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Industrial enzymes used to build green technology for Pre-treatment of textile dyeing

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Traditional textile dyeing process is a significant amount of water and chemicals industries also causing serious pollution. Using enzymes to replace traditional chemical processing can improve product quality and reduce environmental pollution. Enzymes used in textile processing mainly in three aspects: First, the use of alkali-resistant catalase to degrade residual hydrogen peroxide of gray cloth in the bleaching washing process. Second, the use of alkaline amylase and PVA enzyme break down starch and PVA which added on natural fiber fabrics during pretreatment. Third, the use of pectinase set up refining process of textile pre-treatment to reduce difficulty of energy consumption and waste water treatment, while improving product quality. Our research mainly focuses on engineering applications of alkaline amylase, alkaline hydrogen peroxide and pectinase, cellulase. Establish low cost and large-scale preparation of textile enzyme. Build green biotechnology for desizing, refining, bleaching process. Work up a new model which is clean, low-carbon and sustainable development of bio-manufacturing industry.

Biography

Hui Song has completed her PhD from Vrije Universiteit Brussel, Belgium and postdoctoral studies from Drexel University, University of Notre Dame, Indiana University Purdue University at Indianapolis, USA. Now she is a professor (Principal Investigator) in Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences. Her study mainly focuses on industrial enzyme discovery and application. The research profits have been published in PLoS ONE; Proteins etc; gained eleven patents.

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