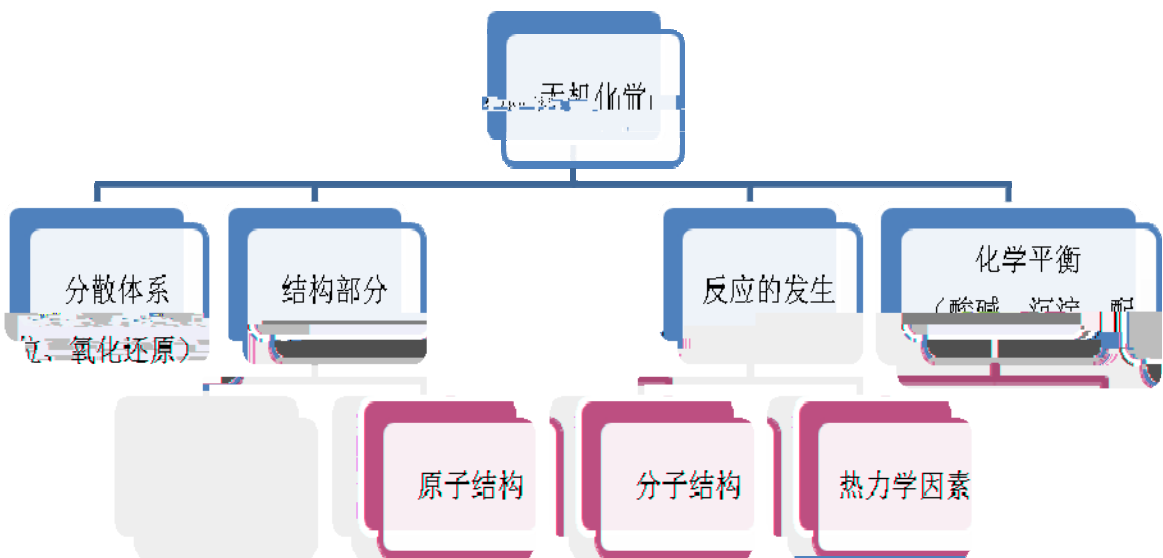
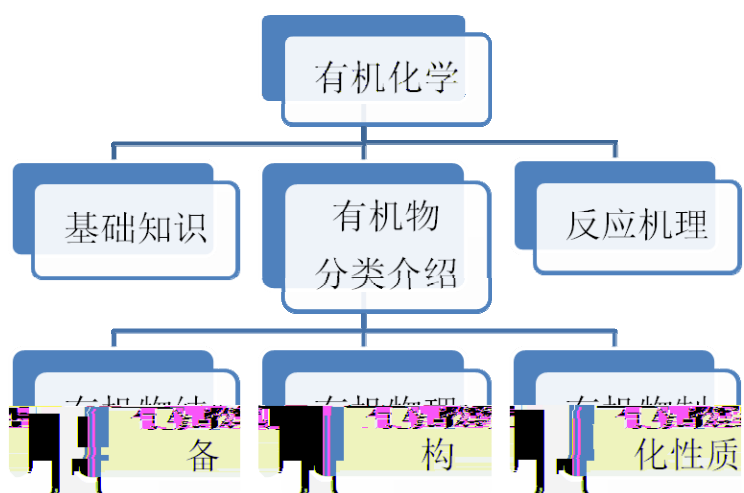
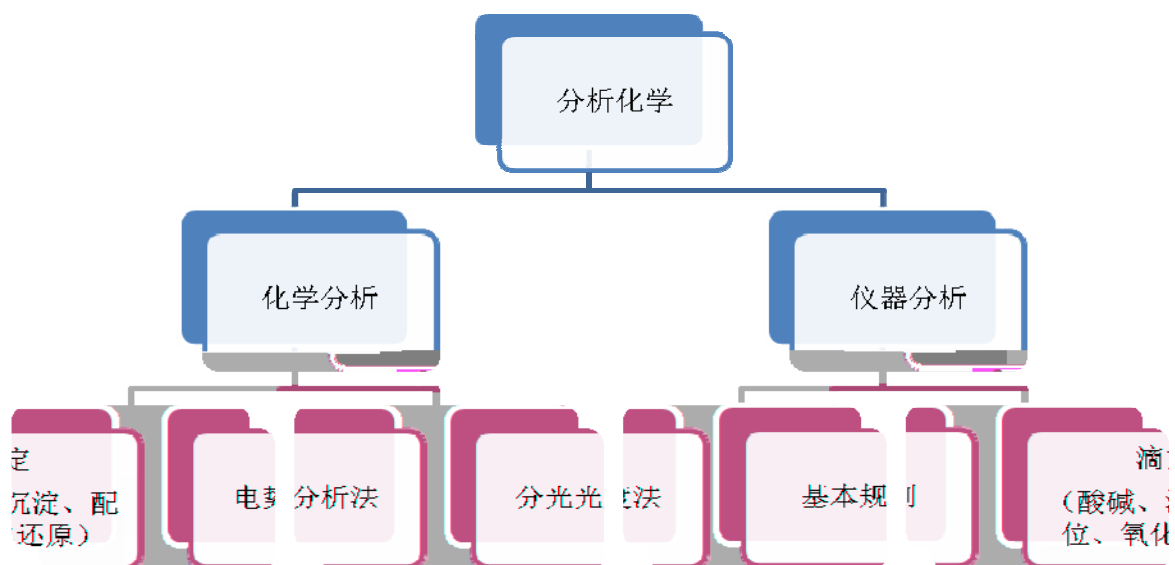

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W

$$b = n(B)/m(A) = m(B)/M(B)m(A)$$

$$w = m(B)/m(\quad)$$

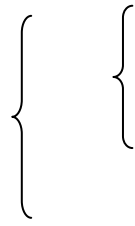
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U U H S
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$$U = Q + W \quad H = U + (PV) \quad (1)$$

Figure 1: Schematic diagram of the experimental setup. A laser beam is directed at a sample, and the scattered light is collected by a lens and focused onto a detector. The sample is at T=0 K.

4 4

1. $Q_V = \Delta U$ $Q_P = H$ $H = U + (PV)$

2.

W W

$$\mathrm{rHm}^\theta = \hat{\Gamma} \quad \mathrm{fHm}^\theta \quad - \quad \hat{\Gamma} \quad \mathrm{fHm}^\theta$$

3. $G = H - TS$ $G > 0$
 $G = 0$

$$G < 0$$

□

□

□

1.

□ □

□

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$$Q < 0$$

$$Q > 0$$

$$W < 0$$

$$W > 0$$

$$\ddot{r} = n(B)/\dot{r}(B)$$

$$\ddot{r} \quad \square$$

□

$${}_f H m^\theta$$

$$S m^\theta$$

$${}_r S m^\theta$$

$${}_f G m^\theta$$

$$f \quad \vdash \quad \perp \quad r \quad \vdash \quad \perp \quad \theta \quad \vdash \quad \perp$$

2.

$$QV = \Delta U$$

$$QP = \Delta H$$

$$\Delta H = \Delta U + \Delta(PV)$$

$${}_r H m^\theta = \sum \hat{\quad} {}_f H m^\theta \quad - \quad \sum \hat{\quad} {}_f H m^\theta$$

$${}_r S m^\theta = \sum \hat{\quad} {}_f S m^\theta \quad - \quad \sum \hat{\quad} {}_f S m^\theta$$

$$\Delta G = \Delta H - T \Delta S \quad \Delta G > 0$$

$$\Delta G = 0$$

$$\Delta G < 0$$

□ □

1.

$$v = dc(B)/\dot{r}(B) \cdot dt$$

□ □

□

□

$$a A + d D = g G + h H \quad v(B) = k c^a(A) c^d(D)$$

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2.

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k Ш

$$\ln k = (-E_a/R)(1/T) + C$$

$$k = A e^{-E_a/RT}$$

$$\ln(k_2/k_1) = (E_a/2.303R)(T_2-T_1/T_1T_2) \quad \ln=2.303 \lg$$

$$E_a \quad (\quad)$$

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3.

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$$K^\theta = \prod [c(B)/c^\theta]^{v(B)}$$

$$\Delta_r G_m^\theta = -RT \ln K^\theta$$

$$\Delta_r G_m = 2.303 RT \lg(Q/K^\theta) \quad Q < K^\theta, \Delta_r G_m < 0,$$

$$Q = K^\theta, \Delta_r G_m = 0,$$

$$Q > K^\theta, \Delta_r G_m > 0,$$

$$K^\theta \quad K_a \quad K_b$$

Ksp

4.

