

## CRISPR/Cas12a coupled with Loop-mediated isothermal amplification and for SARS-CoV-2 detection

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**Table S1.** Sequences of qPCR primers.

GeneBank	Name of primer	5'-3'
AY184219.1	PV1 F	CCGTATTGAGCCAGTATGTTTGT
	PV1 R	TAGCGAGTAGGTGGAGGTGTTC T
MN817130.1	ECHO F	CGGCCCTGAATGCGGCTAA
	ECHO R	GAAACACGGACACCCAAAGTA
MK307505.1	EV-A71 F	GCAGCCCAAAGAACTTCAC
	EV-A71 R	ATTCAGCAGCTTGGAGTGC
JX312064.1	CV-B3 F	CGGTACCTTTGTGCGCCTGTT
	CV-B3 R	GCGGTGCTCATCGACCTGA
MW192795.1	CV-A9 F	TCATGACACCAGCTGATAAGG
	CV-A9 R	TGCTCATCTGCTCTGAAGTATC
NC_045512	SARS-CoV-2 F	GGGGAAGTTCTCCTGCTAGAAT
	SARS-CoV-2 R	CAGACATTTTGCTCTCAAGCTG
MT072864.1	GX_P2V-F	GGTGATTGCCTTGGTGATATTG
	GX_P2V-R	GCAAGTAGTGCAGAAGTGTATT G

**Table S2.** RT-LAMP primers for GX\_P2V.

Name of primer	5'-3'
F3-P01	CGGTGGTCATAGTTTCGG
B3-P01	CTCAAGAGGGTAGCCGTC

FIP-P01	AGTTGACTTGAAAGTCATCAATGGGTTCGATCTAAAGTCTTATGACTTAGG
BIP-P01	GGAACACTAAACATGGCAGTGGCTACATAGCGAGTGTATGCG
LF-P01	CAGTGCCAAGCTCGTCA
LB-P01	TGTAACCTCGTGAGCTCATGC
F3-P02	TTCTTAAAAGAGGTGACAAAGT
B3-P02	CAAACCTGTTGCCATAAGTCAT
FIP-P02	AGTGTCTTAAGACTGTCAATGTTGATACCACACAACCTAGTAAACCAAT
BIP-P02	TAGCTCTTAGGGAAGTTAAGACCAGACATGTCCACAACCTTGAG
LF-P02	CACCATCCATGTGGAAAGTG
LB-P02	TAAGGTGTTTACCACAGTTGAC
F3-P03	GACAATTCTCCTAATATTGCTTG
B3-P03	CCAAAACAAACCTACCTCC
FIP-P03	CGGGACTCAGTTCATTATTCTGAAGGCCTCTTATTGTAACAGCTTTA
BIP-P03	CGACAGATGTCATGTGCTGCACTTTGATGTGTTATAGTAGGCTAA
LF-P03	TGACAGCTGAATTGGCTCT
LB-P03	GGTACTACACAAACAGCTTGTAATG

**Table S3.** RT-LAMP primers and amplicon for SARS-CoV-2.

Name of primer	5'-3'
F3-S12	CCGACGACGACTACTAGC
B3-S12	AGAGTAAACGTAAAAAGAAGGT
FIP-S12	CTAGCCATCCTTACTGCGCTACTCACGTTAACAATATTGCA
BIP-S12	ACCTGTCTCTTCCGAAACGAATTTGTAAGCACAAGCTGATG
LF-S12	TCGATTGTGTGCGTACTGC
LB-S12	TGAGTACATAAGTTCGTAC
S12 Amplicon	CCGACGACGACTACTAGCGTGCCTTTGTAAGCACAAGCTGATGAGTACG AACTTATGTACTCATTTCGTTTCGGAAGAGACAGGTACGTTAATAGTTAAT AGCGTACTTCTTTTTCTTGCTTTCGTGGTATTCTTGCTAGTTACACTAGCC ATCCTTACTGCGCTTCGATTGTGTGCGTACTGCTGCAATATTGTTAACGT GAGTCTTGTAACCTTCTTTTTACGTTTACTCT
F3-S13	AGCTGATGAGTACGAACTT
B3-S13	TTCAGATTTTAAACACGAGAGT
FIP-S13	ACCACGAAAGCAAGAAAAAGAAGTATTCGTTTCGGAAGAGACAG
BIP-S13	TTGCTAGTTACACTAGCCATCCTTAGGTTTTACAAGACTCACGT
LF-S13	n/a
LB-S13	CTGCGCTTCGATTGTGTGCGT
S13 Amplicon	AGCTGATGAGTACGAACTTATGTACTCATTTCGTTTCGGAAGAGACAGGT ACGTTAATAGTTAATAGCGTACTTCTTTTTCTTGCTTTCGTGGTATTCTTG CTAGTTACACTAGCCATCCTTACTGCGCTTCGATTGTGTGCGTACTGCTG CAATATTGTTAACGTGAGTCTTGTAACCTTCTTTTTACGTTTACTCTCG TGTTAAAAATCTGAA
F3-S14	TGAGTACGAACTTATGTACTCAT
B3-S14	TTCAGATTTTAAACACGAGAGT

