

SE(R)RS devices fabricated by a laser electrodispersion method (ESI)

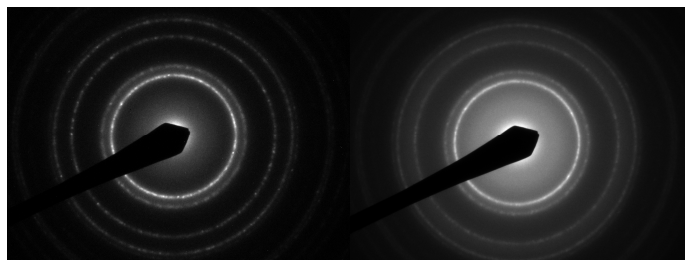


Fig. 1. Electron diffraction pattern of Au nanoparticles on carbon (left) and silicon (right) supports recorded in HR-TEM instrument.

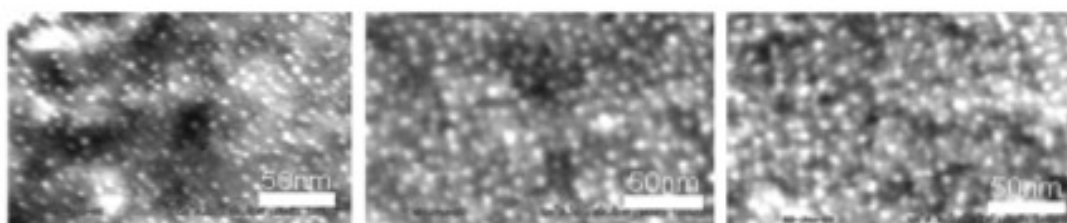


Fig. 2. FESEM images of the Au nanoparticles deposited on etched Si surface. Deposition times from left to right: 22 s, 45 s, 66 s.

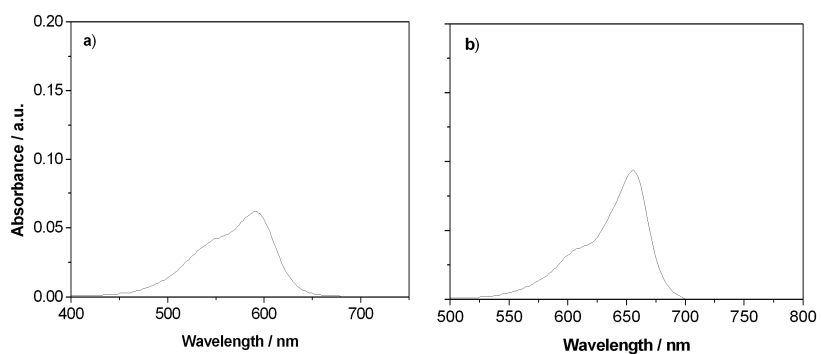


Fig. 3. UV-Vis spectra of a) crystal violet and b) methylene blue.

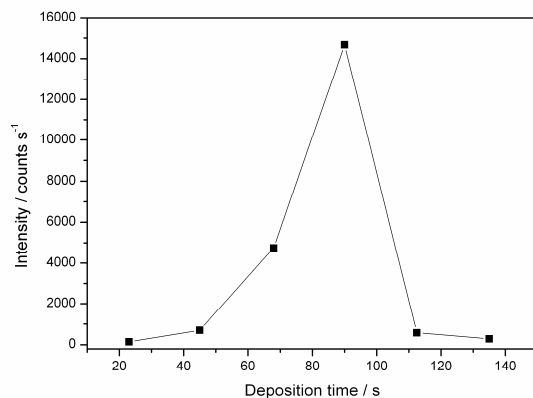


Fig. 4. Intensity of the band 1625 cm^{-1} of MB ($1\text{ }\mu\text{M}$) adsorbed on gold nanoparticles as a function of the amount of Au deposited. A sharp signal decrease at high deposition times is observed. Line has been drawn for the convenience of the eye.

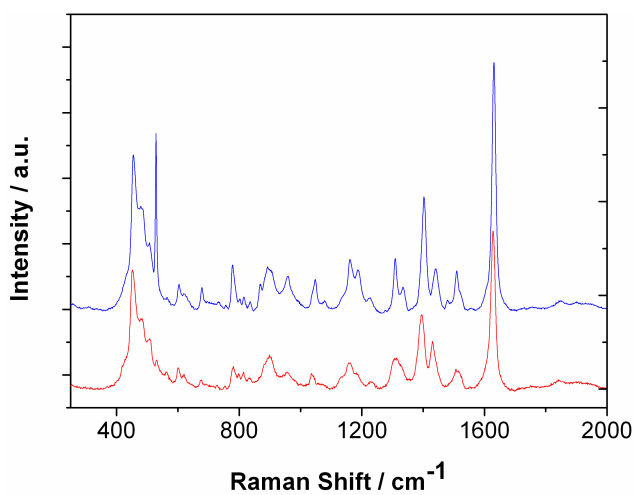


Fig. 5. Comparison of the Raman spectra of methylene blue and the SERRS spectra of methylene blue on Au nanoparticles deposited onto SiO_x substrate.

