Supporting Information

Fano-Resonant Aluminum and Gold Nanostructures Created with a Tunable, Up-Scalable Process

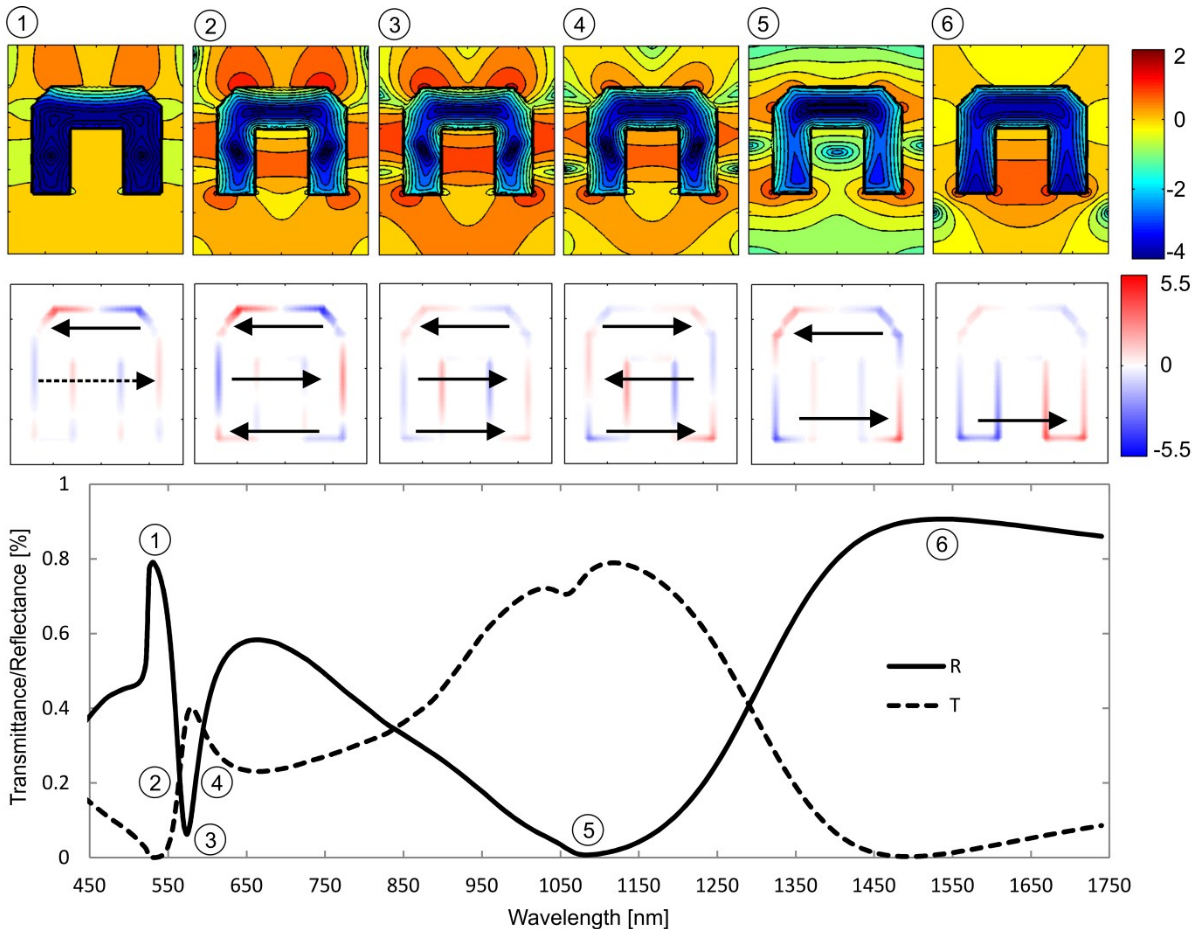

Figure S1: SIE simulations of the reflected (solid line) and transmitted (dashed line) far-fields (bottom) are shown together with the computed near-fields (top) and charge distributions (middle) at selected spectral positions for 90 nm aluminum evaporated at each side of the grating.

