

Optical Properties of Metal Nanoparticles

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Metal Nanoparticles



Silver



Gold



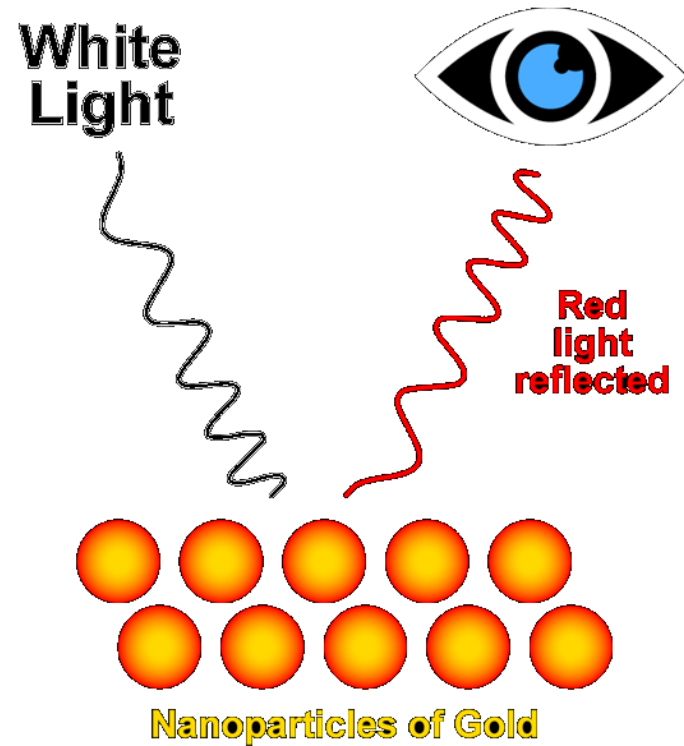
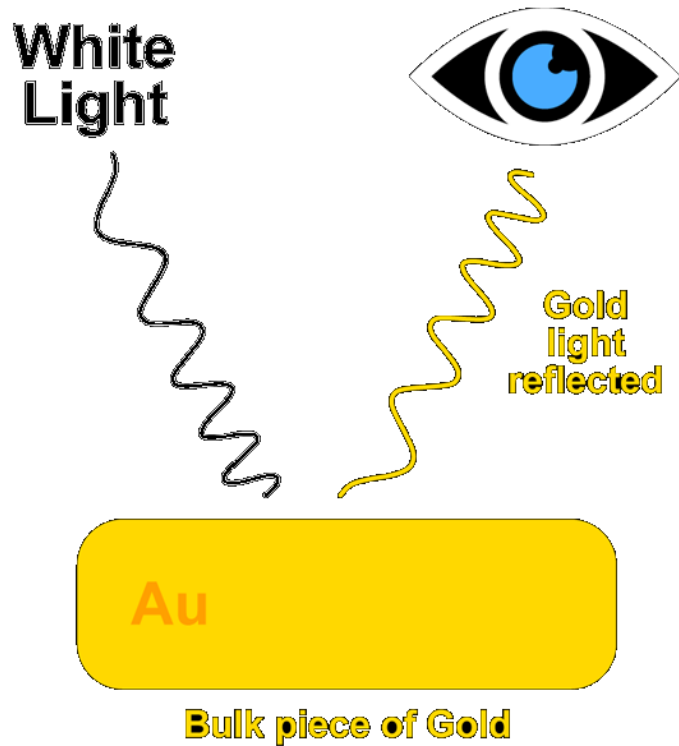
Ruthenium



