

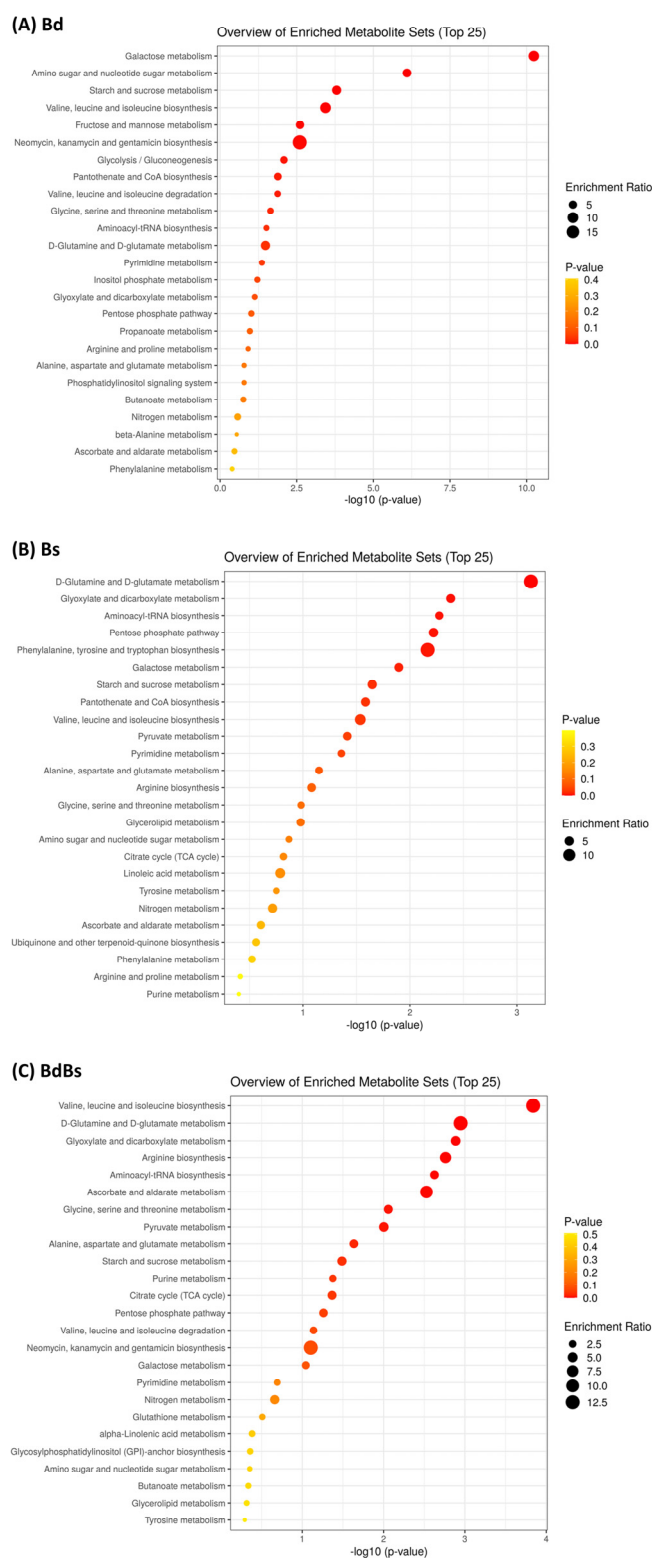
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## Supplementary Materials

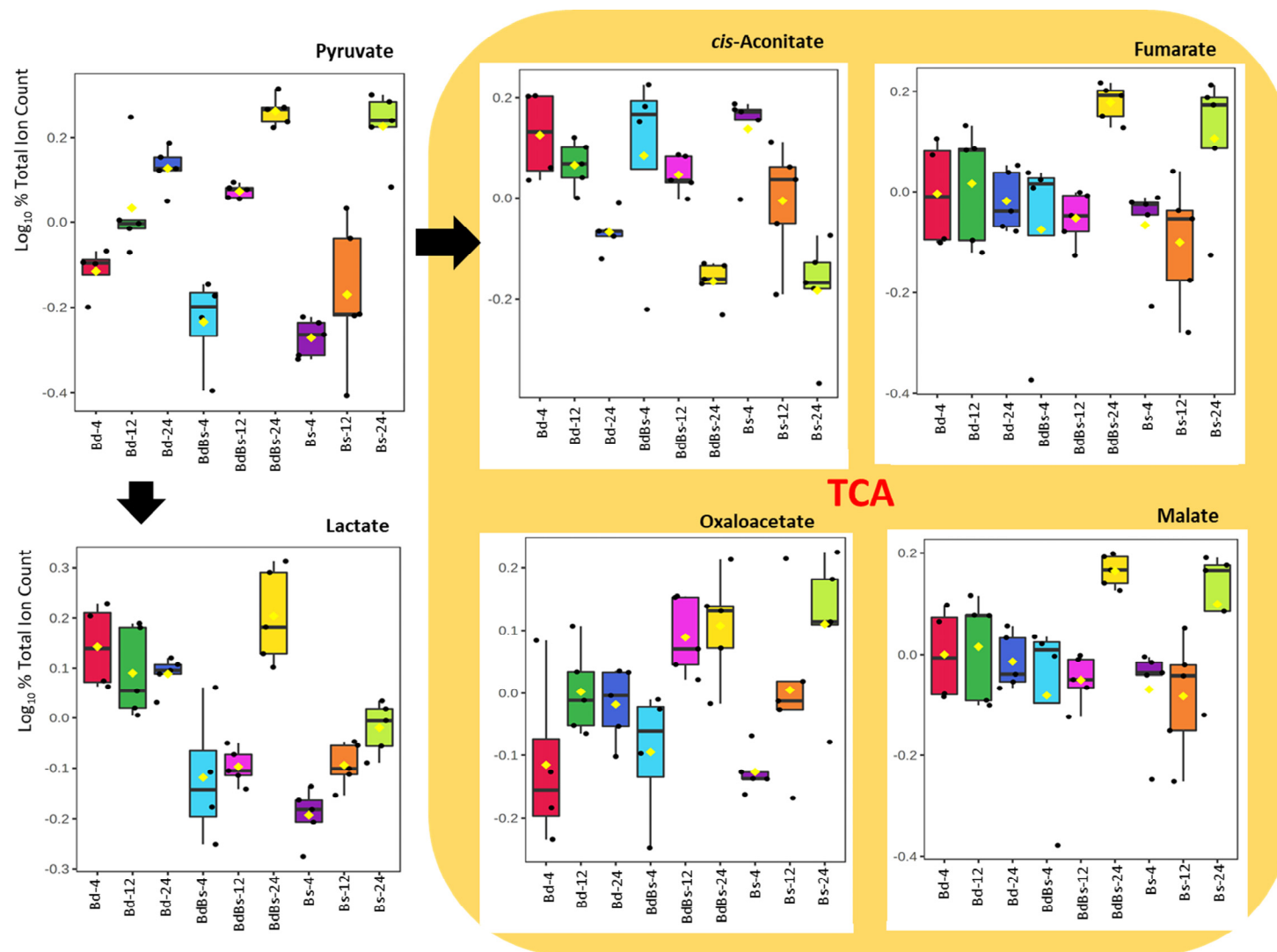
**Article Title:** Allotetraploidisation in *Brachypodium* May Have Led to the Dominance of One Parent's