

國立東華大學應用數學系  
專題演講

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講題：Pooling designs for clone library screening in the  
inhibitor complex model

時間：99年12月17日(星期五)15:10-16:50

摘要

In this talk we introduce inhibitors into the complex model and call it the inhibitor complex model. In this model, an inhibitor is a third type of complex, other than positive and negative, whose presence may cancel the effect of positive complexes. In the simplest inhibitor complex model, the 1-inhibitor complex model, the mere existence of a single inhibitor dictates the test outcome to be negative, regardless of the presence of positive complexes. If the requirement is changed from a single inhibitor to  $k$  inhibitors, then it is the  $k$ -inhibitor complex model. In general, in a  $(k; g)$ -inhibitor complex model,  $k$  inhibitors cancel the effect of  $g$  positive complexes. Usually, we do not know the two parameters  $k$  and  $g$  for sure. We will refer to a model without such specification the general inhibitor complex model. In this talk, we propose a efficient nonadaptive pooling design for the general inhibitor complex model, i.e., it works against any  $(k; g)$ -inhibitor complex model, and extend it to the error-tolerant case.



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