

Supporting Information

Photoinduced Enhanced Raman from Lithium

Niobate on Insulator Template

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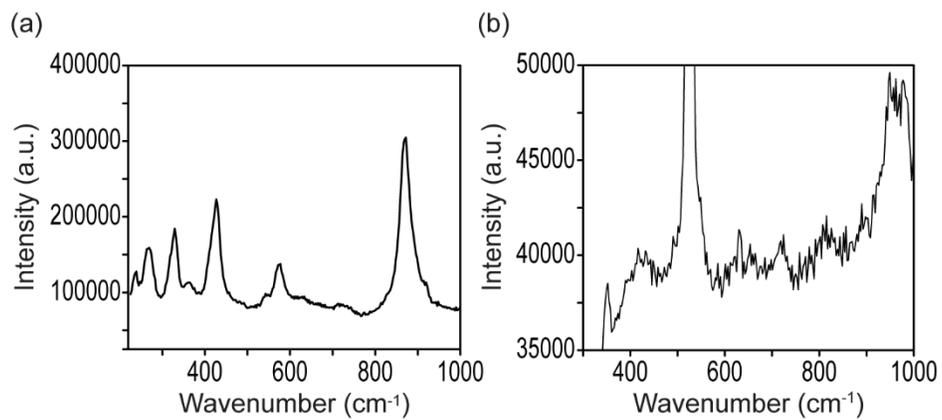


Figure S1. Raman spectra from (a) uniform x-cut LN-Ag-4ABT and (b) x-cut LNOI-Ag-4ABT. The full data range for (b) can be seen in Figure 1c(i).

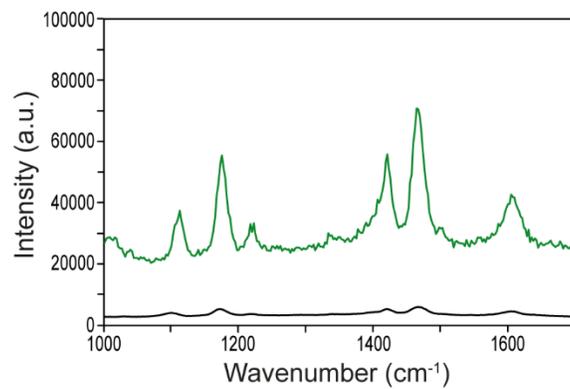


Figure S2. Raman spectra of 4ABT on x-cut LNOI (green) and on uniform x-cut LN (black) in the absence of Ag nanoparticles.

