gen_gen_intense Model Feature importance Reshuffling eln cyto eln_intense cyto_intense clin comp_intense intense demo pen_intense COX **ELASTIC_NET** LASSO RFS RFX RIDGE intense------TP53------ITD-NPM1_intense-•—— ASXL1--RUNX1-----SRSF2-TP53_intense-DNMT3A-KIT_intense -MLL-TET2-U2AF1_p.S34-SF3B1_intense-IDH2_p.R172_intense-CEBPA_mono_intense-RAD21_intense-CEBPA_bi_intense-NPM1-CEBPA_bi-WT1_intense-WT1 -U2AF1_p.S34_intense-TET2_intense-STAG2_intense-STAG2-SRSF2_intense-SMC3_intense-SMC3-SMC1A_intense -SMC1A-SF3B1-RUNX1_intense-RAD21 -PTPN11_intense -PTPN11PHF6_intensePHF6NRAS_p.Q61_62_intenseNRAS_p.Q61_62-PTPN11-NRAS_p.G12_13_intense-NRAS_p.G12_13-NF1_intense -MYC_intense MLL_intense -KRAS_intense-KRAS-KIT-ITD_intense -IDH2_p.R172-IDH2_p.R140_intense-IDH2_p.R140-IDH1_intense GATA2_intense GATA2-FLT3_TKD_intense FLT3_TKD FLT3_other_intense FLT3_other-EZH2_intense EZH2 DNMT3A_intense CEBPA_mono-CBL_intense CBL BCOR_intense-BCOR-ASXL1_intense Ratio (ref_Cl/Permuted_Cl) gen_gen_intense Model Feature importance Bootstrap for Algorithms ELASTIC_NET BOOST LASSO RFS RFX RIDGE TP53intense NPM1_intense ITD-ASXL1 TP53_intense-TET2-IDH2_p.R172_intense SRSF2-KIT_intense-U2AF1_p.S34-EZH2-RAD21_intense SF3B1_intense-MLL-CEBPA_bi_intense-WT1_intense-DNMT3A -GATA2 -SRSF2_intense-BCOR-CEBPA_mono_intense-DNMT3A_intense-RUNX1-MLL_intense -RUNX1_intense-NRAS_p.Q61_62-FLT3_TKD-KRAS_intense-ASXL1_intense -SMC1A_intense -Selected Features U2AF1_p.S34_intense-IDH2_p.R140_intense-SF3B1-MYC_intense -KRAS-CBL-CEBPA_mono-NRAS_p.G12_13-PTPN11-IDH1_intense-WT1 -STAG2-SMC3-IDH1 -STAG2_intense-EZH2_intense-SMC3_intense-PTPN11_intense-SMC1A-PHF6-IDH2_p.R172-CEBPA_bi-IDH2_p.R140-FLT3_other-FLT3_other_intense -NF1 FLT3_TKD_intense-PHF6_intense-GATA2_intense-MYC-NF1_intense-NRAS_p.G12_13_intense-ITD intense-TET2_intense -CBL_intense -BCOR_intense -NPM1 NRAS_p.Q61_62_intense RAD21 KIT-- 52 - 9/ Proportion of selection count overall models and algorithms gen_gen_intense Coefficients for Cox Penalized Models comp_intense intense ELASTIC_NET LASSO RIDGE TP53-TP53_intense-ITD-SF3B1_intense-EZH2-U2AF1_p.S34-ASXL1-WT1_intense -SMC1A_intense-NRAS_p.Q61_62-CEBPA_mono-CBL-IDH1-TET2-KRAS_intense -ASXL1_intense -SRSF2-DNMT3A_intense-MLL-MLL_intense -U2AF1_p.S34_intense-SMC3-SRSF2_intense-WT1-DNMT3A -BCOR-SF3B1 NRAS_p.G12_13-NF1-KRAS-IDH2_p.R140_intense-RAD21-RUNX1_intense -GATA2_intense-Selected Feat PHF6-RUNX1-ITD_intense -STAG2-NPM1-FLT3_other_intense -FLT3_TKD_intense-IDH2_p.R140-KIT-

