

Book review

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Base-Catalyzed Reactions of Hydrocarbons and Related Compounds, by Herman Pines and Wayne M. Stalick; Academic Press; New York, San Francisco, and London; 1977; X + 587 pages; \$65.00.

This well-written, extensively documented book discusses base-catalyzed isomerizations of certain unsaturated systems, addition of anionic reagents mostly derived from hydrocarbons to alkenes, dienes, and aralkenes, and certain miscellaneous topics related to reductions, oxidations, and eliminations.

Specifically, after an introduction dealing with a review of the acidity of organic compounds and the types of basic reagents to be found throughout the book, Chapters 2 and 3 are devoted to base-catalyzed isomerizations of alkenes, alkynes, allenes, polyalkenes, polyalkynes, and certain heterosubstituted derivatives of the above. Chapter 4 describes dimerization, co-dimerization, and oligomerization of simple alkenes as well as dimerization of dienes, styrenes, and several  $\alpha,\beta$ -unsaturated esters and nitriles. Chapters 5, 6 and 9 discuss alkylations, alkenylations, and aralkylations by alkenes, dienes, and aralkenes, respectively of aralkanes, alkylpyridines, and alkali derivatives of alkali carboxylates, cyclopentadiene, indene, and aldimines. Chapter 7 is concerned with similar alkenylaromatics, two nitriles and diisopropyl ketone, and the dimerization of 1,4-dihydronaphthalene, all under homogeneous conditions. Chapters 8 and 10 deal with the base-catalyzed additions of a variety of aprotic solvents, ammonia, and amines to ethylene and its derivatives. The remaining chapters, shorter in length, are devoted to a series of other conversions catalyzed by bases including hydrogenations of olefins and aromatics, dehydrogenation-aromatization of di-, tetra-, and hexahydroaromatics, hydrogen transfer and oxidations, and elimination of alco-

hols to afford alkenes. The latter chapter does not include reference to other less well known base-catalyzed reactions such as the preparation of nitriles from amides or oxime derivatives and decarboxamidations of amides to yield hydrocarbons.

Each chapter is conveniently codified and contains a liberal number of examples both in equation and in tabular form. Some references to the 1976 literature are listed. The quality of the printing is excellent and the book is almost free of typographical errors. Though the price of the book is relatively high, purchase is recommended to those organometallic chemists involved in synthesis. This timely book should provide an impetus for additional study in the area of base-catalyzed chemistry.

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