

# Report

|                             | A_STAR     | HipMer     | marmgCAMI2 | Megahit     | metaSPAdes | Miniasm    | OPERA_MS_inhouse | SPAdes     |
|-----------------------------|------------|------------|------------|-------------|------------|------------|------------------|------------|
| # contigs (>= 1000 bp)      | 8          | 11         | 1          | 24          | 6          | 4          | 3                | 3          |
| # contigs (>= 5000 bp)      | 4          | 9          | 1          | 13          | 6          | 4          | 2                | 3          |
| # contigs (>= 10000 bp)     | 4          | 8          | 1          | 12          | 6          | 4          | 2                | 3          |
| # contigs (>= 25000 bp)     | 4          | 8          | 1          | 12          | 6          | 4          | 2                | 1          |
| # contigs (>= 50000 bp)     | 4          | 5          | 1          | 10          | 6          | 4          | 2                | 1          |
| Total length (>= 1000 bp)   | 218466     | 1716304    | 3293431    | 1790085     | 1536717    | 802163     | 595037           | 95177      |
| Total length (>= 5000 bp)   | 208818     | 1711864    | 3293431    | 1774415     | 1536717    | 802163     | 593948           | 95177      |
| Total length (>= 10000 bp)  | 208818     | 1705711    | 3293431    | 1767618     | 1536717    | 802163     | 593948           | 95177      |
| Total length (>= 25000 bp)  | 208818     | 1705711    | 3293431    | 1767618     | 1536717    | 802163     | 593948           | 50698      |
| Total length (>= 50000 bp)  | 208818     | 1612829    | 3293431    | 1690220     | 1536717    | 802163     | 593948           | 50698      |
| # contigs                   | 8          | 11         | 1          | 27          | 6          | 4          | 3                | 3          |
| Largest contig              | 52697      | 480126     | 3293431    | 477215      | 430579     | 505663     | 514901           | 50698      |
| Total length                | 218466     | 1716304    | 3293431    | 1792111     | 1536717    | 802163     | 595037           | 95177      |
| Reference length            | 17070      | 17070      | 17070      | 17070       | 17070      | 17070      | 17070            | 17070      |
| GC (%)                      | 45.32      | 43.87      | 45.04      | 43.88       | 43.80      | 44.01      | 43.60            | 44.38      |
| Reference GC (%)            | 38.71      | 38.71      | 38.71      | 38.71       | 38.71      | 38.71      | 38.71            | 38.71      |
| N50                         | 51712      | 475759     | 3293431    | 468686      | 430579     | 505663     | 514901           | 50698      |
| NG50                        | 52697      | 480126     | 3293431    | 477215      | 430579     | 505663     | 514901           | 50698      |
| N75                         | 51712      | 377257     | 3293431    | 86290       | 162196     | 181620     | 514901           | 23155      |
| NG75                        | 52697      | 480126     | 3293431    | 477215      | 430579     | 505663     | 514901           | 50698      |
| L50                         | 3          | 2          | 1          | 2           | 2          | 1          | 1                | 1          |
| LG50                        | 1          | 1          | 1          | 1           | 1          | 1          | 1                | 1          |
| L75                         | 4          | 3          | 1          | 5           | 4          | 2          | 1                | 2          |
| LG75                        | 1          | 1          | 1          | 1           | 1          | 1          | 1                | 1          |
| # misassemblies             | 0          | 0          | 0          | 1           | 0          | 0          | 0                | 0          |
| # misassembled contigs      | 0          | 0          | 0          | 1           | 0          | 0          | 0                | 0          |
| Misassembled contigs length | 0          | 0          | 0          | 2121        | 0          | 0          | 0                | 0          |
| # local misassemblies       | 0          | 0          | 0          | 1           | 0          | 0          | 0                | 0          |
| # scaffold gap ext. mis.    | 0          | 0          | 0          | 0           | 0          | 0          | 0                | 0          |
| # scaffold gap loc. mis.    | 0          | 0          | 0          | 0           | 0          | 0          | 0                | 0          |
| # unaligned mis. contigs    | 0          | 0          | 1          | 1           | 0          | 1          | 0                | 0          |
| # unaligned contigs         | 0 + 8 part | 0 + 8 part | 0 + 1 part | 0 + 12 part | 0 + 6 part | 0 + 4 part | 0 + 2 part       | 0 + 3 part |
| Unaligned length            | 213930     | 1682712    | 3276361    | 1752010     | 1485507    | 788029     | 577076           | 78187      |
| Genome fraction (%)         | 13.257     | 99.625     | 100.000    | 100.000     | 100.000    | 79.022     | 100.000          | 99.227     |
| Duplication ratio           | 2.004      | 1.975      | 1.000      | 2.349       | 3.000      | 1.048      | 1.052            | 1.003      |
| # N's per 100 kbp           | 4.58       | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00             | 0.00       |
| # mismatches per 100 kbp    | 265.13     | 0.00       | 0.00       | 1646.16     | 35.15      | 51.89      | 486.23           | 82.65      |
| # indels per 100 kbp        | 0.00       | 23.52      | 0.00       | 52.72       | 0.00       | 0.00       | 837.73           | 0.00       |
| Largest alignment           | 894        | 7541       | 10622      | 6797        | 10622      | 6448       | 10599            | 9938       |
| Total aligned length        | 4526       | 33592      | 17070      | 39422       | 51210      | 14134      | 17961            | 16990      |
| NGA50                       | -          | 6290       | 10622      | 3378        | 10622      | 5335       | 10599            | 9938       |
| NGA75                       | -          | 6290       | 6448       | 1894        | 10622      | 1706       | 6273             | 6316       |
| LGA50                       | -          | 2          | 1          | 2           | 1          | 2          | 1                | 1          |
| LGA75                       | -          | 2          | 2          | 4           | 2          | 3          | 2                | 2          |

All statistics are based on contigs of size >= 500 bp, unless otherwise noted (e.g., "# contigs (>= 0 bp)" and "Total length (>= 0 bp)" include all contigs).

