Electronic supplementary information

Novel metallic silvery color caused by pointillistic mixing of disordered nano- to micro-pixels of iridescent colors

Xijin Pan [a], Haoyang Chi [a], Chunyi Luo [a], Xin Feng [a], and YongChun Huang [a], Gangsheng Zhang*[a]

Materials and methods

The shell fragments near the shell's edge (whose preparation procedures have been described in the main article) were mechanically separated. Then, the sample was sputtered with gold and then observed by microscope (Hitachi, SU8020) operated at 5–20 kV and was observed by optical microscope.

The reflectance spectra were collected from porous layer using an optical microscope (Optec MIT300) with a fiber optic spectrometer (AvaSpec-2048, Avantes).

Fig. S1

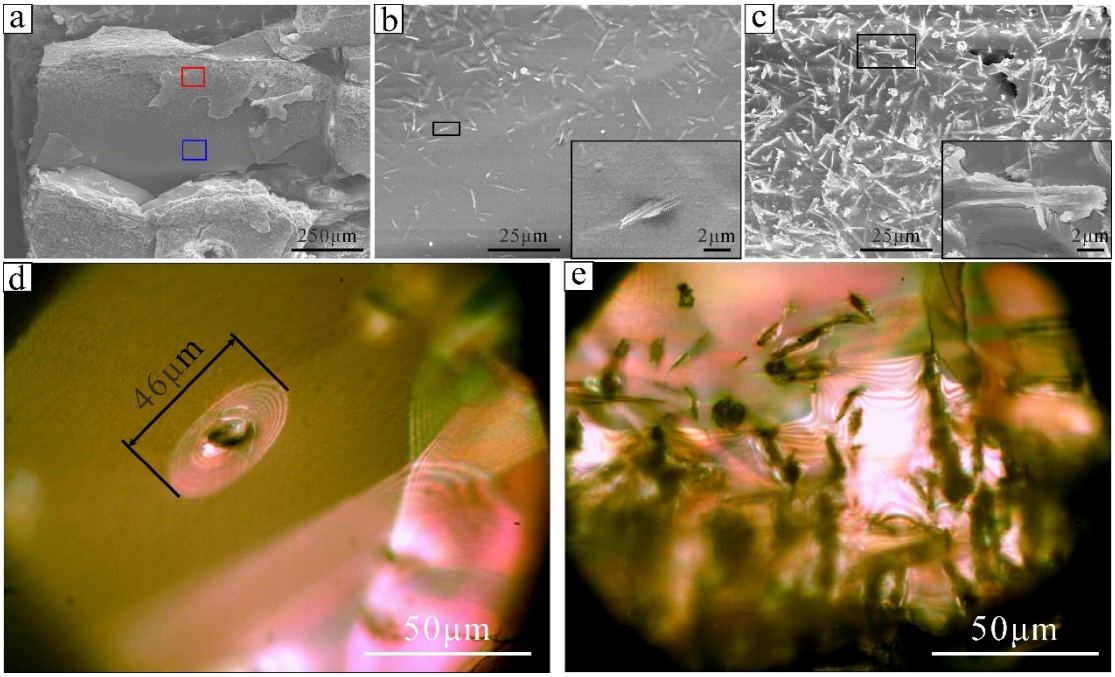

Fig. S1 SEM images and photographs. (a-c) Top view of porous layer near the edge shell (0.2cm). (a) a general view of non-spherulite. (b) magnifying image of blue box in (a); inset: magnifying image of black box. (c) magnifying image of red box in (a); inset: magnifying image of black box. (d-e) Top view of non-spherulite in porous layer. (d) the ring-like micro-pixels. (e) the silk-like micro-pixels.

