

Reply to Comment on “Temperature and Pressure Dependence of the Multichannel Rate Coefficients for the CH₃ + OH System”

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The experimental work for this paper was carried out exclusively by Pereira, as part of his Ph.D. thesis at the University of Leeds, which was completed in 1993. The experimental data for $k(\text{CH}_3 + \text{OH})$ are only weakly dependent on pressure under the experimental conditions employed. His thesis also contained a master equation analysis of the reaction, and in particular of the competition between the two main channels giving ${}^1\text{CH}_2 + \text{H}_2\text{O}$, which is the major reaction channel at low pressures, and CH_3OH , which predominates at high pressures. It was difficult to constrain the calculations, because of the uncertainty in the enthalpy of formation of ketene, which was reflected in the uncertainty in the energy of the

${}^1\text{CH}_2 + \text{H}_2\text{O}$ channel relative to that of the reactants. As a result, we delayed publication.

Subsequent results were published in 1995 by Carstensen and Wagner (ref 36 in the original paper) on the yield of CH_3 from ${}^1\text{CH}_2 + \text{H}_2\text{O}$, whereas Deeters et al. (ref 37, in press when our paper was published) determined the yield of CH_2 from $\text{CH}_3 + \text{OH}$. These results provided substantial constraints and G. Zeng, as part of her research for a Ph.D. at Leeds, carried out master equation calculations, based on Pereira's experimental work and that of refs 36 and 37. She was able to rationalize all of the experimental data and also to determine, to quite good precision, the energy of the ${}^1\text{CH}_2 + \text{H}_2\text{O}$ channel and the enthalpy of formation of ${}^1\text{CH}_2$.

It was at this stage that we decided to publish the paper, which was submitted on July 2, 1997. By this stage, I had lost contact with Pereira, who had left Chemistry to work in Computing. It was not, therefore, possible to ask his permission to attach his name to the paper. The authors all felt that his work was central to the paper and that he should be the first named author.

The other authors and I have no objection to removal of Dr. Pereira's name from the author list.