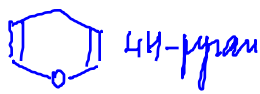
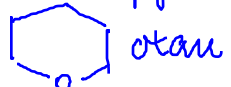
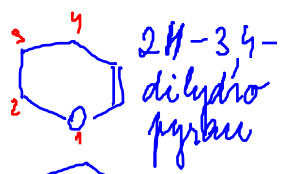


Heterocyklické sloučeniny

pefiny:
O oxa)
S thia)
 Se selen(a)
 B bora)
N az(a)
P fosfa)

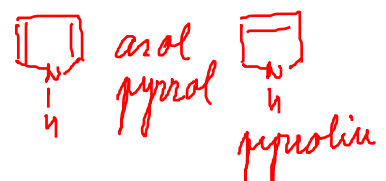
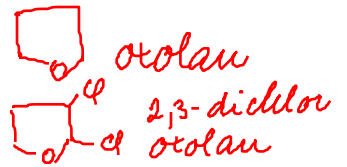
OSN



	Bez dusíku		S dusíkem		
3	nenasyt.	nasyčená	nenasyt.	nasyčená	
3	-iren	-iran	-irin	-iridin	
4	-et	-etan	-et	-etidin (+etin)	
5	-ol	-olan	-ol	-olidin	
6	-in	-an	-in	perhydro -in	
7	-epin	-epan	-epin	perhydro -epin	
8	-ocin	-ocan	-ocin	perhydro -ocin	
9	-onin	-onan	-onin	perhydro -onin	
10	-ecin	-ecan	-ecin	perhydro -ecin	



aziridini 2-aziridin



Heterocyklické sloučeniny



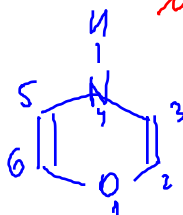
1,3-oxazol
oxazol



1,2-oxazol
isoxazol



1,3-diazin
pyrimidin



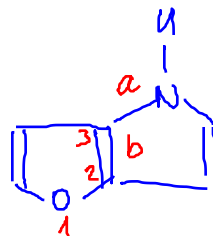
1,4-oxazin
dihydro-morpholin



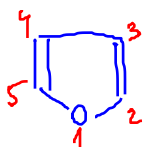
morpholin
2,3,5,6-tetrahydro-
1,4-oxazin



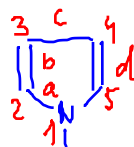
furo[2,3-b]pyrrol



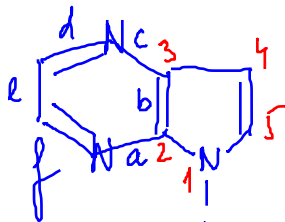
furo[3,2-b]pyrrol



furan



pyrrol



1,4-diazin
pyrazin

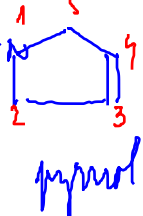


pyrrol

pyrrolo[2,3-b]pyrazin

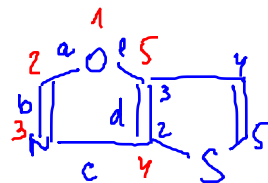


pyrazol



pyrrol

6H-pyrrolo[1,2-b]pyrazol

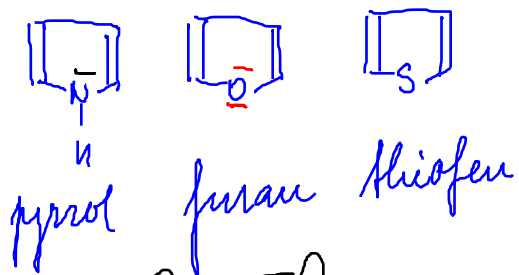


oxazol

thiofen

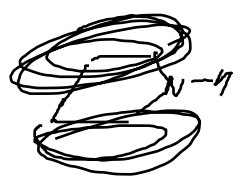
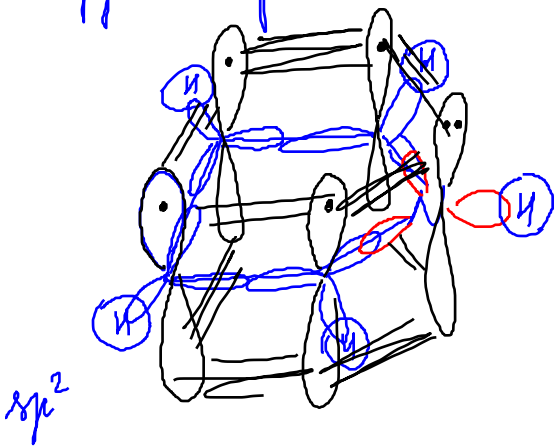
thieno[2,3-d]oxazol

