

Supporting Information

A Portable, 3-D Printed, Microfluidic Device for Multiplexed, Real Time, Molecular Detection of Porcine Epidemic Diarrhea Virus, Transmissible Gastroenteritis Virus, and Porcine Deltacoronavirus at the Point of Need

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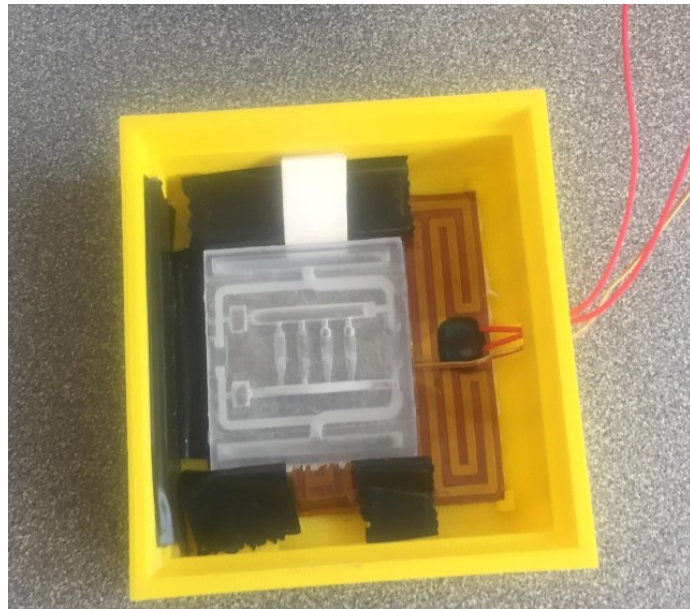


Fig. S1 A 3D-printed microfluidic chip mounted on top of our custom-made portable heater.

