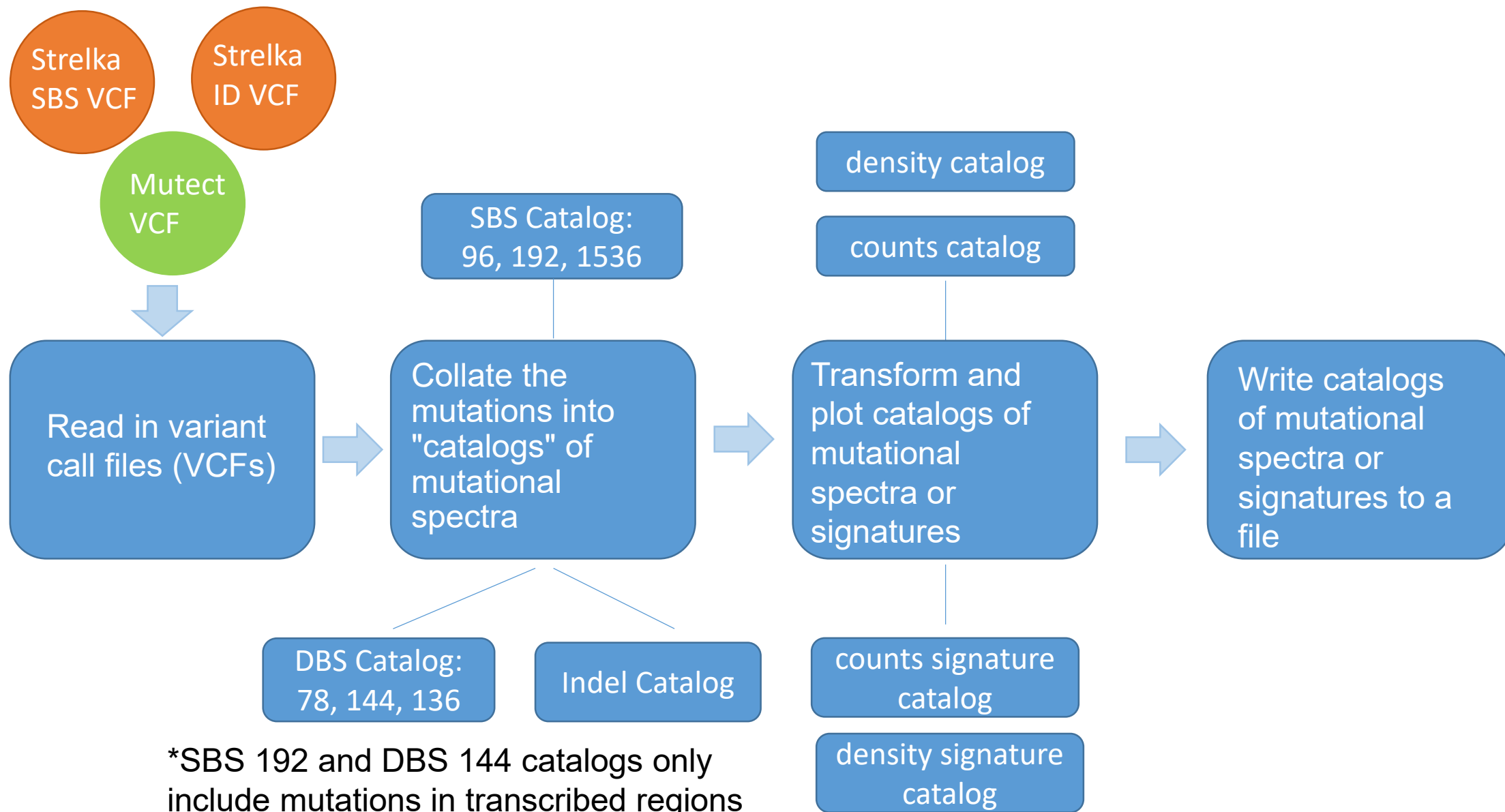
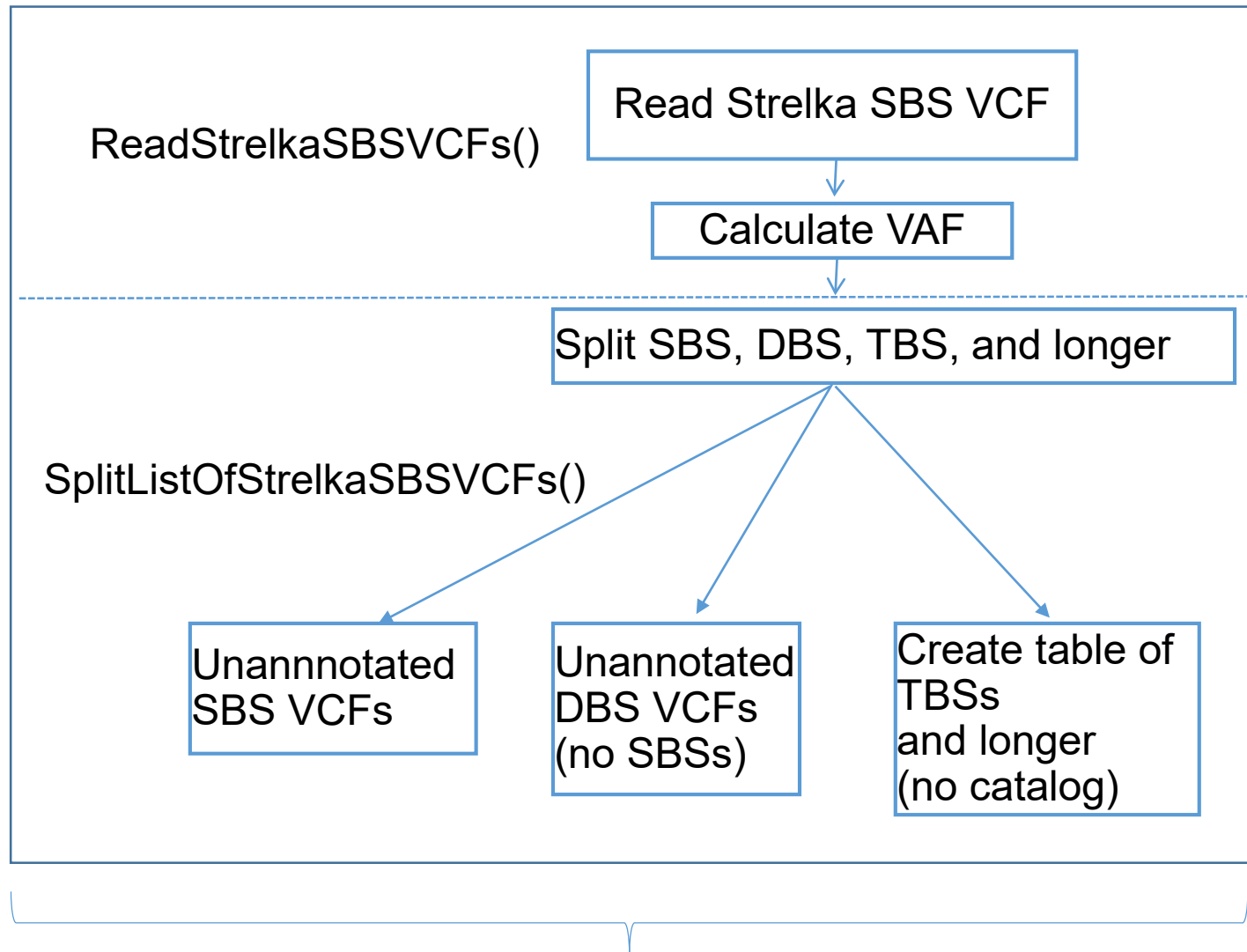


