

Preface

In the area of biosensing applications, variety of sophisticated systems from the most advanced classes have been established and presented to the scientific community. Nonetheless, only minor percentages of such complex techniques have opened their ways from the laboratory benches to the actual clinical practices. Such a clear statistic has to encourage scholars and subsequently the industry to devote more efforts toward the construction of new generations of analytical platforms that can revolutionize current biodiagnostic tools and serve the humanity with the enhanced point of care. This book is dedicated to synthesis, processing, and fabrication of novel polymeric platforms that can be used as an additional into the current diagnostic systems for improved biorecognition. Our newly developed platforms can also be used as an adaptive technique for fabrication of a new-generation of analytical kits with higher efficiency. Developed copolymeric materials offer permanent existence of controlled functional groups, which can be effectively used for analyte–surface interaction. Although proposed methodology enables bioreceptor platforms to detect various types of viruses, our main target analyte, in particular, was chosen to be dengue virus. Dengue fever is one of the most threatening mosquito-borne viral infections mainly widespread in tropical and subtropical regions. The major emphasis of this book is to establish a relationship between property, chemistry, and morphology of the surface with biosensing ability of the developed platform. It also has thoroughly addressed communal questions in the field of analytical systems based on heterogeneous biorecognition.

Novel Polymeric Biochips for Enhanced Detection of
Infectious Diseases

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