

Supporting Information

Nanocone-based Plasmonic Metamaterials

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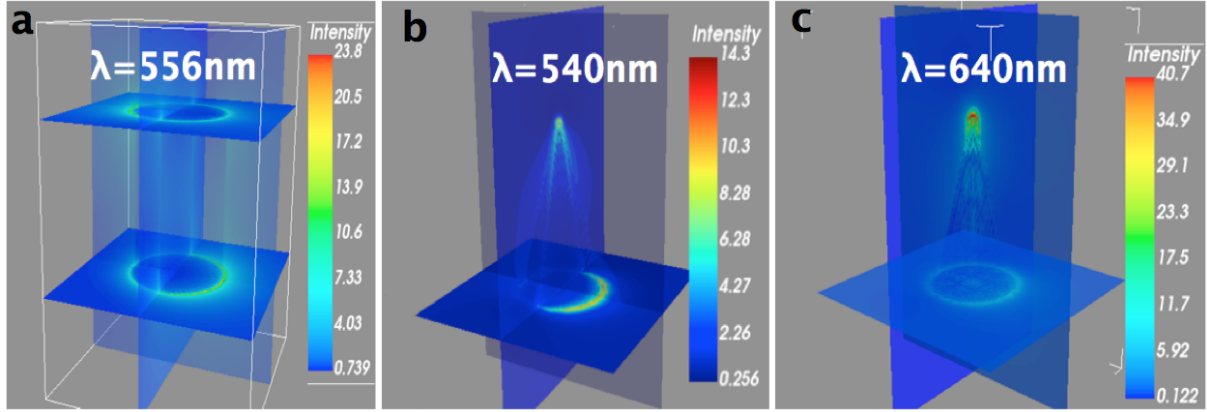


Figure S1. Calculated near-field intensity maps at the resonant conditions for an isolated nanorod and a nanocone at oblique incidence (cf. Figure 5b,e).

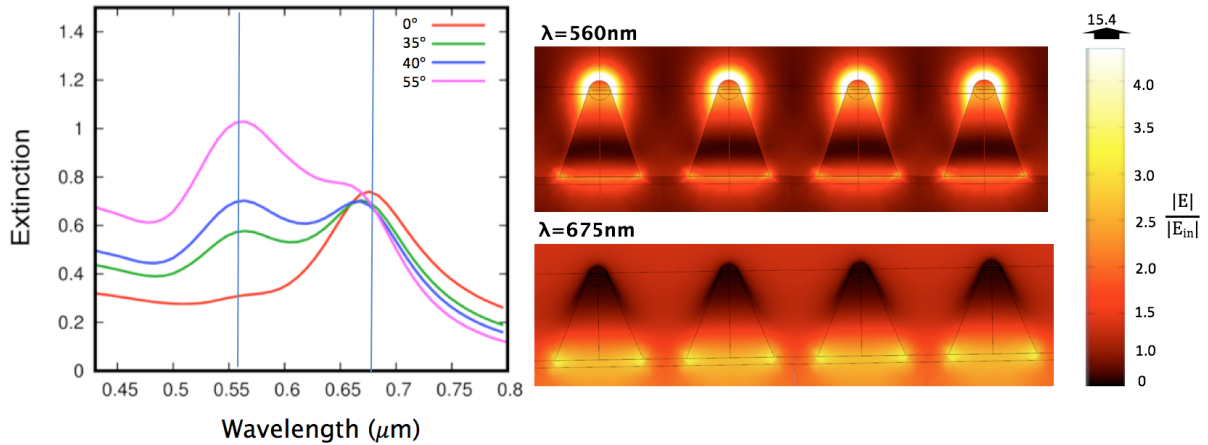


Figure S2. (a) Simulated extinction spectra of an infinite array of nanocones having a 60 nm diameter and a 70 nm length with a periodicity of 100 nm, illuminated by a p -polarized plane wave at various incident angles. (b) Near-field maps at the resonance conditions indicated in (a).