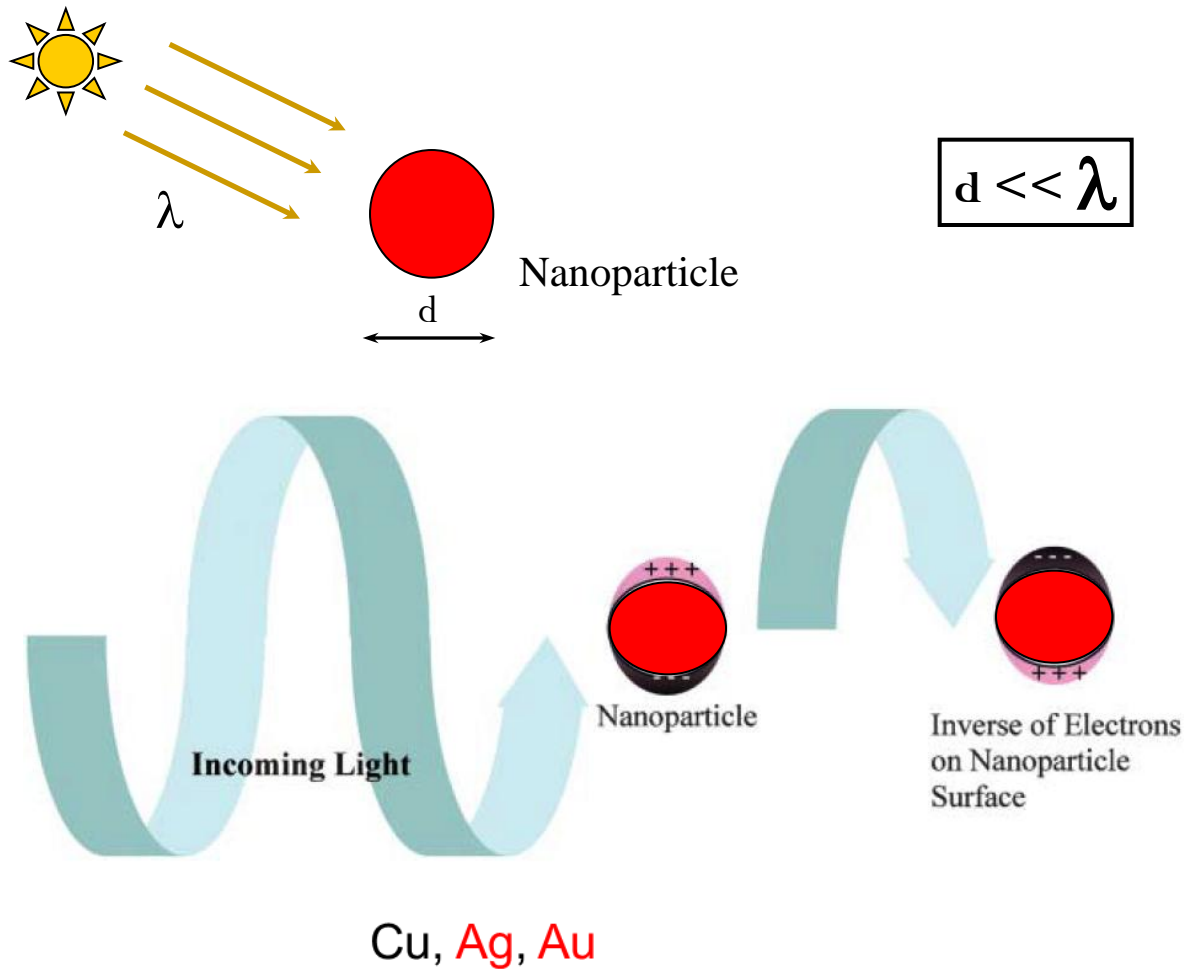
Platinum

- As the dimensions of the material is reduced the optical properties change drastically
- Each metal shows its particular color

