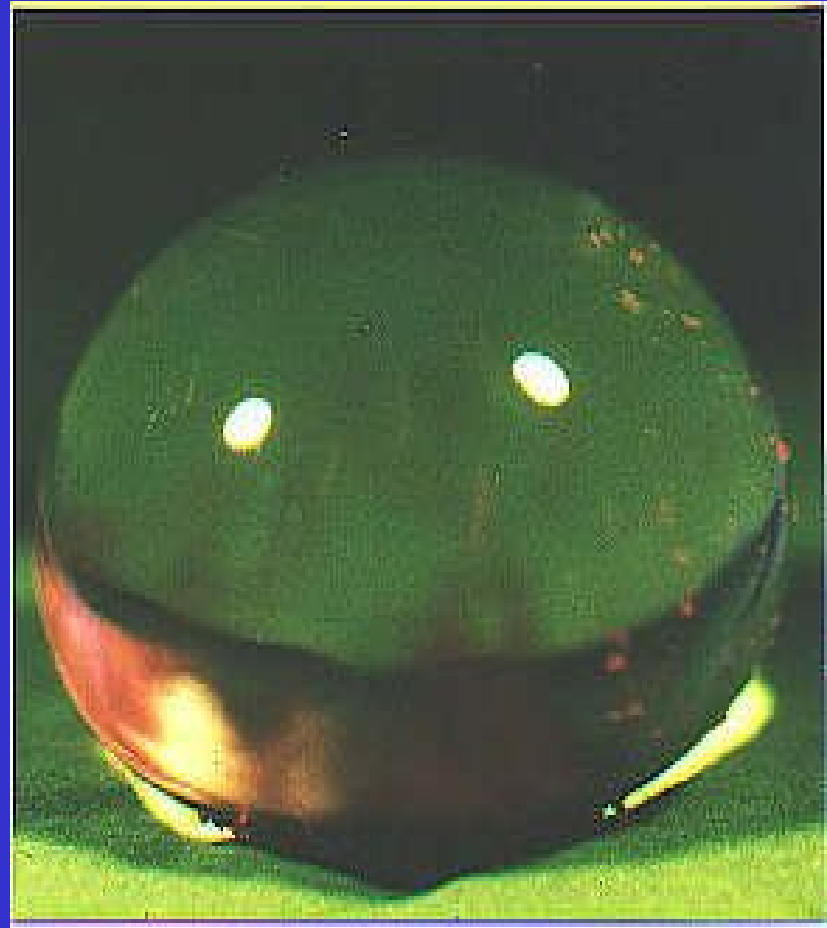


**Innovations in the environmental
issues in China
based on my experiences**

Jiang Lei
Chinese Academy of Sciences
Institute of Chemistry

Learn from nature

