

P110a Chemical evolution of Galactic high-mass star-forming cores

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High-mass stars play an important role in the evolution of the Galaxy by strongly influencing their environment physically and chemically also. We can distinguish high-mass starless cores, high-mass protostellar objects and ultracompact HII regions with different chemical properties. Previous studies have found that species formed exclusively in the gas, showed different evolutionary trends from those formed partially or totally on grain mantles. Detailed interferometric observations are needed to separate the emission originating from the small and dense cores. Our previously reported APEX - ALMA study regarding the deuteration of formaldehyde molecule has shown that the deuteration fraction of formaldehyde decreases with evolutionary stage, confirming the importance of the gas-phase contribution to the formation process. Thanks to the wide frequency coverage and high sensitivity of our ALMA Atacama Compact Array observations, several molecules were observed for the selected high-mass star-forming cores in different evolutionary stages, such as CH₃OH, HC₃N, SiO, DCN, NO, H₂S. We will present the detailed analysis of the selected molecular lines from the young high-mass starless cores to the more evolved ultracompact HII regions.