Q Ш

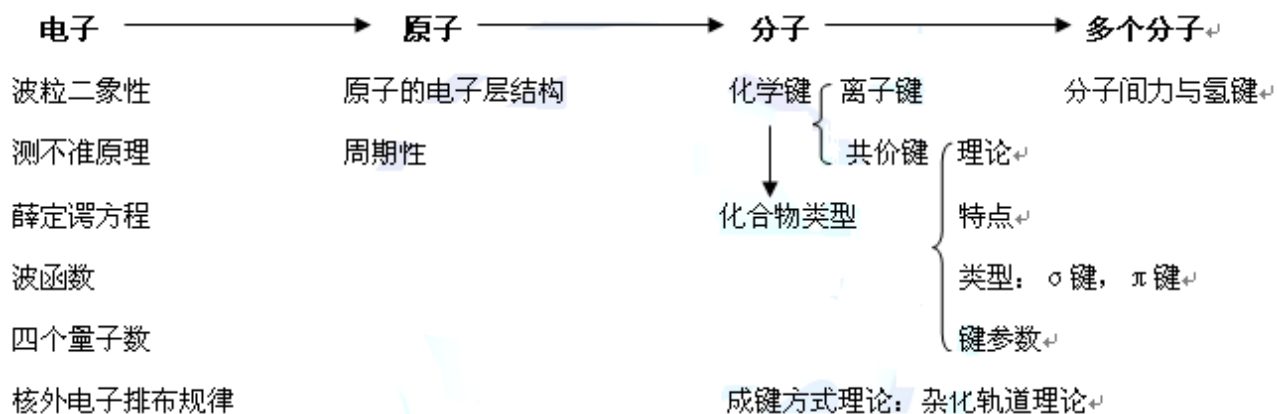
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Q Ш

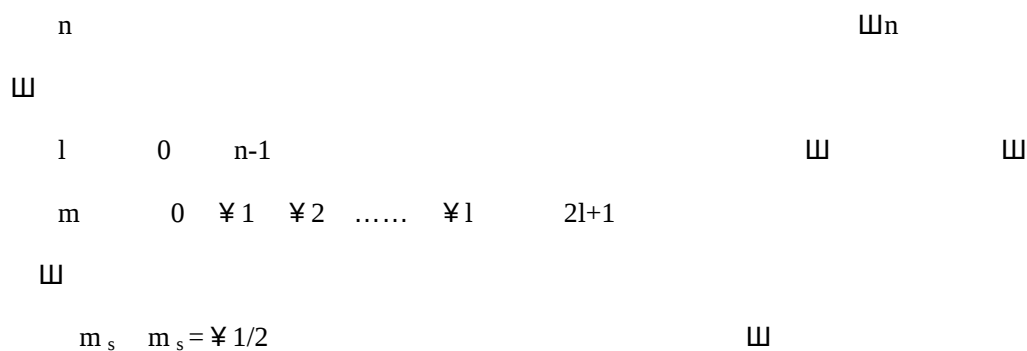
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$$K^\theta \text{ Ш Van't Hoff} \quad \lg(K_1^\theta/K_2^\theta) = (-\Delta_r H_m^\theta/2.303R)(T_2-T_1/T_1T_2)$$



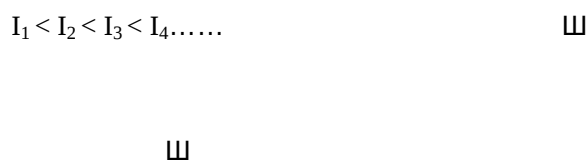
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pH Ч pM Ч lgK

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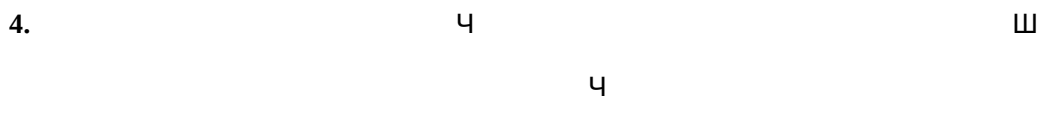


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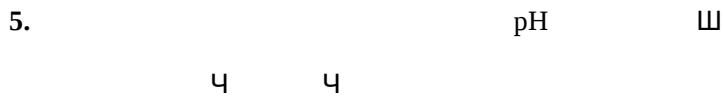


4.



pH pH = pKa + lg c /c

5.



pH = pK_{ln} ≠ 1

pH = pK_{ln}

1.

$[H^+] = (Ka \cdot c)^{1/2}$ (

$$cK_{a1} > 10^{-8}$$

$$cK_{a2} > 10^{-8}$$

$$K_{a1}/K_{a2} > 10^4$$

1.

$$K_{sp}^{\theta} = [c(A^{n+})/c^{\theta}]^m [c(B^{m-})/c^{\theta}]^n$$

⏏

$$AB \quad S = (K_{sp}^{\theta})^{1/2} \quad AB_2 \quad S = (K_{sp}^{\theta}/4)^{1/3}$$

2.

$$K_{sp}^{\theta} \quad Q$$

$$Q = K_{sp}^{\theta}$$

$$Q < K_{sp}^{\theta}$$

$$Q > K_{sp}^{\theta}$$

⏏

3.

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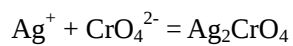
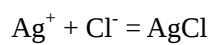
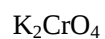
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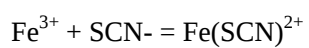
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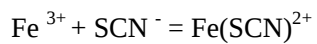
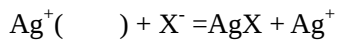
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1. Ш



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 1mol/kg 10^5 Pa

W

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W

$$E^\theta \quad E^\theta = \psi^\theta_+ - \psi^\theta_-$$

1.

$$rGm^{\theta} = -nE^{\theta}F = -nF(\psi^{\theta}_{+} - \psi^{\theta}_{-}) \quad (14)$$

$E \geq 0$

$$E < 0, \quad \square$$

$$E^{\theta} = (2.303RT/nF) \lg K^{\theta}$$

$$\lg K^{\theta} = [n(\psi^{\theta}_{+} - \psi^{\theta}_{-})]/0.0592 \quad K^{\theta} \quad \text{Ш}$$

2.

$$\psi = \psi^{\ominus} + (RT/nF) \ln[c(Ox)/c(Red)] = \psi^{\ominus} + (0.0592/n) \lg[c(Ox)/c(Red)]$$

1

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3.

$$\psi^{\ominus} > \psi^{\ominus}, \quad \begin{array}{ccc} A \text{----} \psi^{\ominus} & \text{----} B \text{----} \psi^{\ominus} & \text{---} C \end{array}$$

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EDTA

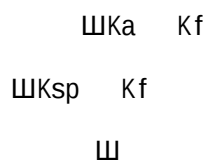
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EDTA

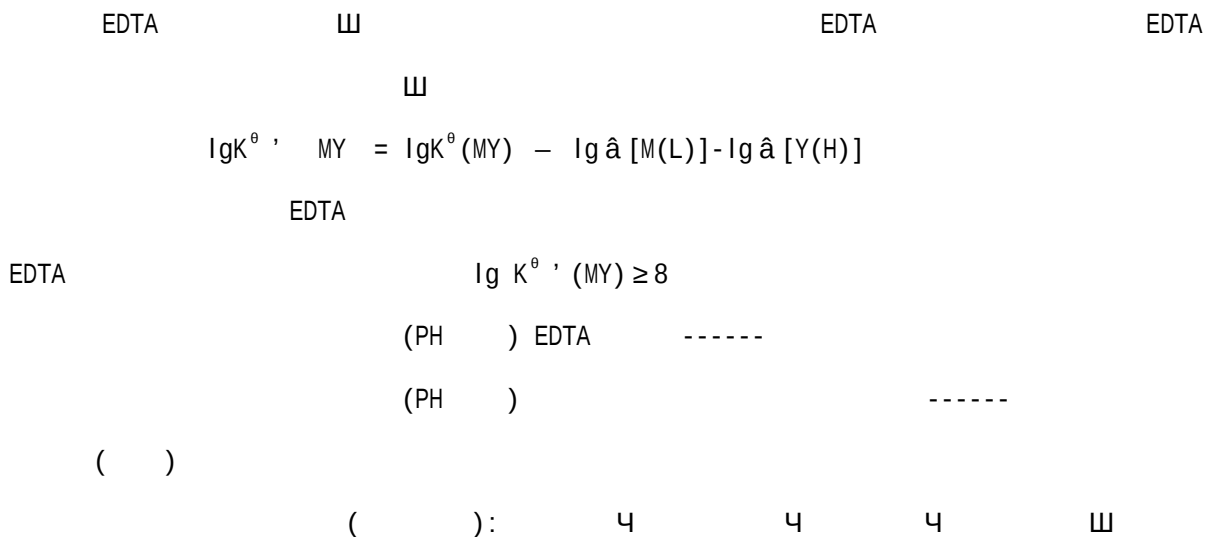
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2. $A = \varepsilon bc$

