

## 2 共鳴法

### 問 2.1

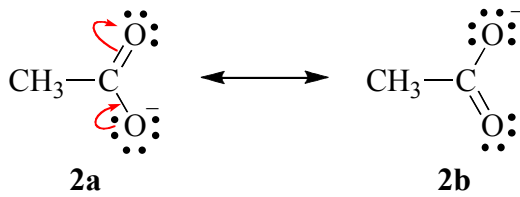
(1a) 非共有電子對 (孤立電子對)

(1b) 共有電子對 (結合電子對)

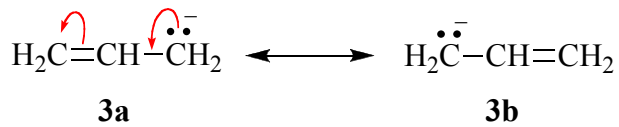
(1c) 共有電子對 (結合電子對)

(1d) 非共有電子對 (孤立電子對)

### 問 2.2



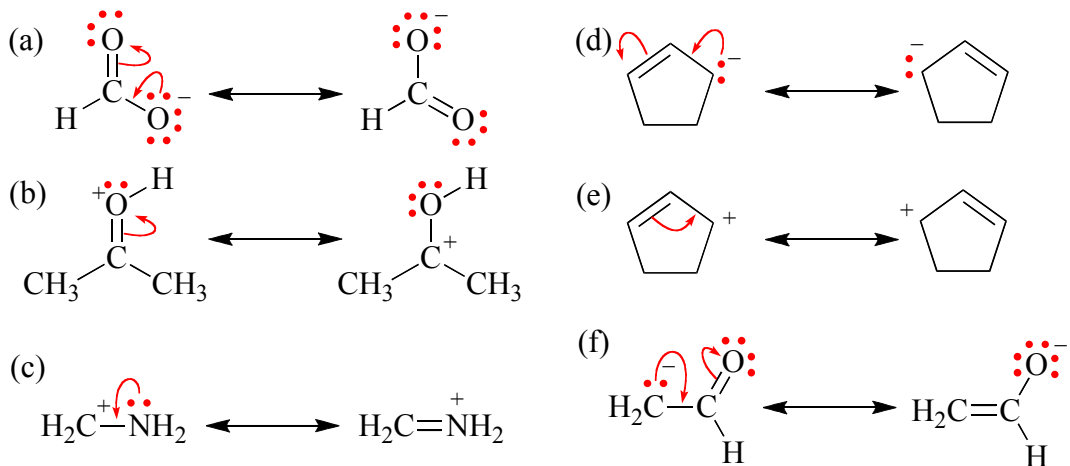
### 問 2.3



### 問 2.4

(4a)  $\text{H}_2\text{C}^+-\text{CH}=\text{CH}_2$  (4b) 共鳴寄与式 (4c) 共鳴混成体 (4d) 非局在化  
**4b** (4e) 正電荷