## Misassemblies report

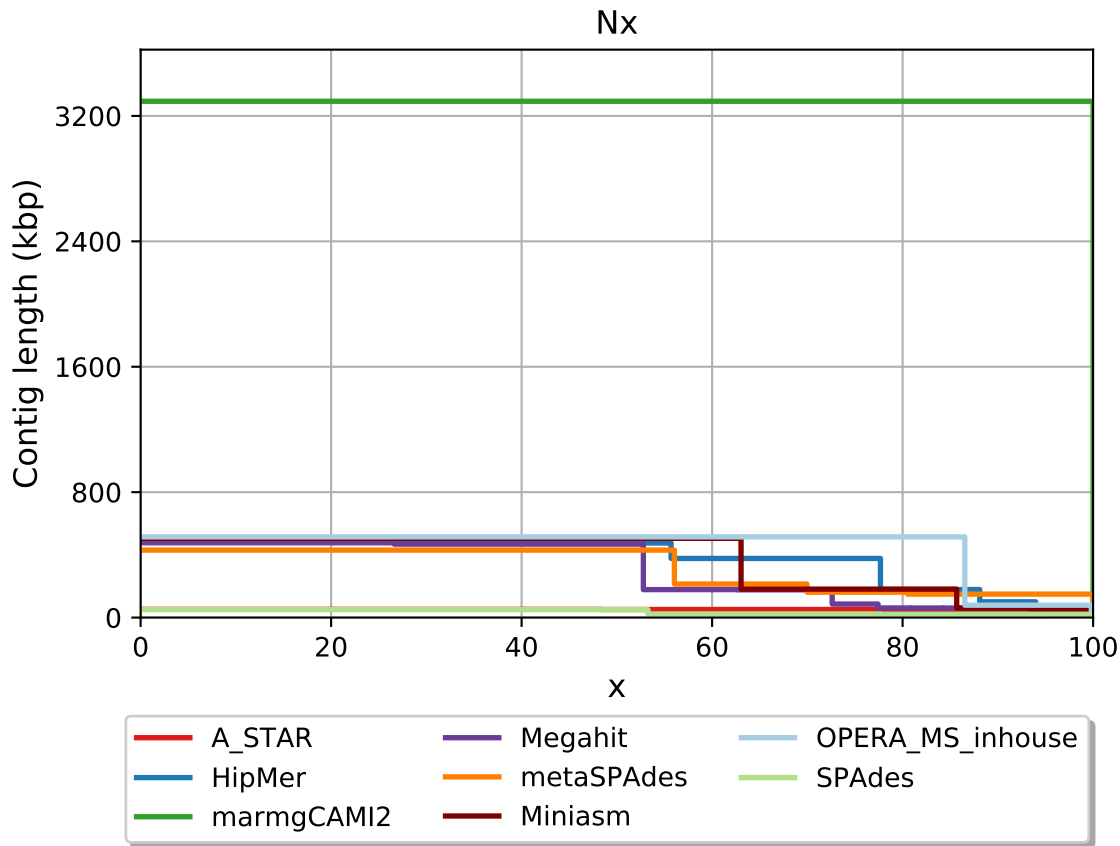
|                                 | A_STAR | HipMer | marmgCAMI2 | Megahit | metaSPAdes | Miniasm | OPERA_MS_inhouse | SPAdes |
|---------------------------------|--------|--------|------------|---------|------------|---------|------------------|--------|
| # misassemblies                 | 0      | 0      | 0          | 1       | 0          | 0       | 0                | 0      |
| # contig misassemblies          | 0      | 0      | 0          | 1       | 0          | 0       | 0                | 0      |
| # c. relocations                | 0      | 0      | 0          | 1       | 0          | 0       | 0                | 0      |
| # c. translocations             | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # c. inversions                 | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # scaffold misassemblies        | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # s. relocations                | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # s. translocations             | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # s. inversions                 | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # misassembled contigs          | 0      | 0      | 0          | 1       | 0          | 0       | 0                | 0      |
| Misassembled contigs length     | 0      | 0      | 0          | 2121    | 0          | 0       | 0                | 0      |
| # possibly misassembled contigs | 8      | 7      | 0          | 11      | 6          | 3       | 1                | 3      |
| # possible misassemblies        | 8      | 7      | 0          | 11      | 12         | 4       | 2                | 4      |
| # local misassemblies           | 0      | 0      | 0          | 1       | 0          | 0       | 0                | 0      |
| # scaffold gap ext. mis.        | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # scaffold gap loc. mis.        | 0      | 0      | 0          | 0       | 0          | 0       | 0                | 0      |
| # unaligned mis. contigs        | 0      | 0      | 1          | 1       | 0          | 1       | 0                | 0      |
| # mismatches                    | 6      | 0      | 0          | 281     | 6          | 7       | 83               | 14     |
| # indels                        | 0      | 4      | 0          | 9       | 0          | 0       | 143              | 0      |
| # indels (<= 5 bp)              | 0      | 0      | 0          | 4       | 0          | 0       | 138              | 0      |
| # indels (> 5 bp)               | 0      | 4      | 0          | 5       | 0          | 0       | 5                | 0      |
| Indels length                   | 0      | 400    | 0          | 407     | 0          | 0       | 508              | 0      |

All statistics are based on contigs of size  $\geq 500$  bp, unless otherwise noted (e.g., "# contigs ( $\geq 0$  bp)" and "Total length ( $\geq 0$  bp)" include all contigs).

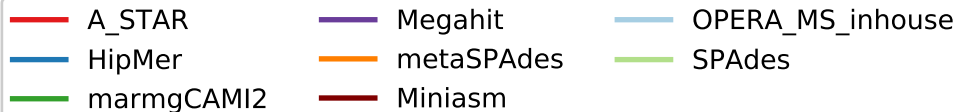
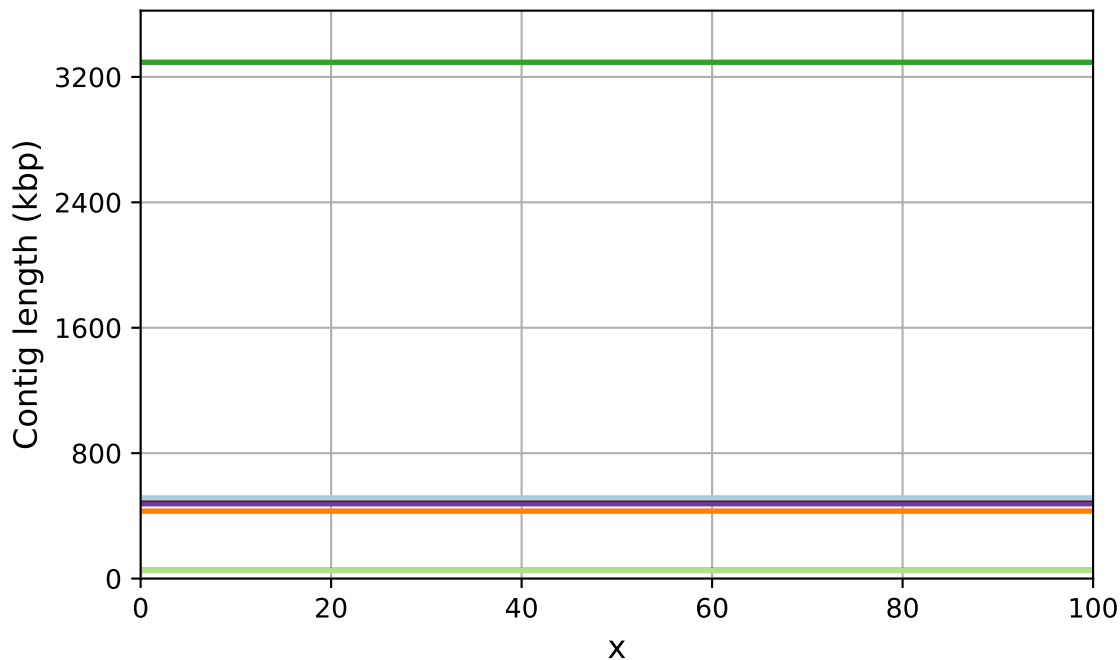
## Unaligned report

|                               | A_STAR | HipMer  | marmgCAMI2 | Megahit | metaSPAdes | Miniasm | OPERA_MS_inhouse | SPAdes |
|-------------------------------|--------|---------|------------|---------|------------|---------|------------------|--------|
| # fully unaligned contigs     | 0      | 0       | 0          | 0       | 0          | 0       | 0                | 0      |
| Fully unaligned length        | 0      | 0       | 0          | 0       | 0          | 0       | 0                | 0      |
| # partially unaligned contigs | 8      | 8       | 1          | 12      | 6          | 4       | 2                | 3      |
| Partially unaligned length    | 213930 | 1682712 | 3276361    | 1752010 | 1485507    | 788029  | 577076           | 78187  |
| # N's                         | 10     | 0       | 0          | 0       | 0          | 0       | 0                | 0      |

