

## INFRARED SPECTRA OF TWO ISOMERS OF THE OCS-C<sub>2</sub>H<sub>2</sub> AND OCS-C<sub>2</sub>D<sub>2</sub>

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Spectra of the weakly-bound OCS-C<sub>2</sub>H<sub>2</sub> and OCS-C<sub>2</sub>D<sub>2</sub> complexes in the region of the OCS  $\nu_1$  fundamental ( $\sim 2062\text{ cm}^{-1}$ ) are observed in a pulsed supersonic slit jet expansion probed with a tunable diode laser. For each complex two bands are observed and assigned to the near parallel and the T-shape isomers. The ground state rotational and centrifugal distortion parameters were previously determined from microwave studies.<sup>a b</sup> Analysis of the infrared spectra gives accurate band origins as well as rotational and centrifugal distortion parameters for the upper states. All four bands show a red shift with respect to the monomer band origin, with the T-shape isomers having about  $5.4\text{ cm}^{-1}$  larger shift than the corresponding near parallel isomers.

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<sup>a</sup>S.A. Peebles and R.L. Kuczkowski, *J. Phys. Chem. A* **103**, 3884 (1999).

<sup>b</sup>S.A. Peebles and R.L. Kuczkowski, *Chem. Phys. Lett.* **312**, 357 (1999).