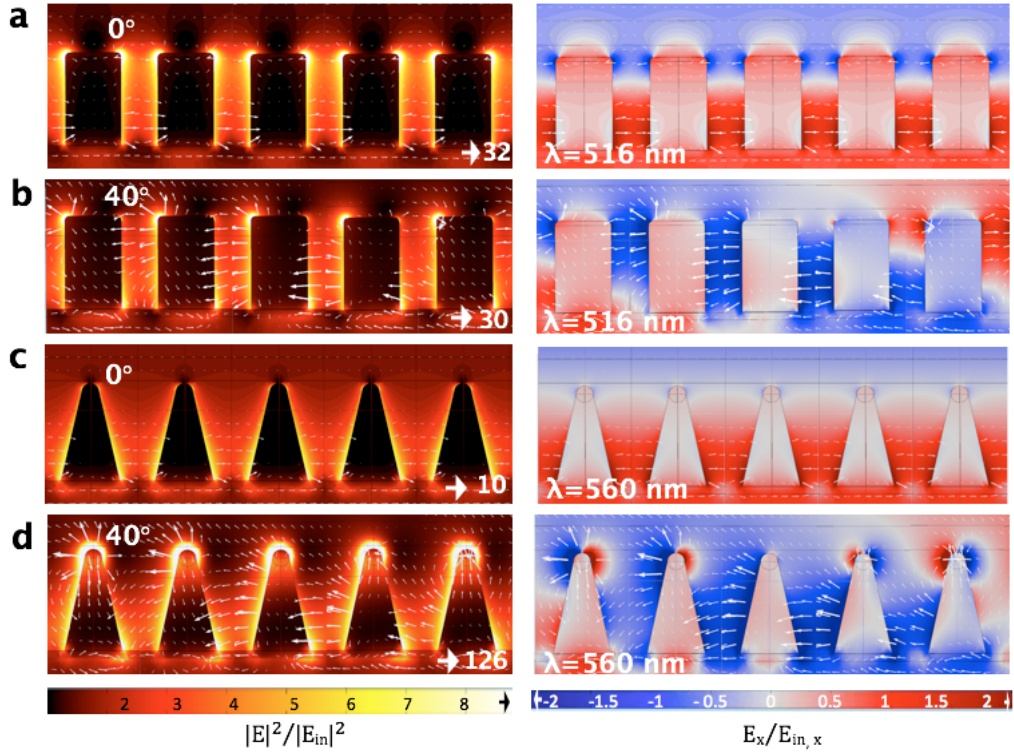


Figure S3. Maps of the near field intensity (left) and E_x component of the field (right) corresponding to the maximum of the extinction for the nanorod (a,b) and nancone (c,d) metamaterials shown in Figure 6a. The arrows of the norm electric field for all geometries.