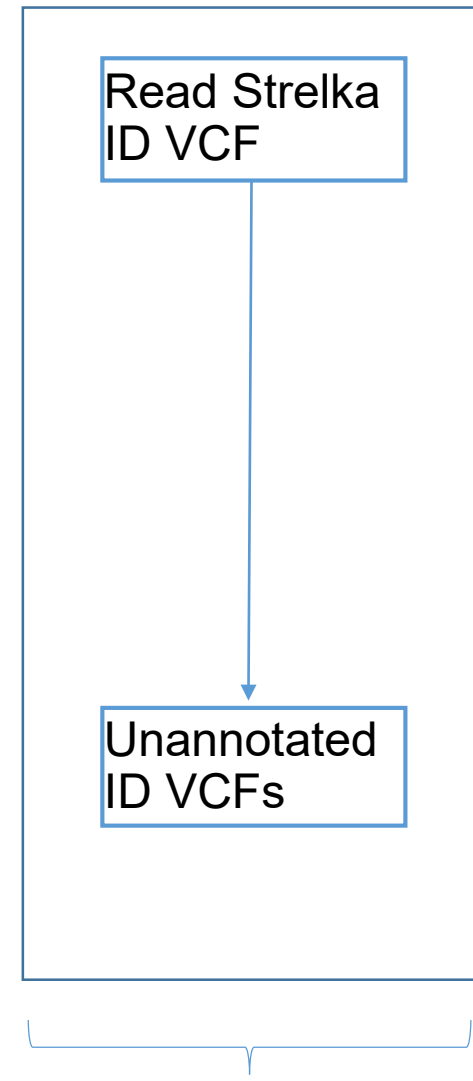
# Overview of ICAMS R package functionalities



