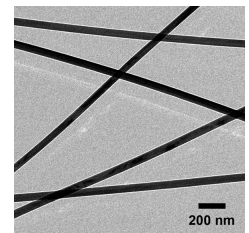
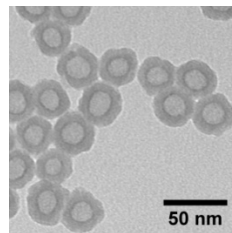
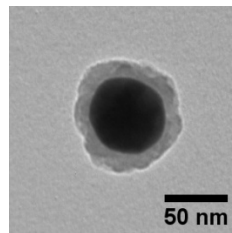
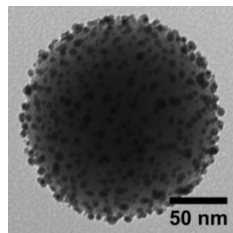
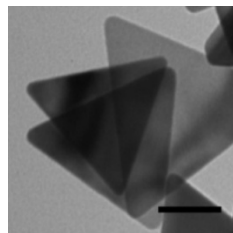
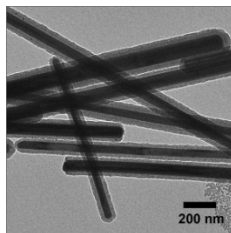
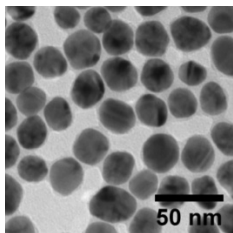
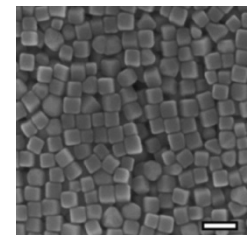
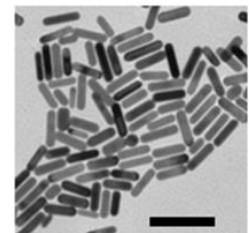
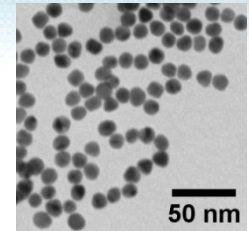


