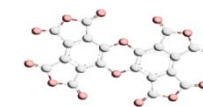
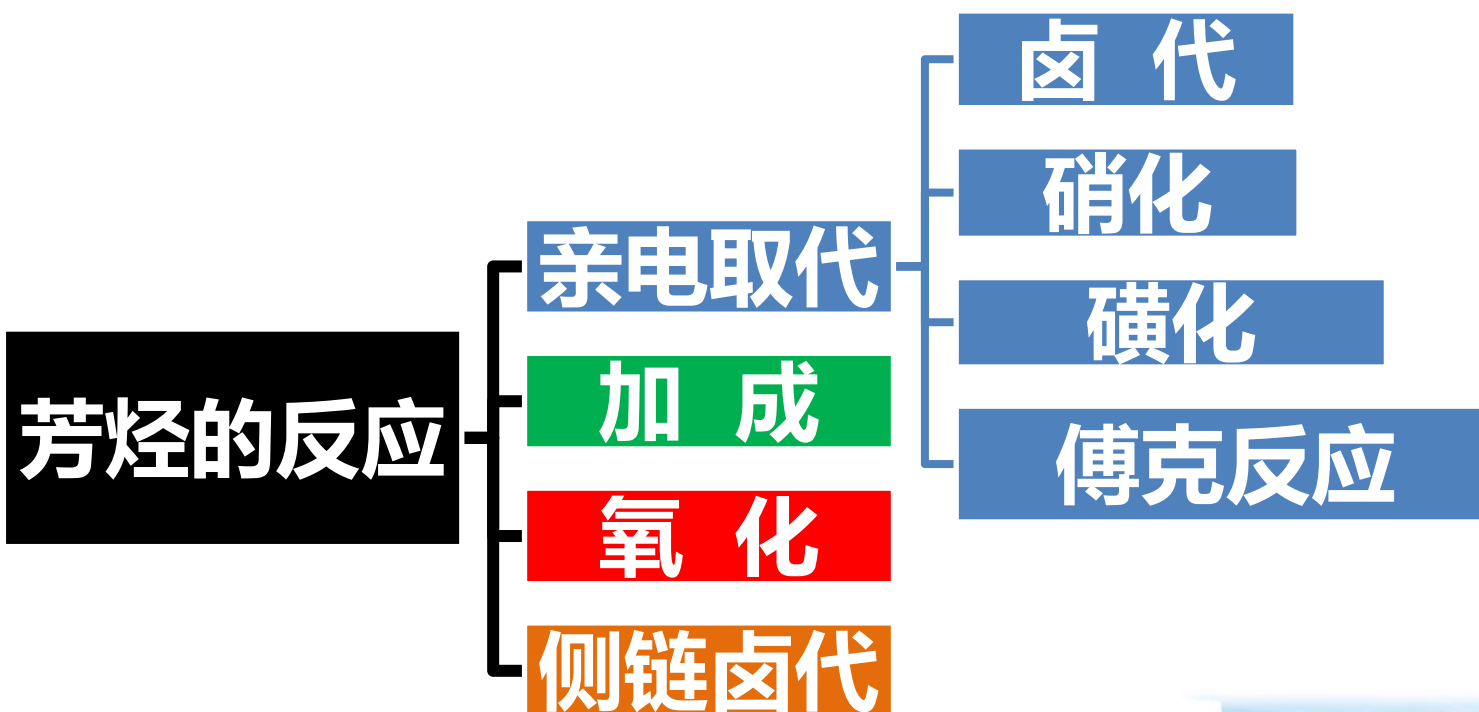