Heterocyklické sloučeniny






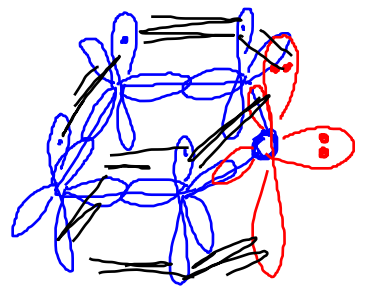
Hückel pravidlo
 konjugovaný π -el. systém
 cyklická sloučenina

delokalizační energie
 150 kJ/mol

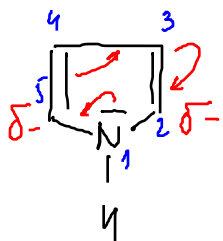


6 π -elektronů
 DE kJ/mol

	80
	95
	117

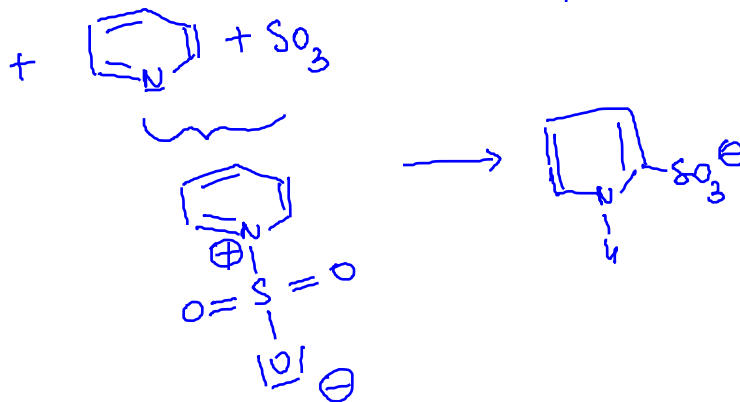
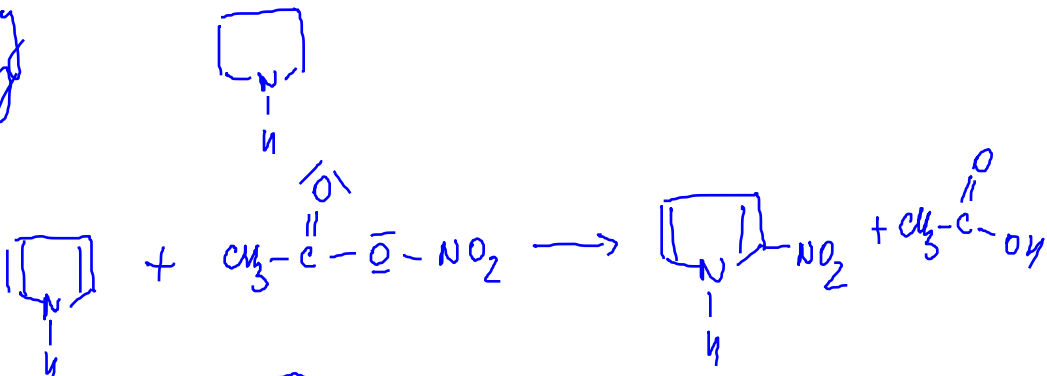
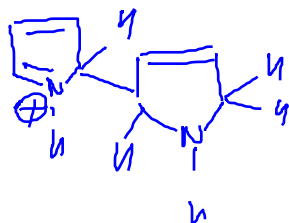
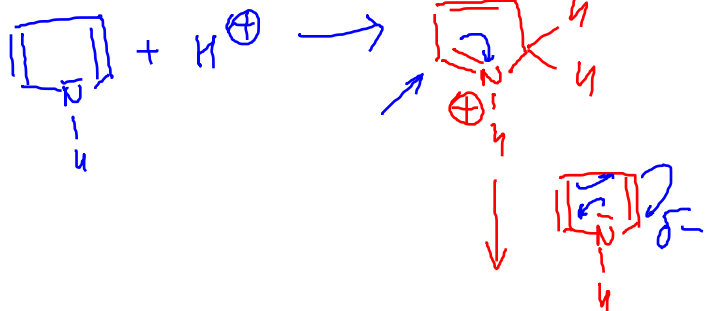
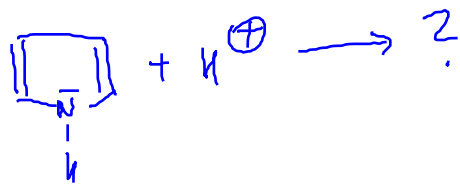