FIP-S14 ACCACGAAAGCAAGAAAAAGAAGTTCGTTTCGGAAGAGACAG  
BIP-S14 TTGCTAGTTACTAGCCATCCTTAGGTTTTACAAGACTCACGT  
LF-S14 GCGCTTCGATTGTGTGCGT  
LB-S14 CGCTATTA ACTATTAACG  
S14 TGAGTACGAACTTATGTACTCATTTCGTTTCGGAAGAGACAGGTACGTAA  
Amplicon TAGTTAATAGCGTACTTCTTTTTCTTGCTTCGTGGTATTCTTGCTAGTTA  
CACTAGCCATCCTTACTGCGCTTCGATTGTGTGCGTACTGCTGCAATATT  
GTTAACGTGAGTCTTGTA AACCTTCTTTTTACGTTTACTCTCGTGTTAAA  
AATCTGAAT

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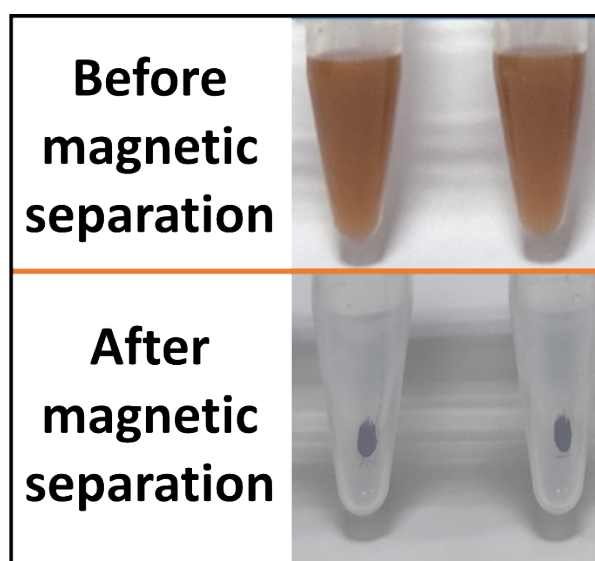


Fig. S1 Schematic diagram before and after magnetic separation.

