A ACETIC ACID SURVEY TOWARD HIGH- AND LOW-MASS STAR FORMING REGIONS

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We have used the Combined Array for Research in Millimeter-wave Astronomy (CARMA) to conduct a survey of acetic acid (CH_3COOH) at 3 mm wavelengths toward the hot core G19.61-0.23 and the two deeply embedded low-mass protostars IRAS 16293-2422 and NGC 1333 IRAS 4. The observed CH_3COOH transitions are the $10_{*,10} - 9_{*,9}$ E and A lines. We have detected ($>3\ \sigma$ level) these two lines in G19.61-0.23. The abundance ratio of CH_3COOH to its isomer, methyl formate ($HCOOCH_3$), is comparable to other CH_3COOH sources. However, the CH_3COOH lines in IRAS 16293-2422 and NGC 1333 IRAS 4 are not detected in our observations. We set upper limits for the column densities for each source. Based on the CH_3COOH detection in IRAS 16293-2422 reported by Cazaux et al., we should have detected the two lines. Therefore, we suggest that the CH_3COOH detection in IRAS 16293-2422 is still uncertain.

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