2019

Time : As in Programme

Full Marks : 50

*Answer **all** questions. The figures in the right-hand margin indicate marks.*

1. (*a*) Write the uses of the given reagents with mechanism : 4×3

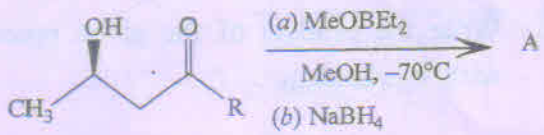
   (*i*) DDQ

   (*ii*) Tetramethyl piperidine

   (*iii*) DIBAL-H

   (*iv*) 9-BBN

   (*b*) Write the product of with mechanism of the given reactions : $2\times2\frac{1}{2}$

   (*i*) 

(*ii*) 

OR

(*a*) Write the uses of the given reagents with mechanism : 4×3

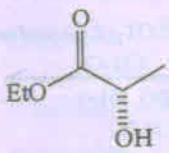
(*i*) N-Sulfonyl oxaziridine

(*ii*) Oxone

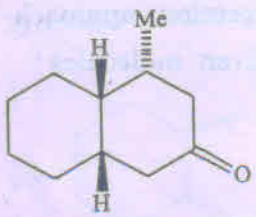
(*iii*) Oxazaborolidines

(*iv*) L-Selectride

(*b*) Write the product of the given reactions with mechanism : $2\times2\frac{1}{2}$

(*i*) 

1. TBSCl, THF, Imidazole
2. DIBAL–H (1.2 eq)
3. Rochelle's salt
→ A

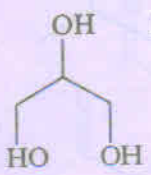
(*ii*) 

$\xrightarrow[THF]{LiBH(S\text{-}Bu)_3}$ B

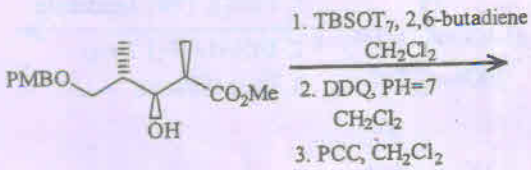
2. (*a*) Write two protecting groups of alcohol with example. 4

(*b*) Explain the disconnection approach of 1, 5 dysfunctional group with example. 3

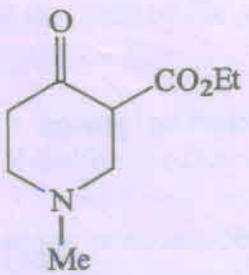
(*c*) Write the product of the given reactions : 4

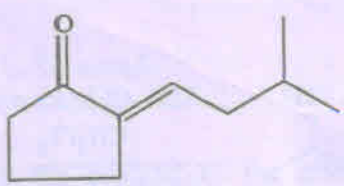
(*i*) 

1. TBS–Cl Imidazole, CH_2Cl_2
DMF_1–18°C tort
2. $NaIO_4$, CH_2Cl_2
→ A

(*ii*) 

(*d*) Write the disconnection approach and synthesis of the given molecules : 3×2

(*i*) 

(*ii*) 

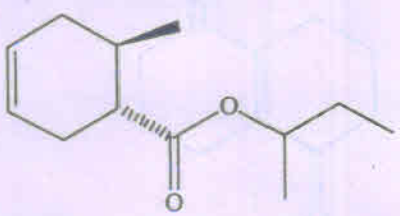
OR

(*a*) Write two protecting group of amine with example. 4

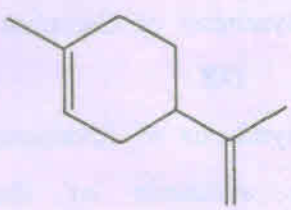
(*b*) Explain chemoselectivity with two examples. 4

(*c*) Write the disconnection approach and synthesis of the given molecules : 3×3

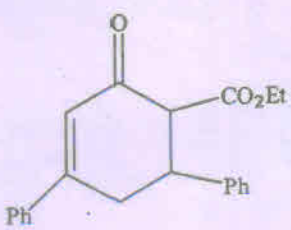
(*i*)



(*ii*)

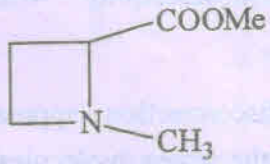


(*iii*)

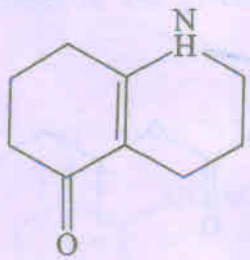


3. (*a*) Write the synthesis of the given molecules : 3×2

(*i*)



(*ii*)



(*b*) Write the synthesis of Camphor. 10

OR

(*a*) Write the synthesis of Juvabione. 10

(*b*) Write the synthesis of the given molecules : 3×2

(*i*)

(*ii*)