Irradiation causes alterations of polyamine, purine and sulfur metabolism in red blood cells and multiple organs

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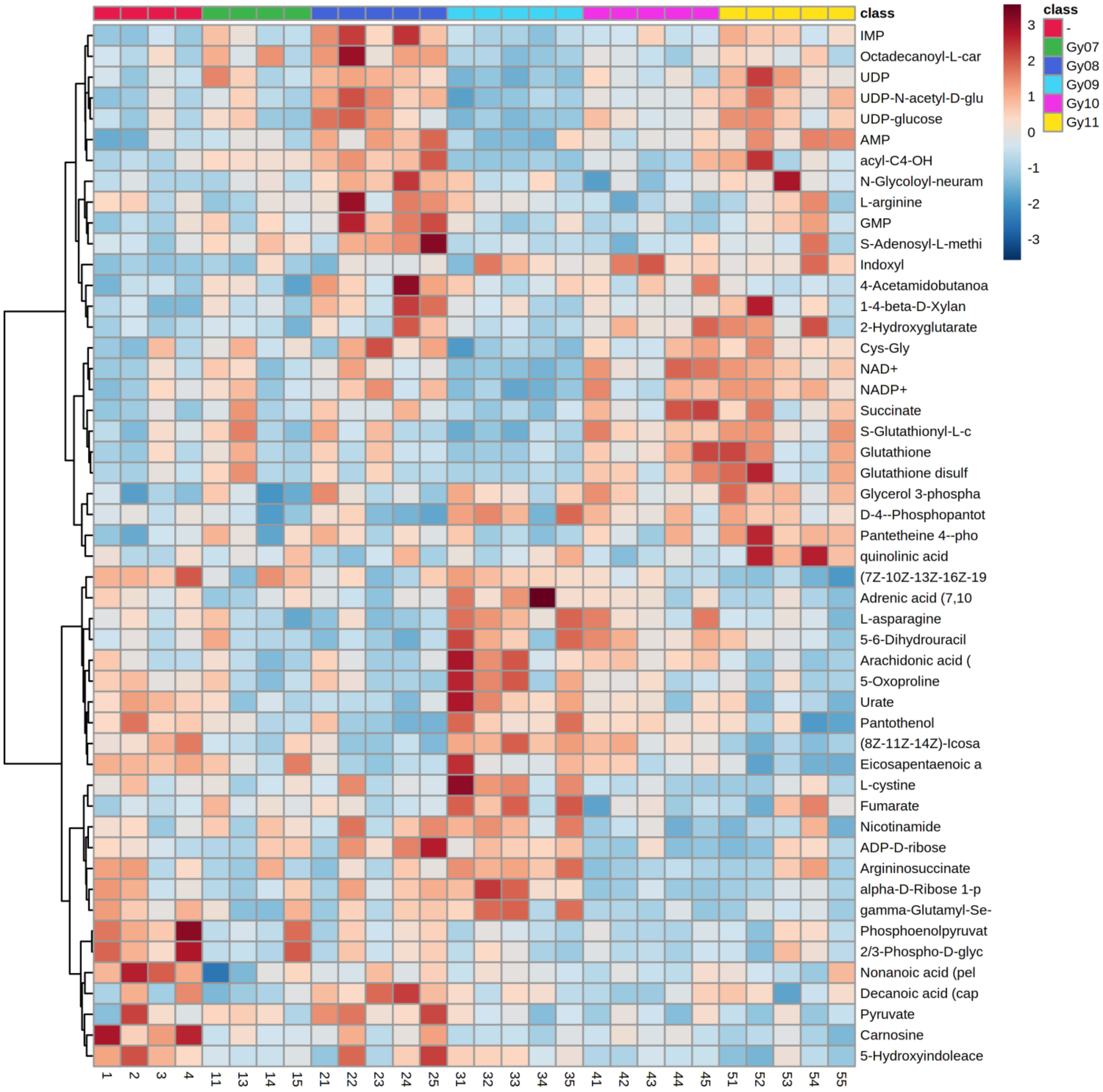
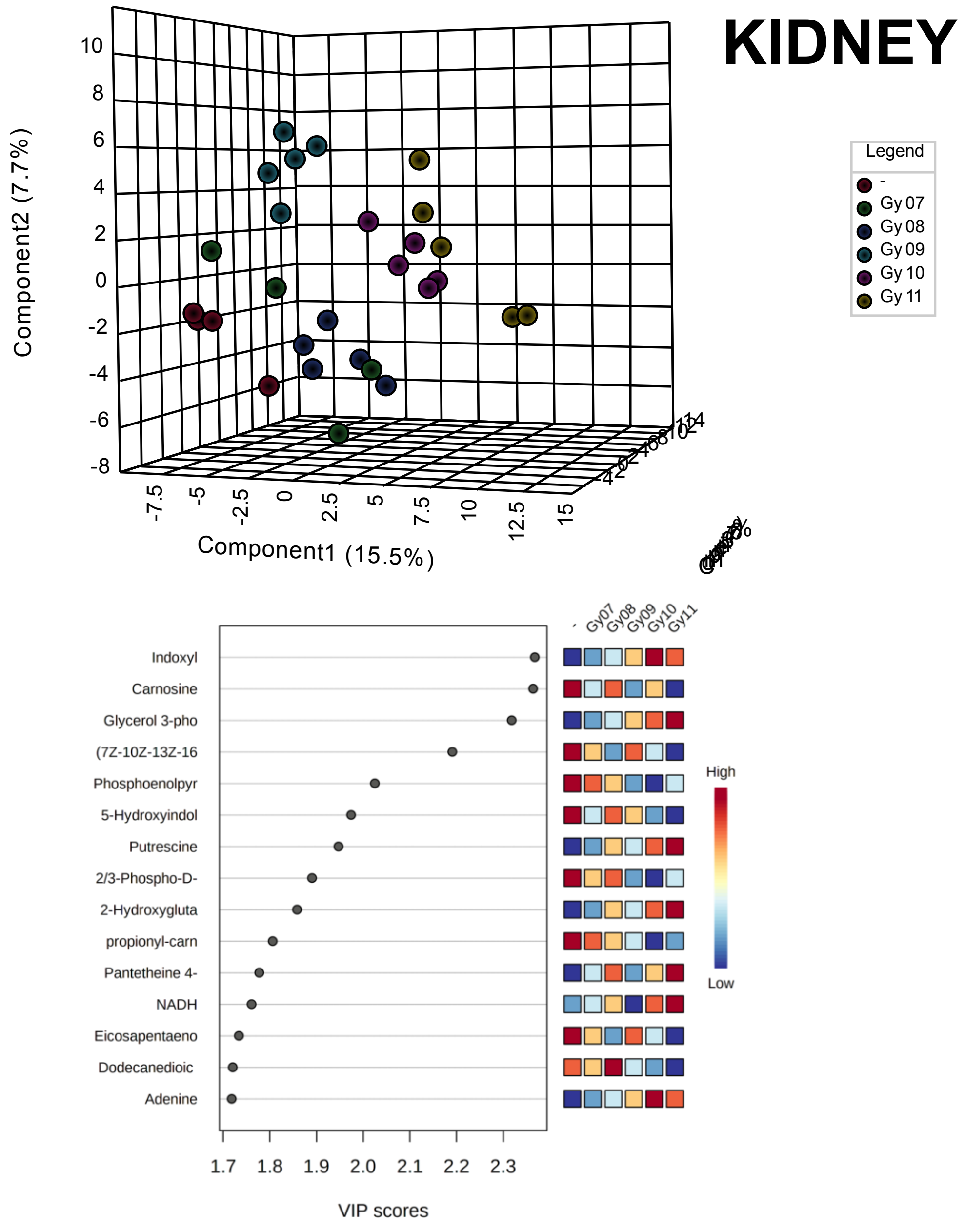
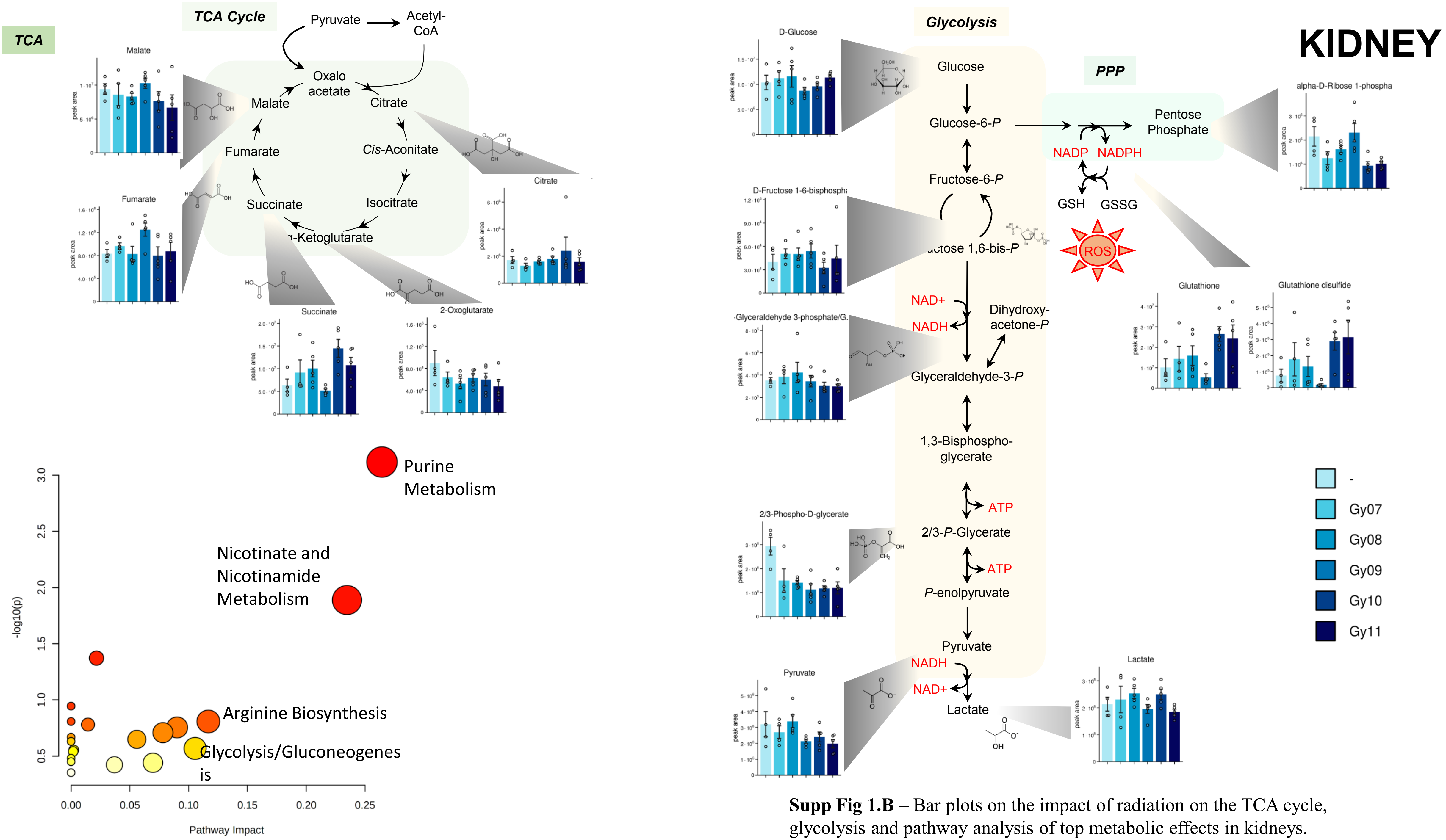
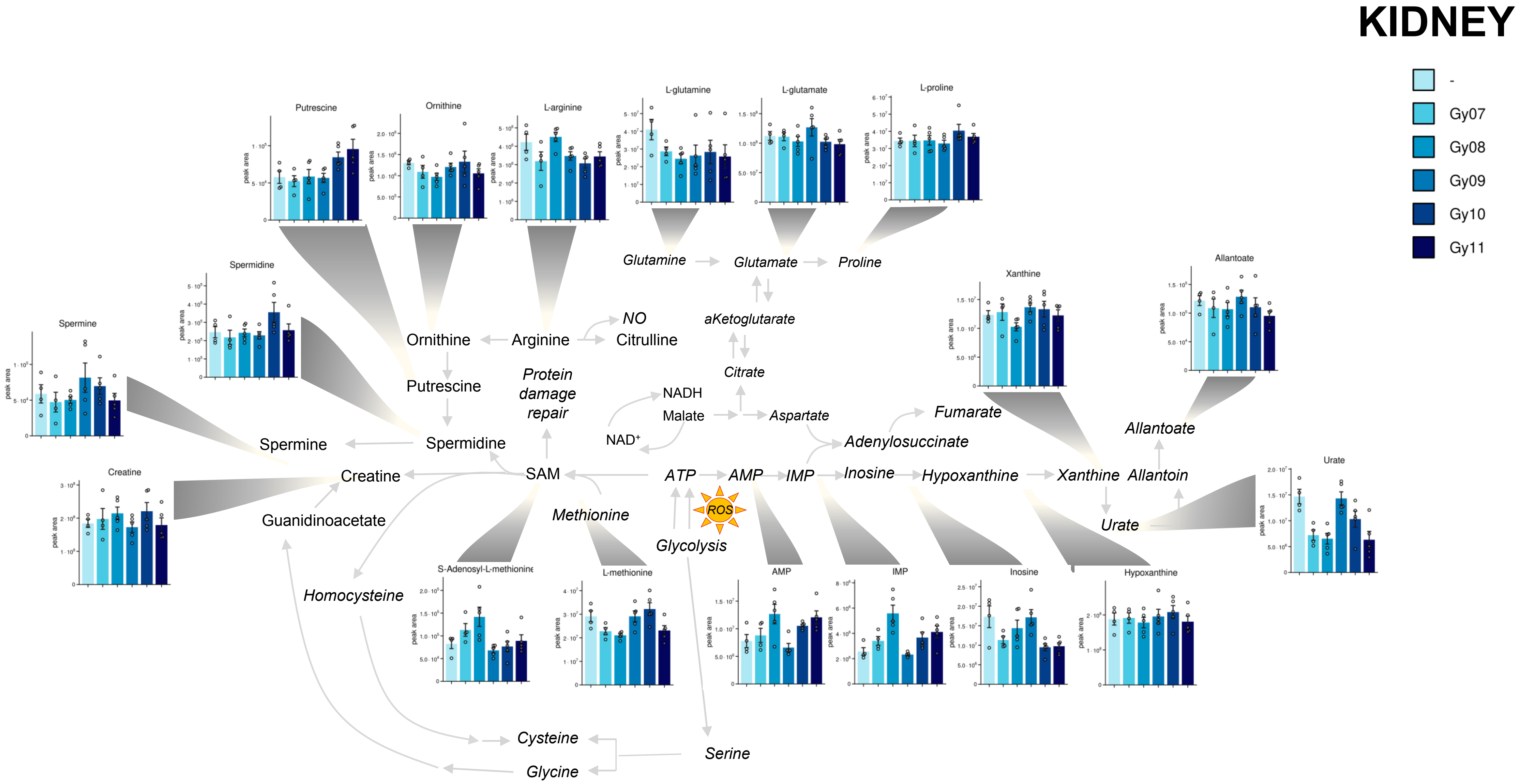




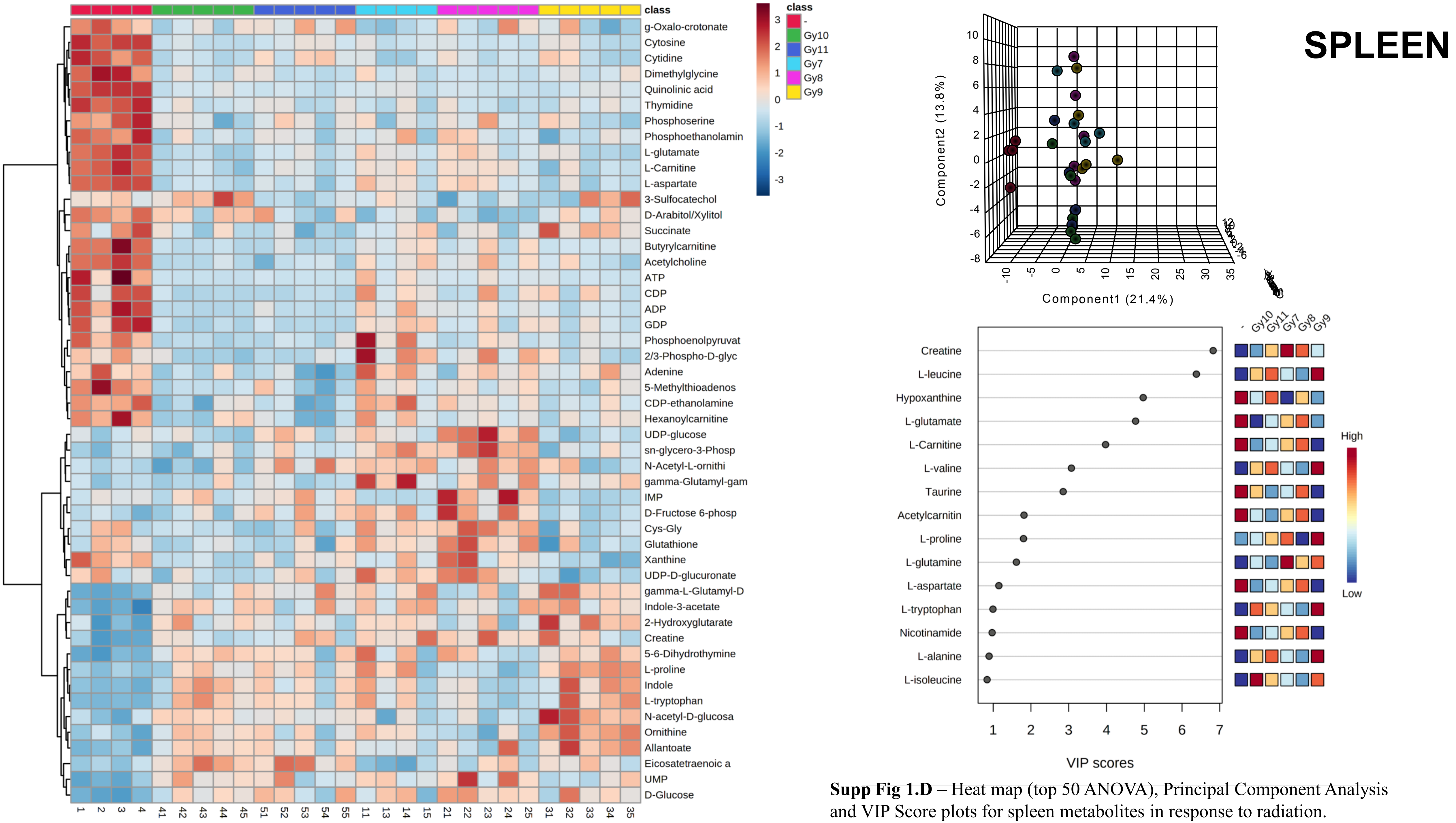
Supp Fig 1.A – Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for kidney metabolites in response to radiation.



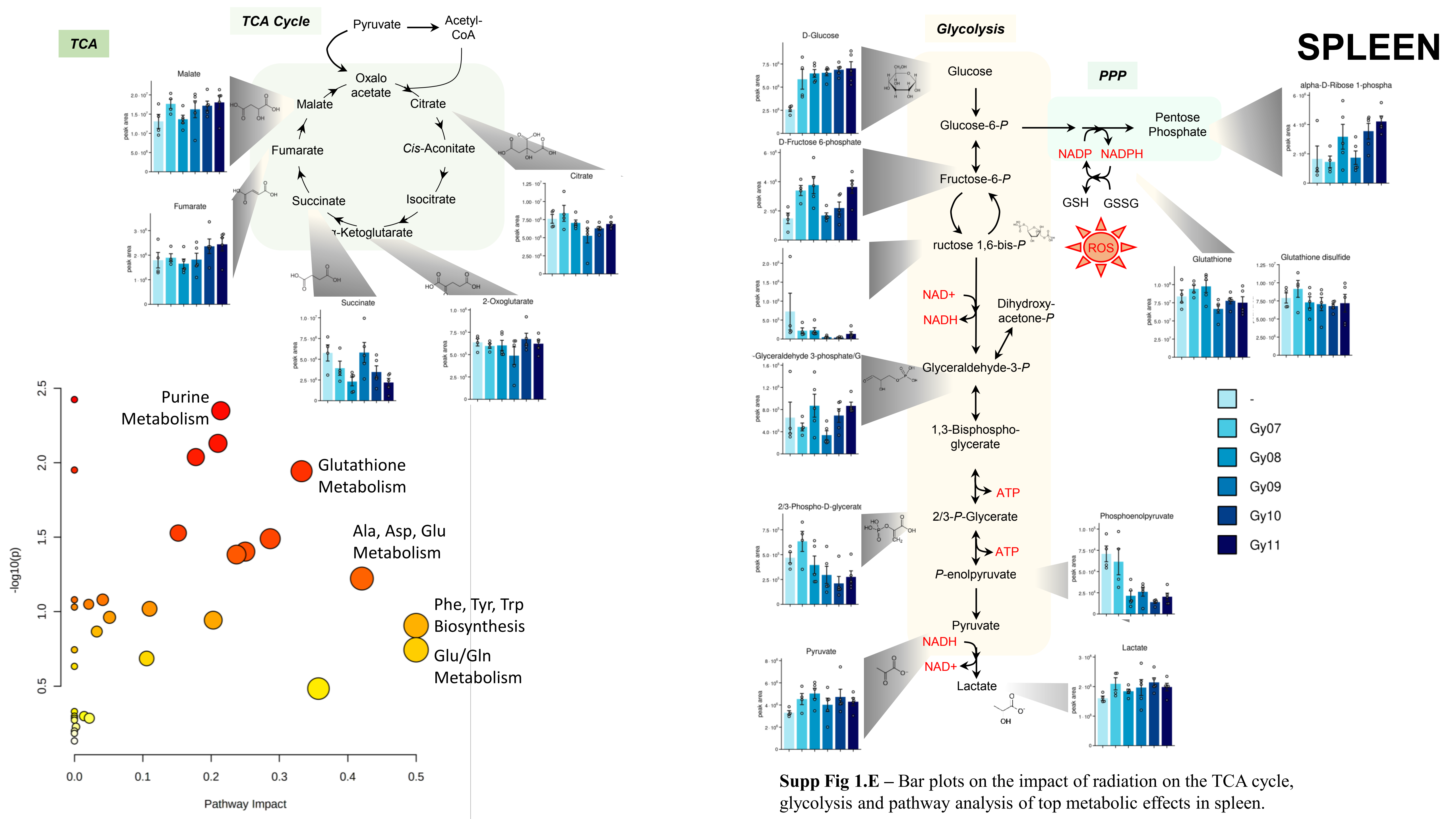
Supp Fig 1.B – Bar plots on the impact of radiation on the TCA cycle, glycolysis and pathway analysis of top metabolic effects in kidneys.



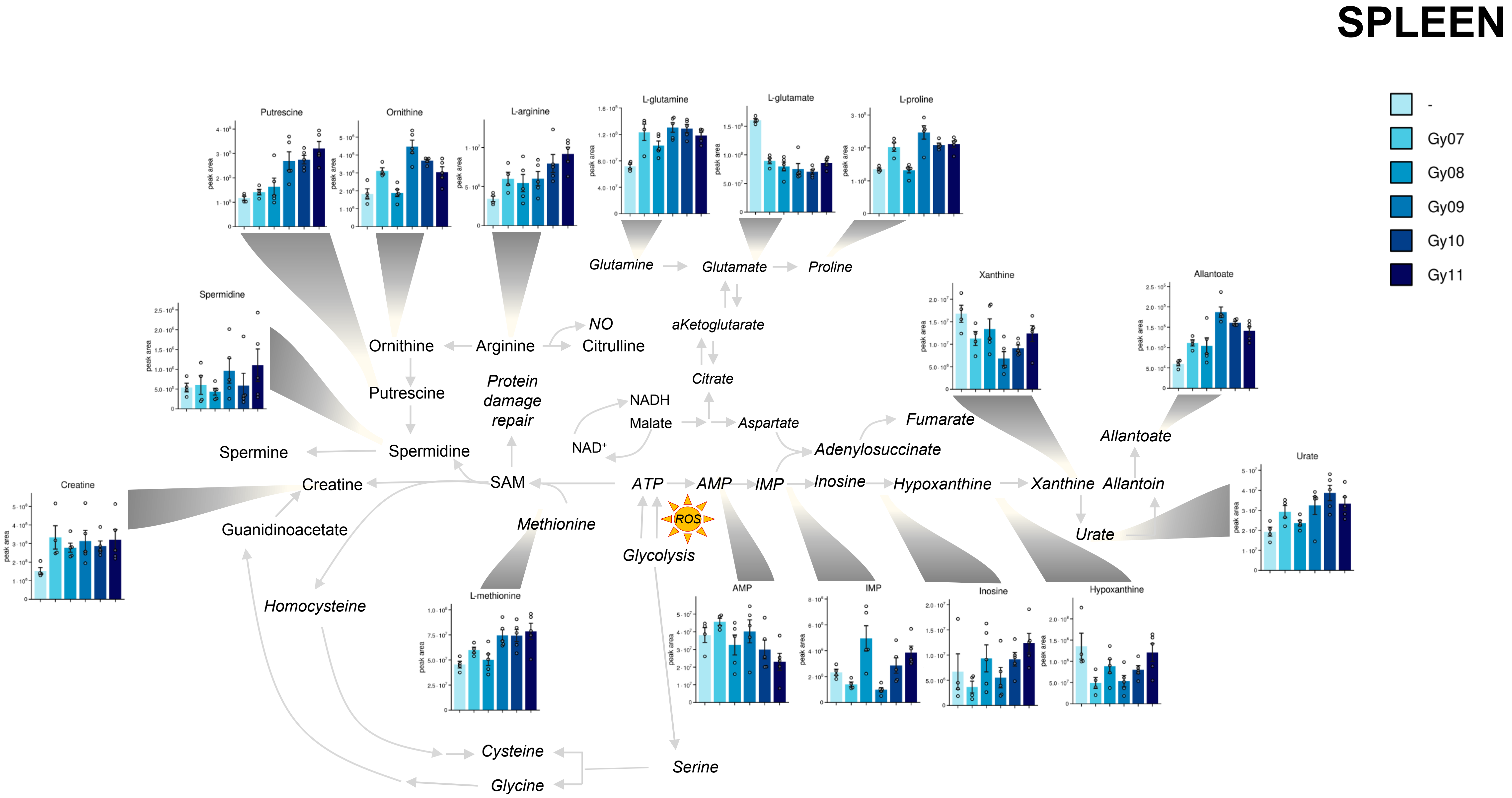
Supp Fig 1.C – Bar plots on the impact of radiation on protein damage and repair mechanisms in the kidneys.



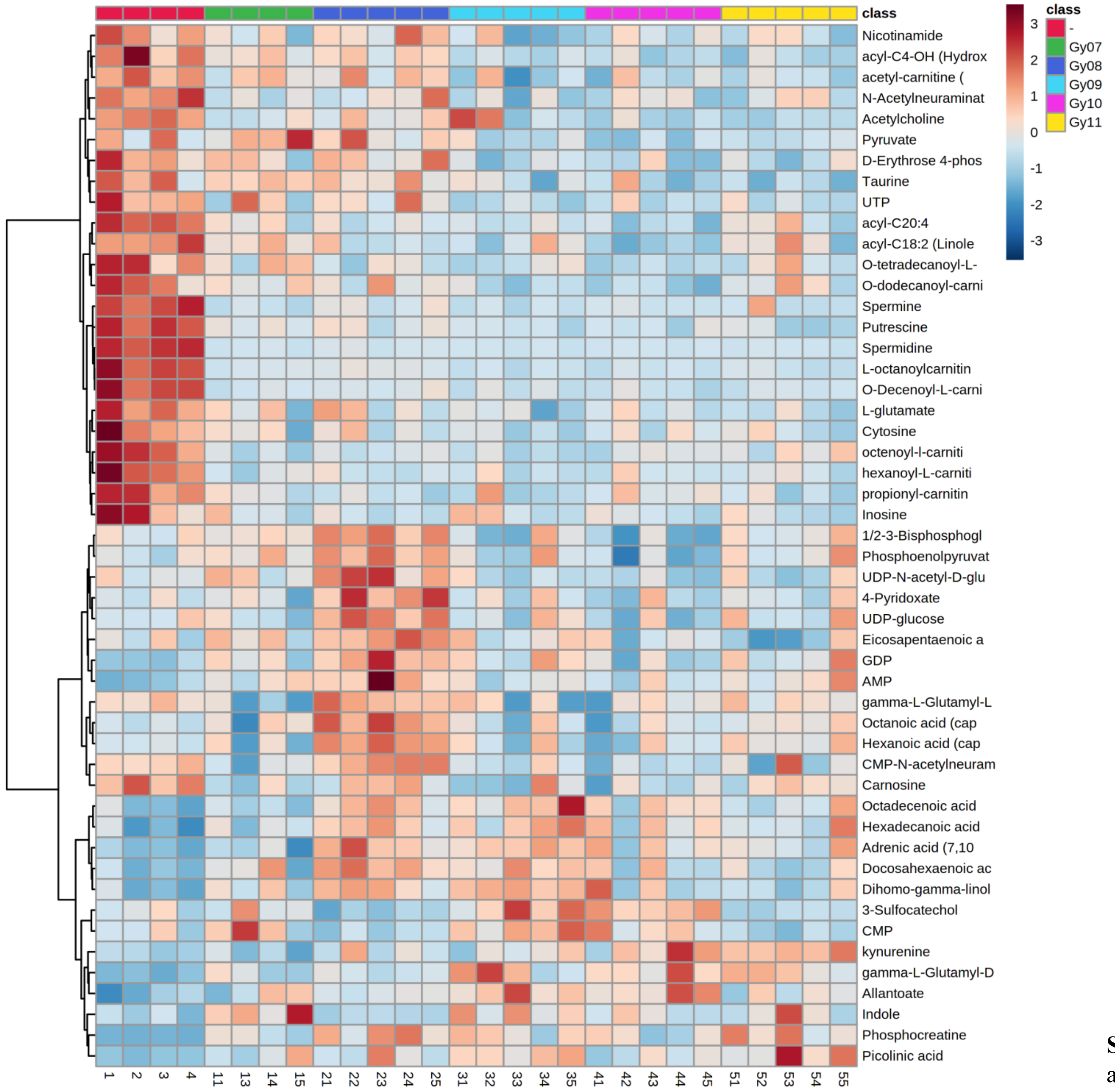
Supp Fig 1.D – Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for spleen metabolites in response to radiation.