nanoComposix Overview

nanoComposix

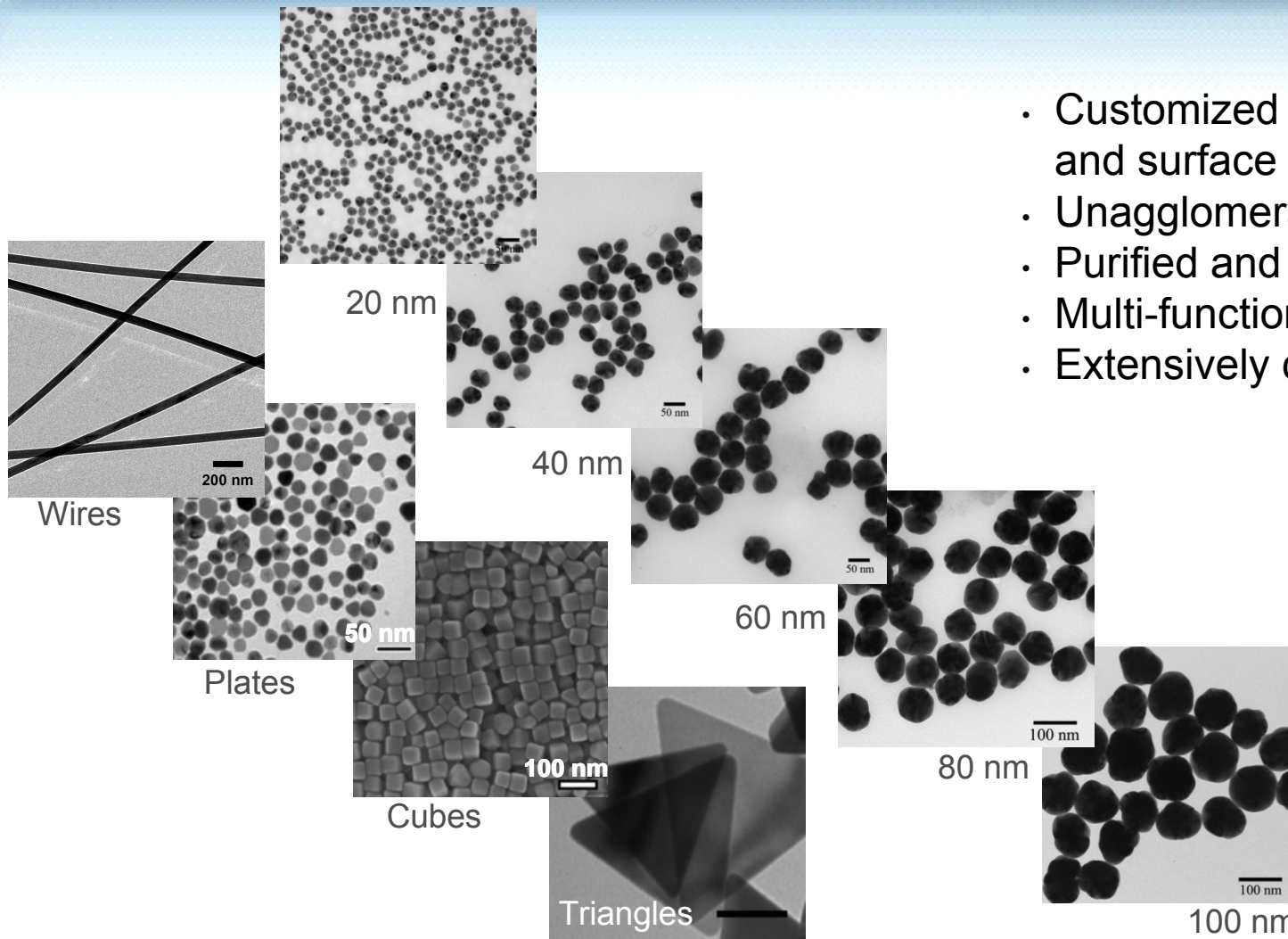
R&D company that enables our customers to maximize the potential benefits of nanotechnology through the use of precisely engineered, highly characterized nanomaterials.



Executive Summary

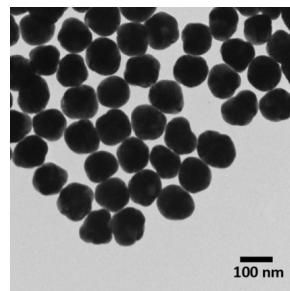
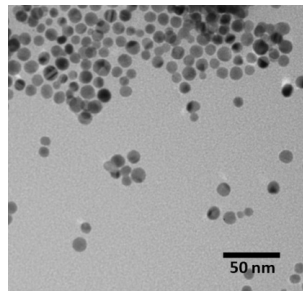
- Founded in 2004
- 25 full time employees including PhDs in Chemistry, Physics, Biochemistry, and Engineering
- 9000 sq ft of laboratory and office space in San Diego
- Develop novel nanomaterials for government, academic, and commercial clients in biotechnology, electronics, material science, defense and aerospace industry.
- \$10M in R&D contract awards to date
- >200 products developed, Local Japanese Partner/Distributor established January 2013
- Advanced instrumentation for nanoparticle characterization

Core Technology



- Customized size and shape and surface
- Unagglomerated
- Purified and concentrated
- Multi-functional
- Extensively characterized

