PRIME nano technology

PRIME Nanotechnology

PRODUCT CATALOG

2023

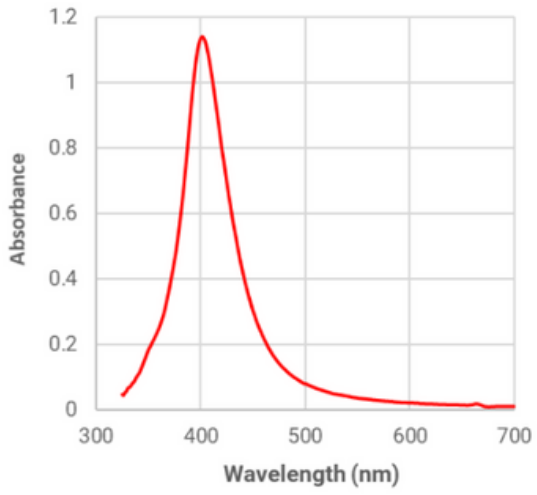
47
Ag
107.868

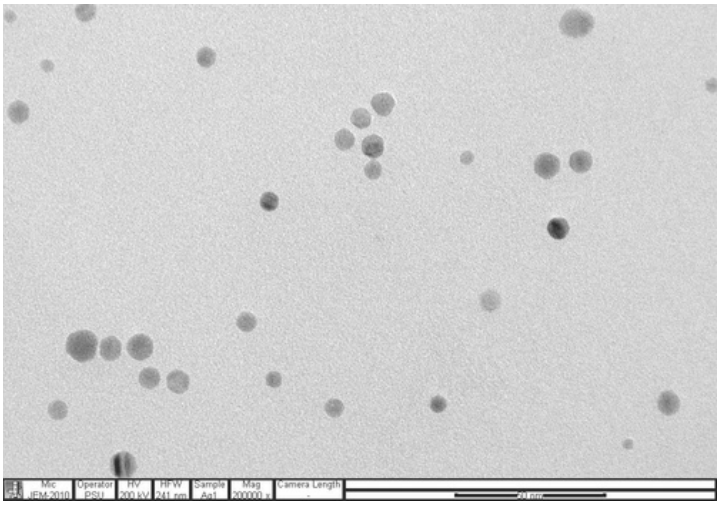
Silver Nanoparticles (AgNPs)

SIL01B-PR

Name: High concentration starch-capped AgNPs in DI water
Product Code: SIL01B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Yellow brown colloid
Particle Shape: Nanospheres
Primary Particle Size: 15 ± 10 nm
Concentration: 10,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 400 ± 10 nm
Stability: 12 months; Use within 3 months after open





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47
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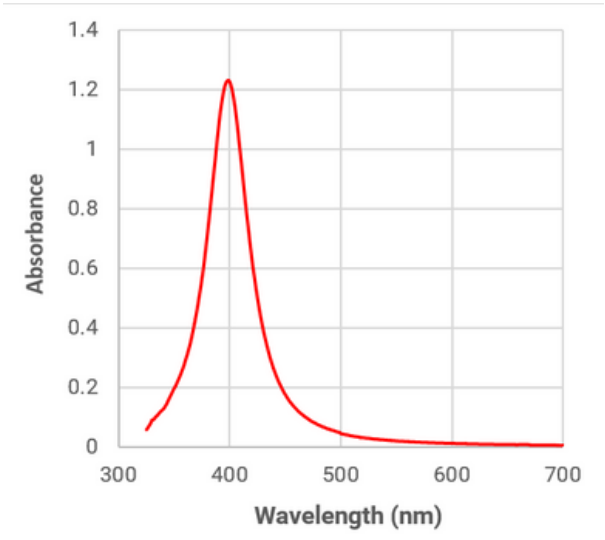
107.868

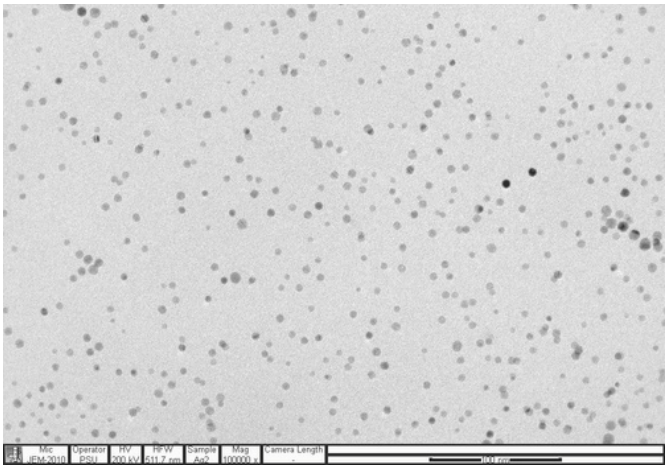
Silver Nanoparticles (AgNPs)

SIL02B-PR

Name: Starch-capped AgNPs in DI water
Product Code: SIL02B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 10 ± 5 nm
Concentration: 5,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 400 ± 5 nm
Stability: 12 months; Use within 3 months after open