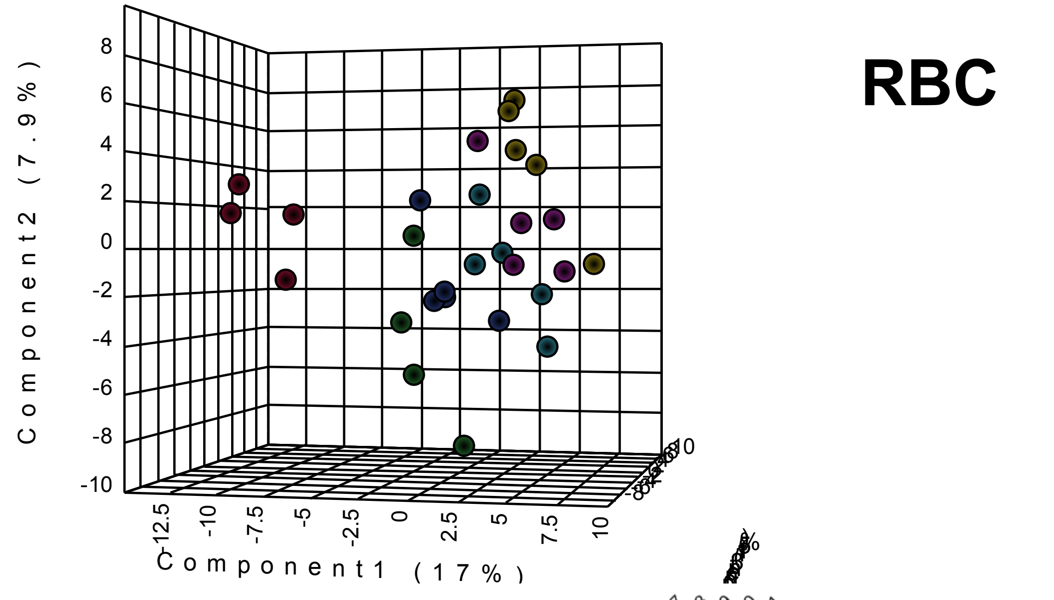


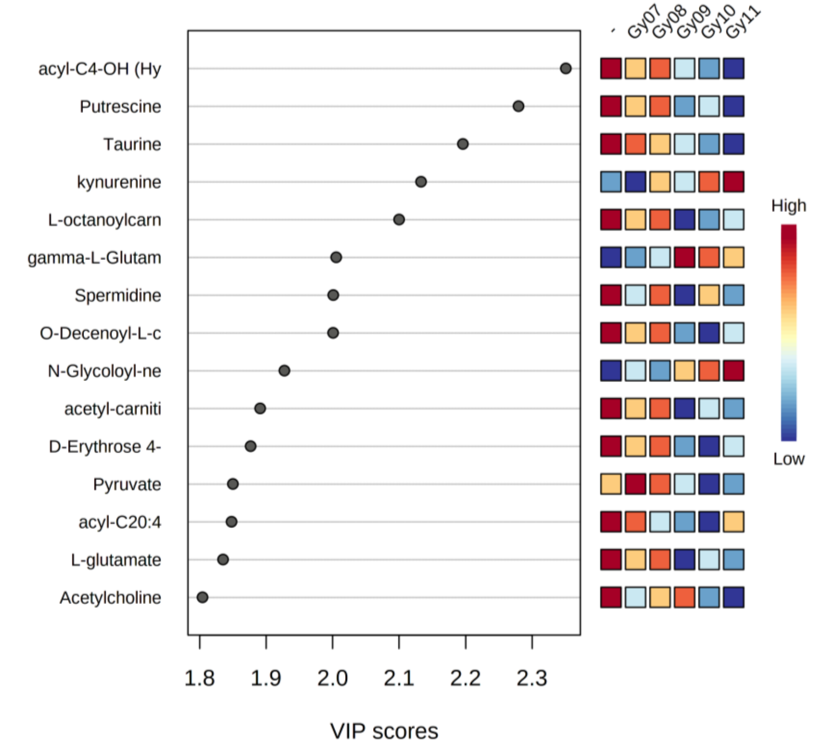
Supp Fig 1.E – Bar plots on the impact of radiation on the TCA cycle, glycolysis and pathway analysis of top metabolic effects in spleen.



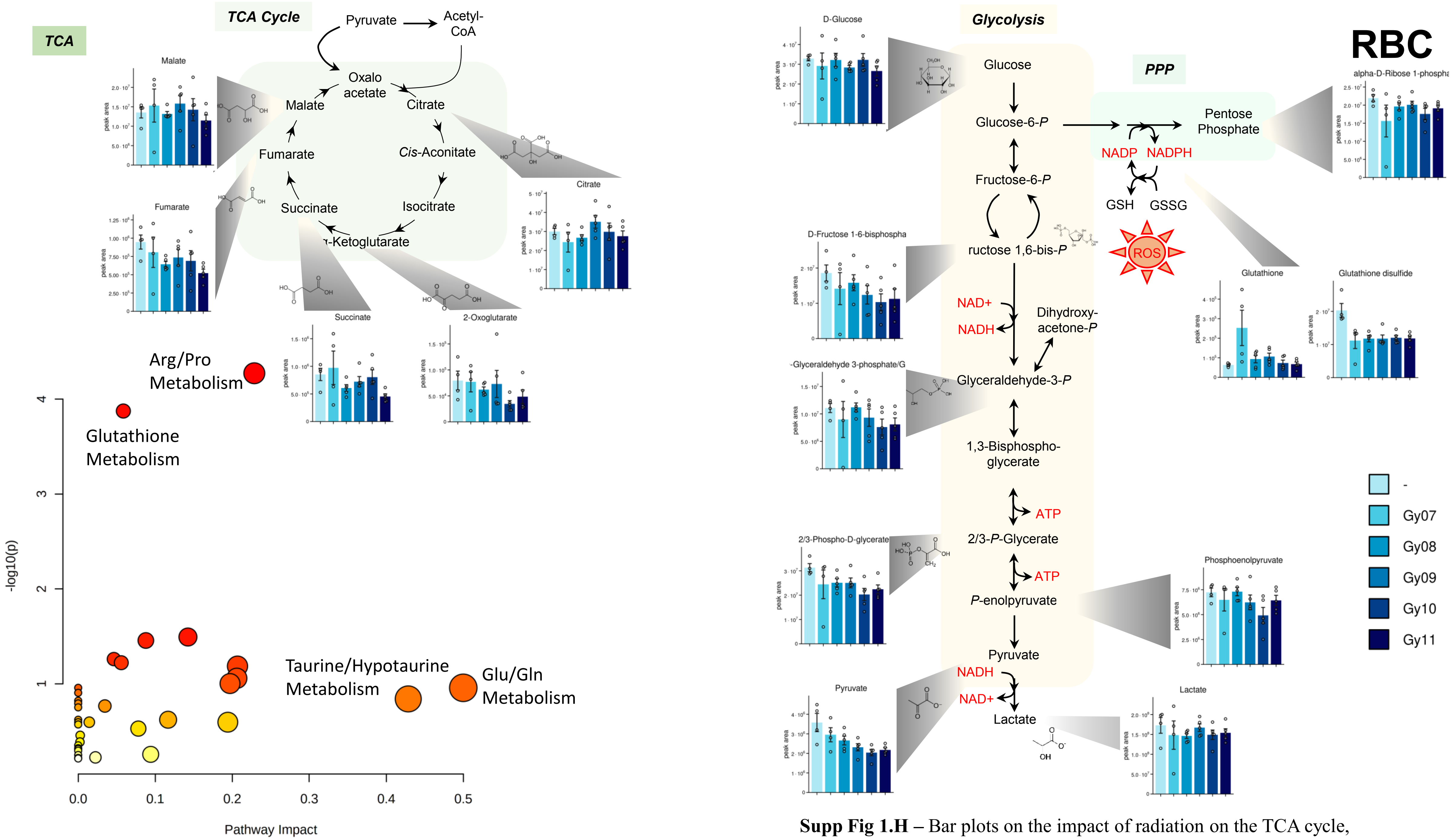
Supp Fig 1.F – Bar plots on the impact of radiation on protein damage and repair mechanisms in the spleen.



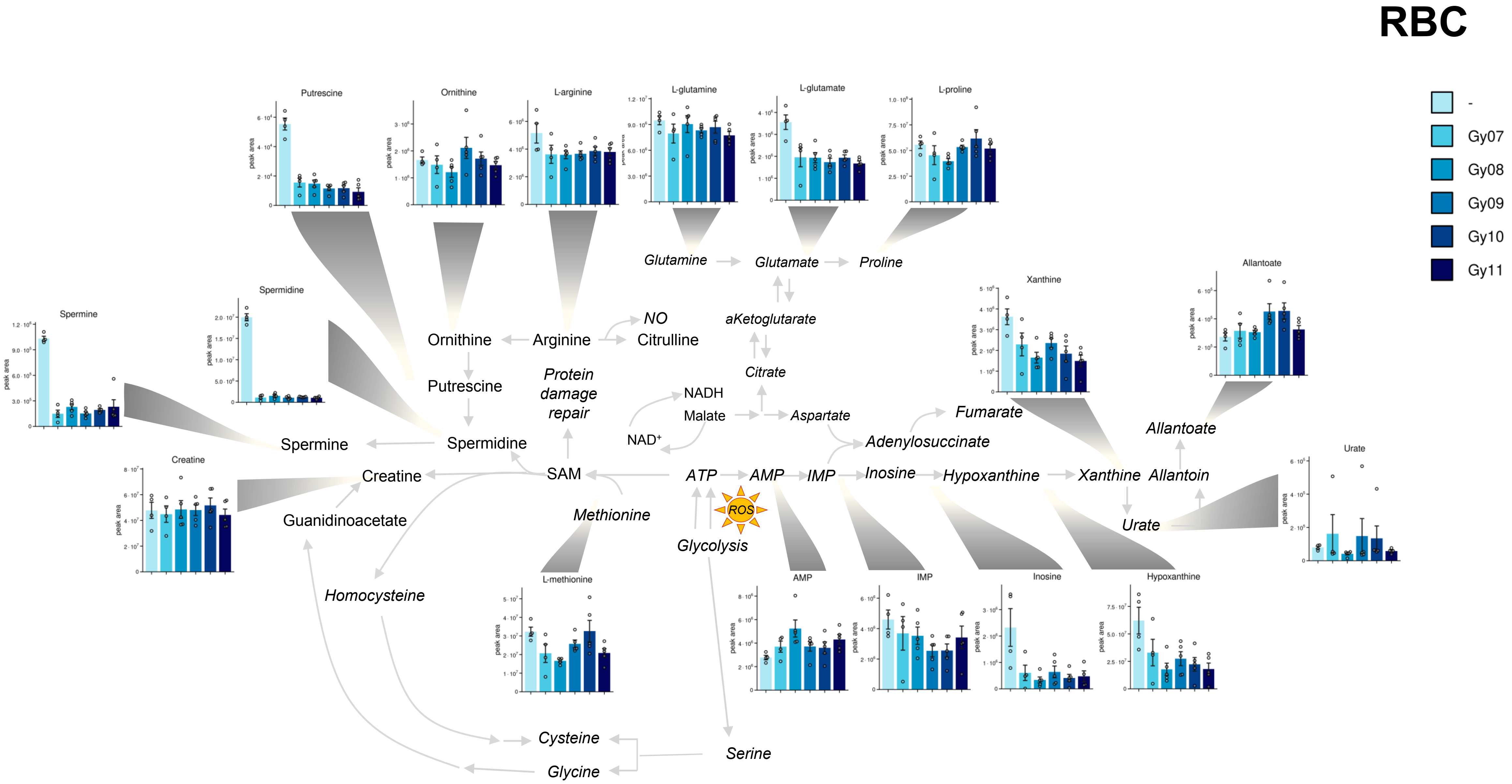




Supp Fig 1.G – Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for RBC metabolites in response to radiation.

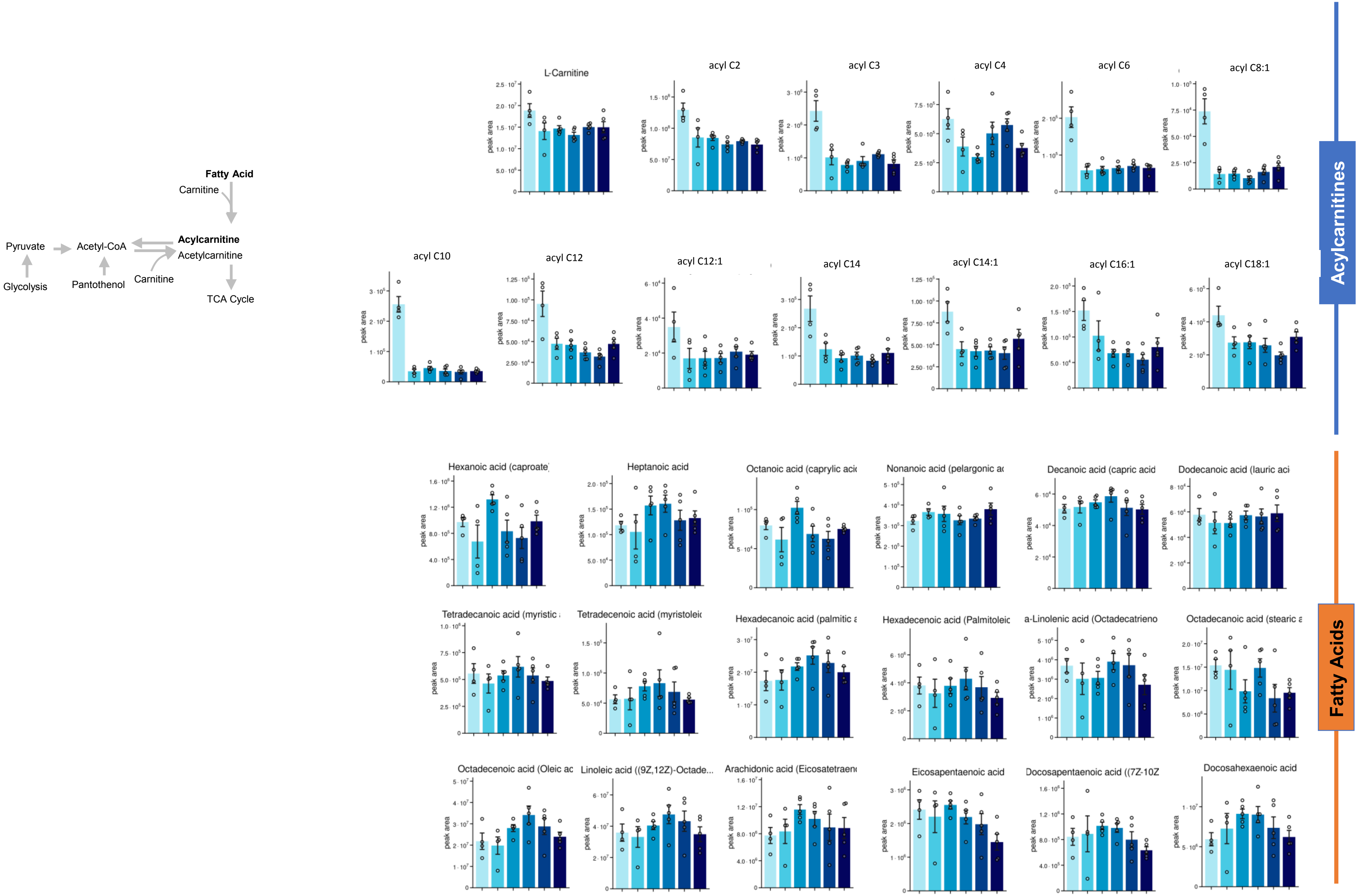


Supp Fig 1.H – Bar plots on the impact of radiation on the TCA cycle, glycolysis and pathway analysis of top metabolic effects in RBC.

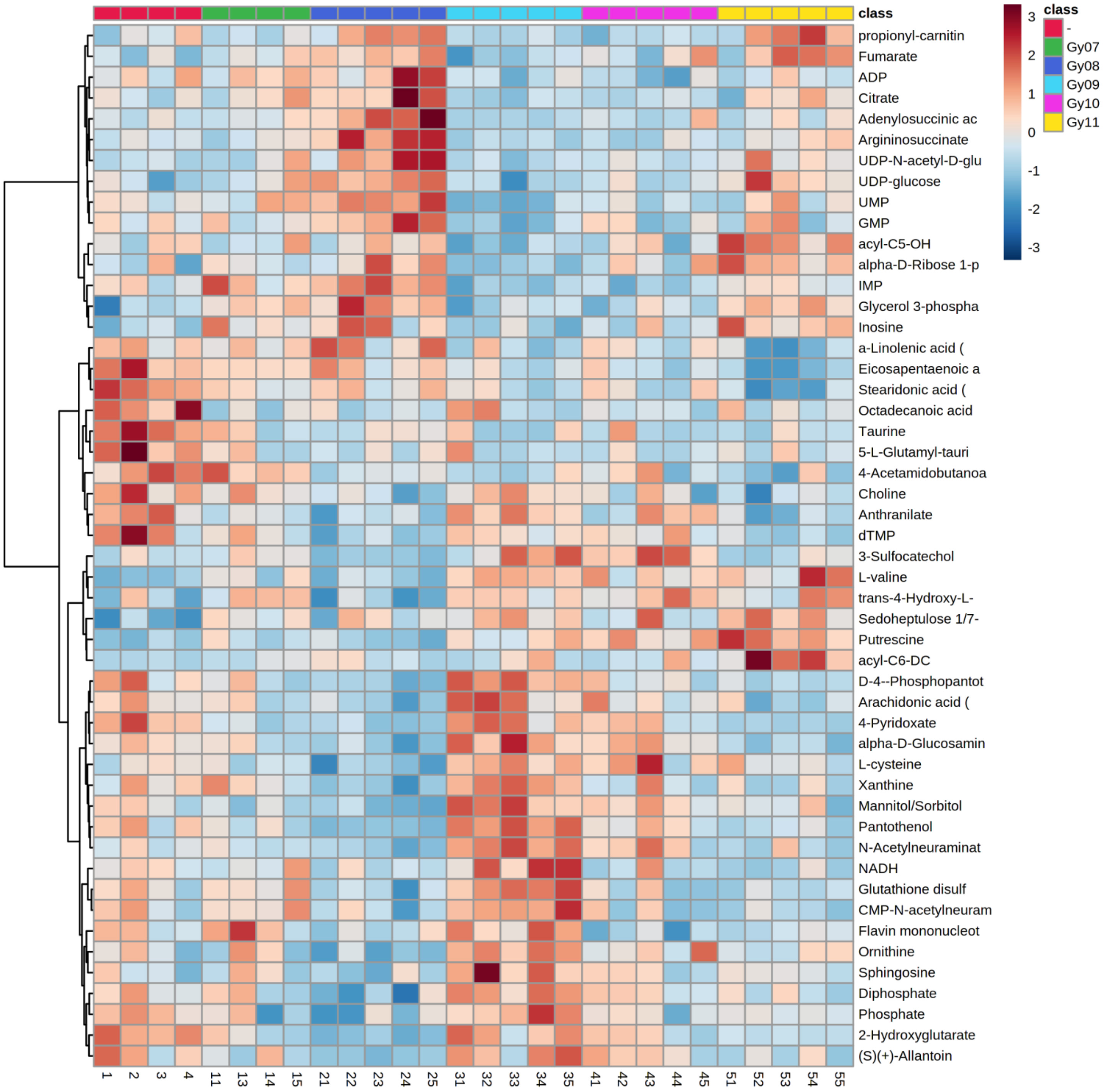


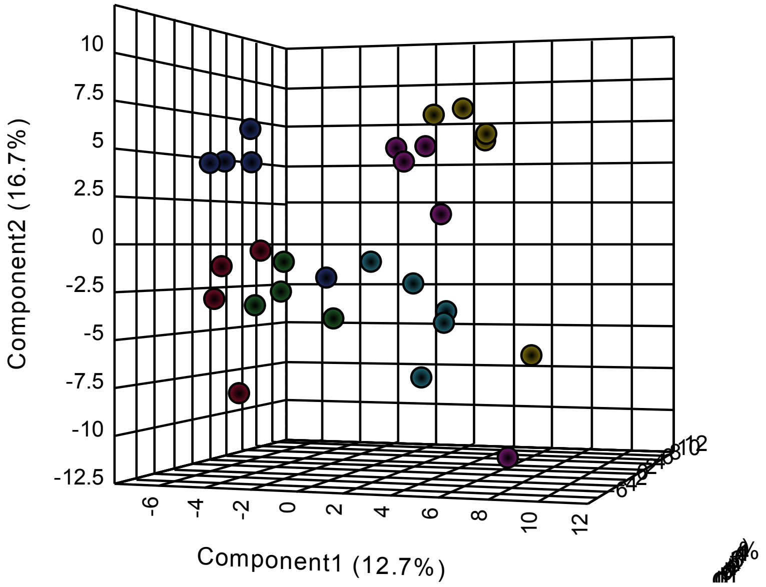
Supp Fig 1.I – Bar plots on the impact of radiation on protein damage and repair pathways in RBC.

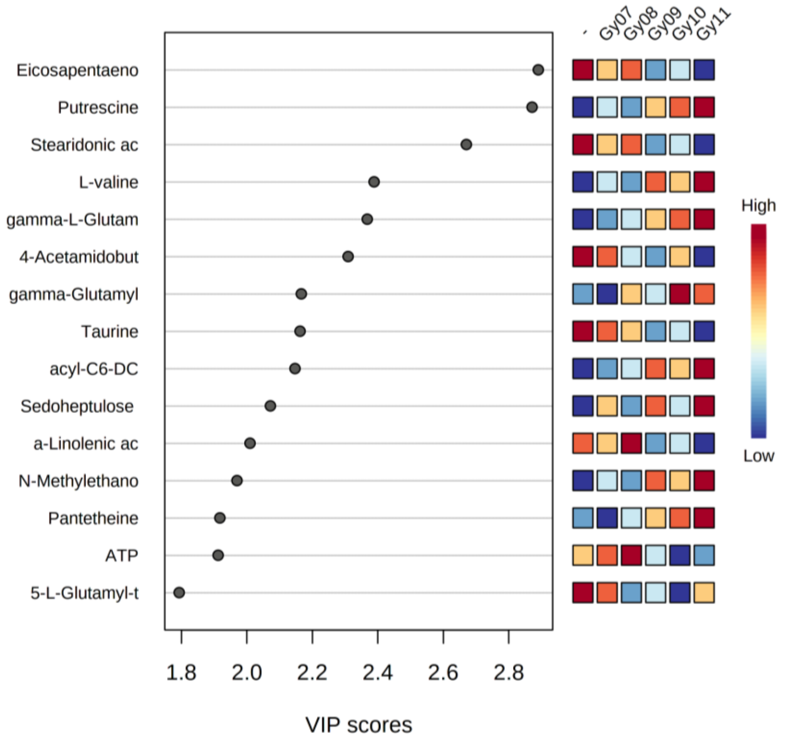
RBC



Supp Fig 1.J – Bar plots showing the impact of radiation on acyl-carnitines and fatty acids in RBC.

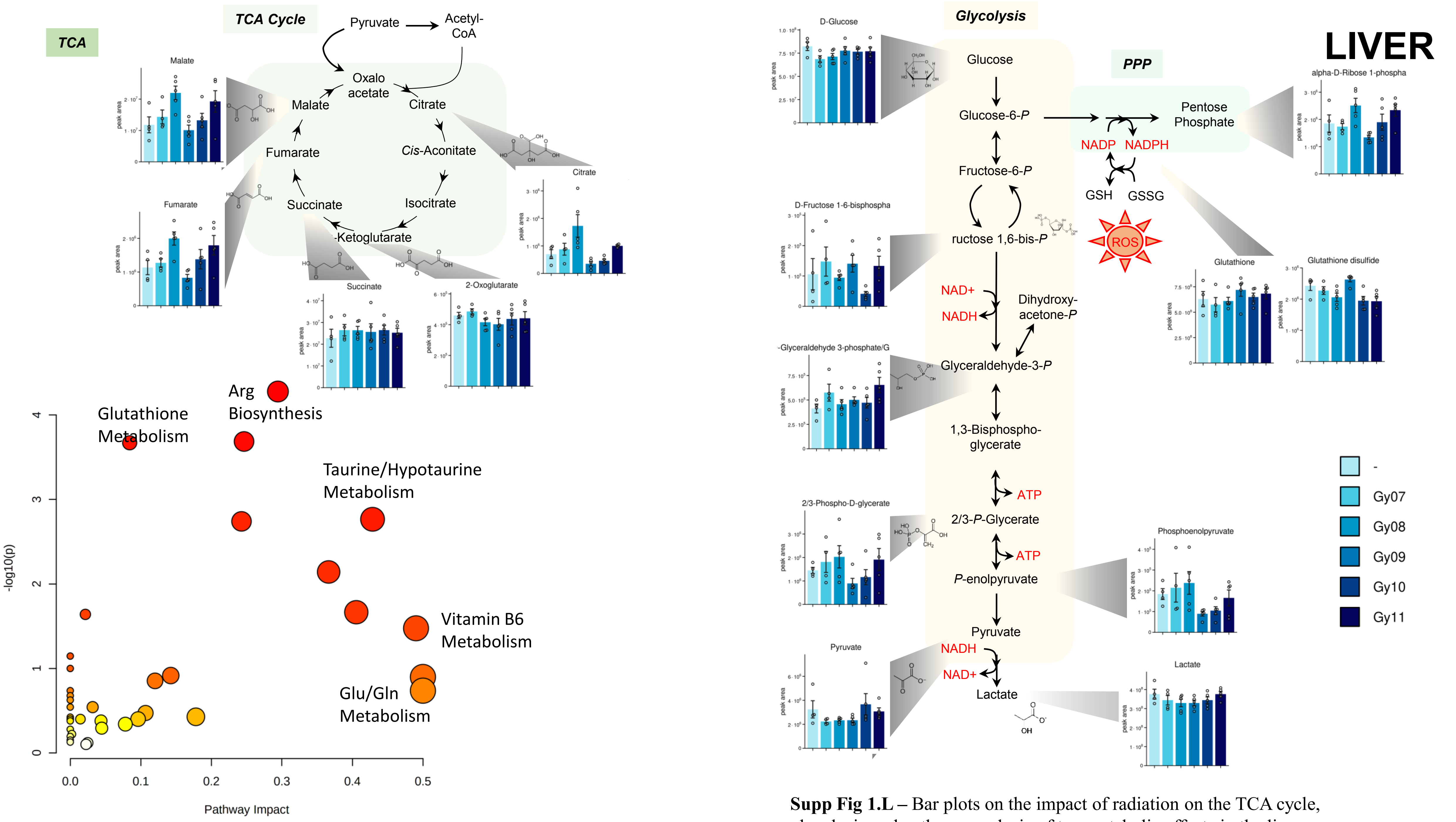




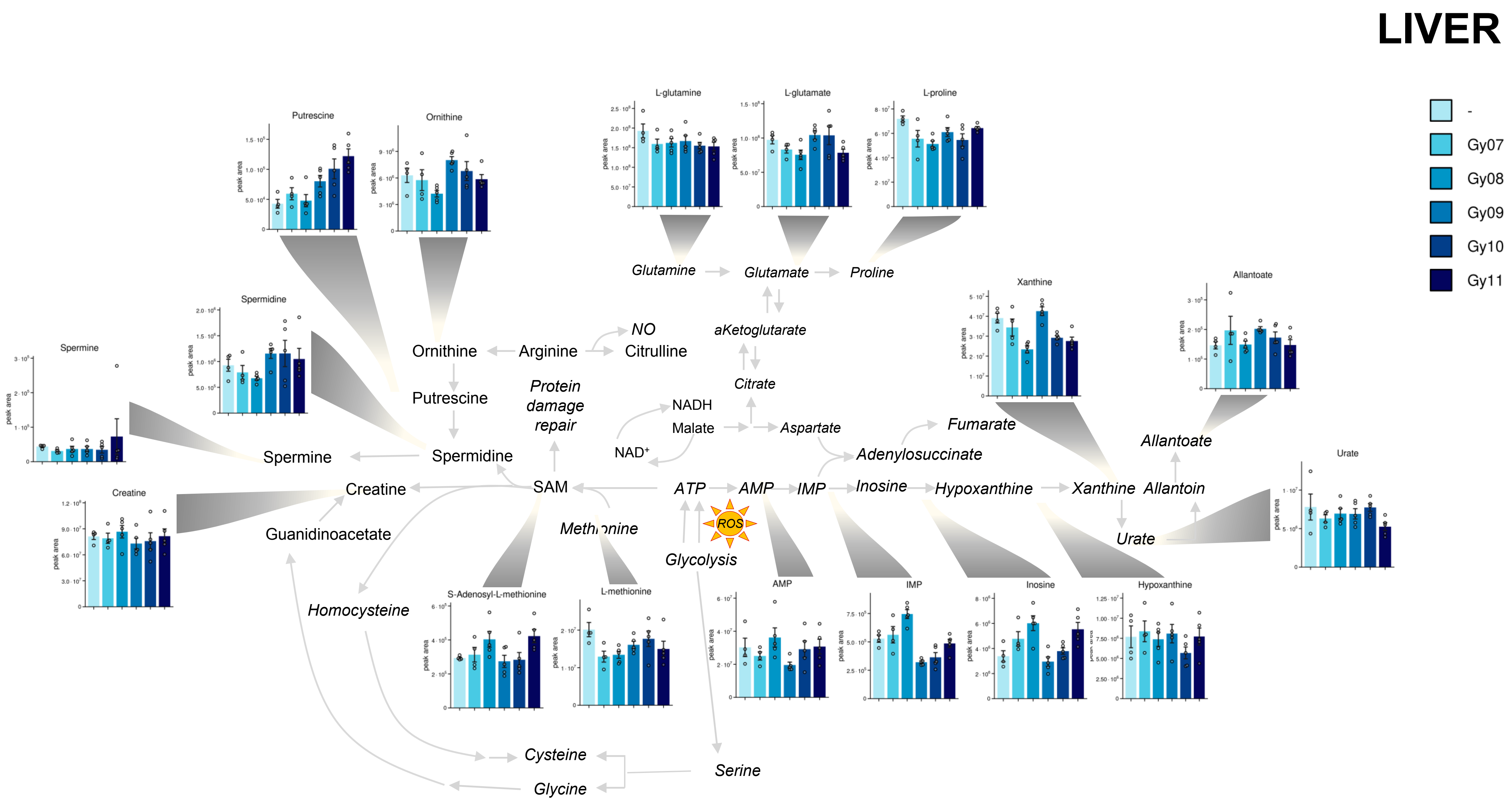


LIVER

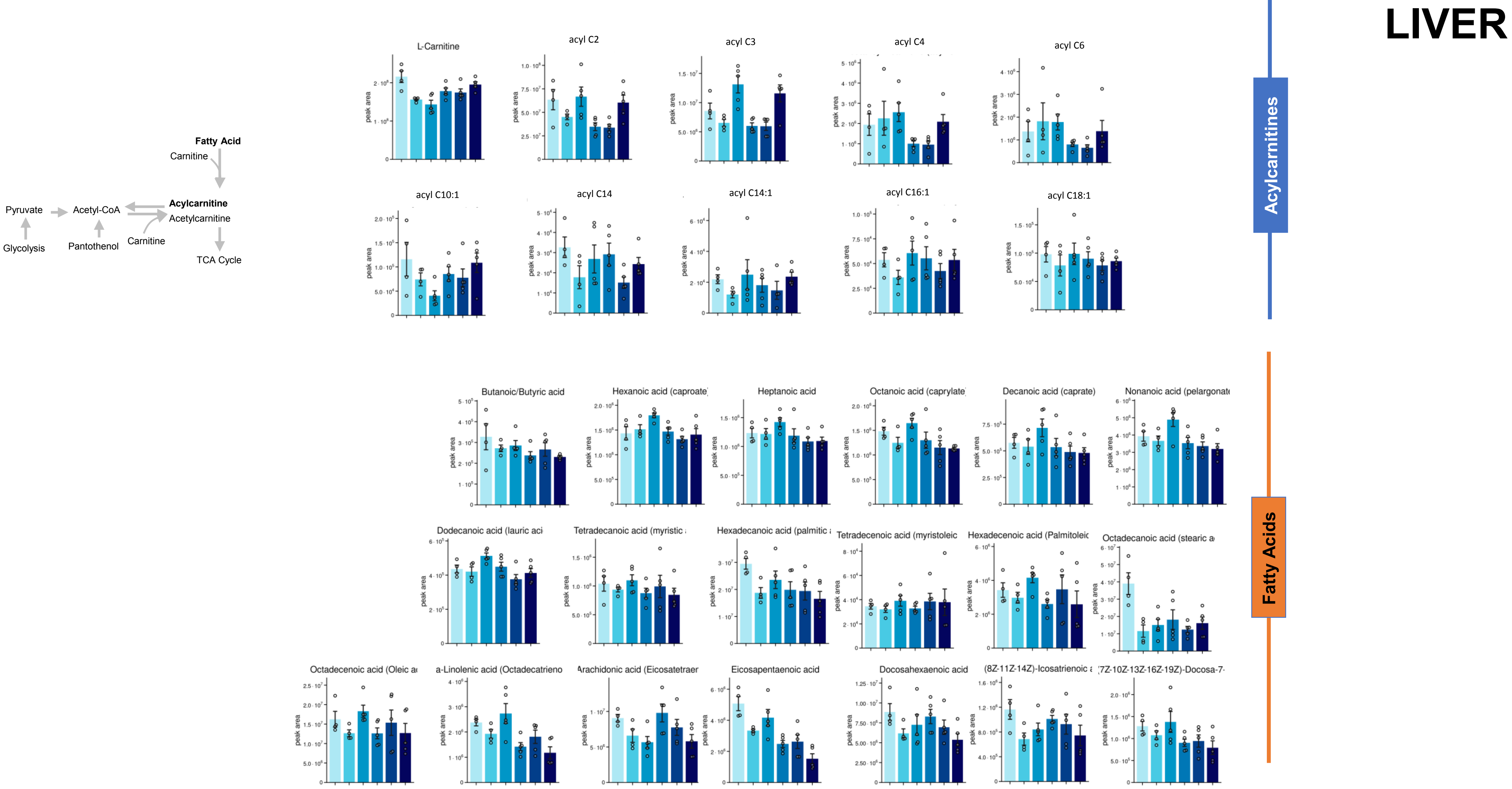
Supp Fig 1.K – Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for liver metabolites in response to radiation.



