

Supplementary information for
Plasmon-induced nonlinear response of silver atomic chains

Lei Yan, Mengxue Guan and Sheng Meng*

*Beijing National Laboratory for Condensed Matter Physics and Institute of Physics,
Chinese Academy of Sciences, Beijing 100190, China*

*Corresponding authors: smeng@iphy.ac.cn

This file contains:
Fig.S1 to Fig. S3

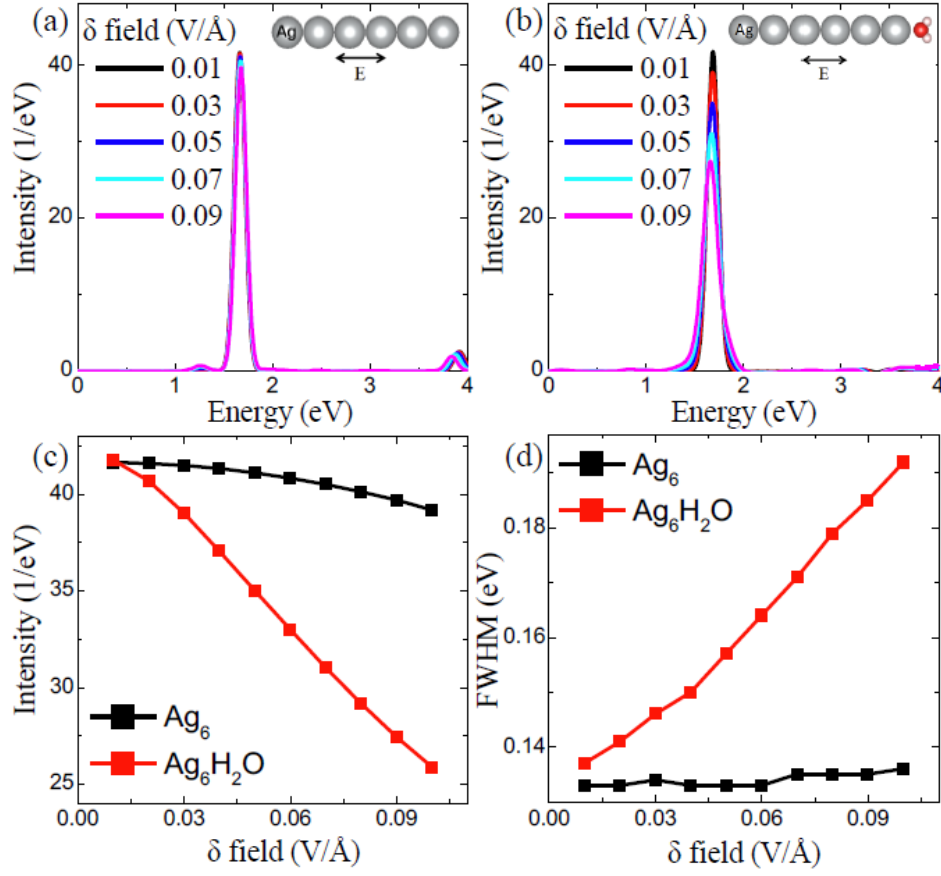


FIG. S1. (a) Absorption spectrum of a linear silver chain Ag_6 (a) and $\text{Ag}_6\text{H}_2\text{O}$ (b), induced by an impulse field with intensity $E_0 = 0.01, 0.03, 0.05, 0.07, 0.09$ V/Å. Comparison of peak intensity (c) and full width at half-maximum (FWHM) (d) in the absorption spectra with varying laser field strength for Ag_6 and $\text{Ag}_6\text{H}_2\text{O}$.

