An Atom in a Golden Ring: M@Au₆ (M = Ti, V, Cr) KIRAN BOGGAVARAPU, Virginia Commonwealth University, XI LI, LI-FENG CUI, LAI-SHENG WANG, Washington State University — The electronic structure and magnetic properties in a series of transition metal doped Au clusters, MAu₆⁻ (M = Ti, V, Cr), are investigated experimentally using photoelectron spectroscopy (PES) and density functional calculations. PES features due to the impurity atoms and the Au₆ host are clearly observed. It is found that all the MAu₆⁻ and MAu₆ clusters possess a planar structure, in which the transition metal atom is located in the center of an Au₆ ring and carries large magnetic moments (2, 3, and 4 μ₀ for MAu₆, M = Ti, V, and Cr, respectively).