

# **ASSEMBLY FUNDAMENTALS**

**4 Nov15**

# ANNOUNCEMENTS

# TRANSCRIPTOME ASSEMBLY

Why easier than genome assembly?

# TRANSCRIPTOME ASSEMBLY

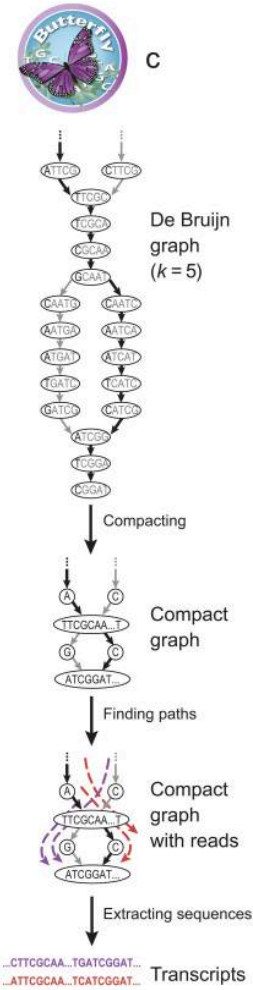
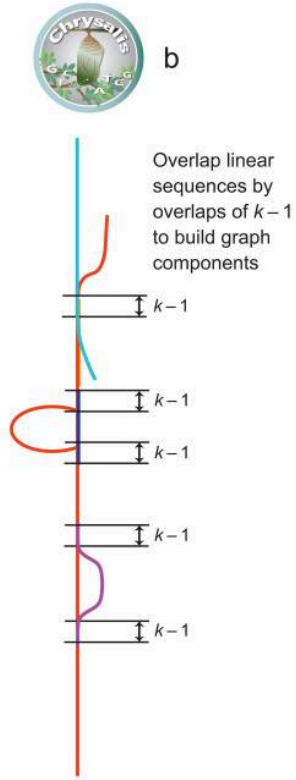
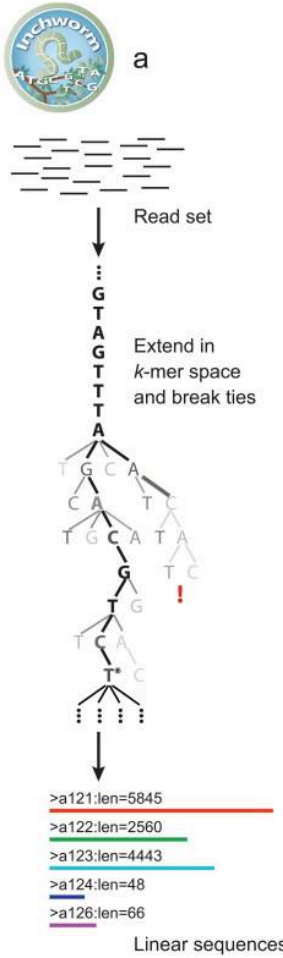
Why harder than genome assembly?

# TRANSCRIPTOME ASSEMBLY

The steps:

# TRANSCRIPTOME ASSEMBLY

Trinity



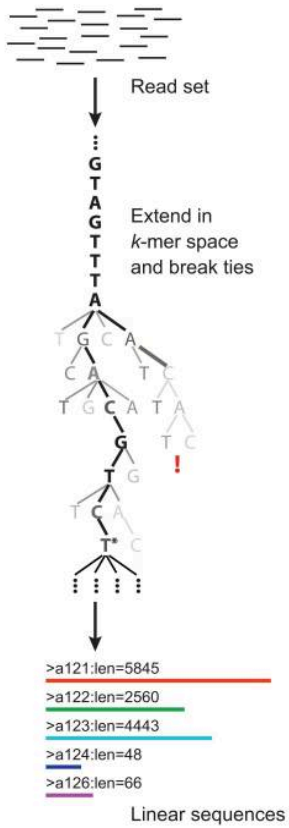
# TRANSCRIPTOME ASSEMBLY

<http://www.broadinstitute.org/videos/trinity-how-it-works>

# TRANSCRIPTOME ASSEMBLY



a



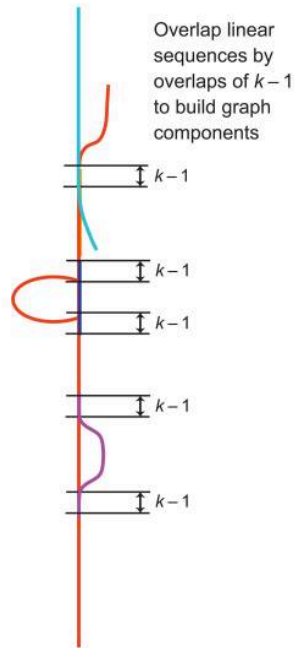


# TRANSCRIPTOME ASSEMBLY

Trinity



b

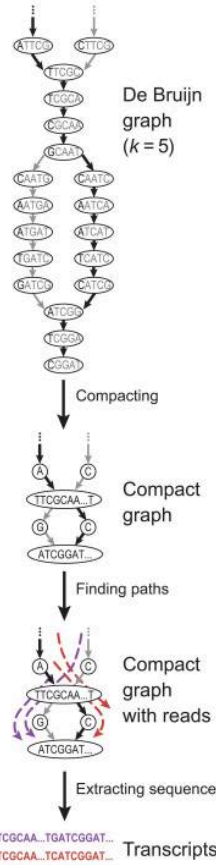


# TRANSCRIPTOME ASSEMBLY

Trinity



C



# TRANSCRIPTOME ASSEMBLY

Trinity output

# TRANSCRIPTOME ASSEMBLY

Post-Trinity

# MAPPING

What is it?

# MAPPING

Genome versus transcriptome

# MAPPING

BWT

# MAPPING - BWT

	A	B	A	A	B	A
\$	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>
<i>a</i>	\$	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>
<i>b</i>	<i>a</i>	\$	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>
<i>a</i>	<i>b</i>	<i>a</i>	\$	<i>a</i>	<i>b</i>	<i>a</i>
<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	\$	<i>a</i>	<i>b</i>
<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	\$	<i>a</i>
<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	\$



# MAPPING - BWT

	A	B	A	A	B	A
\$	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>
<i>a</i>	\$	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>
<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	\$	<i>a</i>	<i>b</i>
<i>a</i>	<i>b</i>	<i>a</i>	\$	<i>a</i>	<i>b</i>	<i>a</i>
<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	\$
<i>b</i>	<i>a</i>	\$	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>
<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	\$	<i>a</i>