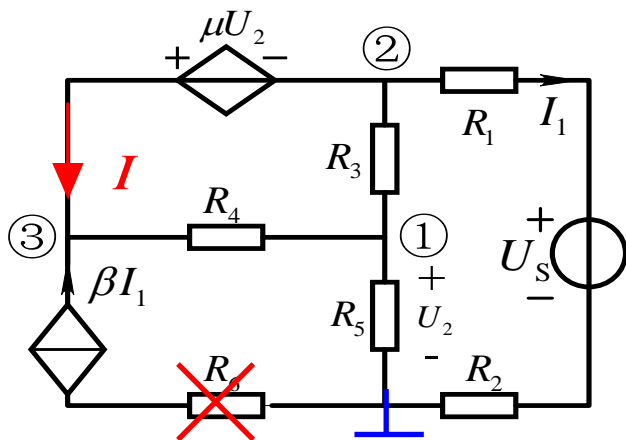


## 例5 列写图示电路的节点电压方程



解：

$$\textcircled{1} \left( \frac{1}{R_3} + \frac{1}{R_4} + \frac{1}{R_5} \right) U_{n1} - \frac{1}{R_3} U_{n2} - \frac{1}{R_4} U_{n3} = 0$$

$$\textcircled{2} -\frac{1}{R_3} U_{n1} + \left( \frac{1}{R_1 + R_2} + \frac{1}{R_3} \right) U_{n2} = -I + \frac{U_s}{R_1 + R_2}$$

$$\textcircled{3} -\frac{1}{R_4} U_{n1} + \frac{1}{R_4} U_{n3} = I + \beta I_1$$

补充:  $U_{n3} - U_{n2} = \mu U_2$        $I_1 = \frac{U_{n2} - U_s}{R_1 + R_2}$        $U_2 = U_{n1}$