

## **426h Stabilization of Interface-Binding Chloroperoxidase**

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Chloroperoxidase was conjugated with polystyrene to form an interface-binding biocatalyst. The polymer-enzyme conjugate enabled a unique interfacial biocatalysis for styrene epoxidation reaction. The stability of the interface-assembled chloroperoxidase against the inactivation effect of hydrogen peroxide under emulsified conditions was examined. It was observed that *in situ* generation of hydrogen peroxide using glucose oxidase increased the operational stability of the enzyme, while polyethyleneimine increased the storage stability chloroperoxidase in hydrogen peroxide solution. The addition of polyethylene glycol, however, interestingly increased both operational and storage stability of chloroperoxidase with higher productivity as compared to reactions without enzyme stabilization.