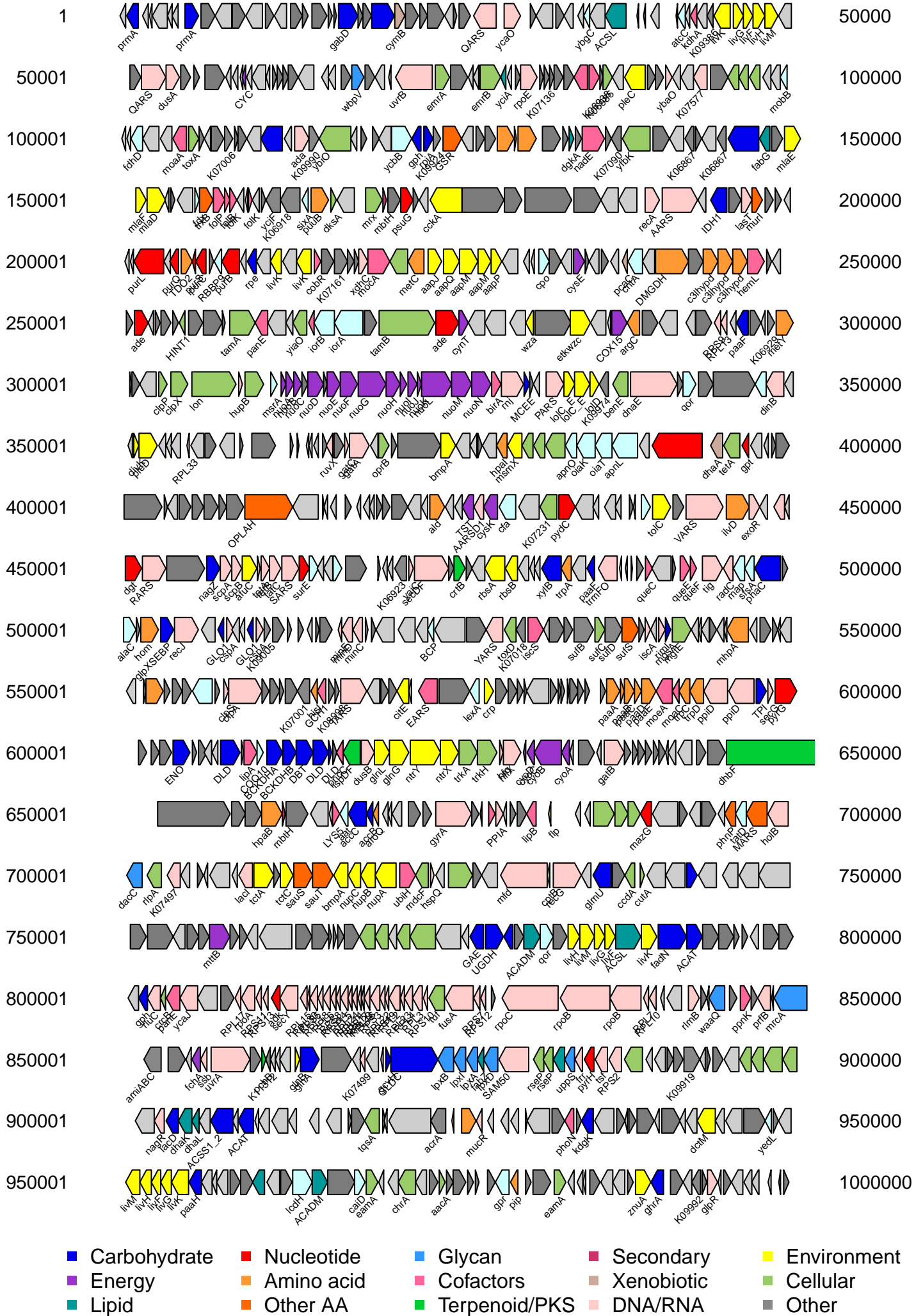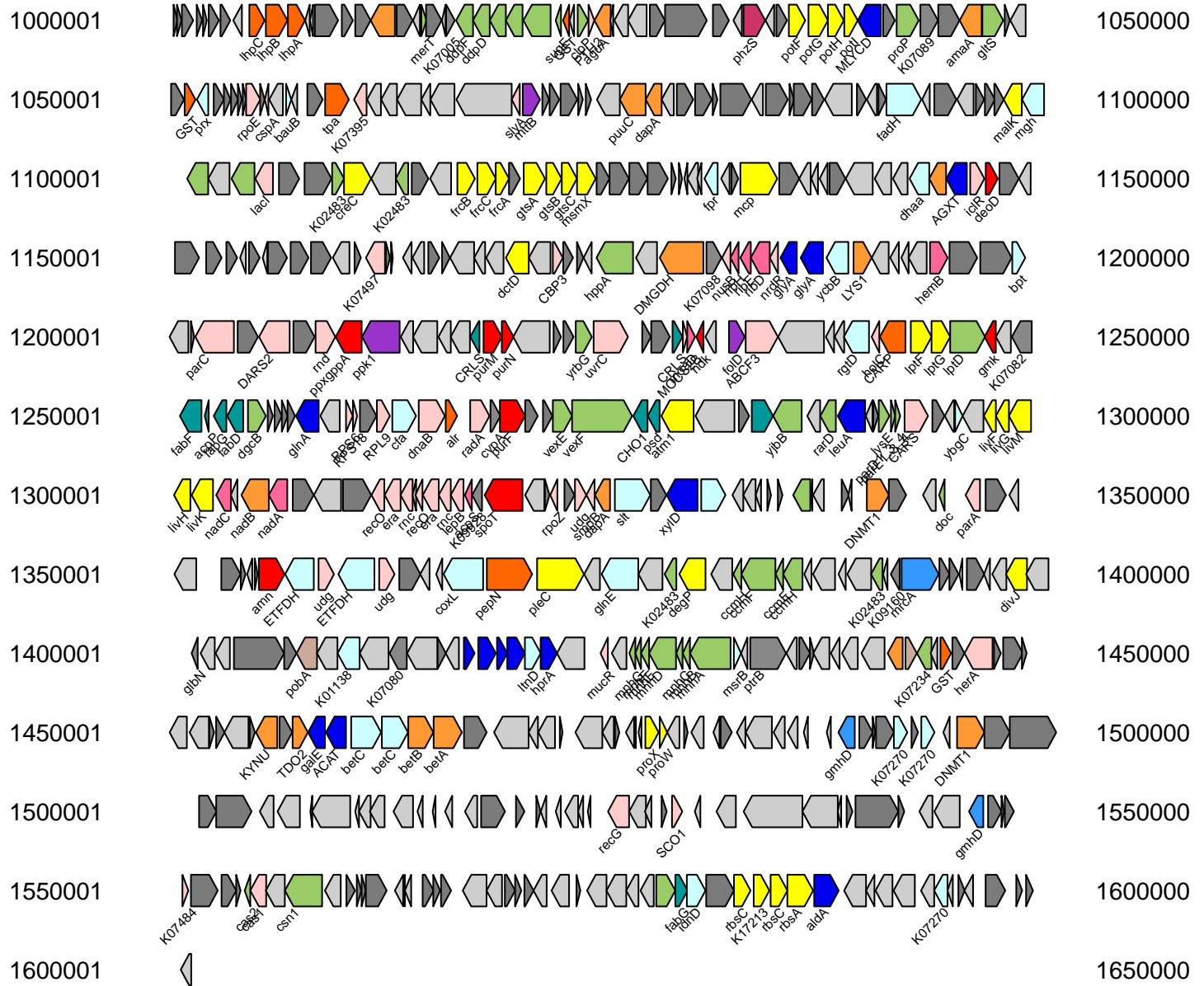V4_a47_metabat_bin.1.w_kegg.gff – P_RNA_scaffold_14 – 1
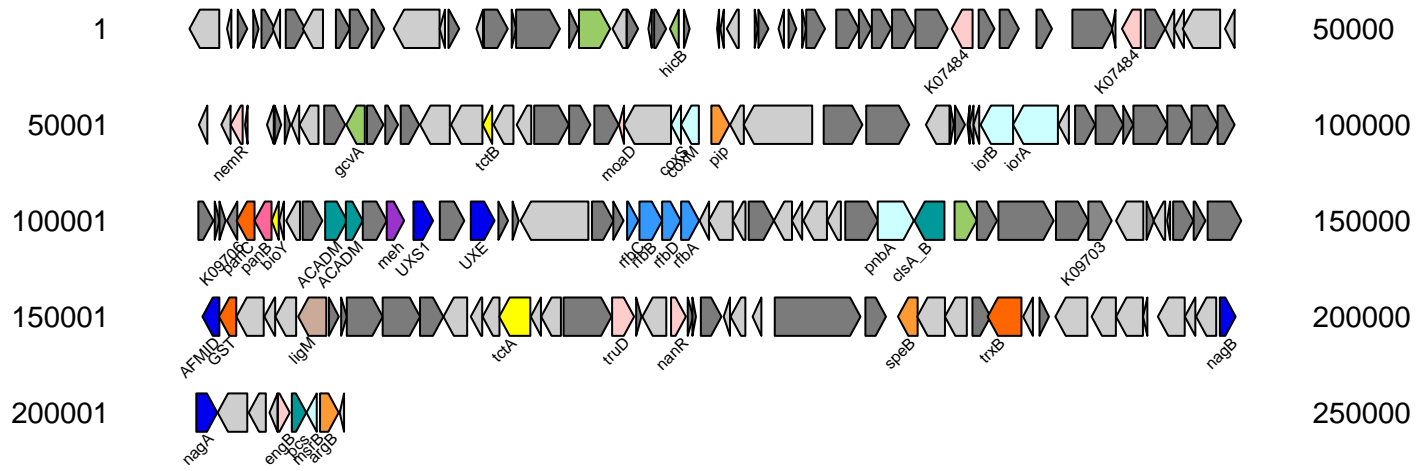
Legend:
- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
- Other

