

Supporting Information

## **Micro/Nanostructured Coating for Cotton Textiles that Repel Oil, Water, and Chemical Warfare Agents**

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This supplementary information includes the following sections:

[Table S1: TGA and DTG data](#)

Figure S1: Surface for height of small structure.

Figure S2: SEM image of OmniBlock coated cotton fabric.

Figure S3: The optical images of water and n-dodecane droplet on the cotton fabric.

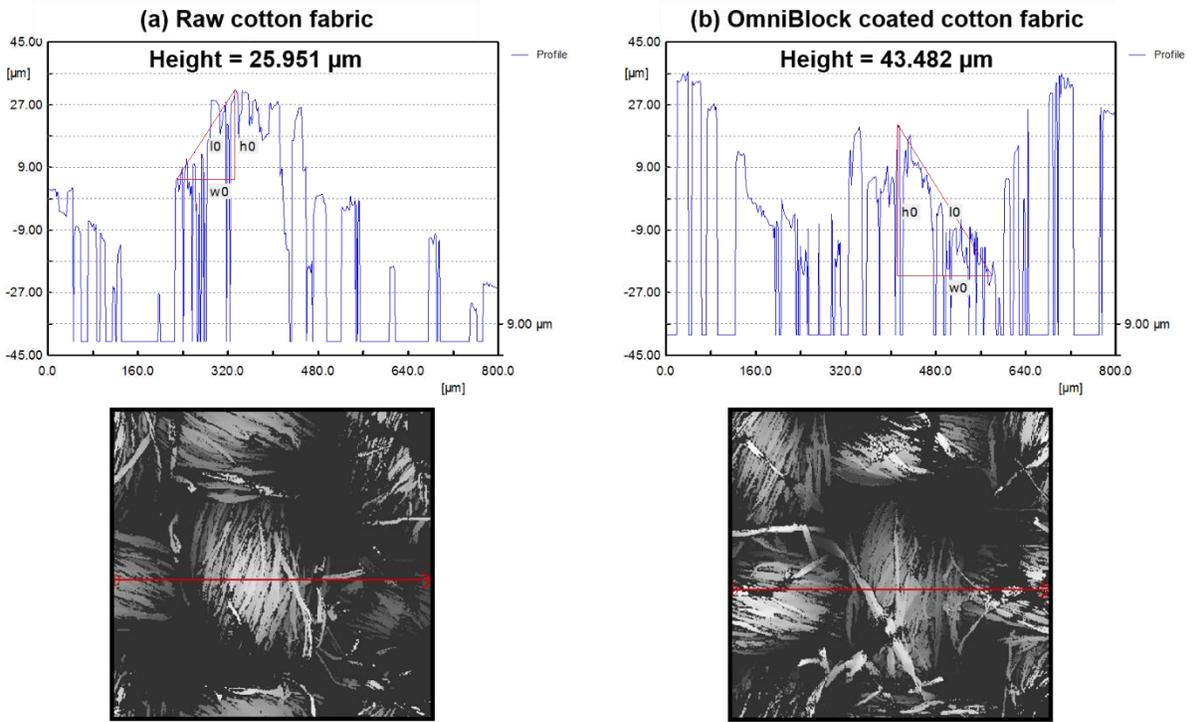
Figure S4: Optical image of HD and GD droplets.

Figure S5: Optical images of shedding angle for n-dodecane

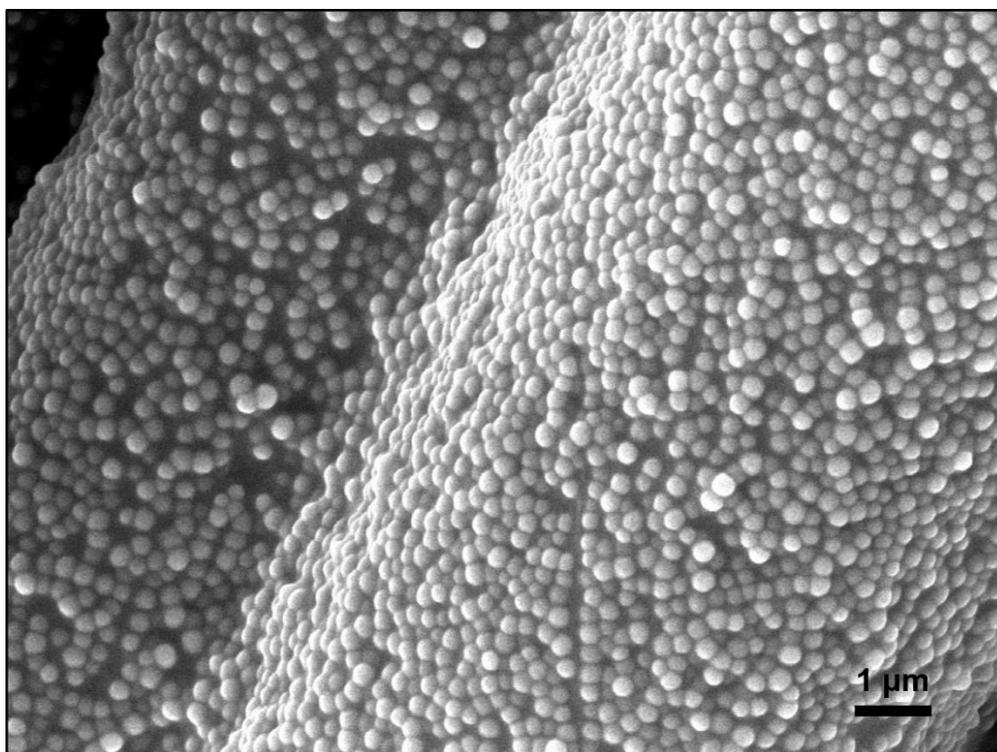
Figure S6: The optical images of knotted cotton fabric.

