

ADDITIONS AND CORRECTIONS

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Kenshi Takahashi,* Erika Iwasaki, Yutaka Matsumi, and Timothy J. Wallington: Pulsed Laser Photolysis Vacuum UV Laser-Induced Fluorescence Kinetic Study of the Gas-Phase Reactions of Cl(²P_{3/2}) Atoms with C₃–C₆ Ketones

Page 1271. We have discovered several typographical errors in Tables 1 and 2. The errors are minor and do not alter any of the conclusions in the paper. To avoid confusion in the future, corrected versions of Tables 1 and 2 are given below. Correc-

TABLE 1: Rate Coefficients for Reactions of Cl Atoms with Selected Ketones at Room Temperature

compound	rate coefficient ^a	total pressure ^b	buffer gas	experimental technique ^c	ref
acetone	$(2.37 \pm 0.12) \times 10^{-12}$	700	N ₂	relative	2
	$(1.69 \pm 0.32) \times 10^{-12}$	760	N ₂	relative	3
	$(3.06 \pm 0.38) \times 10^{-12}$	15–60	He	PLP-RF	4
	$(2.0 \pm 0.3) \times 10^{-12}$	760	air	relative	5
	$(2.2 \pm 0.4) \times 10^{-12}$	700	O ₂ /N ₂	relative	6
	$(2.93 \pm 0.20) \times 10^{-12}$	20–200	He	PLP-RF	7
	$(2.00 \pm 0.09) \times 10^{-12}$	760	air	relative	8
	$(2.2 \pm 0.4) \times 10^{-12}$	760	N ₂ , air	relative	9
	$(2.20 \pm 0.14) \times 10^{-12}$	1	He	DF–MS	10
	$(2.30 \pm 0.12) \times 10^{-12}$	6.6	Ar	PLP-LIF	this work
butanone	$(4.13 \pm 0.57) \times 10^{-11}$	700	N ₂	relative	2
	$(3.24 \pm 0.38) \times 10^{-11}$	15–60	He	PLP-RF	4
	$(3.30 \pm 0.20) \times 10^{-11}$	20–200	He	PLP-RF	7
	$(3.27 \pm 0.55) \times 10^{-11}$	60–80	He	PLP-RF	11
	$(4.04 \pm 0.33) \times 10^{-11}$	700	N ₂ , air	relative	1
	$(4.08 \pm 0.21) \times 10^{-11}$	6.6	Ar	PLP-LIF	this work
2-pentanone	$(4.57 \pm 0.28) \times 10^{-11}$	20–200	He	PLP-RF	7
	$(4.17 \pm 1.21) \times 10^{-11}$	60–80	He	PLP-RF	11
	$(1.11 \pm \mathbf{0.10}) \times 10^{-10}$	700	N ₂ , air	relative	1
3-pentanone	$(1.23 \pm 0.13) \times 10^{-10}$	6.6	Ar	PLP-LIF	this work
	$(4.50 \pm 0.32) \times 10^{-11}$	20–200	He	PLP-RF	7
	$(5.9 \pm 0.5) \times 10^{-11}$	1	He	DF–MS	12
cyclopentanone	$(\mathbf{8.10} \pm \mathbf{0.85}) \times 10^{-11}$	700	N ₂ , air	relative	1
	$(8.87 \pm 0.92) \times 10^{-11}$	6.6	Ar	PLP-LIF	this work
	$(4.76 \pm 0.33) \times 10^{-11}$	760	N ₂	relative	3
	$(1.11 \pm 0.10) \times 10^{-10}$	700	N ₂	relative	13
2-hexanone	$(1.16 \pm 0.12) \times 10^{-10}$	6.6	Ar	PLP-LIF	this work
	$(6.54 \pm 0.58) \times 10^{-11}$	20–200	He	PLP-RF	7
	$(6.56 \pm 0.98) \times 10^{-11}$	60–80	He	PLP-RF	11
	$(1.88 \pm \mathbf{0.18}) \times 10^{-10}$	700	N ₂ , air	relative	1
3-hexanone	$(2.08 \pm 0.32) \times 10^{-10}$	6.6	Ar	PLP-LIF	this work
	$(6.69 \pm 0.62) \times 10^{-11}$	20–200	He	PLP-RF	7
	$(8.3 \pm 1.7) \times 10^{-11}$	1	He	DF–MS	12
	$(\mathbf{1.43} \pm \mathbf{0.19}) \times 10^{-10}$	700	N ₂ , air	relative	1
	$(1.43 \pm 0.19) \times 10^{-10}$	6.6	Ar	PLP-LIF	this work

^a Units of cm³ molecule⁻¹ s⁻¹, uncertainties are 2σ statistical errors ^b Units of Torr ^c Experimental techniques: RR, relative rate; PLP-LIF, pulsed laser photolysis coupled with vacuum ultraviolet laser-induced fluorescence spectroscopy; PLP-RF, pulsed laser photolysis coupled with resonance fluorescence detection; DF–MS, discharge flow mass spectrometric technique.

TABLE 2: Rate Coefficients for Cl and OH Reactions and Estimated Atmospheric Lifetimes

compound	$k^{\text{OH } a}$	$k^{\text{Cl } b}$	$\tau_{\text{OH}/\text{day}^c}$	$\tau_{\text{Cl}/\text{day}^d}$
acetone	$1.8 \times 10^{-13} e$	2.30×10^{-12}	64.3	50–500
2-butanone	$1.2 \times 10^{-12} e$	4.08×10^{-11}	9.6	3–30
2-pentanone	$4.56 \times 10^{-12} f$	1.23×10^{-10}	2.5	0.9–9.0
3-pentanone	$2.9 \times 10^{-12} g$	8.87×10^{-11}	5.6	1.3–13
cyclopentanone	$2.94 \times 10^{-12} h$	$\mathbf{1.16} \times \mathbf{10^{-10}}$	4.0	1–10
2-hexanone	$6.64 \times 10^{-12} g$	$\mathbf{2.08} \times \mathbf{10^{-10}}$	1.7	0.6–6.0
3-hexanone	$6.96 \times 10^{-12} i$	$\mathbf{1.43} \times \mathbf{10^{-10}}$	1.7	0.8–8.0

^a In units of cm³ molecule⁻¹ s⁻¹. ^b Determined in this work. In units of cm³ molecule⁻¹ s⁻¹. ^c Lifetime with respect to reaction with OH radicals assuming [OH] = 10⁶ cm⁻³. ^d Lifetime with respect to reaction with Cl atoms assuming [Cl] = 10⁴–10⁵ cm⁻³. ^e Atkinson et al.¹⁴ ^f Atkinson et al.¹⁵ ^g Wallington and Kurylo¹⁶ ^h Dagaut et al.¹⁷ ⁱ Atkinson et al.¹⁸

tions are indicated in **bold** font. It should be noted that identical values (and uncertainties) of $k(\text{Cl} + 3\text{-hexanone}) = (1.43 \pm 0.19) \times 10^{-10} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ were determined in the relative rate study by Taketani et al.¹ and the absolute rate pulsed laser photolysis laser induced fluorescence study (this is not a typo).

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