Supplementary Information

A High-Efficiency Superhydrophobic Plasma Separator

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Fig. S1: A schematic illustration of the 3D-printed top cover (A) and 3D-printed bottom substrate (B). (C) A schematic illustration of an assembled plasma separator.

Fig. S2: A cross-section illustration of the top cover before (A) and after (B) assembling the separation membrane.
**Fig. S3:** (A) The absorbance spectra of plasma extracted by our superhydrophobic plasma separator (black) and by benchtop centrifugation (red). (B) Optical images of plasma isolated with our device and centrifuged plasma.

**Blood cell sedimentation by gravity**

To observe cell gravitational sedimentation, we designed and fabricated a simple microscope cover slip/double-sided tape hybrid device (**Fig. S4 (A)**). In this experiment, one blood droplet was first sandwiched between two microscope cover slips (Fisher Scientific, No. 12-544-E) under the assistance of double-sided tape spacers (~150 µm thickness) (3M™ Double Coated Tape 9500PC Clear). Then, the device was placed vertically and the blood sedimentation process was recorded by a USB microscope (Dino-Lite USB Digital Microscope) (**Fig. S4(A)**). **Fig. S4(B)** is a sequence of images of blood at 0, 2 and 5 minutes after gravitational sedimentation. The longer the sedimentation time, the clearer the blood cell/plasma interface is.
Fig. S4: (A) An experimental setup to observe blood cell sedimentation by gravity. (B) A sequence of images illustrating the blood cell gravitational sedimentation.

Fig. S5: A photograph of a modified superhydrophobic plasma separator that processes 800 µL of whole blood.
**Fig. S6:** 3D-printed tube with 1.5-mm-diameter silicon membrane for cell-free schistosome genomic DNA extraction: (A) schematic illustration of the 3D-printed tube and (B) a photograph of the 3D-printed tube.

**Video S1:** A movie illustrating the separation process carried out with our superhydrophobic plasma separator.