

GetOrganelle

Arabidopsis Thaliana Dataset (17 Mb)

Number of Threads	Aiken Server			Tesla Server		
	Runtime	Memory usage	CPU usage %	Runtime (s)	Memory usage	CPU usage %
1	4 m 5 s	0.276	6	3 m 26 s	0.26	12
2	4 m 36 s	0.277	6	4 m 55 s	0.261	12
3	3 m 16 s	0.276	5	2 m 58 s	0.26	14
4	2 m 2 s	0.10	3	2 m 5 s	0.30	18
5	2 m 49 s	0.10	5	3 m 25 s	0.20	21
10	4 m 5 s	0.276	6	4 m 59 s	0.26	13

Cinnamon Dataset (40 Gb)

Number of Threads	Aiken Server			Tesla Server		
	Runtime	Memory usage	CPU usage %	Runtime (s)	Memory usage	CPU usage %
1	469 m 54 s	1.1	99.8	405 m 31 s	1.1	99.9

NOVOPlasty

Arabidopsis Thaliana (17 Mb)

Number of Threads	Aiken Server			Tesla Server		
	Runtime (min)	Memory usage %	CPU usage %	Runtime (s)	Memory usage %	CPU usage %
1	23m32.89s	0.10	99.40	28m28.99s	0.1	102

Oryza Sativa (14 Mb)

Number of Threads	Aiken Server			Tesla Server		
	Runtime (min)	Memory usage %	CPU usage %	Runtime (s)	Memory usage %	CPU usage %
1	3m39.55s	0.10	99.70	9m30.54s	0.4	220

Cinnamon (40Gb)

Number of Threads	Aiken Server			Tesla Server		
	Runtime (min)	Memory usage %	CPU usage %	Runtime (s)	Memory usage %	CPU usage %
1	45m32.10s	0.60	99.60	28m28.99s	0.1	102

