

~~Development of SPADE~~
EMPCR primer pool construction program

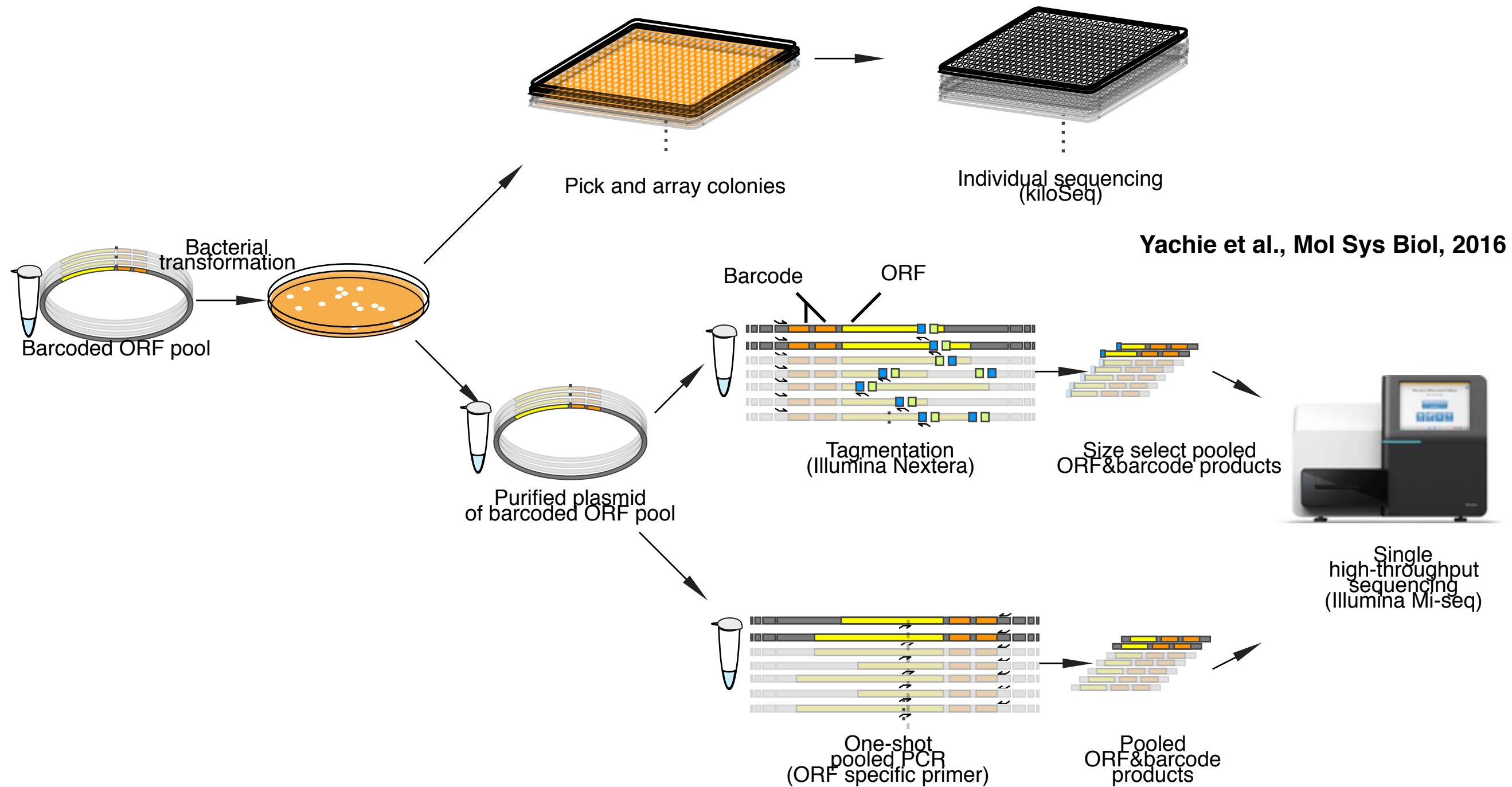
Daniel Evans Yamamoto

Introduction

Algorithm

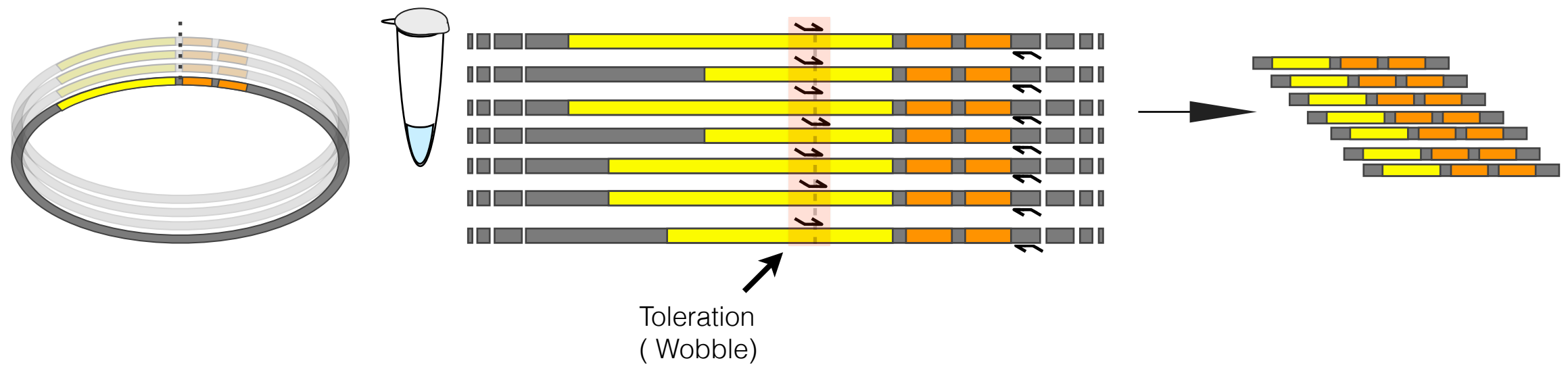
