

HIGH-RESOLUTION INFRARED SPECTROSCOPY OF CARBON-SELENIUM CHAINS: SeC_3Se and C_3Se

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To date, carbon-selenium clusters have received little attention from both experiment and quantum-chemistry. Recent high-resolution infrared survey scans of the ablation products from carbon-selenium targets in the $5\mu\text{m}$ regime have revealed two bands previously not observed in the gas phase. On the basis of comparison with high-level quantum-chemical calculations performed at the CCSD(T) level of theory these bands are attributed to the linear SeC_3Se and C_3Se chains. Following the microwave detection of diatomic CSe some 45 years ago^a the present work marks the first high-resolution detection of polycarbon selenium clusters.

^aJ. McGurk, H. L. Tigelaar, S. L. Rock, C. L. Norris, and W. H. Flygare, *J. Chem. Phys.* 58, 1420 (1973).