

Data on Particle Size Measurements and UV-visible Absorption Spectra of Gold Nanoparticles for "Synthesis of Precision Gold Nanoparticles Using Turkevich Method" Published in KONA Powder and Particle Journal, 2020, No.37, 224-232

***Title of Manuscript**

Synthesis of Precision Gold Nanoparticles Using Turkevich Method

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***Keywords**

gold nanoparticles, nanomaterials, Turkevich Method, synthesis, characterization

***Data Description**

The Excel spreadsheet contains the UV-visible spectrum analysis of Fig. 1 and the raw particle size measurements used to plot Fig. 2 of the present manuscript. The UV-visible spectra were analyzed using the Peak Analyzer function in OriginLab. The particle size was measured using dynamic light scattering (DLS), which was then analyzed using Microsoft Excel. The intensity distribution was directly obtained from the DLS measurement. The volume and number distributions were calculated from the intensity distribution by Malvern Zetasizer internally.

Instrument

Malvern Zetasizer Ultra (at Nanoscale Research Facility (NRF), University of Florida)

Ocean Insight UV-visible Spectrometer (at Center for Particulate and Surfactant Systems (CPaSS), University of Florida)

Software

OriginLab

Microsoft Excel

Measurement condition

Gold nanoparticles suspended in water at 25 °C.

Concentration: 45-50 ppm or > 300 kilo counts per second

Backscattering particle size measurement

Nomenclature

Int: Intensity distribution

Vol: Volume distribution

Num: Number distribution

***Contact**

Dr. Brij Moudgil
Center for Particulate and Surfactant Systems, Department of Materials Science and
Engineering, University of Florida, USA
bmoudgil@perc.ufl.edu

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