Metabolome in Germinating Seeds

**Authors:** Aleksandra Skalska, Elzbieta Wolny, Manfred Beckman, John H. Doonan, Robert Hasterok and Luis A. J. Mur

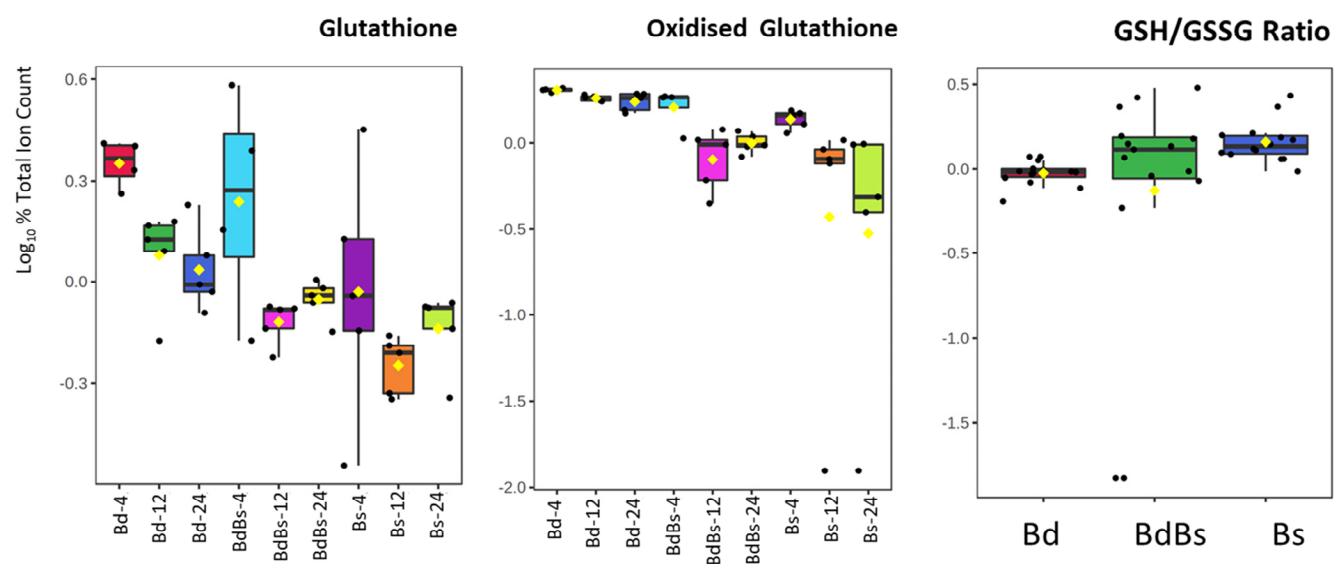
The following Supplementary Materials are available for this article: **Supplementary Figures S1-S7**