International and US Standard Materials

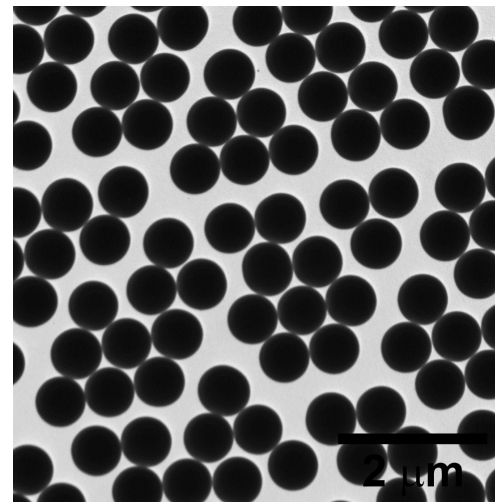
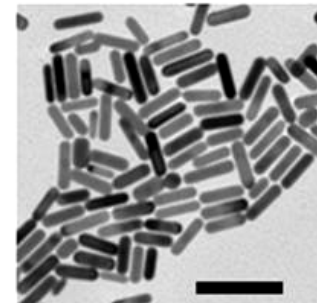


Two nanoparticles selected by OECD for international nanotoxicology study

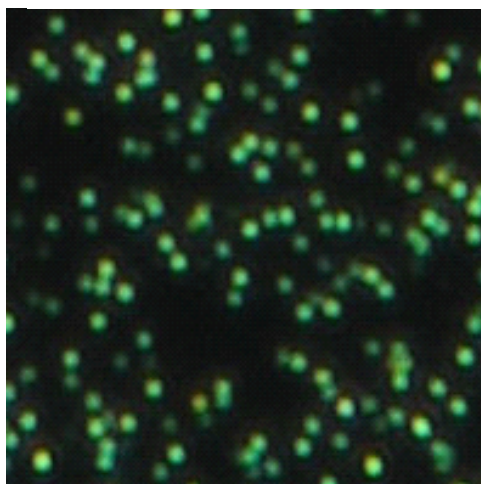


Competitive Advantage

- Fabrication of unique shapes, sizes, and surface
- Scaled process for rapidly purifying and concentrating nanoparticles without aggregation.
- Plasmonic nanoparticle manufacturing at >100 g scale
- Reduced cost by a factor of 100 for at-scale pricing



Plasmonic Nanoparticles



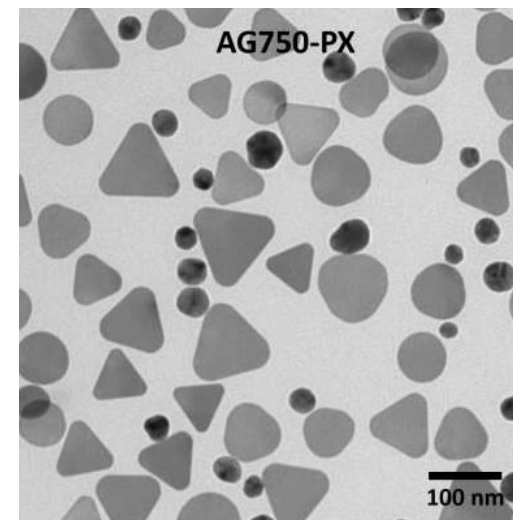
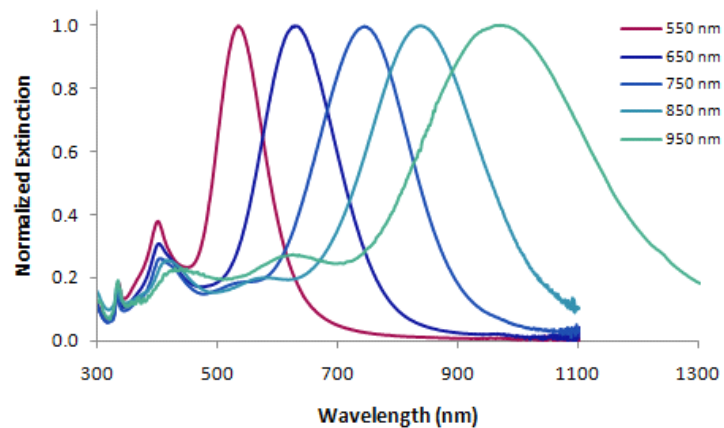
80 nm Gold Nanoparticles



