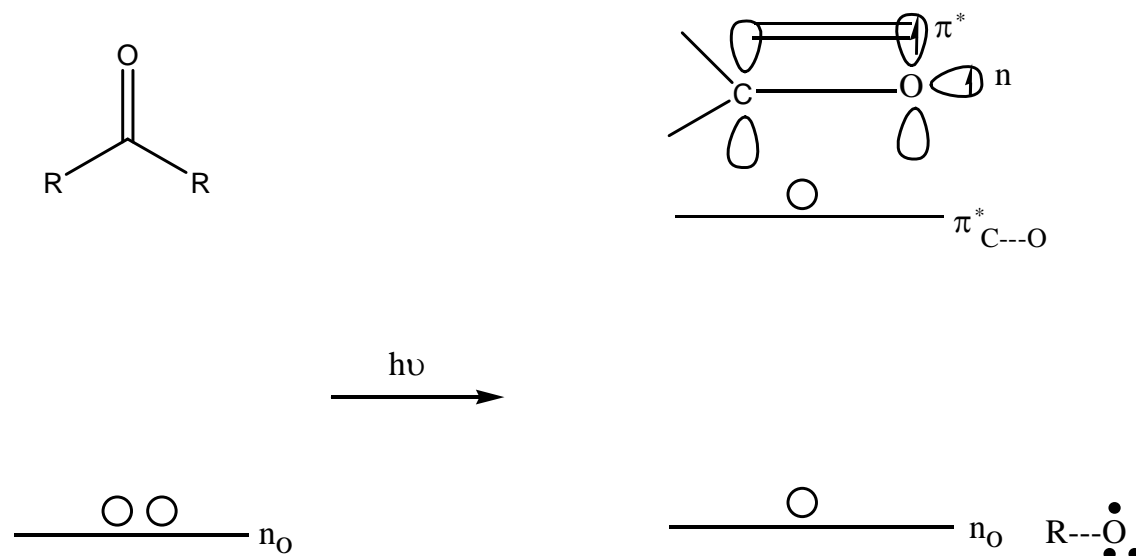


Module1: Photochemistry of Carbonyl Compounds

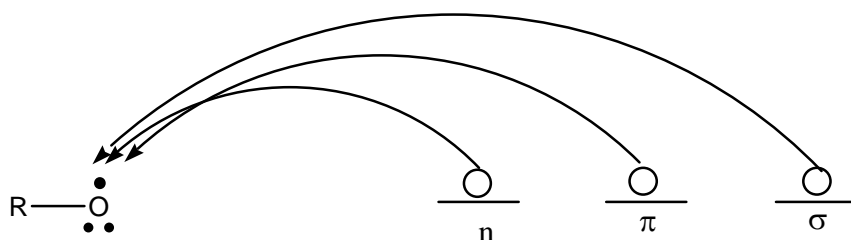
Lecture1: Photochemistry of Carbonyl Compounds

1. Reactivity of $n\pi^*$

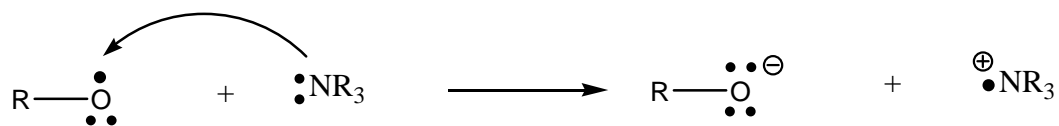


$n\pi^*$ Chemistry is dominated by non-bonded electron on the oxygen atom

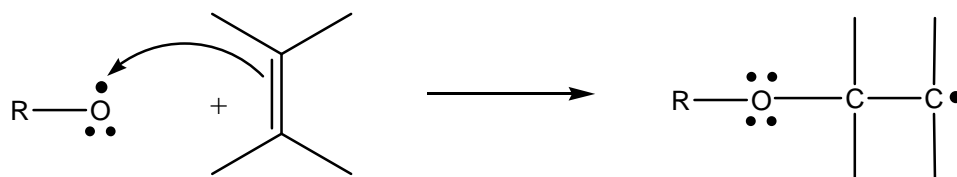
2. Reactivity of Alkoxy Radical



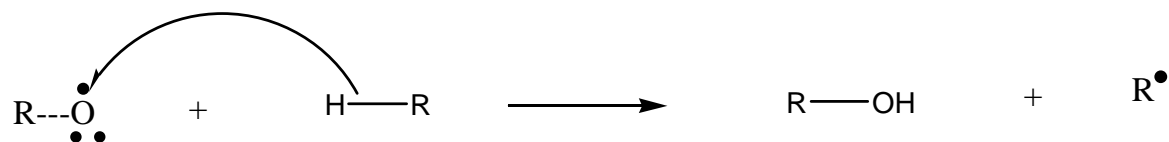
2.1. Redox reaction:



