Electronic Supplementary Information For

Rapid Purification and Enrichment of Viral Particles Using Self-Propelled Micromotors

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Supporting Figures.

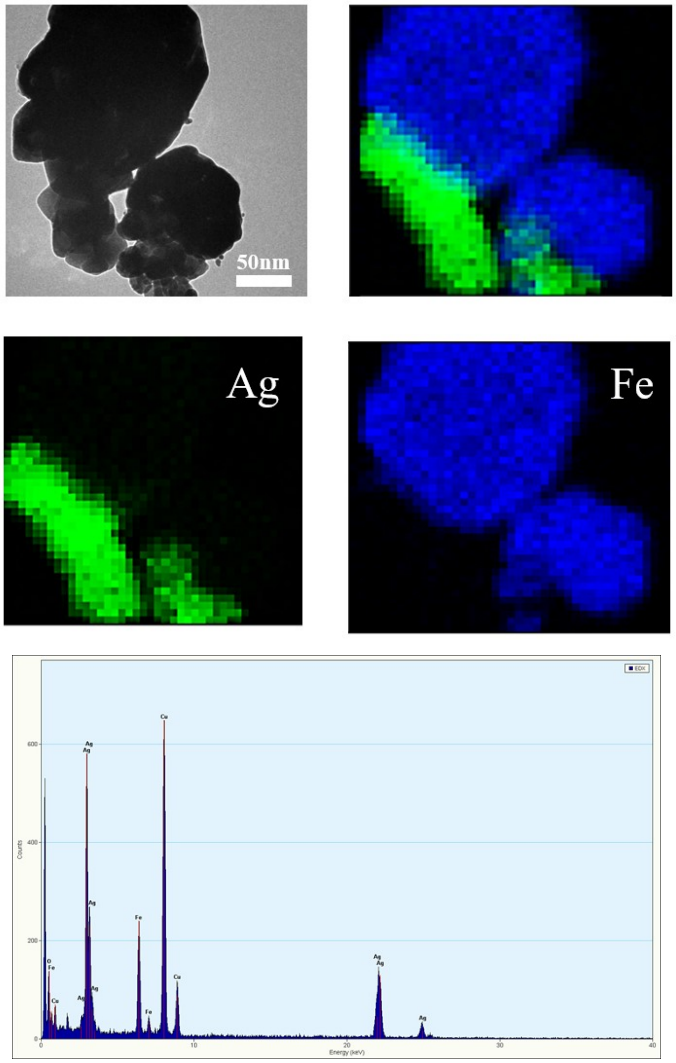

Figure S1. Elemental analysis of Fe_3O_4@Ag NPs using TEM and EDX measurements.

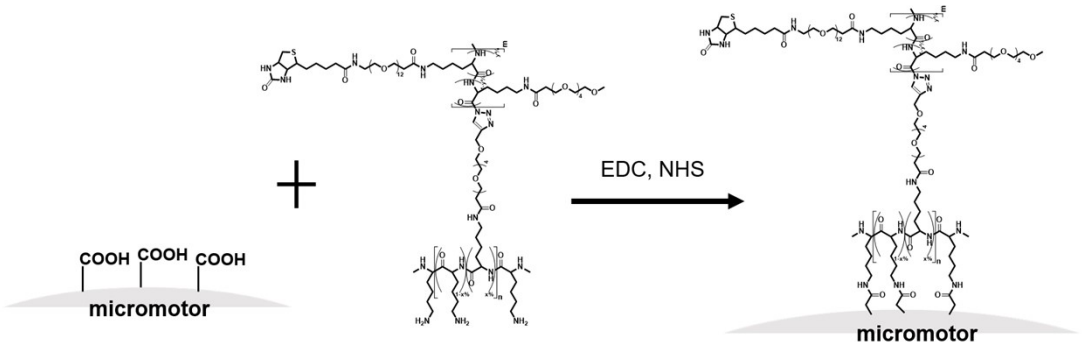

Figure S2. Chemical schematic diagram of the connection process of micromotors and 3D-PETx by EDC and NHS.

