Influence of preset parameter on XZ compression

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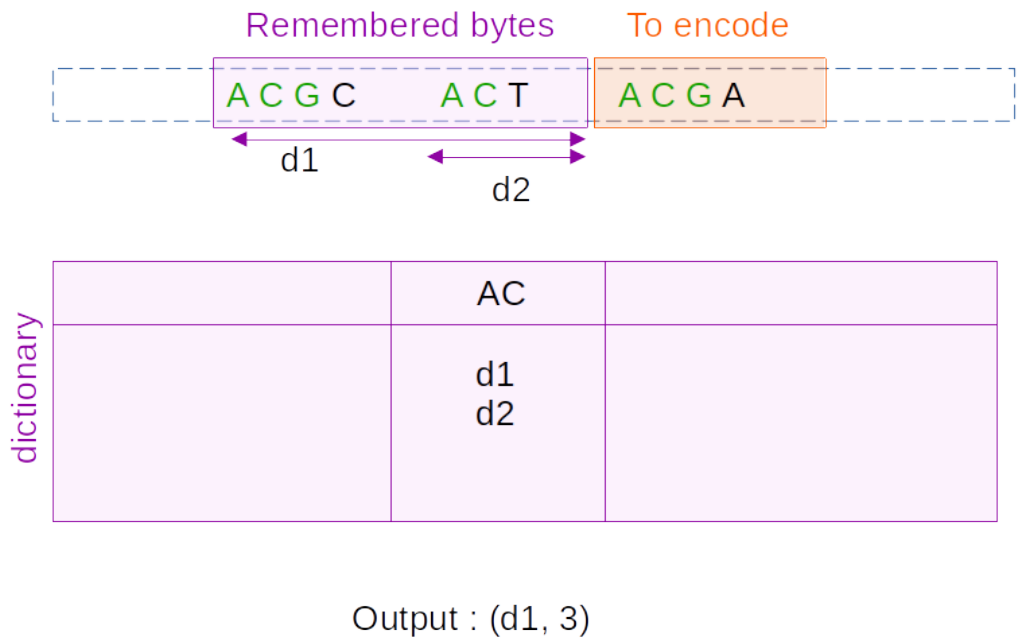
XZ in short