# Strelka VCF processing



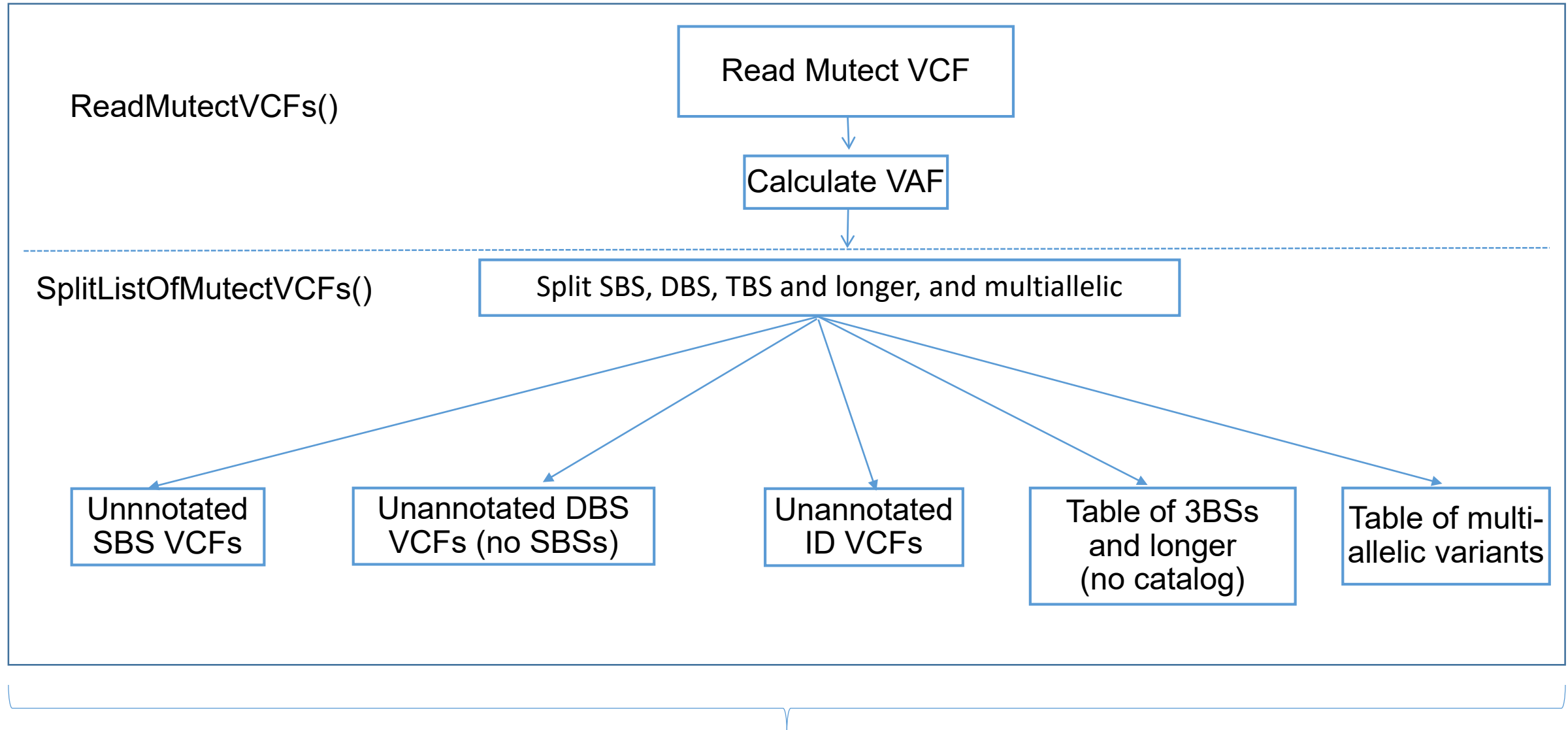
**ReadAndSplitStrelkaSBSVCFs()**



**ReadStrelkaIDVCFs()**

\* Functions whose names in red color are exported in ICAMS

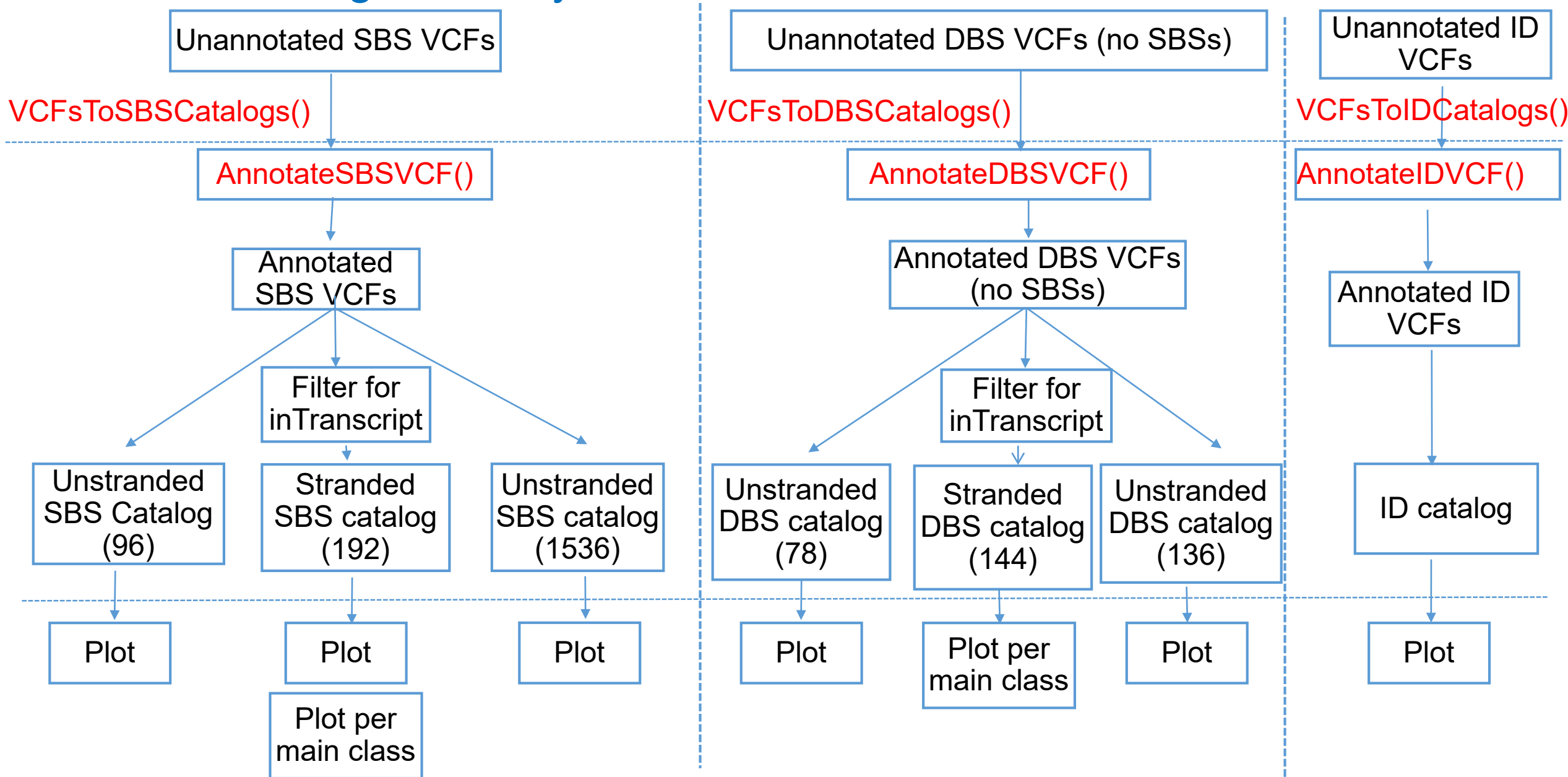
# Mutect VCF processing



**ReadAndSplitMutectVCFs()**

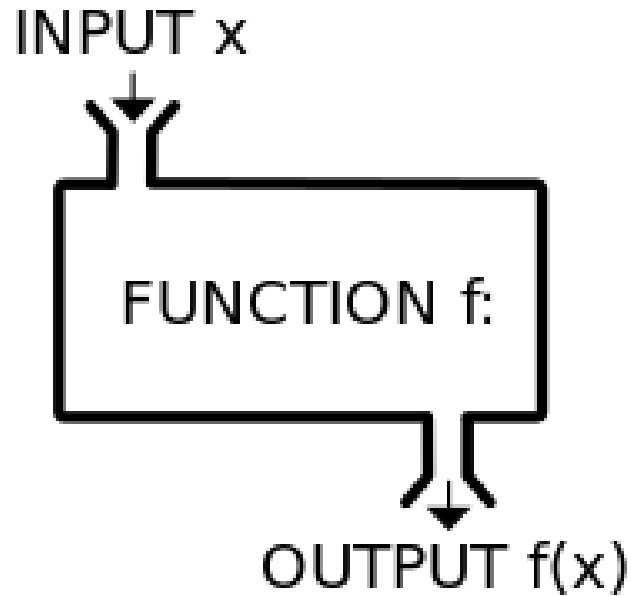
\* Functions whose names in red color are exported in ICAMS

# VCFs to catalogs and beyond



\* Functions whose names in red color are exported in ICAMS

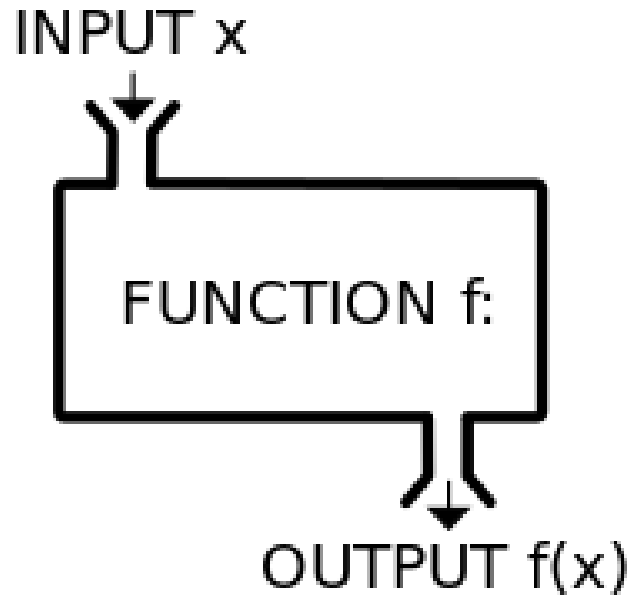
# Important exported functions in ICAMS



Creating catalogs from variant call files (VCF files)

- StrelkaSBSVCFFilesToCatalog()
- StrelkaIDVCFFilesToCatalog()
- MutectVCFFilesToCatalog()