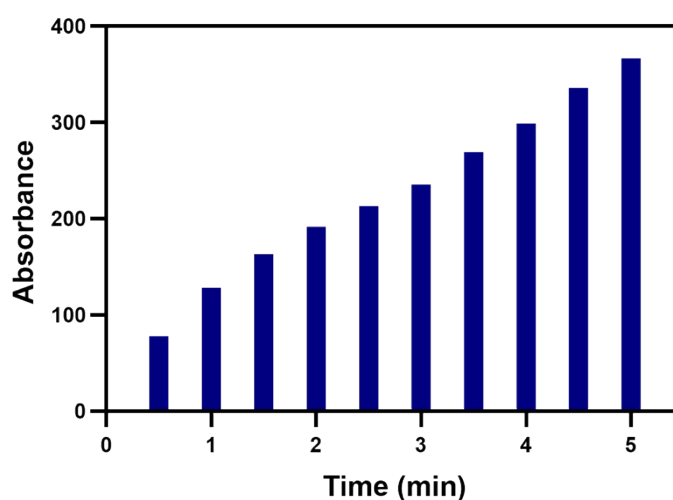
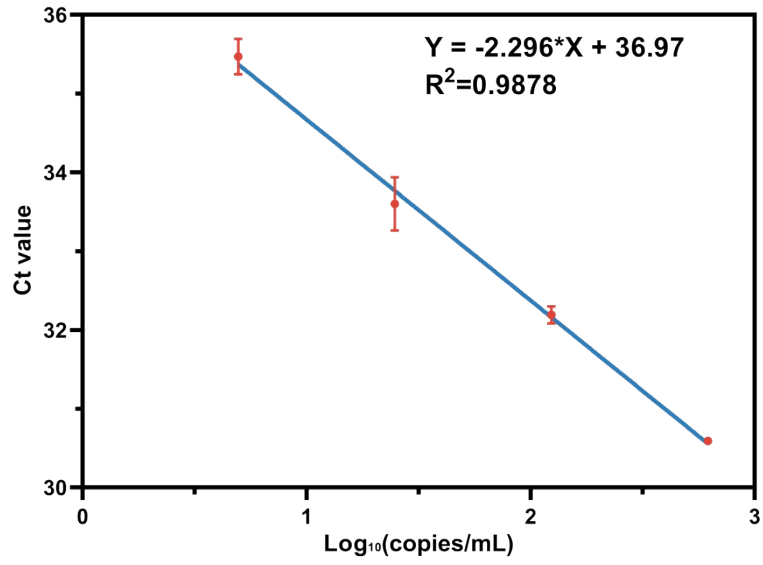
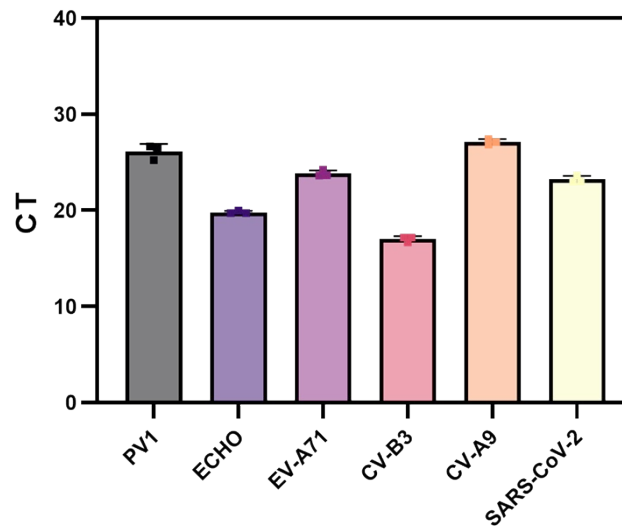


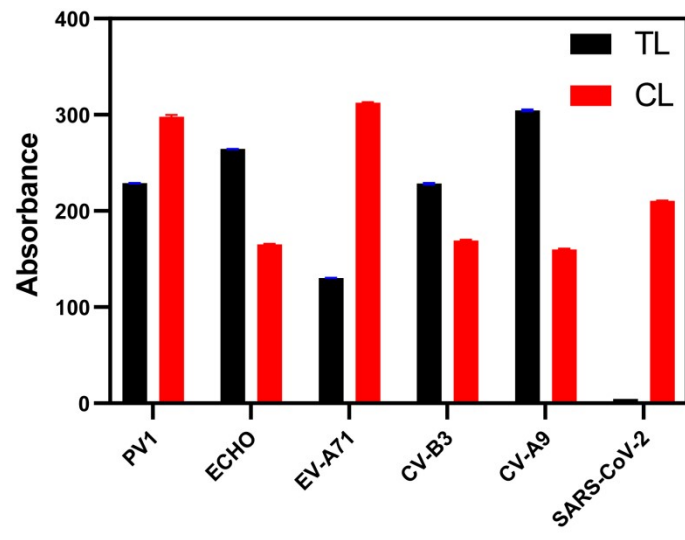
Fig. S2 Absorbance of LFA at different times.



**Fig. S3** The calibration curve with the Ct values and the respective copy numbers per milliliter of the SARS-CoV-2 pseudovirus sample.



**Fig. S4** The qPCR of cDNA from SARS-CoV-2 and five RNA viruses.



**Fig. S5** Absorbance of TL and CL for LFA of different virus samples.