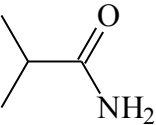
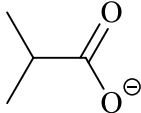


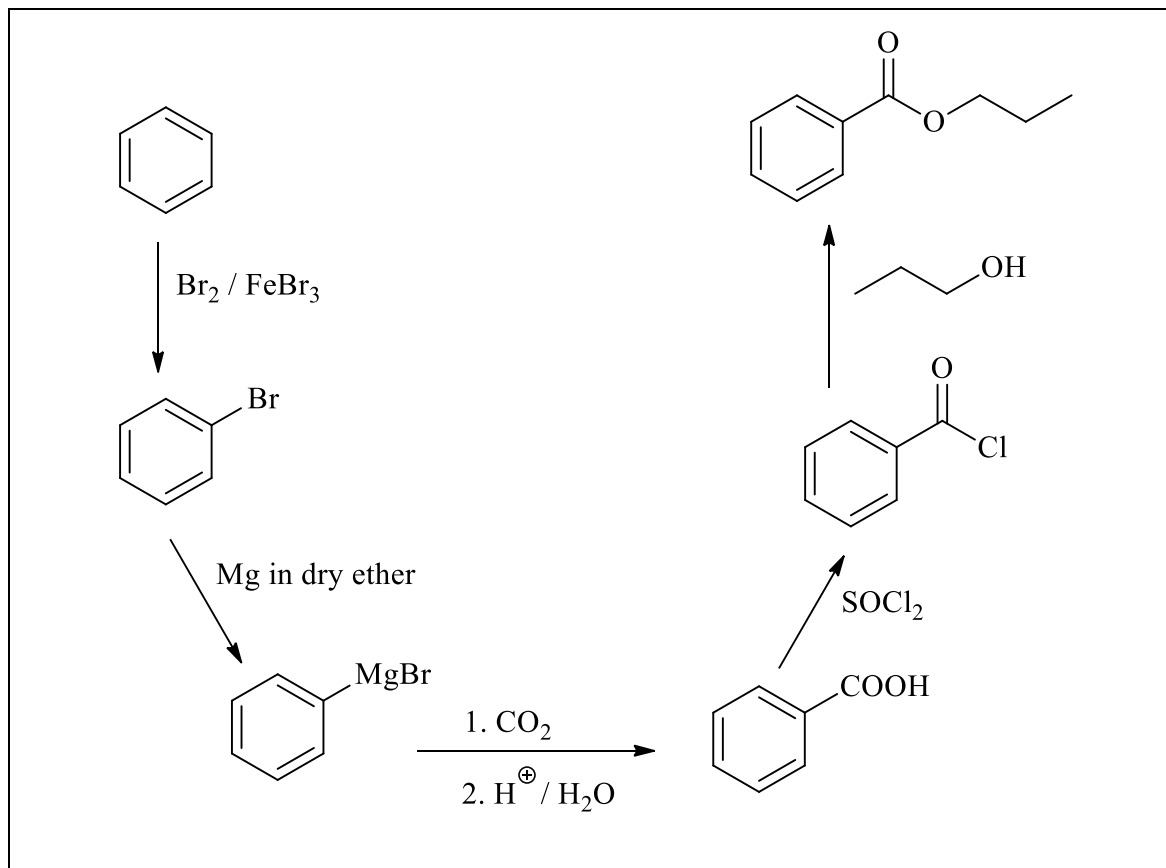
**Marks**  
**1**

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

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
 <chem>CC(C)(C)C(=O)N</chem>	6 M NaOH heat	 <chem>CC(C)(C)C(=O)[O-]</chem>

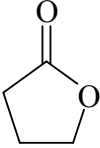
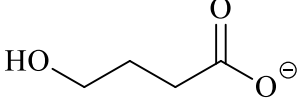
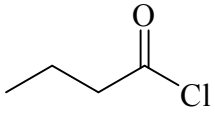
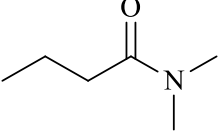
**Marks**  
**5**

- Show clearly the reagents you would use to carry out the following chemical conversions. Note that more than one step is required and you should indicate all necessary steps and the constitutional formulas of any intermediate compounds.

