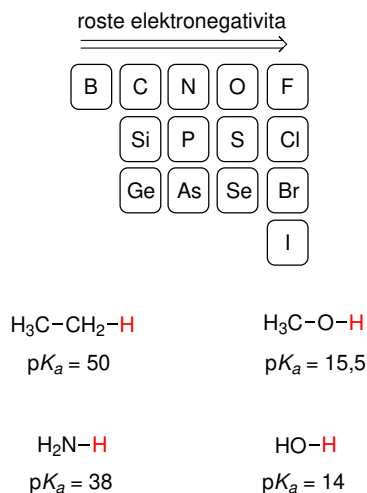


## 9. Seminář z organické chemie

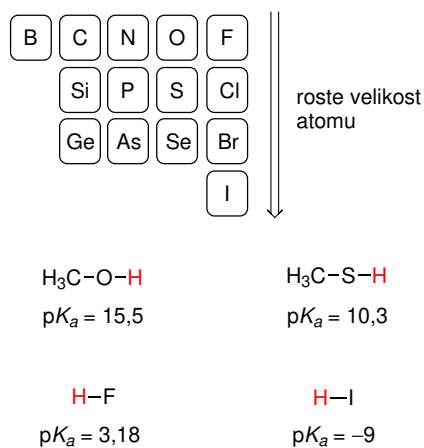
### Základní faktory ovlivňující kyselost (řazeno podle důležitosti)

#### 1. Elektronegativita a velikost deprotonovaného atomu

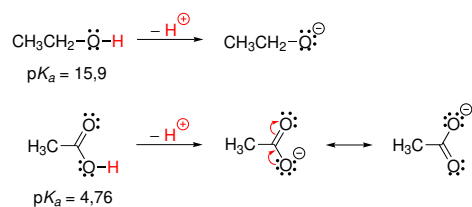
**Elektronegativita** rozhoduje při srovnání atomů ve stejné periodě.

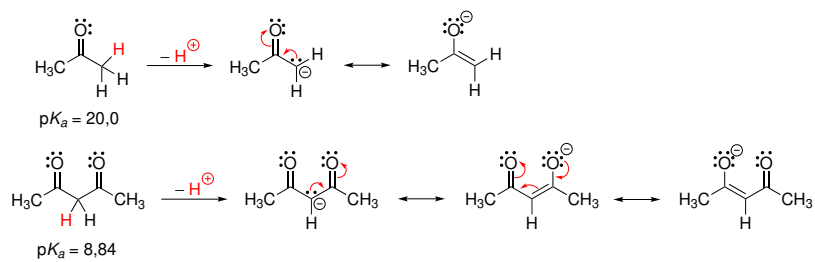


**Velikost atomu** rozhoduje při srovnání atomů ve stejné skupině.



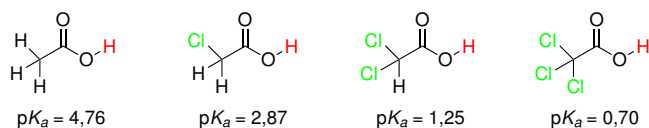
#### 2. Konjugace (uplatnění M– efektu)





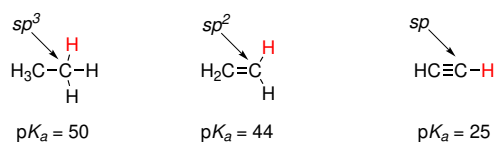
Konjugace elektronového páru s elektronakceptorní skupinou zvyšuje kyselost.

### 3. Indukční efekt



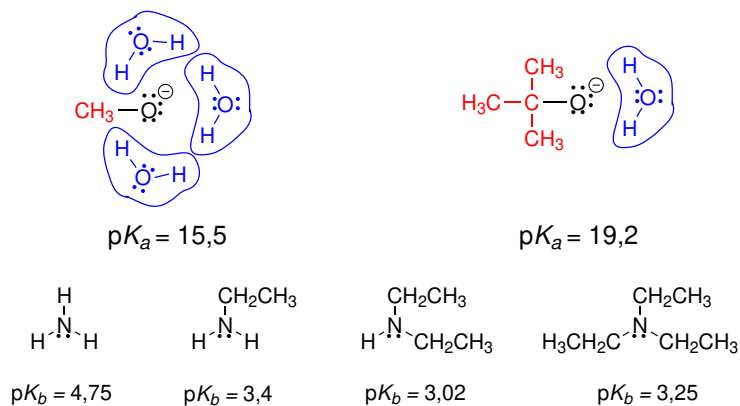
Skupiny s I- efektem kyselost zvyšují, skupiny s I+ efektem kyselost snižují.