60 nm Silver Nanoparticles

Optical Properties: Nanoplates

Silver nanoplates can be tuned across the visible and near-IR regions of the spectrum

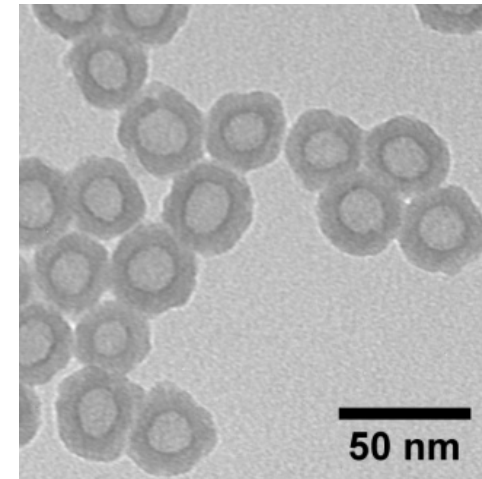
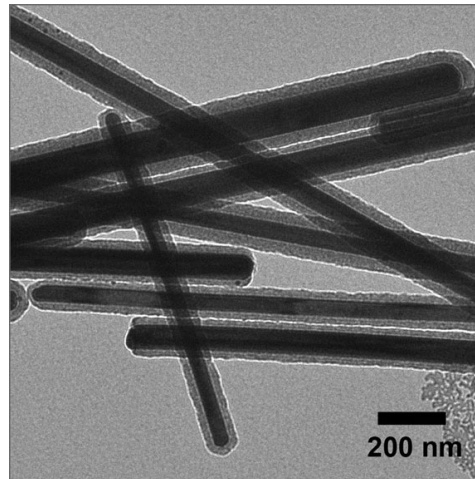
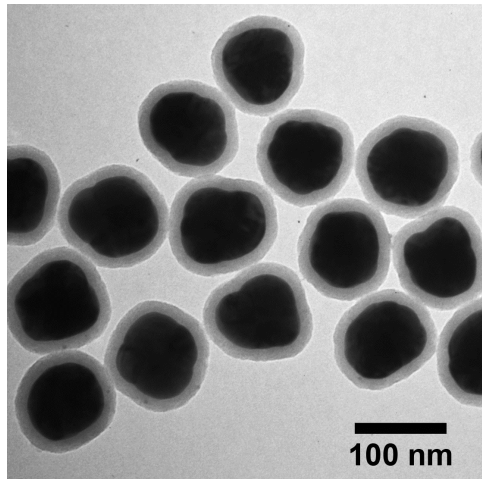


Redispersible Powders

Gold and silver nanoparticles are available as dried powders that can be redispersed in a variety of solvents without aggregation

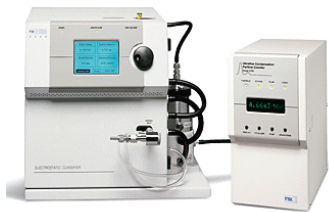


Silica Coated Nanoparticles



- Increase stability
- Shift optical properties
- Fluorescent/Magnetic
- Biofunctionalization
- Targeting
- Controlled release
- Solvent compatibility
- Minimize interparticle forces
- Modify mechanical properties
- Modify electrical/thermal properties

