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**An Atom in a Golden Ring:  $M@Au_6$  ( $M = Ti, V, Cr$ )** 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,  $MAu_6^-$  ( $M = Ti, V, Cr$ ), are investigated experimentally using photoelectron spectroscopy (PES) and density functional calculations. PES features due to the impurity atoms and the  $Au_6$  host are clearly observed. It is found that all the  $MAu_6^-$  and  $MAu_6$  clusters possess a planar structure, in which the transition metal atom is located in the center of an  $Au_6$  ring and carries large magnetic moments (2, 3, and 4  $\mu_b$  for  $MAu_6$ ,  $M = Ti, V$ , and  $Cr$ , respectively).

Anil Kandam  
Virginia Commonwealth University

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