

# NANOPARTz™

The gold nanoparticle for nanotechnology

## Certificate of Analysis

|                |                                       |
|----------------|---------------------------------------|
| Product Family | Accurate Spherical Gold Nanoparticles |
| Product Number | A11-80-CIT-DIH-1-25                   |
| Lot #          | SPEC                                  |
| Form           | Gold Colloid                          |
| Capping Agent  | Citrate                               |
| Solution       | 18 MEG DI water                       |
| Source         | 11H100                                |

|                |             |                  |                 |          |
|----------------|-------------|------------------|-----------------|----------|
| Diameter       | nm          | measured average | TEM, DLS, UVVIS | 80       |
| SPR Abs        | OD          | measured         | UV/VIS          | 1.1      |
| PDI            | stddev/size | measured         | TEM             | 4%       |
| SPR Peak       | nm          | measured         | UV/VIS          | 542      |
| pH             |             | measured         | Orion           | 7        |
| Zeta Potential | mV          | measured         | DLS             | -36      |
| Concentration  | nps/mL      | calc             |                 | 1.07E+10 |
| Wt. conc.      | mg/mL       | calc             |                 | 0.06     |
| ppm            |             | calc             |                 | 55       |
| Wt. %          | %           | calc             |                 | 0.0055%  |
| Molarity       | uM          | calc             |                 | 1.78E-05 |
| Molar Ext.     | M-1cm-1     | calc             |                 | 6.19E+10 |
| Citrate        | mM          | measured         |                 | 5        |
| Volume         | mL          | measured         |                 | 25       |

|          |           |
|----------|-----------|
| Date     | 10/4/2019 |
| Exp Date | 4/1/2020  |

Alex Schoen, Manager Quality Control