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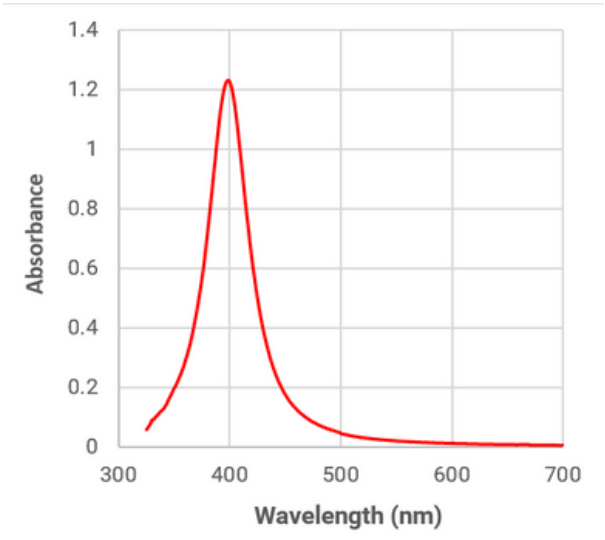
47
Ag
107.868

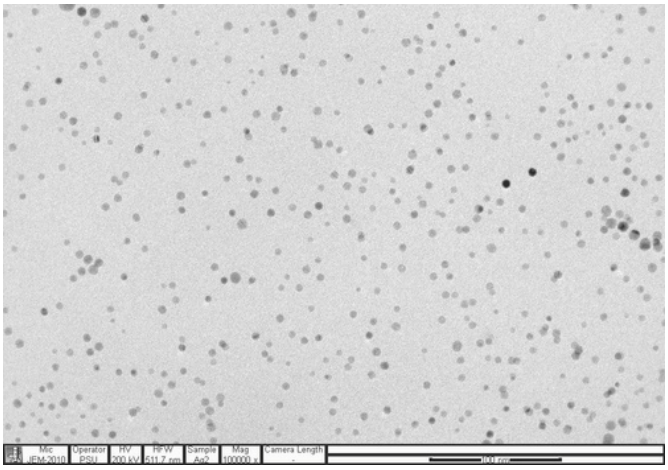
Silver Nanoparticles (AgNPs)

SIL03B-PR

Name: Starch-capped AgNPs in DI water
Product Code: SIL03B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 10 ± 5 nm
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 400 ± 5 nm
Stability: 12 months; Use within 3 months after open





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47
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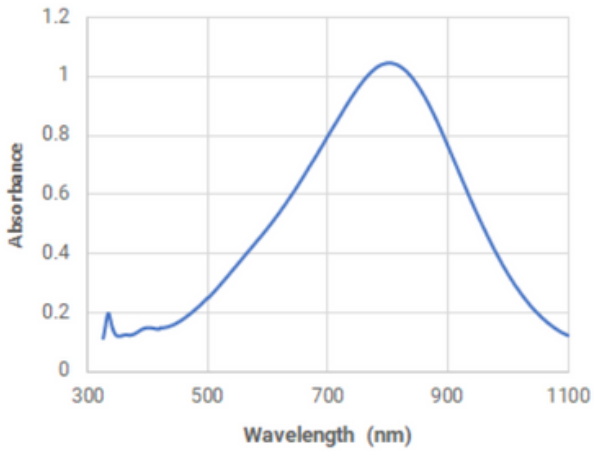
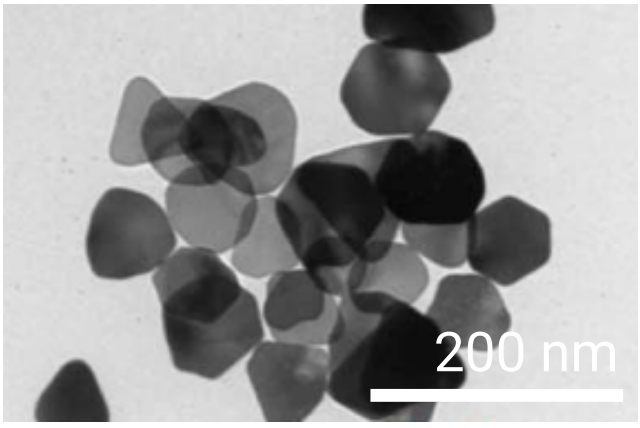
Silver Nanoplates

SIL04B-PR

Name: Silver nanoplates
Product Code: SIL04B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction and shape conversion
Applications: Antibacterial additives

Appearance: Dark blue colloid
Particle Shape: Nanoplates
Average Particle Size: 80-120 nm lateral edges with 5-20 nm thickness
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 850 ± 50 nm
Stability: 12 months; Use within 3 months after open