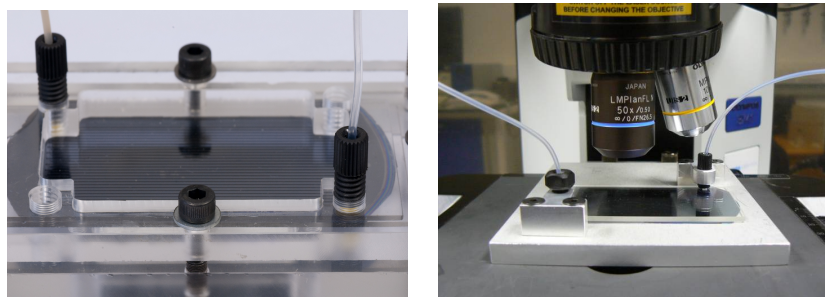


Fig. 6. Left: An image of a microreactor with the nanoparticles deposited in the bottom of the channels. Right: Experimental set-up for the SER(R)S measurements in continuous-flow.

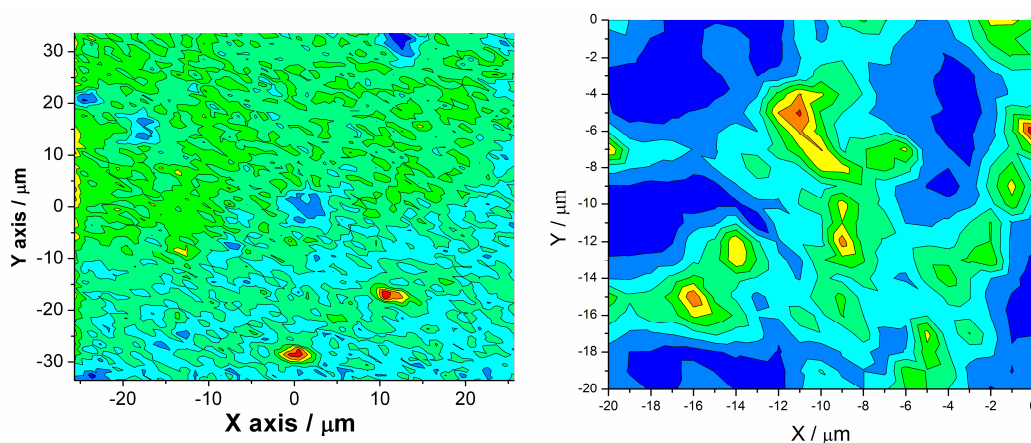


Fig. 7. Mapping experiments of the different surfaces containing deposited Au nanoparticles. Spectra recorded employing CV (1 μ M) solution. Left: Mapping of SERS signal of CV on the oxidized substrate (SiO_x) with Au nanoparticles deposited over 90 seconds. Right: Mapping of SERS signal of CV on Au nanoparticles deposited on the walls of the channels of the microreactor sealed by anodic bonding.

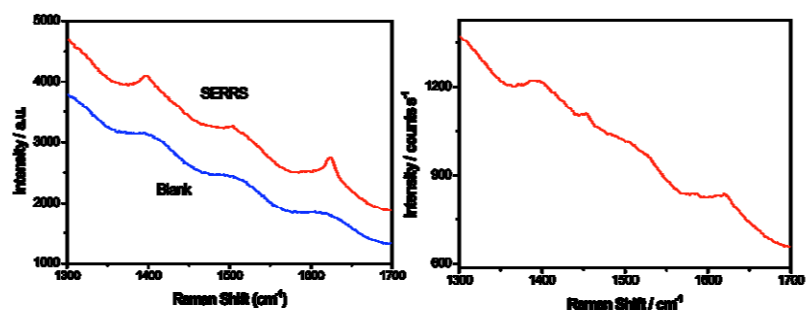


Fig. 8. SERRS spectra corresponding to 100 nM (left picture) and 10 nM (right picture) solution of MB in MeOH in glued microreactors at 1mW of laser power.