Abbreviations

Ac	Acetyl
acac	Acetylacetonate
AD	Asymmetric dihydroxylation
ADP	Adenosine 5′-diphosphate
AE	Asymmetric epoxidation
AIBN	2,2′-Azobisisobutyronitrile
AO	Atomic orbital
Ar	Aryl
ATP	Adenosine 5′triphosphate
9-BBN	9-Borabicyclo[3.3.1]nonane
BHT	Butylated hydroxy toluene (2,6-di- t-butyl-4-methylphenol)
BINAP	2,2′-Bis(diphenylphosphino)-1,1′-binaphthyl
Bn	Benzyl
Boc, BOC	tert-Butyloxycarbonyl
Bu	Butyl
s-Bu	*sec*-Butyl
t-Bu	*tert*-Butyl
Bz	Benzoyl
Cbz	Carboxybenzyl
CDI	1,1′-Carbonyldiimidazole
CI	Chemical ionization
CoA	Coenzyme A
COT	Cyclooctatetraene
Cp	Cyclopentadienyl
DABCO	1,4-Diazabicyclo[2.2.2]octane
DBE	Double bond equivalent
DBN	1,5-Diazabicyclo[4.3.0]non-5-ene
DBU	1,8-Diazabicyclo[5.4.0]undec-7-ene
DCC	*N,N*-dicyclohexylcarbodiimide
DDQ	2,3-Dichloro-5,6-dicyano-1,4-benzoquinone
DEAD	Diethyl azodicarboxylate
DIBAL	Diisobutylaluminum hydride
DMAP	4-Dimethylaminopyridine
DME	1,2-Dimethoxyethane
DMF	*N,N*-Dimethylformamide
DMPU	1,3-Dimethyl-3,4,5,6-tetrahydro-2(1*H*)-pyrimidinone
DMS	Dimethyl sulfide
DMSO	Dimethyl sulfoxide
DNA	Deoxyribonucleic acid
E1	Unimolecular elimination
E2	Bimolecular elimination
E_a	Activation energy
EDTA	Ethylenediaminetetraacetic acid
EPR	Electron paramagnetic resonance
ESR	Electron spin resonance
Et	Ethyl
FGI	Functional group interconversion
Fmoc	Fluorenylmethyloxycarbonyl
GAC	General acid catalysis
GBC	General base catalysis
HMPA	Hexamethylphosphoramide
HMPT	Hexamethylphosphorous triamide
HOBt	1-Hydroxybenzotriazole
HOMO	Highest occupied molecular orbital
HPLC	High performance liquid chromatography
HIV	Human immunodeficiency virus
IR	Infrared
KHMDS	Potassium Hexamethyldisilazide
LCAO	Linear combination of atomic orbitals
LDA	Lithium diisopropylamide
LHMDS	Lithium hexamethyldisilazide
LICA	Lithium isopropylcyclohexylamide
LTMP, LiTMP	Lithium 2,2,6,6-tetramethylpiperidide
LUMO	Lowest unoccupied molecular orbital
m-CPBA	*meta*-Chloroperoxybenzoic acid
Me	Methyl
MO	Molecular orbital
MOM	Methoxymethyl
Ms	Methanesulfonyl (mesyl)
NAD	Nicotinamide adenine dinucleotide
NADH	Reduced NAD
NBS	*N*-Bromosuccinimide
NIS	*N*-Iodosuccinimide
NMO	*N*-Methylmorpholine-*N*-oxide
NMR	Nuclear magnetic resonance
NOE	Nuclear Overhauser effect
PCC	Pyridinium chlorochromate
PDC	Pyridinium dichromate
Ph	Phenyl
PPA	Polyphosphoric acid
Pr	Propyl
i-Pr	*iso*-Propyl
PTC	Phase transfer catalysis
PTSA	p-Toluenesulfonic acid
py	pyridine
Red Al	Sodium bis(2-methoxyethoxy)aluminum hydride
RNA	Ribonucleic acid
SAC	Specific acid catalysis
SAM	*S*-Adenosyl methionine
SBC	Specific base catalysis
S_N1	Unimolecular nucleophilic substitution
S_N2	Bimolecular nucleophilic substitution
SOMO	Singly occupied molecular orbital
STM	Scanning tunnelling microscopy
TBDMS	Tert-butyldimethylsilyl
TBDPS	Tert-butyldiphenylsilyl
Tf	Trifluoromethanesulfonyl (triflyl)
THF	Tetrahydrofuran
THP	Tetrahydropyran
TIPS	Triisopropylsilyl
TMEDA	*N,N,N′,N′*-tetramethyl-1,2-ethylenediamine
TMP	2,2,6,6-Tetramethylpiperidine
TMS	Trimethylsilyl, tetramethylsilane
TMSOTf	Trimethylsilyl triflate
TPAP	Tetra-*N*-propylammonium perruthenate
Tr	Triphenylmethyl (trityl)
TS	Transition state
Ts	p-Toluenesulfonyl. Tosyl
UV	Ultraviolet
VSEPRT	Valence shell electron pair repulsion