### 4. Typ orbitalu/hybridizace



Větší podíl s orbitalu zvyšuje kyselost.

### 5. Vliv solvatace




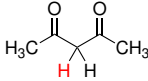

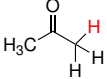


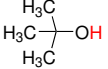



Účinnější solvatace konjugované báze zvyšuje její stabilitu a zvyšuje tak kyselost konjugované kyseliny.

### Typické hodnoty $pK_b$ různých aminu

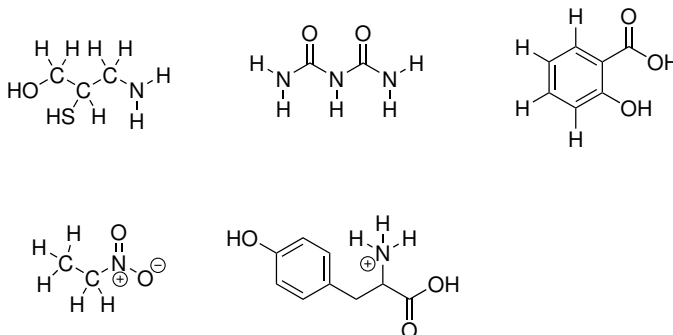


## Typické hodnoty $pK_a$ různých organických látek

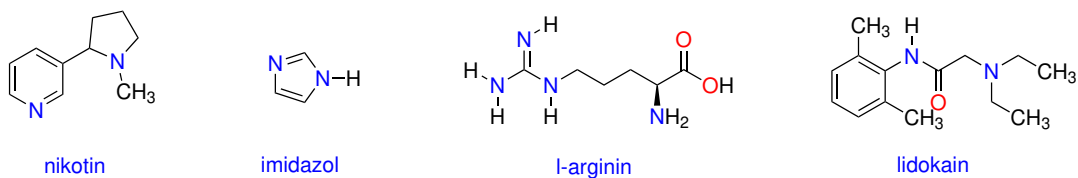
	$pK_a$		$pK_a$
$H_2SO_4$	-9		6,62
	-2,9	$H_2S$	7,04 a 11,96
$H_3O^+$	0	$CH_3SH$	10,4
	4,76		8,84
	9,9		19,2
$H_2O$	14,0	$HC\equiv C-H$	25
$CH_3OH$	15,5		38
$CH_3CH_2OH$	15,9		45
	19,2		50

### Příklady:

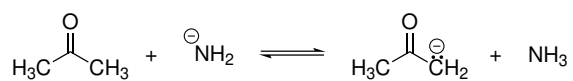
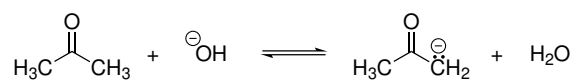
1. V následujících molekulách najděte nejkyslejší atomy vodíku.



2. V následujících molekulách najděte nejbazičtější atom.

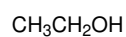
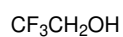


3. Určete, na kterou stranu budou posunuty následující acidobazické reakce.

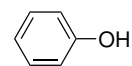
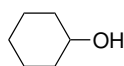


4. V následujících dvojicích látek identifikujte tu, která je silnější kyselinou.

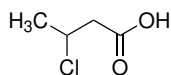
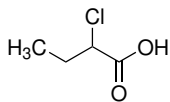
a)



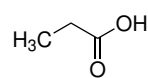
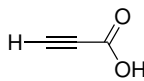
b)



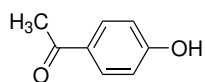
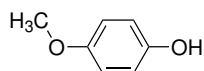
c)



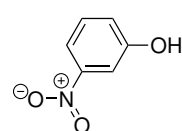
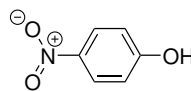
d)



e)



f)



g)