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47
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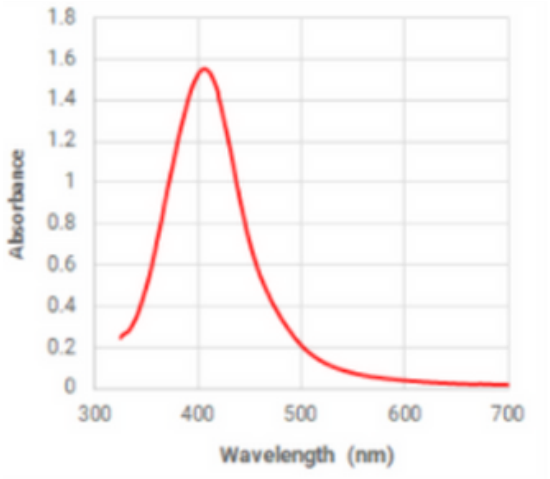
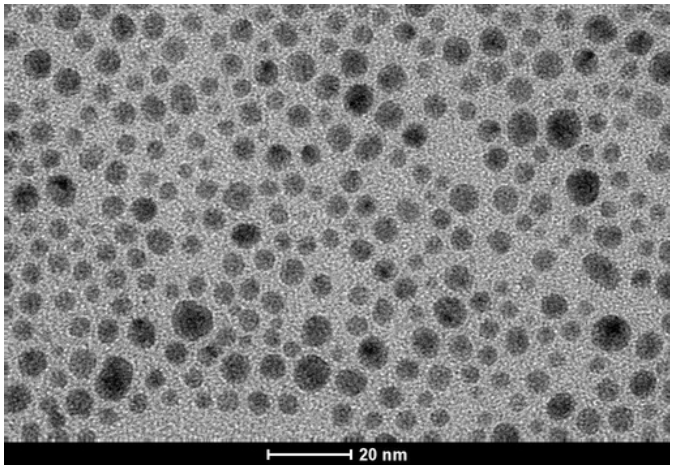
Silver Nanoparticles (AgNPs)

SIL11B-PR

Name: Tannic acid-capped AgNPs in DI water
Product Code: SIL11B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Dark yellow colloid
Particle Shape: Nanospheres
Primary Particle Size: 6 ± 4 nm
Concentration: 10,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Tannic acid
λmax (UV-VIS Absorbance): 410 ± 10 nm
Stability: 12 months; Use within 3 months after open





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47
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107.868

Silver Nitrate ($AgNO_3$)

SIL31B-PR

Name: Silver nitrate ($AgNO_3$)
Product Code: SIL31B-PR
Element(s): Ag (CAS No.7761-88-8)
Applications: Electroplating, Nanomaterial synthesis

Appearance: White Crystal
Assay ($AgNO_3$): >99%
Assay (Ag): >63.4%
Cu (Copper): < 2 ppm
Fe (Iron): < 2 ppm
Pb (Lead) < 5 ppm
Stability: 2 years

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47
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107.868

Silver Nanopowder

SIL32B-PR

Name: PVP-capped silver nanopowder
Product Code: SIL32B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Stabilizing Agent: Sodium hypophosphite
Stabilizer: PVP
Applications: Antibacterial additives for surface coating, Electronics

Appearance: Grey powder
Particle Shape: Nanospheres
Primary Particle Size: 50 ± 30 nm
Stabiliyt: 2 years

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47
Ag
107.868

Silver Nanopowder

SIL33B-PR

Name: Stabilizer free-silver nanopowder
Product Code: SIL33B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives for surface coating, Electronics

Appearance: Dark grey powder
Particle Shape: Nanospheres
Primary Particle Size: 80 ± 30 nm
Stability: 2 years

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47
Ag
107.868

Silver Nanoparticles (AgNPs)

SIL42B-PR

Name: High concentration tannic acid-capped AgNPs in ethanol
Product Code: SIL42B-PR
Element(s): Ag (CAS No.7440-22-4)
Method of Synthesis: Chemical reduction
Applications: Antibacterial additives

Appearance: Greyish black suspension
Particle Shape: Nanospheres
Primary Particle Size: 6 ± 4 nm
Concentration: 100,000 part per million (ppm; equivalent to mg/L)
Solvent: Ethanol*
Stabilizing Agent: Tannic Acid
Stability: 12 months; Use within 3 months after open

*Solvent can be changed to Isopropanol (IPA) upon request.

