Preface

Reactions resulting in the formation of C–X bonds were undoubtedly among the first experiments performed by synthetic organic chemists. With years, this area of research has matured and nowadays relies heavily on the use of transition metals. Most of the recent research in C–X bond-forming reactions has been focused on the late transition metal-catalyzed formation of aryl-nitrogen and aryl-oxygen bonds, reactions of primary importance to the pharmaceutical industry. Many highly efficient catalytic systems allowing for the formation of these bonds under mild conditions have been developed and thoroughly reviewed. Against this background, other C–X bond-forming reactions received considerably less attention. This volume is intended to highlight the recent advances in the formation of the C–X bonds other than aryl-oxygen or aryl-nitrogen.

While not comprehensive, it presents seven balanced chapters that summarize the synthetic and mechanistic studies of the formation of C–P, C–S, C–Halide, C–N, and C–O bonds. The reviewed research areas demonstrate great variety of metals and reaction mechanisms that can be involved in the formation of these bonds. I believe that this scope will only grow in the near future thus providing important information for chemists interested in making C–X bonds.

As editor, I wish to express my gratitude to all the experts who contributed to this volume.

Tel Aviv — Arkadi Vigalok