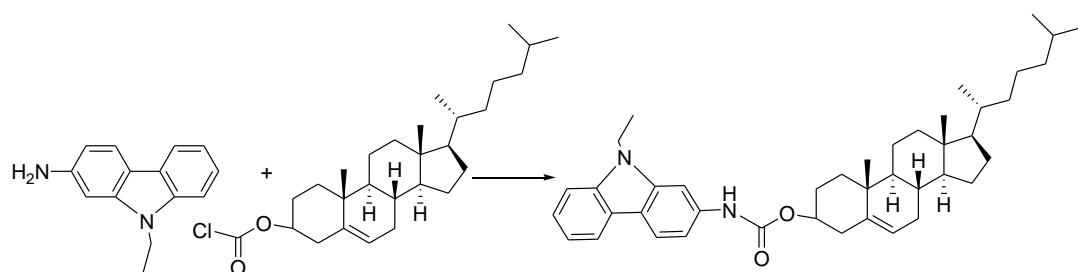


Supporting information for

Hydrophobic surface to hold water droplet by cholesterol-based organogel with solvent-tuned morphologies

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Synthesis data of compound 1



9-ethyl-9H-carbazol-2-amine (2mmol, 420mg), cholesterol chloride (2mmol, 896mg) and Et₃N (1mL) were stirred in dry CH₂Cl₂ (30mL) at R.T. for 24 hours, the reaction mixture was concentrated and purified by chromatography (SiO₂: CH₂Cl₂: PE=4:1), whilte solid was obtained.

Yield: 72% (621.4mg). ¹H NMR (CDCl₃, 400MHz): 0.69 (s, 3H), 0.86 (d, J=1.2 Hz, 3H), 0.88 (d, J=1.6Hz, 3H), 0.91-0.93(d, J=6.4Hz, 3H), 0.97-2.39 (m, 32H), 4.31-4.37 (m, 2H), 4.60-4.70 (m, 1H), 5.41-5.42 (m, 1H), 6.62 (s, 1H), 7.18-7.21 (t, J=7.2Hz, 1H), 7.31-7.39 (m, 4H), 7.43-7.47(t, J=7.2Hz, 1H), 8.05-8.07 (d, J=7.6Hz, 1H), 8.17(s, 1H).

Anal. Calcd for C₄₂H₅₈N₂O₂: C, 80.98; N, 4.50; H, 9.38; Found: C, 80.90; N, 4.40; H, 9.42.

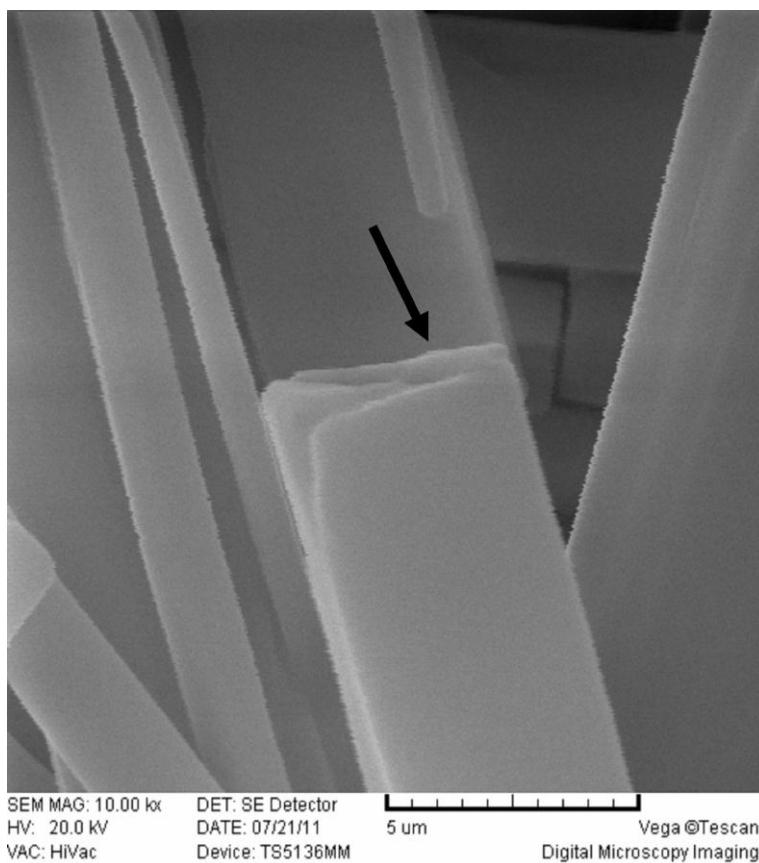


Figure S2 SEM image of xerogel **1** (25 mg/mL) from isopropanol, part areas.