Characterization



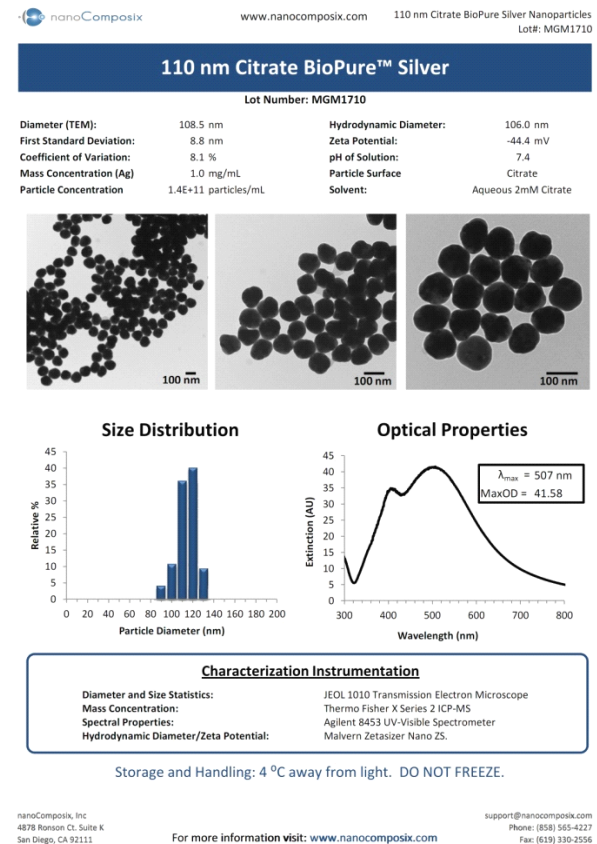
- Size and size distribution
 - Shape analysis
 - Surface area
- Elemental concentration
- Hydrodynamic size (DLS)
 - Zeta potential
 - Isoelectric point
- UV-Visible spectrum
- Solubility / Miscibility
 - Surface chemistry
 - Dissolution rate
- Partition coefficient
 - Lifetime
- Crystallinity (TEM diffraction)
 - Grain size (TEM)
- Aerosolized sizing (APS, Scanning Mobility Particle Sizer)
 - Dispersion processing



Contract R&D: NCTR



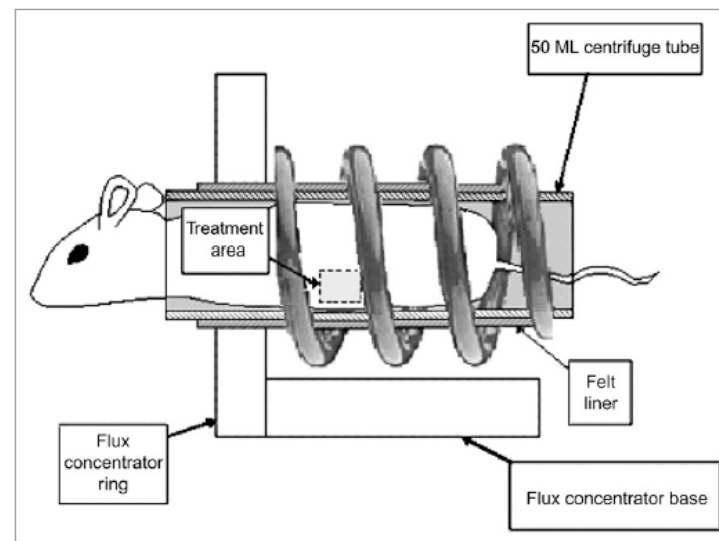
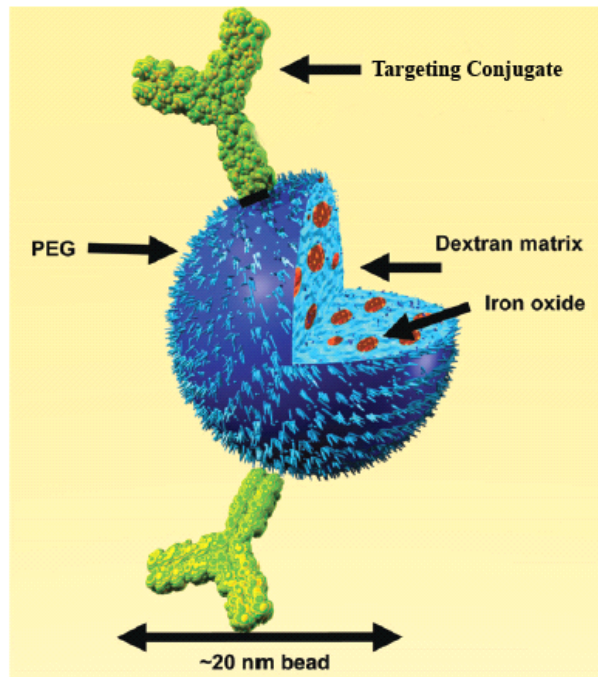
- Fabricated 15,000 liters of silver nanoparticles for US FDA
- Concentrated and washed product
- Met strict sterility and endotoxin threshold limits
- On time, on budget for all deliverables over 6 month schedule