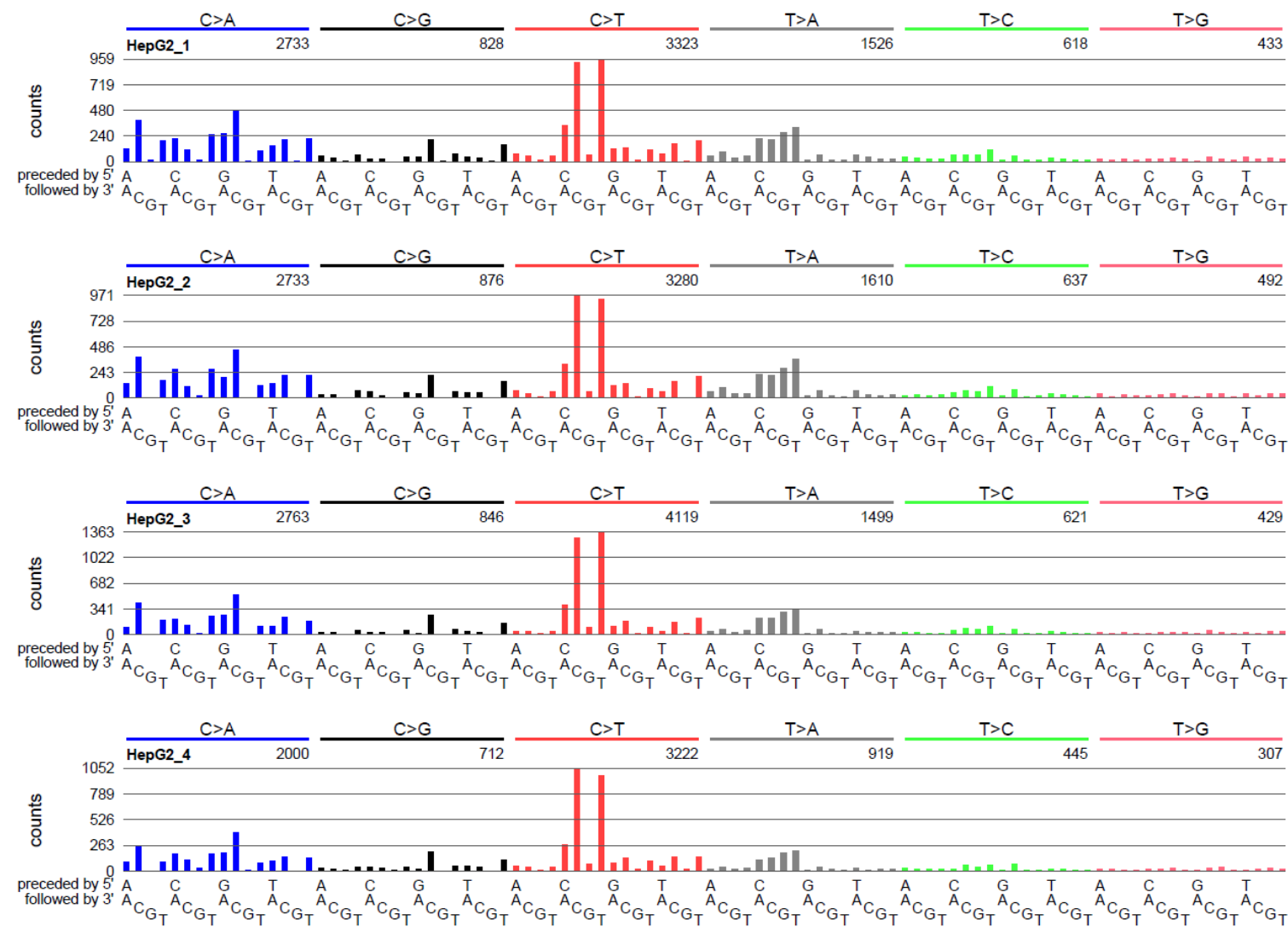
# Important exported functions in ICAMS



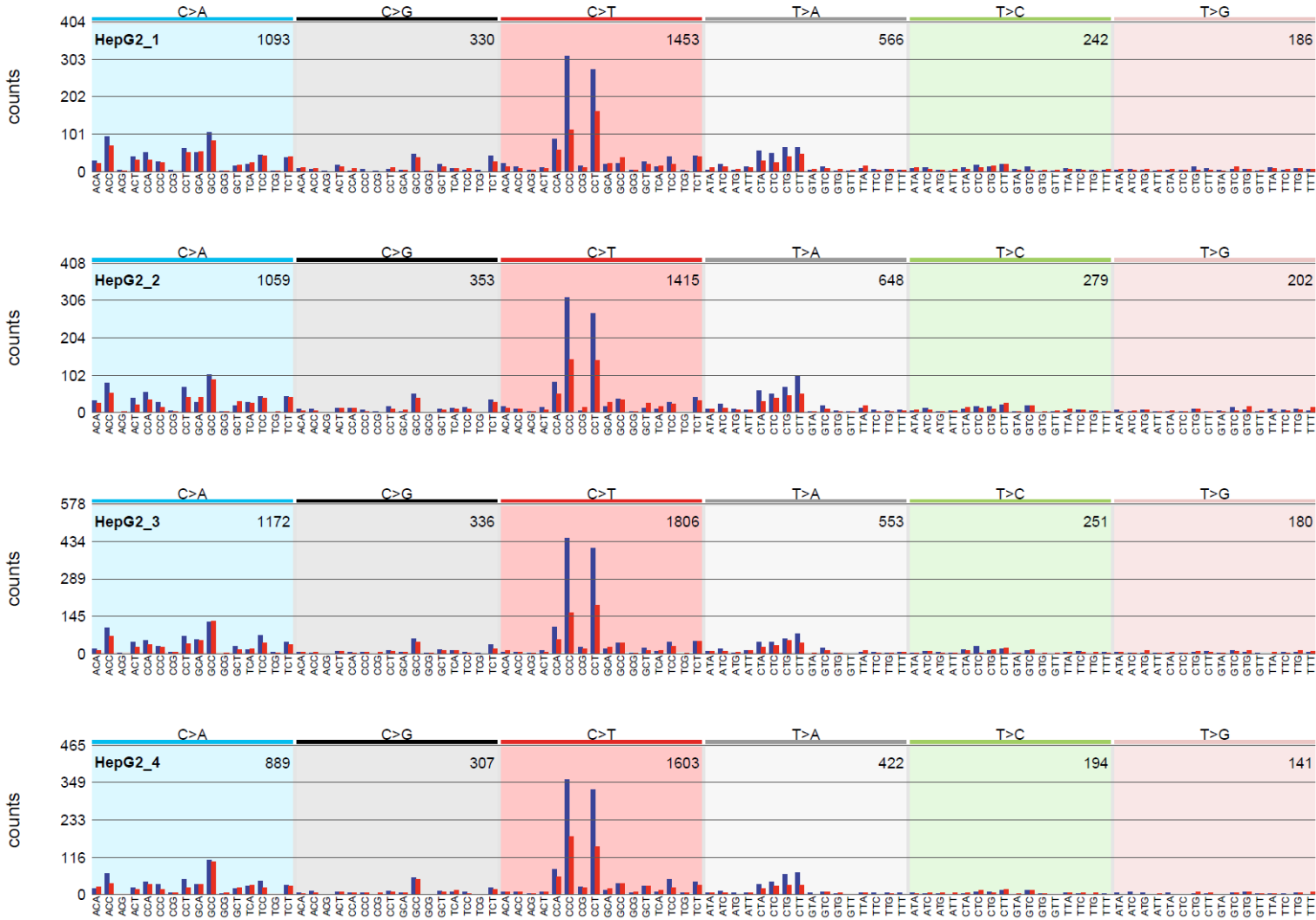
## Plotting catalogs

- `PlotCatalog()`
- `PlotCatalogToPdf()`

