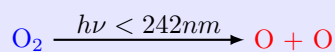
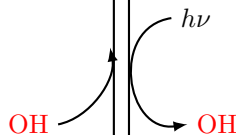


Stratosphere: Chapman mechanism

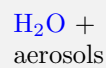
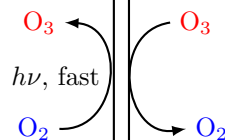
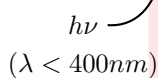


Stratosphere exchange
contributes $\approx 50\%$

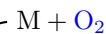
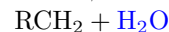
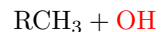
Nighttime build-up



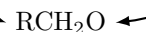
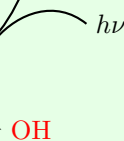
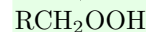
High NO_x



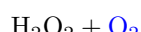
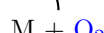
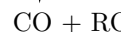
Nighttime chemistry



Low NO_x



can feed back
to the oxidation
pathway



Simplified tropospheric reactions in the hydrocarbon oxidation pathway

Legend

M = air molecule

Oxidised Nitrogen Species

Reactive Oxygen Species

Neutral Species