Electronic Supplementary Material (ESI) for Lab on a Chip.

VIDEO CAPTIONS

SI Video 1. Supplementary video for Figure 4. The videos of IDZ when the nanoporous film was (a) partially patterned and (b) patterned without plasma treatment in step Figure 1(ii) (Scene at 00:05 ~ 00:15). The videos of IDZ initiated at the main channel boundaries with square, sine wave shape in SC regime (5 μm depth), sawtooth wave shape in EOF regime (15 μm depth), and triangle, fractal wave shape in EOI regime (150 μm depth). The boundaries of IDZ in the SC regime was shown to be stable, while the boundaries in the EOI regime was shown to be unstable (Scene at 00:15 ~ 00:37).

SI Video 2. Supplementary video for Figure 7. The videos of IDZ induced at the main channel boundaries of sine wave with various wavelengths (L = 100 μm, 200 μm, 500 μm, 1000 μm and ∞(flat)) in EOI regime (150 μm depth), and in EOF regime (15 μm depth). In the case of the EOI regime, IDZ expanded from the trough of the waveform as L decreases, while IDZ uniformly expanded regardless of the wavelength.