

Supplementary Information

Figure S1. XRD spectra of unsintered (as-deposited) and sintered (after 3 pulses and 6 pulses) films for (A) 25% NW content (B) 75% NW content.



(A)

(B)

(C)



(F)



(G) (H) (I)

(J)



Figure S2. SEM images of (A) 0% NW unsintered (B) 0% NW after 3 IPL pulses (C) 0% NW after 6 IPL pulses (D) 25% NW unsintered (E) 25% NW after 3 IPL pulses (F) 25% NW after 6 IPL pulses (G) 50% NW unsintered (H) 50% NW after 3 IPL pulses (I) 50% NW after 6 IPL pulses (J) 75% NW unsintered (K) 75% NW after 3 IPL pulses (L) 75% NW after 6 IPL pulses (M) 100% NW unsintered (N) 100% NW after 3 IPL pulses (O) 100% NW after 6 IPL pulses.



Figure S3. Optical reflectance spectra for as-deposited and post-IPL films consisting of (A) 0% Nanowires (B) 25% Nanowires (C) 50% Nanowires (D) 75% Nanowires (E) 100% NW content.

Figure S4. Contours of thermal power dissipated per unit volume of solid material (in W/m³) at 400 nm under a unit incident electric field and with c = 8 nm for (A) 2 NW-9 NPs (B) 2 NW-4 NPs cases . Images not to geometric scale.

(A)

(B)

Figure S5. Computationally predicted optical absorption curves at different values of geometric parameter *c* for (A) Only NPs ensemble (B) 2 NW-9 NPs ensemble (C) 2 NW-4 NPs ensemble (D) Only NWs ensemble.