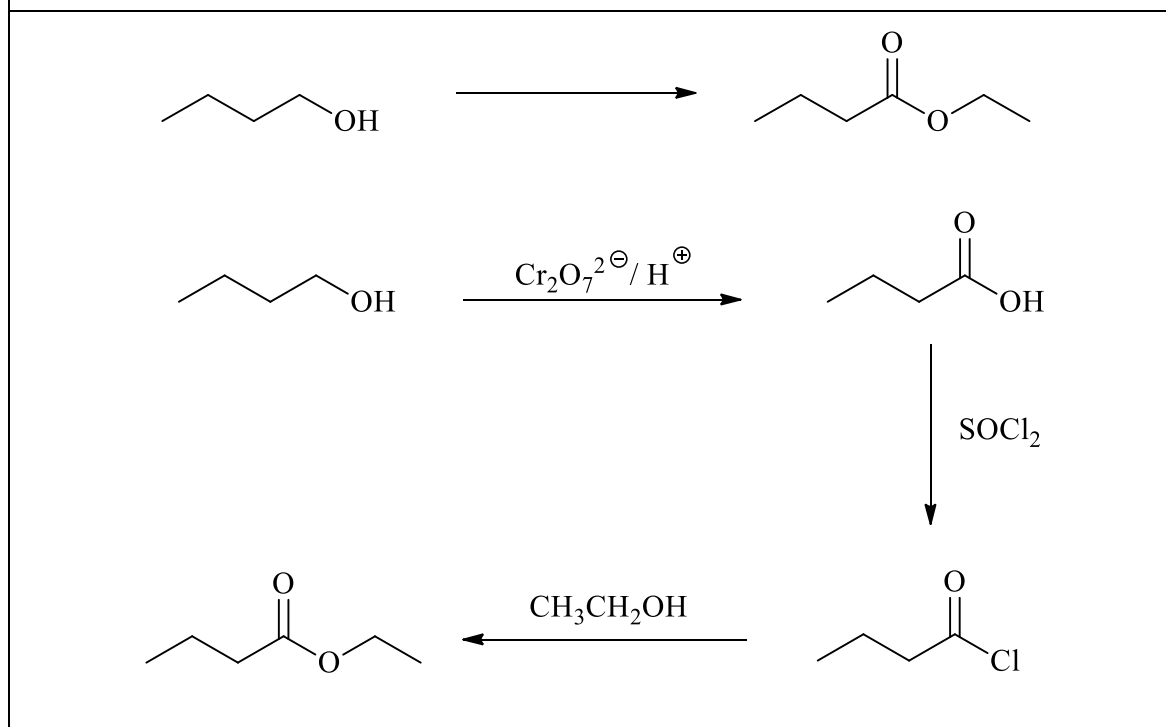
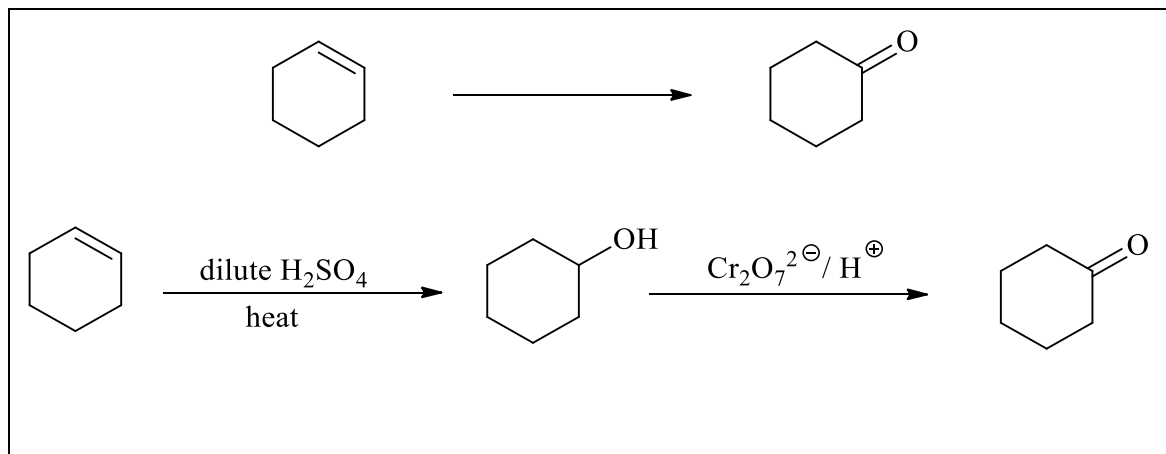


- Complete the following table. Make sure you complete the name of the starting material where indicated.