Product

ORF/Barcode linking methodology



EMPCR primer construction

En Masse PCR barcoded plasmid pool for identification of barcode-ORF pairs



Automated primer pool construction with only multi fasta file input

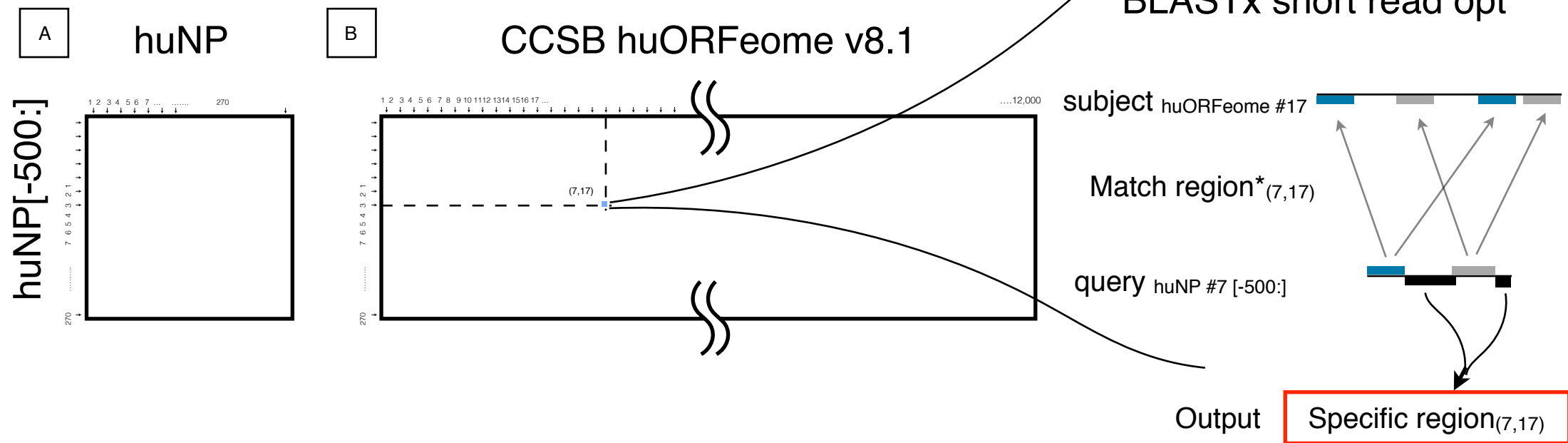
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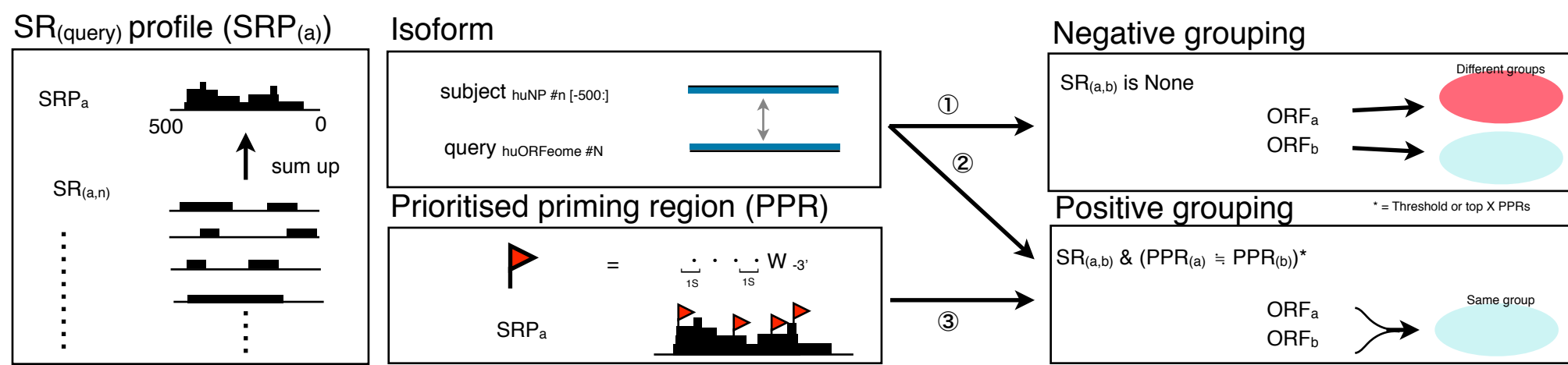
Product

