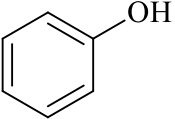
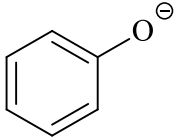
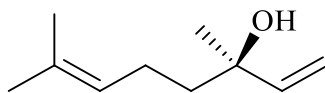


Marks
1

- Complete the following table. Make sure you give the name of the starting material where indicated.

STARTING MATERIAL	REAGENTS/ CONDITIONS	STRUCTURAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	NaOH	

- The structure of (-)-linalool, a commonly occurring natural product, is shown below.



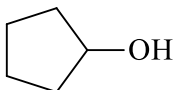
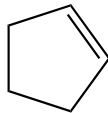
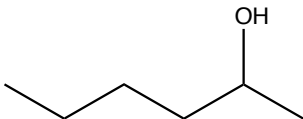
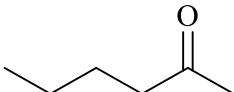
Give the structural formula of the organic product formed from (-)-linalool in each of the following reactions. NB: If there is no reaction, write "no reaction".

Marks
2

Reagents / Conditions	Structural Formula of Product
$\text{Na}_2\text{Cr}_2\text{O}_7$ in aqueous acid	no reaction
Na, then CH_3Br	

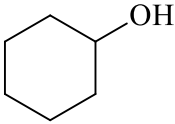
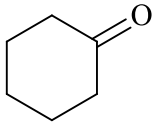
Marks
2

• Complete the following table.

STARTING MATERIAL	REAGENTS/CONDITIONS	THE MAJOR ORGANIC PRODUCT(S)
	hot concentrated H ₂ SO ₄	
	Cr ₂ O ₇ ²⁻ / H ⁺	

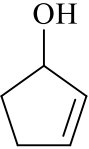
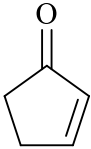
Marks
1

- Complete the following table.

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	$\text{Cr}_2\text{O}_7^{2-} / \text{H}^{\oplus}$	

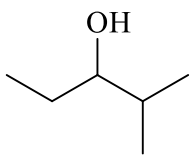
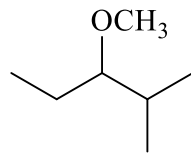
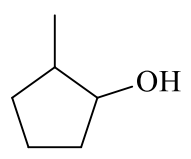
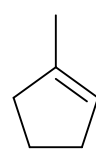
Marks
1

- Complete the following table.

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	$\text{Cr}_2\text{O}_7^{2-} / \text{H}^+$	

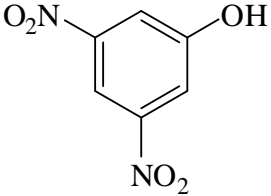
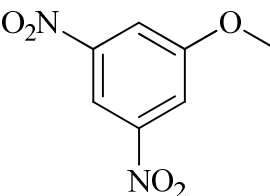
Marks
2

• Complete the following table.

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	1. NaOH 2. CH ₃ Br	
	concentrated H ₂ SO ₄	

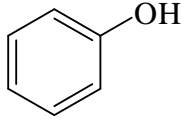
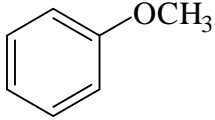
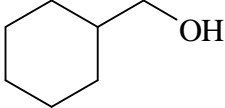
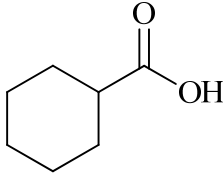
Marks
1

- Complete the following table. Make sure you indicate any relevant stereochemistry.

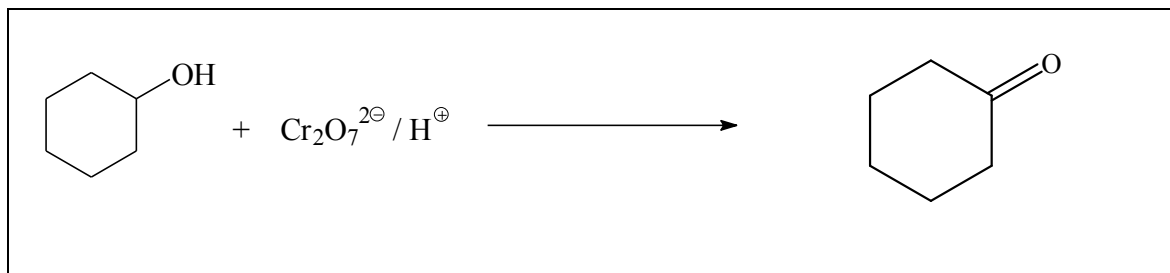
STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	1. NaOH 2. CH ₃ Br	