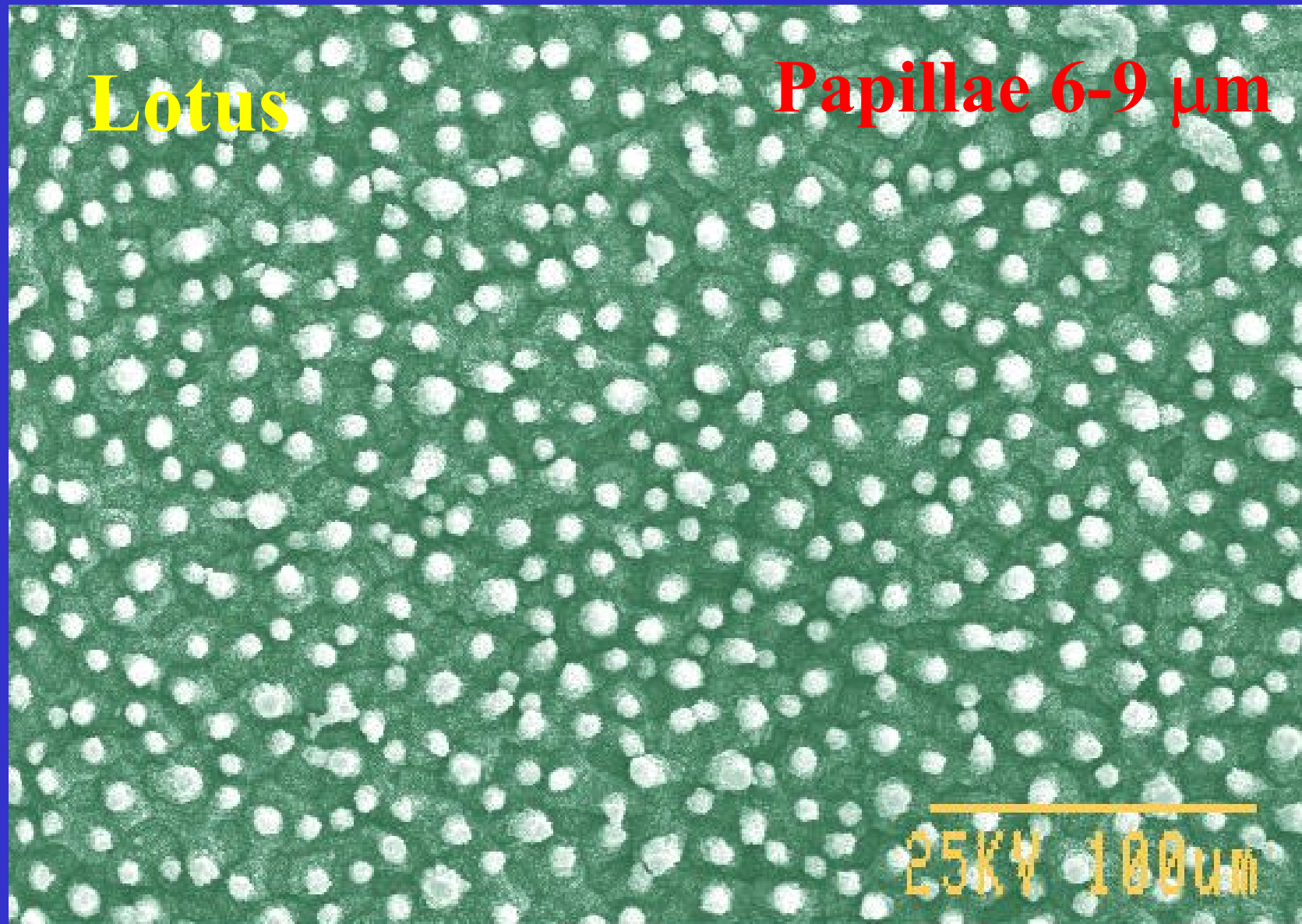


Self-cleaning

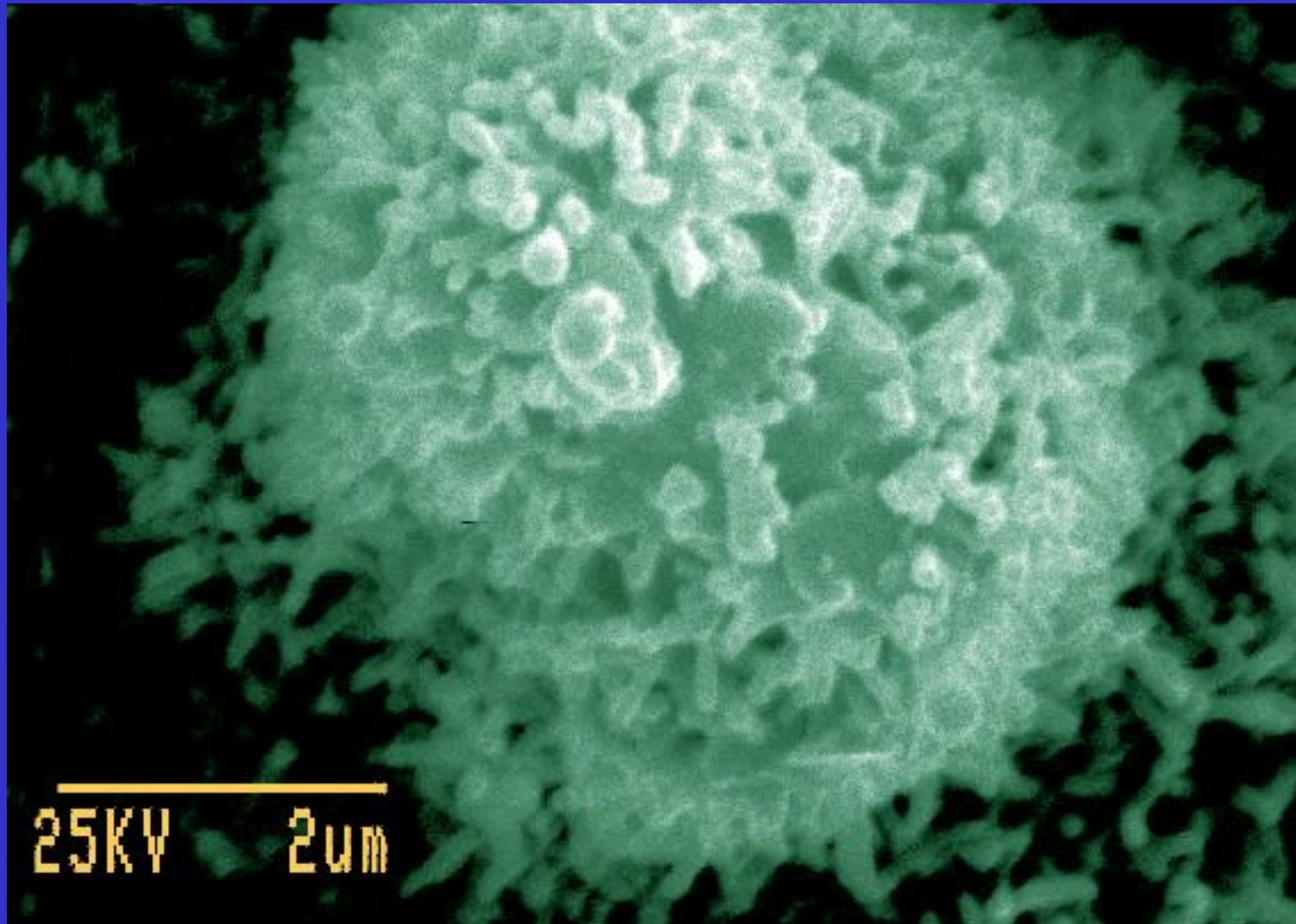
Easy-cleaning



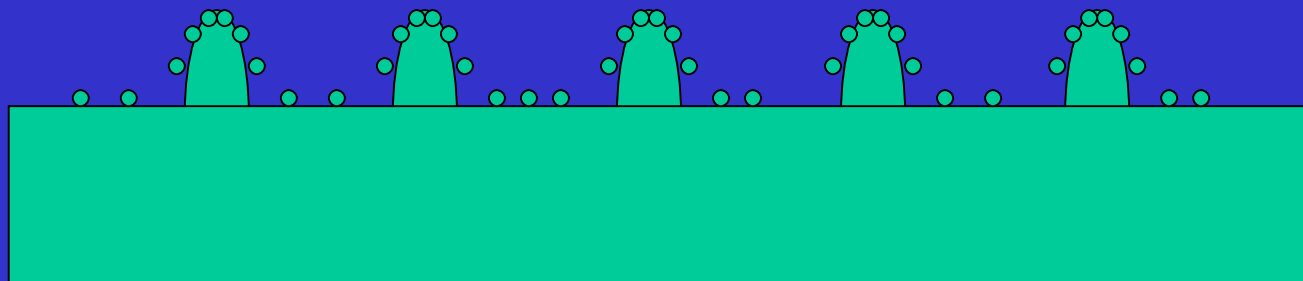
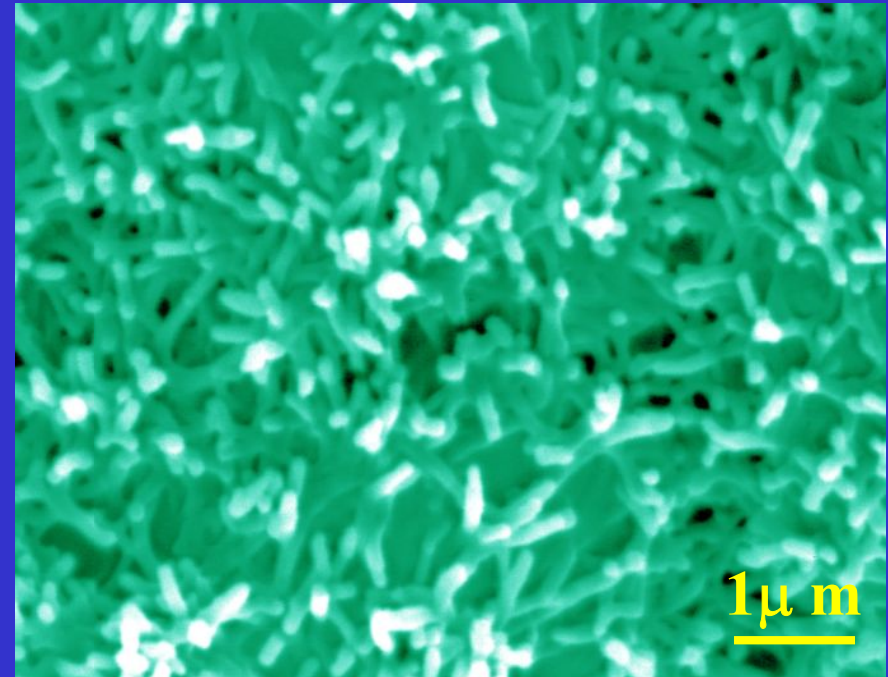