Legend:

- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold42 – 1

Legend:

- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold32 – 1

Legend:
- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
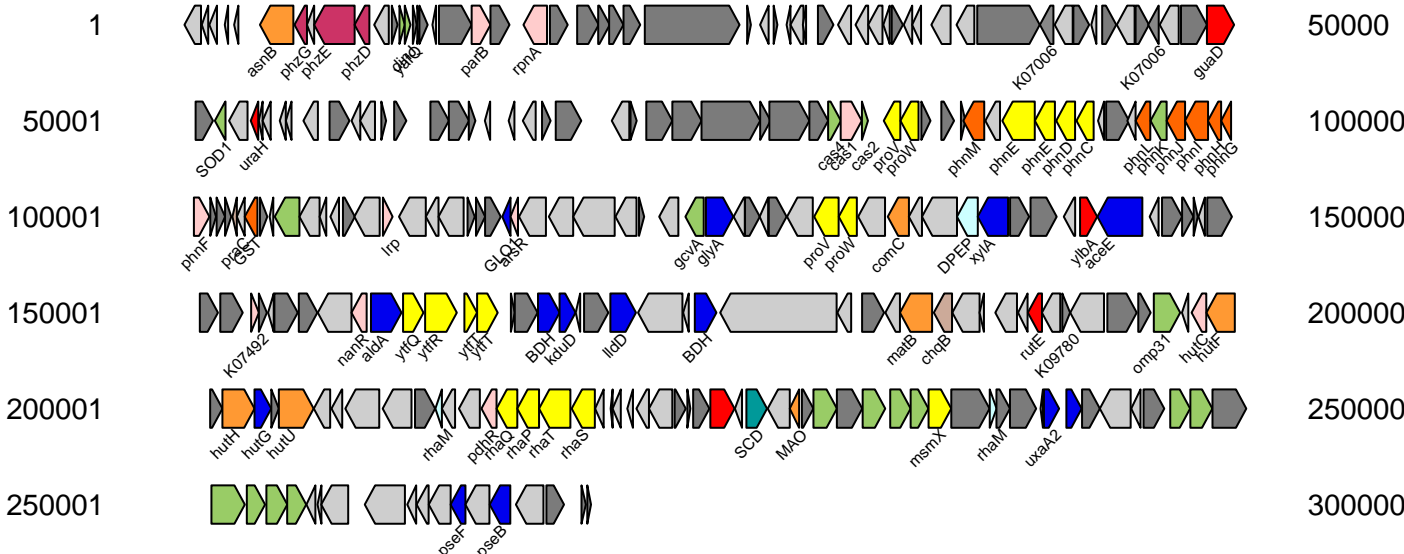- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold61 – 1