Heterocyklické sloučeniny

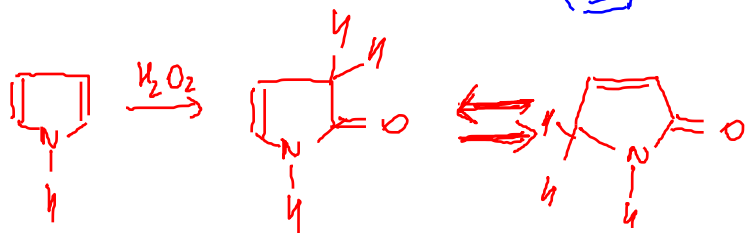
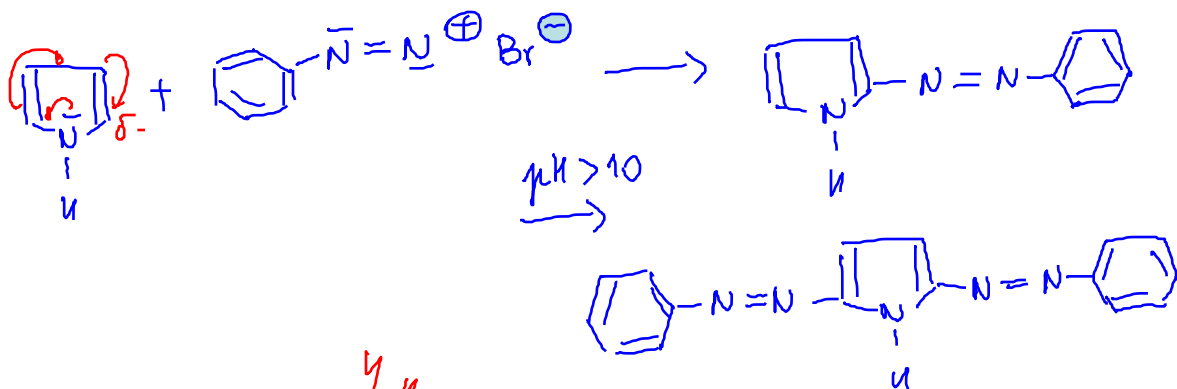


