Editorial

iMedPub Journals
www.imedpub.com

Nano Research & Applications
ISSN 2471-9838

2021
Vol.7 No.6:26

# Editorial Note on Gold Nanoparticles

**Bharathi Bembady***

Arora PG College, Osmania University, Hyderabad, Telangana, India

**Received:** June 20, 2020; **Accepted:** June 25, 2021; **Published:** 30 June, 2021

***Corresponding author:** Bharathi B

Arora PG College, Osmania University, Hyderabad, Telangana, India.

**Citation:** Bharathi B (2021) Editorial Note on Gold Nanoparticles. Nano Res Appl Vol.7 No.6:26

## Editorial Note

Gold is a soft, malleable transition metal with the electronic configuration (Xe) 4f145d106s1 that is one of the least chemically active elements on the planet. While colloidal gold is often used in jewellery, unlike bulk gold, it is regarded to be extremely reactive, enabling for novel applications. Gold salts have anti-inflammatory effects and have been used to treat rheumatoid arthritis and TB discomfort and swelling. Colloidal gold, which are gold particles that are submicrometer in size, expands the applications of gold. AuNPs' capacity to be used in biological applications its plasmonic properties, for example, can be attributed to it. is evidenced by a dramatic change in colour from golden in its When reduced to its bulk form, it takes on a range of colours. nanolevel.

Different sizes of nanoparticles can be generated in experimental gold nanoparticle microdosimetry to verify Monte Carlo simulation results. The citrate reduction process is used to make gold nanoparticles. The size of the nanoparticle is regulated by adjusting the gold salt to reducing agent ratio. The first gold nanoparticle chemiresistor was made with nanoparticles coated with octanethiol ($C_8H_{17}S$), which gets its name from the number of carbons in the alkanethiol's carbon chain. For the other alkanethiols, a similar naming method is employed; chain lengths of four to twelve carbons are most typically utilised. The most typical chain lengths are four to twelve carbons ($C_4$ to $C_{12}$). Because conduction is relied on tunnelling between surrounding gold cores, a longer carbon chain has a higher resistance, which is why very long carbon chains are rarely utilised.

Antibiotics changed medicine by permitting the treatment of bacterial infections that were previously thought to be incurable. Unfortunately, many bacteria have gained resistance to the antibiotics now in use. *Enterococcus faecium, Staphylococcus aureus*, and *Streptococcus pneumoniae* are the most frequent antibiotic-resistant bacteria. The "ESKAPE" organisms are *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Enterobacter* species as a group.

Bacteria have developed antibiotic resistance by a variety of processes, including removing antibiotics from the cell via efflux pumps, changing the antibiotic's target site, inactivating drugs via enzymes, and altering metabolites. Because of the present rate of resistance development and the dearth of new antibiotics in the pipeline, bacterial infections that were formerly easy to cure will likely no longer are treated in clinics. It is obvious that creating new antibiotics takes a lot of time and money. Antibiotics are being studied to see whether they might increase their efficacy against drug-resistant microorganisms. Changing the molecular structure of antibiotics by adding/removing functional moieties, enhancing drug transport, and combining various medicines in the treatment plan are all common strategies.