

<<高分子物理>>

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内容概要

《高分子物理：“结构与性能”背后的概念(英文版.原书第3版)》对高分子物理的多个领域作了生动而详细的介绍，内容涵盖链构象，高分子溶液，共混物和嵌段共聚物，半晶态聚合物，聚合物网络，聚合物流体等多种体系。作者还使用了大量的数学处理与实验结果，对提出的机理与数学模型进行示例与验证，勾勒出一幅浓墨重彩的高分子物理画卷。

《高分子物理：“结构与性能”背后的概念(英文版.原书第3版)》可作为化学化工、材料科学和物理学等专业的本科生和研究生教材，也可供有关领域的专家、学者阅读参考。

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章节摘录

版权页：插图： Polymers, also known as macromolecules, are built up of a large number of molecular units that are linked together by covalent bonds. Usually they represent organic compounds, containing carbon atoms together with hydrogen, oxygen, nitrogen, and halogens, etc. In this first chapter, we briefly survey the main characteristics of their chemical constitution and molecular architecture and introduce the notions employed for their description, using examples for the explanation. All these polymers are electrically neutral. If chains are built up of monomers that contain an ionizable group, i. e., a group that can dissociate into a chain—fixed kation or anion and a mobile counter—ion bearing the opposite charge, a polyelectrolyte is obtained. Table 1.2 collects a few typical examples. The first three compounds are synthetic polymers, the other two samples are biopolymers; cellulose and starch in the form of derivatives which include ionizable substituents. Charges on a chain can also be created by doping processes. For conjugated polymers, i. e., chains with conjugated C—C double bonds, this is particularly easy. Even more importantly, the produced charges are mobile and thus provide electrical conductivity. Table 1.3 compiles some of these special materials.

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