**Marks**  
**3**

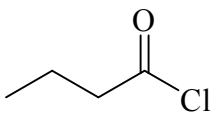
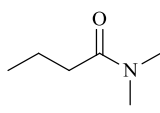
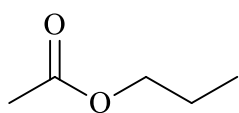
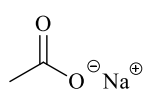
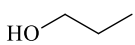
STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	3 M NaOH	
	excess (CH <sub>3</sub> ) <sub>2</sub> NH	 + (CH <sub>3</sub> ) <sub>2</sub> NH

- Show clearly the reagents you would use to carry out the following chemical conversions. Note that more than one step is required and you should indicate all necessary steps and the constitutional formulas of any intermediate compounds.

**Marks  
6**

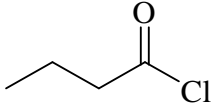
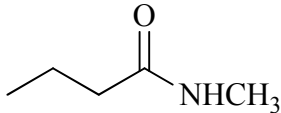
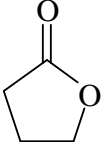
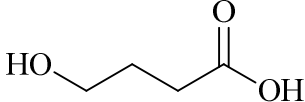
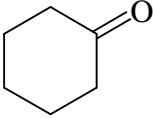
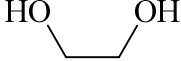
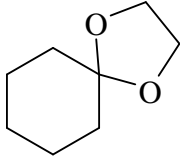
- Complete the following table. Make sure you complete the name of the starting material where indicated.

**Marks**  
**3**

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	excess $(\text{CH}_3)_2\text{NH}$	 $+ (\text{CH}_3)_2\text{NH}_2^{\oplus} \text{Cl}^{\ominus}$
 <b>Name: 1-propyl acetate</b>	3 M NaOH	 $+ \text{HO}$ 

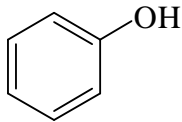
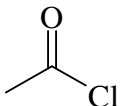
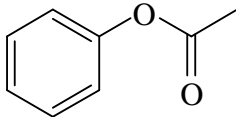
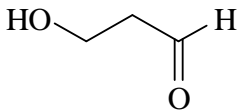
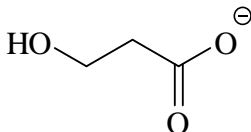
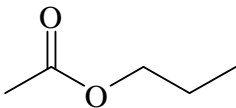
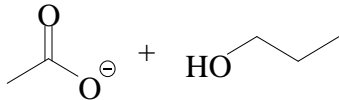
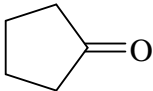
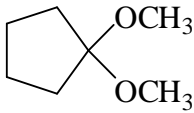
**Marks**  
**6**

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

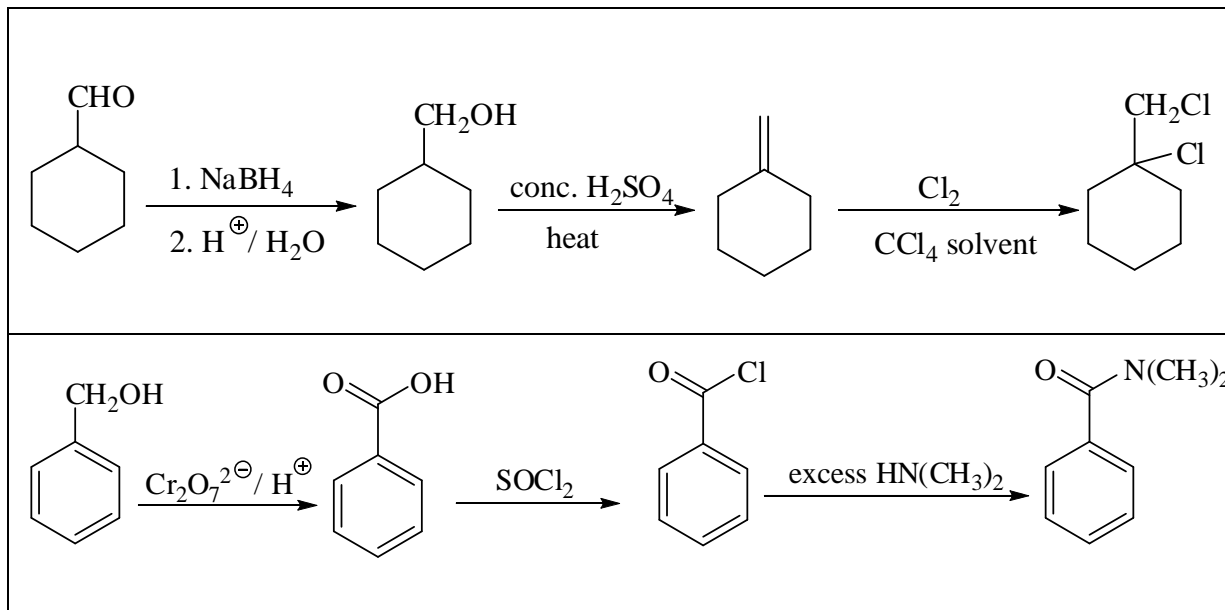
STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	excess $\text{CH}_3\text{NH}_2$	 + $\text{CH}_3\text{NH}_3^+ \text{Cl}^-$
	$\text{H}^+$ / $\text{H}_2\text{O}$ / heat	
 <b>Name: cyclohexanone</b>	 + $\text{H}^+$ catalyst	

