

ABSTRACT

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Title of Thesis:

***In vitro* assessment of copper-chelating properties of isolated pure compounds from silymarin**

Copper is a trace element. Copper is important in many enzymatic reactions, for haemopoiesis, sugar metabolism, bone formation and for the nervous system. Disorder of copper homeostasis in organism will lead to Wilson disease, Menkes disease, Alzheimer's disease or Prion disease. Chelation agent binds redundant copper from tissues during chelation.

The subject of this thesis was to *in vitro* designate effectivity of chelation cupric and cuprous ions by selected pure compounds isolated from silymarin and sulphates which are arised in organism as a metabolite. I used two spectrophotometric methods – hematoxylin method (to detect if the compound chelate copper) and bathocuproin method (more competitive assay) at various pH levels.

All tested compounds chelated cupric and cuprous ions in hematoxylin method. 2,3-dehydrosilybin A+B and 2,3-dehydrosilychristin had the highest chelation effect in bathocuproin method.

Keywords: silymarin, flavonolignans, copper, chelation, hematoxylin, bathocuproin