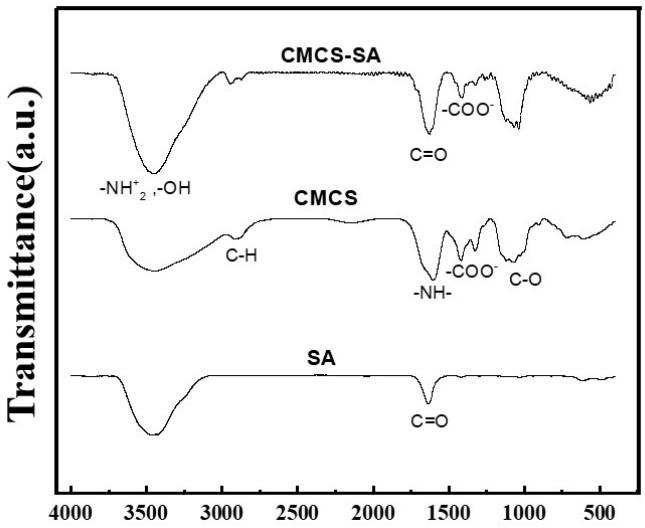

Figure S3. FTIR spectra of CSFA micromotors.

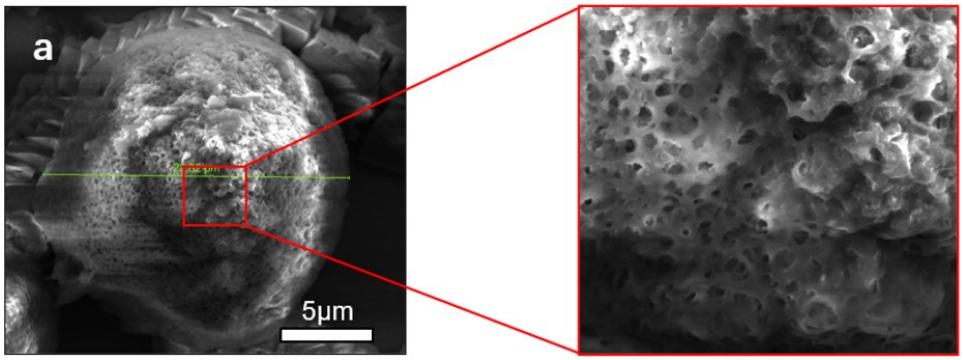

Figure S4. SEM images of anti-SP-CSFA particles before incubation with pseudovirus.

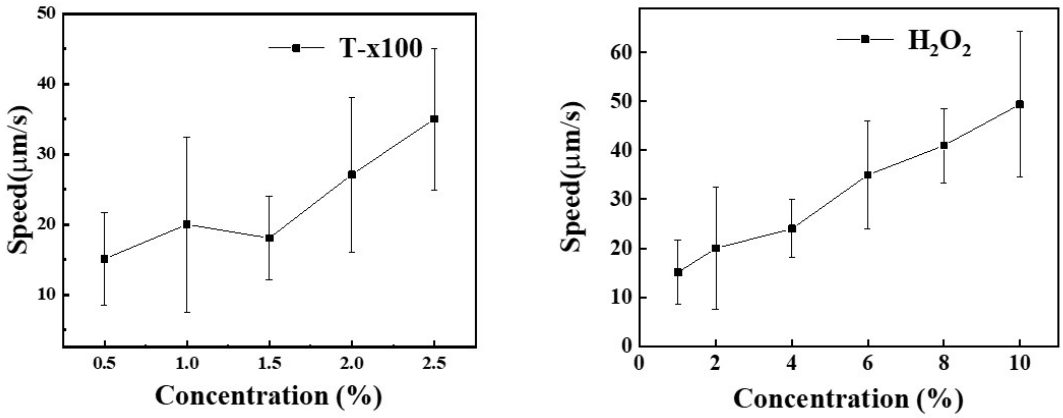

Figure S5. Speed of micromotor with different concentration of (a) surfactant, and (b) fuel.

All experiments were repeated at least three times and the standard deviation of the threshold time in each experiment is shown by the error bars.

