第十章 羧酸与取代羧酸

1. (1) 对苯二甲酸

(2) 4-苯甲酰基苯乙酸

(3) 3,4-二甲基-5-氧代己酸

(4) 3-(3-甲基-5-羟基苯基)丙烯酸

(5) 2-环己酮羧酸

(6) 3-(4-甲基苯基)丁酸

2. (1) b > c > a > d > e (2) b > d > a > c (3) c > b > d > a (4) a > b > c > d

4. (1) (CH₃)₂CCOOH (2) CH₃CH₂CH₂COOH (3) (CH₃)₂CHCH₂CH₂OH Вr



$$\xrightarrow{\text{H}_3\text{O}^+} \text{CH}_3\text{CH}_2\text{CH} - \text{CH}_2\text{CH}_2\text{OH} \xrightarrow{\text{KMnO}_4} \xrightarrow{\text{COOH}} \xrightarrow{\text{Cl}_2} \xrightarrow{\text{COOH}} \xrightarrow{\text{Cl}_2}$$

$$HO$$
 OH $\frac{KMnO_4}{H^+}$ TM

(2) ①
$$CH_3CI$$
 KH_2SO_4 KH_2SO_3H KH_2SO_3H KH_2SO_3H

$$\begin{array}{c|c} CH_3 & CH_3 \\ \hline Mg/THF & MgBr & CH_2CH_2OH \\ \hline CH_3 & CH_3 & CH_3 \\ \hline \end{array}$$

$$CH_3$$
 CH_2CHO
 CH_2CHO
 CH_2COOH

$$\begin{array}{c} O \\ O \\ O \\ \end{array} \begin{array}{c} + \\ O \\ \end{array} \begin{array}{c} AlCl_3 \\ \end{array} \begin{array}{c} O \\ HO \\ O \\ \end{array} \begin{array}{c} Hg/Zn \\ HO \\ O \\ \end{array}$$

$$\frac{H_2}{N_i}$$
 TM