

Physicochemical Properties of Lipids from Seeds of *Nigella sativa*

Dr. B. K. Mehta¹, Dr. N S Sapre² & Dr. Meenal Gupta^{3*},

¹School of Studies in Chemistry, Vikram University, Ujjain, M.P., India

²Dept. of Chemistry, SGSITS, Indore, M.P., India

* ³Dept. of Chemistry, Government Holkar Science College, Indore, M.P., India
meenalgupta30apr@gmail.com

Abstract: *Aliphatic compounds, lipids and fatty acids have been isolated and identified from different extracts in seeds of Nigella sativa. Fatty acids have same chemical properties due to its carboxylic acid nature of functional group and gradient change in their physical properties in its homologous series e.g. pK_a , water solubility, M.P., B.P., density, partition coefficient, molar volume, refractive index, optical rotation, density etc. These properties may affect various factors viz, lipophilicity, lipophobicity, hydrogen bond, Vander Waals forces, acid/ base properties, relative acid strength, stereo electronic effect, bio-isosterism, tautomerism and conformation of the molecules. Steroidal esters bind with protein molecules of the plasma membrane in the body and various interactions occur during drug-receptor interaction and show medicinal action. Thus we have taken series and correlate their physicochemical properties by using molecular descriptor indices and observed best model-I for good correlation in series of cholesterol esters.*

Keywords: Fatty acids, physiochemical properties, molecular indices, multiple regression analysis

