

1. Record Nr.	UNINA9910831054203321
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Titolo	Comprehensive organic reactions in aqueous media [[electronic resource] /] / Chao-Jun Li, Tak-Hang Chan
Pubbl/distr/stampa	Hoboken, N.J., : Wiley-Interscience, c2007
ISBN	1-280-90024-5 9786610900244 0-470-13144-6 0-470-13143-8
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (435 p.)
Altri autori (Persone)	ChanTak-Hang <1941-> LiChao-Jun <1963->
Disciplina	547.13422 547.2 547/.13422
Soggetti	Chemistry, Organic Solution (Chemistry) Chemical reactions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previously published: Organic reactions in aqueous media / Chao-Jun Li, Tak-Hang Chan, New York : Wiley, c1997.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction. The structure and forms of water ; Properties of water ; Solvation ; Hydrophobic effect ; Salt effect. Water under extreme conditions -- Alkanes. Oxygenation of alkanes ; Halogenation of alkanes ; Formation of carbon-carbon bonds ; D/H exchange of alkanes in water --Alkenes. Reduction ; Electrophilic additions ; Radical reactions of alkenes ; Carbene reactions ; Alkene isomerization ; Transition-metal catalyzed C-C formation reactions ; Olefin metathesis ; Reaction of allylic C-H bond -- Alkynes. Reaction of terminal alkynes ; Additions of C [triple bar] C bonds ; Transition-metal catalyzed cycloadditions ; Other reactions -- Alcohols, Phenols, Ethers, Thiols, and Thioethers. Oxidation of alcohols ; Substitutions/elimination ; Addition of alcohols, phenols, and thiols to alkene and alkyne bonds ; Addition of alcohols to C=O bonds: esterification and acetal formations ; Reaction of ethers and cyclic

ethers ; Other reactions -- Organic halides. General ; Reduction ; Elimination reactions ; Nucleophilic substitutions ; Reductive coupling ; Carbonylation of organic halides ; Transition-metal catalyzed coupling reactions -- Aromatic compounds. General ; Substitution reactions ; Oxidation reactions ; Reductions -- Aldehydes and ketones. Reduction ; Oxidation ; Nucleophilic addition: C-C bond formation ; Pinacol coupling ; Other reactions (Halogenation and oxidation of [alpha]-H) -- Carboxylic acids and derivatives. General ; Carboxylic acids ; Carboxylic acid derivatives -- Conjugated carbonyl compounds. Reduction ; Epoxidation, dihydroxylation, hydroxyamination ; Conjugate addition: heteroatom ; C-C bond formation ; Other reactions -- Conjugated carbonyl compounds. Reduction ; Epoxidation, dihydroxylation, hydroxyamination ; Conjugate addition: heteroatom ; C-C bond formation ; Other reactions -- Nitrogen compounds. Amines ; Imines ; Diazo compounds ; Azides ; Nitro compounds -- Pericyclic reactions. Introduction ; Diels-Alder reactions ; Sigmatropic rearrangements ; Photochemical cycloaddition reactions.

Sommario/riassunto

An extensive update of the classic reference on organic reactions in waterPublished almost a decade ago, the first edition has served as the guide for research in this burgeoning field. Due to the cost, safety, efficiency, and environmental friendliness of water as a solvent, there are many new applications in industry and academic laboratories. More than forty percent of this extensively updated second edition covers new reactions. For ease of reference, it is organized by functional groups. A core reference, Comprehensive Organic Reactions in Aqueous Media, Second Edition:*