Legend:

- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
- Other

Gene labels (row 1, 1–50000): ubiV, ubiU, ubiU, ubiT, nosR, nosZ, nosD, nosY, nosL, napE, adhP

Gene labels (row 2, 50001–100000): DMGDH, CMO, amaB, lacI, gatA, glpR, dapA, coxL, HAAO

Gene labels (row 3, 100001–150000): livK, livH, livM, livG, livF, AFMID, K07484, ccdA, soeA, soeB, soeC, livH, livF, livG, livH, livM, livG, livF, livK, pcaR, tfdB, K07080

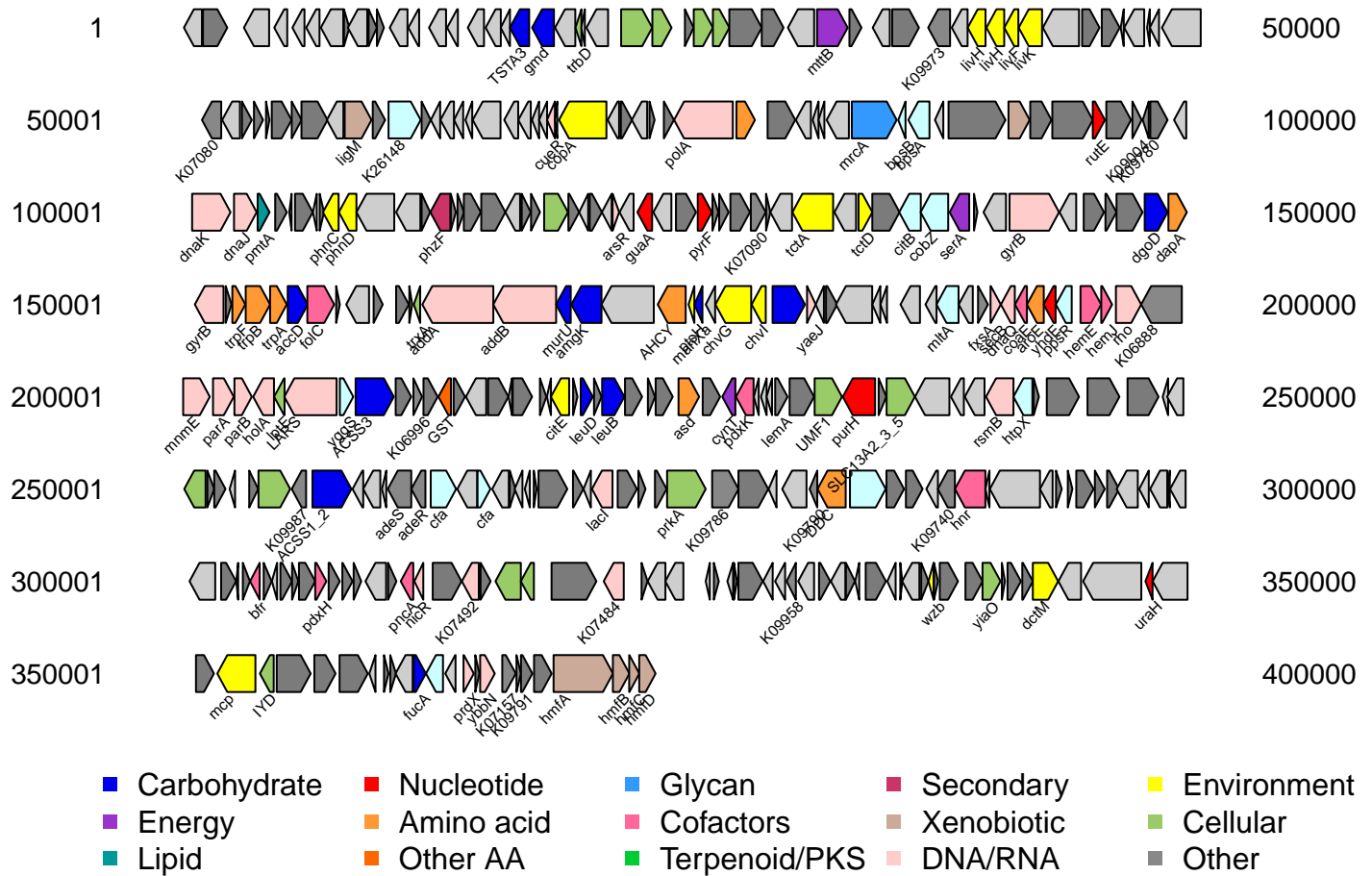# V4_a47_metabat_bin.1.w_kegg.gff – scaffold29 – 1

