Biochemistry 2021: Anthocyanin acts as scavenger for heavy metal ions, attack cancer cell and interacts with uric acid and urea to expel it through urine system and its effects on biopolymers- Jaleel Kareem Ahmed- University of Babylon, Iraq

Jaleel Kareem Ahmed

University of Babylon, Iraq, E-mail: Jaleel_karim@yahoo.com

Abstract

Anthocyanin from red beet juice, cherry and red rose which is extracted mechanically is water soluble due to the many hydroxyl groups and glucose molecule which is carried on the anthocyanin (position 3 on it). This juice is slightly sweet due to the free sugar present. The juice is very slightly acidic due to its exchangeable proton (Transmembrane proton with radius=1.5×10-6 nm). The concentration of the proton=10-6.4 g-proton/L, pP=-log [P]=-log 10-6.4=6.4. In spite of very low concentration of the exchangeable proton in the juice, it is very active to attack metal ions as soon as it comes in contact with it, as well as hetero atoms (like O, N, S) in organic molecules, such process called protonation (exothermic process) in which this process pull the abnormal high energy molecules downhill and stabilize it. Proton is condensed in aqueous solution called hydrated proton PH2O which moves to the whole human body and when become near high energy molecule with hetero atom leaving the water and attacks that molecule similar to the aircraft carrier when becomes near to the target the air craft leaves the carrier and attacks the target. In such process, proton saves the energy for the attack. Results show that solid anthocyanin from the evaporation of juice go into condensation polymerization around 80°C with liberation of water, as well as boiling concentrated juice (home-made) resulted in polymerization with very fine solid particles which reduce the ability of the exchangeable proton to precipitate heavy metal ions. Ultra violet visible spectrum shows great difference between normal and filtered boiled juice. Thus it prefers to extract the juice mechanically not thermally and no any additional material added to the juice. Spectroscopic tests in addition to the visual one show that there is an interaction between anthocyanin and uric acid and urea in blood.

Biography

Jaleel Kareem Ahmed has expertise in evaluation in iron and steel industry. He has registered 3 patents in USA, UK and Iraq about using water in iron industry and wax for storage and transportation direct reduced iron (DRI) and using wax for carburizing of steel. In 2013, he was awarded Scientific Medal from Iraqi Government. He has been serving as a Reviewer of Journal of Advances in Polymer Technology, Thomson Reuters.

This work is partly presented at 2nd International Conference on Biochemistry on September 28-29, 2017 held in Dubai, UAE