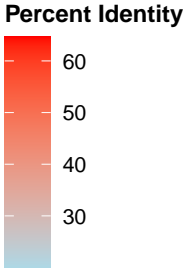
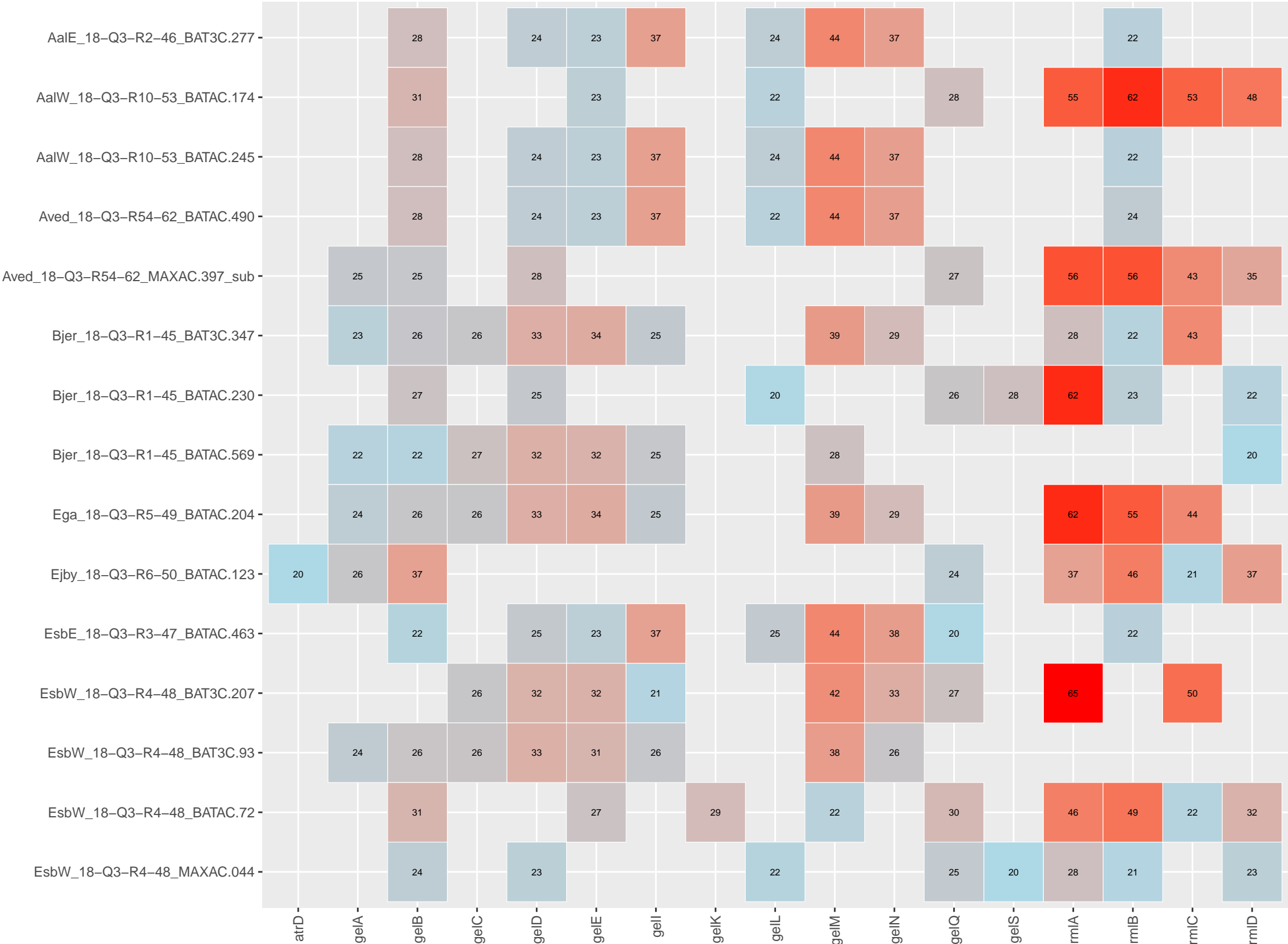


