

2022 Product Catalog



PRIME NANOTECHNOLOGY



Prime Nanotechnology, founded in 2013, is one of the very first nanotechnology companies in Thailand. In our early years, we developed and synthesized our patented nanomaterials e.g. gold and silver nanoparticles. Our clients are local and international manufacturers of paints, detergents, cosmetics, and pet products. We also serve several academic researchers who place their trusts on our nanomaterials for their advanced research. Recently, we offer our nano-product development as a service for our clients in various industries where nanotechnology can make a great difference.



Our Products

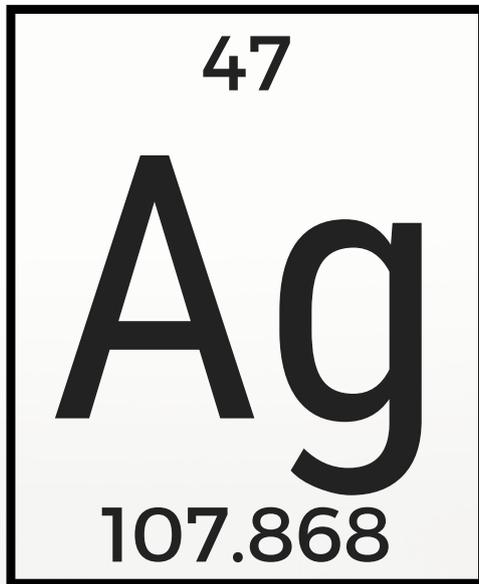


SILVER

GOLD

METAL OXIDE

OTHERS





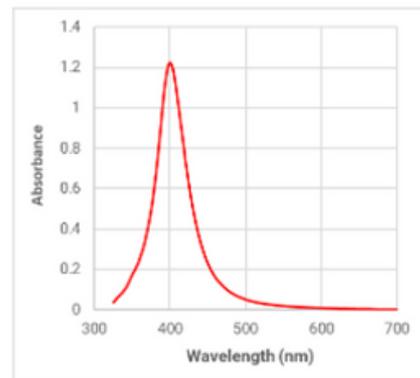
Silver Nanoparticles [AgNPs]

High Concentration Starch-capped AgNPs in DI Water

Appearance:	Brown yellow colloid
Average Particle Size:	15 ± 10 nm
UV-Vis Absorbance:	400 ± 5 nm
Available Concentration:	10,000 ppm (product code: ag-102)
Available Volume:	50 mL, 125 mL, 250mL, 500 mL, 1,000 mL, 10,000 mL

Starch-capped AgNPs in DI Water

Appearance:	Dark yellow colloid
Average Particle Size:	10 ± 5 nm
UV-Vis Absorbance:	400 ± 5 nm
Available Concentration:	5,000 ppm (product code: ag-103c) 1,000 ppm (product code: ag-103)
Available Volume:	50 mL, 125 mL, 250mL, 500 mL, 1,000 mL



PVP-capped AgNPs in Ethanol

Appearance:	Dark yellow colloid
Average Particle Size:	10 ± 5 nm
UV-Vis Absorbance:	400 ± 5 nm
Available Concentration:	1,000 ppm (product code: ag-104)
Available Volume:	50 mL, 125 mL, 250mL, 500 mL, 1,000 mL



*Note: ppm = part per million which is equivalent to mg/L or ug/mL
For customized order (particle size, media, concentration, etc.),
please email your requirement directly to our team.*



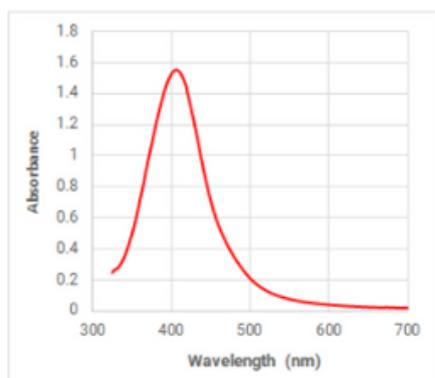
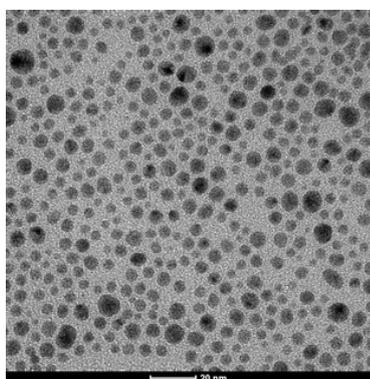
Silver Nanoparticles [AgNPs]

