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Addition/Correction

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Addition to "Indirect Rotational Spectroscopy of HCO^+"

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After publication, we learned that pure rotational transitions in the $1\nu_1$ vibrationally excited state of HCO^+ had been measured by Warner in his Ph.D. thesis[1] and by Hirao et al.,[2] so our combination differences and fit results should be compared to the results from this work.

Additionally, a 1 MHz error was found in the calculation of all of the vibrationally excited combination differences as a result of a single transcription error in the $J = 3 \leftarrow 2$ excited state transition[3] used in determining the combination differences. The corrected values are reported in Table 1.

Table 1. Summary of the Corrected Rotational Transitions in the $1\nu_1$ Vibrationally Excited State and a Comparison of Those to Previously Determined Values[a]

$J'-J''$	frequency	previous	calc − prev
1−0	88485.7(19)	88480.748(100)[b]	5.0
2−1	176956.4(16)	176959.485[c]	−3.1
4−3	353901.7(9)	353903.215(30)[d]	−1.5
5−4	442365.0(11)	442364.230(30)[d]	0.8
6−5	530814.3(13)	530815.436[c]	−1.1
7−6	619256.7(16)	619254.813(30)[d]	1.9
8−7	707677.4(19)	707680.392(30)[d]	−3.0
9−8	796092.7(19)	796090.220(20)[d]	2.5
10−9	884478.9(24)	884482.326[c]	−3.4

[a]The comparison column is the difference between our calculated combination difference and the previously calculated or observed value. All the values are in MHz. [b]Warner.[1] [c]Hirao et al. calculated.[2] [d]Hirao et al. observed.[2]

Excluding the $J = 1 \leftarrow 0$ transition, all previous values are within 2σ of our determined frequencies.

The differences between the B and D constants in this paper and those in Hirao et al. arise from the inclusion of a sextic distortion constant. When the sextic distortion constant is not included, the B and D constants (B = 44240.511(41) MHz and D = 82.13(30) kHz) are in good agreement with those of Hirao et al. (B = 44240.52774(118) MHz and D = 82.0571(87) kHz).

■ ACKNOWLEDGMENTS

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■ REFERENCES

(1) Warner, H. The Microwave Spectroscopy of Ions and Other Transient Species in DC Glow and Extended Negative Glow Discharges. Ph.D. thesis, University of Wisconsin−Madison, 1988.

(2) Hirao, T.; Yu, S.; Amano, T. Sub-millimeter Spectroscopy of HCO^+ in the Excited Vibrational States. *J. Mol. Spectrosc.* **2008**, *248*, 26−40.

(3) Hirota, E.; Endo, Y. Microwave Spectroscopy of HCO^+ and DCO^+ in the Excited Vibrational States. *J. Mol. Spectrosc.* **1988**, *127*, 527−534.

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