applied sciences

MDPI

# Supplementary Materials

## Simulation of optical nano-manipulation with metallic single- and dual-probe irradiated by polarized near-field laser

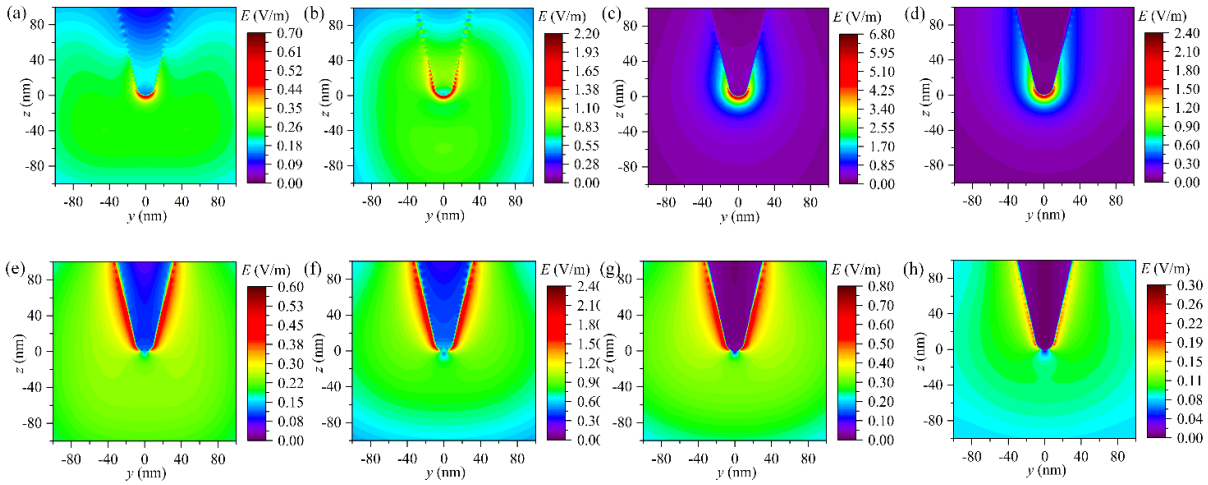


**Figure S1.** Distributions of electric field in *y*-*z* plane induced by polarized laser with different wavelengths. VP and HP laser with wavelength of 300nm (**a**)and (**e**), 511nm (**b**) and (**f**), 918nm (**c**) and (**g**), and 1200 nm(**d**) and (**h**).

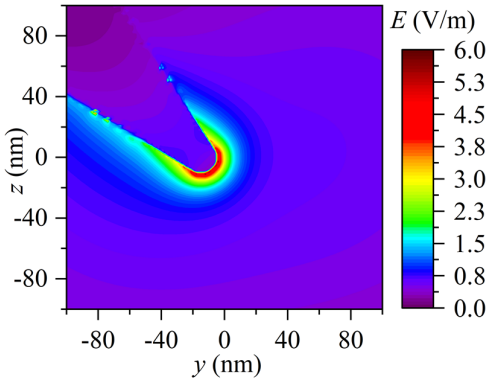


**Figure S2.** Distributions of electric field in *y*-*z* plane for the configuration of ODPs with only one probe irradiated by HP laser with wavelengths 717 nm.

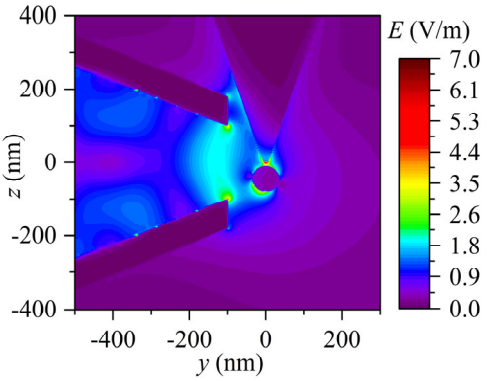


**Figure S3.** Distributions of electric field in *y*-*z* plane induced by VP laser with wavelengths 511 nm.

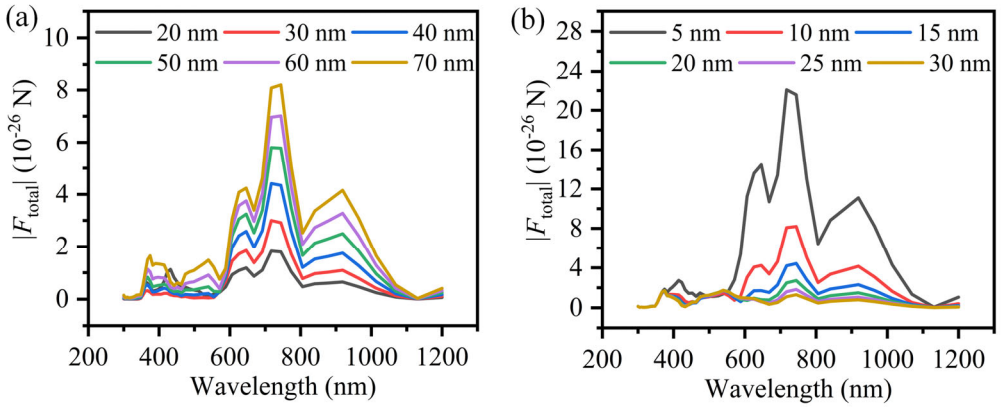


**Figure S4.** The influence of diameter of NP and distance between the tip and the NP on the total optical force. (**a**) Diameter; (**b**) Distance.

