

科目：有機化學 適用：應化系

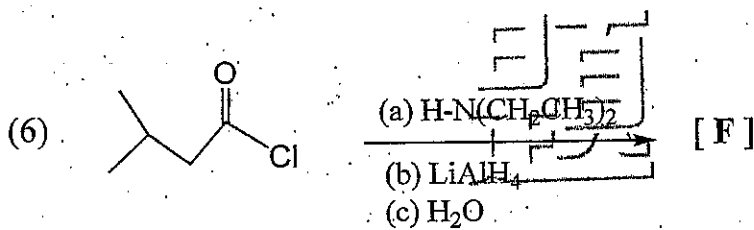
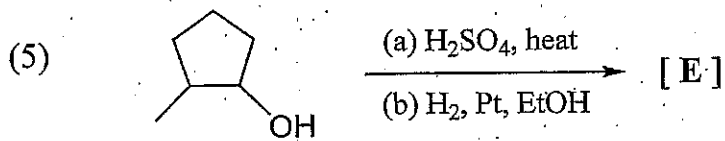
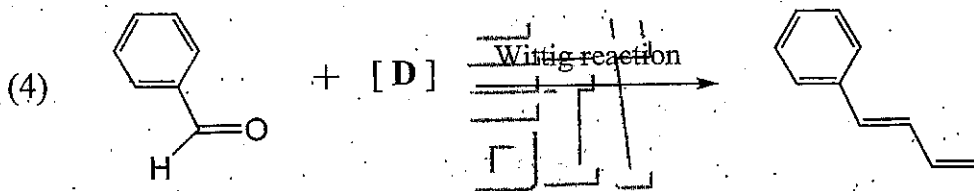
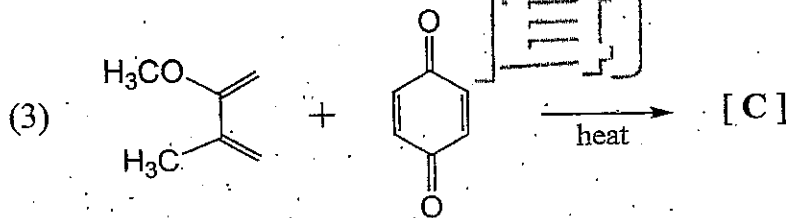
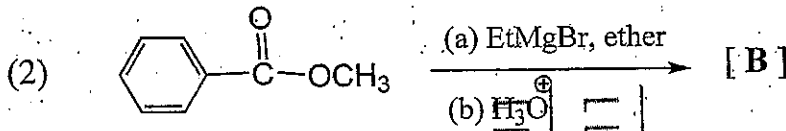
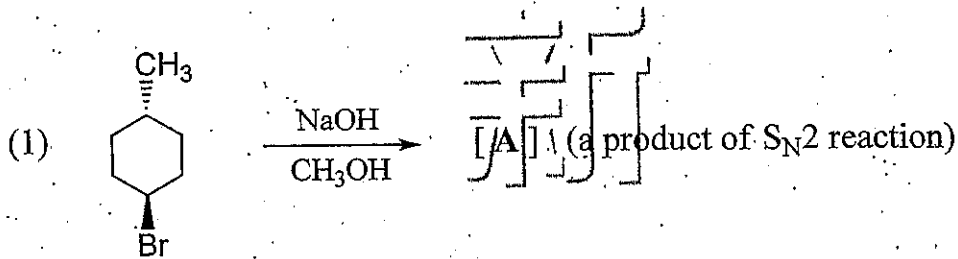
編號：481

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

本試題  
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(I) Complete the following reactions by showing the molecular structures or reagents for [A] → [J]. (total: 50 points, 5 points for each answer)



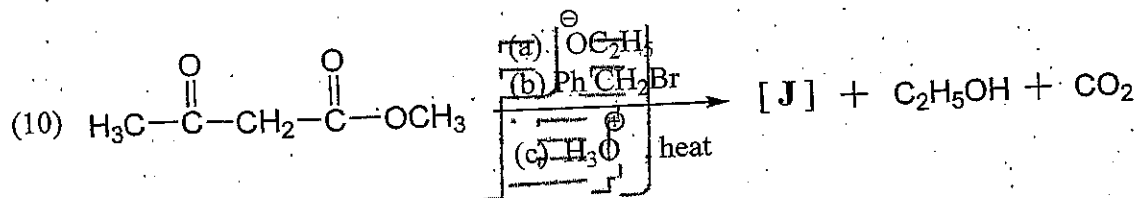
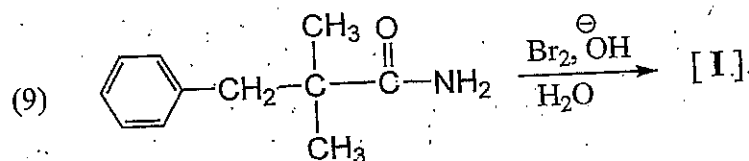
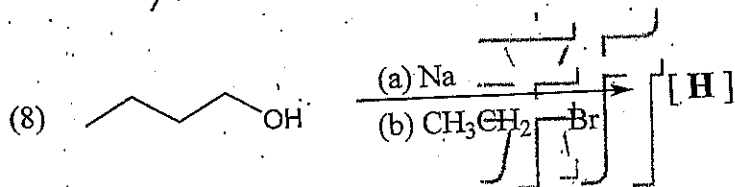
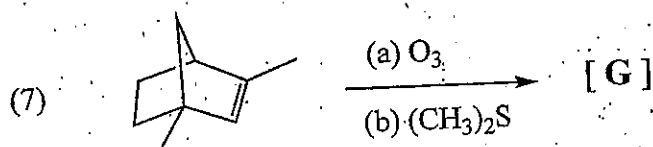
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(II) Draw the molecular structures of the following compounds.  
(total: 10 points, 5 points for each answer)

(1) bicyclo[3.3.1] nonane.

(2) *trans*-1-chloro-3-methylcyclopentane.

(III) Propose a mechanism for each of the following reactions.  
(total: 40 points, 20 points for each answer)