PRIME nano technology

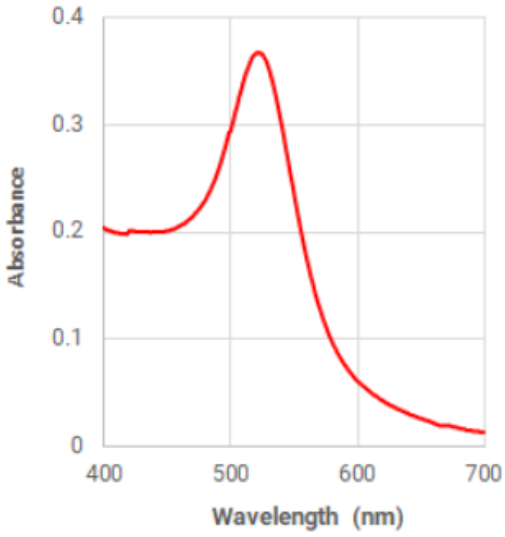
79
Au
196.967

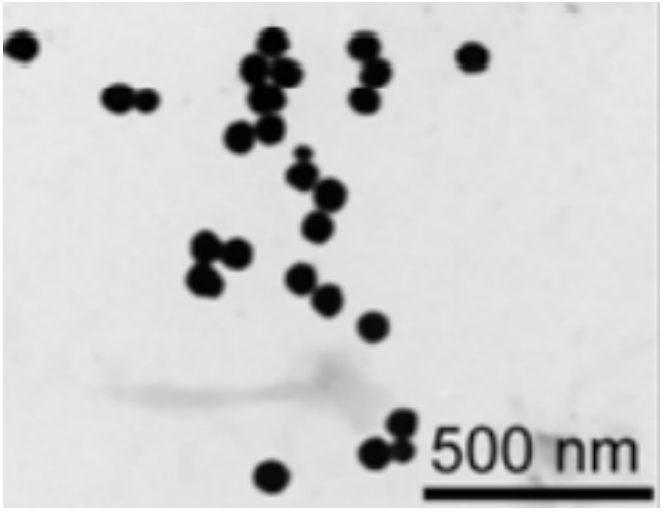
Gold Nanoparticles (AuNPs)

GOL01A-PR

Name: High concentration starch-capped AuNPs in DI water
Product Code: GOL01A-PR
Element(s): Au (CAS No.7440-57-5)
Method of Synthesis: Chemical reduction
Applications: Medicine, Drug delivery, Sensors, Lateral flow, SERS, Catalyst

Appearance: Dark red colloid
Particle Shape: Nanospheres
Average Particle Size: 15 ± 10 nm
Concentration: 1,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Starch
λmax (UV-VIS Absorbance): 522 ± 3 nm
Stability: 6 months; Use within 2 months after open





PRIME nano technology

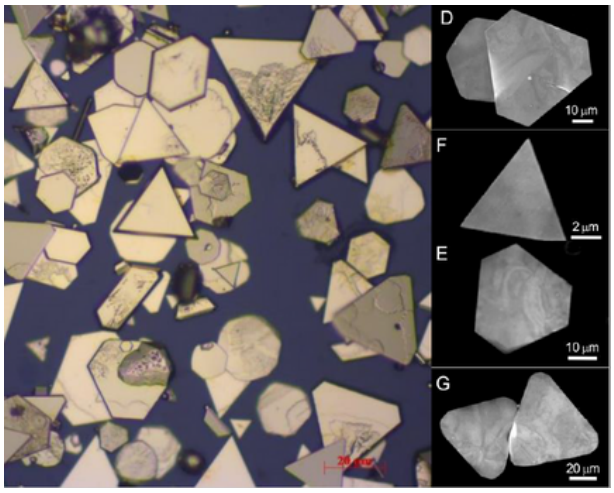
79
Au
196.967

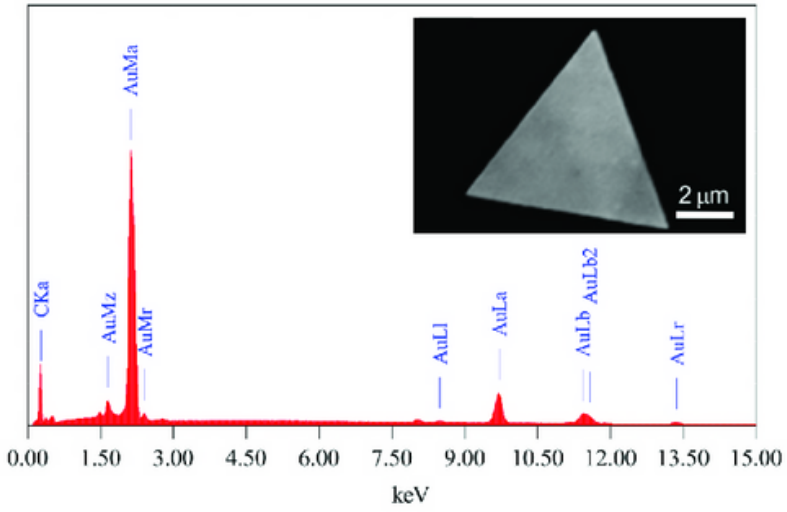
Gold Nanocrystals

GOL11A-PR

Name: Gold nanocrystals
Product Code: GOL11A-PR
Element(s): Au (CAS No.7440-57-5)
Method of Synthesis: Chemical reduction, Oriented attachment
Applications: Cosmetic

Appearance: Nanocrystals, Disc, Triangular plate, Hexagon plate
Average Particle Size: <40 μm lateral size, <100 nm thickness
Solvent: DI
Stability: 1 year





