Supplementary Information

A DCD-chip designed for digital and ultra-precise quantification of copy number variation

Zheyu Zou[ab], Jianjian Zhuang[e], Liping Xia[ab], Ying Li[c], Juxin Yin[d*], Ying Mu[a*]

a. Research Centre for Analytical Instrumentation, Institute of Cyber-Systems and Control, State Key Laboratory of Industrial Control Technology, Zhejiang University, Hangzhou, P. R. China

b. College of Life Sciences, Zhejiang University, Hangzhou, P. R. China

c. Department of Public Health, School of Medicine, Zhejiang University, Hangzhou, P. R. China.

d. School of information and Electrical Engineering, Zhejiang University City College, Hangzhou, Zhejiang Province, P. R. China

e. Department of Clinical pharmacology, Key Laboratory of Clinical Cancer Pharmacology and Toxicology Research of Zhejiang Province, Affiliated Hangzhou First People's Hospital, Cancer Center, Zhejiang University School of Medicine, Hangzhou, Zhejiang Province, P. R. China

※Corresponding author: yinjuxin@163.com; muying@zju.edu.cn

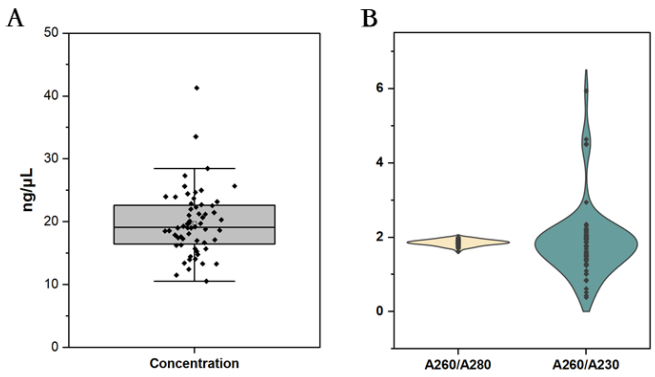

Figure S1. The concentration and purity of the extracted DNA. A) The average concentration of the DNA was 19.78 ng/ul. **B)** The average value of A260/A280 and A260/A230 was 1.85±0.081, 1.85±0.968 respectively. The number of DNA samples was 59.

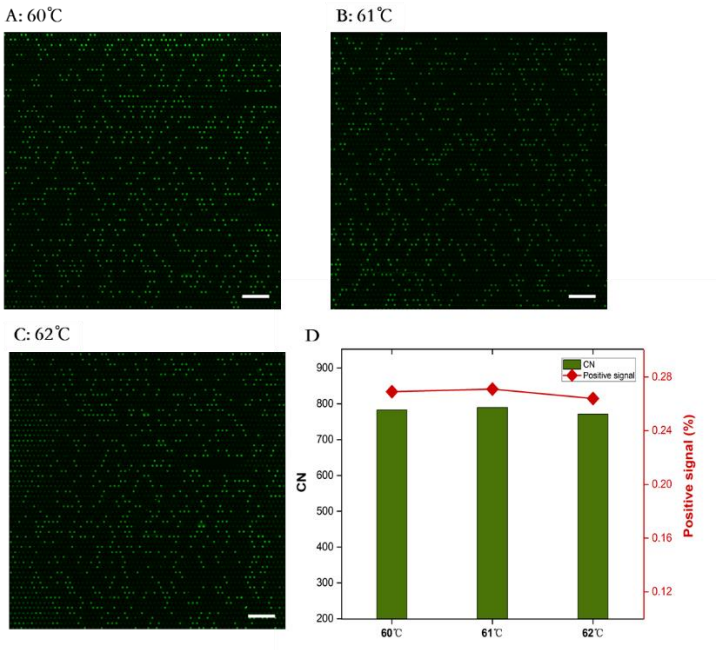

Figure S2. Optimization of annealing temperature. A)-C) showed the digital PCR results under three different annealing temperature: 60℃, 61℃, 62℃ respectively. **D)** showed the copy number (CN) and proportion of positive microwells in A-C. The sample used in A-C was the same gDNA extracted from whole blood. And the gDNA was double-digested before reaction.

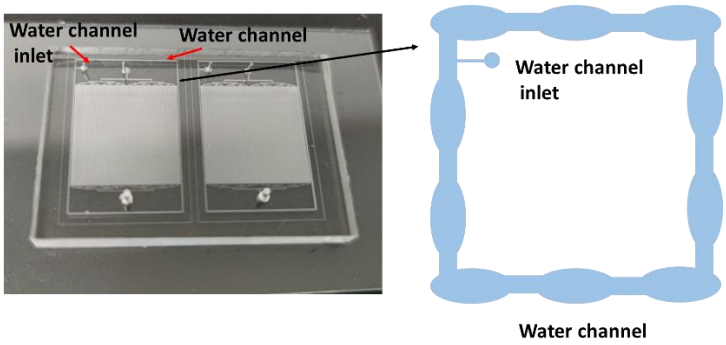

Figure S3. A water channel was designed for preventing evaporation.