LETTER TO THE EDITOR

Discovery of HC$_3$O$^+$ in space: The chemistry of O-bearing species in TMC-1

(Corrigendum)

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Key words. astrochemistry – ISM: molecules – ISM: individual objects: TMC-1 – line: identification – molecular data – errata, addenda

Table 1 of the paper “Discovery of HC$_3$O$^+$: The chemistry of O-bearing species in TMC-1” contains two typographical errors. The correct values are given in Table 1 of this corrigendum. Also, the units of the derived distortion constant have to be corrected. The value derived from the astronomical observations is $D = 0.5106 \pm 0.0047 \text{ kHz}$, and the one obtained from the merged fit to the laboratory and astronomical data is $D = 0.5064 \pm 0.0030 \text{ kHz}$.

Table 1. Observed line parameters for the new molecule in TMC-1.

| $J_u-J_l$ | $\nu_{\text{obs}}$ (MHz) | $\nu_o - \nu_c$ (kHz) | $\int T_A^* dv$ (mK km s$^{-1}$) | $\Delta v$ (km s$^{-1}$) | $T_A^*$ (mK) |
|-----------|-------------------------|------------------------|-------------------------------|------------------------|-------------|
| 4–3       | 3568.590                | 0.6                    | 9.1 ± 0.5                     | 0.63 ± 0.03            | 13.8        |
| 5–4       | 4460.648                | +4.4                   | 10.7 ± 0.6                    | 0.45 ± 0.03            | 22.5        |
| 10–9      | 8920.744                | −11.3                  | 6.4 ± 1.0                     | 0.44 ± 0.09            | 13.8        |
| 11–10     | 9813.267                | 8.0                    | 2.4 ± 0.7                     | 0.40 ± 0.10            | 5.8         |

Notes. $^{(a)}$Observed frequencies adopting a $v_{\text{LSR}}$ of 5.83 km s$^{-1}$ for TMC-1. The uncertainty is 10 kHz for all the lines. $^{(b)}$Observed minus calculated frequencies in kilohertz. $^{(c)}$Integrated line intensity in mK km s$^{-1}$. $^{(d)}$Line width at half intensity derived by fitting a Gaussian line profile to the observed transitions (in km s$^{-1}$).

* Based on observations carried out with the Yebes 40 m telescope (projects 19A003 and 20A014) and the Institut de Radioastronomie Millimétrique (IRAM) 30 m telescope. The 40 m radio telescope at Yebes Observatory is operated by the Spanish Geographic Institute (IGN, Ministerio de Transportes, Movilidad y Agenda Urbana); IRAM is supported by INSU/CNRS (France), MPG (Germany), and IGN (Spain).