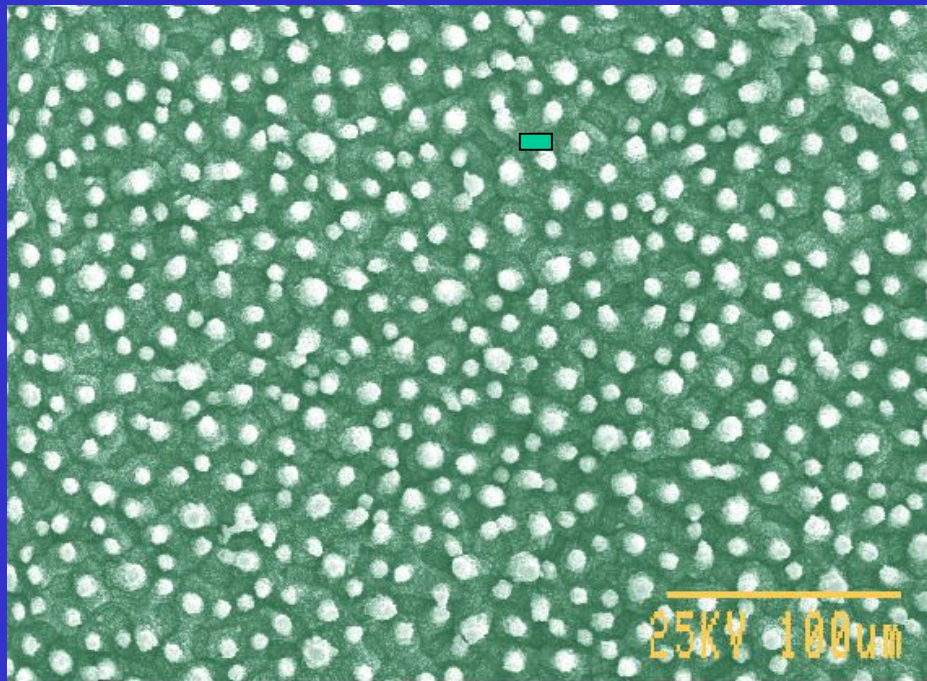
Surface Roughness in Micrometer Scale



Nano-branches like structures

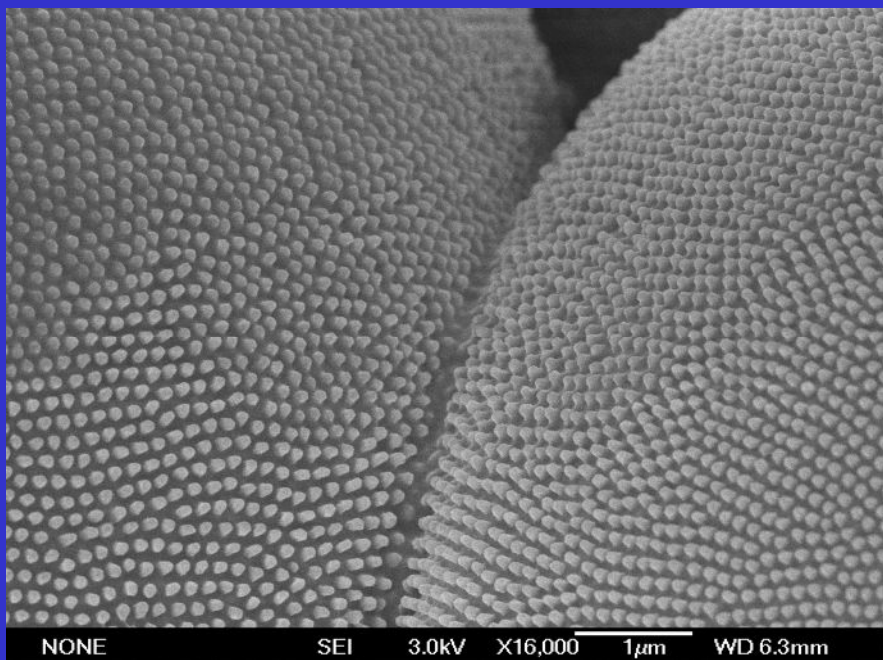
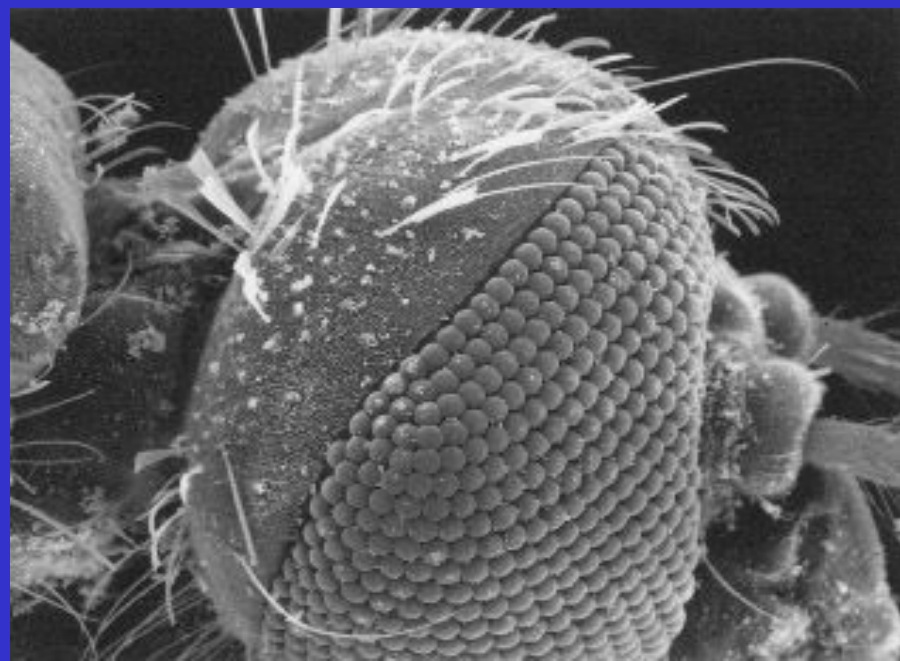


