Supporting Information

Single Nanoparticle Near-Infrared Surface Plasmon Resonance Microscopy for Real-Time Measurements of DNA Hybridization Adsorption

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The Fourier filtering process described in Figure S1 was used to clean up differences images for easier particle counting analysis. An unfiltered difference image is displayed in Figure S1a. The image was Fourier transformed, and the magnitude is displayed in Figure S1b. The pair of adjacent semi-circles at the center of the image contain the information of the particle response pattern. The FT is then multiplied by the mask displayed in Figure S1c. This mask removes any DC or low frequency components for a flat background, and high frequency components such as laser fringing from the index oil or CCD noise. The image is then inverse transformed back into a real image and the result is displayed in Figure S1d.

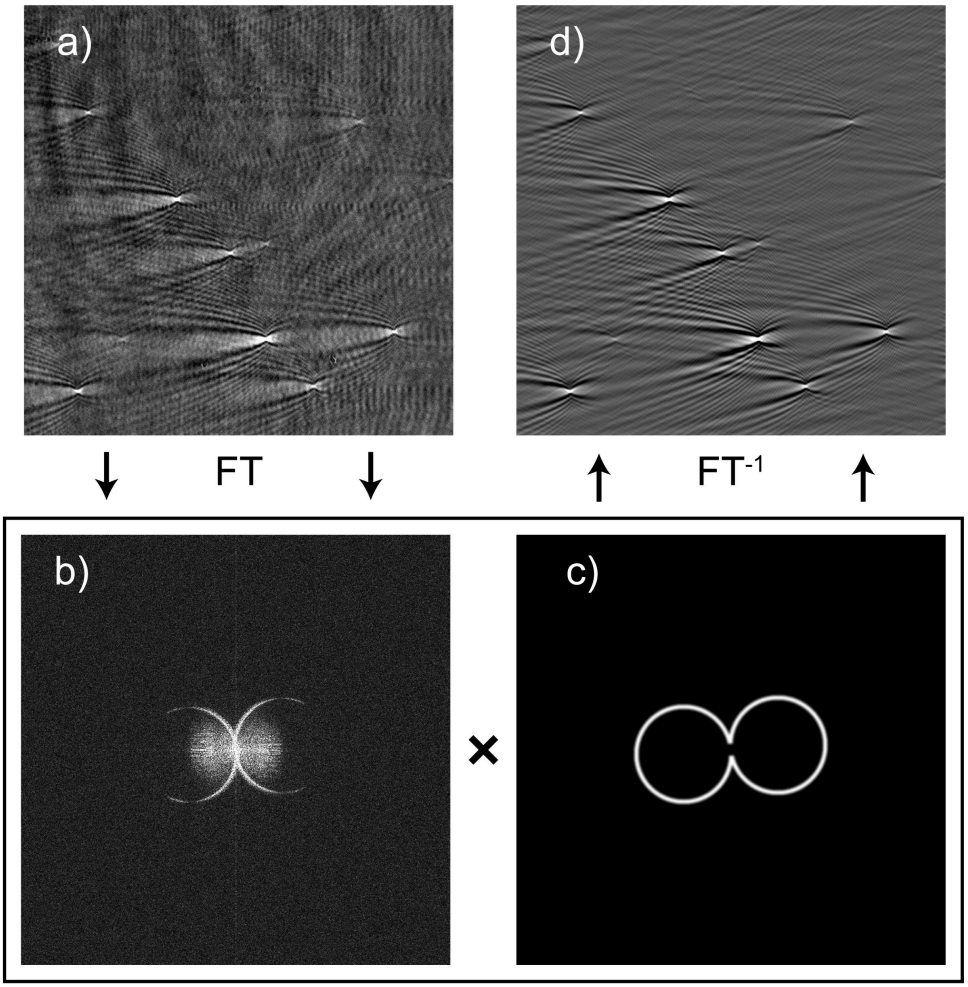

Figure S1. Fourier filtering process. a) Raw difference image. b) Fourier transform of a). c) Fourier space mask. d) Inverse transform of b) × c).