

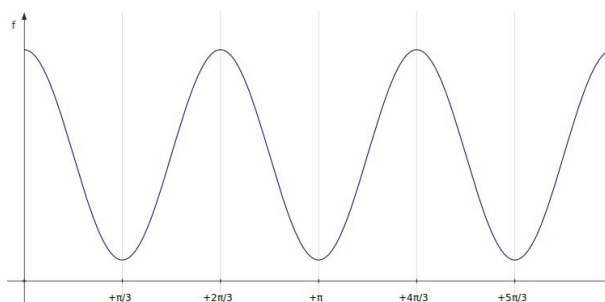
## Domácí úkol č. 2

1. Řešení:

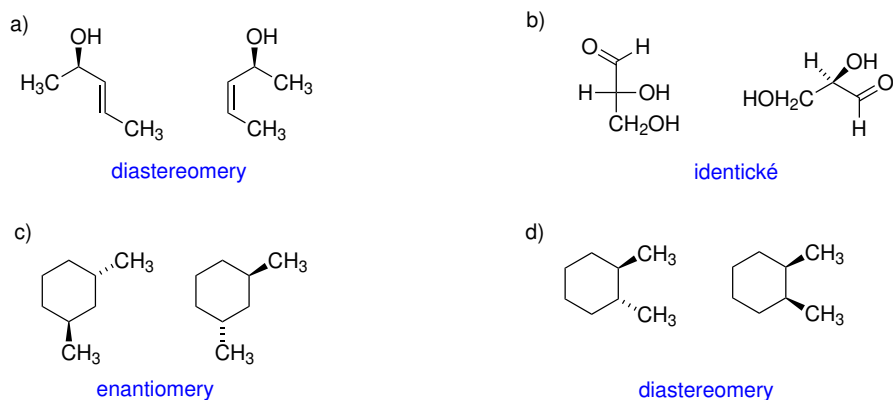


2. Řešení:

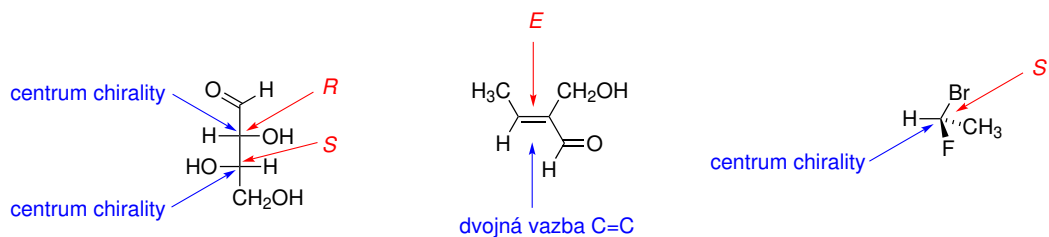
- (a) Chlorethan odpovídá křivce a), 1,2-dichlorethan je reprezentován křivkou c) (analogie s butanem) a konformace 1,1,2-trichlorethanu tvoří křivku b).
- (b) Průběh závislosti pro 1,1-dichlorethan bude podobný jako v případě ethanu, jen maxima a minima (konformery) budou více vzdáleny.



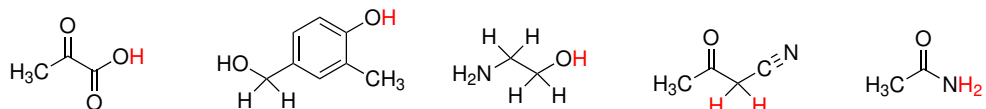
3. Řešení:



4. Řešení:

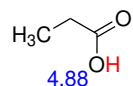
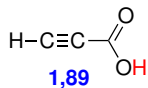


5. Řešení:

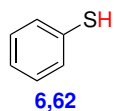
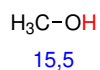


6. U struktur jsou uvedeny hodnoty  $pK_a$ , tučně jsou zvýrazněny hodnoty pro silnější kyselinu.

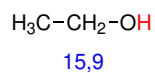
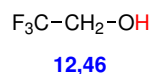
a)



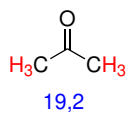
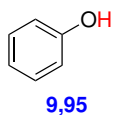
b)



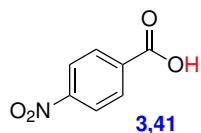
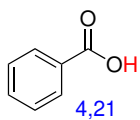
c)



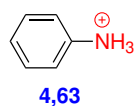
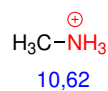
d)



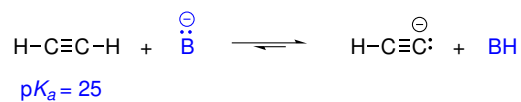
e)



f)