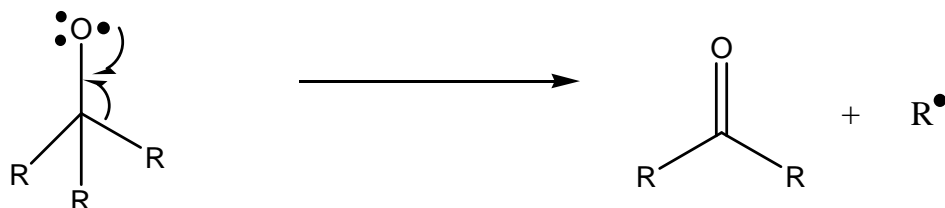
2.2. Polymerisation:



2.3. Hydrogen abstraction reaction:

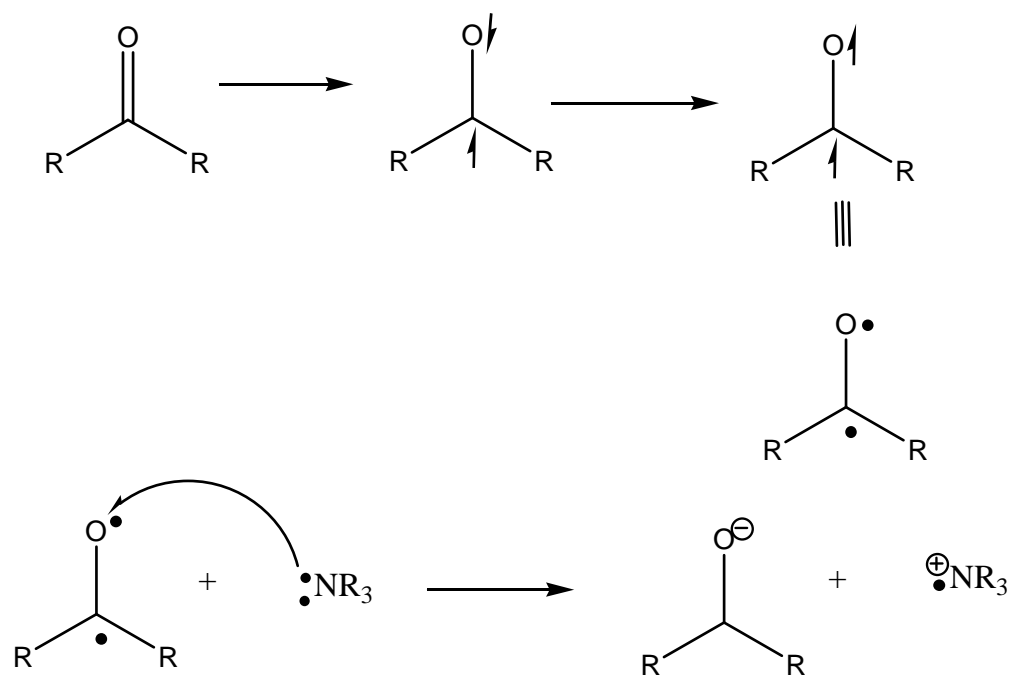


2.4. α - Cleavage:

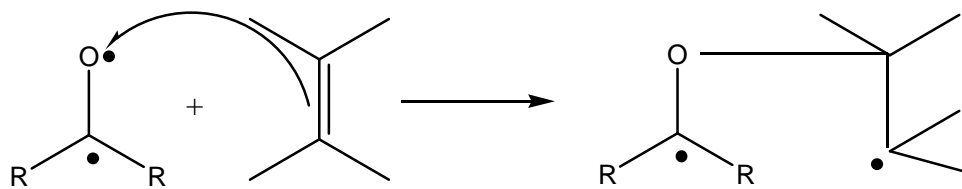


3. $n\pi^*$ excited carbonyl reactivity is similar to alkoxy radical

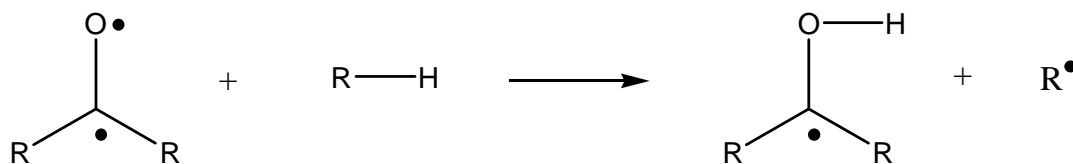
3.1. Electron abstraction:



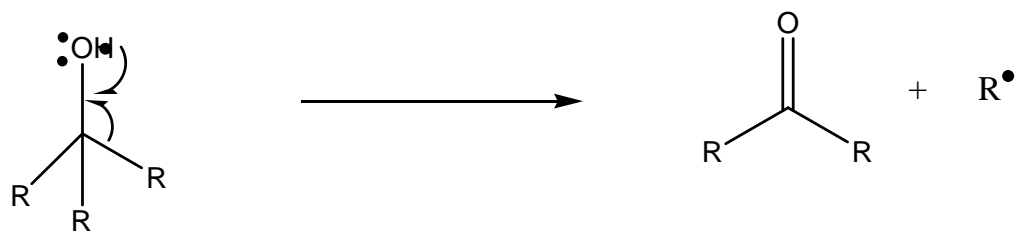
3.2. Addition to π system (or) double bond:



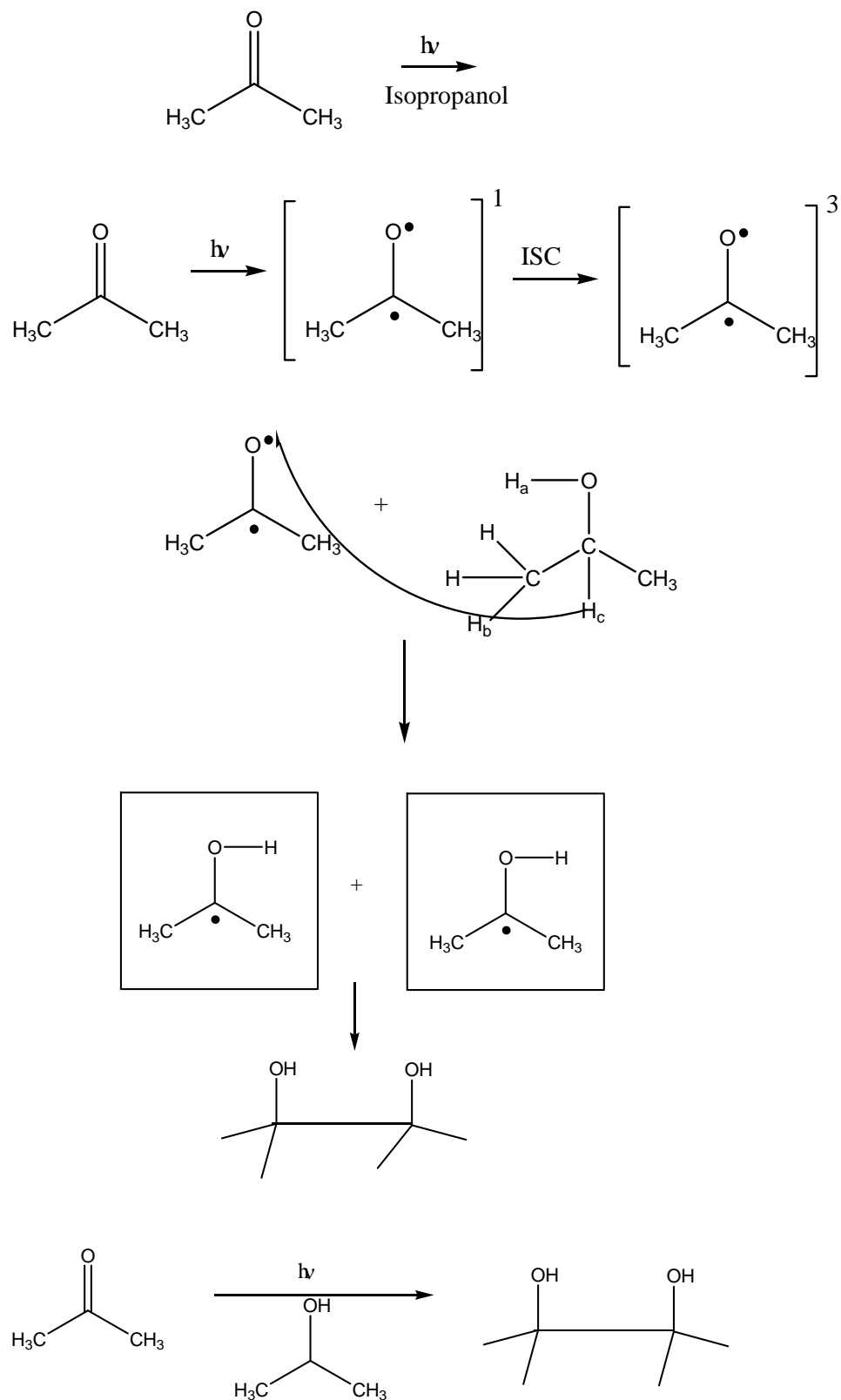
3.3. Hydrogen abstraction reaction:



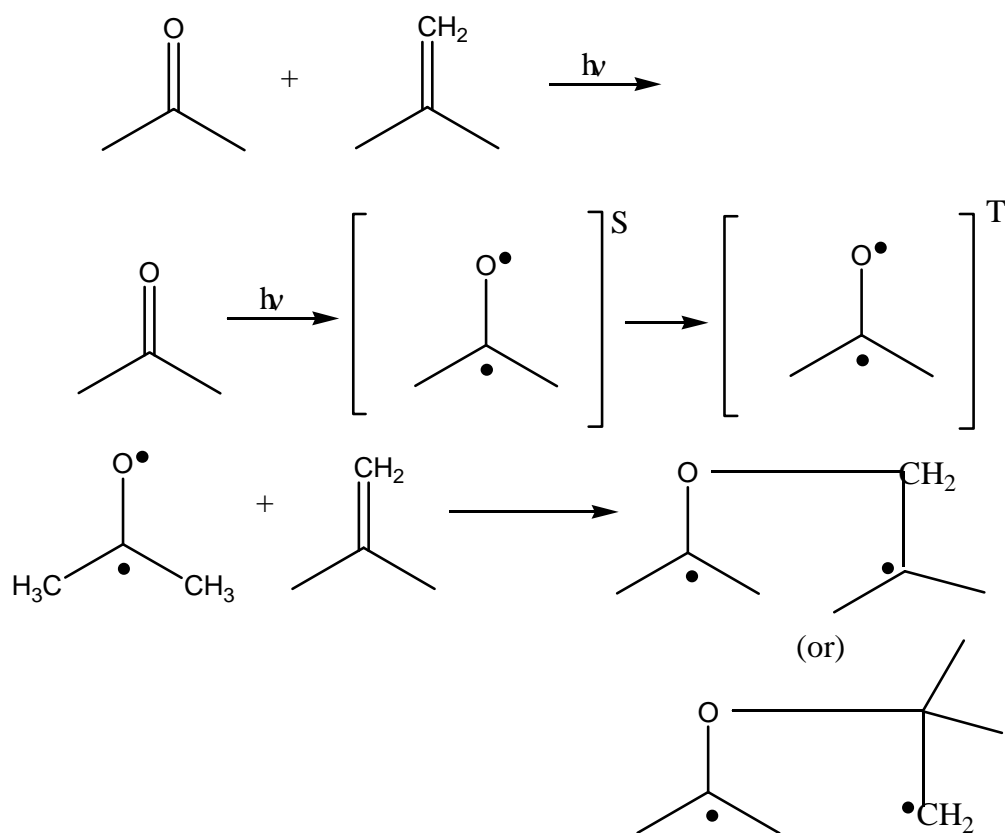
3.4. α - Cleavage reaction:



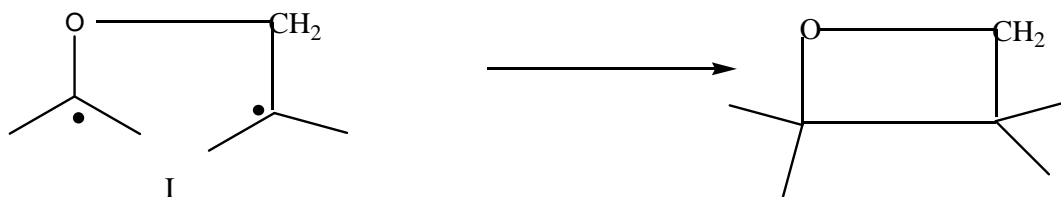
4. Intermolecular hydrogen abstraction



5. Addition of $n\pi^*$ states to electron rich olefins



combination of biradical intermediate:



Hydrogen atom abstraction :

