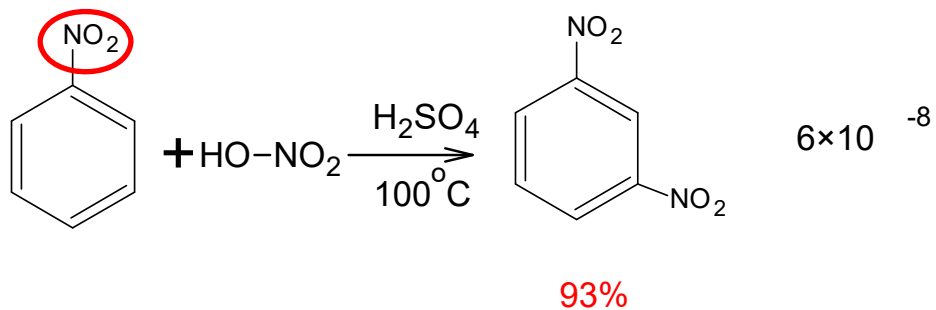
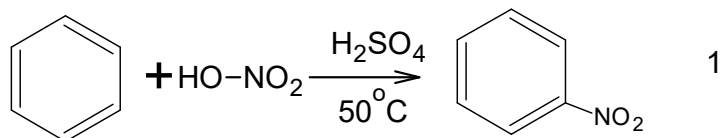
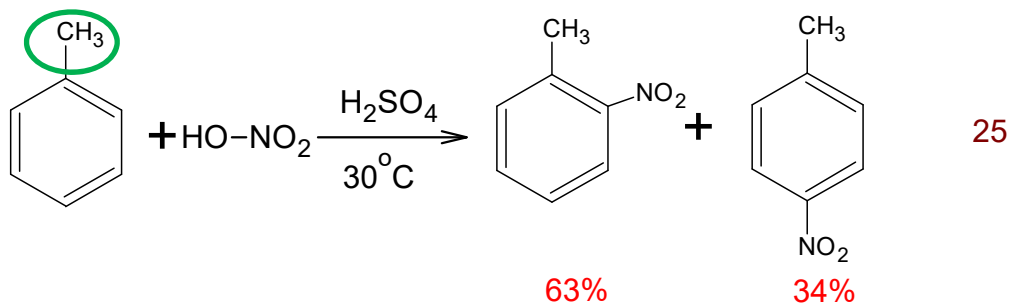
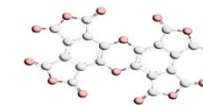


