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AuTUM
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Quantification of salicylic acid

Chemicals

- Salicylic acid
- Sodium hydroxide
- Sodium chloride
- Water, dest.

Materials

- Measuring flask
- Volumetric pipette
- Measuring pipette
- Burettes
- UV/VIS-Photometer
- Quartz cuvettes
- Pipetting aid
- Fine jet washing bottle
- Graph paper or PC (spreadsheet programm)
- Precision balance

Safety instructions

 - wear safety goggles

 - wear adequate safety gloves

Salicylic acid
- H302, H318
- P280, P305+P351+P338, P309+P310
- HAZARD!!
-

Sodium hydroxide
- H314
- P280 P301+P330+P331 P305+P351+P338 P309+P310
- HAZARD!!

Experimental procedure

- Measuring wave length 298 nm
- Molar extinction coefficient ε=3500 L/(mol·cm)
- Linearity of method E=0.1 bis 0.9
- Cuvette 1cm
- Blank solution deionized water
- Molar mass salicylic acid M=138.12 g/mol
- Stock solution solve 250 mg salicylic acid in 30 mL sodium hydroxid solution w= 10 % and fill up with water in 1000mL-measuring flask
- Stability of solutions 4 hours
- Quantity of calibration levels minimum 5

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- Design of a dilution strategy
- Preparation of the calibration solutions as well as their photometric measurement
- Dilution of the sample and measurement
- Preparation of a calibration curve and determination of the sample concentration

Waste disposal:

- Dispose of all wastes in the container for basic solutions

Analysis:

- Calculation of the mass of salicylic acid in mg of the given sample

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Preparation list

Chemicals:

- Salicylic acid approx. 0.5 g
- Sodium hydroxide approx. 10 g
- Sodium chloride approx. 100 mg

Materials:

- Measuring flask
- Weighing scoop
- UV/VIS-Photometer
- Quartz cuvettes
- Volumetric pipettes
- Beaker glasses
- Measuring pipettes
- Spatula
- Measuring cylinder
- Burettes
- Pipetting aid
- Fine jet washing bottle
- Drying oven
- Precision balance
- Graph paper or PC (spreadsheet programm)

Preparation of the sample solution:

- Weigh 100-150mg salicylic acid in 100 mL-beaker glass and solve with 20 mL sodium hydroxid solution w=10%. Transfer with deionized water in 100 mL-measuring flask and fill up

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