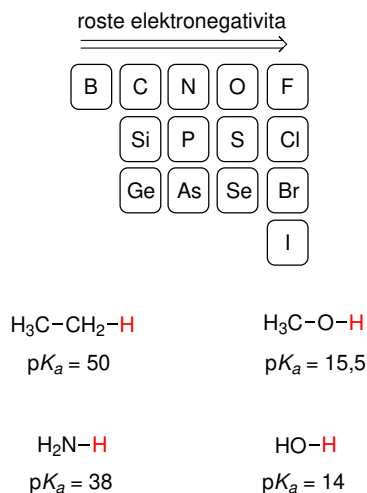


8. Seminář z organické chemie

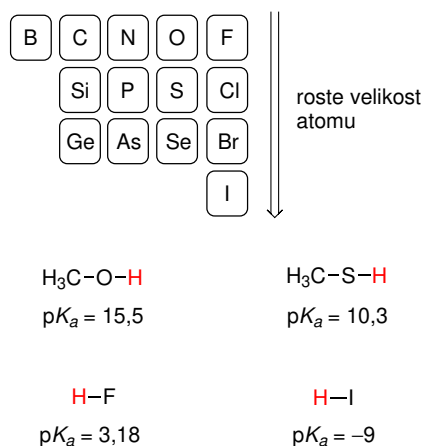
Základní faktory ovlivňující kyselost (řazeno podle důležitosti)

1. Elektronegativita a velikost deprotonovaného atomu

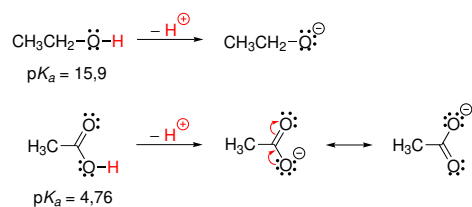
Elektronegativita rozhoduje při srovnání atomů ve stejné periodě.

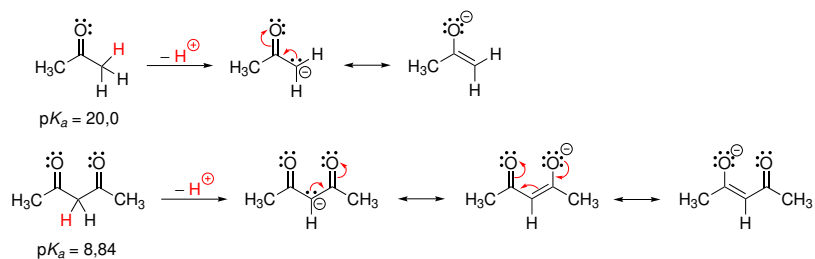


Velikost atomu rozhoduje při srovnání atomů ve stejné skupině.



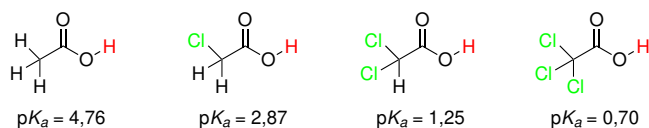
2. Konjugace (uplatnění M- efektu)





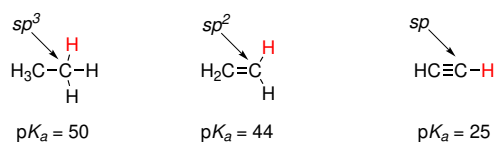
Konjugace elektronového páru s elektronakceptorní skupinou zvyšuje kyselost.

3. Indukční efekt



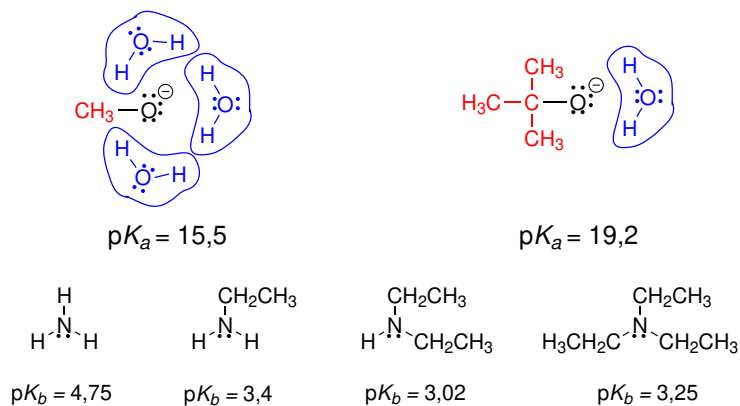
Skupiny s I- efektem kyselost zvyšují, skupiny s I+ efektem kyselost snižují.

