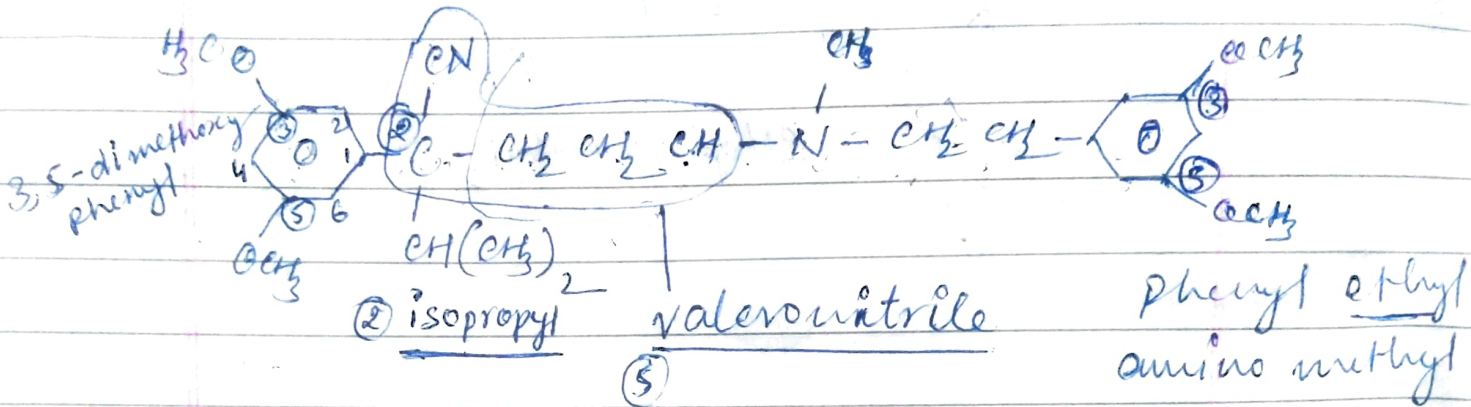
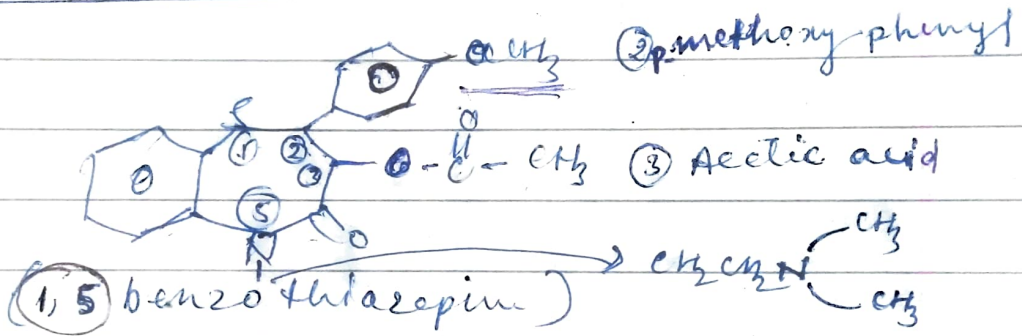


# Ca-channel blockers

## ① Phenyl alkyl amine - Verapamil

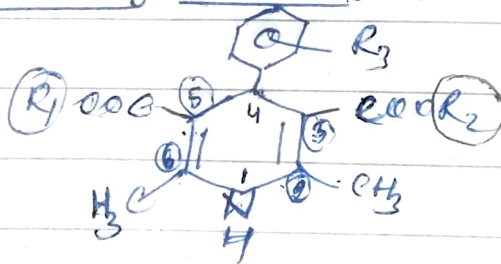


## ② Benzo thiazepine - Diltiazem



## ③ Dihydropyridine

Tachycardia H. beat ↑

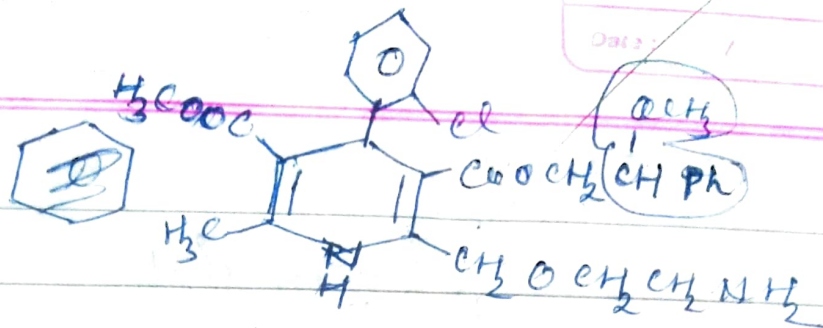


|            | $R_1$  | $R_2$  | $R_3$     |
|------------|--------|--------|-----------|
| Nifedipine | $CH_3$ | $CH_3$ | 2- $NO_2$ |

|            | $R_1$                      | $R_2$                                 | $R_3$     |
|------------|----------------------------|---------------------------------------|-----------|
| Nimodipine | $CH(CH_3)_2$<br>iso-propyl | $CH_2CH_2OCH_3$<br>ethyl-methyl ether | 3- $NO_2$ |

|            | $R_1$  | $R_2$      | $R_3$       |
|------------|--------|------------|-------------|
| Felodipine | $CH_3$ | $CH_2CH_3$ | 2,3- $CH_3$ |

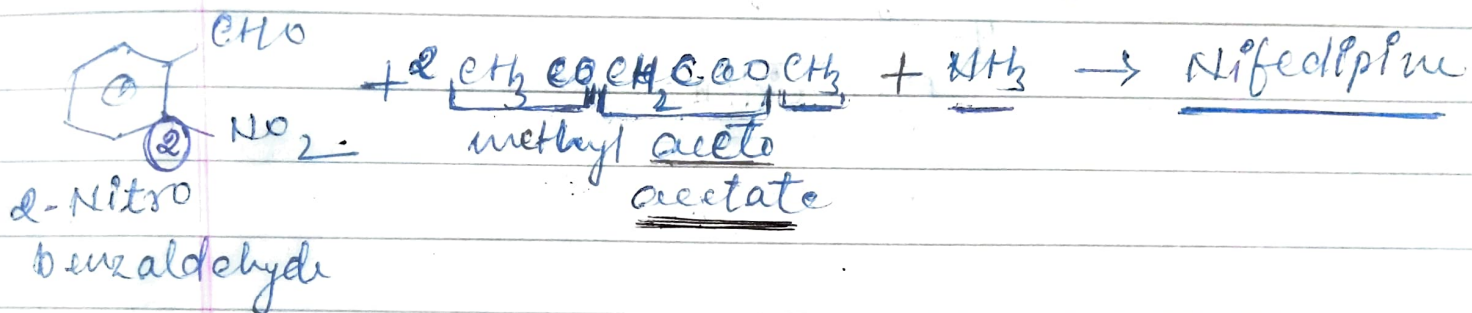
## ④ Di-Aminopropenal ether - Bepridil



Amblopidine

amino ethoxy  
methyl

## Nifedipine



## Preparation of 2-nitrobenzaldehyde

