SURFACE – ENHANCED RAMAN SCATTERING FROM A LAYER OF GOLD NANOPARTICLES

Nguyen The Binh, Nguyen Quang Dong, Nguyen Thanh Đinh, Vu Thi Khanh Thu

TÓM TẮT:

We studied to prepare gold nanoparticle substrate for SERS (Surface-Enhance Raman Scattering). Gold nanoparticles were produced by laser ablation of gold plate in ethanol. The average size of gold nanoparticles is 13nm. The gold nanoparticle colloid was allowed to dry on a silicon wafer to prepare SERS substrate. Using the gold nanoparticle substrates we could obtain SERS spectrum of Rhodamine 6G molecules adsorbed on gold nanoparticles. The Raman signal was enhanced strongly by our SERS substrate. This result demonstrates that the metal nanoparticles synthesized by laser ablation in clean liquid can be used to prepare SERS substrate for molecular detection in our laboratory.