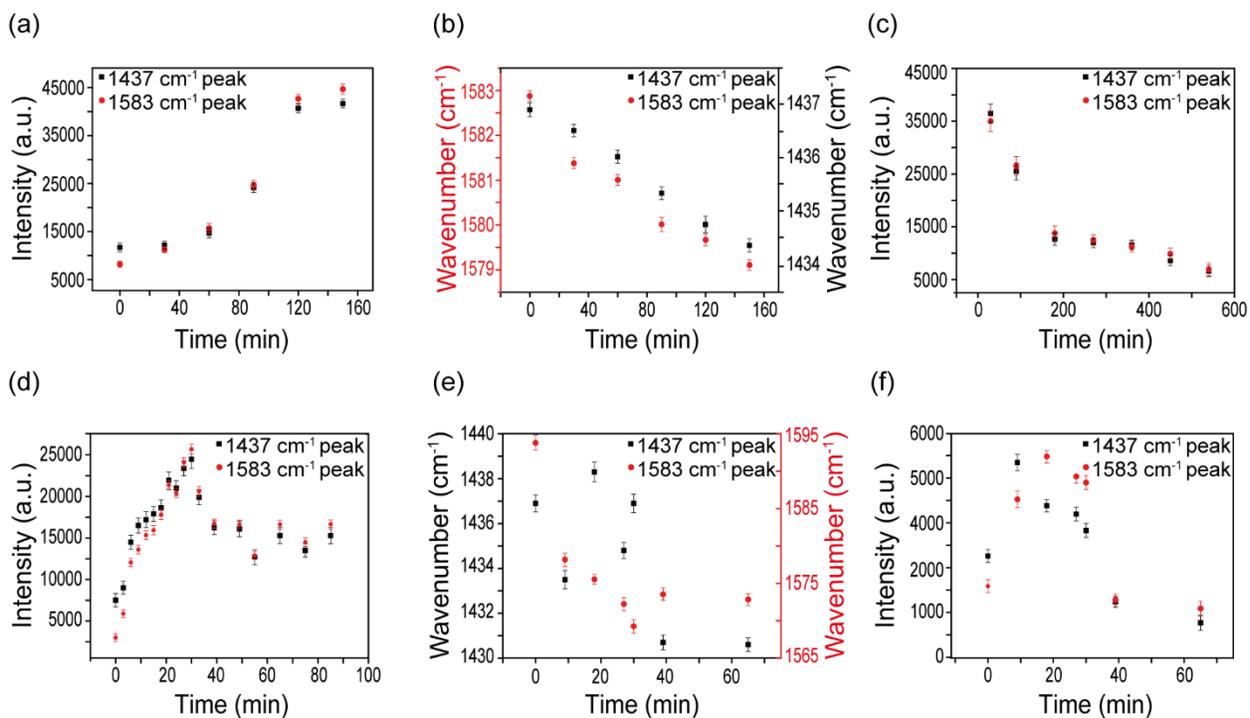


Figure S3. (a) Intensity and (b) shift of the 1583 cm⁻¹ and 1437 cm⁻¹ bands with increasing irradiation time for x-cut LNOI-Ag-4ABT (substrate irradiation). (c) Relaxation of the intensity of the 1583 cm⁻¹ and 1437 cm⁻¹ bands following 150 minutes of substrate irradiation for x-cut LNOI-Ag-4ABT. (d) Intensity and (e) shift of the 1583 cm⁻¹ and 1437 cm⁻¹ bands with increasing irradiation time for x-cut LNOI-Ag-4ABT (sample irradiation). (f) Background-subtracted intensity of the 1583 cm⁻¹ and 1437 cm⁻¹ bands with increasing sample irradiation time for x-cut LNOI-Ag-4ABT.

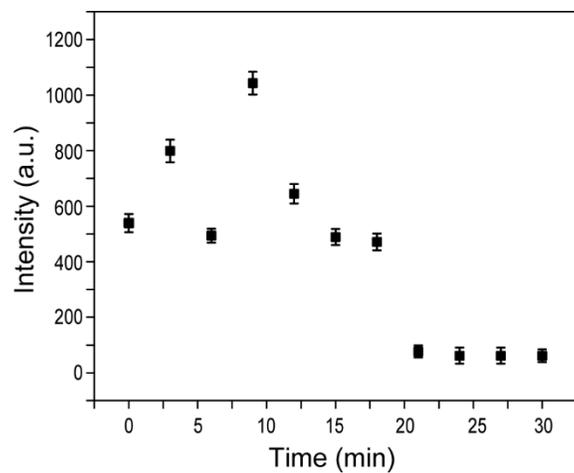


Figure S4. Background-subtracted intensity for the 1583 cm^{-1} band for sample irradiation for x-cut LNOI-4ABT without Ag nanoparticles.

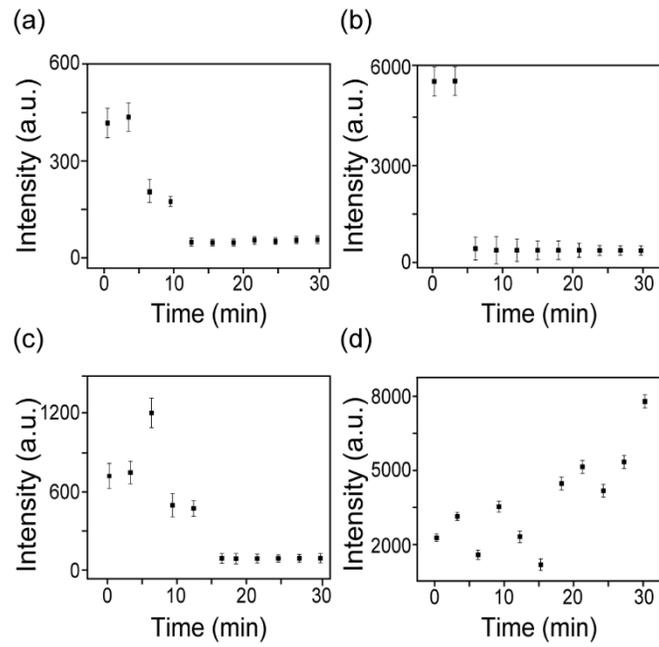


Figure S5. Background-subtracted intensity for the 1583 cm^{-1} band for sample irradiation for (a) uniform x-cut LN-Ag-4ABT, (b) $-z$ PPELN-Ag-4ABT, (c) unetched y-cut LNOI-Ag-4ABT, and (d) etched x-cut LNOI-Ag-4ABT.