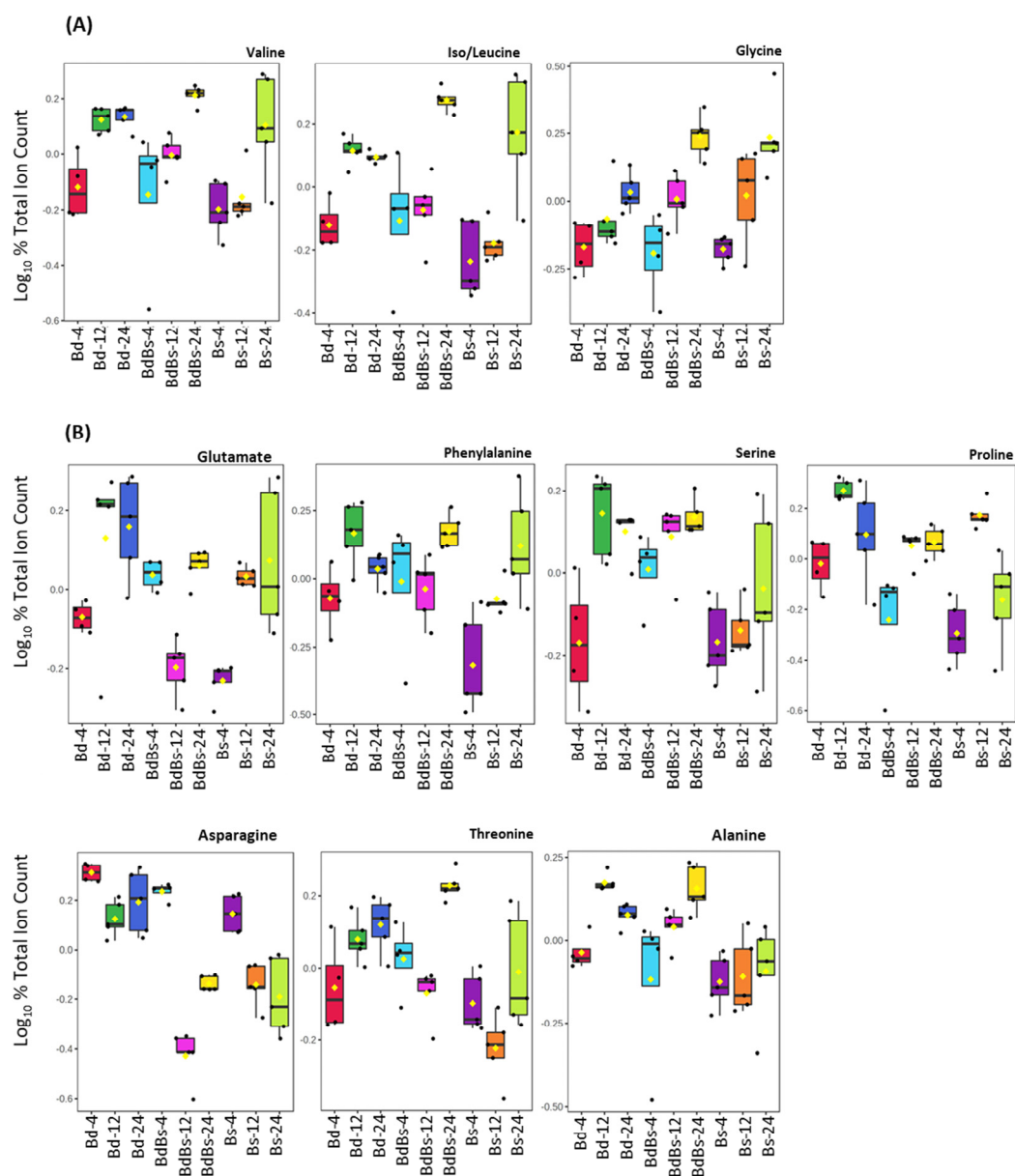
**Figure S1.** Pathway enrichment metabolic pathway analysis of major sources of metabolite variation in **(A)** *Brachypodium distachyon* (Bd), **(B)** *B. stacei* (Bs) and **(C)** *B. hybridum* (BdBs) embryos.