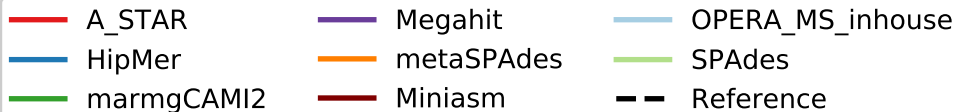
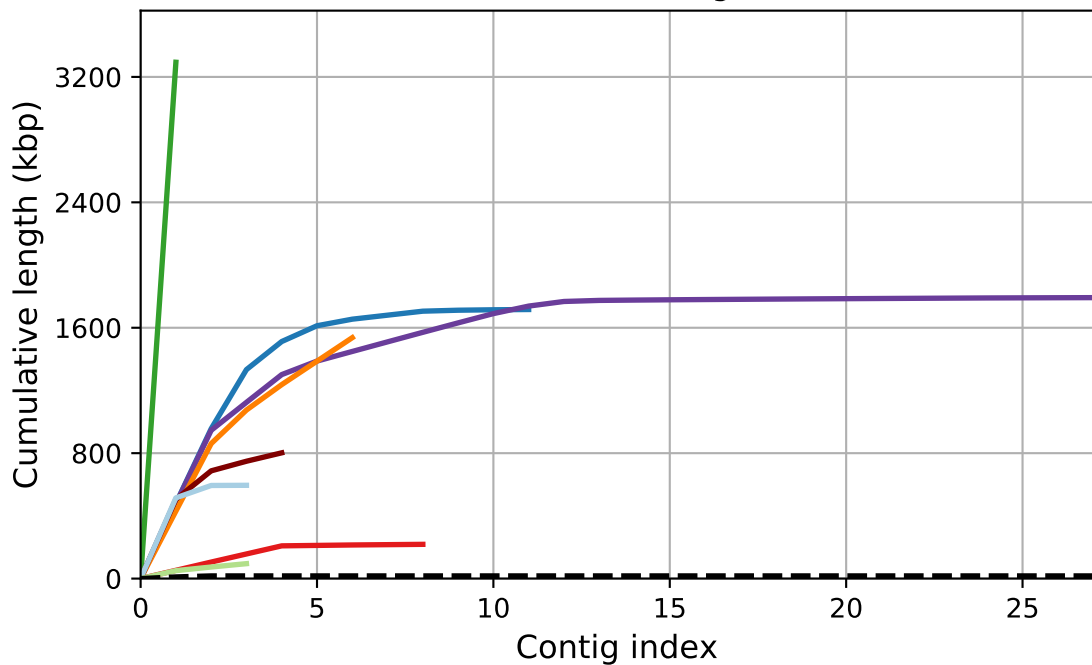
All statistics are based on contigs of size  $\geq 500$  bp, unless otherwise noted (e.g., "# contigs ( $\geq 0$  bp)" and "Total length ( $\geq 0$  bp)" include all contigs).



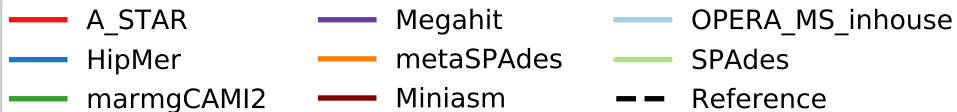
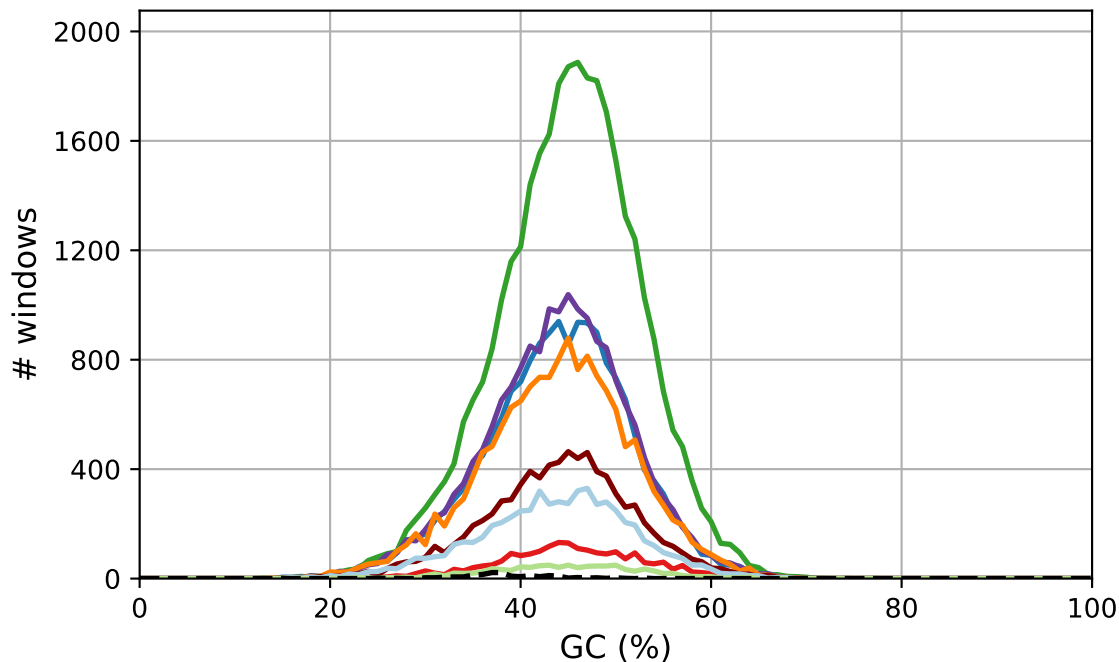
# NGx



