# BOOK REVIEW

SYNTHESES WITH STABLE ISOTOPES of Carbon, Nitrogen and Oxygen
Donald G. Ott, John Wiley and Sons New York, Chichester, Brisbane and Toronto, 1981, pp 224 Price £15.25
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This book is intended as a starting point for the chemist requiring to prepare compounds labelled with stable isotopes of C, N and O. It is a practical book in the sense that the major portion of the text is devoted to detailed experimental procedures, although adequate supporting references to original literature are also given. The book is written in a similar style to the classical two volumes work by Murray and Williams, "Organic Syntheses with Isotopes", which is perhaps not surprising as all the authors are associated with Los Alamos. The introduction of 15 pages and 32 references covers most general aspects including nomenclature, isotope properties, enrichment, the principles used in general synthetic considerations, apparatus, techniques, purification and analysis. The nomenclature follows that used by Murray and Willaims and Chemical Abstracts rather than the often now preferred "square-brackets-preceding" system adopted by the American Chemical Society, the Royal Society of Chemistry, and by most Biochemical Societies.

The syntheses for more than 180 compounds are described in the six chapters following the introduction and cover a miscellany of labelled compounds including acids, anhydrides, amides, esters, nitriles, aldehydes, ketones, alcohols, ethers, phenols, amines, hydrocarbons, heterocyclic and other compounds. Syntheses are well described and in most cases can be used directly for experimentation without reference to original text. Adequate "notes" highlight the special features of experimental procedures in order to achieve the best results. Although the text describes the syntheses of many useful labelled starting compounds, numerous other compounds appear to have been selected rather arbitrarily.

Synthesis of a number of compounds labelled with two or more stable isotopes are also included. A small criticism is that cross referencing in the text could have been improved. An example is the preparation of N-phenyl-2-naphthylamine-8-$^{13}$C (page 149) which is not cross-referenced to the starting

compound 2-naphthol-8-$^{13}$C (page 120). Many of the references are to syntheses described in the Journal of Labelled Compounds and Radiopharmaceuticals, as may have been expected; a comprehensive Compounds Index completes the text.

The book is well written by a world expert in organic syntheses with stable isotopes. It is nicely produced and very readable. It is recommended for all chemistry libraries and specifically for those scientists involved in the syntheses of isotopically labelled compounds.

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