100

90

-100

100

-150

TET2_intense - CEBPA_bi -

FLT3_other-

PTPN11-

SMC1A-

GATA2-

SMC3_intense - KIT_intense -

RAD21_intense - CEBPA_bi_intense -

NPM1_intense -

intense-

CEBPA_mono_intense -

IDH2_p.R172_intense-

CBL_intense NF1_intense FLT3_TKD EZH2_intense IDH1_intense MYC_intense -

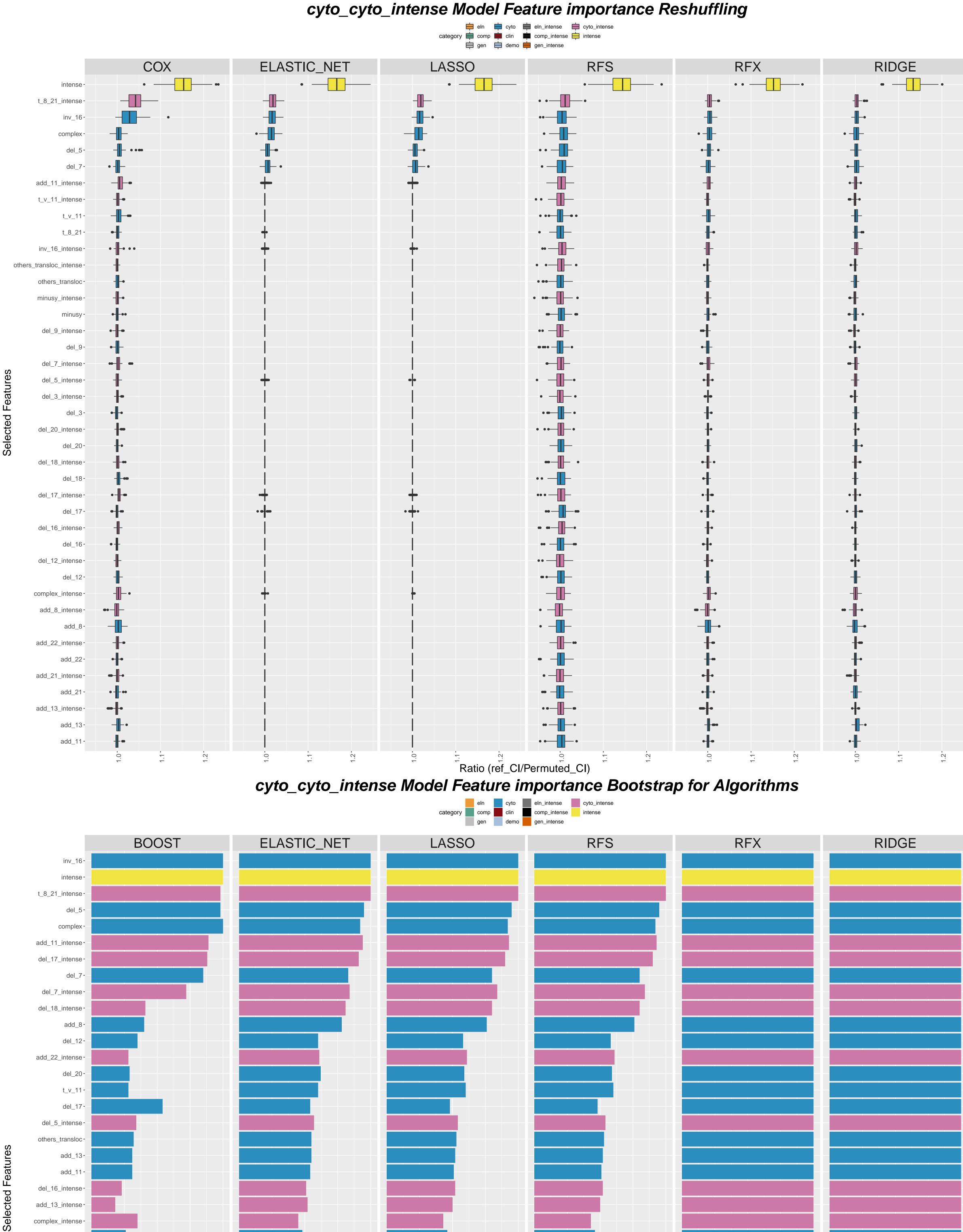
BCOR_intense - PTPN11_intense - IDH2_p.R172 -

