## **Supplementary Information**

## Stable slippery liquid-infused anti-wetting surface at high

## temperatures

Pengfei Zhang,<sup>a</sup> Huawei Chen,<sup>\*a</sup> Liwen Zhang,<sup>a</sup> Yi Zhang,<sup>a</sup> Deyuan Zhang<sup>\*a</sup> and Lei Jiang<sup>b</sup>

a. School of Mechanical Engineering and Automation, Beihang University, Beijing 100191, China. E-mail: chenhw75@buaa.edu.cn; zhangdy@buaa.edu.cn.

b. Laboratory of Bio-inspired Smart Interface Science, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China.



**Figure S1.** XPS spectra (C1s) of chemical etched stainless steel (a, c and e) and OTS coated chemical etched stainless steel (b, d and f). (a) and (b) are the spectra of carbon, (c) and (d) are the spectra of oxygen, and (e) and (f) are the spectra of silicon.

Viscosity/(cst, 25 °C)	Density/(g ml <sup>-1</sup> , 25 °C)	Surface Tension/(mN m <sup>-1</sup> ,	
		25 °C)	
50	0.960	20.8	
100	0.965	20.9	
350	0.970	21.1	

**Table S1.** Physical properties of the silicone oils by manufactures.

**Table S2.** Surface concentrations of carbon, oxygen and silicon in chemical etched stainless (CESS) and OTS coated CESS, as determined by XPS analysis.

Surface	С	0	Si
CESS	42.96	33.54	4.39
OTS coated CESS	62.15	26.39	6.29