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SUPPORTING INFORMATION

A Facile Approach to Robust Superhydrophobic 3D Coatings via Connective-Particle Formation using the Electrospraying Process

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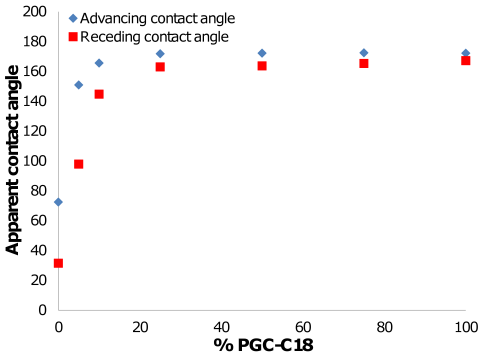

Figure S1. Advancing and receding contact angles of electrosprayed PCL:PGC-C18 blends. (n=3; Avg. ± SD)

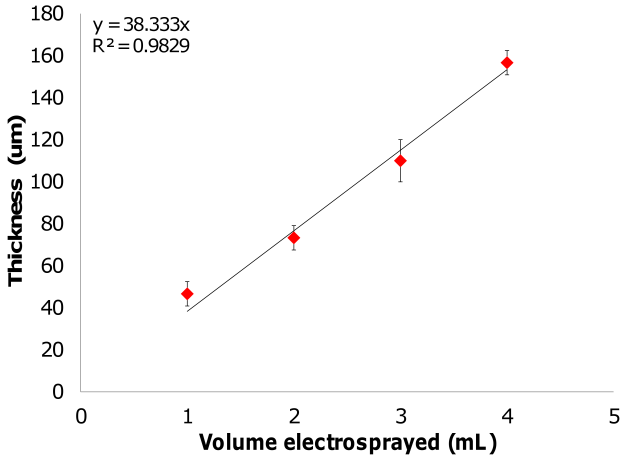

Figure S2. (A) Thickness of electrosprayed coatings are controlled by electrospraying deposition time. (n=3; Avg. ± SD).

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Water infiltration measurements using X-ray micro computed tomography (μCT)

Since we are interested in determining if the superhydrophobic electrosprayed materials are wetted, we chose to use quantitative X-ray micro computed tomography (μCT) to measure the extent of water infiltration. A 3:1 water-ioxaglate solution (an anionic iodinated CT contrast agent) was incubated with the superhydrophobic electrosprayed materials and the extent at which water penetrated into the coating was determined from the CT signal as the contrast agent solution wetted the coating. Specifically the materials were incubated in an 80 mgI/mL solution of Ioxaglate (Hexabrix^{TM}; an anionic iodinated CT contrast agent) for 2 hours and scanned using a μCT imaging system at an isotropic voxel resolution of 18 μm^3, 70 kVP tube voltage, 114 μAmp current, and 300 ms integration time. The sequential slices obtained using the μCT system were then converted into the standard image format (DICOM) using the proprietary software from Scanco Medical. This data was then analyzed using commercial image processing software (Analyze, BIR, Mayo Clinic, Rochester, MN, USA). The 3D μCT data sets were imported into Analyze where a representative cross-section of the 50:50 PCL:PGC-C18 electrosprayed native and wetted coatings were generated.