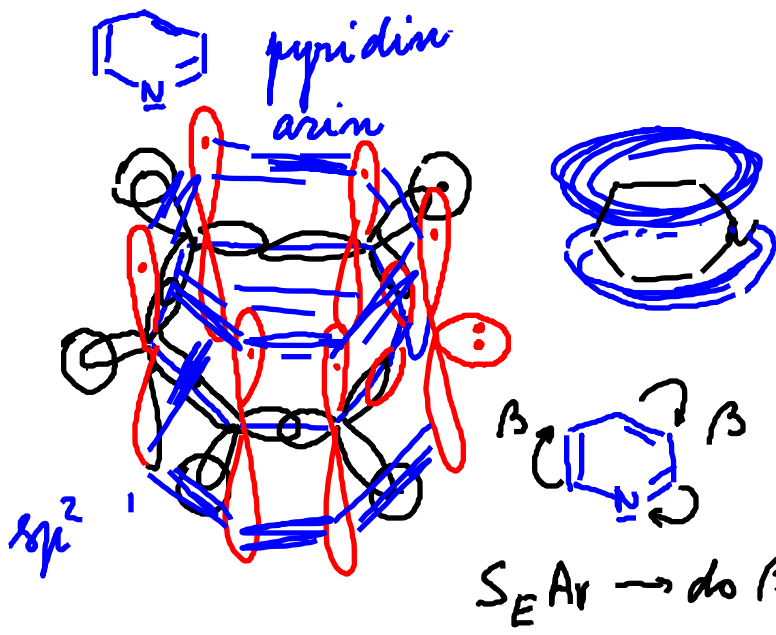


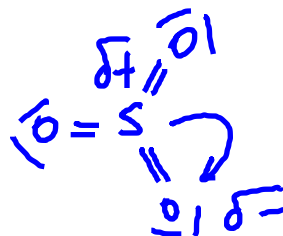
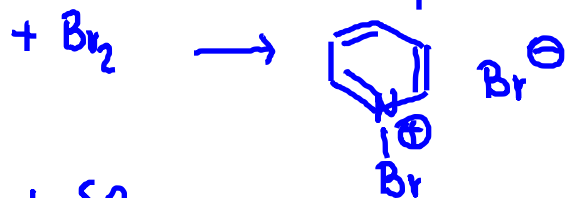
# Heterocyklické sloučeniny