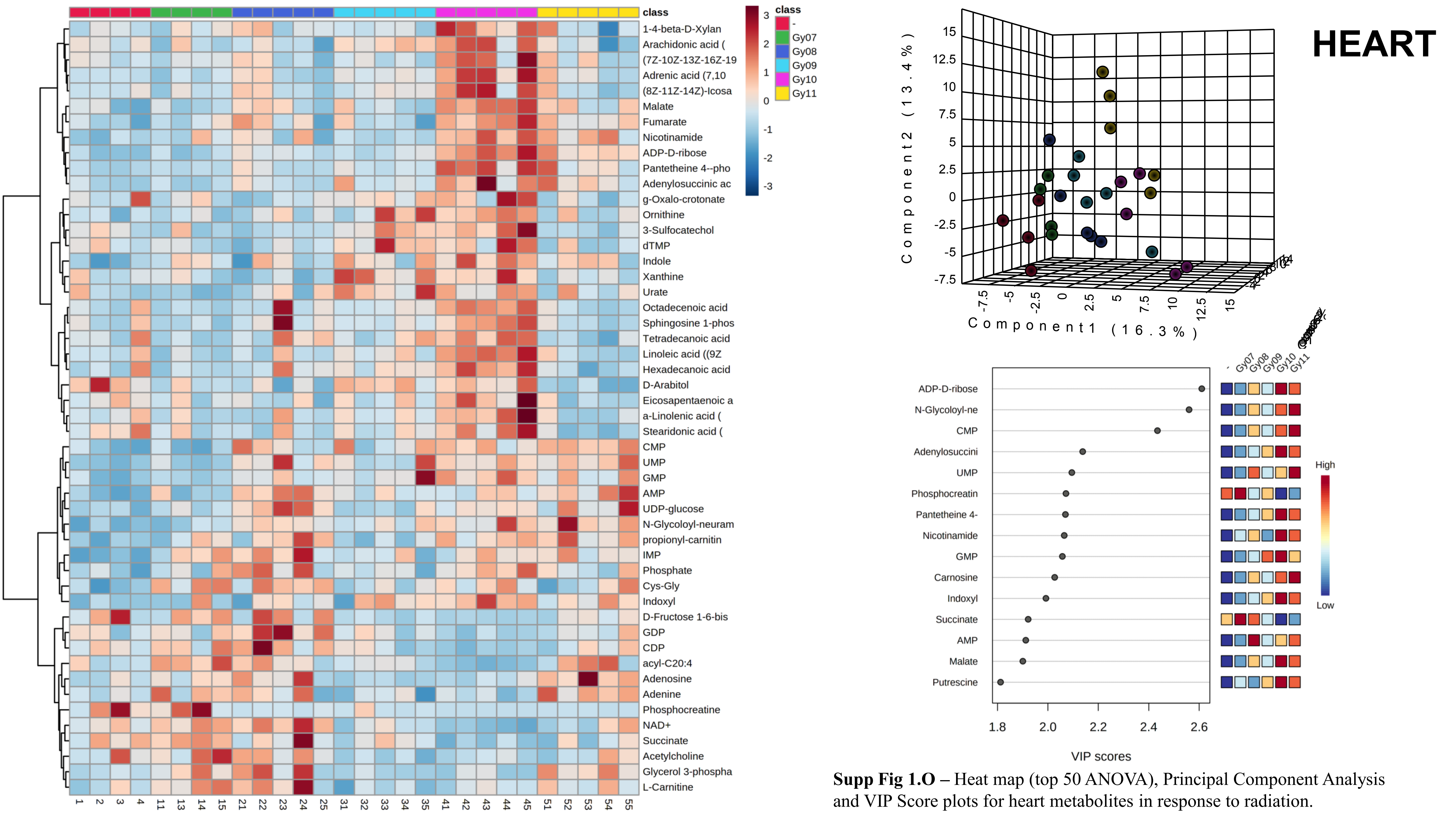
Supp Fig 1.L – Bar plots on the impact of radiation on the TCA cycle, glycolysis and pathway analysis of top metabolic effects in the liver.



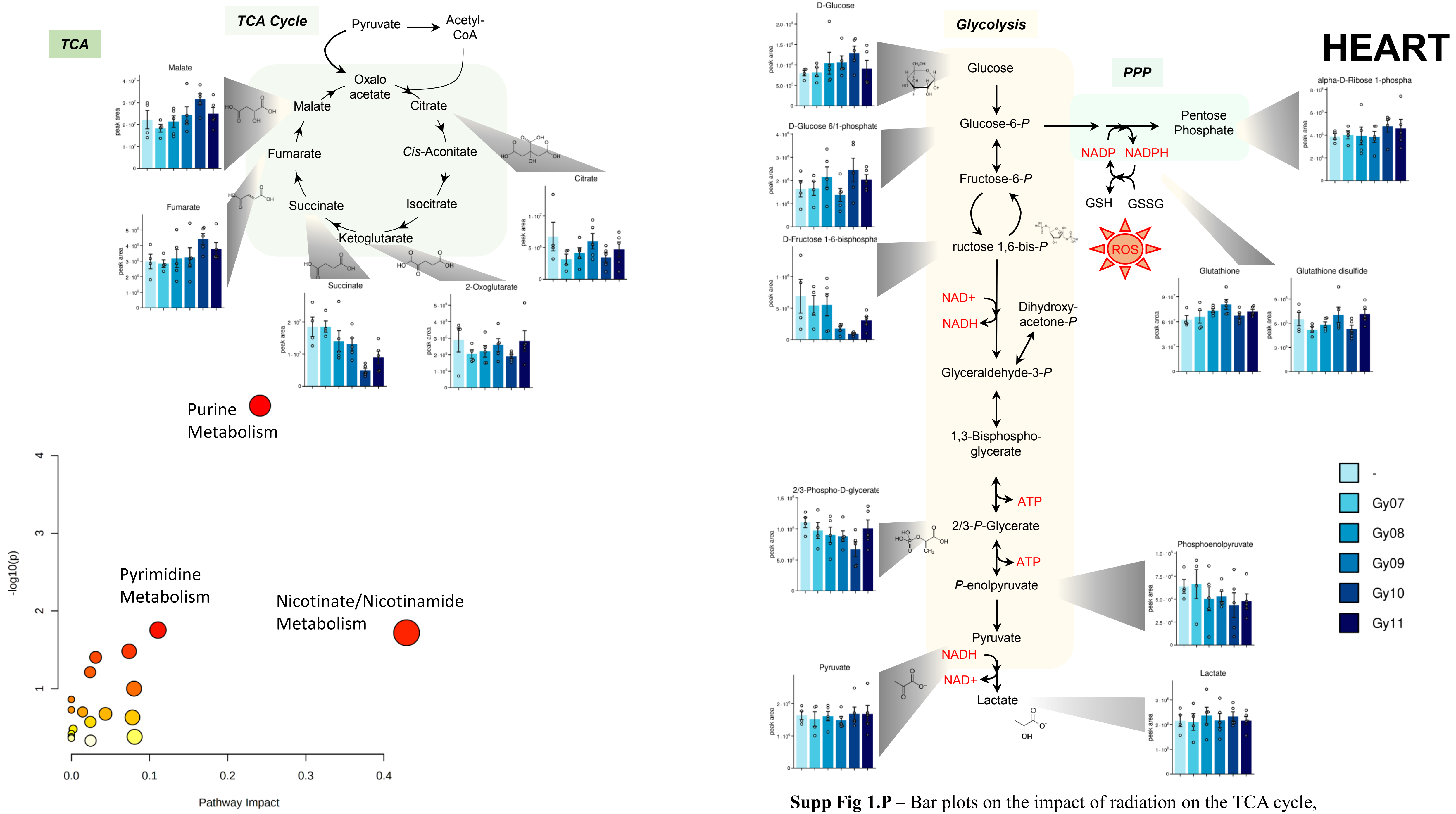
Supp Fig 1.M – Bar plots on the impact of radiation on protein damage and repair pathways in the liver.



Supp Fig 1.N – Bar plots showing the impact of radiation on acyl-carnitines and fatty acids in the liver.

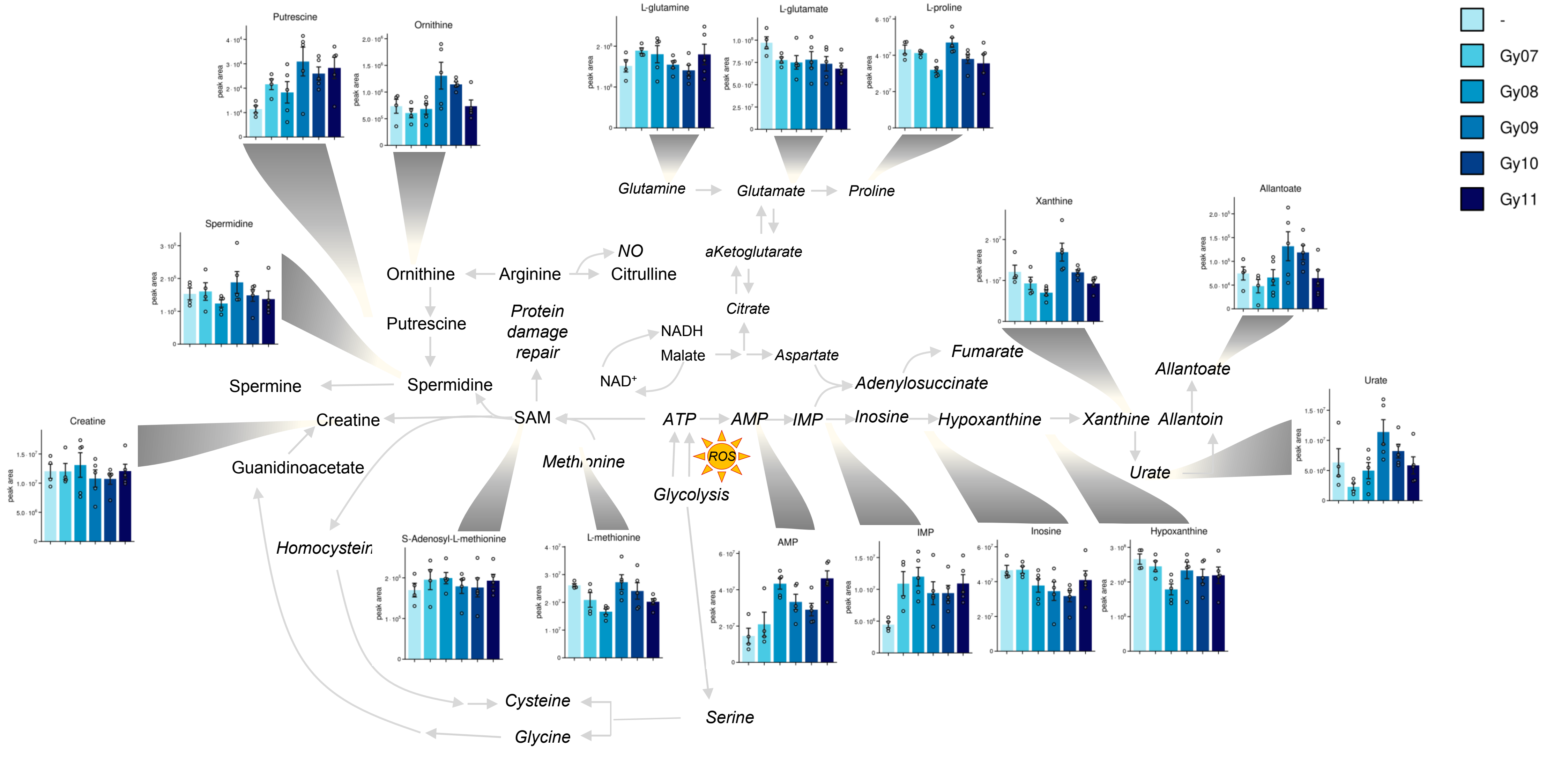


Supp Fig 1.O – Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for heart metabolites in response to radiation.



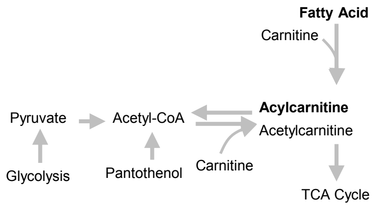
Supp Fig 1.P – Bar plots on the impact of radiation on the TCA cycle, glycolysis and pathway analysis of top metabolic effects in the heart.

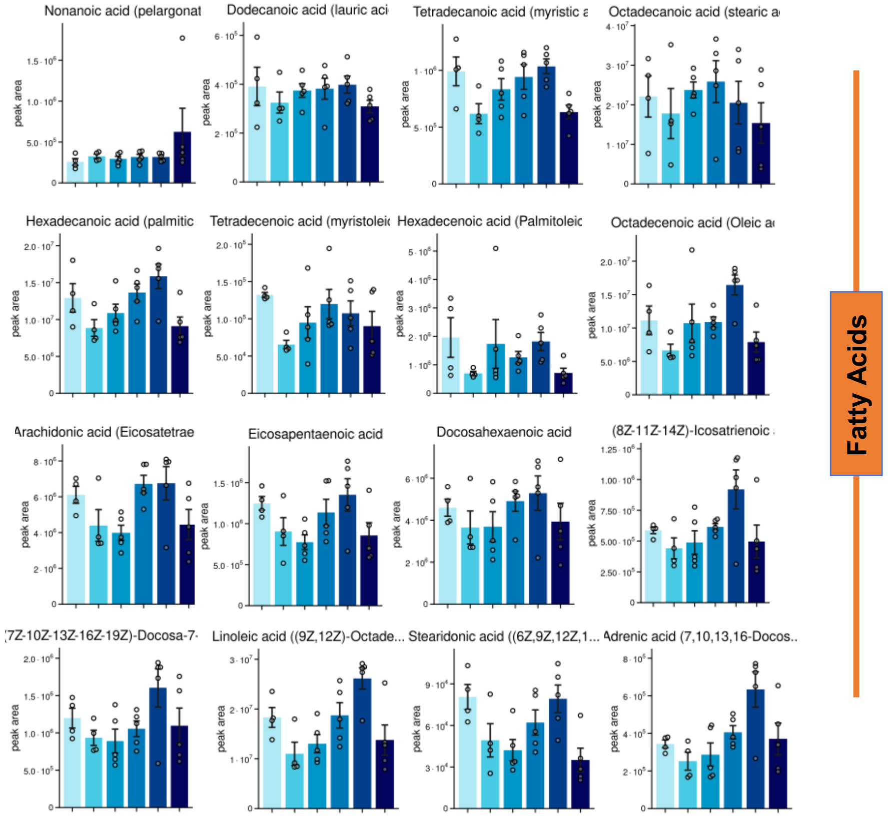
HEART



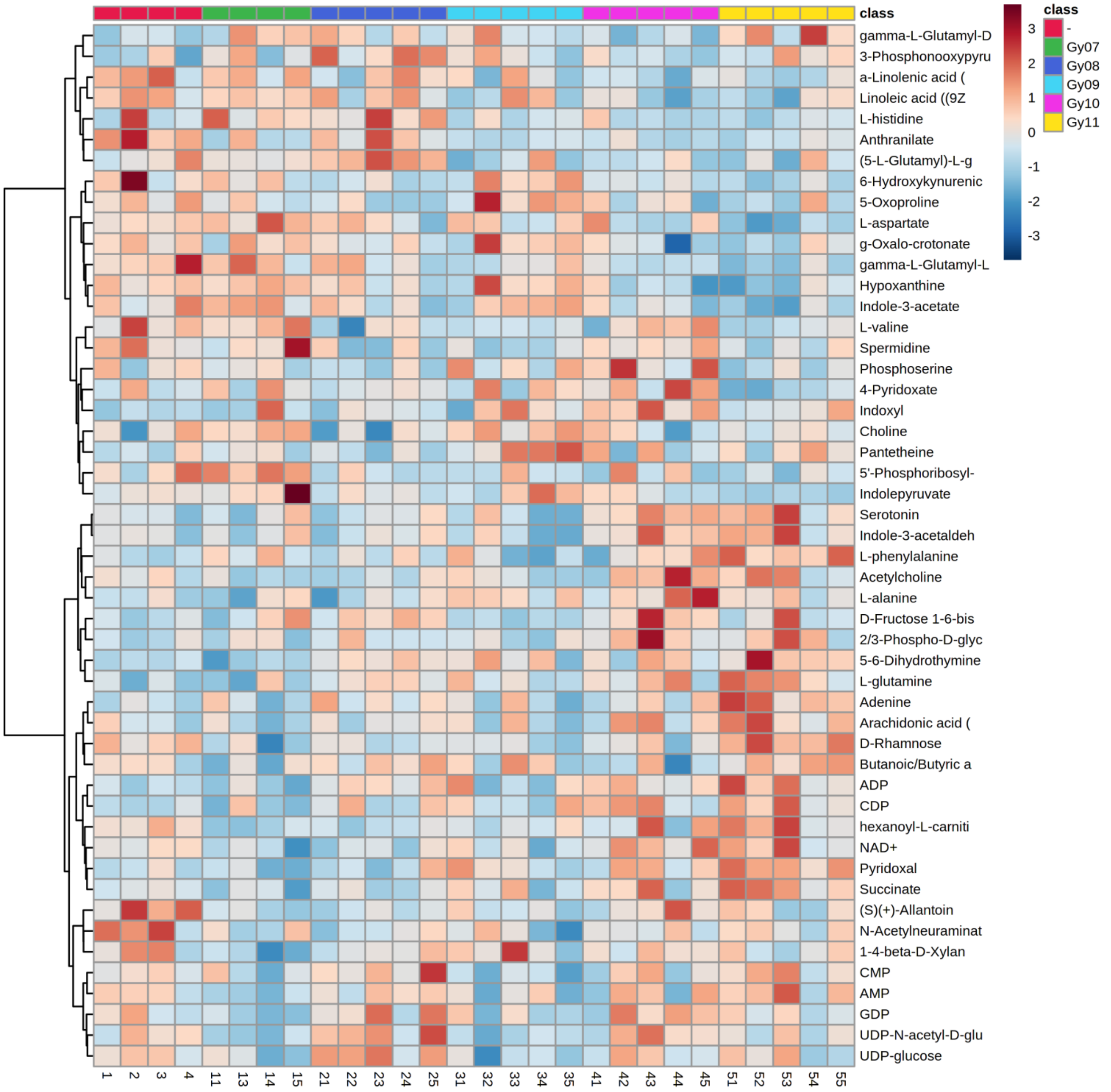
Supp Fig 1.Q – Bar plots on the impact of radiation on protein damage and repair pathways in the heart.

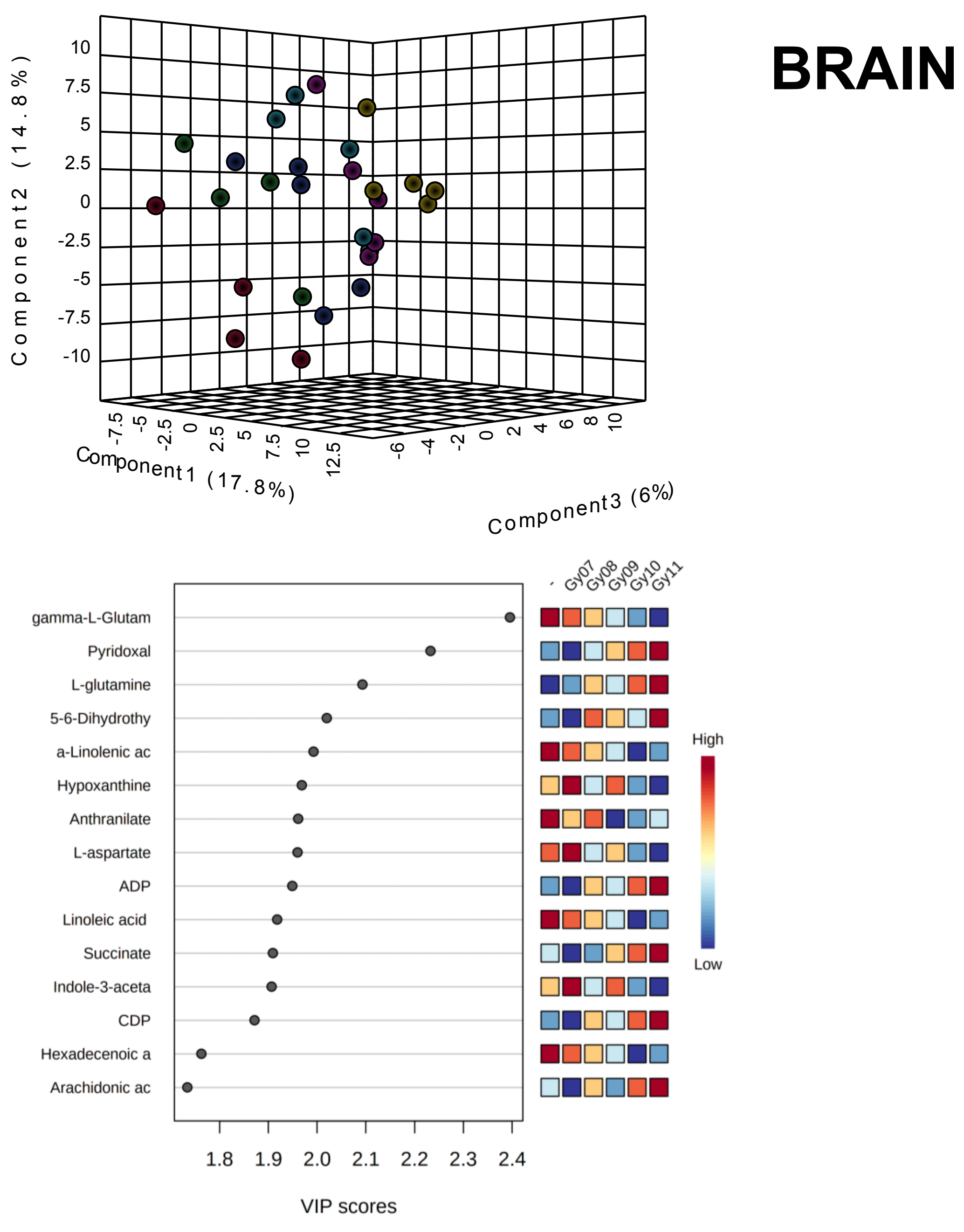
HEART





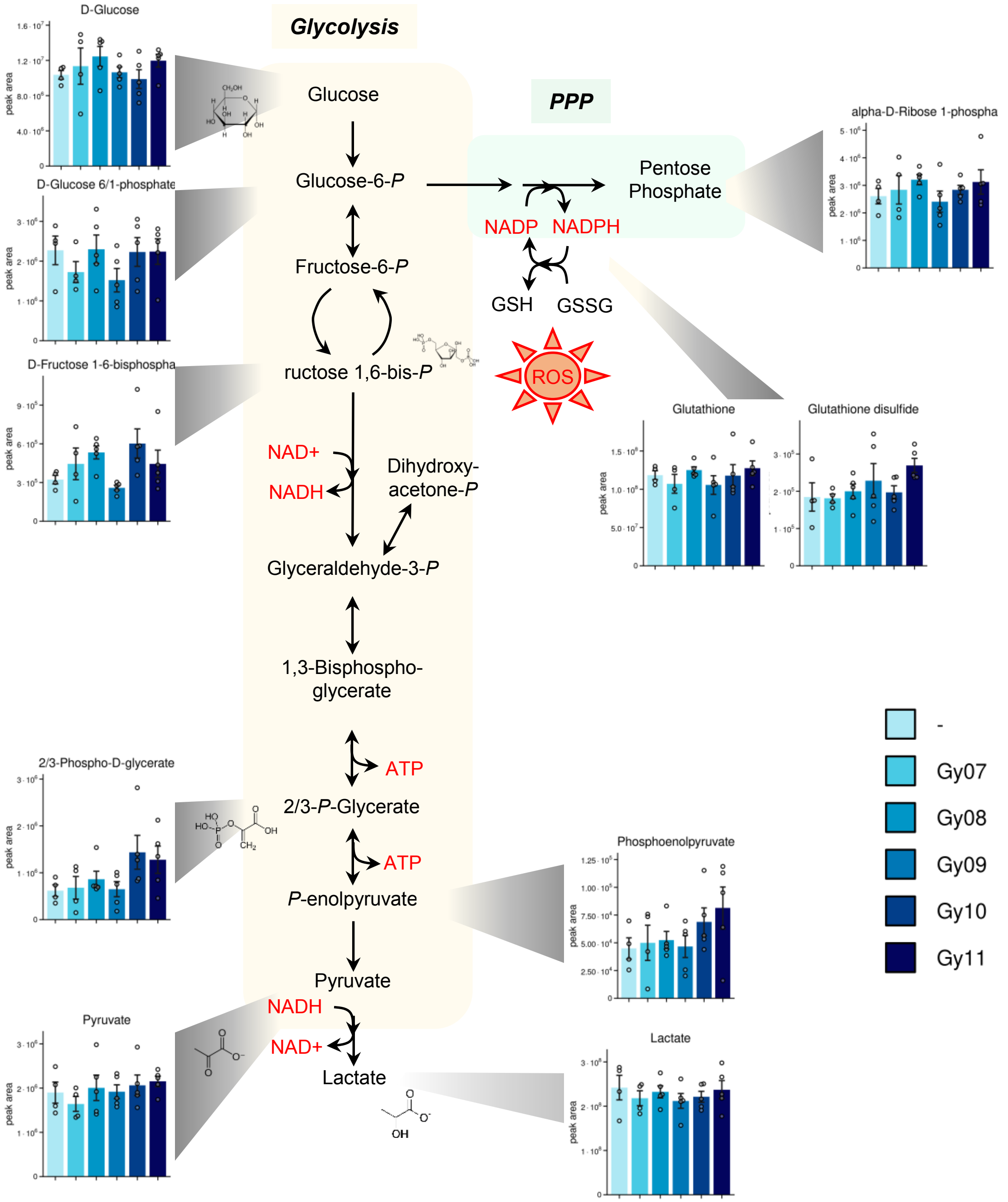
Supp Fig 1.R – Bar plots showing the impact of radiation on fatty acids in the heart.





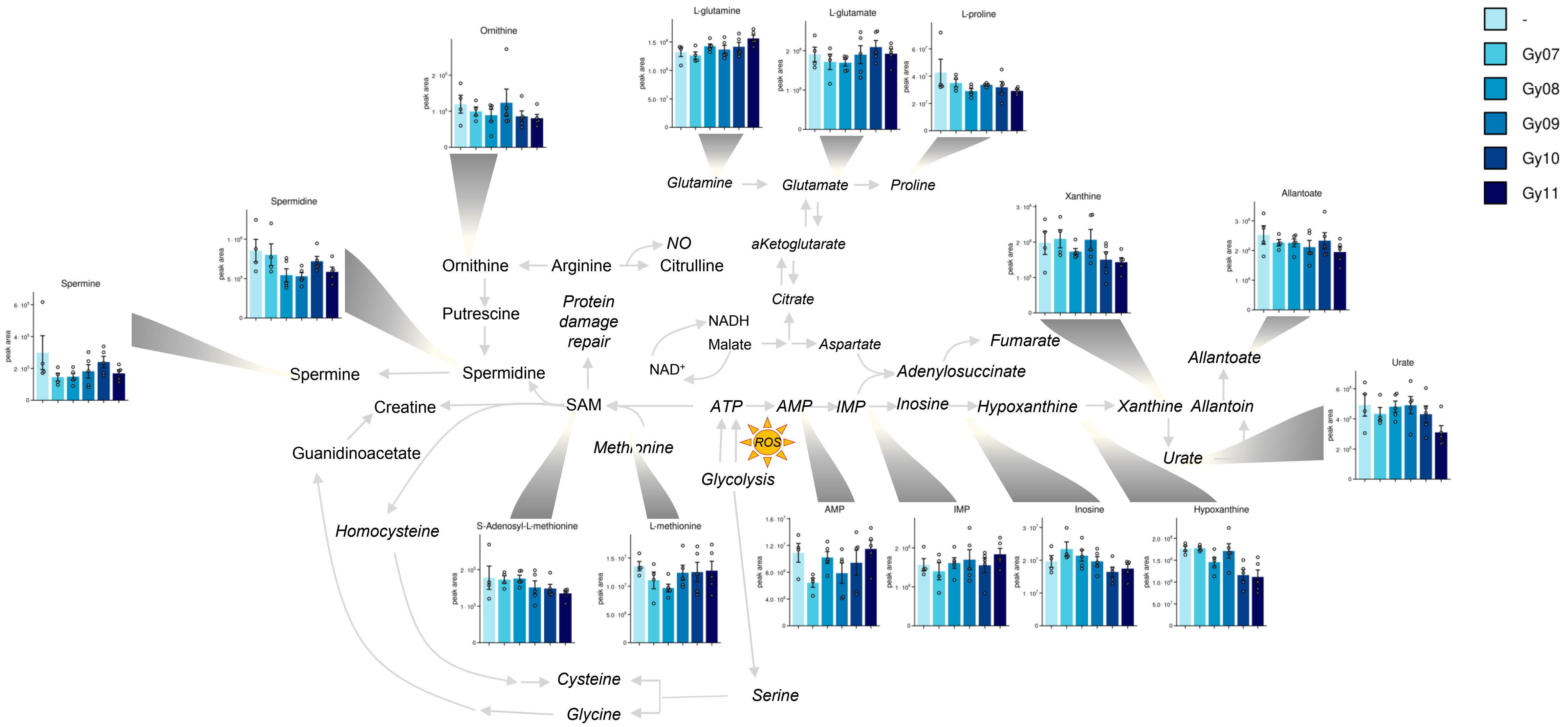
Supp Fig 1.S – Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for brain metabolites in response to radiation.

BRAIN



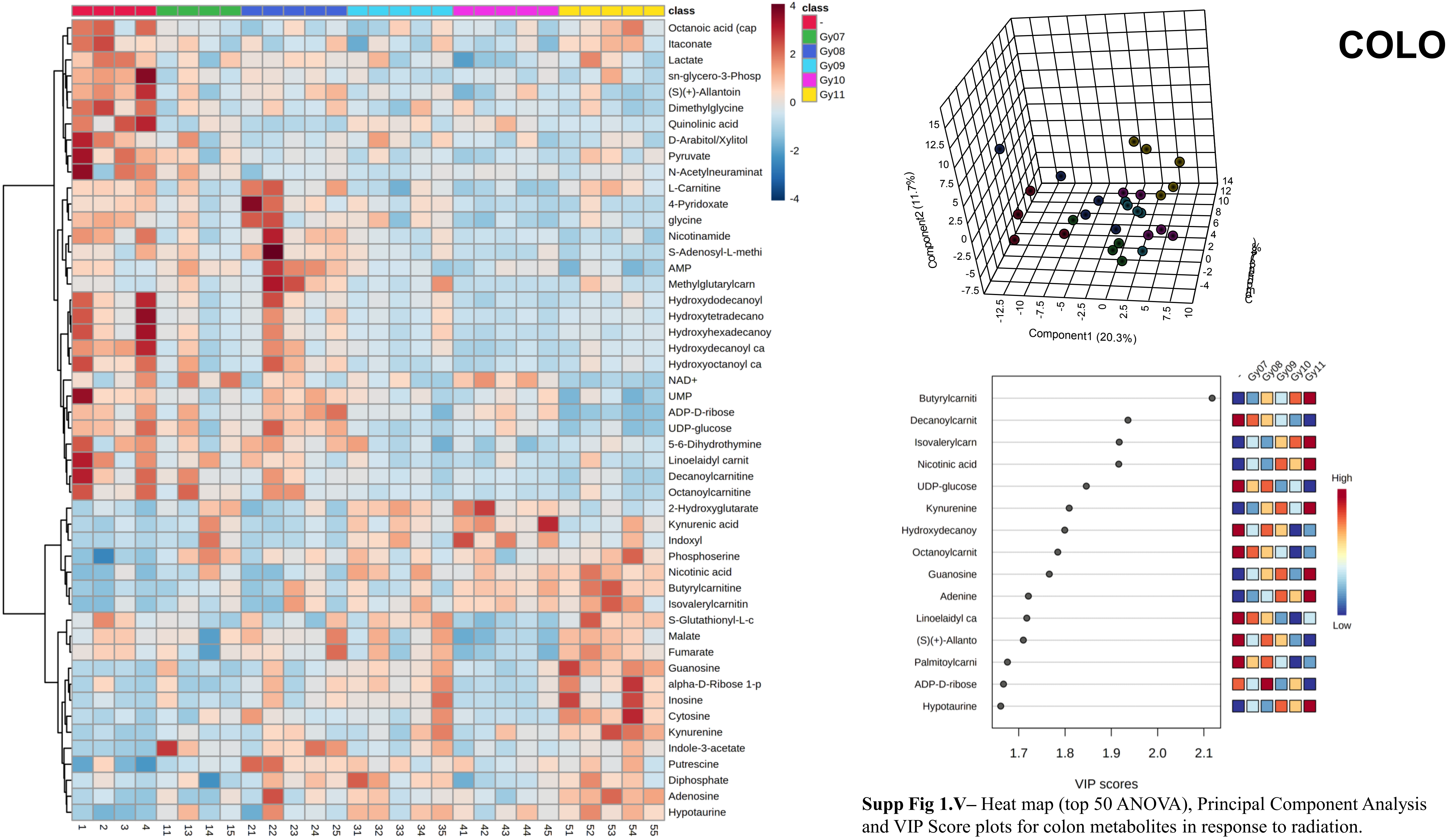
Supp Fig 1.T – Bar plots on the impact of radiation on glycolysis in the brain.

