

Supplementary Information
Figure 1S

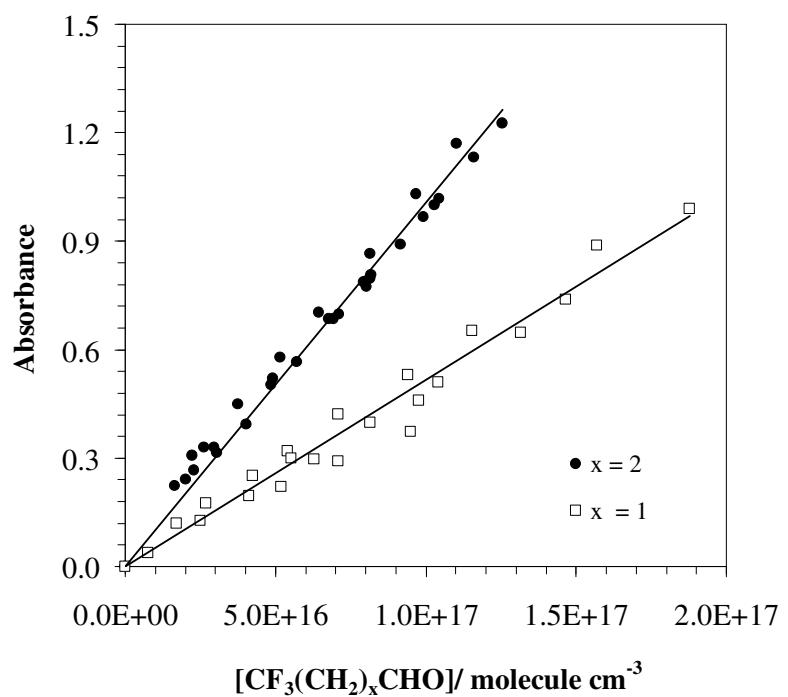


Fig. 1S. Beer-Lambert plots of $\text{CF}_3(\text{CH}_2)_x\text{CHO}$ at 185 nm and $T = 298 \text{ K}$.

