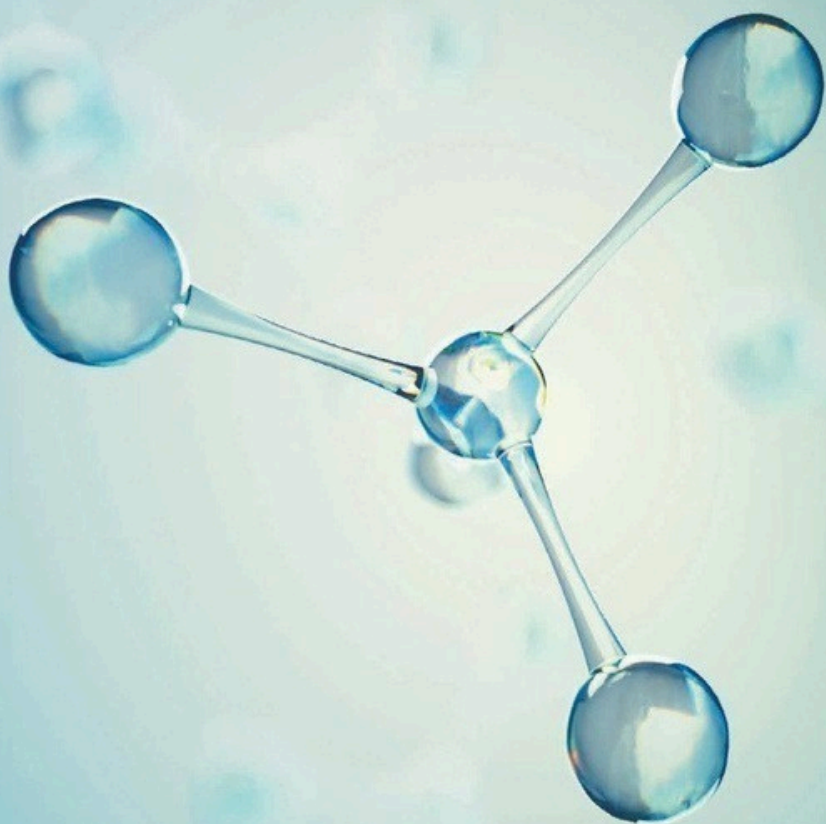


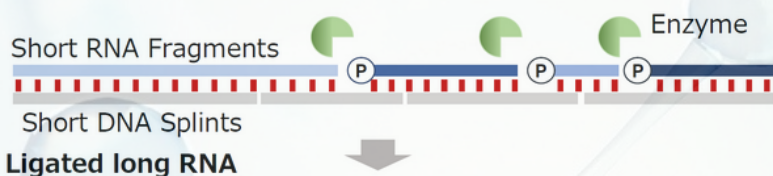
ENZYMATIC RNA PRODUCTION



LONG CHAIN RNA PRODUCTION

Over 600 mer RNA production
with chemical modification
Summary of Production

Concept: To obtain long chain RNAs in high yield & quality



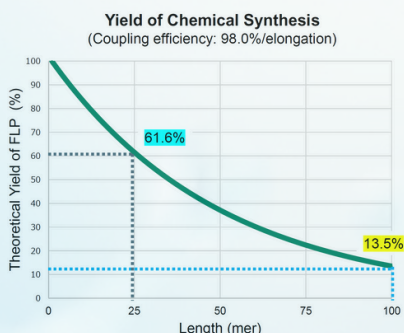
WO2024048684 Method For Producing Nucleic Acid Molecule

Providing long RNAs such as sgRNA and pre-miRNA

- ✓ With chemical modification (2'-F, 2'-MOE, LNA etc.)
- ✓ For analytical standard etc.

Introduction: Chemical Synthesis vs Enzymatic Ligation

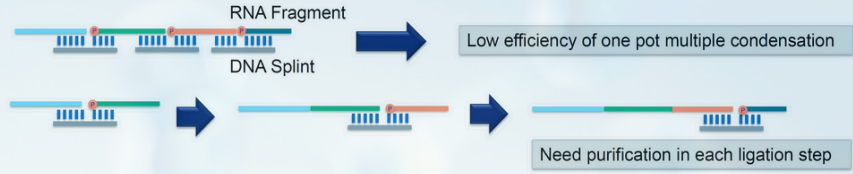
Long chain RNAs are obtained in higher yield by enzymatic ligation.



100 mer synthesis	
Solid Phase	13.5% yield
Enzymatic Ligation	<p>Solid phase synthesis of the 25 mer fragments</p> <p>61.6% x 0.9 x 0.9 x 0.9 = 44.9% yield</p>

Conventional Ligation Methods of Long RNA Production from Fragments

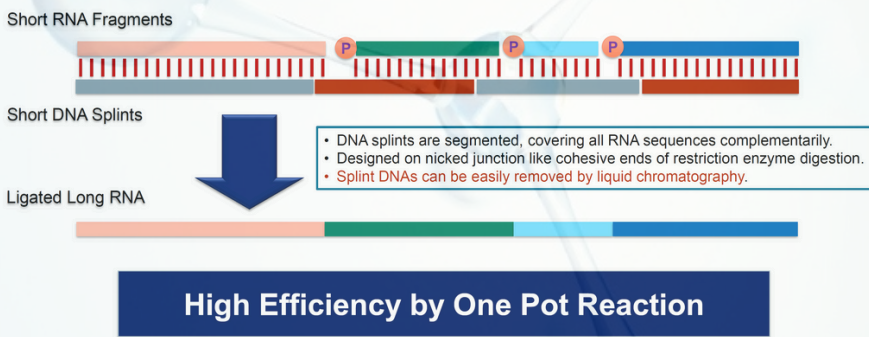
Conventional Method-1



Conventional Method-2



New Method of Long RNA Production from Fragments



WO2024048684 Method For Producing Nucleic Acid Molecule

100 mer ssRNA Synthesis: UHPLC Analysis of the Products



This new method for multiple ligation on long RNA production is superior to conventional methods



 **SPE**
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