



Supplementary Information

# Utilizing Gold Nanoparticle Decoration for Enhanced UV Photodetection in CdS Thin Films Fabricated by Pulsed Laser Deposition: Exploiting Plasmon-Induced Effects

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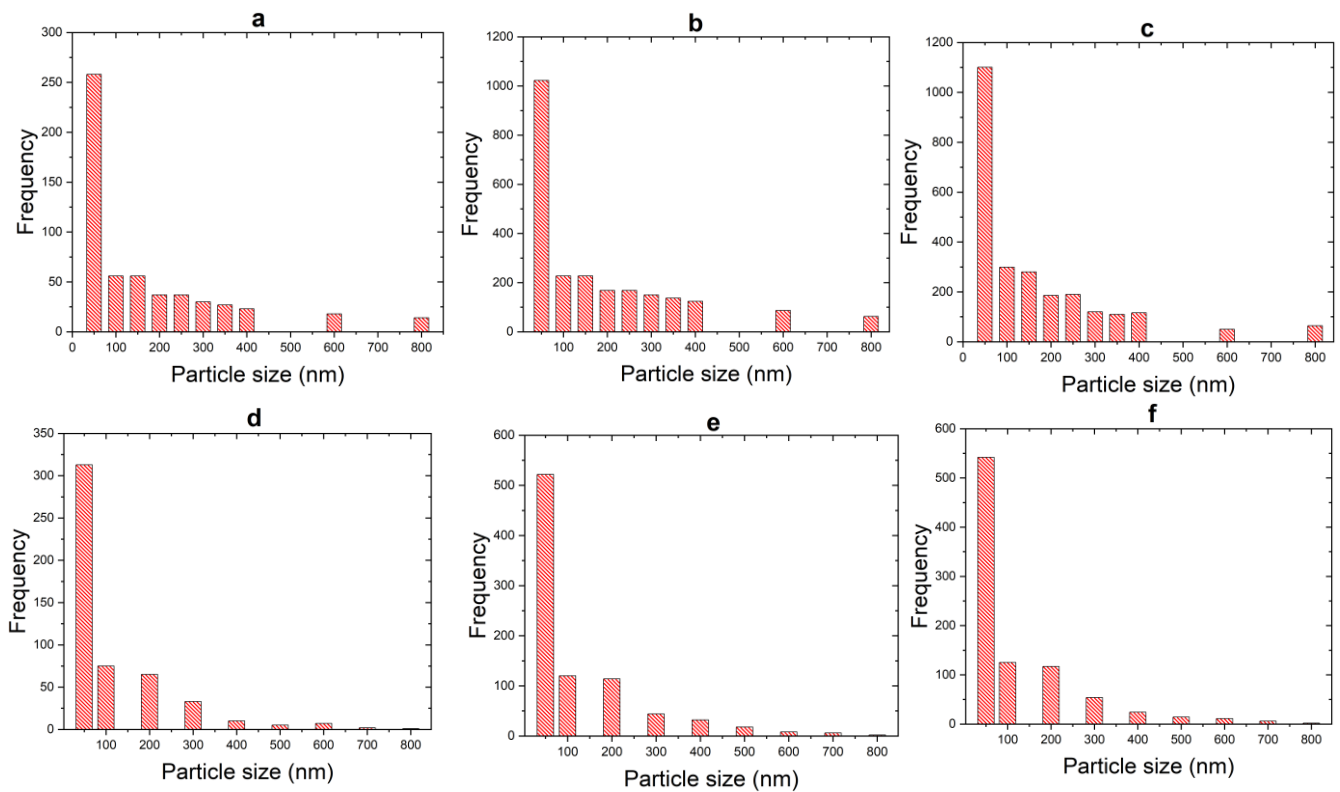
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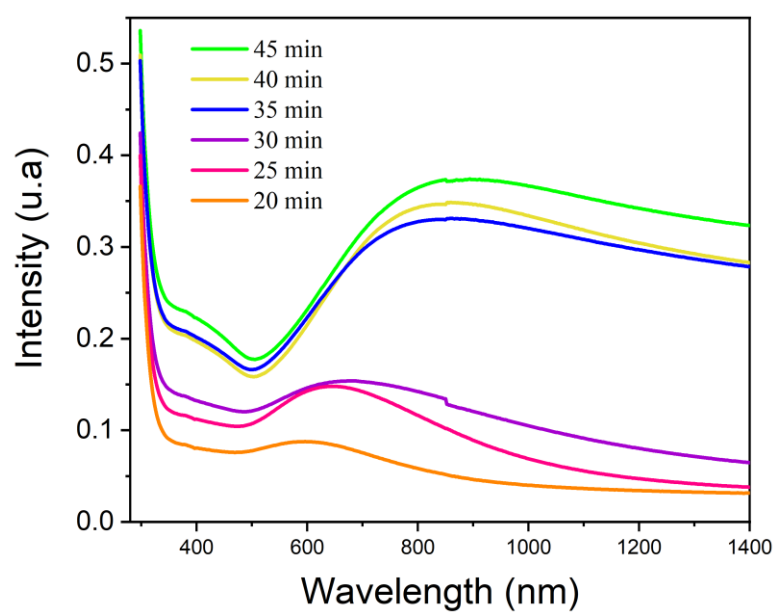
**Figure S1.** The used PLD system.



**Figure S2.** Photographic image of CdS thin film sample with Silver (Ag) Electrodes.



**Figure S3.** Frequency distribution of nanoparticle sizes for samples S1-S6, labeled (a-f) respectively. This histogram represents the uniformity in particle sizes as determined by ImageJ analysis providing information on the surface distribution of nanoparticles.



**Figure S4.** UV-Visible Absorption Spectra for Gold Nanoparticles deposited with an energy of 20 mJ at Room Temperature for different deposition time.