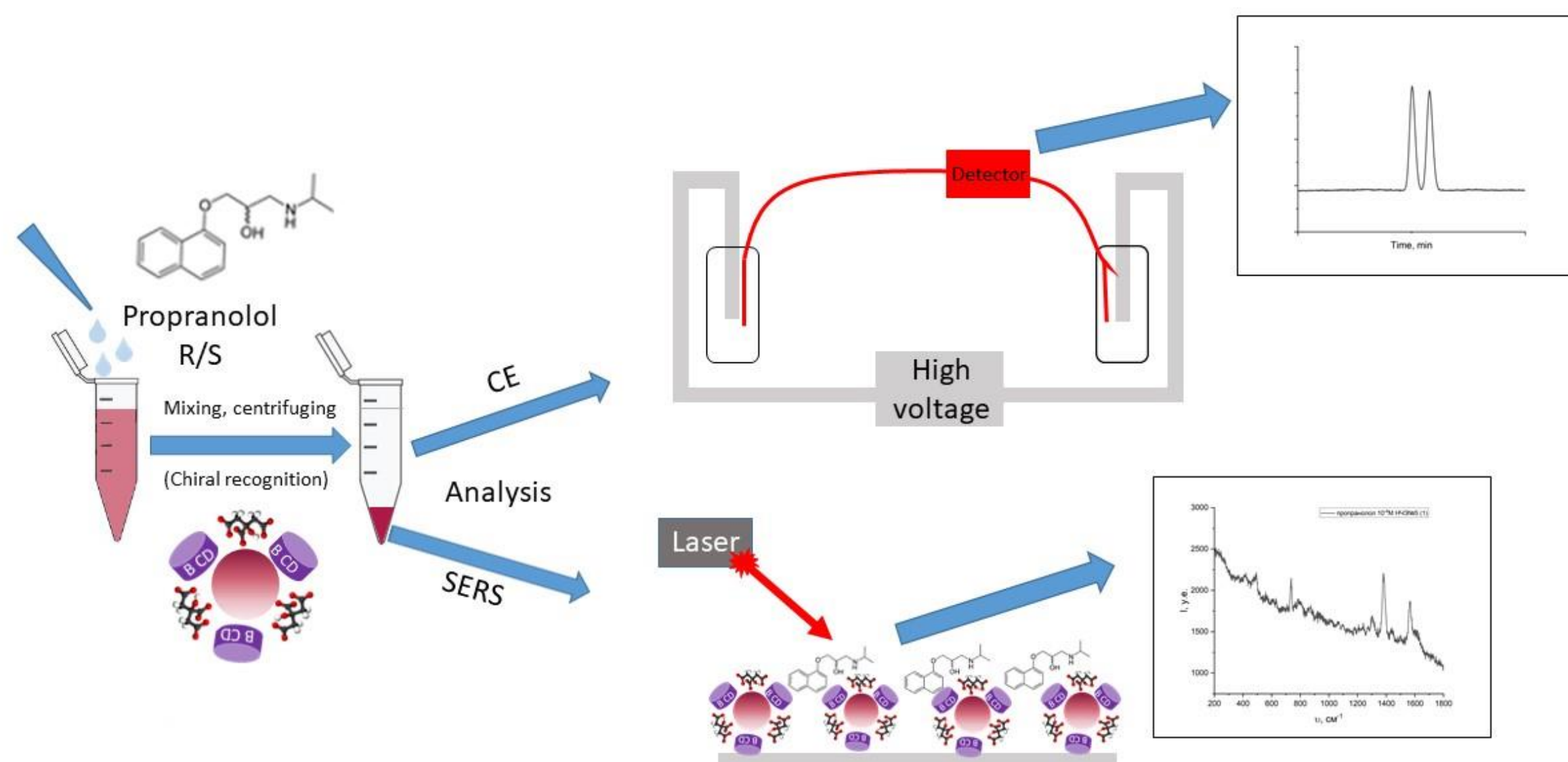
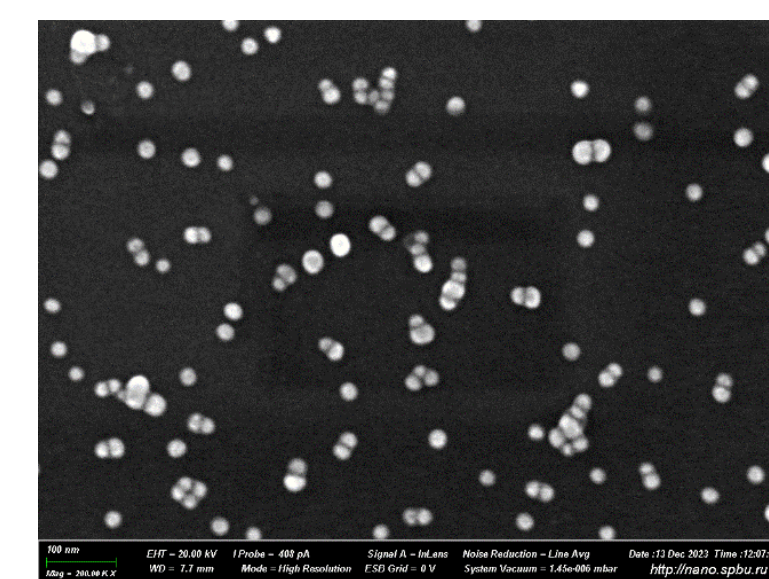