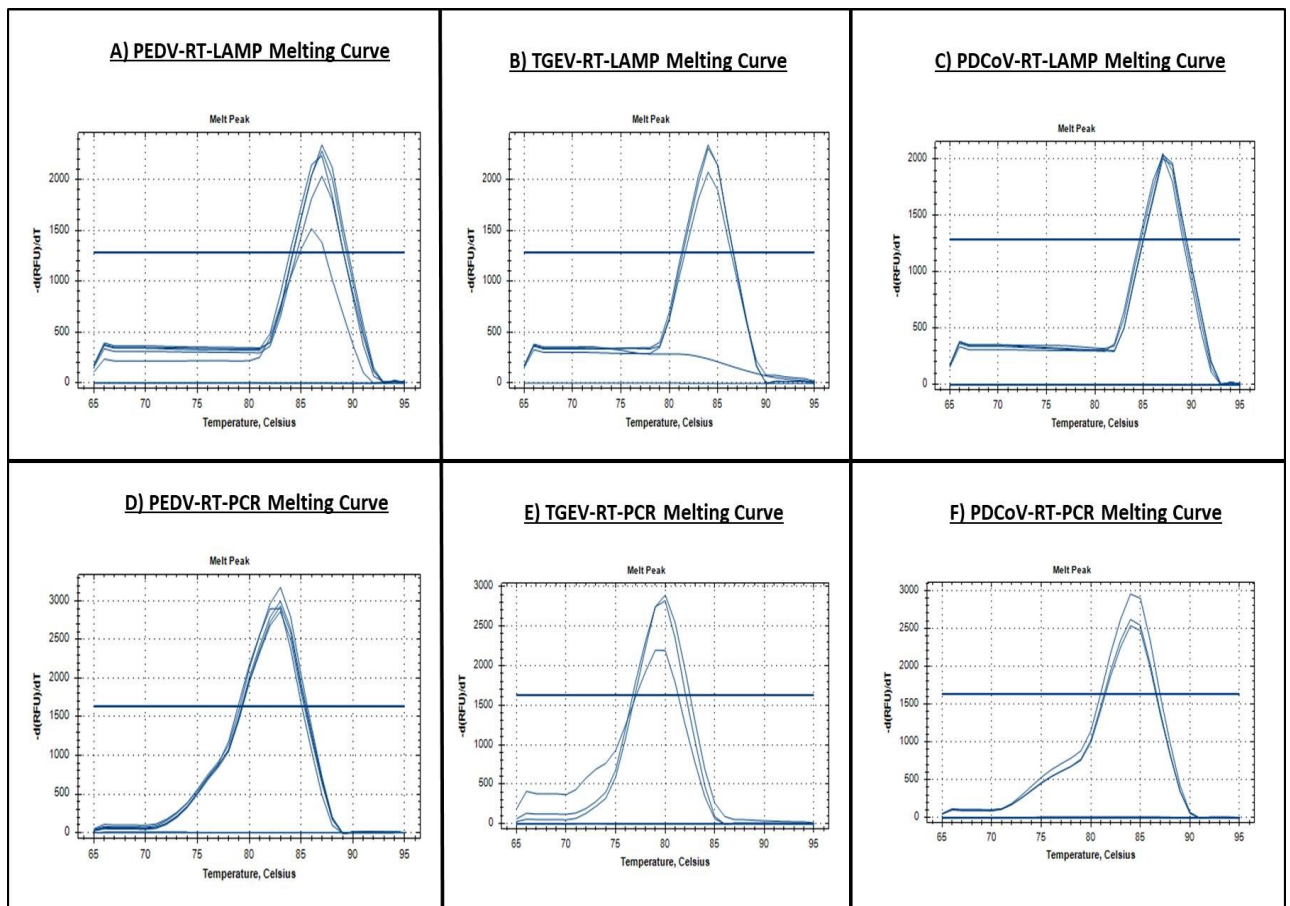


Fig. S2 Melting curve analysis of both RT-LAMP and RT-PCR products reveals a single peak.

Table S1: Threshold LAMP times (min) and threshold RT-PCR cycles of our microfluidic and benchtop tests of our clinical samples

Sample no	Our RT-PCR	Our RT-LAMP	Our Microfluidic based RT-LAMP
PEDV 1	22.08	7.31	8.51
PEDV 2	19.28	6.4	8.01
PEDV 3	17.75	5.42	7.14
PEDV 4	17.11	5	6
PEDV 5	24.13	8.29	9.11
TGEV 1	33.13	10.26	20.14
TGEV 2	20.22	7.24	12.4
TGEV3	32.27	10.02	16.35
PDCoV 1	18.2	10.05	12.12
PDCoV 2	18.9	10.51	12.9
PDCoV3	19.75	11.09	20.01
Control	0	0	0

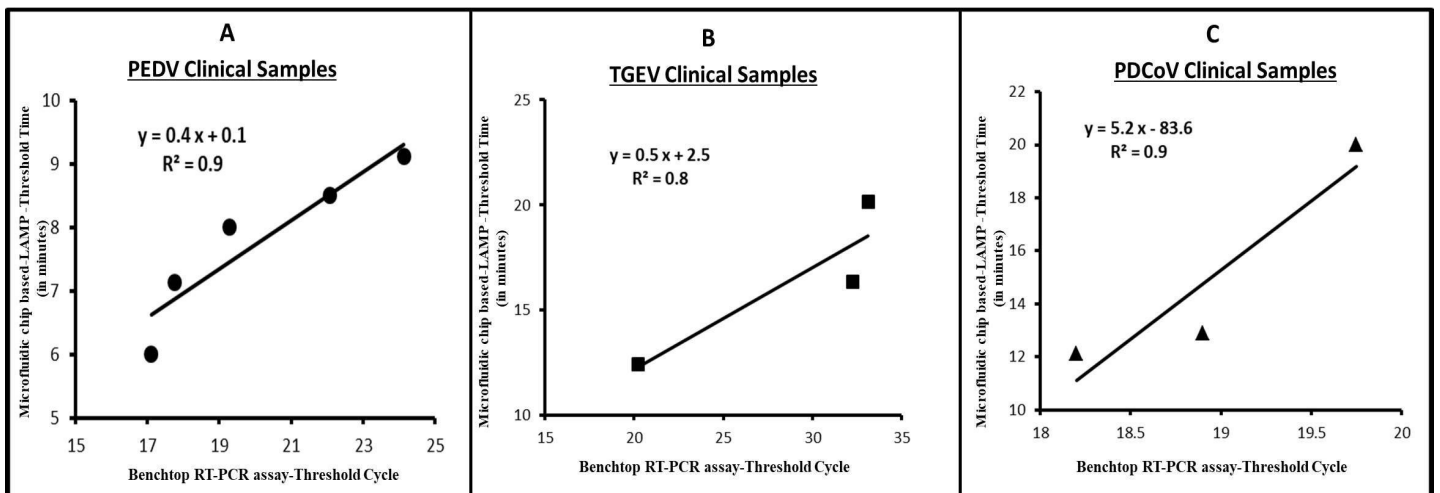


Fig. S3 Testing of clinical samples from diseased piglets with the microfluidic based-LAMP and benchtop RT-PCR assays. Microfluidic based LAMP-threshold time as a function of qRT-PCR threshold cycle for PEDV (A), TGEV (B), and PDCoV (C) clinical samples.