

## EXPLORING MOLECULAR COMPLEXITY IN THE INTERSTELLAR MEDIUM WITH ALMA

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The search for complex organic molecules (COMs) in the interstellar medium (ISM) relies heavily on the progress made in the laboratory to record and characterize the rotational spectra of these molecules. Almost 200 different molecules have been identified in the ISM so far, in particular thanks to millimeter-wavelength observations of the star-forming molecular cloud core Sgr B2(N) in the Galactic Center region. The advent of the Atacama Large Millimeter/submillimeter Array (ALMA) has recently opened a new door to explore the molecular complexity of the ISM. Thanks to its high angular resolution, the spectral confusion of star-forming cores can be reduced, and its tremendous sensitivity allows astronomers to detect molecules of low abundance that could not be probed by previous generations of telescopes.

I will present results of the EMoCA survey conducted toward Sgr B2(N) with ALMA. The main goal of this spectral line survey is to decipher the molecular content of Sgr B2(N) in order to test the predictions of astrochemical numerical simulations and gain insight into the chemical processes at work in the ISM. I will in particular report on the tentative detection of N-methylformamide<sup>a</sup>, on the deuterium fractionation of COMs<sup>b</sup>, and on the detection of a branched alkyl molecule in the ISM<sup>cd</sup>. The latter detection has unveiled a new domain in the structures available to the chemistry of star-forming regions and established a further connection to the COMs found in meteorites.

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<sup>a</sup>A. Belloche, A. A. Meshcheryakov, R. T. Garrod et al. 2017, A&A, in press, DOI: 10.1051/0004-6361/201629724

<sup>b</sup>A. Belloche, H. S. P. Müller, R. T. Garrod, and K. M. Menten 2016, A&A, 587, A91

<sup>c</sup>A. Belloche, R. T. Garrod, H. S. P. Müller, and K. M. Menten 2014, Science, 345, 1584

<sup>d</sup>R. T. Garrod, A. Belloche, H. S. P. Müller, and K. M. Menten 2017, A&A, in press, DOI: 10.1051/0004-6361/201630254