



Sequencing QC Report
Based upon: 108.729.044 sequences in 4 data sets
Generated by: IMG
Creation date: Tue Dec 29 11:48:48 CET 2015
Software: CLC Genomics Server 7.5.1

Table of contents

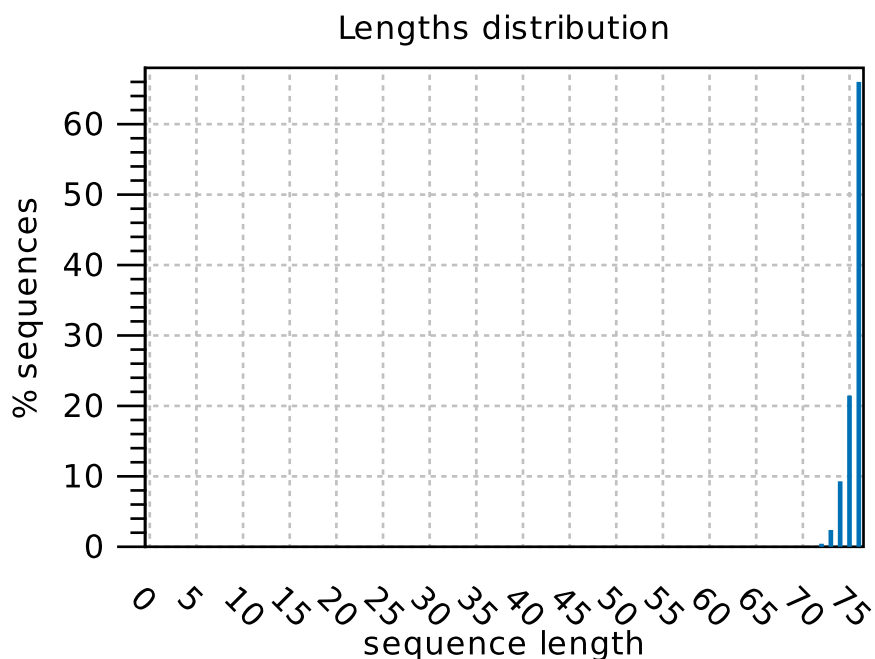
| | |
|---------------------------------------|----|
| 1. Summary | 3 |
| 2. Per-sequence analysis | 3 |
| 2.1 Lengths distribution | 3 |
| 2.2 GC-content | 4 |
| 2.3 Ambiguous base-content | 4 |
| 2.4 Quality distribution | 5 |
| 3. Per-base analysis | 5 |
| 3.1 Coverage | 6 |
| 3.2 Nucleotide contributions | 6 |
| 3.3 GC-content | 7 |
| 3.4 Ambiguous base-content | 7 |
| 3.5 Quality distribution | 8 |
| 4. Over-representation analyses | 8 |
| 4.1 Enriched 5mers | 9 |
| 4.2 Sequence duplication levels | 9 |
| 4.3 Duplicated sequences | 10 |

1. Summary

| | |
|--------------------------------|-------------------------------|
| Creation date: | Tue Dec 29 11:48:48 CET 2015 |
| Generated by: | IMGM |
| Software: | CLC Genomics Server 7.5.1 |
| Based upon: | 4 data sets |
| NG-125-0009_S2_L001_P: | 27.719.682 sequences in pairs |
| NG-125-0009_S2_L002_P: | 27.036.540 sequences in pairs |
| NG-125-0009_S2_L003_P: | 26.351.324 sequences in pairs |
| NG-125-0009_S2_L004_P: | 27.621.498 sequences in pairs |
| Total sequences in data sets | 108.729.044 sequences |
| Total nucleotides in data sets | 8.203.467.423 nucleotides |