PRIME nano technology

Cu_2O

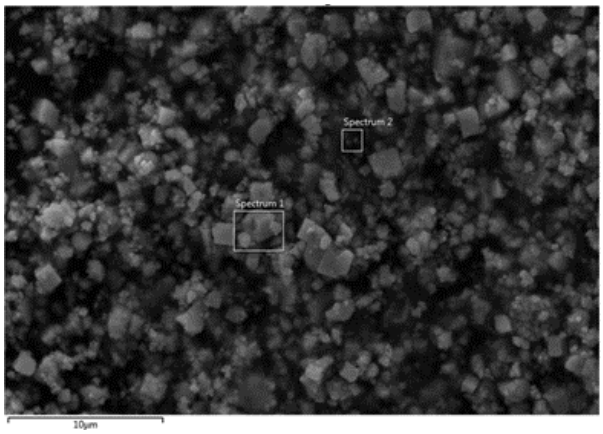
143.09

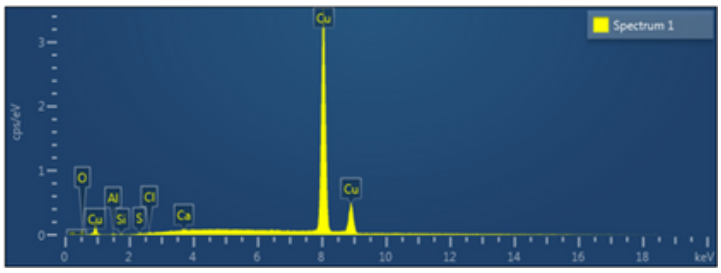
Copper Oxide Colloid

COP01B-ND

Name: Copper oxide colloid
Product Code: COP01B-ND
Element(s): Cu_2O (CAS No.1317-39-1)
Method of Synthesis: Chemical reduction
Applications: Antifungal additives

Appearance: Orangish red colloid
Particle Shape: Spherical
Primary Particle Size: 0.2 - 1 μm
Concentration(Cu_2O): 15,000 part per million (ppm; equivalent to mg/L)
Solvent: Deionized water
Stabilizing Agent: Xanthan gum
Stability: 12 months





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Metal Oxide Nanopowder

Cu_2O

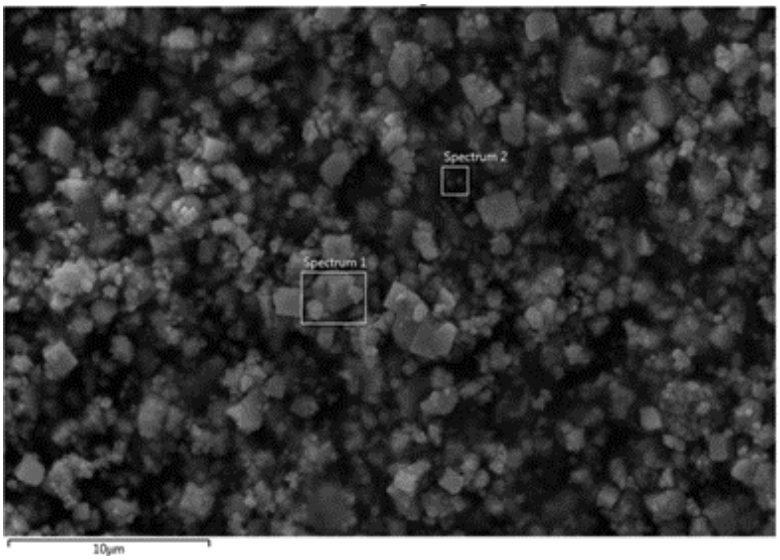
143.09

Copper Oxide (Nano) Powder

COP01B-ND

Name: Copper oxide (Nano) powder
Product Code: COP01B-NO
Element(s): Cu_2O (CAS No.1317-39-1)
Applications: Antibacterial additives, Electronics, Agriculture

Appearance (color): Red brown
Appearance (form): Powder
Particle Shape: Near spherical
Primary Particle Size: 0.2 - 1 μm



