Electronic Supplementary Information for:

Facile Fabrication of Ultraviolet-Protective Silk Fabrics *via* Atomic Layer Deposition of TiO_2 with Subsequent Polyvinylsilsesquioxanes Modification

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Figure S1

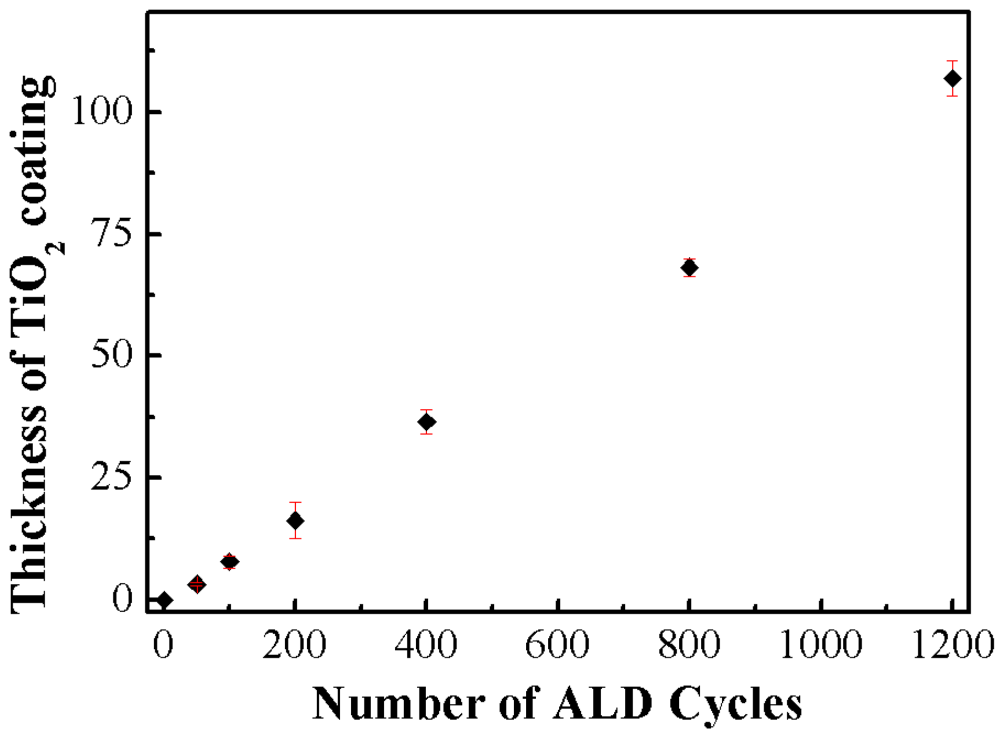

Figure S1 TiO_2 coating thickness on the surface of silk fabric as a function of the number of ALD cycles.

Figure S2

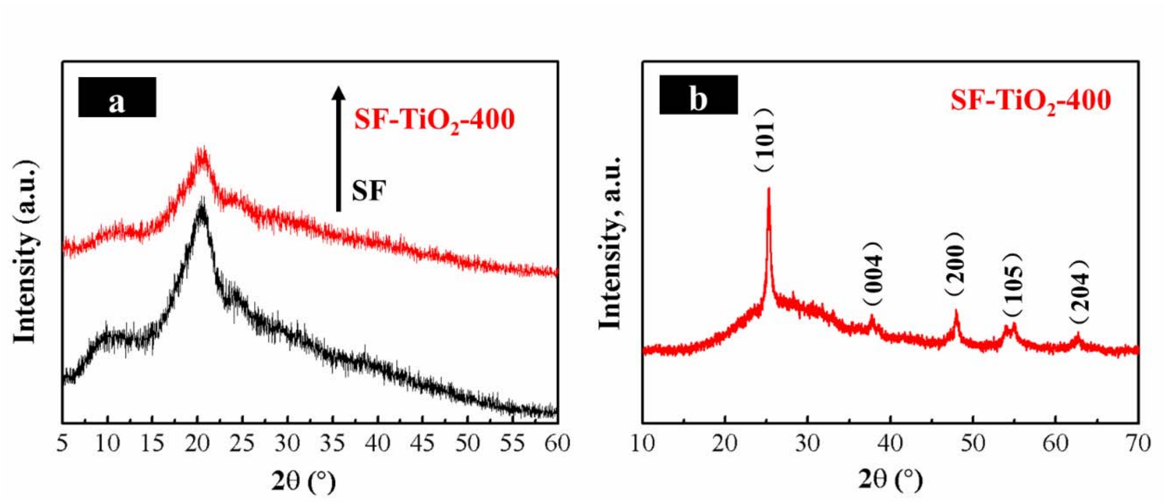

Figure S2. (a) XRD spectra of SF and SF-TiO_2-400. (b) XRD spectra of an individual TiO_2 replica from the SF-TiO_2-400, where silk fabrics were removed by air-annealing at 550 °C for 240 min.

Table S1

The total weight gain of control silk fabrics, SF-TiO_2-400 and SF-TiO_2-400-PVS.

Sample	Control silk fabric	SF-TiO_2-400	SF-TiO_2-400-PVS
Weight gains/ %	0	3.60±0.15	7.08±0.21

Table S2

The K/S value of the SF, SF-TiO_2-400, and SF-TiO_2-400-PVS taken at the different time after exposed to UV irradiation.

Time, min Samples	0	30	60	90	120	150	180	210	600
SF	0.0283	2.2332	3.0542	4.5400	5.1762	6.0105	6.6358	7.5782	9.055
SF-TiO_2	0.0374	0.2515	0.3443	0.4540	0.5326	0.6418	0.7588	0.8270	2.100
SF-TiO_2-400-PVS	0.0396	0.3000	0.3582	0.4282	0.4942	0.5794	0.6966	0.7532	1.0910