2. Per-sequence analysis

2.1 Lengths distribution

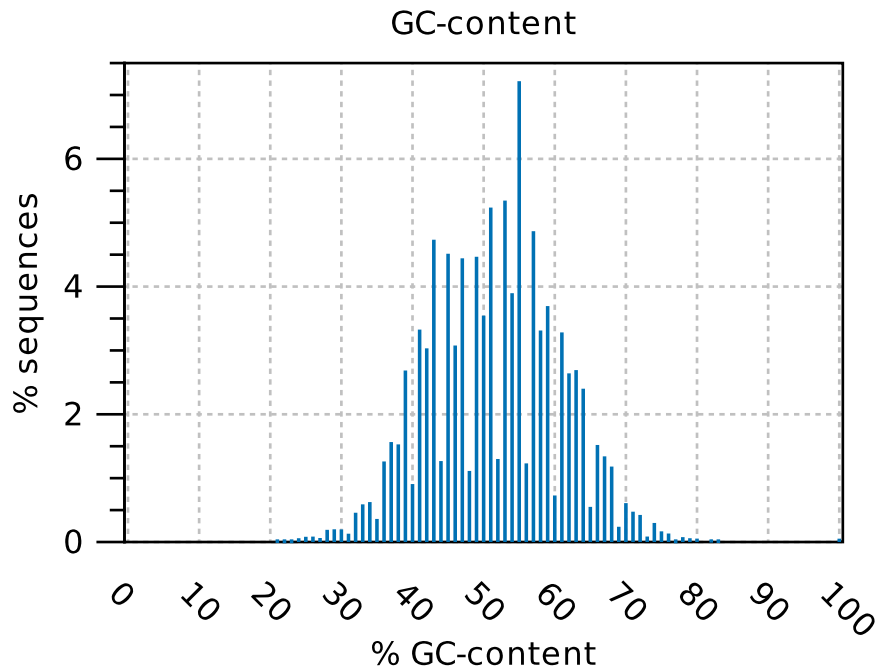


Distribution of sequence lengths. In cases of untrimmed Illumina or SOLiD reads it will just contain a single peak.

x: sequence length in base-pairs

y: number of sequences featuring a particular length normalized to the total number of sequences

2.2 GC-content

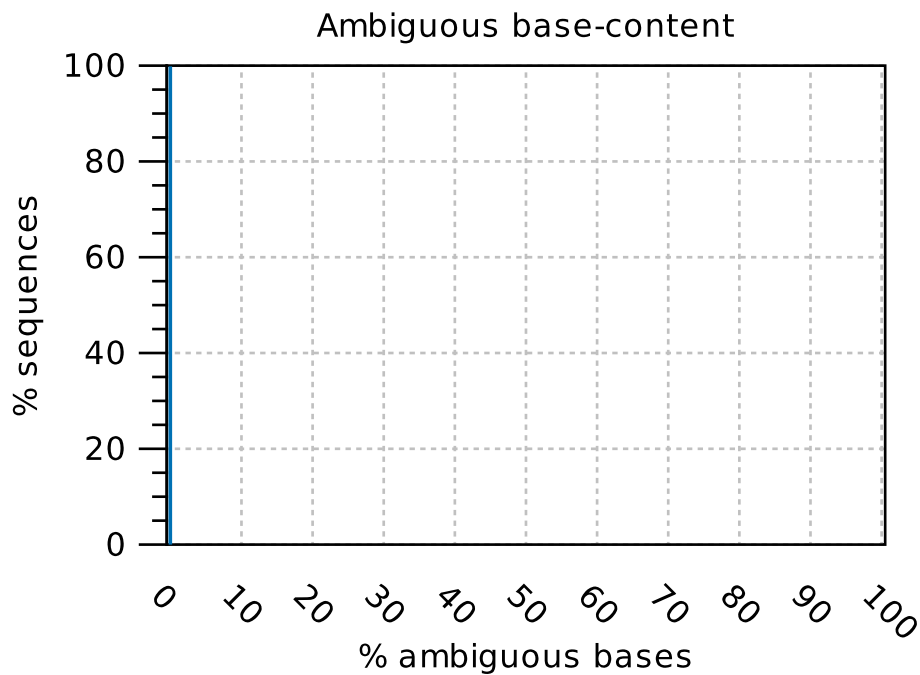


Distribution of GC-contents. The GC-content of a sequence is calculated as the number of G C-bases compared to all bases (including ambiguous bases).