šestičlenné heterocykly

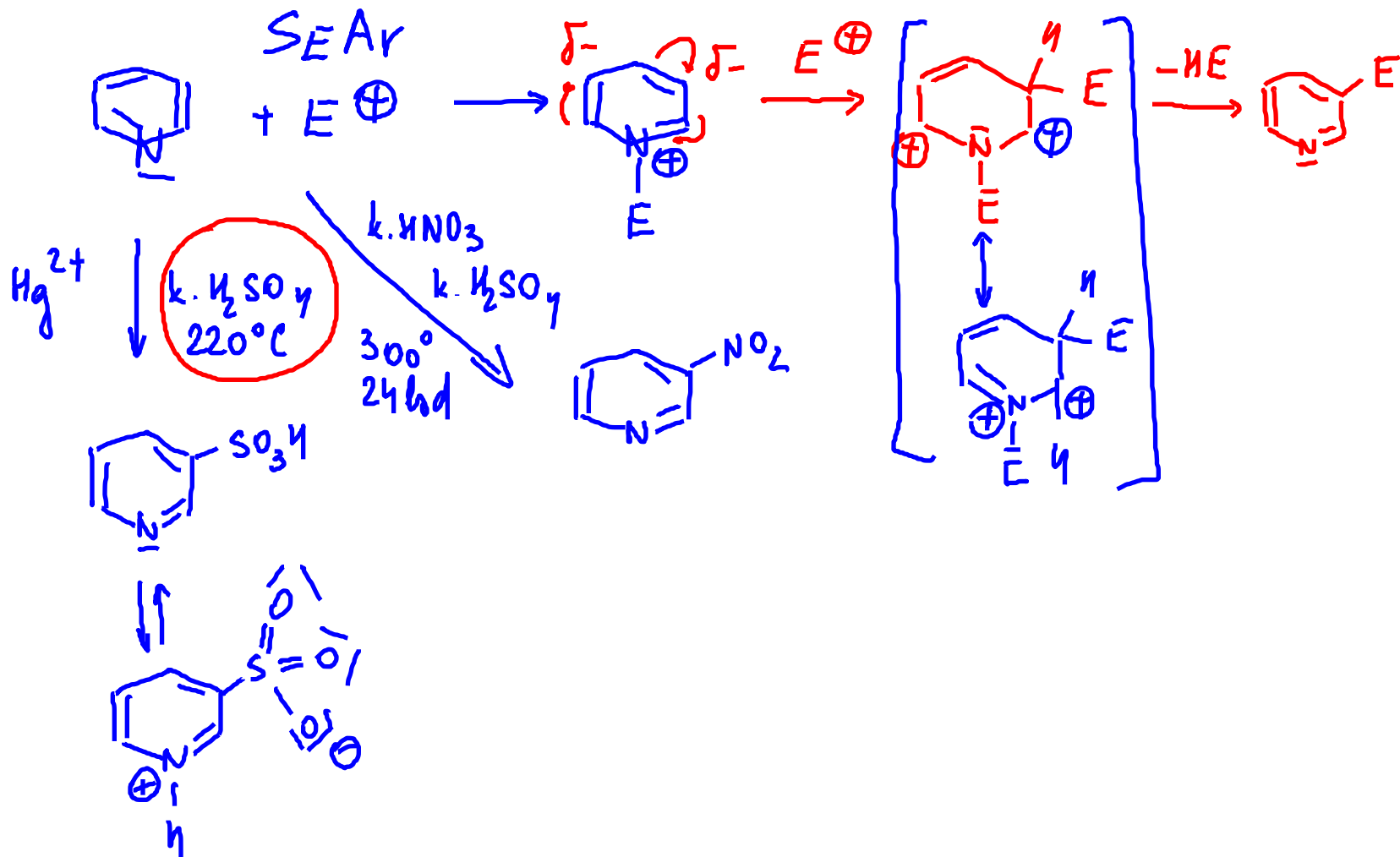
aromatické deriváty  
benzoidní aromať



1. basicita  $pK_b = 8,8$
2. elektrofilní arom. substituce (obtížné),
3. vstupují do  $S_N Ar$

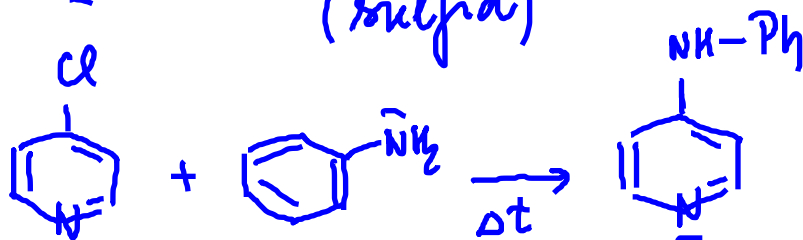
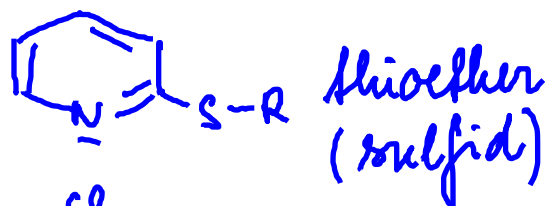
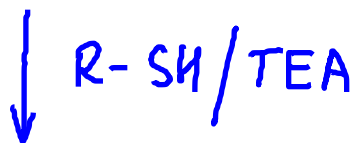
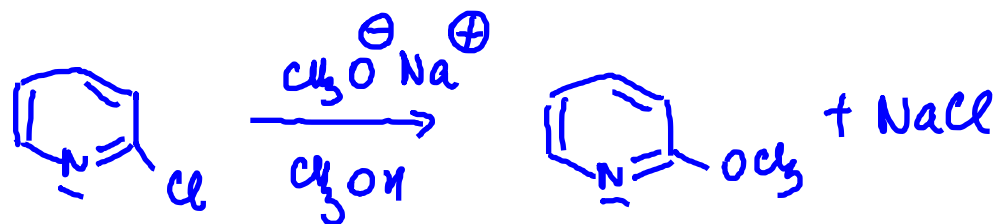