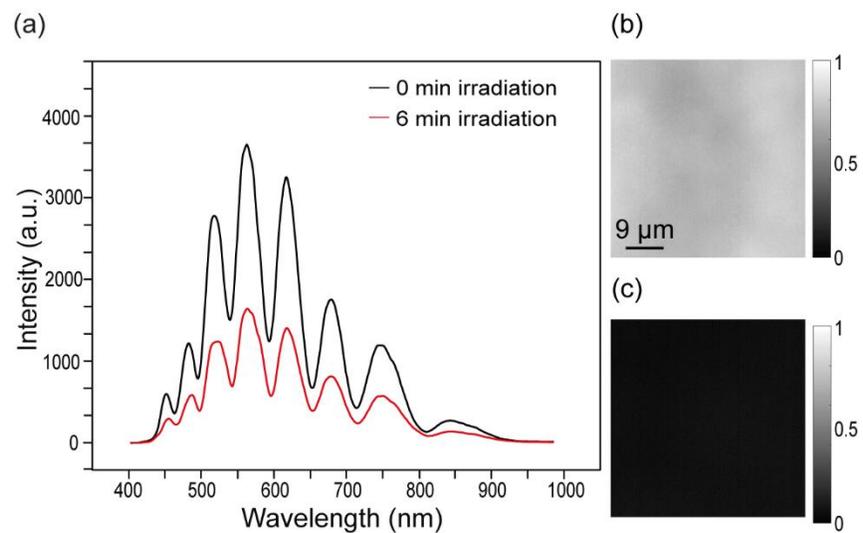


Figure S6. (a) Reflectance intensity recorded for unetched y-cut LNOI-Ag before and after 6 minutes of UV irradiation. Normalized hyperspectral images (b) before and (c) after 6 minutes of UV irradiation.

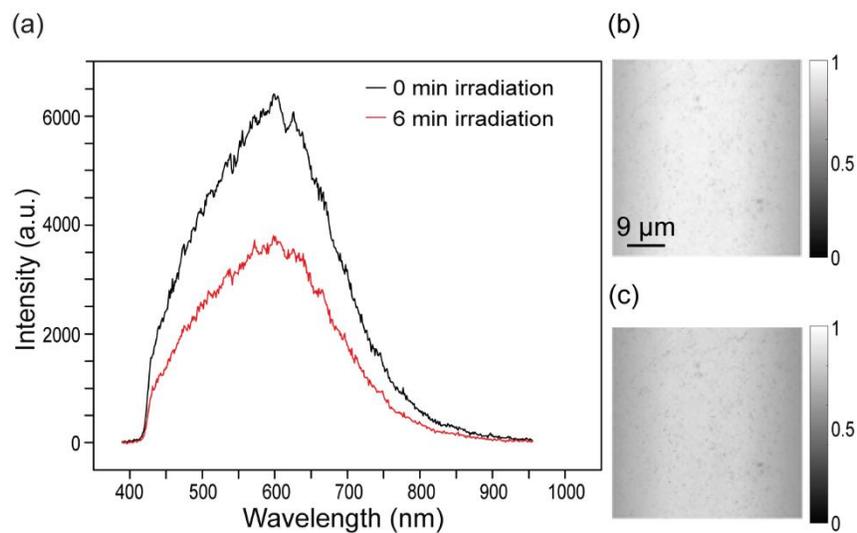


Figure S7. (a) Reflectance intensity recorded for uniform x-cut LN-Ag before and after 6 minutes of UV irradiation. Normalized hyperspectral images (b) before and (c) after 6 minutes of UV irradiation.

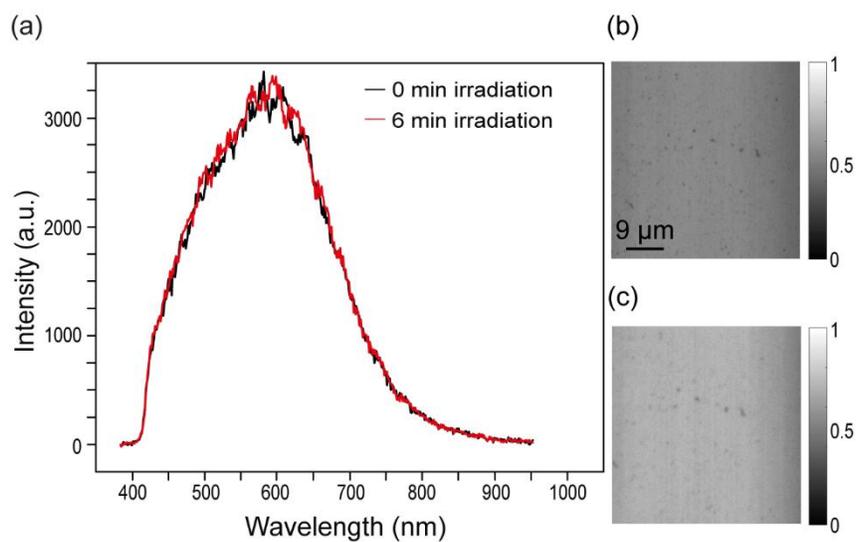


Figure S8. (a) Reflectance intensity recorded for $-z$ PPELN before and after 6 minutes of UV irradiation. Normalized hyperspectral images (b) before and (c) after 6 minutes of UV irradiation.