

Abstract Submitted
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Structural evolution of Au nanoclusters: From planar to cage to tubular motifs¹ BOKWON YOON, Georgia Institute of Technology, XIAOPENG XING, Rowland Institute at Harvard, UZI LANDMAN, Georgia Institute of Technology, JOEL H. PARKS, Rowland Institute at Harvard — The evolution of structural motifs of gold cluster anions, Au_n^- , in the size range $n = 11 - 24$ has been determined through a comparison of electron diffraction data with density functional calculations. The results provide clear evidence for a transformation from planar to three-dimensional structures in the range $n = 12 - 14$, the development of cage structures for $n = 16$ and 17, the appearance of a tetrahedral structure at $n = 20$, and the emergence of a highly symmetric tubular structure for $n = 24$.

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