High Concentration Tannic acid-capped AgNPs in Ethanol

Appearance:	Black colloid
Average Particle Size:	6 ± 4 nm
Available Concentration:	100,000 ppm (product code: ag-121c)
Available Volume:	50 mL, 125 mL, 250mL

Tannic acid-capped AgNPs in DI Water

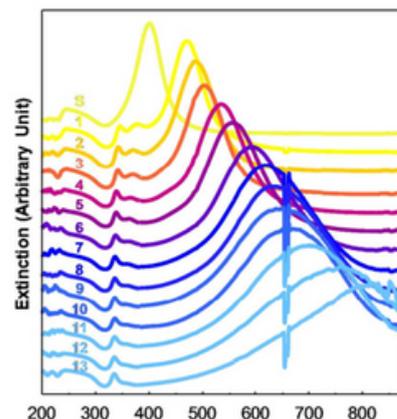
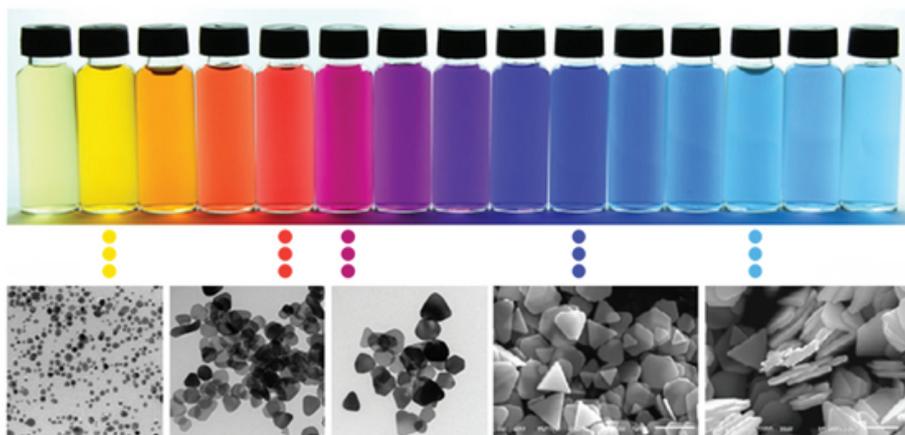
Appearance:	Dark yellow colloid
Average Particle Size:	6 ± 4 nm
UV-Vis Absorbance:	410 ± 5 nm
Available Concentration:	10,000 ppm (product code: ag-122) 5,000 ppm (product code: ag-123c) 1,000 ppm (product code: ag-123)
Available Volume:	50 mL, 125 mL, 250mL, 500 mL, 1,000 mL



*Note: ppm = part per million which is equivalent to mg/L or ug/mL
For customized order (particle size, media, concentration, etc.),
please email your requirement directly to our team.*



Multicolored Silver Nanoparticles



Apart from our standard silver nanoparticles, we can synthesize silver nanoparticles having different colors (different surface plasmon resonances). The range of color spans from yellow (λ_{max} c.a. 400 nm) to orange, red, magenta, purple, and blue (λ_{max} c.a. 1,000 nm) at the resolution of ± 50 nm. This product series 'Silver Nanoplates' or 'Anisotropic Nanosilver' (product code: ag-107 and ag-111) is available upon specific request.



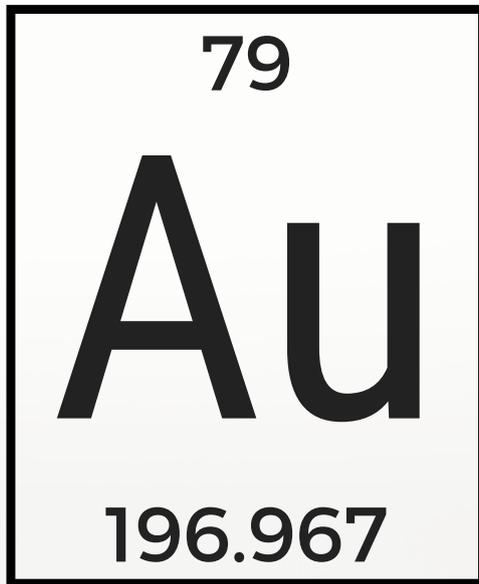
Note: Maximum concentration is at 200 ppm for orange and red particles; 300 ppm for magenta and purple; and 800 ppm for blue.

