Electronic Supplementary Material (ESI) for RSC Advances.


# Supporting Information

## Laser-induced transformation of freestanding carbon nanotubes into graphene nanoribbons

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1. Fourier transform infrared (FTIR) spectra shows the transmittance of carbon nanotube (CNT) sheet before and after 100 mW laser irradiation. The wavelength of laser beam is 10.6 μm, corresponding to the wavenumber of 942 $cm^{-1}$. The transmittance of CNTs at 10.6 μm is 82%.

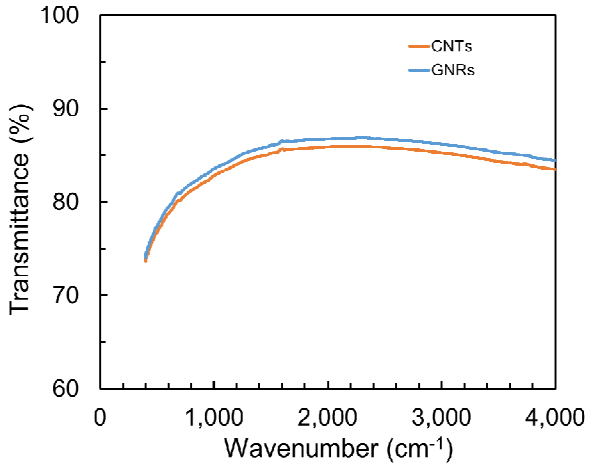


**Fig. S1:** FTIR spectra of the original CNT sheet and the produced GNRs.

2. Raman spectra of the original CNTs and the produced GNRs by 100 mW laser irradiation.

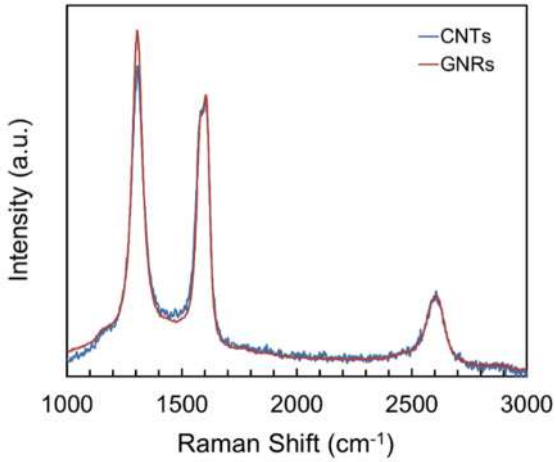


**Fig. S2:** Raman spectra of the original CNTs and the produced GNRs.

**3.** Raman spectra of GNRs before and after the post-treatment process.

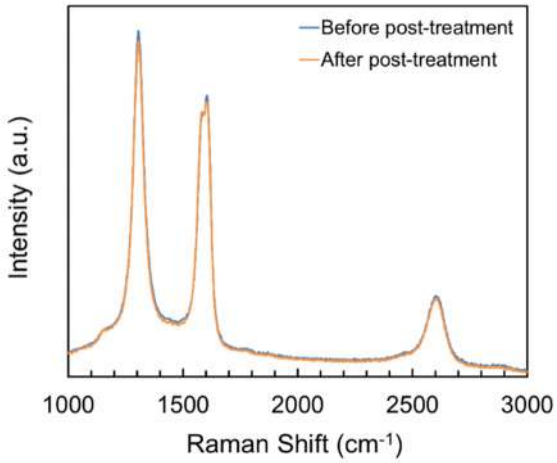


**Fig. S3:** Raman spectra of the produced GNRs before and after post-treatment process.