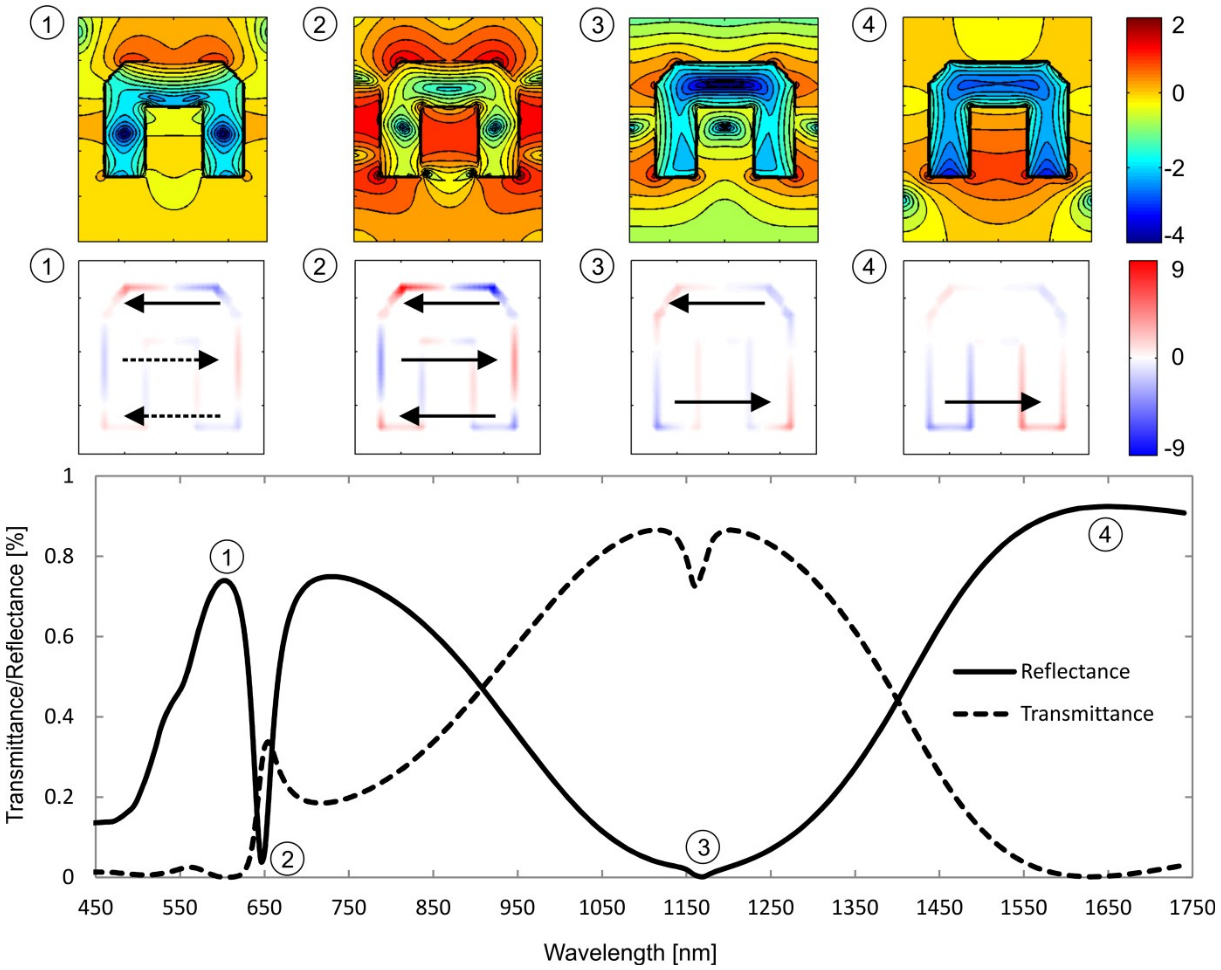

Figure S2: SIE simulations of the reflected (solid line) and transmitted (dashed line) far-fields (bottom) are shown together with the computed near-fields (top) and charge distributions (middle) at selected spectral positions for 90 nm gold evaporated at each side of the grating.

Positions 3 (at λ = 1170 nm) and 4 (λ = 1650 nm) in Figure S2 correspond to the lower order plasmonic modes, with two maxima and a single maximum between the structures respectively. A quadrupole with enhanced absorbance is formed at Position 3 and a radiative dipole is visible at Position 4. The charges are weaker for theses modes, which accounts for the decreased losses (absorbance) when compared to the hexapolar mode.

