

Parameter (abbreviation)	Base value (unit)	Multipliers
Nucleation rate constant ( $k_{\text{nuc}}$ )	$1 \times 10^{-21}$ ( $\text{cm}^{-6} \text{s}^{-1}$ )	0.05, 0.1, 0.25, 0.5, 1, 2, 4, 10, 20
OH oxidation rate constant ( $k_{\text{OH}}$ )	$k_{\text{OH}} = -5.7 \times 10^{-12} \ln(C^*) + 1.14 \times 10^{-10}$ ( $\text{cm}^3 \text{ molec}^{-1} \text{s}^{-1}$ )	0.1, 0.2, 0.4, 0.7, 1, 1.5, 2.5, 5, 10
Reactive uptake coefficient ( $\gamma_{\text{OH}}$ )	0.6 (unitless)	0.25, 0.5, 1, 2, 4
Effective uptake coefficient ( $\alpha_{\text{EFF}}$ )	1 (unitless)	0.01, 0.05, 0.1, 1
Gas-phase fragmentation rate constant ( $k_{\text{ELVOC}}$ )	$1 \times 10^{-10}$ ( $\text{cm}^3 \text{s}^{-1}$ )	0.11, 0.33, 1, 3, 9