1. sliding window algorithm to detect matches

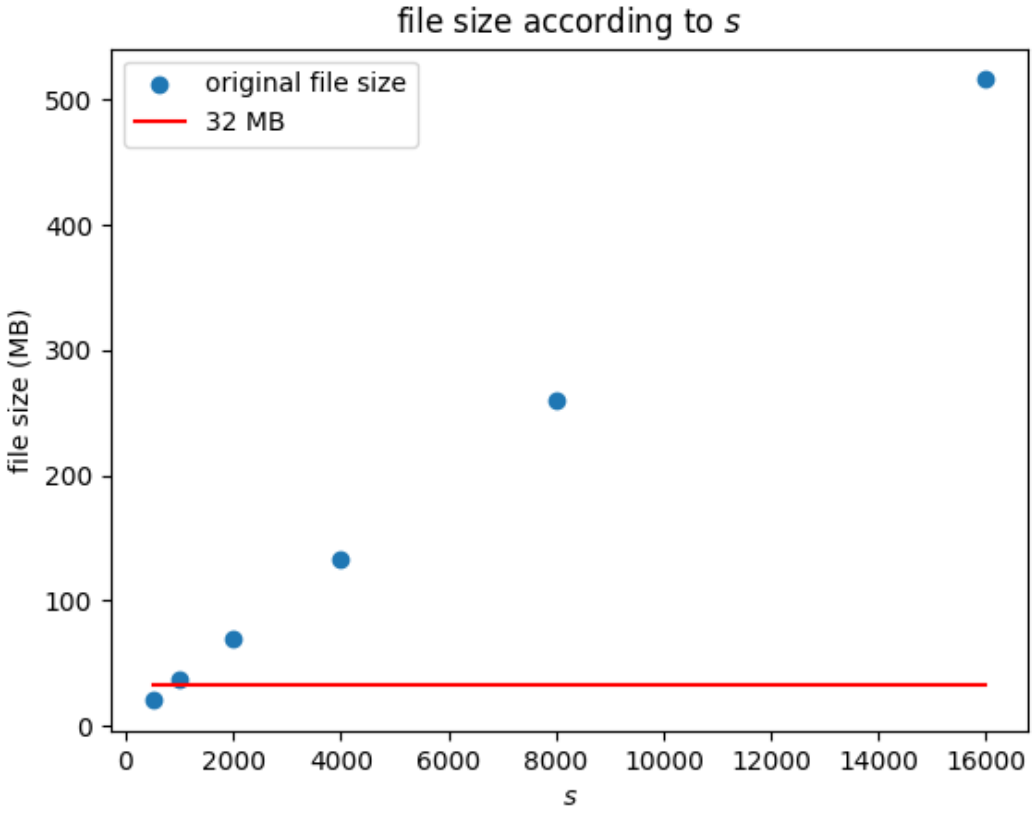


2. range encoding of the output

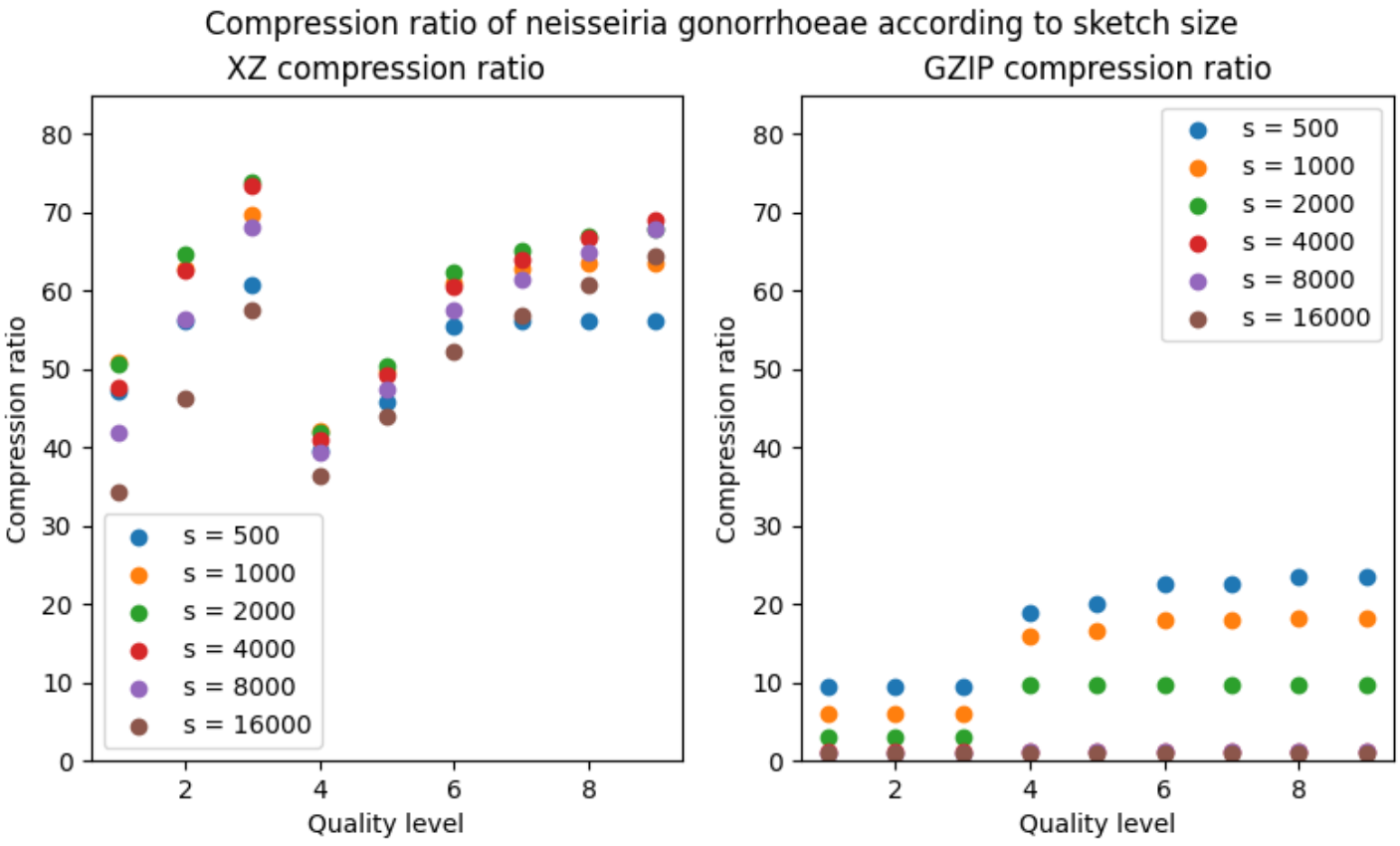
XZ presets memory constraints

Preset	DictSize (MiB)	min file size (MiB)
1	1	0.5
2	2	1
3	4	2
4	4	2
5	8	4
6	8	4
7	16	8
8	32	16
9	64	32

File size according to s



Compression ratio of XZ/GZIP over an archive



Analysis

Observations :

- low compression rate for high presets
- plateau for high presets for smaller values of s

Possible explanation :

- Too high redundancy because of mash format and phylogenetic closeness

Todo :

- look into a reformatting of .msh files (change compression order or smaller representation)
- try using specific algorithms for small values/increasing order