PRIME nano technology

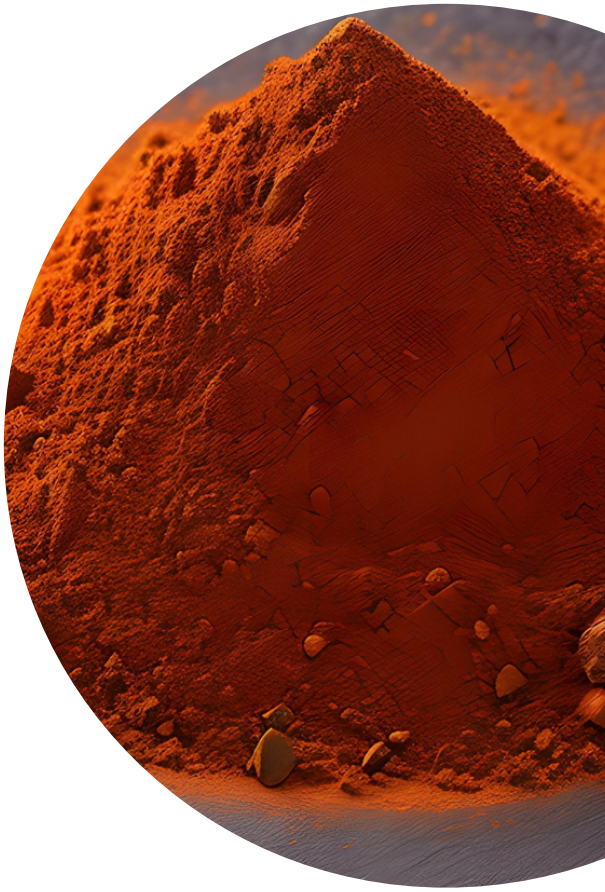
Cu_2O

143.09

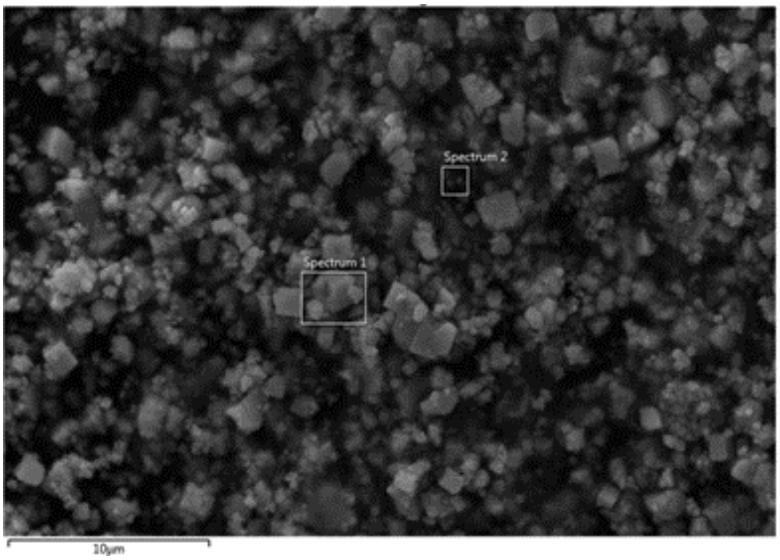
Copper Oxide, 95%

COP03B-ND

Name: Copper oxide nanopowder
Product Code: COP01B-NO
Element(s): Cu_2O (CAS No.1317-39-1)
Applications: Antibacterial additives, Electronics, Agriculture



Appearance (color): Brownish black
Appearance (form): Powder
Particle Shape: Near spherical
Primary Particle Size: 50 ± 10 nm
Purity: >95%



PRIME nano technology

CeO_2

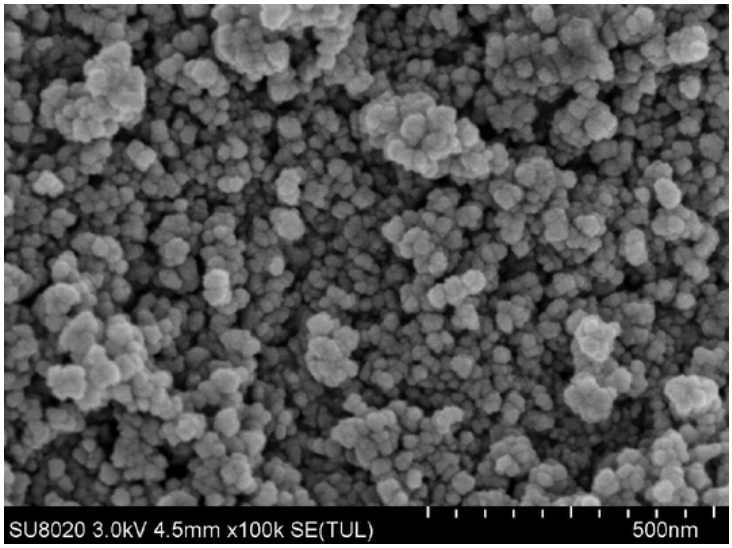
172.12

Cerium Dioxide, 95%

CER01B-HW

Name: Cerium dioxide nanopowder
Product Code: CER01B-HW
Element(s): CeO_2 (CAS 1306-38-3)
Applications: Catalysts, Electronic, Ceramics, Antibacterial

Appearance (color): Light yellow powder
Appearance (form): Powder
Particle Shape: Near spherical
Primary Particle Size: 40 ± 10 nm
Purity: >95%



