

BOOK REVIEW

Genetic Engineering Fundamentals

An Introduction to Principles and Applications

K. KAMMERMEYER AND V. L. CLARK

Marcel Dekker, Inc., New York, 1989

According to the preface, this book is intended for nonexperts, primarily those coming from the chemical engineering side. Alas, it misses the target badly!

Having defined genetic engineering as "...the synthetic preparation of composite molecules in which foreign DNA has been inserted into a vector molecule," the authors later (page 219) suggest with respect to computer-controlled plant fermentor instrumentation that "this...could find profitable use in the cloning phase of genetic engineering."

The many chemical diagrams, representing for example the various steps in protein and DNA synthesis, DNA sequence analysis, and recombinant protein syntheses, are extraordinarily reader unfriendly. With a pretty good, though somewhat ancient, background in biochemistry, I could only with great difficulty figure out what was reacting with what and how.

Under "Technology and Design," appears the statement that "One should expect that microorganisms will behave differently in large vessels than in the test tube. How differently, only experience will tell." The authors go on to say that "In a microbial reactor, with engineered plasmids within hosts, it probably would be well to use several smaller heat exchangers [rather than a single large one], so that a...variable heat transfer area is available to match the changing heat load..." In my experience, changing heat loads are readily handled with one heat exchanger, provided, that the loads are below the maximum and that temperature control instrumentation is functioning properly. One doesn't need to "play"

with the number of heat exchangers for this purpose. And what is the relevance of whether the plasmids are engineered, natural, or nonexistent?

The authors refer to 1981 and 1982 literature citations as "recent," which is ludicrous in a fast-moving field of science.

Overall, the book suffers from very poor copy editing, with numerous ungrammatical and infelicitous sentences; an undefined and changing perspective on the intended audience, despite the preface; and a failure to be reasonably up to date at the time of publication.

R. I. Mateles

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