

Data exploratory analysis

Antonia Chroni for SJCRH DNB_BINF_Core

Contents

1	Set up	1
2	Session Info	1

1 Set up

2 Session Info

```
## R version 4.4.0 (2024-04-24)
## Platform: x86_64-pc-linux-gnu
## Running under: Ubuntu 22.04.4 LTS
##
## Matrix products: default
## BLAS: /usr/lib/x86_64-linux-gnu/openblas-pthread/libblas.so.3
## LAPACK: /usr/lib/x86_64-linux-gnu/openblas-pthread/libopenblas-p-r0.3.20.so; LAPACK vers
##
## locale:
## [1] LC_CTYPE=en_US.UTF-8 LC_NUMERIC=C
## [3] LC_TIME=en_US.UTF-8 LC_COLLATE=en_US.UTF-8
## [5] LC_MONETARY=en_US.UTF-8 LC_MESSAGES=en_US.UTF-8
## [7] LC_PAPER=en_US.UTF-8 LC_NAME=C
## [9] LC_ADDRESS=C LC_TELEPHONE=C
## [11] LC_MEASUREMENT=en_US.UTF-8 LC_IDENTIFICATION=C
##
## time zone: Etc/UTC
## tzcode source: system (glibc)
##
## attached base packages:
## [1] grid stats4 stats graphics grDevices utils datasets
## [8] methods base
##
## other attached packages:
## [1] yaml_2.3.10 tinytex_0.54
## [3] lubridate_1.9.4 dplyr_1.1.4
## [5] readr_2.1.5 tidyr_1.3.1
## [7] tibble_3.2.1 tidyverse_2.0.0
## [9] tidytext_0.4.2 stringr_1.5.1
## [11] SoupX_1.6.2 shiny_1.9.1
## [13] Seurat_5.1.0 SeuratObject_5.0.2
```

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## [15] sp_2.1-4 R.utils_2.12.3
## [17] R.oo_1.27.0 R.methodsS3_1.8.2
## [19] rlist_0.4.6.2 rliger_2.1.0.9003
## [21] reshape2_1.4.4 RColorBrewer_1.1-3
## [23] purrr_1.0.2 patchwork_1.3.0
## [25] optparse_1.7.5 leiden_0.4.3.1
## [27] knitr_1.49 irlba_2.3.5.1
## [29] igraph_2.1.2 hdf5r_1.3.11
## [31] harmony_1.2.3 Rcpp_1.0.13-1
## [33] ggthemes_5.1.0 ggrepel_0.9.6
## [35] ggpmisc_0.6.1 ggpp_0.5.8-1
## [37] ggh4x_0.2.8 GGally_2.2.1
## [39] future_1.34.0 fs_1.6.5
## [41] forcats_1.0.0 flextable_0.9.7
## [43] flexmix_2.3-19 lattice_0.22-6
## [45] data.table_1.16.4 cowplot_1.1.3
## [47] clustree_0.5.1 ggraph_2.2.1
## [49] numbat_1.4.2 Matrix_1.7-0
## [51] RcppPlanc_1.0.0 scooter_0.0.0.9004
## [53] infercnv_1.22.0 SingleR_2.8.0
## [55] celldex_1.16.0 scDblFinder_1.20.0
## [57] scater_1.34.0 ggplot2_3.5.1
## [59] scuttle_1.16.0 SingleCellExperiment_1.28.1
## [61] SummarizedExperiment_1.36.0 Biobase_2.66.0
## [63] GenomicRanges_1.58.0 GenomeInfoDb_1.42.1
## [65] IRanges_2.40.1 S4Vectors_0.44.0
## [67] BiocGenerics_0.52.0 MatrixGenerics_1.18.0
## [69] matrixStats_1.4.1 miQC_1.14.0
## [71] remotes_2.5.0 devtools_2.4.5
## [73] usethis_3.1.0 BiocManager_1.30.25
##
## loaded via a namespace (and not attached):
## [1] ica_1.0-3 plotly_4.10.4
## [3] zlibbioc_1.52.0 tidyselect_1.2.1
## [5] bit_4.5.0.1 doParallel_1.0.17
## [7] rjson_0.2.23 blob_1.2.4
## [9] urlchecker_1.0.1 S4Arrays_1.6.0
## [11] parallel_4.4.0 png_0.1-8
## [13] cli_3.6.3 ggplotify_0.1.2
## [15] askpass_1.2.1 openssl_2.2.2
## [17] goftest_1.2-3 textshaping_0.4.1
## [19] BiocIO_1.16.0 bluster_1.16.0
## [21] officer_0.6.7 tokenizers_0.3.0
## [23] BiocNeighbors_2.0.1 uwot_0.2.2
## [25] curl_6.0.1 mime_0.12
## [27] evaluate_1.0.1 tidytree_0.4.6
## [29] coin_1.4-3 stringi_1.8.4
## [31] rjags_4-16 parallelDist_0.2.6
## [33] XML_3.99-0.17 httpuv_1.6.15
## [35] AnnotationDbi_1.68.0 magrittr_2.0.3
## [37] rappdirs_0.3.3 splines_4.4.0

