

<<有机化学>>

图书基本信息

书名：<<有机化学>>

13位ISBN编号：9787040255416

10位ISBN编号：7040255413

出版时间：2009-4

出版时间：韦德 高等教育出版社 (2009-04出版)

作者：韦德

页数：939

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前言

为了推动全国高校的双语教学工作，教育部、财政部在《关于实施高等学校本科教学质量与教学改革工程的意见》（教高[2007]1号）中强调教学质量工程要重视双语教学。

在《关于启动2007年度双语教学示范课程建设项目的通知》中，提出要在2007年至2010年建设500门国家双语教学示范课程，并且在2007年正式启动高等学校双语教学示范课程建设项目，审定了全国首批百门双语教学示范课程建设项目。

这为规范全国高等学校双语教学，提高双语教学水平提供了很好的契机。

大连理工大学“有机化学及实验双语教学示范课程建设”项目是教育部首批百门双语教学示范课程建设项目之一。

有机化学双语教学课程建设亟待进行的工作之一就是出版对国内教师和学生切实适用的有机化学双语教材。

有机化学双语教学十余年的实践表明，改编英文原版有机化学教材是建设有机化学双语教学教材的有效途径，既可保持英文版教材的“原汁原味”，亦能适合中国国情。

在教育部项目的支持下，我们将L G. Wade编著的Organic Chemistry（第六版）改编为有机化学双语教材，适合普通高等学校化学、化工专业70~100学时的有机化学双语教学课程使用。

改编的有机化学双语教材具有以下特点：1. 对英文原版教材只做章节顺序的调整和内容的删减，未增加新的英文内容，目的是使改编的双语教材保持英文版教材的“原汁原味”。

2. 本书突出双语教材特色，对部分有机化学专业词汇、术语及化合物名称给出中文注释，书后增加专业词汇中英文对照表（Vocabulary），方便学生自学和查阅。

3. 每章末增加中文概要（Summary in Chinese），有利于学生对教学重点的理解和掌握。

4. 为了使改编教材的章节编排遵循有机化学双语教学的特点，将有机化合物的命名部分从各章中抽出来，合并为新的一章，作为第3章“Brief Introduction and Nomenclature of Organic Compounds”。

在双语教学中，有机化合物命名部分放在较前面的章节集中讲授，有利于学生自学和课堂理解教师英文授课内容。

5. 适当调整章节顺序，例如，将原版教材中第15章“Conjugated Systems, Orbital Symmetry, and Ultraviolet Spectroscopy”调换为第11章的内容，紧随烯烃（第9章）和炔烃（第10章）的章节之后，并将第15章中紫外光谱的内容抽出来与红外光谱合并作为第12章；将质谱与核磁共振谱合并作为第13章。

调整后的双语教材的内容相对规整，符合国内的教学特点，方便教师双语教学使用。

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内容概要

《有机化学》(第6版)是L. G. Wade编写的Organic Chemistry (Sixth Edition)的改编版,是根据教育部关于高等学校本科教学质量工程要重视双语教学的文件精神,选择国外优秀英文原版有机化学教材,结合双语教学的实践经验改编而成的双语教材。

全书共26章,涵盖内容与国内高等学校化学、化工类有机化学教材基本一致,包括有机化学概论、有机化合物命名、立体化学、结构表征、烃及卤代烃、含氧化合物、含氮化合物、天然有机化合物等内容。

每章后有中文概要,书后附有索引和专业词汇中英文对照表。

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作者简介

作者：(美国)韦德

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章节摘录

插图：Atomic orbitals are grouped into different “ shells ” at different distances from the nucleus . Each shell is identified by a principal quantum number n , with $n=1$ for the lowest . energy shell closest to the nucleus . As n increases , the shells are farther from the nucleus , higher in energy , and can hold more electrons . Most of the common elements in organic compounds are found in the first two rows of the periodic table , indicating that their electrons are found in the first two electron shells . The first shell ($n=1$) can hold two electrons . and the second shell ($n=2$) can hold eight . The first electron shell contains just the $1s$ orbital . All s orbitals are spherically symmetrical , meaning that they are nondirectional . The electron density is only a function of the distance from the nucleus . The electron density of the $1s$ orbital is graphed in Figure 1-2 . Notice how the electron density is highest at the nucleus and falls off exponentially with increasing distance from the nucleus . The second electron shell consists of the $2s$ and $2p$ orbitals . The $2s$ orbital is spherically symmetrical like the $1s$ orbital , but its electron density is not a simple exponential function . The $2s$ orbital has a smaller amount of electron density close to the nucleus . Most of the electron density is farther away , beyond a region of zero electron density called a node . Because most of the $2s$ electron density is farther from the nucleus than that of the $1s$, the $2s$ orbital is higher in energy . Figure 1-3 shows a graph of the $2s$ orbital .

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编辑推荐

《有机化学》(第6版)可作为化学、化工专业的有机化学双语教材,亦可作为其他相关专业的教学参考书,可使学生在学习有机化学基础知识的同时提高专业英语水平。

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