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Communication

Bio-inspired directional high-aspect-ratio nanopillars: fabrication and actuation

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Figure S1: The comparison of the formed structures on substrate and mold when fabricating capped or uncapped nanopillars. (a) for uncapped nanopillars, the pillars were formed due to the fracture during stretching, left nanopillars both on substrate and mold. It is noted that, the nanopillars on both substrate and mod are nearly in the same length, indicating the fracture occurs in the middle during stretching. (b) for capped nanopillars, compared the structures on substrate and mold after demolding, it is clearly that, nanopillars only formed on substrate, no residue on mold, and the cap of the nanopillars is controlled by the profile of the microcavities on mold.

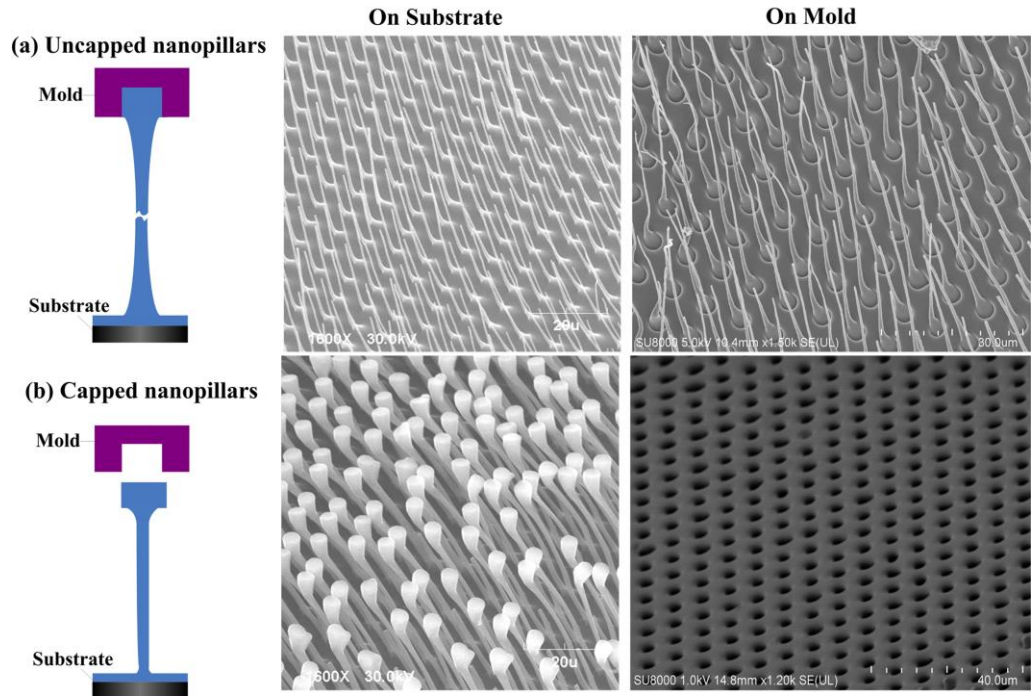

Figure S2: High aspect-ratio nanopillars by UV adhesives (LT-2730, Lactite), which indicates the stretching nanoimprint process can be also valid to construct vertical nanopillars by polymeric mixtures. (a) the nanopillars array made by UV adhesives (150 nm in diameter and 29 in aspect ratio). (b) the actuation of the nanopillars made by UV adhesives.