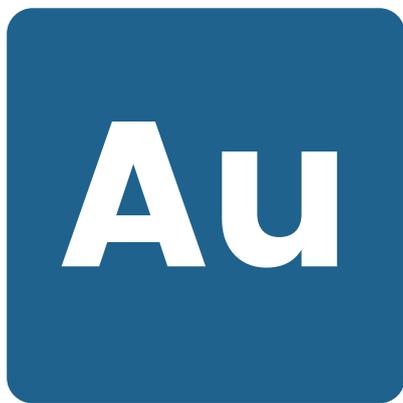
The technique we use to control the color is called 'chemical shape conversion'. The starting seeds are derived from our Starch-capped AgNPs in DI Water (product code: ag-103). The solvent is DI water and the capping agent is soluble starch.



Silver Nitrate

For those who want to synthesize their own silver nanoparticles, we also offer cost-competitive silver nitrate (product code: [ag-307](#)) to be used as a starting material. Our silver nitrate is made of a certified 99.99% silver metal and AR-grade nitric acid. It is thrice purified with AR-grade acetone to ensure its purity. Please note that silver nitrate price varies daily depending on fluctuation in global silver price. Advance booking is required.





Gold Nanoparticles [AuNPs]

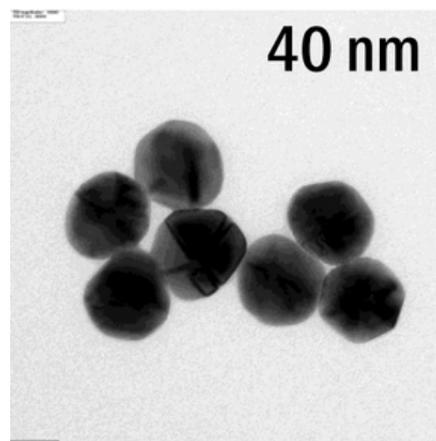
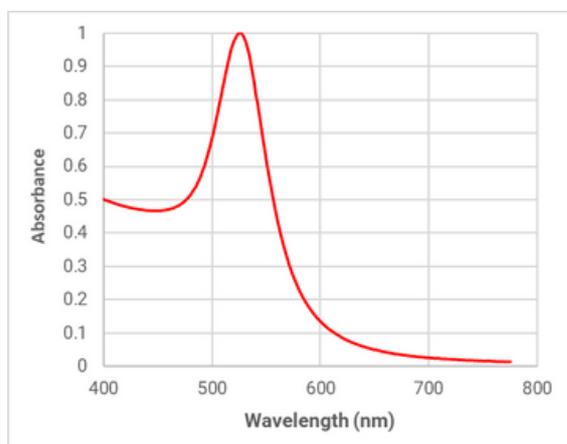
High Concentration Starch-capped AuNPs in DI Water

Appearance:	Dark red colloid
Average Particle Size:	15 ± 10 nm
UV-Vis Absorbance:	522 ± 3 nm
Available Concentration:	1,000 ppm (product code: au-101)
Available Volume:	50 mL, 125 mL, 250mL, 500 mL, 1,000 mL



Citrate-capped AuNPs in DI Water

Appearance:	Red colloid
Average Particle Size:	40 nm (CV < 10%; PDI < 0.2)
UV-Vis Absorbance:	528 nm ± 2 nm
Available Concentration:	1 OD (product code: au-nt-40nm-102)
Available Volume:	50 mL, 125 mL, 250mL, 500 mL, 1,000 mL



**Metal
Oxide**
Nanopowder

Metal Oxide

Nanopowder

Nano ZnO:

20-30 nm, 99%

Nano TiO₂ (P25):

20-30 nm, 99%

Nano SiO₂:

20-30 nm, 99%

Nano Al₂O₃:

20-30 nm, 99%, gamma

Nano Fe₂O₃:

20-30 nm, 99%

Nano Cu₂O:

30-50 nm, 99%

Nano TiO₂ (Anatase):

30-50 nm, 99%

Nano Bi₂O₃:

30-50 nm, 99%

Nano CeO₂:

30-50 nm, 99%

Nano Fe₃O₄:

80 nm, 99%

Standard pack size: 1 Kg



Other Nanomaterials

CNT

Graphene

Graphene Oxide

BNNT

Encapsulated NP

PRIME nano
technology



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