

Abstract Submitted
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Synthesis and characterization of monodispersed icosahedral Au using spherical aberration correction¹ J. JESUS VELAZQUEZ-SALAZAR, RODRIGO ESPARZA, MIGUEL JOSE YACAMAN, UTSA — Monodisperse icosahedral Au nanoparticles were synthesized using one step protocol. The morphology and structural characteristics of the icosahedral Au nanoparticles with uniform size were studied in detail using ultra-high resolution scanning electron microscope (SEM) FEG Hitachi S-5500 (0.4 nm at 30 kV) with BF/DF Duo-STEM detector, high resolution transmission electron microscope (HRTEM) Jeol JEM-2010F with an accelerating voltage of 200 kV (resolution 0.19 nm point-to-point) and a scanning transmission electron microscope Jeol JEM-ARM200F (STEM) attachment with a spherical aberration corrector. The average size of the icosahedral Au nanoparticles was 10 nm. STEM Cs-corrected images showed the atomic structure of the nanoparticles, oriented mainly on the five and two fold axes. The nanoparticles were also characterized using UV/vis absorption spectrum.

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