Advanced materials 2002. 14 1857

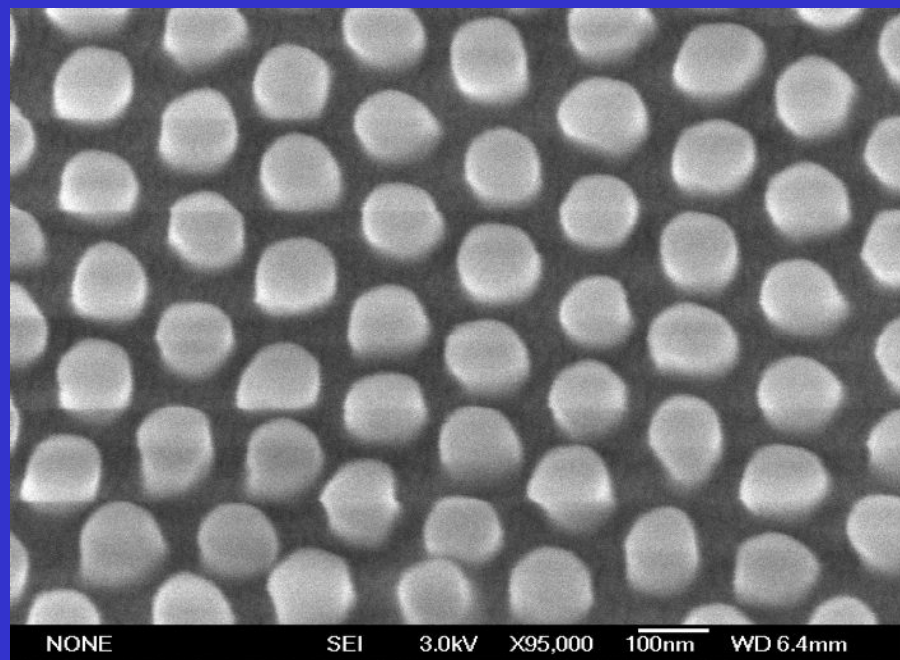


Mosquito with a “lotus eye”





NONE SEI 3.0kV X16,000 1μm WD 6.3mm

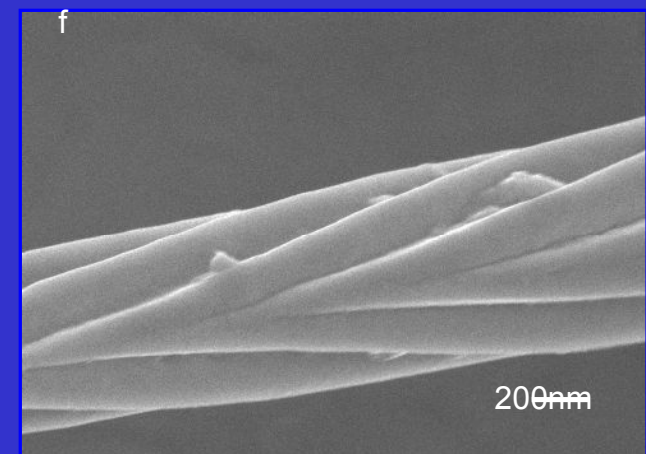
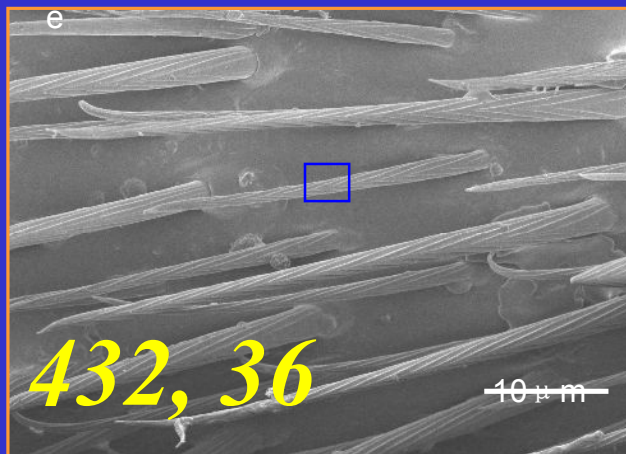
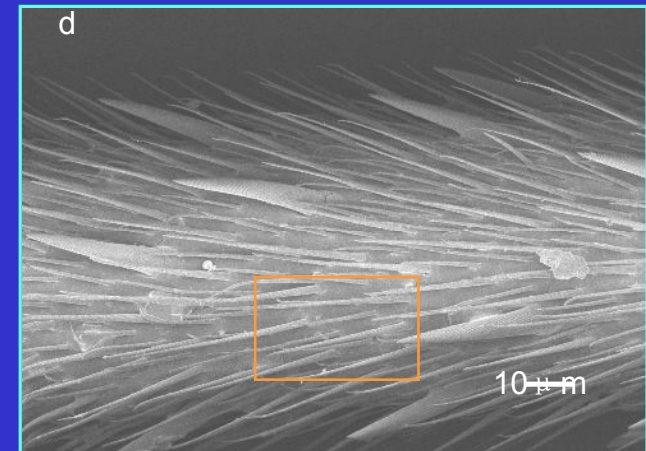
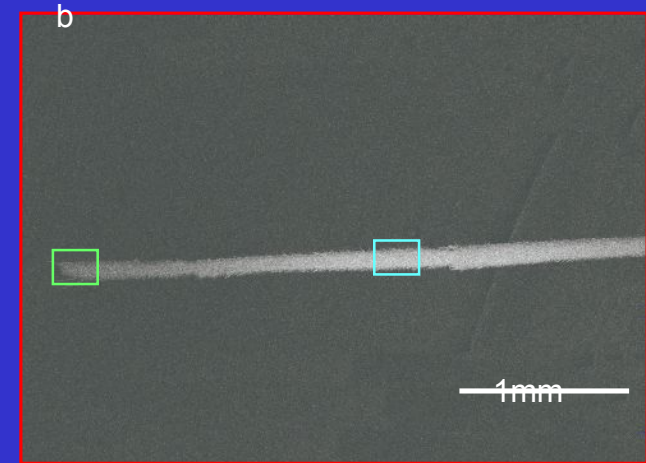
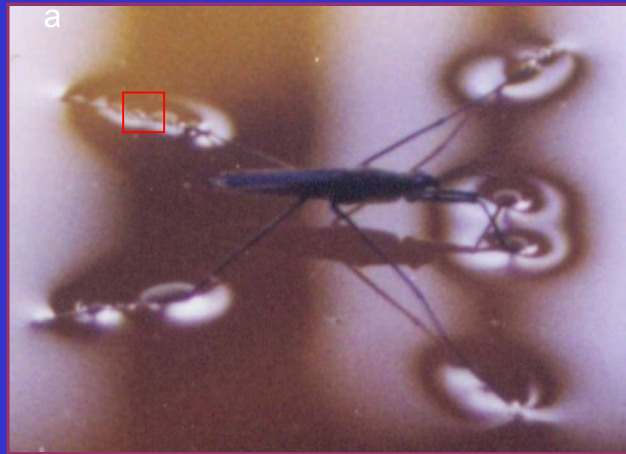


