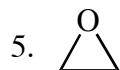
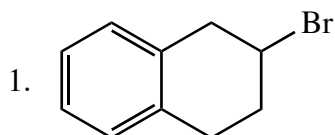
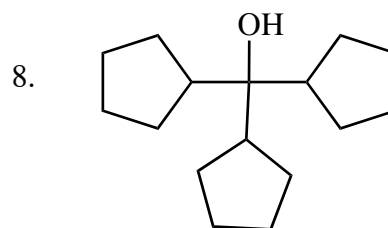
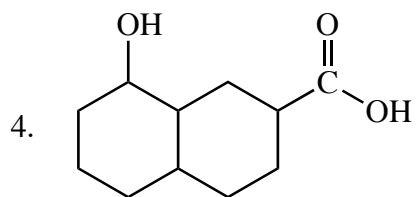
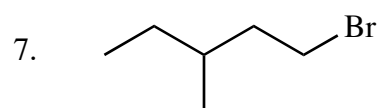
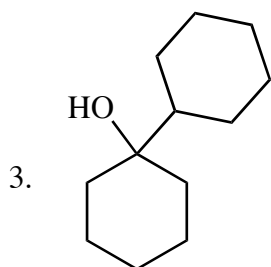
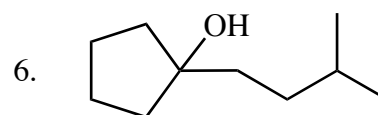


**ANSWER KEY**

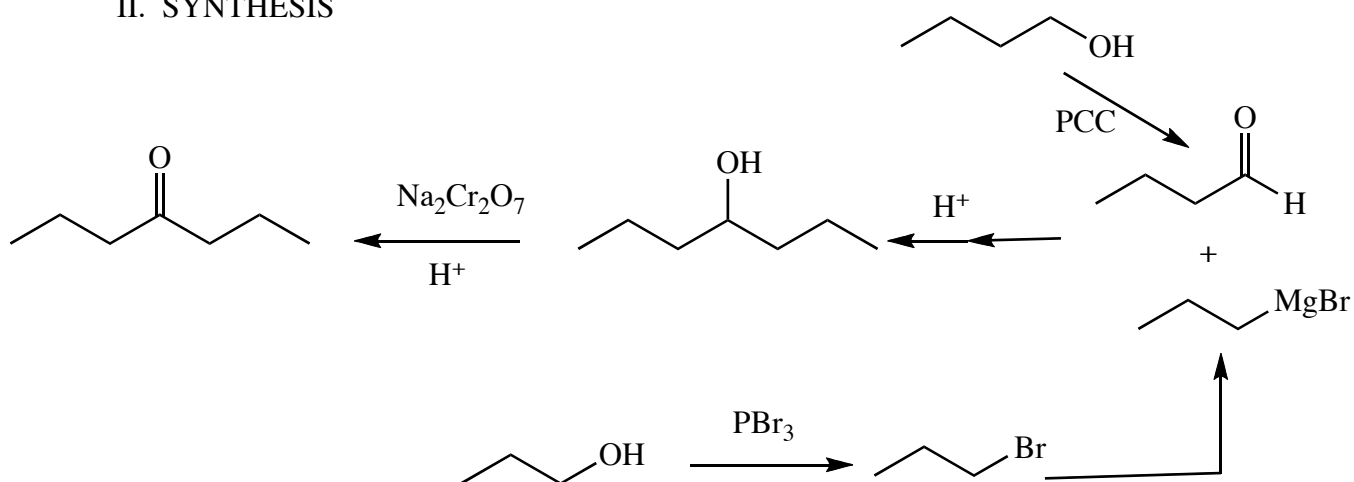
**I. REACTIONS**



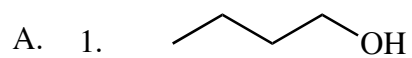
2. PCC



**II. SYNTHESIS**

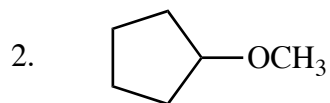


### III. SPECTROSCOPY



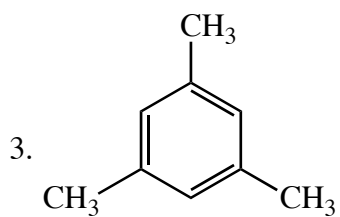
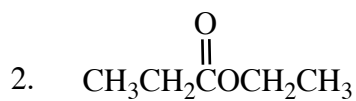
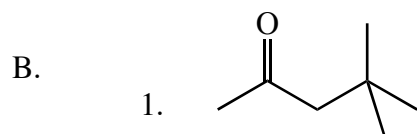
-OH at  $3300\text{ cm}^{-1}$ ; all  $\text{sp}^3\text{C-H}$  (no peaks  $> 3000\text{ cm}^{-1}$ )

