```
  subroutine setChemRates()

    rct(1,:) = ((5.681e-34*EXP(-2.6*(LOG(TEMP/300))))*O2)*M
    rct(2,:) = (1.8e-11*EXP(107.0*TINV))*N2
....
    rct(65,:) = KAERO(RH)
    rct(66,:) = (IUPAC_TROE(1.0e-31*EXP(1.6*LOG300DIVT),  &
              & 3.0e-11*EXP(-0.3*LOG300DIVT),  &
              & 0.85,  &
              & M,  &
              & 0.75-1.27*LOG10(0.85)))
....
```