

Kinetic Study on The Radical Reactions Relevant to Combustion Chemistry at High Temperature (1460-2050 K)

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- Diaphragmless Shock Tube/Atomic Resonance Absorption Spectrometry (ARAS)
- High Sensitivity Detection : [H], [O], [I]  $\sim 10^{11}$  atom/cm<sup>3</sup>

Rate Constants and Branching Ratios Studied:

$$\begin{split} \text{CH}_3\text{OH} &\to \text{CH}_3 + \text{OH} \\ &\to \text{CH}_2 + \text{H}_2\text{O} \\ &\to \text{CH}_2\text{OH/CH}_3 + \text{H} \\ \text{CH}_2 + \text{H}_2 &\to \text{products(H, O, ...)} \\ \text{CH}_2 + \text{O}_2 &\to \text{products(H, O, CO, ...)} \\ \text{CH}_2 \text{I}_2 \text{ decomposition rates} \\ \text{C}_3 \text{H}_8 \text{(propene), C}_4 \text{H}_{10} \text{(iso-butane)} \\ \text{decomposition kinetics.} \end{split}$$

