INFRARED SPECTRA OF TWO ISOMERS OF THE OCS-C$_2$H$_2$ AND OCS-C$_2$D$_2$

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Spectra of the weakly-bound OCS-C$_2$H$_2$ and OCS-C$_2$D$_2$ complexes in the region of the OCS $\nu_1$ fundamental ($\sim$2062 cm$^{-1}$) are observed in a pulsed supersonic slit jet expansion probed with a tunable diode laser. For each complex two bands are observed and assigned to the near parallel and the T-shape isomers. The ground state rotational and centrifugal distortion parameters were previously determined from microwave studies.$^{a,b}$ 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 cm$^{-1}$ larger shift than the corresponding near parallel isomers.