

Polynuclear Aromatic Hydrocarbons:

**Physical and
Biological Chemistry**

Sixth International Symposium

Edited by

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Polynuclear Aromatic Hydrocarbons:

Physical and
Biological Chemistry

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Preface

Advances in the study of the chemistry and biology of polynuclear aromatic hydrocarbons continue to move at a pace which is significantly more rapid than any other such diverse class of carcinogenic or potentially carcinogenic compounds. The "PAH Symposium" continues to provide a forum for the dissemination and discussion of new techniques for the detection of both the pure compounds and for their effects on biological systems. The data presented at previous symposia and in the current volume represent a compilation of information which spans numerous fields of specialization and provides the scientific community with a source of uniquely condensed data.

The data presented in the current volume indicates that the mechanisms of production of the PAH are becoming more narrowly elucidated and that the sources of the various species of PAH are being better described. All of this information is leading to a global picture of the contribution of various processes to the burden of PAH in the industrialized western world and to its distribution in the environment. PAH have been described as arising from combustion of hydrocarbons from both stationary and mobile sources and have been found in both food crops and food processes.

The effects of various PAH on biological systems are addressed for whole animals and for cellular and subcellular systems. With each passing year the mechanisms of cell death, mutation and carcinogenesis produced by PAH become more clearly defined. The metabolic pathways by which these compounds are converted from biologically inert materials to active intermediates are becoming clear and with refinements in organic synthesis and separation, more of the purified intermediates are available for definitive biological testing in cells and animals.

It remains abundantly clear that the study and exchange of information concerning the chemistry and biological activity of the various PAH compounds is the key to defining the source of these materials in our environment and for ultimately shedding light on the biological mechanisms of PAH induced carcinogenesis.

The Sixth International Symposium on Polynuclear Aromatic Hydrocarbons proved to be an especially productive meeting. The compiled papers in this document are the written record

of the discussions and research results presented during the conference. What this book cannot reveal is the synergism between scientific disciplines that produced a fertile exchange of ideas, solutions, and interesting new experiments. Battelle is committed to keeping this forum active by promoting the "PAH Symposium".

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