BRAIN

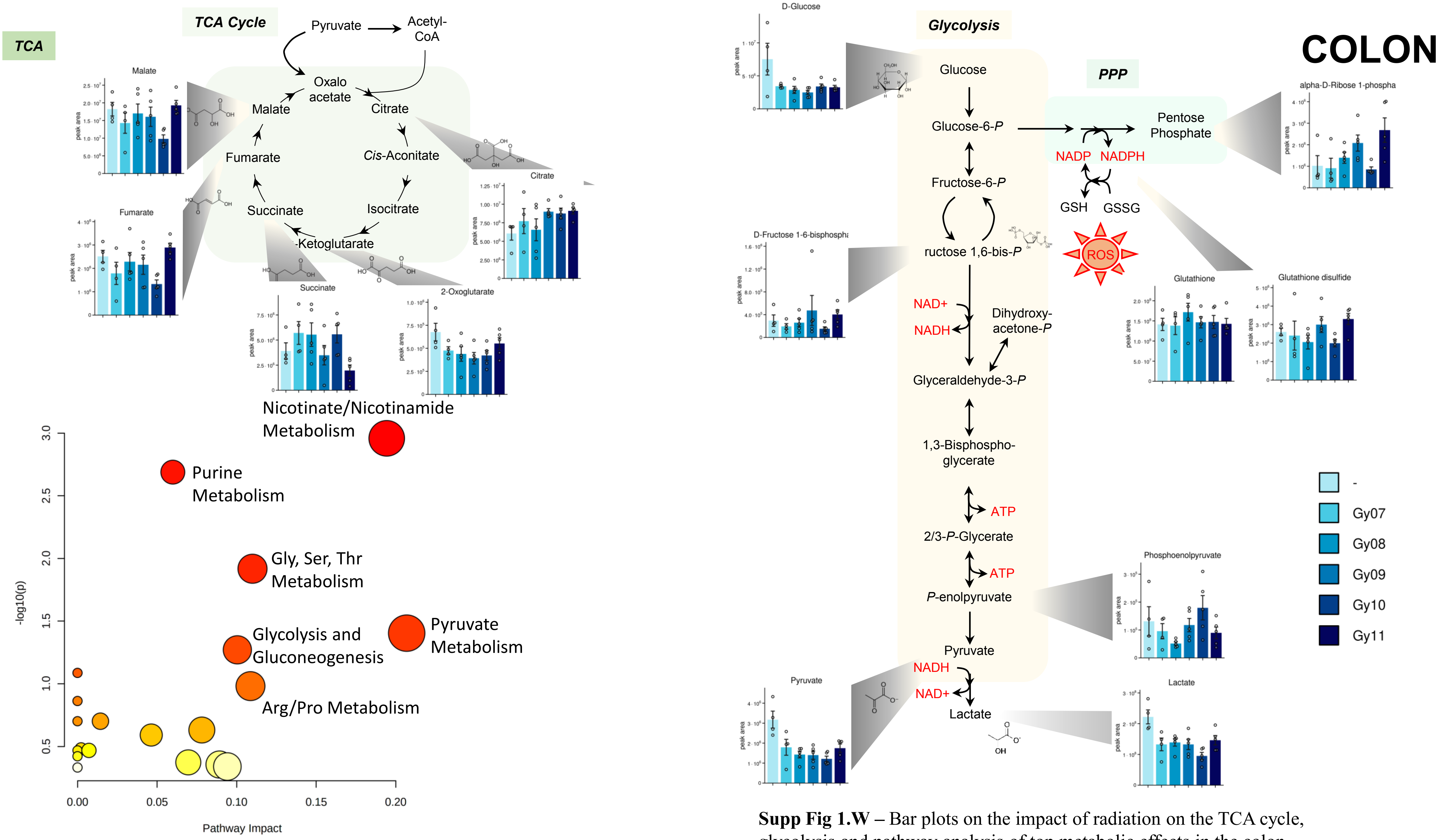


Supp Fig 1.U – Bar plots on the impact of radiation on protein damage and repair pathways in the brain.

COLON

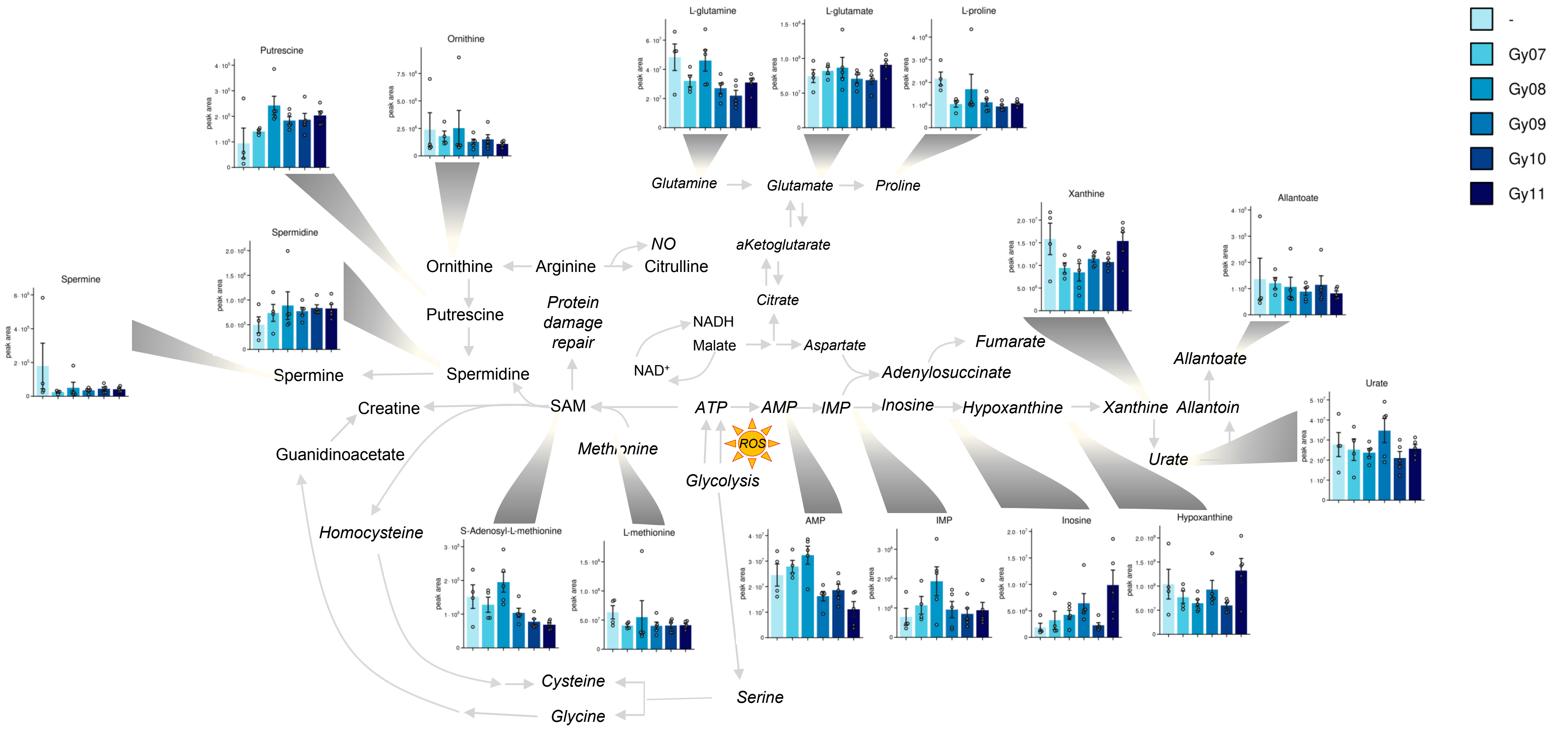


Supp Fig 1.V– Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for colon metabolites in response to radiation.



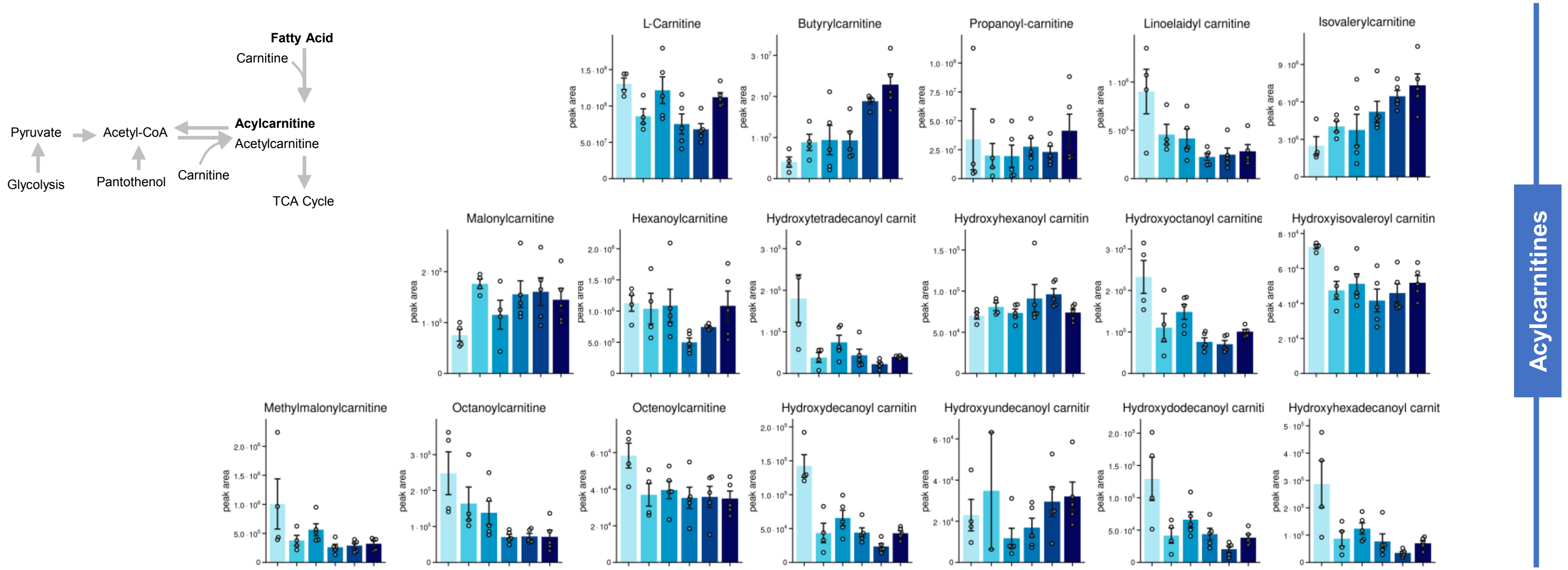
Supp Fig 1.W – Bar plots on the impact of radiation on the TCA cycle, glycolysis and pathway analysis of top metabolic effects in the colon.

COLON



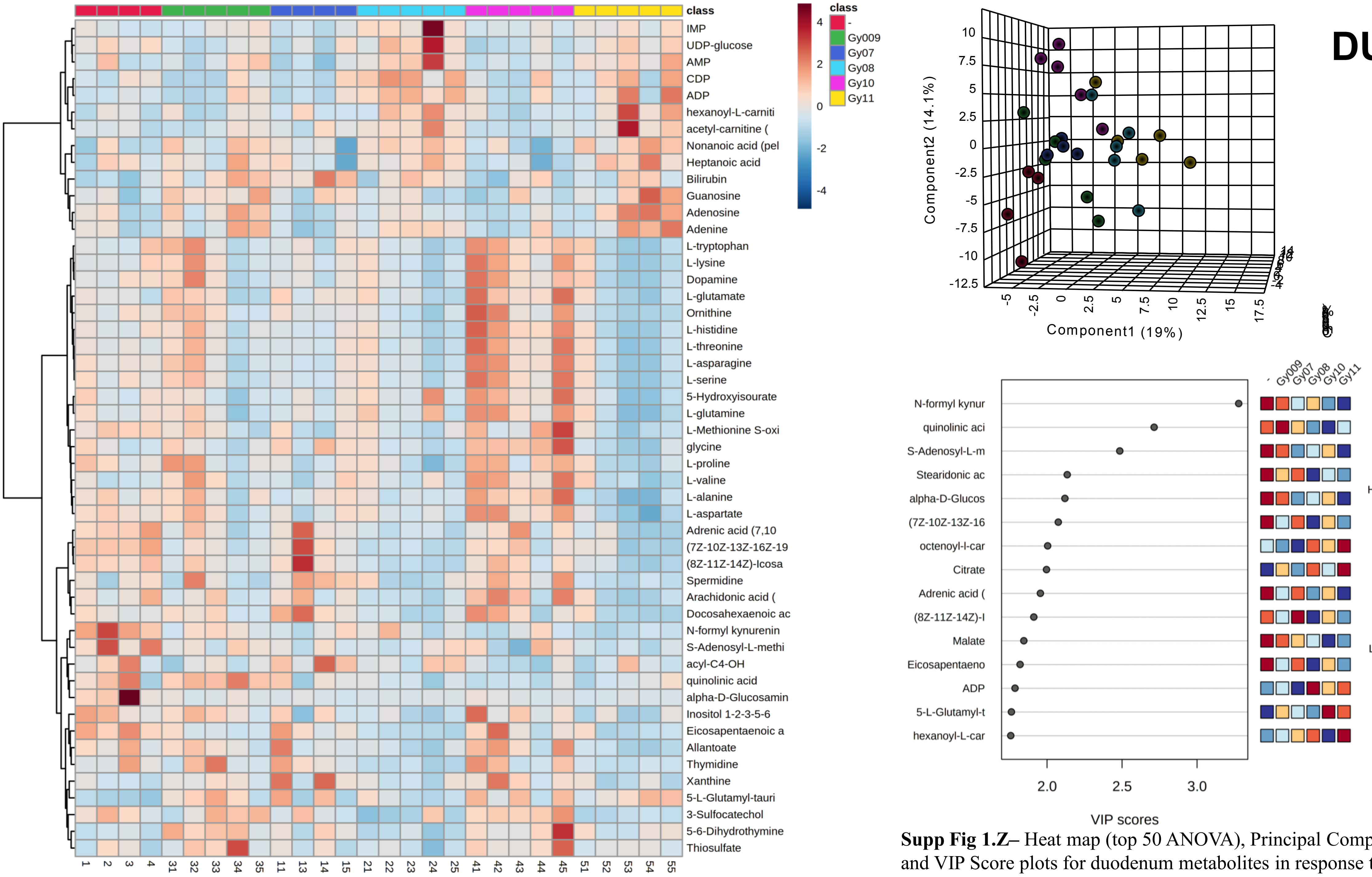
Supp Fig 1.X – Bar plots on the impact of radiation on protein damage and repair pathways in the colon.

COLON



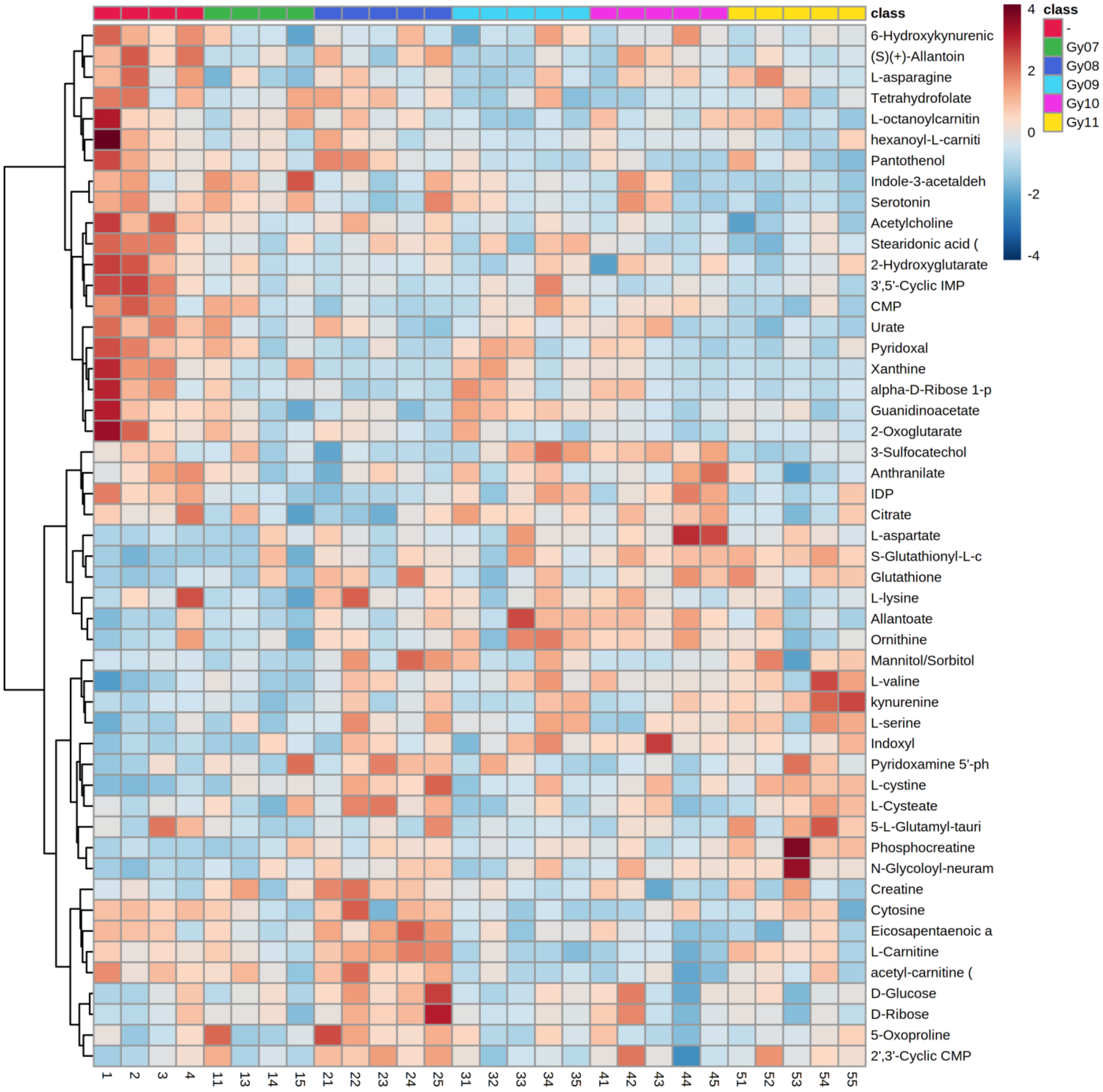
Supp Fig 1.Y – Bar plots showing the impact of radiation on acylcarnitines in the colon.

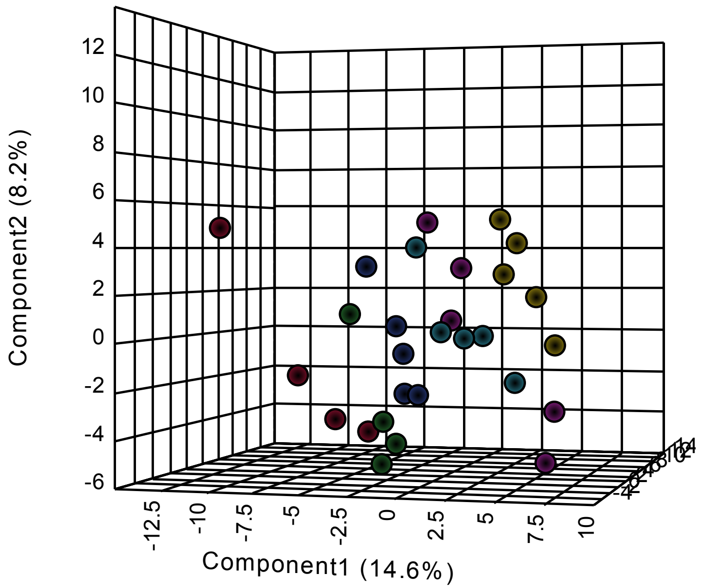
DUODENUM

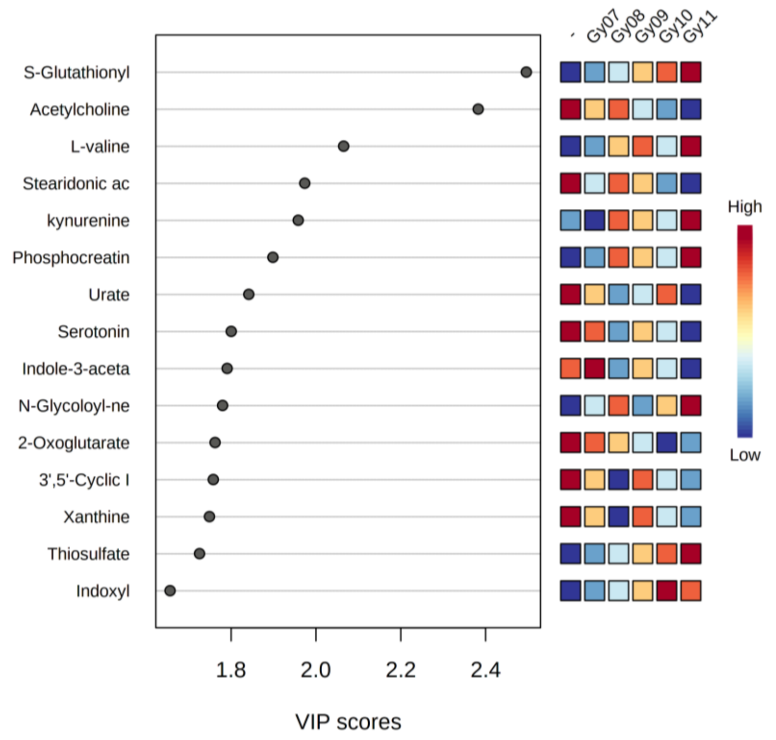


Supp Fig 1.Z– Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for duodenum metabolites in response to radiation.

PLASMA

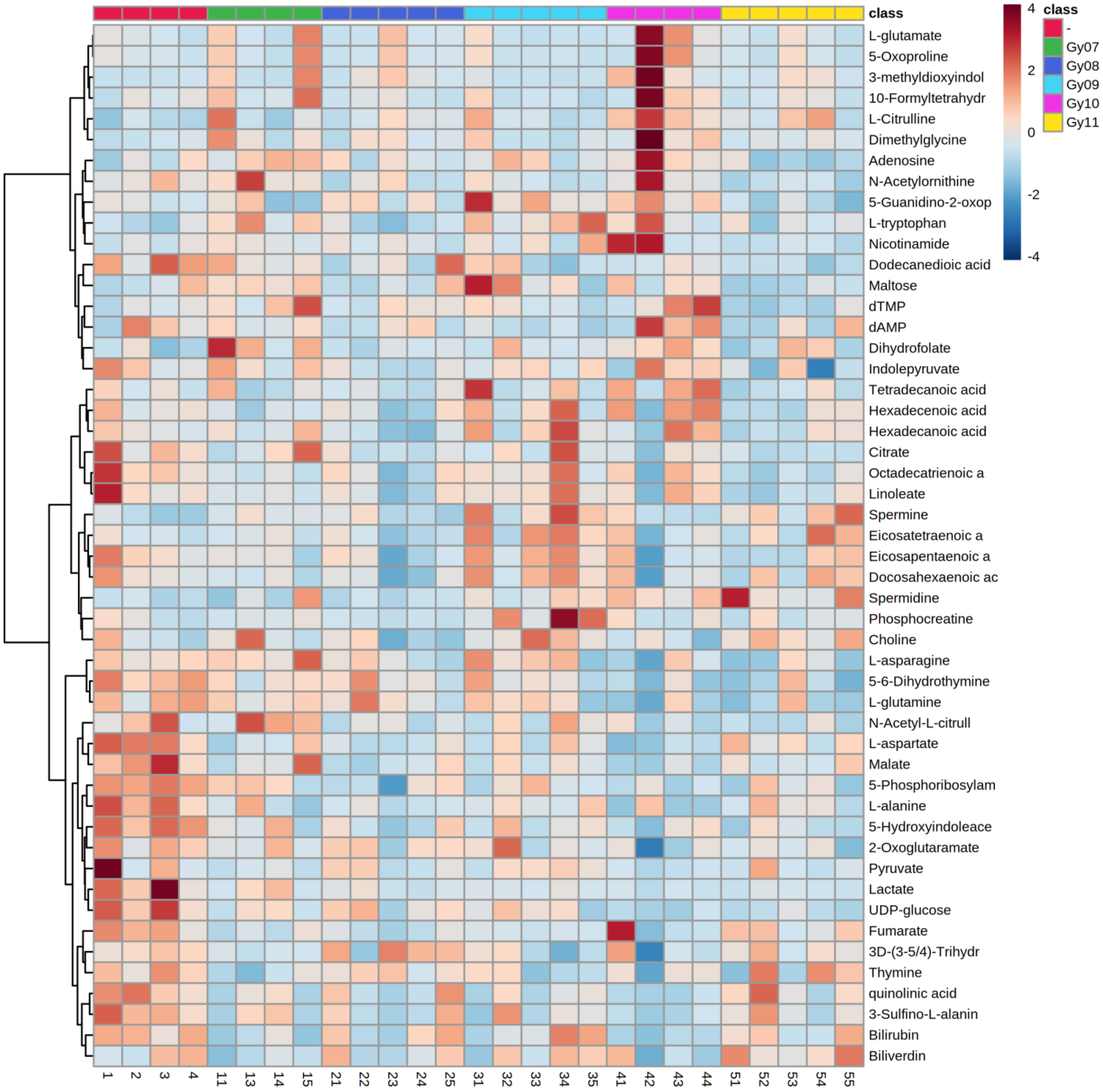


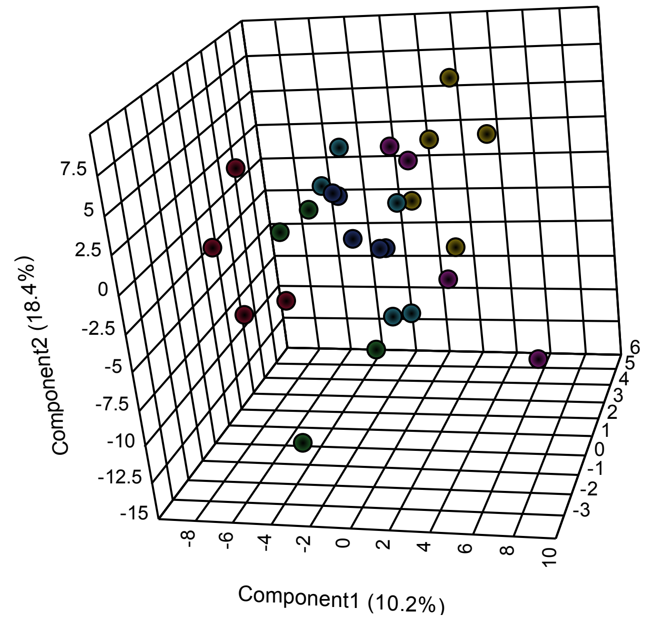


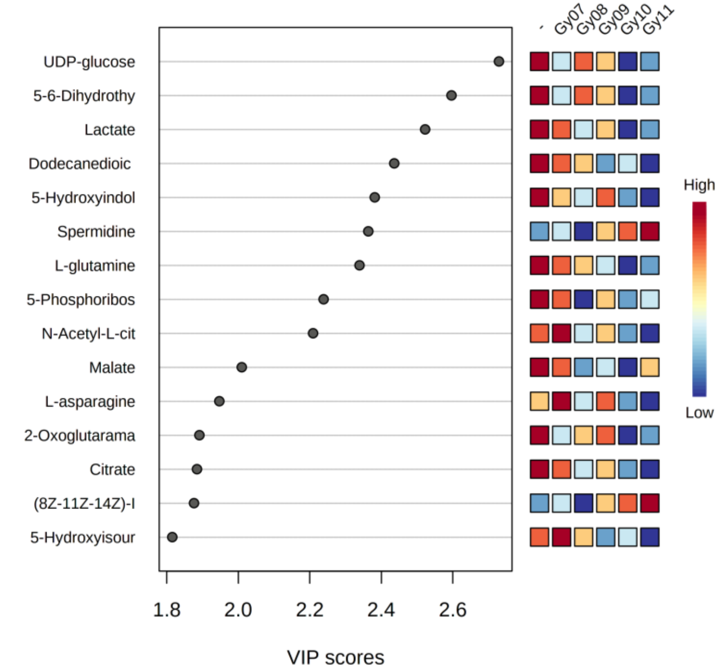


Supp Fig 1.AA– Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for plasma metabolites in response to radiation.