**Marks**  
**6**

- Complete the following table. Make sure you complete the name of the starting material or major product where indicated.

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
		 <b>Name: phenyl acetate</b>
	$[\text{Ag}(\text{NH}_3)_2]^+ / \text{OH}^-$	
	3 M NaOH / heat	
 <b>Name: cyclopentanone</b>	excess $\text{CH}_3\text{OH} / \text{H}^+$ cat. heat	

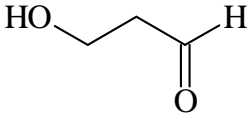
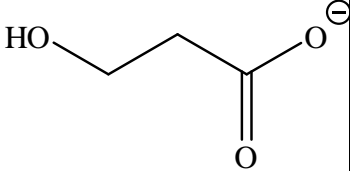
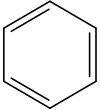
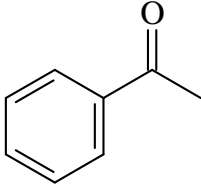
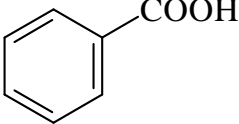
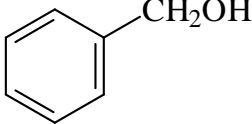
- Show clearly the reagents you would use to carry out the following chemical conversions. Note that more than one step is required and you should indicate all necessary steps and the constitutional formulas of any intermediate compounds.