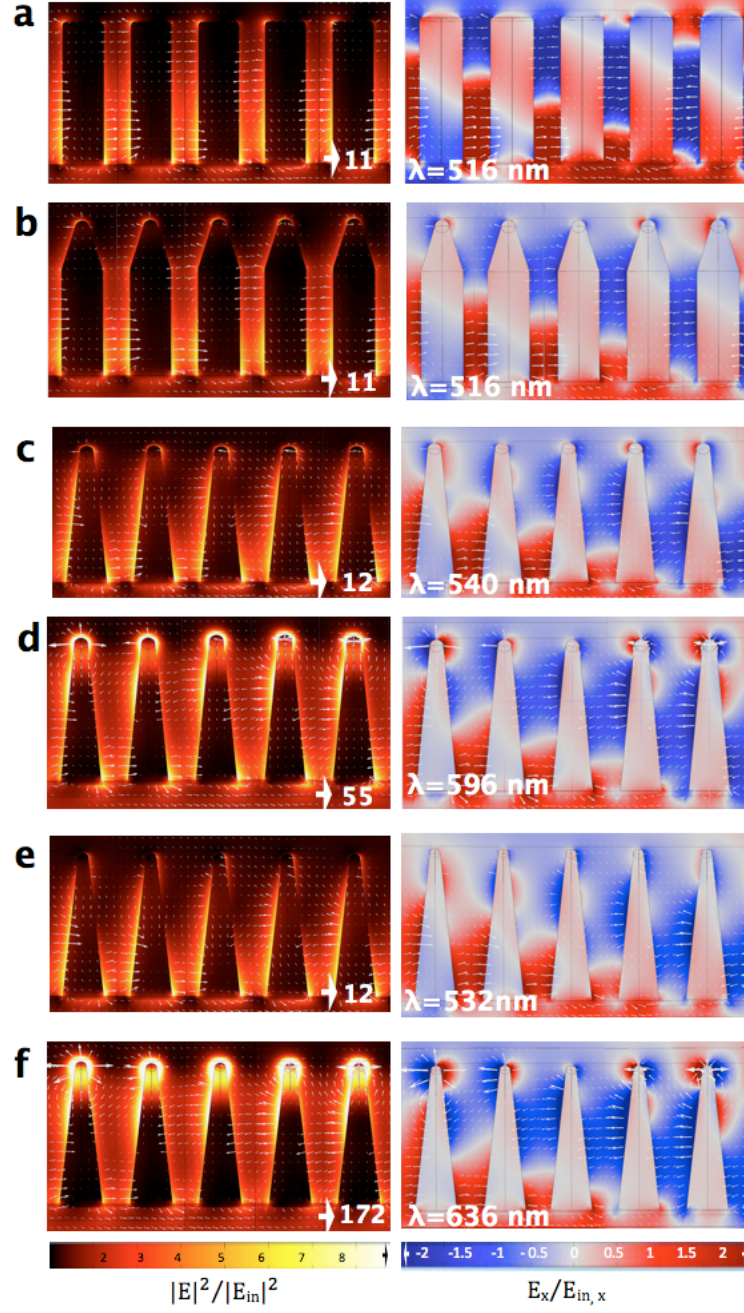


Figure S4. Maps of (left) the near field intensity and (right) E_x component of the field corresponding to the maximum of extinction for (a) nanorod, (b) nanocylinder and (c-h) nanocone metamaterials with the apex of (c,d) 20 nm and (e,f) 15 nm (cf. Figure 6c). The resonant wavelengths are shown in the panels. The arrows of the norm electric field for all geometries.

