sorption and the characterization of absorbents and catalysts; it will also serve to remind us of one of the great chemists of our time.

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The Organic Chemistry of Palladium. Vol. 2. Catalytic Reactions. By P. M. MAITLIS, Academic Press, New York, 1971. xiii + 216 pp. $16.00.

The second volume of the series "The Organic Chemistry of Palladium," is dedicated to catalytic reactions. In the first chapter the author discusses the formation and cleavage of carbon–carbon bonds. Chapter II is dedicated to palladium-catalyzed reactions leading to carbon–oxygen bonds. Chapter III deals with the homogeneously catalyzed formation and cleavage of carbon–hydrogen bonds and comprises double bond isomerization, disproportionation, dehydrogenation, hydrogenation, and addition of H–X to olefins. In Chapter IV the catalytic formation of carbon–halogen, carbon–nitrogen, carbon–sulfur, carbon–silicon, and silicon–hydrogen bonds is outlined. Chapter V briefly summarizes some heterogeneously catalyzed reactions. The book covers the literature to 1970, as well as some more recent work, with more than 600 references. The various reactions are described primarily with respect to the possible mechanism and are illustrated by formula equations appealing to chemical intuition. The author rightly cautions the reader not to underestimate the complexity of palladium-catalyzed reactions. The specialist will undoubtedly find this book useful as a concise compilation of facts and will be stimulated to conduct further research. Organic chemists, which are still largely unfamiliar with the use of palladium salt-catalyzed reactions, may have some difficulty to recognize the practical utility of some of the reactions. In many instances the information provided is too brief, particularly insofar as experimental details are concerned. It would have been advantageous to include laboratory procedures of some of the synthetically useful or potentially useful reactions, to more clearly distinguish truly catalytic processes from stoichiometric reactions of palladium-coordinated ligands, and to outline current industrial applications from the technological point of view. In summary, the book will be most valuable to the specialist in the field but is of lesser value to the practising organic chemist who wishes to employ palladium-catalyzed reactions for the solution of his synthetic problems.

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