gen Model Feature importance Reshuffling ELASTIC_NET COX LASSO RFS RFX RIDGE TP53-SRSF2-TET2-ITD-ASXL1 RUNX1-SF3B1 NPM1-DNMT3A-U2AF1_p.S34-EZH2-CEBPA_bi-STAG2-SMC3-SMC1A-RAD21 -PTPN11-PHF6-NRAS_p.Q61_62-NRAS_p.G12_13-NF1-MYC-KRAS-IDH2_p.R172-IDH2_p.R140-IDH1 -GATA2-FLT3_TKD-FLT3_other-CEBPA_mono-CBL-BCOR-Ratio (ref_CI/Permuted_CI) gen Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE TP53-SF3B1-U2AF1_p.S34-SRSF2-ASXL1-EZH2-ITD-MLL-WT1 -KRAS-DNMT3A-RUNX1-BCOR-NRAS_p.Q61_62-Selected Features SMC1A-IDH2_p.R140-NF1-STAG2-CBL-PHF6-FLT3_other-NRAS_p.G12_13-CEBPA_mono-SMC3-

IDH1 -

GATA2-

PTPN11-

FLT3_TKD-

MYC-

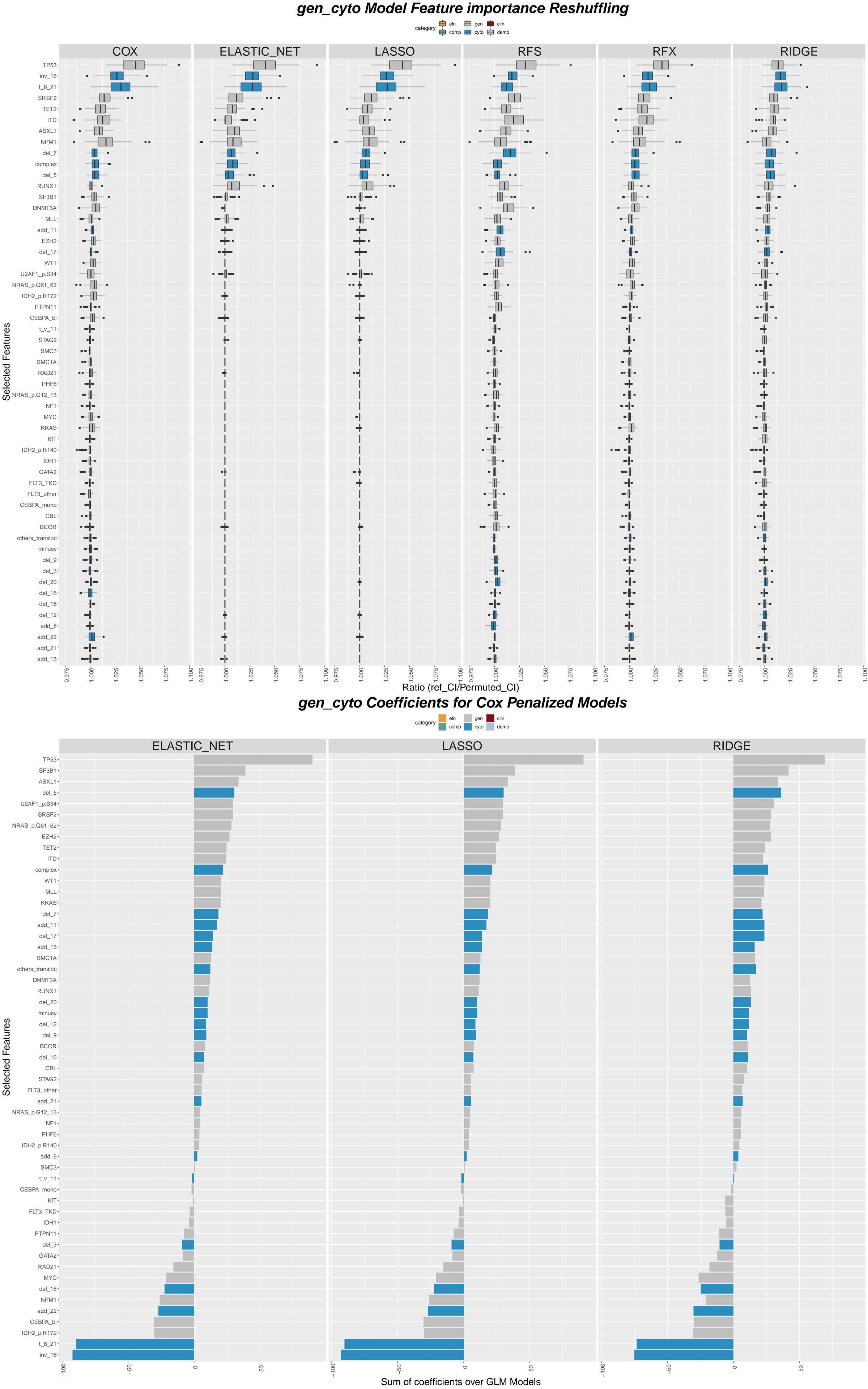
RAD21-

CEBPA_bi-

KIT-

IDH2_p.R172-

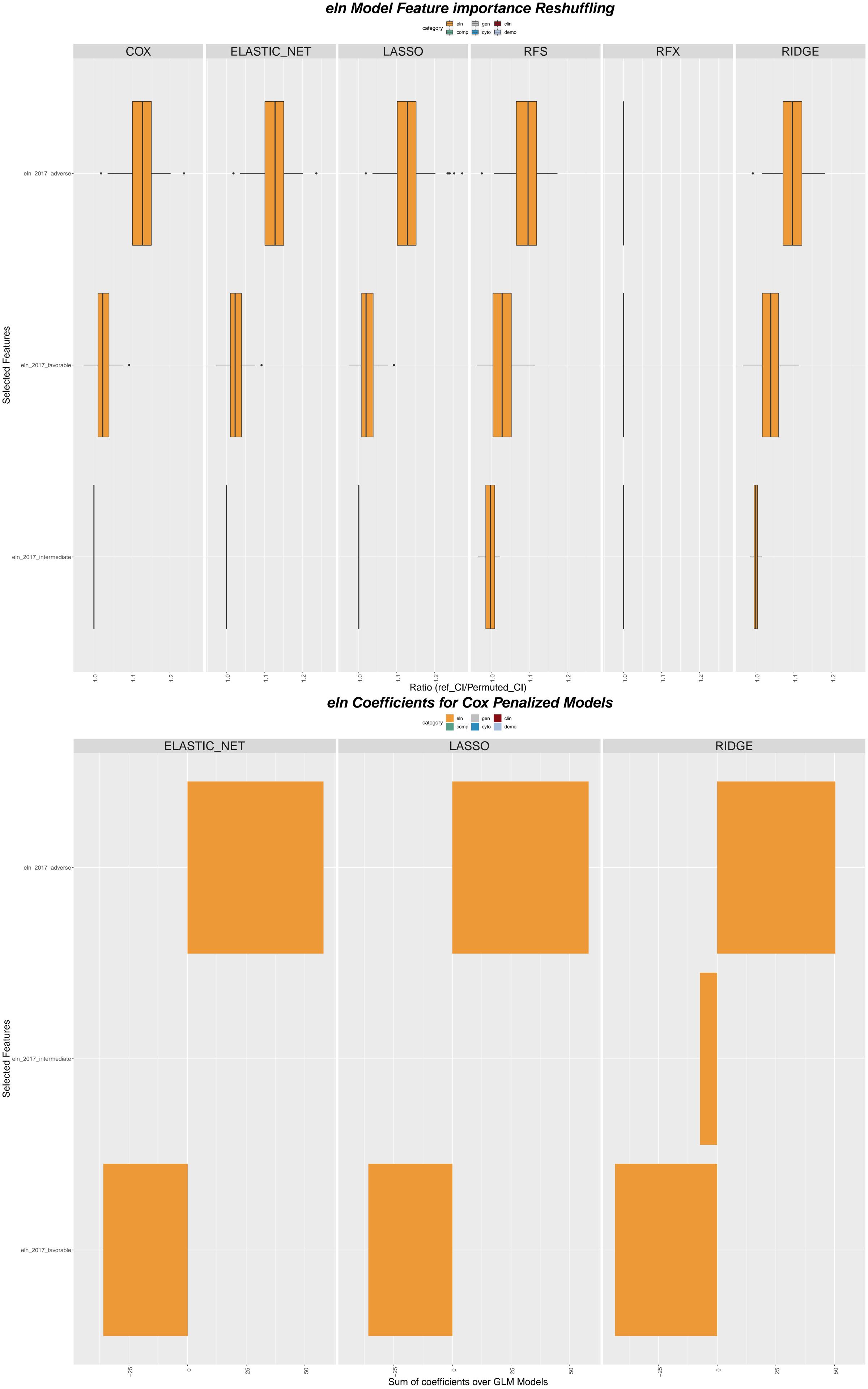
cyto Model Feature importance Reshuffling COX ELASTIC_NET LASSO RFS RFX RIDGE t_8_21 inv_16 del_7 complex del_5 add_11 del_17t_v_11 others_translocminusydel_9 del_20 del_18del_16del_12add_8add_22 add_21 add_13-0.95 0.95 Ratio (ref_Cl/Permuted_Cl) 1.05 cyto Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE del_5 del_7 del_17 add_11 complex add_13del_20 minusy del_16-Selected Features add_8add_8others_translocadd_21 del_12t_v_11 del_9 del_3 del_18add_22 t_8_21 inv_16-- 20 -20 Sum of coefficients over GLM Models