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## Problem statement



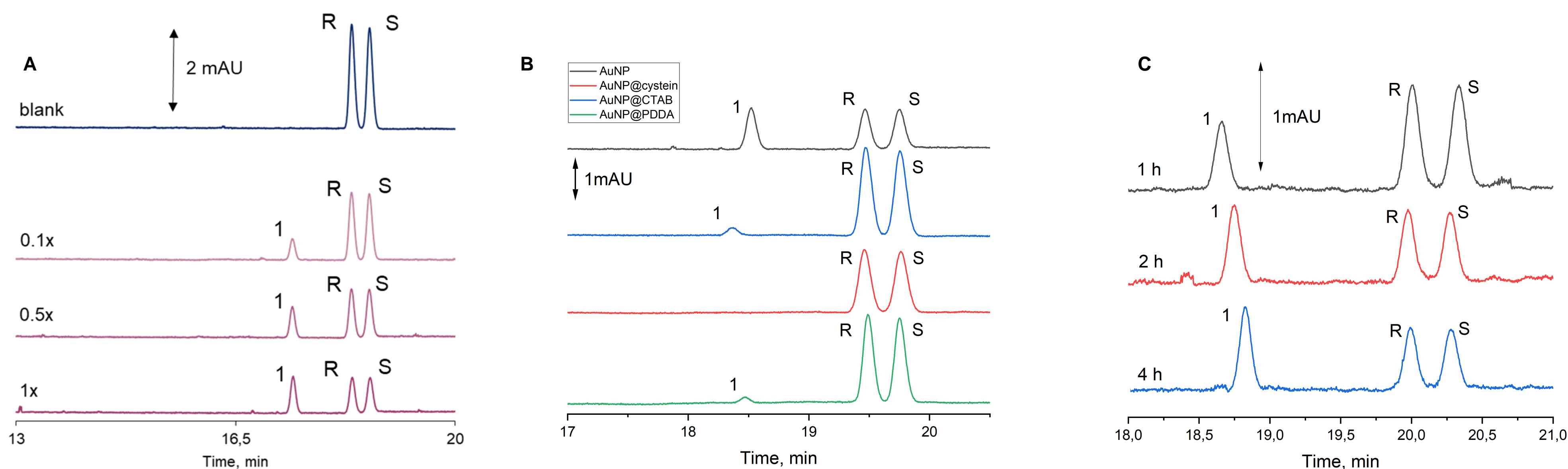
## Objects and methods



SEM image of gold nanoparticles