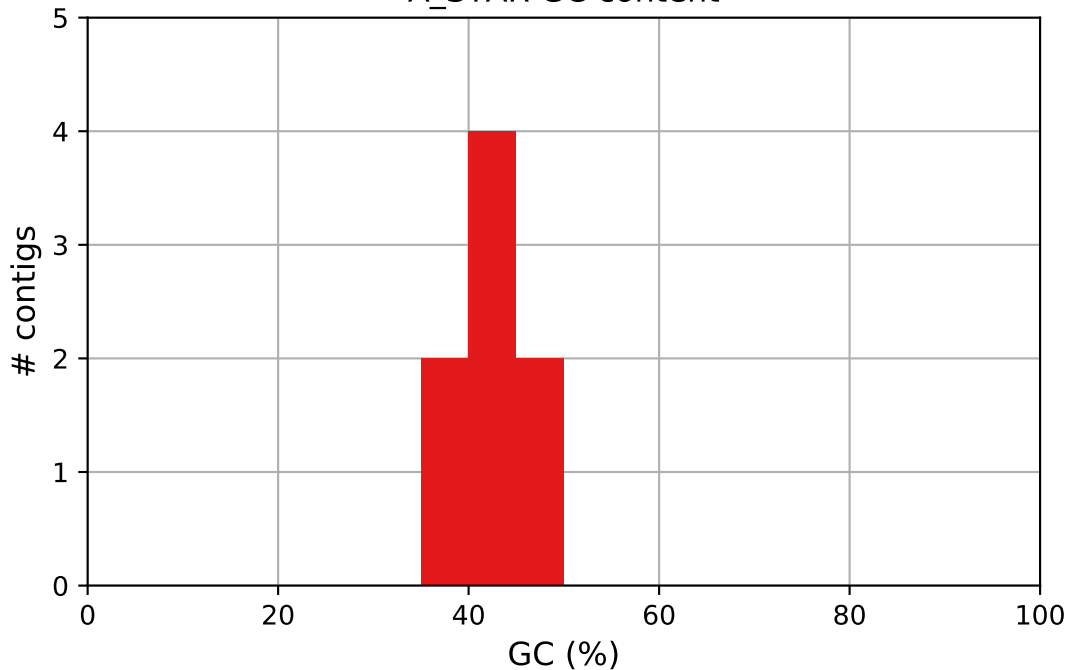
# Cumulative length



# GC content



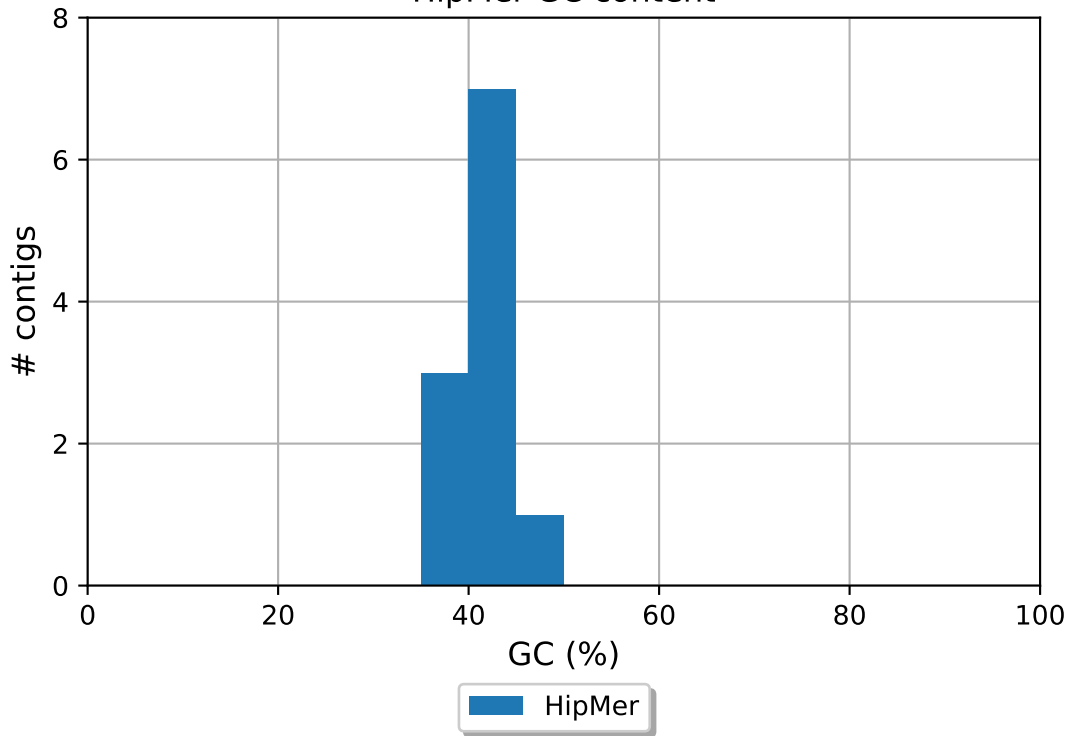
A\_STAR GC content



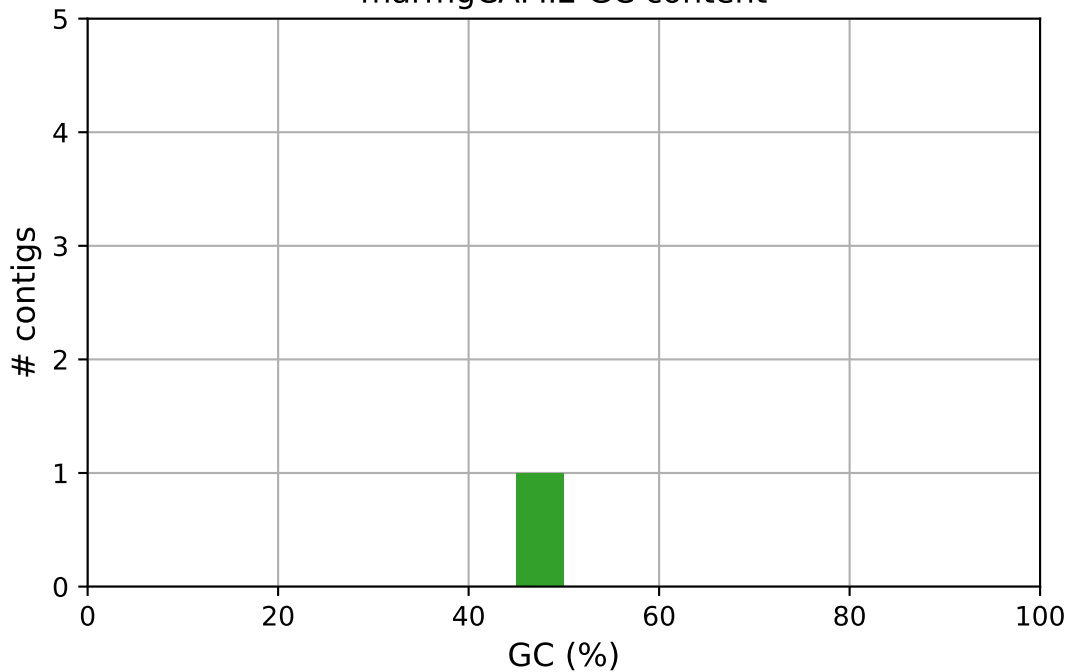
A\_STAR



HipMer GC content

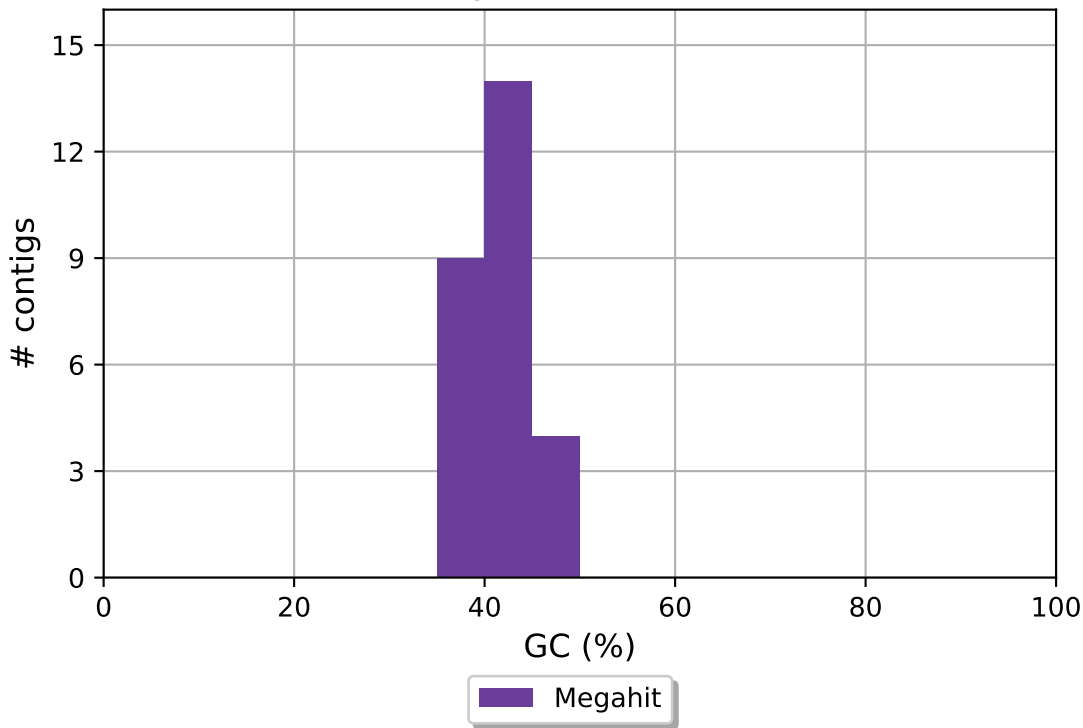


