

## Preface

## Modern aspects of organometallic chemistry

The serendipitous discovery of ferrocene in 1951 provided a major impetus to the rapid development of organometallic chemistry. Such development initially focussed on transition metal organometallic chemistry. However, in recent years main group organometallic chemistry has received increasing attention. The resulting fundamental knowledge in organometallic chemistry has already led to the discovery of a number of important applications of organometallic compounds in organic synthesis, homogeneous catalysis, materials science, and medicine. At the turn of the millennium organometallic chemistry has become a mature area of chemistry but one still filled with considerable excitement and potential for future new applications. In order to provide overviews of some of the highlights of current organometallic chemistry research, special issues of *Coordination Chemistry Reviews* have been published approximately biennially since the year 2000 containing collections of short reviews surveying some of the areas of organometallic chemistry of current interest.

This special issue of *Coordination Chemistry Reviews* is the third of this series; the previous special issues of this series appeared in 2000 and 2002. This issue contains ten articles, which cover a broad spectrum of organometallic topics including areas of both physical and synthetic organometallic chemistry as well as applications of organometallic compounds in organic synthesis, molecular catalysis, and non-linear optics. We hope that the readers of these articles will gain insight as to recent developments in some of the currently important areas of organometallic chemistry as well as some ideas for new research programs.

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