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## Spectral Line Survey of R CrA IRS7B with ASTE II

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Recently, it has been pointed out that the chemical composition in the low-mass protostars varies from source to source. Two extreme cases are the hot corinos where various complex organic molecules are abundant, and the WCCC (Warm Carbon-Chain Chemistry) sources where carbon-chain molecules are abundant. Understanding an origin of such chemical diversity is an important target for astrochemistry.

We have conducted a spectral line survey in the 332 - 364 GHz band with ASTE toward a low mass class 0/I protostar in the Corona Australis (R CrA IRS7B), which have been recognized as a hot corino candidate. In total, 16 molecular species are identified. Strong emissions of CN, and CCH are observed, whereas, complex organic molecules and long carbon-chain molecules were not detected. The rotation temperature of CH<sub>3</sub>OH is evaluated to be ~ 31 K, which is much lower than that in the typical hot corino IRAS 16293-2422 (~85 K). The deuterium fractionation ratio for CCH and H<sub>2</sub>CO are obtained to be 0.06-0.01, which are an order of magnitude lower than that found in the hot corino. Furthermore c-C<sub>3</sub>H<sub>2</sub>, whose production pathway is related to carbon-chain molecules, is abundant, and its rotation temperature is similar to that of CH<sub>3</sub>OH. From these results, R CrA IRS7B would have an intermediate characteristic between hot corinos and WCCC sources. Alternatively, the UV radiation from the nearby Herbig Ae star R CrA may affect the chemical composition. The present line survey demonstrates further chemical diversity in low-mass star-forming regions.