NONE SEI 3.0kV X95,000 100nm WD 6.4mm



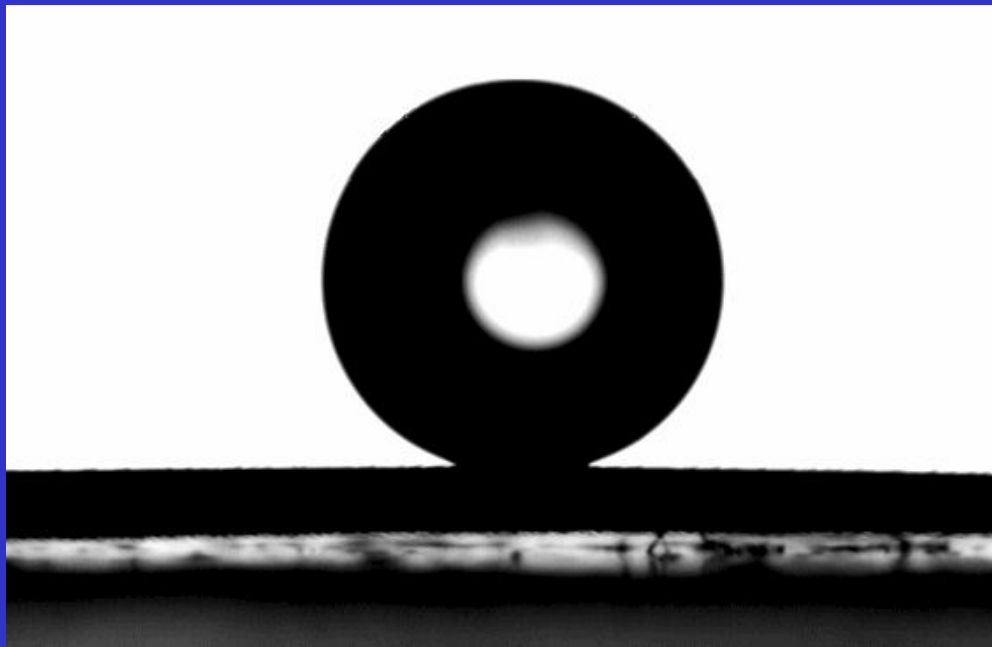
Hydrophobic force of water strider legs



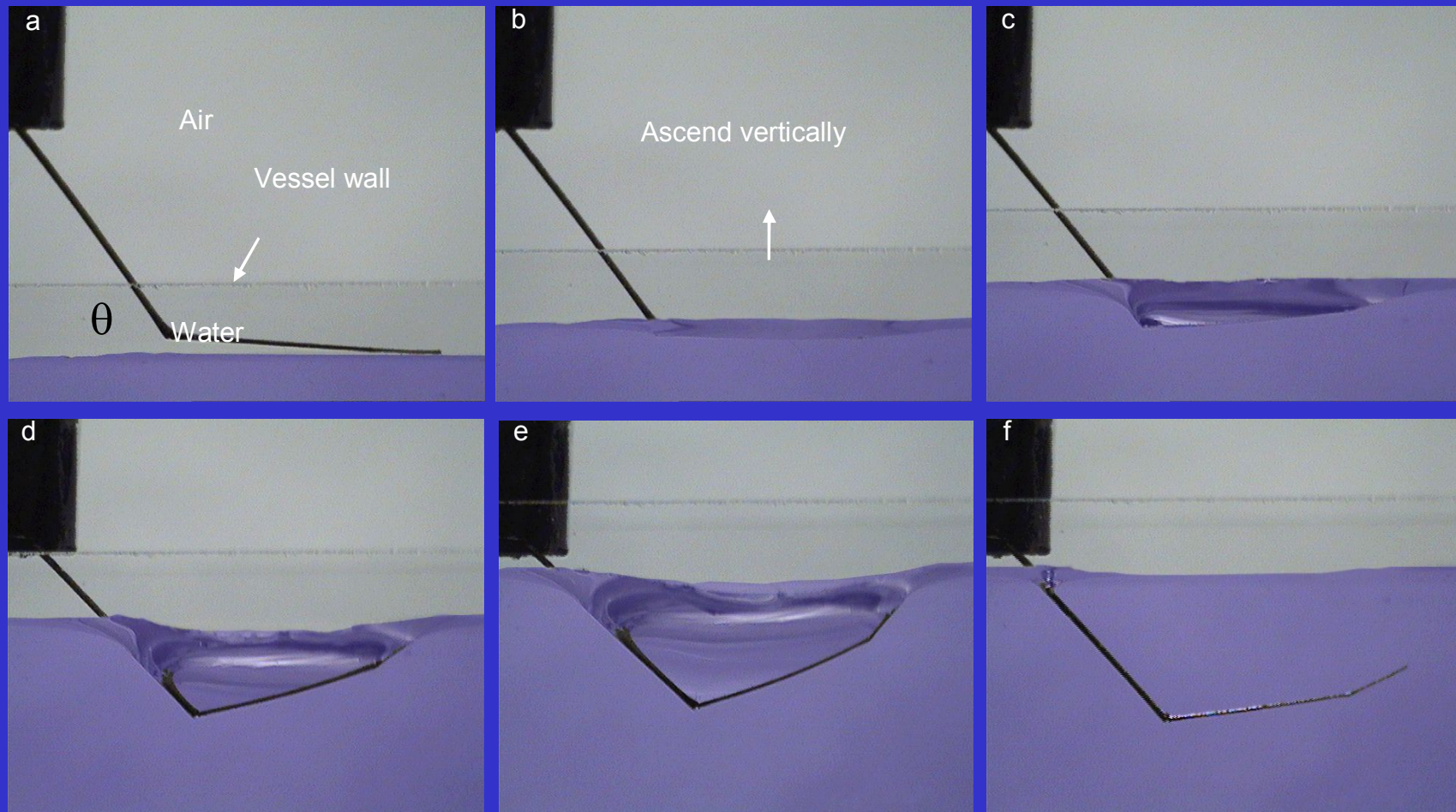


Nature 2004, 432, 36