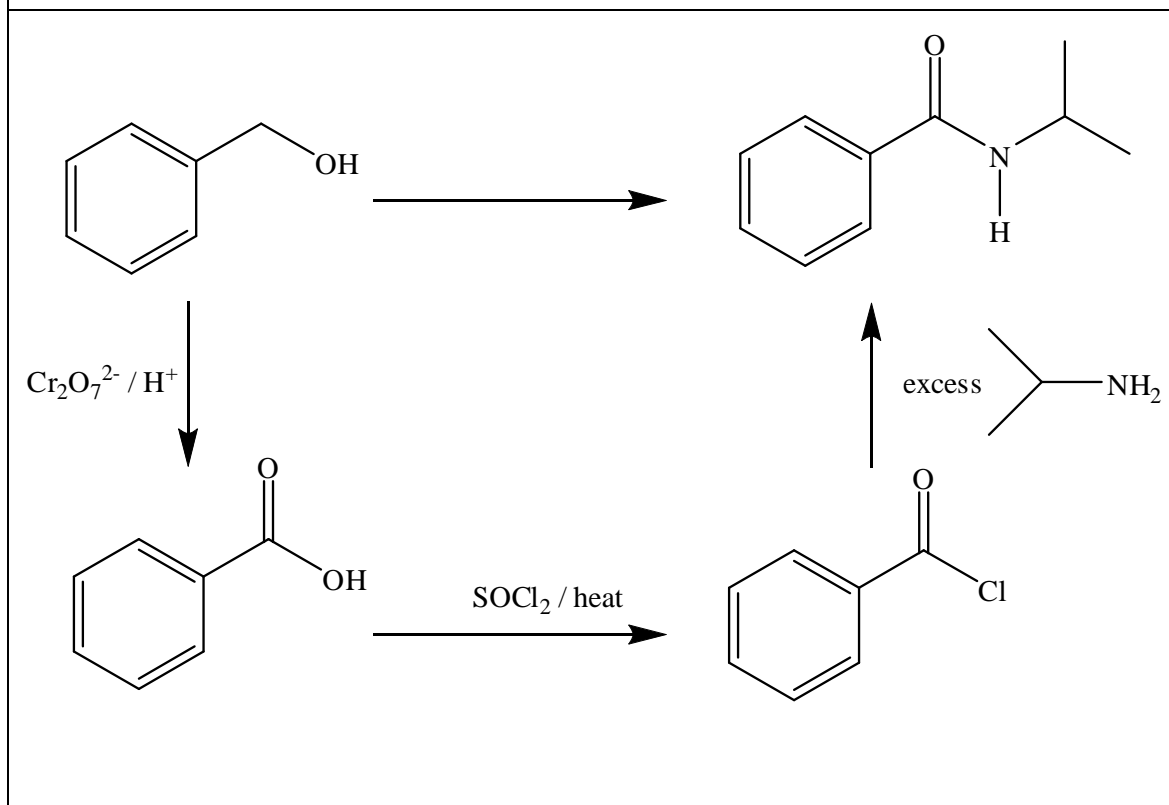
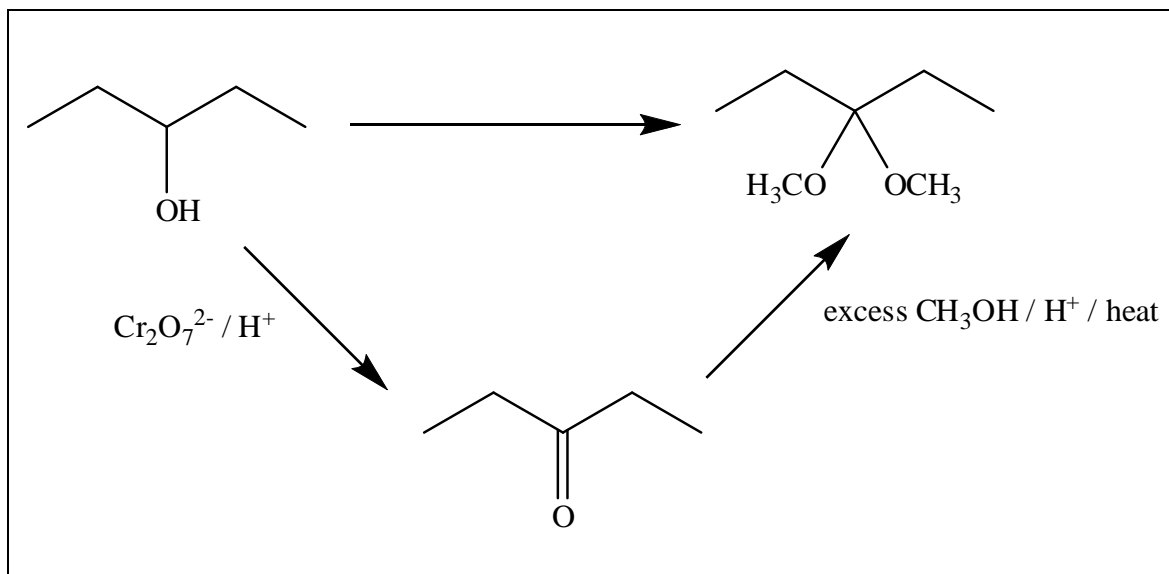


**Marks**  
**5**

- Complete the following table.

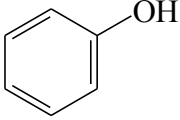
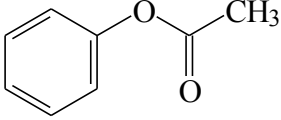
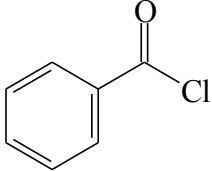
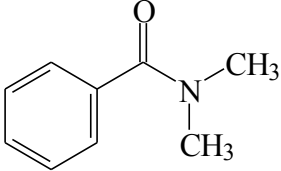
STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	$[\text{Ag}(\text{NH}_3)_2]^+ / \text{OH}^-$	
$\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{OCH}_2\text{CH}_2\text{CH}_3$	$\text{H}^+ / \text{H}_2\text{O} / \text{heat}$	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$ + $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{Cl} / \text{AlCl}_3$	
	(i) $\text{LiAlH}_4$ , dry ether (ii) $\text{H}^+ / \text{H}_2\text{O}$ ( $\text{NaBH}_4$ cannot be used in this reaction)	

- Show clearly the reagents you would use to carry out the following chemical conversions. Draw constitutional formulas for any intermediate compounds. Note: More than one step is required in both cases.



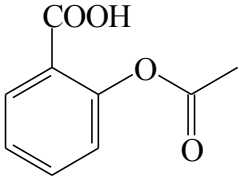
Marks  
2

- Complete the following table.

STARTING MATERIAL	REAGENTS/CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	$\text{CH}_3\text{COCl}$	
	$(\text{CH}_3)_2\text{NH}$	

**Marks**  
**1**

- Complete the following table. Make sure you give the name of the product or starting material where requested.

STARTING MATERIAL	REAGENTS/CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	$\text{OH}^{\ominus} / \text{H}_2\text{O} / \text{heat}$	