

## Stability of Slippery Liquid Infused Porous Surfaces using ZnO nanowires

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Slippery liquid infused porous surfaces(SLIPS) were synthesized by an ZnO nanowires. ZnO nanowires were fabricated by thermal method and the length of ZnO nanowires are changed by the condition of fabrication. The fabricated SLIPS shows 115.3 water contact angle and 73 oil contact angle. Also, it has low contact angle hysteresis, low sliding angle and self healing property. It means SLIPS has an antifouling ability that applied to various fields instead of superhydrophobic surfaces. The superhydrophobic surfaces have a many limit to apply real life like low stability. SLIPS fabricated by ZnO nanowire can deal with this problem. Using this SLIPS, these surface dip in the water for underwater stability and using spin coater when the oil evade middle of ZnO nanowires can reveal. Finally, SLIPS surface show high stability in harsh condition through underwater test and spin coating test,