

MOLECULAR BEAM STARK SPECTROSCOPY OF YC₂

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Laser induced fluorescence of a YC₂ molecular beam has been recorded at sub-Doppler resolution. As in the previous low-resolution study,^a YC₂ radical was generated employing a laser ablation/supersonic expansion source by using a mixture of methane in argon and ablating yttrium metal sample. The weak (001)-(000) band system ($\sim 13220\text{ cm}^{-1}$) clearly showed *P*-, *Q*-, and *R*-branches for individual *K*-structure, although the intense (000)-(000) band system ($\sim 12400\text{ cm}^{-1}$) is too congested to identified. Spectral lines associated with low-rotational levels for the (001)-(000) band were monitored under external electric field, and some lines exhibited large Stark splitting. The current status of the analysis for high resolution LIF and optical Stark spectra will be presented.

^a. T. C. Steimle, A. J. Marr, J. Xin, A. J. Merer, K. Athanassenas, and D. Gillett, *J. Chem. Phys.* **106**, 2060 (1997).