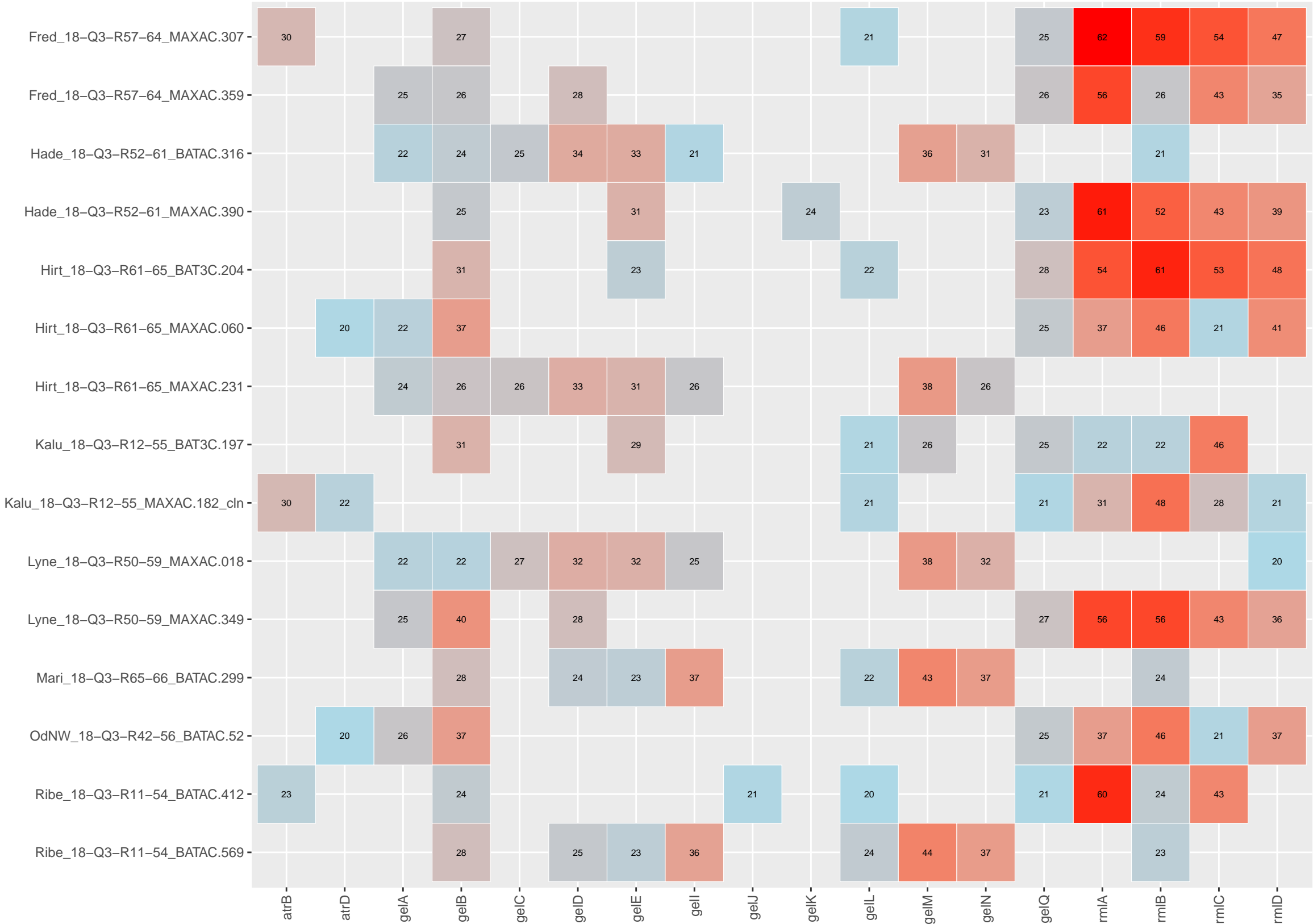
gellan Heatmap

MAG

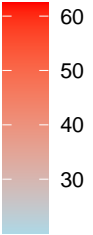


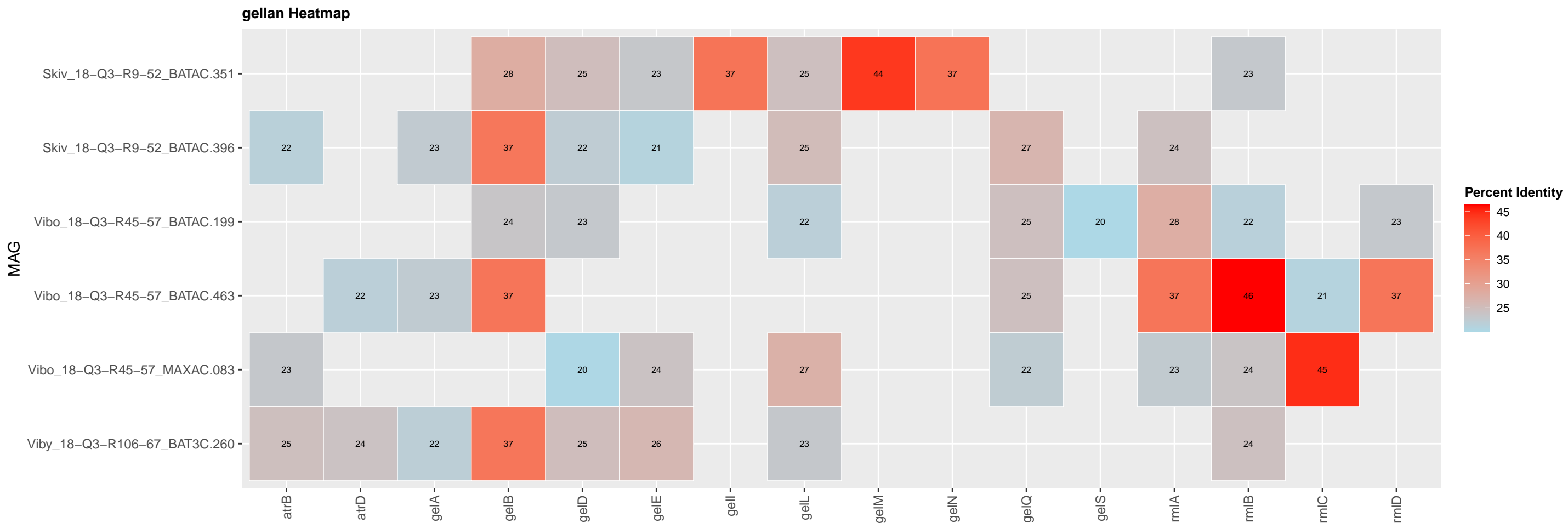
gellan Heatmap

MAG



Percent Identity





gellan

The figure displays a genomic map of the *gellan* biosynthetic gene cluster. The map is organized into eight horizontal tracks, each representing a different genomic region. The genes are represented by blue arrows, with their orientation indicating the direction of transcription. The labels for the genes are as follows:

- AalE_18-Q3-R2-46_BAT3C.277**: Contains genes *gelE*, *gelD*, *gelB*, *gelL*, *gelM*, and *gelN*.
- AalW_18-Q3-R10-53_BATAC.174**: Contains genes *gelQ*, *gelL*, *gelE*, *gelB*, *gelA*, *gelD*, *gelM*, and *gelN*.
- AalW_18-Q3-R10-53_BATAC.245**: Contains genes *gelE*, *gelD*, *gelB*, *gelL*, *gelM*, and *gelN*.
- Aved_18-Q3-R54-62_BATAC.490**: Contains genes *gelM*, *gelN*, *gelL*, *gelB*, *gelD*, *gelE*, and *gelA*.
- ved_18-Q3-R54-62_MAXAC.397_sub**: Contains genes *gelA*, *gelB*, *gelC*, *gelD*, *gelE*, and *gelF*.
- Bjer_18-Q3-R1-45_BAT3C.347**: Contains genes *gelB*, *gelC*, *gelD*, *gelE*, *gelF*, *gelG*, *gelH*, *gelI*, *gelJ*, *gelK*, *gelL*, *gelM*, *gelN*, *gelO*, *gelP*, *gelQ*, *gelR*, *gelS*, *gelT*, *gelU*, *gelV*, *gelW*, *gelX*, *gelY*, *gelZ*, *gelAA*, *gelAB*, *gelAC*, *gelAD*, *gelAE*, *gelAF*, *gelAG*, *gelAH*, *gelAI*, *gelAJ*, *gelAK*, *gelAL*, *gelAM*, *gelAN*, *gelAO*, *gelAP*, *gelAQ*, *gelAR*, *gelAS*, *gelAT*, *gelAU*, *gelAV*, *gelAW*, *gelAX*, *gelAY*, *gelAZ*, *gelBA*, *gelBB*, *gelBC*, *gelBD*, *gelBE*, *gelBF*, *gelBG*, *gelBH*, *gelBI*, *gelBJ*, *gelBK*, *gelBL*, *gelBM*, *gelBN*, *gelBO*, *gelBP*, *gelBQ*, *gelBR*, *gelBS*, *gelBT*, *gelBU*, *gelBV*, *gelBW*, *gelBX*, *gelBY*, *gelBZ*, *gelCA*, *gelCB*, *gelCC*, *gelCD*, *gelCE*, *gelCF*, *gelCG*, *gelCH*, *gelCI*, *gelCJ*, *gelCK*, *gelCL*, *gelCM*, *gelCN*, *gelCO*, *gelCP*, *gelCQ*, *gelCR*, *gelCS*, *gelCT*, *gelCU*, *gelCV*, *gelCW*, *gelCX*, *gelCY*, *gelCZ*, *gelDA*, *gelDB*, *gelDC*, *gelDD*, *gelDE*, *gelDF*, *gelDG*, *gelDH*, *gelDI*, *gelDJ*, *gelDK*, *gelDL*, *gelDM*, *gelDN*, *gelDO*, *gelDP*, *gelDQ*, *gelDR*, *gelDS*, *gelDT*, *gelDU*, *gelDV*, *gelDW*, *gelDX*, *gelDY*, *gelDZ*, *gelEA*, *gelEB*, *gelEC*, *gelED*, *gelEE*, *gelEF*, *gelEG*, *gelEH*, *gelEI*, *gelEJ*, *gelEK*, *gelEL*, *gelEM*, *gelEN*, *gelEO*, *gelEP*, *gelEQ*, *gelER*, *gelES*, *gelET*, *gelEU*, *gelEV*, *gelEW*, *gelEX*, *gelEY*, *gelEZ*, *gelFA*, *gelFB*, *gelFC*, *gelFD*, *gelFE*, *gelFF*, *gelFG*, *gelFH*, *gelFI*, *gelFJ*, *gelFK*, *gelFL*, *gelFM*, *gelFN*, *gelFO*, *gelFP*, *gelFQ*, *gelFR*, *gelFS*, *gelFT*, *gelFU*, *gelFV*, *gelFW*, *gelFX*, *gelFY*, *gelFZ*, *gelGA*, *gelGB*, *gelGC*, *gelGD*, *gelGE*, *gelGF*, *gelGG*, *gelGH*, *gelGI*, *gelGJ*, *gelGK*, *gelGL*, *gelGM*, *gelGN*, *gelGO*, *gelGP*, *gelGQ*, *gelGR*, *gelGS*, *gelGT*, *gelGU*, *gelGV*, *gelGW*, *gelGX*, *gelGY*, *gelGZ*, *gelHA*, *gelHB*, *gelHC*, *gelHD*, *gelHE*, *gelHF*, *gelHG*, *gelHH*, *gelHI*, *gelHJ*, *gelHK*, *gelHL*, *gelHM*, *gelHN*, *gelHO*, *gelHP*, *gelHQ*, *gelHR*, *gelHS*, *gelHT*, *gelHU*, *gelHV*, *gelHW*, *gelHX*, *gelHY*, *gelHZ*, *gelIA*, *gelIB*, *gelIC*, *gelID*, *gelIE*, *gelIF*, *gelIG*, *gelIH*, *gelII*, *gelIJ*, *gelIK*, *gelIL*, *gelIM*, *gelIN*, *gelIO*, *gelIP*, *gelIQ*, *gelIR*, *gelIS*, *gelIT*, *gelIU*, *gelIV*, *gelIW*, *gelIX*, *gelIY*, *gelIZ*, *gelJA*, *gelJB*, *gelJC*, *gelJD*, *gelJE*, *gelJF*, *gelJG*, *gelJH*, *gelJI*, *gelJJ*, *gelJK*, *gelJL*, *gelJM*, *gelJN*, *gelJO*, *gelJP*, *gelJQ*, *gelJR*, *gelJS*, *gelJT*, *gelJU*, *gelJV*, *gelJW*, *gelJX*, *gelJY*, *gelJZ*, *gelKA*, *gelKB*, *gelKC*, *gelKD*, *gelKE*, *gelKF*, *gelKG*, *gelKH*, *gelKI*, *gelKJ*, *gelKK*, *gelKL*, *gelKM*, *gelKN*, *gelKO*, *gelKP*, *gelKQ*, *gelKR*, *gelKS*, *gelKT*, *gelKU*, *gelKV*, *gelKW*, *gelKX*, *gelKY*, *gelKZ*, *gelLA*, *gelLB*, *gelLC*, *gelLD*, *gelLE*, *gelLF*, *gelLG*, *gelLH*, *gelLI*, *gelLJ*, *gelLK*, *gelLL*, *gelLN*, *gelLO*, *gelLP*, *gelLQ*, *gelLR*, *gelLS*, *gelLT*, *gelLU*, *gelLV*, *gelLW*, *gelLX*, *gelLY*, *gelLZ*, *gelMA*, *gelMB*, *gelMC*, *gelMD*, *gelME*, *gelMF*, *gelMG*, *gelMH*, *gelMI*, *gelMJ*, *gelMK*, *gelML*, *gelMN*, *gelMO*, *gelMP*, *gelMQ*, *gelMR*, *gelMS*, *gelMT*, *gelMU*, *gelMV*, *gelMW*, *gelMX*, *gelMY*, *gelMZ*, *gelNA*, *gelNB*, *gelNC*, *gelND*, *gelNE*, *gelNF*, *gelNG*, *gelNH*, *gelNI*, *gelNJ*, *gelNK*, *gelNL*, *gelNM*, *gelNN*, *gelNO*, *gelNP*, *gelNQ*, *gelNR*, *gelNS*, *gelNT*, *gelNU*, *gelNV*, *gelNW*, *gelNX*, *gelNY*, *gelNZ*, *gelOA*, *gelOB*, *gelOC*, *gelOD*, *gelOE*, *gelOF*, *gelOG*, *gelOH*, *gelOI*, *gelOJ*, *gelOK*, *gelOL*, *gelOM*, *gelON*, *gelOO*, *gelOP*, *gelOQ*, *gelOR*, *gelOS*,