# Heterocyklické sloučeniny

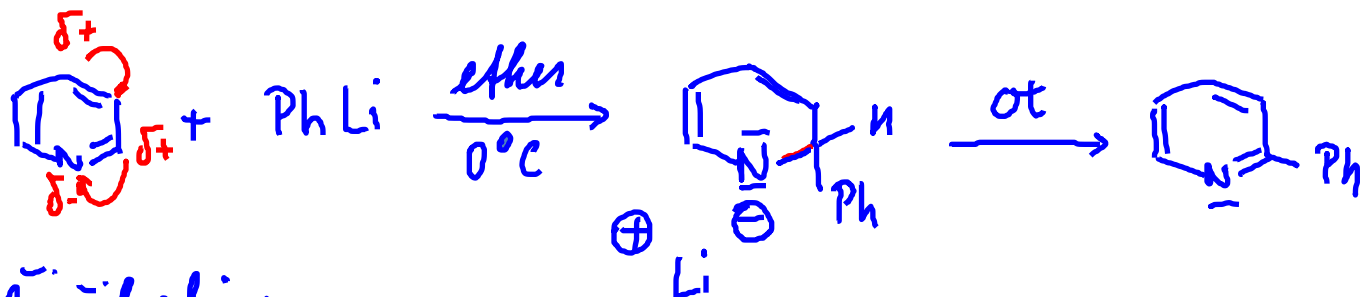


## Heterocyklické sloučeniny

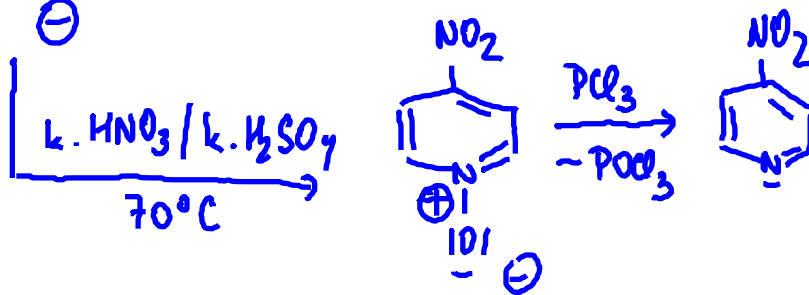
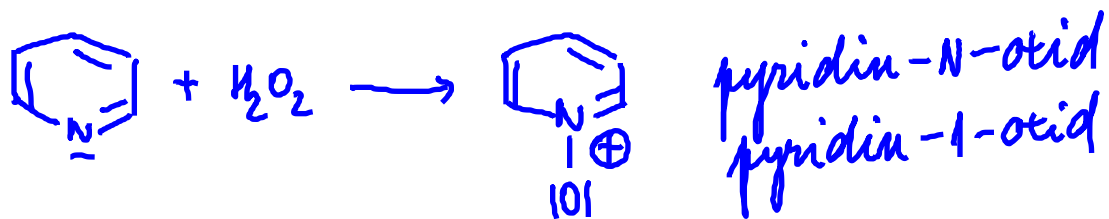
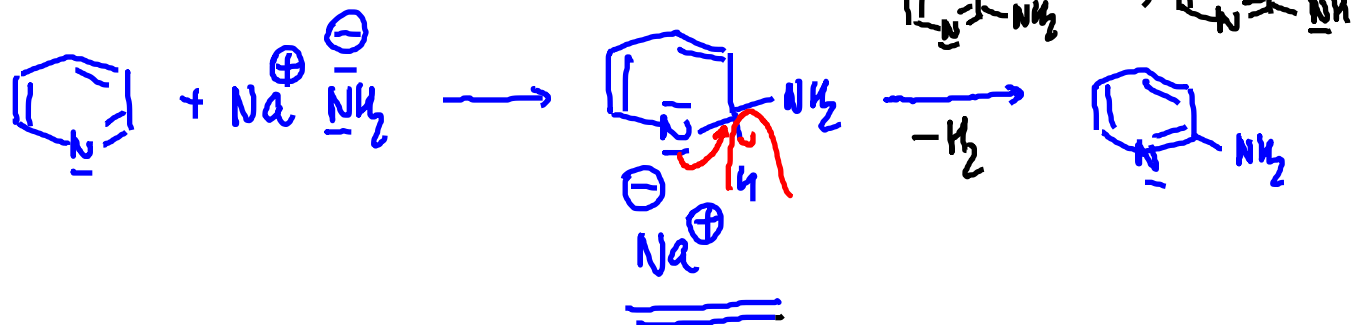
Substituce nukleofilní  
s dobrou odsl. skupinou



