Supplementary Information

Alcohol gating femtosecond laser induced micro/nano-structured membranes with reversible switching wettability and breathability

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Contents:

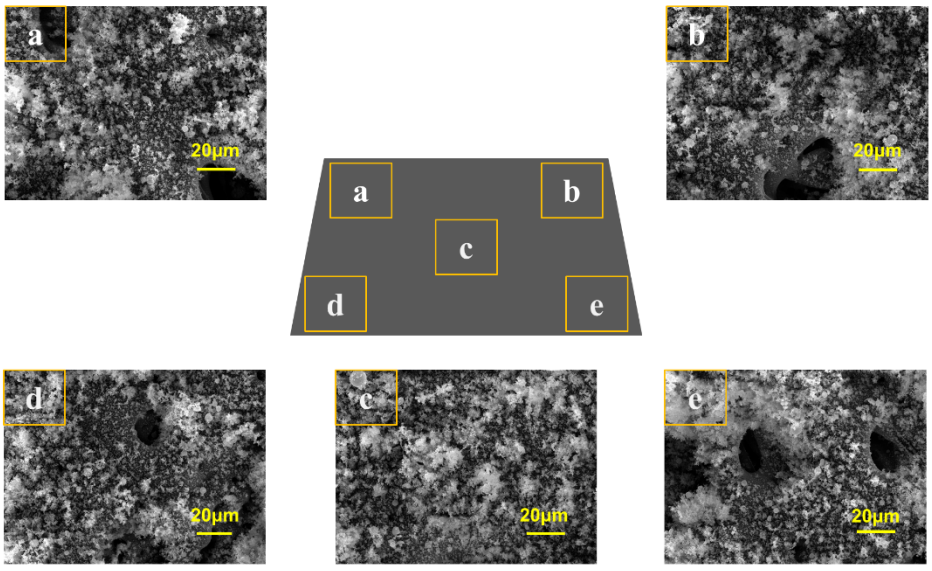

Figure S1.SEM images of various positions of the LT-PTFE surface.

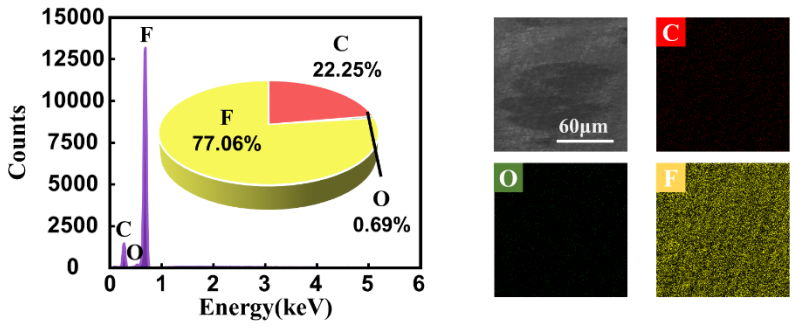

Figure S2. Elemental chemical composition and maps for the pristine PTFE surfaces.

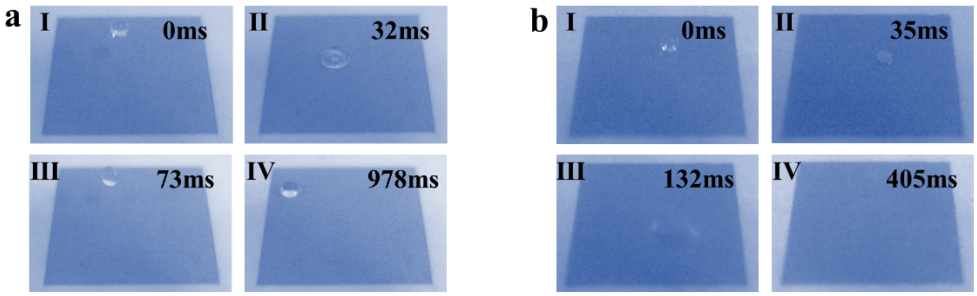

Figure S3. The process of water impacting the (a) LT-PTFE surface and (b) LT-PTFE-A surface.