A

ε Ш 1mol/L 1cm

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b cmШ Ш

c mol/LШ

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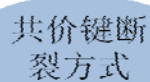
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一般特点

化学键

有机物

分类

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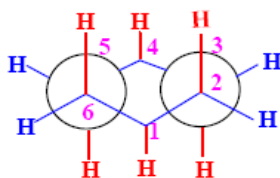
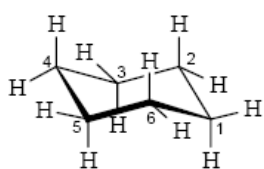
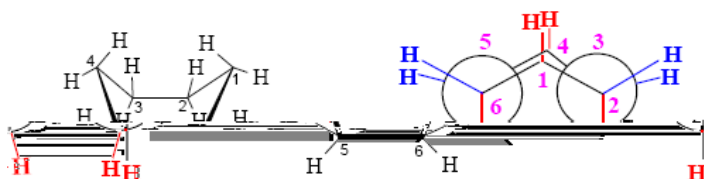
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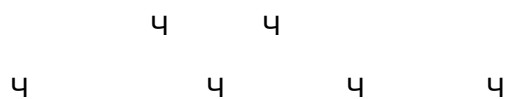
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$F_2 > Cl_2 > Br_2 > I_2$

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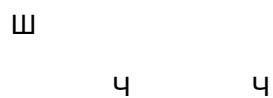
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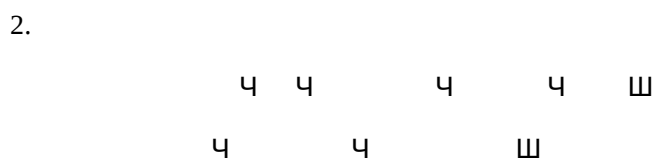


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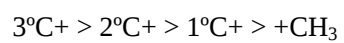
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(electronphile)

nucleophile)

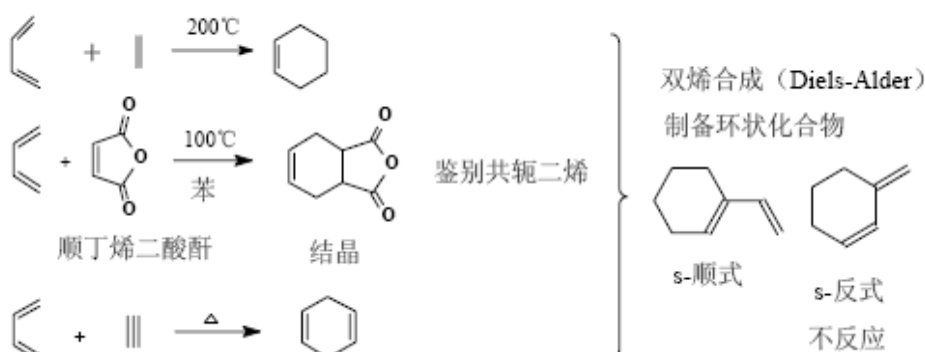
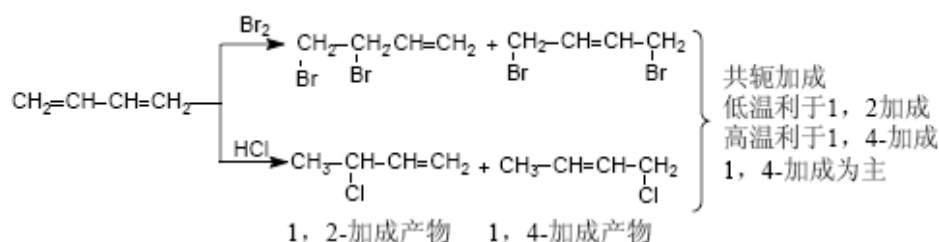
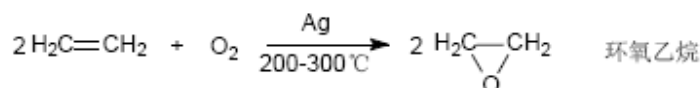
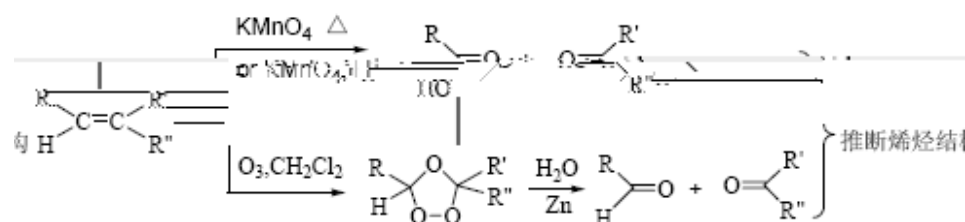
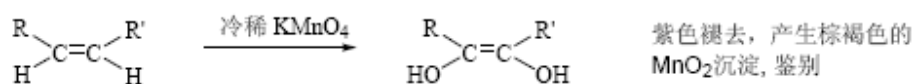
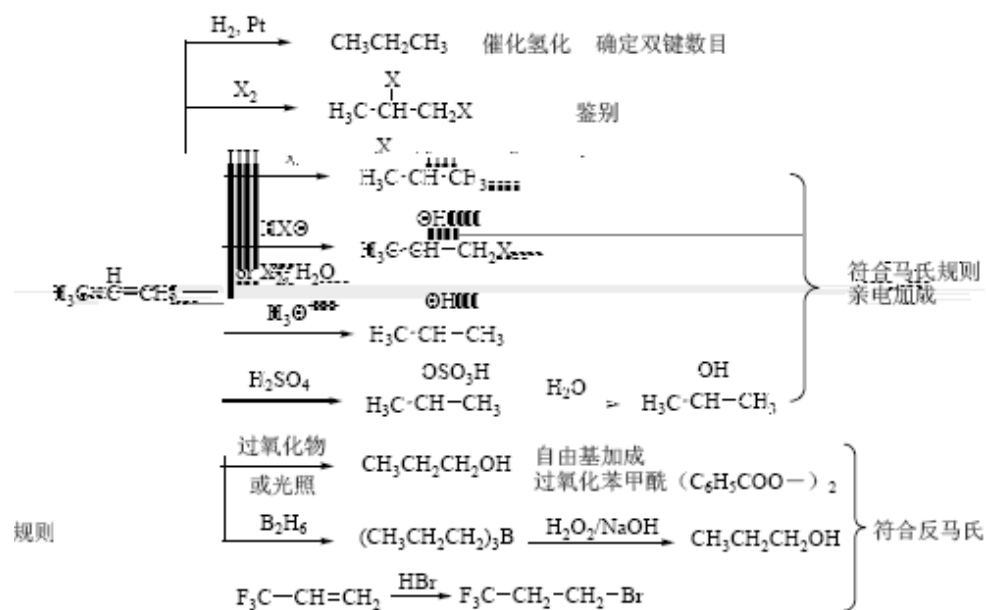
(Markovnikov)



