

## 16.13: SOLUTIONS TO ADDITIONAL EXERCISES

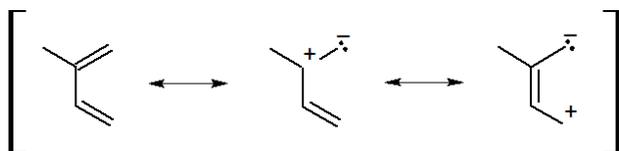
### General Review

#### 16-1

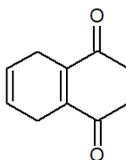
1. Conjugated
2. Cumulated
3. Isolated

16-2 Pathway A leads to the kinetic product. Since the intermediate formed during this pathway is the most stable intermediate, it forms the fastest and will always give the kinetic product. Pathway B forms the thermodynamic product, which is the most stable final product.

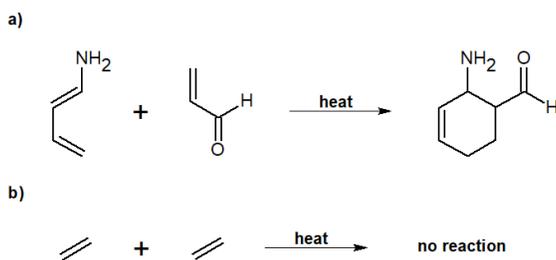
#### 16-3



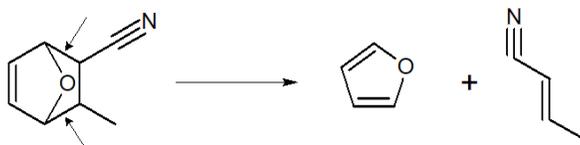
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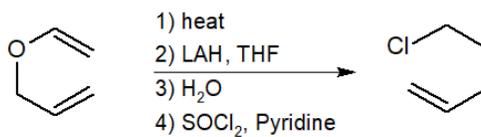
#### 16-5



#### 16-6

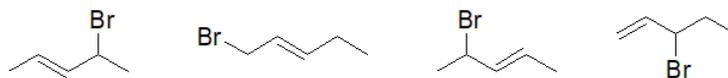


#### 16-7



### 1,2- and 1,4-Addition to Conjugated Dienes

#### 16-8:



#### 16-9:

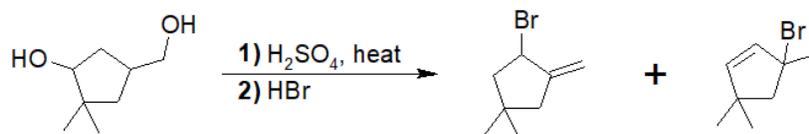
**Thermodynamic:**



**Kinetic:**

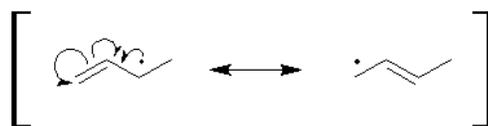


16-10:

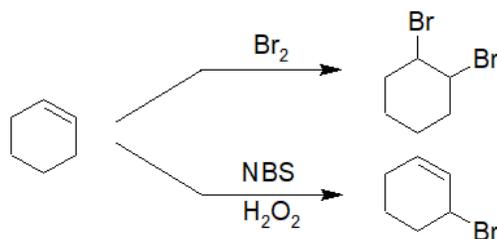


**Allylic Radicals**

16-11:



16-12:

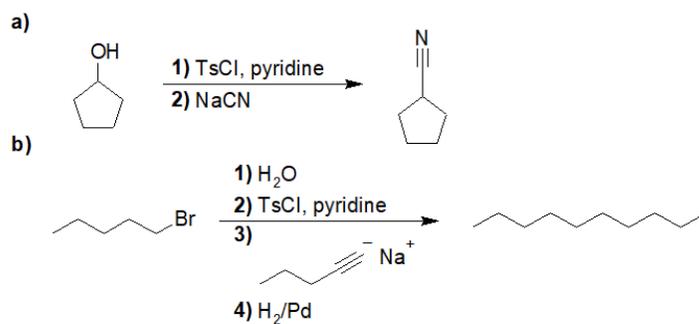


16-13:

Answer: C

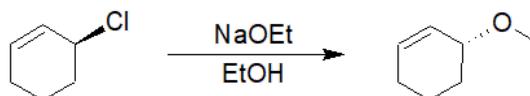
**$\text{S}_{\text{N}}2$  Displacement Reactions of Allylic Halides and Tosylates**

16-14:

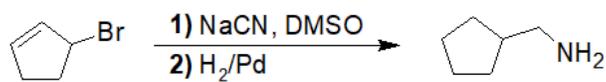


16-15:

Answer:

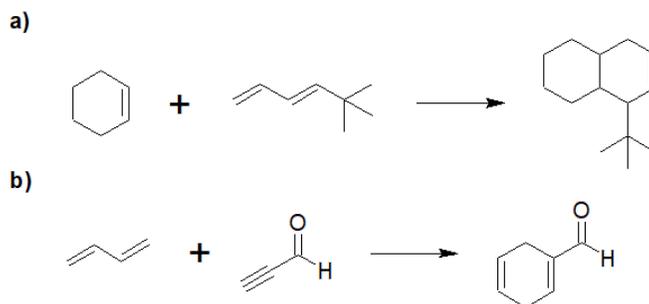


16-16:

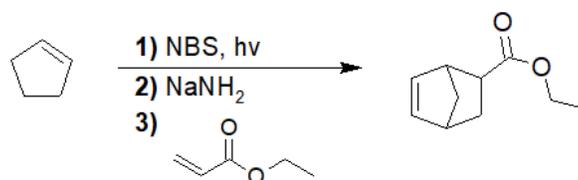


**Diels-Alder Reactions**

16-17:



16-18:



16-19:

Answer: B

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