

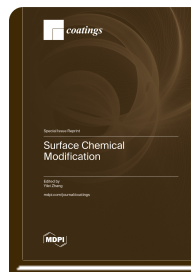
Special Issue Reprint

Surface Chemical Modification

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This collection offers a concise overview of advanced surface chemical modification techniques and their broad applications in materials science, sensor technology, protective coatings, and biomedical engineering. It focuses on enhancing materials' functional properties, including corrosion resistance, biocompatibility, sensing capabilities, and mechanical strength through innovative surface treatments. The studies examine a variety of materials, such as metals, polymers, and nanoparticles, demonstrating how specific surface modifications like nitriding, plasma treatments, and chemical coatings can significantly boost material performance. These enhancements are crucial for applications ranging from medical implants to energy devices and industrial components, highlighting the critical role of surface engineering in improving material durability and functionality. Additionally, the collection showcases developments in coatings and films for more sustainable materials, advances in sensor technology for better diagnostics, and innovations in biomedical engineering for more compatible implants. Overall, this compilation underscores the importance of surface modification in advancing material science and its widespread industrial and medical applications.

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