AaIE_18-Q3-R2-46_BAT3C.277

AalW_18-Q3-R10-53_BATAC.174

AalW_18-Q3-R10-53_BATAC.245

Aved_18-Q3-R54-62_BATAC.490

ved_18-Q3-R54-62_MAXAC.397_sub

Bjer_18-Q3-R1-45_BAT3C.347

Bjer_18-Q3-R1-45_BATAC.230

Bjer_18-Q3-R1-45_BATAC.569

30 kb

40 kb

gellan

Genomic map of the *gellan* operon across eight bacterial strains. The map displays genes as arrows, with labels indicating gene names (e.g., *gelA*, *gelB*, *gelC*, *gelD*, *gelE*, *gelF*, *gelG*, *gelH*, *gelI*, *gelJ*, *gelK*, *gelL*, *gelM*, *gelN*, *gelO*, *gelP*, *gelQ*, *gelR*, *gelS*, *gelT*, *gelU*, *gelV*, *gelW*, *gelX*, *gelY*, *gelZ*, *gelAA*, *gelAB*, *gelAC*, *gelAD*, *gelAE*, *gelAF*, *gelAG*, *gelAH*, *gelAI*, *gelAJ*, *gelAK*, *gelAL*, *gelAM*, *gelAN*, *gelAO*, *gelAP*, *gelAQ*, *gelAR*, *gelAS*, *gelAT*, *gelAU*, *gelAV*, *gelAW*, *gelAX*, *gelAY*, *gelAZ*, *gelBA*, *gelBB*, *gelBC*, *gelBD*, *gelBE*, *gelBF*, *gelBG*, *gelBH*, *gelBI*, *gelBJ*, *gelBK*, *gelBL*, *gelBM*, *gelBN*, *gelBO*, *gelBP*, *gelBQ*, *gelBR*, *gelBS*, *gelBT*, *gelBU*, *gelBV*, *gelBW*, *gelBX*, *gelBY*, *gelBZ*, *gelCA*, *gelCB*, *gelCC*, *gelCD*, *gelCE*, *gelCF*, *gelCG*, *gelCH*, *gelCI*, *gelCJ*, *gelCK*, *gelCL*, *gelCM*, *gelCN*, *gelCO*, *gelCP*, *gelCQ*, *gelCR*, *gelCS*, *gelCT*, *gelCU*, *gelCV*, *gelCW*, *gelCX*, *gelCY*, *gelCZ*, *gelDA*, *gelDB*, *gelDC*, *gelDD*, *gelDE*, *gelDF*, *gelDG*, *gelDH*, *gelDI*, *gelDJ*, *gelDK*, *gelDL*, *gelDM*, *gelDN*, *gelDO*, *gelDP*, *gelDQ*, *gelDR*, *gelDS*, *gelDT*, *gelDU*, *gelDV*, *gelDW*, *gelDX*, *gelDY*, *gelDZ*, *gelEA*, *gelEB*, *gelEC*, *gelED*, *gelEE*, *gelEF*, *gelEG*, *gelEH*, *gelEI*, *gelEJ*, *gelEK*, *gelEL*, *gelEM*, *gelEN*, *gelEO*, *gelEP*, *gelEQ*, *gelER*, *gelES*, *gelET*, *gelEU*, *gelEV*, *gelEW*, *gelEX*, *gelEY*, *gelEZ*, *gelFA*, *gelFB*, *gelFC*, *gelFD*, *gelFE*, *gelFF*, *gelFG*, *gelFH*, *gelFI*, *gelFJ*, *gelFK*, *gelFL*, *gelFM*, *gelFN*, *gelFO*, *gelFP*, *gelFQ*, *gelFR*, *gelFS*, *gelFT*, *gelFU*, *gelFV*, *gelFW*, *gelFX*, *gelFY*, *gelFZ*, *gelGA*, *gelGB*, *gelGC*, *gelGD*, *gelGE*, *gelGF*, *gelGG*, *gelGH*, *gelGI*, *gelGJ*, *gelGK*, *gelGL*, *gelGM*, *gelGN*, *gelGO*, *gelGP*, *gelGQ*, *gelGR*, *gelGS*, *gelGT*, *gelGU*, *gelGV*, *gelGW*, *gelGX*, *gelGY*, *gelGZ*, *gelHA*