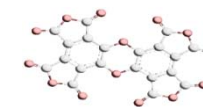


# 苯环亲电取代反应定位规律

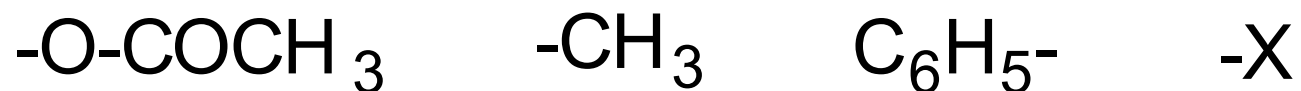




# 定位基的分类



第一类定位基：**邻、对位定位基**

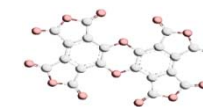


与苯环直接相连的原子或原子团一般是单键或带负电荷，  
使苯环致活，取代反应变得容易。





# 定位基的分类



## 第二类定位基：间位定位基

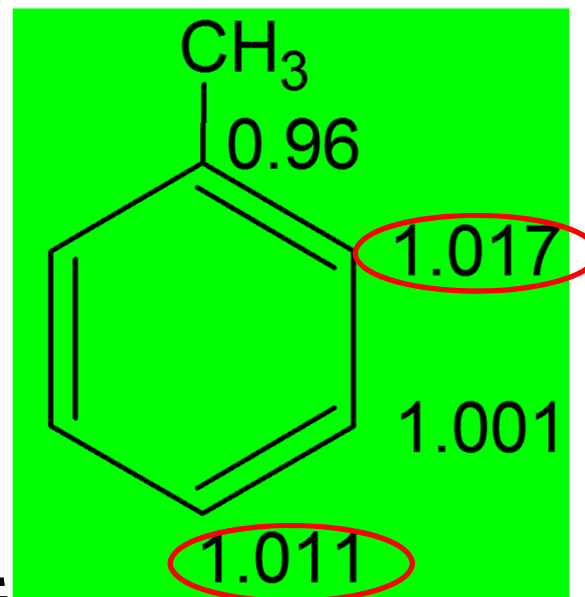
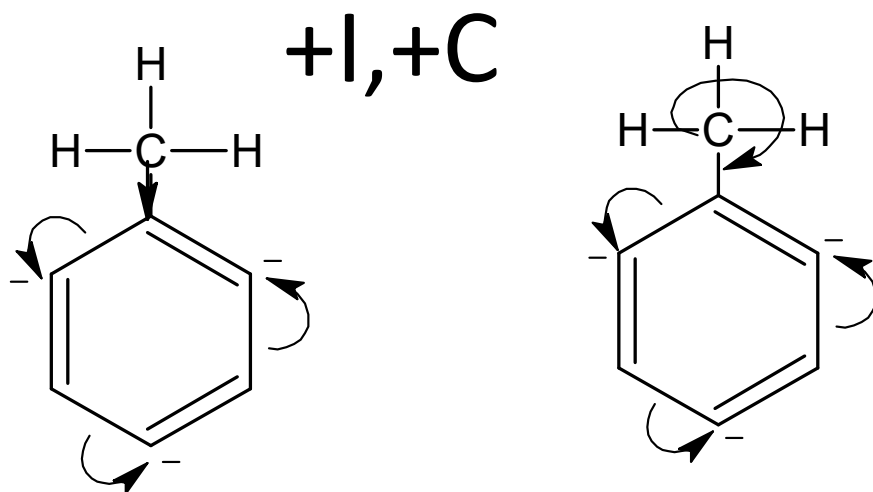
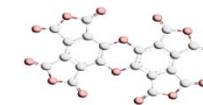


与苯环直接相连的原子或原子团一般是双键、叁键或带正电荷, 使苯环钝化, 取代反应变得困难。





# 定位规律的解释

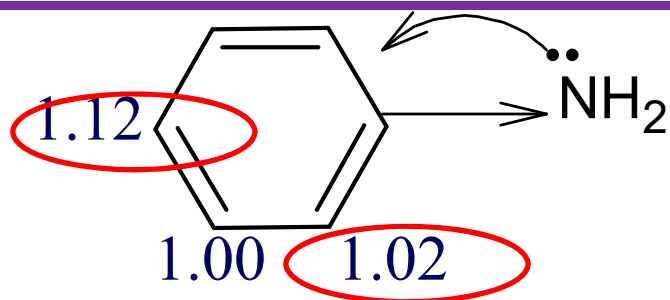
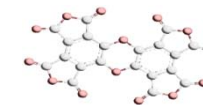


