HO_2NO_2, RONO, $RONO_2$, $RC(O)OONO_2$, and RO_2NO_2 for smog chamber experiment EC-237 carried out at the Statewide Air Pollution Research Center of the University of California, Riverside, using the chemical mechanism of Falls and Seinfeld.[8] The conditions of the experiment are given in the footnote of Table 6-3. The simulated and predicted concentrations of the major measured species, such as NO, NO_2 O_3, PAN, and hydrocarbons, agreed well.

The concentrations of HONO, HO_2NO_2, and RONO are predicted to be small relative to those of NO and NO_2. Each of these species has decomposition reactions,

$$HONO + h\nu \rightarrow OH\cdot + NO \qquad (6\text{-}17)$$

$$HO_2NO_2 \rightarrow HO_2\cdot + NO_2 \qquad (6\text{-}36)$$

$$RONO + h\nu \rightarrow RO\cdot + NO \qquad (6\text{-}47)$$

that, at the temperatures and solar intensities prevalent in the experiment and in the summer atmosphere, are fast enough to insure that the concentrations of each of the three species are low. At lower solar intensities than those in the experiment, HONO and RONO can be expected to reach higher concentrations, and at lower temperatures, such as those in the stratosphere, HO_2NO_2 may accumulate.