

Fig. S1 PS colloidal monolayer without thermal annealing. The scale bar is 200 nm.

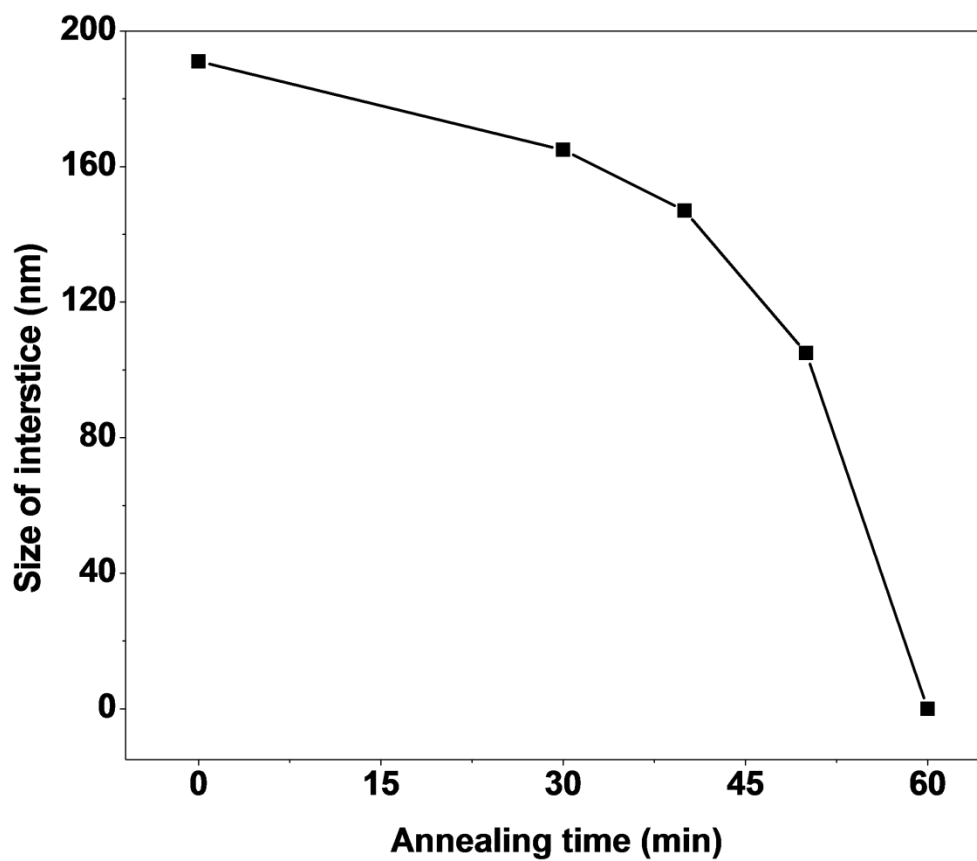
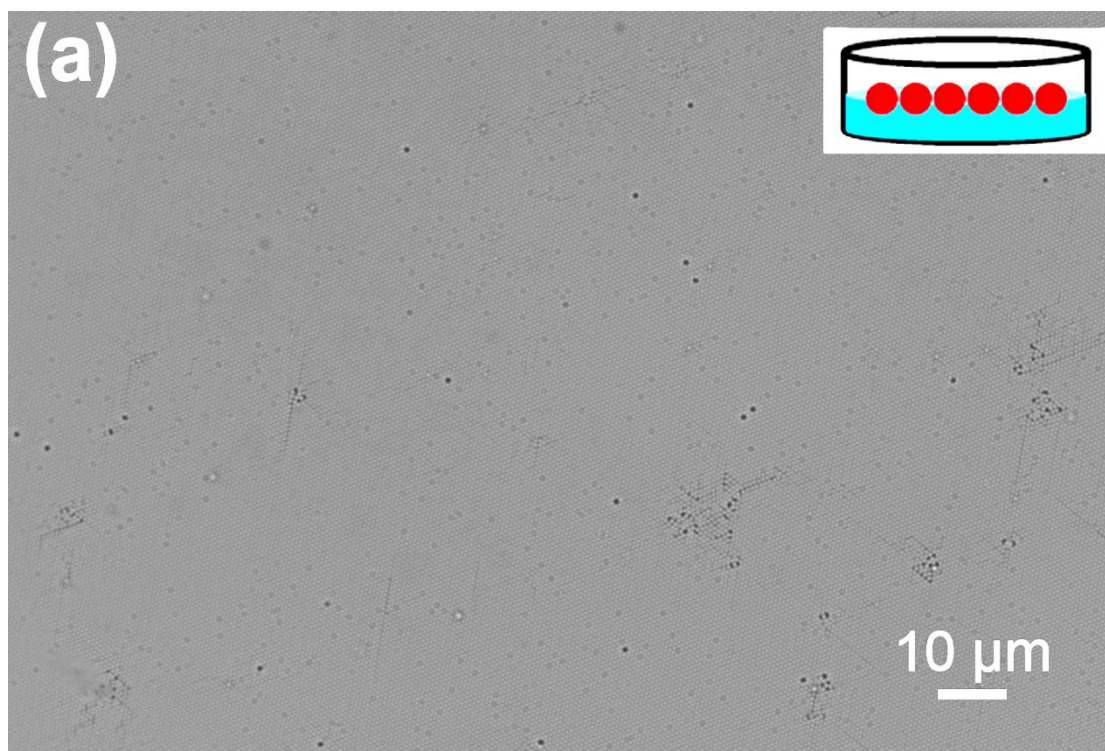
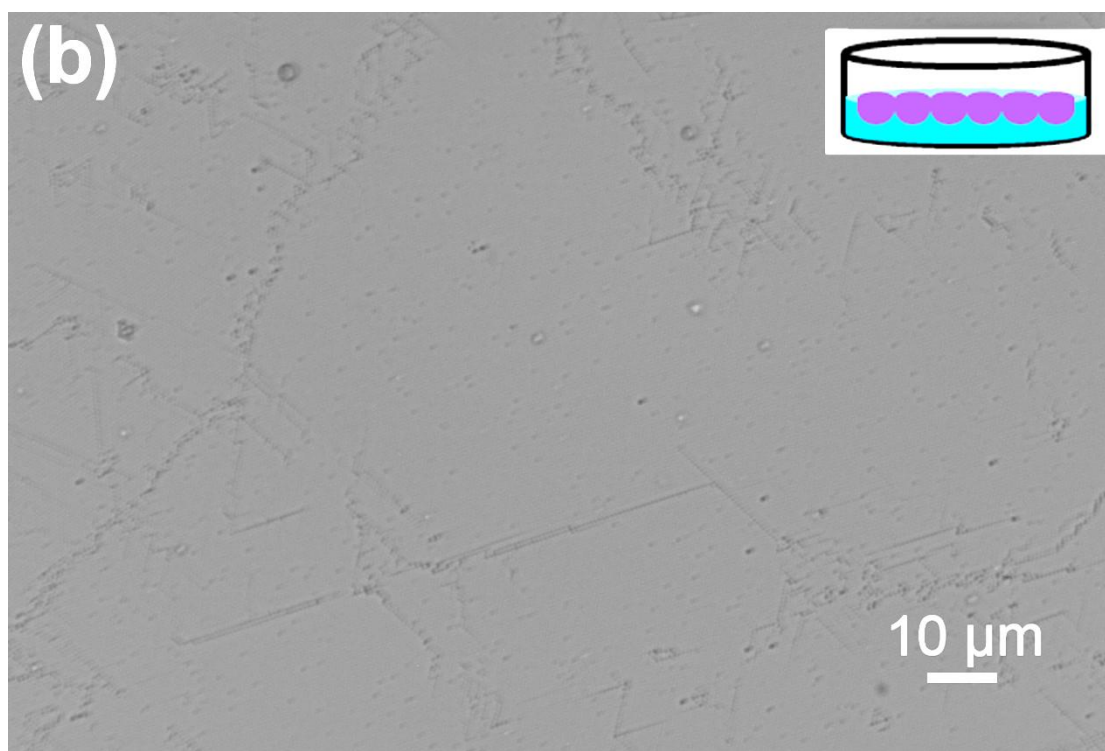


