

Supplemental for: pH Valve Based on Hydrophobicity Switching.

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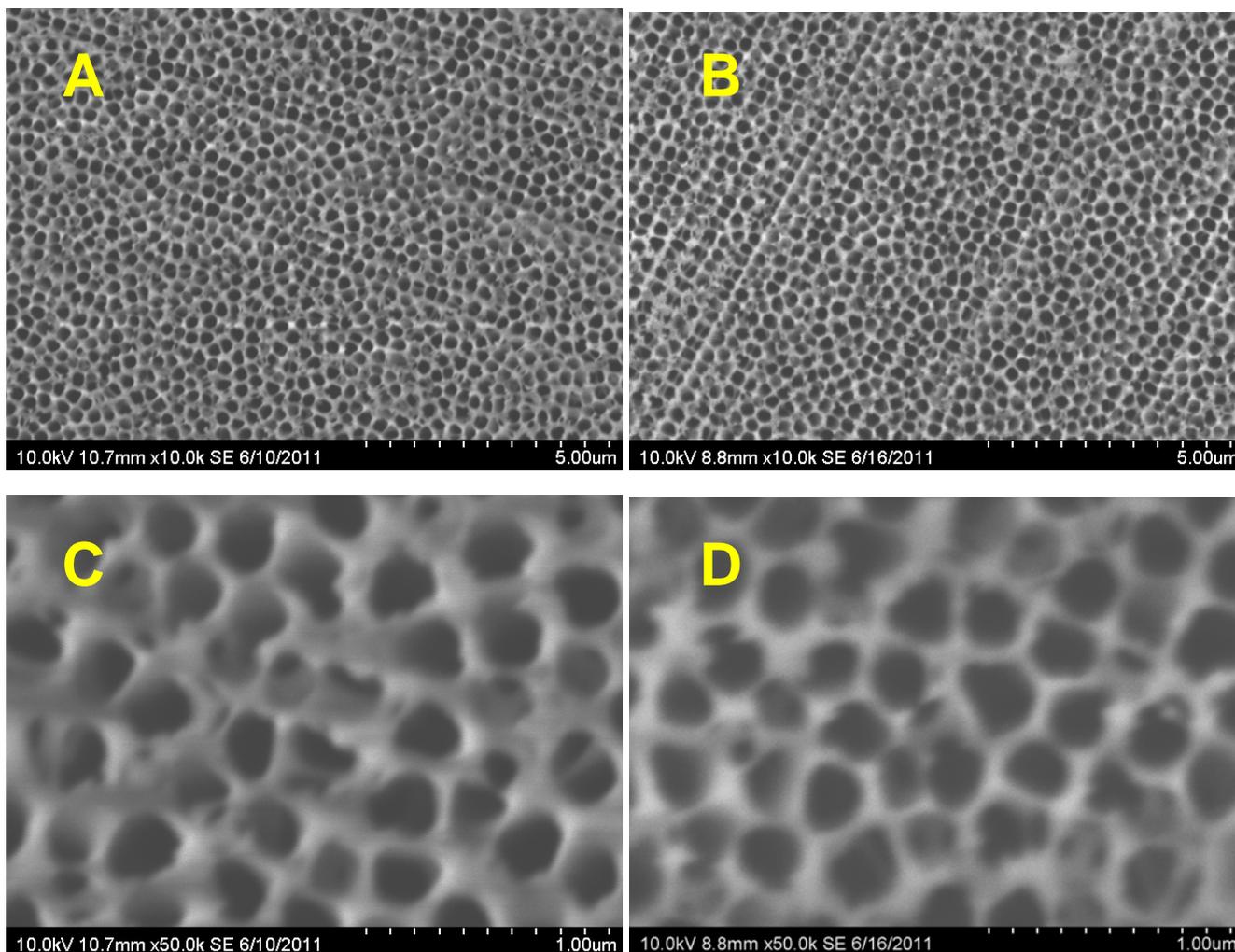


Figure S1. SEM images of membranes with 0.2 μm pores before (A, C) and after (B, D) surface modification with a mixture of butyl- and aminopropyl- trimethoxysilanes. The images are given for different magnifications and illustrate that the surface modification does not affect the pore clearance as is expected for a monolayer.