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## [39]	getopt_1.20.4	logger_0.4.0
## [41]	sctransform_0.4.1	ggbeeswarm_0.7.2
## [43]	sessioninfo_1.2.2	DBI_1.2.3
## [45]	HDF5Array_1.34.0	jquerylib_0.1.4
## [47]	withr_3.0.2	systemfonts_1.1.0
## [49]	rprojroot_2.0.4	xgboost_1.7.8.1
## [51]	lmtest_0.9-40	tidygraph_1.3.1
## [53]	formatR_1.14	rtracklayer_1.66.0
## [55]	htmlwidgets_1.6.4	SparseArray_1.6.0
## [57]	reticulate_1.40.0	zoo_1.8-12
## [59]	XVector_0.46.0	hahmmr_1.0.0
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## [63]	timechange_0.3.0	foreach_1.5.2
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## [77]	phyclust_0.1-34	survival_3.5-8
## [79]	scattermore_1.2	BiocVersion_3.20.0
## [81]	crayon_1.5.3	RcppAnnoy_0.0.22
## [83]	progressr_0.15.1	tweenr_2.0.3
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## [89]	profvis_0.4.0	KEGGREST_1.46.0
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## [93]	gdtools_0.4.1	Rsamtools_2.22.0
## [95]	filelock_1.0.3	pkgconfig_2.0.3
## [97]	xml2_1.3.6	spatstat.univar_3.1-1
## [99]	GenomicAlignments_1.42.0	aplot_0.2.3
## [101]	spatstat.sparse_3.1-0	alabaster.base_1.6.1
## [103]	ape_5.8	viridisLite_0.4.2
## [105]	xtable_1.8-4	fastcluster_1.2.6
## [107]	plyr_1.8.9	httr_1.4.7
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## [111]	pkgbuild_1.4.5	beeswarm_0.4.0
## [113]	nlme_3.1-164	futile.logger_1.4.3
## [115]	lambda.r_1.2.4	dbplyr_2.5.0
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## [119]	digest_0.6.37	farver_2.1.2
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## [129]	generics_0.1.3	Biostrings_2.74.0
## [131]	mvtnorm_1.3-2	parallelly_1.40.1
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## [137]	ragg_1.3.3	ScaledMatrix_1.14.0
## [139]	fontBitstreamVera_0.1.1	pbapply_1.7-2

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## [155] gypsum_1.2.0	RANN_2.6.2
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## [205] multcomp_1.4-26	fastmatch_1.1-4
## [207] vipor_0.4.7	ROCR_1.0-11
## [209] ggstats_0.7.0	rsvd_1.0.5
## [211] nnet_7.3-19	gtable_0.3.6
## [213] phangorn_2.12.1	KernSmooth_2.23-22
## [215] miniUI_0.1.1.1	deldir_2.0-4
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## [219] bit64_4.5.2	spatstat.explore_3.3-3
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## [229] future.apply_1.11.3	bslib_0.8.0
## [231] pillar_1.9.0	gplots_3.2.0
## [233] metapod_1.14.0	locfit_1.5-9.10
## [235] jsonlite_1.8.9	argparse_2.2.4