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α-H



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1. □

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sp2

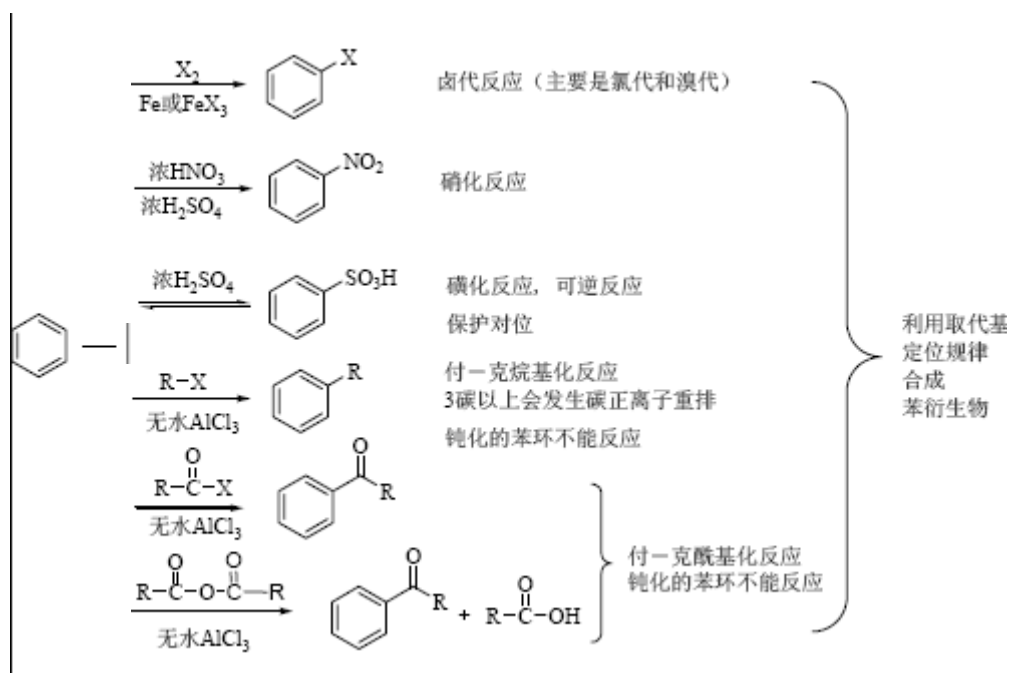
π $\mathbb{W}$

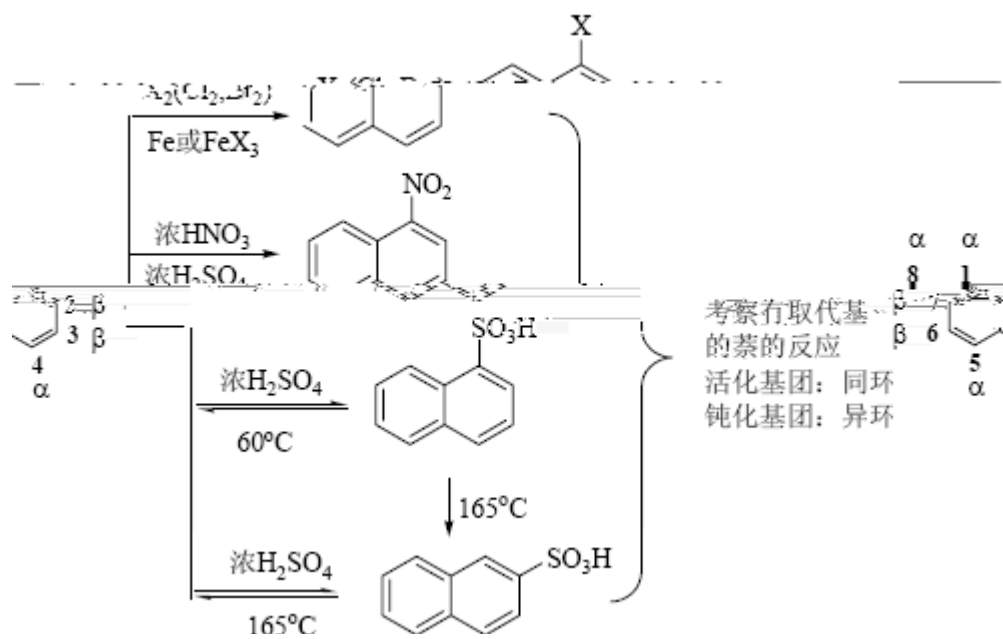
2.

y y y

 $4n+2$
$$\pi \qquad \pi \qquad \mathbb{P} \qquad 4n+2 \qquad \mathbb{W}$$
$$(\quad 4 \quad 4 \quad 4 \quad \quad 4 \quad)$$
$$\begin{pmatrix} 4 & 4 \end{pmatrix}$$

W





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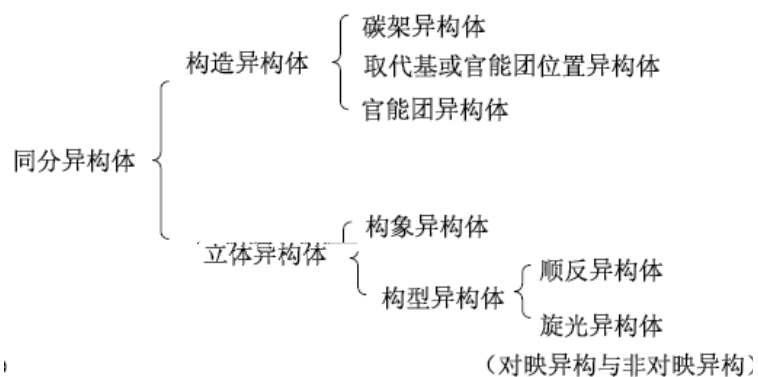
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-CH=CH₂

-CCl₃

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1.



2.

$$[\alpha]_D^{25} = \frac{\alpha}{c \cdot l}$$

1g.ml⁻¹, 1dm

$[\alpha]_D^{25}$

c

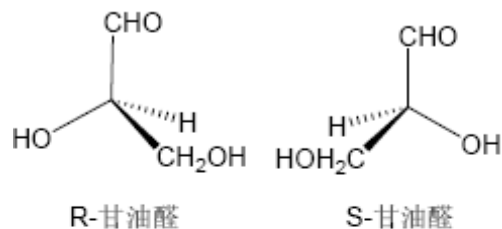
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Fischer

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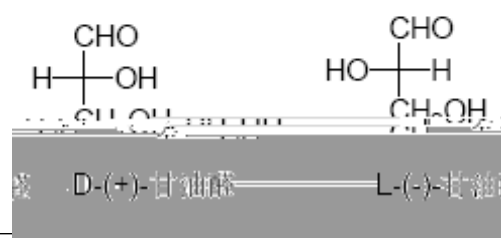


(Fischer E)

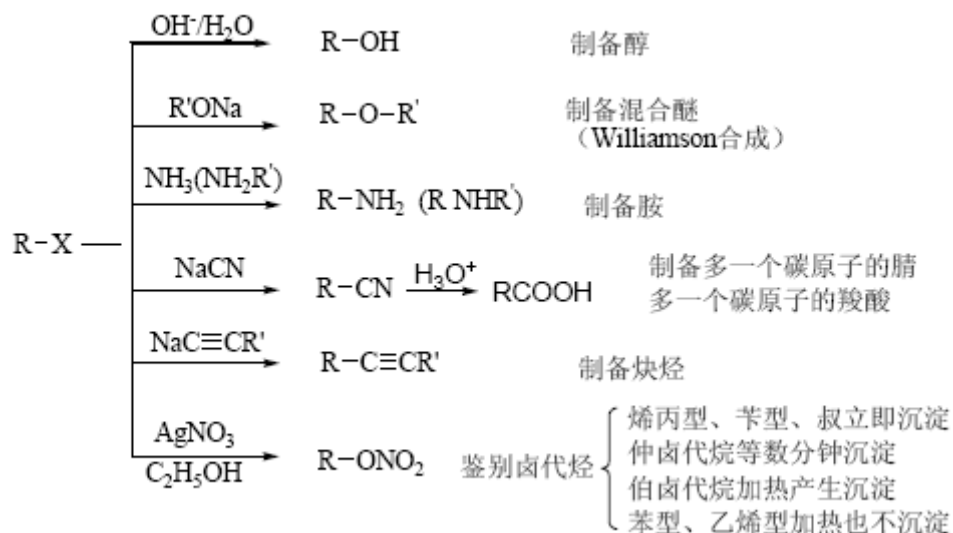
$\uparrow + \downarrow$

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$[\alpha]_D^{25}$

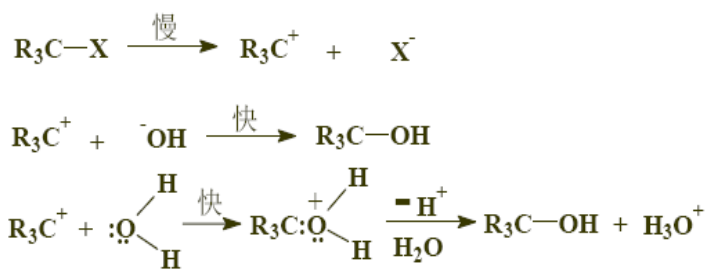


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					┐AgNO ₃
	(Saytzeff				)
Saytzeff		E1			
	Mg				



