

Abstract Submitted
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Fabrication of non-aging superhydrophobic surfaces by packing flower-like hematite particles ANMIN CAO, LIANGLIANG CAO, DI GAO, University of Pittsburgh — We demonstrate the fabrication of non-aging superhydrophobic surfaces by packing flower-like micrometer-sized hematite particles. Although hematite is intrinsically hydrophilic, the nanometer-sized protrusions on the particles form textures with overhanging structures that prevent water from entering into the textures and induce a macroscopic superhydrophobic phenomenon. These superhydrophobic surfaces do not age even in extremely oxidative environments—they retain the superhydrophobicity after being stored in ambient laboratory air for 4 months, heated to 800 degree C in air for 10 hours, and exposed to ultraviolet ozone for 10 hours.

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