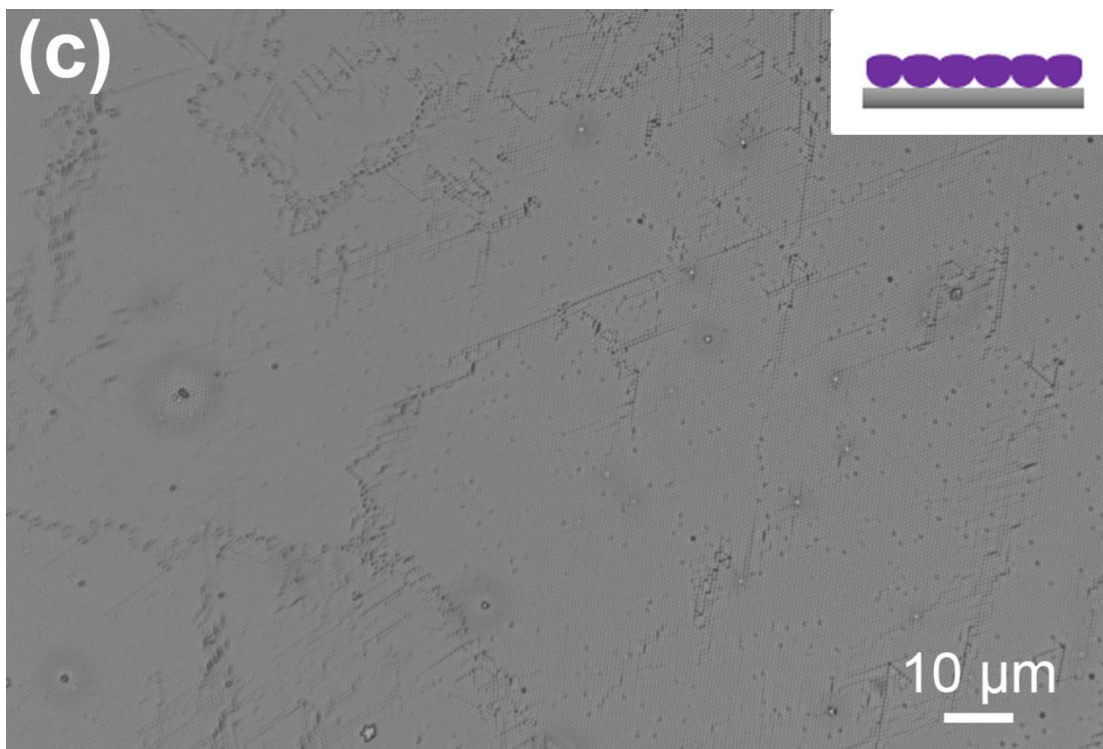
Fig. S2 The interstice size as a function of the annealing time at 150°C.



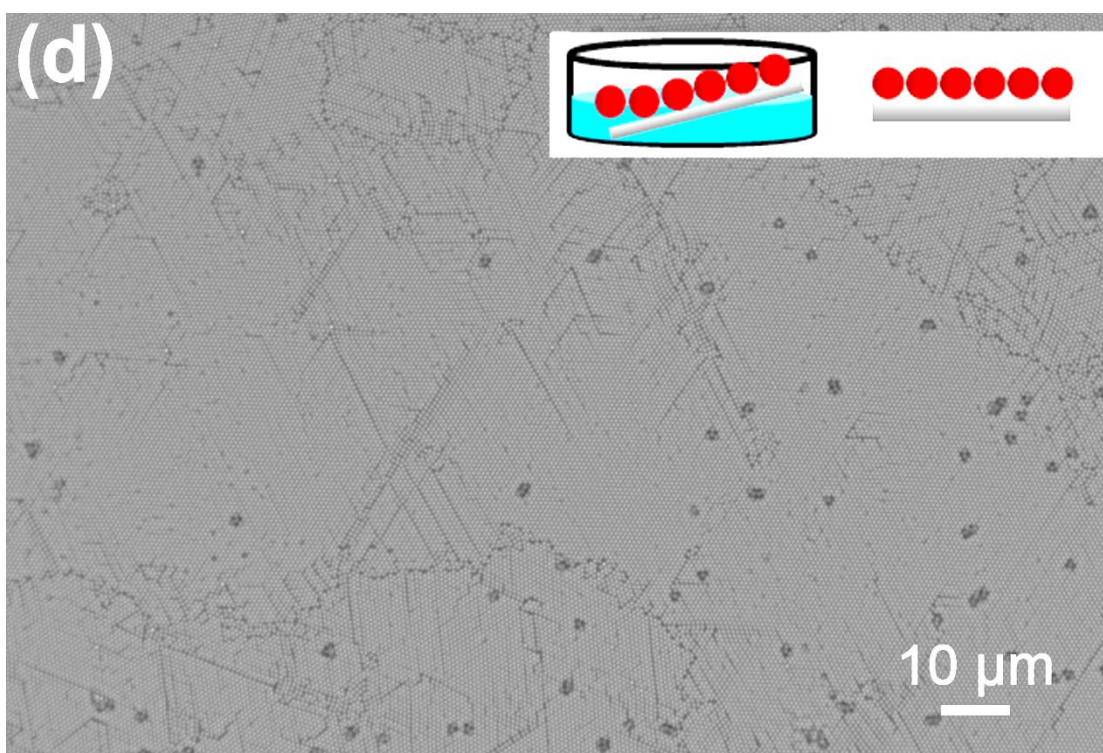
Sample A: A 683 nm PS colloidal monolayer floating on the water surface.



