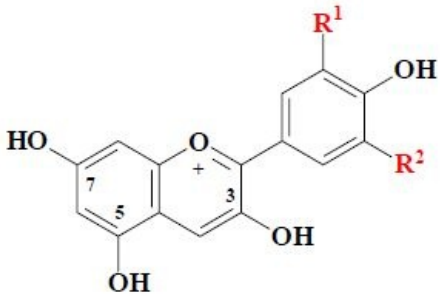
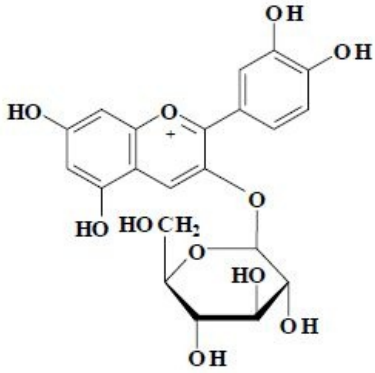
Anthocyanins

- **Basic structure** 

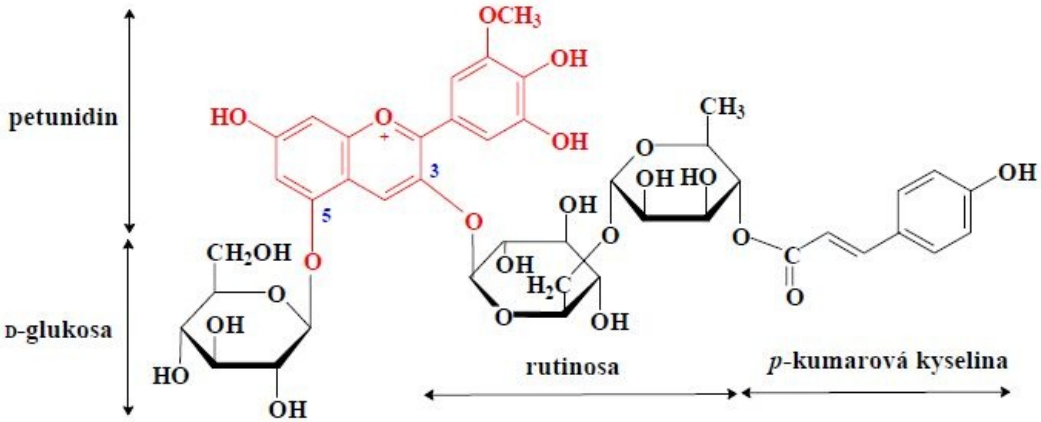
- Pelargonidin Pg... R1 = H, R2 = H violet-red
- Cyanidin Cy... R1 = H, R2 = OH purple
- Delfinidin Dp... R1 = OH, R2 = OH blue-violet
- Peonidin Pn... R1 = H, R2 = OCH3 violet
- Petunidin Pt... R1 = OH, R2 = OCH3 dark red
- Malvidin Mv... R1 = OCH3, R2 = OCH3 blue-violet

- **Carbohydrates**: Glu, Gal, Xyl, Ara, Rha, always C-3, often C-3 and C-5, rarely C-7
- **Acids:** p-coumaric, caffeic, ferulic

Examples:

- Cyanidin-3-O-β-D-glucoside (generally known) 

- (E)-petunidin-3-O-[6-O-(4-O-p-kumaroyl-α-L-rhamnopyranosyl)-β-D-glukopyranosid]-5-O-β-D-glukopyranosid