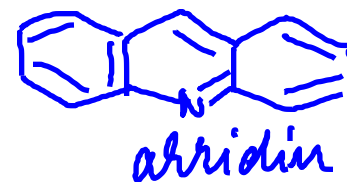
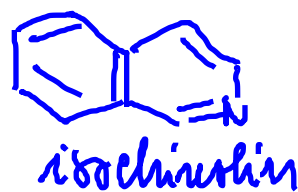
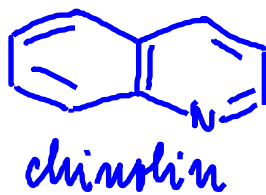
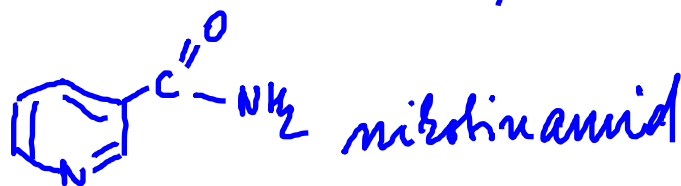
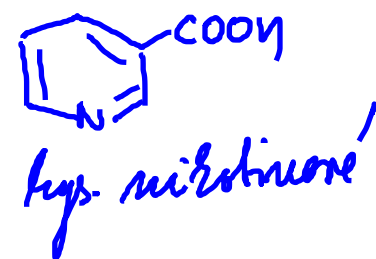
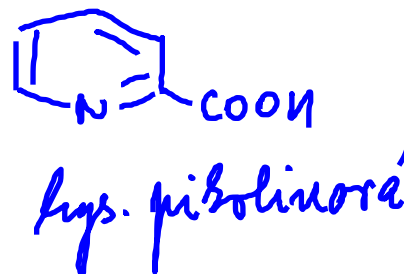
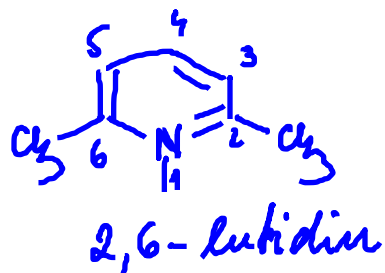
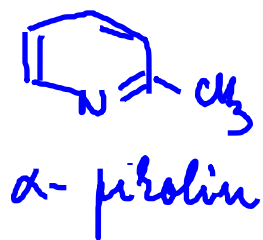
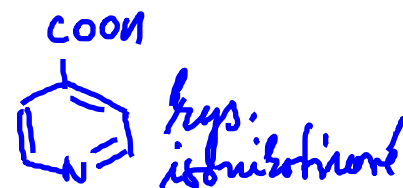
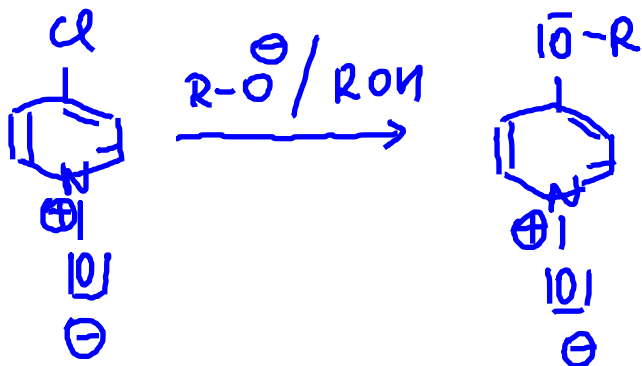
# Heterocyklické sloučeniny



