

PREFACE

The utilization of natural and unnatural α -amino acids in practically all areas of the physical and life sciences continues to grow at an impressive rate. In addition to their key biological role as the "building blocks" of peptides, proteins and other natural products, the α -amino acids are used extensively in the pharmaceutical, agrochemical and food industries. They have also been utilized in total synthesis and other synthetic studies, both as sources of chirality in final products and as chiral auxiliaries, reagents, and catalysts for asymmetric synthesis.

Because of this widespread use, new and versatile methods for both the small and large scale preparation of natural as well as structurally diversified α -amino acid derivatives are important. Methods for the asymmetric synthesis of α -amino acids, especially those which involve catalytic enantiocontrol, are of special practical interest.

The aim of this Symposium, which is composed of 32 papers from 12 different countries, is to present a broad spectrum of current synthetic methods for the preparation of α -amino acids. Because of the expanse of the field, it has been necessary to limit somewhat the scope of coverage. The following two guidelines have been liberally applied: only syntheses of α -amino acids which involve bond construction of one or more of the four bonds to the α -carbon are covered, and various hydrogenation methods which lead to α -amino acids (e.g. reduction of dehydroamino acids) are not covered. The Symposium is presented in approximate order of the types of bonds constructed: C-C and C-CO₂H, C-H, C-N. Unfortunately, even after applying these restrictions, it has not been possible to invite contributions from all who are actively involved in the field.

It is hoped that this Symposium, together with the many excellent monographs, reviews and original papers referenced, will serve as a valuable source of information for both application of the methods presented as well as future developments in this exciting field.

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