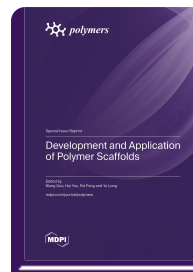


Special Issue Reprint

Development and Application of Polymer Scaffolds

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This Reprint, “Development and Application of Polymer Scaffolds”, captures the dynamic and rapidly advancing research in the design, fabrication, and application of polymer-based scaffolds, which are at the forefront of tissue engineering and regenerative medicine. The collection highlights a significant paradigm shift in the field, moving from passive, biocompatible supports to 'bio-instructive' or 'functional' systems. These advanced scaffolds are engineered to be active participants in the healing cascade, capable of presenting biological cues, releasing therapeutic agents, and responding to physiological stimuli to orchestrate a more targeted regenerative response. This Reprint brings together 14 peer-reviewed articles, including original research, comprehensive reviews, and a systematic review, contributed by 98 authors from 24 institutions across 17 countries. The works cover innovations in scaffold fabrication, strategic functionalization for enhanced biological performance, application-specific designs for various tissues (nerve, cornea, bone), and fundamental studies in drug delivery and material degradation. This collection offers a comprehensive snapshot of the current state-of-the-art, serving as a valuable resource for the scientific community.

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