Hydrophobic and Superhydrophobic Organic-Inorganic Nanohybrids

Chang-Sik Ha
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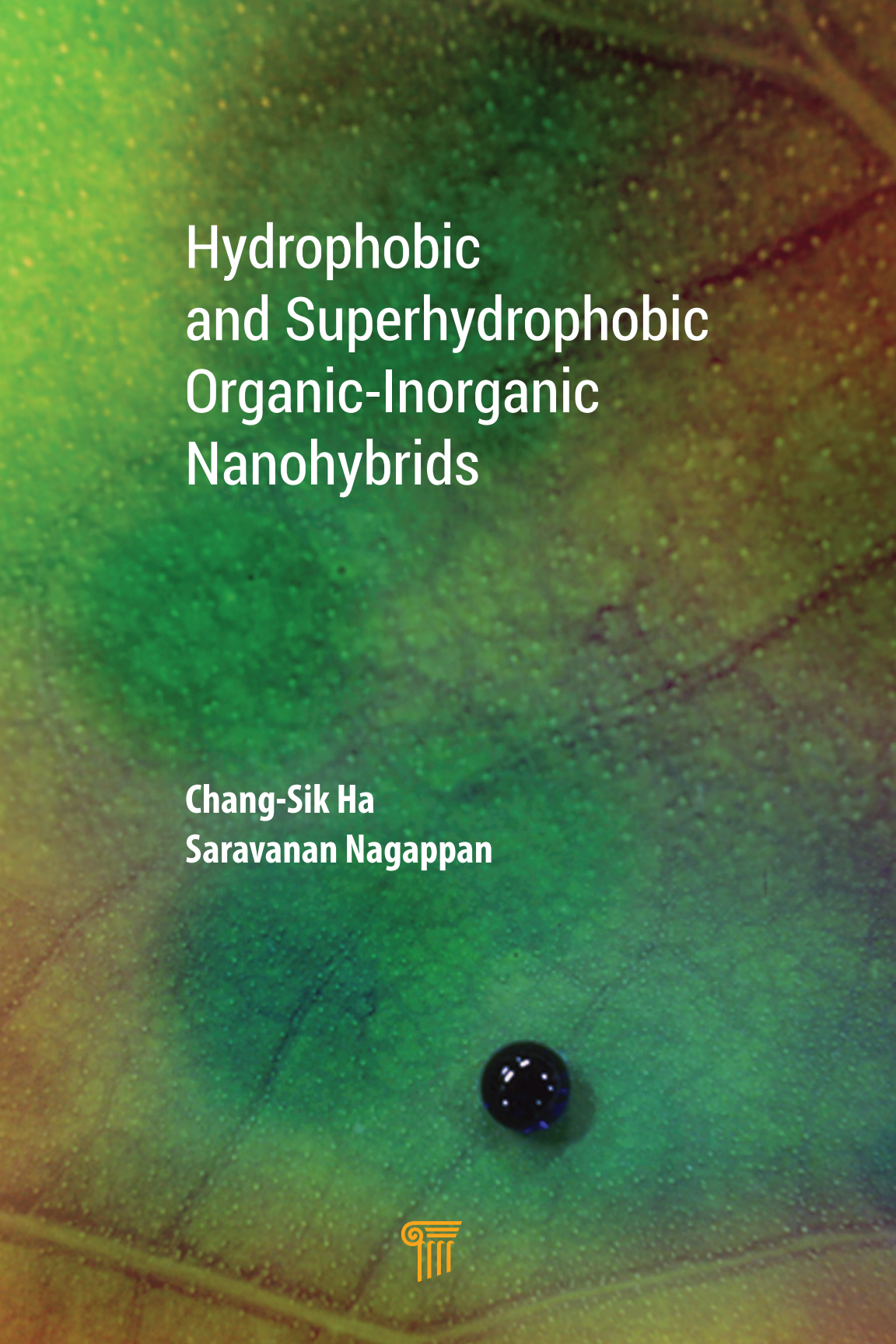