B



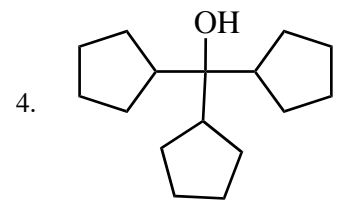
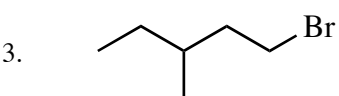
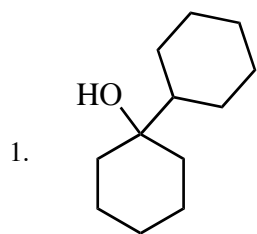
all  $\text{sp}^3\text{C-H}$  (no peaks  $> 3000\text{ cm}^{-1}$ ; C-O-C at  $1000\text{ cm}^{-1}$ )

C

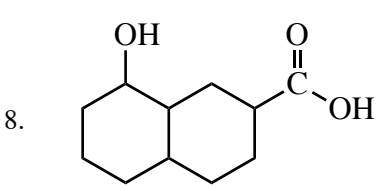
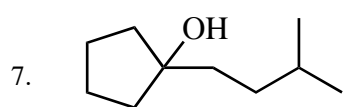
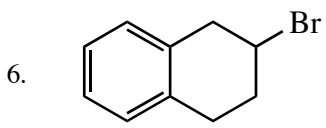


ANSWER KEY

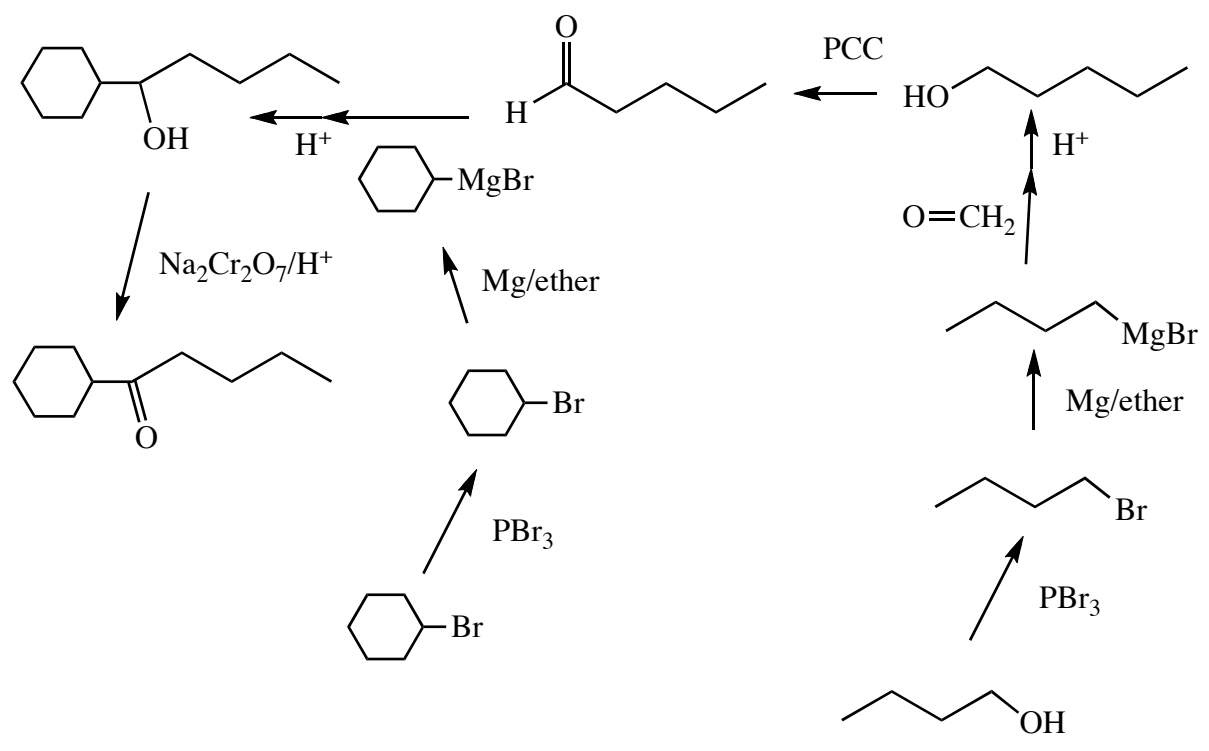
I. REACTIONS



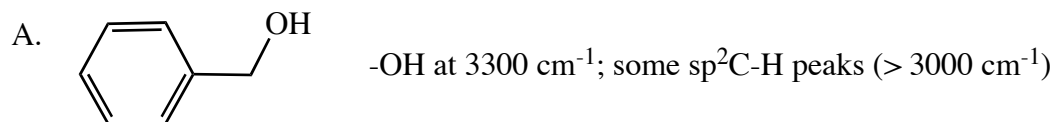
5. PCC



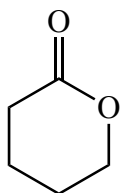
II. SYNTHESIS



### III. SPECTROSCOPY



A



all  $\text{sp}^3\text{C-H}$  (no peaks  $> 3000\text{ cm}^{-1}$ )

$\text{C=O}$  around  $1700\text{ cm}^{-1}$  and  $\text{C-O-C}$  at  $1200\text{ cm}^{-1}$  indicate ester

A

B.

