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Supplementary Materials: Durable and Superhydrophobic Aluminium Alloy with Microscale Hierarchical Structures and Anti-Drag Function Inspired by Diving Bell Spider

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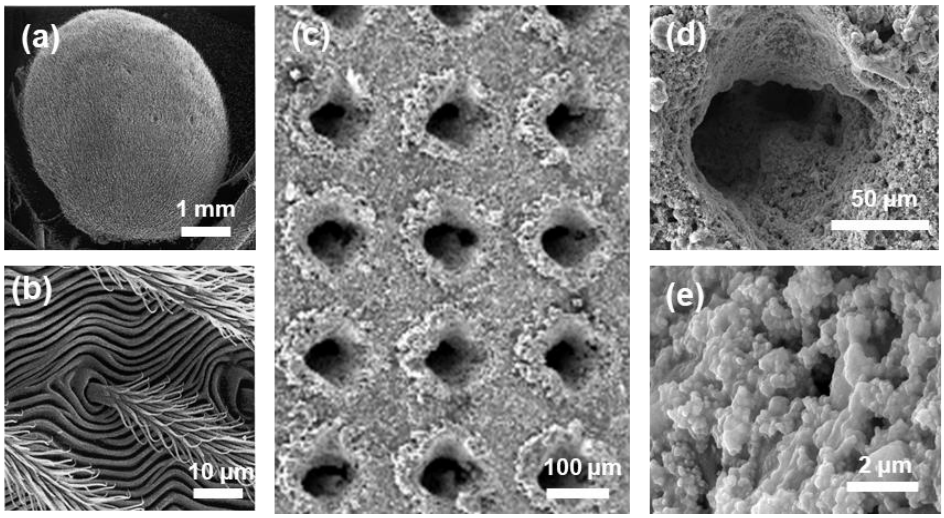

Figure S1. SEM images of the water spider [40] and BSAA. (**a**) SEM image of the abdomen of water spider. (**b**) SEM image of the microstructures on the abdominal surface of water spider. (**c**) SEM image of the BSAA. (**d**) SEM image of the single hole. (**e**) SEM image of the microstructures on the BSAA surface.

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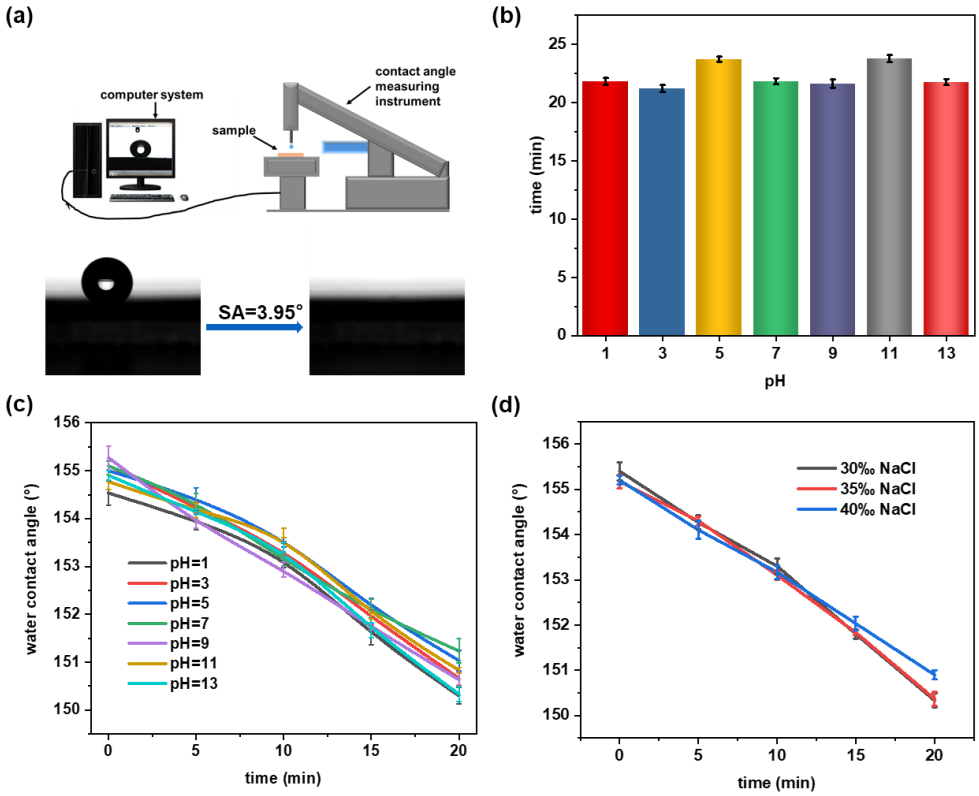

Figure S2. (**a**) A simple diagram of the drop shape analyzer and the sliding angle of the BSAA (**b**) The time required to change the WCAs by 5 degrees. (**c**) WCAs of the BSAA changing with the time in different pH. (**d**) WCAs of the BSAA changing with the time in different NaCl solutions.

