

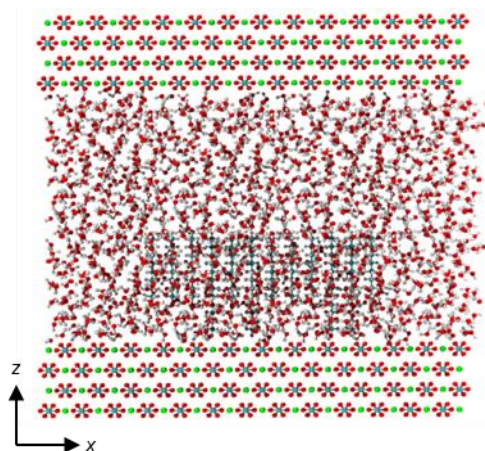
Supplementary Information for:

# **Critical Packing Density of Water-Mediated Nonstick Self-Assembled Monolayer Coatings**

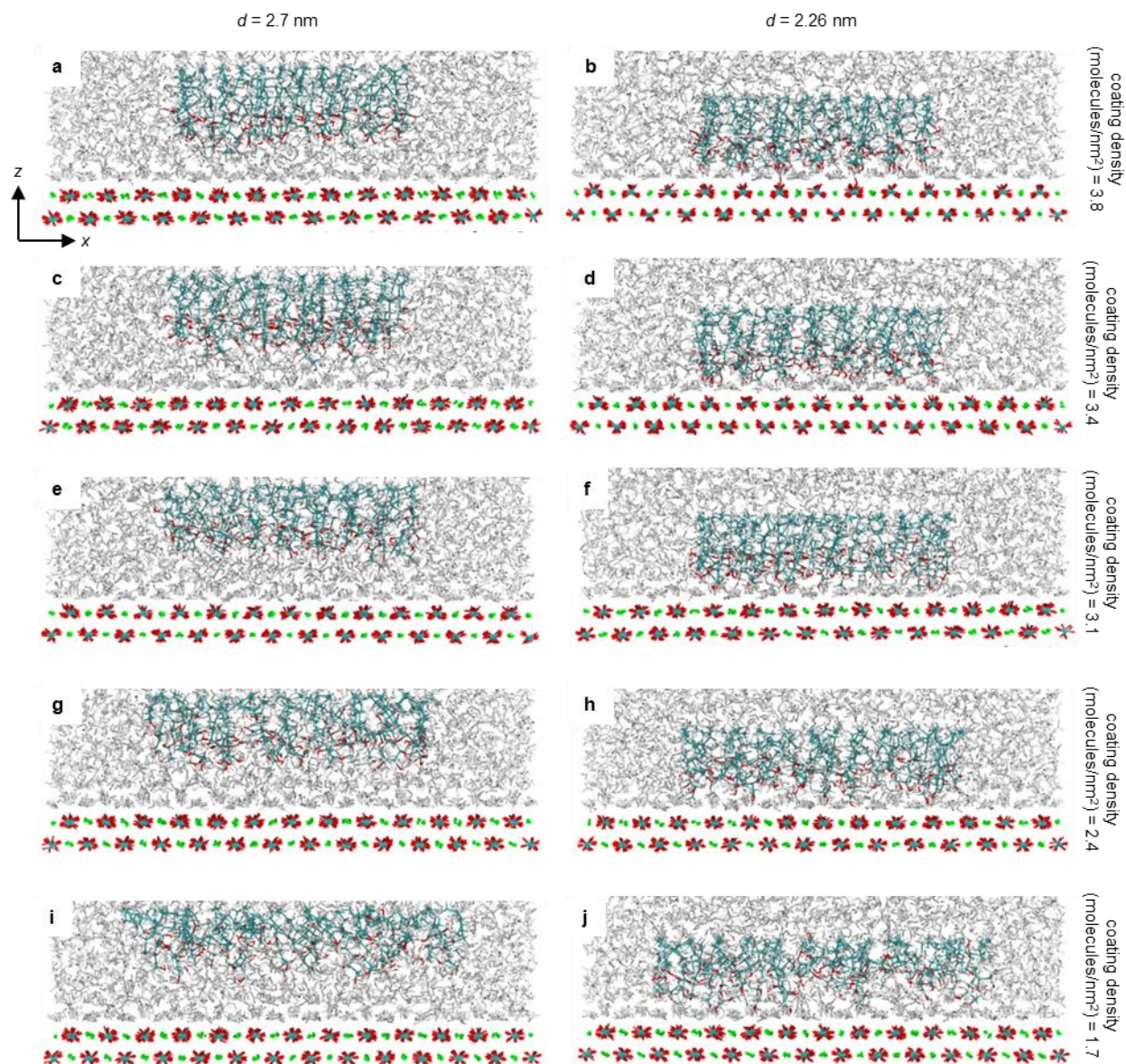
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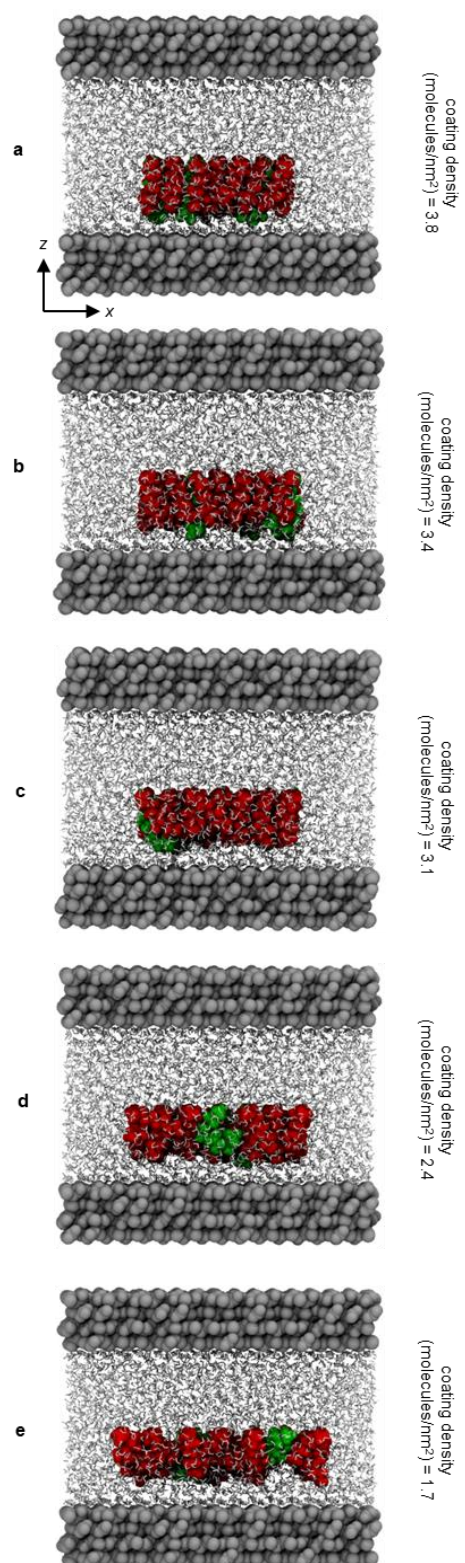
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**Fig. S1.** Snapshot of initial simulation box the same as in Fig. 1b but with water molecules also shown. The atom colors are: C = cyan, O = red, Ca = green, and F = pink.



**Fig. S2.** Simulation snapshots of C8OH3-C2F10 SAM with 10% C2F10 with coating densities (a and b) 3.8, (c and d) 3.4, (e and f) 3.1, (g and h) 2.4, and (i and j) 1.7 molecules/nm<sup>2</sup> before ( $d = 2.7$  nm; a, c, e, g, and i) and during SAM-calcite interactions ( $d = 2.26$  nm; b, d, f, h, and j). The atom colors of SAM and calcite are the same as in Fig. S1. The water molecules are shown in light gray.



**Fig. S3.** Simulation snapshots the same as in Fig. 4b, d, f, h, and j but with calcite and water molecules also shown. The C8OH3, C2F10, calcite, and water molecules are shown in red, green, dark gray, and light gray.