
Preface

In 1889, the Nobel Prize winner Svante Arrhenius pointed out the existence of a “greenhouse effect” in which small changes in the concentration of carbon dioxide in the atmosphere could considerably alter the average temperature of a planet. About one century later, humans realise that most climate changes are correlated with the increase of the concentration of carbon dioxide in the atmosphere. A such prediction from Svante Arrhenius clearly highlights that more knowledge of environmental mechanisms is needed to cope with actual problems of pollution. Environmental Chemistry is a fast emerging discipline aiming at the understanding the fate of pollutants in ecosystems and at designing novel processes that are safe for ecosystems. Past pollution should be cleaned. Future pollution should be predicted and avoided.

The 69 chapters of this book have been arranged into seven topics that form the core of Environmental Chemistry: Analytical Chemistry, Toxic Metals, Organic Pollutants, Polycyclic Aromatic Hydrocarbons, Pesticides, Green Chemistry, and Ecotoxicology. Most chapters have designed to include (1) a review on the actual knowledge and (2) cutting-edge research results. Thus this book will be useful to students and decision-makers who wish to learn rapidly the essential background of a specific topic, and to scientists who wish to locate the actual frontiers of science in a specific domain.

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