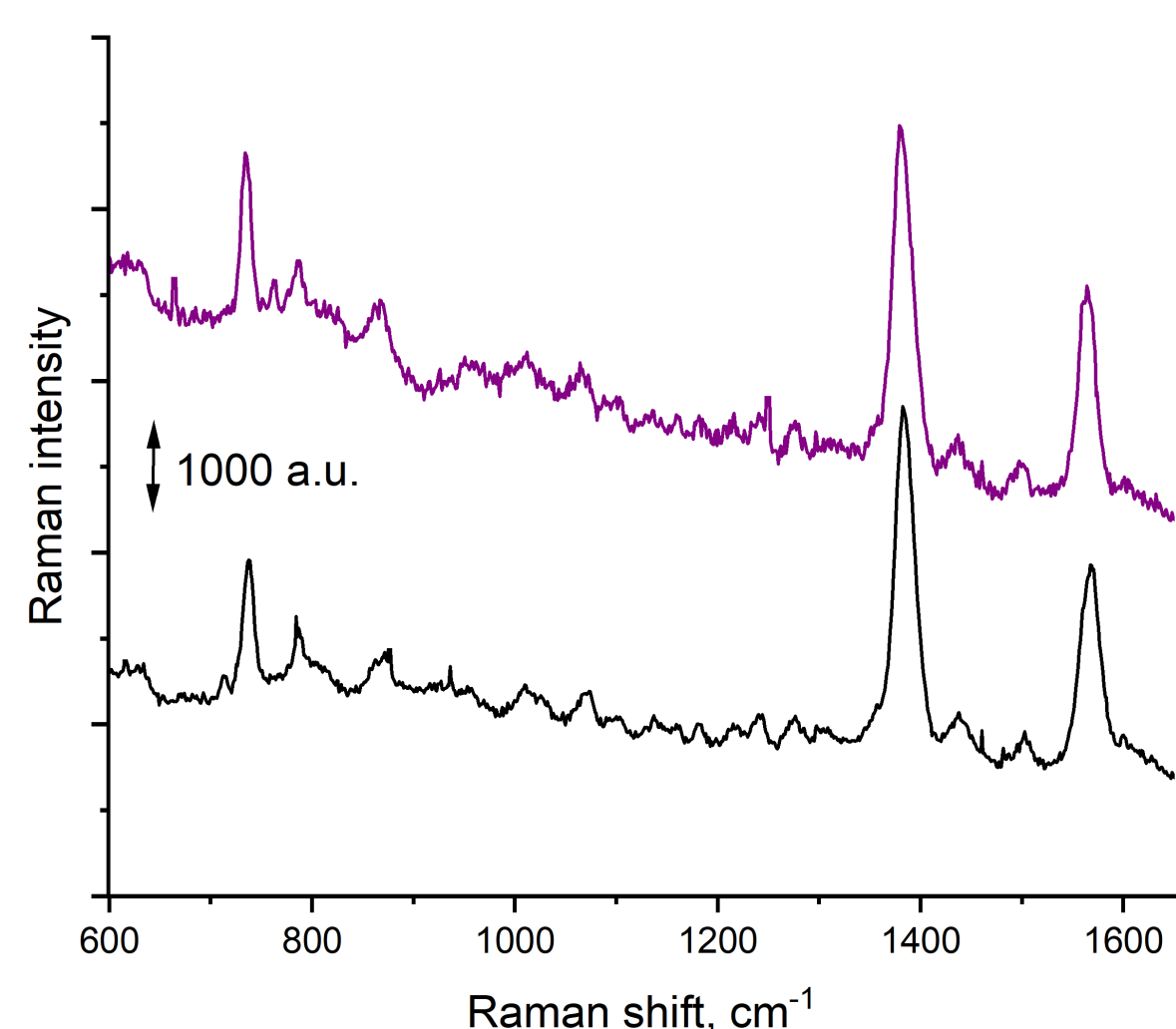
- Suspension of citrate stabilized gold nanoparticles
- Capillary electrophoresis (CE)
- Surface enhanced Raman spectroscopy (SERS)

