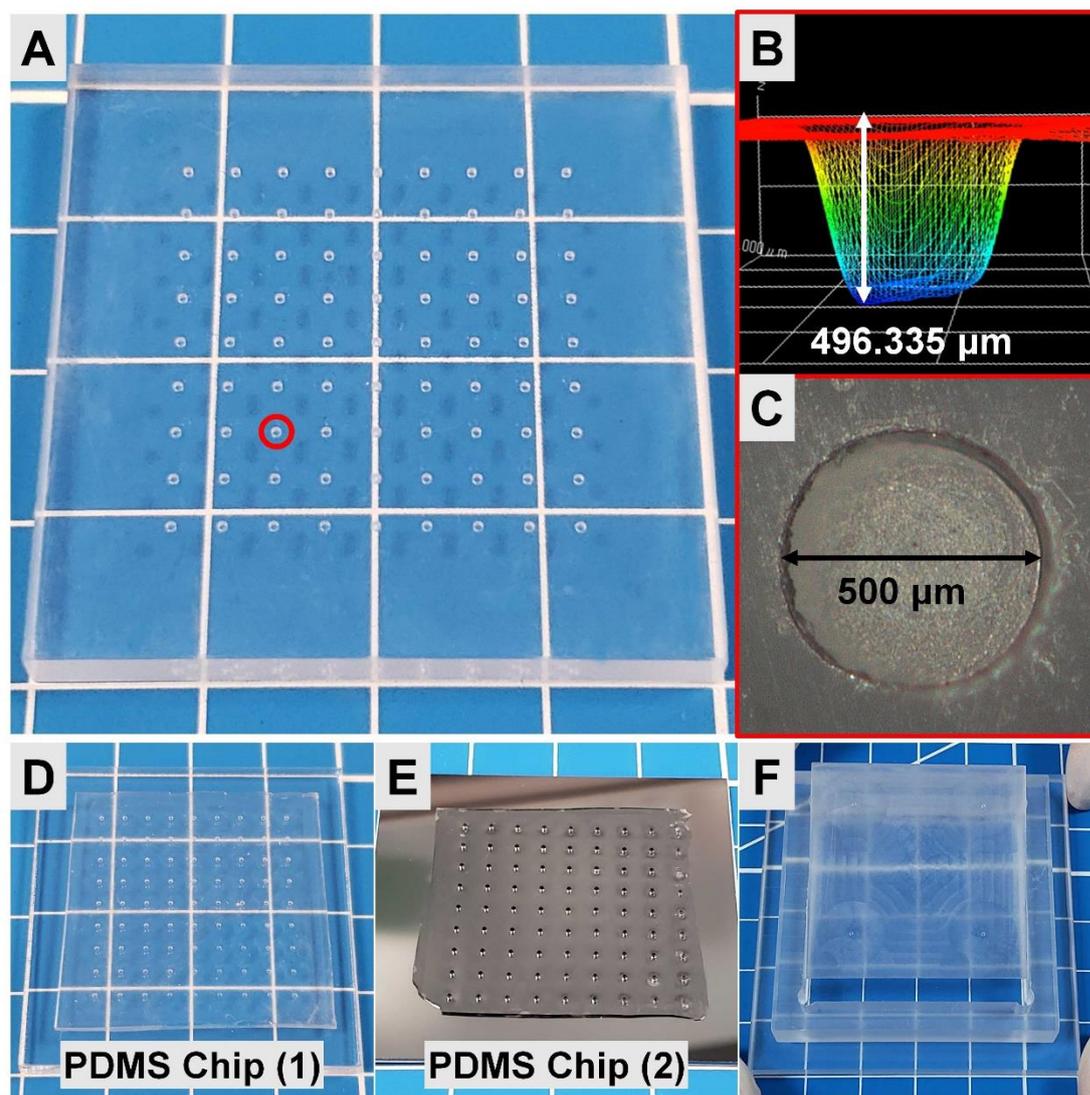
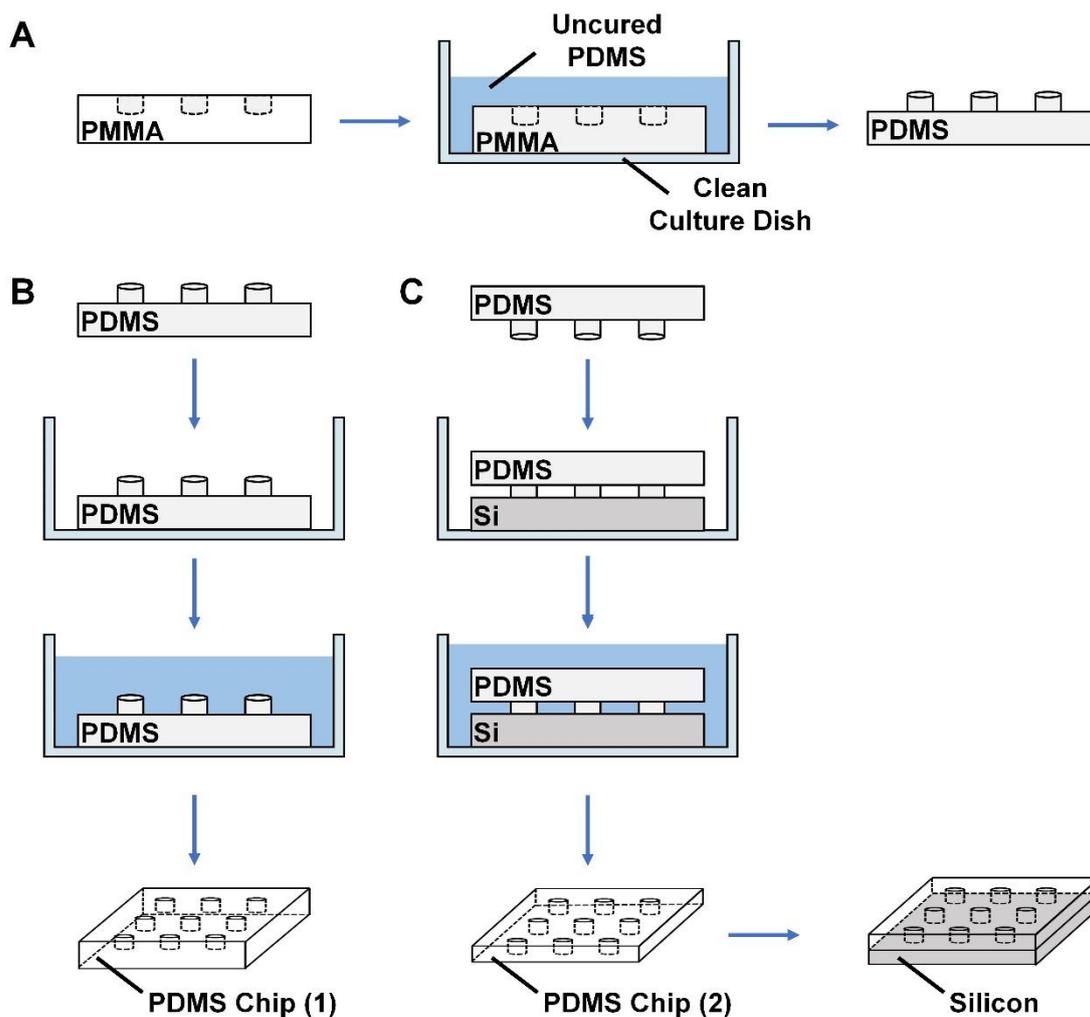