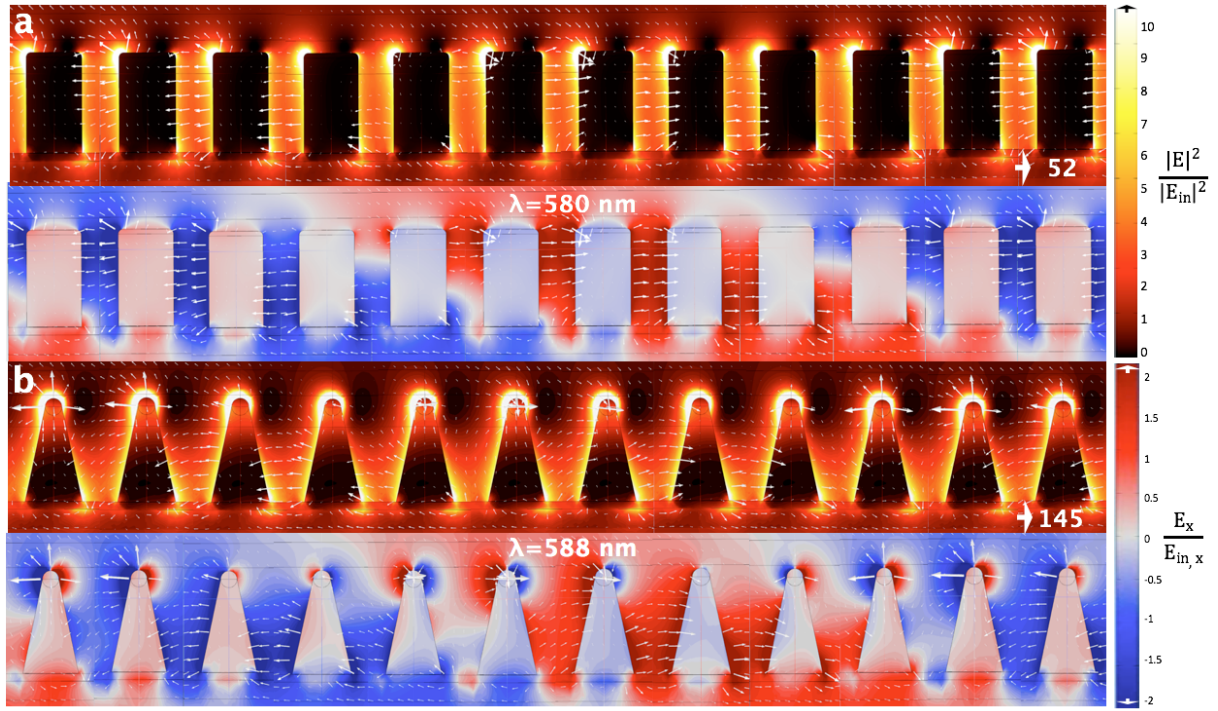


Figure S5. Maps of the near field intensity (top) and E_x component of the field (bottom) corresponding to the maximum field intensity enhancement for (a) the nanorod and (b) the nancone metamaterials (60 nm diameter, 240 nm length, apex radius 10 nm) at 580 nm and 588 nm wavelengths, respectively. The metamaterials are illuminated from the substrate by a p -polarized plane wave at 40° .

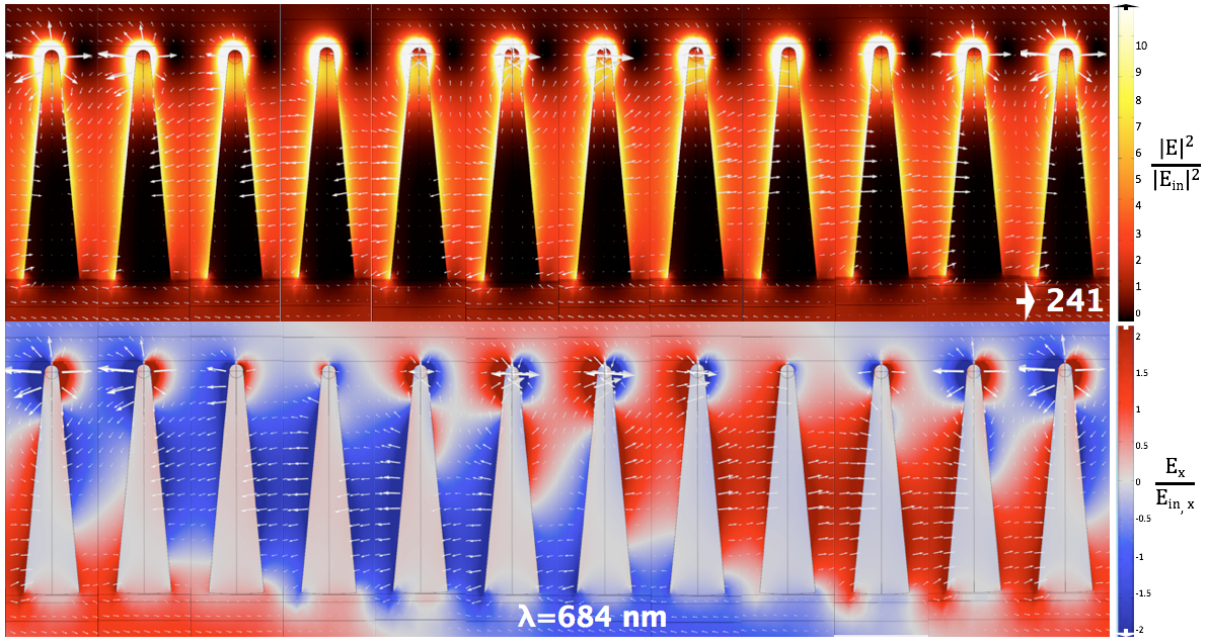


Figure S6. Maps of the near field intensity (top) and E_x component of the field (bottom) corresponding to the maximum intensity enhancement (684 nm wavelength) for the nancone metamaterial with the apex of 7.5 nm radius (60 nm diameter cone base, 240 nm cone length). The metamaterial is illuminated from the substrate by a p -polarized plane wave at 40° .