Marks
2

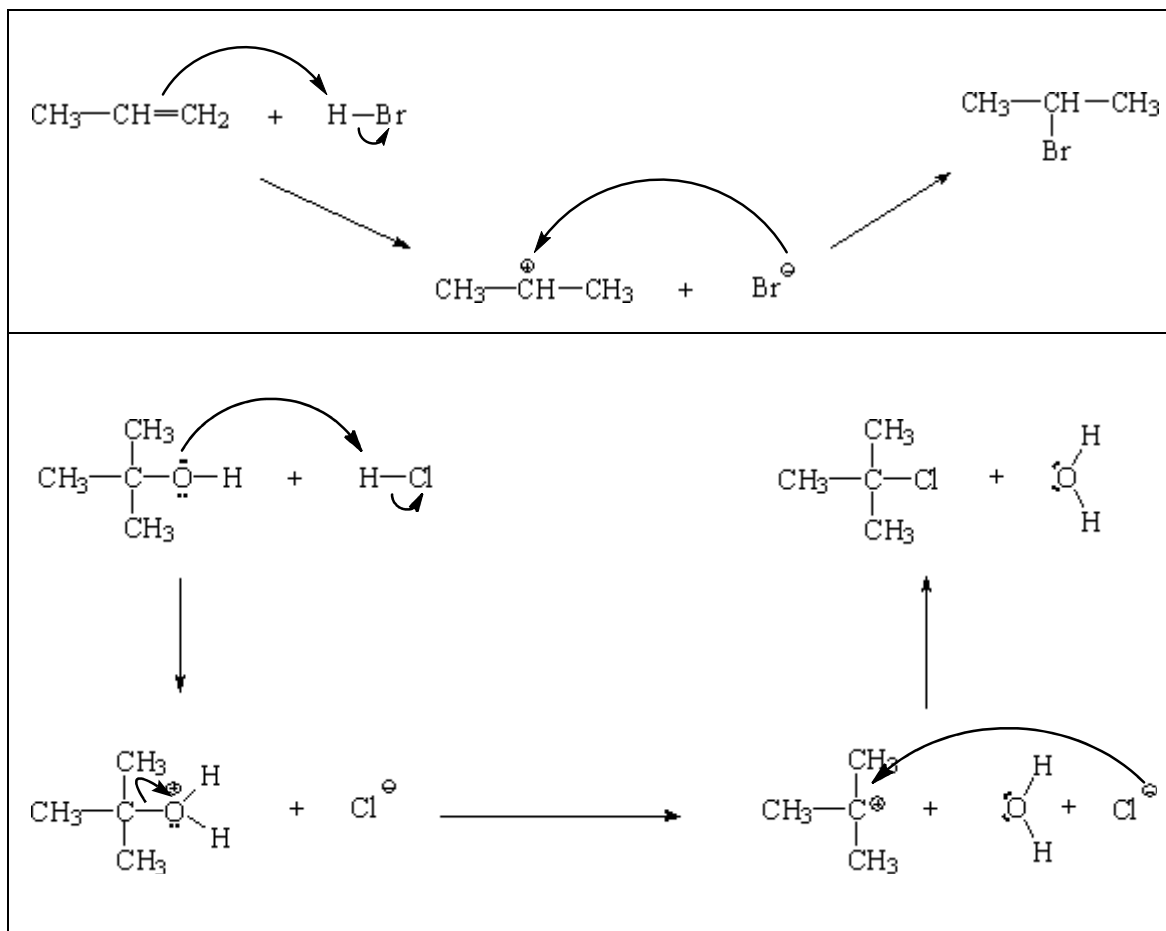
- Complete the following table.

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	1. OH ⁻ 2. CH ₃ Br	
	Cr ₂ O ₇ ²⁻ / H ⁺	

- Draw the constitutional structure of the major organic product formed in the following reactions. Indicate the correct isomer where appropriate.

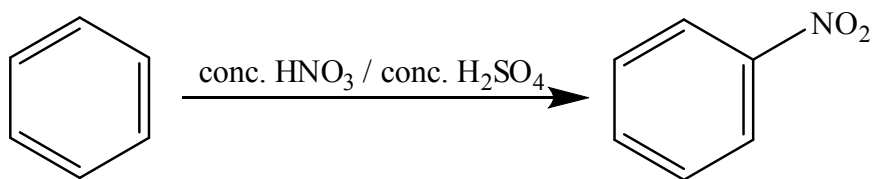
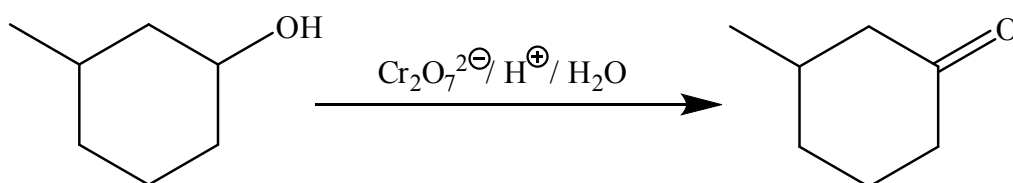
Marks
1

- Use curly arrow notation to illustrate the mechanism of each of the following reactions.



Marks
4

- Give the constitutional formula and the name of the major organic product of each of the following reactions.

Name: **nitrobenzene**Name: **3-methylcyclohexanone**