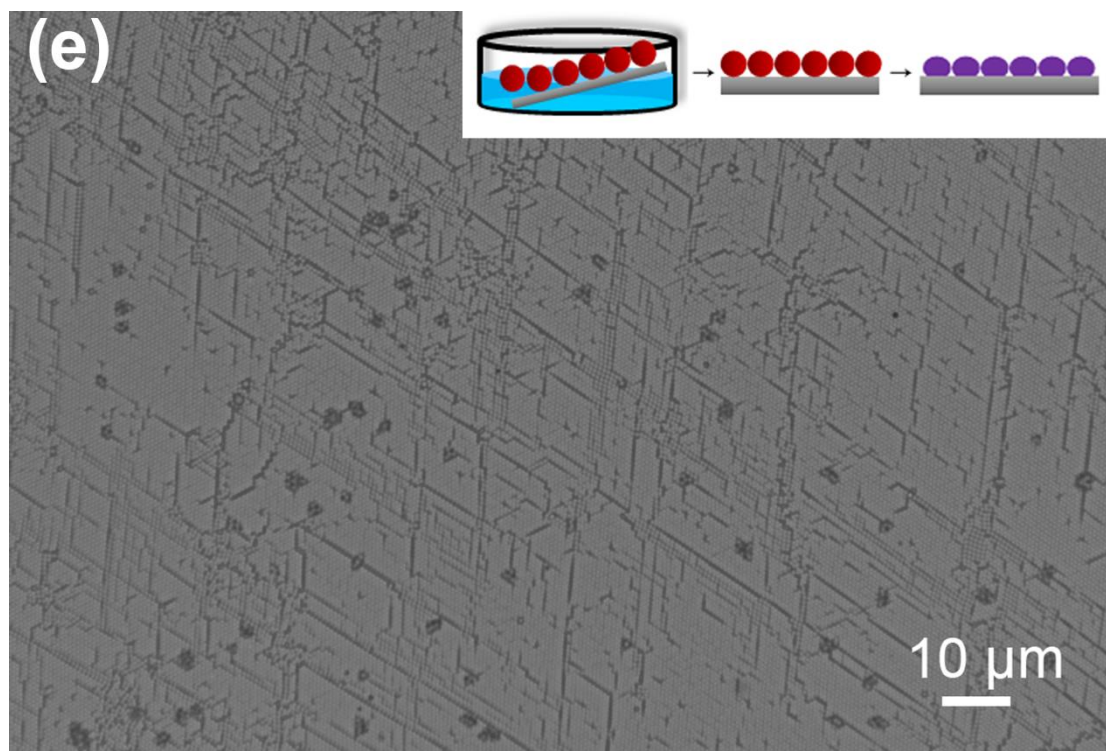
Sample B: A 683 nm PS colloidal monolayer floating on the water surface after thermal annealing.



