SUPPORTING INFORMATION

Facile fabrication of large-scale patterned ZnO nanorod arrays with tunable arrangement, period and morphology

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Fig. S1 Schematic illustration of optical setup of two-beam Lloyd's mirror laser interference lithography. To prevent vibrations, which could disturb the interference pattern, this optical setup was built on an actively damped optical table of 2.5 m \times 1.5 m. Moreover, the optical components were placed in a closed plexiglass cabinet to avoid air movements, which could affect the stability of the interference pattern.



Fig. S2 Period control of PR templates by adjusting the incident angle θ . (a-d) Top view SEM images of PR line templates in periods of 1048 nm (a), 774 nm (b), 524 nm (c) and 357 nm (d), designed and fabricated by using different incident angles (from 9° to 27°). (e) Period P as a function of incident angle θ for a laser wavelength of 325 nm in 2BLIL. The experimental results show good agreement with the theoretical ones, and the minimum period is 162.5 nm (one-half wavelength) when θ =90°.



Fig. S3 Hole size control of PR templates through changing the exposure time T_E . (a-e) AFM height images of hexagonal PR hole templates with smaller and smaller hole sizes in a period of 774 nm, designed and fabricated by using different exposure times, such as 45 s (a), 51 s (b), 60 s (c), 66 s (d) and 75 s (e), respectively. (f) Template height H and hole diameter D as functions of exposure time, based on the AFM results shown in (e-i). As T_E increased from 45 s to 75 s, H is increased from 215 nm to 290 nm and D is decreased from 706 nm to 275 nm.