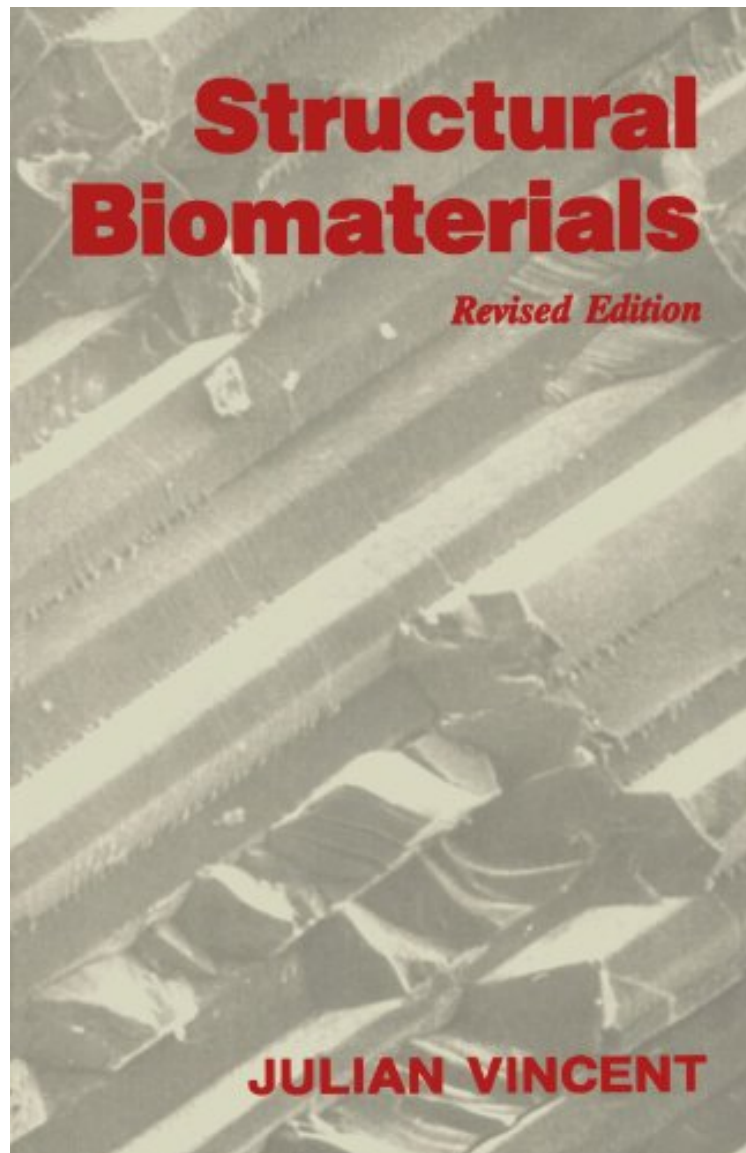


(Download ebook) Structural Biomaterials

Structural Biomaterials

Julian F.V. Vincent

*ePub | *DOC | audiobook | ebooks | Download PDF*



 Download

 Read Online

#3609580 in Books Princeton University Press 1990-08-27 Original language: English PDF # 1 9.25 x .58 x 6.00l, .90 #File Name: 0691025134244 pages | File size: 75.Mb

Julian F.V. Vincent : Structural Biomaterials before purchasing it in order to gauge whether or not it would be worth my time, and all praised Structural Biomaterials:

0 of 0 people found the following review helpful. A great book, By George Mayer A great book, on a subject of high importance and relevance, by an outstanding scientist and engineer

"This book should go a long way towards filling the communication gap between biology and physics in [the area of

biomaterials]. It begins with the basic theory of elasticity and viscoelasticity, describing concepts like stress, strain, compliance, and plasticity in simple mathematical terms. . . . For the non-biologist, these chapters provide a clear account of macromolecular structure and conformation. . . . [Vincent's work] is a delight to read, full of interesting anecdotes and examples from unexpected sources. . . . I can strongly recommend this book, as it shows how biologists could use mechanical properties as well as conventional methods to deduce molecular structure."--Anna Furth, The Times Higher Education Supplement

In what is now recognized as a standard introduction to biomaterials, Julian Vincent presents a biologist's analysis of the structural materials of organisms, using molecular biology as a starting point. He explores the chemical structure of both proteins and polysaccharides, illustrating how their composition and bonding determine the mechanical properties of the materials in which they occur including pliant composites such as skin, artery, and plant tissue; stiff composites such as insect cuticle and wood; and biological ceramics such as teeth, bone, and eggshell. Here Vincent discusses the possibilities of taking ideas from nature with biomimicry and "intelligent" (or self-designing and sensitive) materials.

"An excellent introduction to the field.... [Vincent] presents an 'illustrated discussion' which attempts to stimulate interest in [biomaterials]....The easy style and the lighthearted references to such things as the 'fracture of table jelly' and 'half-boiled notions' about egg shells will help biological readers to cope with the many complex physical concepts introduced."--American Scientist