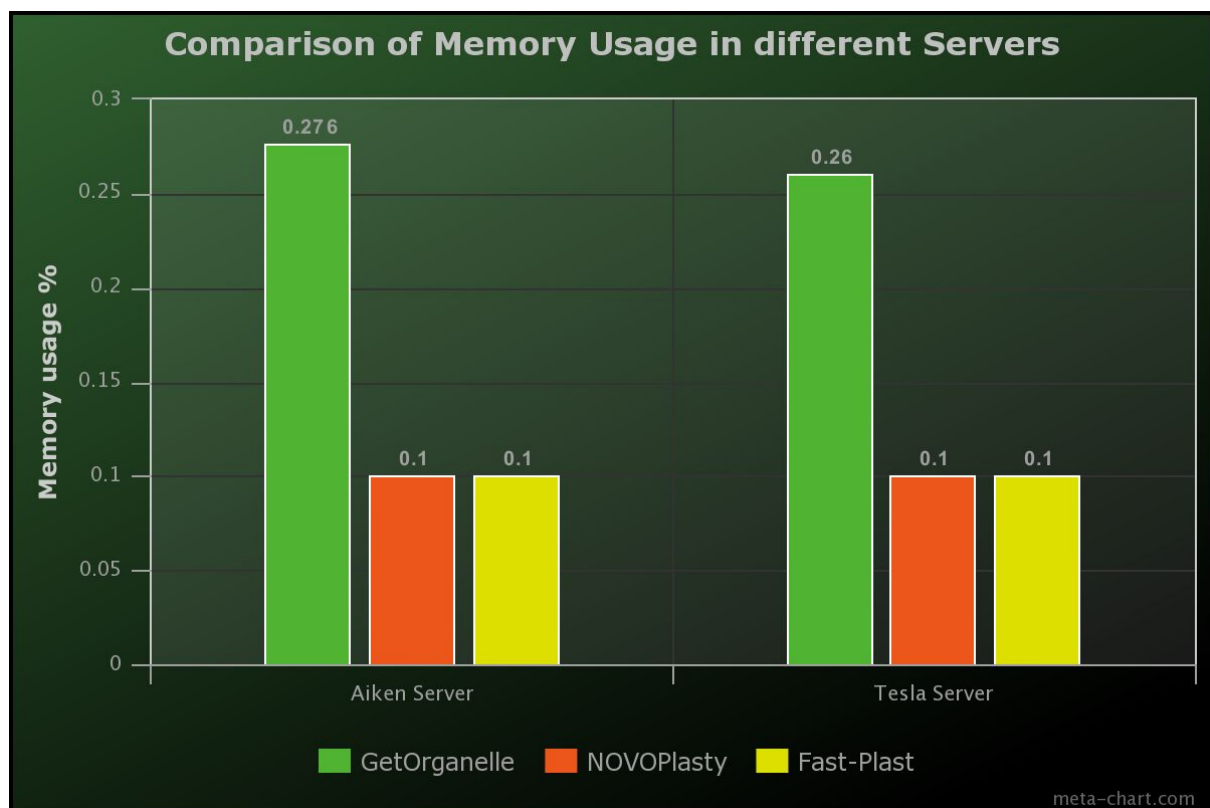
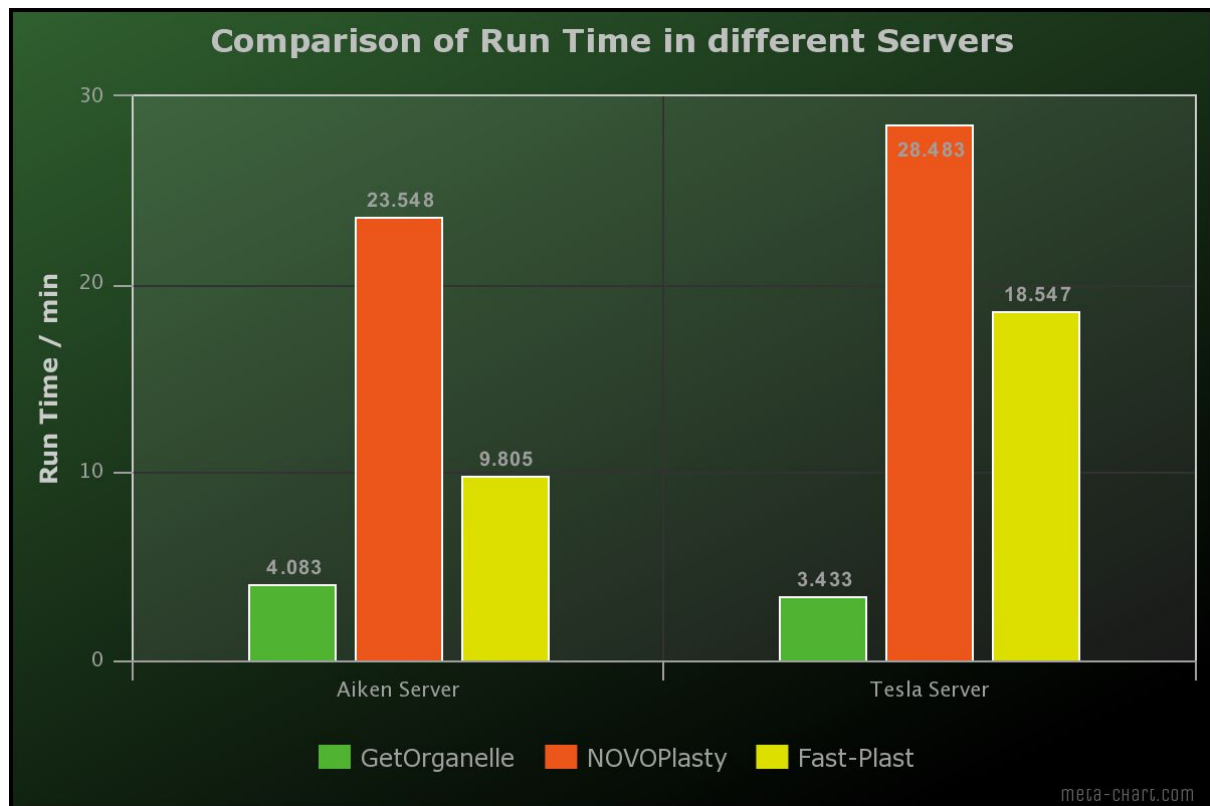
Fast-Plast

