

## NITmagold Cit 50nm

**STORE AT 4°C away from light. DO NOT FREEZE**

### Description

Magnetic nanoparticles coated with gold add new properties (inertness, protection of the magnetic core against oxidation, optical properties) to those of the magnetic particles, without modifying their superparamagnetic behaviour. Gold shell is coated with citrate anions which can be displaced with a wide range of molecules containing a thiol (SH) group. Once functionalized, they can be employed as platforms for many applications such as target-specific drug delivery, biosensors, lateral flow tests, flow cytometry, cancer photothermal therapy.

### Technical Specifications

**Particle Surface:** Citrate anions.

**Peak SPR wavelength:** 536 nm

**Particle Diameter:**<sup>1</sup> 51.8 ± 6.1 nm

**Polydispersity index:** 0.148

**Core diameter:**<sup>1</sup> 13.6 ± 1.2 nm

**Gold thickness:**<sup>1</sup> 38.2 ± 3.5 nm

**Molar Concentration:**<sup>2</sup> 0.05 nM

**O.D.:** 1

**Particle Concentration:** 3.2×10<sup>10</sup> particles/mL

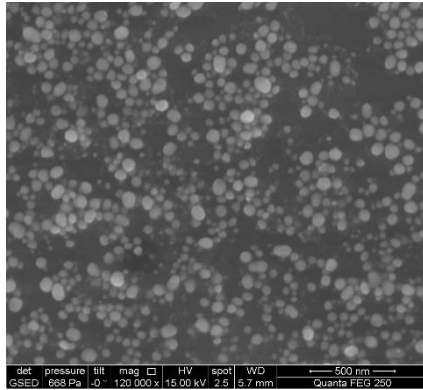
**Solvent:** 5 mM Sodium citrate

1 Determined by Scanning Electron Microscopy (SEM).

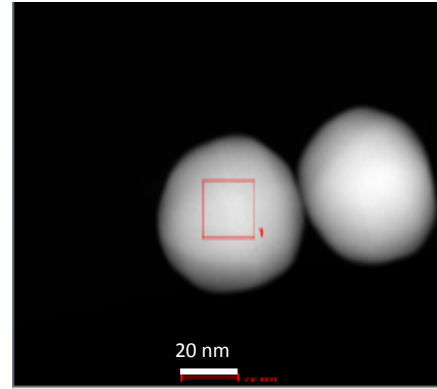
2 Determined according to a  $\epsilon = 1.9 \times 10^{10} \text{ M}^{-1} \cdot \text{cm}^{-1}$ . Werts et al. Analyst 2013,138, 583-592.



### Electron microscopy characterization

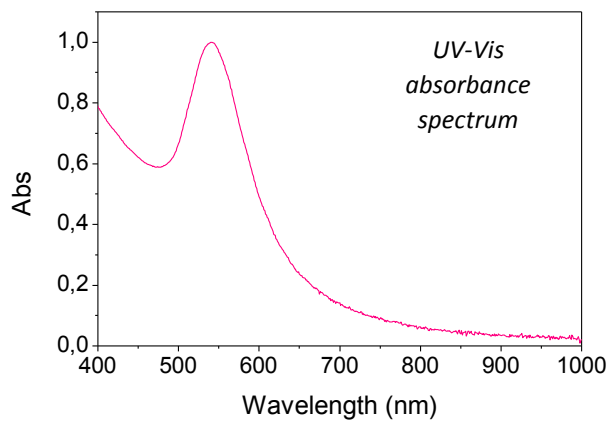


*SEM image*

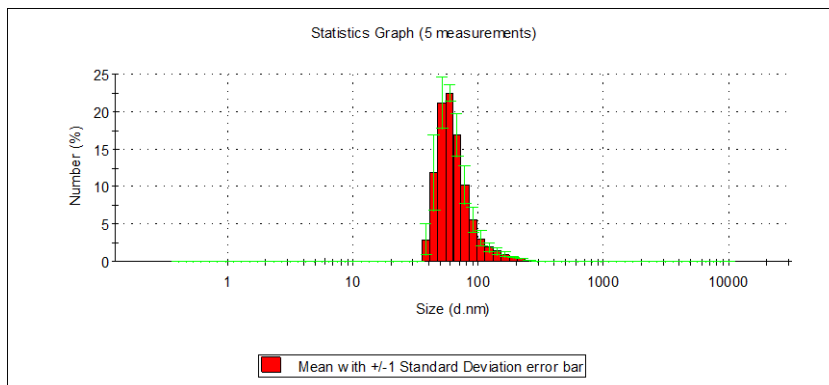


*HRTEM image*

### Optical characterization



## Size characterization by dynamic light scattering (DLS)



## Suggested Application(s)

- Magnetic separation
- Biosensing
- Magnetic hyperthermia
- Drug delivery

## Ordering Information

Product Name	Nº Nanoparticles/mL	O.D.	$\epsilon$ (M-1 cm-1)	Quantity	Catalogue No.
NITmagold Cit 50nm	3,17E+10	1OD	1,90E+10	1mL	51008315S
NITmagold Cit 50nm	3,17E+10	1OD	1,90E+10	5mL	51008315W
NITmagold Cit 50nm	3,17E+10	1OD	1,90E+10	25mL	51008317V

## Product disclaimer

This nitparticles® product is to be used for research purposes only. Unless stated in the documentation of on an individual product label, catalog or other information provided to the buyer, IT IS FORBIDDEN TO USE IT for different purposes, including but not limited to them: in vitro diagnostic, use in food, pharmaceutical purposes, medical purposes, or use in cosmetic products, neither for use in humans nor animals, nor for any commercial purposes. Please refer to [www.nitparticles.com](http://www.nitparticles.com) for the Material Safety Data Sheet of the product.