marmgCAMI2 GC content

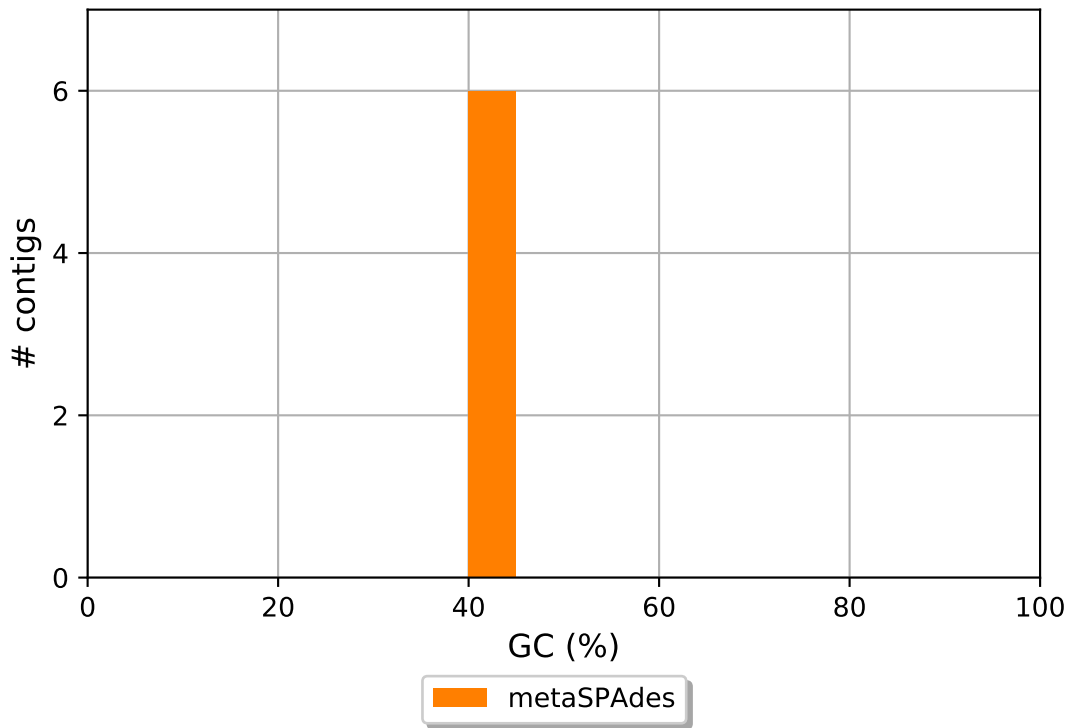


marmgCAMI2

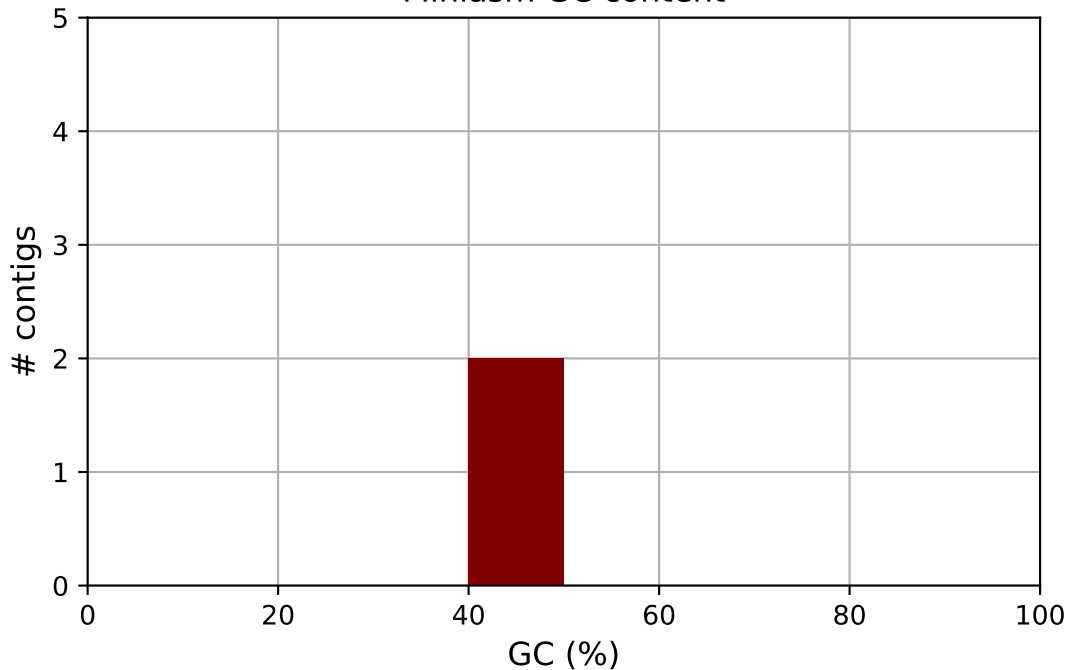
Megahit GC content



metaSPAdes GC content

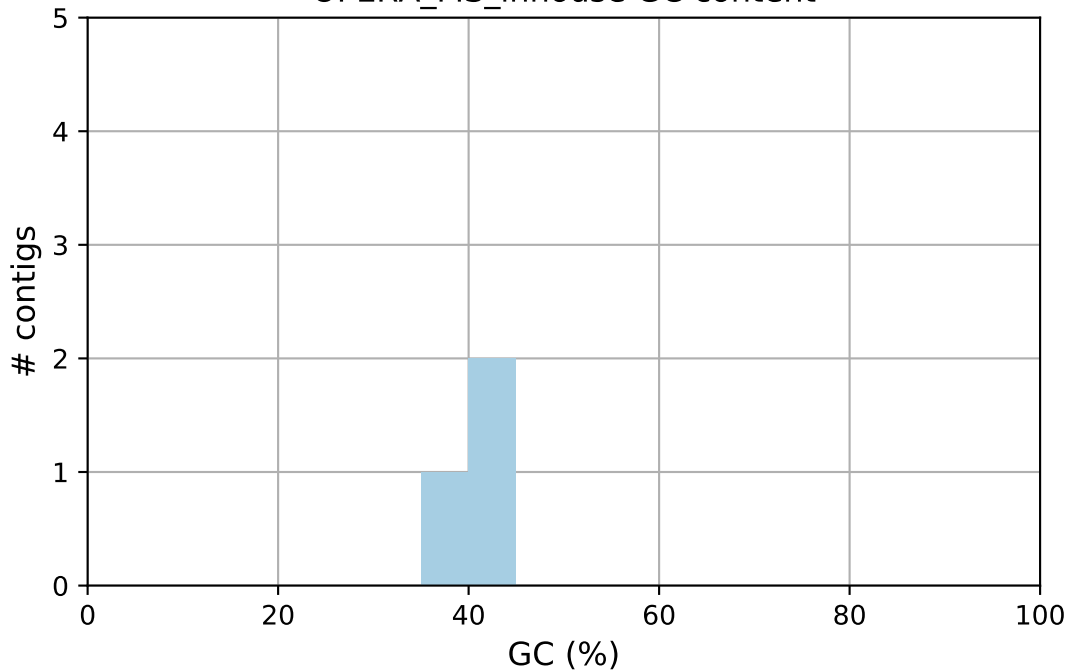


Miniasm GC content