Legend:
- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
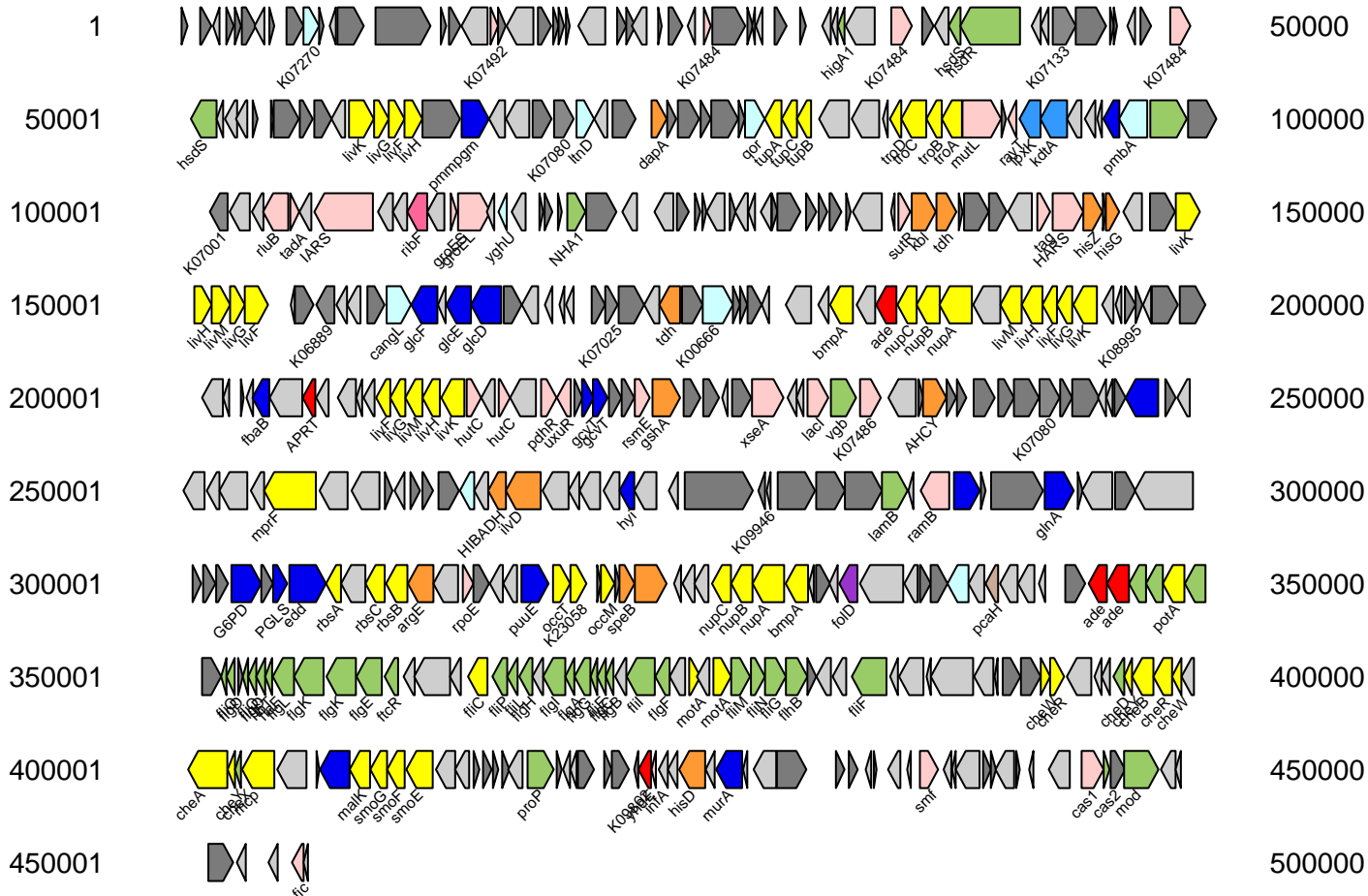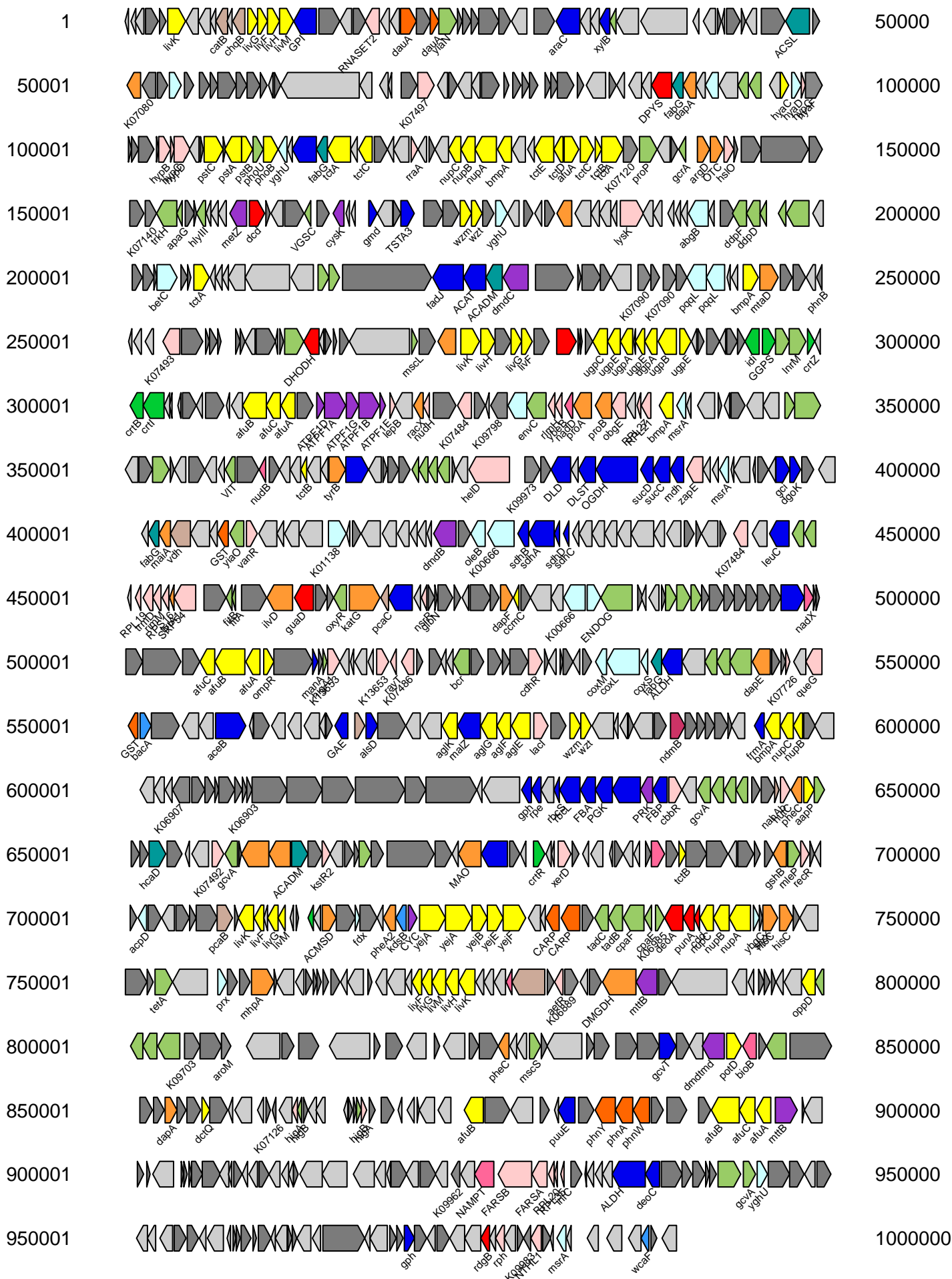- Terpenoid/PKS
- DNA/RNA
- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold28 – 1

