

Supporting Information

Triply periodic bicontinuous structures as templates for photonic crystals: a pinch-off problem

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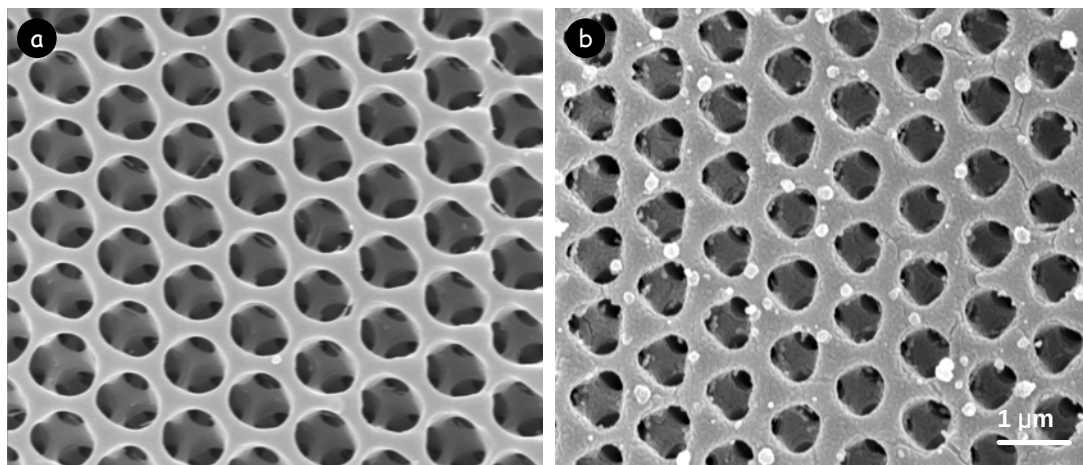


Figure S1. SEM images of the (111) planes of the diamond-like structure. **(a)** Polymer template. **(b)** ~100 nm silica deposited on polymer template shown in **(a)**. To form the diamond-like structure, we used four-beam umbrella-like beam assembly and exposed the interference pattern onto SU8 photoresist.^[1] The deposition of silica was achieved in a batch reactor under atmospheric pressure and at room temperature. The polymer template was treated with consecutive exposures to SiCl_4 vapor and water vapor using atmospheric pressure at room temperature.

[1] J. H. Moon, S. Yang, W. T. Dong, J. W. Perry, A. Adibi and S. M. Yang. *Opt. Express* **2006**, 14, 6297

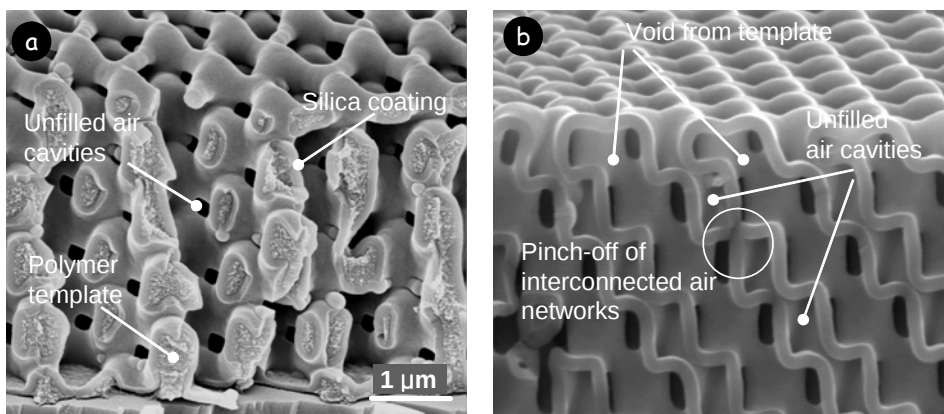


Figure S2. Cross-sectional SEM images of back-filled silica structures from the diamond-like polymer template before (a) and after (b) sintering at 500°C. The pinch-off of interstitial void networks left unfilled air cavities.