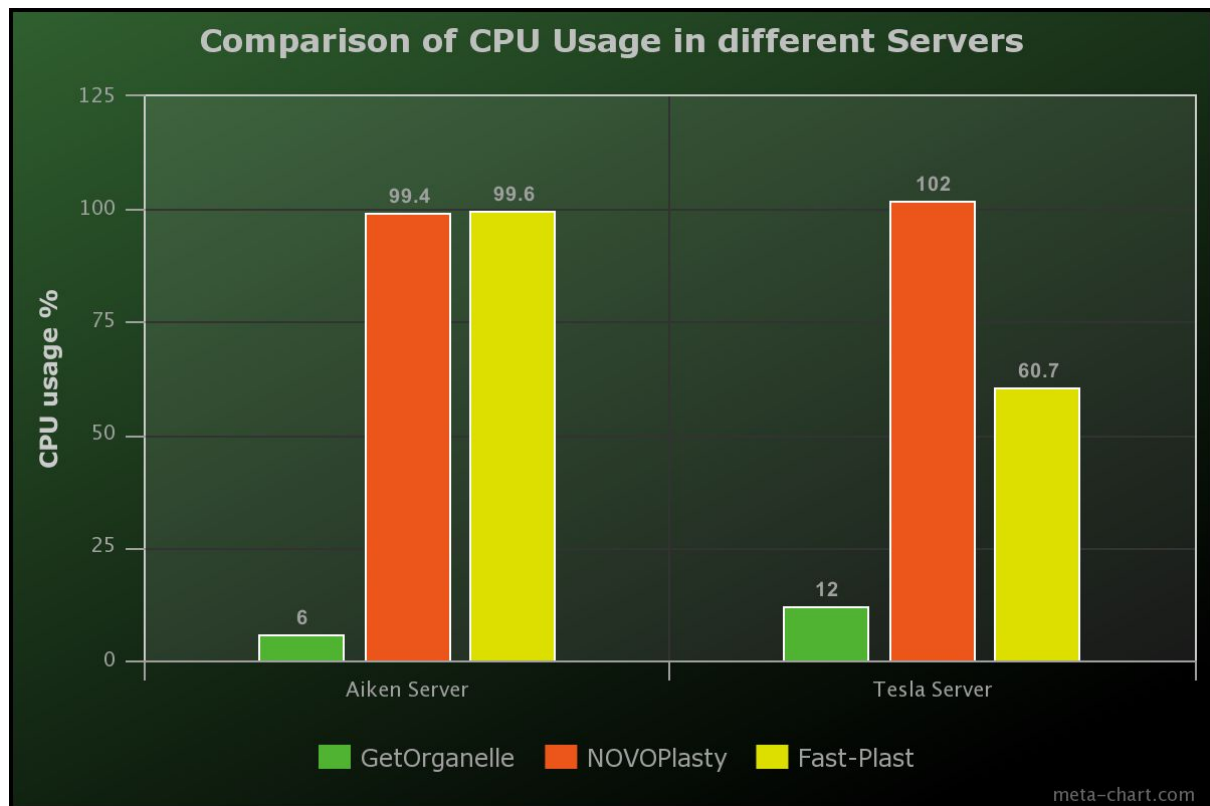
Arabidopsis Thaliana (**17 Mb**)

Number of Threads	Aiken Server			Tesla Server		
	Runtime (min)	Memory usage %	CPU usage %	Runtime (s)	Memory usage %	CPU usage %
1	9m48.316s	0.1	99.6	18m32.870s	0.1	60.7

Cinnamon (**40 Gb**)

Number of Threads	Aiken Server			Tesla Server		
	Runtime (min)	Memory usage %	CPU usage %	ssRuntime (s)	Memory usage %	CPU usage %
1	92m35.336s	3.9	0.7	468m48.072s	0.2	100.0





Using References

NOVOPlasty tool

Oryza Zativa (14Mb)

Number of Threads	Aiken Server			Tesla Server		
	Runtime (min)	Memory usage %	CPU usage %	Runtime (s)	Memory usage %	CPU usage %
1	3m10.81s	0.60	99.60	8m59.85s	0.6	100

Comparison of performance with and without reference (Still assembly is done by Denovo method)

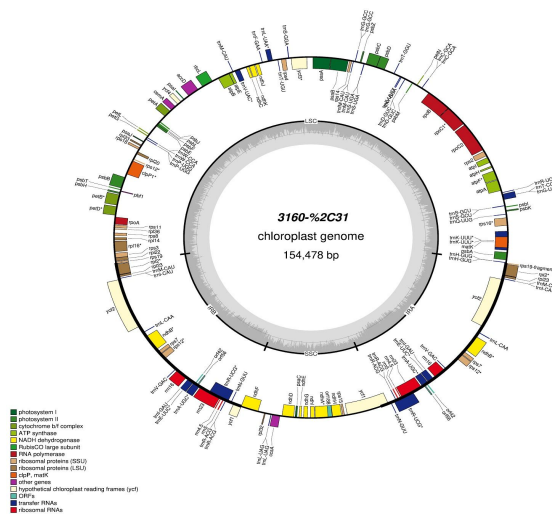
Results for the assembly of the Oryza sativa chloroplast (dataset SRR1328237)

Performance	Without Ref	With Ref
Duration (min)	3m39.511s	3m10.811s
System+user time (min)	3m39.460s + 0m0.360s	0m0.694s + 3m8.376s
Memory %	0.10%	0.10%
CPU%	99.70%	99.01%
Total contigs	3	1
Average insert size	480 bp	480 bp
Total reads	279568	279568
Aligned reads	273234	268650
Assembled reads	248700	243944
Organelle genome %	97.73 %	96.09 %
Average organelle coverage	307	302