čičibabim



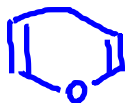
# Heterocyklické sloučeniny



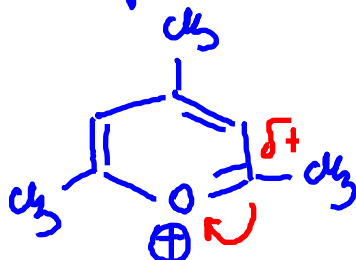
# Heterocyklické sloučeniny



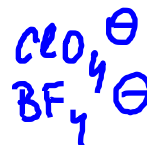
2H-pyran



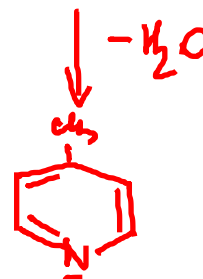
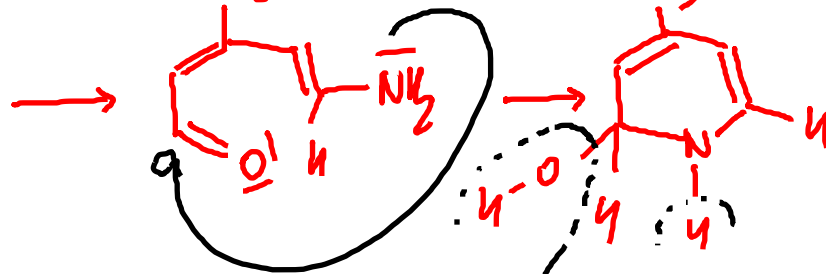
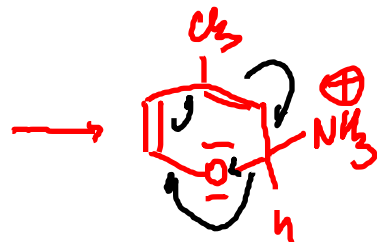
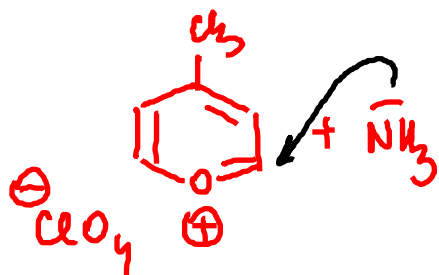
4H-pyran



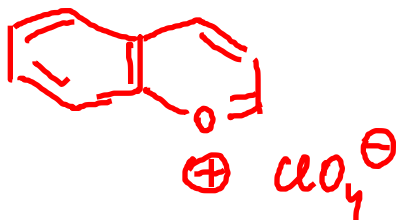
$X^-$  slabý nukleofil



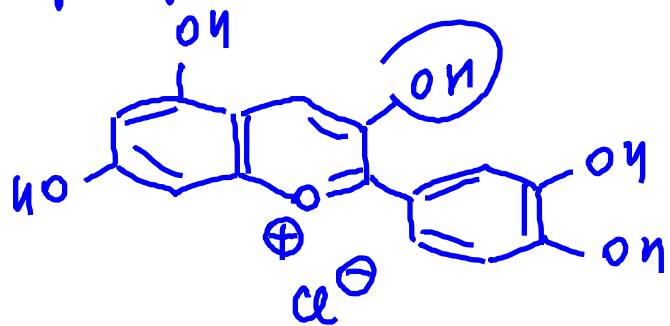
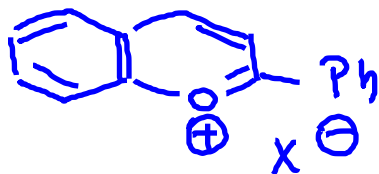
pyryliové soli