Ega_18-Q3-R5-49_BATAC.204

Ejby_18-Q3-R6-50_BATAC.123

EsbE_18-Q3-R3-47_BATAC.463

EsbW_18-Q3-R4-48_BAT3C.207

EsbW_18-Q3-R4-48_BAT3C.93

EsbW_18-Q3-R4-48_BATAC.72

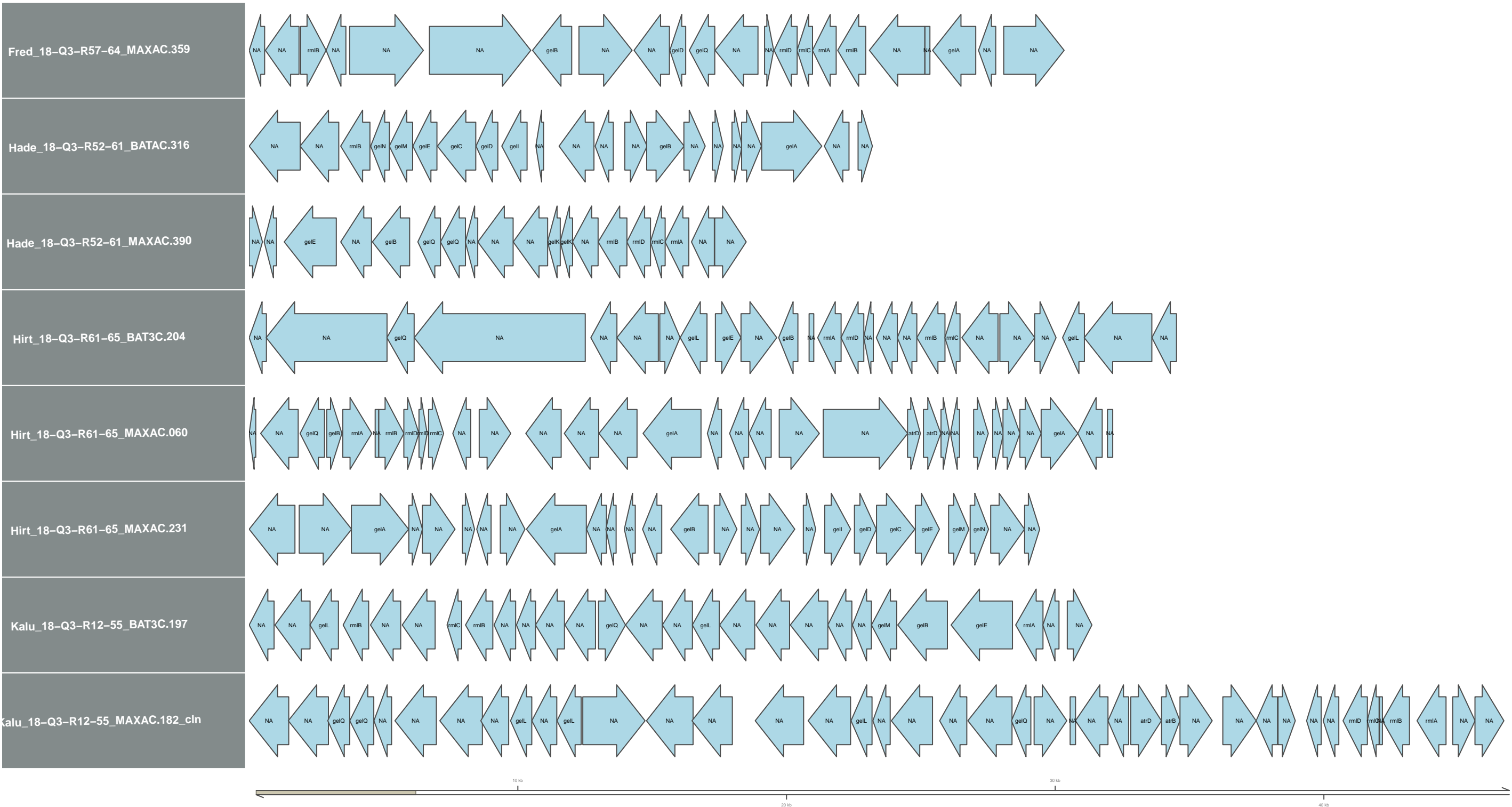
EsbW_18-Q3-R4-48_MAXAC.044

Fred_18-Q3-R57-64_MAXAC.307

20 kb

40 kb

gellan



gellan

Lyne_18-Q3-R50-59_MAXAC.018

