SEMINAIRE ISMO

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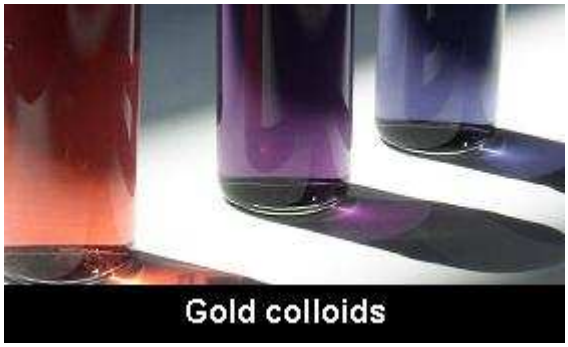
Gold nanoparticles applications in physics, chemistry and biology

Nano-sized gold particles exhibit very specific properties compared to bulk gold. For instance, the color is different from the glittery yellow color of bulk gold; it varies from red to purple, because of the properties of the surface plasmon resonance of gold nanoparticles in the visible range. This effect is broadly studied in fundamental physics, and finds promising applications in electronics and optics. These properties combined with bio-compatibility, and ability to bind organic and bioorganic molecules through thiol or amine functions, make gold nanoparticles a potential candidate as biosensors for drug and genetic testing, for drug delivery and for photothermal therapy.

The increasing number of surface atoms of low coordination when the particle size decreases, possibly combined with specific electronic properties, provides surface reactivity to gold nanoparticles, and as a consequence very surprising catalytic properties.

An overview of the properties of gold nanoparticles, and few examples of applications in physics, biology, and catalysis will be presented.


Gold colloids

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Mardi 11 janvier 2011 à 11h

Bât 351 - 2ème étage

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