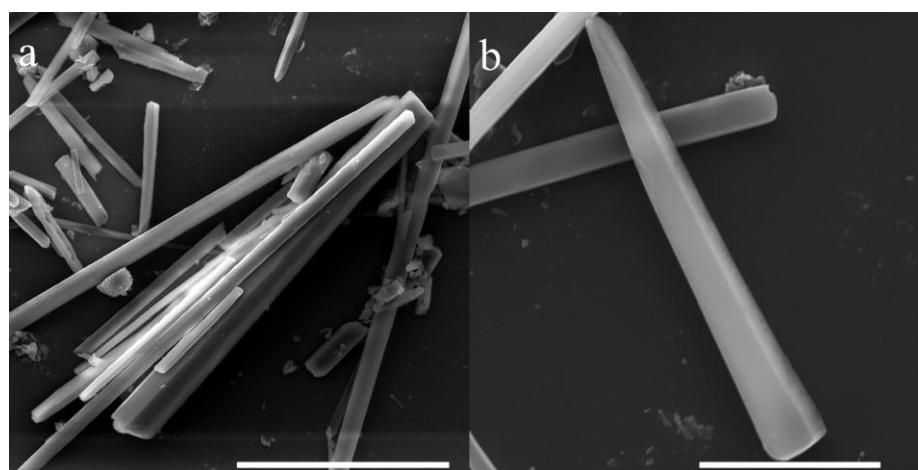


Figure S3 SEM images of the xerogel **1** (10 mg/mL) from acetonitrile. Scale bar: 100 μ m, 20 μ m.

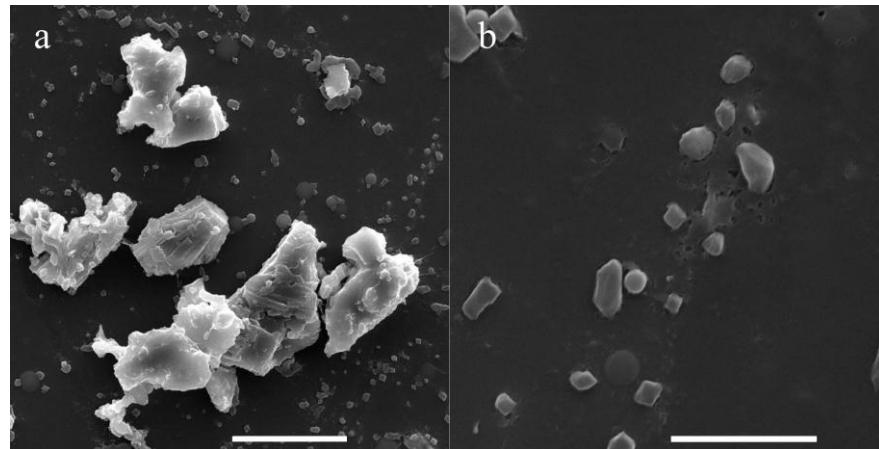


Figure S4 SEM images of the precipitate (5 mg/mL) from acetonitrile. Scale bar: 20 μm , 5 μm .

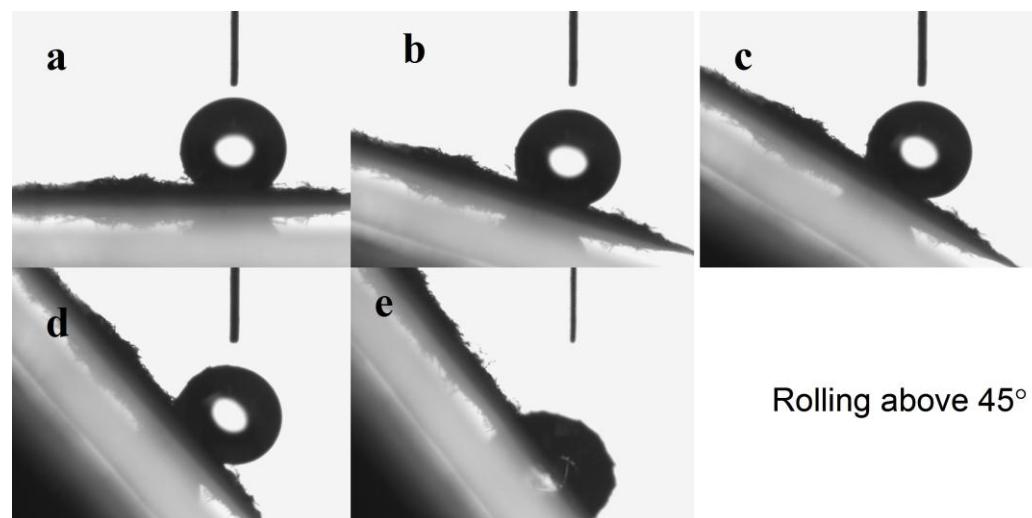


Figure S5 video snapshots of a droplet on the xerogel surface from ethanol with the gradually increasing angles of the interface.