# PlotCatalogToPdf(): SBS96 Catalog

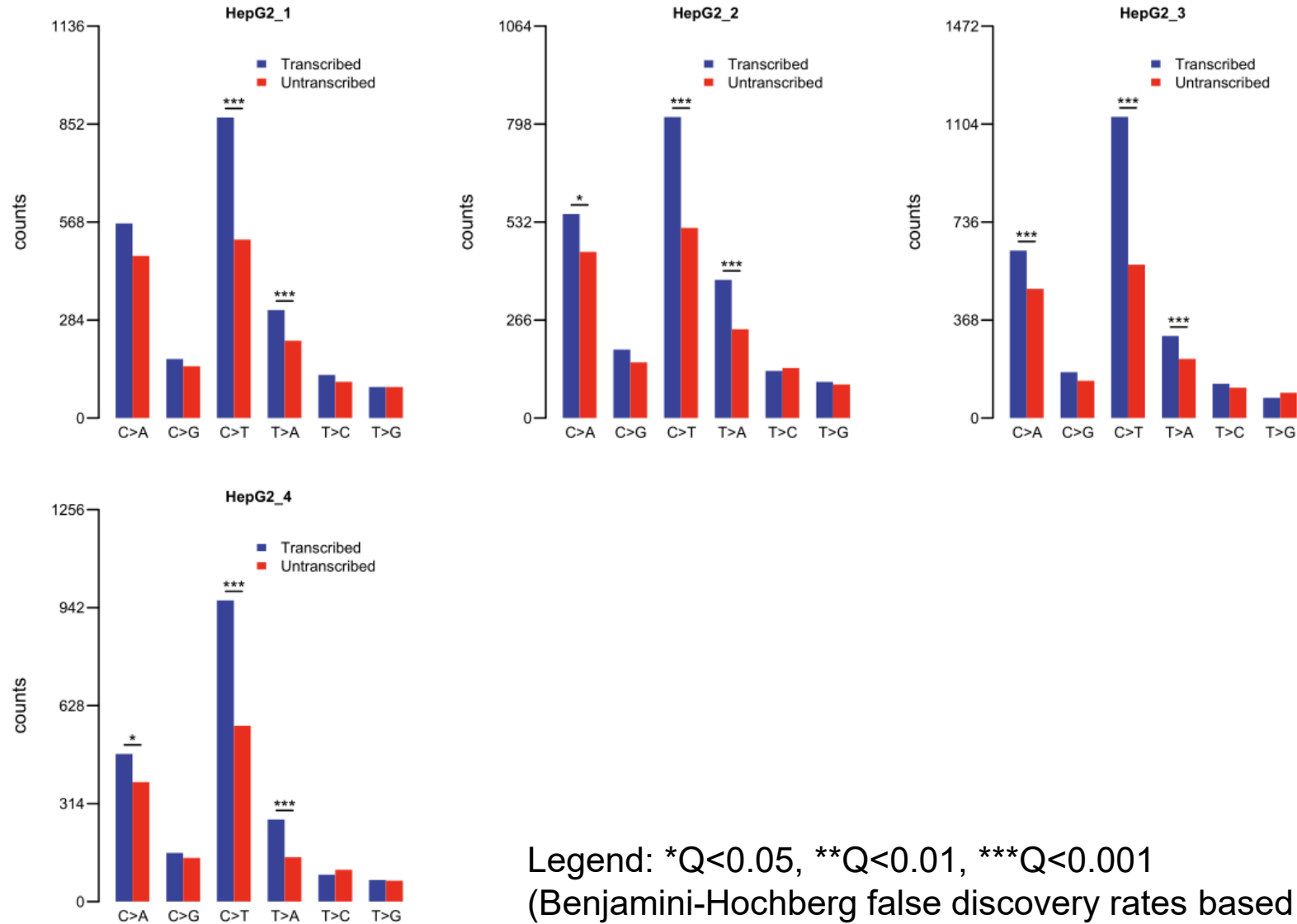


# PlotCatalogToPdf(): SBS192 Catalog





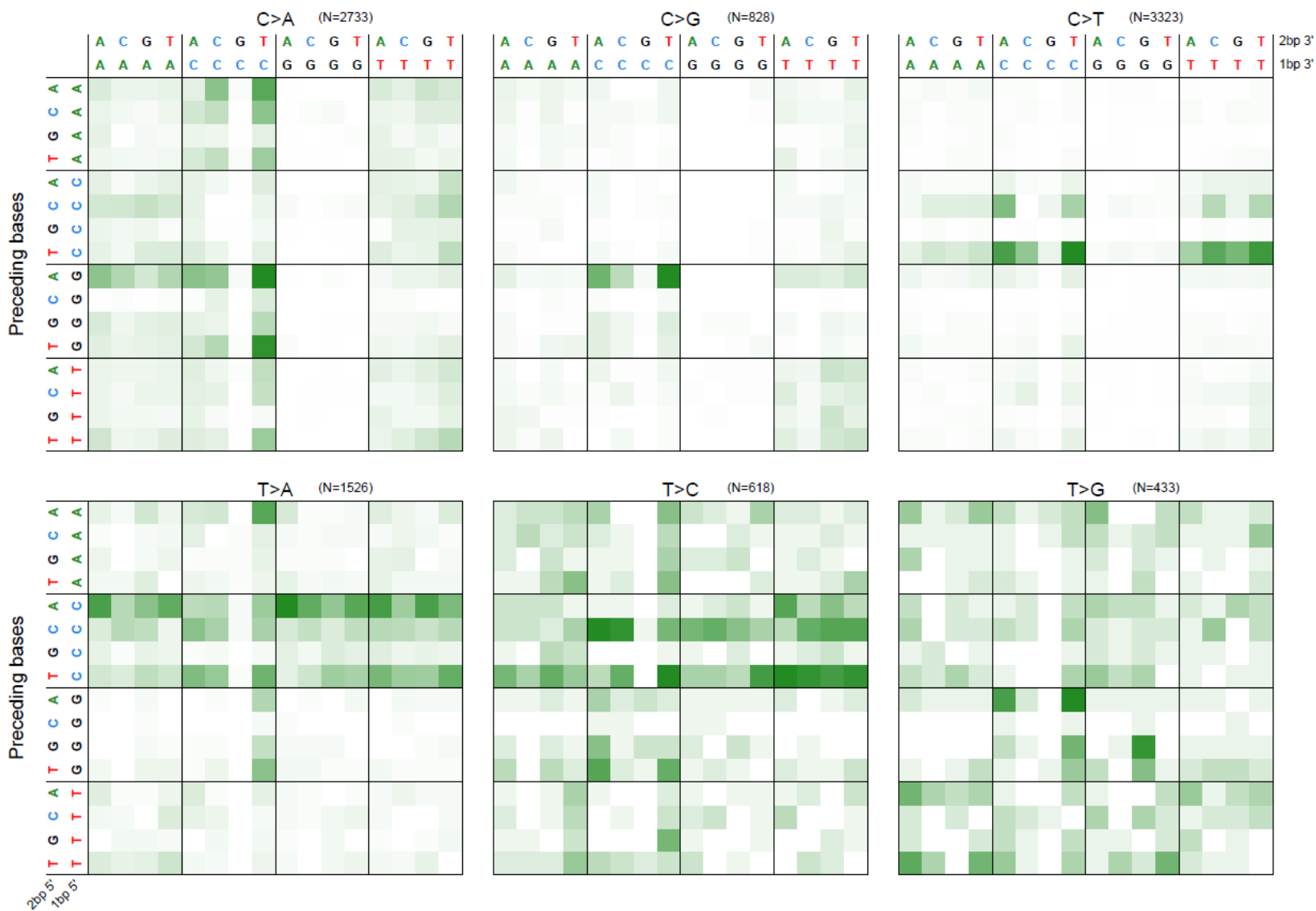
# PlotCatalogToPdf(): SBS192 counts catalog with argument plot.SBS12 = TRUE



