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ANTHOCYANIN ACTS AS SCAVENGER FOR HEAVY METAL IONS, ATTACK CANCER CELL AND INTERACTS WITH URIC ACID AND UREA TO EXPEL IT THROUGH URINE SYSTEM

Anthocyanin is found mainly in red beet juice, cherry, red rose. It is red color pigment with high solubility in water. It is exchangeable similar to cation exchanger in demineralization processes of water (hetero reaction) while with the anthocyanin juice is homogenous reaction. Addition of heavy metal salt like metal nitrate (water soluble) results in sudden precipitation of metal anthocyanin and the colour of the solution disappear slowly. The pH of the solution becomes more acidic and leads to the formation of nitric acid in which the pH reaches nearly four. No precipitations shown with sodium and potassium ions while with magnesium and calcium ions need high concentration of them. Anthocyanin can be used to purify water from poisonous metals ions. Anthocyanin colour in acidic solution is shine red which gets changed to reddish green colour in basic solution and deep red colour in neutral solutions. so it is suitable indicator in acid-base reaction. It is more suitable than classically used phenolphthalene indicator which is water in soluble. Irrigation of red rose plant with acidic solution like hydrochloric acid result in changing the colour of the rose from deep red to shine red, also that happen when red rose plant left in acidic atmosphere. This is a good test for detection of acidic rain in industrial area. A case study was carried out on the urine of a man of (40) years old. Two urine samples were taken from the urine system of the person, one after drinking concentrated red beet juice (mechanically extracted) and the second one without drinking juice. The results showed that: anthocyanin formed hydrogen bonding with uric acid and urea enhancing detoxification of both of them from blood; anthocyanin lowers the acidity of urine which is good for lessening human tension; anthocyanin reduces viscosity of urine even less than that of pure water which enhance the flow of urine through urine system; Reduces conductivity of urine i.e. captures proton of uric acid; Changes color of urine from yellow to pink as shown in figure below. proton in its juice from red beet nearly 6.4 while in red rose juice more acidic .i.e. $pP < 6.4$. The radius of exchangeable proton= $(1.5/106) * 10^{-9}$ nanometer (nm) thus it is called trans membrane proton

Biography

Jaleel Kareem Ahmed is a Professor of Physical Chemistry in College of Materials Engineering, Babylon University, Iraq. He was the Dean of the Institute of Foundry and Hammering (2002-2013). He has his expertise in Iron and steel Industry. He completed his PhD from Baghdad University and Martin Luther/Germany. He used red beet juice as scavenger for poisonous heavy metal ions and anticancer and detoxification of urea and uric acid from blood via urine system thus it helps kidney work. He has registered eight patents with 40 published papers and three books. He is a Reviewer in Jon Wiley and Sons since 2016 USA and Editorial board Member of Science publishing Group 2015 USA, and a Member in Encyclopedia of Chemistry Scientists 2012. In 2013, he was awarded Scientists Medal from Iraqi Government for his research using Chlorophyll as Gamma ray absorbent to protect Iraqi children from cancer.

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