

Book Review

SPECTRAL DATA AND PHYSICAL CONSTANTS OF ALKALOIDS. By J. Holubek and O. Strouf. Issue 1: 300 data cards, including two binders to take Issues 1 and 2, with index and bibliography. Heyden & Sons Ltd., Spectrum House, Alderton Crescent, Hendon, London, N.W.4, 1965. £23; (U.S.A. \$69.00); post free.

In natural products as in every other field, the increasing tempo of research creates problems of information retrieval. Thus identification of a known compound isolated from natural sources not infrequently may entail considerable search of the literature; the process is seldom as simple as it would appear in retrospect. As an aid towards this end in the field of alkaloids, the issue of a compilation of spectral data and physical constants is to be welcomed. The collection, published in English, comes from the Research Institute for Natural Drugs in Prague. It consists of 300 cards assembled in book form, each card being devoted to a single alkaloid. For each compound the structural formula is shown, where appropriate, with its absolute configuration. Molecular formulae, melting-points, specific rotations and pK values in 80% methyl cellosolve are also listed. Spectroscopic data include the ultraviolet and the infrared absorption spectra.

These parameters suffice to identify individual alkaloids and it is the authors' contribution to correlate and collate such information from scattered literature sources. For the majority of the alkaloids listed, melting-points and specific rotations are quoted direct from the original literature unless modified by private communication from the author concerned. Apparent dissociation constants in methyl cellosolve were measured afresh under standard conditions by Dr. Holubek and Dr. Strouf. Of the spectra, those in the ultraviolet region were redetermined in methanol solution; for the infrared region, samples were presented in two forms (*a*) as a 30% suspension in mineral oil and (*b*) in chloroform solution. Rock salt optics were used except for the region 3,300 to 2,000 cm^{-1} where a lithium fluoride prism was fitted. The quality of spectra is good, although in a few cases a higher concentration of solute could have been used with advantage. Because of a chloroform band just above 3,000 cm^{-1} , the authors rightly state that the CH stretching region in their spectra is "not of great diagnostic value". One wonders if it was solubility, or rather the lack of it, which ruled out carbon tetrachloride or carbon disulphide. Both are preferable to chloroform in the 3,000 cm^{-1} region. Such an unfortunate choice of solvent tends to vitiate the advantage gained from the higher resolution of the lithium fluoride prism.

References, which number upwards of 1,100, include the botanical sources from which the isolation of each particular alkaloid has been reported, whilst in terms of structure, papers are cited only where they do not appear in H. G. Boit, "Ergebnisse der Alkaloid Chemie bis 1960", Akademie Verlag, Berlin, 1961.

This compilation is to be recommended to those engaged in alkaloid research; it would be especially helpful to workers in the chemotaxonomic field. It is to be hoped that the range of alkaloids will be extended promptly by future issues. These are promised in batches of 100 cards, and in view of the obvious care taken in checking the physical data, such issues will form a valuable extension to the present collection.

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