

# Interfacial stabilization of enzymes in microemulsions

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## Abstract

One of the major constrains to the use of enzymes in industrial processes is their insufficient stability under processing conditions, namely high temperatures, presence of ultrasounds, among others. Herein, we investigated the use of oil-in-water proteinaceous (BSA) microemulsions as a novel methodology for the stabilization of laccase from ascomycete *Micelliophthora thermophila*. The immobilization of laccase onto the produced microemulsions benefitted its stability under ultrasonic conditions. The half life time of immobilized laccase was 2.4-fold higher (from 23 to 56 minutes) than laccase in the free form. This technique show promising potentialities for the stabilization of enzymes used onto a variety of processes, namely textile bleaching, surface hydrolysis, among others.