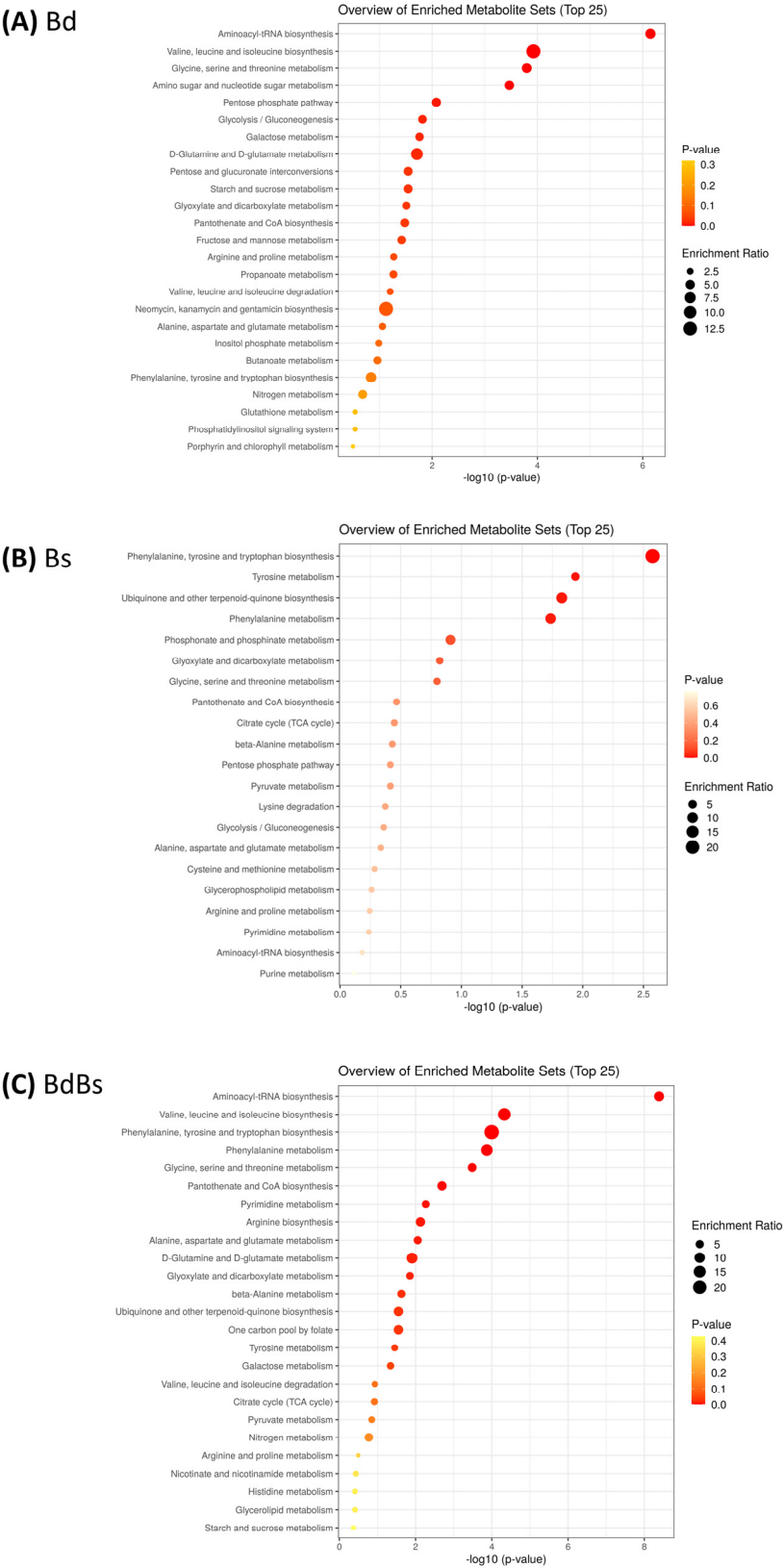
**Figure S2.** Discriminatory bioenergy metabolites detected in *Brachypodium* embryos during germination. Metabolites are arranged in accordance with the KEGG citrate cycle metabolism map ([https://www.genome.jp/kegg-bin/show\\_pathway?map00020](https://www.genome.jp/kegg-bin/show_pathway?map00020), access date, 28 February 2021). Data show box and whisker comparison of *B. distachyon* Bd21 (Bd), *B. stacei* ABR114 (Bs) and *B. hybridum* ABR113 (BdBs) at 4, 12 and 24 hours after imbibition (HAI).



