We provide the complex dielectric function in plain text files for each of the four metals presented in the paper. The files X_ReEpsilon.dat and X_ImEpsilon.dat, for X = Al, Ag, Au or Cu, contain Im(ε(ω, T_e)) and Re(ε(ω, T_e)) respectively for a uniform grid of frequencies (ω) and electron temperatures (T_e). The first row of each text file indicates T_e in Kelvin for each column of dielectric data. The first column of each text file indicates ω in eV for each row of dielectric data.

Figures 1-3 show the \textit{ab initio} dielectric functions at electron temperatures of 400, 1000 and 5000 K compared to 300 K. As electron temperature increases, features in the dielectric functions become increasingly broad. Note that the change in dielectric function (relative to 300 K) is not noticeable on the scale of the dielectric functions for all but the highest temperatures; we therefore directly plot the changes in dielectric functions in the main text.