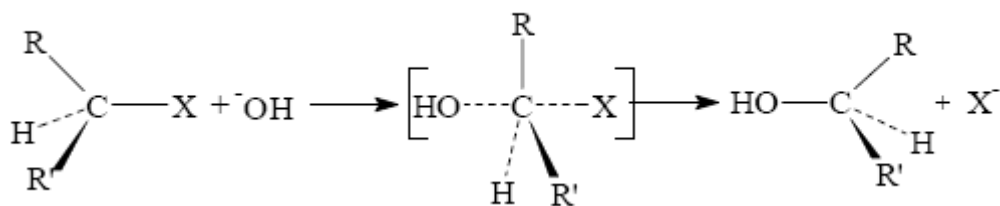
1. S_N1 4 S_N2

S_N1:



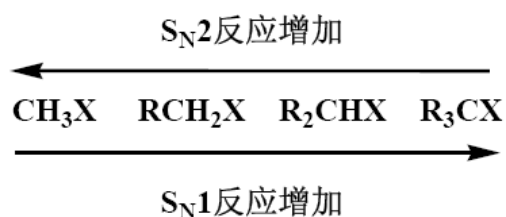
50%山

S_N2



(Walden inversion): S_N2 RS

S_N1 S_N2

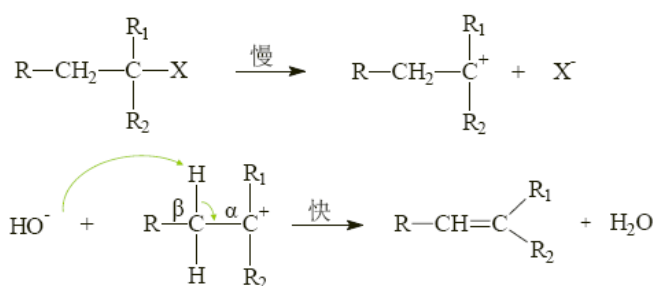


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E1 4 E2

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E1

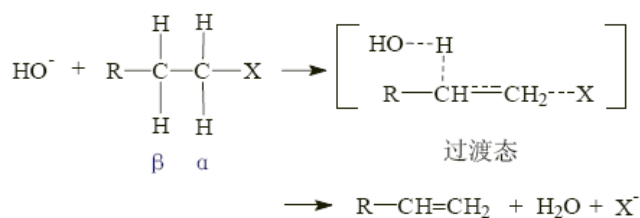


Saytzeff

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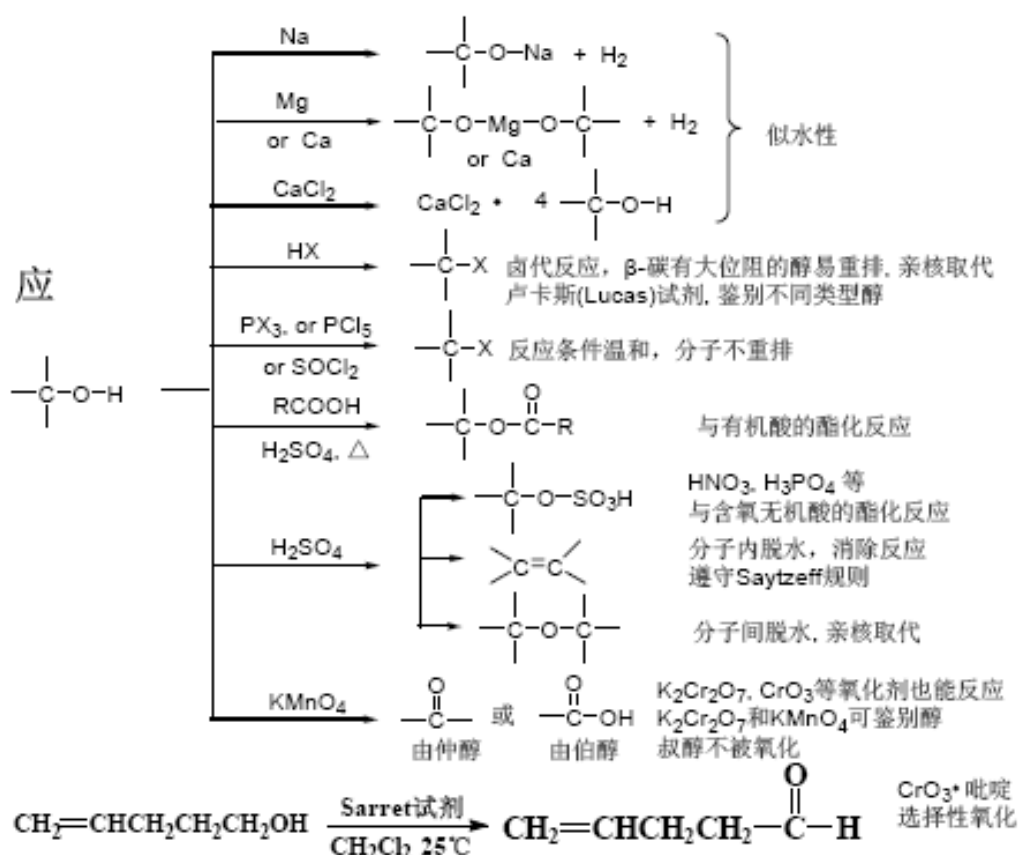
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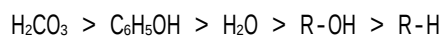
Na 4 Mg 4 Ca

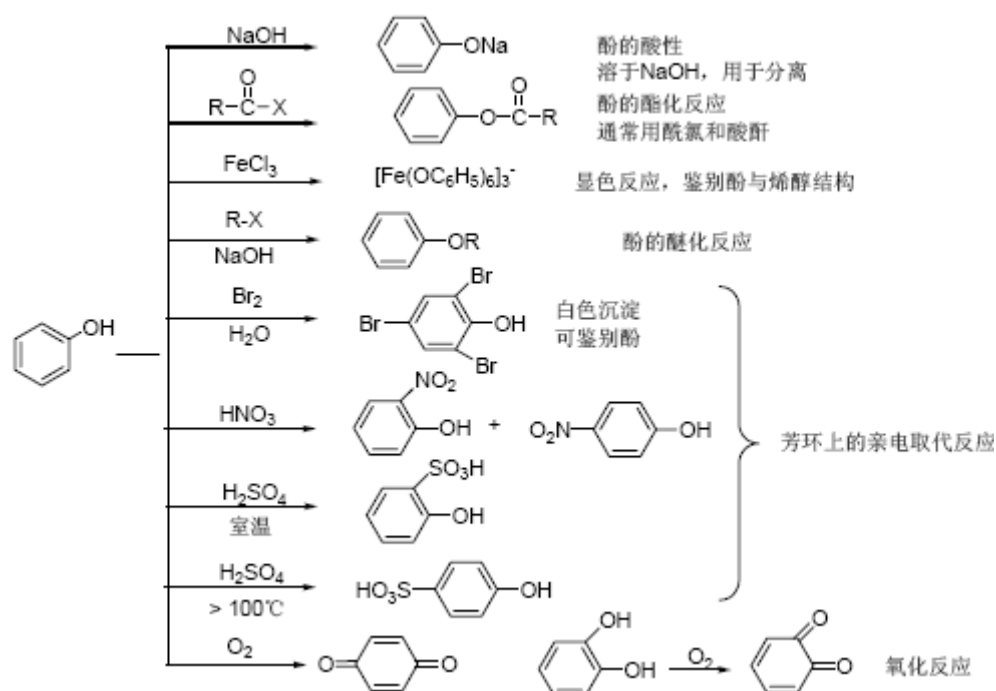
(HX 4 PX₃ 4 PX₅ 4 Lucas)

