



Biocatalytic Functionalization and Degradation of Synthetic Polymers

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Message from the Guest Editor

It has been demonstrated that synthetic polymers, such as polyethylene terephthalate and polyester polyurethanes, can be effectively modified and even completely degraded by microbial enzymes. The biocatalytic hydrolysis of these polymers is emerging as a new strategy to improve the recycling of post-consumer plastic waste. Enzymes can also be used to modify the surface properties of synthetic polymers for example to enhance the hydrophilicity of synthetic fibers or plastic films.

Contributions presenting progress in our understanding of the biocatalytic mechanism, structure-function relationships, and engineering of novel polyester hydrolases are welcome. Topics may also include innovative applications of these enzymes, for example for the functionalization of polymer surfaces. Original work reporting novel enzymes for the degradation of other recalcitrant synthetic polymers, such as polyethylene and polystyrene, will also be of interest.

Prof. Dr. Wolfgang Zimmermann
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