THE b $^4\Pi_{3/2} - X^2\Pi_{3/2}$ TRANSITION OF AuO

JAMES J. O'BRIEN, SADASIVAN SHAJI, ALEX SONG, *Department of Chemistry, University of Missouri, St Louis, MO 63121-4499*; LEAH C. O'BRIEN, BRADLEY A. BORCHERT, *Department of Chemistry, Southern Illinois University, Edwardsville, IL 62026-1652*.

The visible spectrum of AuO has been recorded in the 16700 - 18700 cm^{-1}region using Intracavity Laser Spectroscopy (ILS). The gas phase AuO molecules were produced using a gold-lined hollow cathode in a helium-based electric discharge with 5-8% oxygen. Numerous bands were observed in the spectrum. We have identified 5 bands with a similar branch structure and regular spacing as being part of a vibrational progression of a new electronic transition which we have identified as the b $^4\Pi_{3/2} - X^2\Pi_{3/2}$ transition. Results of the analysis will be presented.