Electronic Supplementary Material (ESI) for Materials Advances.

Electronic supplementary information

Laser-engineering of heterostructured graphitic petals on carbon nanotubes forests (GP/CNTF) for robust thermal interface capable of swift heat transfer

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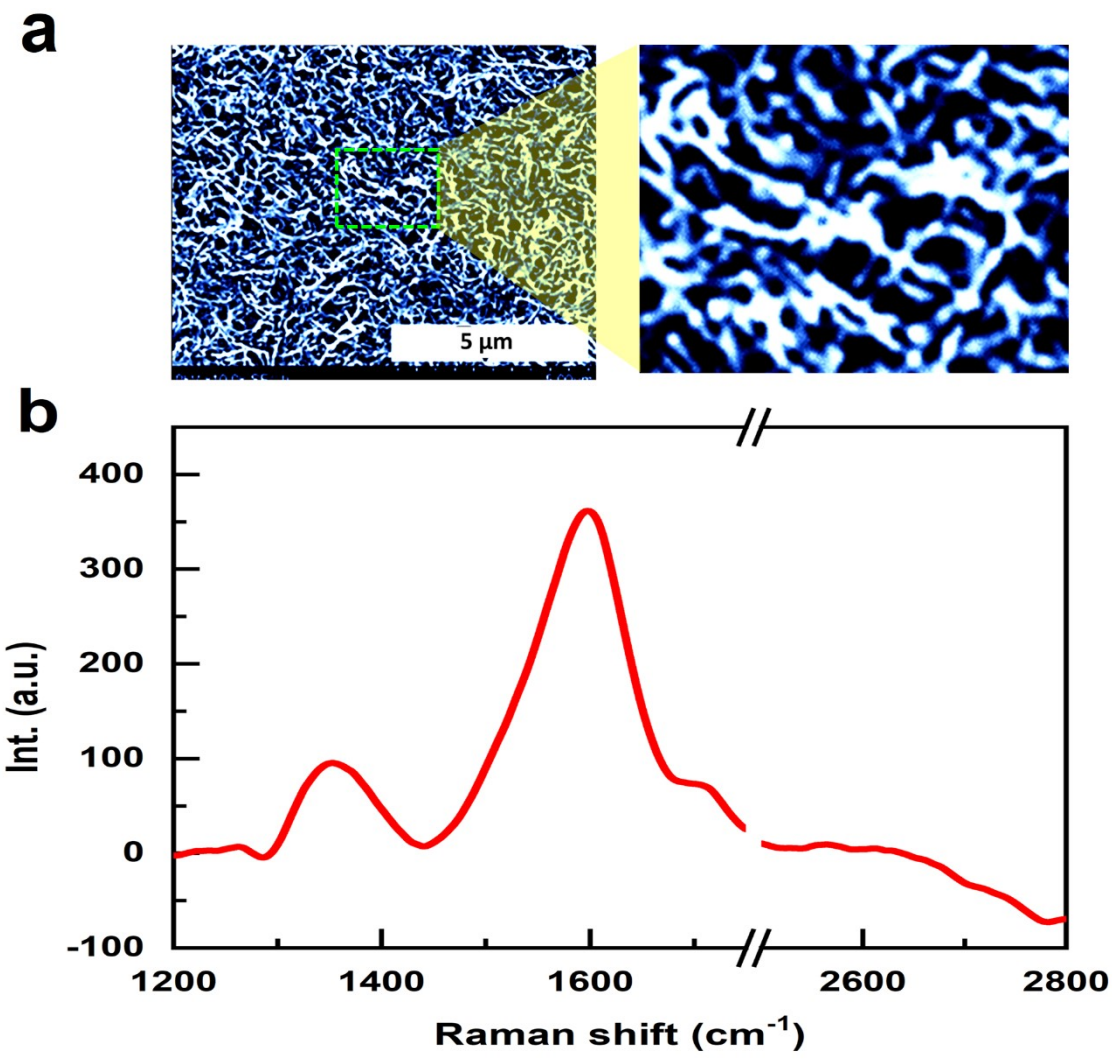

Figure S1 (a) FESEM image and (b) Raman spectrum of CNTF laser annealed for 3 minutes at 5 Hz pulse rate at laser fluence value of 0. 8 J/cm^2.