Lyne_18-Q3-R50-59_MAXAC.349

Mari_18-Q3-R65-66_BATAC.299

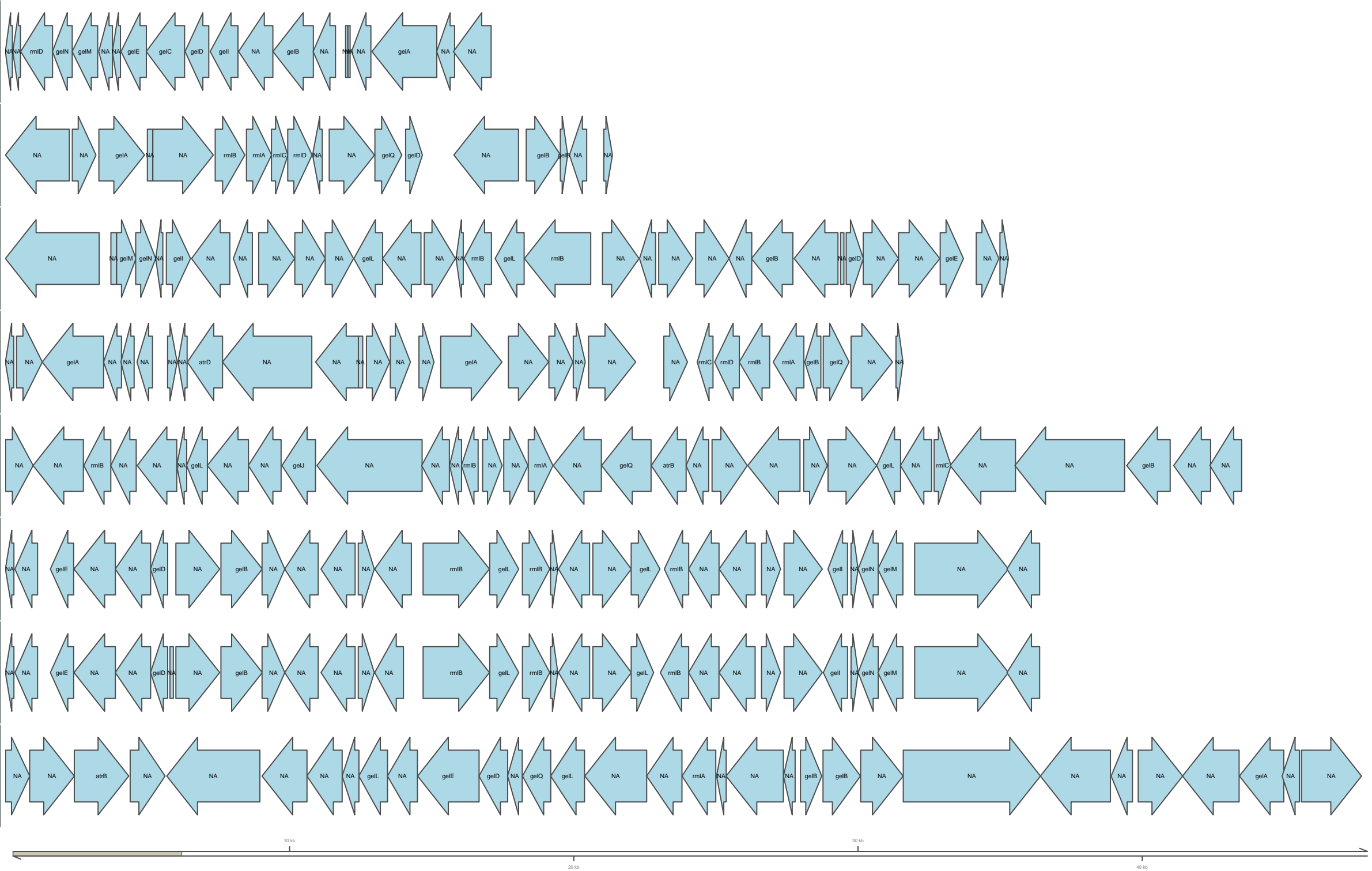
OdNW_18-Q3-R42-56_BATAC.52

Ribe_18-Q3-R11-54_BATAC.412

Ribe_18-Q3-R11-54_BATAC.569

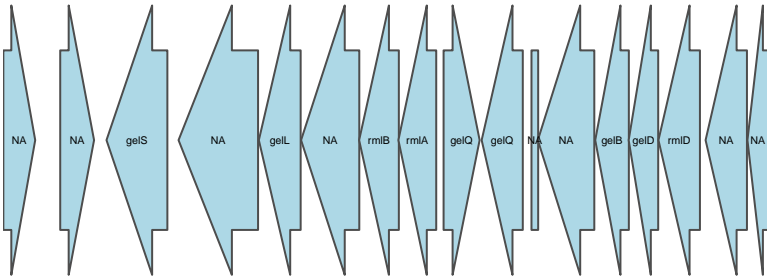
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Skiv_18-Q3-R9-52_BATAC.396