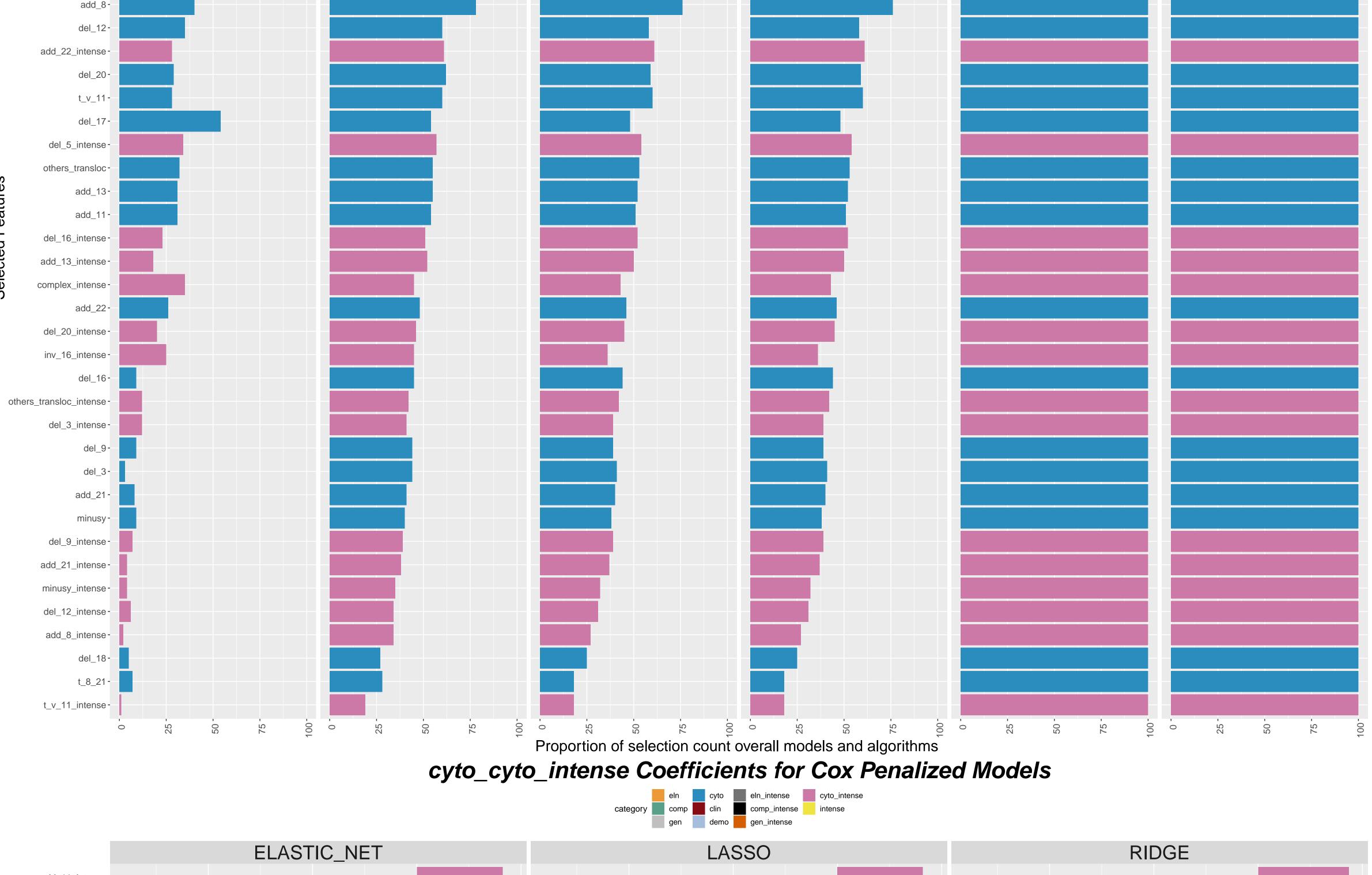
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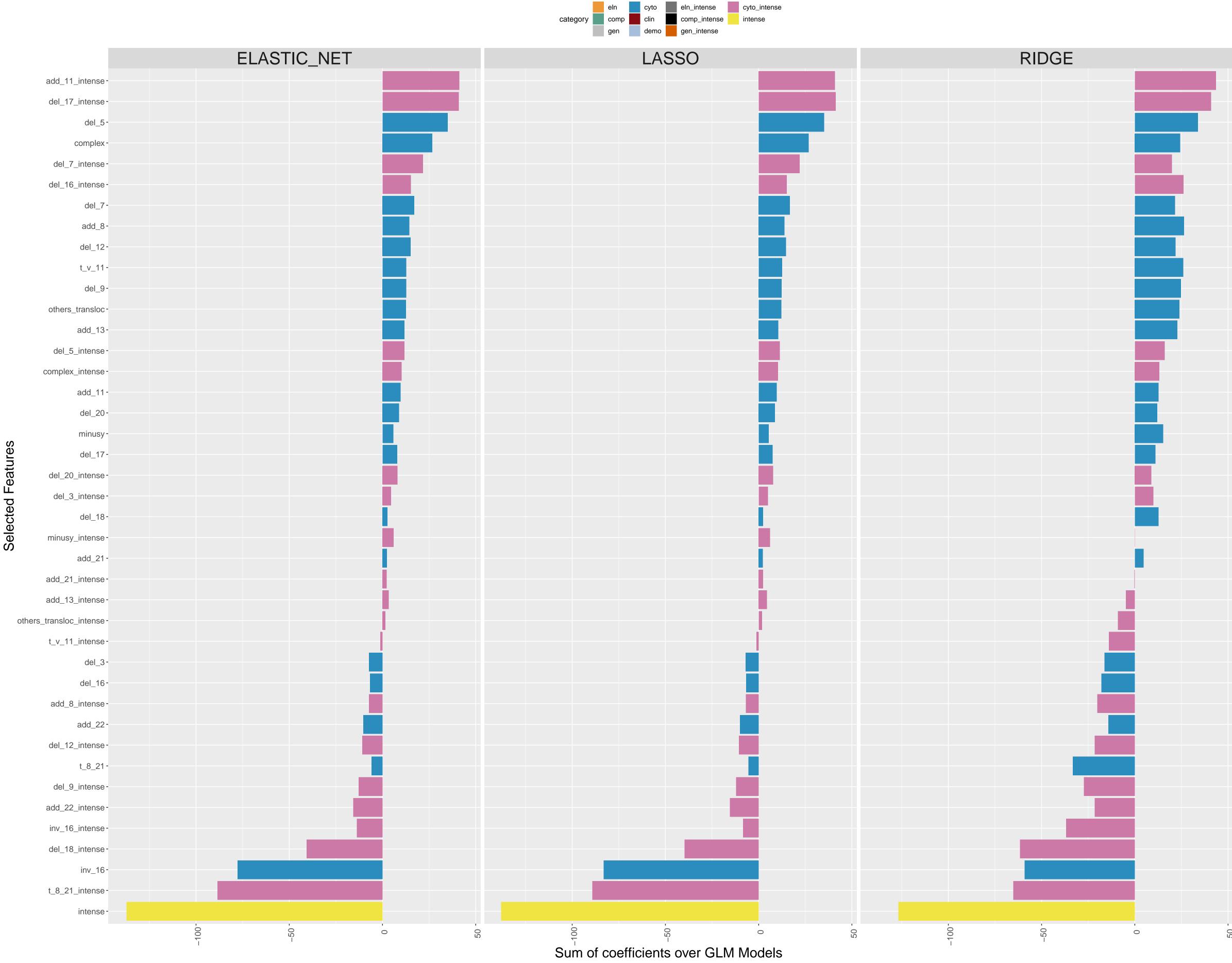
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