Carbohydrate	Nucleotide	Glycan	Secondary	Environment
Energy	Amino acid	Cofactors	Xenobiotic	Cellular
Lipid	Other AA	Terpenoid/PKS	DNA/RNA	Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold19 – 1

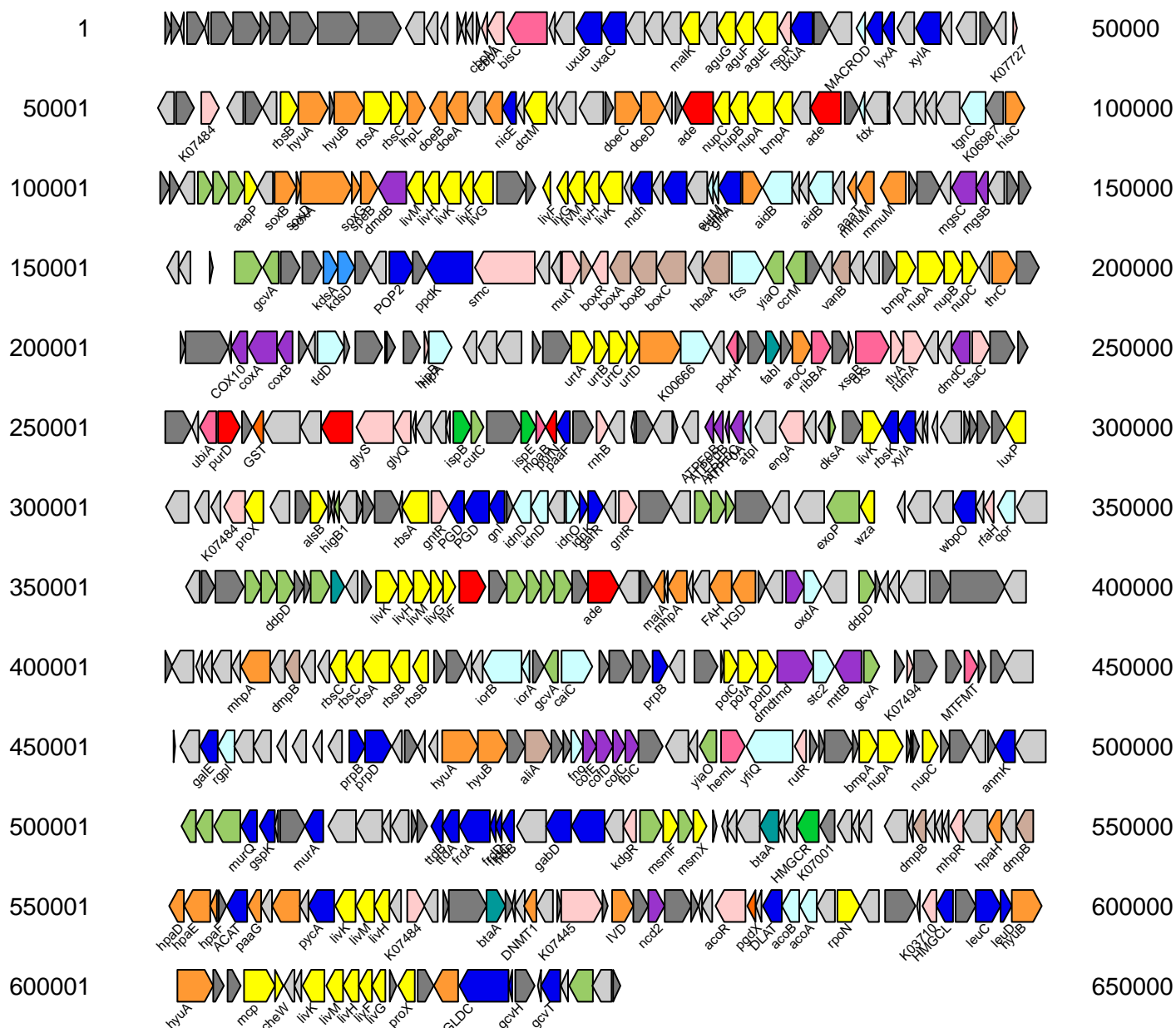**V4_a47_metabat_bin.1.w_kegg.gff – scaffold23 – 1**