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SiO_2

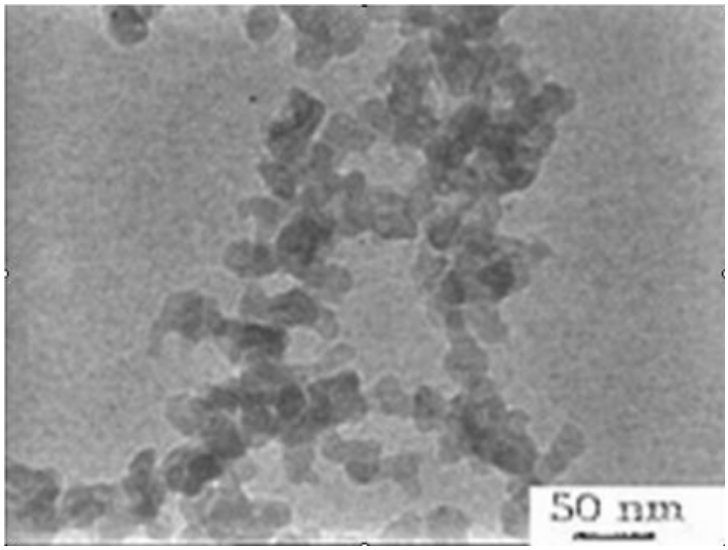
60.08

Silicon Dioxide, 95%

SIL53B-HW

Name: Silicon dioxide nanopowder, Hydrophobic
Product Code: SIL53B-HW
Element(s): SiO_2 (CAS 7631-86-9)
Applications: Additive for plastics, Rubber, Ceramics, Porcelain, Glass

Appearance (color): White
Appearance (form): Powder
Form: Amorphous
Primary Particle Size: 20 ± 10 nm
Purity: >95%



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TiO_2

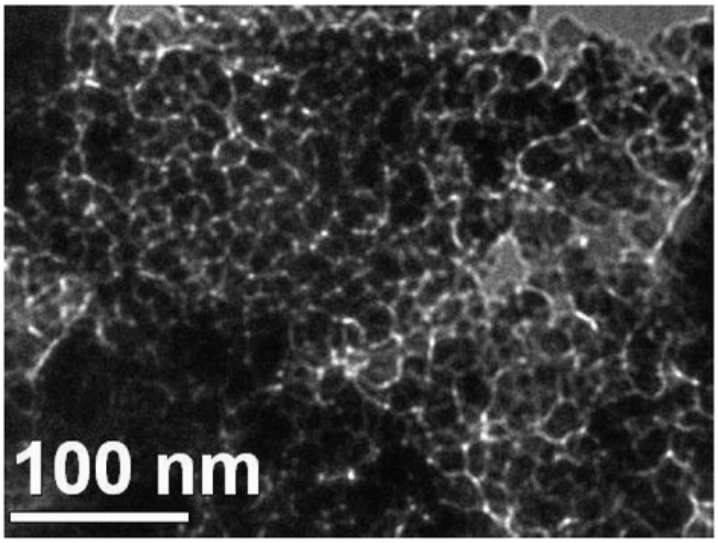
79.86

Titanium Dioxide, 95%

TIT01B-HW

Name: Titanium dioxide nanopowder
Product Code: TIT01B-HW
Element(s): TiO_2 (CAS 13463-67-7)
Application: Photocatalysis, Antibacterial materials, Catalysis, Cosmetics

Appearance (color): White
Appearance (form): Powder
Form: Anatase
Primary Particle Size: 30 ± 10 nm
Purity: >95%



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ZnO

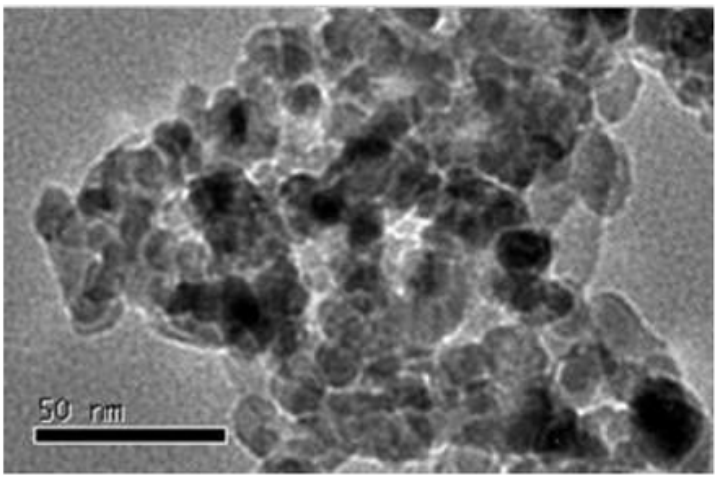
79.86

Zinc Oxide , 95%

ZIN01B-HW

Name: Zinc oxide nanopowder
Product Code: ZIN01B-HW
Element(s): ZnO (CAS 1314-13-2)
Application: Antibacterial coatings, Sunscreen, Cosmetics, Electronics

Appearance (color): White
Appearance (form): Powder
Particle Shape: Spherical
Primary Particle Size: 30 ± 10 nm
Purity: >95%



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Other Nanomaterials

Nanopowder

C

12.01

Single Layer Graphene Oxide, 99%

GRA01A-NG

Name: Single layer graphene oxide
Product Code: GRA01A-NG
Element(s): C, O
Applications: Energy storage, Biomedical, Biosensors