**Table S1.** TGA and DTG data of raw and OmniBlock coated cotton fabrics in air and nitrogen.

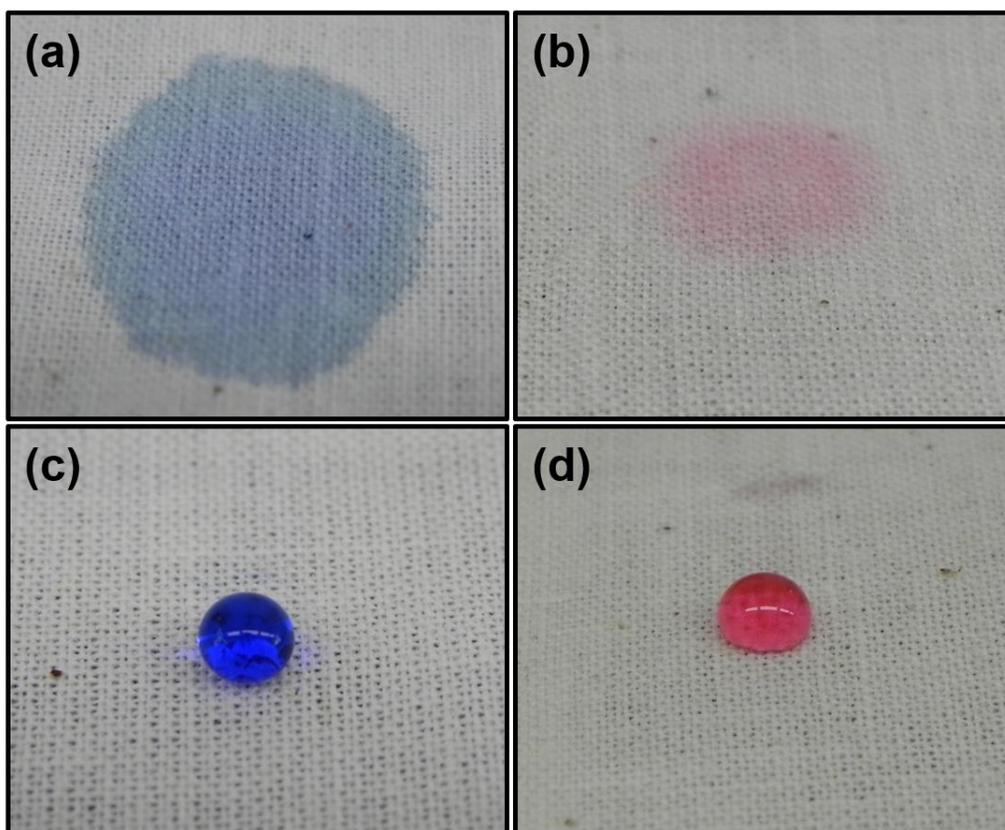
Atmosphere	Sample	T <sub>5%</sub> (°C)	T <sub>10%</sub> (°C)	T <sub>max1</sub> (°C)	Residue at T <sub>max1</sub> (%)	T <sub>max2</sub> (°C)	Residue at T <sub>max2</sub> (%)	Residue at 800 °C (%)
Air	Raw cotton	90	260	327	45.6	415	7.6	1.3
	OmniBlock coated cotton	192	273	324	58.2	426	19.4	9.6
Nitrogen	Raw cotton	75	273	343	46.0	-	-	16.3
	OmniBlock coated cotton	219	287	341	57.9	-	-	23.9



