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Nota di contenuto	Organic Reactions in Water : Principles, Strategies and Applications; Contents; Contributors; Preface; Foreword; 1 A Fifty-Year Perspective on Chemistry in Water; 1.1 Enzyme mimics and models; 1.1.1 Thiamine; 1.1.2 Cyclodextrins; 1.1.3 Cyclodextrins with bound metal ions; 1.1.4 Cyclodextrin dimers; 1.1.5 Ribonuclease mimics; 1.1.6 Transaminase mimics; 1.1.7 Cytochrome P-450 mimics; 1.2 Reactions in water promoted by hydrophobic binding of small molecules; 1.2.1 Diels-Alder reactions; 1.2.2 The benzoin condensation; 1.2.3 Atom transfer reactions 1.3 Quantitative antihydrophobic effects in water and the geometries of transition states1.4 The importance of water as a reaction solvent; References; 2 Structure and Properties of Water; 2.1 Water, the molecule and the liquid; 2.1.1 The single water molecule; 2.1.2 Liquid water; 2.2 Properties of water; 2.2.1 Solvent properties and parameters; 2.2.2 Thermodynamics of hydration; 2.2.3 Hydrophobic interactions; 2.3 Kinetic solvent effects in aqueous solution; References; 3 Acid

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5.1.1 Carbo Diels-Alder reactions

Sommario/riassunto

Volatile organic solvents are the normal media used in both research scale and industrial scale synthesis of organic chemicals. Their environmental impact is significant, however, and so the development of alternative reaction media has become of great interest. Developments in the use of water as a solvent for organic synthesis have reached the point where it could now be considered a viable solvent for many organic reactions. Organic Reactions in Water demonstrates the underlying principles of using water as a reaction solvent and, by reference to a range of reaction types and systems