THE QUEST FOR COMPLEX MOLECULES IN SPACE. SEARCHES FOR CYANIDES RELATED TO n-PROPYL CYANIDE IN SGR B2(N)

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A molecular line survey was carried out with the IRAM 30 m telescope toward the prolific hot core Sgr B2(N) in order to explore its molecular complexity. The entire 3 mm range as well as selected regions at 2 and 1.3 mm were covered. Notable results include the detections of aminoacetonitrile,[a] ethyl formate,[b] n-propyl cyanide,[b] and the singly substituted ^{13}C isotopologs of vinyl cyanide.[c]
There exists a branched isomer of n-propyl cyanide: iso-propyl cyanide. A search for this isomer in our line survey required a laboratory spectroscopic investigation beforehand.[d] Even though promising emission features have been found for this as well as other, related molecules, there are rather few uncontaminated lines. Overlap by other emission or some absorption features occurs frequently, and uncertainties about the position of the baseline also contribute to considering detections to be inconclusive. Nevertheless, the determination of upper limits or abundances among isomers and related molecules will help to constrain astrochemical pathways.
We will present our results and discuss promising strategies to search for complex molecules in space.

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[b] A. Belloche, R. T. Garrod, H. S. P. Müller, K. M. Menten, C. Comito, P. Schilke, *Astron. Astrophys.* **499** (2009), 215.
[c] H. S. P. Müller, A. Belloche, K. M. Menten, C. Comito, P. Schilke, *J. Mol. Spectrosc.* **251** (2008) 319.
[d] H. S. P. Müller, A. Coutens, A. Walters, J.-U. Grabow, S. Schlemmer, submitted to *J. Mol. Spectrosc.*