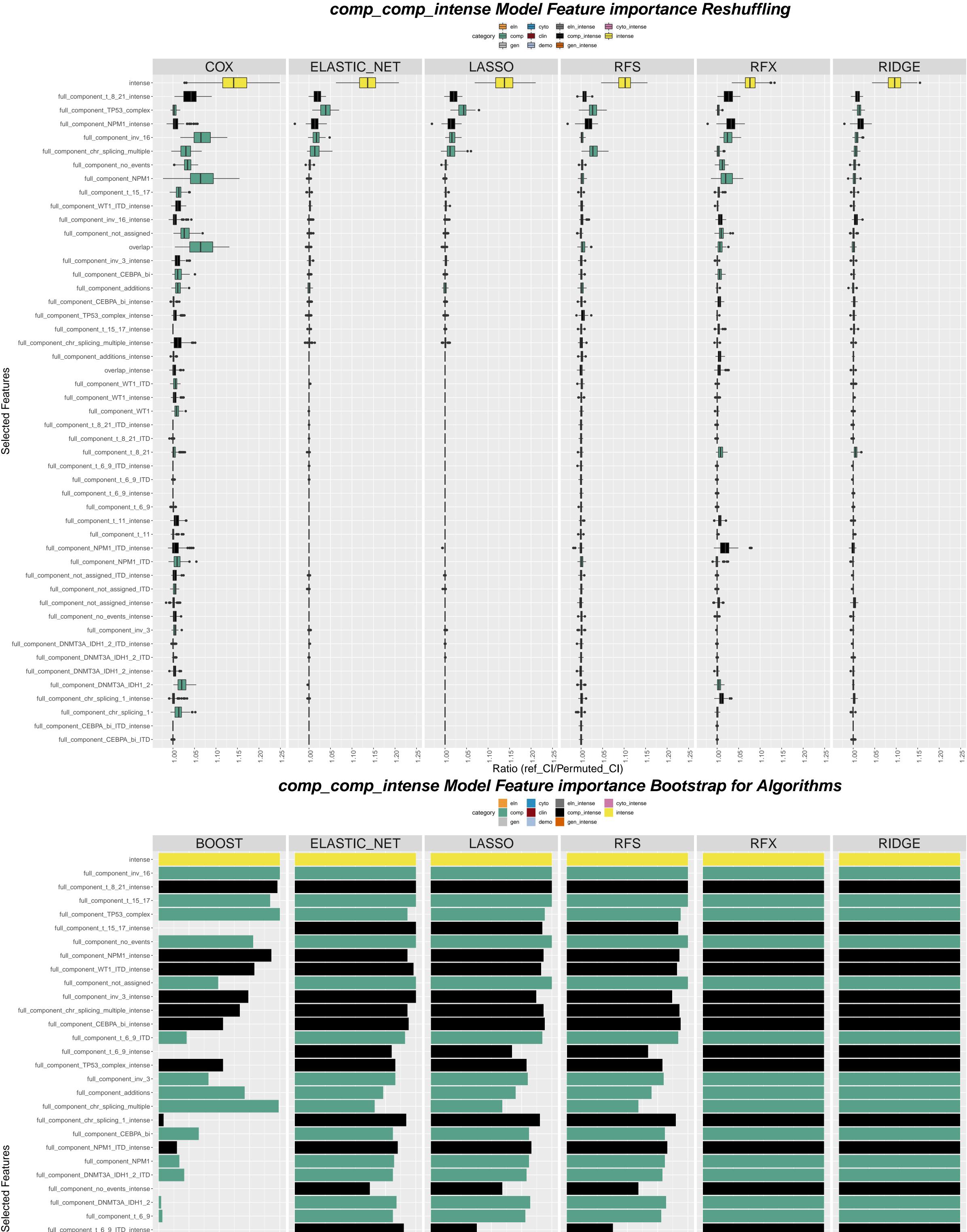
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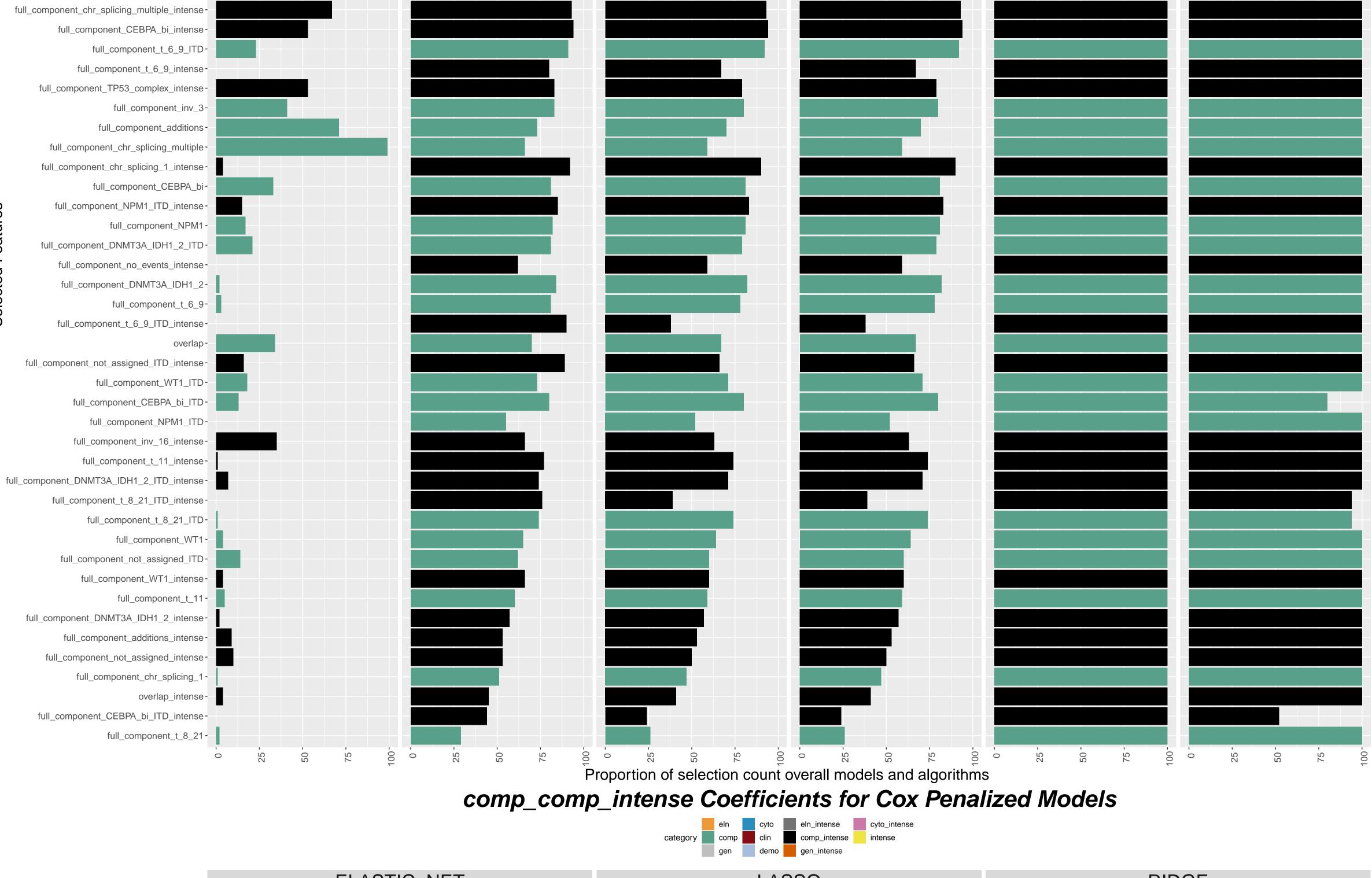
MYC-