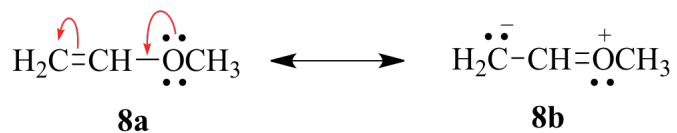
### 演習問題 2.1



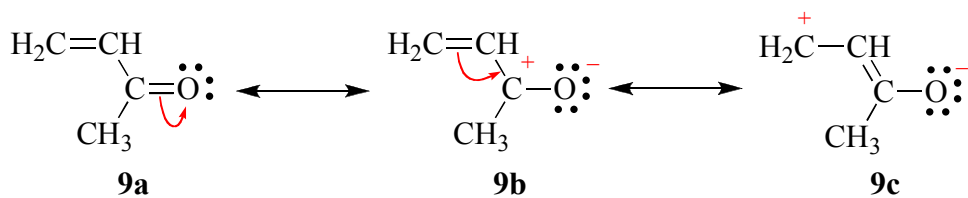
問 2.5

(5a) 6 (5b) 電気陰性度 (5c) 不対電子

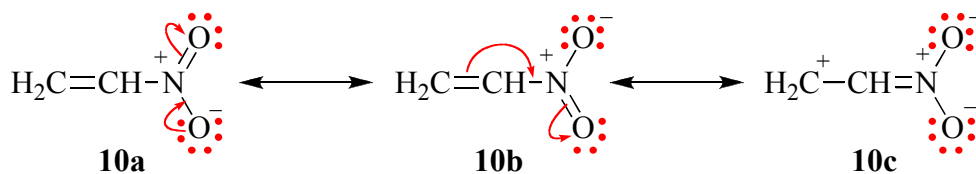
問 2.6



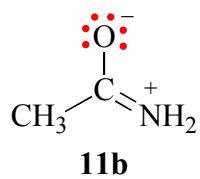
問 2.7



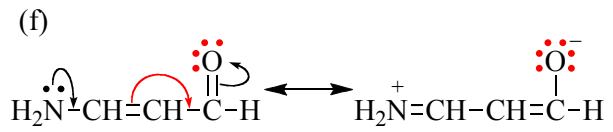
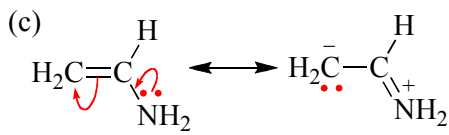
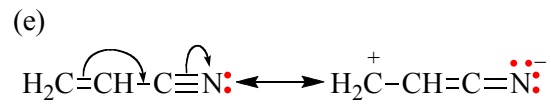
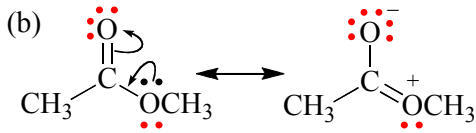
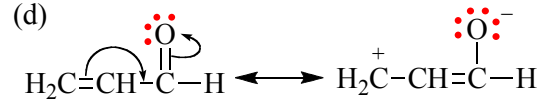
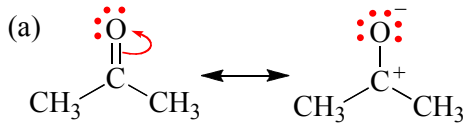
問 2.8



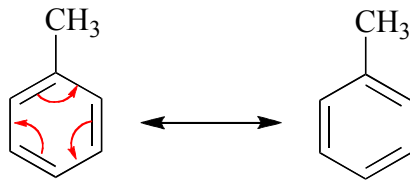
問 2.9



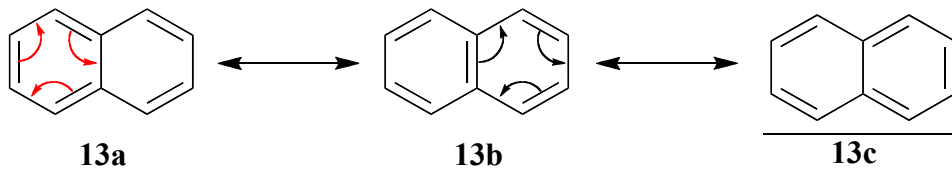
演習問題 2.2



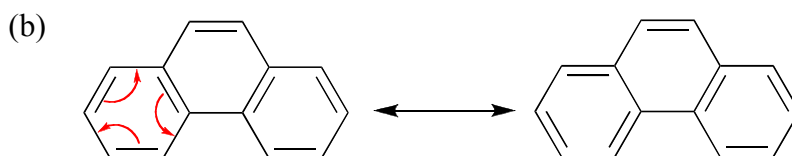
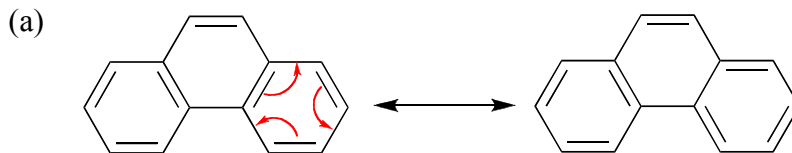
問 2.10