## Experimental data

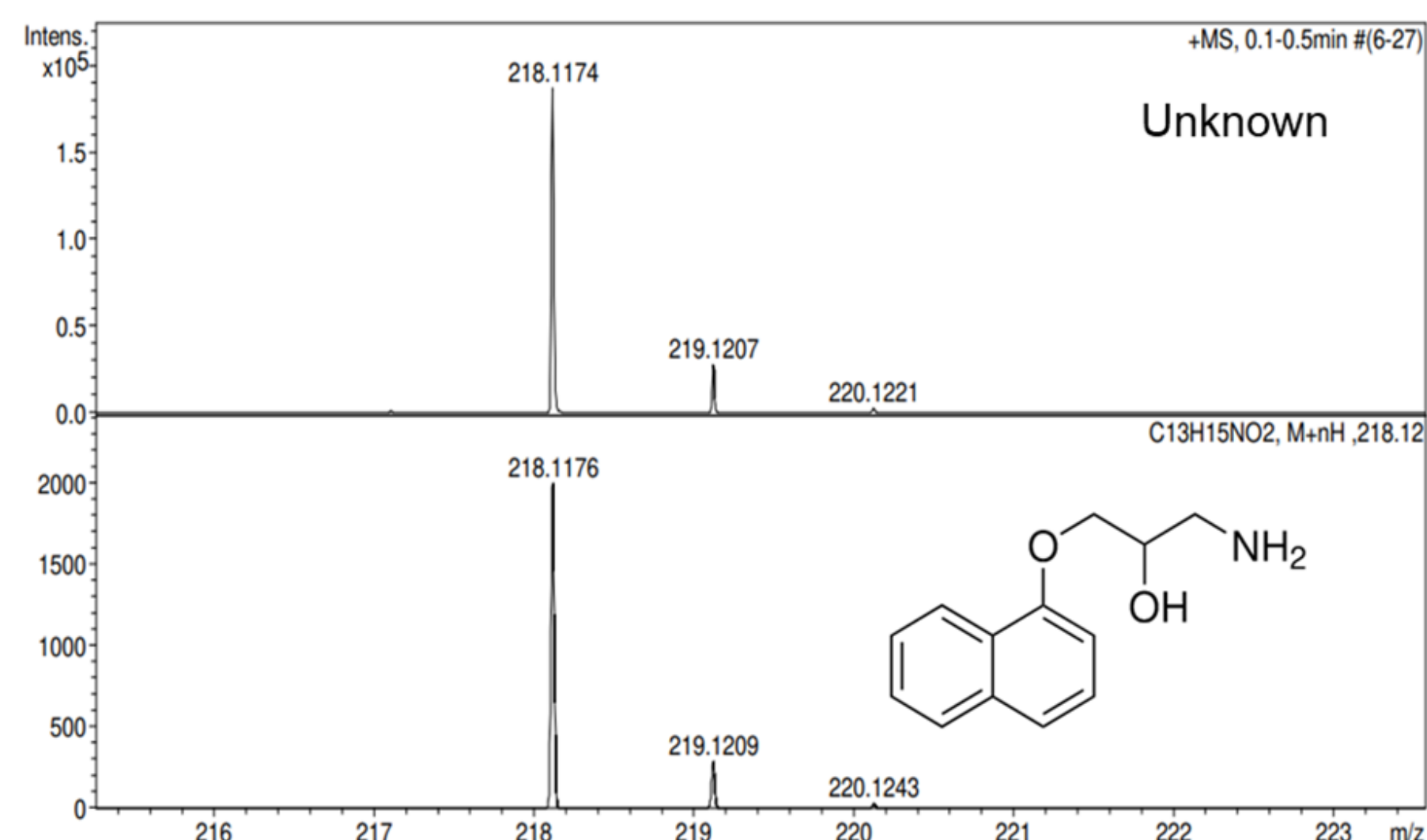


Electropherograms of supernatants: **A.** with different AuNP concentration **B.** various surface modifiers **C.** different sorption times  
 1 – unknown peak, R – propranolol r-isomer peak, S - propranolol s-isomer peak

## Results



Raman spectra of propranolol (black) and unknown (violet)



Comparison of the mass spectrum of the unknown and suspected product

- Plasmon-assisted conversion of propranolol to its dealkylated product occurs on the gold surface. This process presumably takes place through the single electron transfer mechanism.
- The SERS spectra turned out to be identical for propranolol and its metabolite that emphasizes an importance of using independent methods to study subtle phenomena..