## Supplementary Materials

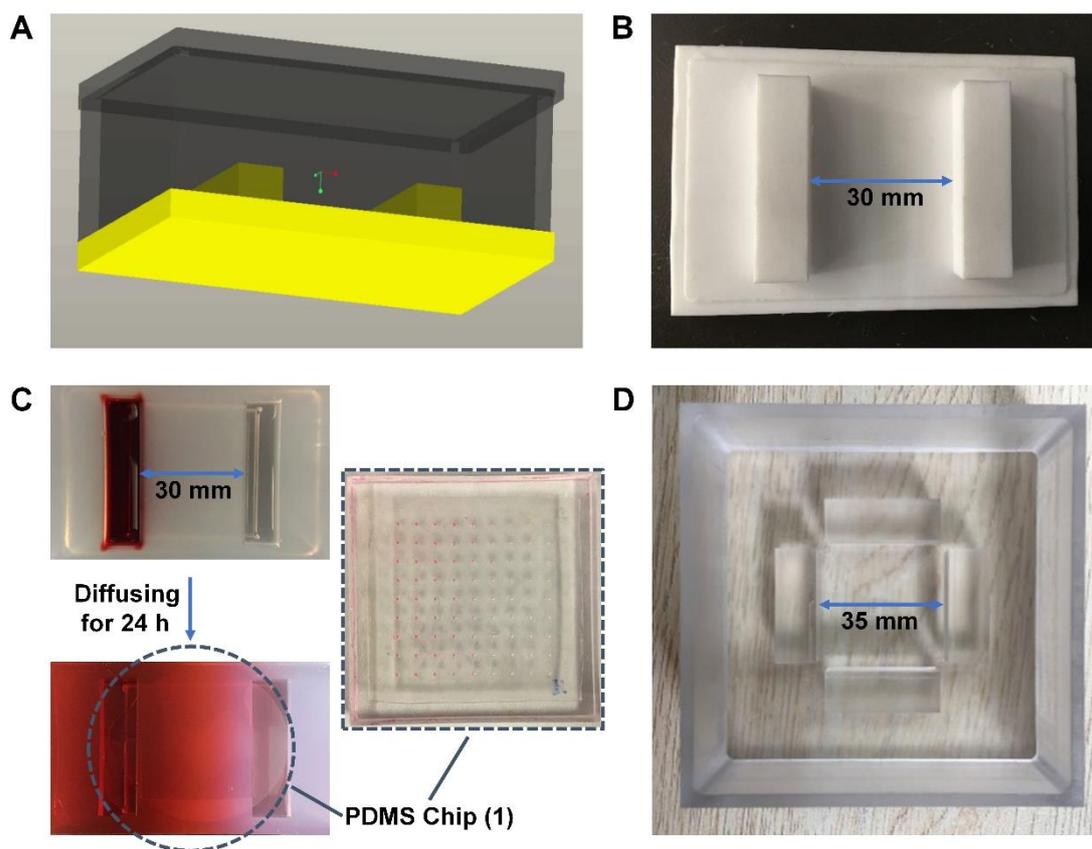
# A Microarray Screening Platform with an Experimental Conditions Gradient Generator for the High-Throughput Synthesis of Micro/Nanosized Calcium Phosphates



