1.76	1.52	1.33

Fig. 4