



Use of Sulphonamido Anilines in Analytical Chemistry Research

Shyamasri Maity, Research Scholar, Dept of Chemistry, CMJ University, Jorabat, Meghalaya, India

Abstract

Sulphonamido anilines are an important class of organic compounds that have attracted considerable attention in analytical chemistry because of their versatile chemical properties, functional groups, and ability to interact selectively with a variety of metal ions and other analytes. This research focuses on the use of sulphonamido anilines as analytical reagents for the qualitative and quantitative determination of selected chemical species. The presence of sulphonamide and amino functional groups provides suitable coordination and reaction sites, enabling these compounds to participate in complex formation, color reactions, and other analytical processes. The proposed study will examine the synthesis, characterization, and analytical behaviour of selected sulphonamido aniline derivatives. Their potential applications in spectrophotometric, colorimetric, and other instrumental analytical methods will be investigated. Particular emphasis will be placed on parameters such as sensitivity, selectivity, detection limit, linearity, stability, reaction conditions, and reproducibility. The influence of pH, reagent concentration, reaction time, solvent composition, and interfering ions will also be evaluated to establish optimum analytical conditions. The developed methods may be applied to the determination of relevant metal ions or other analytes in environmental, pharmaceutical, industrial, and biological samples. Comparative evaluation of different sulphonamido aniline derivatives may provide information regarding the relationship between molecular structure and analytical performance. The study is expected to demonstrate the potential of these compounds as useful analytical reagents and contribute to the development of simple, sensitive, selective, and cost-effective methods for chemical analysis.

Keywords: Sulphonamido anilines, analytical chemistry, analytical reagents, spectrophotometry, colorimetry, metal-ion determination, complex formation, sensitivity, selectivity, chemical analysis.