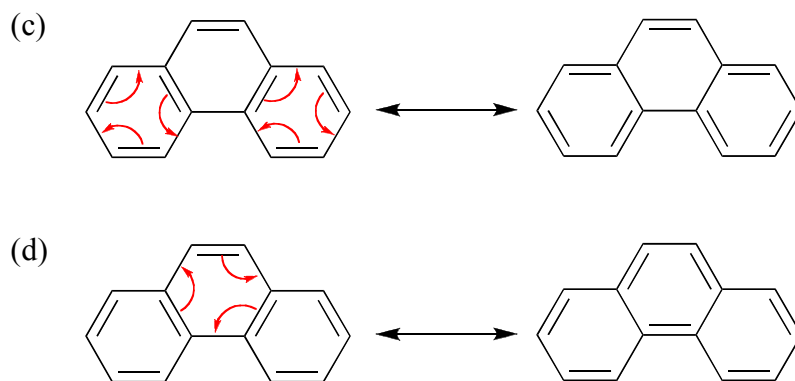


問 2.11

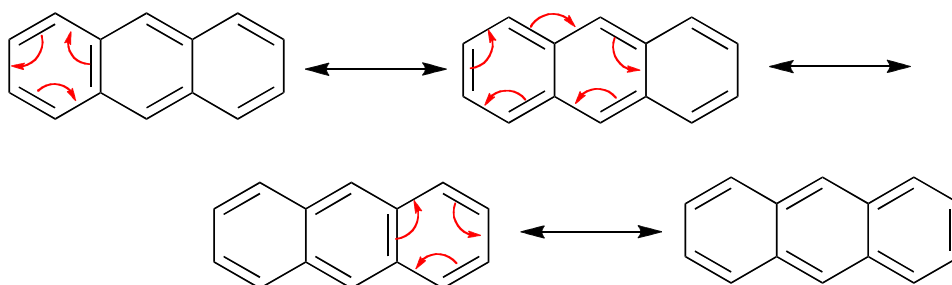


問 2.12

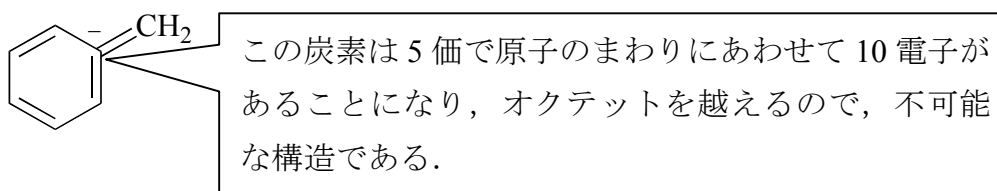