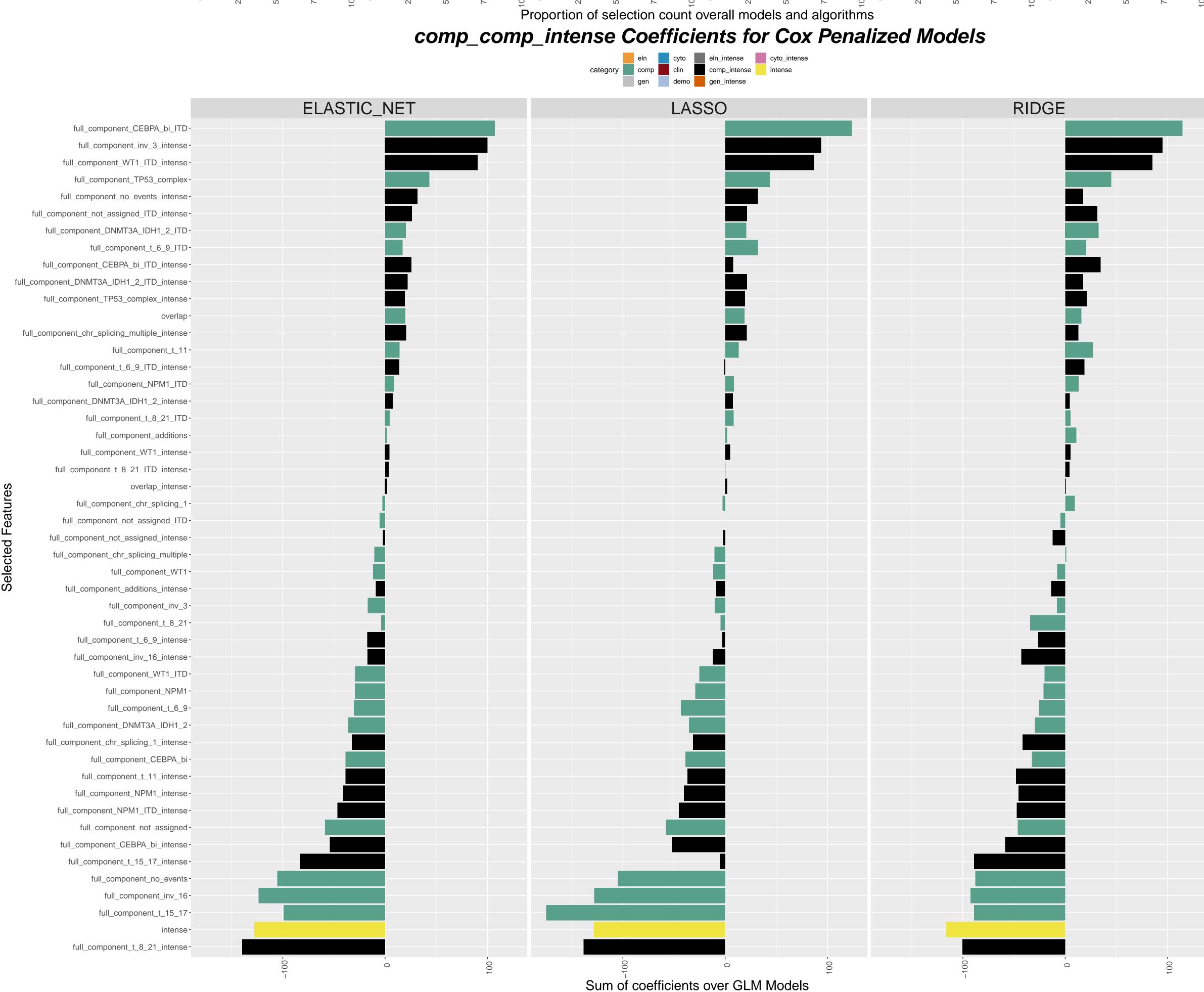


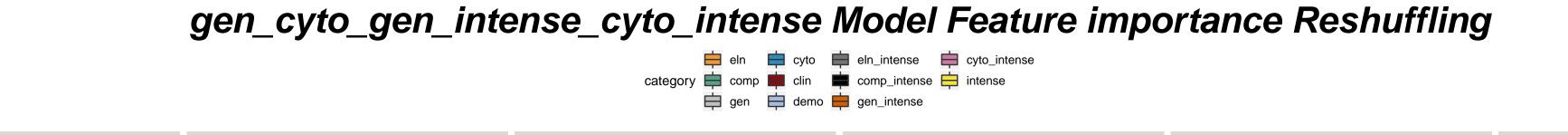


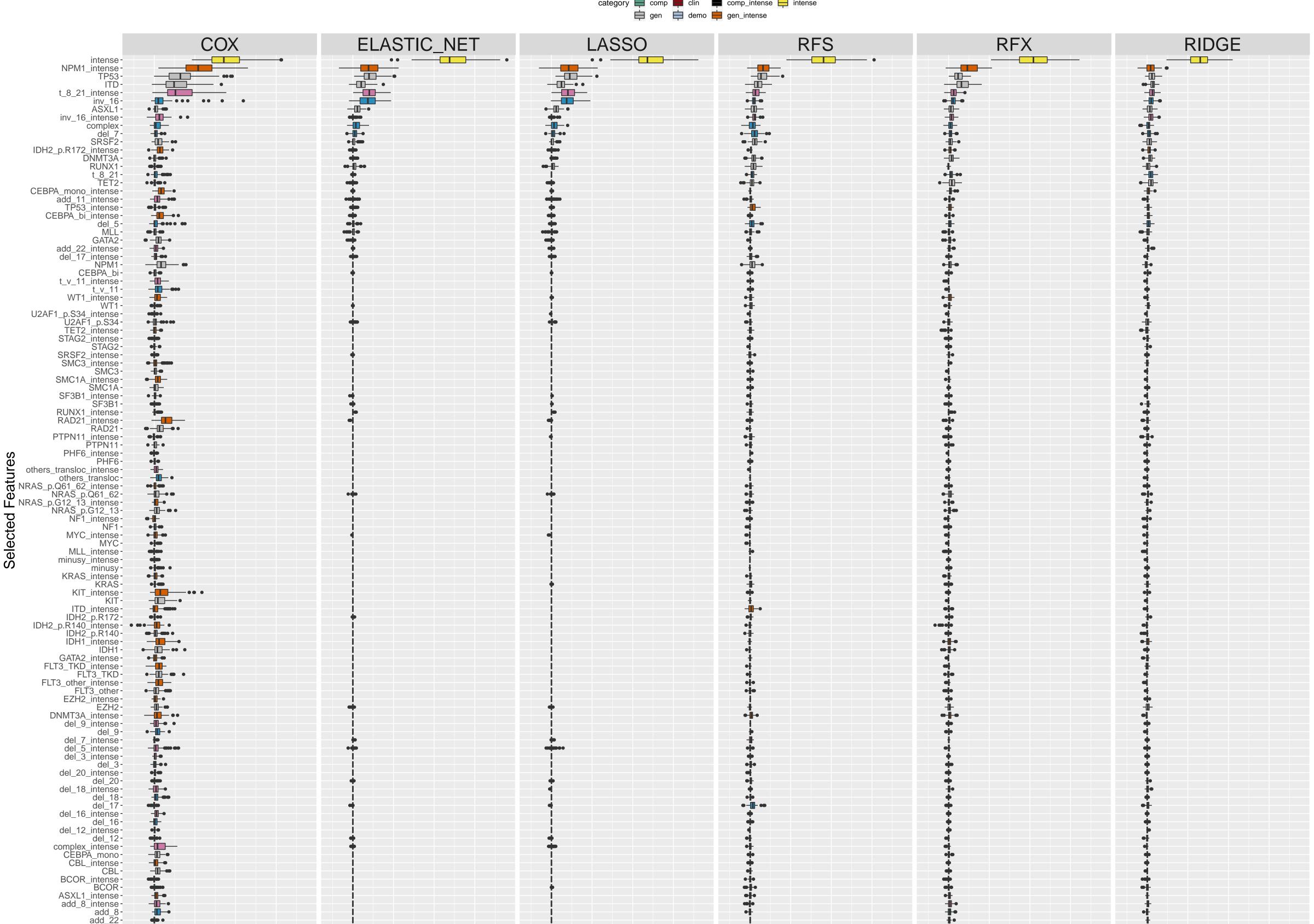