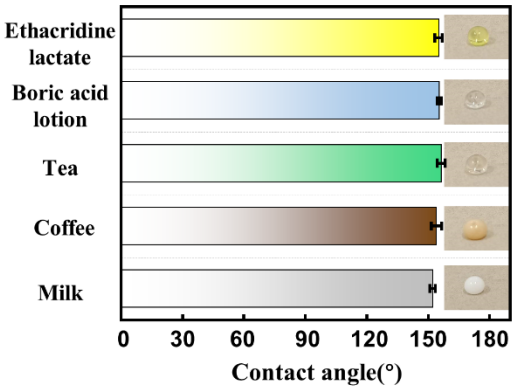

Figure S4. Contact angles for different liquids on the LT-PTFE surfaces.

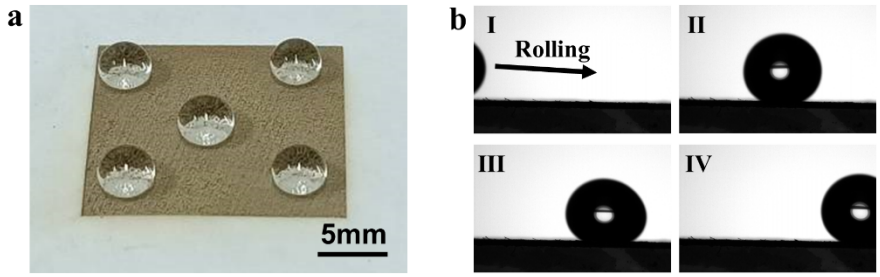

Figure S5. (a) WACs of various positions for the LT-PTFE surface. (b) Time-resolved pictures of a water droplet sliding (~1.4°) on the LT-PTFE surface.

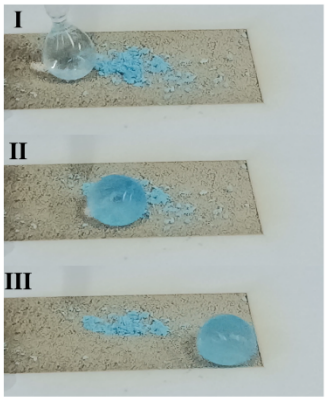

Figure S6. Self-cleaning demonstration of the LT-PTFE surface.

Energy percentage(%)	Power(mW)
45	779
50	1113
55	1485
60	1852
65	2320
70	2610

Figure S7. Different energy percentages corresponding to practical laser processing energy.

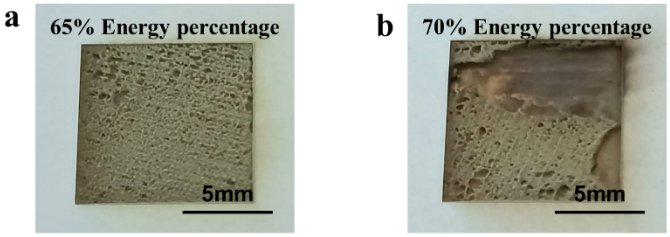

Figure S8. PTFE processed via (a) 65% energy percentage and (b) 70% energy percentage laser.

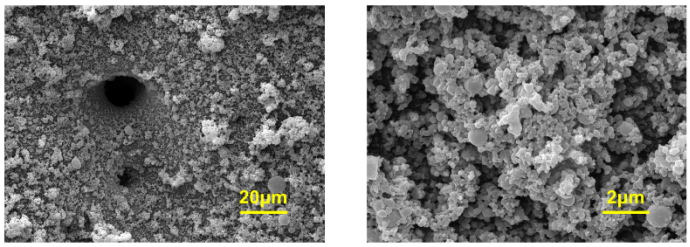

Figure S9. SEM images of different magnifications of the LT-PTFE surfaces after 100 times dropping/drying alcohol cycle.