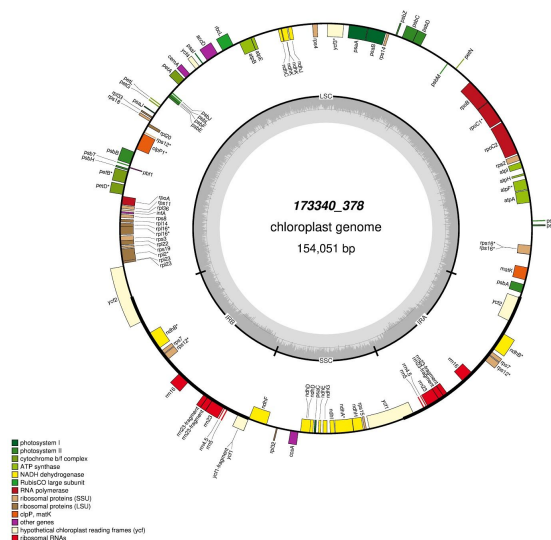
Genome Annotation of above assembly results

Result of GetOrganelle

-Arabidopsis Thaliana



-Cinnamom

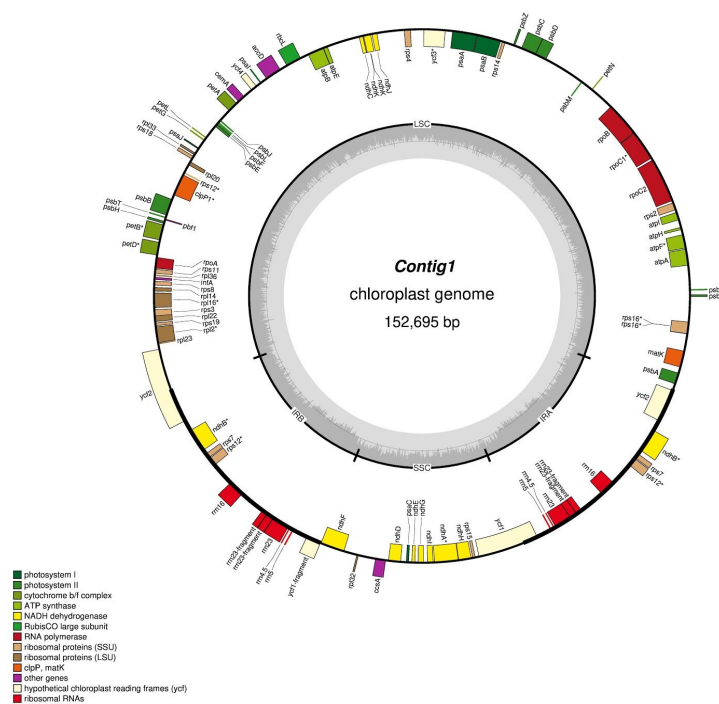


Results of NOVOPlasty

- Arabidopsis Thaliana

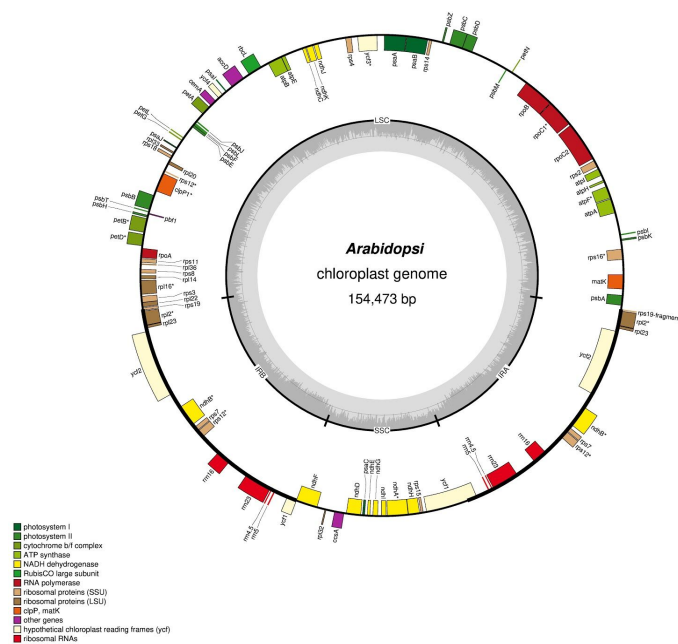
Didn't result a complete assembly

-cinnamon



Result of Fast-Plast

-arabidopsis thaliana



-cinnamon

Didn't result a complete assembly