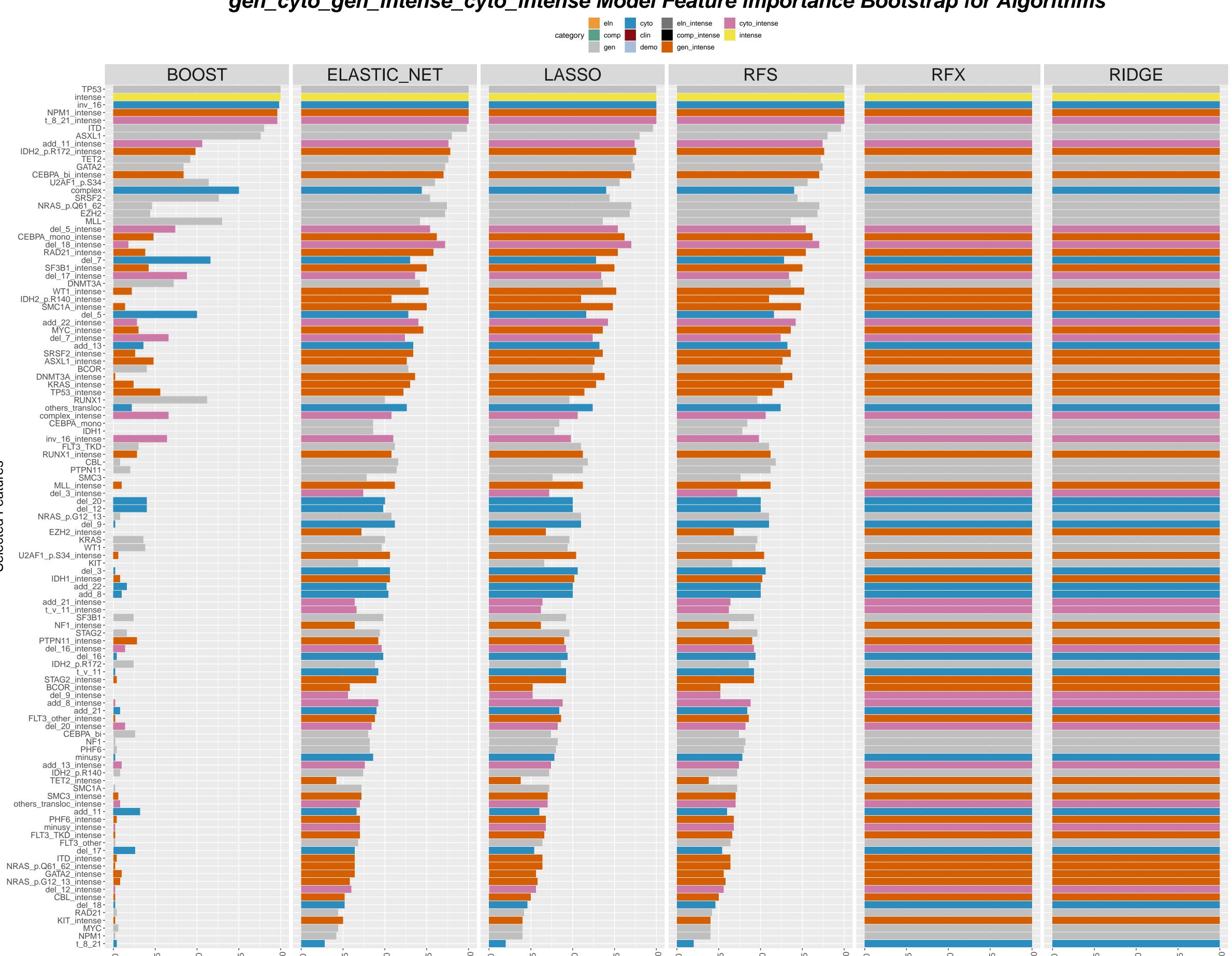






gen_cyto_gen_intense_cyto_intense Model Feature importance Bootstrap for Algorithms

