

Supplementary Materials:

A Novel Simple Anti-Ice Aluminum Coating: Synthesis and In-Lab Comparison with a Superhydrophobic Hierarchical Surface

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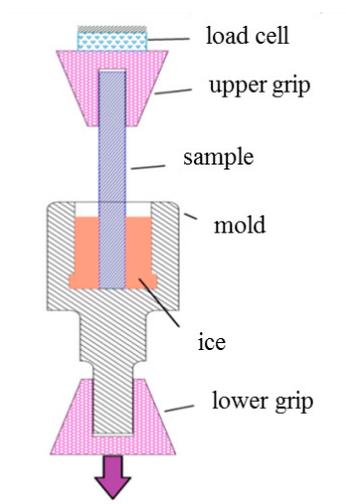


Figure S1. Home-made equipment for shear stress measures.

Table S1. Protocol for shear stress measures.

Protocol for Shear Stress Measures	
Step 1	Fill-up the mold with 40 ml of deionized water
Step 2	Insert the sample bar into the mold
Step 3	Freeze the mold and the sample at $-19\text{ }^{\circ}\text{C}$ for at least 8 hours
Step 4	Fix the mold into the machine
Step 5	Extract the bar from the ice at a speed of 4 mm/min
Step 6	Calculate the ice adhesion strength $\tau = FA$ where A is the sample surface in contact with the ice

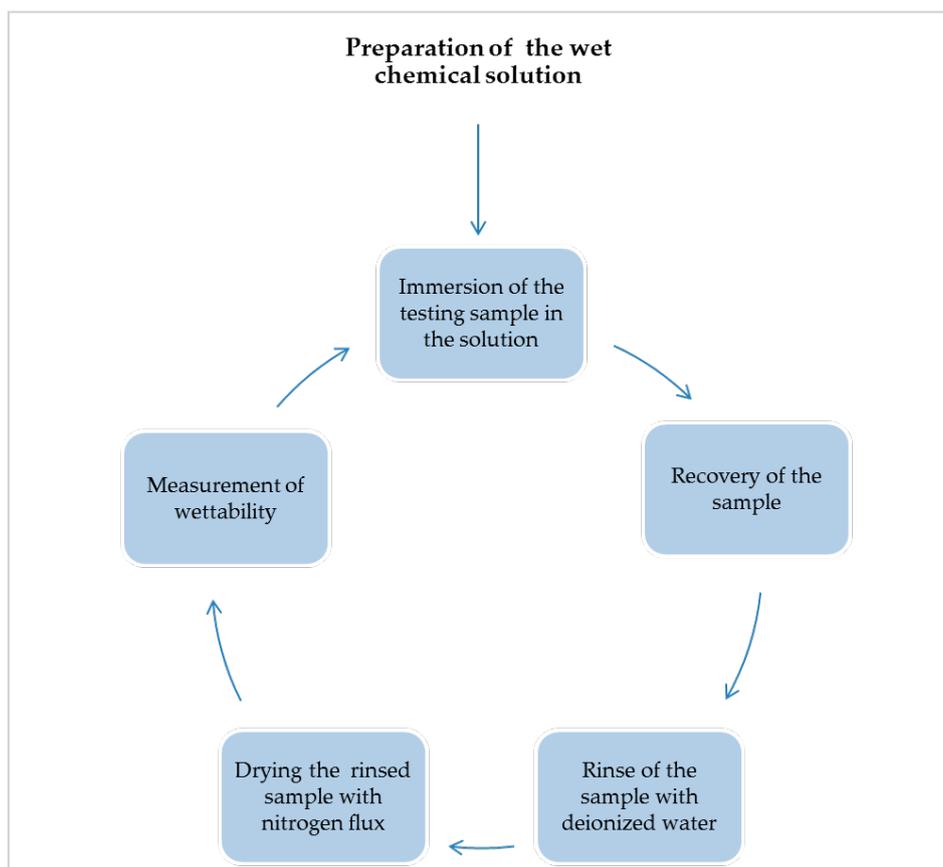


Figure S2. Sample treatment protocol for the durability testing in wet chemicals.

Table S2. Schedule of the wettability measures after the immersion in wet chemicals.

