

- (b) Legend for the dielectric characteristics plot:
- RLC-Blue
 - RLC-Red
 - RLC-Red+VUV
 - RLC-Green
 - RLC-Green+VUV
 - ⊙ RLC-VUV
 - RLC-Yellow
 - ⊙ RLC-Yellow+VUV

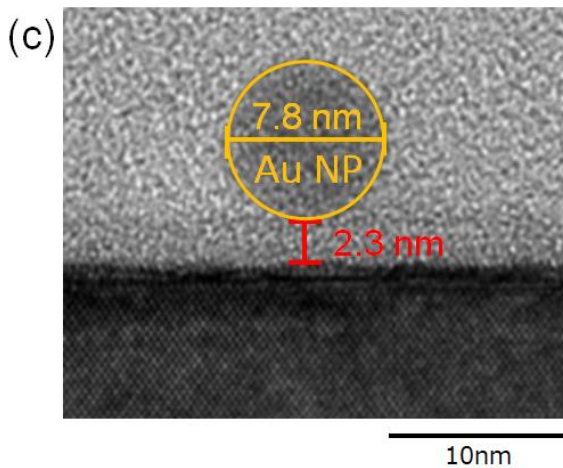
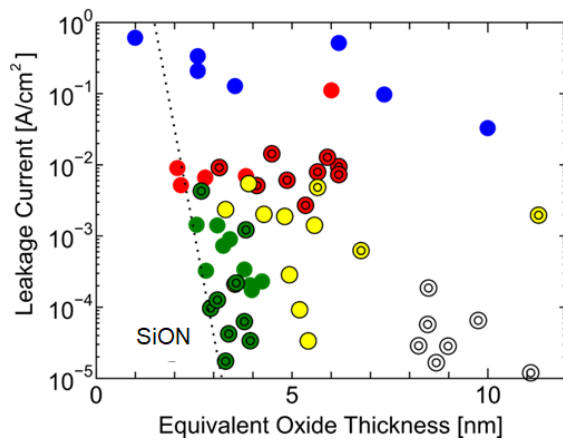


Figure 1. (a) Apparatus of a plasmonic plasma process using gold nanoparticles on the substrate. The wavelength of the LED light source for plasmon excitation was controlled by a filter and mixed with plasma VUV light. (b) Dielectric characteristics of 5-minute treated SiON film for each light irradiation conditions. (c) Cross-sectional TEM image of SiON film after plasmonic process. Uniformity of the SiON film is confirmed around the gold nanoparticle.