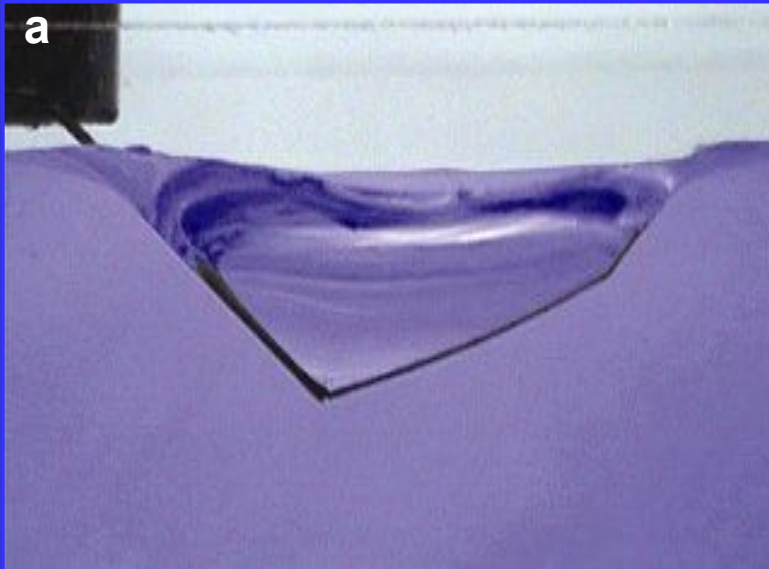
CA Measurement of the Legs



$$\theta_{\text{leg}} = 167.6 \pm 4.4^\circ$$



Nature 2004, 432, 36



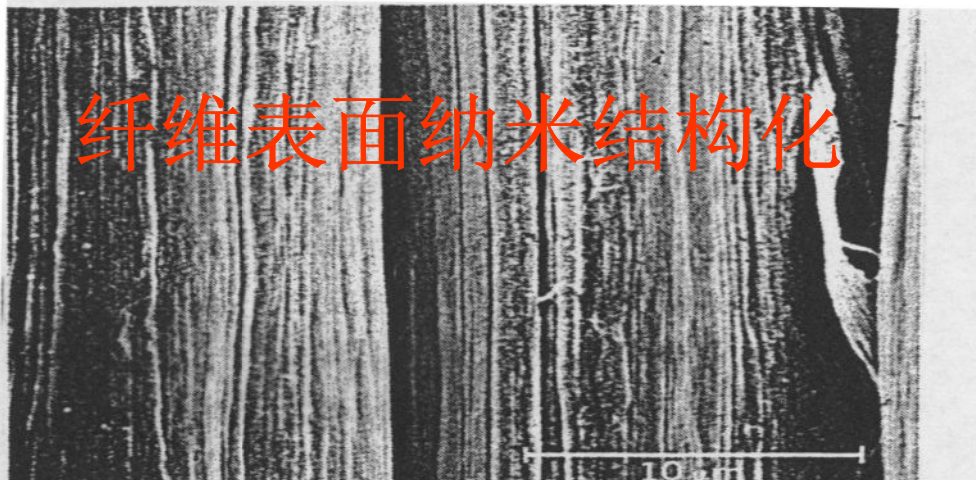
Side view



