# 活性污泥分解2,4-D中間產物之動態


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**摘 要**

本研究用活性污泥，及純種菌株分別對持久性有機物2,4-Dichlorophenoxyacetic acid (2,4-D)，與生化代謝之中間產物分別作馴化與分解。本研究是要探討各基質之分解趨勢，及測出各基質分解後菌體所產出的產值。上下游基質的分解趨勢，可用來觀察2,4-D分解是否受到下游何者之限制；而各個產值則是要瞭解分解2,4-D的菌體，是由下游物產出，還是上游物產出者。活性污泥分解上下游物可由不同菌種來完成，純菌則一路完成，故兩者在分解及產值上的異同要作實驗觀察，實驗結果發現，下游物並不會限制上游物馴化分解時間。已經馴化過2,4-D之菌體，再添加2,4-D分解快速。而已經馴化後2,4-D，再添加2,4-DCP，分解還是緩慢；但是分解過2,4-DCP的菌體再添加2,4-DCP，分解也是不快，因此不能斷言2,4-DCP有所限制，而可能是分解2,4-DCP的機制不易起動。 本實驗使用的純種菌株是Arthrobacter sp，結論是活性污泥與 Arthrobacter sp.在分解2,4-D及中間產物時，兩者的結果都是類似的，只有分解2,4-D與2,4-DCP之馴化時間不同。 Arthrobacter sp.分解2,4-D比活性污泥來的快;而分解2,4-DCP比活性污泥來的慢，可能原因是菌種分解動力有所差異。 實驗結果發現下游物質的產值較大，因而可以推論前面難分解有機物之所以消失，只是打破，只消耗能量而已，不產細胞。難分解物的產值，大部分是由下游物所產出者。



關鍵詞 : 馴化 ; 中間產物 ; 活性污泥 ; 產值


**目錄**

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