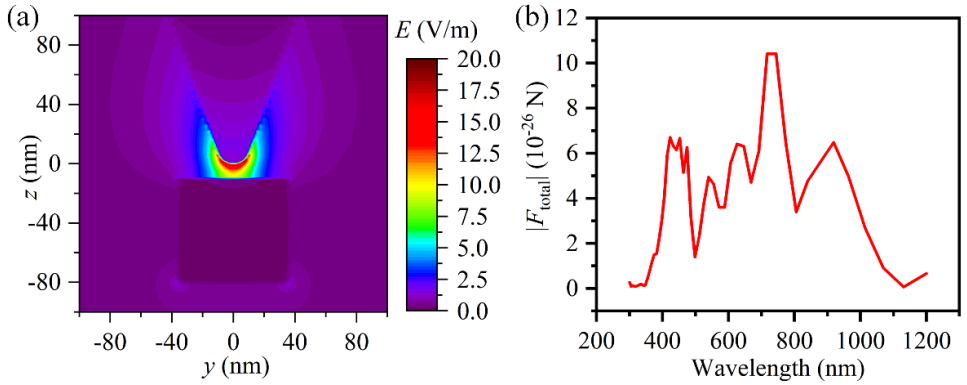


**Figure S5.** Trapping force of a nano-cube using single probe irradiated by VP laser. (**a**) Distributions of electric field in *y*-*z* plane; (**b**) Total optical force applied on the nano-cube versus wavelength of incident laser;

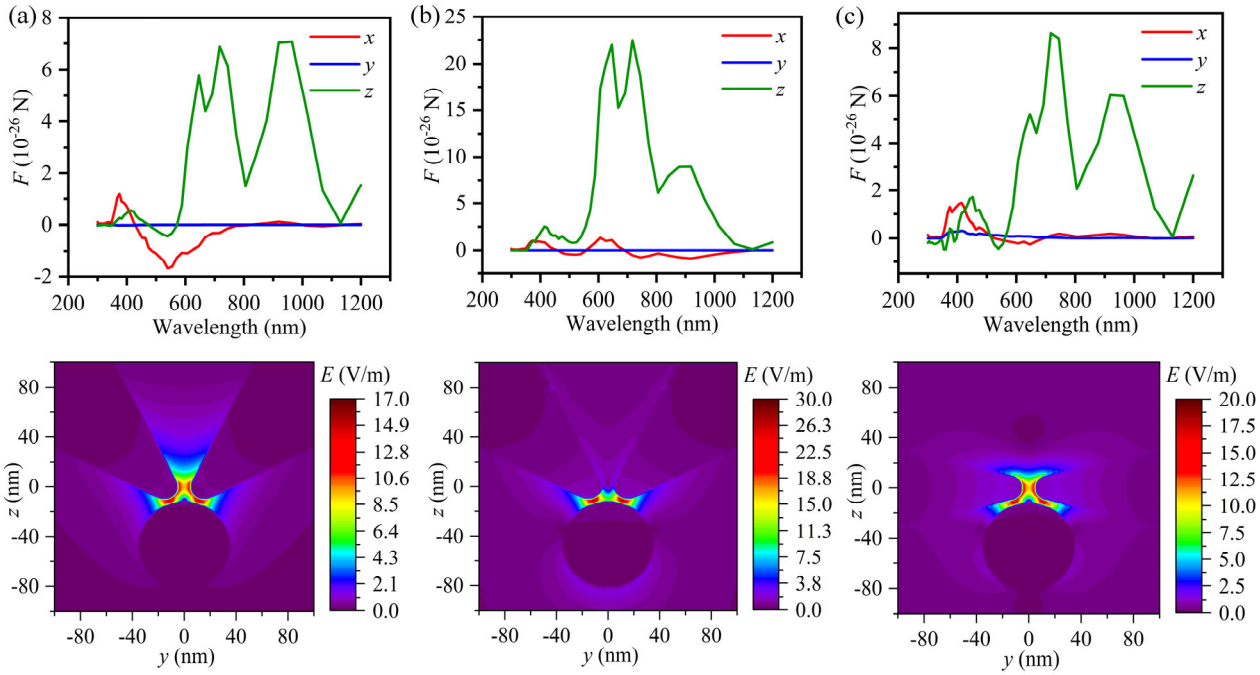


**Figure S6.** Component forces along x, y, z axis applied on the NP versus wavelength (top diagram) and distributions of electric field in *y*-*z* plane (bottom diagram) around dual-probe with distance $D_2$ = 5 nm between tips and NP. (**a**) ODPs irradiated by HP laser; (**b**) ODPs irradiated by VP laser; (**c**) CDPs irradiated by HP laser.