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Supporting information

for

Facile Dip-coating Approach to Fabrication of Mechanically Robust Hybrid Thin Films with High Transmittance and Durable Superhydrophilicity

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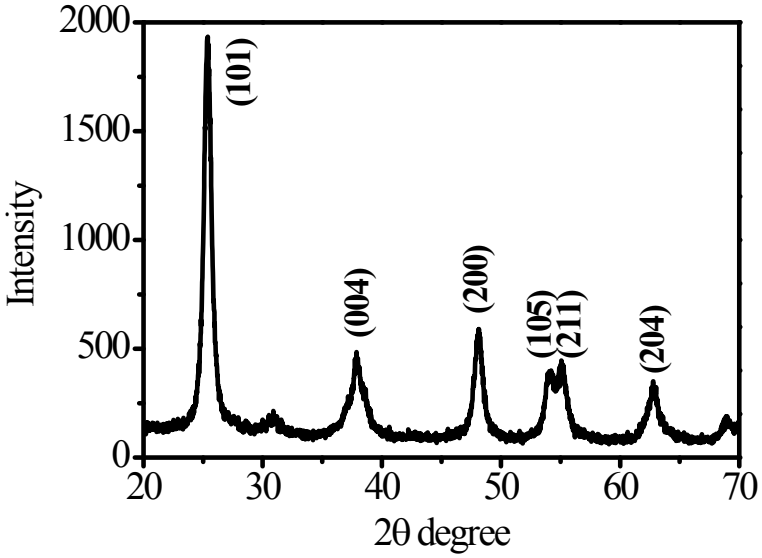

Figure S1. XRD patterns of $MTiO_2$ powder.

The size of titania nanocrystals was calculated by Scherer's equation:

$$D = k\lambda / \beta \cos\theta$$

Where D is crystallite size, k is a constant of 0.89, λ is X-ray wavelength (0.154184 nm), β is half maximum line breadth, and θ is Bragg angle.

Table S1. Atomic percentages of elements revealed by EDS on the top surface of $MSiO_2/MTiO_2$ hybrid thin film before and after a sand impact test.

	Ti	**Si**	**O**	**Na**	**Ca**	**Mg**	**Al**
Before sand impact test	0.13	27.08	64.63	3.84	2.20	1.88	0.24
After sand impact test	0.09	27.57	62.38	5.50	2.30	1.79	0.37

Antifogging test:

Blank glass substrate and the $MSiO_2/MTiO_2$ thin film coated glass substrate were cooled at −15 ºC for 3 h in a refrigerator and then exposed to humid laboratory air (relative humidity (RH) : 20−40%) to test their antifogging properties.

Figure S2. Comparison of the antifogging behaviors of blank glass substrate (lower) and $MSiO_2/MTiO_2$ coated glass substrate after immersion in water for two weeks (upper part).