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# Supplementary

## Simultaneous laser-based graphitization and microstructuring of bamboo for supercapacitors derived from renewable resources

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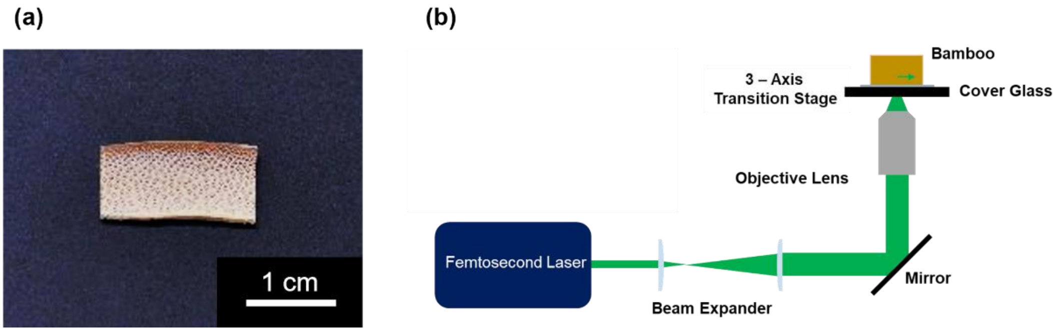


Fig. S1 (a) Optical photograph of bamboo and (b) schematic illustration of the laser irradiation setup.

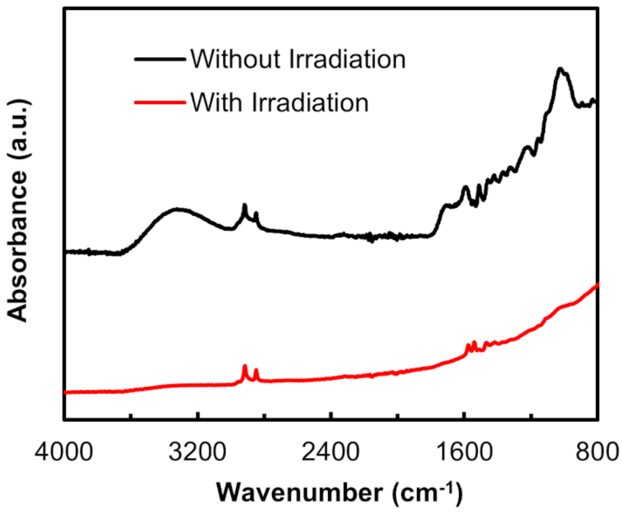


Fig. S2 FTIR spectra obtained from native bamboo and the structure patterned by single scanning of laser pulses with a scan speed of 1.00 mm/s.

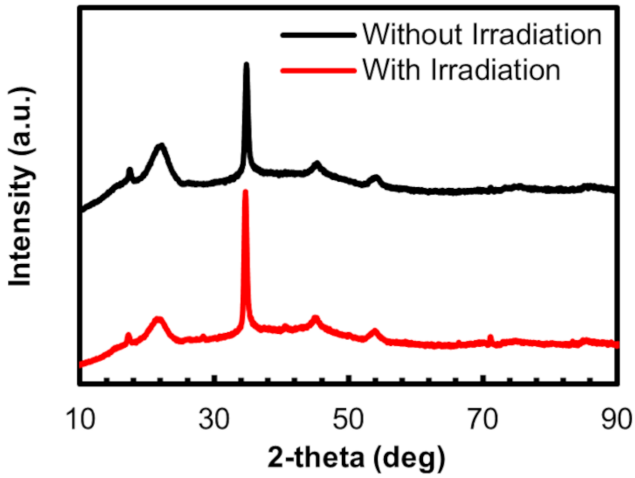


Fig. S3 XRD spectra obtained from native bamboo and the structure patterned by raster laser scanning with a scan speed of 1.00 mm/s and 0% overlap.

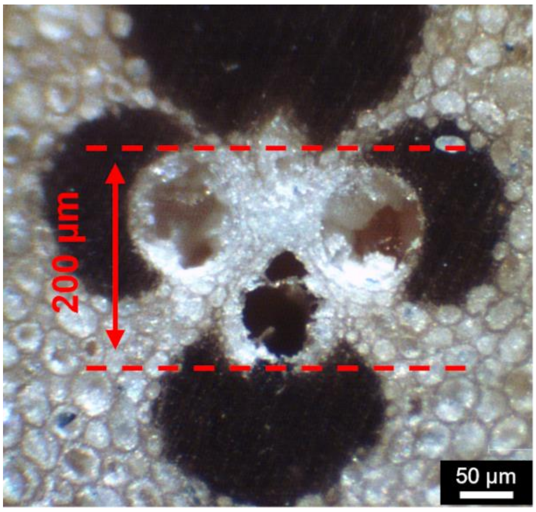


Fig. S4 Digital microscope image of a native bamboo channels with a width of 200 μm.

