

Reaction number	Reaction	Rate coefficient (cm <sup>3</sup> molecule <sup>-1</sup> s <sup>-1</sup> )
(R1)	SO <sub>2</sub> + OH + M → H <sub>2</sub> SO <sub>4</sub> + M	$k_O \cdot 0.6 \left(1 + (\log_{10}(fc \cdot M \cdot 1.5 \times 10^{12}))^2\right)^{-1}$
(R2)	DMS + OH → SO <sub>2</sub>	$9.6 \times 10^{-12} \cdot e^{-234/T}$
(R3)	DMS + OH → 0.75 · SO <sub>2</sub> + 0.5 · HO <sub>2</sub> + 0.029 · SOA <sub>LV</sub> + 0.114 · SOA <sub>SV</sub>	$\frac{(1.7 \times 10^{-42} \cdot e^{7810/T} [\text{O}_2])}{(1 + 5.5 \times 10^{-31} e^{7460/T} [\text{O}_2])}$
(R4)	DMS + NO <sub>3</sub> → SO <sub>2</sub> + HNO <sub>3</sub>	$1.9 \times 10^{-13} \cdot e^{-520/T}$
(R5)	monoterpene + OH → 0.15 · SOA <sub>SV</sub>	$1.2 \times 10^{-11} \cdot e^{-440/T}$
(R6)	monoterpene + O <sub>3</sub> → 0.15 · SOA <sub>LV</sub>	$8.05 \times 10^{-16} \cdot e^{-640/T}$
(R7)	monoterpene + NO <sub>3</sub> → 0.15 · SOA <sub>SV</sub>	$1.2 \times 10^{-12} \cdot e^{-490/T}$
(R8)	isoprene + OH → 0.05 · SOA <sub>SV</sub>	$2.7 \times 10^{-11} \cdot e^{-390/T}$
(R9)	isoprene + O <sub>3</sub> → 0.05 · SOA <sub>SV</sub>	$1.03 \times 10^{-14} \cdot e^{-1995/T}$
(R10)	isoprene + NO <sub>3</sub> → 0.05 · SOA <sub>SV</sub>	$3.15 \times 10^{-12} \cdot e^{-450/T}$
(R11)	HO <sub>2</sub> + HO <sub>2</sub> → H <sub>2</sub> O <sub>2</sub>	$(3.5 \times 10^{-13} \cdot e^{430/T} + 1.7 \times 10^{-33} \cdot e^{1000/T}) \cdot (1 + 1.4 \times 10^{-21} \cdot [\text{H}_2\text{O}] \cdot e^{2200/T})$
(R12)	H <sub>2</sub> O <sub>2</sub> + OH → H <sub>2</sub> O <sub>2</sub> + HO <sub>2</sub>	$2.9 \times 10^{-12} \cdot e^{-160/T}$
(R13)	H <sub>2</sub> O <sub>2</sub> + hν → 2 · OH	