ERRATA

Erratum: "Thermal and vibrational-state selected rates of the $CH_4+Cl\leftrightarrow HCl+CH_3$ reaction" [J. Chem. Phys. 103, 9642 (1995)]

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There was an error in the calculations of the $CH_4+Cl\rightarrow CH_3+HCl$ forward rate constants. The spin-orbit coupling effect splits the doubly degenerate electronic level ^2P into $^2P_{1/2}$ and $^2P_{3/2}$. In calculations of the electronic partition function of Cl, a degeneracy of 2 for the $^2P_{3/2}$ state was mistakenly assigned instead of the correct value of 4. Corrections for Tables IV and VII and for Fig. 5 are given.

Figure 8 of the paper can be updated from Table VII.

TABLE IV. Calculated and experimental forward rate constants (cm^3 $molecule^{-1}$ s^{-1}) of the $CH_4+Cl\rightarrow CH_3+HCl$ reaction.

T (K)	TST	TST/W	CVT	CVT/SCT
200	3.33*E*-16	1.45*E*-15	2.92*E*-16	9.93*E*-16
250	2.91*E*-15	6.90*E*-15	2.62*E*-15	5.74*E*-15
290	9.84*E*-15	1.99*E*-14	9.00*E*-15	1.61*E*-14
300	1.27*E*-14	2.49*E*-14	1.17*E*-14	2.01*E*-14
350	3.81*E*-14	6.47*E*-14	3.54*E*-14	5.27*E*-14
400	8.98*E*-14	1.37*E*-13	8.34*E*-14	1.14*E*-13
450	1.80*E*-13	2.56*E*-13	1.69*E*-13	2.16*E*-13
500	3.23*E*-13	4.34*E*-13	3.05*E*-13	3.72*E*-13
600	8.34*E*-13	1.03*E*-12	7.89*E*-13	9.02*E*-13
800	3.19*E*-12	3.62*E*-12	3.03*E*-12	3.27*E*-12
1000	8.17*E*-12	8.89*E*-12	7.74*E*-12	8.17*E*-12

TABLE VII. Calculated vibrational-state selected forward rate constants (cm^3 $molecule^{-1}$ s^{-1}) for the $CH_4+Cl\rightarrow CH_3+HCl$ reaction.

	$CH_4(\nu_{t2}=1)+Cl$			$CH_4(\nu_{a1}=1)+Cl$	
T (K)	TST	CVT	CVT/SCT	TST	CVT
200	1.91*E*-13	2.30*E*-14	5.16*E*-14	2.82*E*-10	1.60*E*-12
250	4.52*E*-13	8.91*E*-14	1.49*E*-13	1.61*E*-10	3.45*E*-12
290	7.36*E*-13	1.93*E*-13	2.82*E*-13	1.20*E*-10	5.28*E*-12
300	8.17*E*-13	2.27*E*-13	3.24*E*-13	1.14*E*-10	5.77*E*-12
350	1.27*E*-12	4.57*E*-13	5.92*E*-13	9.26*E*-11	8.37*E*-12
400	1.83*E*-12	7.93*E*-13	9.70*E*-13	8.11*E*-11	1.10*E*-11
450	2.48*E*-12	1.26*E*-12	1.47*E*-12	7.60*E*-11	1.39*E*-11
500	3.28*E*-12	1.87*E*-12	2.13*E*-12	7.48*E*-11	1.69*E*-11
600	5.26*E*-12	3.63*E*-12	3.96*E*-12	7.73*E*-11	2.32*E*-11
800	1.02*E*-11	8.83*E*-12	9.26*E*-12	8.61*E*-11	3.33*E*-11
1000	1.75*E*-11	1.65*E*-11	1.70*E*-11	9.38*E*-11	4.37*E*-11

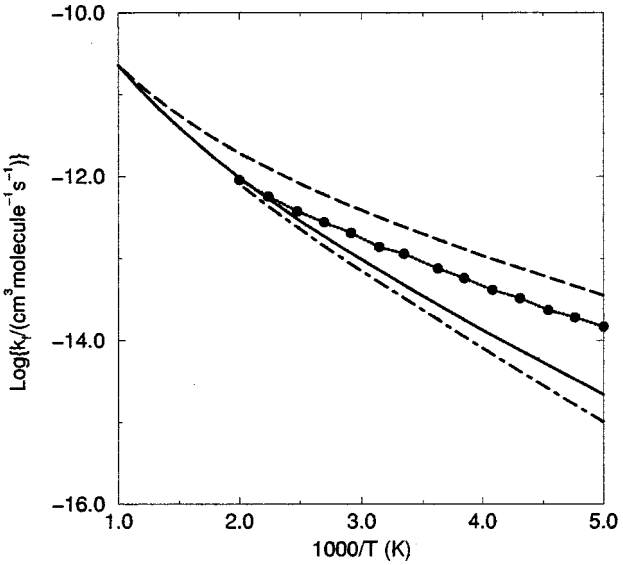

FIG. 5. Calculated and experimental forward rate constants for the $CH_4+Cl\rightarrow CH_3+Cl$ reaction plotted vs 1000/T. Dashed line is the CVT/SCT rate constants without the spin-orbit coupling effects. Dotted line is experimental data from an Arrhenius fit [Ref. 9 of original paper (Ref. 1)]. Solid line is the full CVT/SCT results. Dotted-dashed line is from Dobbs and Dixon [Ref. 17 of original paper (Ref. 2)].

[1] W. B. DeMore, S. P. Sander, D. M. Golden, R. F. Hampson, M. J. Kurylo, C. J. Howard, A. R. Ravishankara, C. E. Kolb, and M. J. Molina, in *JPL Publication 92-20* (Jet Propulsion Laboratory, Pasadena, CA, 1992).
[2] K. D. Dobbs and D. A. Dixon, J. Phys. Chem. **98**, 12584 (1994).

