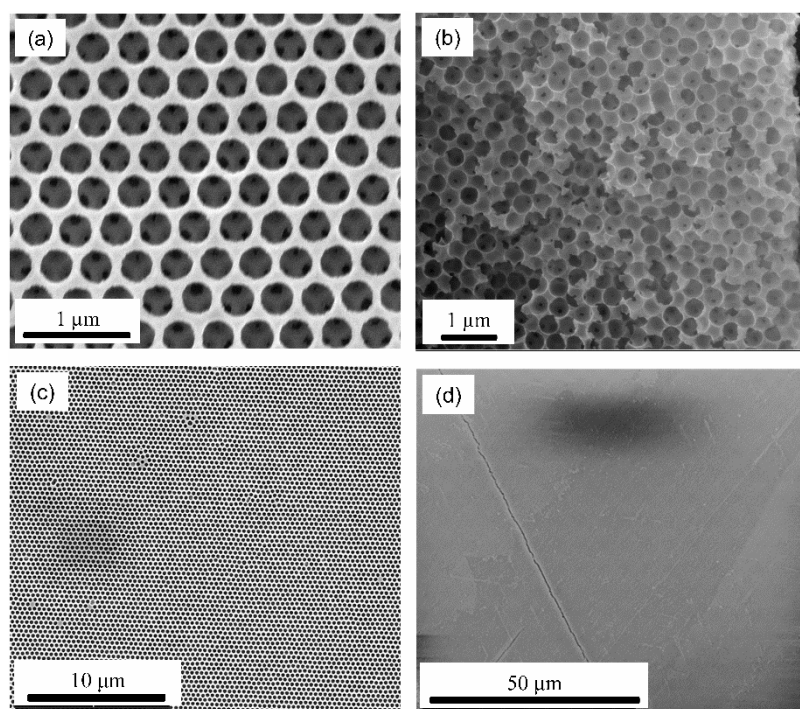


ELECTRONIC SUPPLEMENTARY INFORMATION (ESI)

## A bottom-up fabrication method for the production of visible light active photonic crystals

Sibu C. Padmanabhan,<sup>\*a,b</sup> Keith Linehan,<sup>a</sup> Shane O'Brien,<sup>a</sup> Syara Kassim,<sup>a,c</sup> Hugh Doyle,<sup>a</sup> Ian M. Povey,<sup>a</sup> Michael Schmidt,<sup>a</sup> and Martyn E. Pemble<sup>\*a,b</sup>

ESI 1



**Fig. 1:** (a) SEM top view and (b) cross-section images of ncSi-SiO<sub>2</sub>-1 sample. (c) SEM top view image of ncSi-SiO<sub>2</sub>-1 showing a large domain size without cracking and (d) SEM image of SIO showing large area domain sizes.

## ESI 2

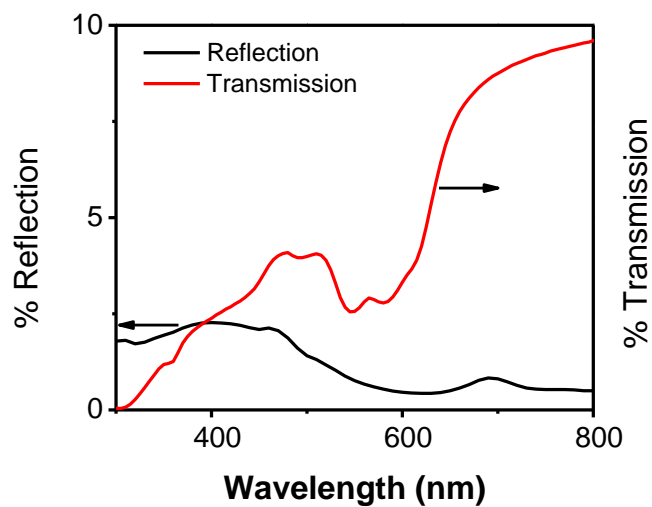


Fig. 2: Optical reflection and transmission spectra of the ncSi-SiO<sub>2</sub>-1 sample at 60° incidence.

## ESI 3

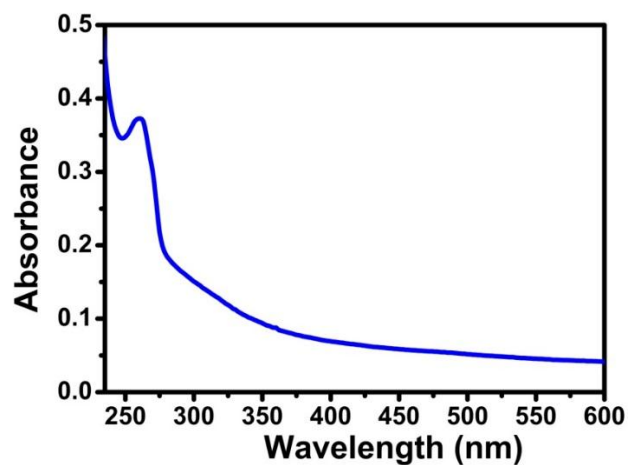


Fig. 3: UV-vis absorbance spectrum of ncSi aqueous solution. These ncSi have comparatively small visible light absorption compared to bigger > 10 nm ncSi or bulk silicon.