Legend:
- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
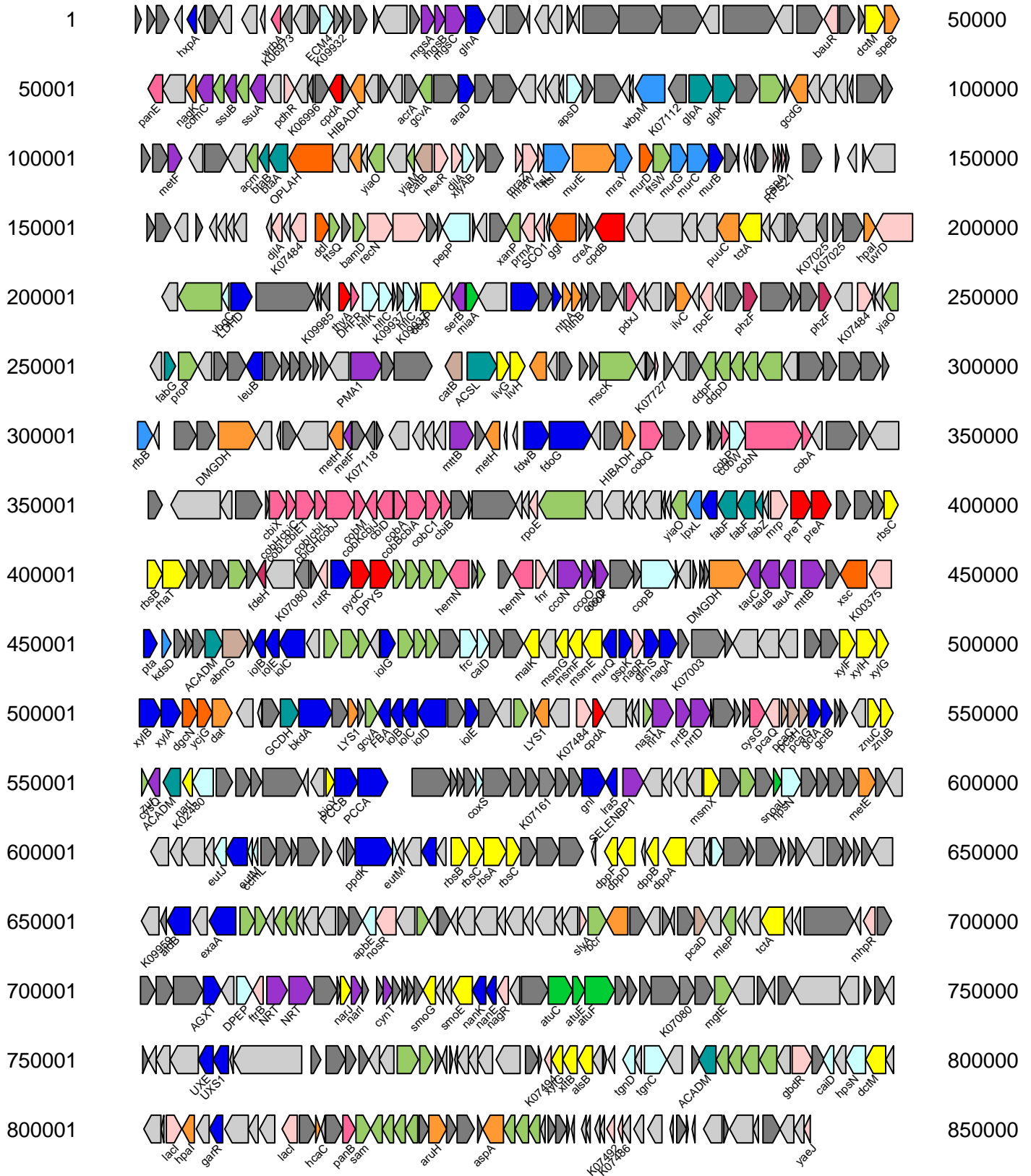- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold21 – 1

Legend:
- Carbohydrate (dark blue)
- Nucleotide (red)
- Glycan (light blue)
- Secondary (dark pink)
- Environment (yellow)
- Energy (purple)
- Amino acid (orange)
- Cofactors (pink)
- Xenobiotic (tan)
- Cellular (light green)
- Lipid (teal)
- Other AA (dark orange)
- Terpenoid/PKS (green)
- DNA/RNA (light pink)
- Other (gray)

