Electronic Supplementary Information for

Plasmonic Nanoscale Temperature Shaping on a Single Titanium Nitride Nanostructure

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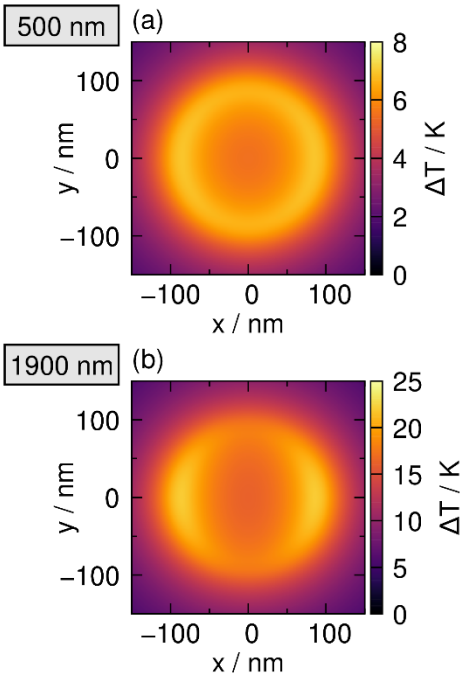

Figure S1. Temperature distributions around an Au nanoring under illumination at a wavelength of 500 nm (a) and 1900 nm (b). The numerical simulations were performed in the same manner as shown Fig. 3c and -f; only the thermal conductivity of the nanoring was replaced from TiN to gold.

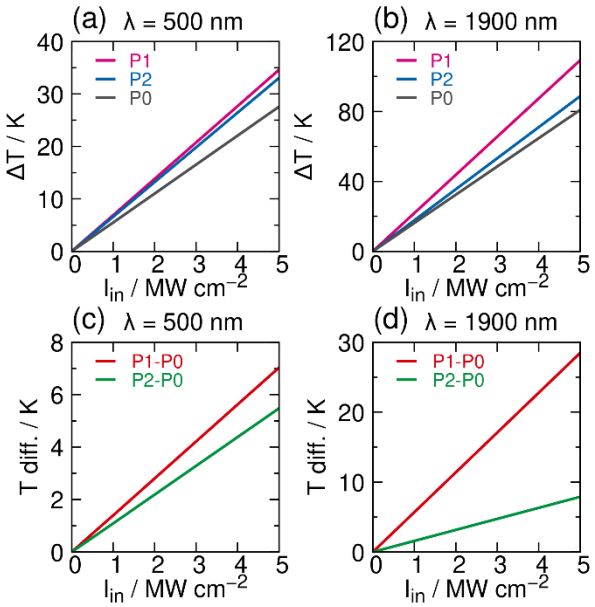

Fig S2. Temperature increase at specific locations around the Au nanoring as a function of light intensity. The numerical simulations were performed in the same manner as shown Fig. 4; only the thermal conductivity of nanoring was replaced from TiN to gold. (a)(b) Temperature increase $\Delta T(\mathbf{r}) = T(\mathbf{r}) - T_{amb}$ at the location $\mathbf{r}$ = P0, P1, and P2. (c)(d) Temperature difference from $T(\mathbf{r}$ = P0) to $T(\mathbf{r}$ = P1) and $T(\mathbf{r}$ = P2). Excitation wavelengths were (a)(c) 500 nm and (c)(d) 1900 nm, respectively.

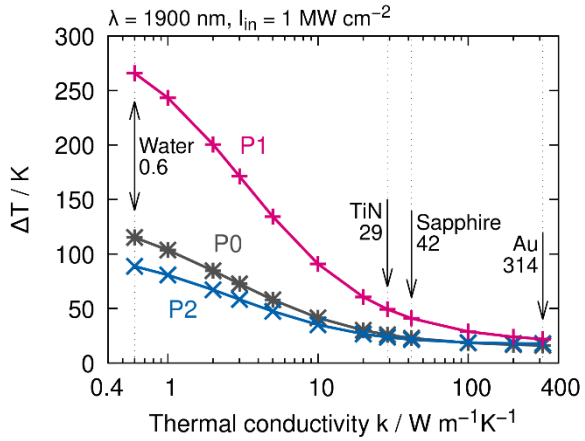

Fig S3. Temperature increase ΔT at P1, P2, and P0 in Fig. 4 as a function of the thermal conductivity k of nanoring. The dashed lines indicated the thermal conductivity [W $m^{-1}K^{-1}$] of materials employed in this study. The k was swept from 0.6 W $m^{-1}K^{-1}$ to 314 W $m^{-1}K^{-1}$; the results at k = 29 and 314 W $m^{-1}K^{-1}$ were corresponding to Fig. 4 and Fig. S2, respectively.