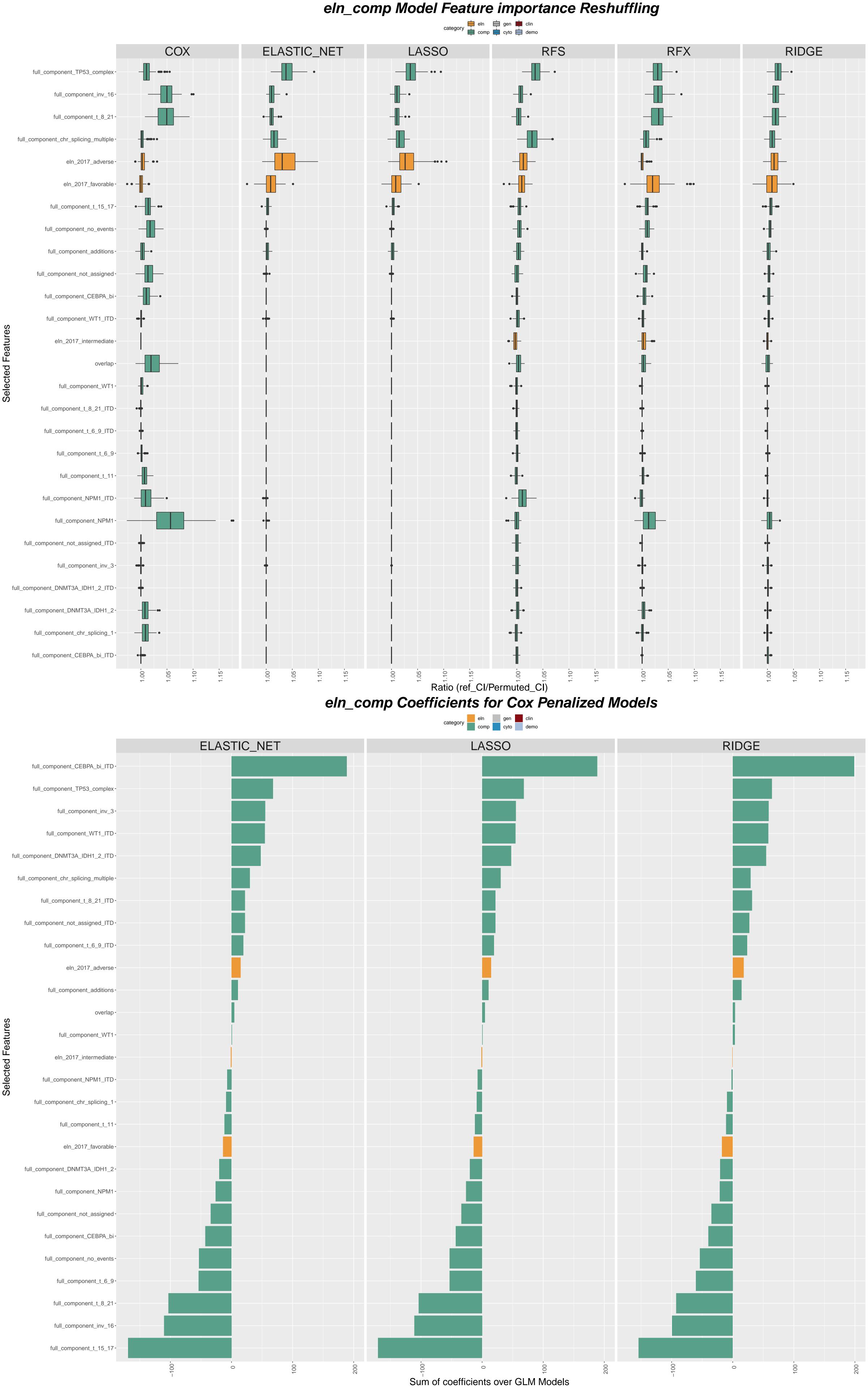
clin Model Feature importance Reshuffling ELASTIC_NET COX RFS RIDGE LASSO RFX perf_status ahdsecondary hbbm_blasts-Ratio (ref_CI/Permuted_CI) clin Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE perf_status secondary wbc-Selected Features bm_blasts -Sum of coefficients over GLM Models -20

clin_demo Model Feature importance Reshuffling COX ELASTIC_NET RFS RIDGE RFX LASSO perf_status ahdwbcgenderbm_blasts -Ratio (ref_Cl/Permuted_Cl)

Clin_demo Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE perf_status secondary gender-Selected Features bm_blasts-Sum of coefficients over GLM Models



comp Model Feature importance Reshuffling COX ELASTIC_NET LASSO RFS RFX RIDGE full_component_TP53_complexfull_component_chr_splicing_multiplefull_component_inv_16full_component_t_8_21 full_component_NPM1 full_component_t_15_17 full_component_no_eventsfull_component_additions full_component_CEBPA_bifull_component_WT1_ITDfull_component_not_assignedfull_component_inv_3overlapfull_component_WT1 full_component_t_8_21_ITDfull_component_t_6_9_ITDfull_component_t_6_9full_component_t_11full_component_NPM1_ITDfull_component_not_assigned_ITDfull_component_DNMT3A_IDH1_2_ITDfull_component_DNMT3A_IDH1_2full_component_chr_splicing_1 full_component_CEBPA_bi_ITD-Ratio (ref_CI/Permuted_CI) comp Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE full_component_CEBPA_bi_ITDfull_component_TP53_complexfull_component_inv_3full_component_WT1_ITDfull_component_DNMT3A_IDH1_2_ITDfull_component_chr_splicing_multiplefull_component_t_6_9_ITDfull_component_not_assigned_ITDfull_component_additions full_component_t_8_21_ITDoverlap -Selected Features full_component_WT1 full_component_chr_splicing_1 full_component_t_11 full_component_NPM1_ITDfull_component_DNMT3A_IDH1_2full_component_not_assignedfull_component_NPM1 full_component_t_6_9full_component_no_eventsfull_component_CEBPA_bifull_component_t_8_21 full_component_inv_16 full_component_t_15_17-0 Sum of coefficients over GLM Models