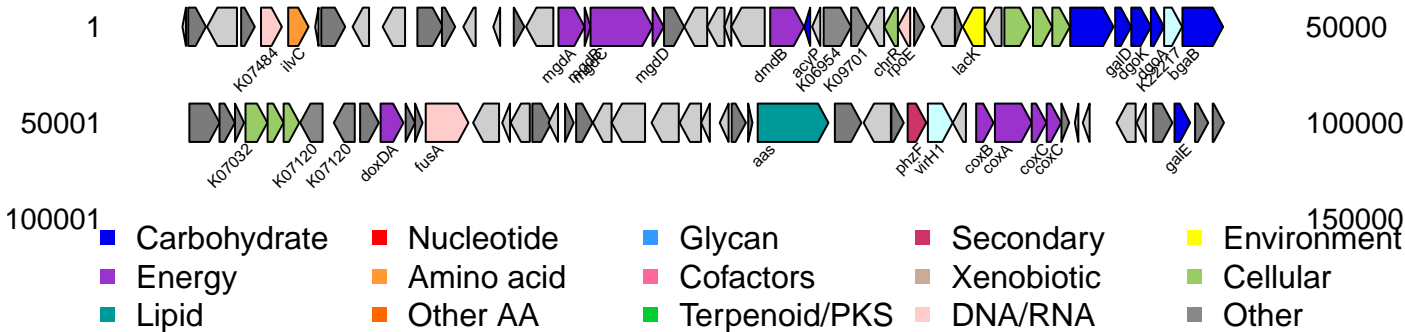**V4_a47_metabat_bin.1.w_kegg.gff – scaffold94 – 1**

Legend:
- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
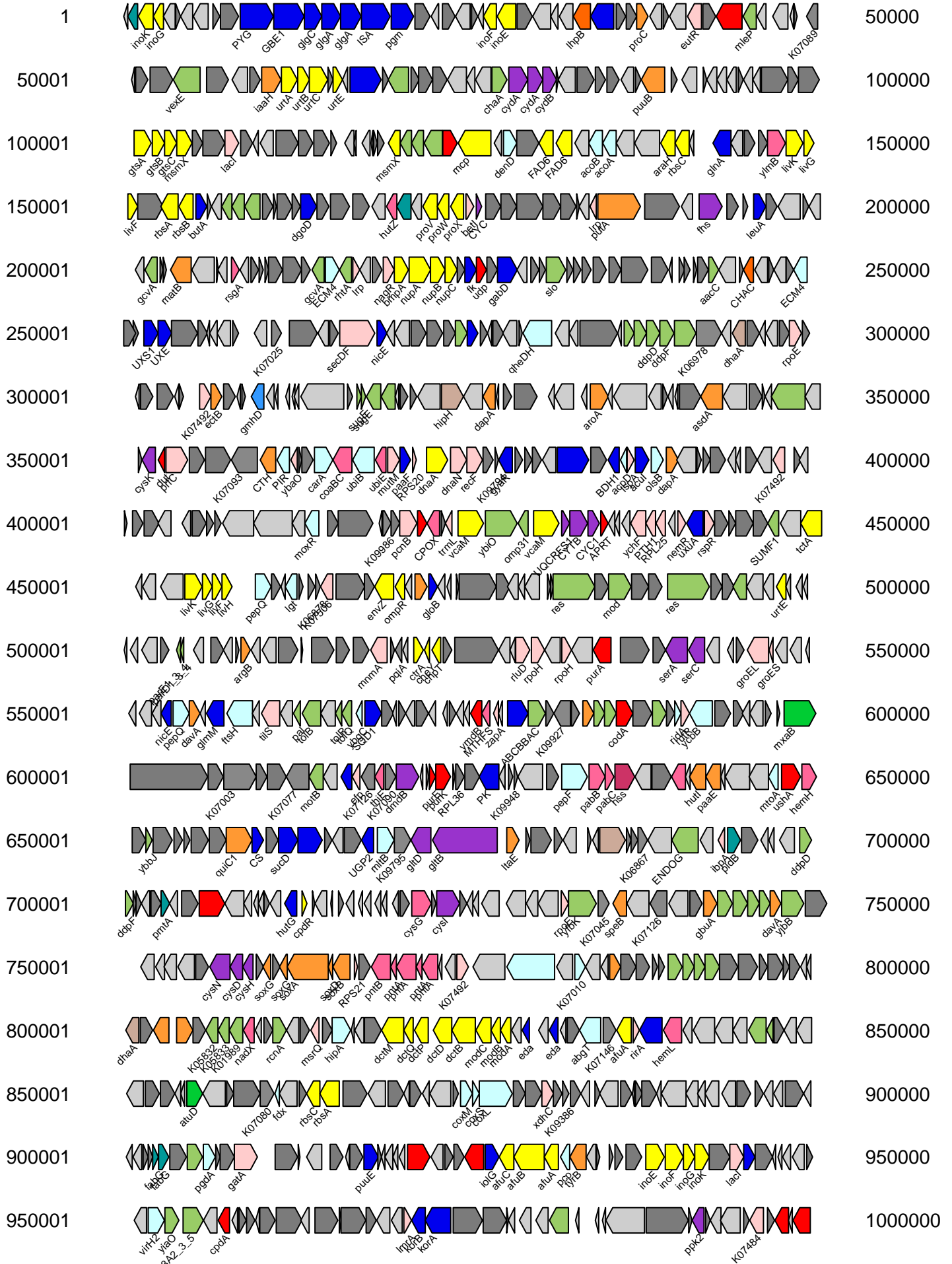- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold15 – 1

Legend:
- Carbohydrate
- Energy
- Lipid
- Nucleotide
- Amino acid
- Other AA
- Glycan
- Cofactors
- Terpenoid/PKS
- Secondary
- Xenobiotic
- DNA/RNA
- Environment
- Cellular
- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold15 – 2