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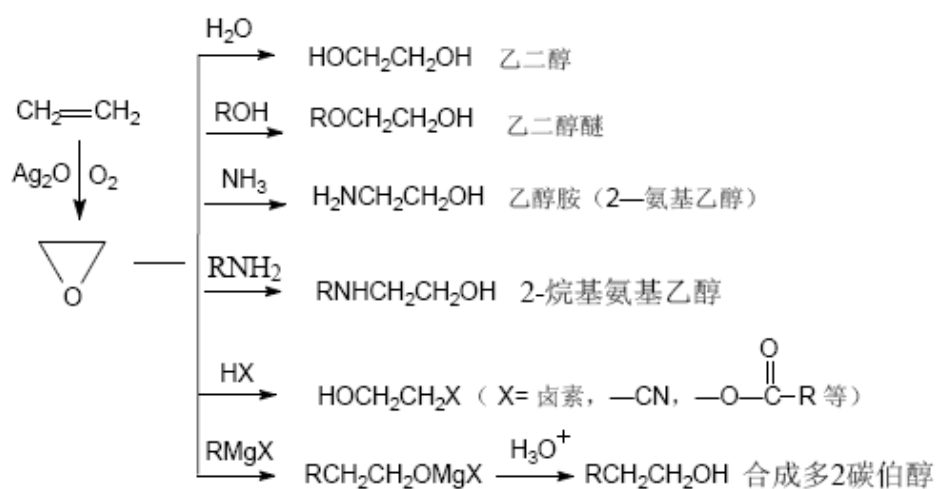
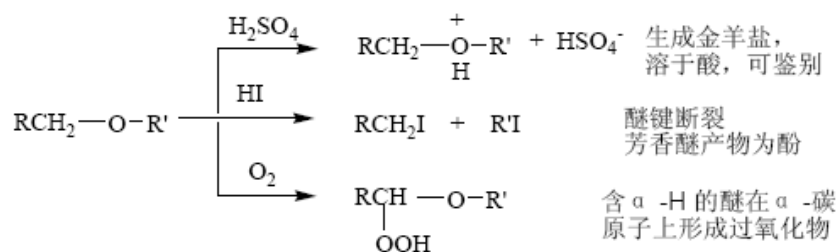
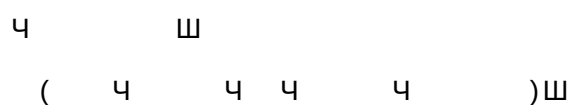


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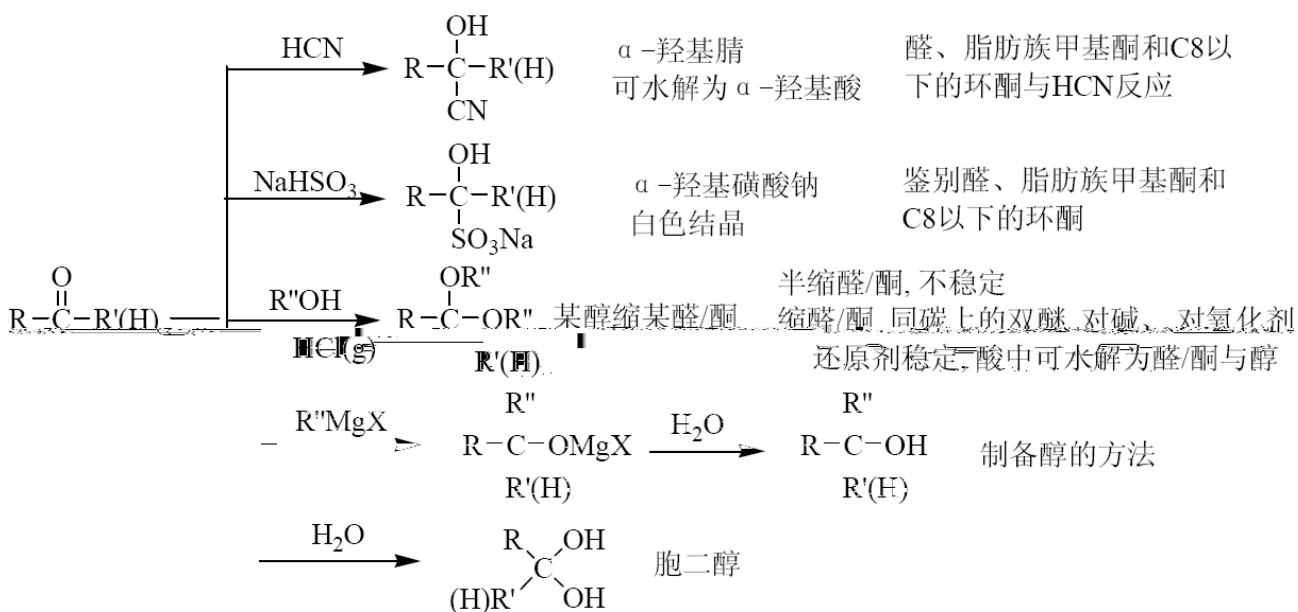


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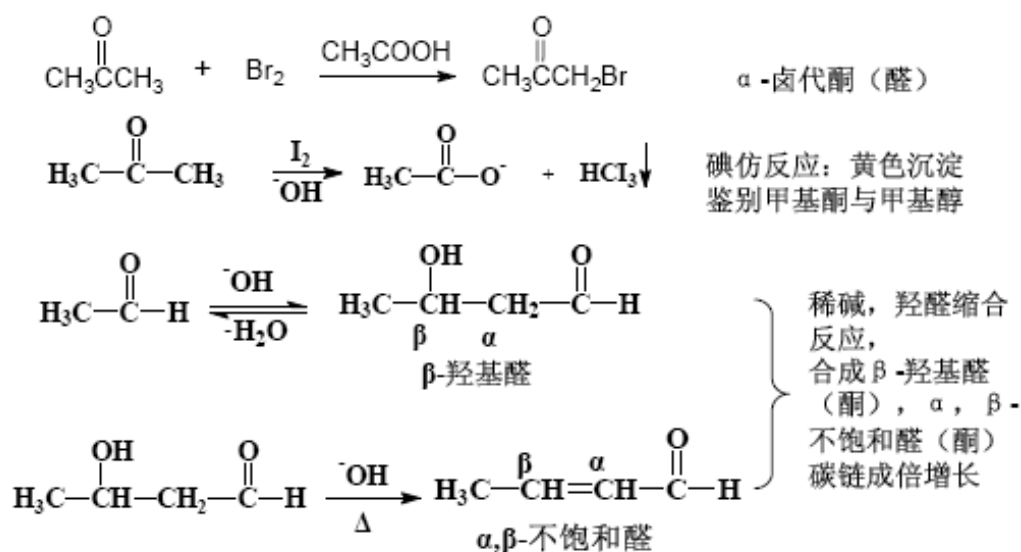
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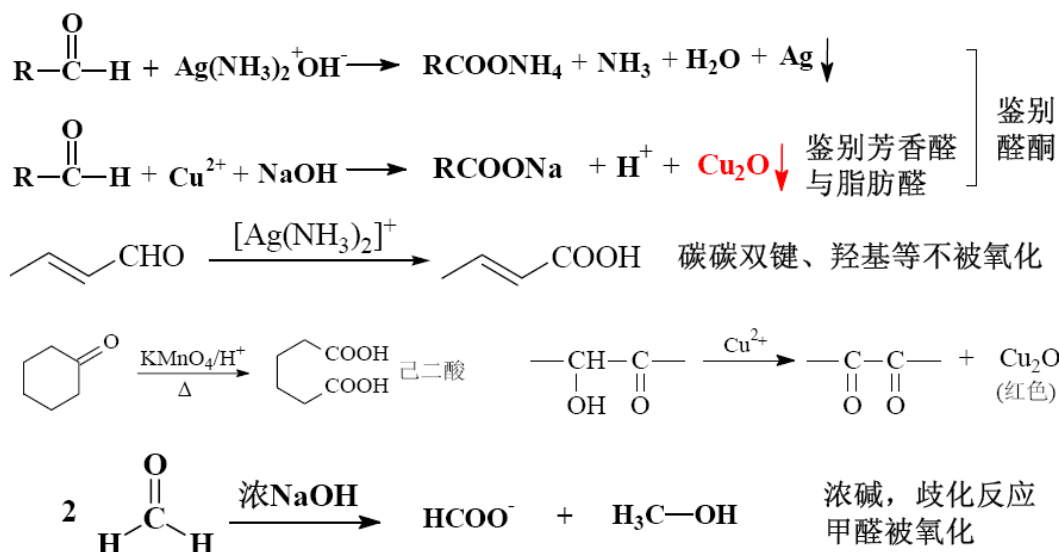
2 4 4

