Graph construction report for graph5

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Computational resources

| Statistics | Val(Mb/sec) | Val(GB/mins) | |
|-------------|-------------|--------------|--|
| CPU time | 10844.93 | 180.75 | |
| max mem | 90396 | 88.28 | |
| average mem | 42898.73 | 41.89 | |
| Run time | 978 | 16.30 | |

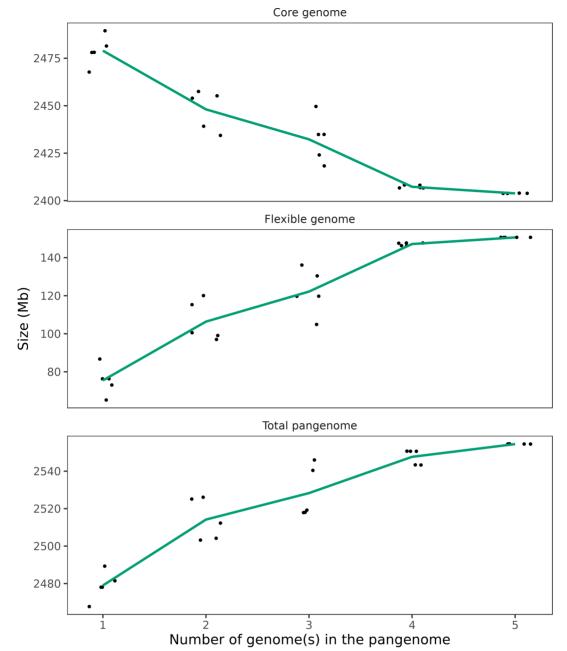
Graph statistics

| Graph parameters | Count | Length (bp) |
|---------------------|---------|---------------|
| All nodes | 176,037 | 2,554,462,759 |
| Reference nodes | 119,284 | 2,489,385,779 |
| Non-reference nodes | 56,753 | 65,076,980 |
| Added from Angus | 8,515 | 12,997,145 |
| Added from Highland | 4,695 | 7,175,045 |
| Added from Brahman | 12,820 | 12,326,594 |
| Added from Yak | 30,723 | 32,578,196 |
| Edge RefRef | 136,305 | 0 |
| Edge RefNonref | 109,044 | 0 |

| Graph parameters | Count | Length (bp) |
|-------------------|-------|-------------|
| Edge NonrefNonref | 3,201 | 0 |

Core - flexible genome analysis

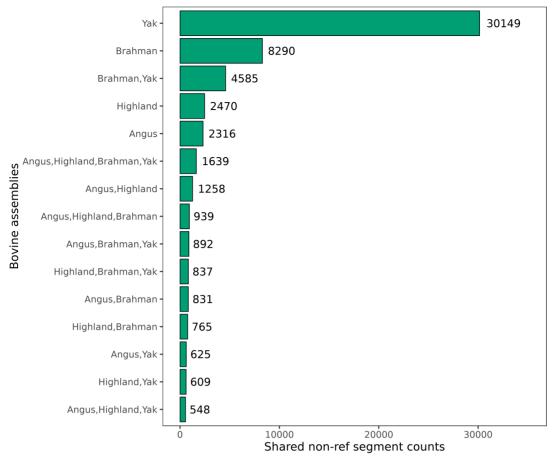
| Pangenome component | Length | Proportion |
|---------------------|---------------|------------|
| core | 2,403,833,363 | 94.10% |
| flexible | 150,629,396 | 5.90% |
| flexible_shared | 91,923,908 | 3.60% |
| private | 58,705,488 | 2.30% |



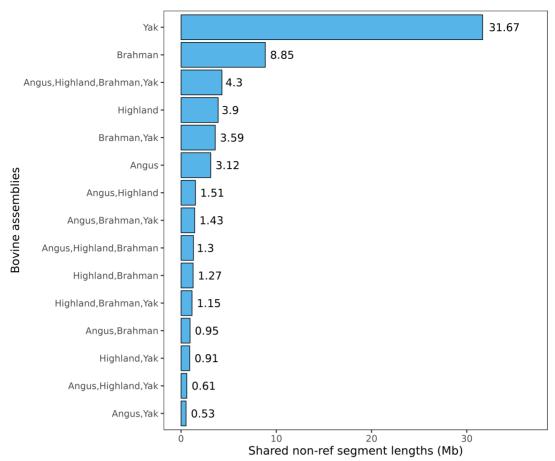
Pangenome size as sample increased

Non-reference sequences

| Non-ref sequences | Node count | Total sequence length |
|-------------------|------------|-----------------------|
| Angus | 9,048 | 13,744,385 |
| Brahman | 18,778 | 22,833,008 |
| Highland | 9,065 | 14,944,012 |
| Yak | 39,884 | 44,184,846 |



Pangenome nonref sharing count



Pangenome nonref sharing length

Structural variations analysis

Biallelic variations

| Mutation type | SV count | SV total length | SV mean length |
|---------------|----------|-----------------|----------------|
| AltDel | 12752 | 10,829,643 | 849 |
| AltIns | 14768 | 12,391,969 | 839 |
| Deletion | 14854 | 15,994,388 | 1077 |
| Insertion | 19343 | 20,788,858 | 1075 |

Multiallelic variations

| Mutation type | SV count | SV total length | SV mean length |
|---------------|----------|-----------------|----------------|
| Deletions | 4631 | 12,609,337 | 2723 |
| Insertions | 4306 | 10,327,422 | 2398 |