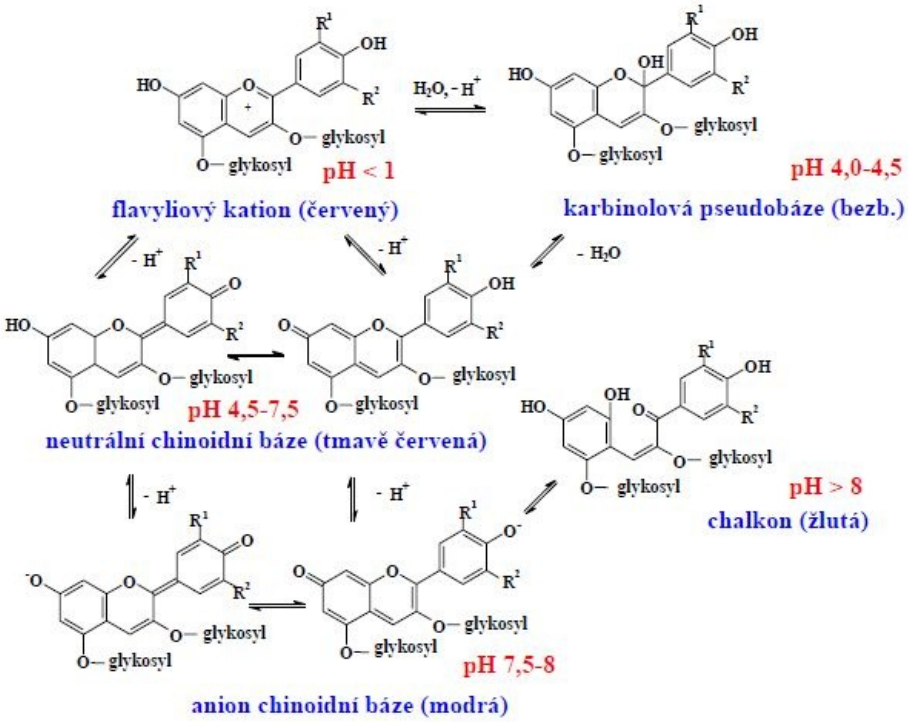


  - Trivially: petanin (red potato variety)

Anthocyanins of fruits and vegetables

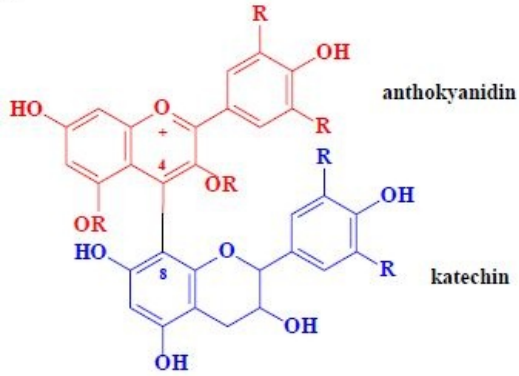
- Dependence of coloration on various factors:
  - pH of the environment;
  - Copigmentation, or transformation to other dyes;
  - sulphur dioxide;
  - hydrogen peroxide

pH of the medium

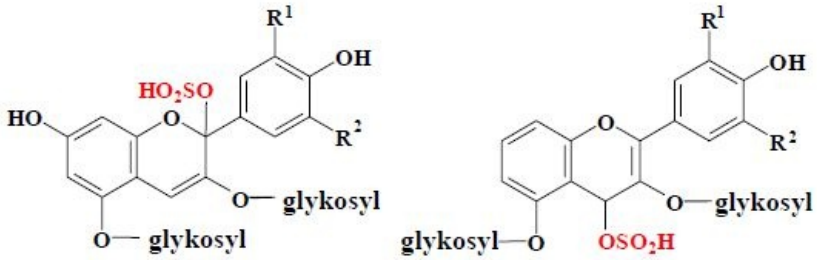


- Copigmentation
  - Interaction with procyanidins (e.g. catechins, so-called copigments) → colour complex.
- Transformation to other dyes, colour complex → dimer (oligomer), insoluble condensation products, sediments

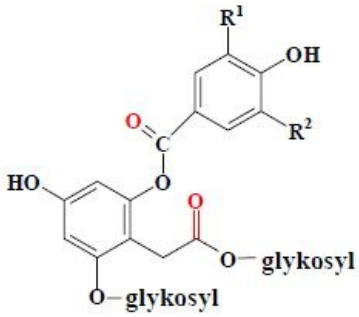
phlobaphenes.



- Sulphur dioxide → colourless sulphonic acids.



- Hydrogen peroxide → colourless products.



Links

Internal links

- Colored substances from wikiskripta (1. LF UK, NT)

References

- DAVÍDEK, Jiří. *11. SLOUČENINY OVLIVŇUJÍCÍ BARVU POTRAVIN* [online]. [cit. 2012-03-13]. <https://el.lf1.cuni.cz/p21372106/>.