

Quality-gate and dereplication provenance for the two accepted post hoc (exploratory) MAGs

Post hoc MAG internal-gate audit metrics

Post hoc MAG	frac_Bacteria	coverage CV	GC weighted SD	FASTA MD5 (prefix)
mb.002	0.9382	0.191	1.86	fe5674f30d0d...
SemiBin_23	0.6874	0.187	1.98	4aeab3f4b032...

skani v0.3.2 dereplication vs the frozen production MAGs (bin.15 / bin.2 / bin.23)

Query bin	Reference	ANI %	AF query %	AF ref %	Mutual AF %	Redundancy decision
mb.002 (MaxBin2)	(no qualifying edge)	NA	NA	NA	NA	Non-redundant (carry-forward)
SemiBin_23 (SemiBin2)	(no qualifying edge)	NA	NA	NA	NA	Non-redundant (carry-forward)

skani command: skani triangle -l bin_list.txt --sparse --min-af 15 -t 8 (Learned ANI mode). Redundancy rule (frozen in GATE_RUBRIC.md): a candidate is a duplicate of a production MAG iff ANI ≥ 99% AND mutual alignment fraction (both query and reference AF) ≥ 25%. Neither mb.002 nor SemiBin_23 produced any pairwise edge above the 15% screen to any production MAG (or to each other), so no ANI/AF pair reaches the decision thresholds; both are non-redundant carry-forward bins. No CAZyme/CGC/pathway comparison is shown (no production-equivalent annotation).