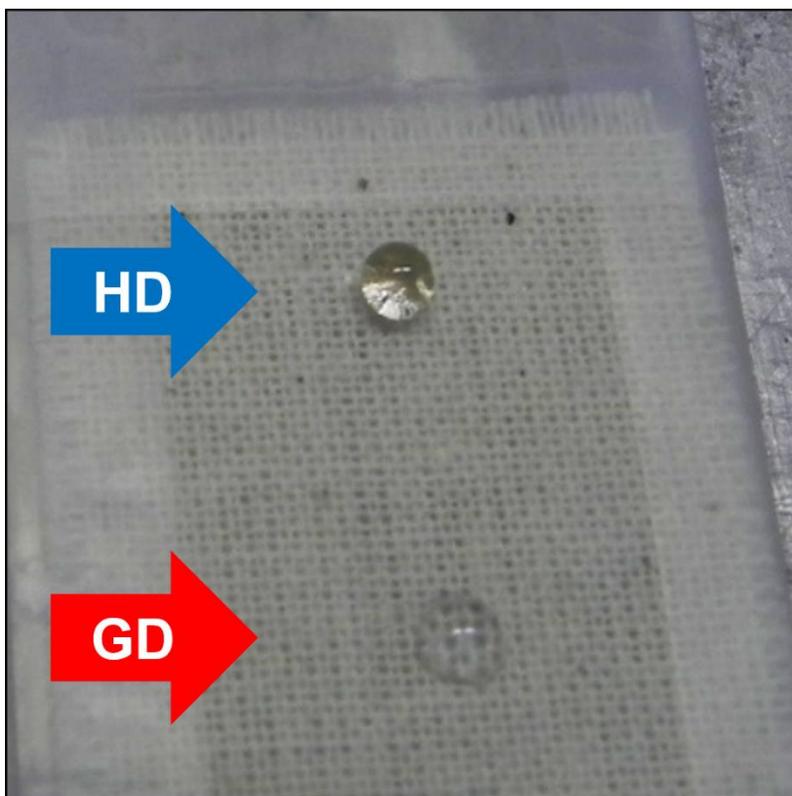
**Figure S1.** Surfaces for height of small structures of (a) raw cotton fabric and (b) OmniBlock coated cotton fabric.



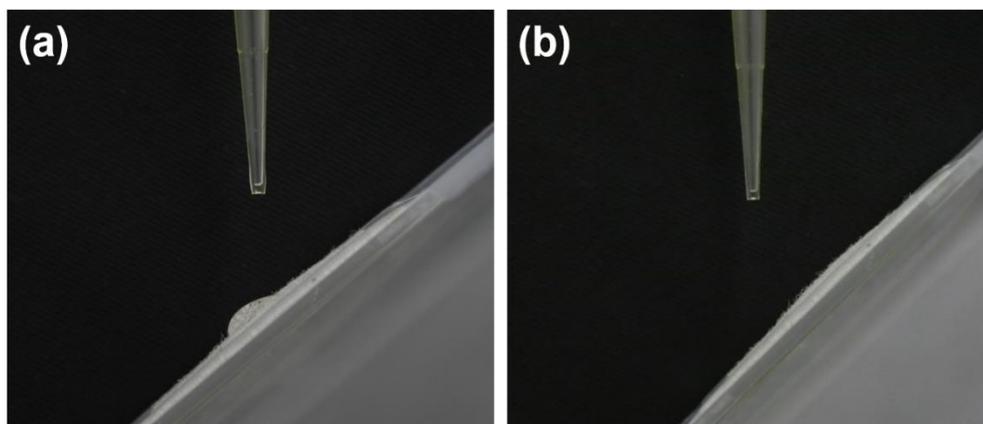
**Figure S2.** SEM image of OmniBlock coated cotton fabric.



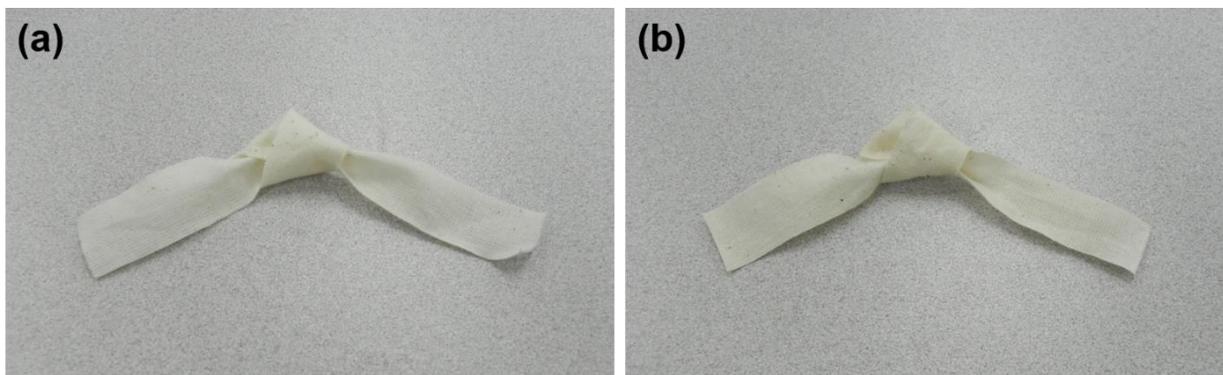
**Figure S3.** The optical images of (a) water droplet and (b) n-dodecane droplet on Ar plasma treated cotton fabric, (c) water droplet, and (d) n-dodecane droplet on OmniBlock coated cotton fabric



**Figure S4.** Optical image of HD and GD droplet onto OmniBlock coated cotton.



**Figure S5.** Optical images of shedding angle analysis for n-dodecane on (a) 40° and (b) 45° inclined surface.



**Figure S6.** The optical images of knotted (a) raw cotton fabric and (b) OmniBlock coated cotton fabric.