Supplementary information

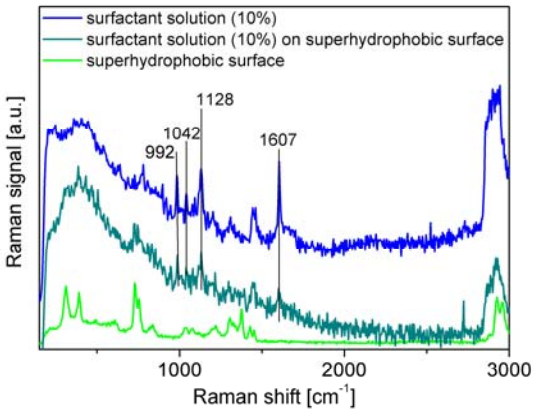

Figure A1 Raman spectra of the superhydrophobic surface (green), the surfactant solution (10 %, blue) and the surfactant solution on the superhydrophobic surface (dark green).

Figure A1 shows the Raman spectra of the superhydrophobic surface (green), the surfactant solution (10 %, blue) and the surfactant solution on the superhydrophobic surface (dark green). The Raman spectrum of the surfactant solution on the superhydrophobic surface shows Raman peaks of both the surfactant solution and the superhydrophobic surface, of which the indicated peaks were identified. The vibrations at 992 and 1 607 cm^{-1} are due to stretching of the benzene ring [A1], the peak at 992 cm^{-1} is specified as the C-C symmetric ring stretching band in [A2] where it appears at 1 000 cm^{-1}. The peak at 1 042 cm^{-1} can be assigned to the symmetric deformation of the SO_3-group [A2, A3]. Furthermore, the acid complex band (C-S + C-C + SO_3) stretches, reported at 1 124 cm^{-1} [A3] were observed at 1 127 cm^{-1}.

A1 Shimanouchi, T**.,** Tables of Molecular Vibrational Frequencies Consolidated Volume I, National Bureau of Standards, 1972, 1-160.

A2 Jose M. Alia, Howell G.M. Edwards, Breda M. Kiernan, Spectrochimica Acta Part A 61 (2005) 2939–2945

A3 Jose M. Alia, Howell G.M. Edwards, Breda M. Kiernan, Spectrochimica Acta Part A 60 (2004) 1533–1542