使苯环电子云密度增加，苯环致活  
取代位置在邻位和对位



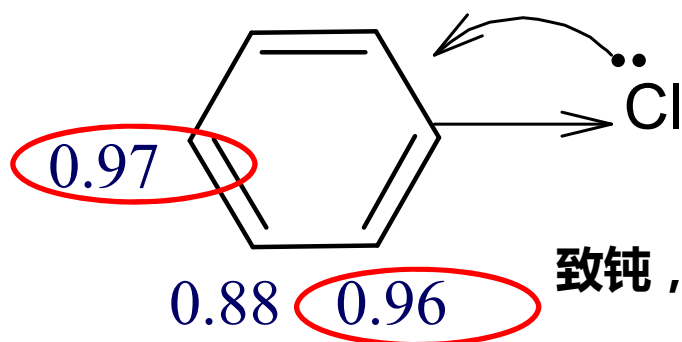


# 定位规律的解释



致活，邻对位

吸电子基  $-I$   
 $p-\pi$ 共轭效应  $+C$   
 $+C > -I$



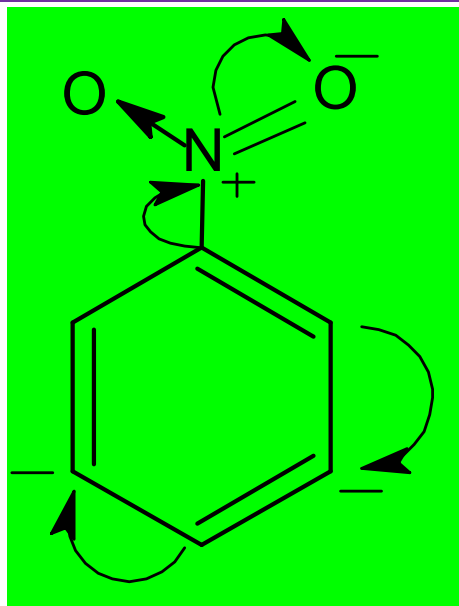
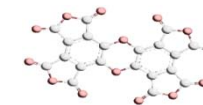
致钝，邻对位

吸电子基  $-I$   
 $p-\pi$ 共轭效应  $+C$   
 $-I > +C$



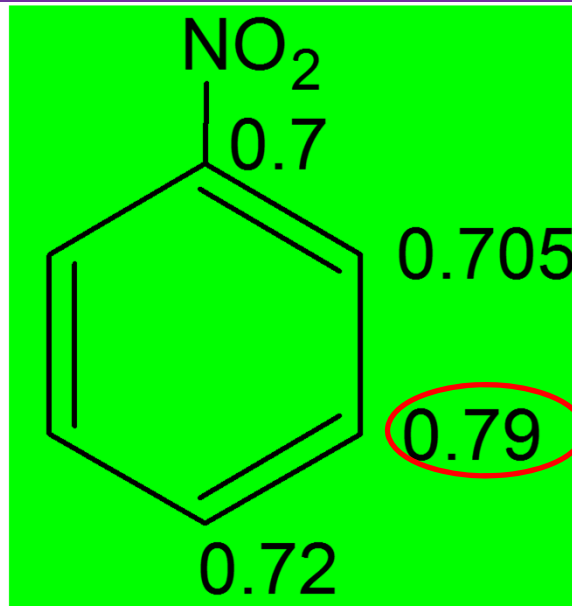


# 定位规律的解释



诱导效应

$\pi$ - $\pi$ 共轭效应



-I

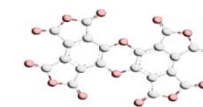
-C

致钝，间位取代



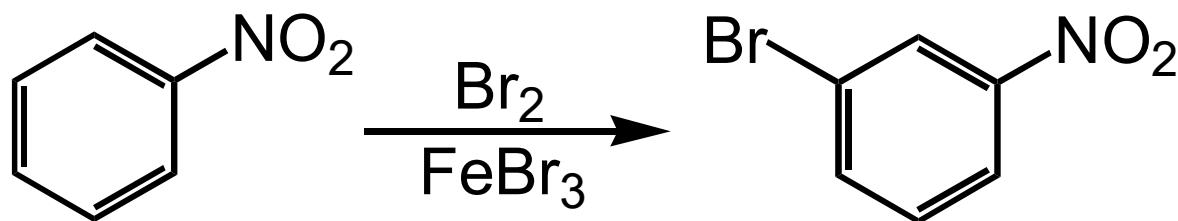
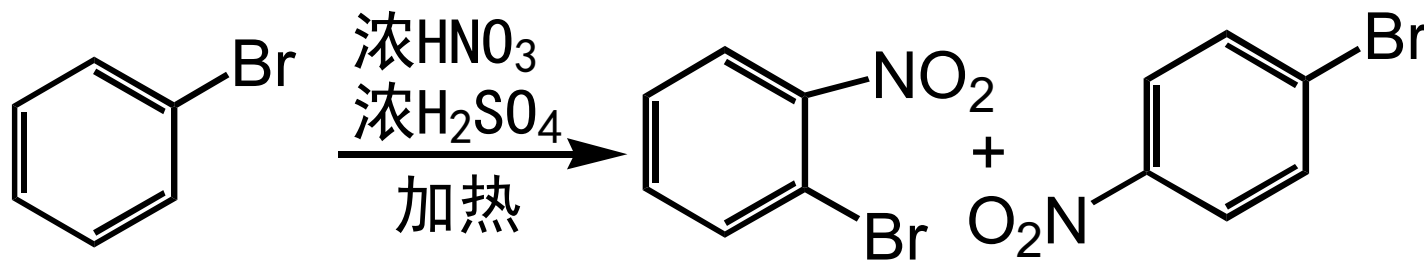