4 (HCN 4 NaHSO₃ 4 RMgX 4 ROH H⁺ 4 H₂O)

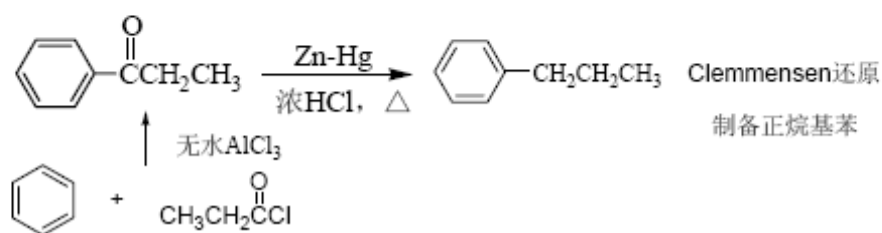
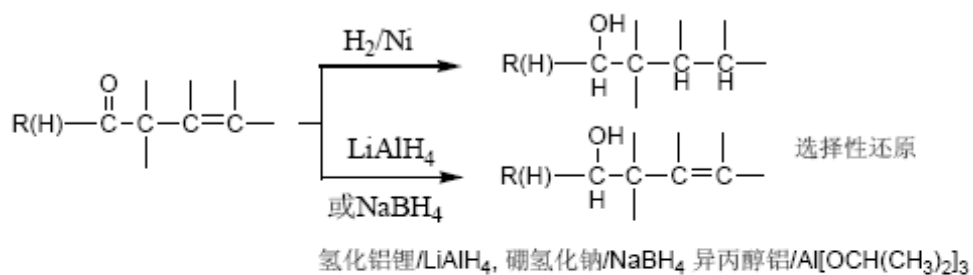


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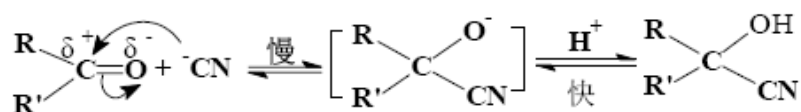


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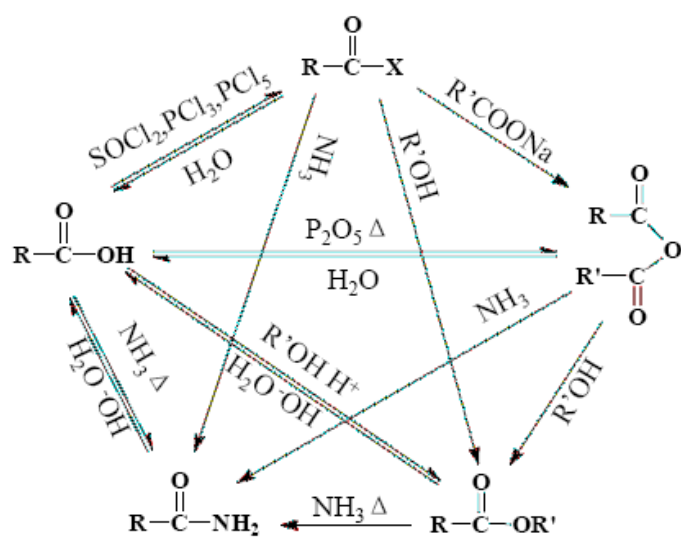
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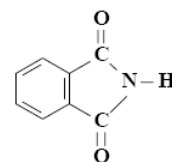
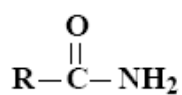
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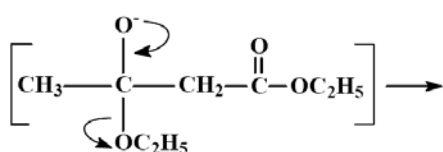
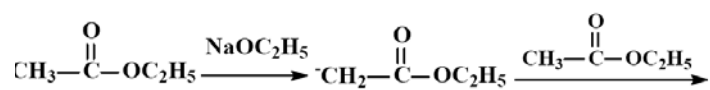




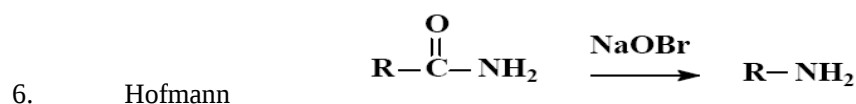
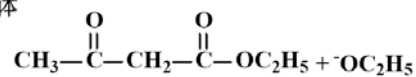
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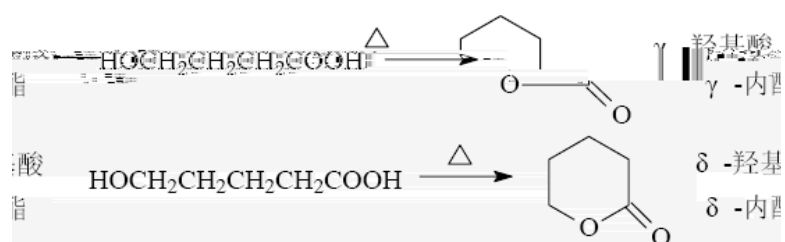
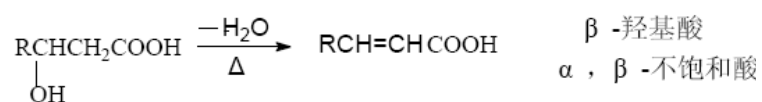
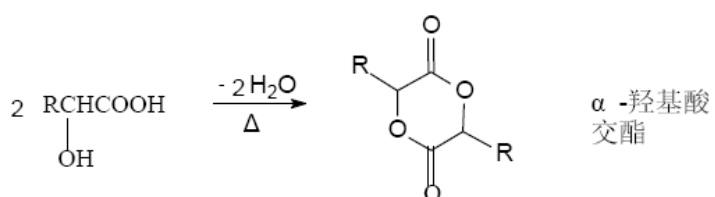
5. Claisen



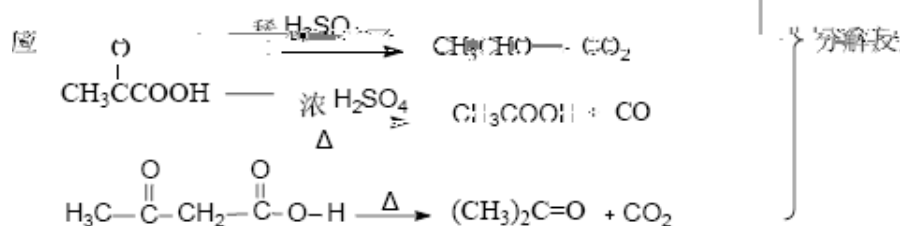
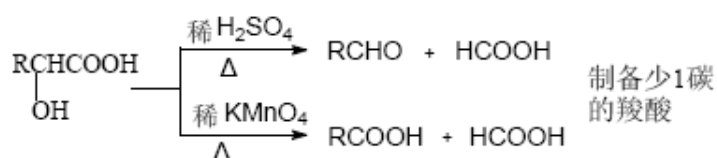
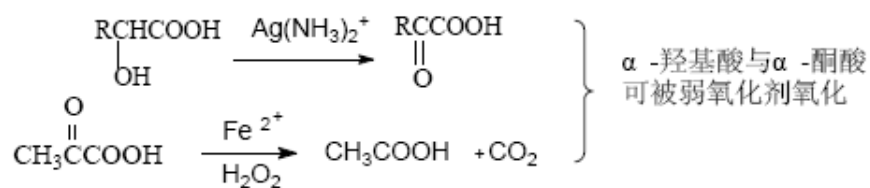
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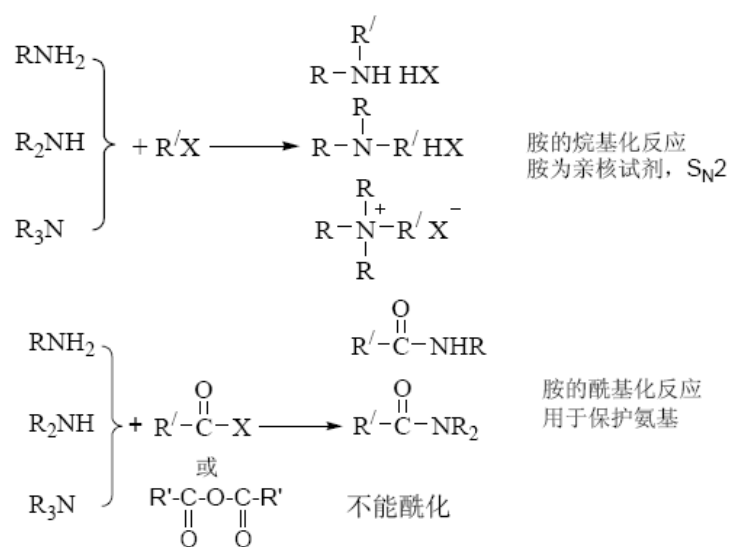
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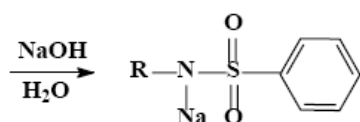
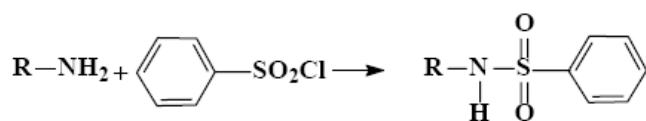
(Hinsberg)

