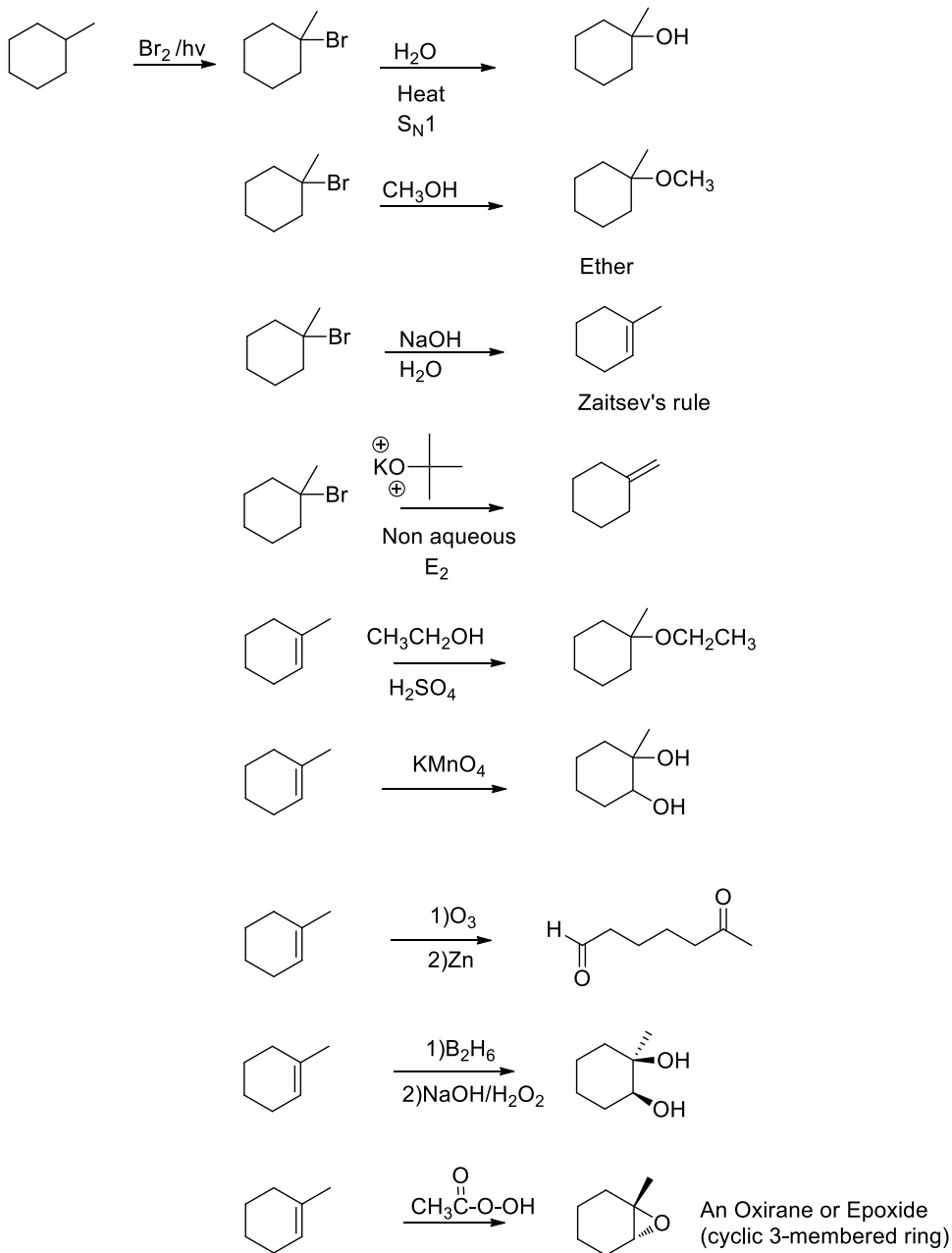
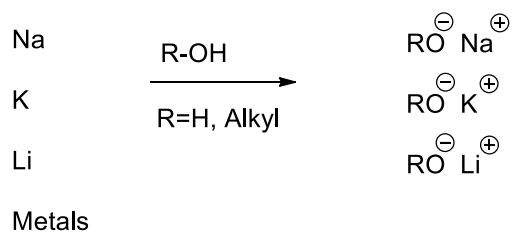
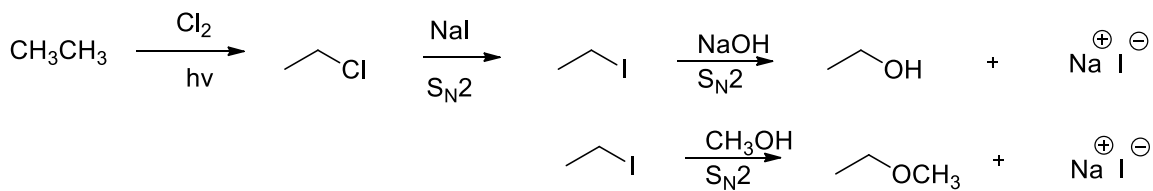
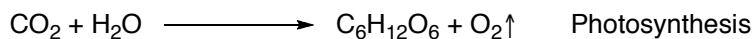
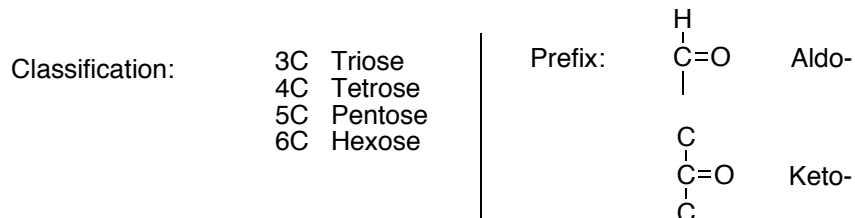


**Preparation of Alcohols and Ethers (continued)**



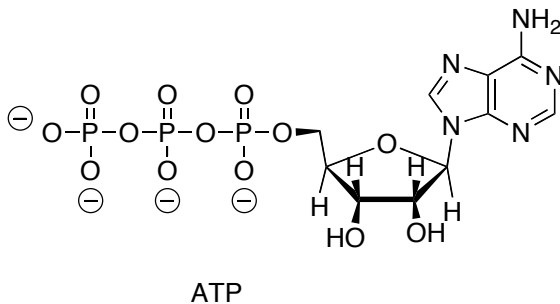
### Sugars = Carbohydrates = Saccharides

- $\text{C} + \text{H}_2\text{O}$
- $\text{C}_N\text{H}_{2N}\text{O}_N$  is the approximate general molecular formula



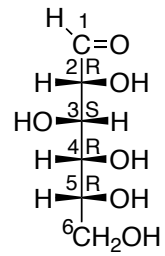
$4 \times 10^{11}$  tons/year      D-Glucose

Metabolism  
 $\longleftarrow$   
 Energy lost as ATP



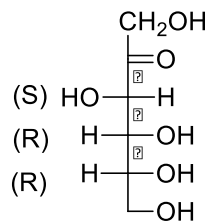
- $4 \times 10^{11}$  metric tons per year of  $\text{CO}_2$  fixed
- $h\nu = 0.02\%$  sun's energy on earth used in photosynthesis
- Green Plants perform photosynthesis

D-Glucose:



- groups on horizontal are toward you
- Fischer projection
- Aldo-Hexose

D-Fructose



- Keto-hexose
- sweetest of all natural sugars

D-sugars have highest numbered stereogenic centre in R configuration and L-sugars have highest numbered stereogenic centre in L configuration