

A digital microfluidic platform coupled with colorimetric loop-mediated isothermal amplification for on-site visual diagnosis of multiple diseases

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Supplementary figures and tables

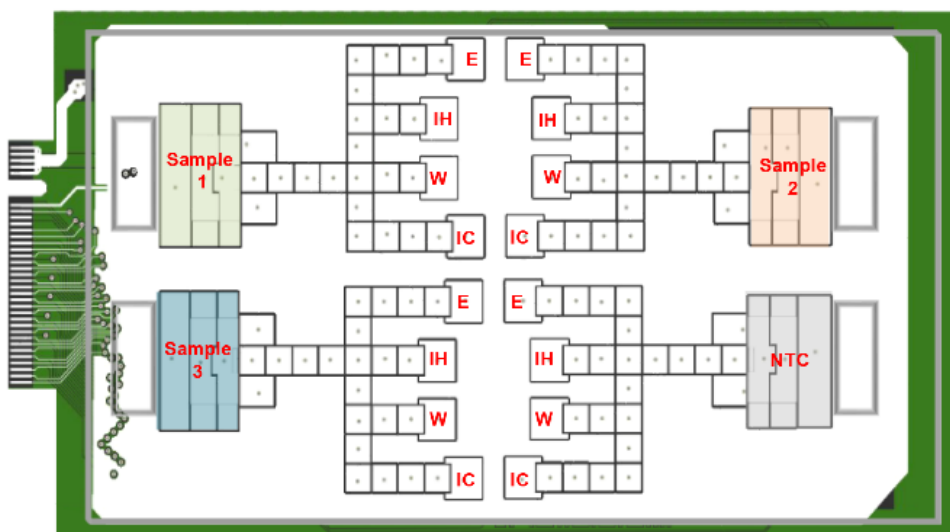


Fig S1. Multiplex detection of field shrimp on the DMF chip. For each test, three shrimp samples and no template control (NTC) were simultaneously detected on a chip and each sample was set with four parallel reactions with the primer of *Enterocytozoon hepatopenaei* (E), Infectious hypodermal and hematopoietic necrosis virus (IH) and white spot syndrome virus (W) and internal control (IC), respectively.

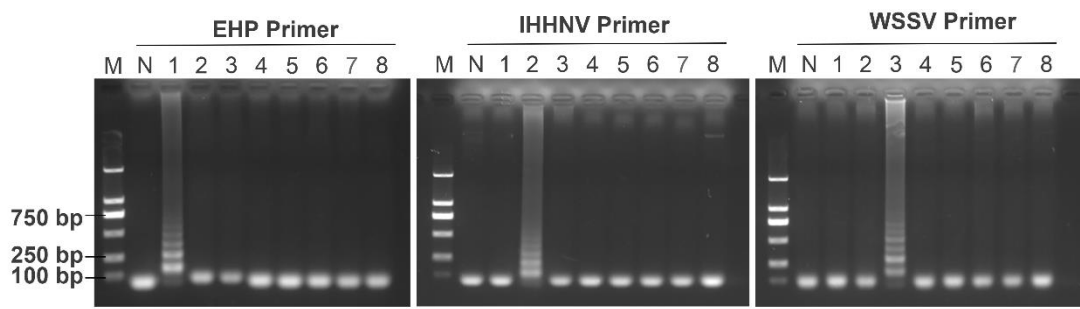


Fig S2. Gel electrophoresis results of the cross-reaction. Lane M: DL 2000 DNA ladder; lane N: negative control; lane 1~8: LAMP with genomic DNA of EHP, IHNV, WSSV, EMS, SHIV, *E. coli*, *S. aureus* and *S. typhimurium* respectively.

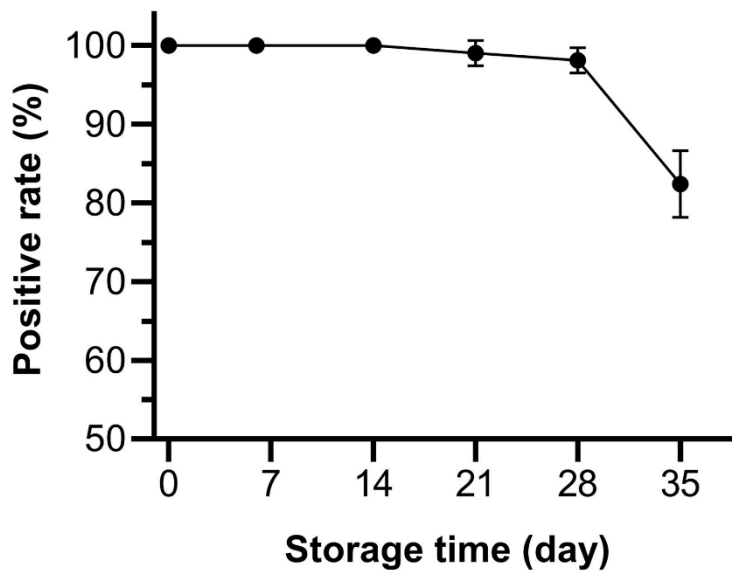


Fig S3. Accelerate aging test at 37°C. The performance of stored chips was evaluated at intervals by on-chip LAMP detection using the 10 copies/ μ l of WSSV gene as the positive sample. The tests were implemented on three independent chips and the positive rates of LAMP were calculated and plotted (n= 36).

Table S1. Primer sequences for LAMP reaction

Target	Primer	Sequence (5'→3')
EHP	F3	AAGAAGCAAAAAGAAGGGC
	B3	GTTTTGGTTGCCTGGTT
	FIP	GCAGTAAACTCAGAAGGATCTACTTAGCAGAGCCTCATAGAGAA
	BIP	CCAGTTGTCAAAGTCAATCAATTCAGCATGGCTTTTGAATTGGC
	LF	CACCATCTACCTGTACGTTT
WSSV	F3	ACAACACTGTGACCAAGAC
	B3	GTTCTCACCTTGAATGTTT
	FIP	CCCAAGGTGTCGCTGTCAACTGTGACTGCTGAGGTTG
	BIP	CCGCAATGGAAAGTCTGATGCCACGGGAGTGATGACAAG
	LF	CAGTCATCTTGAAGTAGCCTGA
	LB	ATGATGGAAGAAGATGCGCAT
IHHNV	F3	CCTCCGGATCAGATGACGAA
	B3	TGTTCCGCTACTACAGCTCT
	FIP	CCGCCTGTCTTTTTGTGGTGT-ATCTGGGTACACCACATCGA
	BIP	GGAGACAACCGACGACATCAGG-CTCCTCCATCGGTAGGTTCC
	LB	TCATGGAAGCAATGGAAATCGAC