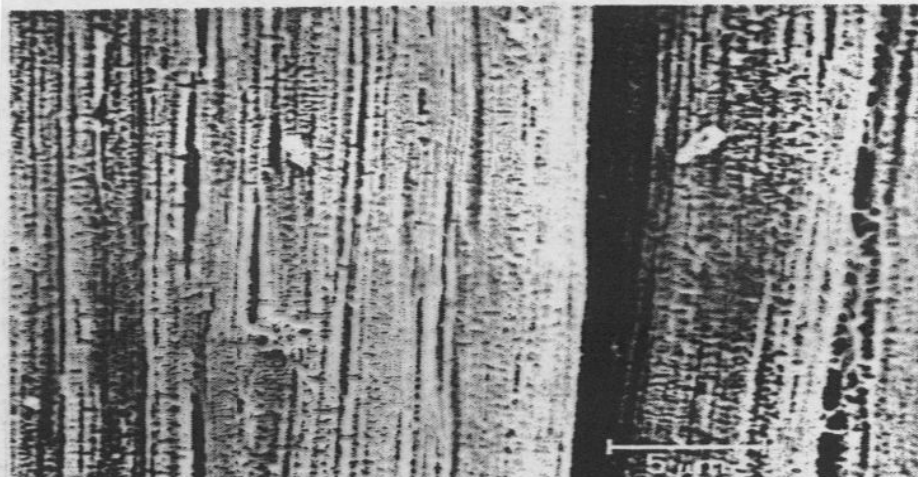
Bird view

Nature 2004, 432, 36

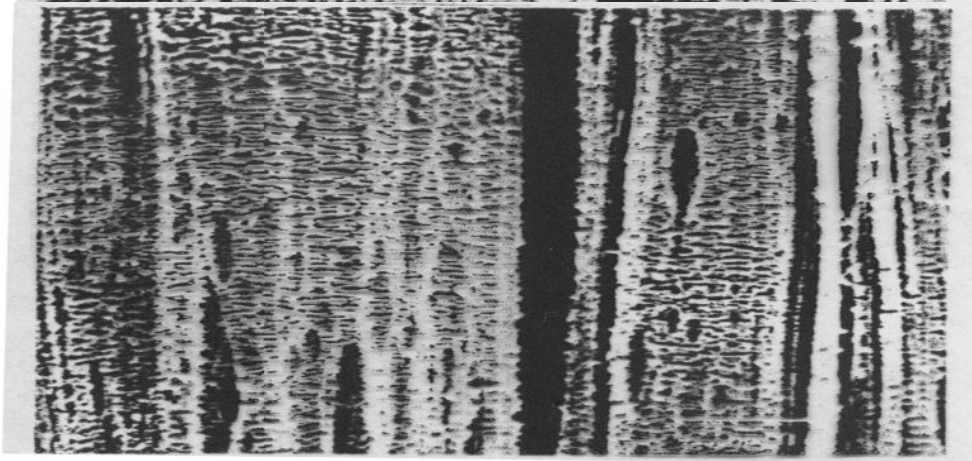
纤维表面纳米结构化



0 min

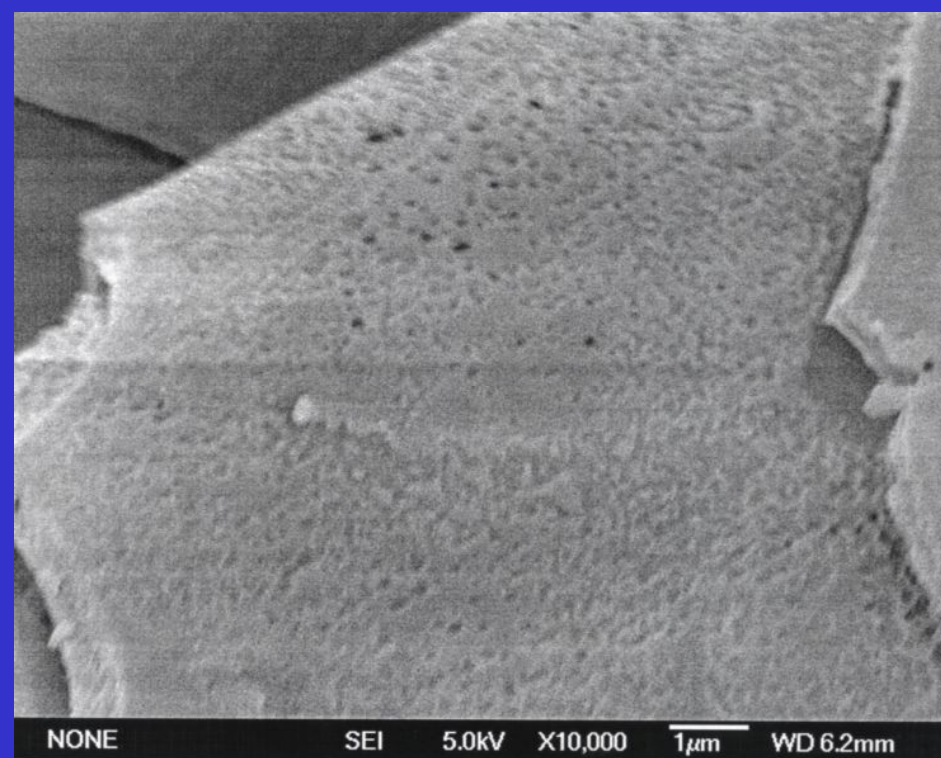
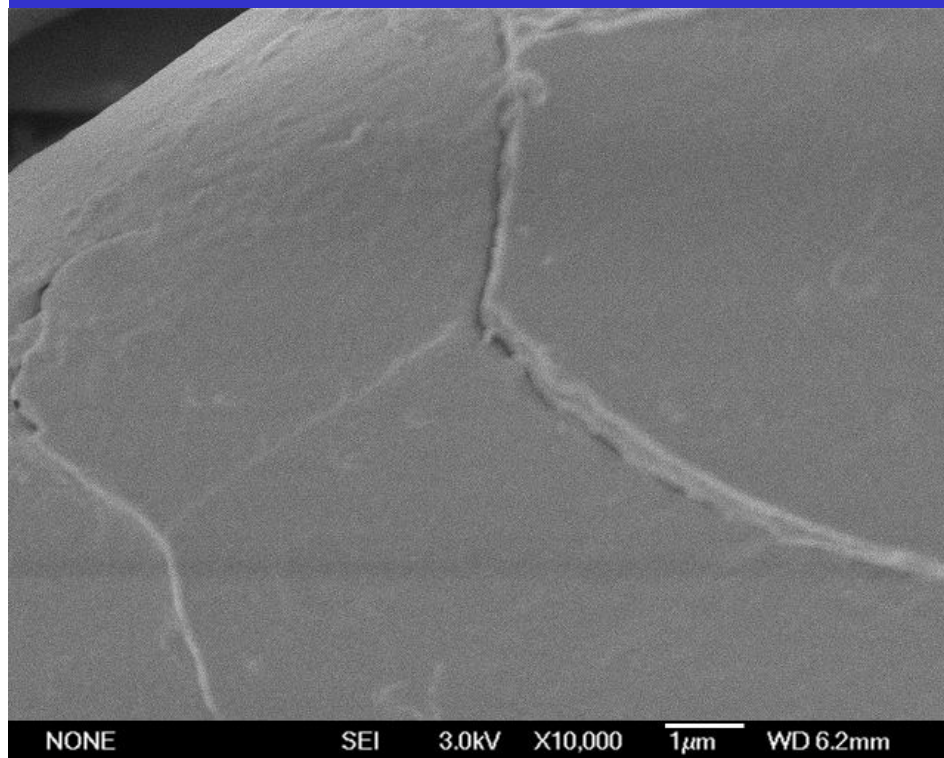


