Electronic Supplementary Information for

One-step Pathogen Specific DNA Extraction from Whole Blood On a Centrifugal Microfluidic Device

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The supporting materials include:

- Movie file 1.
  - A movie file showing the laser operation on a portable DNA extraction device (**Fig. 1B**)
- Movie file 2.
  - A movie file showing the total process of DNA extraction on a CD.
  - Detail explanation is described in **Fig. 4.**
- Fig. S1. Schematic diagram of the CD fabrication and microfluidic layout. (A) The DNA extraction CD is composed of 3 parts; top and bottom parts are made of polycarbonate (PC) plates and bonded by a double sided adhesive tape shown in the middle. Schematic diagram (B) and photo image (C) of the fully assembled CD. The black spots in the photo image (C) are the LIFM
- Table S1. A spin program for the DNA extraction on a CD using TS-LIMBS

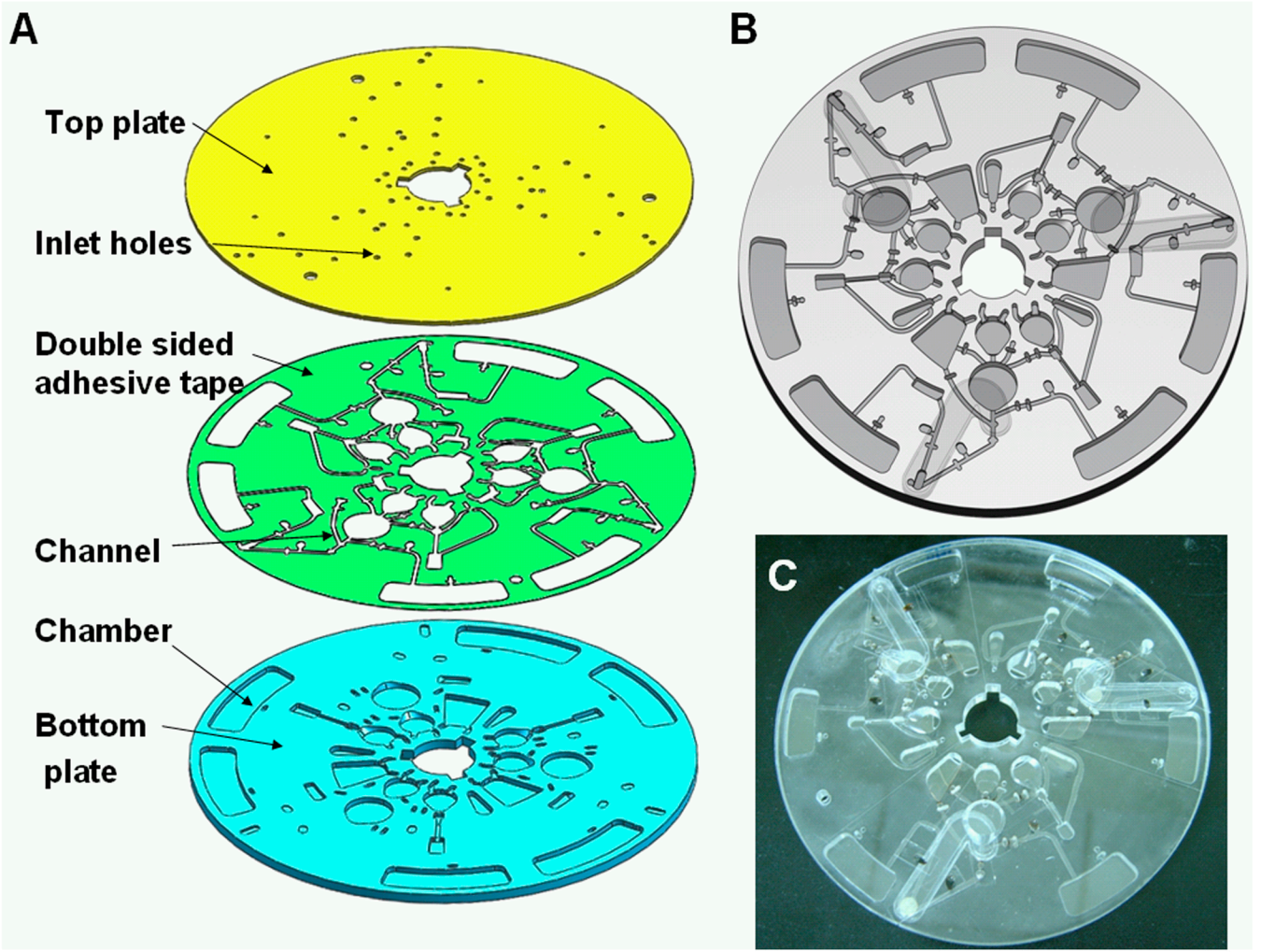

Fig. S1 Schematic diagram of the CD fabrication and microfluidic layout. **(A)** The DNA extraction CD is composed of 3 parts; top and bottom parts are made of polycarbonate (PC) plates and bonded by a double sided adhesive tape shown in the middle. Schematic diagram **(B)** and photo image **(C)** of the fully assembled CD. The black spots in the photo image (C) are LIFM

Table S1. A spin program for the DNA extraction on a CD using TS-LIMBS

Spin No.	Spin speed (Hz)	Time (sec)	Operation
–	–	–	Input blood (100 μL), bead solution (100 μL), and washing buffer (200 μL)
1	60	120	Plasma separation
2	60	10	Transfer plasma to mixing chamber
3	60	10	Transfer bead soln. to mixing chamber
4	+ 9 ~ – 9	240	Mixing beads and plasma
5	60	60	Beads separation
6	60	10	Transfer plasma residue to waste chamber
7	0	5	Close waste channel
8	60	10	Transfer washing buffer to mixer
9	10	60	Move beads to mixing chamber
10	+ 9 ~ – 9	10	Mixing beads and washing buffer
11	30	60	Transfer beads to lysis chamber repeat 8 ~ 11 one more time
12	0	10	Close lysis chamber
13	0	30	Cell lysis using LIMBS
14	60	5	Beads separation
total time		12	min