Kinetic studies of the reaction of ethyl iodie with chlorine atoms

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Reactions of iodine-containing compounds are believed to be important to understand the chemical and physical processes in the atmosphere. The iodine-containing compounds generate highly reactive radicals by photolysis or chemical reactions, and they should make influence to the chemistry in the atmosphere. We determined the rate coefficient of the reaction of ethyl iodide, which is one of the iodine containing compounds observed in coastal region, with chlorine atoms at room temperature by extrapolation of the reaction rate coefficients in high temperature (370 K - 450 K) to avoid the influence of adduct (C_2H_5I-Cl) formation and decomposition. It is known that ethyl iodide and chlorine atoms form adduct at room temperature, but it is not significant at high temperature (350- K). The contribution of the reaction of ethyl iodide with chlorine atoms to the atmospheric chemistry in the coastal region using the obtained reaction rate coefficient in comparison with photolysis and other possible reactions will be discussed at the meeting.