comp_gen Model Feature importance Reshuffling comp cyto demo COX ELASTIC_NET LASSO RFS RIDGE RFX TP53full_component_inv_16full_component_chr_splicing_multiple full_component_t_8_21 full_component_TP53_complexfull_component_NPM1-•—— TET2full_component_t_15_17 full_component_additions -----SRSF2-• ASXL1full_component_inv_3-DNMT3Afull_component_CEBPA_bifull_component_no_events -••• SF3B1full_component_WT1_ITD -••-PTPN11-•--NRAS_p.Q61_62-IDH2_p.R172-EZH2----ITD-WT1-U2AF1_p.S34-STAG2-SMC3-SMC1A-RUNX1-RAD21-PHF6-NRAS_p.G12_13-NF1-MYC-MLL-KRAS-KIT-IDH2_p.R140-IDH1-GATA2-FLT3_TKD-FLT3_other-CEBPA_mono -CBL-BCORoverlapfull_component_WT1 full_component_t_8_21_ITDfull_component_t_6_9_ITDfull_component_t_6_9full_component_t_11 full_component_NPM1_ITDfull_component_not_assigned_ITDfull_component_not_assignedfull_component_DNMT3A_IDH1_2_ITDfull_component_DNMT3A_IDH1_2full_component_chr_splicing_1 full_component_CEBPA_bi_ITD-Ratio (ref_CI/Permuted_CI) comp_gen Coefficients for Cox Penalized Models LASSO ELASTIC_NET RIDGE full_component_CEBPA_bi_ITD-TP53full_component_inv_3full_component_DNMT3A_IDH1_2_ITDfull_component_WT1_ITDfull_component_t_6_9_ITDfull_component_TP53_complexfull_component_not_assigned_ITD-NRAS_p.Q61_62full_component_chr_splicing_multiple -EZH2-TET2-ASXL1-U2AF1_p.S34-SRSF2full_component_additions full_component_t_8_21_ITD -MLL-WT1 -DNMT3A-SMC1A-CBL-NRAS_p.G12_13-Selected Features ITD-RUNX1-FLT3_otherfull_component_WT1 -IDH2_p.R140-NF1-BCOR-SMC3full_component_t_11full_component_chr_splicing_1 full_component_DNMT3A_IDH1_2-KIT-CEBPA_monooverlap -PHF6-FLT3_TKD-STAG2-IDH1full_component_NPM1_ITD-PTPN11full_component_not_assigned-GATA2-RAD21-MYCfull_component_t_6_9full_component_NPM1 full_component_no_events IDH2_p.R172full_component_CEBPA_bifull_component_t_8_21 full_component_inv_16 full_component_t_15_17-

Sum of coefficients over GLM Models

comp_cyto Model Feature importance Reshuffling COX ELASTIC_NET LASSO RFS RFX RIDGE full_component_chr_splicing_multiplefull_component_t_8_21 full_component_inv_16full_component_TP53_complexfull_component_NPM1del_5 full_component_t_15_17 del_7del_17full_component_additions full_component_no_eventsfull_component_WT1_ITD add_11 full_component_CEBPA_biothers_translocminusydel_9 del_3del_20 del_18del_16del_12complex add_8add_22 add_21 add_13overlap full_component_WT1 full_component_t_8_21_ITDfull_component_t_6_9_ITDfull_component_t_6_9full_component_t_11 full_component_NPM1_ITDfull_component_not_assigned_ITDfull_component_not_assignedfull_component_inv_3full_component_DNMT3A_IDH1_2_ITDfull_component_DNMT3A_IDH1_2full_component_chr_splicing_1 full_component_CEBPA_bi_ITD-Ratio (ref_Cl/Permuted_Cl) comp_cyto Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE full_component_CEBPA_bi_ITDfull_component_WT1_ITDfull_component_inv_3full_component_TP53_complexfull_component_DNMT3A_IDH1_2_ITDfull_component_chr_splicing_multipledel_5 full_component_t_6_9_ITDdel_17full_component_not_assigned_ITDadd_11 full_component_additions del_7 full_component_t_8_21_ITDdel_16others_translocdel_20 minusy -Selected Features full_component_WT1del_12overlapfull_component_chr_splicing_1 complex full_component_t_11 del_3add_21 add_13full_component_NPM1_ITDadd_8full_component_DNMT3A_IDH1_2full_component_not_assignedfull_component_NPM1 add_22full_component_t_6_9full_component_no_eventsfull_component_CEBPA_bifull_component_inv_16full_component_t_8_21 full_component_t_15_17-100

