Exercise # 7

# Patterns in Free Radical Reaction Mechanisms

## Organic Chem I Alfred State College

**. Pattern Recognition**

1. *The elementary reactions listed below are all part of the natural birth and death of ozone (O3) in the upper stratosphere of our planet.*

*i) Circle all the chain initiation steps.*

*ii) put checks by all the likely chain propagation steps*

*iii) put stars (\*) by all the chain termination steps.*

**Elementary Reaction List for Natural Birth/Death of Ozone**

1) O + O3 🡪2O2 2) O + O2 + M (can be N2 ) --🡪 O3 + M\*

<250 nm uv light

3)O2 2O 4) O + O 🡪O2

250-300 nm light

5) O3 O2 + O

1. *Circle the correct, natural birth-to-death order for ozone*

*(use the reaction # above).*

5-3-2-(1 & 4) 3-2-5-(1 & 4) 3-5-2-(1 & 4) 2-3-5- (1 & 4)

(I) (II) (III) (IV)