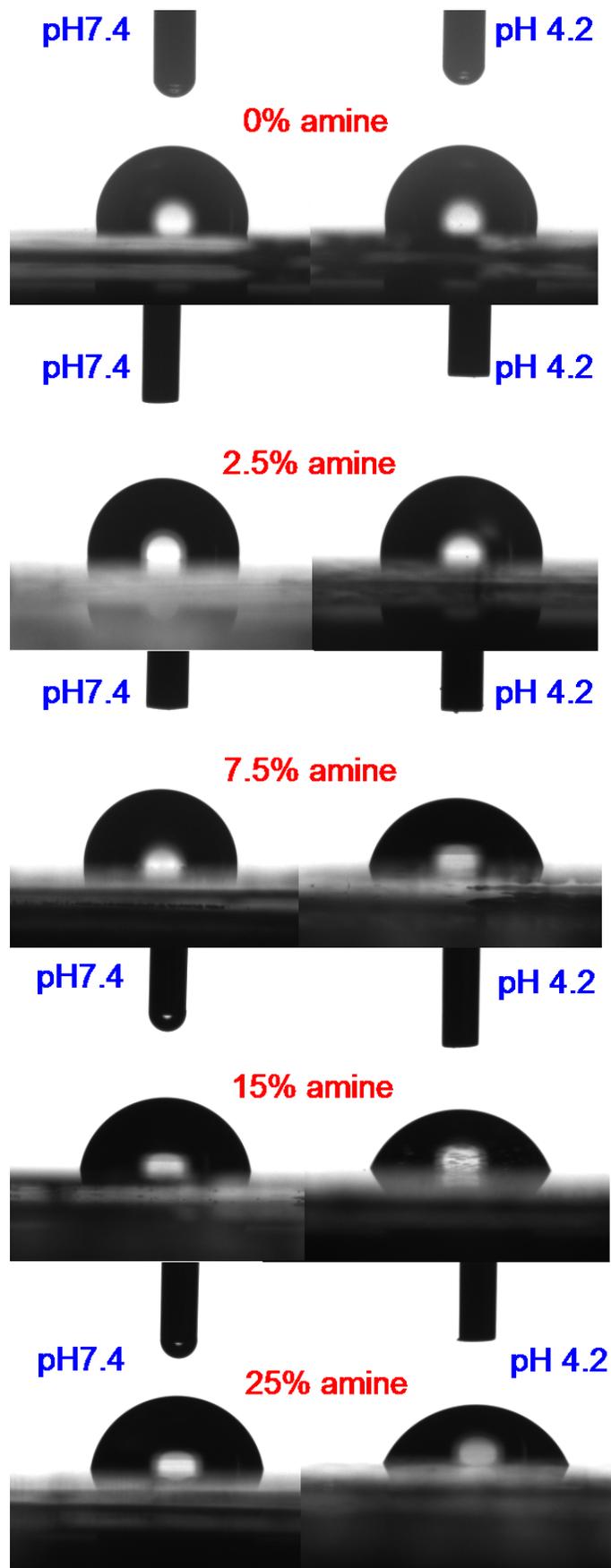


Figure S2. Illustration of equilibrium sessile drops (after 50 s) on flat surfaces modified with different percentage of aminosilane (APTS) in mixtures with butylsilane (BTS).