x: relative GC-content of a sequence in percent

y: number of sequences featuring particular GC-percentages normalized to the total number of sequences

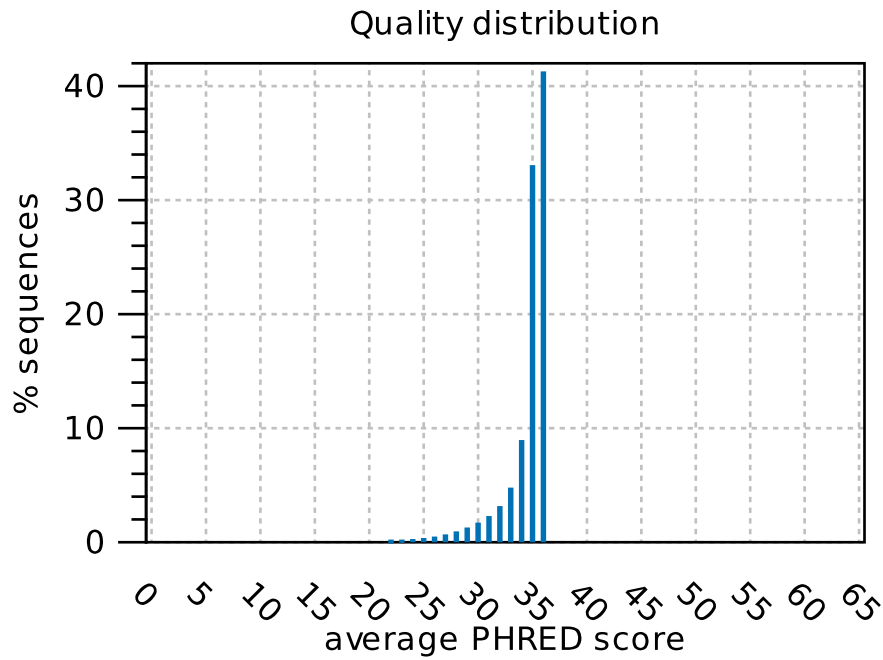
2.3 Ambiguous base-content



Distribution of N-contents. The N-content of a sequence is calculated as the number of ambiguous bases compared to all bases.

x: relative N-content of a sequence in percent
y: number of sequences featuring particular N-percentages normalized to the total number of sequences

2.4 Quality distribution



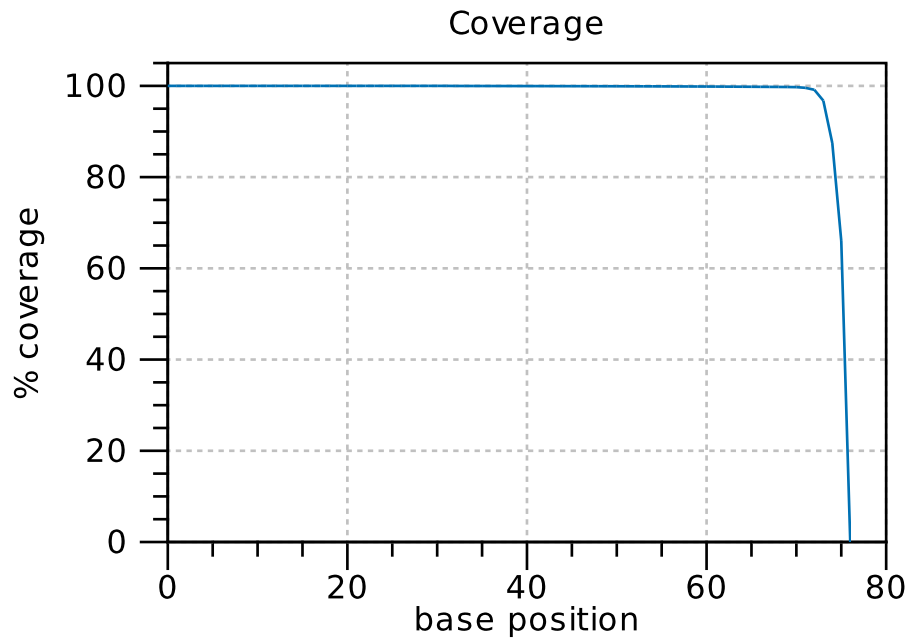
Distribution of average sequence quality scores. The quality of a sequence is calculated as the arithmetic mean of its base qualities.