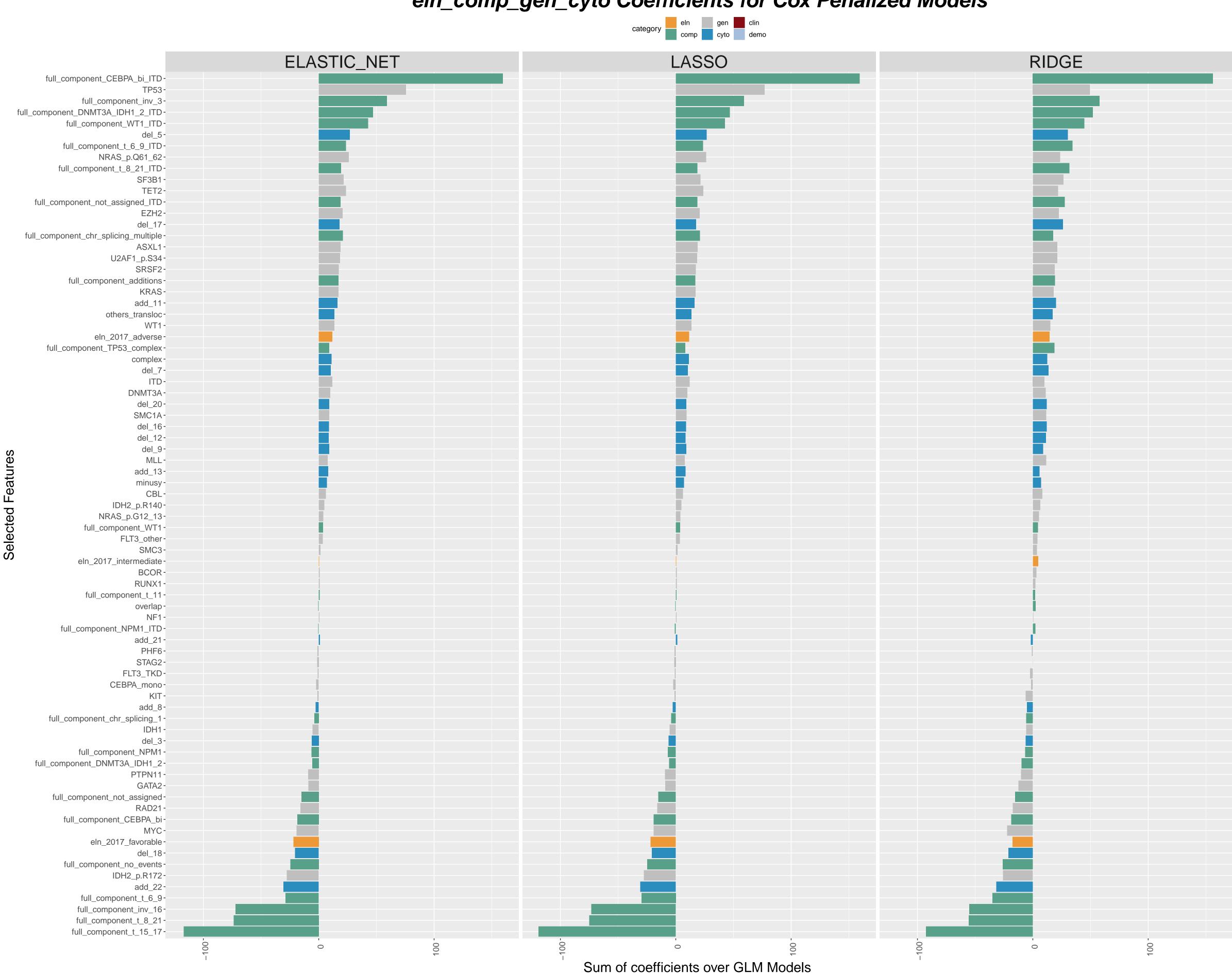
Sum of coefficients over GLM Models

comp_gen_cyto Model Feature importance Reshuffling eln eln cin cyto demo COX ELASTIC_NET **RFS** LASSO RIDGE RFX full_component_chr_splicing_multiple-------TP53---full_component_inv_16 full_component_t_8_21 -•—— TET2full_component_NPM1 -+ -----• ---full_component_TP53_complex-•• del_5-----SRSF2-••• + full_component_t_15_17 -•--• full_component_additions-•— -ASXL1----••-DNMT3Acomplex add_11 -•-full_component_WT1_ITD-•---•----SF3B1del_17-•-||--||-•-||-•••• ITD--• full_component_inv_3-••--PTPN11full_component_CEBPA_bi-•|•• del_20 -WT1 -• U2AF1_p.S34-STAG2-SMC3-SMC1A-RUNX1-RAD21-PHF6-NRAS_p.Q61_62-Selected Features NRAS_p.G12_13-NF1-MYC-• MLL-KRAS-KIT-IDH2_p.R172-IDH2_p.R140-IDH1-GATA2-FLT3_TKD-FLT3_other-CEBPA_mono-CBL-BCORothers_translocminusy del_9 del_3del_18del_16del_12add_8add_22 add_21 add_13overlapfull_component_WT1 -+ full_component_t_8_21_ITDfull_component_t_6_9_ITDfull_component_t_6_9----full_component_t_11 full_component_NPM1_ITDfull_component_not_assigned_ITD full_component_not_assignedfull_component_no_eventsfull_component_DNMT3A_IDH1_2_ITD-••full_component_DNMT3A_IDH1_2-1.00full_component_chr_splicing_1full_component_CEBPA_bi_ITD -Ratio (ref_CI/Permuted_CI) comp_gen_cyto Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE full_component_CEBPA_bi_ITDfull_component_inv_3full_component_DNMT3A_IDH1_2_ITDfull_component_WT1_ITDfull_component_t_6_9_ITDfull_component_not_assigned_ITDdel_5full_component_chr_splicing_multiple-NRAS_p.Q61_62-SF3B1-ASXL1-TET2-EZH2full_component_TP53_complex -U2AF1_p.S34del_17full_component_additions -KRASadd_11 -SRSF2others_translocfull_component_t_8_21_ITD-WT1 -MLLdel_7complex del_16del_20 del_9 -DNMT3Adel_12-SMC1A-Selected Features add_13-ITD-CBLminusy full_component_WT1-NRAS_p.G12_13-FLT3_other-IDH2_p.R140-RUNX1full_component_t_11-BCORadd_21 -SMC3-NF1full_component_chr_splicing_1 -STAG2-PHF6-FLT3_TKD-CEBPA_monoadd_8-KITfull_component_DNMT3A_IDH1_2-IDH1full_component_NPM1_ITDdel_3-PTPN11full_component_not_assigned-GATA2-RAD21-MYCfull_component_NPM1 del_18full_component_t_6_9full_component_no_events -IDH2_p.R172add_22 full_component_CEBPA_bi-