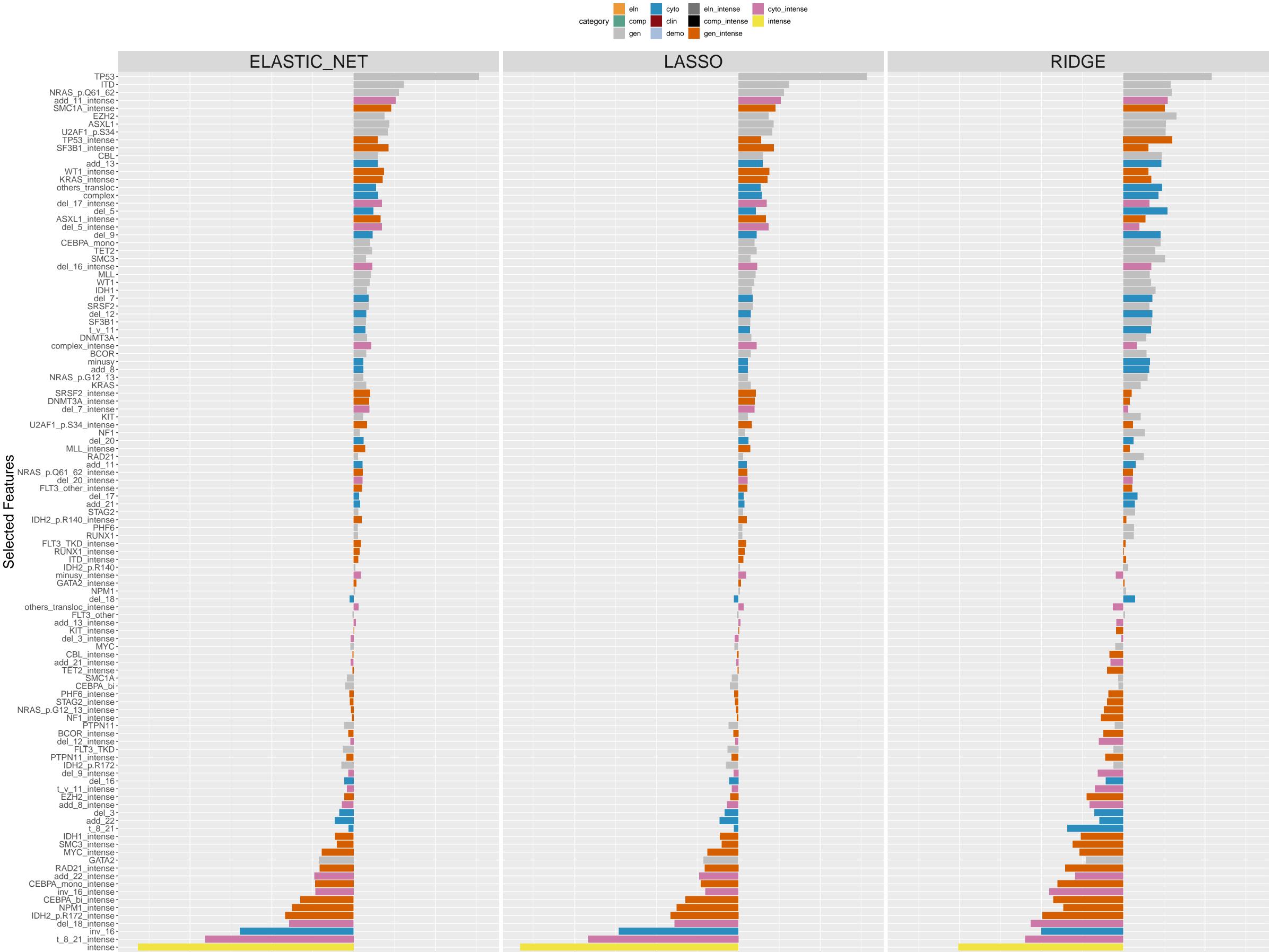
Ratio (ref_CI/Permuted_CI)