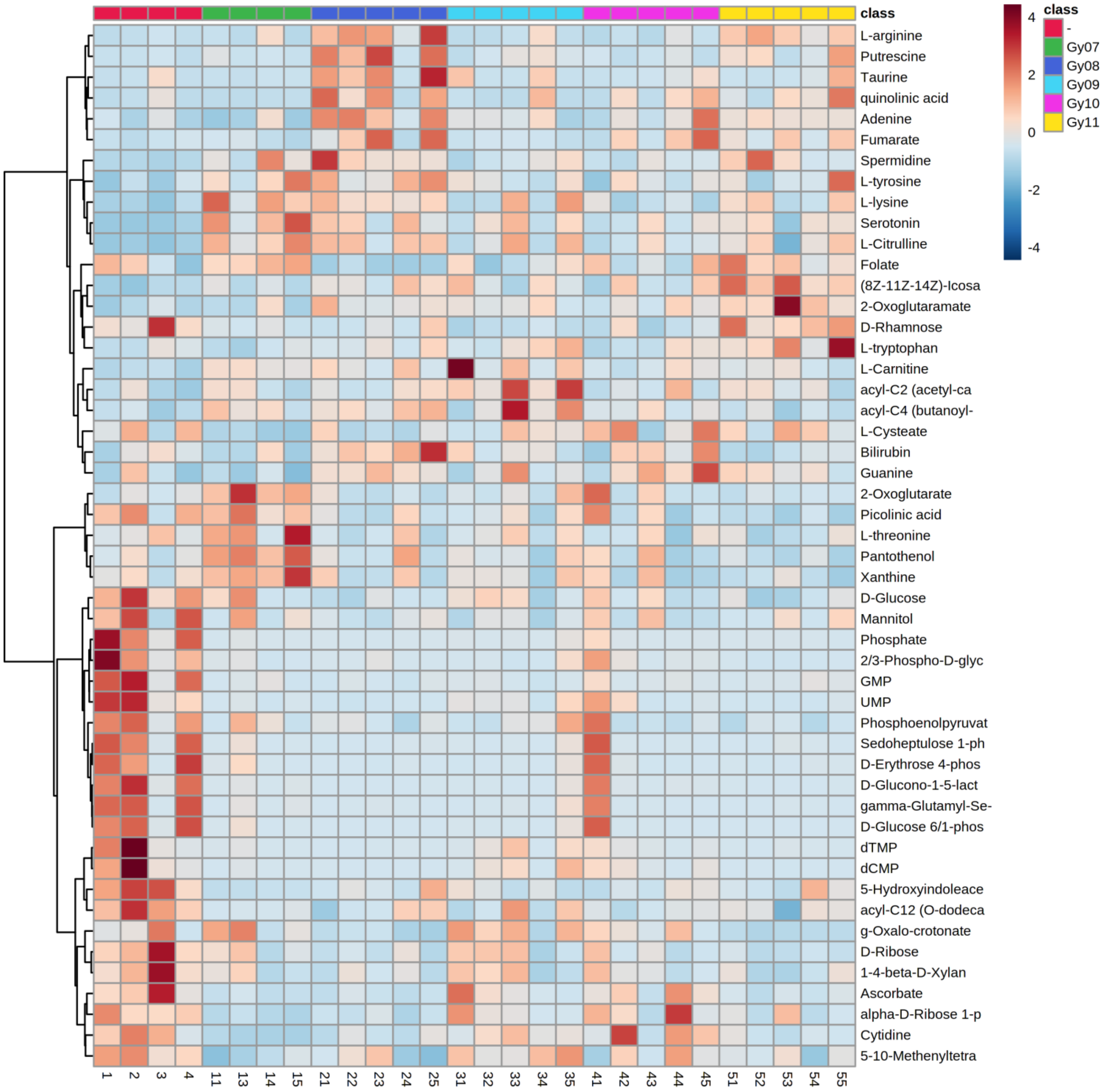
PRE STOOL

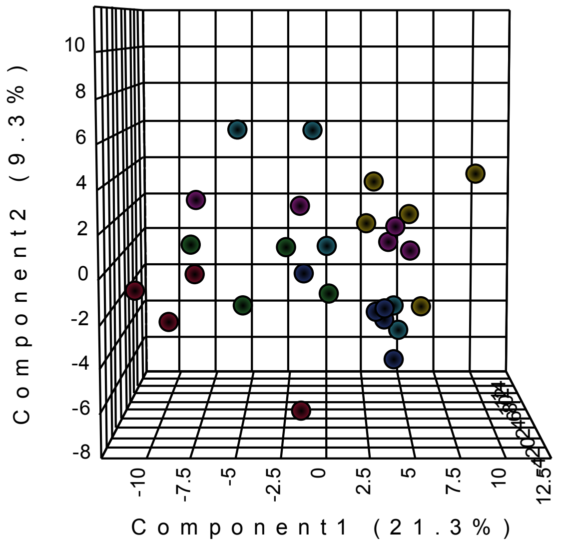




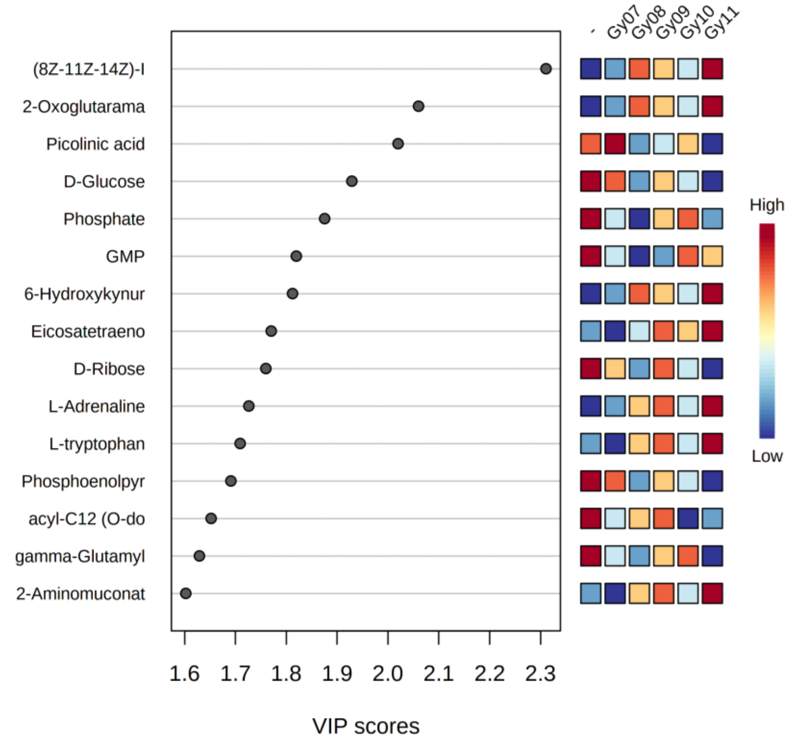


Supp Fig 1.BB– Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for stool metabolites prior to radiation (pre-stool).



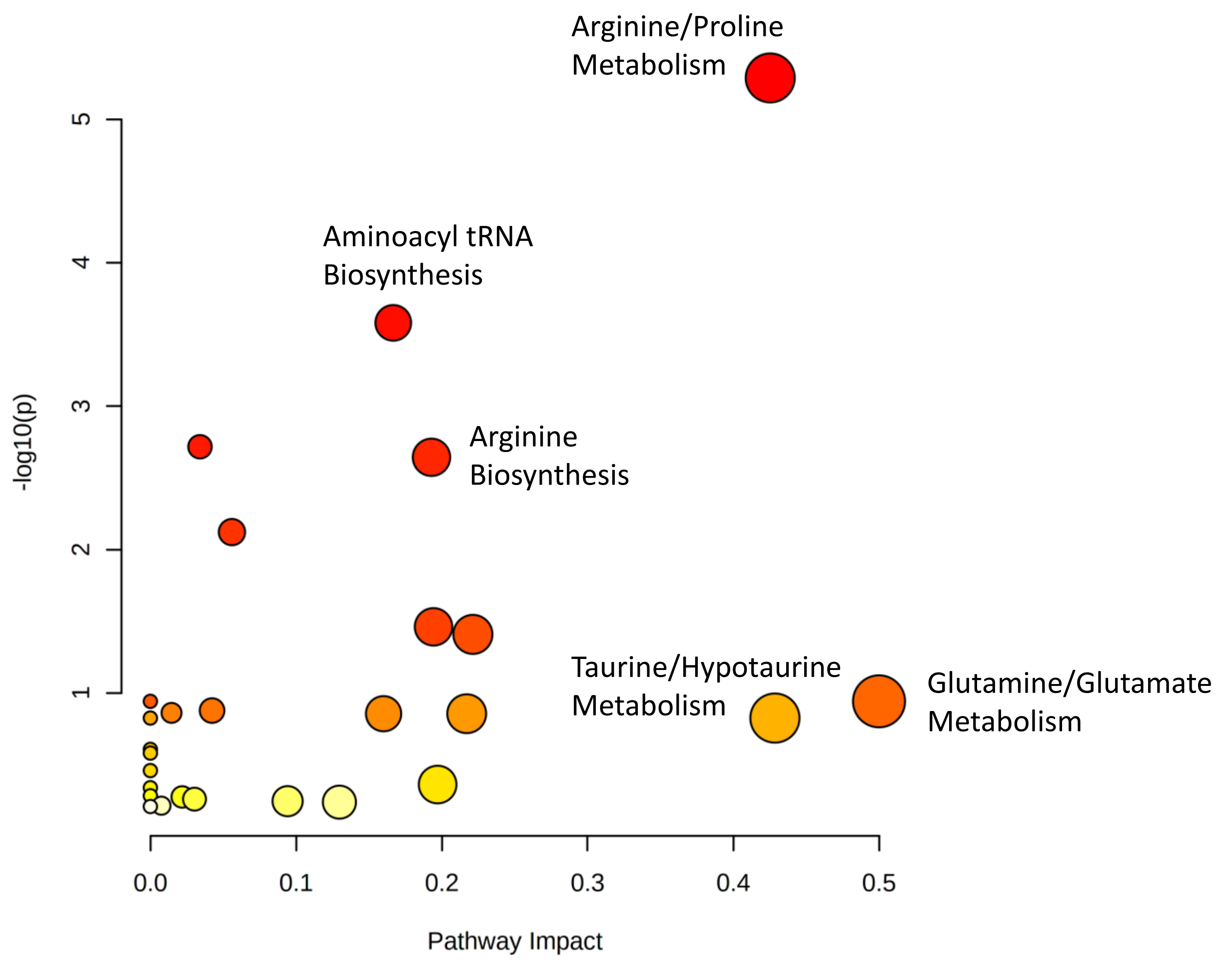


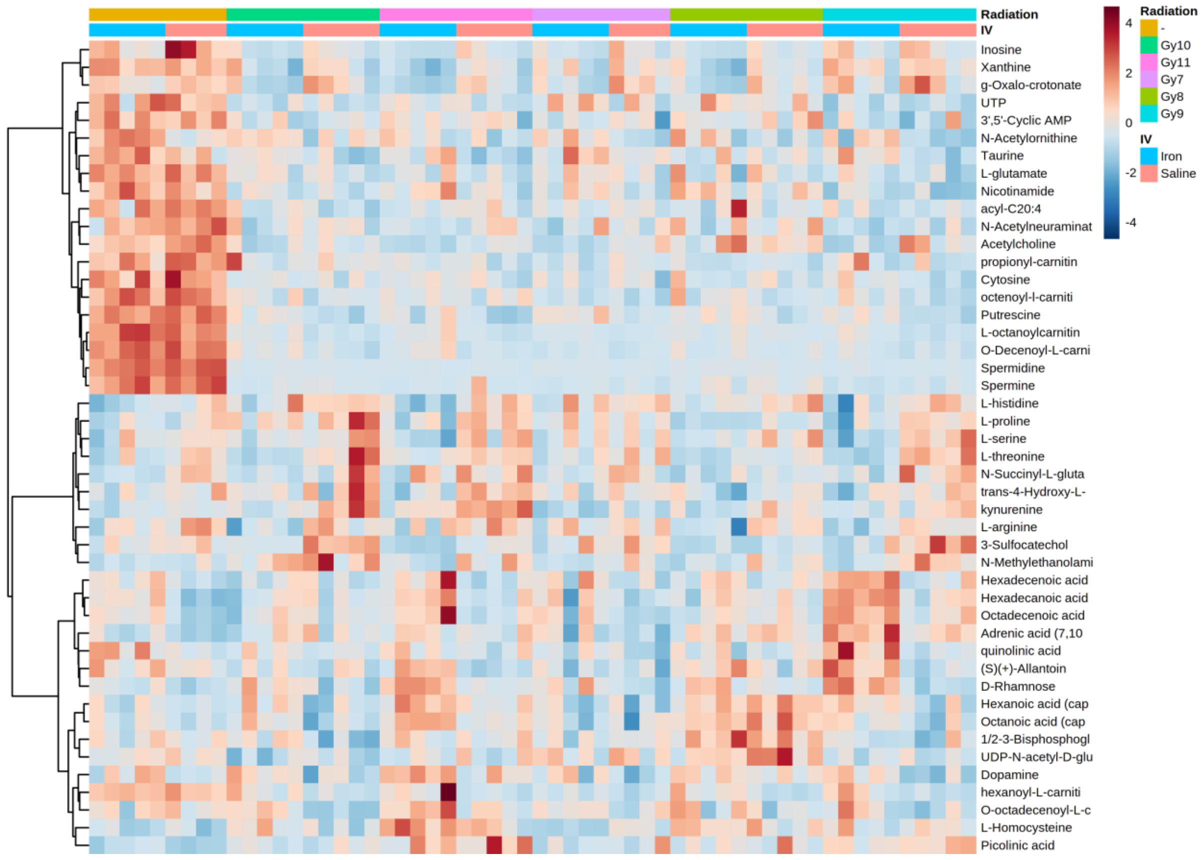
POST STOOL

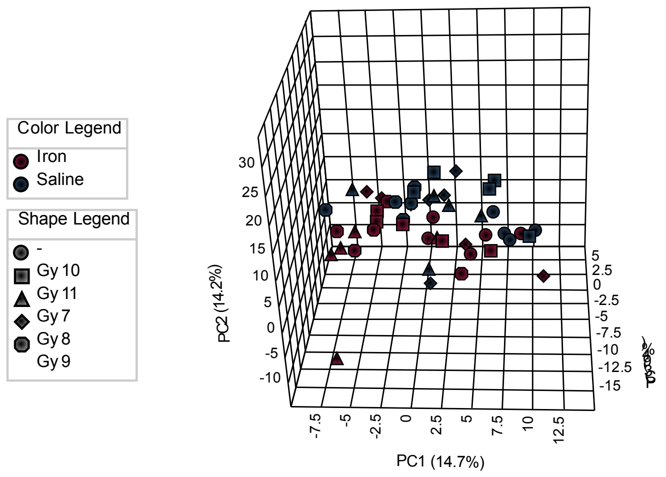


Supp Fig 1.CC– Heat map (top 50 ANOVA), Principal Component Analysis and VIP Score plots for stool metabolites in response to radiation (post-stool).

RBC

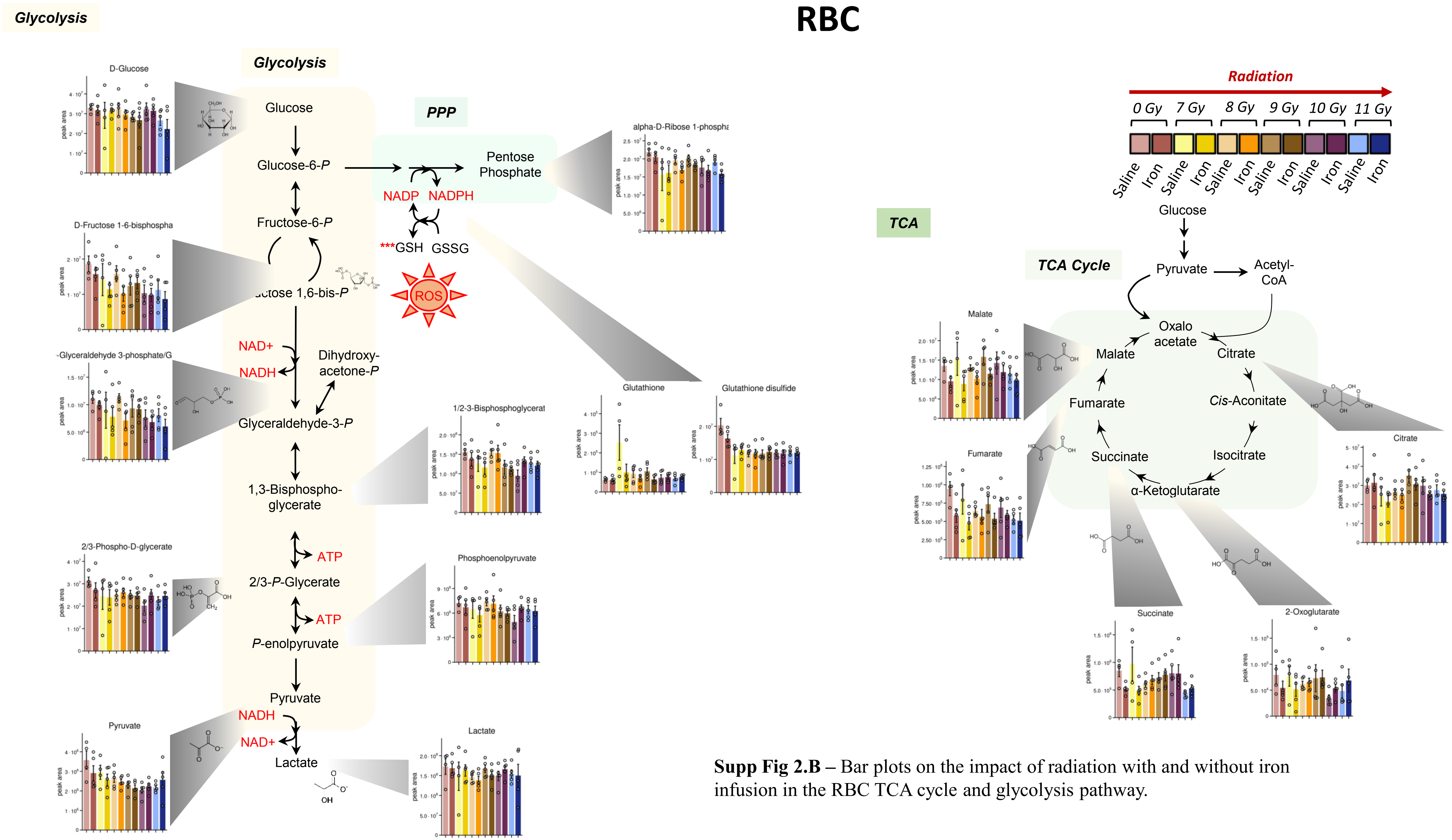




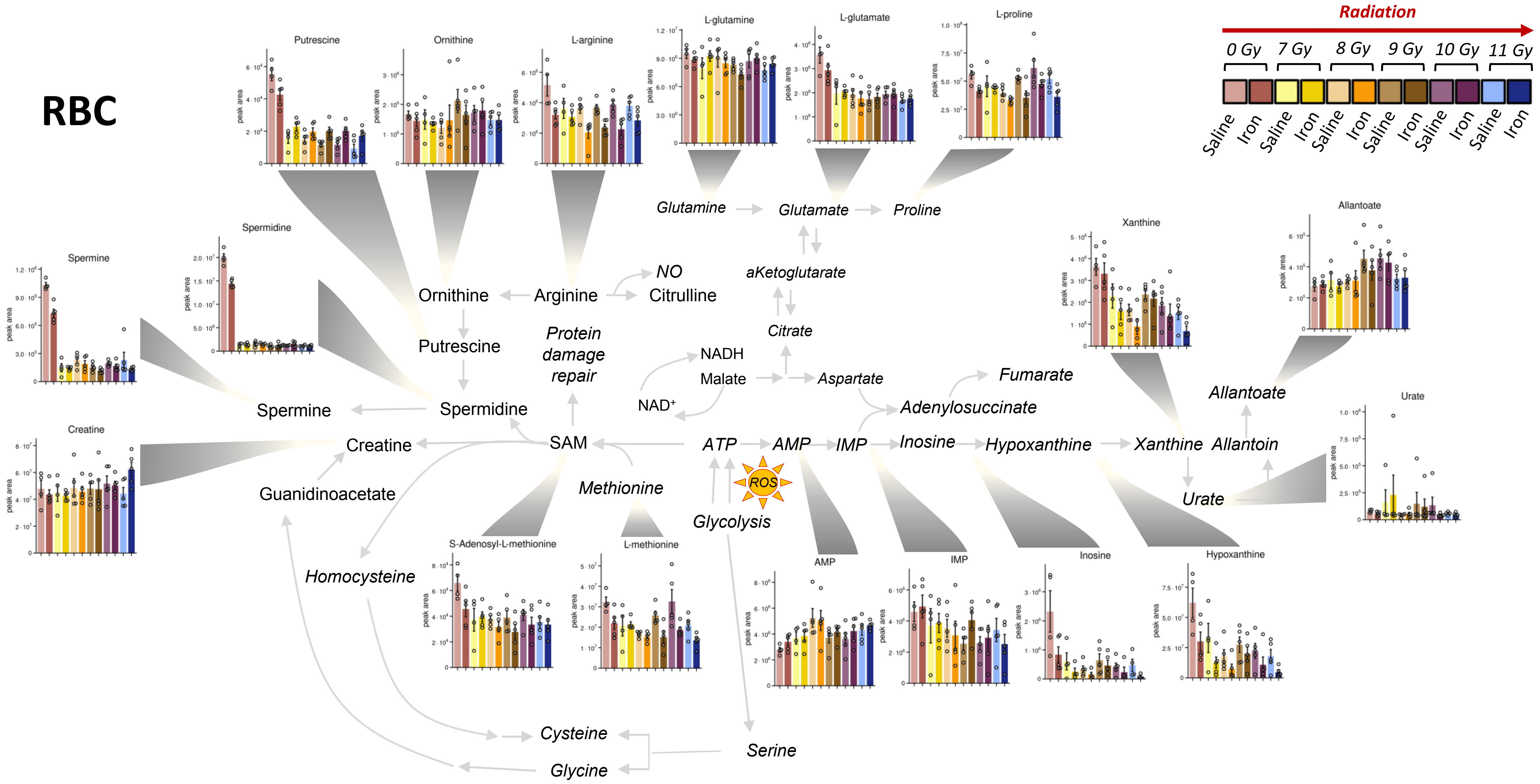


Supp Fig 2.A – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for RBC metabolites in response to radiation with and without iron infusion.

RBC

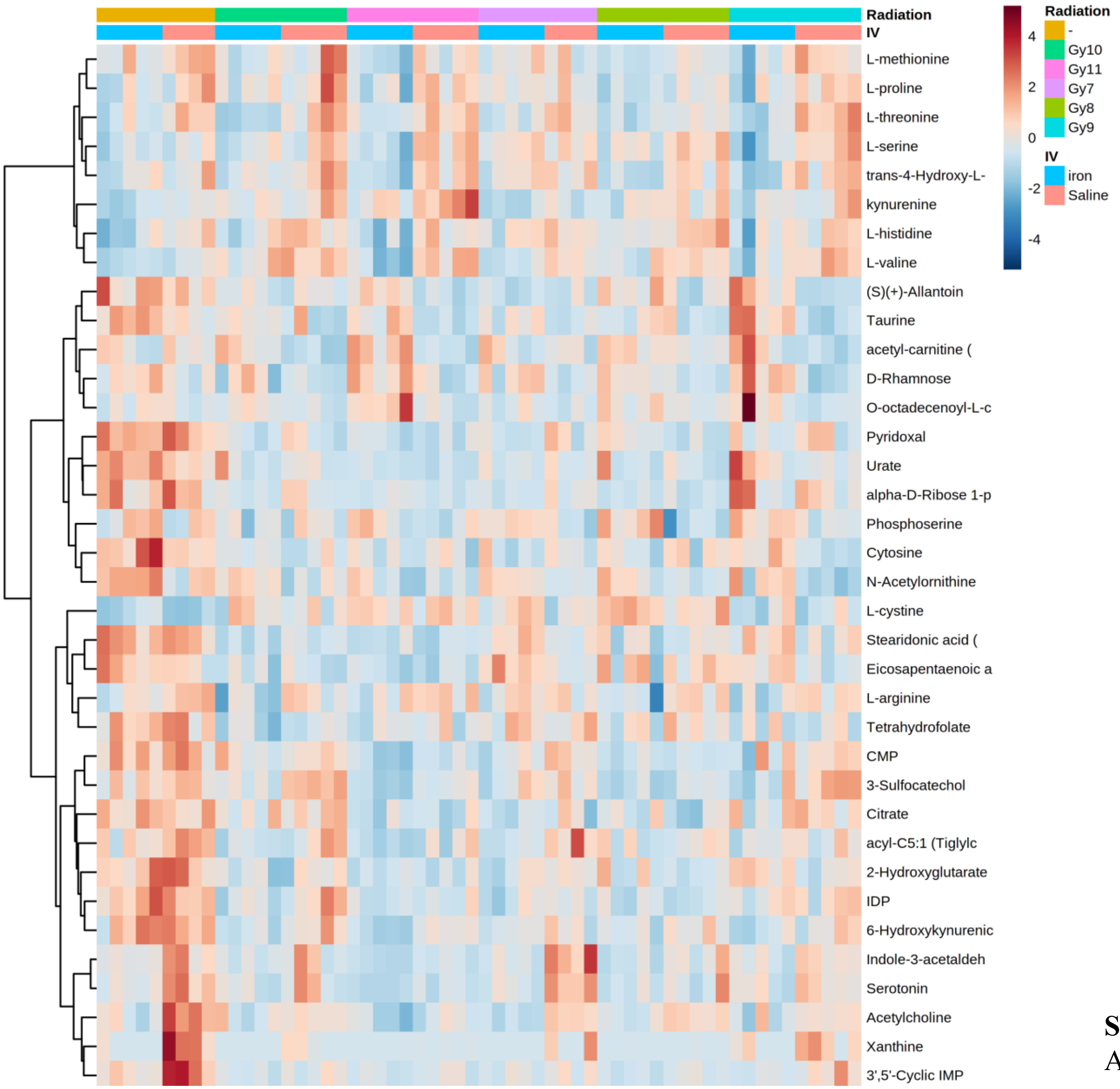


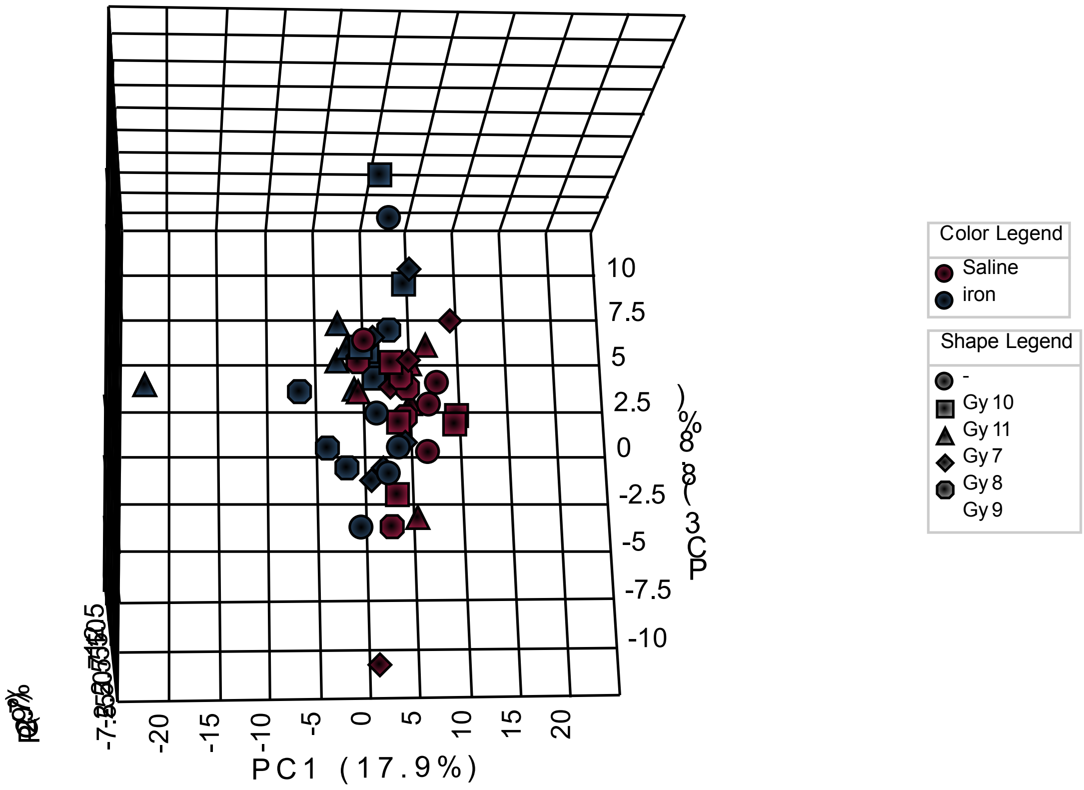
Supp Fig 2.B – Bar plots on the impact of radiation with and without iron infusion in the RBC TCA cycle and glycolysis pathway.



Supp Fig 2.C – Bar plots on the impact of radiation with and without iron infusion in the RBC protein damage and repair pathways.

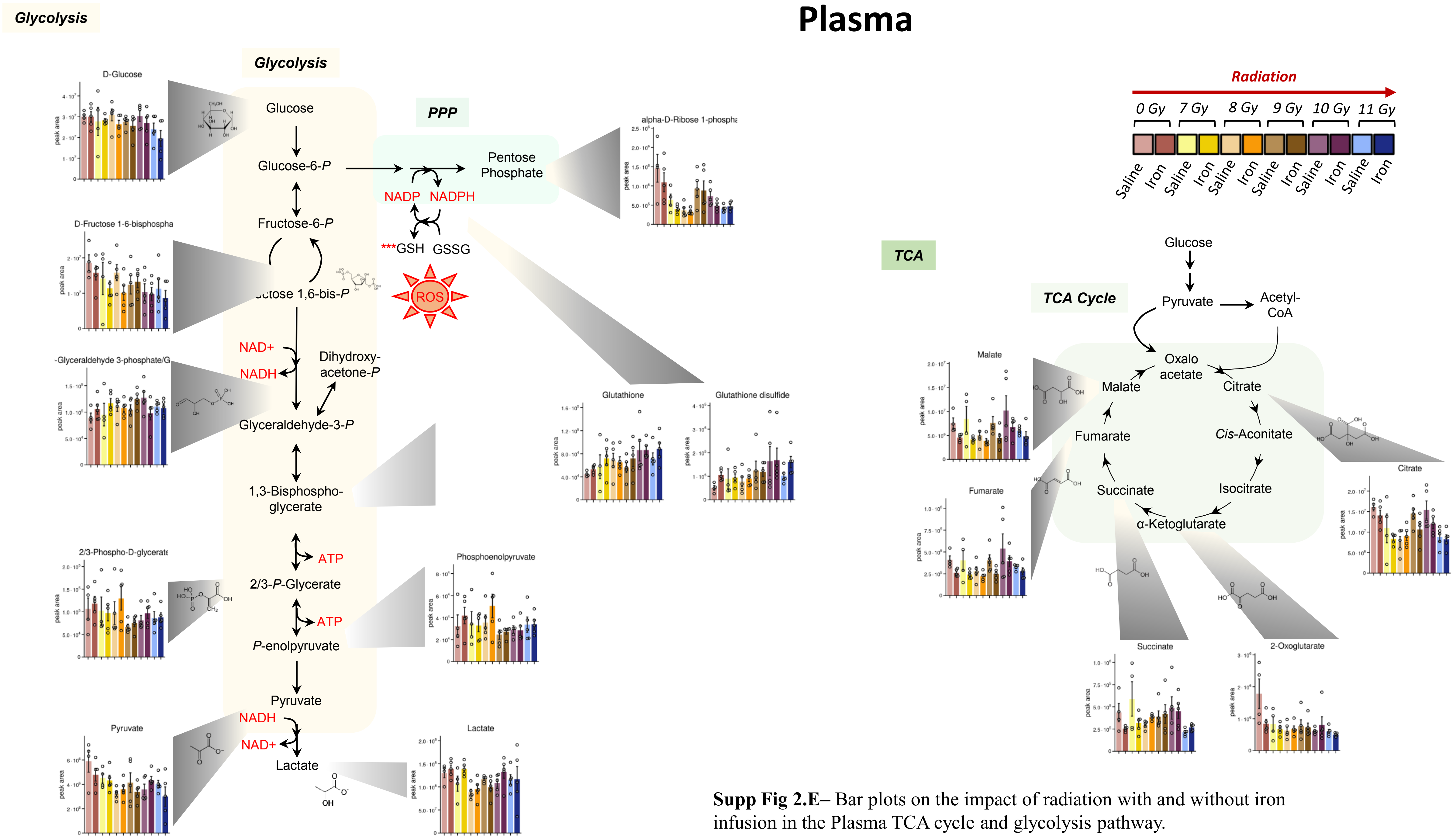
PLASMA



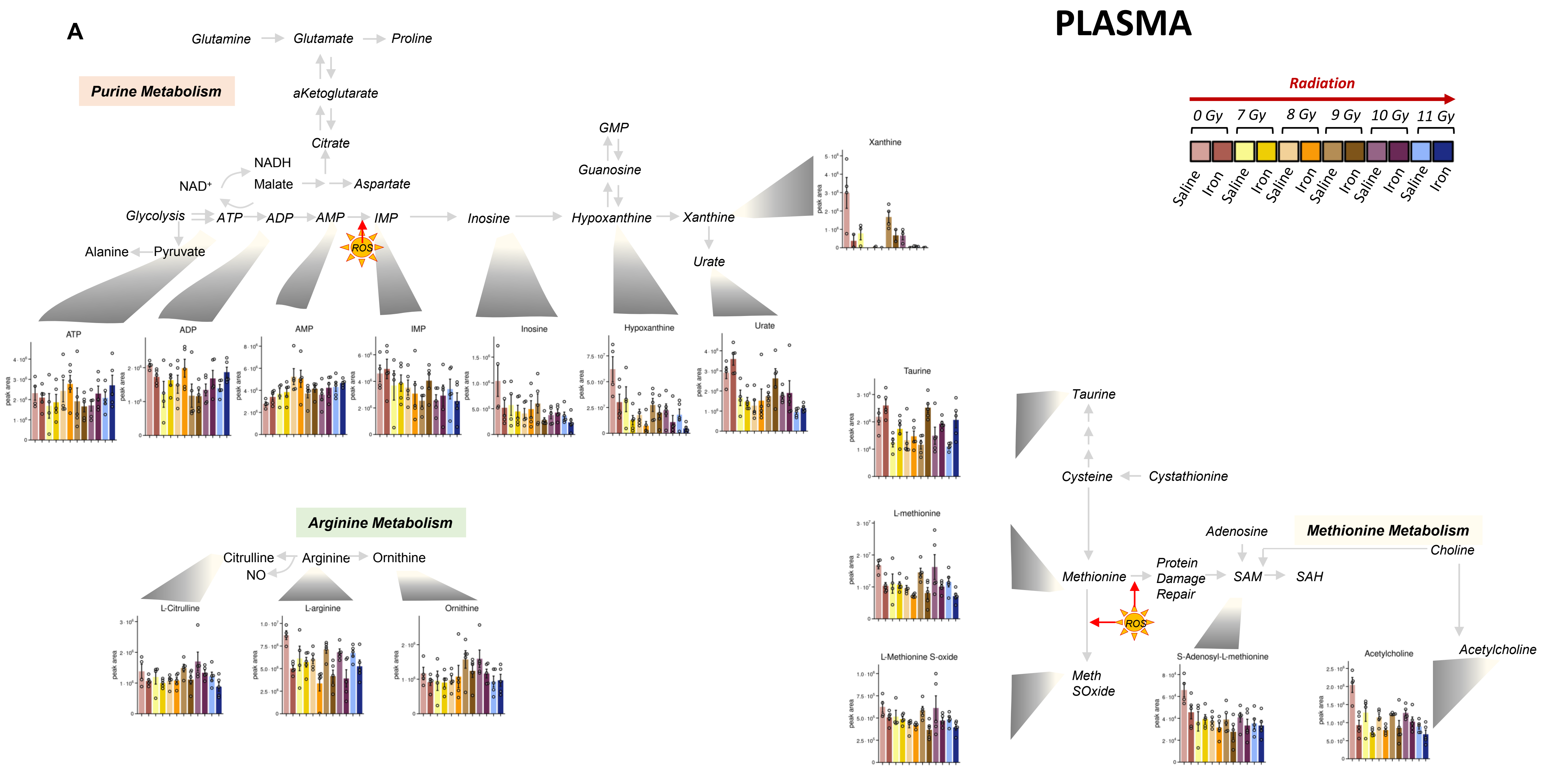


Supp Fig 2.D – Heat map (features significant by ANOVA) and Principal Component Analysis for plasma metabolites in response to radiation with and without iron infusion.