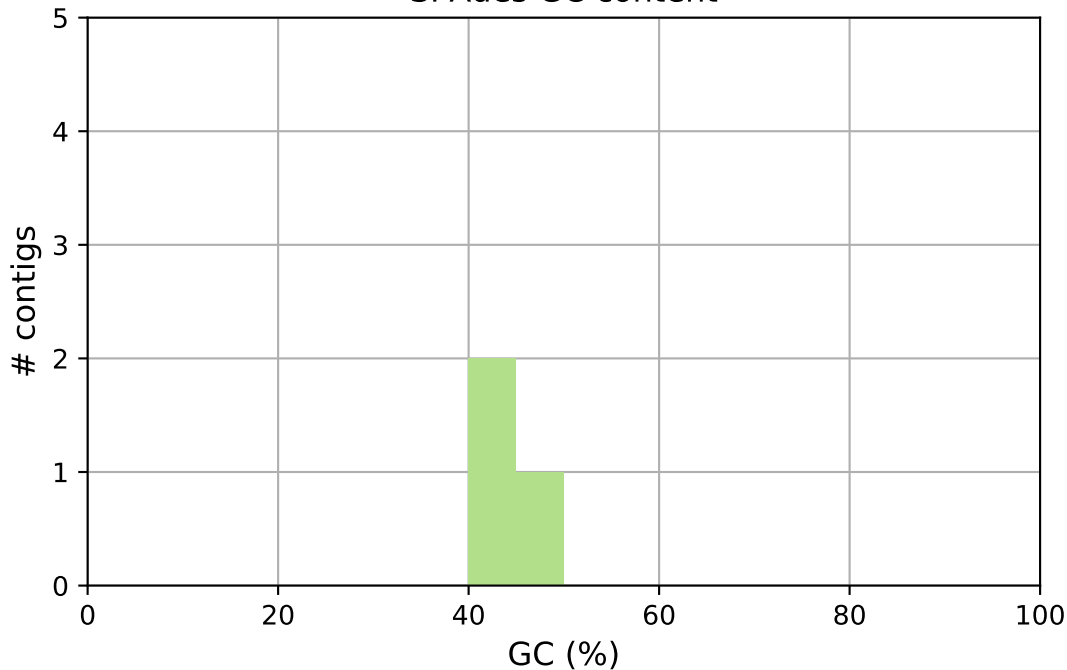
Miniasm

OPERA\_MS\_inhouse GC content



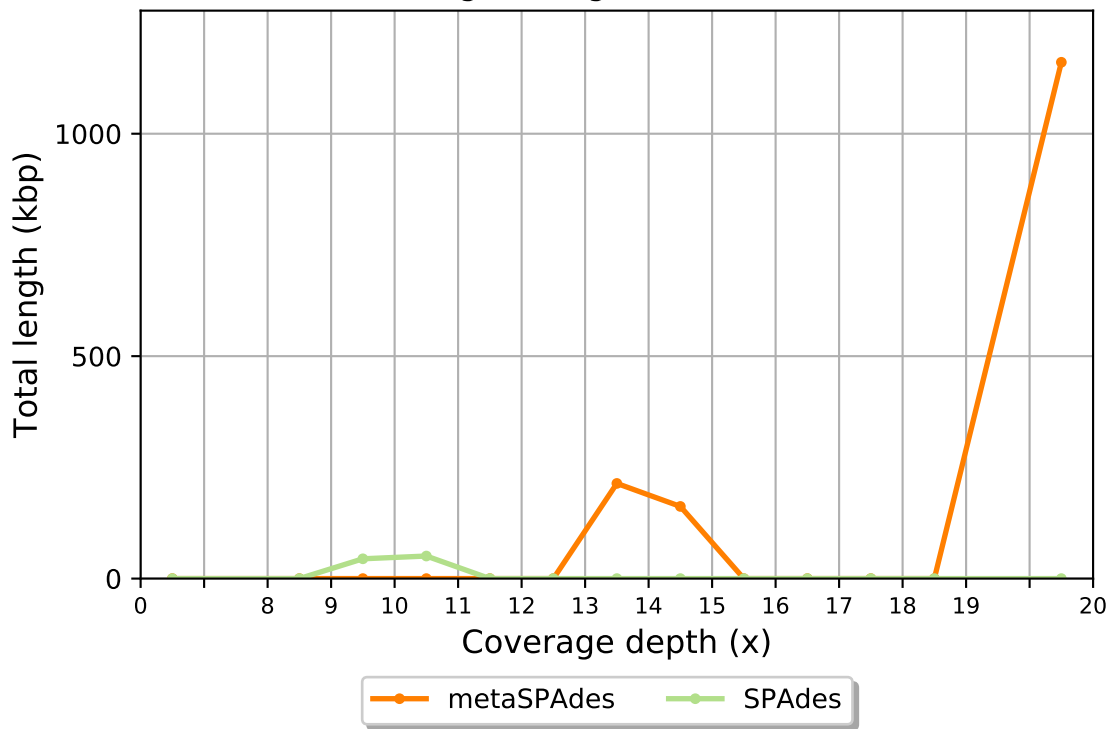
OPERA\_MS\_inhouse

# SPAdes GC content



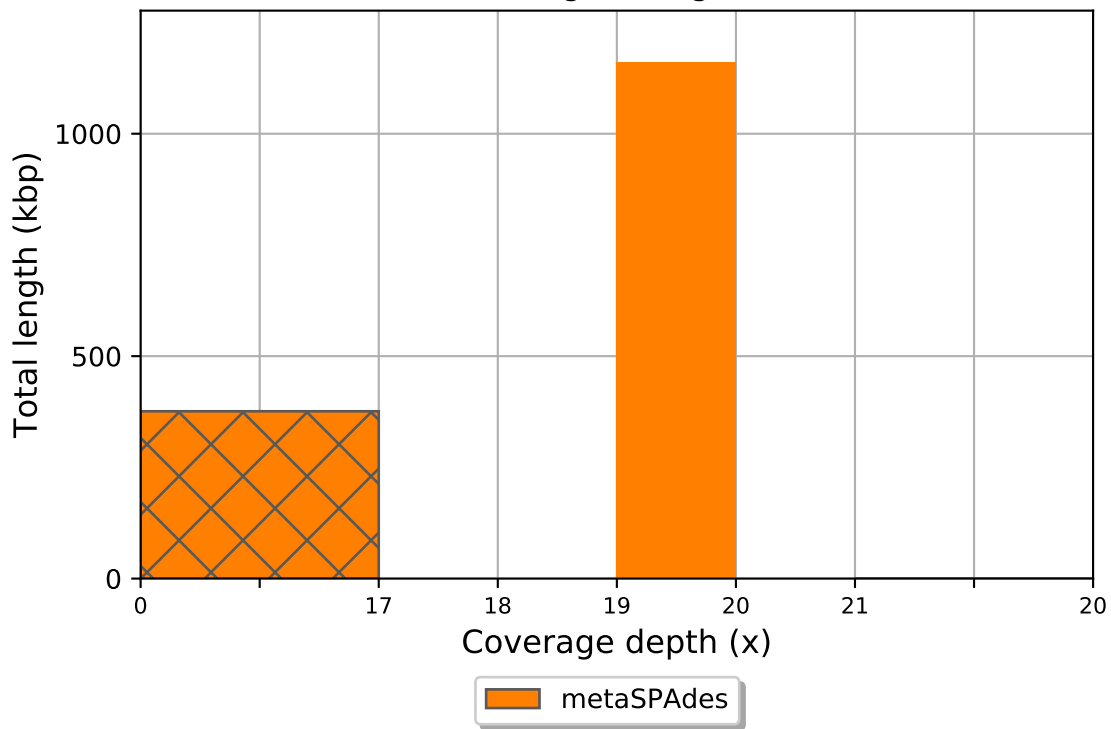
SPAdes

Coverage histogram (bin size: 1x)