# 定位规律的应用



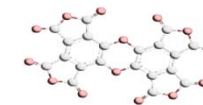
## 推测主要产物

单取代

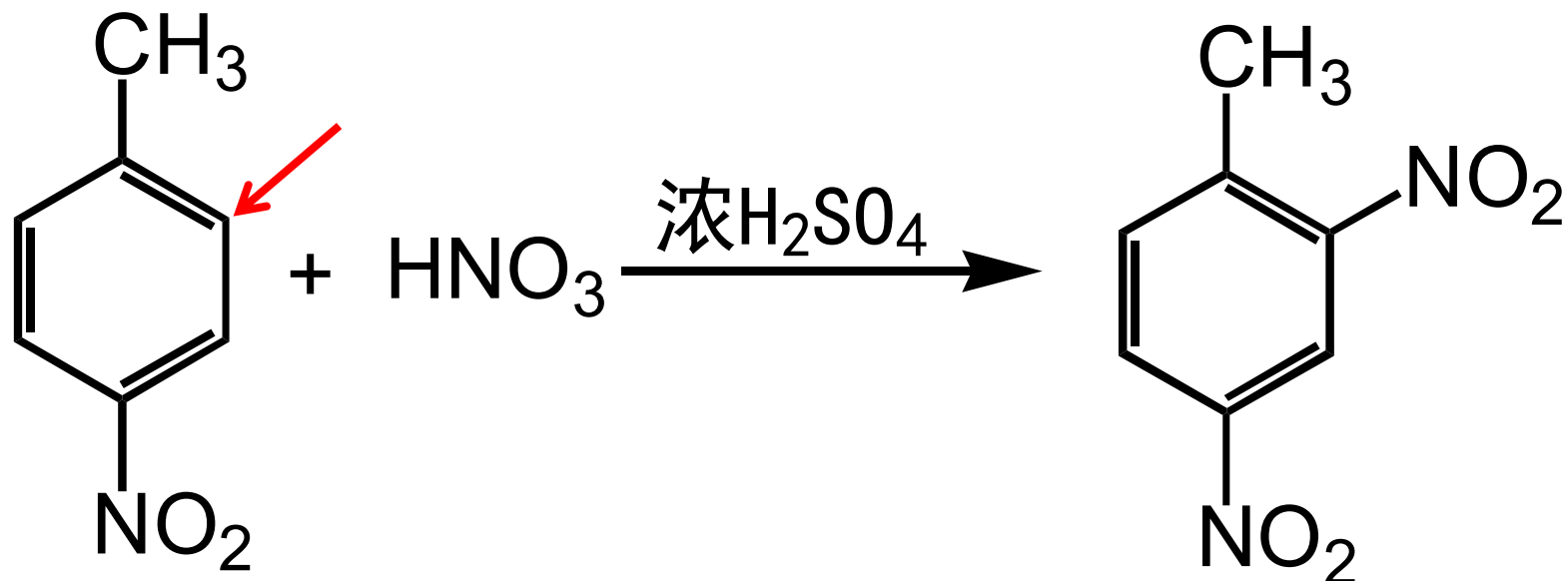




# 定位规律的应用

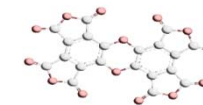


推测主要产物 二元取代：两个取代基定位作用一致