5 min



10 min

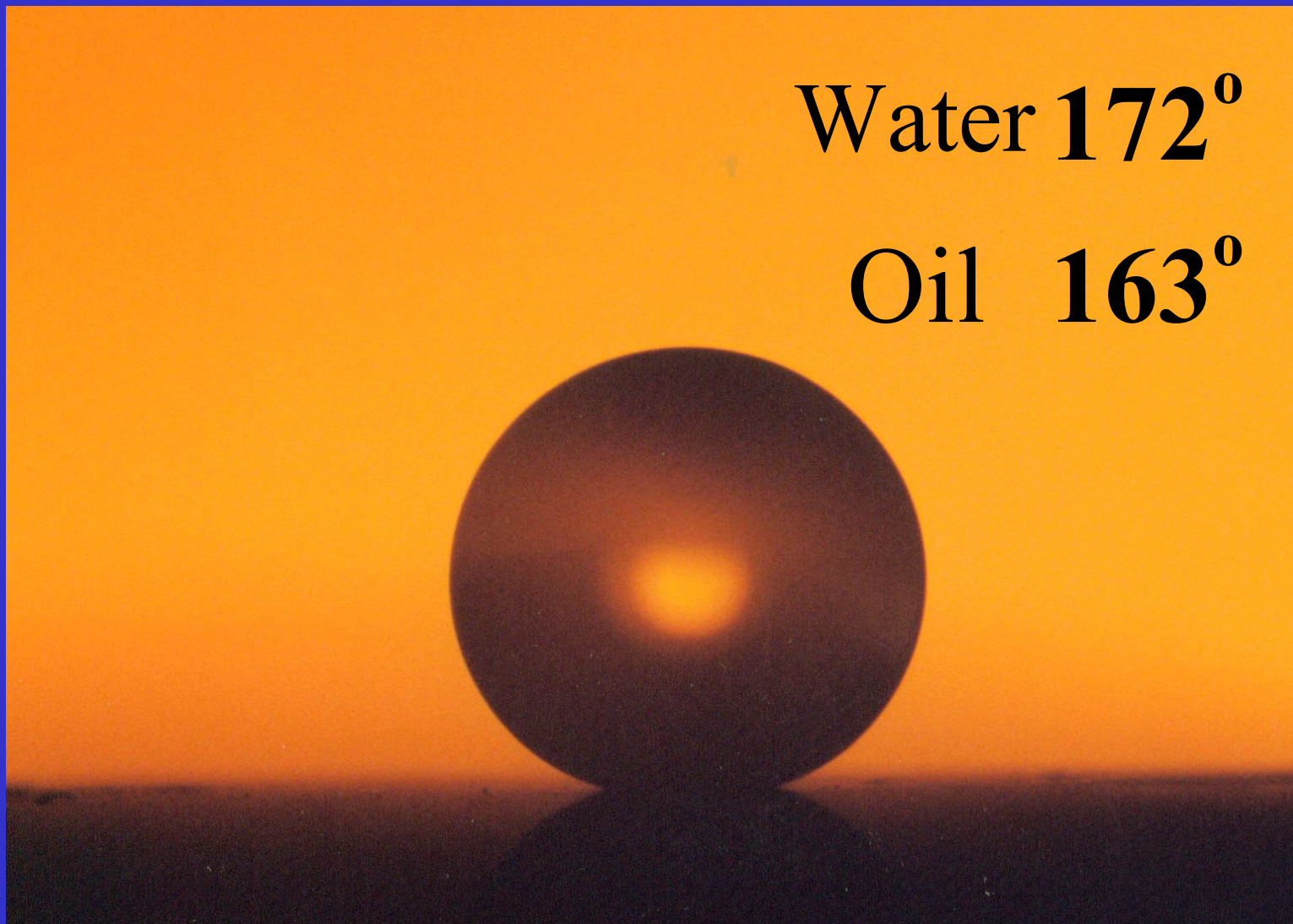
处理前后的羊绒表面



Super-“amphiphobic” Surface

Water 172°

Oil 163°



Angew. Chem. Int. Ed. 2001, 40, 1478

Super-amphiphobic Textiles



Super-amphiphobic self-cleaning clothes







Giving a Lecture in Qinghua University

Engineering Center of Nano-technology of CAS

7000 m²workshop

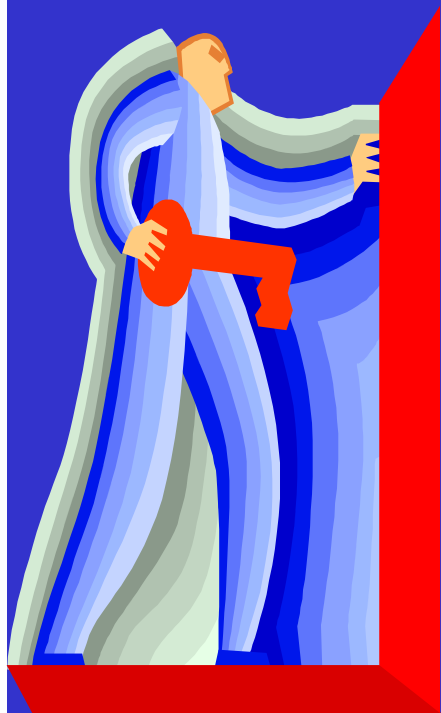


永丰高科技园区



Destination

工程中心



技术传递平台



基础



产业



ERDOS group sell 2 million piece of Cashmere shirt every year. Their annual sale income is about 3 billion RMB.

杉杉企业

Let's change ourselves

FIRS

