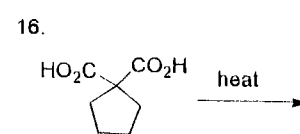
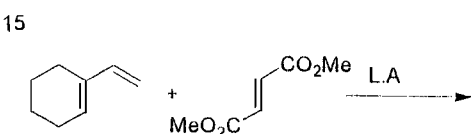
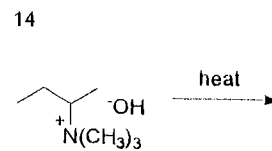
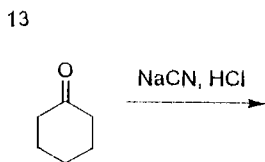
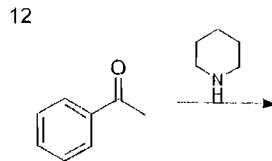
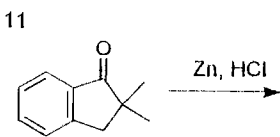
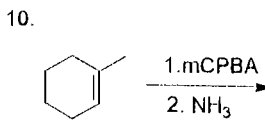
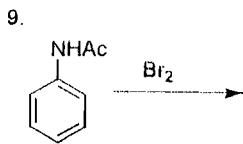
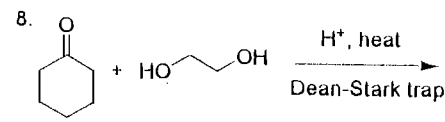
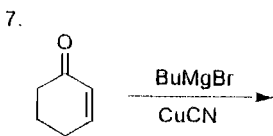
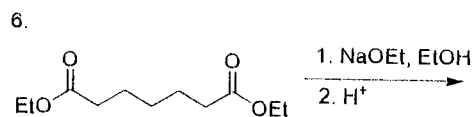
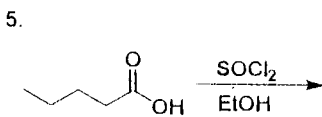
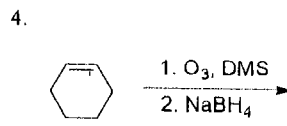
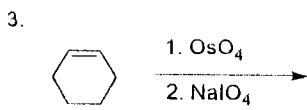
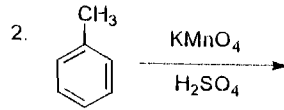
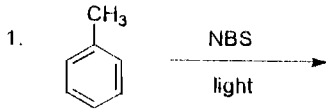


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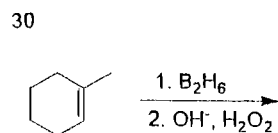
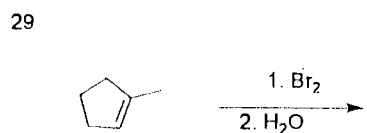
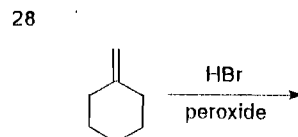
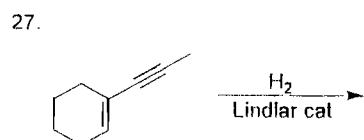
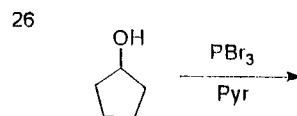
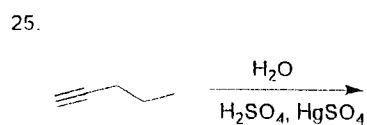
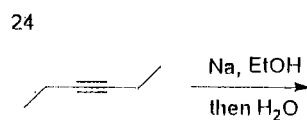
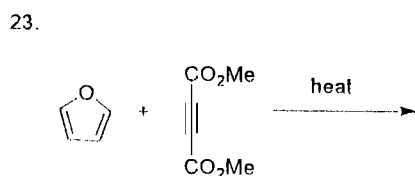
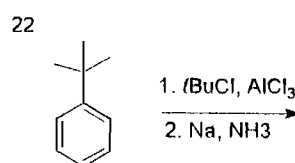
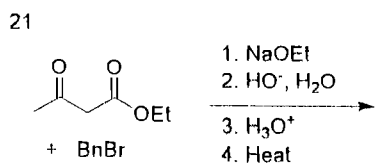
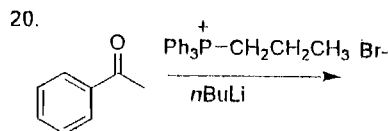
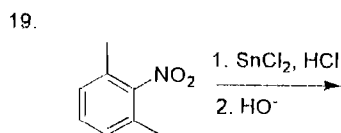
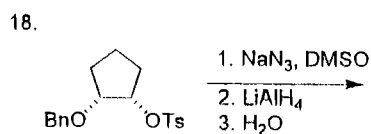
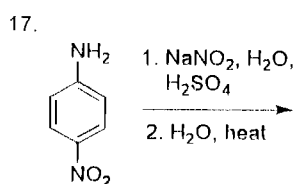
一、 Predict the major product each of the following reaction. Indicate the stereochemistry if necessary. (60 pt)



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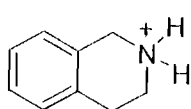
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二、Which one of the following compounds is the most strong acid? (4 pt)

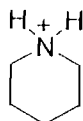
(a)



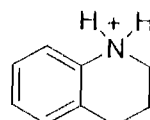
(b)



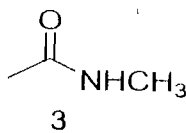
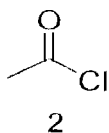
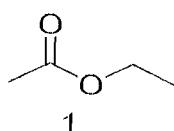
(c)



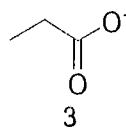
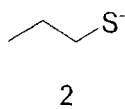
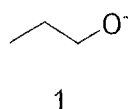
(d)



三、Rank the following in order of increasing reactivity (least→most) toward acid hydrolysis : (4 pt)

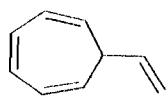


四、Rank the following species in order of decreasing nucleophilicity in a polar protic solvent (most→least nucleophilic) (4 pt)

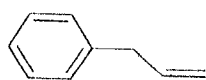


五、Which of the following has the smallest heat of combustion? (4 pt)

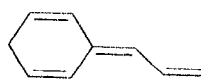
(a)



(b)



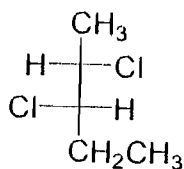
(c)



(d)



六、The 2,3-dichloropentane whose structure is shown is



(a) 2*R*,3*R* (b) 2*R*,3*S* (c) 2*S*,3*R* (d) 2*S*,3*S*

系別：化學學系三年級

科目：有機化學

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七、Propose the synthetic tactic for each of the following reaction from the provided starting material. (20 pt)