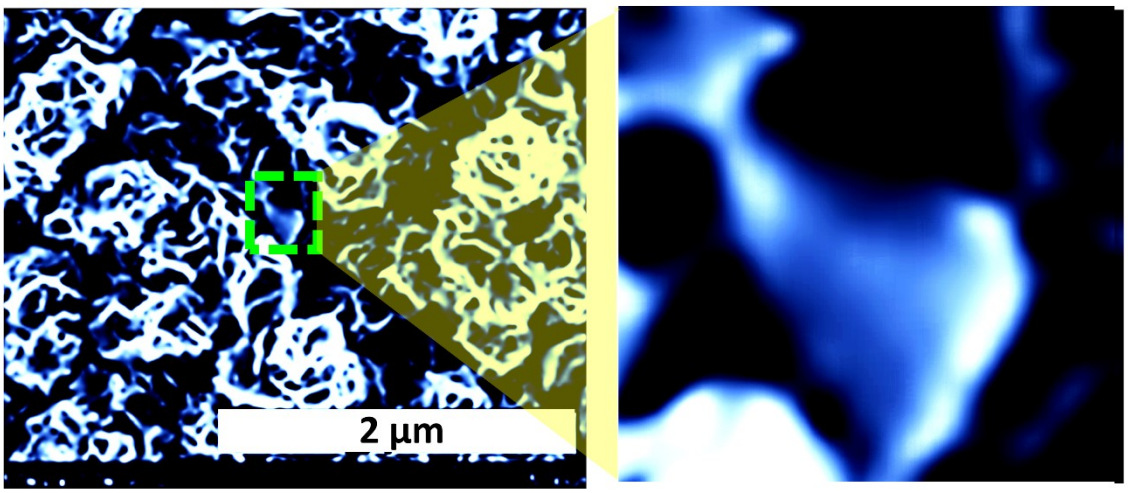

Figure S2 FESEM image of GP/CNTF laser annealed for 10 minutes at 5 Hz pulse rate at laser fluence value of 0. 8 J/cm^2.

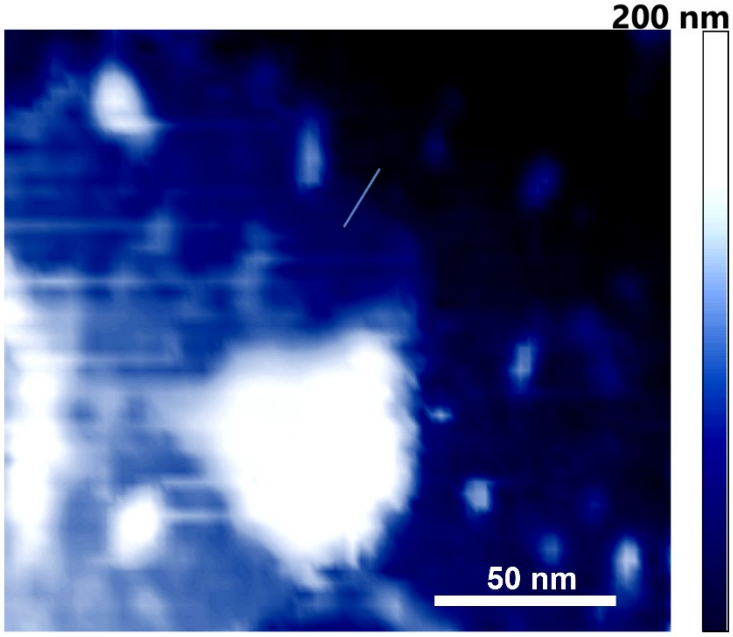

Figure S3 AFM image of GP/CNTF laser annealed for 10 minutes at 5 Hz pulse rate at laser fluence value of 0. 8 J/cm^2.