Selected Features

gen_cyto_gen_intense_cyto_intense Coefficients for Cox Penalized Models

Proportion of selection count overall models and algorithms

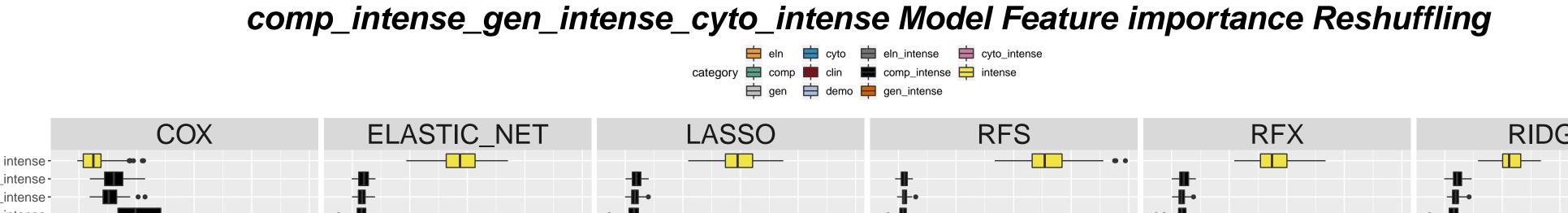


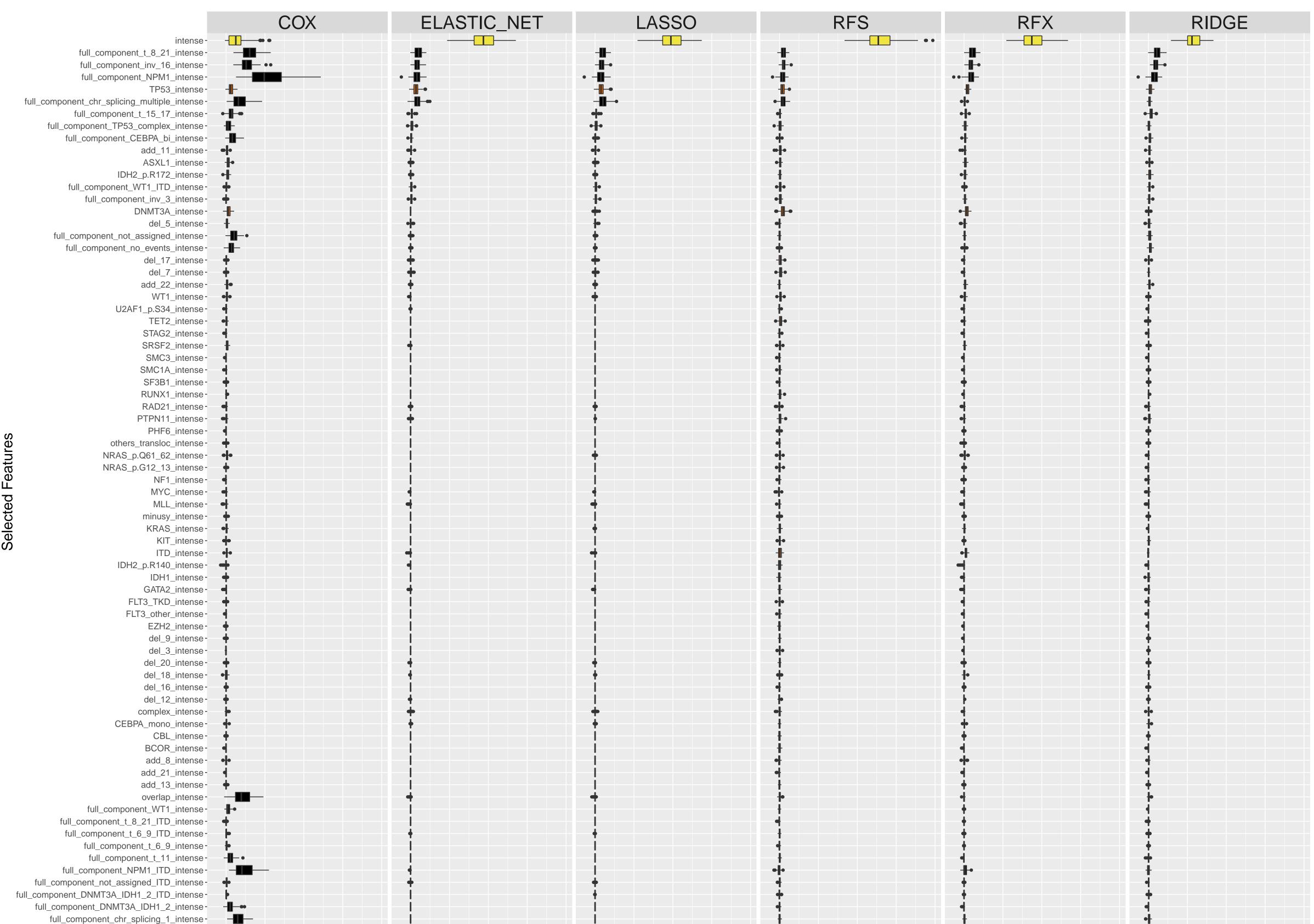
Sum of coefficients over GLM Models

20

eln_eln_intense Model Feature importance Reshuffling demo pen_intense ELASTIC_NET COX RIDGE LASSO RFS RFX intenseeln_2017_favorable_intenseeln_2017_adverseeln_2017_intermediate_intenseeln_2017_intermediate eln_2017_favorable eln_2017_adverse_intense-Ratio (ref_Cl/Permuted_Cl) eln_eln_intense Model Feature importance Bootstrap for Algorithms ELASTIC_NET BOOST RIDGE LASSO RFS RFX eln_2017_favorable_intense intenseeln_2017_adverse-Selected Features eln_2017_adverse_intenseeln_2017_intermediate eln_2017_intermediate_intenseeln_2017_favorable-Proportion of selection count overall models and algorithms eln_eln_intense Coefficients for Cox Penalized Models ELASTIC_NET LASSO RIDGE eln_2017_adverseeln_2017_adverse_intenseeln_2017_favorable eln_2017_intermediate_intenseeln_2017_intermediate eln_2017_favorable_intenseintense--120 -120--80 0 0 Sum of coefficients over GLM Models

full_component_TP53_comple Selected full_component_DNMT3A_IDH1 full_component_DNN 100 Sum of coefficients over GLM Models





full_component_CEBPA_bi_ITD_intense-

full_component_additions_intense-

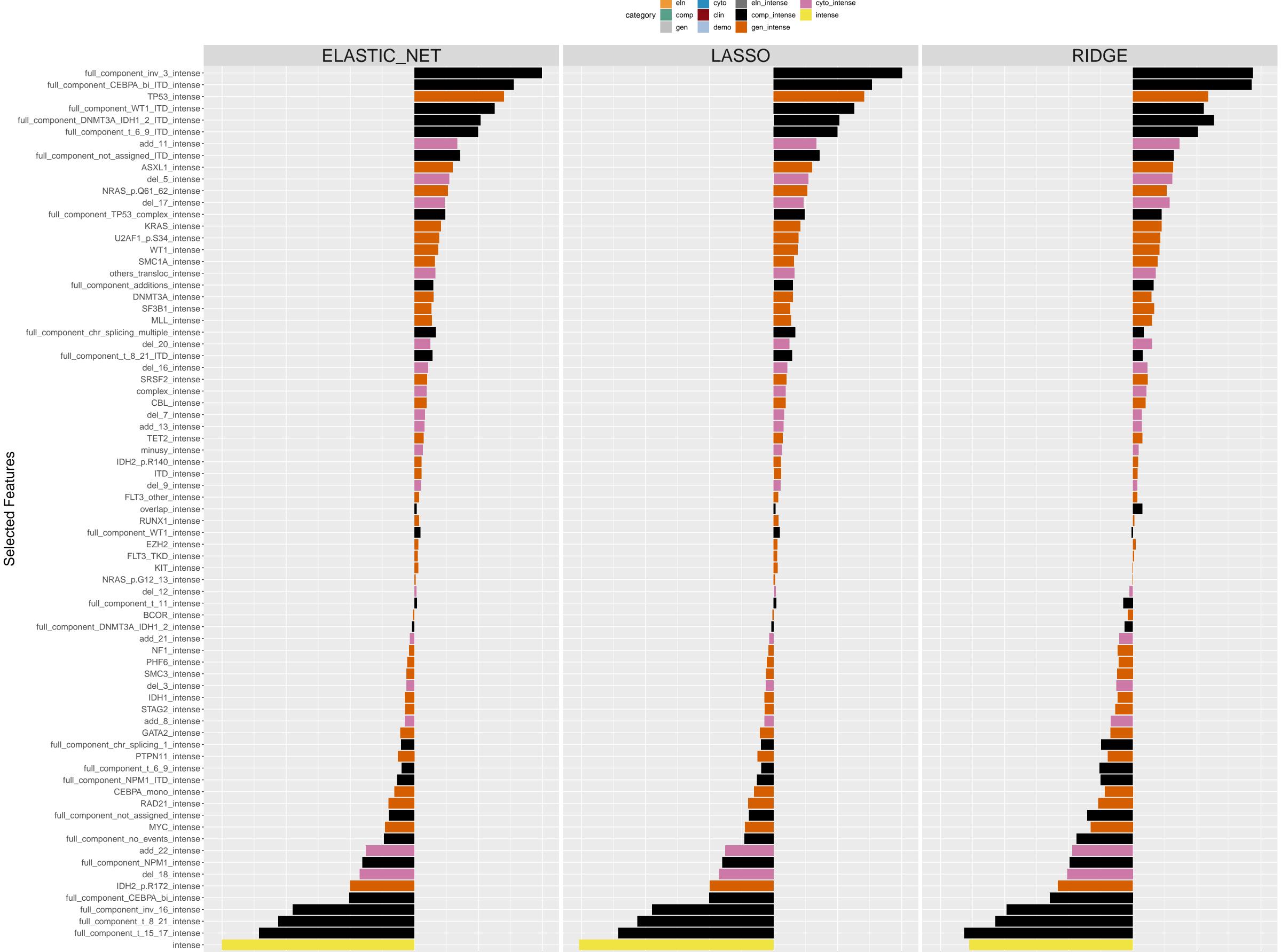
comp_intense_gen_intense_cyto_intense Model Feature importance Bootstrap for Algorithms

Ratio (ref_Cl/Permuted_Cl)



comp_intense_gen_intense_cyto_intense Coefficients for Cox Penalized Models

Proportion of selection count overall models and algorithms



100

-150

Sum of coefficients over GLM Models

90