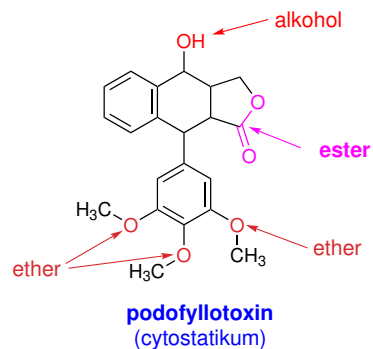
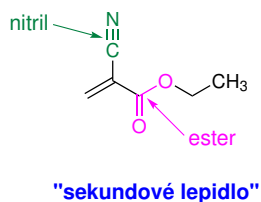
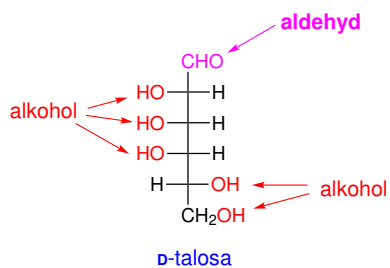
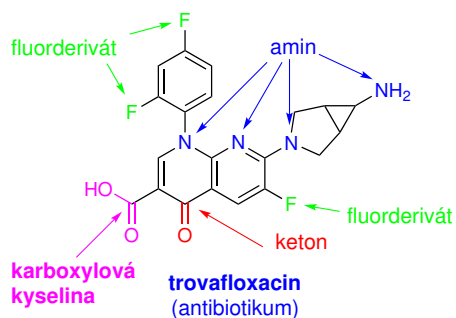
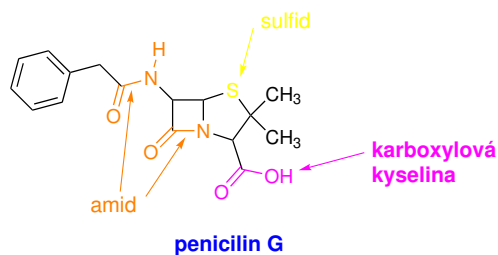
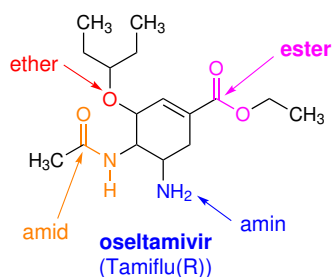
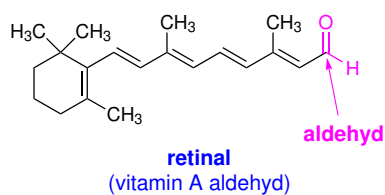
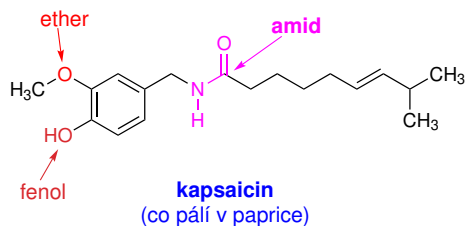
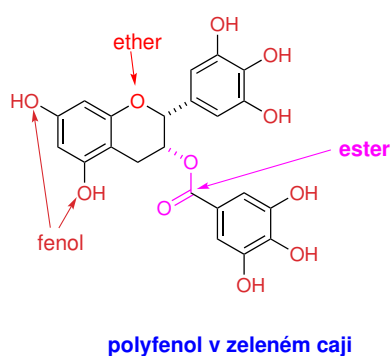
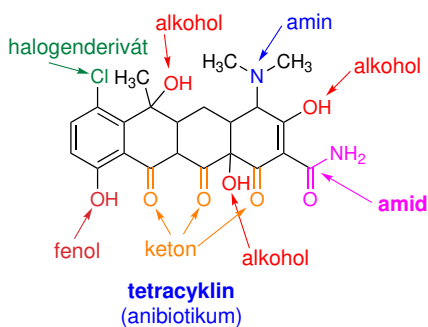


7. Musíme použít bázi, jejíž konjugovaná kyselina je slabší kyselinou než ethyn (acetylen), musí tedy mít vyšší hodnotu  $pK_a$ . Z nabídky zásad tuto podmínku splní amidový anion a methylnatrium.

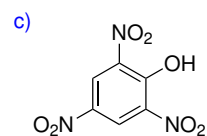
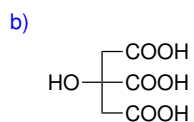
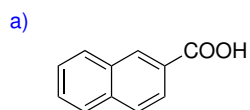


báze	konjugovaná kyselina	$pK_a$
$\text{NH}_2^{\ominus}$	$\text{NH}_3$	38
$\text{CH}_3\text{Na}$	$\text{CH}_4$	50

8. Řešení:

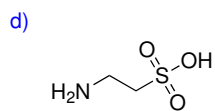


9. Řešení:

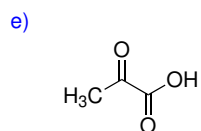


kyselina citronová

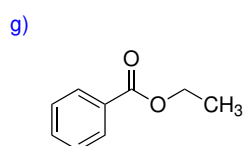
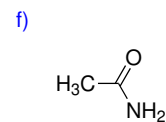
kyselina pikrová



taurin



kyselina pyrohroznová



10. Řešení:

- (a) 2-Hydroxypropanová kyselina (kyselina mléčná)
- (b) 2-Hydroxybenzenkarboxylová kyselina, 2-hydroxybenzoová kyselina, *o*-hydroxybenzoová kyselina (kyselina salicylová)
- (c) 2-Chlor-5-fenylcyklohexanol
- (d) Prop-2-en-1-nitril (akrylonitril)
- (e) 3-Methylhex-4-yn-2-on
- (f) 2-Methylbuta-1,3-dien