

Supporting Information

A dual-trigger entropy drive circuit based on competitive hybridization for high-specific enzyme-free detection of single nucleotide polymorphisms

Sisi Bu^a, Fang Yang^a, TuoHuang^a, Qianglong Tan^a, SiyuYu^a, Shufen Xiao^a, WenlinXie^{a,*}, Zhihua Zhou^{a,*}, Yulan Tian^{b,*}, Jian Chen^{a,*}

^a School of Chemistry and Chemical Engineering, Hunan University of Science and Technology, Xiangtan, Hunan, 411201, China.

^b Department of Biomedical Engineering, Fourth Military Medical University, Xi'an 710032, PR China

* Corresponding author: xwl2000zsu@163.com (W. Xie), 314799243@qq.com (Z. Zhou), yltiannte@163.com (Y. Tian), chenjianzhiyao@163.com (J. Chen).

Table S1 The oligonucleotides used in the experiments

Name	Sequence (5'-3')
A	BHQ3-TTAAGATCTCAGGGGTGGCAAGCACTGATCAGTCACACTAG TTAAGCTGTAAGGGG-BHQ1
A1	GCACTGATCAGTCACACTAGTTAAGCTGTAAGGGG-BHQ1
B1	TTGCCACCCCTGA-CY5
B2	FAM-AGCTTAACTAGTG
B3	TGACTGATCAGTGC
MT	ACCCCTTACATCTTAAC
WT	ACCCCTTAGATCTTAAC
F1	TGACTGATCAGTGCTTGCCACCCCTGAGA
F2	ACAGCTTAACTAGTGTGACTGATCAGTGC
Mis-1	ACCCCTTAAATCTTAAC
Mis-2	ACCCCTTATATCTTAAC
Mis-3	ACGCCTTATATCTTAAC
Mis-4	ACCCCTTATATCTTGAC

Table S2 The recovery rate test of the detection limit

Add	1 fM	5 fM	10 fM
Test	1.3 fm	5.9 fm	10.9 fm
Recovery	130.3%	118.5%	109.1%