V4_a47_metabat_bin.1.w_kegg.gff – scaffold312 – 1

1

50000

msmX nicE lrp gabD betA

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other
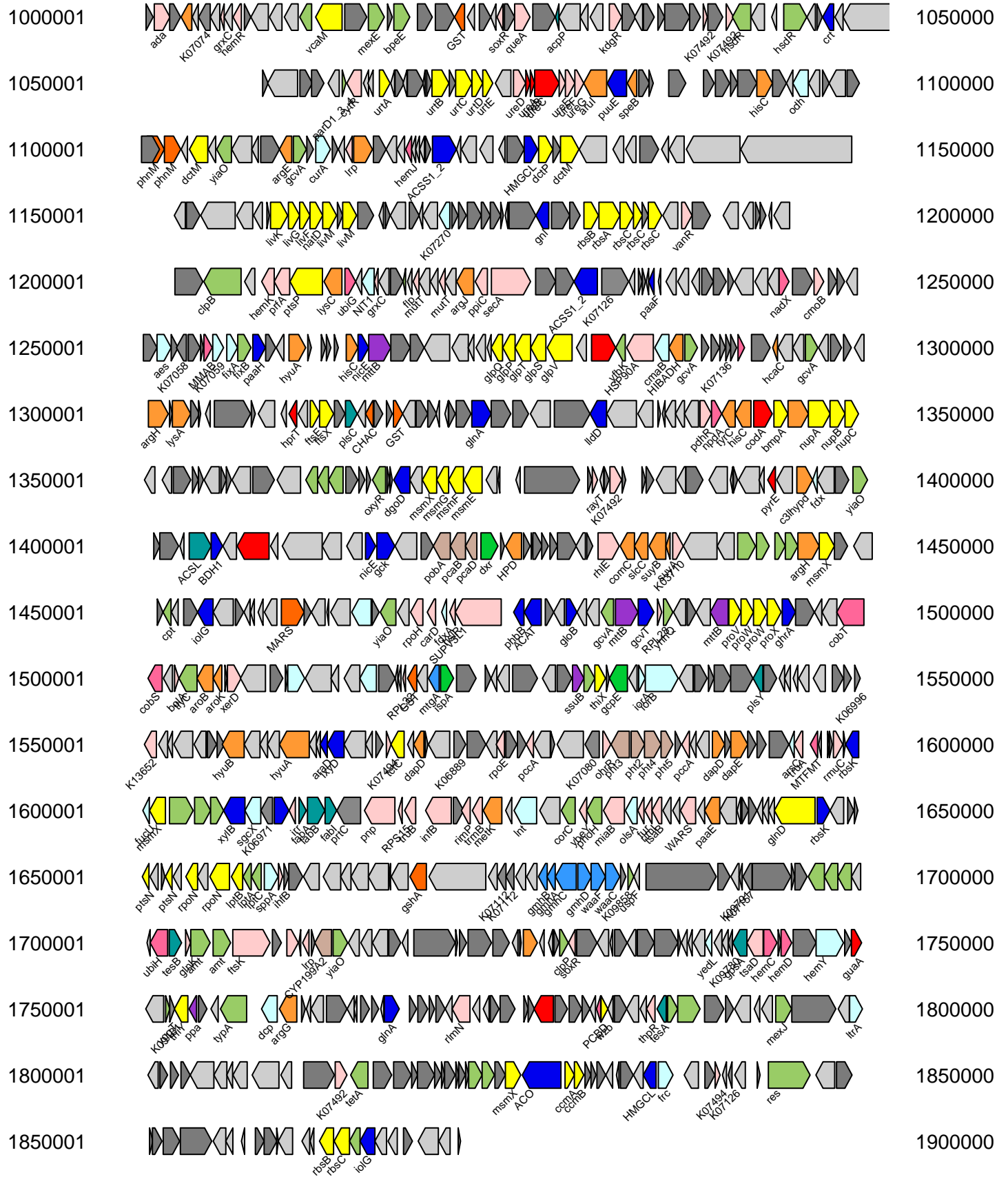
V4_a47_metabat_bin.1.w_kegg.gff – scaffold324 – 1

1   hemG   fnr   50000

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold400 – 1

1   50000

vanR   aacA   panB hcaD

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold410 – 1

1   50000

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold430 – 1

1   50000

K07492   phnE

- ■ Carbohydrate   ■ Nucleotide   ■ Glycan   ■ Secondary   ■ Environment
- ■ Energy   ■ Amino acid   ■ Cofactors   ■ Xenobiotic   ■ Cellular
- ■ Lipid   ■ Other AA   ■ Terpenoid/PKS ■ DNA/RNA   ■ Other

- ■ Carbohydrate   ■ Nucleotide   ■ Glycan   ■ Secondary   ■ Environment
- ■ Energy   ■ Amino acid   ■ Cofactors   ■ Xenobiotic   ■ Cellular
- ■ Lipid   ■ Other AA   ■ Terpenoid/PKS ■ DNA/RNA   ■ Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold475 – 1

1

K09807

50000

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold497 – 1

1   50000

vanR
hldD
yiaO
ACOT13

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold601 – 1

1   lacI   gcvT   50000

- ■ Carbohydrate
- ■ Nucleotide
- ■ Glycan
- ■ Secondary
- ■ Environment
- ■ Energy
- ■ Amino acid
- ■ Cofactors
- ■ Xenobiotic
- ■ Cellular
- ■ Lipid
- ■ Other AA
- ■ Terpenoid/PKS
- ■ DNA/RNA
- ■ Other

1

50000

cylR

- Carbohydrate
- Nucleotide
- Glycan
- Secondary
- Environment
- Energy
- Amino acid
- Cofactors
- Xenobiotic
- Cellular
- Lipid
- Other AA
- Terpenoid/PKS
- DNA/RNA
- Other

V4_a47_metabat_bin.1.w_kegg.gff – scaffold620 – 1

1   50000

■ Carbohydrate   ■ Nucleotide   ■ Glycan   ■ Secondary   ■ Environment
■ Energy   ■ Amino acid   ■ Cofactors   ■ Xenobiotic   ■ Cellular
■ Lipid   ■ Other AA   ■ Terpenoid/PKS ■ DNA/RNA   ■ Other