# Heterocyklické sloučeniny

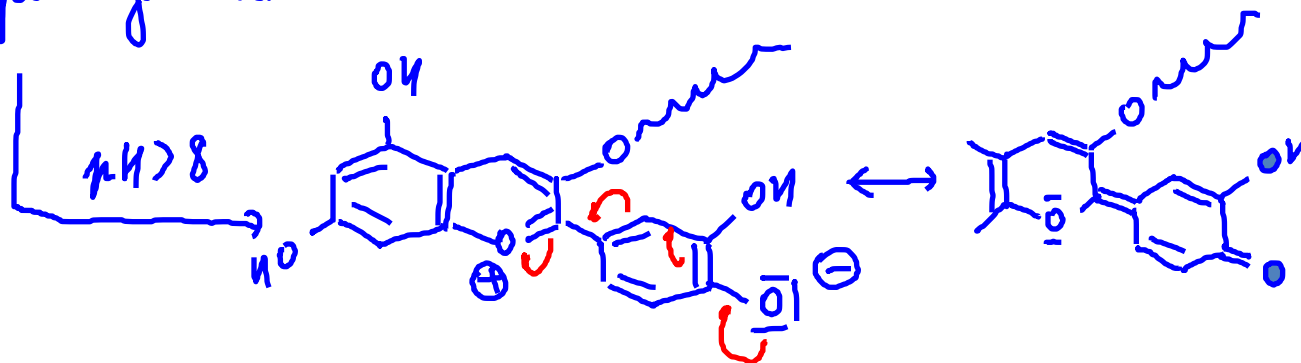


flavyliové soli

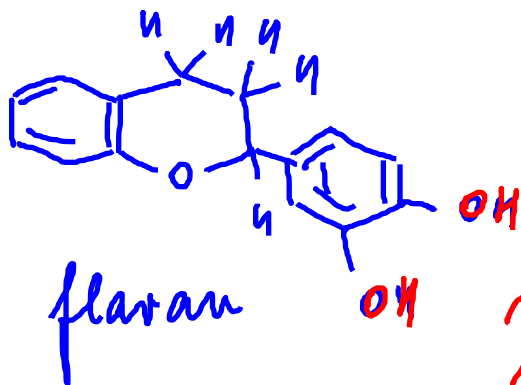


antocyjanová barviva  
mění barvu v závislosti na pH

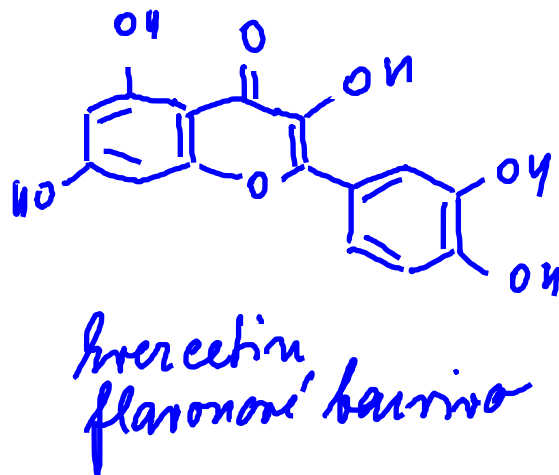
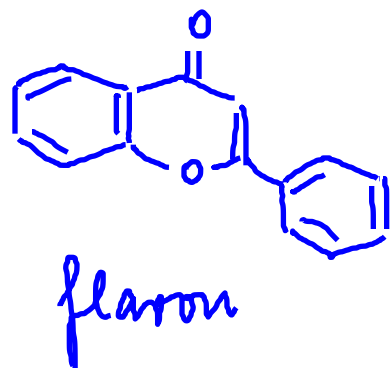
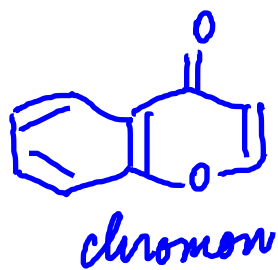
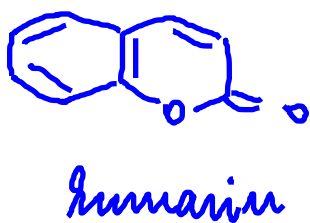
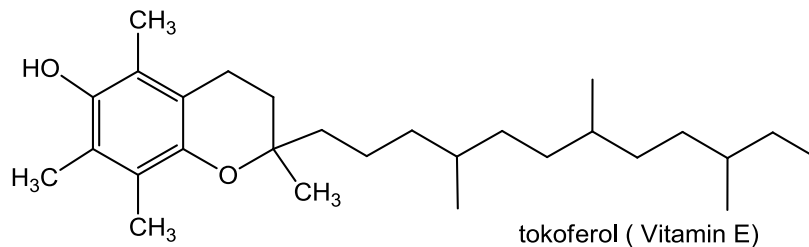
pelargonidin