Plasma

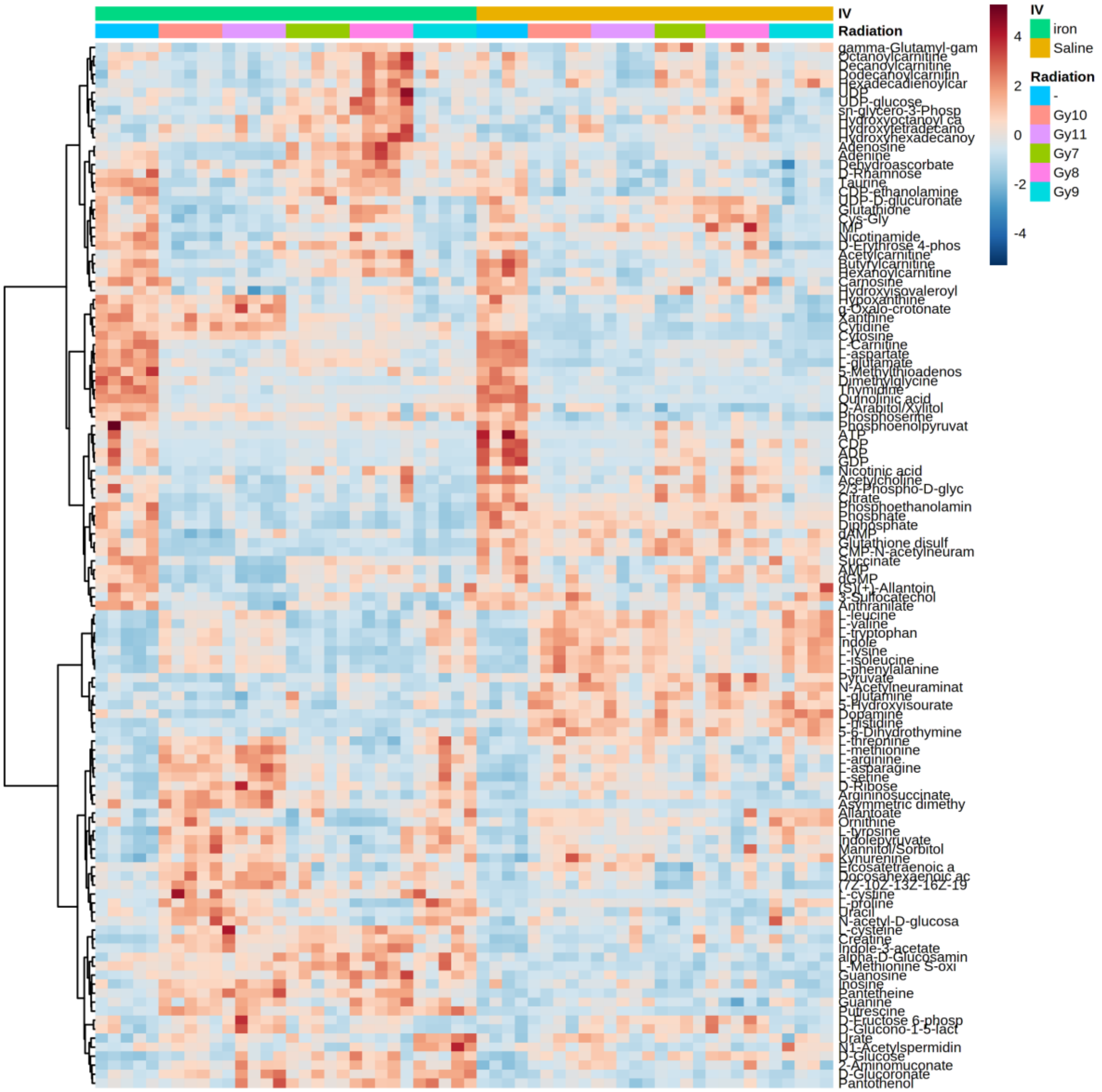


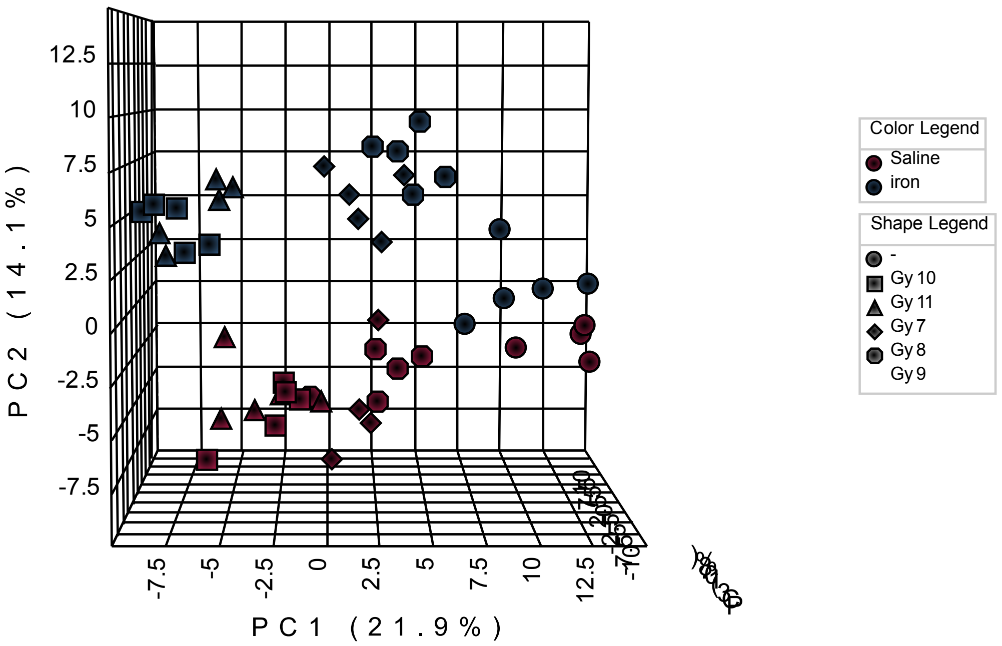
Supp Fig 2.E– Bar plots on the impact of radiation with and without iron infusion in the Plasma TCA cycle and glycolysis pathway.



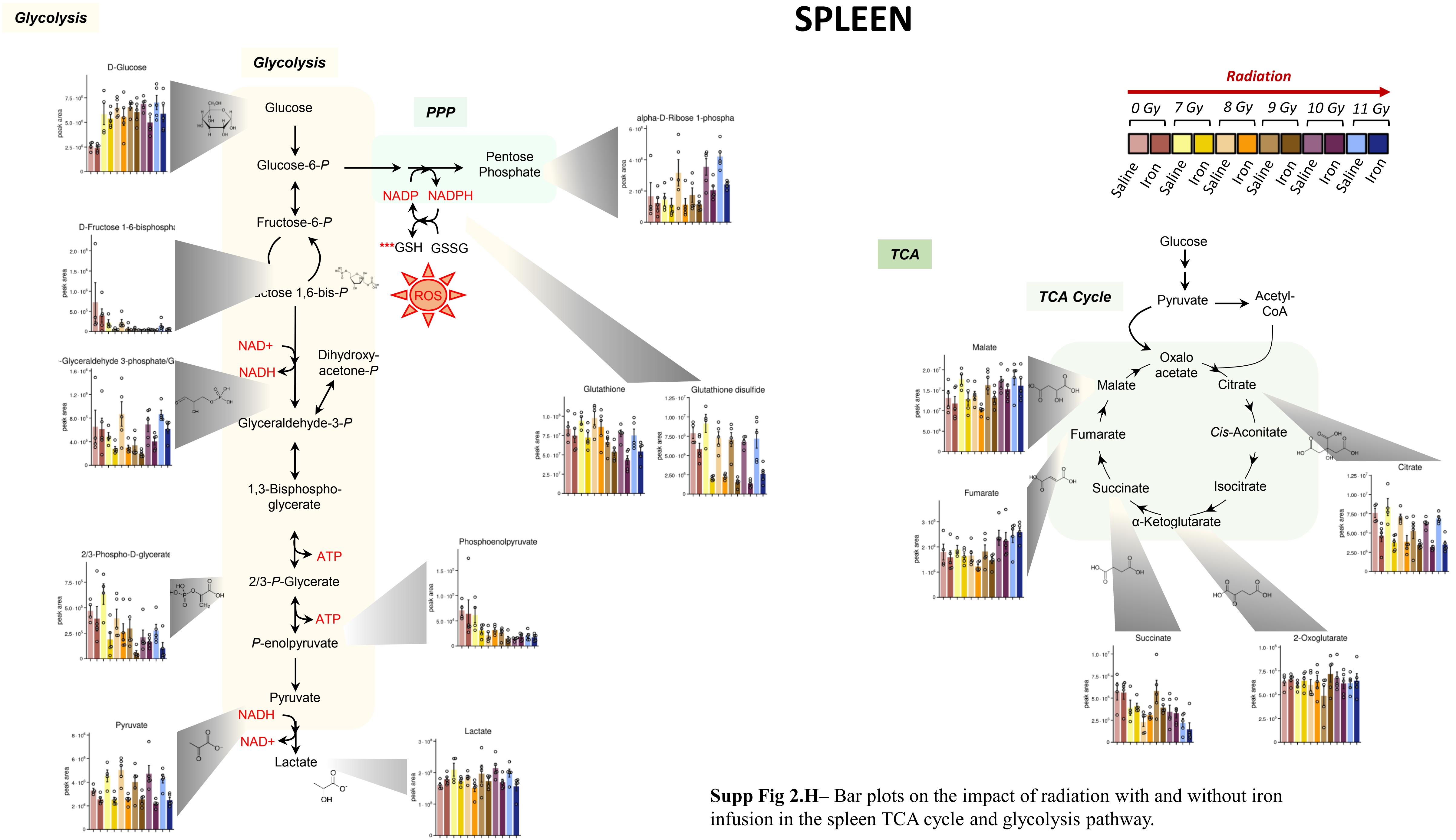
Supp Fig 2.F– Bar plots on the impact of radiation with and without iron infusion in plasma purine, arginine, and methionine metabolism.

SPLEEN

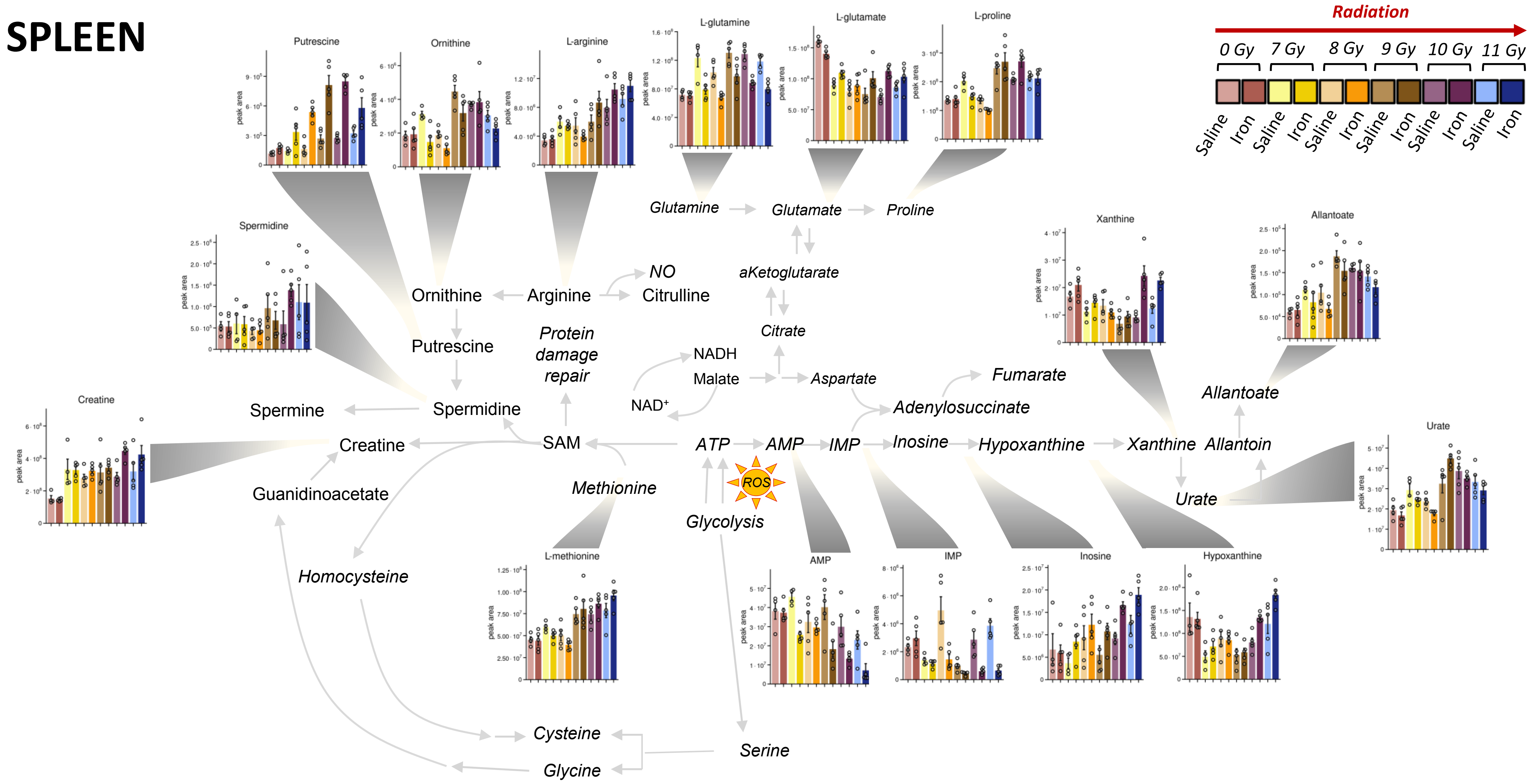




Supp Fig 2.G – Heat map (features significant by ANOVA) and Principal Component Analysis of top metabolic effects for spleen metabolites in response to radiation with and without iron infusion.

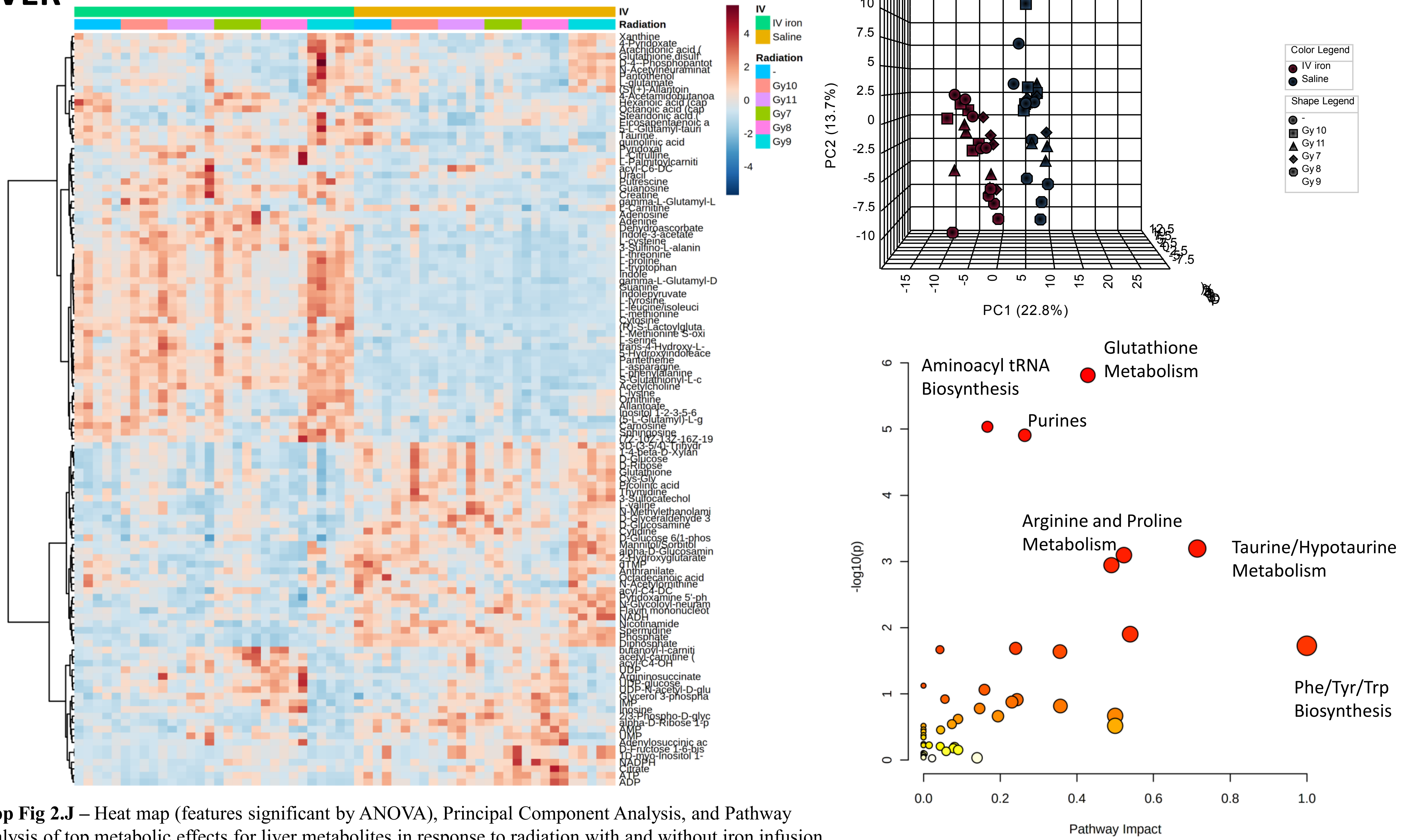


Supp Fig 2.H– Bar plots on the impact of radiation with and without iron infusion in the spleen TCA cycle and glycolysis pathway.

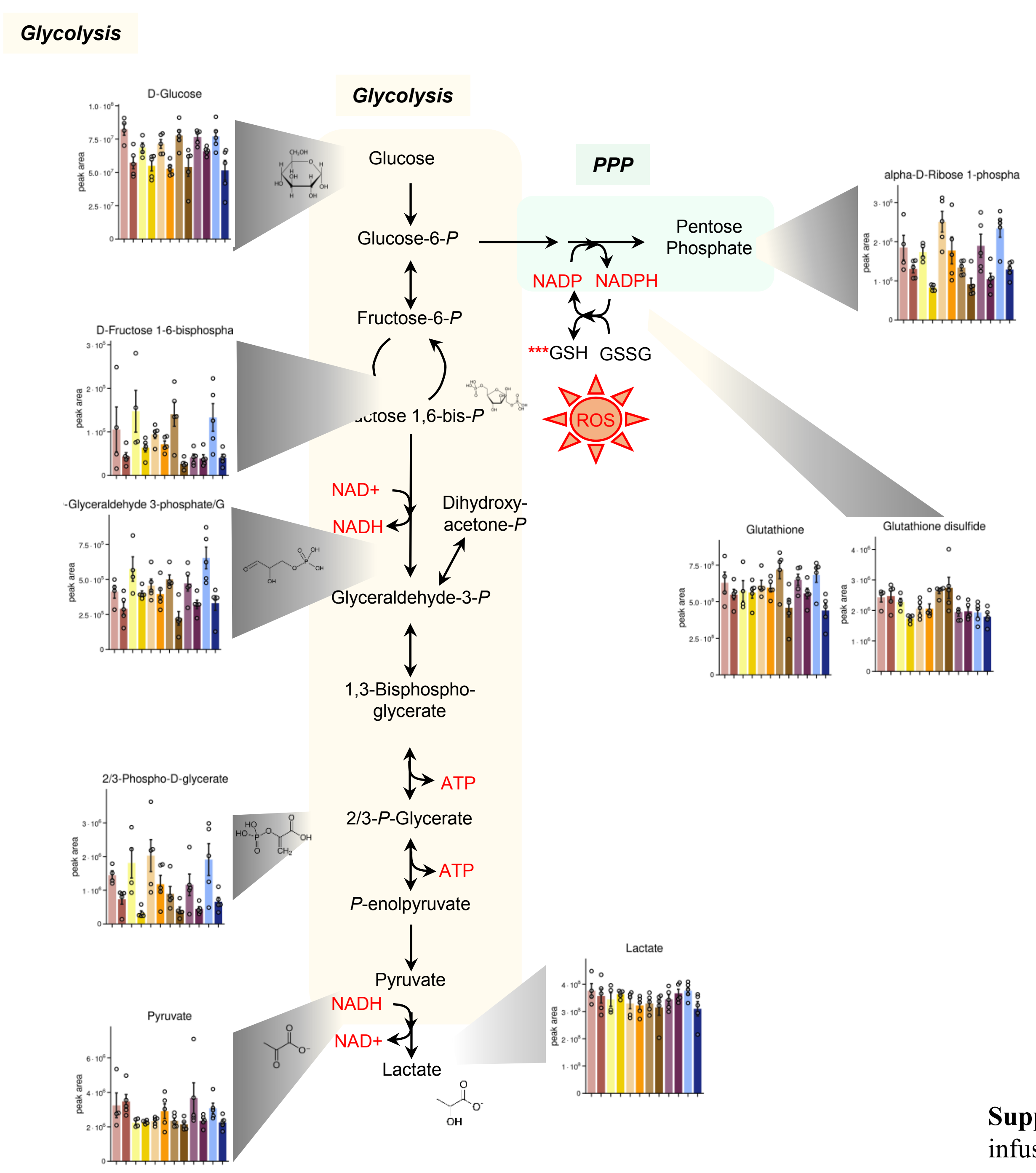


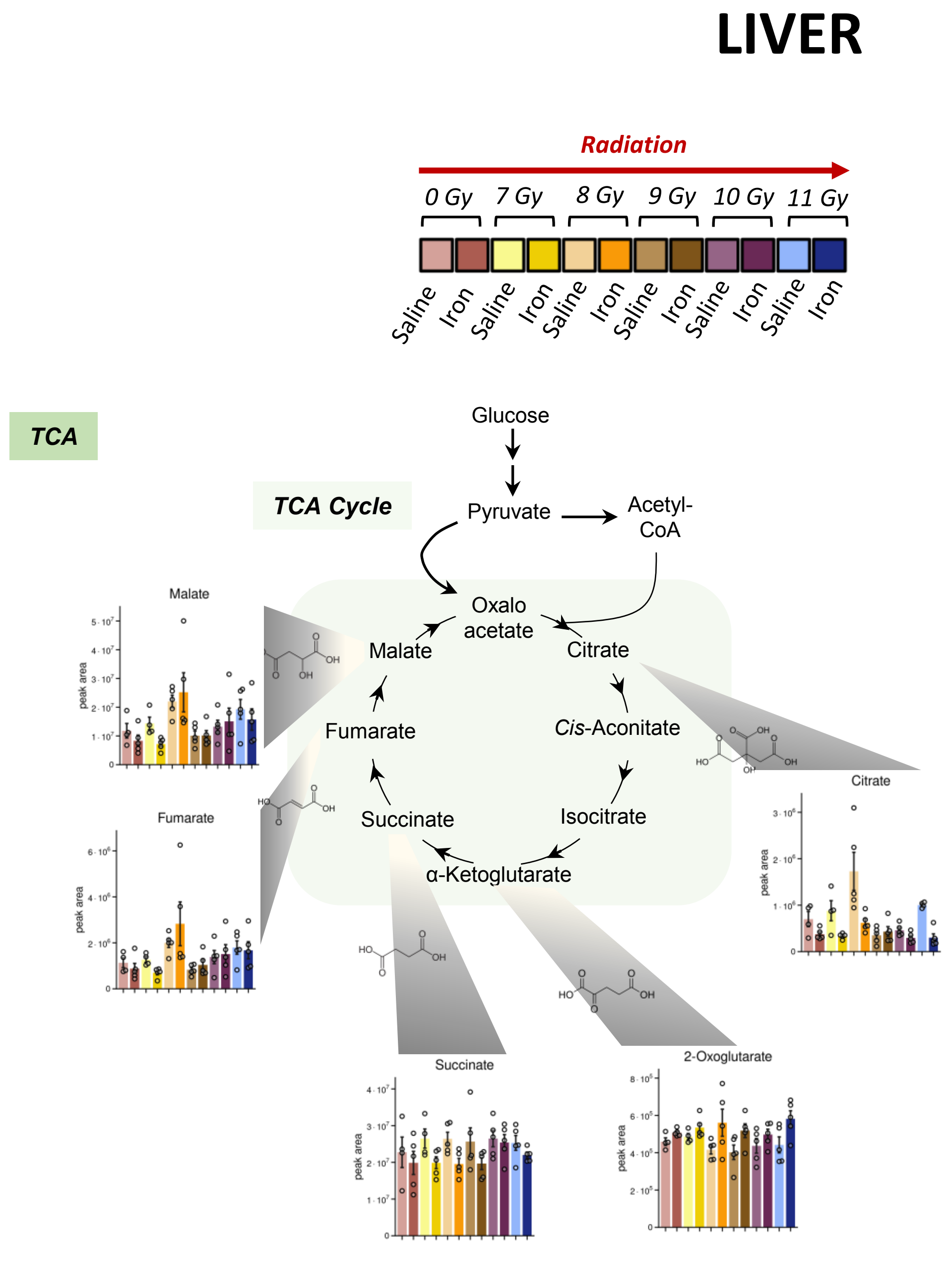
Supp Fig 2.I – Bar plots on the impact of radiation with and without iron infusion in the spleen protein damage and repair pathways.

LIVER



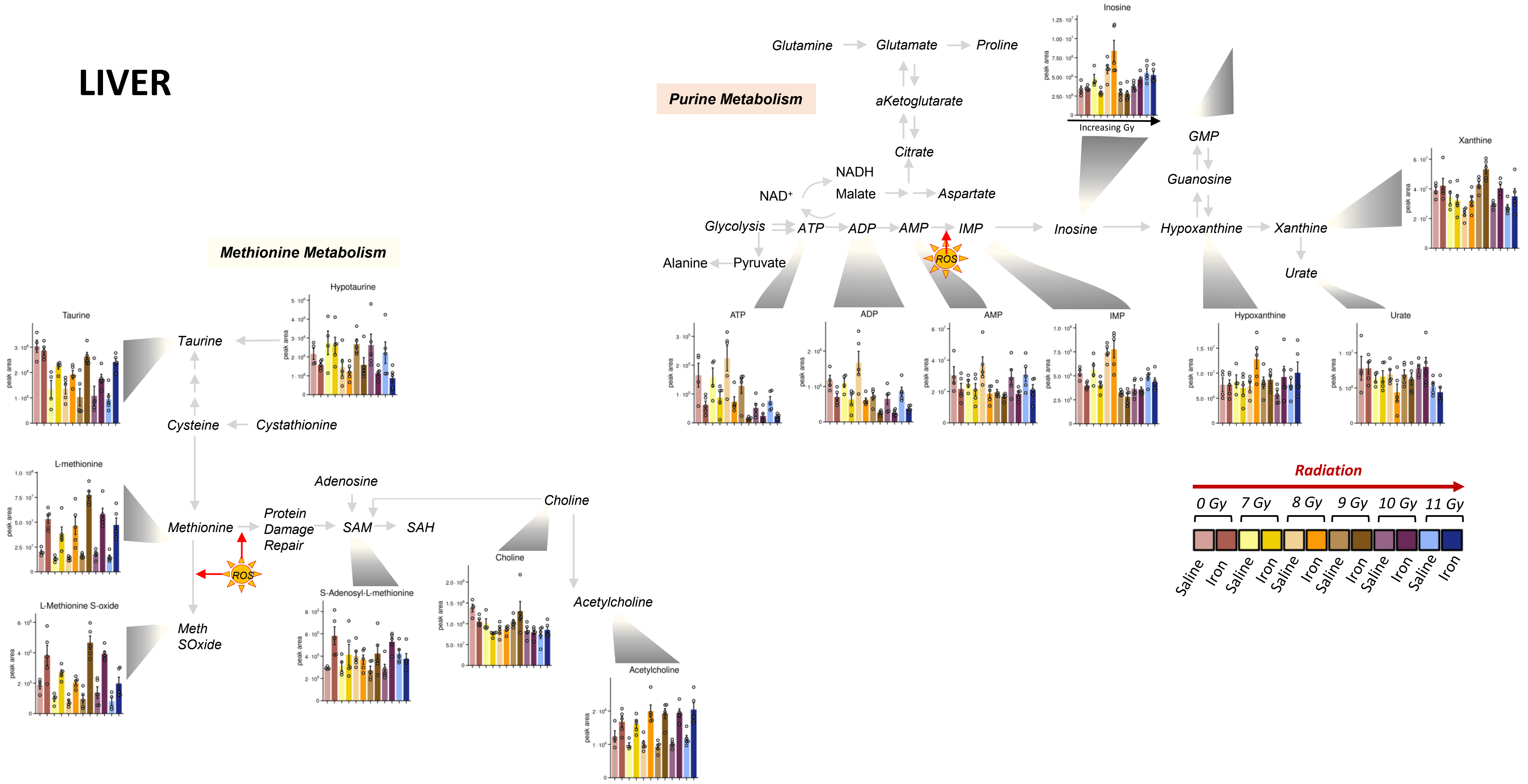
Supp Fig 2.J – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for liver metabolites in response to radiation with and without iron infusion.