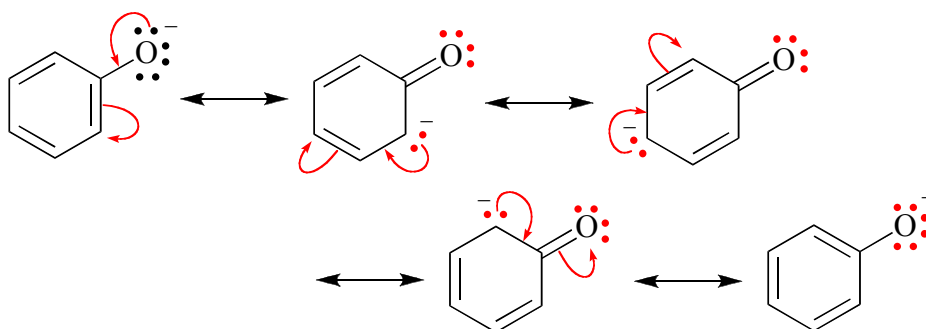
問 2.13



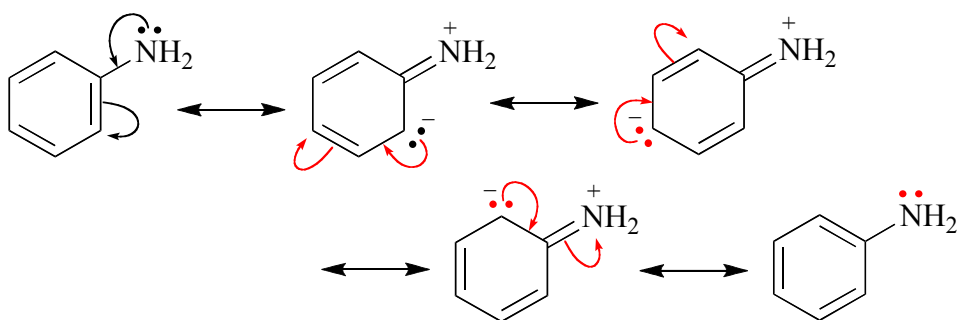
問 2.14



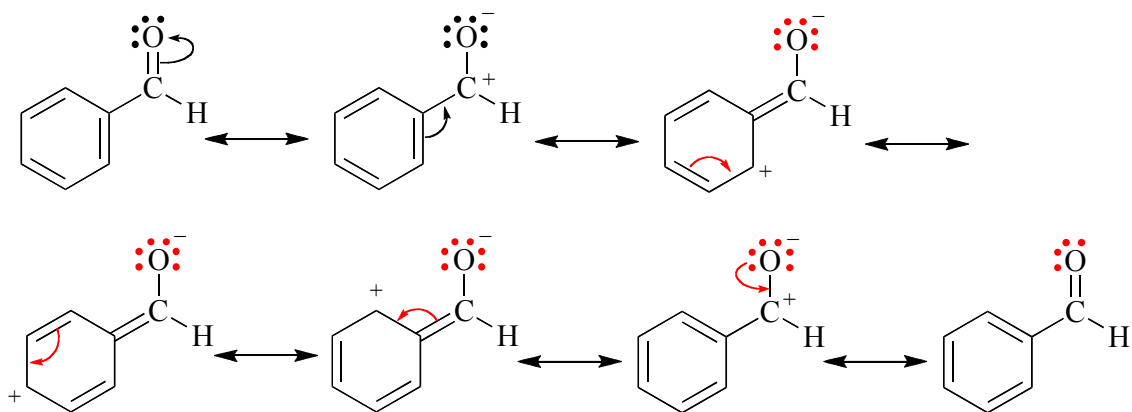
問 2.15



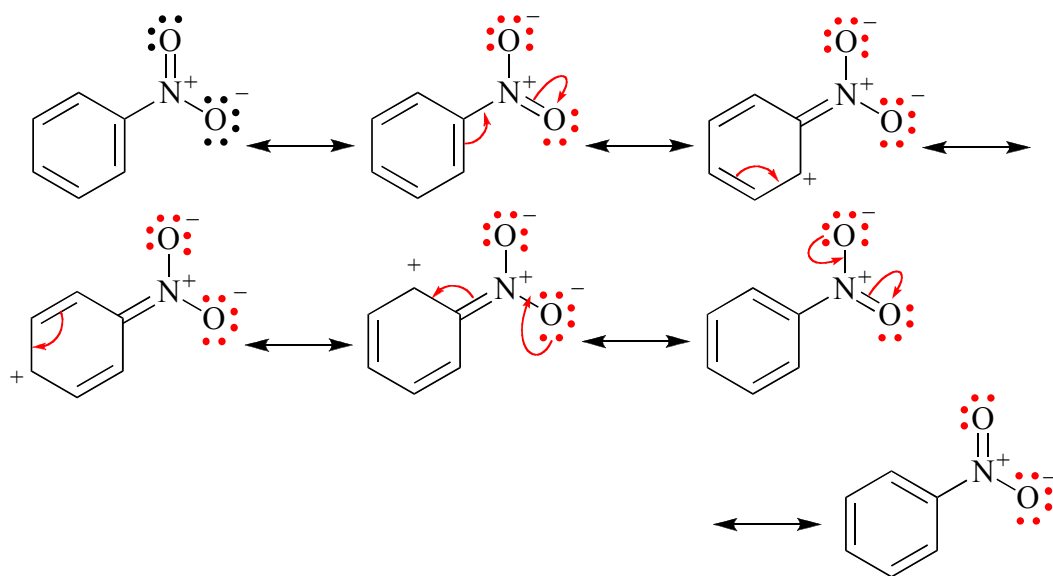