4. Typ orbitalu/hybridizace



Větší podíl s orbitalu zvyšuje kyselost.

5. Vliv solvatace




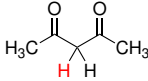

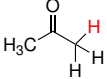


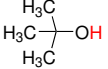



Účinnější solvatace konjugované báze zvyšuje její stabilitu a zvyšuje tak kyselost konjugované kyseliny.

Typické hodnoty pK_b různých aminu

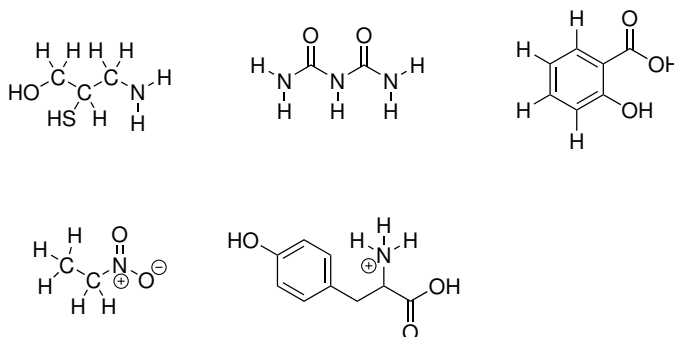


Typické hodnoty pK_a různých organických látek

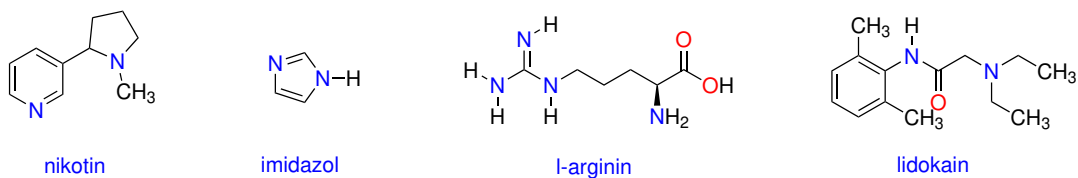
	pK_a		pK_a
H_2SO_4	-9		6,62
	-2,9	H_2S	7,04 a 11,96
H_3O^+	0	CH_3SH	10,4
	4,76		8,84
	9,9		19,2
H_2O	14,0	$HC\equiv C-H$	25
CH_3OH	15,5		38
CH_3CH_2OH	15,9		45
	19,2		50

Příklady:

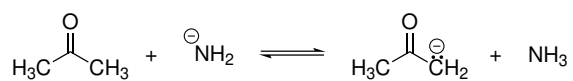
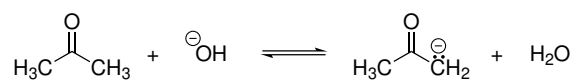
1. V následujících molekulách najděte nejkyslejší atomy vodíku.



2. V následujících molekulách najděte nejbazičtější atom.

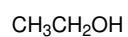
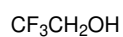


3. Určete, na kterou stranu budou posunuty následující acidobazické reakce.

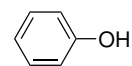
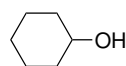


4. V následujících dvojicích látek identifikujte tu, která je silnější kyselinou.

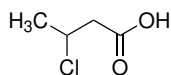
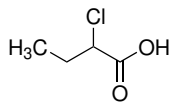
a)



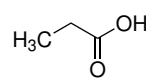
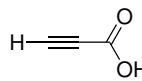
b)



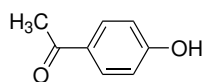
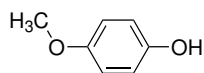
c)



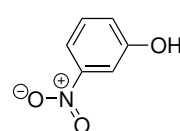
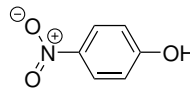
d)



e)



f)



g)