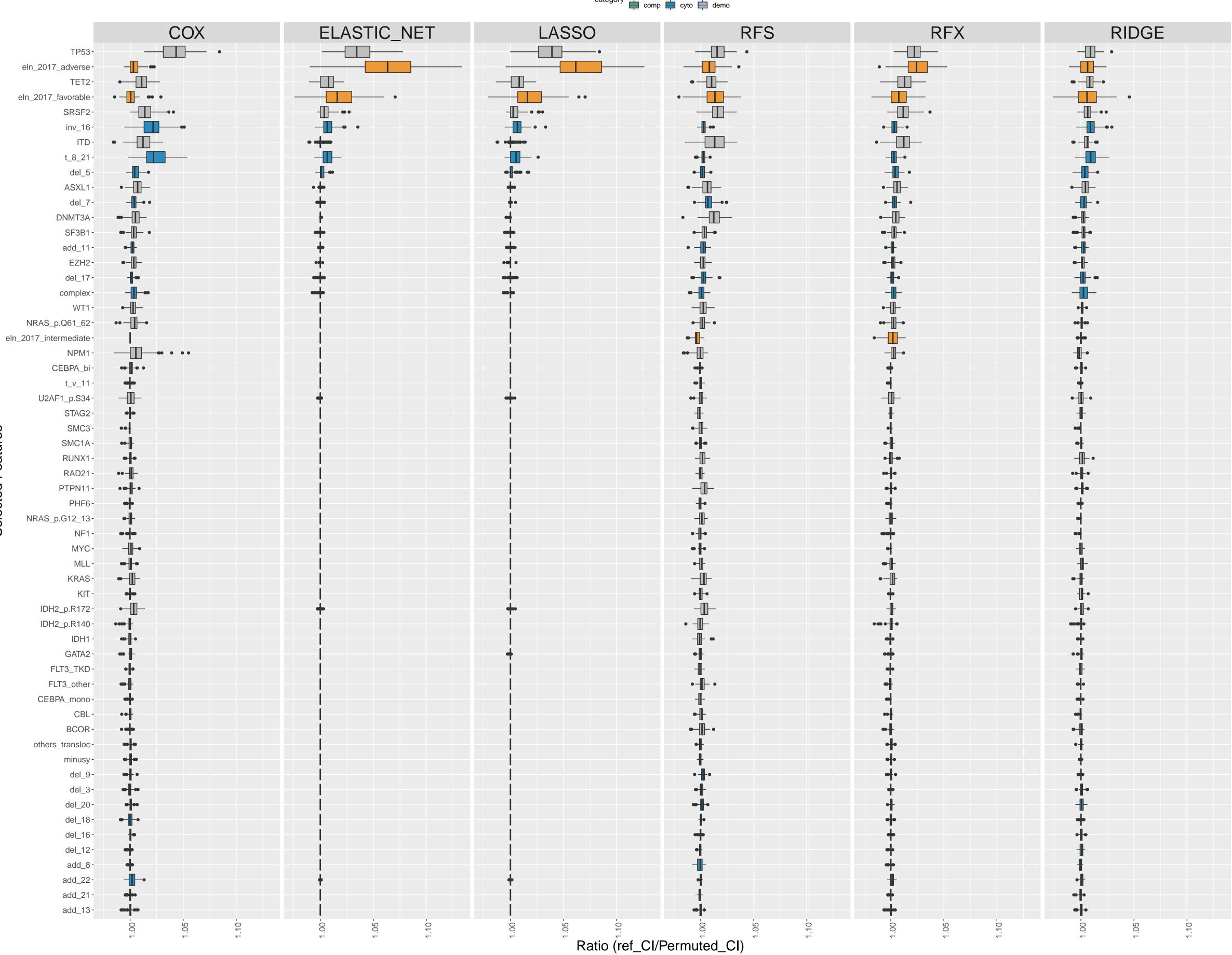
Sum of coefficients over GLM Models

full_component_inv_16full_component_t_8_21full_component_t_15_17Features