Sample C: A dry 683 nm PS colloidal monolayer on a glass substrate obtained by thermal annealing on the water surface and subsequently transferring to a glass substrate and drying.



Sample D: A dry 683 nm PS colloidal monolayer on a glass substrate obtained by transferring a floating colloidal monolayer free of thermal annealing to a glass substrate and subsequently drying.



Sample E: A dry 658 nm PS colloidal monolayer on a glass substrate obtained by transferring a floating colloidal monolayer to a glass substrate and followed by drying and subsequently thermal annealing.

Fig. S3. Optical microphotographs of five different PS colloidal monolayers. Samples A and B are on water surface. Samples C, D and E are dry colloidal monolayer on glass substrates.

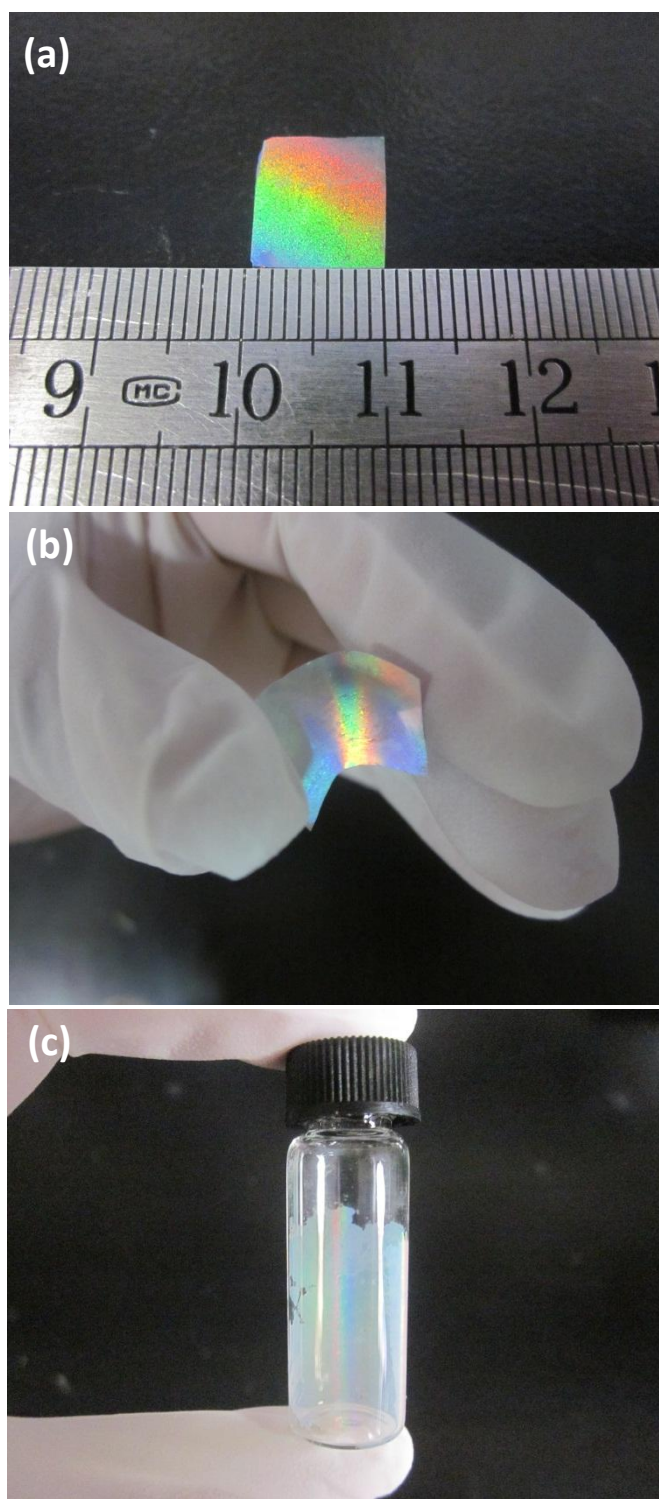


Fig. S4 An annealed PS colloidal monolayer was transferred to (a) $1 \times 1 \text{ cm}^2$ silicon wafer, (b) $2 \times 1.5 \text{ cm}^2$ tinfoil and (c) curved solid substrates.