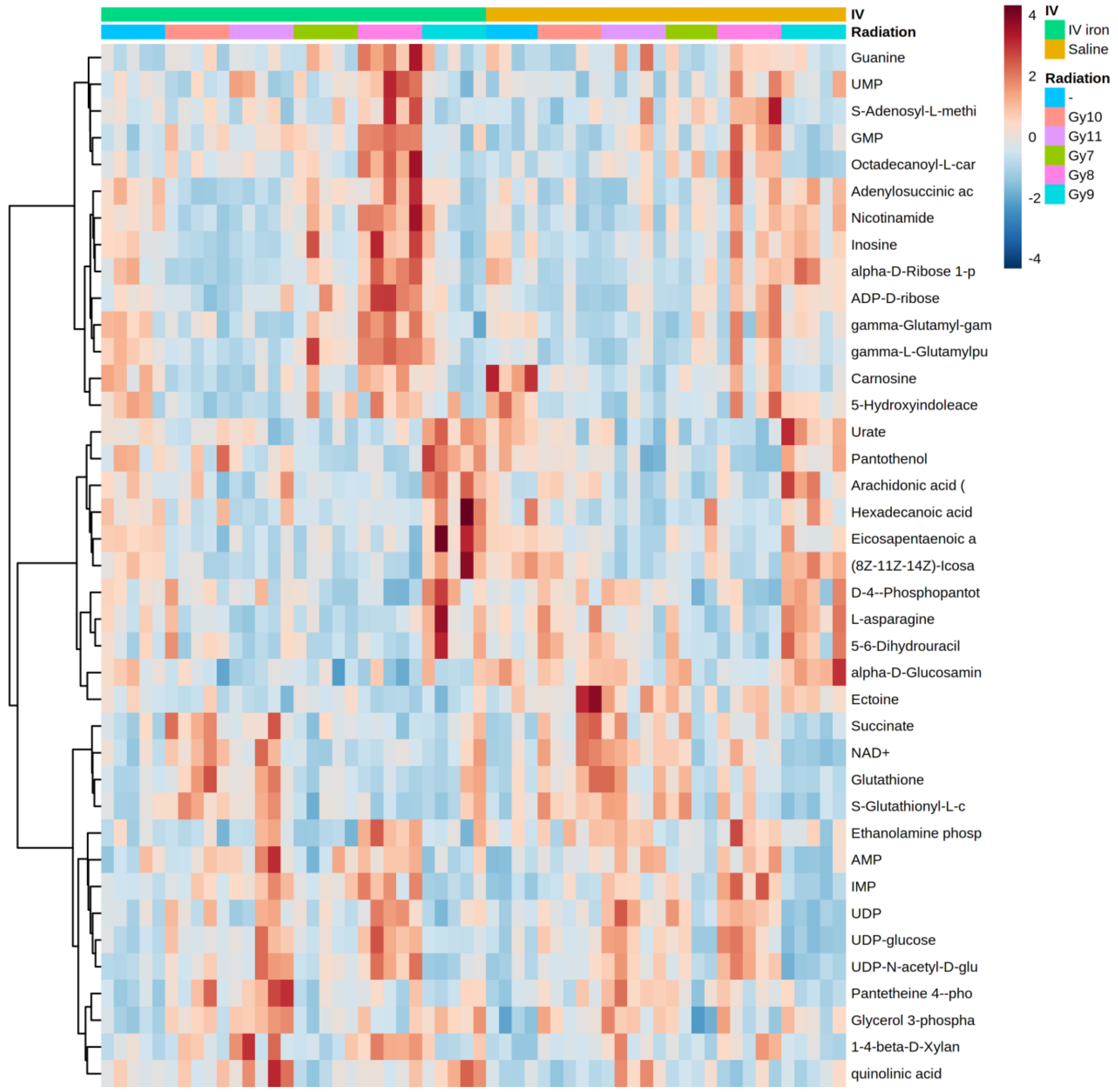
Supp Fig 2.K– Bar plots on the impact of radiation with and without iron infusion in the liver TCA cycle and glycolysis pathway.

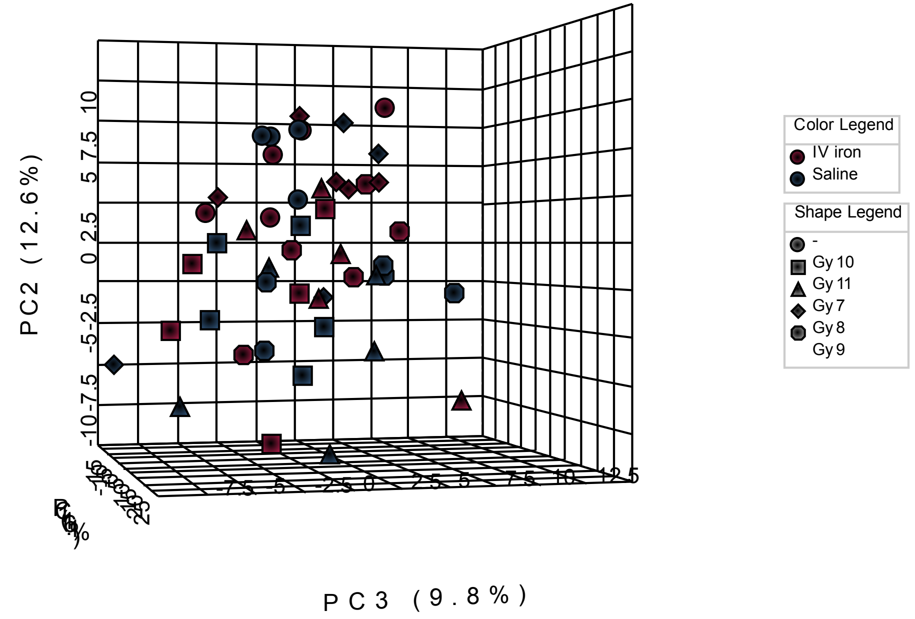
LIVER

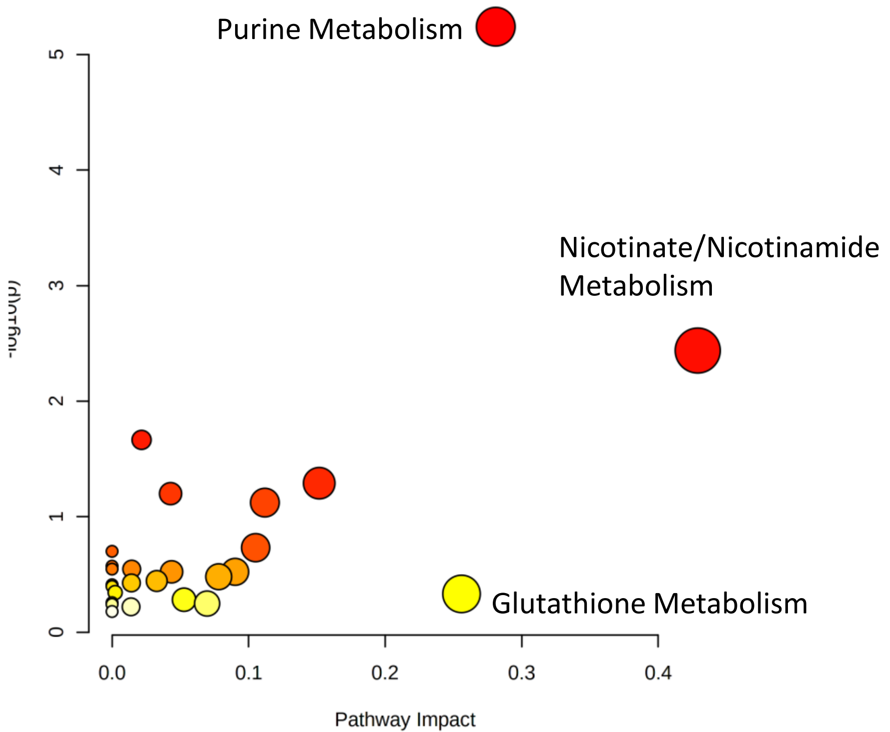


Supp Fig 2.L– Bar plots on the impact of radiation with and without iron infusion in liver purine and methionine metabolism.

KIDNEY

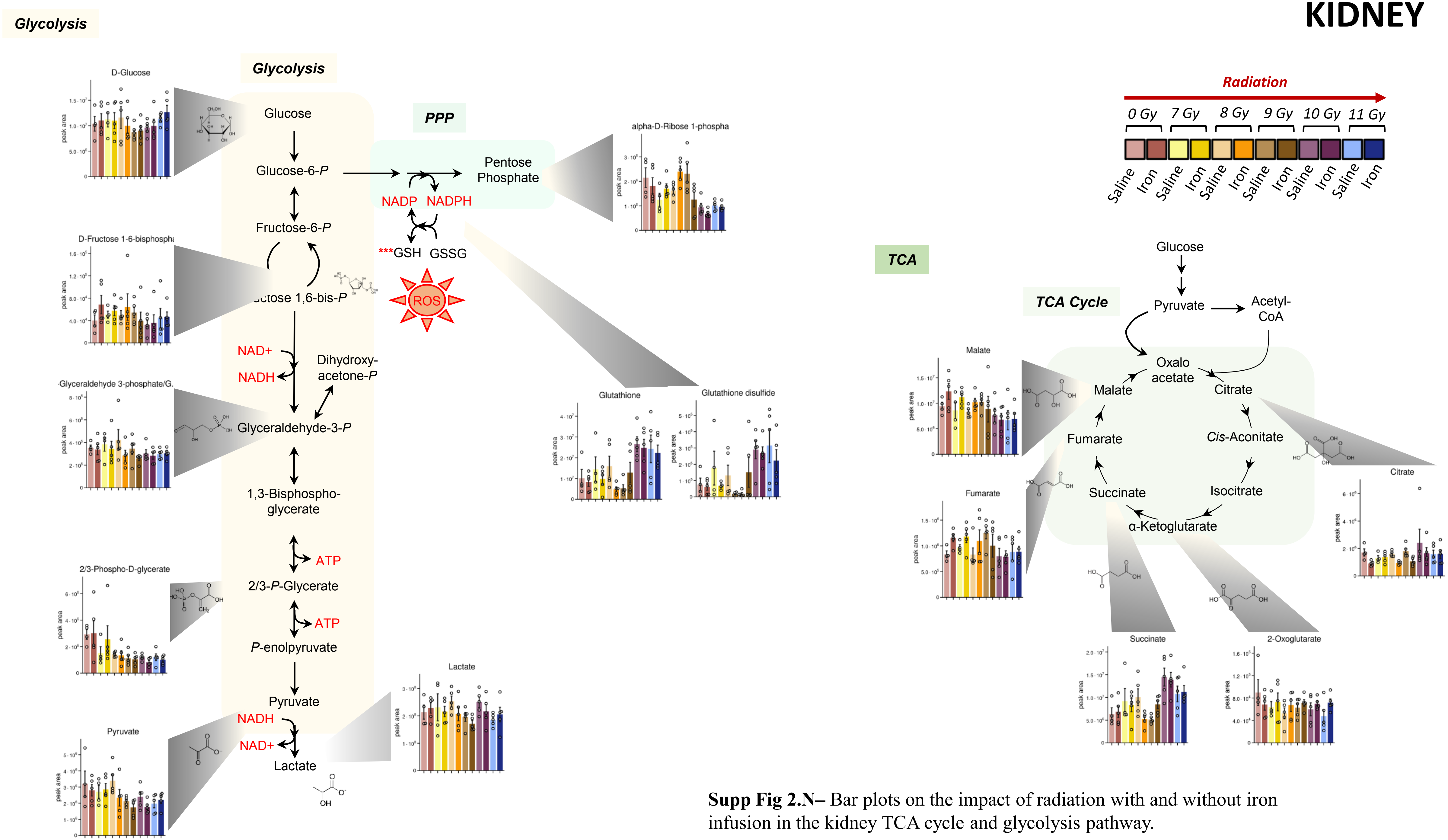




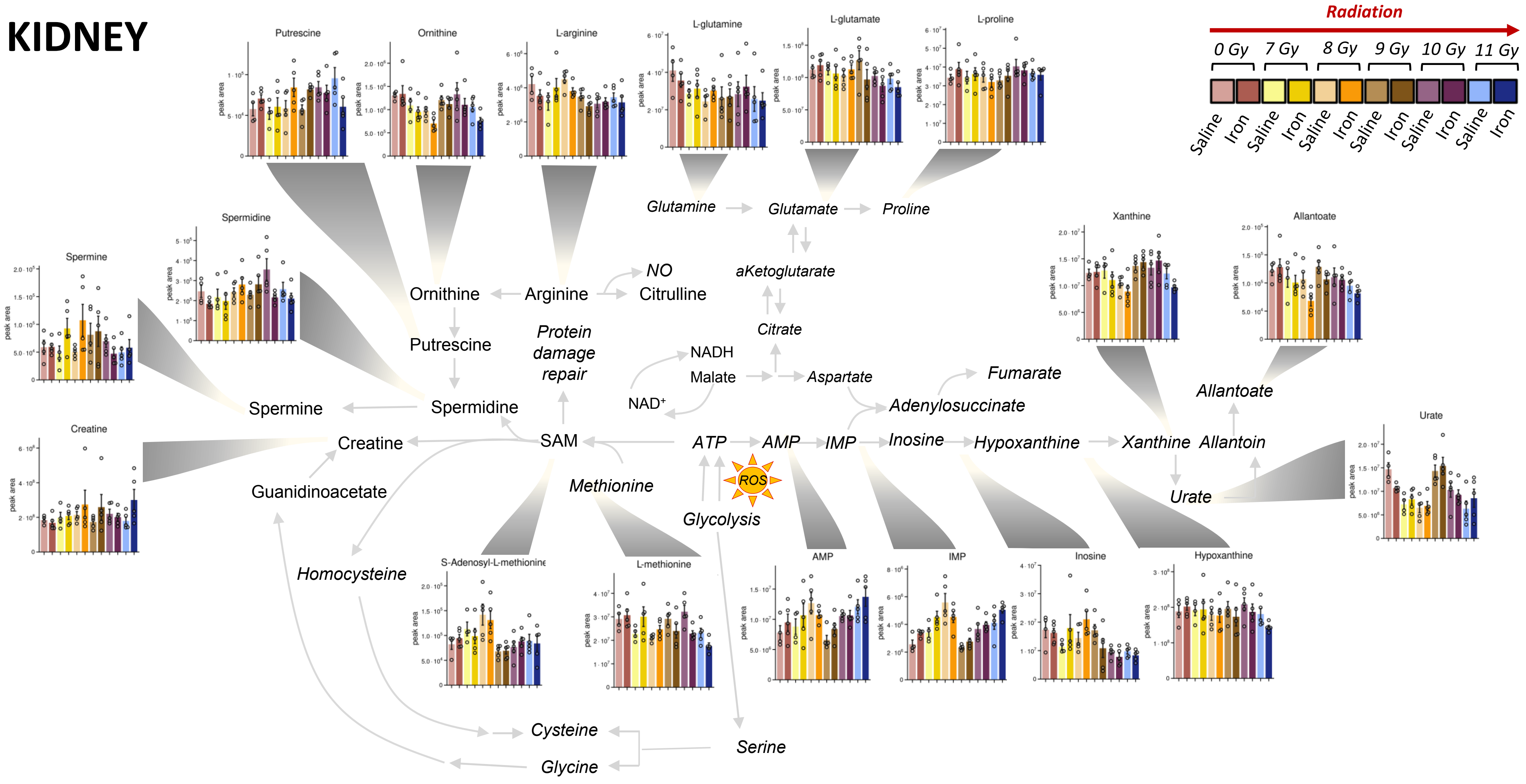


Supp Fig 2.M – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for kidney metabolites in response to radiation with and without iron infusion.

KIDNEY

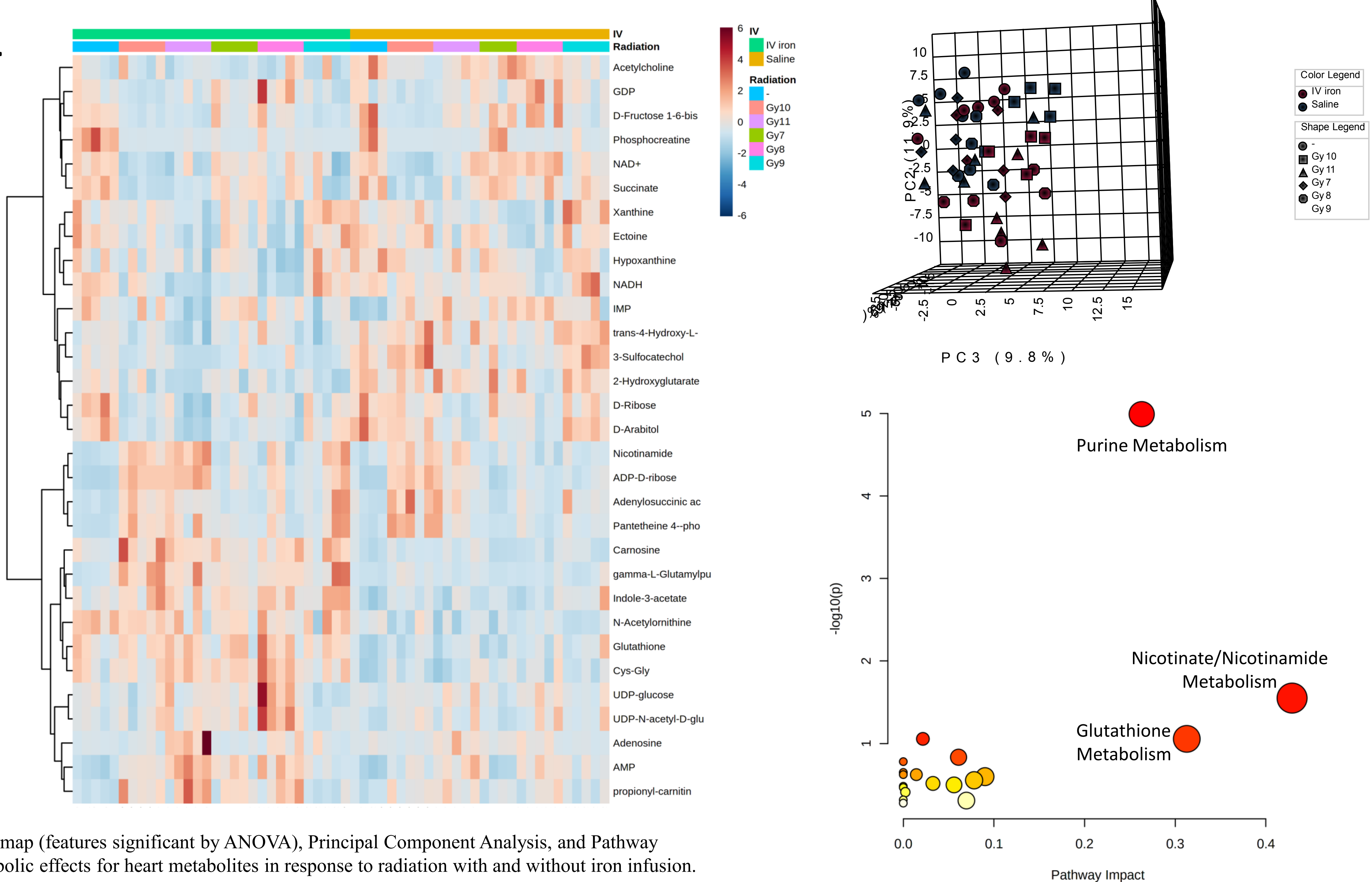


Supp Fig 2.N– Bar plots on the impact of radiation with and without iron infusion in the kidney TCA cycle and glycolysis pathway.

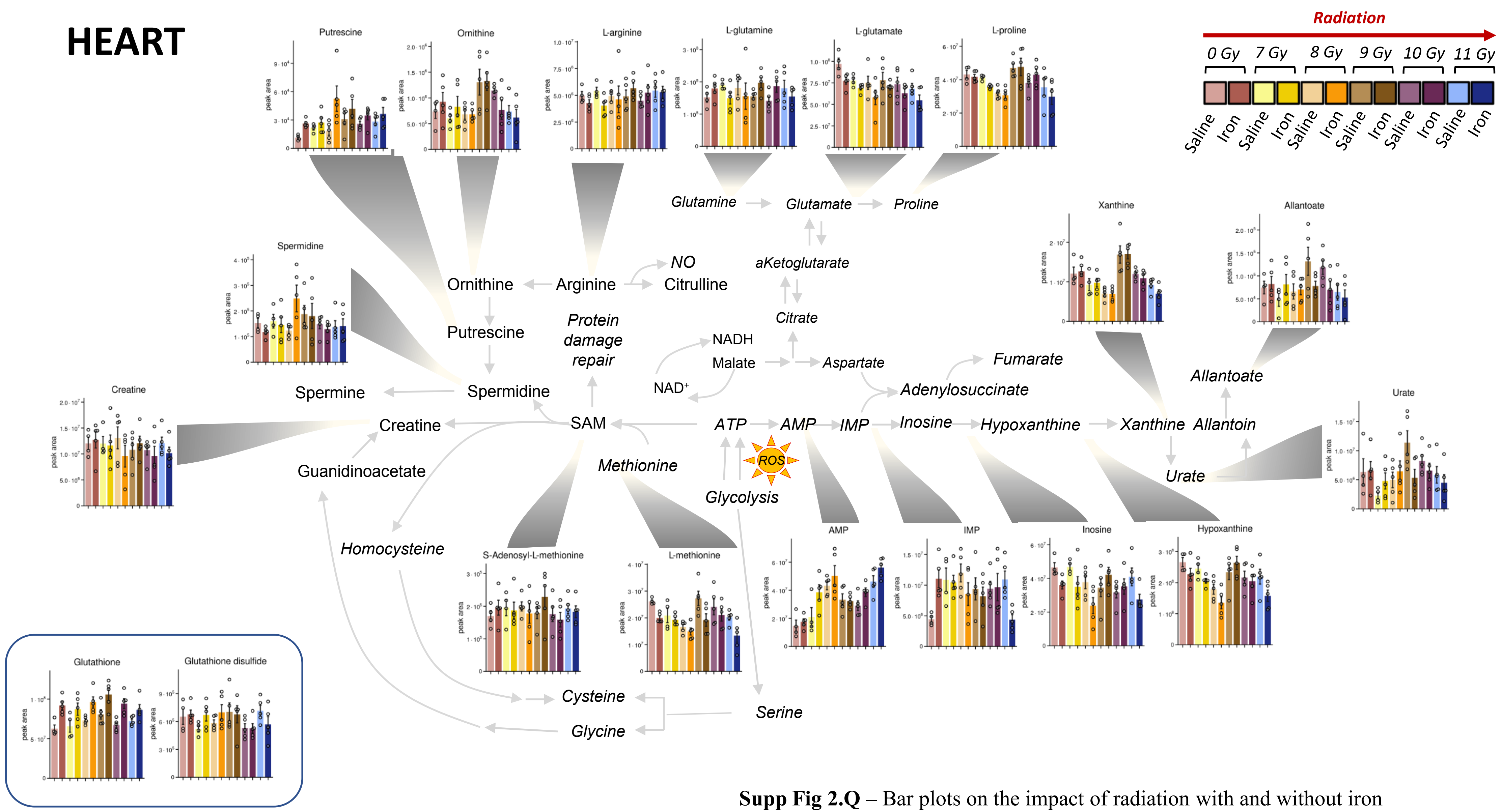


Supp Fig 2.O – Bar plots on the impact of radiation with and without iron infusion in the kidney protein damage and repair pathways.

HEART

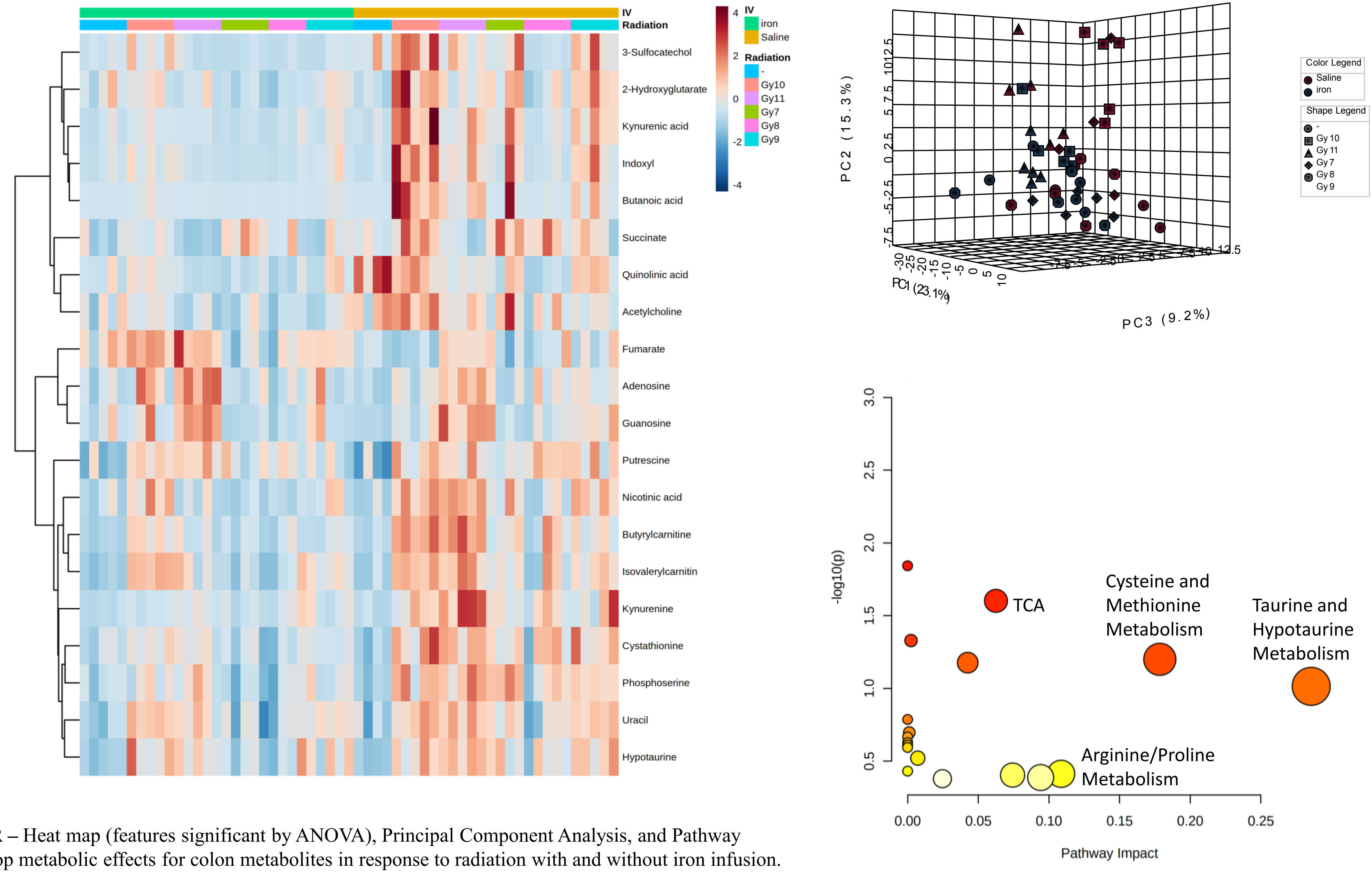


Supp Fig 2.P – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for heart metabolites in response to radiation with and without iron infusion.

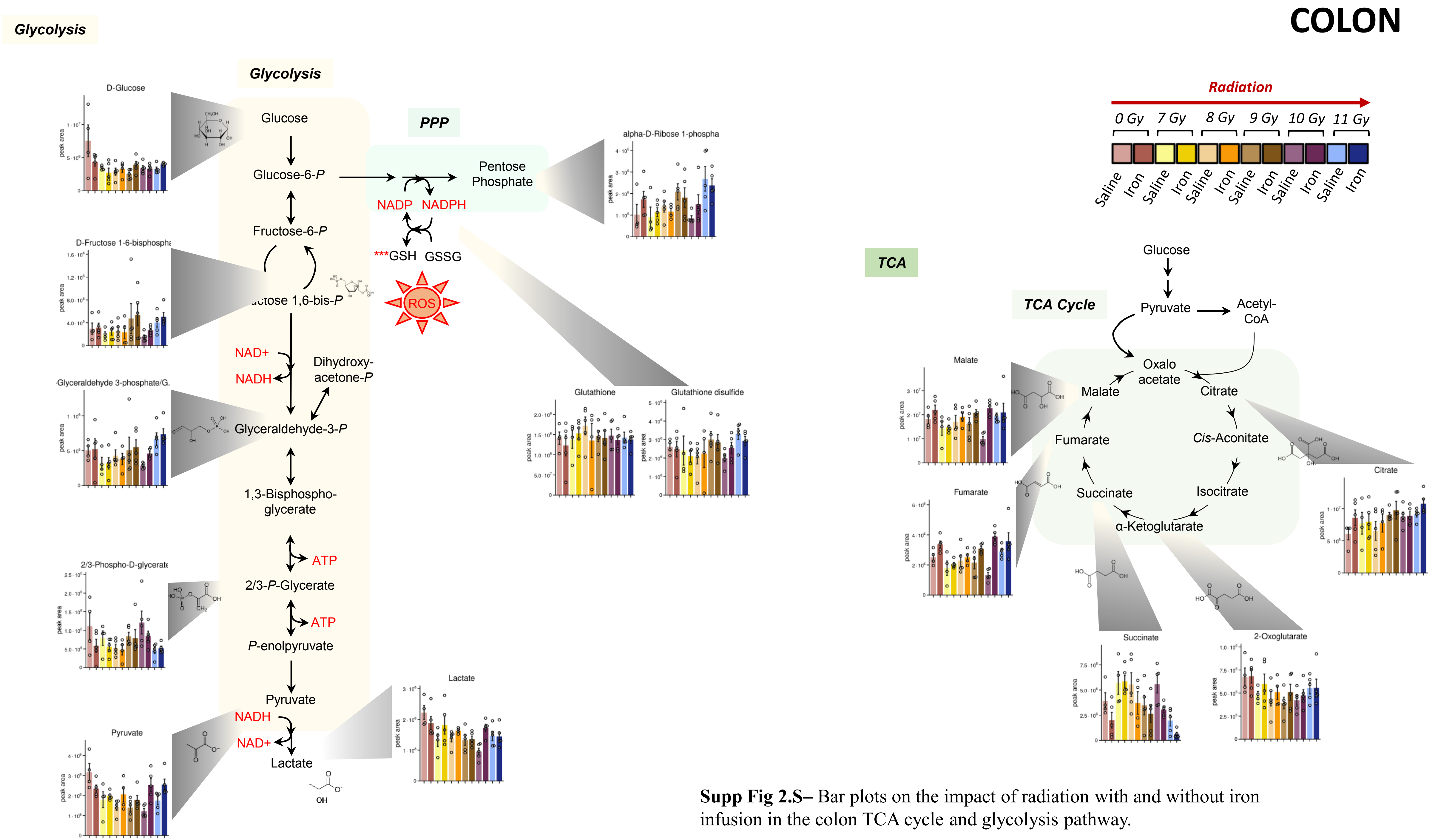


Supp Fig 2.Q – Bar plots on the impact of radiation with and without iron infusion in the heart protein damage and repair pathways.

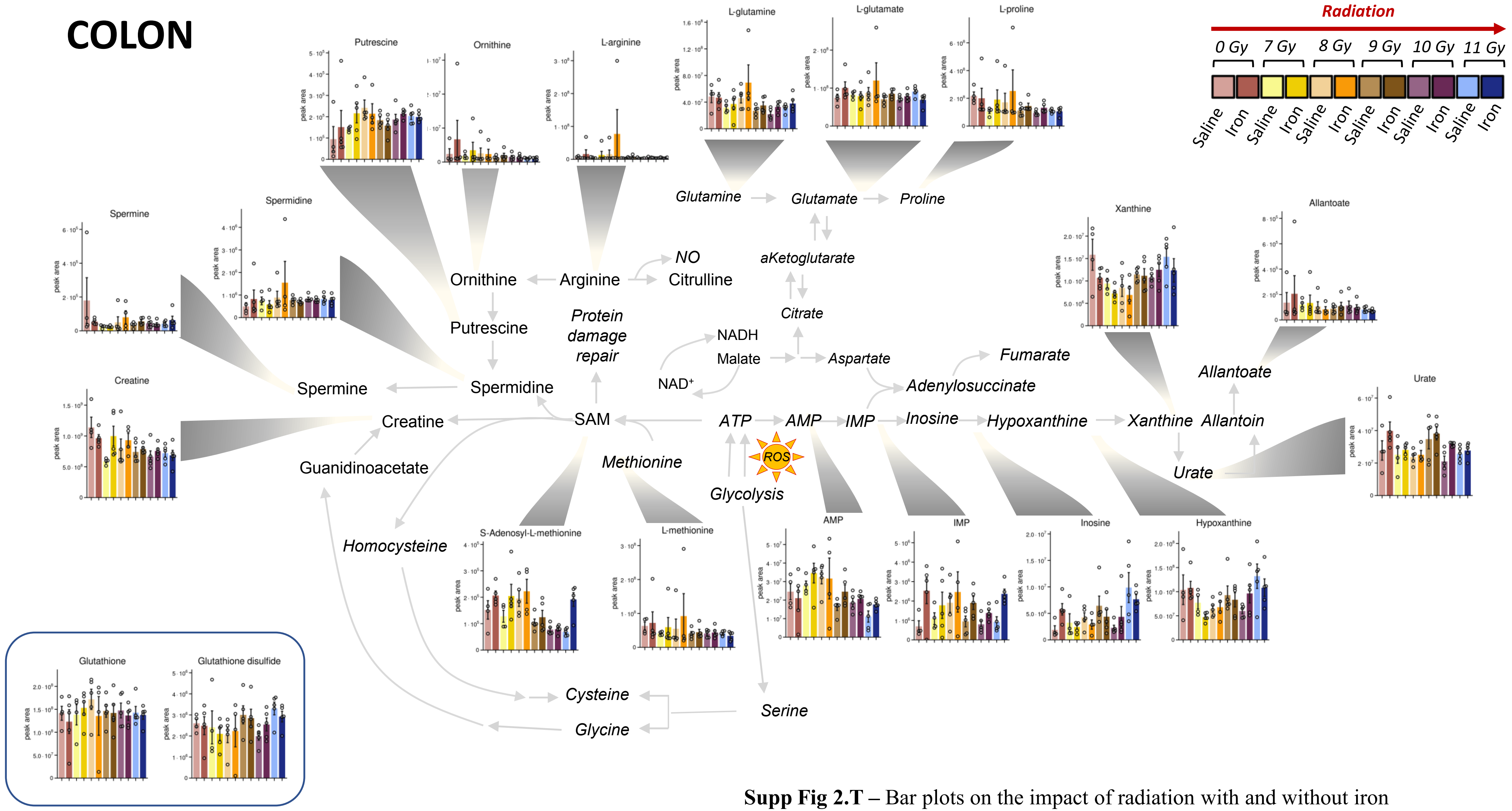
COLON



Supp Fig 2.R – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for colon metabolites in response to radiation with and without iron infusion.