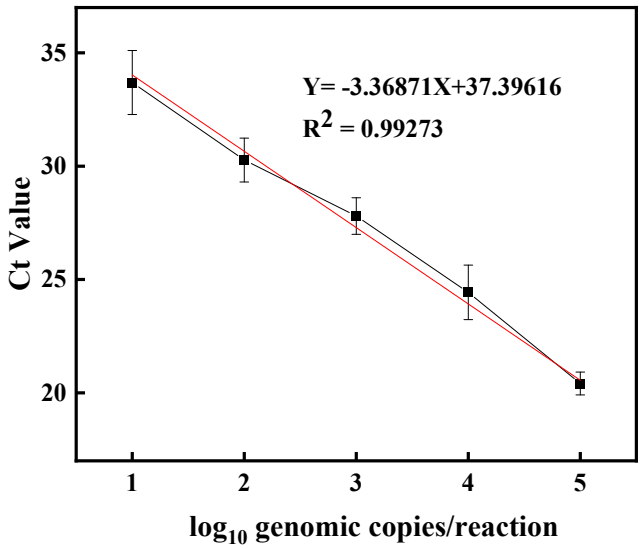

Figure S6. Standard curves for quantification of pseudovirus by RT-PCR. The RT-qPCR assay had efficiency of 99.27% with the slope of the standard curve -3.36.

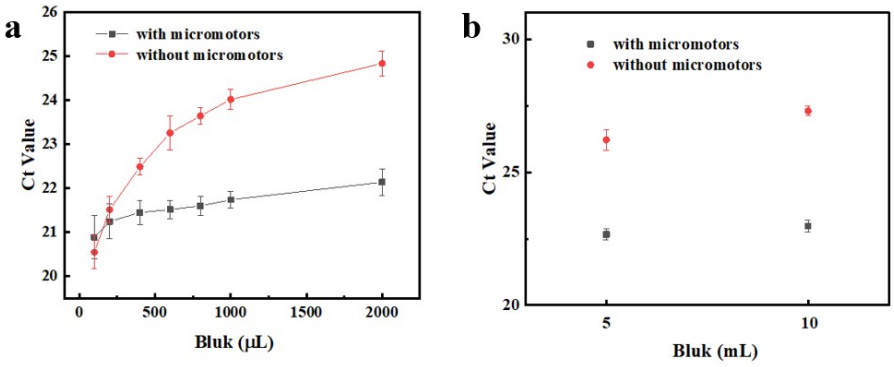

Figure S7. (a) One hundred microliters of Pseudovirus were spiked into uninfected viral PBS medium to range from 200μL to 2mL, and (b) a total volume of 5 mL or 10 mL.

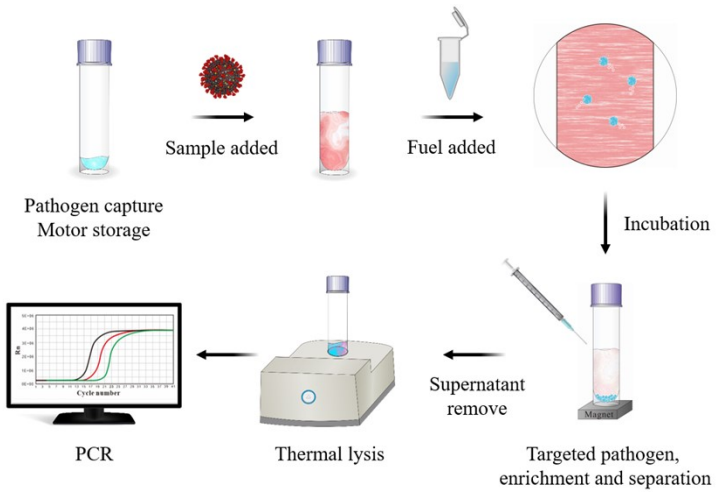

Figure S8. Scheme of a typical micromotor-based nucleic acid extraction test kit containing a thermostatic heating instrument, handheld syringe, and three buffer solution tubes containing enzyme-free water, micromotor fuel, and dry micromotor powder.