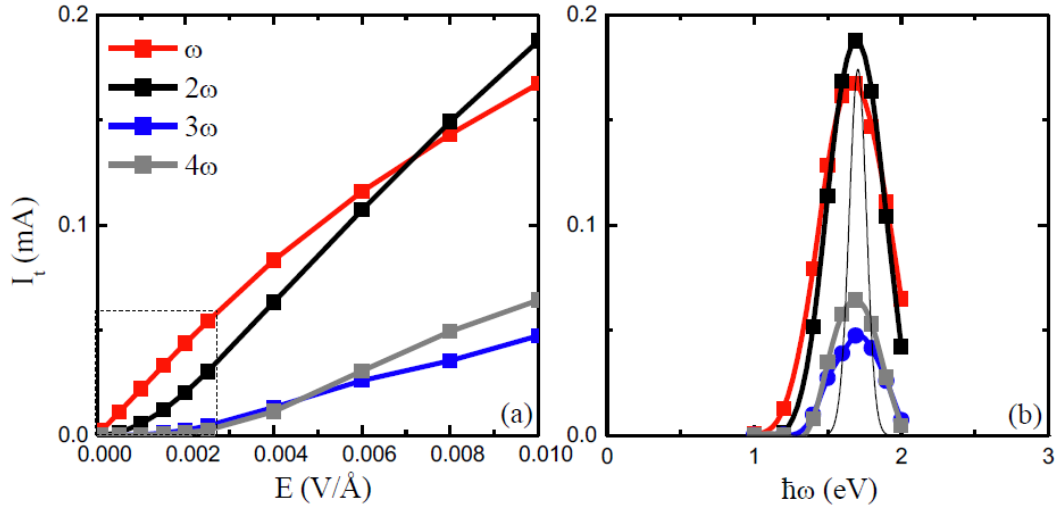


FIG. S2. Peak intensity in tunneling current spectrum of $\text{Ag}_6\text{H}_2\text{O}$ under laser illumination with a resonant frequency $\hbar\omega = 1.69$ eV and $E_{\text{max}} = 0.01$ $\text{V}/\text{\AA}$ for the first (ω), second (2ω), third (3ω), fourth-order (4ω) response, as a function of (a) laser intensity and (b) frequency $\hbar\omega$. Thin line in panel (b) is the absorption spectrum for $\text{Ag}_6\text{H}_2\text{O}$.

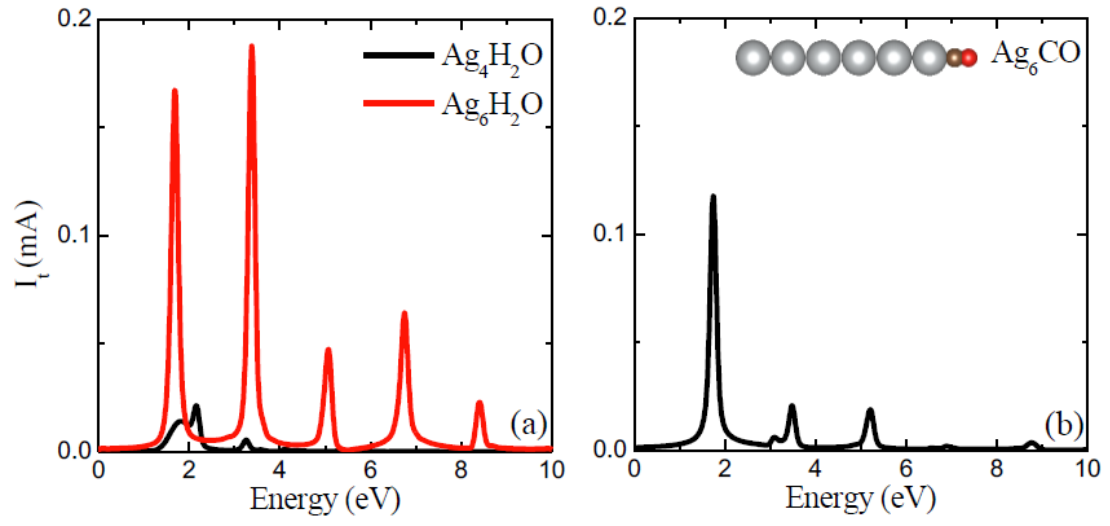


FIG. S3. Tunneling current spectrum for $\text{Ag}_4\text{H}_2\text{O}$, $\text{Ag}_6\text{H}_2\text{O}$ (a), and Ag_6CO (b), when driven by the laser pulse shown in Fig. 3(a).