2,5 - α -polohy
3,4 - β -polohy

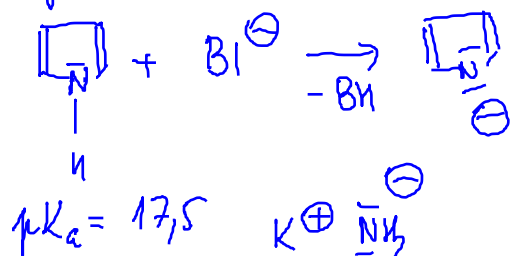
$pK_b = 17,8$



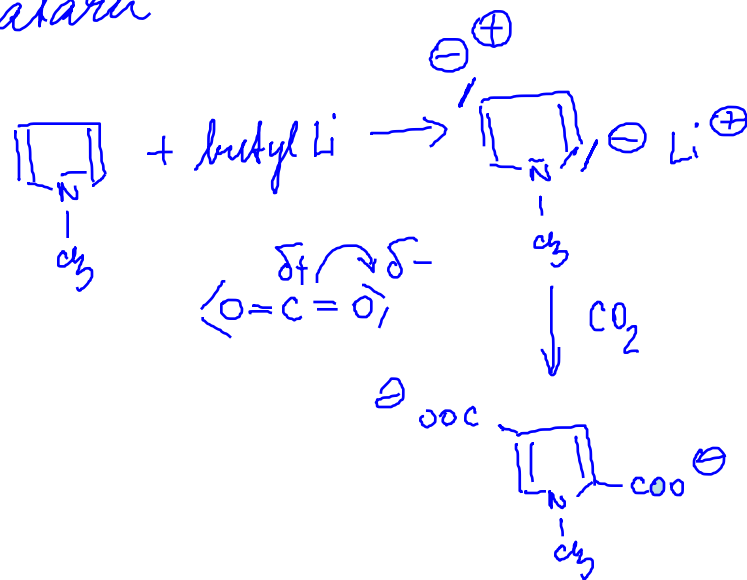
Heterocyklické sloučeniny



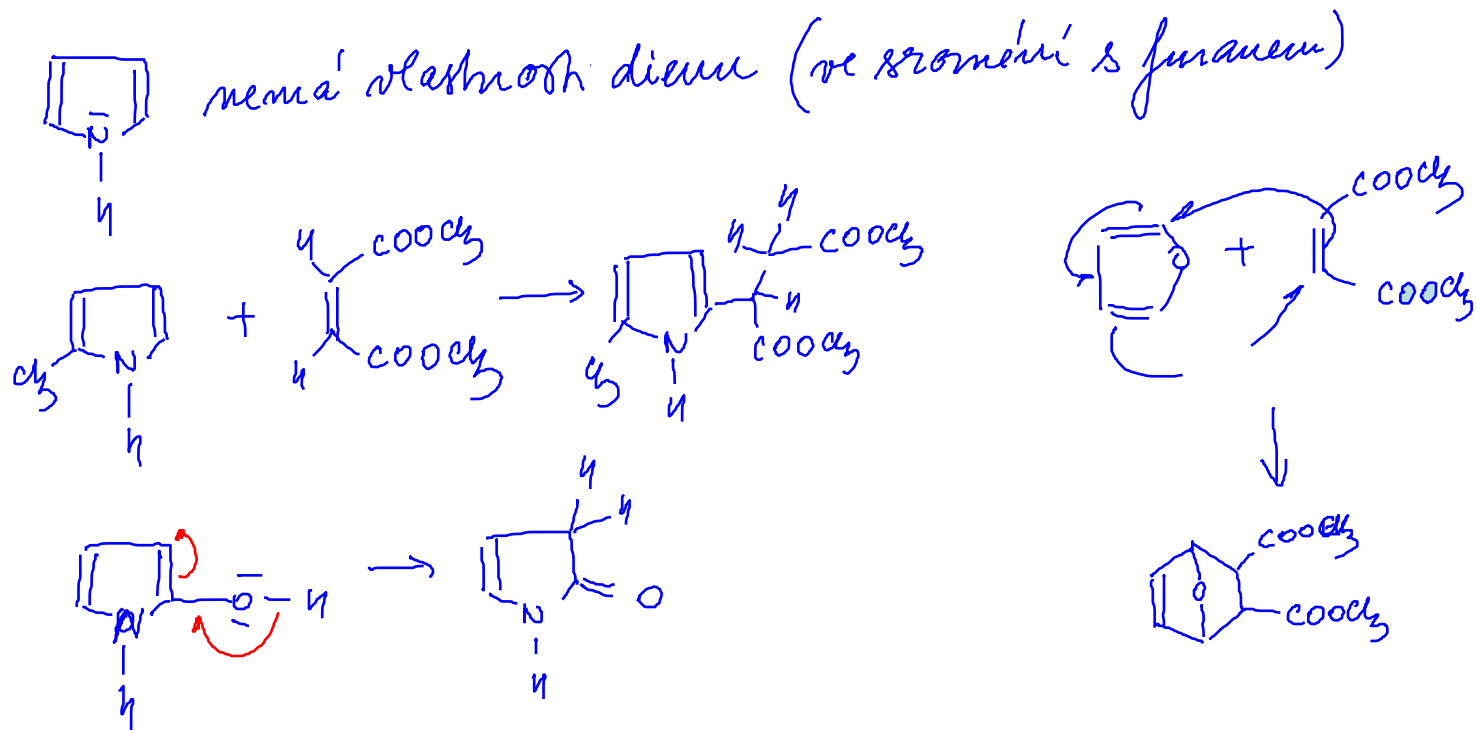
pyrrol odoly' více nukleofilním atakou



$K^+ \bar{N}H_2^-$
 Grignard. reagent
 Butyllithium
 NaH



Heterocyklické sloučeniny



Heterocyklické sloučeniny

Heterocyklické sloučeniny

Heterocyklické sloučeniny

Heterocyklické sloučeniny

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