x: PHRED-score

y: number of sequences observed at that qual. score normalized to the total number of sequences

3. Per-base analysis

3.1 Coverage

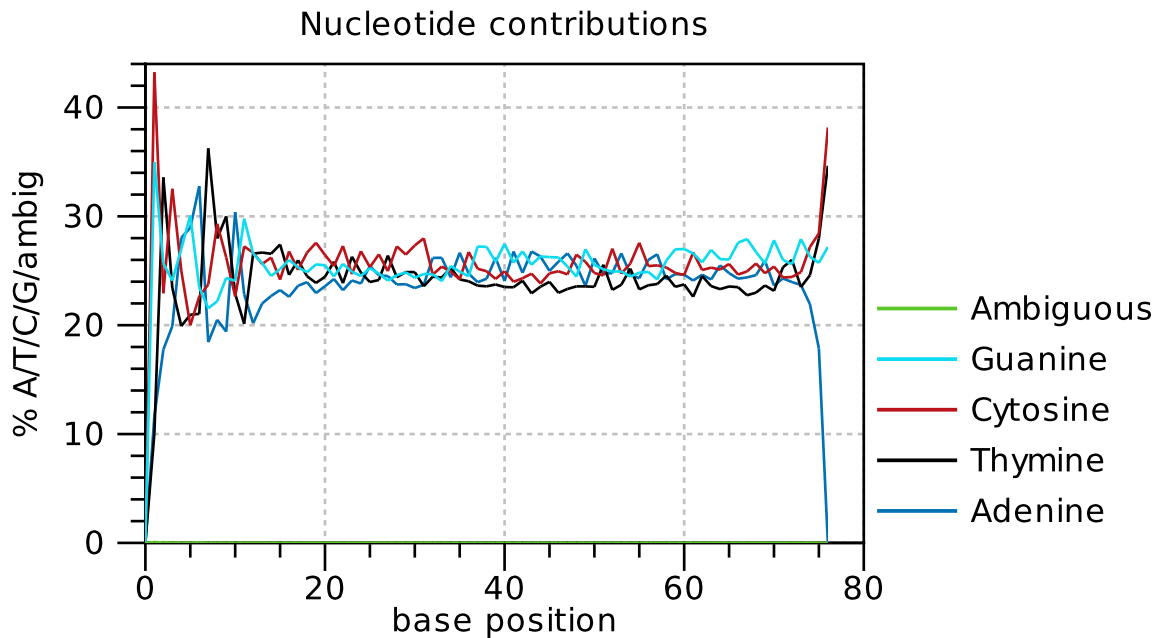


The number of sequences that support (cover) the individual base positions. In cases of un trimmed Illumina or SOLiD reads it will just contain a rectangle.

x: base position

y: number of sequences covering individual base positions normalized to the total number of sequences