Contract R&D: Johns Hopkins University

Silica Coated Magnetic Nanoparticles

- Targeted, silica coated magnetite for in-vivo prostate cancer therapy

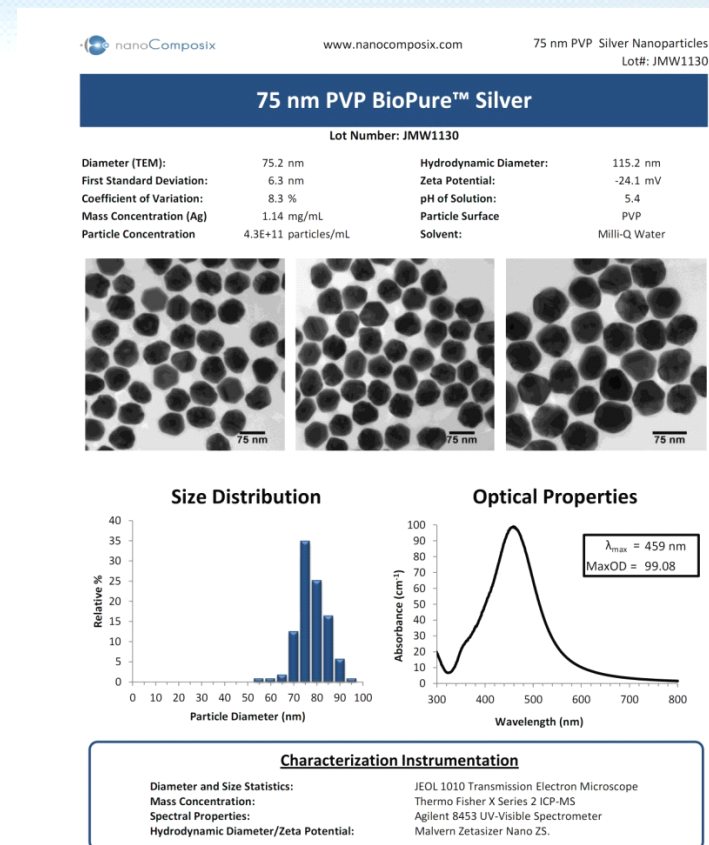


Contract R&D: NIST



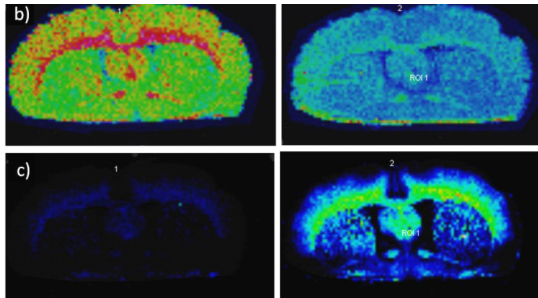
Silver Nanoparticle Standard

- Dried silver nanoparticle formulations that can be dispersed without agglomeration for NIST silver nanoparticle standard
- Will be the 3rd nanoparticle standard launched by NIST (estimated 2013)



Storage and Handling: 4 °C away from light. DO NOT FREEZE.

Applications



Biotechnology

Defense

Commercial

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