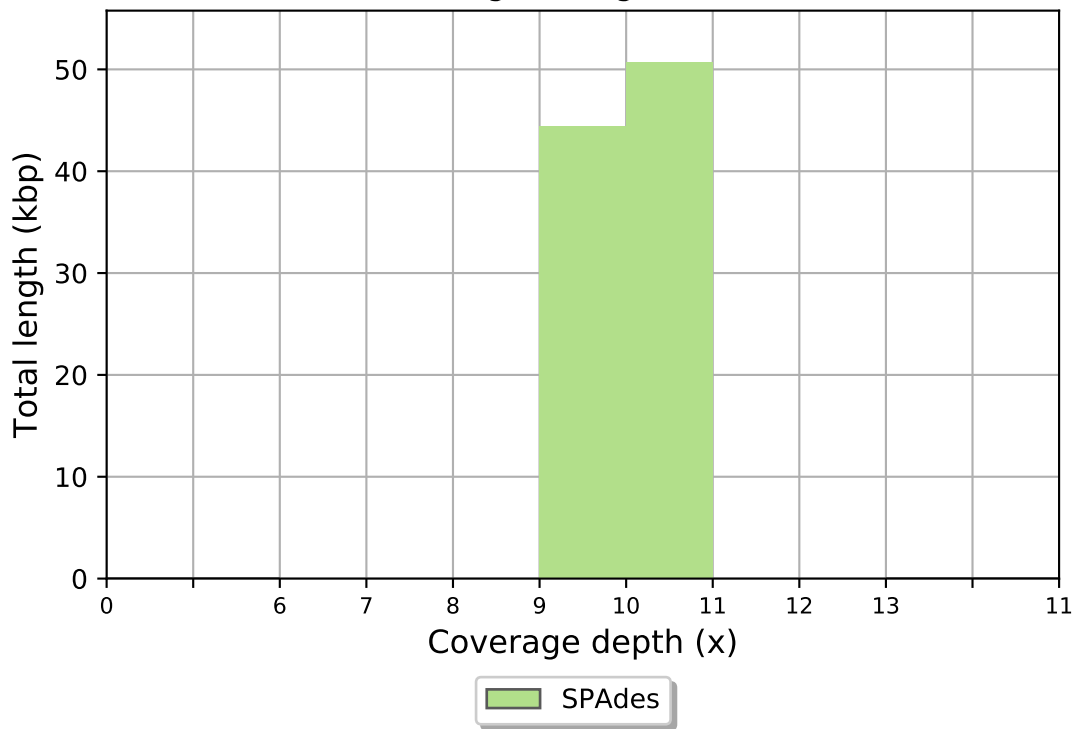




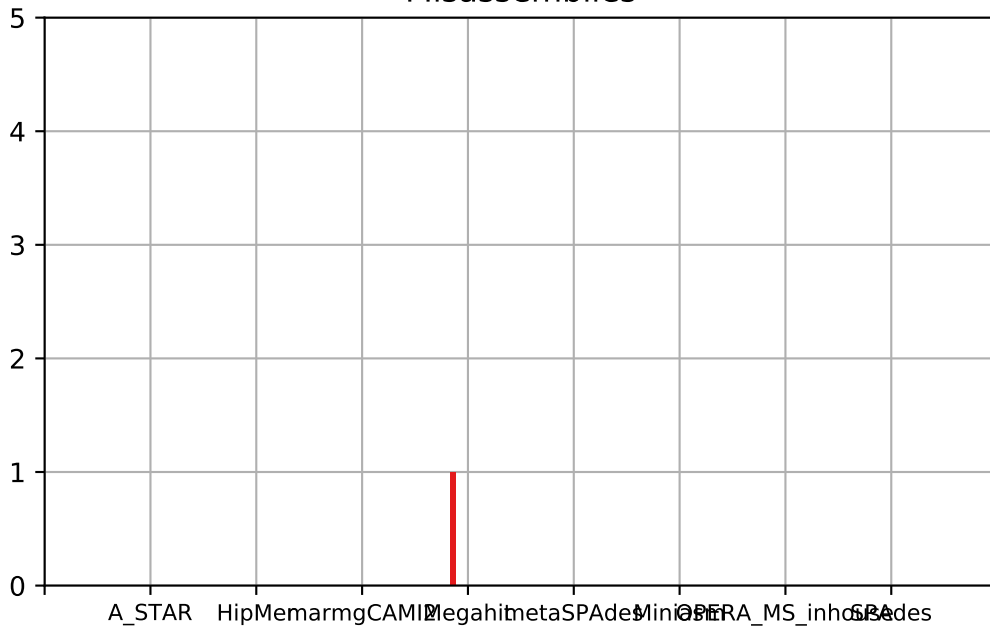
metaSPAdes coverage histogram (bin size: 1x)



SPAdes coverage histogram (bin size: 1x)

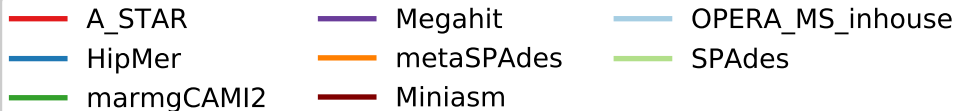
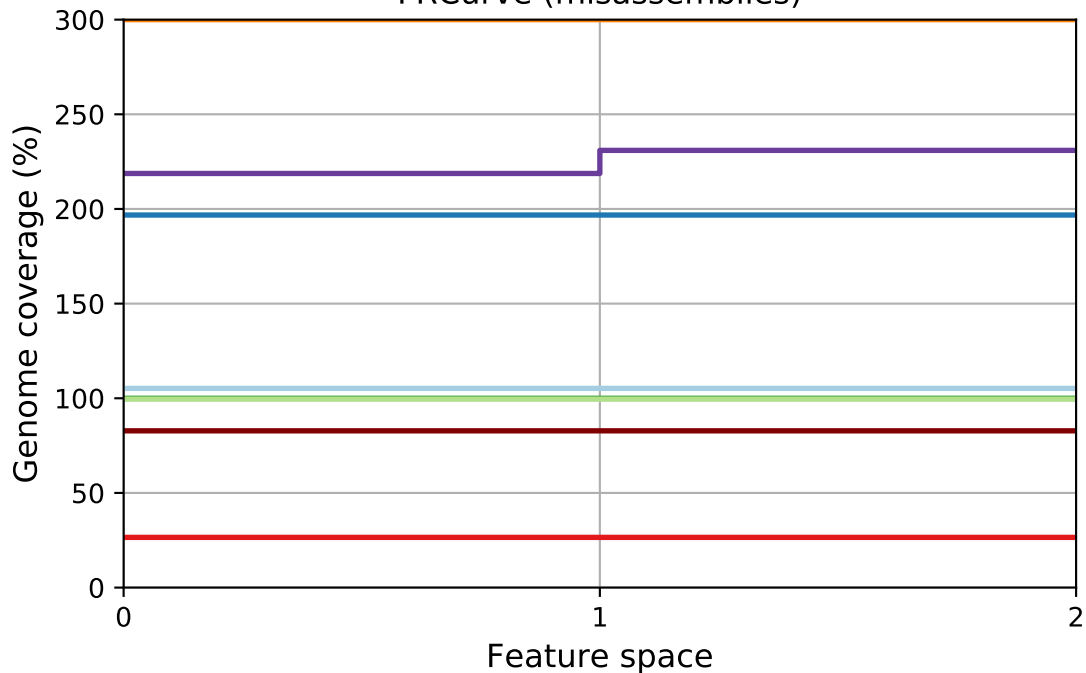


