本土性聚?胺酸生產菌株之篩選及其絮凝性質之研究

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摘 要

本研究由土壤中分離出數株可生產聚麩胺酸(poly γ-glutamic acid; PGA)之菌株。利用篩選分離出生產γ-PGA最佳之菌株B進行研究其生產生物高分子聚合物PGA之能力及其作為絮凝劑之絮凝活性。結果顯示，利用所分離出之B菌株生產γ-PGA時，培養基當中需添加可溶性澱粉和TSB作為基質。此外，並利用各種方法，例如：TLC、GPC、HPLC、FT-IR和NMR來分析所生成之產物γ-PGA。在實驗中，同時也對所分離出之B菌株所生產出γ-PGA之絮凝性進行探討。實驗中發現，在高嶺土懸浮液中添加Al3+、Fe2+和Ca2+可提高γ-PGA之絮凝活性。而在中性pH範圍之高嶺土懸浮液中藉由添加Al3+和Fe2+離子可提高γ-PGA之絮凝活性。而石化和紡織工業之活性污泥亦可利用γ-PGA來達到絮凝之效果。而當pH值調整至中性範圍下，利用γ-PGA並於活性污泥懸浮液中添加Fe2+離子，可去除懸浮態固形物。由不同懸浮液中之絮凝性質來看，應可利用γ-PGA來作為一新的生物可分解性且無害之生物高分子絮凝劑。 關鍵字：聚麩胺酸，絮凝劑，絮凝活性，生物高分子

關鍵詞 : 聚麩胺酸，絮凝劑，絮凝活性，生物高分子

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