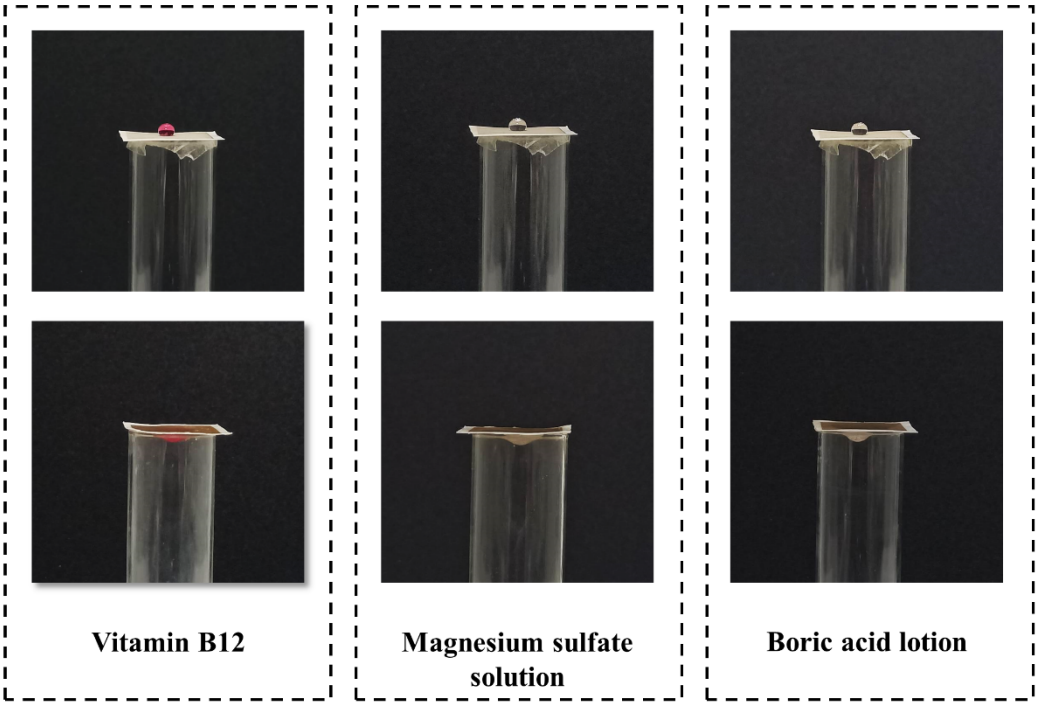

Figure S10. Wetting behaviors of various medicine droplet contact LT-PTFE and LT-PTFE-A surfaces.

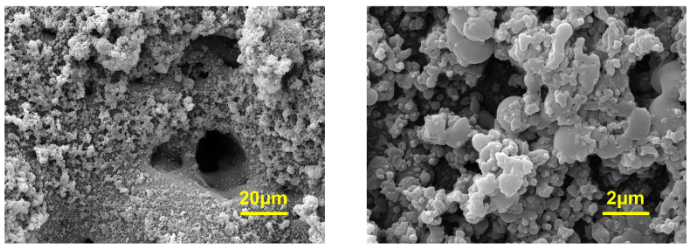

Figure S11. SEM images of different magnifications of the LT-PTFE-20C surfaces.

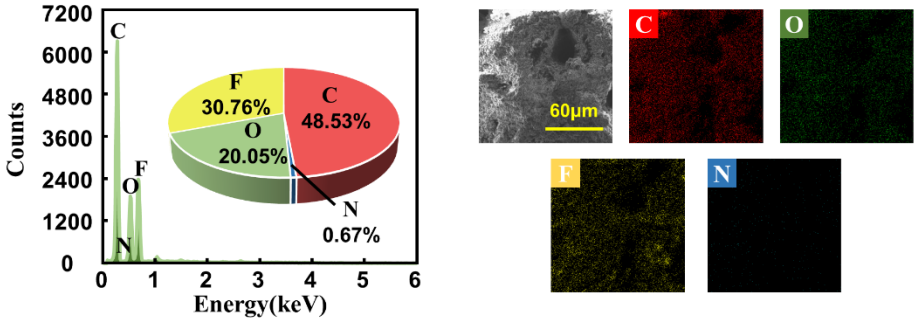

Figure S12. Elemental chemical composition and maps for the LT-PTFE-20C surfaces.