Figure 2S

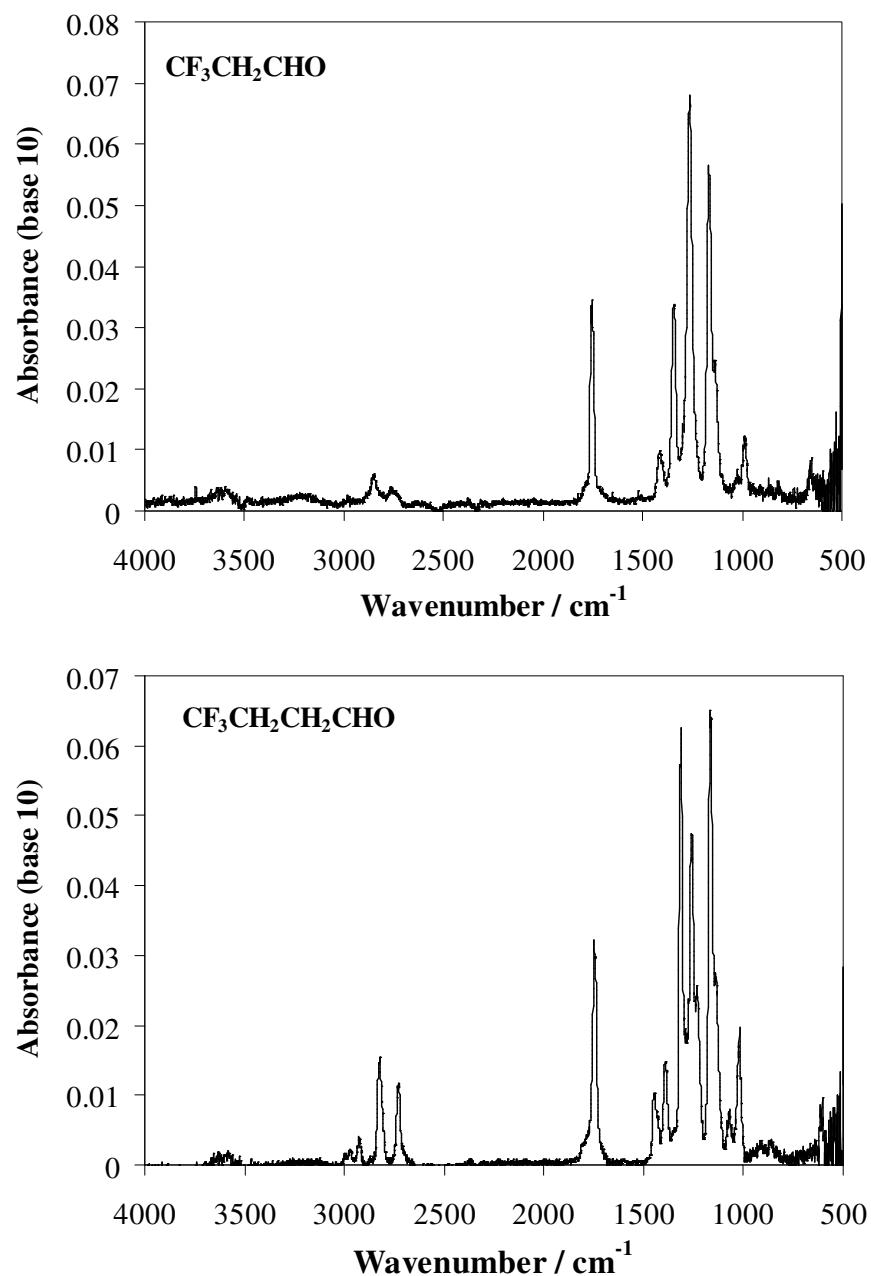


Fig 2S. Infrared spectrum of a diluted mixture of $\text{CF}_3\text{CH}_2\text{CHO}$ (2.92×10^{14} molecule cm^{-3}) and $\text{CF}_3\text{CH}_2\text{CH}_2\text{CHO}$ (2.12×10^{14} molecule cm^{-3}) recorded during a kinetic experiment. Pathlength: 800 cm.

Figure 3S

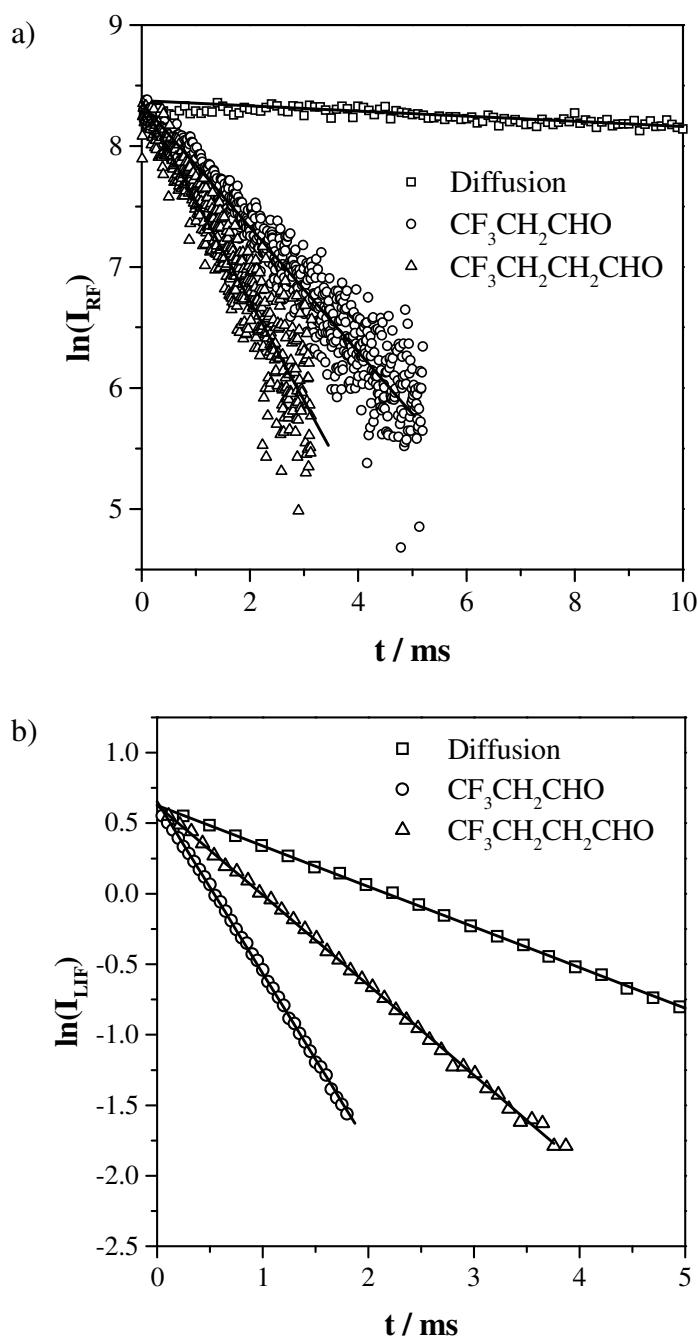


Fig 3S. (a) Temporal profiles of the resonance fluorescence signal (I_{RF}) of Cl atoms recorded in the absence and in the presence of $\text{CF}_3\text{CH}_2\text{CHO}$ ($2.5 \times 10^{13} \text{ molecule cm}^{-3}$, 331 K) and $\text{CF}_3(\text{CH}_2)_2\text{CHO}$ ($1.2 \times 10^{13} \text{ molecule cm}^{-3}$, 351 K); (b) Temporal profiles of the laser induced fluorescence signal (I_{LIF}) of OH radicals recorded in the absence and in the presence of $\text{CF}_3\text{CH}_2\text{CHO}$ ($1.6 \times 10^{14} \text{ molecule cm}^{-3}$) and $\text{CF}_3(\text{CH}_2)_2\text{CHO}$ ($1.0 \times 10^{14} \text{ molecule cm}^{-3}$) at 298 K.