問 2.16



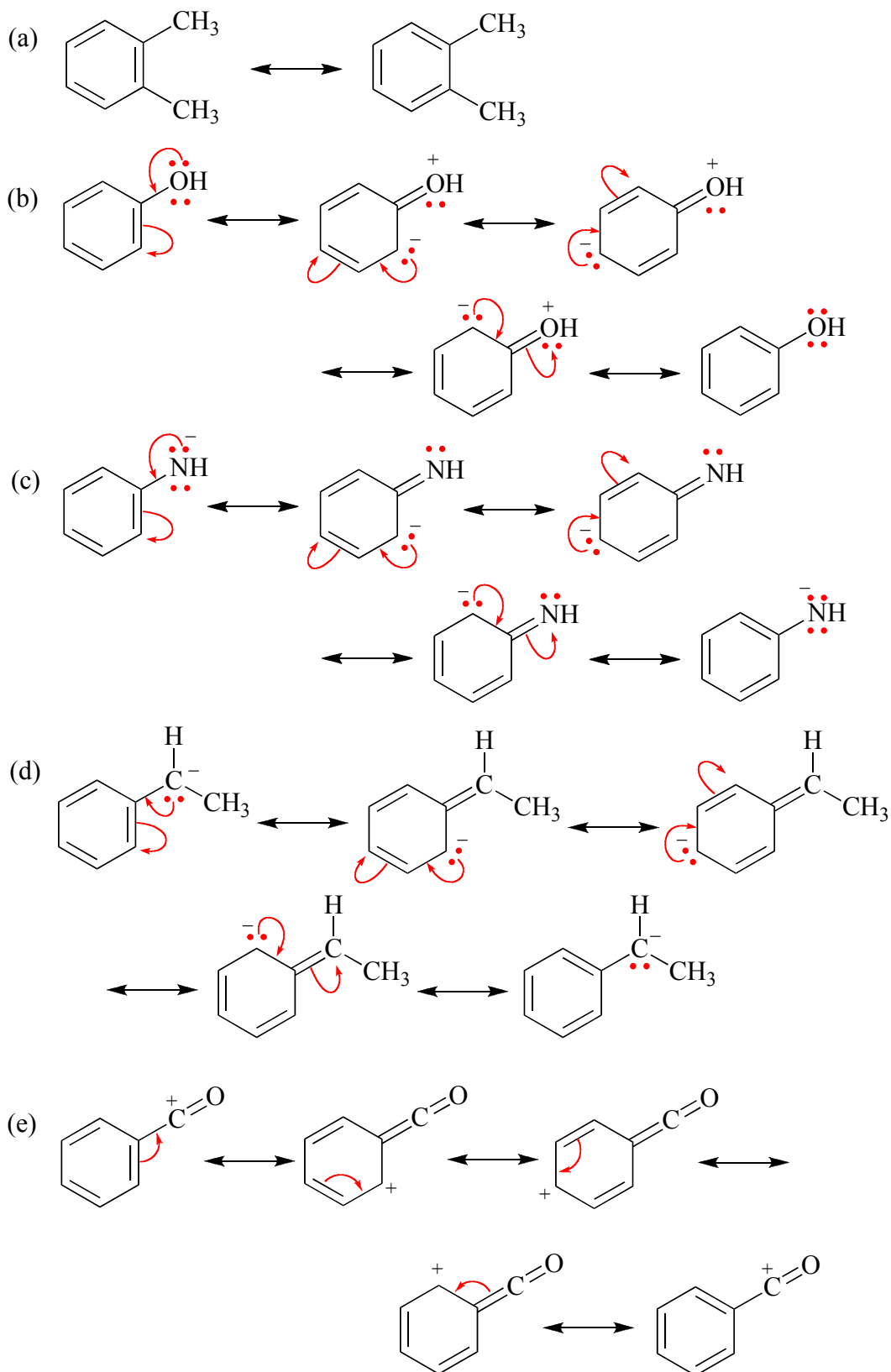
問 2.17

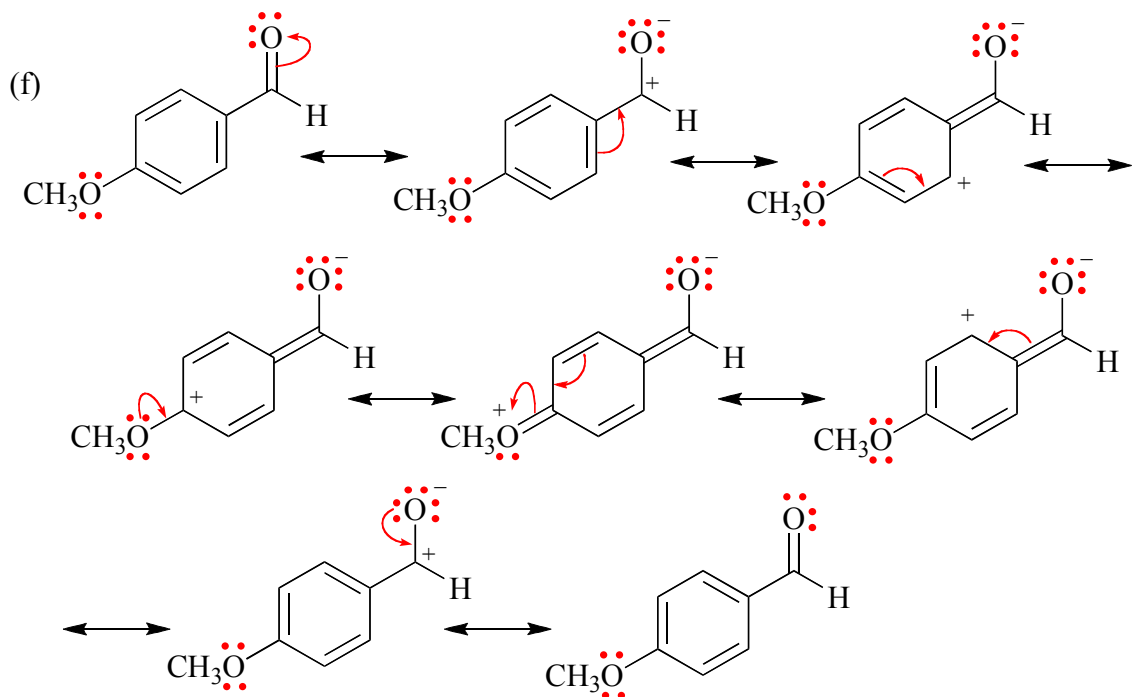


問 2.18

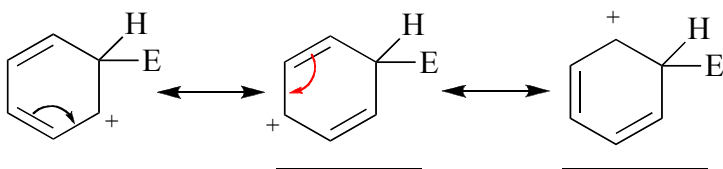