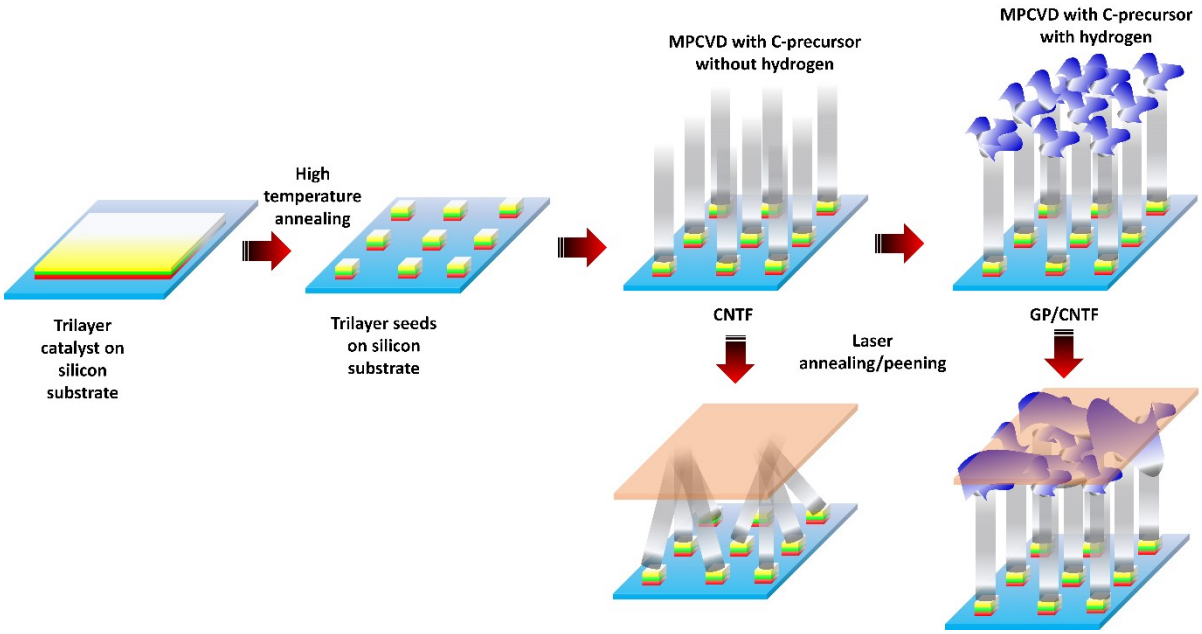

Figure S4 Schematic diagram showing growth of CNTF and GP/CNTF and laser annealing/shock peening.

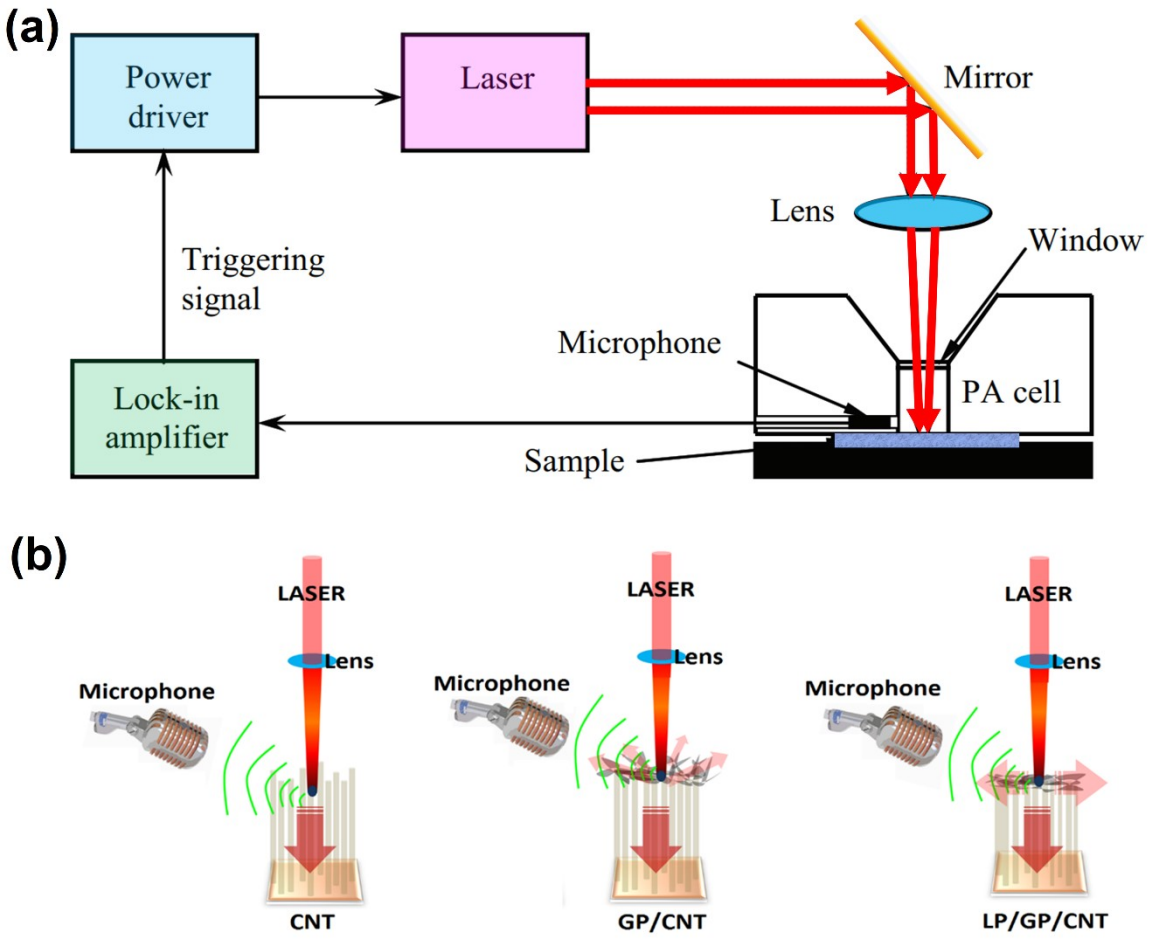

Figure S5. (a) Photo-acoustic (PA) testing of samples for thermal interface resistance at 34 and 138 kPa Helium pressure. (b) PA on various samples.