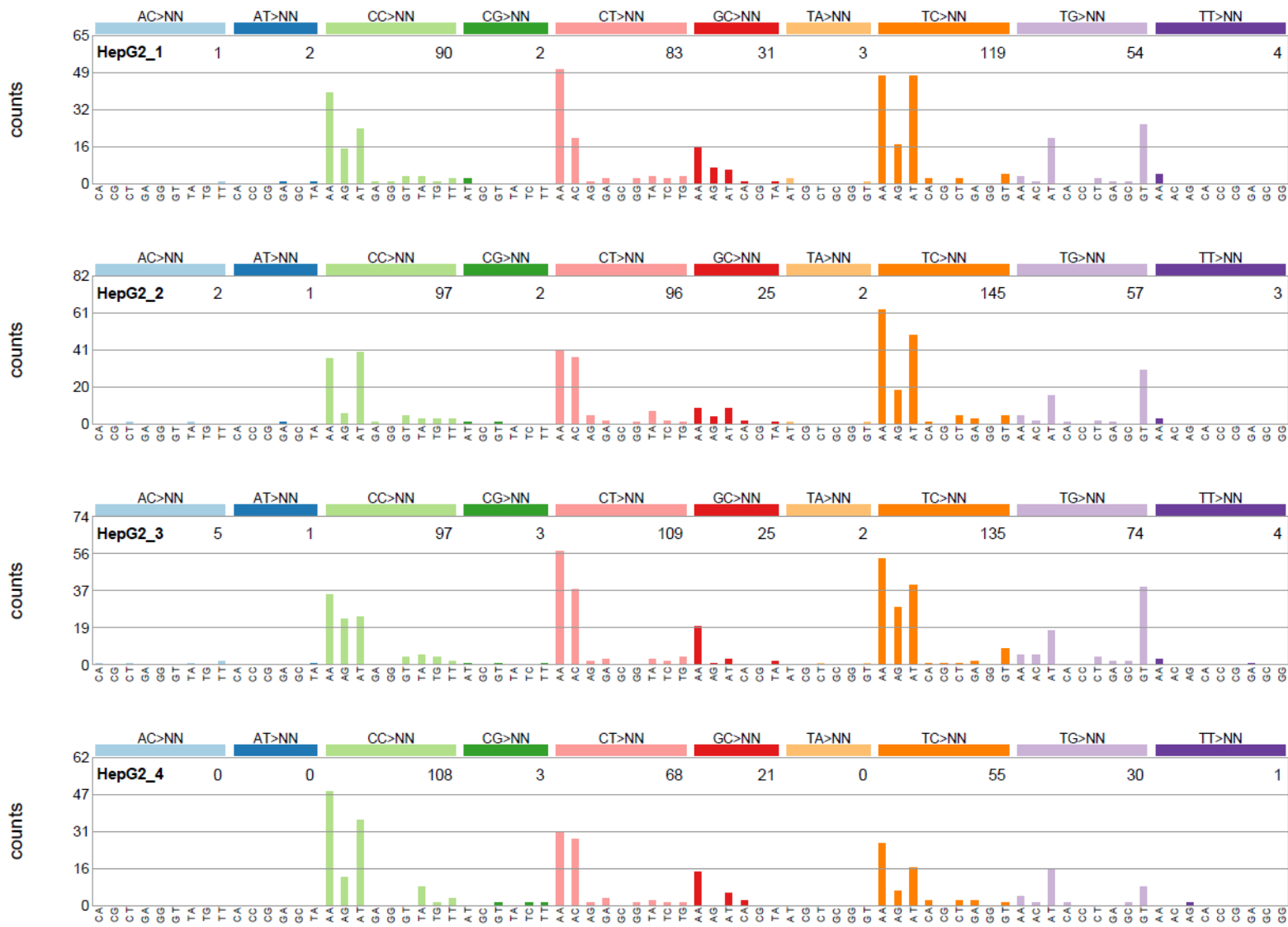
Legend: \* $Q < 0.05$ , \*\* $Q < 0.01$ , \*\*\* $Q < 0.001$   
(Benjamini-Hochberg false discovery rates based on two-tailed binomial tests)

