

[Home](#)[Online Library ACP](#)[Recent Final Revised Papers](#)[Volumes and Issues](#)[Special Issues](#)[Library Search](#)[Title and Author Search](#)[Online Library ACPD](#)[Alerts & RSS Feeds](#)[General Information](#)[Submission](#)[Review](#)[Production](#)[Subscription](#)[Comment on a Paper](#)

Impact
Factor
4.865

ISI
indexed

[Volumes and Issues](#) [Contents of Issue 1](#)

Atmos. Chem. Phys., 1, 1-7, 2001

www.atmos-chem-phys.net/1/1/2001/

© Author(s) 2001. This work is licensed under a Creative Commons License.

298 K rate coefficients for the reaction of OH with *i*-C₃H₇I, *n*-C₃H₇I and C₃H₈

S. A. Carl¹ and J. N. Crowley²¹Department of Chemistry, University of Leuven, Celestijnenlaan 200F, B-3001 Leuven, Belgium²Max-Planck-Institut für Chemie, Division of Atmospheric Chemistry, Postfach 3060, D-55020 Mainz, Germany

Abstract. The kinetics of the title reactions were investigated using the laser photolysis - resonance fluorescence method, employing the sequential two-photon dissociation of NO₂ in the presence of H₂ as the OH source. The 298 K rate constant for OH + C₃H₈ was found to be $(1.15 \pm 0.1) \times 10^{-12} \text{ cm}^3 \text{ s}^{-1}$, in excellent agreement with the literature recommendation, and with a separate determination using HNO₃ photolysis at 248 nm as the OH source. The 298 K rate constants for OH + *n*-C₃H₇I and *i*-C₃H₇I were measured for the first time and found to be (1.47 ± 0.08) and $(1.22 \pm 0.06) \times 10^{-12} \text{ cm}^3 \text{ s}^{-1}$, respectively. The errors include an assessment of systematic error due to concentration measurement, which, for the propyl-iodides was minimised by on-line UV-absorption spectroscopy. These results show that reaction with OH is an important sink for *n*-C₃H₇I and *i*-C₃H₇I, which has implications for the reactive iodine budget of the marine boundary layer.

[Final Revised Paper](#) (PDF, 116 KB) [Discussion Paper](#) (ACPD)

Citation: Carl, S. A. and Crowley, J. N.: 298 K rate coefficients for the reaction of OH with *i*-C₃H₇I, *n*-C₃H₇I and C₃H₈, Atmos. Chem. Phys., 1, 1-7, 2001. [Bibtex](#) [EndNote](#) [Reference Manager](#)

[Search ACP](#)

Library Search

Author Search

[News](#)

- [Sister Journals AMT & GMD](#)
- [Financial Support for Authors](#)
- [Journal Impact Factor](#)
- [Public Relations & Background Information](#)

[Recent Papers](#)

01 | ACPD, 12 Mar 2009: A new insight on tropospheric methane in the Tropics – first year from IASI hyperspectral infrared observations

02 | ACPD, 11 Mar 2009: Comparison of analytical methods for HULIS measurements in atmospheric particles

03 | ACPD, 11 Mar 2009: Vertical distribution of aerosols in Mexico City during MILAGRO-2006 campaign