3.2 Nucleotide contributions

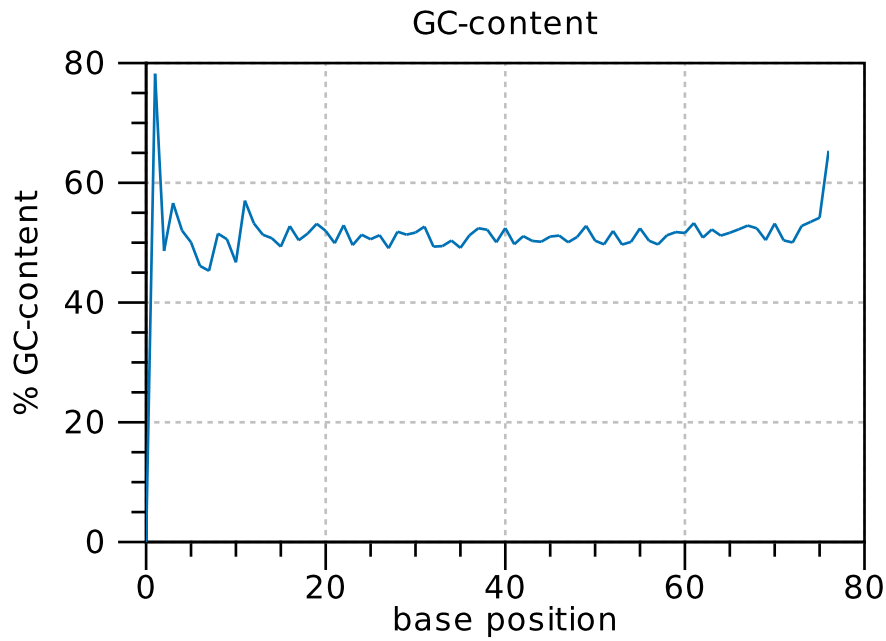


Coverages for the four DNA nucleotides and ambiguous bases.

x: base position

y: number of nucleotides observed per type normalized to the total number of nucleotides observed at that position

3.3 GC-content

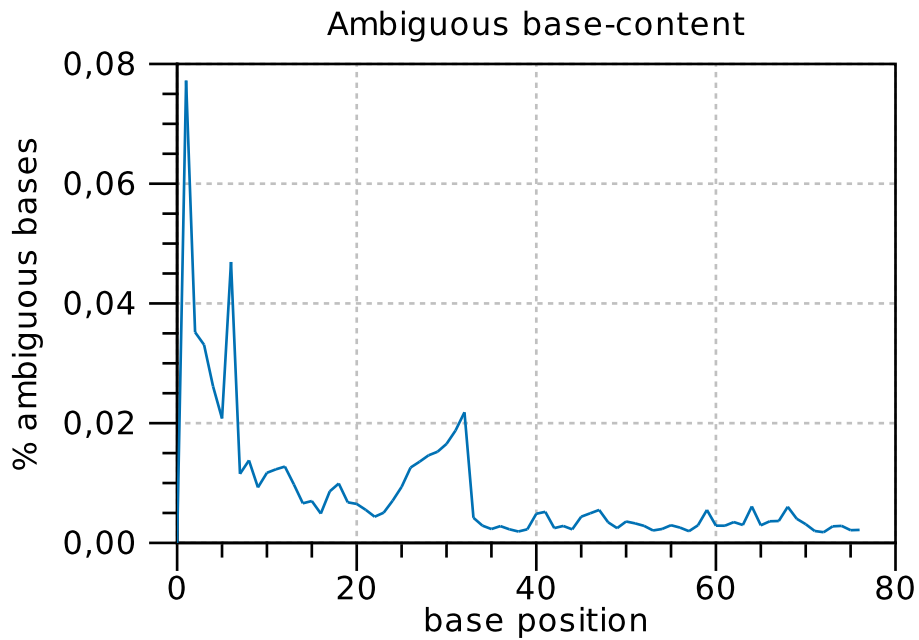


Combined coverage of G- and C-bases.