# Heterocyklické sloučeniny



vitamin E  
 tokoferol





# Heterocyklické sloučeniny

## Diaringy



pyrazin



pyrimidin

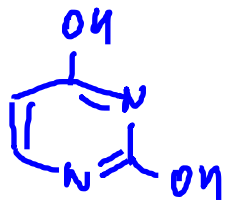


pyridazin

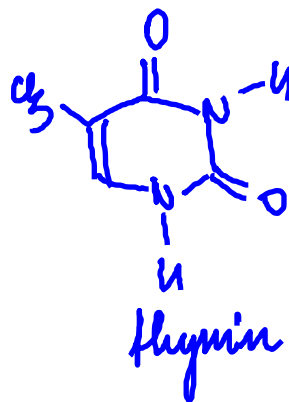
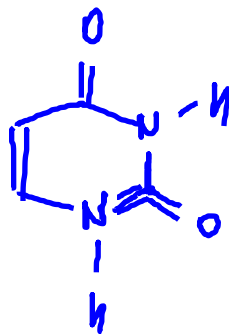
$pK_b = 13,35$

12,70

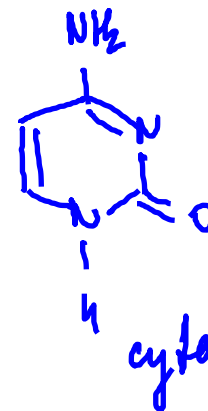
11,67



uracil



thymidin

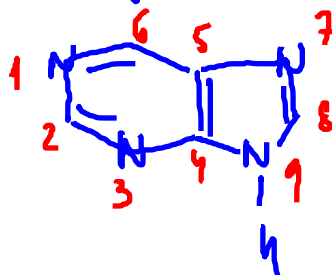


cytosin

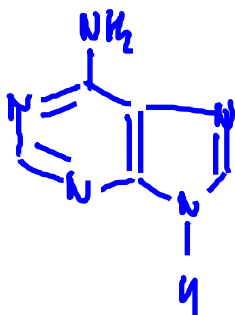
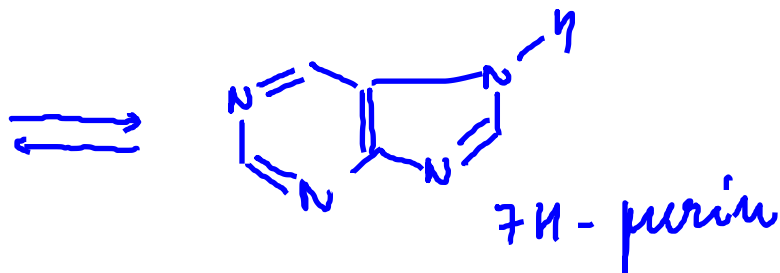
# Heterocyklické sloučeniny

Kondensované heterocykly

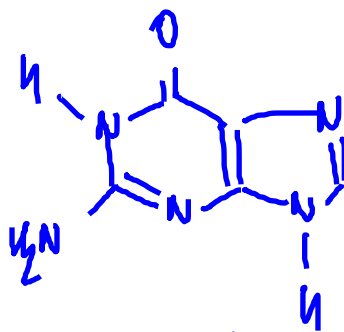
Puriny



9H-purine



adenin



guanin