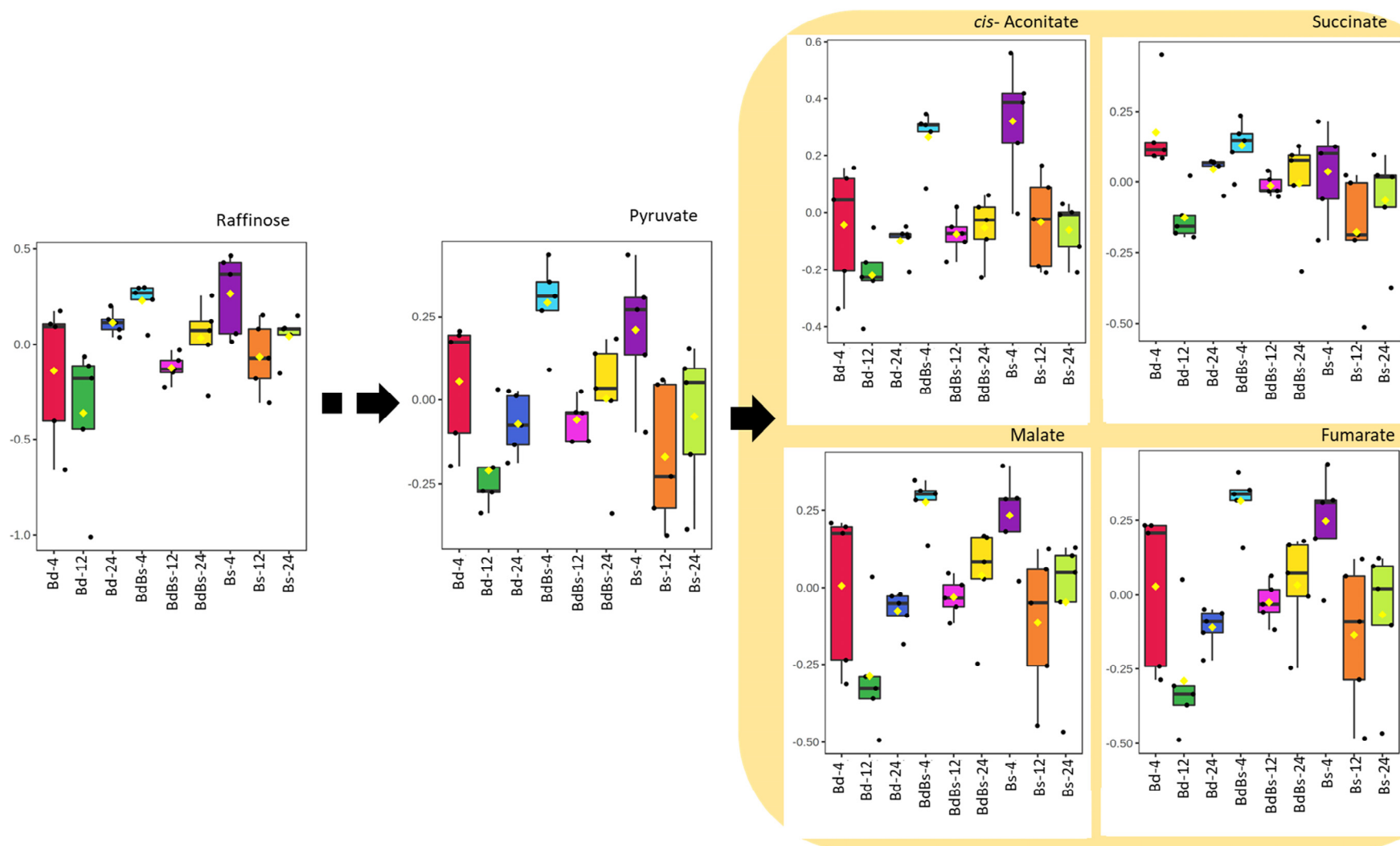
**Figure S3.** Reduced (GSH) and oxidised (GSSG) glutathione levels in *Brachypodium* embryos during germination. Data show box and whisker comparison of *B. distachyon* Bd21 (Bd), *B. stacei* ABR114 (Bs) and *B. hybridum* ABR113 (BdBs) at 4, 12 and 24 hours after imbibition (HAI). Overall redox status is indicated for each species based on the ratio of GSH to GSSG.