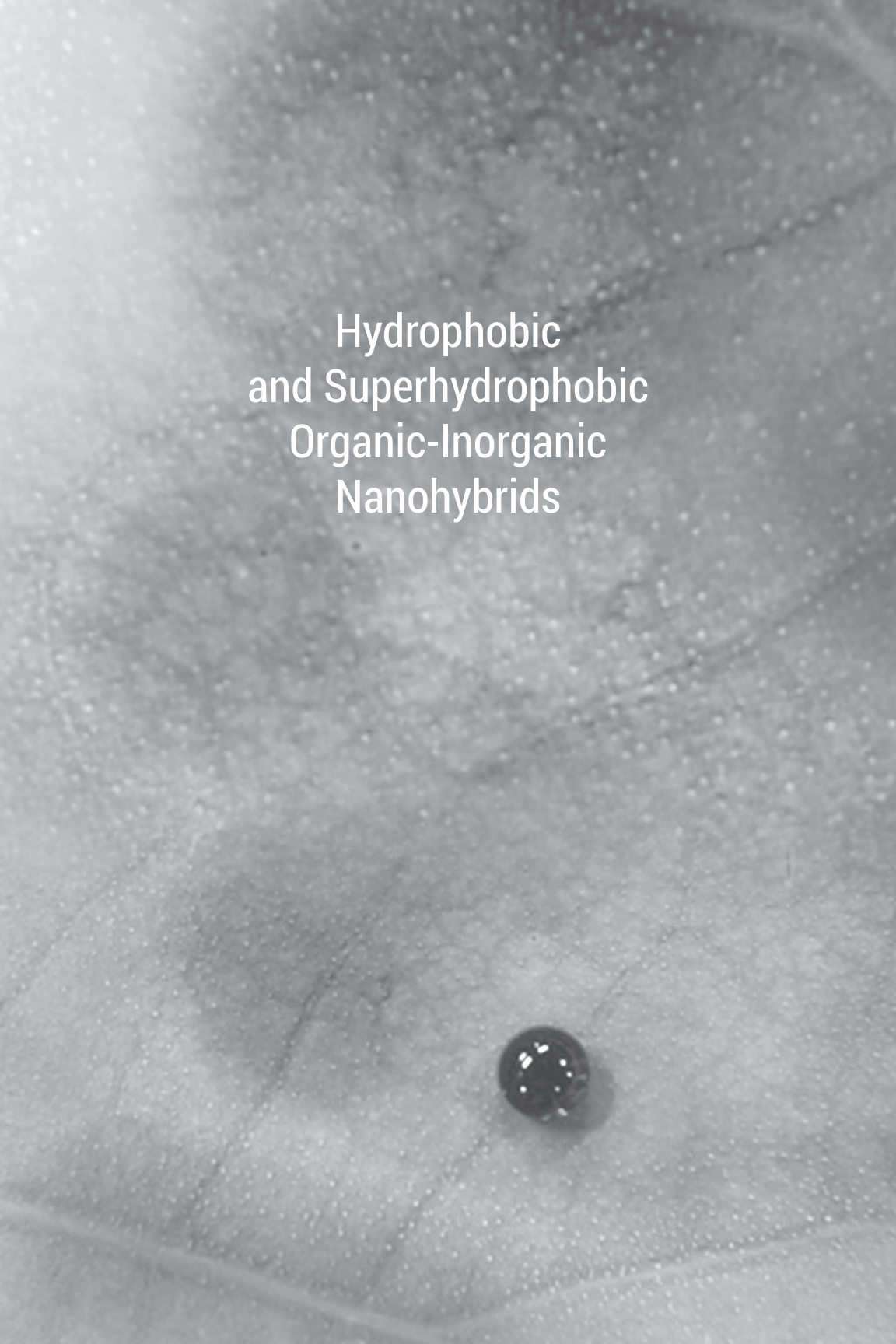

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Preface

Organic-inorganic hybrid materials are used in various applications because of the presence of dual, enhanced chemical, thermal, and mechanical properties of organic and inorganic materials in a single material. Hybrid materials can be created by combining either an inorganic source to an organic material or an organic source to an inorganic material. In both ways, the material's properties can be improved. Enhanced hybrid materials possess more technical advantages compared to single organic or inorganic materials. Their surface properties can be classified into superhydrophilic, hydrophilic, hydrophobic, or superhydrophobic properties, depending on their surface nature and adhesion performance in relation to water (surface tension of water = 72.0 mN/m).

The technical advantages and some potential applications of organic-inorganic hybrid materials have already been covered by several scientific papers, reviews, and books. Our book, however, exclusively covers hydrophobic and superhydrophobic surfaces based on organic-inorganic nanohybrids, their synthesis and fabrication, and their recent and potential applications in various fields. The book will be a valuable guide for graduate students and scientists who have a background in chemistry, chemical engineering, materials science and engineering, nanotechnology, surface science and engineering, and industrial coating applications.

We would like to express our sincere gratitude to Pan Stanford Publishing for offering us the opportunity to publish this book. We would also like to acknowledge the support given by our former and present researchers in the Nano-Information Materials Laboratory, Pusan National University, Republic of Korea, in bringing out this book.

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Pusan National University
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