



## Workbook for Organic Synthesis: The Disconnection Approach, 2nd Edition

Stuart Warren, Paul Wyatt

E-Book	978-1-119-96555-8	August 2011	<b>\$51.99</b>
Paperback	978-0-470-71226-9	January 2010	<b>\$64.50</b>
Hardcover	978-0-470-71227-6	January 2010	<b>\$189.25</b>

### DESCRIPTION

One approach to organic synthesis is retrosynthetic analysis. With this approach chemists start with the structures of their target molecules and progressively cut bonds to create simpler molecules. Reversing this process gives a synthetic route to the target molecule from simpler starting materials. This “disconnection” approach to synthesis is now a fundamental part of every organic synthesis course.

#### **Workbook for Organic Synthesis: The Disconnection Approach, 2 nd Edition**

This workbook provides a comprehensive graded set of problems to illustrate and develop the themes of each of the chapters in the textbook *Organic Synthesis: The Disconnection Approach, 2 nd Edition*. Each problem is followed by a fully explained solution and discussion. The examples extend the student’s experience of the types of molecules being synthesised by organic chemists, and the strategies they employ to control their syntheses. By working through these examples students will develop their skills in analysing synthetic challenges, and build a toolkit of strategies for planning new syntheses. Examples are drawn from pharmaceuticals, agrochemicals, natural products, pheromones, perfumery and flavouring compounds, dyestuffs, monomers, and intermediates used in more advanced synthetic work. Reasons for wishing to synthesise each compound are given. Together the workbook and textbook provide a complete course in retrosynthetic analysis.

#### **Organic Synthesis: The Disconnection Approach, 2 nd Edition**

There are forty chapters in *Organic Synthesis: The Disconnection Approach, 2 nd Edition*: those on the synthesis of given types of molecules alternate with strategy chapters in which the methods just learnt are placed in a wider context. The synthesis chapters

cover many ways of making each type of molecule starting with simple aromatic and aliphatic compounds with one functional group and progressing to molecules with many functional groups. The strategy chapters cover questions of selectivity, protection, stereochemistry, and develop more advanced thinking via reagents specifically designed for difficult problems. In its second edition updated examples and techniques are included and illustrated additional material has been added to take the student to the level required by the sequel, *Organic Synthesis: Strategy and Control*. Several chapters contain extensive new material based on courses that the authors give to chemists in the pharmaceutical industry.

*Workbook for Organic Synthesis: The Disconnection Approach, 2 nd edition*, combined with the main textbook, provides a full course in retrosynthetic analysis for chemistry and biochemistry students, and a refresher course for organic chemists working in industry and academia.

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## ABOUT THE AUTHOR

**Dr Stuart Warren** Department of Chemistry, University of Cambridge, UK

Dr Warren is the author of the bestselling textbooks "Organic Synthesis: The Disconnection Approach" (Wiley), "Organic Synthesis: Strategy and Control" (Wiley) and "Organic Chemistry" (OUP)

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Dr Wyatt is Director of Undergraduate Studies for the School of Chemistry at Bristol University and also Director of BRISTOL ChemLabS - a HEFCE Centre for Excellence in Teaching & Learning. He is co-author, with Warren, of "Organic Synthesis: Strategy and Control"

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## FEATURES

- The workbook provides a comprehensive graded set of problems to illustrate and develop the themes of *Organic Synthesis: The Disconnection Approach, 2 nd edition*. The textbook and workbook together provide a complete course in retrosynthetic analysis for advanced organic students – describes and illustrates the key concepts involved in how to use retrosynthetic analysis to design synthetic routes

- Each problem is followed by a fully explained solution and discussion.
- By working through this book students will develop their skills in analysing synthetic challenges, and build a toolkit of strategies for planning new syntheses.
- Revised and updated to reflect 25 years of advances in organic synthesis: new examples and synthetic pathways have been added. Additional material has been added to take the student to the level required by the sequel, "Organic Synthesis: Strategy and Control". The later chapters on more advanced techniques have extensive new material based on courses that the authors give in the pharmaceutical industry

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