



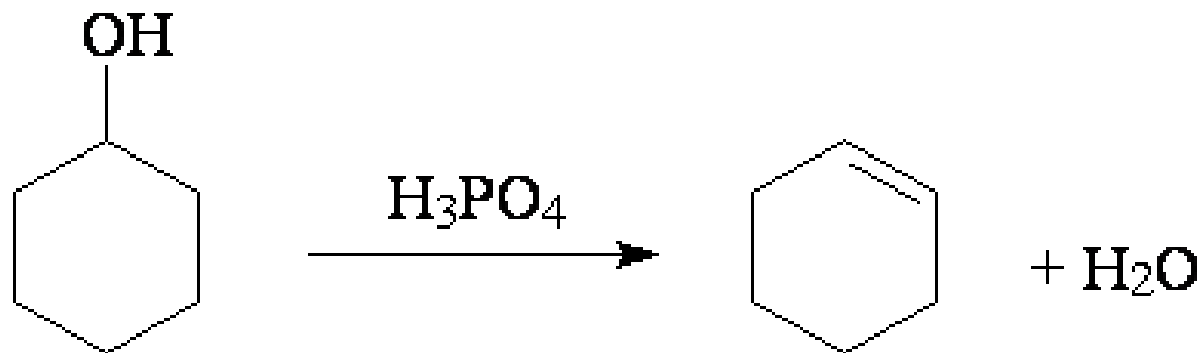
消去反應 -- 從醇到烯

Elimination -- Alkenes from Alcohols

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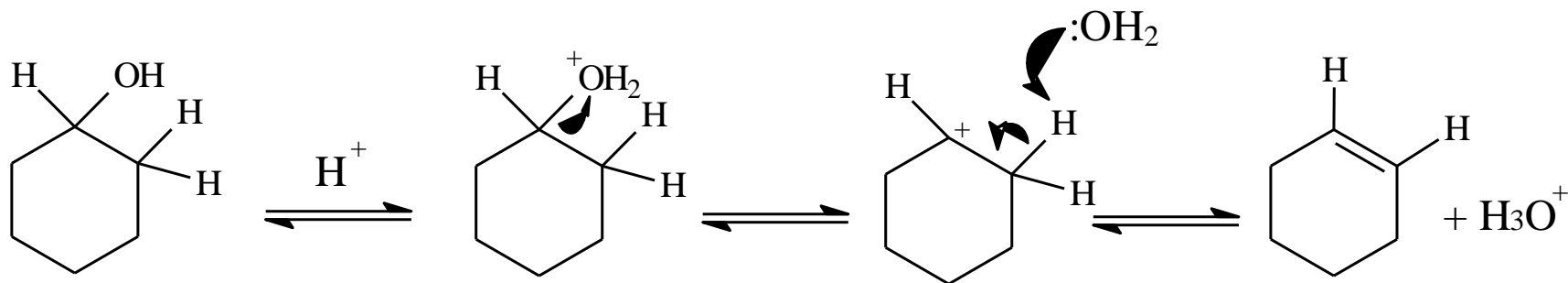
1. The E1 reactions :



mp: 25°C, bp: 161°C
den.: 0.96 MW: 100.16

bp: 83°C
den.: 0.81 MW: 82.14

2. Mechanism :



(leaving group: $-OH_2$ base: OH_2)

**5g (5.2mL) cyclohexanol + 1.25mL 85% H₃PO₄
in 50mL R.B. flask**

↓
distillation (boiling chips or stirring bar)

↓
collect the distillate (R.B. flask V→1/3V) (≙剩餘1/3V)

↓(note the temp.)

cool the reaction flask near the room temp.

↓
add 10 mL toluene as the chaser solvent

↓
continue to distill until the residue in the flask is 1/3V



wash the mixture with 5mL saturated $\text{NaCl}_{(\text{aq})}$



shake and collect the upper organic layer



dry it with 0.2g $\text{MgSO}_{4(\text{anhy})}$ (用完隨手蓋好)



filter and collect the filtrate



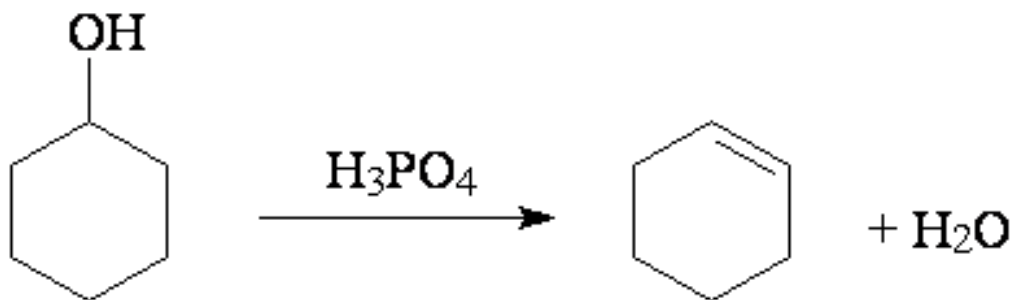
weight



calculate the % yield (result report)



Calculate the % yield :



量取 5.2 mL
d=0.96 g/mL
Mass: 5.0 g
MW:100.16 g/mol
mole數= 0.05 mol

理論mole數 = 0.05 mol (∵係數比 1:1)
MW: 82.14 g/mol
理論產量: 4.1 g
實際產量: 2.665 g
%yeild = 65.0%

1. 繳交產物並告知產物淨重。
2. 實驗問題：3, 5





The End !

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