

*Methods in Enzymology*

*Volume 95*

*Cumulative Subject Index*

*Volumes 61-74, 76-80*

EDITED BY

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# **Methods in Enzymology**

**Volume 95**

**CUMULATIVE SUBJECT INDEX**

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## Preface

This is the third cumulative index we have prepared for "Methods in Enzymology." It employs computer programs and procedures developed for the first cumulative index (Volume XXXIII). These were developed in response to a challenging question: Could current computer technology be employed to generate a cumulative index for Volumes I through XXX of "Methods in Enzymology"? For this series, each of the indexes had been prepared without any need for compatibility with the index of any other volume. To prepare a cumulative index manually from the approximately 100,000 lines involved would have been a monumental undertaking.

This cumulative index was prepared using a Burroughs 7800 computer. It was printed by photo-offset methods from pages composed automatically from the computer-generated index. The indexes of the individual volumes were used as the source for entries.

It was felt that if the nomenclature and usage in the original articles were retained wherever possible, this index would be most useful to the reader in locating information. Thus, rather than using a standard format and prescribed nomenclature, as is usually done, we used the entries in their original form. Similar entries were merged into one entry only when they differed at most in capitalization, typeface, punctuation, or number (singular or plural). As a result, some inconsistency of nomenclature occurs. Entries with similar meaning but different phraseology were generally not modified or combined. It is an old adage in computer science that the computer can do only that for which humans can define rules. Rules for dealing with the semantics of language are very difficult to define and this led us to be cautious in computer manipulation of different phraseologies.

There are two well-known pitfalls in computerized indexing: information loss due to oversimplification and information loss due to the presence of too much information. We have attempted to reach a balance between these two extremes by using the computer for simplification and combination wherever possible, but only when it was clear that no information would be lost in the process. In order to use the resulting index most effectively, it is suggested that the reader become familiar with the "Notes on the Use of the Index" (see p. vii) in which the occurrence of entries for a given subject under a variety of names and phraseologies and the order of entries in the index are discussed.

We shall deeply miss Dr. Sidney P. Colowick who was a constant source of support and guidance in this undertaking. Without Dr. Sidney P.

Colowick and Dr. Nathan O. Kaplan this undertaking would not have been possible. Also, we wish to thank the staff of Academic Press for their assistance and confidence in the success of this project. We were aided appreciably in this undertaking by Mr. Raymond A. Deems who carried out the complicated and laborious computer processing required and Mrs. Dolores Wright who provided valuable editorial and proofreading assistance. We also wish to thank Mr. Henry Fischer and his excellent staff of the University of California at San Diego Computer Center for their cooperation and help.

MARTHA G. DENNIS  
EDWARD A. DENNIS

## Notes on the Use of the Index

### Multiple Entries

Because a given enzyme or compound may have several different names, including both trivial and systematic ones, all possible names should be checked when looking for a particular entry. Cross-references are often included to aid in this process, but, in general, only if they were supplied in the index of one of the individual volumes. Although different phraseologies were used to express a single idea, entries of similar content in different volumes were not necessarily combined by the computer into a single entry, so it is essential that adjacent entries and differing phraseologies for a given subject be checked.

### Order of Entries

Although most entries are listed in simple alphabetical order, the index contains a number of complex entries for which this is not adequate. An explanation of the method used in these cases is presented below.

The index is comprised of main entries and subentries. Subentries appear indented on separate lines below the main entry, or on the same line separated from the main entry by a comma. An entry should be considered to consist of the following four components:

1. the basic subject
2. subscripts and superscripts applying to the basic subject
3. phrases modifying the basic subject
4. prepositions (and conjunctions) preceding the basic subject

For example, in the entry

with cytochrome  $c_1$

the basic subject is "cytochrome c," "with" is a preceding preposition, and " $_1$ " is a subscript. In the entry

D-Glucose 6-phosphate

the basic subject is "Glucose phosphate," and "D" and "6" are both modifying phrases. There is always a basic subject; the other components may or may not appear.

The actual order in which entries appear may be determined by considering each of these components in turn, if present, until an order is obtained. For example, with the two entries

Glucose

Glucose 6-phosphate

the order is determined by the basic subject component. With the entries

Glucose 1-phosphate

Glucose 6-phosphate

the basic subject component does not determine an order, hence, the modifying phrase component is considered, which does determine an order.

For those readers interested, a somewhat more detailed definition of each component and the manner in which it should be used to determine order is given below.

1. Entries are ordered first according to the basic subject. The basic subject consists of those characters remaining in an entry once subscripts, superscripts, modifying phrases, and preceding prepositions have been removed. The basic subject is ordered first according to Greek letters and alphabetics, with Greek letters ordered before alphabetics. Then, if an order has not been determined, numbers and primes appearing in the basic subject are considered, and "full alphanumeric ordering" applied. In full alphanumeric ordering, Greek letters are ordered before alphabetics which are ordered before numbers; if necessary, primes are then considered and are ordered last.

2. If an order still has not been achieved, the subscript and superscript sequences applying to the basic subject should be considered as they occur from left to right. If a subscript or superscript occurs in one entry at a given position but does not occur at that position in an otherwise similar entry, the entry lacking the subscript or superscript appears first. The ordering within subscripts and superscripts follows full alphanumeric order discussed in Step 1.

3. Modifying phrases should be considered next. These phrases are sequences of characters set off from the basic entry by dashes or arrows, and fall into one of the following categories:

- (a) Greek letters
- (b) the single alphabetics A, C, D, F, H, M, N, O, P, R, S, T, d, i, m, n, o, p, s, t, D, L
- (c) signs +, -
- (d) the Roman numerals I, II, III
- (e) the symbols or words  $\gamma$ A,  $\gamma$ G, all, allo, anti, arabino, cis, dl, erythro, exo, im, iso, meso, meta, myo, neo, ortho, para, scyllo, sec, sym, syn, tert, threo, trans
- (f) sequences of numbers (optionally followed by Greek letters or by the letters a, b, R, S, H)

Modifying phrases in entries should be examined phrase by phrase from left to right. If a modifying phrase occurs in one entry at a given position but does not occur at that position in an otherwise similar entry, the entry lacking the modifying phrase appears first. The ordering within modifying phrases follows full alphanumeric order discussed in Step 1. Subscripts and superscripts applying to the modifying phrase should be considered along with the phrase after the alphanumerics of that phrase have been considered.

4. If an order still has not been obtained, preceding prepositions (or conjunctions), which are ordered alphabetically, should be considered. A preceding preposition is one of the following words appearing at the beginning of an entry:

and, as, at, by, for, from, in, of, on, to, with

Italic characters should be treated in the same manner as normal characters in locating an entry.



# METHODS IN ENZYMOLOGY

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