苯环的化学性质

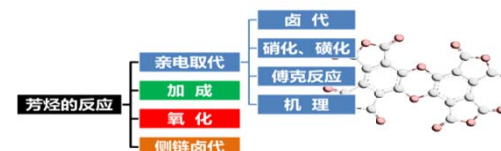


特征：一般较稳定，易发生亲电取代反应

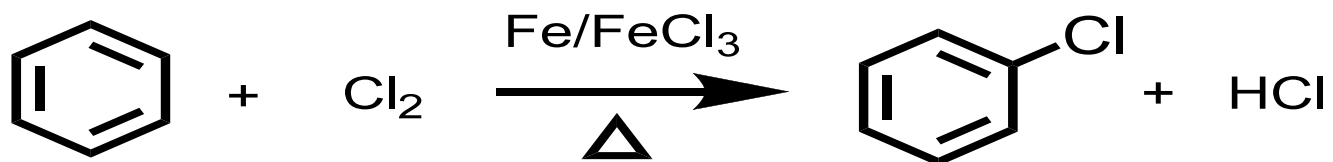




亲电取代

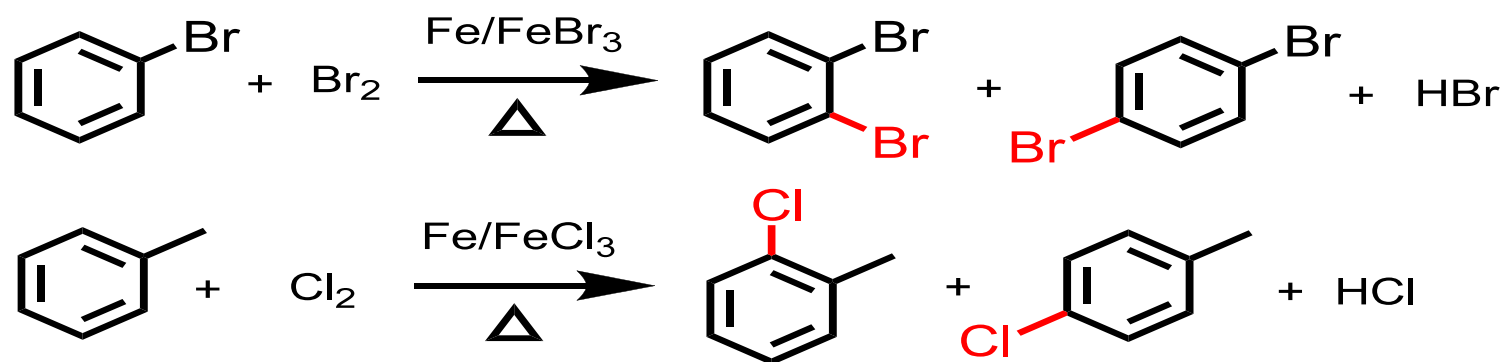
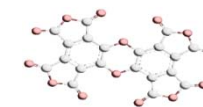


卤代反应



活性： $\text{F}_2 > \text{Cl}_2 > \text{Br}_2 > \text{I}_2$



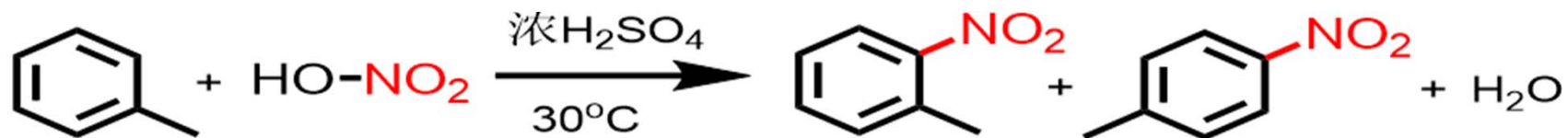
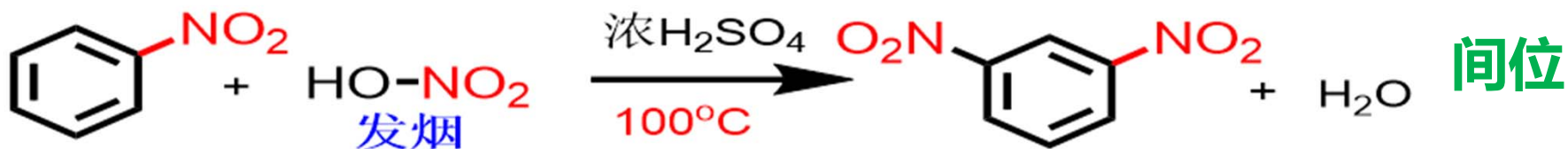
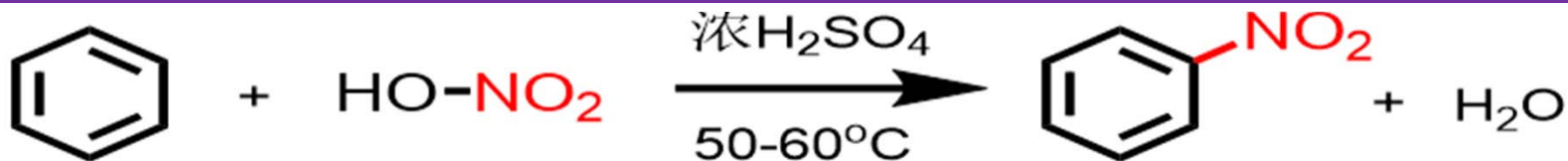
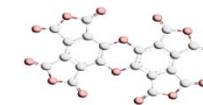


