

Supporting Information

Highly Flexible Superhydrophobic and Fire-Resistant Layered Inorganic Paper

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Table S1. The weights of the fire-resistant layered inorganic paper (LIP) and corresponding thickness values.

Weight (mg)	Thickness (μm)
14	23 ± 1.5
19	28 ± 1.0
24	45 ± 1.0
31	54 ± 3.1
40	68 ± 5.0
52	99 ± 2.1
63	110 ± 4.0

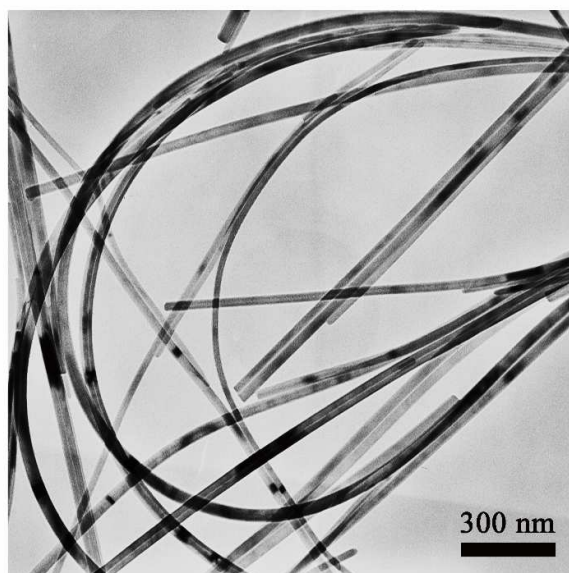


Figure S1. TEM micrograph of ultralong HAP nanowires synthesized using a reaction system containing CaCl_2 , NaOH , oleic acid, $\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$, ethanol and deionized water by the calcium oleate precursor solvothermal method at 180°C for 24 h.



Figure S2. Digital images of a stable wool-like suspension containing ultralong HAP nanowires.

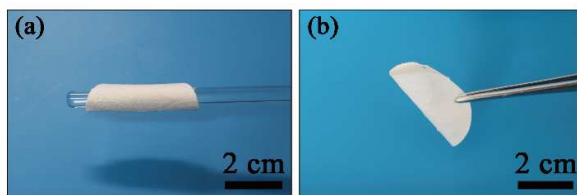


Figure S3. Digital images of the as-prepared layered inorganic paper (LIP) without surface modification: (a) the LIP is wrapped around a glass rod; (b) the bendable LIP, exhibiting high flexibility.

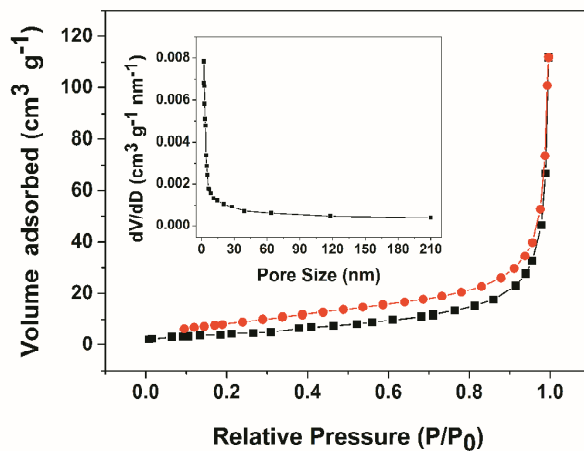


Figure S4. Nitrogen adsorption-desorption isotherm and BJH desorption pore size distribution curve of the LIP without surface modification.

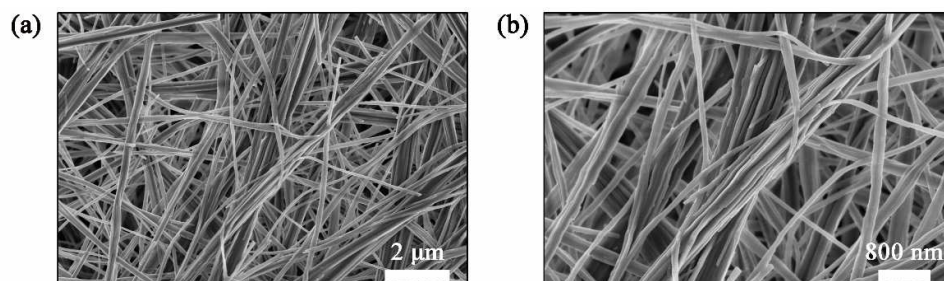


Figure S5. SEM micrographs of the surface morphology of the LIP.

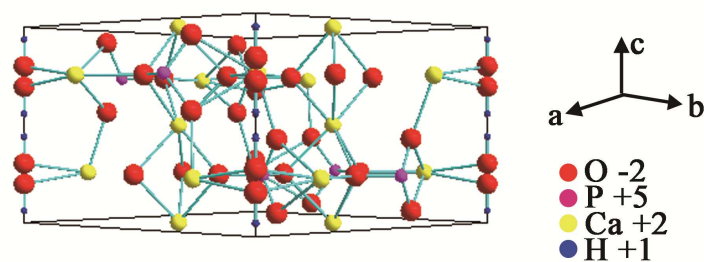


Figure S6. Schematic illustration of the crystal structure of HAP.

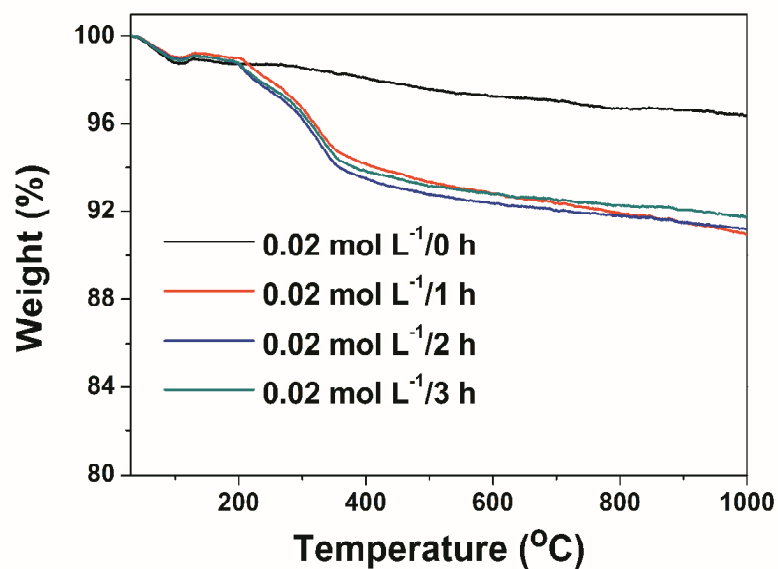


Figure S7. TG curves of the LIP modified with 0.02 mol L⁻¹ sodium oleate for different times. TG curves show a similar trend among the unmodified and modified LIP. The weight loss of about 3.6% for unmodified LIP was attributed to adsorbed water and impurities, whereas the weight loss of about 5.4% for LIP modified for 1 h further demonstrates that the LIP was successfully modified with sodium oleate.