x: base position

y: number of G- and C-bases observed at current position normalized to the total number of bases observed at that position

3.4 Ambiguous base-content

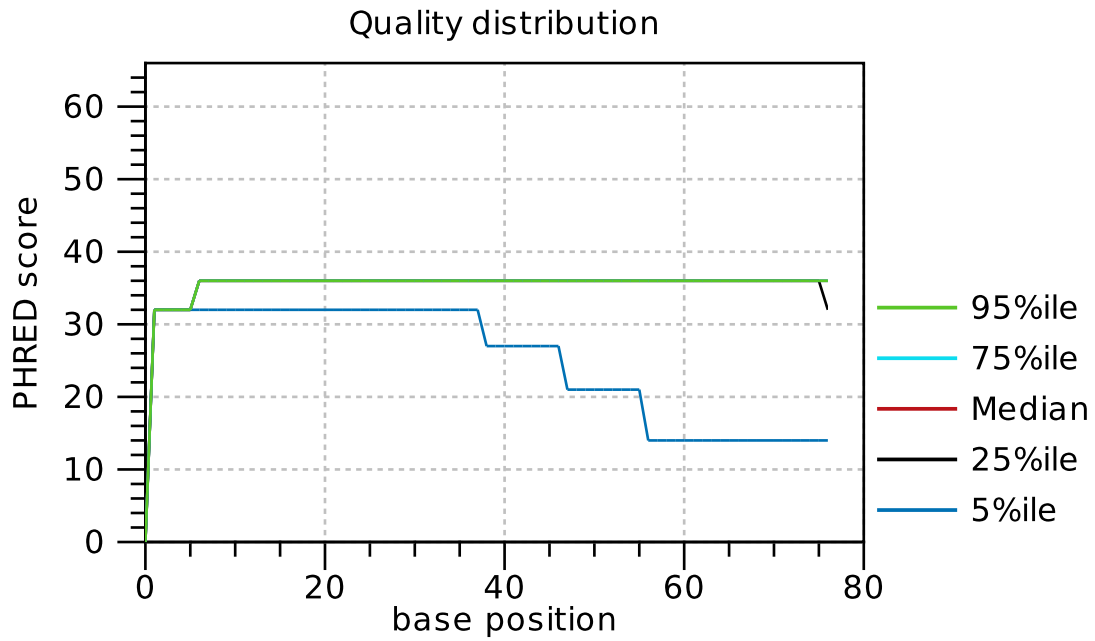


Combined coverage of ambiguous bases.

x: base position

y: number of ambiguous bases observed at current position normalized to the total number of bases observed at that position