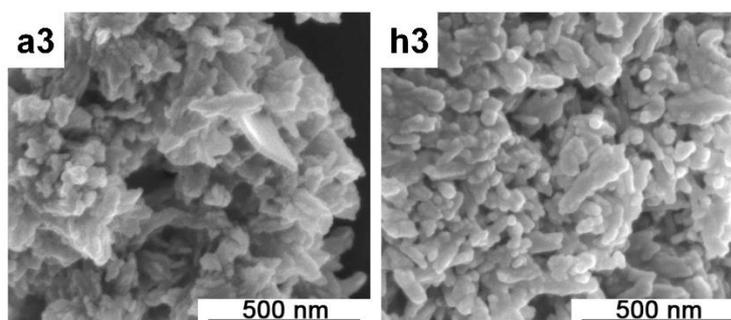
**Figure S1.** Photographs of PMMA mold (A), three-dimensional model (B) and stereomicroscope image (C) of the selected hole of PMMA mold, PDMS chip (1) with partially perforated holes fixed on a PMMA block (D), PDMS chip (2) with fully perforated holes fixed on a silicon wafer (E) and positioning device (F).



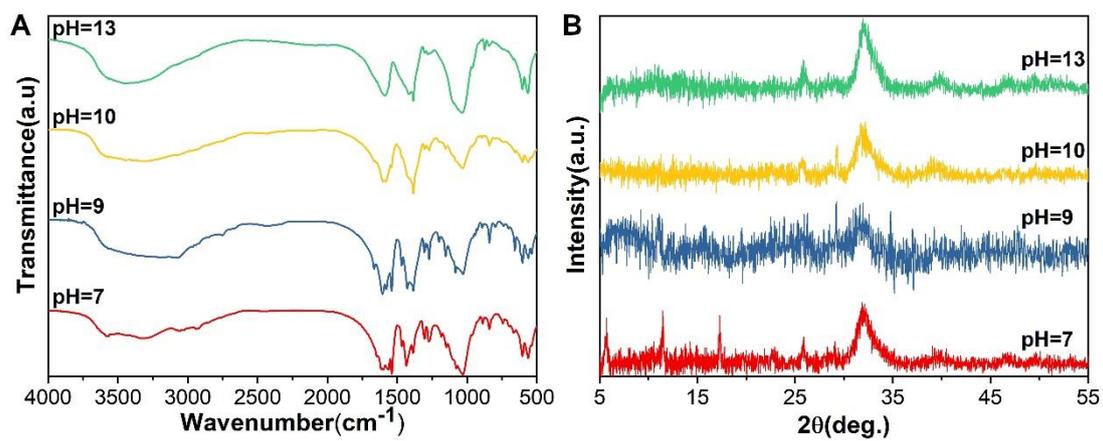
**Figure S2.** Schematic overview of PDMS chip fabrication procedures: (A) Fabrication of PDMS mold utilizing PMMA mold; (B) Fabrication PDMS chip (1) with partially perforated holes utilizing PDMS mold; (C) Fabrication PDMS chip (2) with fully perforated holes utilizing PDMS mold.



**Figure S3.** Photographs of hydrogel block mold and red ink experimental demonstration. Three-dimensional schematic of polycaprolactone (PCL) frame and Teflon base (A), photograph of Teflon base with two rectangular convex plates (B), red ink experiment for demonstration (C) and photograph of the PCL base four rectangular convex plates and the matched PCL frame (D).



**Figure S4.** SEM images of CaP structures observed at a3 and h3 in the pH gradient screening experiment through the platform.



**Figure S5.** Fourier transform-infrared (FT-IR) spectra (A) and X-ray diffraction patterns (B) of CaP prepared in the scale-up experiments.