

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

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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.