

Natural acid-base indicators based on anthocyanins in the treatises of scientists of India

© Rustem R. Daminev,* Aleksandr N. Ivanov,[†] Ildar R. Hamzin,
Pahlavon S. Saytmuratov, and Oleg Kh. Karimov

*Department of General Chemical Technology, Branch of Ufa State Petroleum Technological University
in Sterlitamak. October St., 2. Sterlitamak, 453118. Russia.*

Phone: +7 (3473) 24-08-58. E-mail: aspirantdragon@yandex.ru

*Supervising author; [†]Corresponding author

Keywords: chemical indicators, acid-base titration, anthocyanins, Ipomoea species biloba, Hibiscus rosa-sinensis, Catharanthus roseus, Nerium oleander, Nerium Odorum.

Abstract

One of the most common types of chemical indicators are acid-base indicators, which have found wide application in analytical chemistry and are used in qualitative and quantitative methods of analysis. Due to the fact that the preparation of indicators on the basis of natural raw materials is a more simple, cheap and safe way to manufacture than synthetic compounds, conducted numerous studies in the field of new natural indicators. Special attention is paid to the anthocyanins – natural dyes contained in a wide array of plants. One of the leading countries in this matter is India, where different research groups have conducted experiments with various species of plants to extract from the flowers and leaves extracts with further tests on the potential use as indicators. This paper presents an overview of the most significant works of the scientists of India for the last decade aimed at studying changes color depending on the acidity of plant extracts containing anthocyanins, and the ability to replace the last used on date synthetic acid-base indicators.