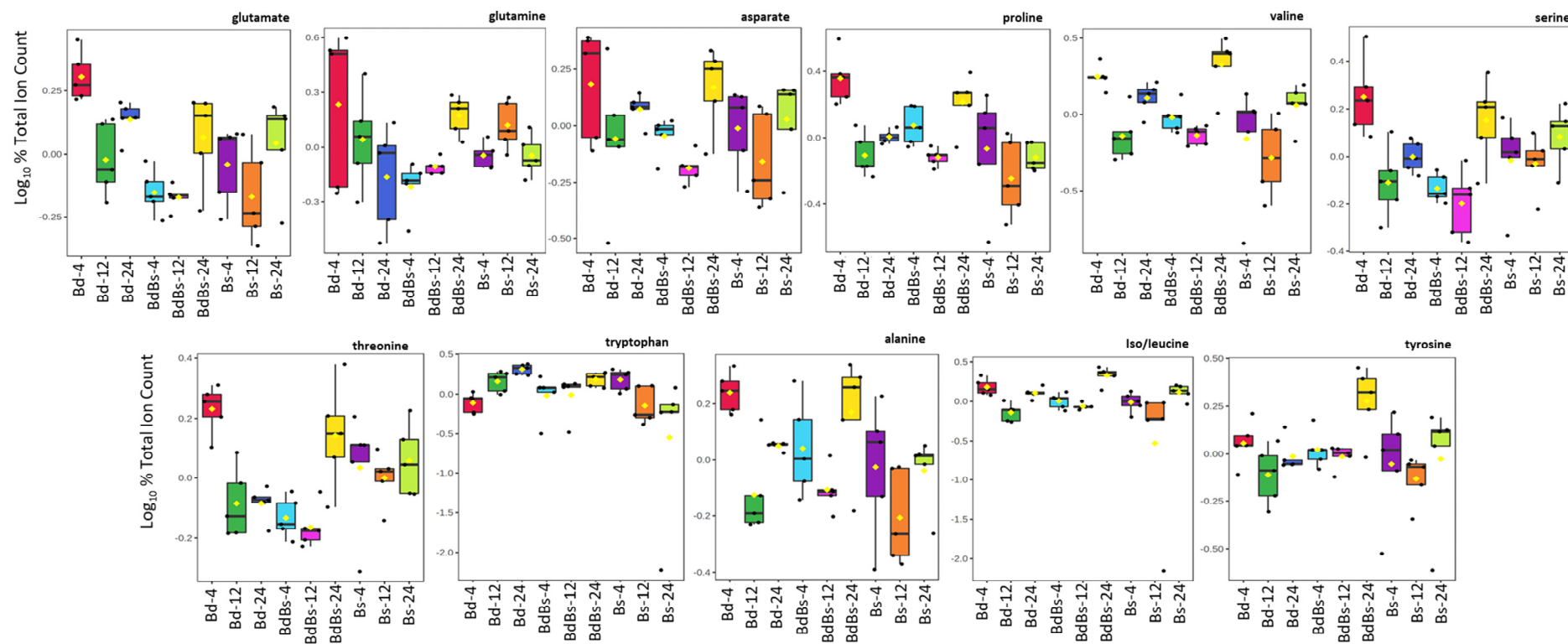
**Figure S4.** Discriminatory amino acid metabolites detected in *Brachypodium* embryos during germination. Data show box and whisker comparison of *B. distachyon* Bd21 (Bd), *B. stacei* ABR114 (Bs) and *B. hybridum* ABR113 (BdBs) at 4, 12 and 24 hours after imbibition (HAI).



**Figure S5.** Pathway enrichment metabolic pathway analysis of major sources of metabolite variation in **(A)** *Brachypodium distachyon* (Bd), **(B)** *B. stacei* (Bs) and **(C)** *B. hybridum* (BdBs) endosperms.



**Figure S6.** Discriminatory bioenergy metabolites detected in *Brachypodium* endosperm during germination. Metabolites are arranged in accordance with the KEGG citrate cycle metabolism map ([https://www.genome.jp/kegg-bin/show\\_pathway?map00020](https://www.genome.jp/kegg-bin/show_pathway?map00020), access date, 28 February 2021). Data show box and whisker comparison of *B. distachyon* Bd21 (Bd), *B. stacei* ABR114 (Bs) and *B. hybridum* ABR113 (BdBs) at 4, 12 and 24 hours after imbibition (HAI).



**Figure S7.** Discriminatory amino acid metabolites detected in *Brachypodium* embryos during germination. Data show box and whisker comparison of *B. distachyon* Bd21 (Bd), *B. stacei* ABR114 (Bs) and *B. hybridum* ABR113 (BdBs) at 4, 12 and 24 hours after imbibition (HAI).