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The chemistry and spatial distribution of small hydrocarbons in UV-irradiated molecular clouds: the Orion Bar PDR⋆ *(Corrigendum)*

S. Cuadrado[1,2], J. R. Goicoechea[1,2], P. Pilleri[3,4], J. Cernicharo[1,2], A. Fuente[5], and C. Joblin[3,4]

[1] Grupo de Astrofísica Molecular. Instituto de Ciencia de Materiales de Madrid (ICMM, CSIC), Sor Juana Ines de la Cruz 3, 28049 Cantoblanco, Madrid, Spain
e-mail: s.cuadrado@icmm.csic.es
[2] Centro de Astrobiología (CSIC-INTA), Carretera de Ajalvir km 4, Torrejón de Ardoz, 28850 Madrid, Spain
[3] Université de Toulouse, UPS-OMP, IRAP, 31062 Toulouse, France
[4] CNRS, IRAP, 9 Av. colonel Roche, BP 44346, 31028 Toulouse Cedex 4, France
[5] Observatorio Astronómico Nacional, Apdo. 112, 28803 Alcalá de Henares, Madrid, Spain

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In Sect. 3.2.1 (p. 5) of our original publication (Cuadrado et al. 2015), we stated that the centrifugal distortion constant, D, of l-C_3H^+ is higher than that of C_3. However, the sentence should read "higher than that of linear C_3H". The D value of l-C_3H^+ is 7.6605 kHz (Cuadrado et al. 2015), while that of l-C_3H is 5.1365 kHz (Yamamoto et al. 1990). For clarity, we note that the D constant of C_3 is 44.099 kHz (Krieg et al. 2013). Botschwina et al. (2014) found a high degree of floppiness for l-C_3H^+ but not as high as that of C_3. In addition, Stein et al. (2015) have recently computed that the lowest energy bending mode of l-C_3H^+ lies at 125.7 cm^{-1}, which is about twice that of C_3 (~63.4 cm^{-1}, Schmuttenmaer et al. 1990).

Furthermore, p. 12 contained a typographical error on the total column density of hydrogen nuclei towards the dissociation front position. The correct $N_H = N(H)+2N(H_2)$ value is $N_H = 6.3 \times 10^{22}$ cm^{-2}, with $N(H) \simeq 3 \times 10^{21}$ cm^{-2} and $N(H_2) \simeq 3 \times 10^{22}$ cm^{-2}. The molecular abundances, $N(X)/N_H$, derived from the column densities inferred from observations (Tables 4–6) were all computed using the correct N_H value. Therefore, the numbers in the tables and the results of the paper remain unchanged.

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