



Journal Name

ARTICLE TYPE

1 Supplementary Material

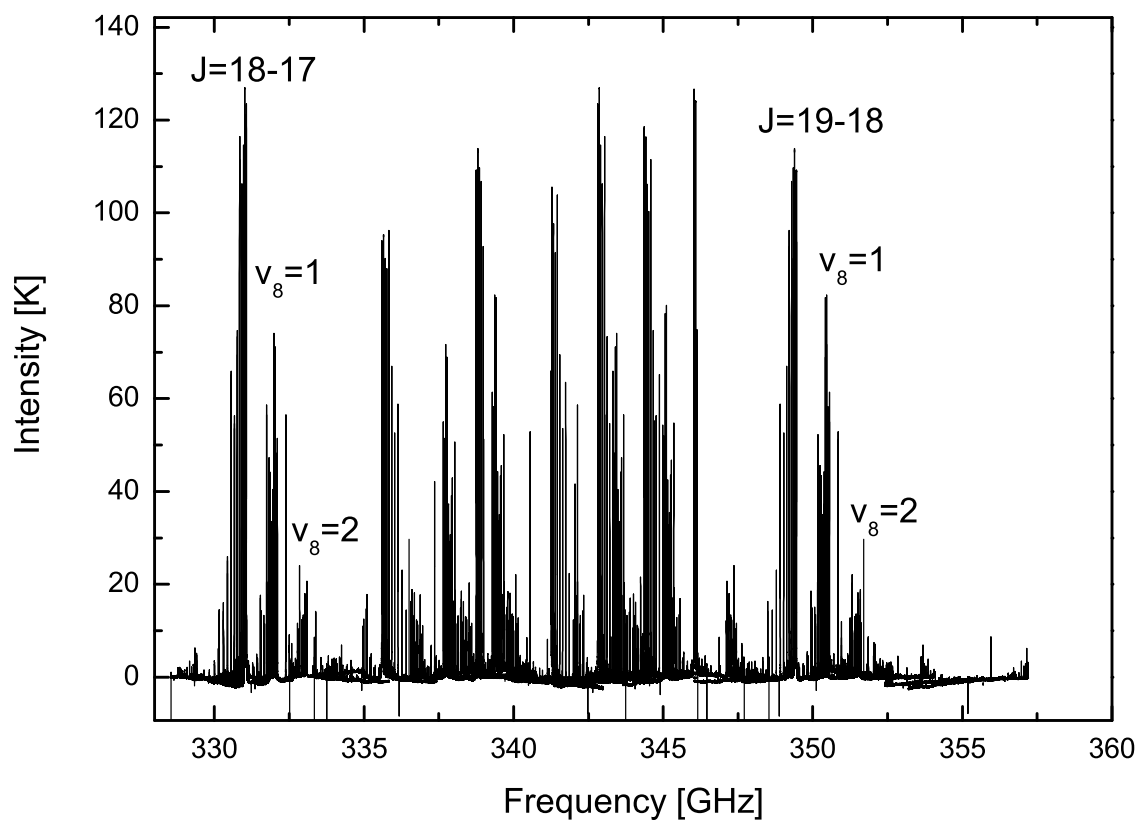


Fig. 1 Unbiased spectral line survey of methyl cyanide (CH₃CN). The DSB spectrum is shown. Frequencies are given in GHz and the intensity is calibrated to Kelvin (DSB). The laboratory survey coincides with the ALMA Band 7 PILS survey (see Reference 20 in the main article).

