第三个难点是分批问题与调度问题存在互相影响的耦合关系。最优子批划分方案与最优调度方案与是相对而言的。对于某个调度顺序来说，其最优子批划分只是针对它自身而言，对于其他调度顺序未必是最优。反之，对于某个子批划分来说，其最优的调度顺序也只是针对其自身而言，对于其他子批划分而言也未必是最优。当调度顺序改变了，其相应的子批划分问题的值域也改变了。当子批划分改变了，其相应的调度顺序搜索空间大小和结构也会发生改变。子批划分与调度顺序的耦合增大了分批调度问题的难度，因此在求解过程中需要协调这两个问题的求解。



图2-7 两个子问题的耦合关系示意图

（3）本文只研究了静态调度，使用算法制定分批调度方案之后，假定所有设备和步骤都能正常运行，没有考虑机器故障或者试剂不足等突发状况

从而使一部分本身检测时长较短的样本在设备内等待较多时间。而且只有前面的样本完成该步骤并转移代下一个步骤之后，下一个样本才能进行该步骤。检验过程中会消耗较长时间，有些步骤则较快能完成，因此样本在等待前面的样本完成时长较长的步骤时，也需要较长的等待时间。

通过标记免疫复合物，使其被仪器识别，就能检测复合物的浓度，从而计算待测物的浓度。

参考文献要调整的格式

1. 34,57,59作者要改为中文等

2. 英文名要加点

3. 40名字很奇怪

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