Fig. S2

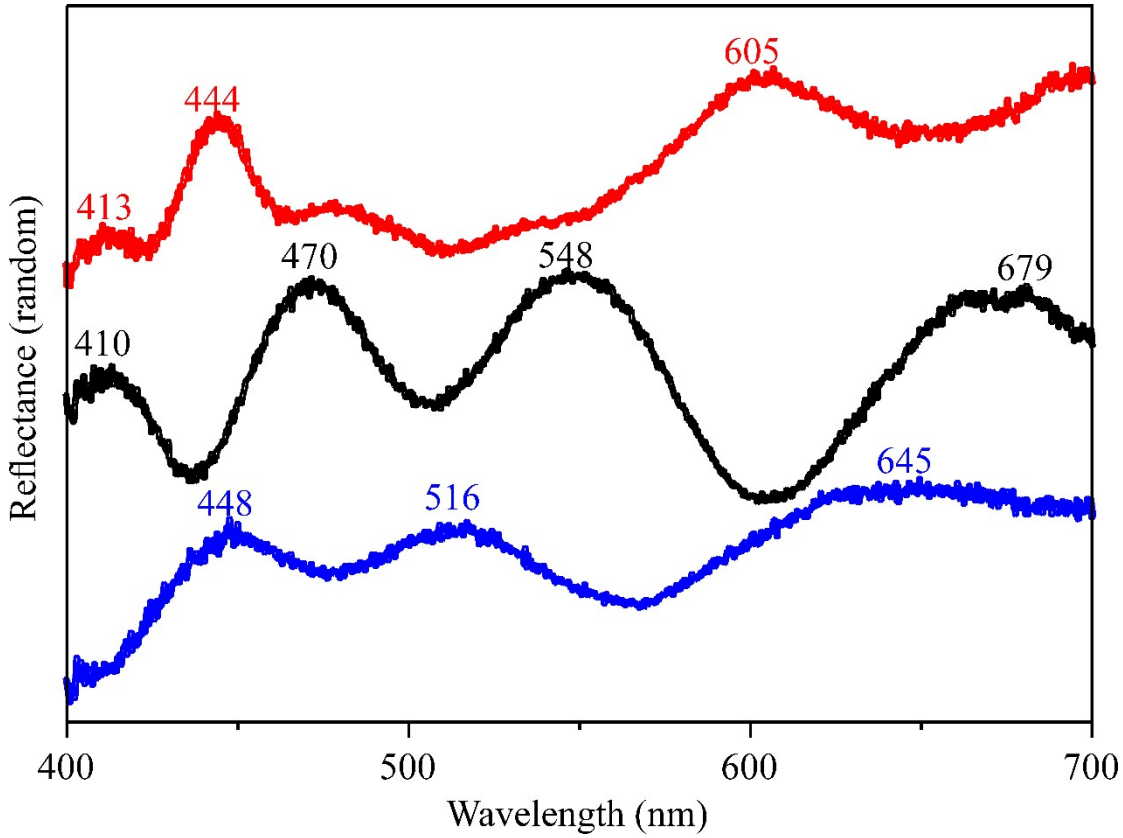

Fig. S2 The reflectance spectrums of surface of porous layer under normal incidence (40×/0.65 objective).

Fig. S3

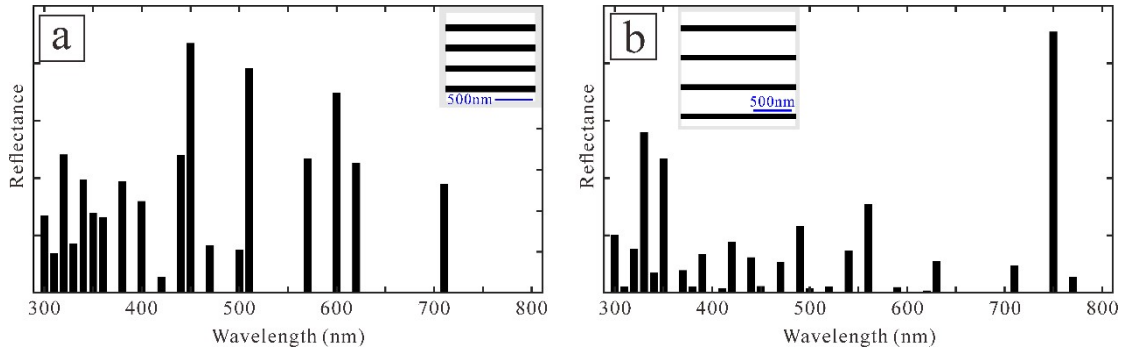

Fig. S3 Fourier predicted reflectance spectra of photonic crystallite in Fig. 7a. (a) Dotted black box. (b) Dotted blue box.