演習問題 2.3

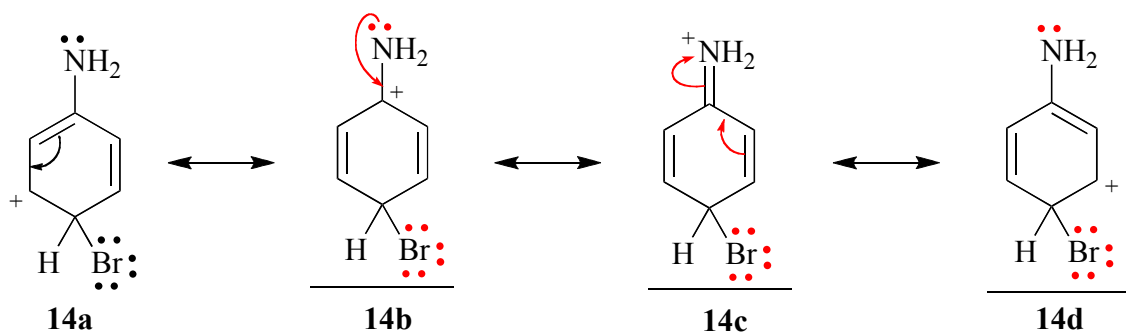




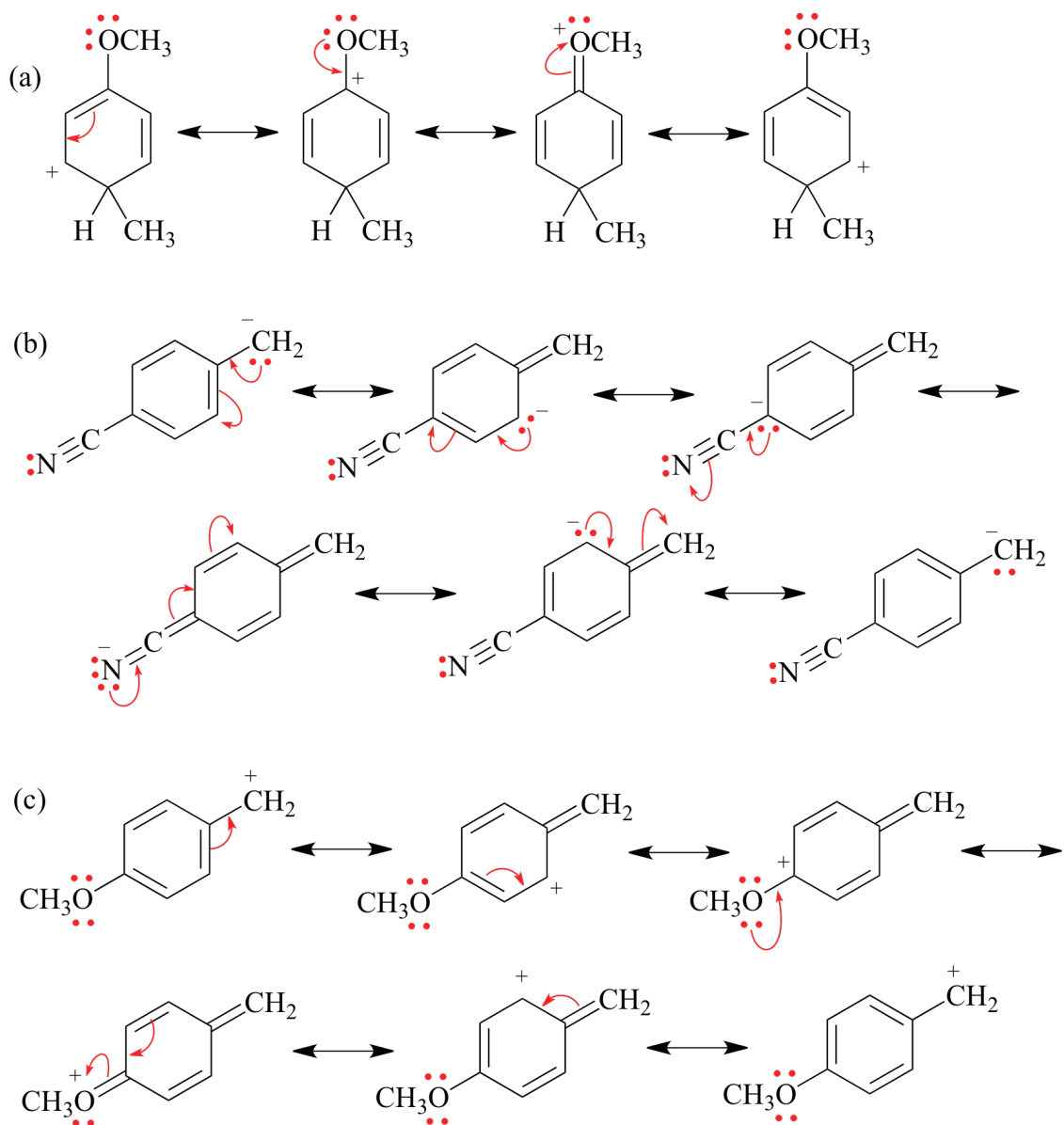
問 2.19



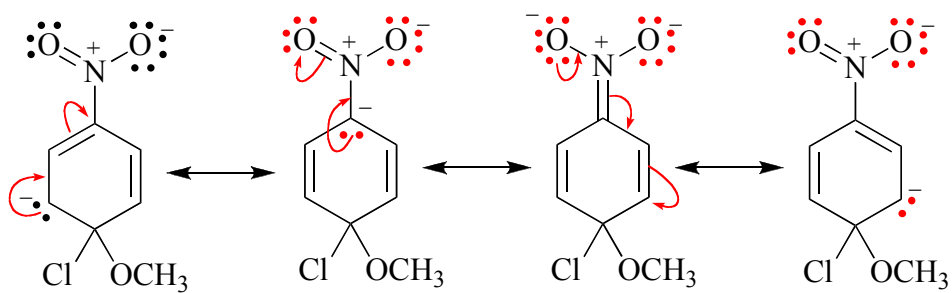
問 2.20



演習問題 2.4



演習問題 2.5





この他に、次のようにニトロ基の  $\text{N}=\text{O}$  と  $\text{N}-\text{O}$  が入れ替わった共鳴寄与式が三つ書ける。なお、非局在化できない  $\text{Cl}$  とメトキシ  $\text{O}$  上の非共有電子対は省略している。