Time of Immersion	Acid Solution	Saline Solution	Basic Solution
0 hour	✓	✓	✓
2 hours			✓
8 hours			✓
16 hours			✓
1 day	✓	✓	✓
2 days	✓	✓	
3 days	✓	✓	
7 days	✓	✓	
10 days	✓	✓	
15 days	✓	✓	
20 days	✓	✓	
30 days	✓	✓	
50 days	✓	✓	
60 days	✓	✓	

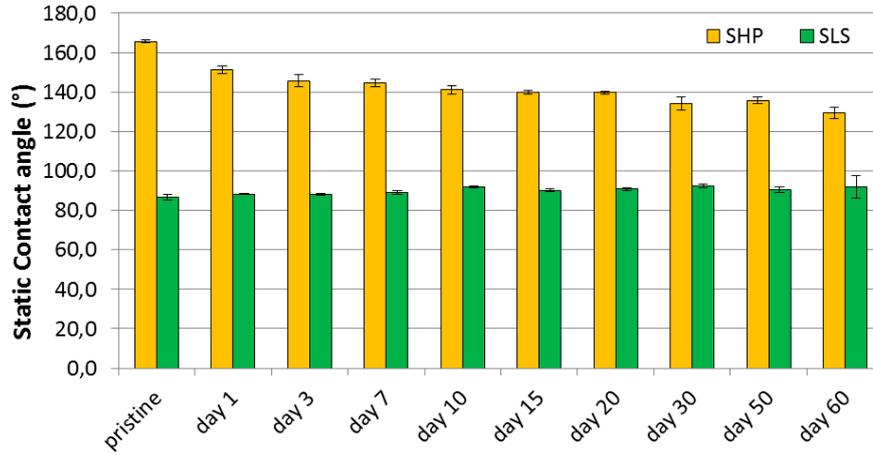


Figure S3. Durability in acid solution: Static Water Contact Angles.

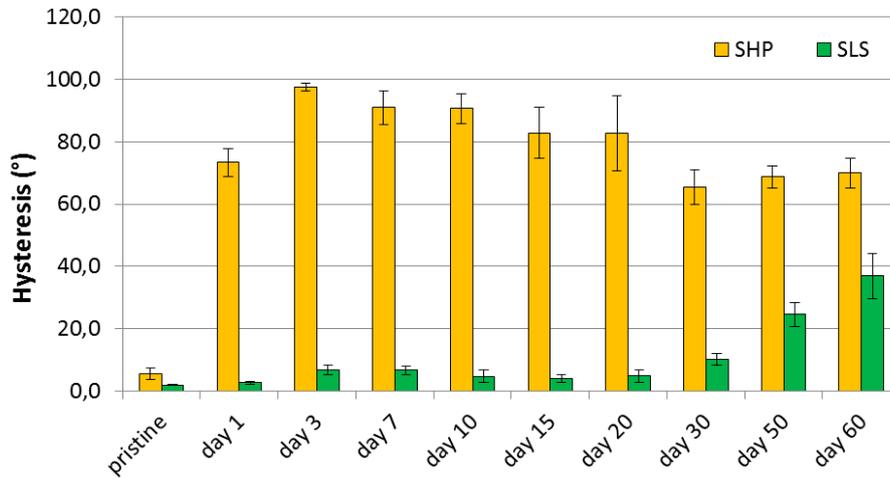


Figure S4. Durability in acid solution: Hysteresis.

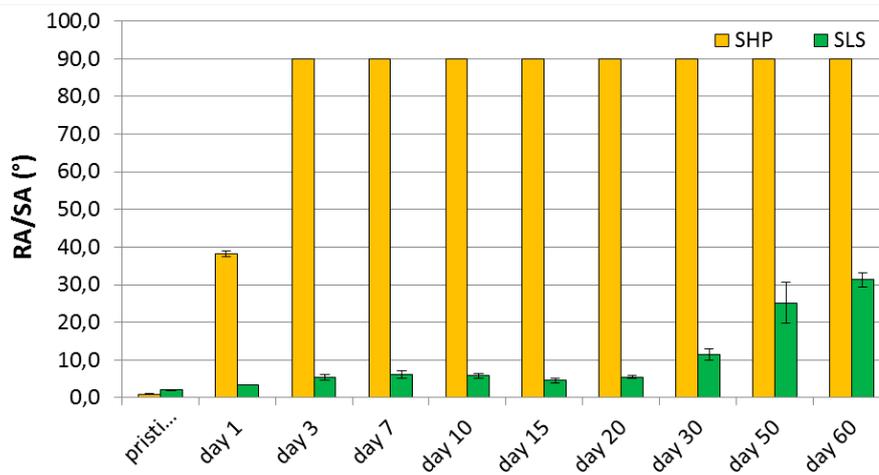


Figure S5. Durability in acid solution: Roll-off/Sliding angles.