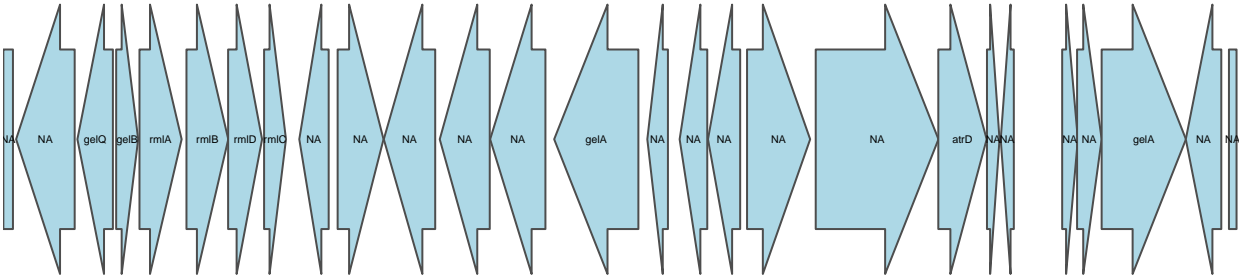


gellan

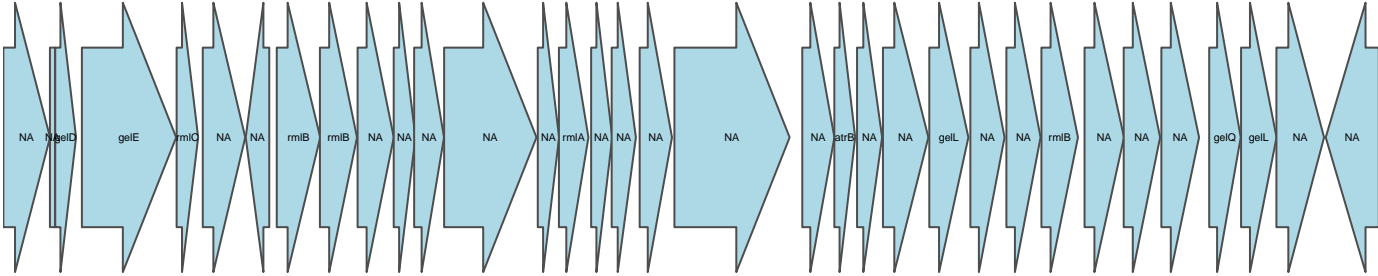
Vibo_18-Q3-R45-57_BATAC.199



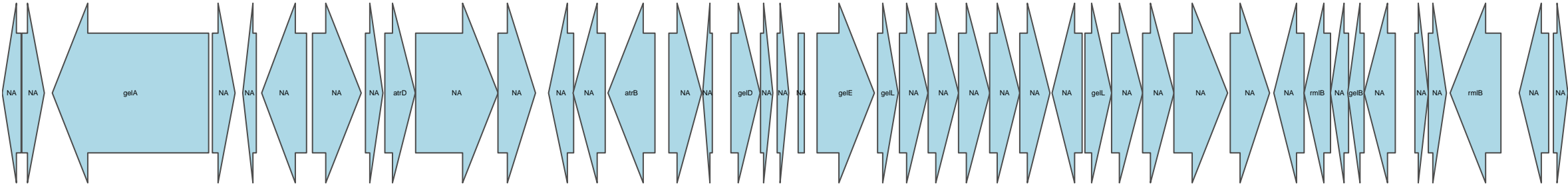
Vibo_18-Q3-R45-57_BATAC.463



Vibo_18-Q3-R45-57_MAXAC.083



Viby_18-Q3-R106-67_BAT3C.260



| | ID | GTDBTax | seqname | start | Query_label | ProkkaNO |
|----|---------------------------------|---|-------------------------|---------|-------------|----------|
| 1 | AalE_18-Q3-R2-46_BAT3C.277 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig00006887-10-1241280 | 47318 | gelB | 02089 |
| 2 | AalW_18-Q3-R10-53_BATAC.174 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g__Rhodobacter_E;s__ | tig00006255-10-4666680 | 182185 | gelB | 00803 |
| 3 | AalW_18-Q3-R10-53_BATAC.245 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig01697704-10-12945580 | 678564 | gelB | 02968 |
| 4 | Aved_18-Q3-R54-62_BATAC.490 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig00373198-10-16596610 | 605926 | gelB | 02143 |
| 5 | Aved_18-Q3-R54-62_MAXAC.397_sub | d__Bacteria;p__Myxococota;c__Polyangia;o__Nannocystales;f__Nannocystaceae;g__Ga0077550;s__ | tig00000424-10-34564120 | 673176 | gelA | 00566 |
| 6 | Bjer_18-Q3-R1-45_BAT3C.347 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__s__ | tig00199796-10-9414780 | 87217 | gelA | 03848 |
| 7 | Bjer_18-Q3-R1-45_BATAC.230 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__UKL13-2;g__FEB-7;s__ | tig00009630-10-1594380 | 67661 | gelB | 02865 |
| 8 | Bjer_18-Q3-R1-45_BATAC.569 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g__Rhodoferax;s__ | tig00012007-10-1205650 | 99079 | gelA | 02373 |
| 9 | Ega_18-Q3-R5-49_BATAC.204 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__s__ | tig00004277-10-2003480 | 158480 | gelA | 03657 |
| 10 | Ejby_18-Q3-R6-50_BATAC.123 | d__Bacteria;p__Cyanobacteria;c__Vampirovibrionia;o__Obscuribacteriales;f__Obscuribacteraceae;g__Obscuribacter;s__ | tig00018983-10-500140 | 16135 | atrD | 05458 |
| 11 | EsbE_18-Q3-R3-47_BATAC.463 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig00004449-10-2095470 | 173883 | gelB | 00746 |
| 12 | EsbW_18-Q3-R4-48_BAT3C.207 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g__Vitreoscilla_A;s__ | tig00001176-10-9861400 | 273828 | gelC | 02014 |
| 13 | EsbW_18-Q3-R4-48_BAT3C.93 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__s__ | tig00000038-10-43439960 | 2137457 | gelA | 02037 |
| 14 | EsbW_18-Q3-R4-48_BATAC.72 | d__Bacteria;p__Planctomycetota;c__Phycisphaerae;o__Phycisphaerales;f__SM1A02;g__s__ | tig00011125-10-1386600 | 104804 | gelB | 03060 |
| 15 | EsbW_18-Q3-R4-48_MAXAC.044 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__Propionivbrio;s__ | tig00033796-10-615360 | 28982 | gelB | 03344 |
| 16 | Fred_18-Q3-R57-64_MAXAC.307 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales;f__A_f_2-12-FULL-67-15;g__s__ | tig00002301-10-12040470 | 1011128 | atrB | 03305 |
| 17 | Fred_18-Q3-R57-64_MAXAC.359 | d__Bacteria;p__Myxococota;c__Polyangia;o__Nannocystales;f__Nannocystaceae;g__Ga0077550;s__ | tig00001995-10-14076520 | 736276 | gelA | 04240 |
| 18 | Hade_18-Q3-R52-61_BATAC.316 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__s__ | tig00000808-10-11321960 | 743853 | gelA | 00676 |