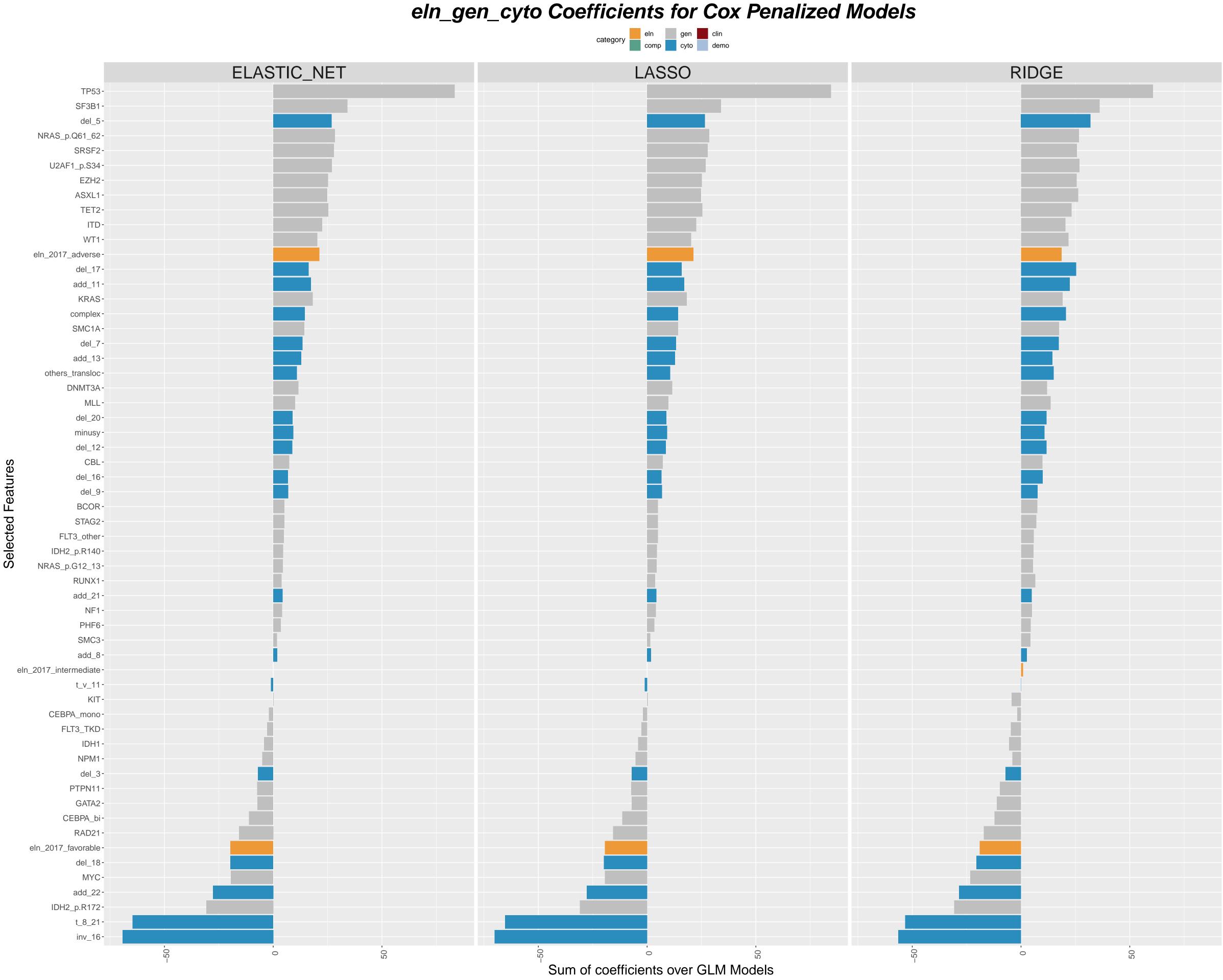
Selected

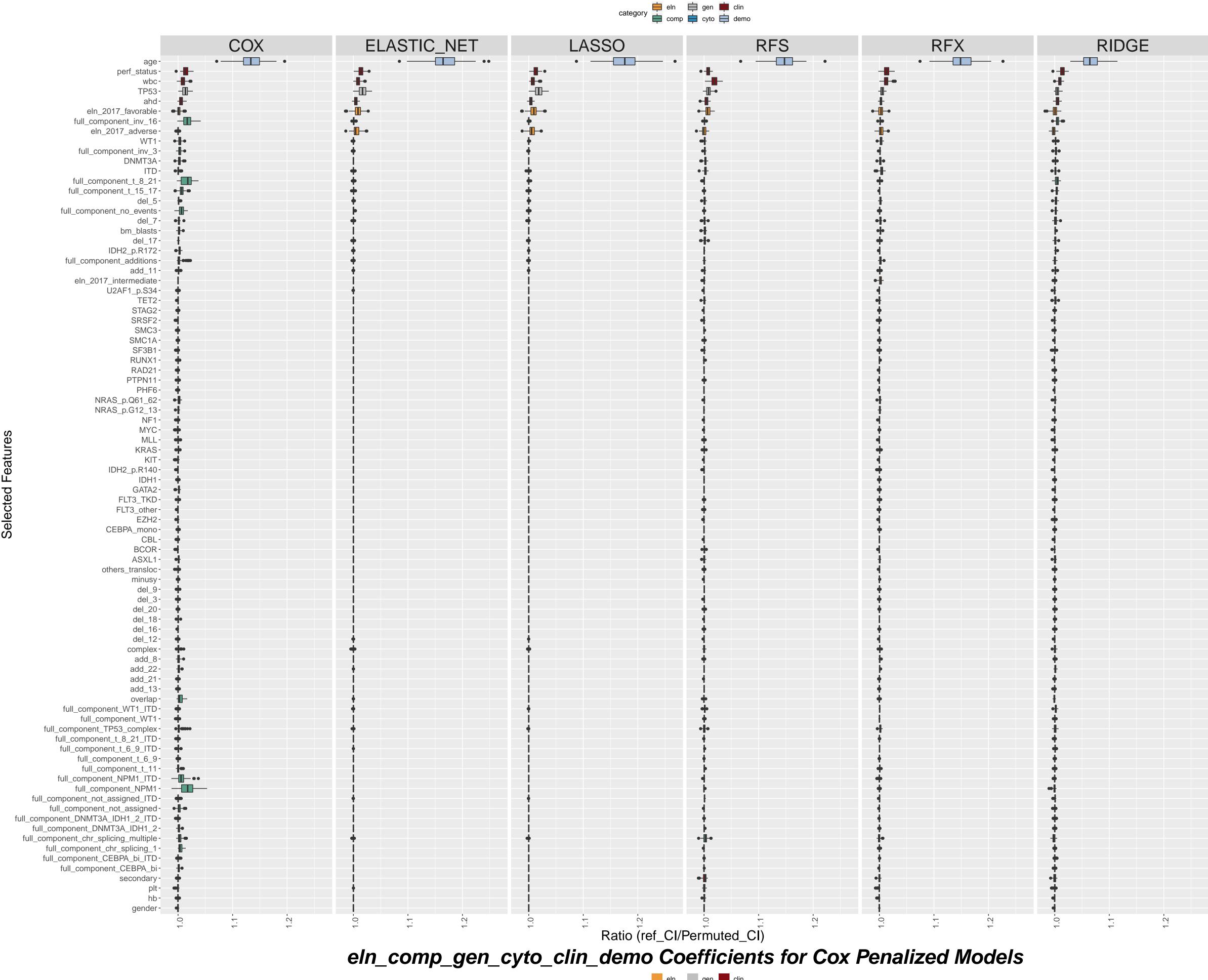


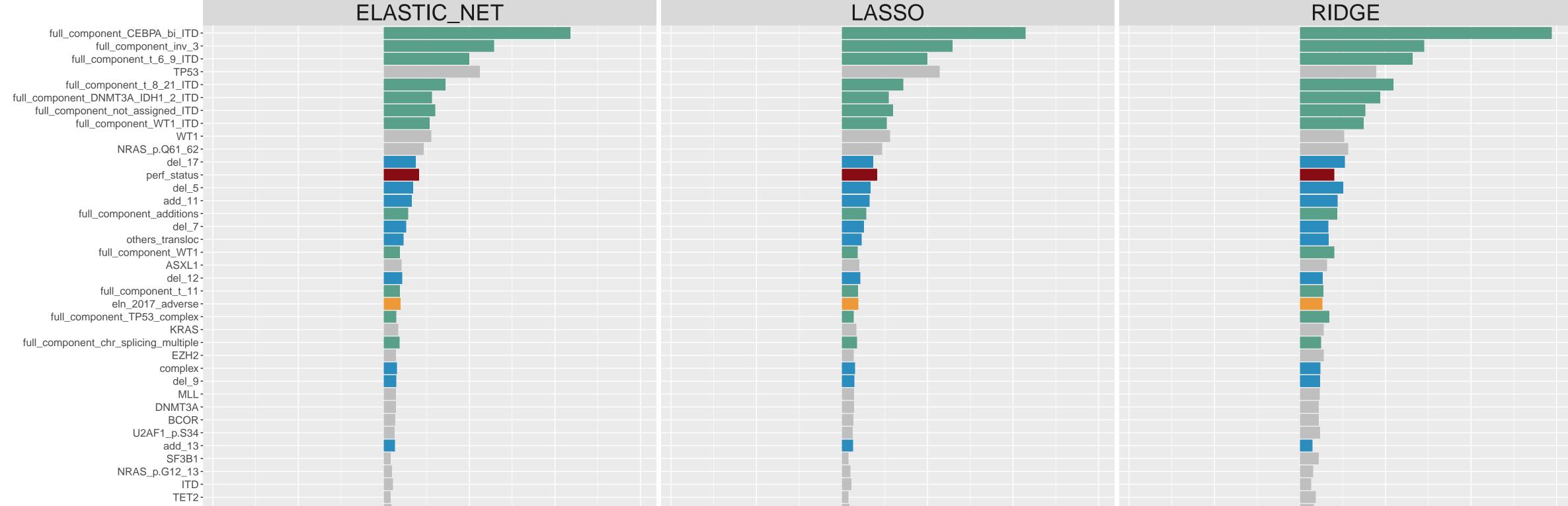
eln_gen_cyto Model Feature importance Reshuffling



eln_gen_cyto Coefficients for Cox Penalized Models







Selected Features

150 -

Sum of coefficients over GLM Models

20

full_component_inv_16-full_component_t_15_17-