Appearance (color): Dark brown-black
Appearance (form): Powder
Average Size: 1.1 ± 0.2 nm
Average Diameter: 2 μm
Thickness: 1 nm
C:O ratio: 68 : 30
Purity: >99%

PRIME nano technology

C

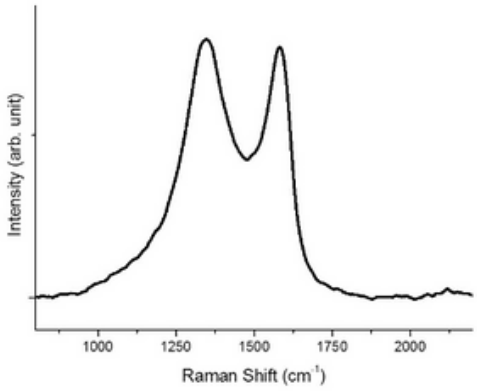
12.01

Multilayer Graphene Oxide, 99%

GRA02A-NG

Name: Multilayer graphene oxide
Product Code: GRA02A-NG
Element(s): C, O, H
Applications: Solar cells, Transparent and conductive graphene oxide coatings, Chemical-bio graphene oxide sensors, Electro-static dissipation graphene oxide (ESD) films

Appearance (color): Dark brown
Appearance (form): Powder
Average Diameter: 4.5 μm
Average Layers: 2-5 Layer
Special surface area (SSA): 350-420 m²/g
C:O:H ratio: 60 : 30 : 2
Purity: >99%



PRIME nano technology

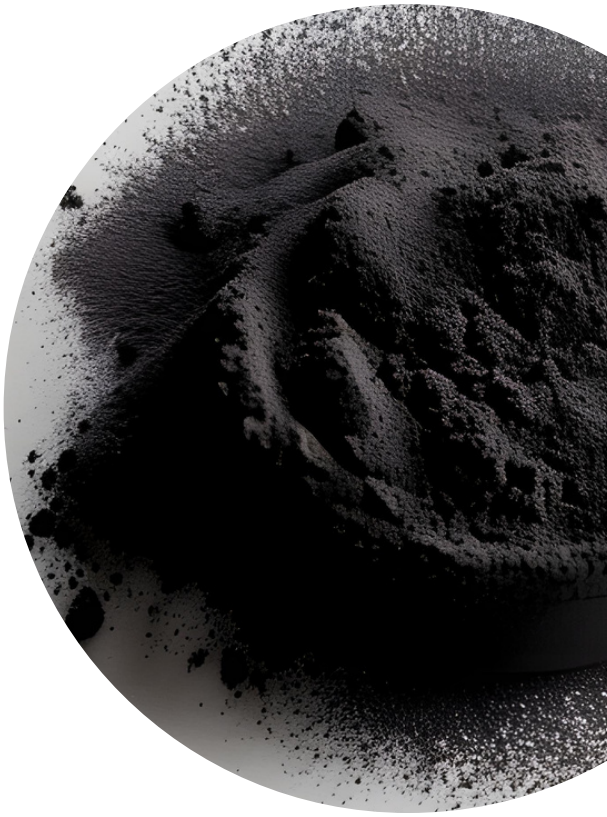
C
12.01

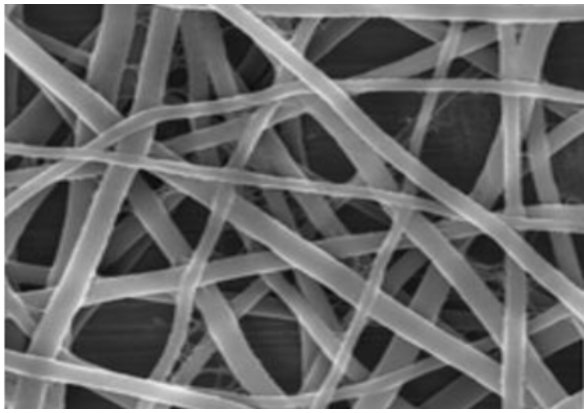
Single-Walled Carbon Nanotubes, 98%

CAR01A-NS

Name: Single-Walled Carbon Nanotubes
Product Code: CAR01A-NS
Element(s): C
Applications: composite material enhancers, energy storage media, catalysts and catalyst supports, sensors, bio-nanomaterials

Appearance (color): Black
Appearance (form): Powder
Outside diameter: 1-2 nm
Length: 3-8 μm
Purity: >98%





PRIME nano technology

C
12.01

Multi-Walled Carbon Nanotubes, 99%

CAR03A-NS

Name: Multi-Walled Carbon Nanotubes
Product Code: CAR03A-NS
Element(s): C
Applications: Conductive plastics, Structural composite materials, CNTs catalyst supports, CNTs fibers and fabrics, Targeting drug delivery

Appearance (color): Black
Appearance (form): Powder
Outside diameter: 10-20 nm
Length: 3-8 μm
Special surface area (SSA): 90–350 m^2/g
Purity: >99%

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