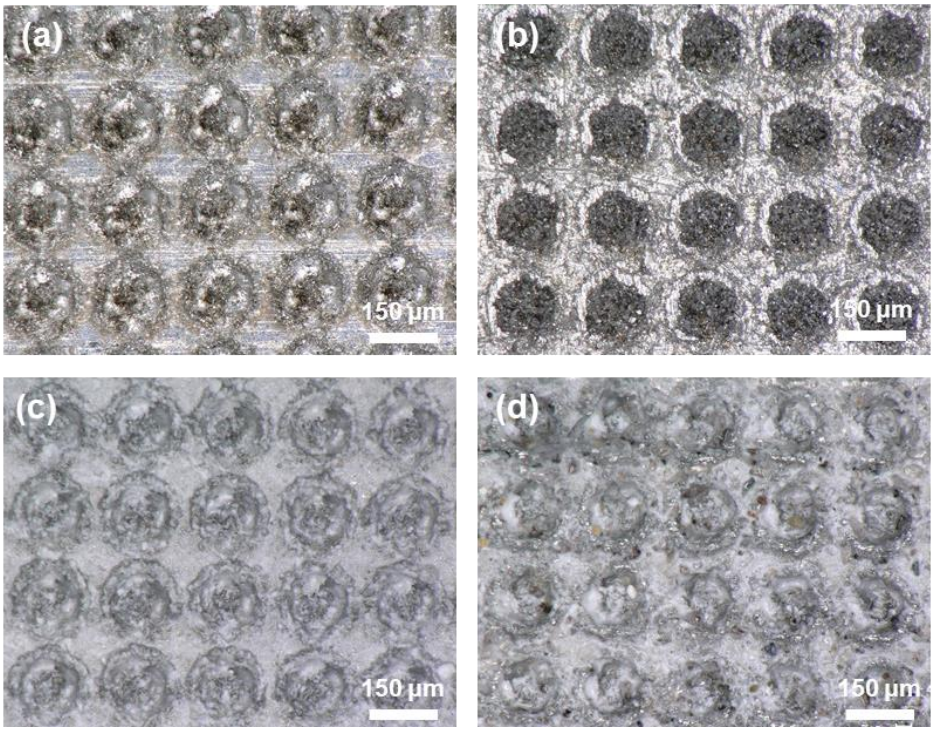

Figure S3. Surface morphology of the aluminium alloy and BSAA before and after the mechanical abrasion test. (**a**) Surface morphology of the aluminium alloy before the mechanical abrasion test. (**b**) Surface morphology of the aluminium alloy after the mechanical abrasion test. (**c**) Surface morphology of the BSAA before the mechanical abrasion test. (**d**) Surface morphology of the BSAA after the mechanical abrasion test.

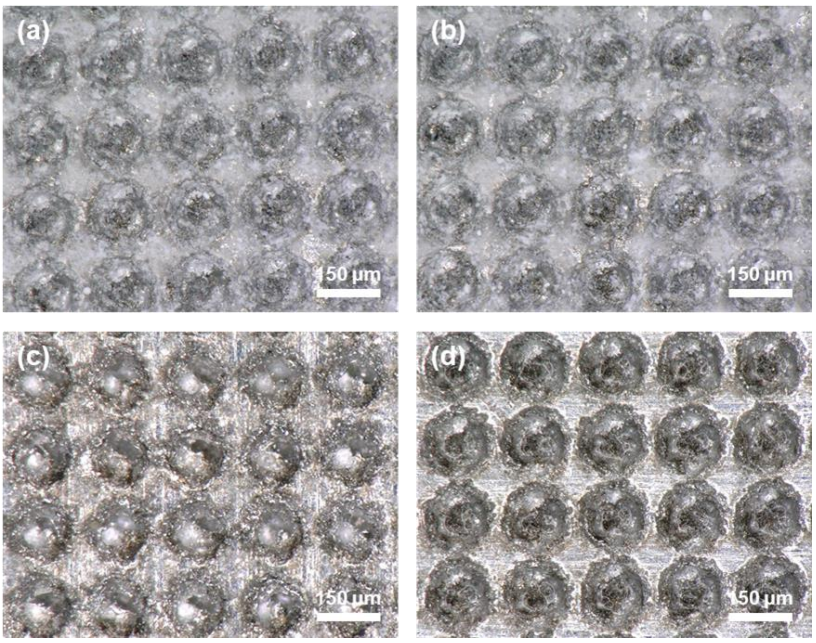

Figure S4. Surface morphology of BSAA and aluminium alloy before and after chemical stability test. (**a**) Surface morphology of BSAA before chemical stability test. (**b**) Surface morphology of BSAA after chemical stability test. (**c**) Surface morphology of aluminium alloy before chemical stability test. (**d**) Surface morphology of aluminium alloy after chemical stability test.