# PlotCatalogToPdf(): SBS1536 Catalog

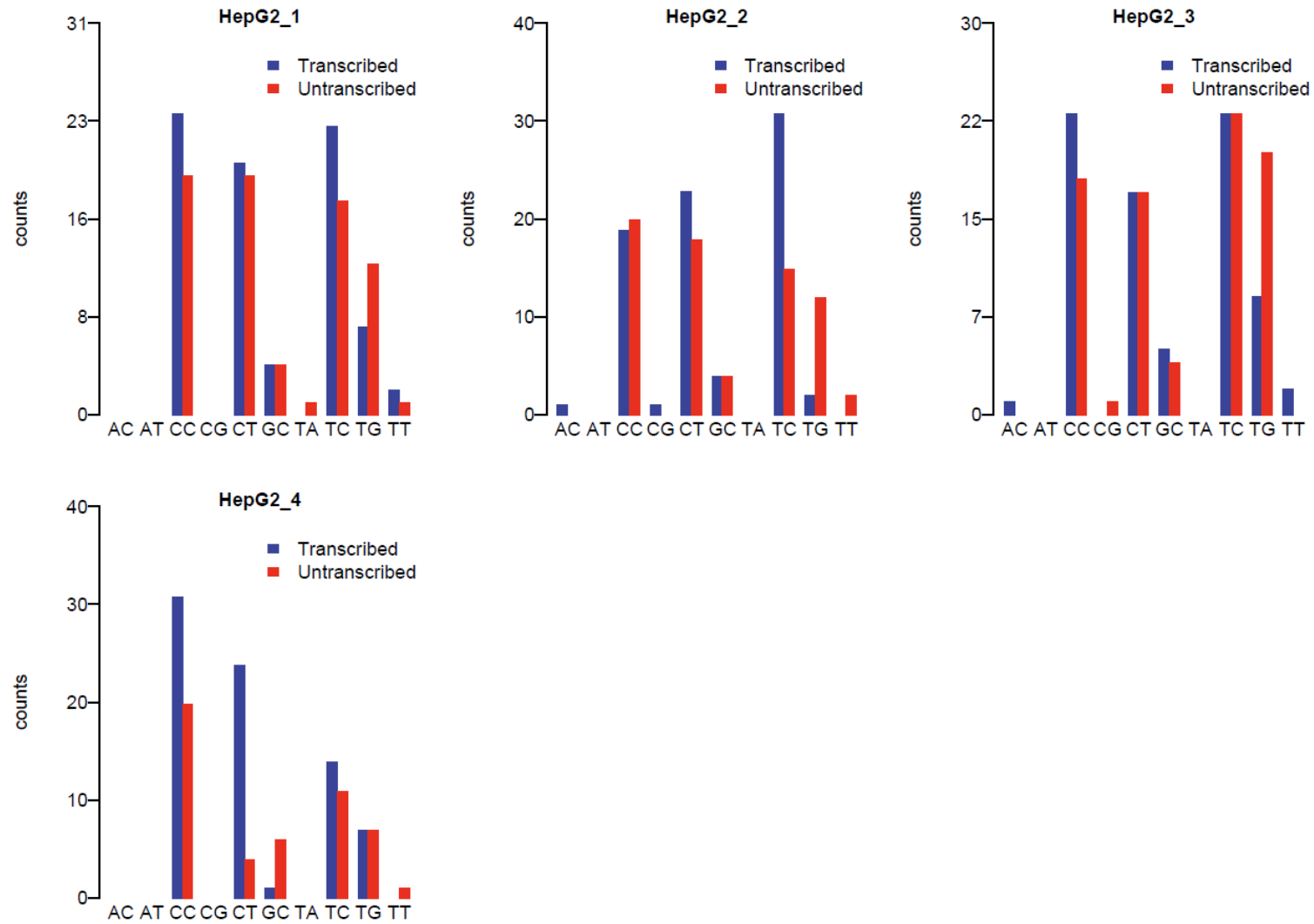
HepG2\_1



# PlotCatalogToPdf(): DBS78 Catalog

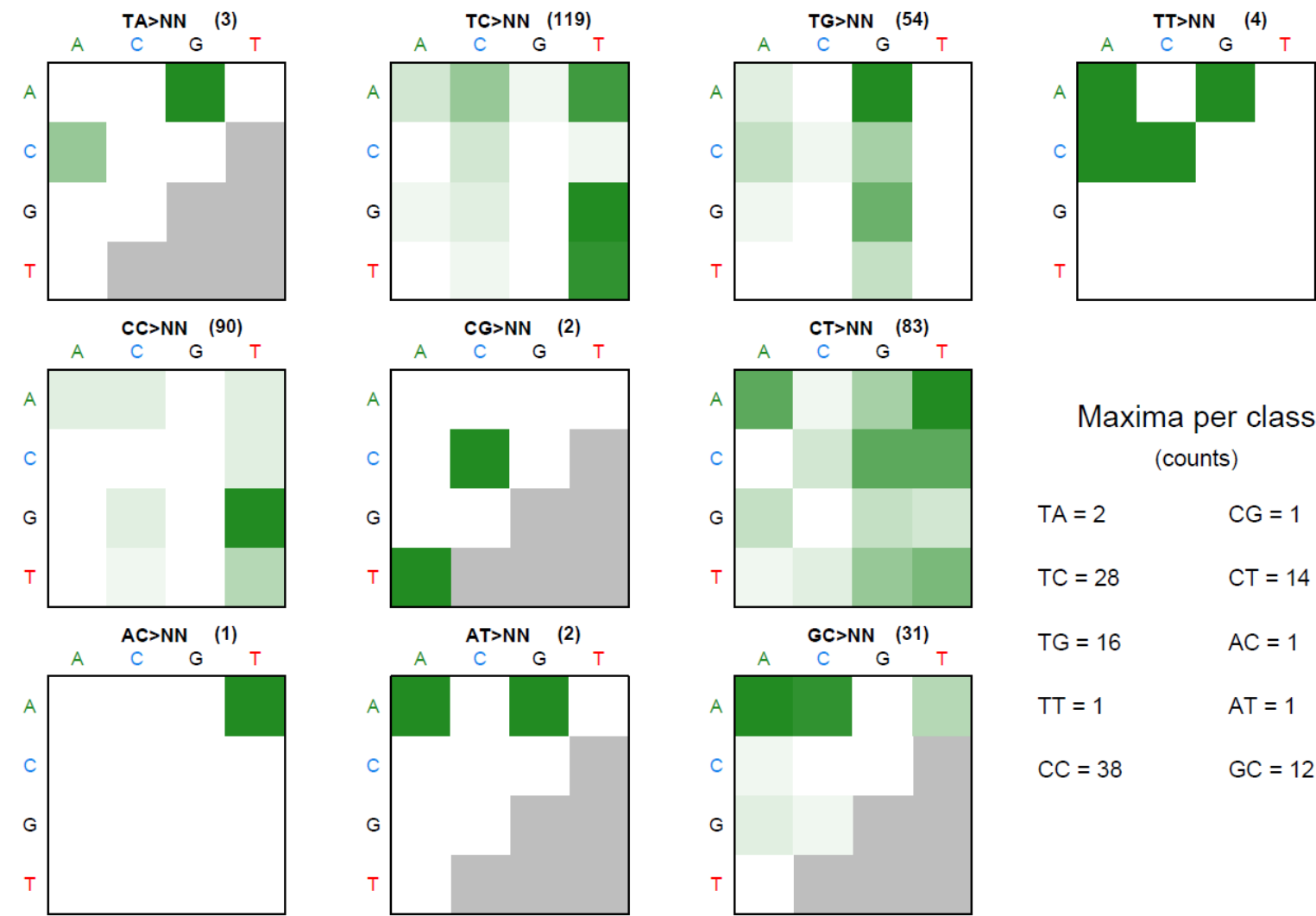


# PlotCatalogToPdf(): DBS144 Catalog



# PlotCatalogToPdf(): DBS136 Catalog

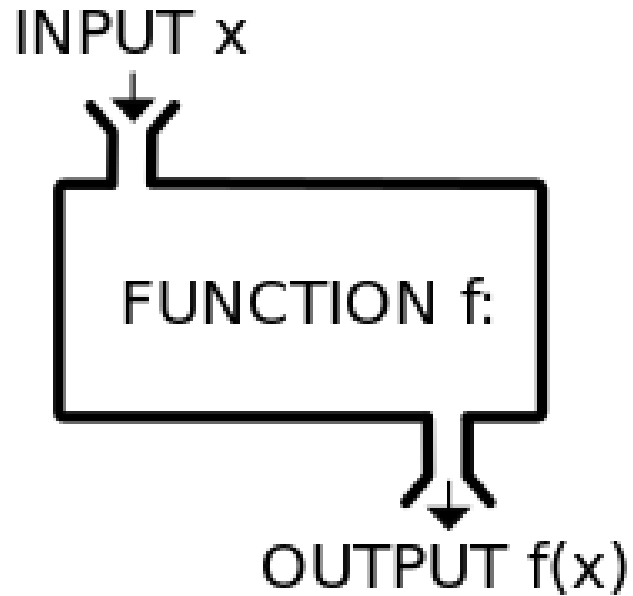
HepG2\_1



# PlotCatalogToPdf(): Indel Catalog



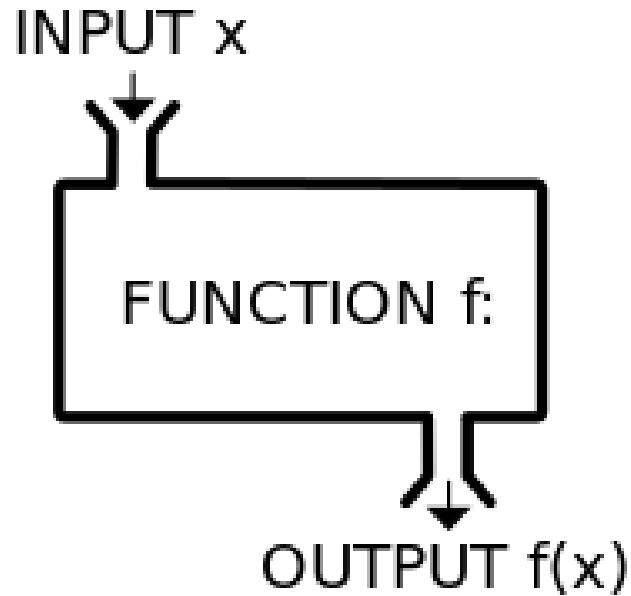
# Important exported functions in ICAMS



Creating catalogs and plot them to PDF

- `StrelkaSBSVCFFilesToCatalogAndPlotToPdf()`
- `StrelkaIDVCFFilesToCatalogAndPlotToPdf()`
- `MutectVCFFilesToCatalogAndPlotToPdf()`

# Important exported functions in ICAMS

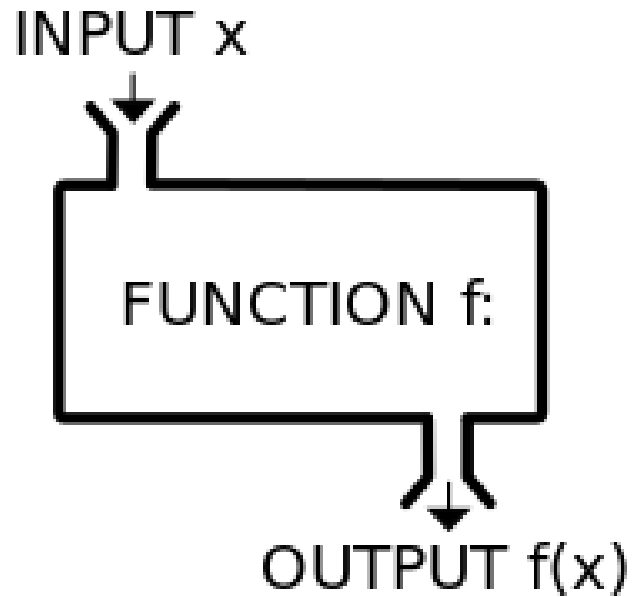


Creating a zip archive containing catalogs saved as CSV files and plotted as PDFs