邻对位产物





亲电取代-硝化反应

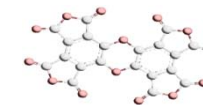


邻对位

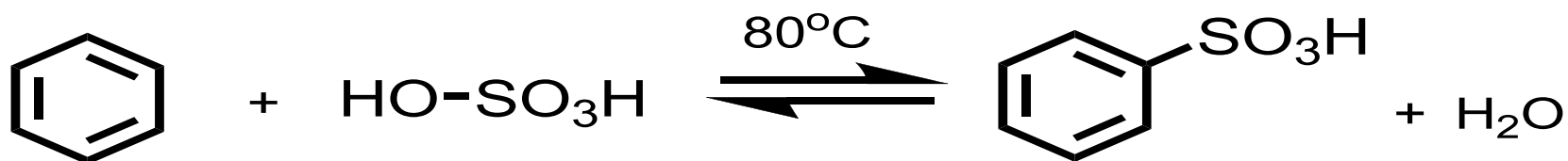




亲电取代



磺化反应

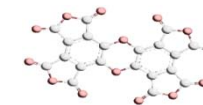


苯磺酸是一种强有机酸，为吸水性无色晶体，易溶于水，常把磺酸基作为助溶基团。

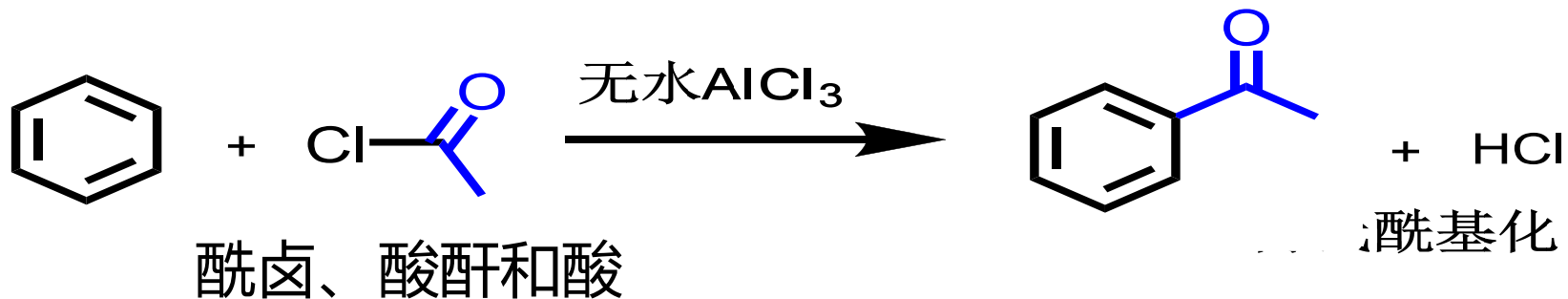
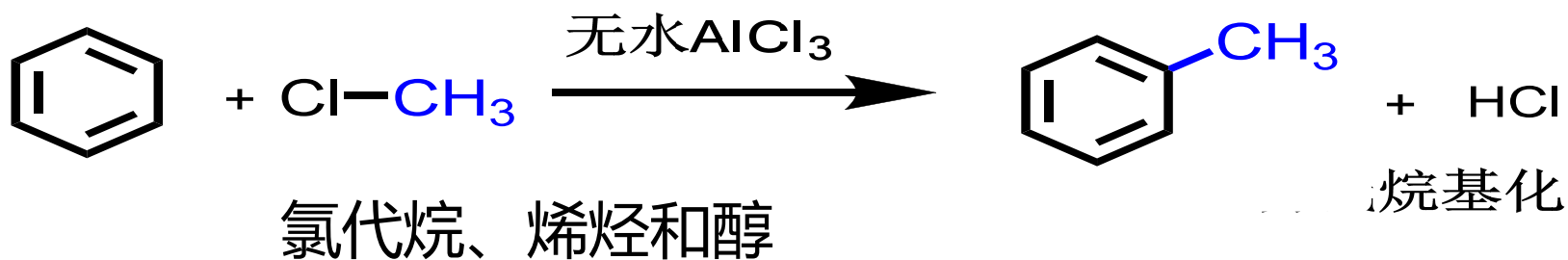




亲电取代

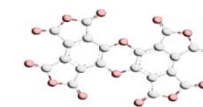


傅克反应 (Friedel-Crafts)

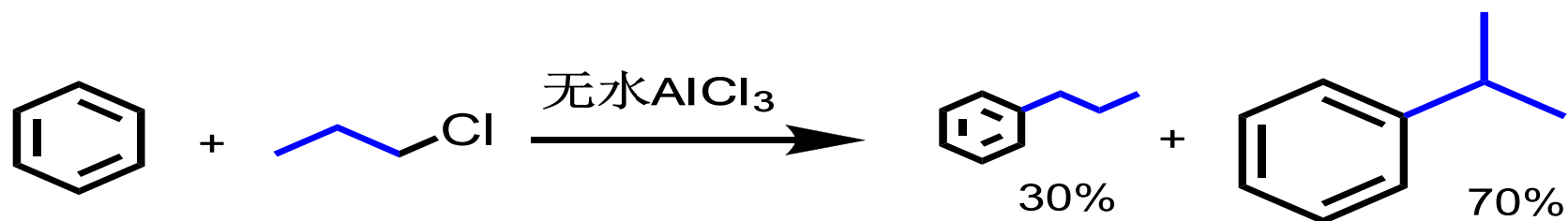




亲电取代



傅-克烷基化



Why?