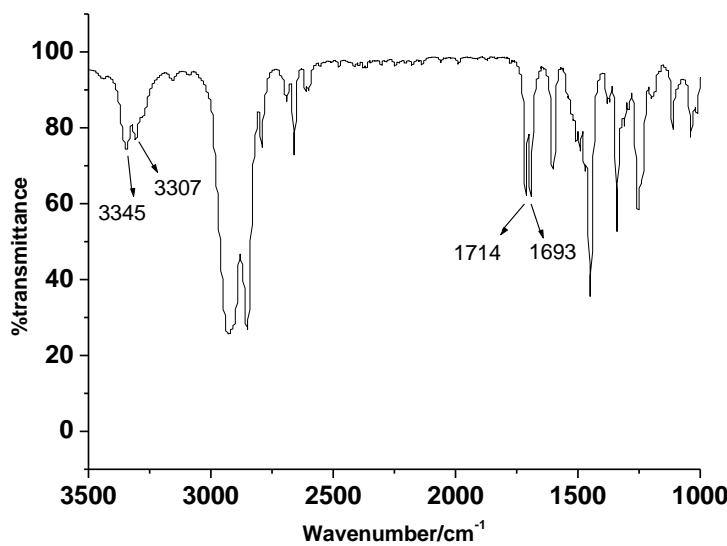


Figure S6 IR spectra of the xerogel **1** (12.5mg/mL) from isopropanol.

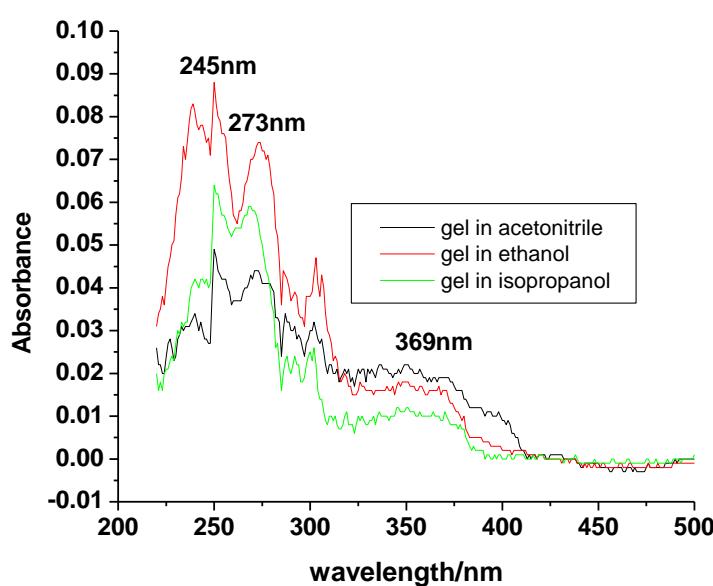


Figure S7 Uv-vis spectra of the gel **1** (25 mg/mL) in different solvents.

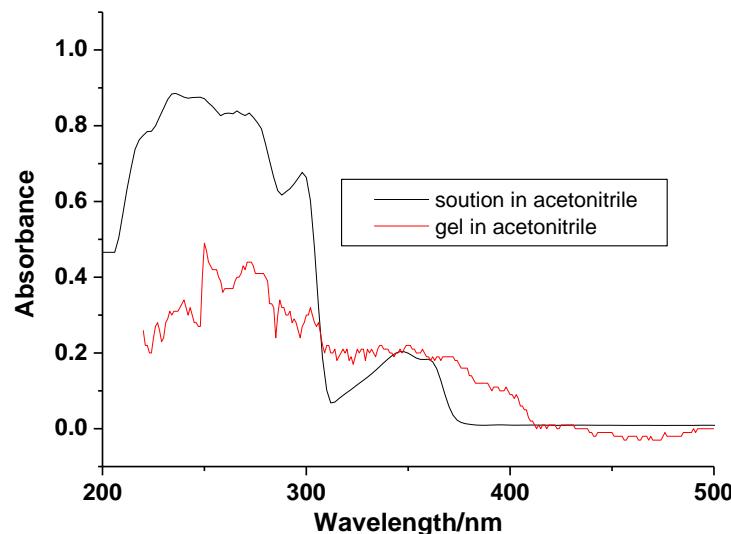


Figure S8 Uv-vis spectra of the gel and solution (1×10^{-4} M) and the gel (25mg/mL) in acetonitrile.

