ROTATIONALLY RESOLVED LIF SPECTRA OF JET-COOLED HCCS RADICAL

JAMES M. WILLIAMSON, CHRISTOPHER C. CARTER, DAVID E. POWERS, ROSSANA RUBINO, AND TERRY A. MILLER, *The Ohio State University, Department of Chemistry, The Laser Spectroscopy Facility, 120 West 18th Ave., Columbus, OH 43210.*

We have obtained the high resolution, rotationally resolved LIF spectra of the electronic origin and several excited vibrational bands near 24660 cm^{-1} of the HCCS radical. The HCCS was produced by the low powered KrF laser photolysis of thiophene in a free-jet expansion. The LIF spectra was obtained by a pulse-amplified, Ti:Sapphire ring-dye laser with a resolution of ~250MHz. The rotational analysis of the origin band agrees well with microwave data for the ground electronic state. This paper will present the LIF spectra and the rotational analysis of all the bands will be discussed.