

<<胶体、液滴和细胞>>

图书基本信息

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### 前言

大学最重要的功能是向社会输送人才，大学对于一个国家、民族乃至世界的重要性和贡献度，很大程度上是通过毕业生在社会各领域所取得的成就来体现的。

中国科学技术大学建校只有短短的50年，之所以迅速成为享有较高国际声誉的著名大学之一，主要就是因为她培养出了一大批德才兼备的优秀毕业生。

他们志向高远、基础扎实、综合素质高、创新能力强，在国内外科技、经济、教育等领域做出了杰出的贡献，为中国科大赢得了“科技英才的摇篮”的美誉。

2008年9月，胡锦涛总书记为中国科大建校五十周年发来贺信，信中称赞说：半个世纪以来，中国科学技术大学依托中国科学院，按照全院办校、所系结合的方针，弘扬红专并进、理实交融的校风，努力推进教学和科研工作的改革创新，为党和国家培养了一大批科技人才，取得了一系列具有世界先进水平的原创性科技成果，为推动我国科教事业发展和社会主义现代化建设做出了重要贡献。

据统计，中国科大迄今已毕业的5万人中，已有42人当选中国科学院和中国工程院院士，是同期（自1963年以来）毕业生中当选院士数最多的高校之一。

其中，本科毕业生中平均每1,000人就产生1名院士和

700多名硕士、博士，比例位居全国高校之首。

还有众多的中青年才俊成为我国科技、企业、教育等领域的领军人物和骨干。

在历年评选的“中国青年五四奖章”获得者中，作为科技界、科技创新型企业界青年才俊代表，科大毕业生已连续多年榜上有名，获奖总人数位居全国高校前列。

鲜为人知的是，有数千名优秀毕业生踏上国防战线，为科技强军做出了重要贡献，涌现出20多名科技将军和一大批国防科技中坚。

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### 内容概要

本书介绍了有关胶体及微流体的一些前沿研究内容，展示了最新的微、纳米水平上的实验和观察方法，有助于读者学习如何分析材料微观结构对宏观物理规律影响的现代研究方法。该书在内容上分为两部分，第一部分是胶体及微流体基本规律；第二部分介绍生物胶体的保存方法。

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## 章节摘录

There are many pioneers in this field who have promoted important developments to freeze-drying in the last 60 years. Owing to efforts of Earl Flosdorf, Ronald Greaves, and Francois Henalff, the massive production of freeze-dried human plasma was used extensively during World War II which had saved many lives. Sir Ernst Boris Chain, the Nobel Laureate for penicillin, introduced freeze-drying for the preparation of antibiotics and sensitive biochemicals. Charles Merieux opened a wide new area for the industrial production of sera and vaccines. Recently, some progresses have been made in freeze drying blood cells. In 1993, Sowermimo and Goodrich have firstly reported that hydroxyethyl starch (HES), glucose and their mixtures are new alternative of "bulking" agents of dried red blood cells. With liposomes as a model, Crowe -JH studied effects of HES and glucose on membrane stability, finding that both glass formation and depression of  $T_m$  in the dry lipids are required. Weinstein et al. investigated the effects of rehydrated erythrocyte after freeze drying by re-infusing them into the original donors, and discovered that the cells survive normally in the circulation with no adverse clinical effects except some slight decrease of deformability. Sowermimo et al. studied on the performance when the rehydrated, lyophilized human red cells are stored at  $4\sim C$ . Goodrich Jr et al. studied the possibility of lyophilizing RBC in a manner that maintains normal metabolic and enzymatic functions upon rehydration.

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