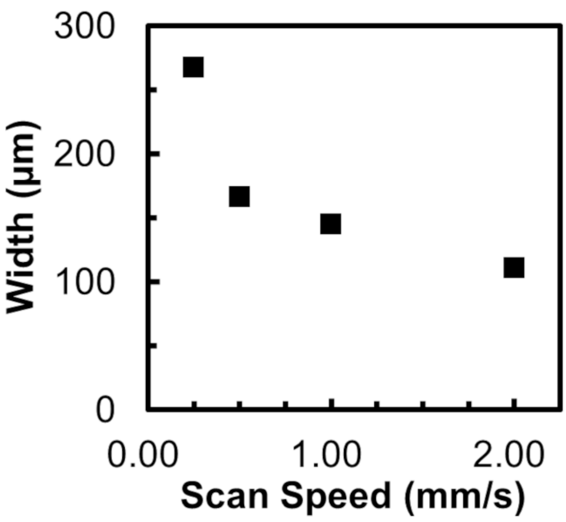


Fig. S5 Relationship between the width of the structure and laser scan speed used for the fabrication. All structures were fabricated by single scanning of laser pulses.

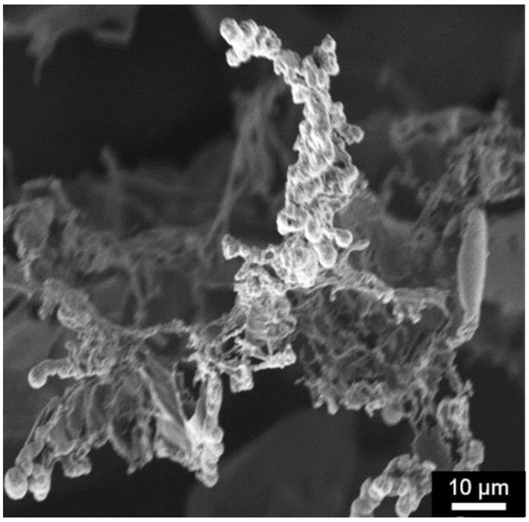


Fig. S6 Enlarged SEM image of the edge of the groove shown in Figure 3c.

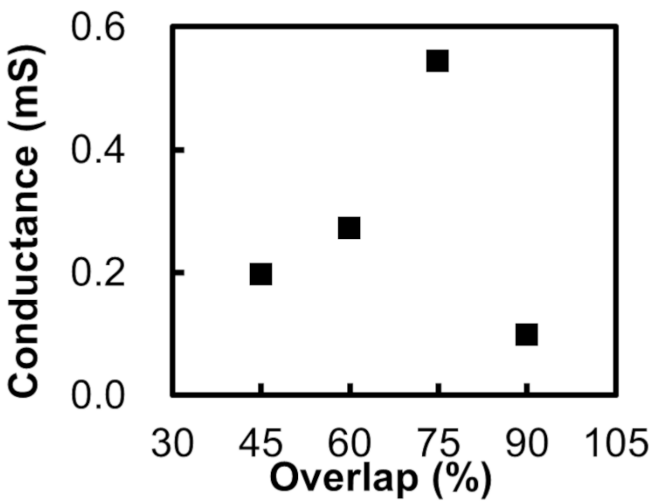


Fig. S7 The relationship between the conductance of the patterned structure and overlap of laser scannings. All structures were patterned by grid laser scanning with a laser scan speed of 0.25 mm/s.

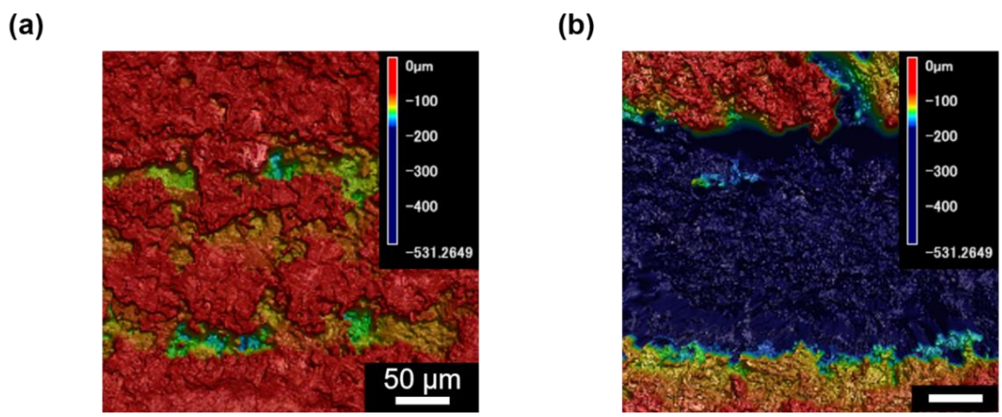


Fig. S8 CLSM images of the structures patterned by grid laser scanning with (a) 75 and (b) 90% overlaps of laser scanning. Both structures were patterned with a laser scan speed of 0.25 mm/s. The Scale bars indicate 50 μm.

