

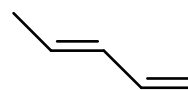
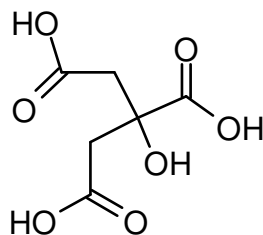
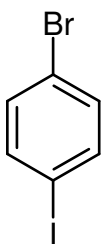
6th Assignment to be handed in until 23.01.2017

your name:

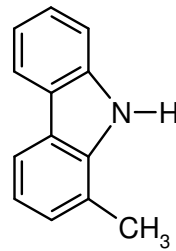
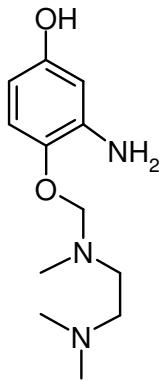
1. Name three typical compartments (where distribution of substances can occur) which are not organs (15 points)

2. Calculate the rate constant k and the half life $t_{1/2}$ for the elimination of ibuprofen. The concentrations were at $t = 0$ sec $4.0 \cdot 10^{-4}$ mol l⁻¹ and at $t = 1800$ sec $3.364 \cdot 10^{-4}$ mol l⁻¹. Use the formulas given on page 37 of the 7th lecture. (15 points)

3. Sort the following substances in order of increasing logP without computing or looking up the actual logP. (10 points)



4. Chemical alterations shall be carried for the shown compounds. Draw a new structure that includes the suitable modifications. (20 points)

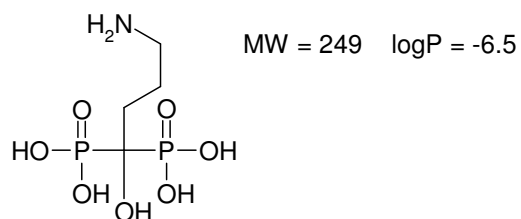
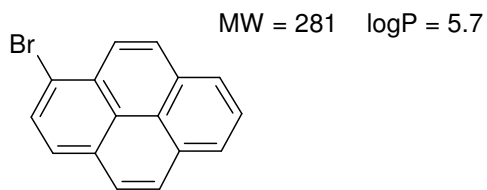
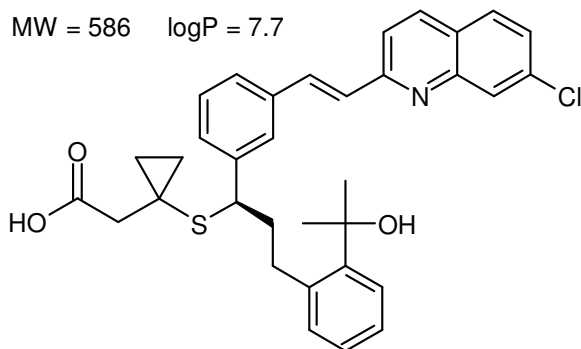


a) suggest a modification that reduces the number of freely rotatable bonds

b) suggest a modification that will lead to increased metabolic stability of the lower benzene ring

5. Give two possible reasons for each of the following compounds, why they are unsuitable as medical drugs. (30 Punkte)

MW = 586 logP = 7.7



6. Give two reason why the mouse (*mus musculus*) is particularly useful as model organism. (10 Punkte)