

Abstract Submitted  
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**The Morphology and Evolution of Bipyramidal Gold Nanoparticles for Plasmon-assisted Nanosheet Biosensor**<sup>1</sup> NICHOLAS GEITNER, Miami University, AMOS DEOPKE, MELODIE FICKENSCHER, University of Cincinnati, JAN YARRISON-RICE, Miami University, WILLIAM HEINEMAN, HOWARD JACKSON, LEIGH SMITH, University of Cincinnati — We examine the growth and evolution bipyramidal gold nanoparticles. These particles are then characterized based on their longitudinal LSPR peak and their physical dimensions. Bipyramidal particles are grown using a seed-mediated growth process, and variations in the particles are produced by varying silver nitrate concentration and growth time. While each growth's physical dimensions were well defined and consistent with previous results, two different distinct modes of temporal evolution are observed after the primary growth period. We also observe a distinct linear relationship between tip radius of curvature and wavelength of longitudinal LSPR peak, in agreement with numerical calculations. These particles are to be functionalized and dispersed onto CdS nanosheets for biosensor applications.

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