Periodic table

	1 I	2 II	3 III	4 IV	5 V	6 VI	7 VII	8	9 VIII
S	3 Li	4 Be							
2	Lithium	Beryllium							
	11 Na	12 Mg							
3	Sodium	Magnesium							
	19 K	20 Ca	d	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co
4	Potassium	Calcium		Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt
	37 Rb	38 Sr		39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh
5	Rubidium	Strontium		Yttrium	Zirconium	Niobium	Molybdenum	Technetium	Ruthenium	Rhodium
	55 Cs	56 Ba		71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir
6	Cesium	Barium		Lutetium	Hafnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium
	87 Fr	88 Ra		103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt
7	Francium	Radium		Lawrencium	Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium
			f	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu
				Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium
				89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am
				Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium

Key

Symbol

Atomic number — 00 Xx

Relative Atomic Mass — RAM: 0.000

Electronegativity (Pauling) — P: 0.0

Element — Name

This completely new, innovative textbook provides a comprehensive account of organic chemistry for undergraduate courses. The approach, based on mechanism and reaction type, aims at understanding rather than factual knowledge, enabling the student to understand reactions not previously encountered.

The basics of the subject are explained carefully and thoroughly, with an early emphasis on how to draw molecules realistically and how to draw mechanisms to reveal the fundamental chemistry. Important points are revisited when they become relevant in later chapters and new examples, frequently taken from everyday life and from medicinal chemistry, are given each time a concept resurfaces.

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Each chapter opens with a 'Connections' box, divided into three columns:

- *Building on:* details the previous chapters which relate directly to the material within the chapter.
- *Arriving at:* provides a guide to what will be found within the chapter.
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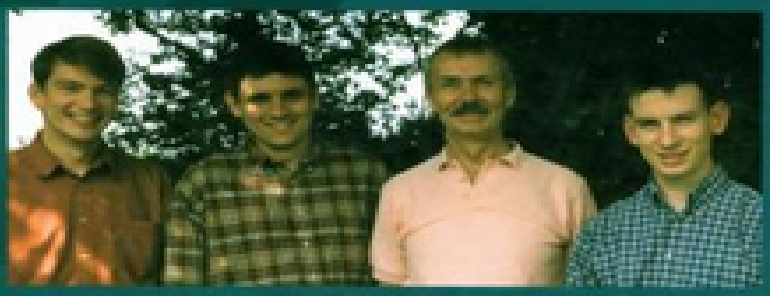
Throughout the text, a personal and honest approach is adopted, the authors writing clearly and directly to the reader, sharing their enthusiasms, understandings and doubts. Above all, they want students to be excited by the universality of organic chemistry rather than be overwhelmed by facts.



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Cover illustration: Nic Colerbaugh

OXFORD
UNIVERSITY PRESS

ISBN 0-19-850346-6

9 780198 503460

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