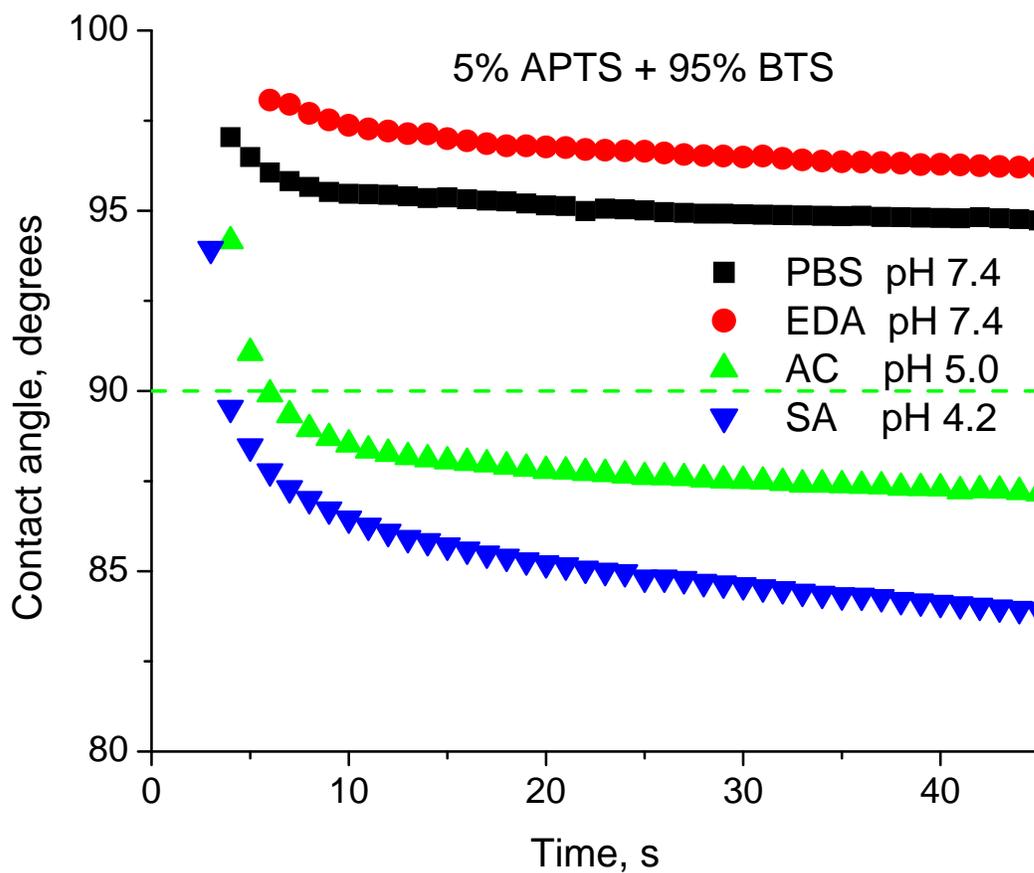


Figure S3. Verification of the effect of buffer specificity. Variation of the contact angle with time for a glass slide modified with a mixture of 5% amino silane (APTS) and 95% butylsilane (BTS) at different pH prepared with different buffers: phosphate (PBS, pH 7.4), ethylene diamine (EDA, pH 7.4), acetate (AC, pH 5.0) and succinic anhydride (SA, pH 4.2). The scale is the same as in Figure 2.

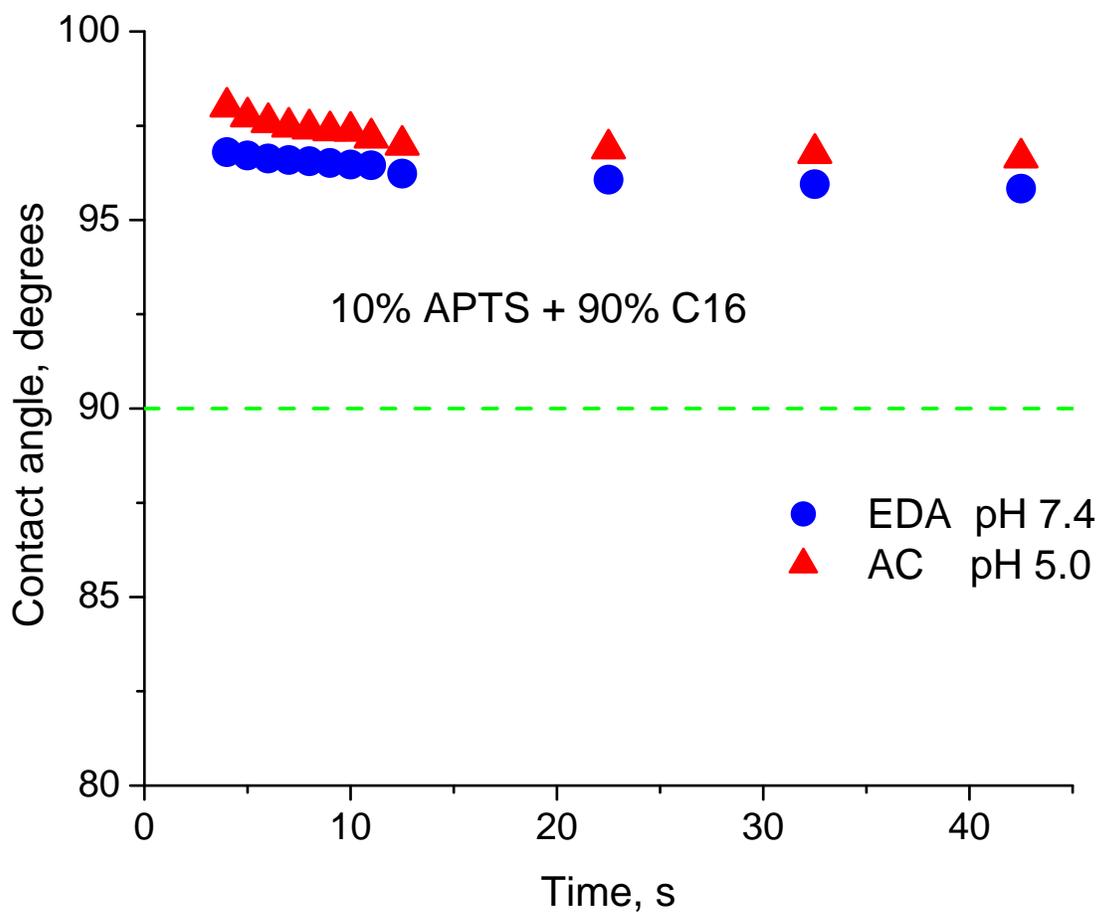


Figure S4. The effect of aliphatic tail length. Variation of the contact angle with time for a glass slide modified with a mixture of 10% amino silane (APTS) and 90% hexadecyl silane (C16) at different pH. Note a high contact angle for both pH. The scale is the same as in Figure 2.