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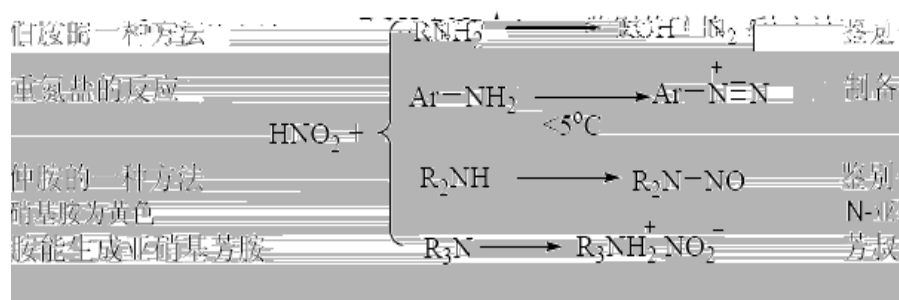
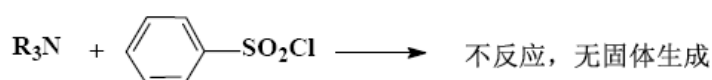
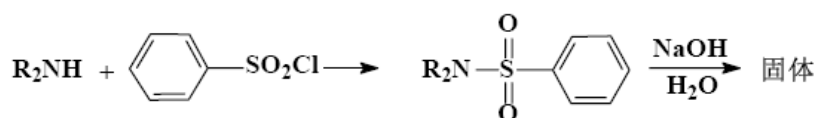
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胺的磺酰化反应(欣斯堡Hinsberg)

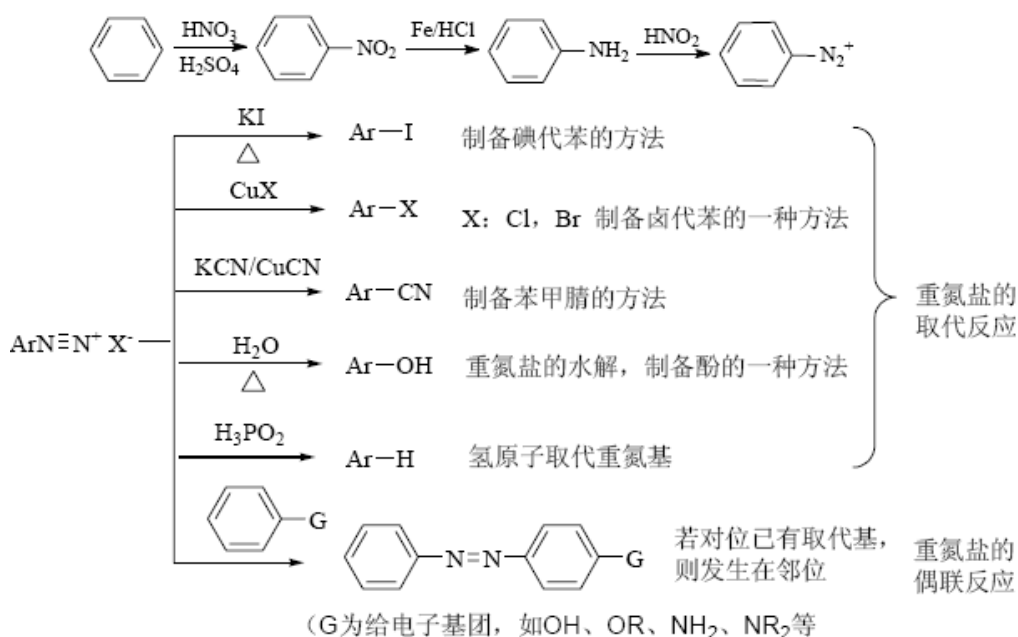


鉴别不同类型胺



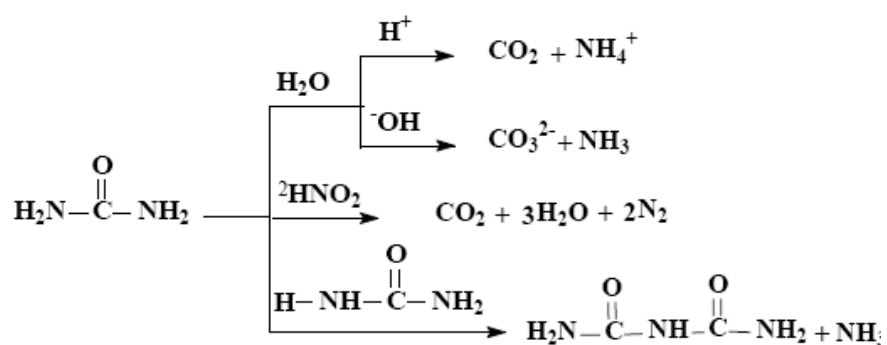
3. ($\text{H}_2\text{O} \vee \text{H}_3\text{PO}_2 \vee \text{CuX} \vee \text{CuCN}$)

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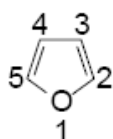


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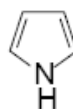
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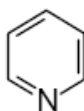
furan呋喃



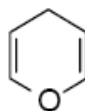
thiophene噻吩



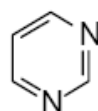
pyrrol吡咯



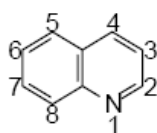
pyridine吡啶



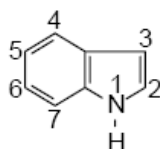
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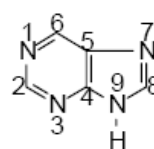
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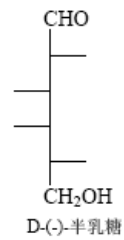
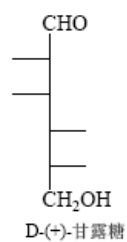
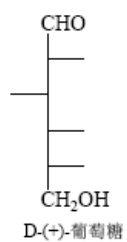
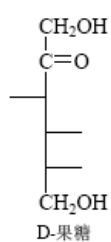
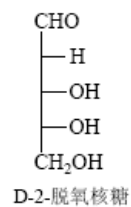
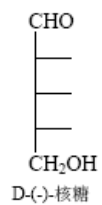
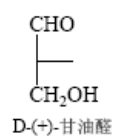
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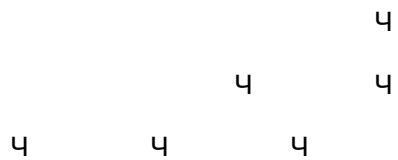
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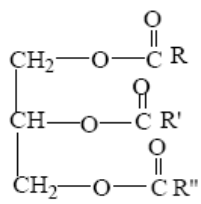
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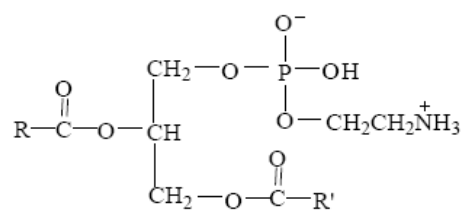
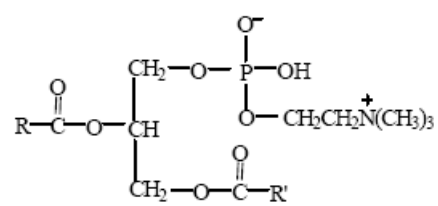
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