## Misassemblies

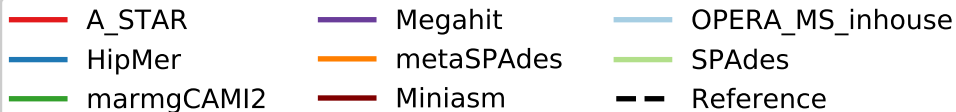
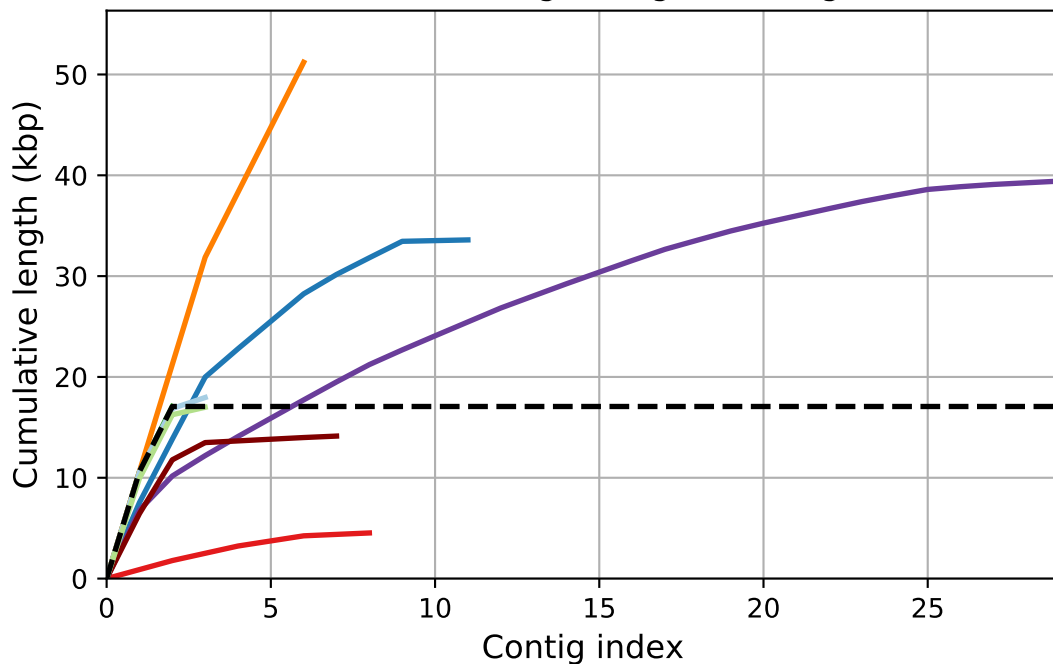


 # relocations

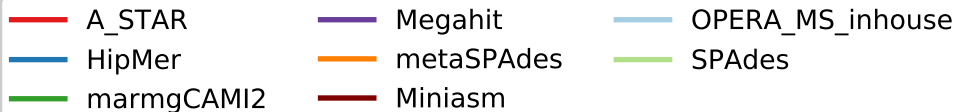
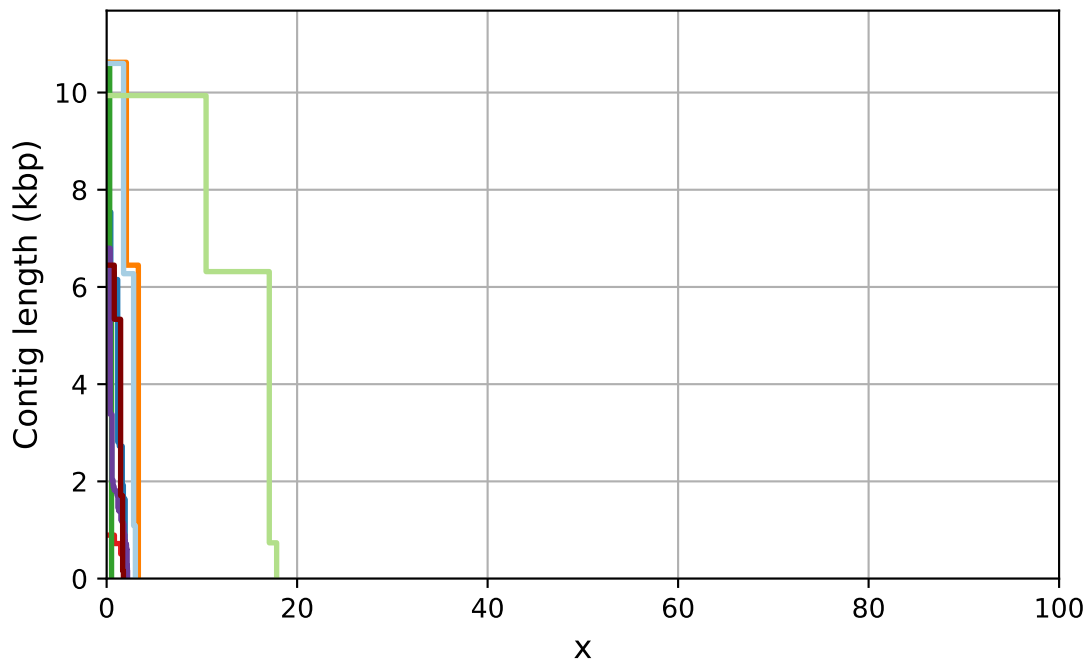
# FRCurve (misassemblies)



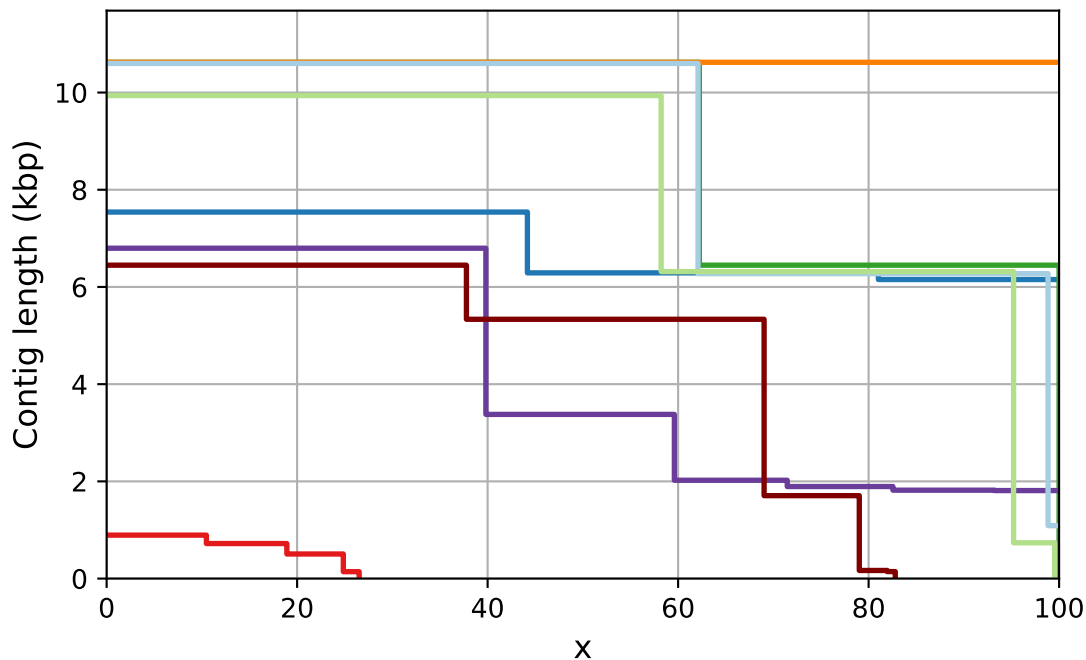
Cumulative length (aligned contigs)



# NAx



# NGAx



- |   |  |   |
|---|--|---|
| <span style="color: red;">—</span> A_STAR       | <span style="color: purple;">—</span> Megahit    | <span style="color: lightblue;">—</span> OPERA_MS_inhouse |
| <span style="color: blue;">—</span> HipMer      | <span style="color: orange;">—</span> metaSPAdes | <span style="color: green;">—</span> SPAdes               |
| <span style="color: green;">—</span> marmgCAMI2 | <span style="color: darkred;">—</span> Miniasm   |   |

