Supporting Information

A Robust Superhydrophobic PDMS@ZnSn(OH)$_6$ Coating with Under-Oil Self-Cleaning and Flame Retardancy

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Figure S1. XPS spectrum of the original ZHS particles.

Figure S2. PDMS covers on glass substrate. (a, b) The low-, high-magnification SEM images and (c) EDS spectrum of the PDMS coated glass surface.

Figure S3. (a) Low- and (b) high-magnification SEM images of the dust. (c) The dust observed under the polarizing microscope.
**Figure S4.** (a) Top- and (b) side-view of the water droplets on the PDMS@ZHS coated glass surface contaminated by dodecane. (c–e) Self-cleaning tests on the dodecane contaminated surface.

**Figure S5.** Combustion behaviors of PDMS@ZHS coated on paper after immersion in hexadecane. The combustion procedures of the (a) uncoated, and (b) the PDMS@ZHS coated paper after being immersed into hexadecane.
Figure S6. FT-IR spectrums of the burned (a) uncoated paper and (b) PDMS@ZHS coated paper.

Figure S7. SEM image of the residue after the vertical test.