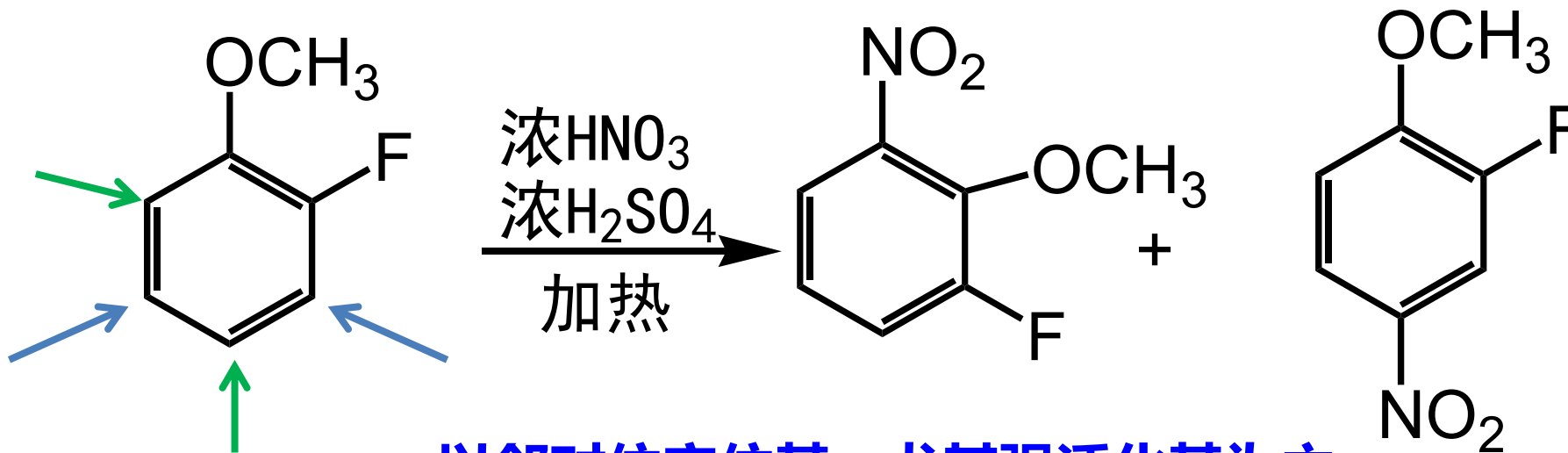




# 定位规律的应用



推测主要产物 二元取代：两个取代基定位作用矛盾

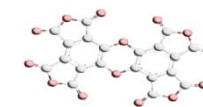


以邻对位定位基，尤其强活化基为主。

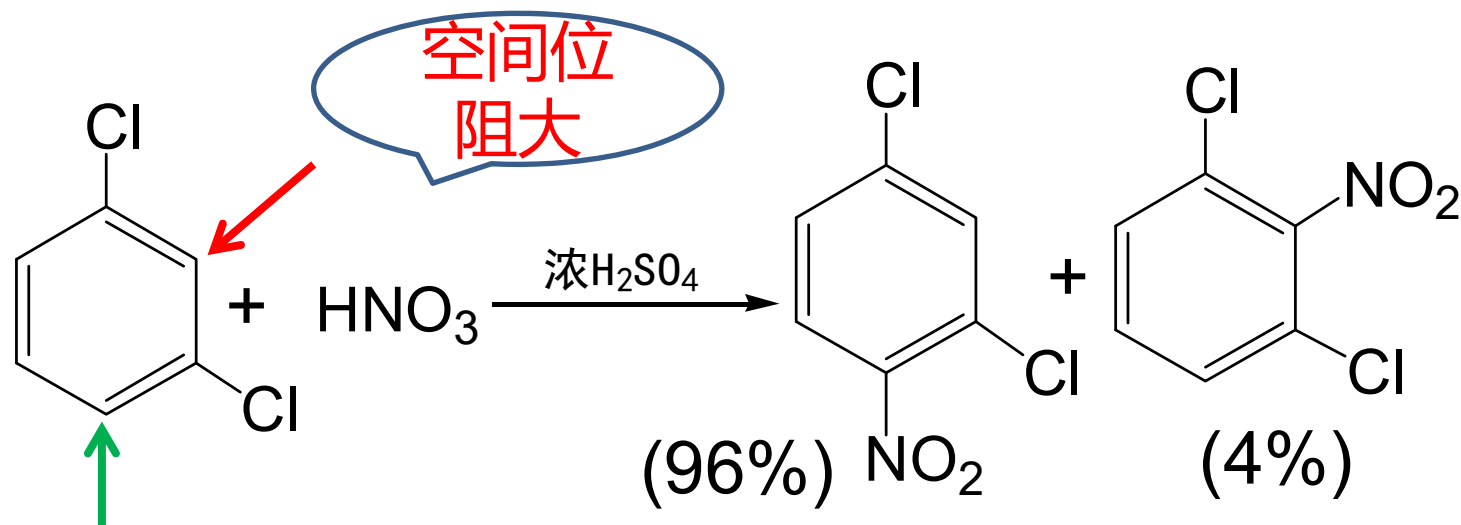




