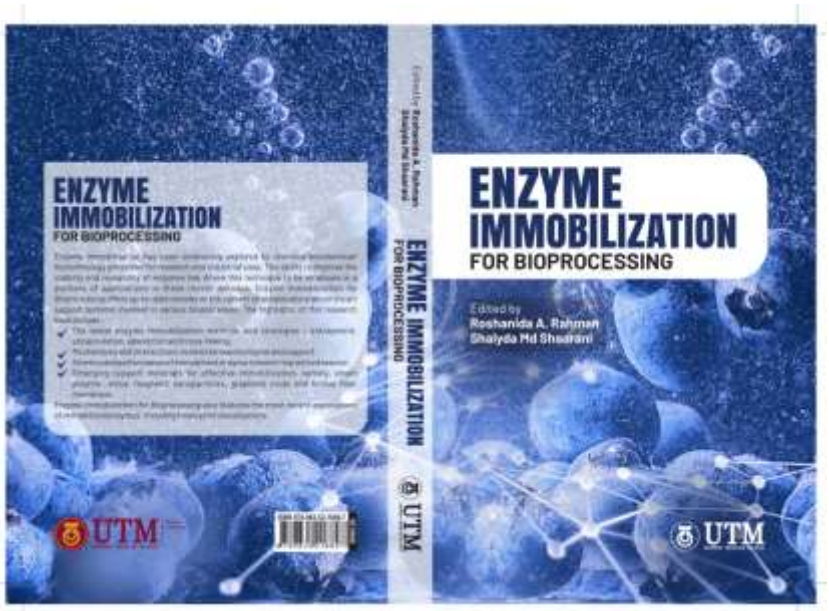

CHAPTER 13

Hollow fiber membrane as a carrier for enzyme immobilization

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ABSTRACT
Cyclodextrin (CD) is produced from starch by an enzymatic conversion catalyzed by cyclodextrin glucanotransferase (CGTase). CD has been used in a wide range of industries, especially in food, cosmetic, pharmaceutical, and agrochemical industries, due to its ability to improve the physicochemical properties of organic molecules, conferring greater chemical resistance to environmental factors, higher solubility, and reduced volatility (Ching *et al.* 2022). The commercialization of CGTase for industrial purposes is highly challenging due to the instability of the CGTase, sensitivity to the process condition, and high cost of isolation and purification (Guzik, Hupert-Kocurek, and Wojcieszyńska 2014; Mohamad *et al.* 2015). The instability of CGTase during the reaction process results in low yield CD. Therefore, enzyme immobilization has been applied to improve CGTase stability and achieve higher CD yields.

KEYWORDS
Cyclodextrin (CD); Cyclodextrin glucanotransferase (CGTase); Immobilization

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