

Supporting information

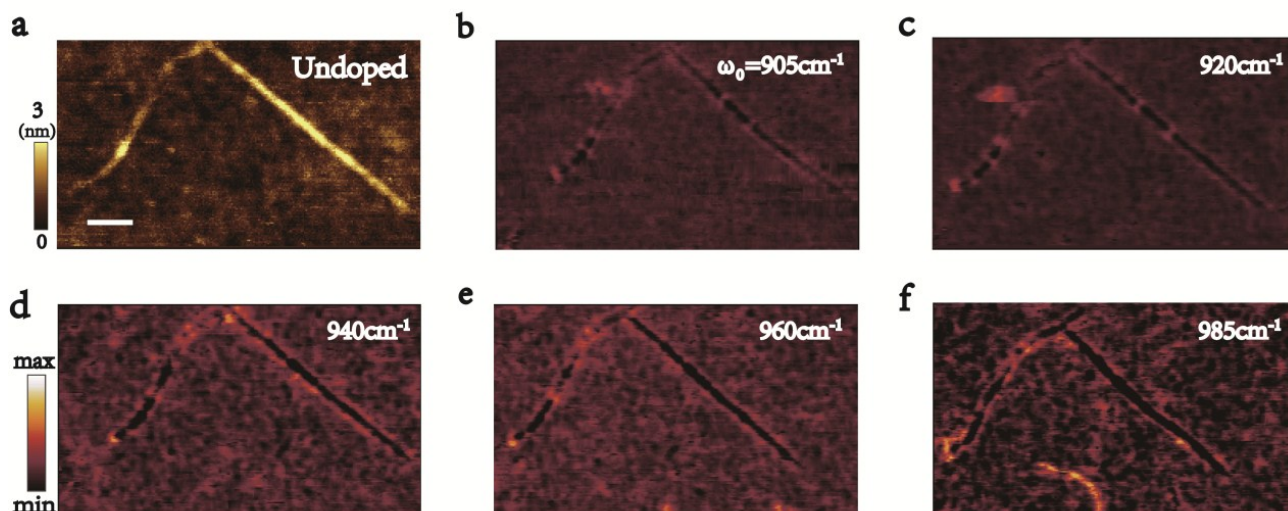


Fig. S1 Near-field optical images (b-f) and AFM topography (a) of the same undoped SWCNTs. (b - f) Infrared s-SNOM images with different excitation wave numbers from 905 to 985 cm^{-1} for the same undoped nanotubes in figure (a). When changing the laser excitation wave number, there is no much change in optical amplitude intensity, all weaker than the substrate, and no plasmonic oscillation appears. Scale bars: 200 nm.

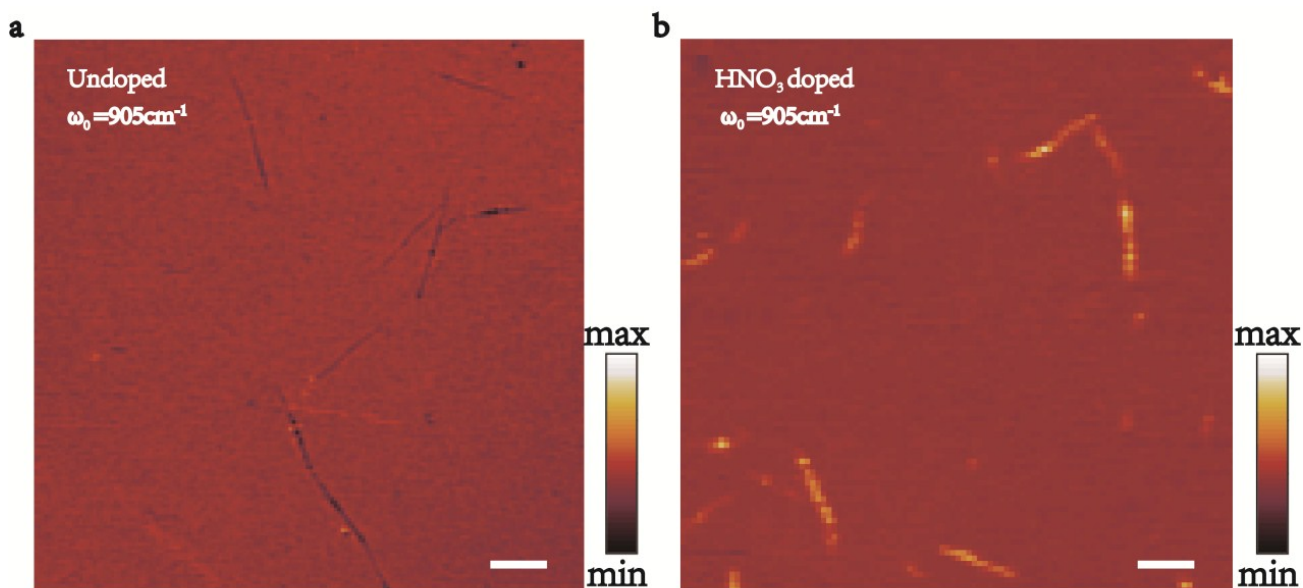


Fig. S2 Near-field optical images of pre- and post- HNO_3 -doped s-SWCNTs. (a) Near-field optical image of undoped s-SWCNTs. The optical amplitudes of all s-SWCNTs are much weaker than that of the SiO_2 substrate. (b) Near-field optical image of the HNO_3 -doped s-SWCNTs. The optical amplitude of all the nanotubes is much stronger than the SiO_2 substrate. Scale bars: 200 nm.