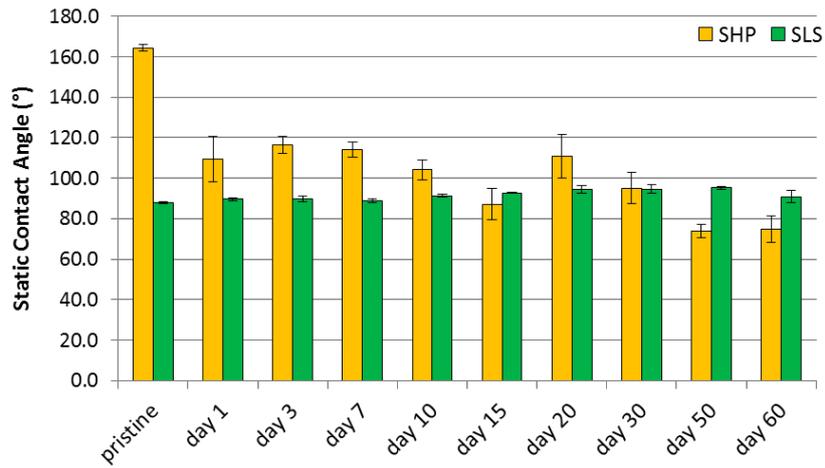


Figure S6. Durability in saline solution: Static Water Contact Angles.

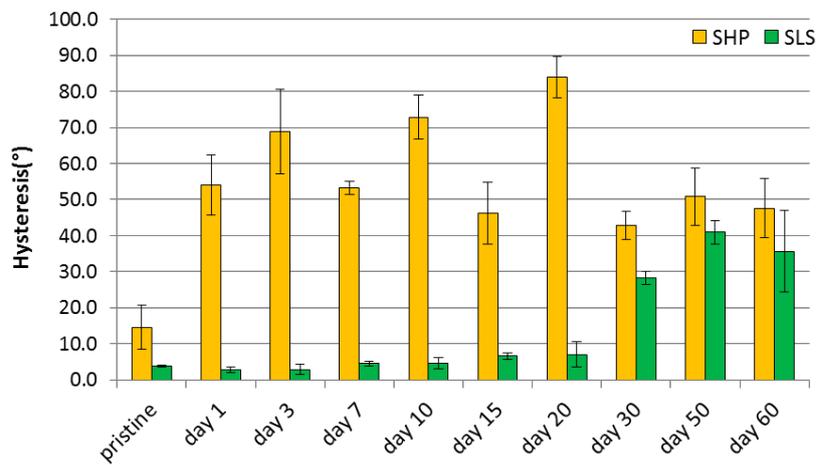


Figure S7. Durability in saline solution: Hysteresis.

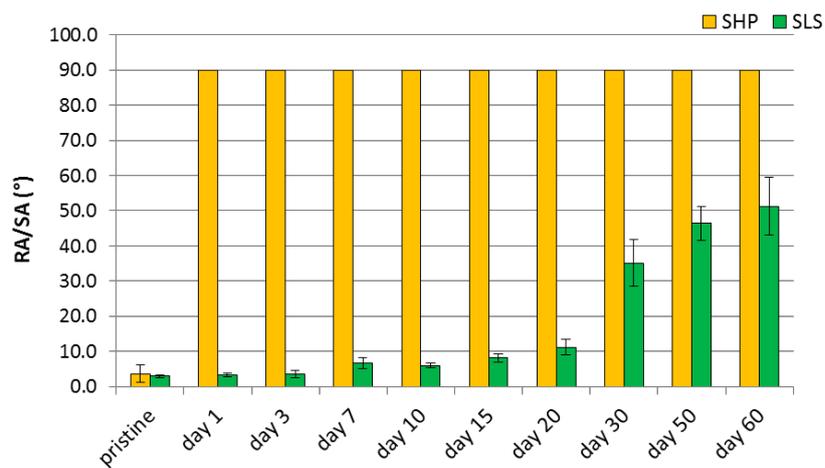


Figure S8. Durability in saline solution: Roll-off/Sliding angles.