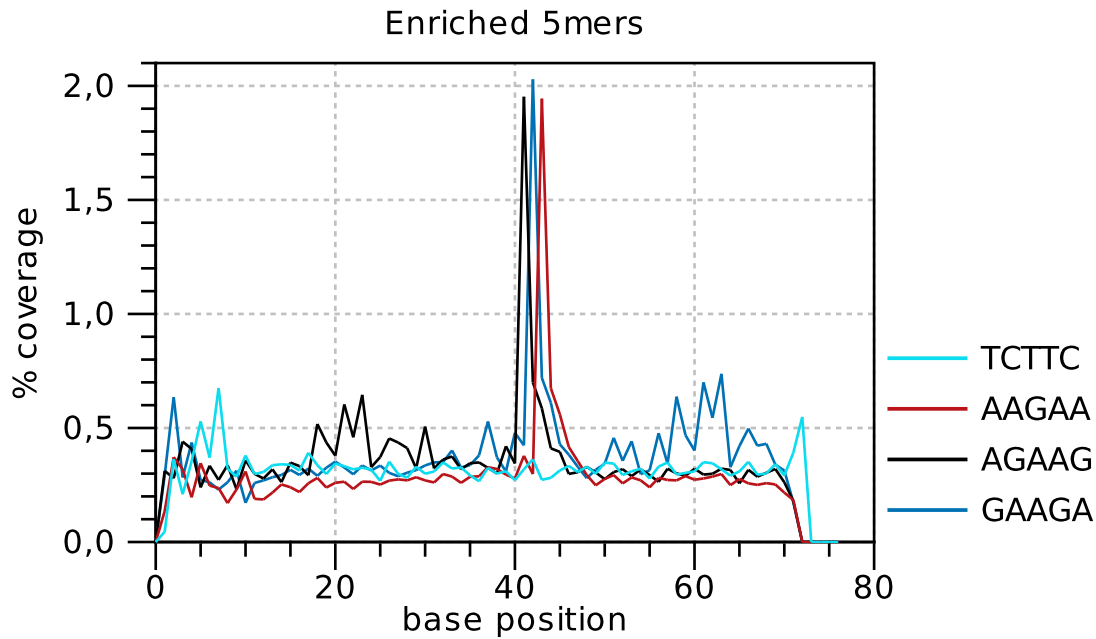
3.5 Quality distribution



Base-quality distribution along the base positions.
x: base position
y: median & percentiles of quality scores observed at that base position

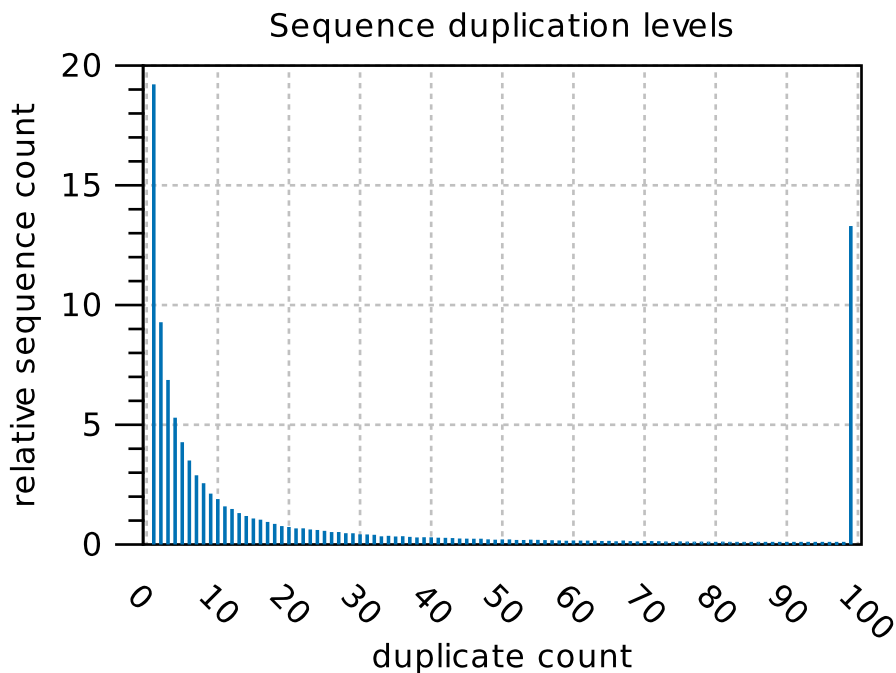
4. Over-representation analyses

4.1 Enriched 5mers



The five most-overrepresented 5mers. The over-representation of a 5mer is calculated as the ratio of the observed and expected 5mer frequency. The expected frequency is calculated as product of the empirical nucleotide probabilities that make up the 5mer. (5mers that contain ambiguous bases are ignored)
x: base position
y: number of times a 5mer has been observed normalized to all 5mers observed at that position

4.2 Sequence duplication levels



Duplication level distribution. Duplication levels are simply the count of how often a particular sequence has been found.

x: duplicate count

y: number of sequences that have been found that many times normalized to the number of unique sequences

4.3 Duplicated sequences

A table of over-represented sequences is given in the supplementary report