

in this model, the alkoxy radicals are not shown explicitly, since their fate does not depend on the concentration of any other species. So the aldehyde and ketone products of peroxy + NO reactions are (parameterized representations of) the products of RO reactions

RXN	Reactants		Products	Rate Constant(ppm-min units)
9	HCHO	--hv-->	CO	
10	HCHO	-hv-->	HO2 + HO2 + CO	
61	HCHO + HO	----->	HO2 + CO	1.329E+04
50	ETH + HO	----->	ETHP	4.047E+02
88	ETHP + NO	----->	ALD + HO2 + NO2	1.134E+04
53	HC8 + HO	----->	HC8P + 0.750* XO2	1.503E+04
80	HC8P + NO	----->	0.350*ALD + 1.060*KET + 0.040*HCHO + 0.240*ONIT + 0.760*NO2 + 0.760*HO2	1.134E+04
56	OLI + HO	----->	OLIP	9.964E+04
83	OLIP + NO	----->	HO2 + 1.450*ALD + 0.280*HCHO + 0.100*KET + NO2	1.134E+04
103	OLI + O3	----->	0.180*HCHO + 0.720*ALD + 0.100*KET + 0.230*CO + 0.060*ORA1 + 0.290*ORA2 + 0.260*HO2 + 0.140*HO + 0.310*MO2	2.384E-01
58	XYL + HO	----->	0.830*XYLP + 0.170*CSL + 0.170*HO2	4.119E+04
87	XYLP + NO	--->	NO2 + HO2 + 0.450*MGLY + 0.806*DCB	1.134E+04

MO2= CH3OO

Adding a P to the name refers to the peroxy radical from the parent VOC (for example, ETH is ethane which is C₂H₆, so ETHP is C₂H₅OO•)

ONIT is organic nitrate (RONO₂)

Don't worry about each organic product of the oxidation. Two **major areas of focus** for you should be

- where cycles in HO_x and NO_x are terminated or propagated
- where organic radical chemistry is terminated (to form non-radicals) or propagated (makes more organic radicals).