

Gold nanoparticles are widely studied for various applications. Their surface enables large amount of chemical variations. Those are important for modification of their characteristics depending on the intended purpose. For the surface modification as well as for the gold nanoparticle synthesis various surfactants are used.

Our aim was the synthesis of novel type of surfactants based in quaternary ammonium salts. They consist of 12 carbons linker, thiol functional group and quaternary nitrogen incorporated in various moieties. Structure and purity of the compounds were confirmed by nuclear magnetic resonance and mass spectrometry.

Produced compounds should be used as potential surfactants of the gold nanoparticles. Thiol group in the molecule should ensure covalent bond of the surfactant to the nanoparticle and thus lower toxicity, when the surfactants shouldn't be released from the surface of the gold nanoparticles into their solution. Quaternary ammonium moiety should ensure sufficient solubility in water.