

Supplementary Information

The base sequences for the target DNA (the *bcfD* gene):

CCGGACAAACGATTCTGGTAAATTCGGCGCATTATACAGCGGCAATTTCAACCATGCAGGCCAAAAGCCGGAGGGGGTAC
GAGCGAAAAAATTCAGCGTACCGGTAAAGTGCAGCGGTCTGGATTGCGAGGTCAATTTAACAATGCGTCTTATCGCTACGCC
GGATAGCCACGTTCCCCAGGCTATCGCTTCGGATAATGCCGATGTCGG

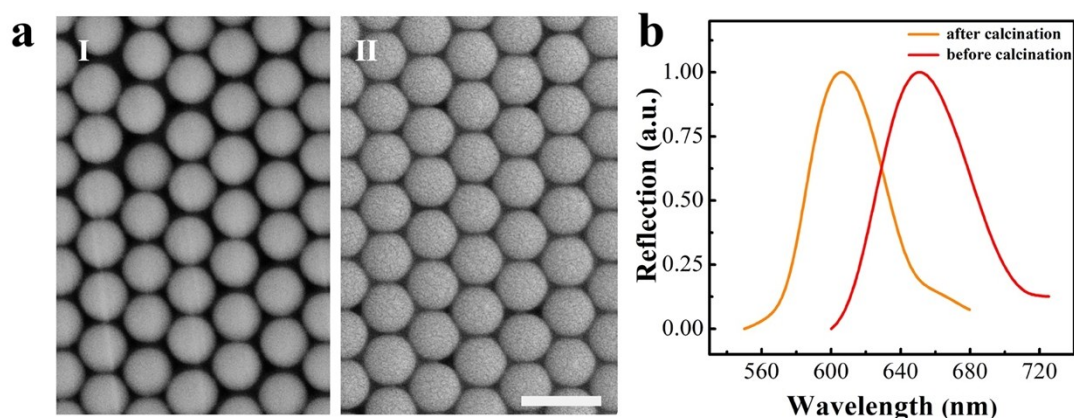


Fig. S1 (a) Scanning electron microscopy (SEM) images of the PC substrate: (i) Self-assembled photonic crystals. (ii) PC substrate after calcination. Scale bar: 400 μm. (b) Reflectance spectra of the uncalcined PC substrate and calcined PC substrate.

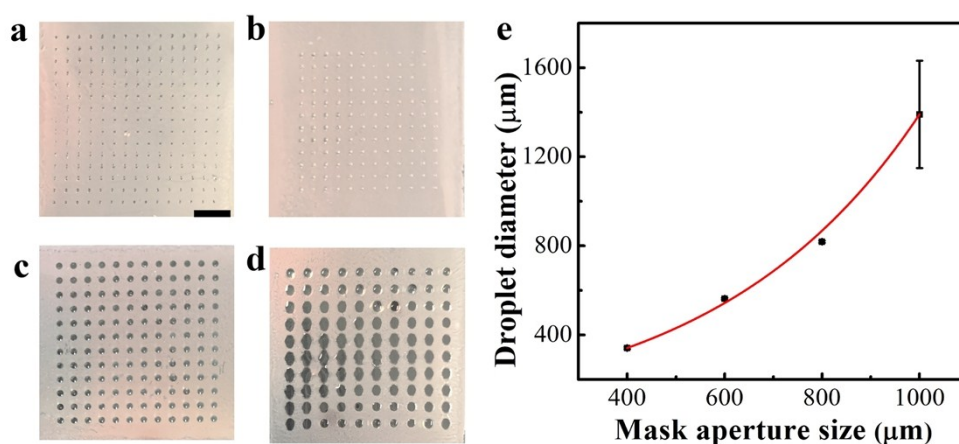


Fig.S2 (a-d) Camera images of PC substrates prepared by different sized photomasks. Scale bar: 5mm. The aperture sizes of a - e are 200 μm, 400 μm, 600 μm, 800 μm, and 1000 μm. (e) Formed droplets size versus the photomask aperture size. The error bars represent standard deviation for five replicated measurements.

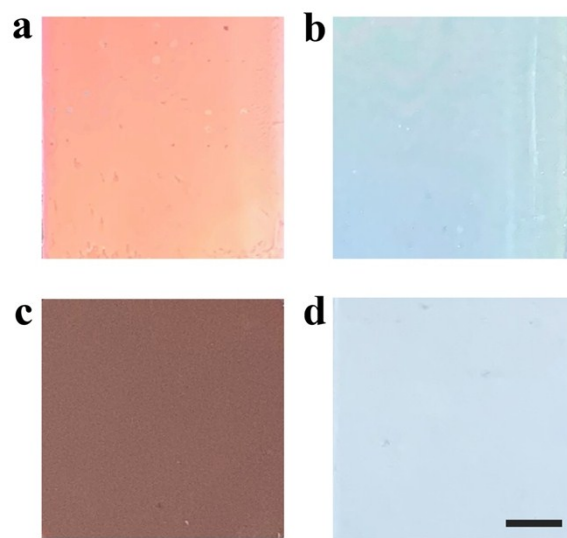


Fig.S3 Images of different substrates with 100 copies amplification (white background). Scale bar: 5mm: (a) ordered PC on glass slide. (b) disordered PC on glass slide. (c) colored glass slide without PC. (d) glass slide

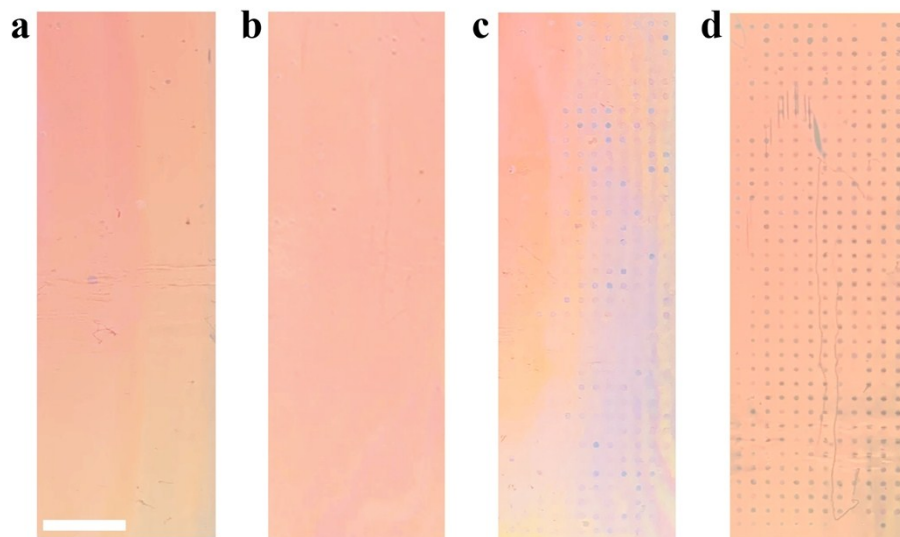


Fig.S4 (a-d) Images of chips with a serial dilution of the target DNA ranging from 1 to 1000 copies/ μ L after LAMP (black background) without image processed. Scale bar: 10 mm.