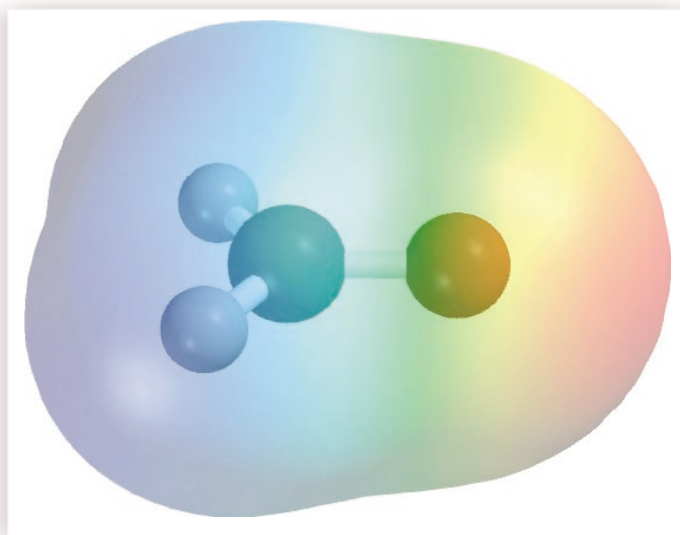


CHAPTER OUTLINE

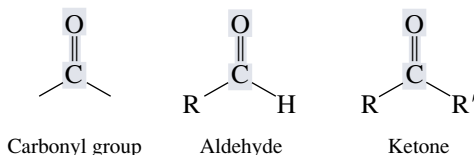
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CHAPTER 11

ALDEHYDES AND KETONES

In this chapter we continue our study of oxygen-containing organic compounds by examining aldehydes and ketones. Aldehydes and ketones occupy a key position among compounds that contain what is probably the most important functional group in organic and biological chemistry, the **carbonyl group**.



Aldehydes differ from ketones in having at least one hydrogen attached to the carbonyl group. **Ketones** have two alkyl or aryl (aromatic) groups (or one of each) attached to the carbon of the carbonyl group.

As you will see throughout this and the remaining chapters, the carbonyl group is found in numerous substances of biological interest, from flavorings in fruits to human sex hormones. Also, you will find that aldehydes and ketones are widely used as starting materials for the preparation of other classes of organic compounds.

11.1 NOMENCLATURE

The longest continuous chain that contains the $\text{—}\overset{\text{O}}{\parallel}{\text{C}}\text{H}$ group provides the base name for aldehydes. The *-e* ending of the corresponding alkane name is replaced by *-al*, and substituents are specified in the usual way. It is not necessary to specify the location of the

$\text{—}\overset{\text{O}}{\parallel}{\text{C}}\text{H}$ group in the name because the chain must be numbered by starting with this group as C-1.