



Combined laccase-ultrasound processes for industrial applications

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Taschenbuch. Book Condition: Neu. 220x150x12 mm. This item is printed on demand - Print on Demand Neuware - This reference exposes the importance of both chemical and biotechnological processes across different industrial sectors, namely on textile and biomedical fields. The wide versatility of laccase reactions and ultrasound chemistry were efficient strategies for the development of two distinct sustainable processes owning an ecological profile. In a first stage, an improvement of the conventional cotton whitening efficiency was achieved by means of combined laccase-hydrogen peroxide bleaching assisted by ultrasound. A pilot-scale reactor was designed offering an alternative equipment for textile industry which leads to lower environmental impact and conducts to a better performance of further finishing operations. Posteriorly, four antimicrobial coatings for urinary catheters were studied. Laccase was used to produce poly(catechin) and poly(catechin)-antibiotic conjugates and concomitantly functionalize the catheters surface. Antimicrobial experiments revealed that all the developed polyphenolic compounds are promising approaches to prevent bacterial adhesion onto the indwelling devices surface thus prolonging the life-span of catheters inside the human body. 196 pp. Englisch.



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