Strategy

I. Specificity database construction

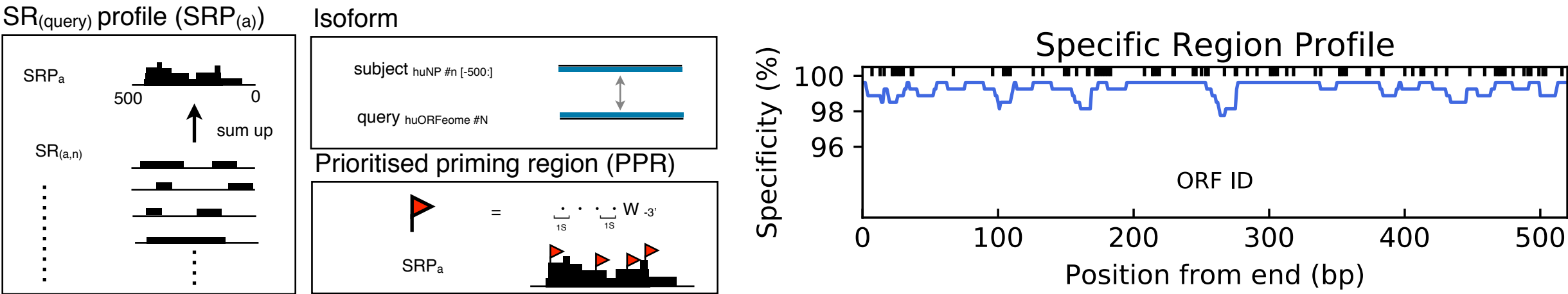


II. Profiling and subgrouping



Sequence profiling

II. Profiling and subgrouping



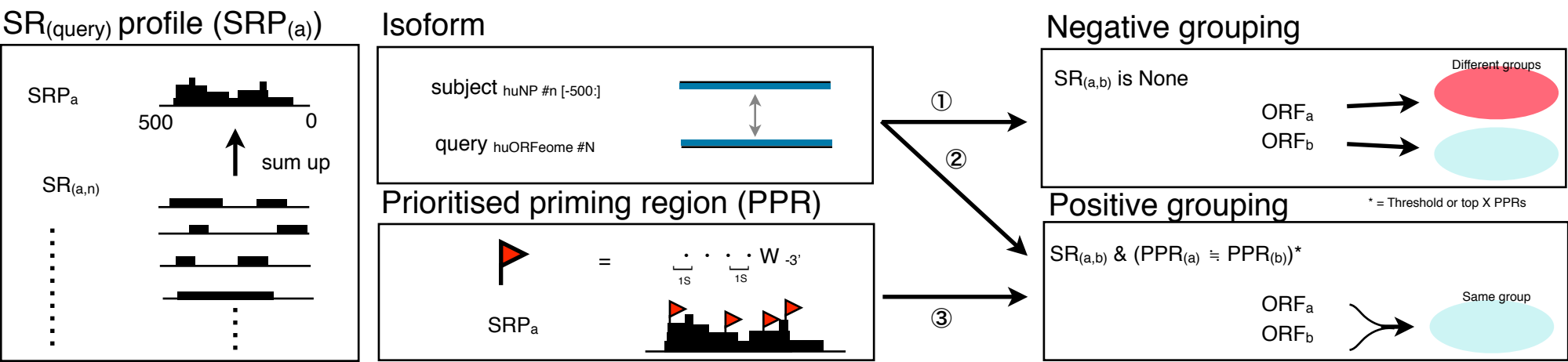
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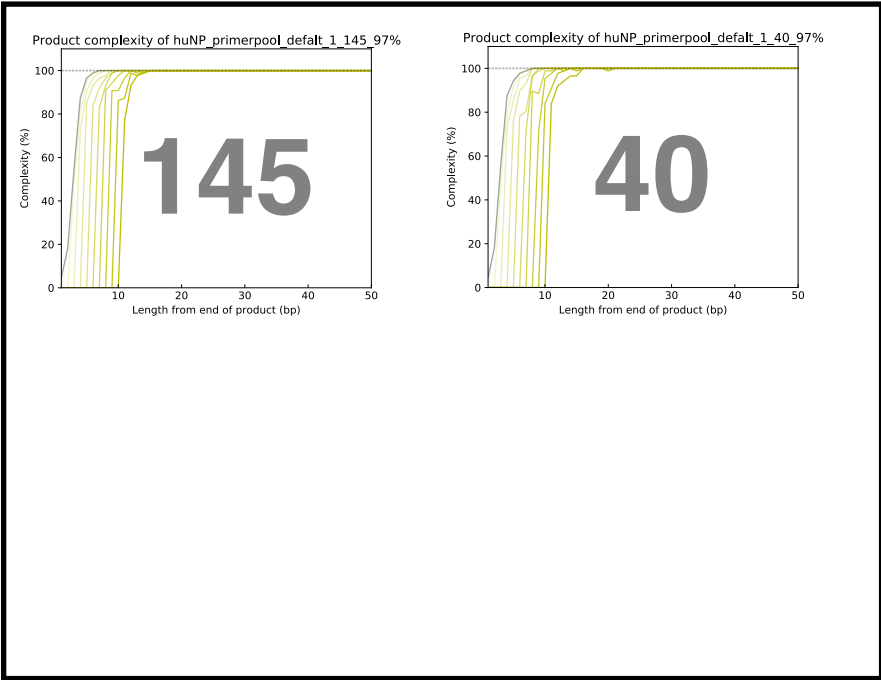
Product