- `StrelkaSBSVCFFilesToZipFile()`
- `StrelkaIDVCFFilesToZipFile()`
- `MutectVCFFilesToZipFile()`



# Important exported functions in ICAMS

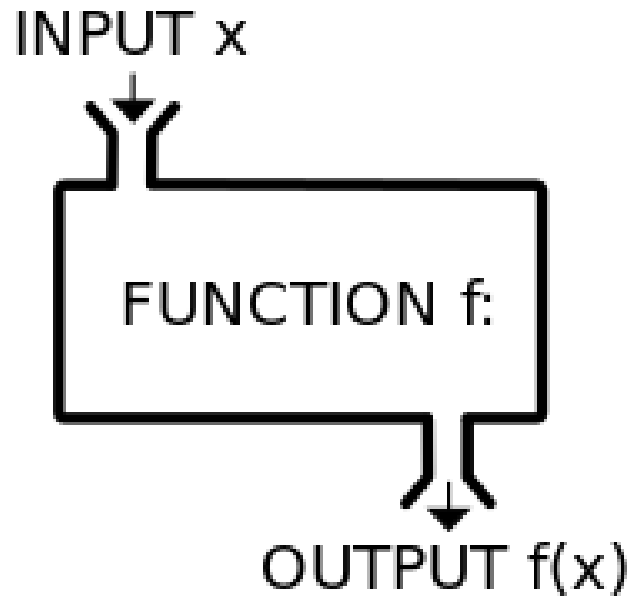


## Annotating in-memory VCFs

- `AnnotateSBSVCF()`
- `AnnotateDBSVCF()`
- `AnnotateIDVCF()`

<https://howtoprogramwithjava.com/functions-in-javascript/>

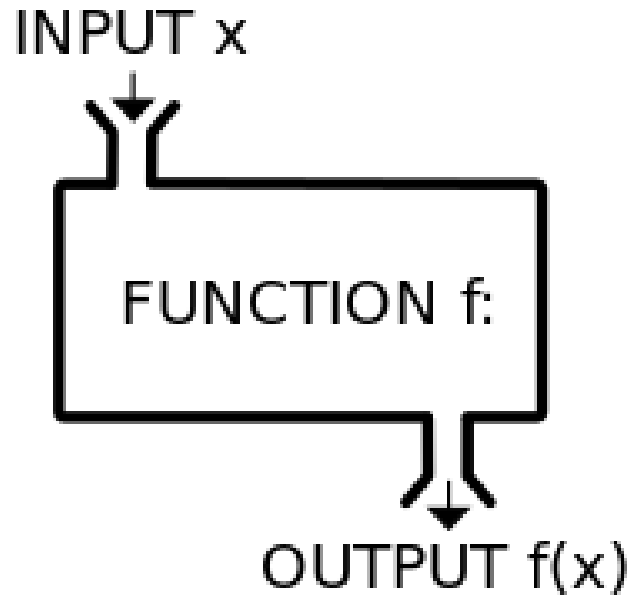
# Important exported functions in ICAMS



Reading and writing catalogs

- ReadCatalog()
- WriteCatalog()

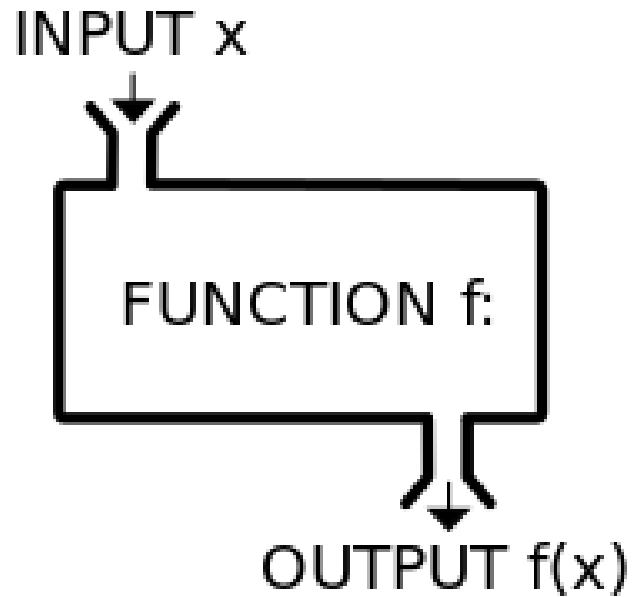
# Important exported functions in ICAMS



"Collapse" a catalog

- Collapse192CatalogTo96()
- Collapse1536CatalogTo96()
- Collapse144CatalogTo78()

# Important exported functions in ICAMS



## Utility functions

- TransformCatalog()
- as.catalog()
- revc()