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(54) **SUPERHYDROPHOBIC/AMPHIPHILIC (OLEOPHILIC) SURFACE WITH NANO STRUCTURE AND THE FABRICATION METHOD THEREOF**

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CPC ***B82Y 30/00*** (2013.01); ***B82Y 40/00*** (2013.01); ***D04H 1/4382*** (2013.01); *Y10T 428/24355* (2015.01)

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See application file for complete search history.

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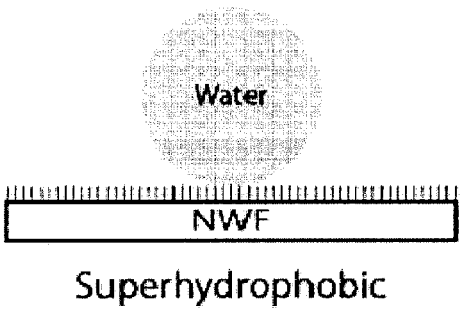
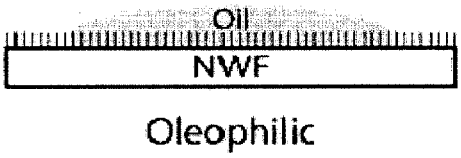
(57) **ABSTRACT**

Disclosed is a structure having a superhydrophobic and amphiphilic (oleophilic) surface and a fabrication method thereof. A polymer surface body disclosed herein may include high aspect ratio nanostructures on a surface thereof, wherein an aspect ration of the high aspect ratio nanostructure is 1 to 100, and may include a hydrophobic thin film on the high aspect ratio nanostructure. A method of fabricating a polymer surface body disclosed herein may include performing a surface modification treatment on a polymer to form a high aspect ratio nanostructure having an aspect ration of 1 to 100, and forming a hydrophobic thin film on a surface containing the nanostructures.

8 Claims, 7 Drawing Sheets