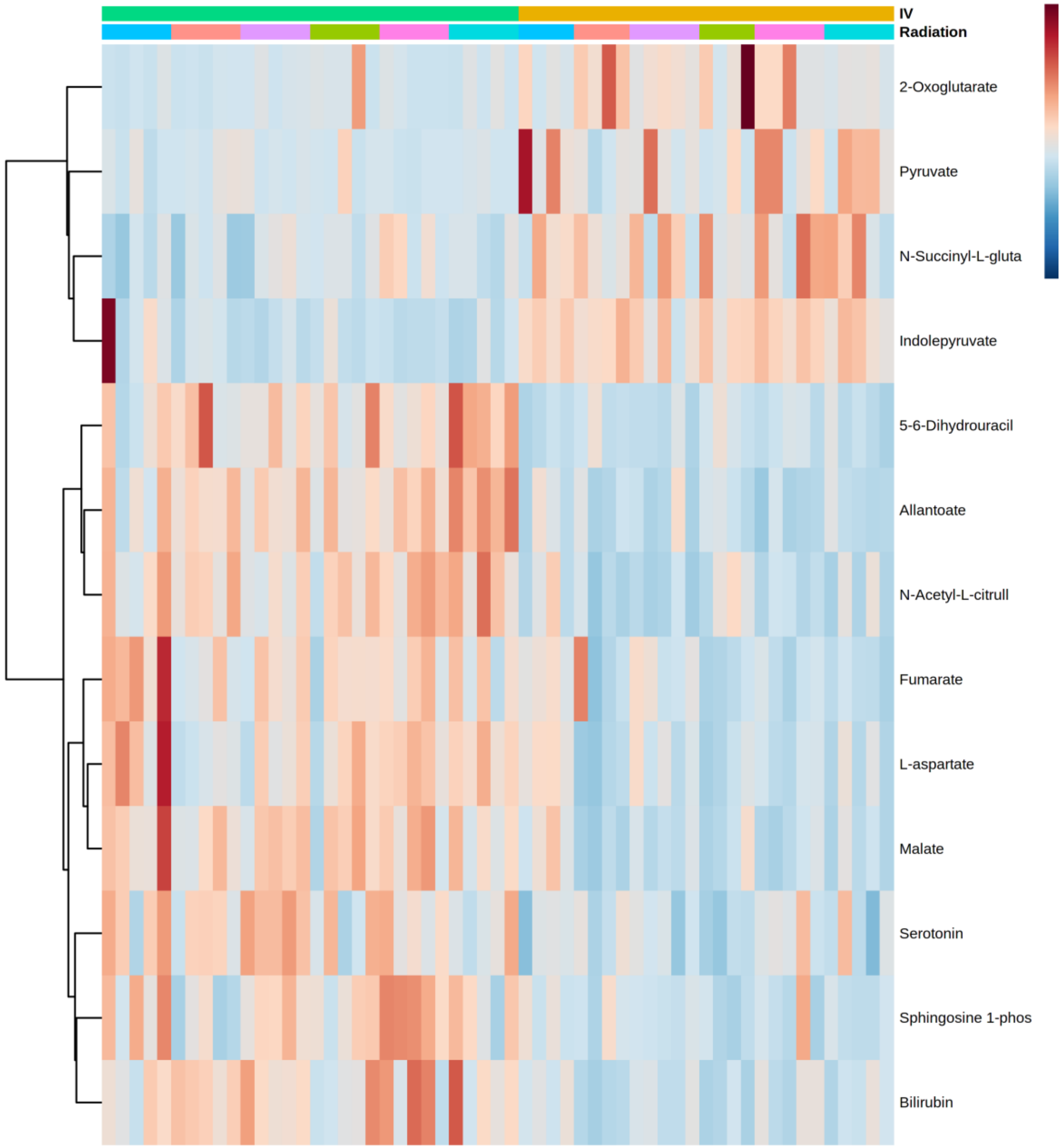


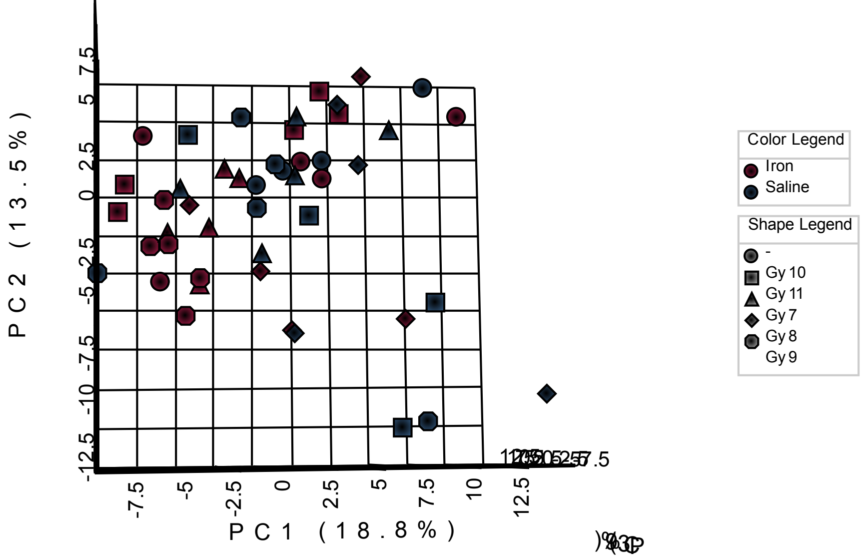
Supp Fig 2.S– Bar plots on the impact of radiation with and without iron infusion in the colon TCA cycle and glycolysis pathway.

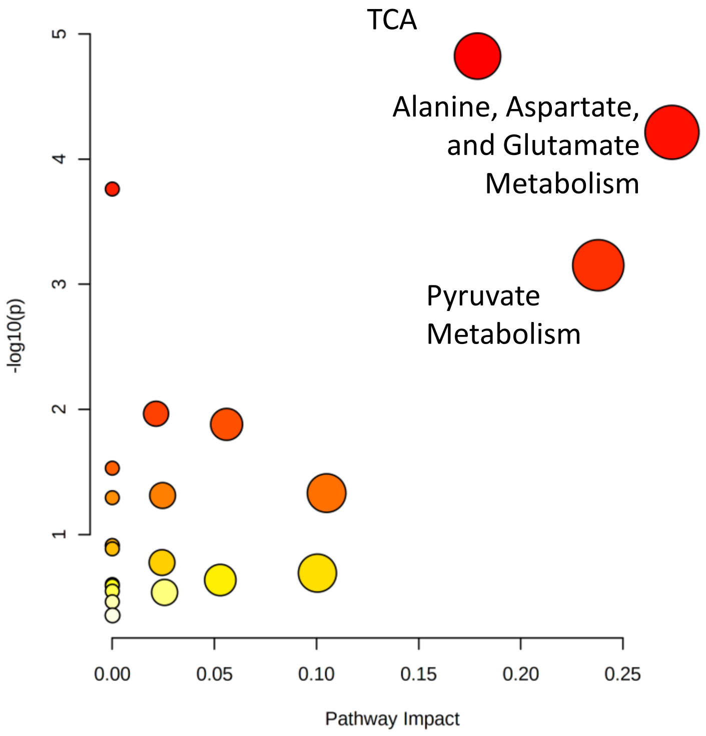


Supp Fig 2.T – Bar plots on the impact of radiation with and without iron infusion in the colon protein damage and repair pathways.

PRE STOOL

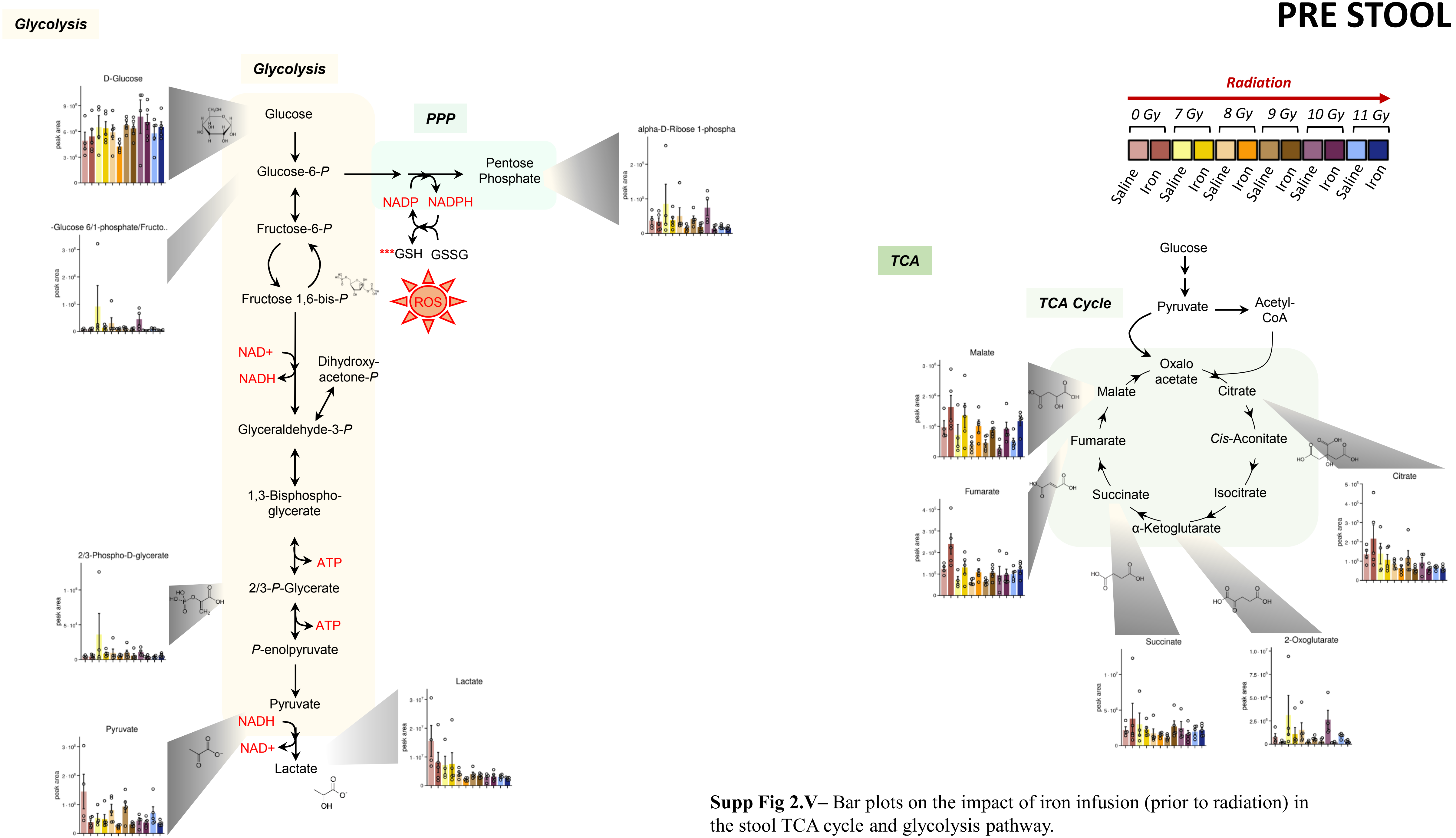






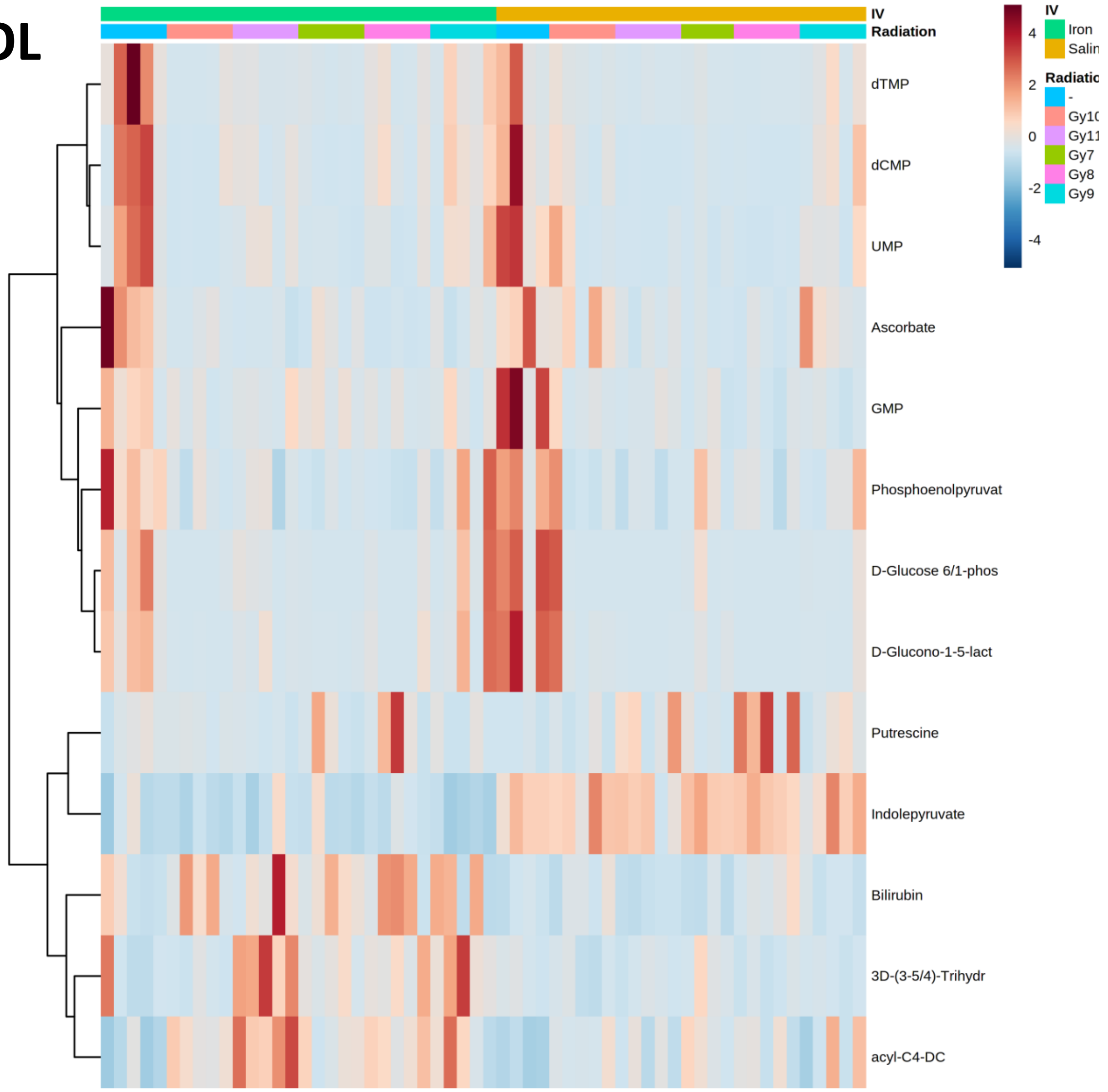
Supp Fig 2.U – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for stool metabolites prior to radiation with and without iron infusion.

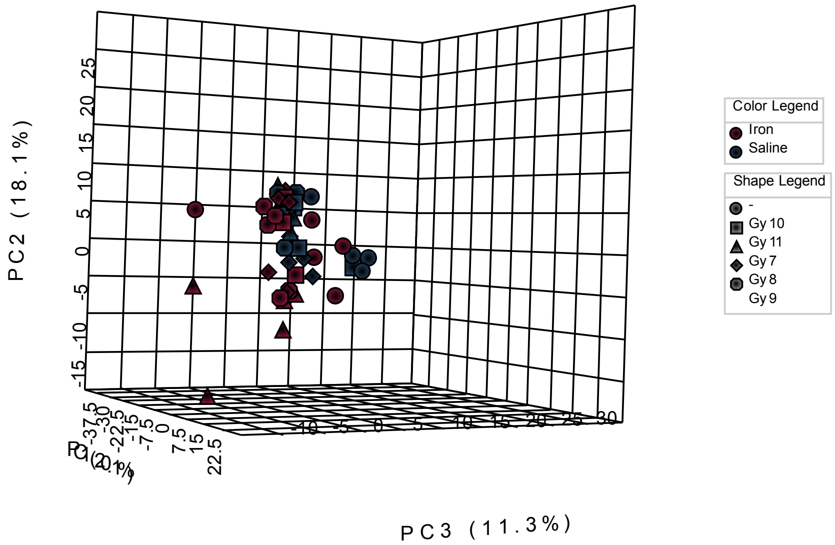
PRE STOOL

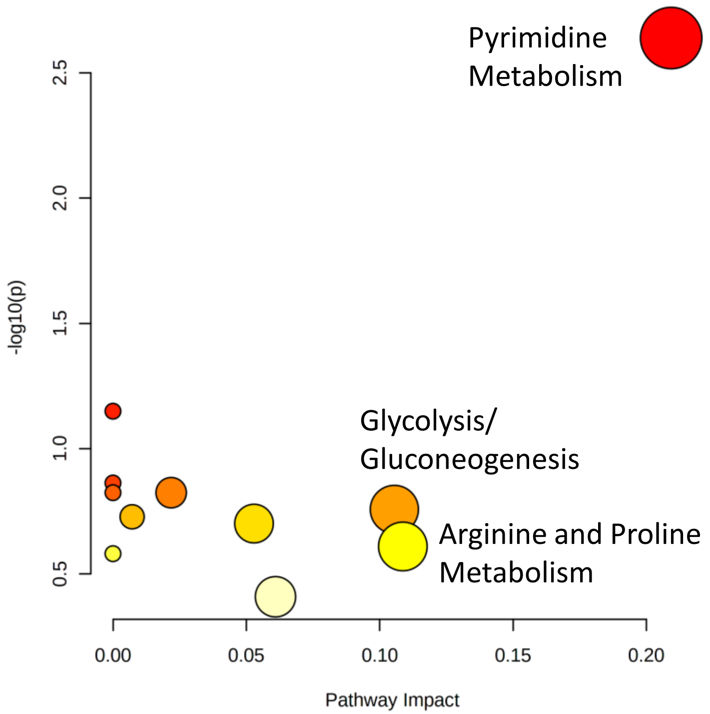


Supp Fig 2.V– Bar plots on the impact of iron infusion (prior to radiation) in the stool TCA cycle and glycolysis pathway.

POST STOOL

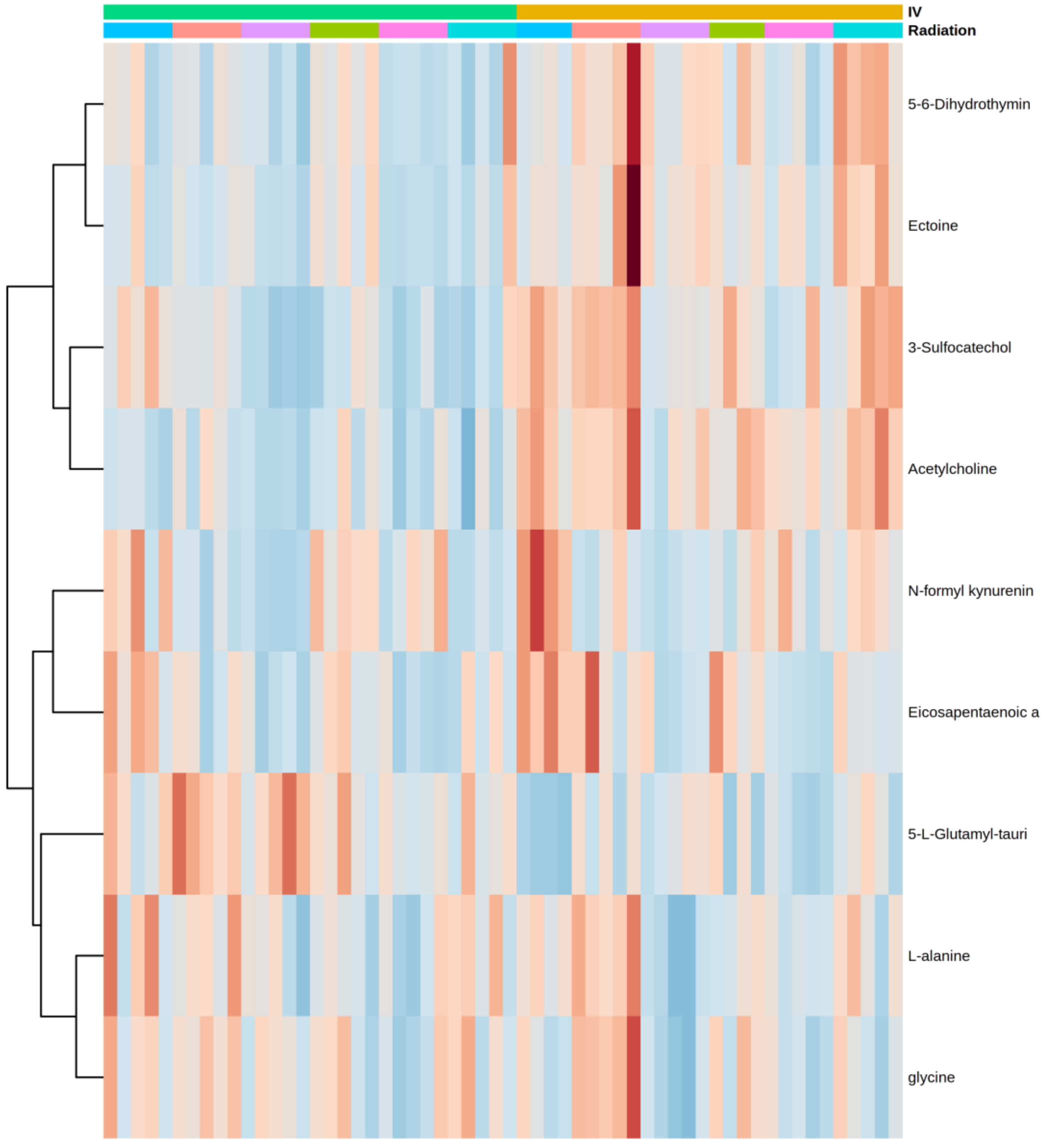


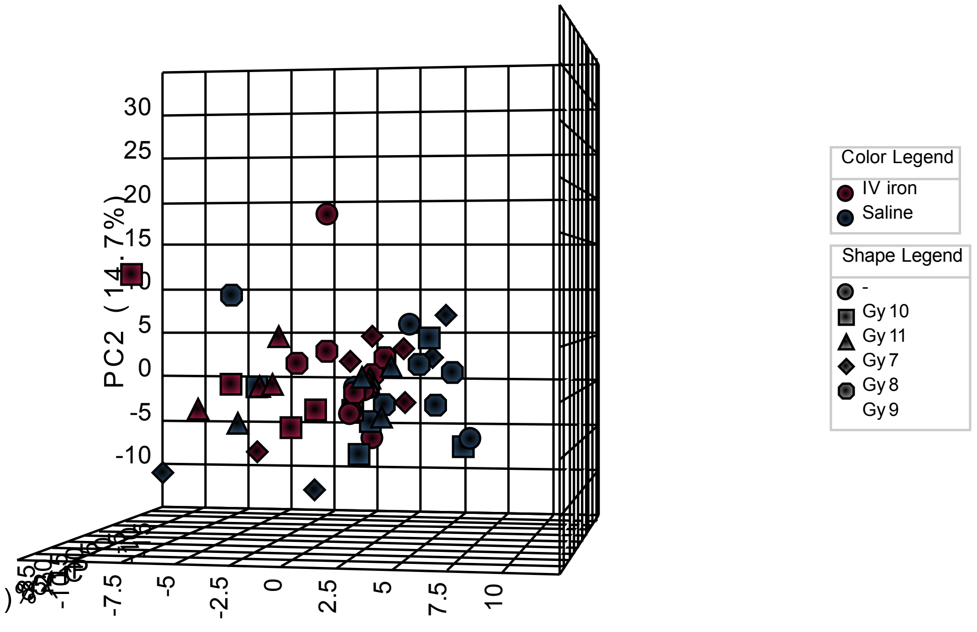


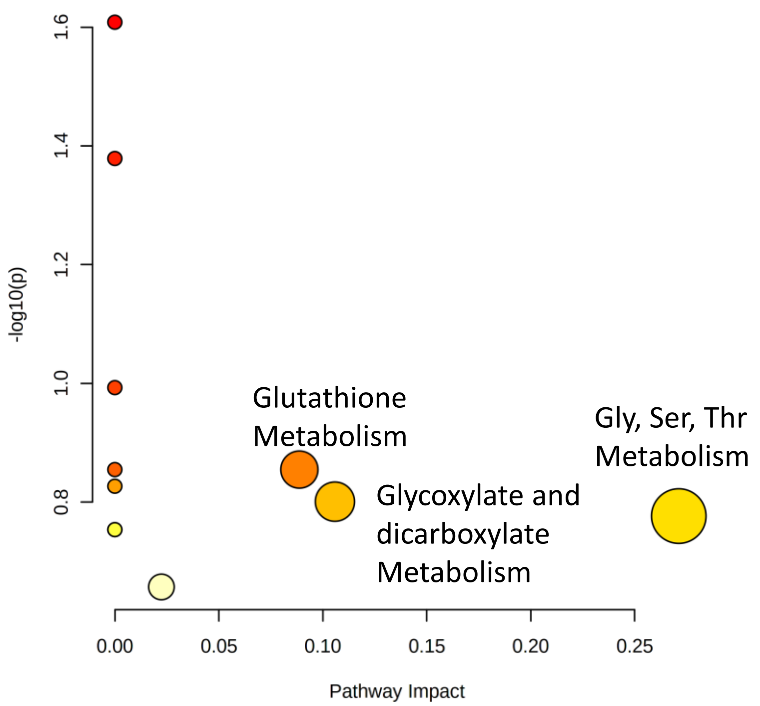


Supp Fig 2.W – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for stool metabolites in response to radiation with and without iron infusion.

DUODENUM

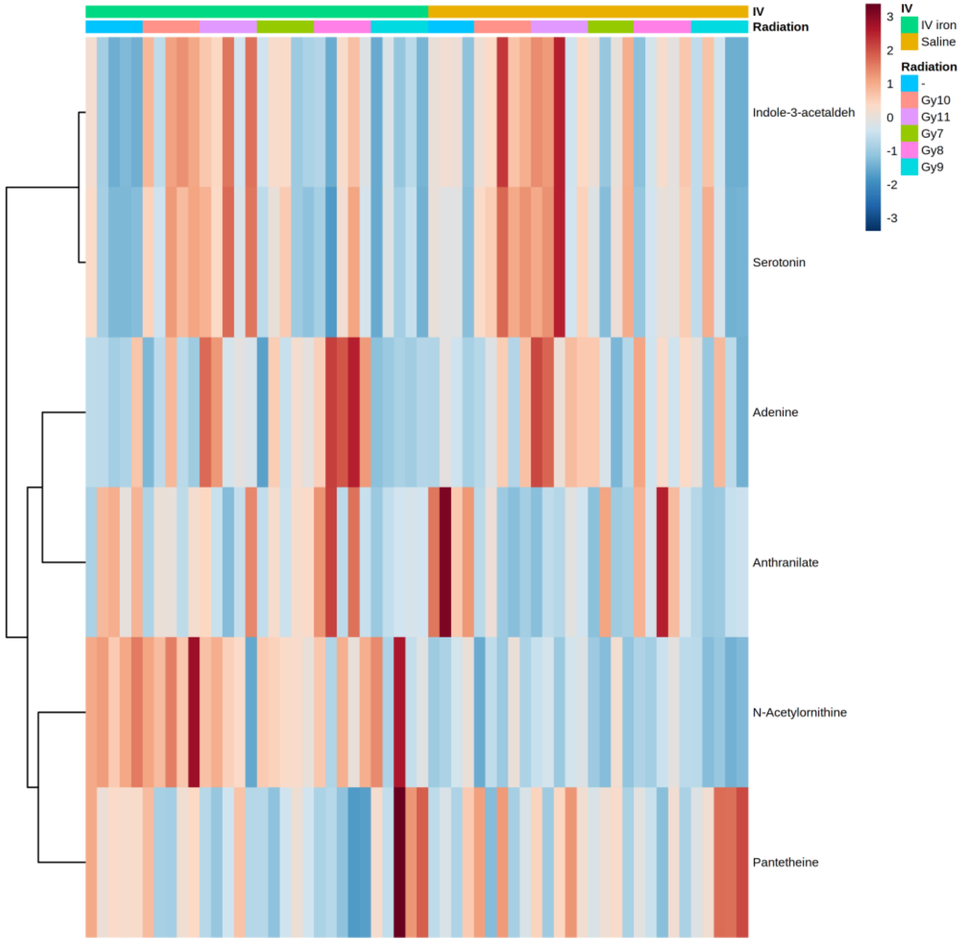


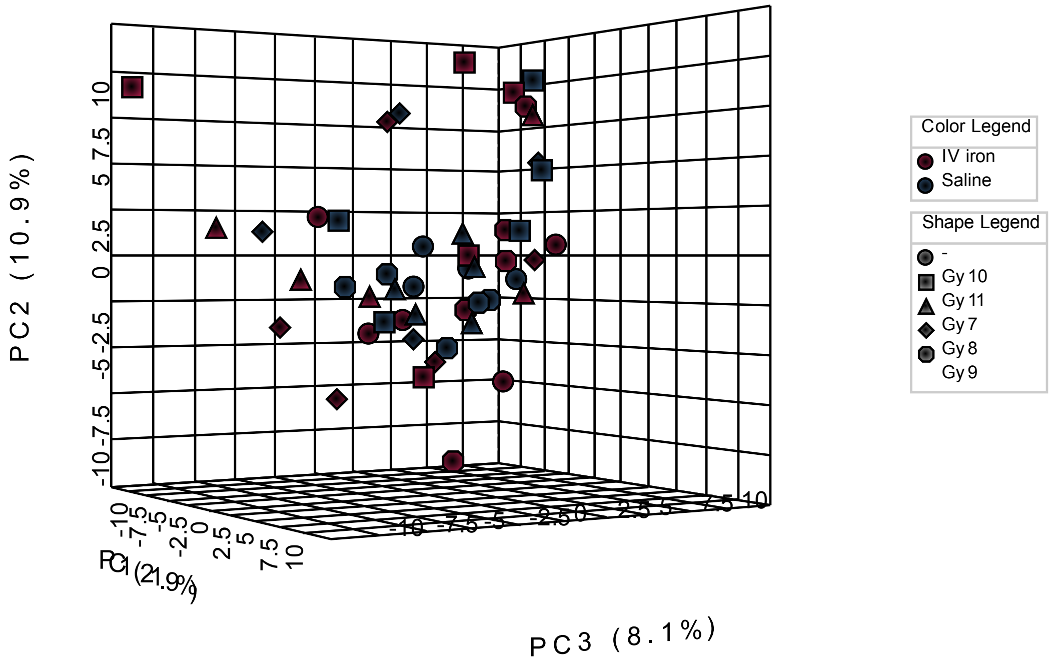




Supp Fig 2.X – Heat map (features significant by ANOVA), Principal Component Analysis, and Pathway Analysis of top metabolic effects for duodenum metabolites prior to radiation with and without iron infusion.

BRAIN





Supp Fig 2.Y – Heat map (features significant by ANOVA) and Principal Component Analysis for brain metabolites prior to radiation with and without iron infusion.