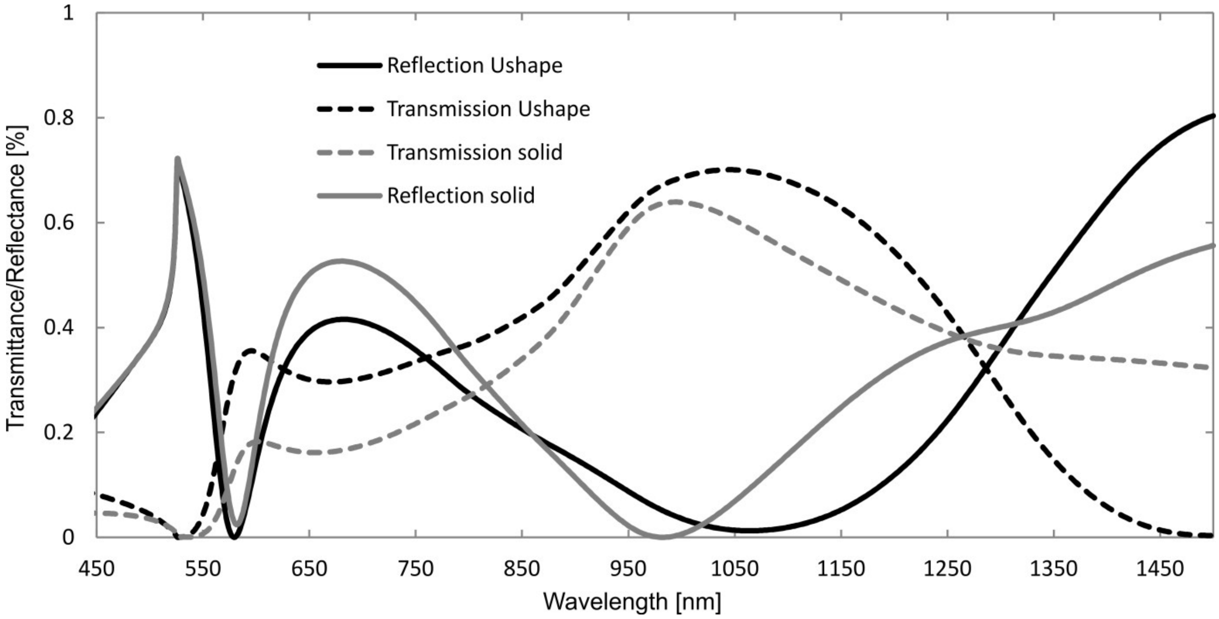

Figure S3: Comparison of the optical properties of U-shaped wires and solid aluminum wires (missing the backside groove)

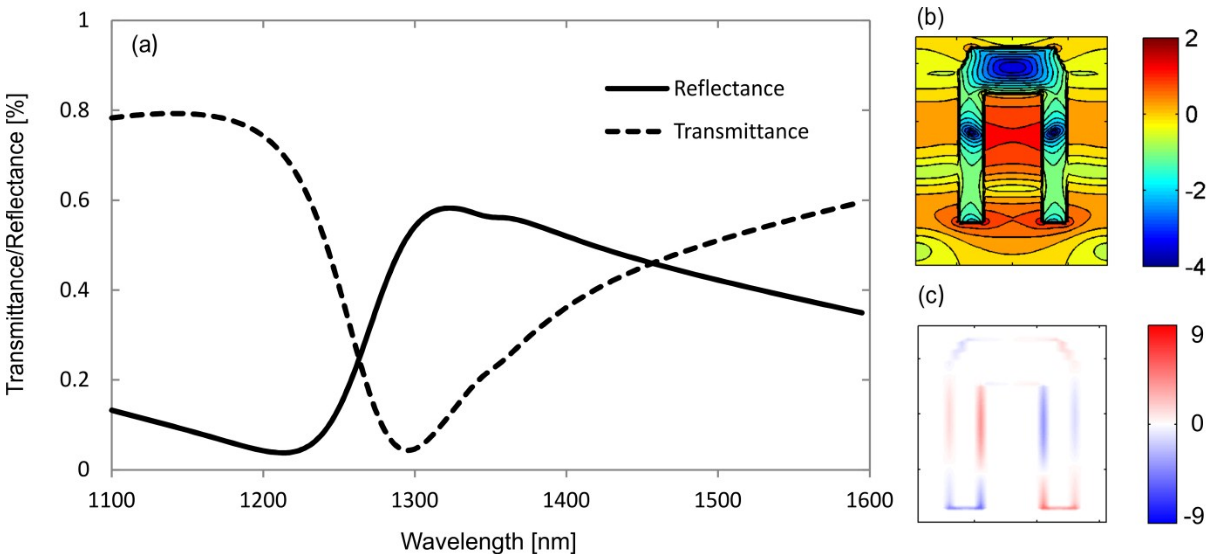

Figure S4: A Part of the spectrum for the 450 nm deep gold structure from Figure 4 is shown (a) together with the near-field (b) and charge distribution (c) at the reflectance maximum.