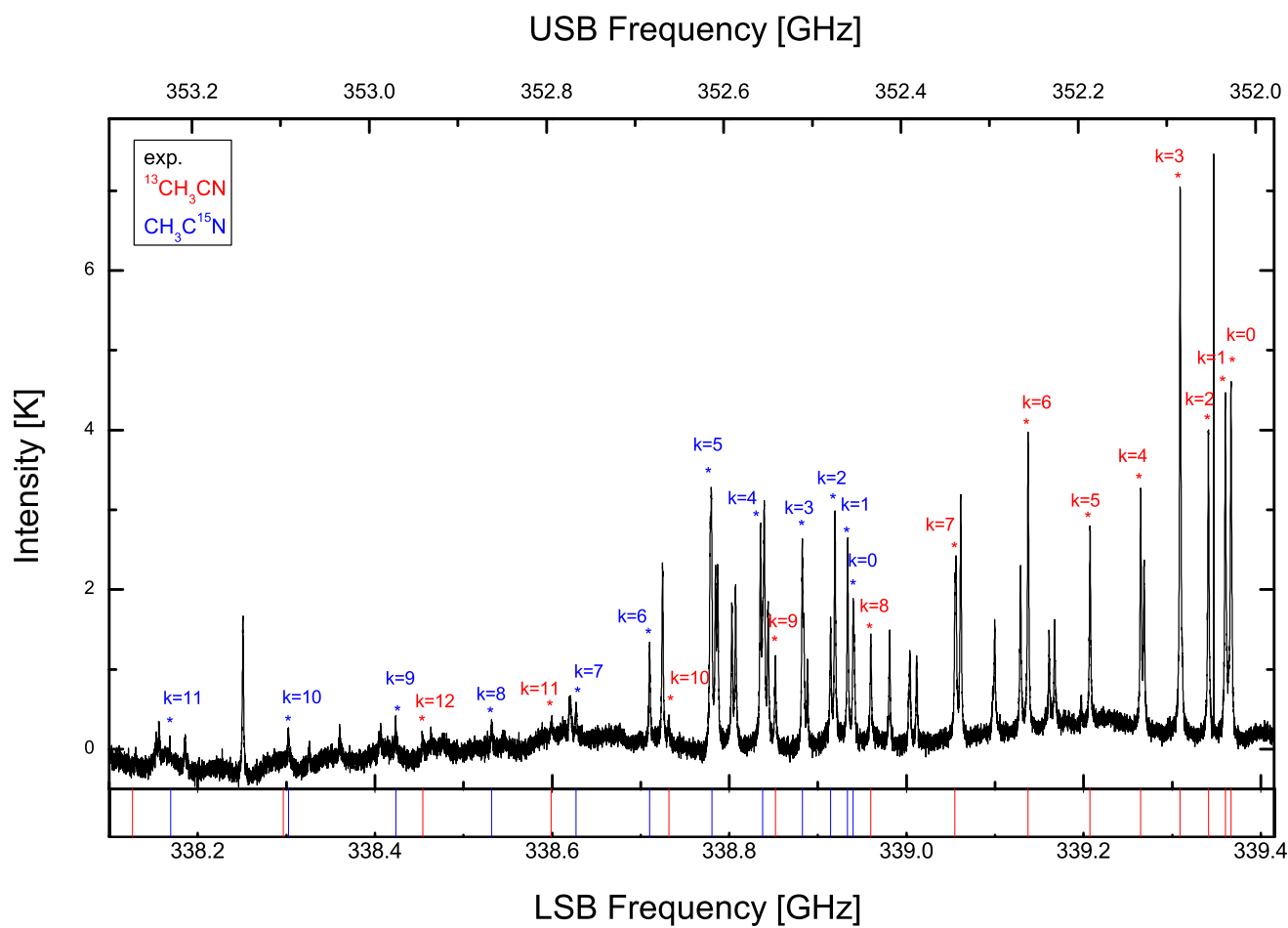


Fig. 2 The $^{13}\text{CH}_3\text{CN}$ and $\text{CH}_3\text{C}^{15}\text{N}$ isotopes are shown. The black line shows the experimental emission spectrum. In red and blue a stick diagram is shown giving the frequencies of the isotopologues. Here, red indicates the position of the ^{13}C isotopologue, and blue is indicative of the ^{15}N isotopologue. The spectrum has been recorded integrating 300 s on the molecular signal at pressures of around 1×10^{-2} mbar. The intensities are calibrated to Kelvin (DSB). The absolute noise is around 0.05 K.

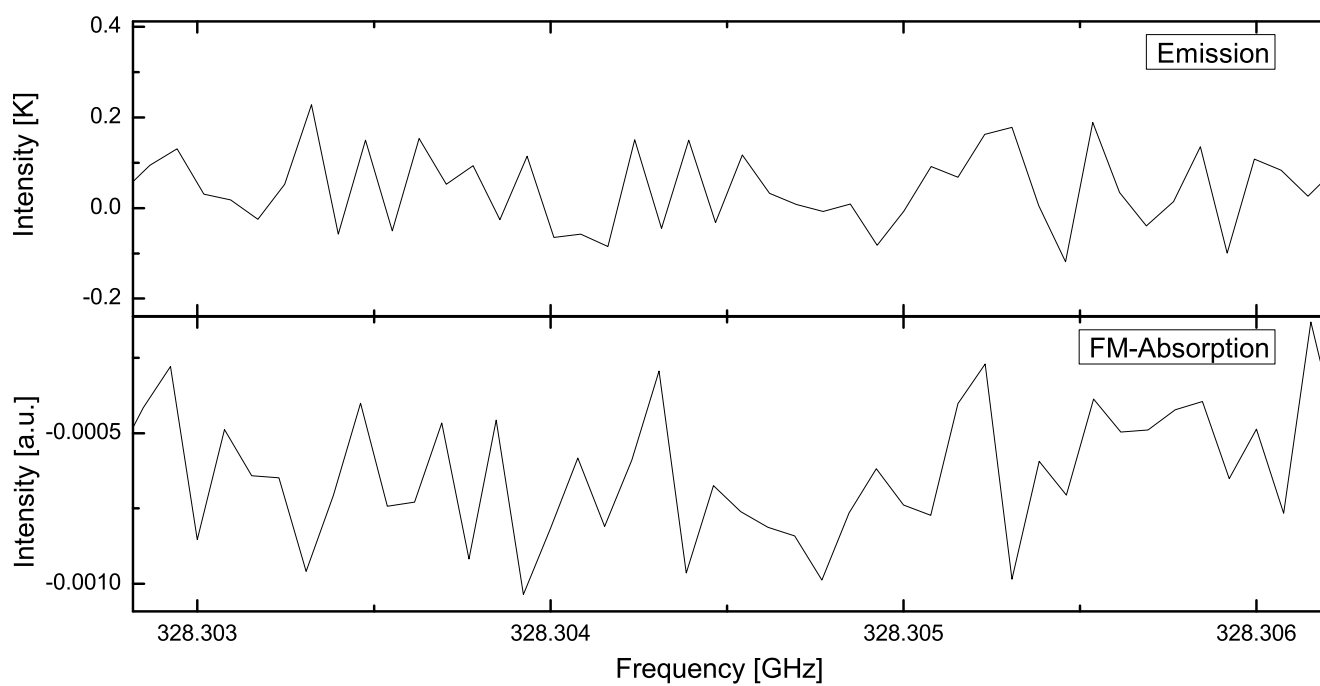


Fig. 3 The baseline of a 300 second integration using the emission spectrometer is shown in the upper panel. Lower panel: The baseline of the FM-absorption experiment is shown after correcting for the difference in integration time between the two distinct spectroscopic techniques.