Bulk & Nano Difference

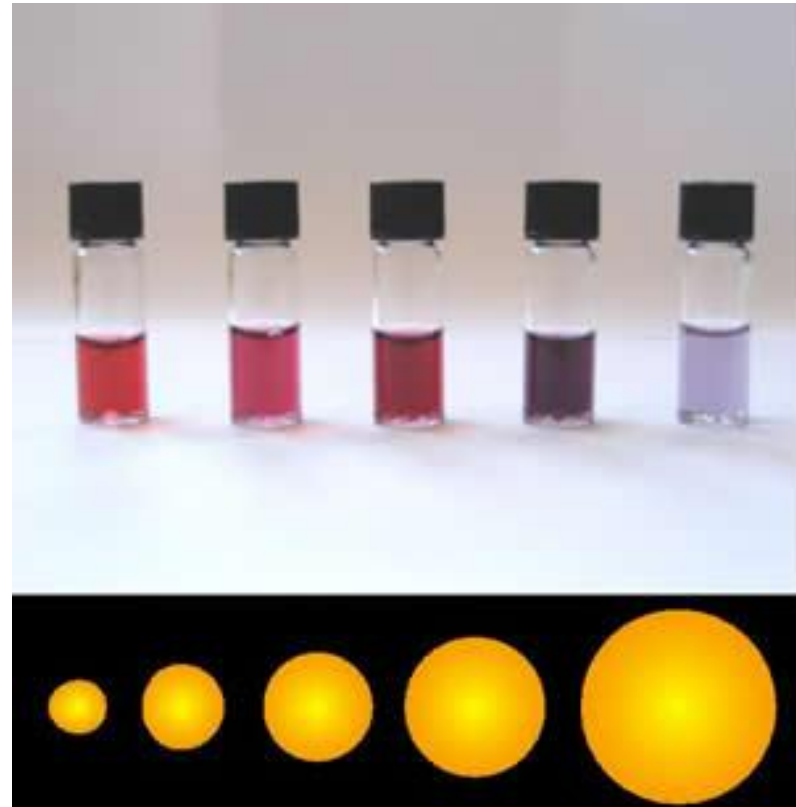


Mechanism



Size Dependency

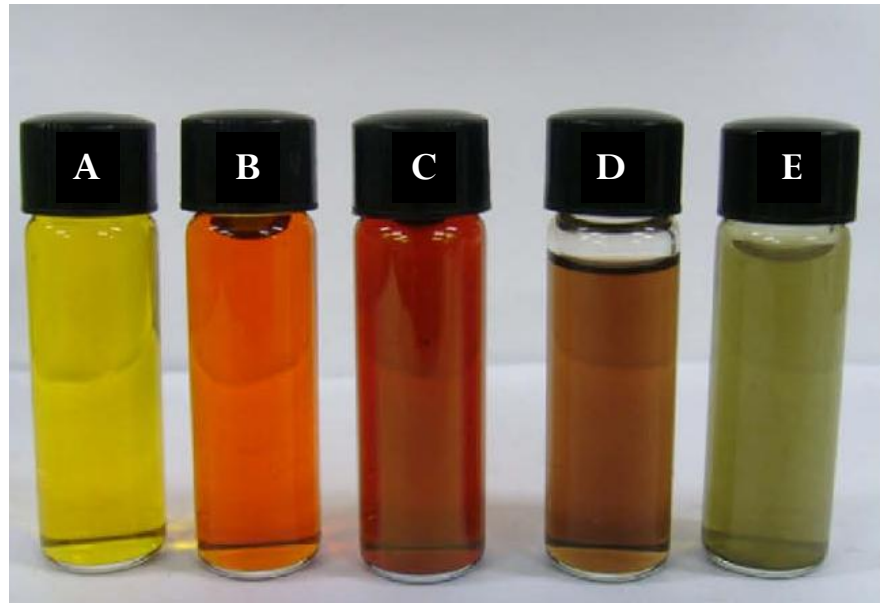
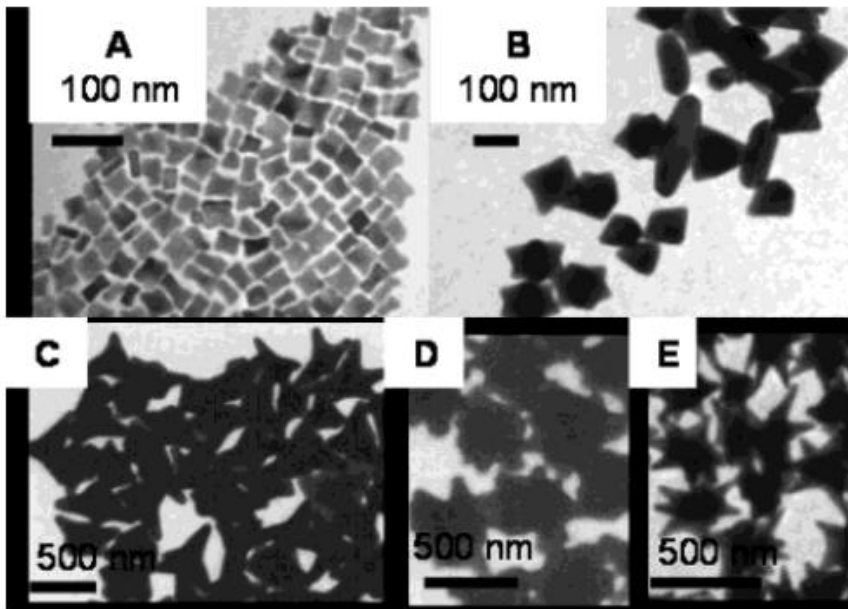
- Colloids with different size cause different colors.



Au

Shape Dependency

- Colloids in different shapes show different colors (is this Au particle also???)



Applications

- Biological detector
- Biological system imaging