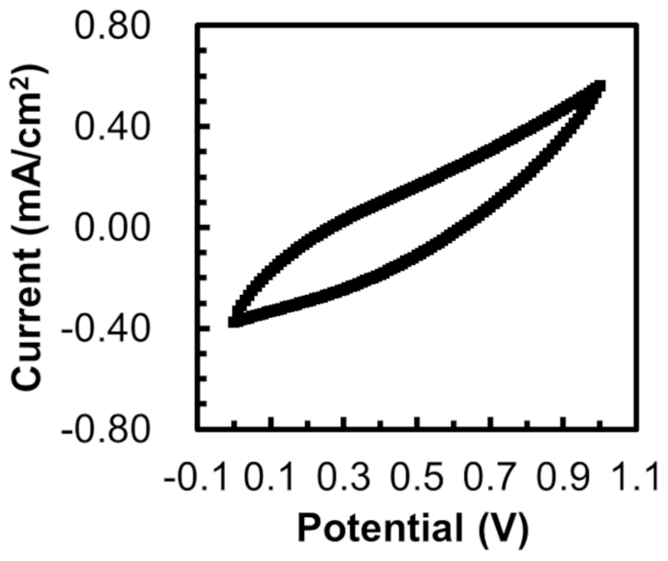


Fig. S9 CV curve of the supercapacitor fabricated from structures patterned by grid laser scanning with 75% overlap. The voltage scan rate of 500 mV/s was used for obtaining CV curve.

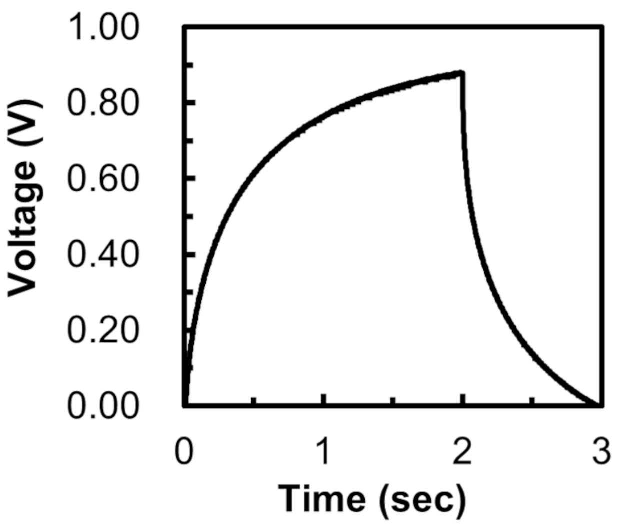


Fig. S10 GCD curve of the supercapacitor fabricated from structures patterned by grid laser scanning with 75% overlap. The current of 50 μA was used for obtaining GCD curve.

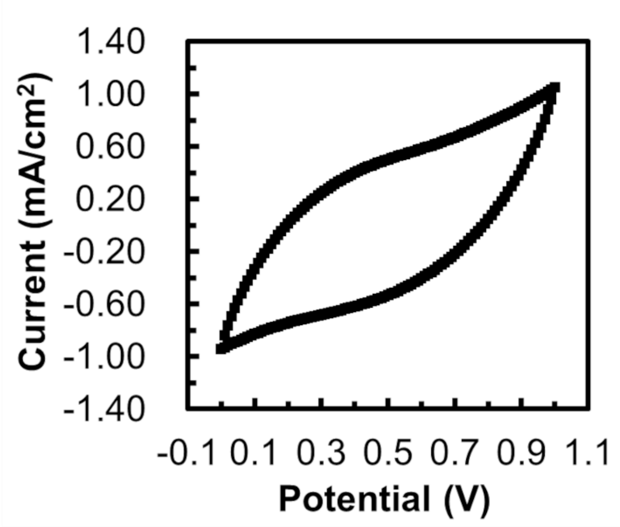


Fig. S11 CV curve of the supercapacitor fabricated from comb-shaped structures patterned by grid laser scanning with 75% overlap. The voltage scan rate of 500 mV/s was used for obtaining CV curve.

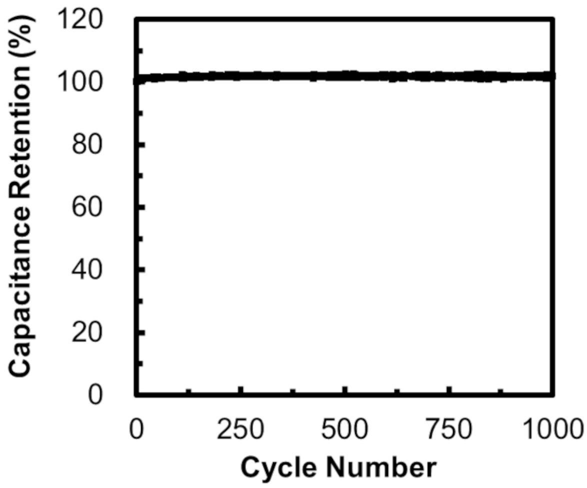


Fig. S12 Capacitance retention of the supercapacitor fabricated from comb-shaped structures patterned by grid laser scanning with 75% overlap.