| 19 | Hade_18-Q3-R52-61_MAXAC.390 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Thiotrichales;f__Thiotrichaceae;g__Thiofilum;s__ | tig00000011-10-40151770 | 1765403 | gelB | 01701 |
| 20 | Hirt_18-Q3-R61-65_BAT3C.204 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g__Rhodobacter_E;s__ | tig00317261-10-8095540 | 421901 | gelB | 02777 |
| 21 | Hirt_18-Q3-R61-65_MAXAC.060 | d__Bacteria;p__Cyanobacteria;c__Vampirovibrionia;o__Obscuribacteriales;f__Obscuribacteraceae;g__Obscuribacter;s__ | tig00010514-10-2077950 | 78969 | atrD | 02874 |
| 22 | Hirt_18-Q3-R61-65_MAXAC.231 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__s__ | tig00000003-10-42710140 | 580316 | gelA | 00552 |
| 23 | Kalu_18-Q3-R12-55_BAT3C.197 | d__Bacteria;p__Planctomycetota;c__Phycisphaerae;o__UBA1845;f__Fen-1342;g__Fen-1342;s__ | tig00000698-10-18309200 | 1181474 | gelB | 00989 |
| 24 | Kalu_18-Q3-R12-55_MAXAC.182_cln | d__Bacteria;p__Patescibacteria;c__Microgenomatia;o__GWA2-44-7;f__UBA8517;g__s__ | tig00000428-10-12728800 | 970939 | atrB | 00954 |
| 25 | Lyne_18-Q3-R50-59_MAXAC.018 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g__Rhodoferax;s__ | tig00321118-10-792010 | 14257 | gelA | 02866 |
| 26 | Lyne_18-Q3-R50-59_MAXAC.349 | d__Bacteria;p__Myxococota;c__Polyangia;o__Nannocystales;f__Nannocystaceae;g__Ga0077550;s__ | tig00007064-10-3813790 | 226741 | gelA | 05638 |
| 27 | Mari_18-Q3-R65-66_BATAC.299 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig00869144-10-6422420 | 425053 | gelB | 02515 |
| 28 | OdNW_18-Q3-R42-56_BATAC.52 | d__Bacteria;p__Cyanobacteria;c__Vampirovibrionia;o__Obscuribacteriales;f__Obscuribacteraceae;g__Obscuribacter;s__ | tig00000564-10-8675060 | 796195 | atrD | 04582 |
| 29 | Ribe_18-Q3-R11-54_BATAC.412 | d__Bacteria;p__Actinobacteriota;c__Actinobacteria;o__Nanopelagiales;f__S_36-B12;g__UBA10649;s__ | tig00001979-10-5826140 | 263605 | atrB | 01129 |
| 30 | Ribe_18-Q3-R11-54_BATAC.569 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig01084768-10-3860630 | 331823 | gelB | 03107 |
| 31 | Skiv_18-Q3-R9-52_BATAC.351 | d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadaceae;g__UBA1936;s__ | tig00287756-10-1221250 | 85581 | gelB | 03425 |
| 32 | Skiv_18-Q3-R9-52_BATAC.396 | d__Bacteria;p__Acidobacteriota;c__Acidobacteriae;o__Bryobacterales;f__Bryobacteraceae;g__UBA690;s__ | tig00003208-10-5214800 | 237399 | atrB | 01745 |
| 33 | Vibo_18-Q3-R45-57_BATAC.199 | d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Rhodocyclaceae;g__Propionivbrio;s__ | tig00008044-10-802880 | 47367 | gelB | 01871 |
| 34 | Vibo_18-Q3-R45-57_BATAC.463 | d__Bacteria;p__Cyanobacteria;c__Vampirovibrionia;o__Obscuribacteriales;f__Obscuribacteraceae;g__Obscuribacter;s__ | tig00002248-10-4417980 | 430639 | atrD | 05130 |
| 35 | Vibo_18-Q3-R45-57_MAXAC.083 | d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__AKYH767-A;f__2013-40CM-41-45;g__s__ | tig00004163-10-3243870 | 299574 | atrB | 00314 |
| 36 | Viby_18-Q3-R106-67_BAT3C.260 | d__Bacteria;p__Acidobacteriota;c__Holophagae;o__Holophagales;f__Holophagaceae;g__s__ | tig00000170-10-6009320 | 315735 | atrB | 01137 |