Grouping

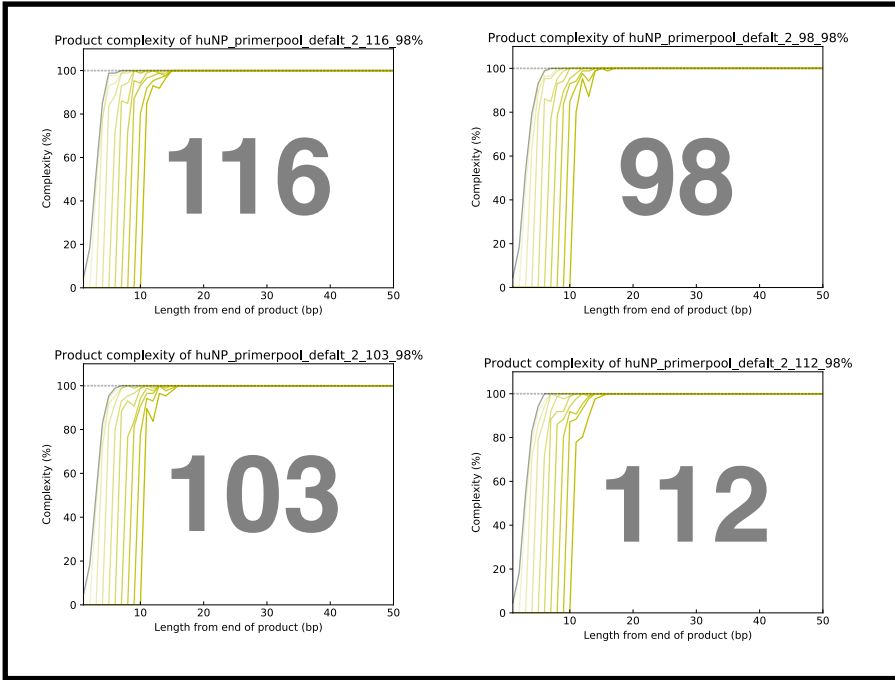
II. Profiling and subgrouping



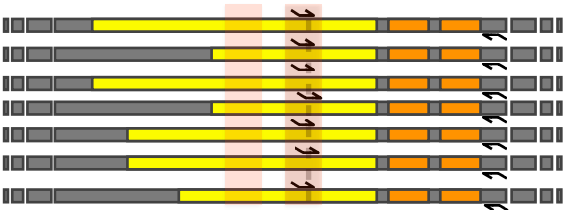
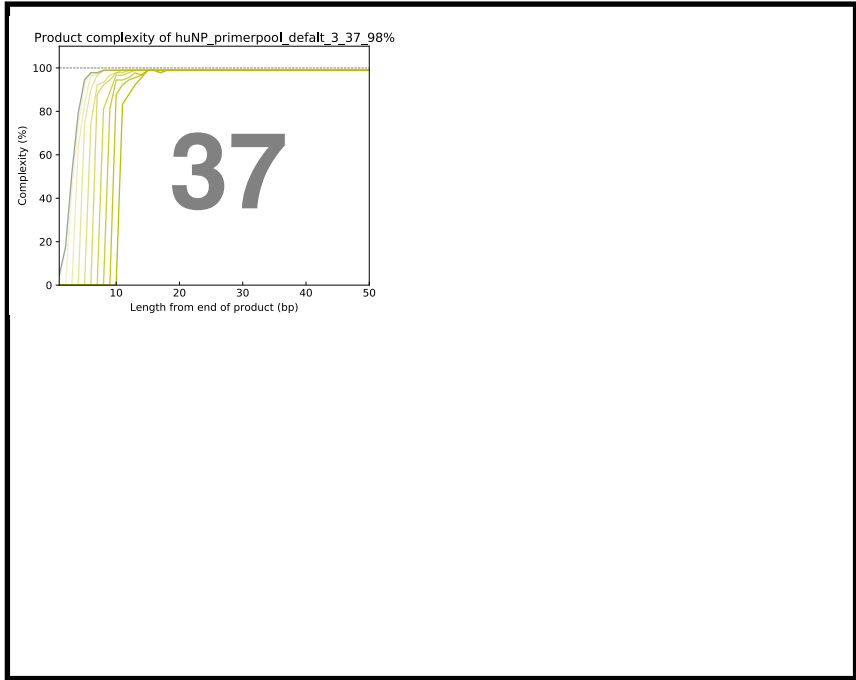
Group1 (90 ORFs)



Group2 (88 ORFs)



Group3 (92 ORFs)



Position from end of ORF

Introduction

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Output

Highly specific groups

Primer of each candidate position in group

Specificity plot of estimated product with each candidate pool

Future works

Eliminate high primer dimer from pools

Test experimentally



Introduction

Algorithm

Product