Thermal Decomposition Patterns of Some Biosalts Isolated from Medicinal Plants

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Biosalts of inorganic nature isolated from ashes of the burnt medicinal plants constitute an interesting class of drugs in the ayurvedic system of medicine. These water soluble biosalts possess diversed medicinal properties but their pharmaceutical and biomedical chemistry is yet to be investigated with a modern scientific approach. This unexplored area is the subject of our interest for advanced research.

Among the medicinal plants providing pharmaceutically important bio-salts five are selected for detailed study. These include *Tamarindus Indica* (digestive and antacid), *Datura stramonium* (asthma), *Cassia fistula* (Skin diseases), *Raphanus sativas* (Dropsy, liver complaints) and *Bueta monospermac* (Kidney troubles).

For isolating the biosalts, dried plants were burned in air to white ash which were thoroughly mixed with distilled water (six times by weight) and kept overnight, the next day the mixture was filtered and the clean filtrate was slowly evaporated until the water soluble part was isolated in a solid state. These salts were completely dried and preserved in a vacuum desiccator.

The chemical constituents of each salt were determined by using standard analytical techniques. The major and important cations were Na^{+}, K^{+}, Mg^{2+} and Ca^{2+} while the major important anions were Cl^{-}, SO_4^{2-}, CO_3^{2-} and PO_4^{3-}.

The thermal decomposition patterns were recorded in the temperature range 30^0-600 ^{0}C. A careful examination of these thermograms lead to the following conclusions (a) The major loss in weight occurs in the temperature range (60-200) ^{0}C (b) One of the five salts isolated from *Raphanus Sativas* is non crystalline and shows only 1% loss (c) The maximum weight loss is shown by *Cassia fistula* which is 19-20 percent (d) The remaining salts show weight loss in the intermediate range 5-10 percent (e) The TG patterns of the five samples are quite different which may be one of the reasons for their diversed medicinal properties.