

# Effects of Some Roaming-type Transition States on Unimolecular Decomposition Reactions

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There have been numerous examples on the existence of roaming or roaming-like transition states since the term was coined by Suits, Harding, Bowman and coworkers (Sci., 306, 1158, 2004). Many of these very loose transition states do affect product distributions. In this presentation, several of examples studied in our group at NCTU relevant to combustion and atmosphere chemistry will be discussed; these include the production of CO (v) from highly excited CH<sub>3</sub>O, the hydrolyses of N<sub>2</sub>O<sub>4</sub> to HNO<sub>2</sub> + HNO<sub>3</sub>, the hypergolic reaction of (CH<sub>3</sub>)<sub>3</sub>Al in air, among others.