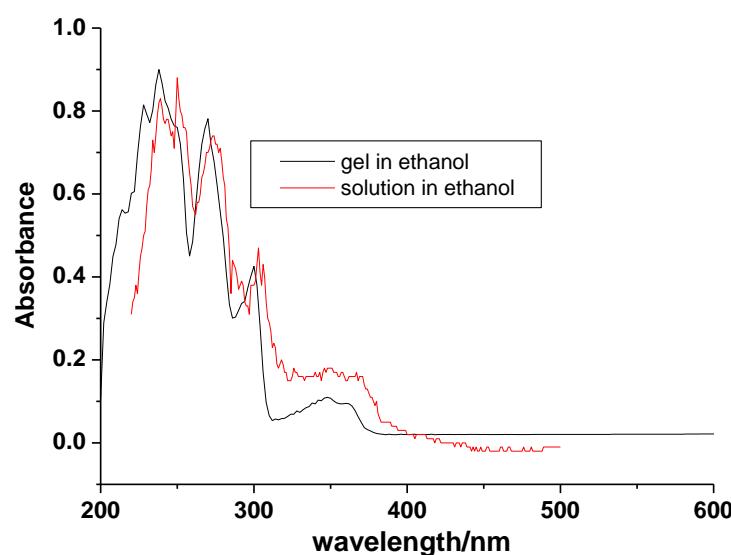


Figure S9 Uv-vis spectra of the gel and solution (1×10^{-4} M) and the gel (25mg/mL) in ethanol.

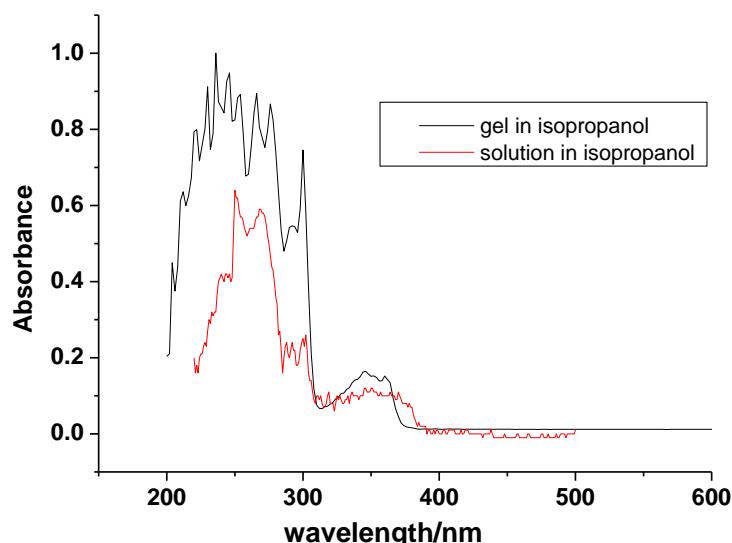


Figure S10 Uv-vis spectra of the gel and solution (1×10^{-4} M) and the gel (25mg/mL) in isopropanol.

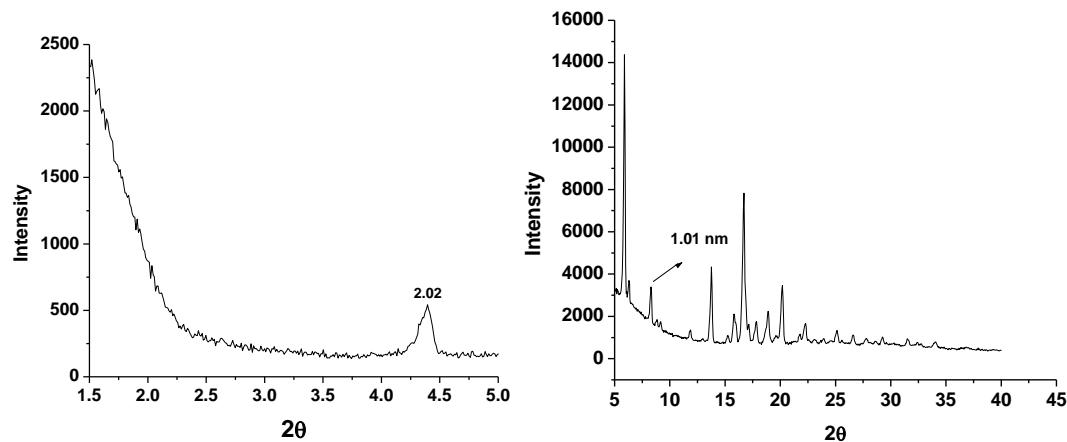


Figure S11 XRD data of the xerogel **1** (25mg/mL) from isopropanol.

20