# 定位规律的应用

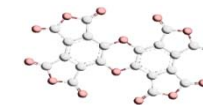


推测主要产物 二元取代：空间效应



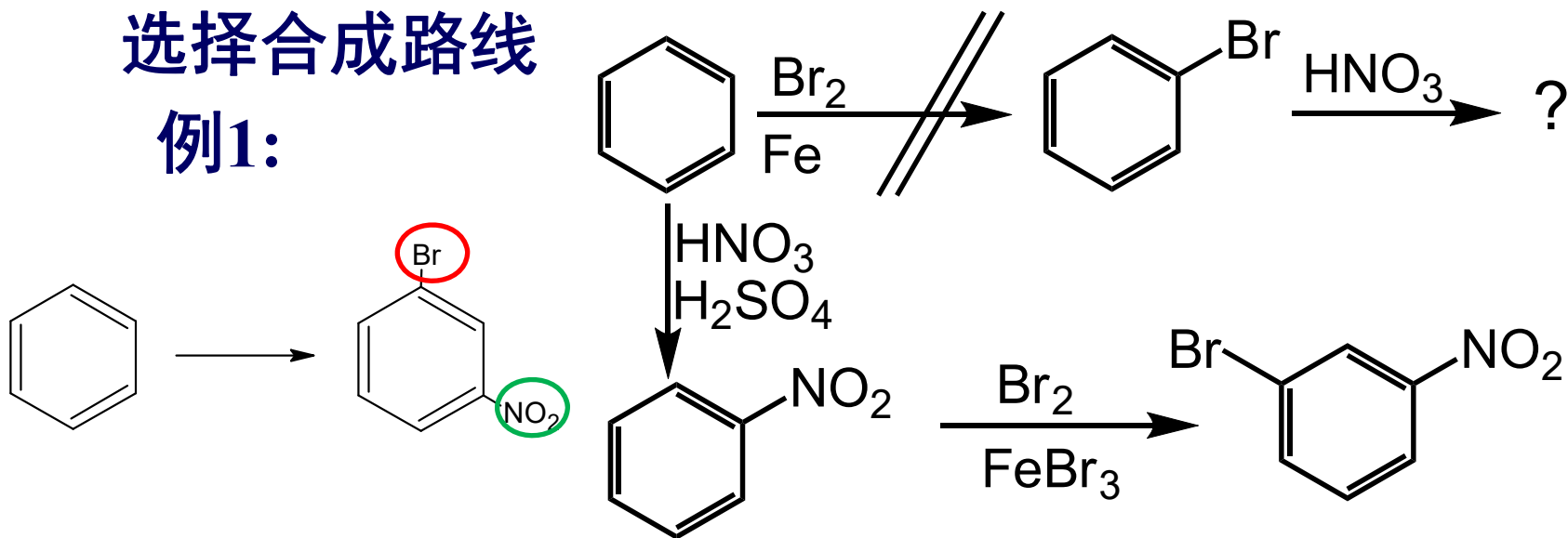


# 定位规律的应用



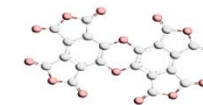
选择合成路线

例1:





# 定位规律的应用



例2:

