Bacillus velezensis 5113 Induced Metabolic and Molecular Reprogramming during Abiotic Stress Tolerance in Wheat.

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Supplementary Figures

Fig. S1: Effect of abiotic stress factors (heat, cold and drought) on the plant ascorbate-glutathione redox cycle in the leaves of 5113-treated wheat seedlings.

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Fig. S5: Typical two-dimensional gel profiles of proteins from wheat leaves after bacterial inoculation with 5113 and abiotic stress treatment (drought stress).

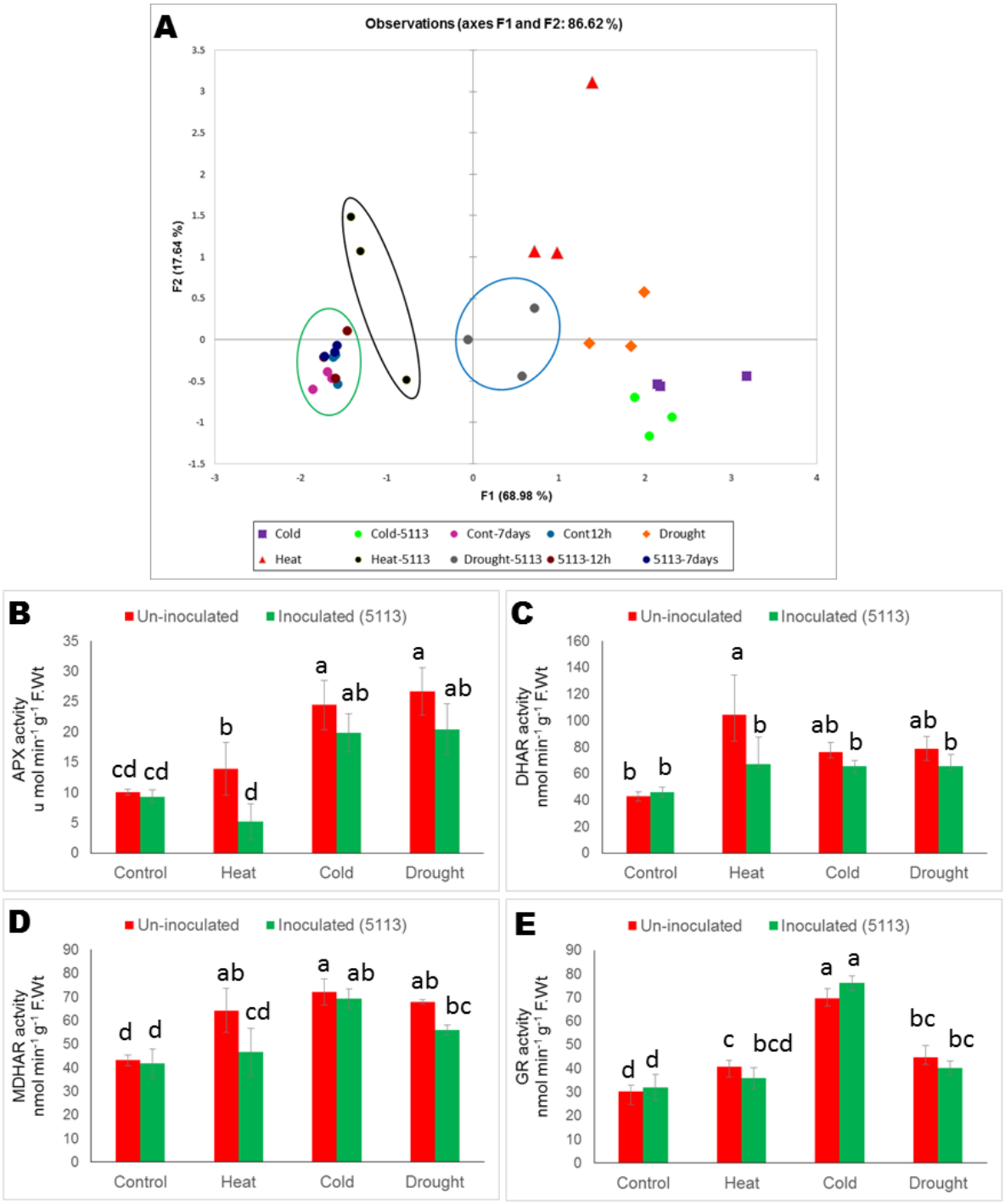

Fig. S1: Effect of abiotic stress factors (heat, cold and drought) on the plant ascorbate-glutathione redox cycle in the leaves of 5113-treated wheat seedlings. **A.** PCA analysis for the activities of the enzymes APX **(B)**, DHAR **(C)**, MDHAR **(D)** and GR **(E)**. Bars indicate standard deviation between 3 replicates. Treatments labelled with identical letters are not significant at $p<0.05$

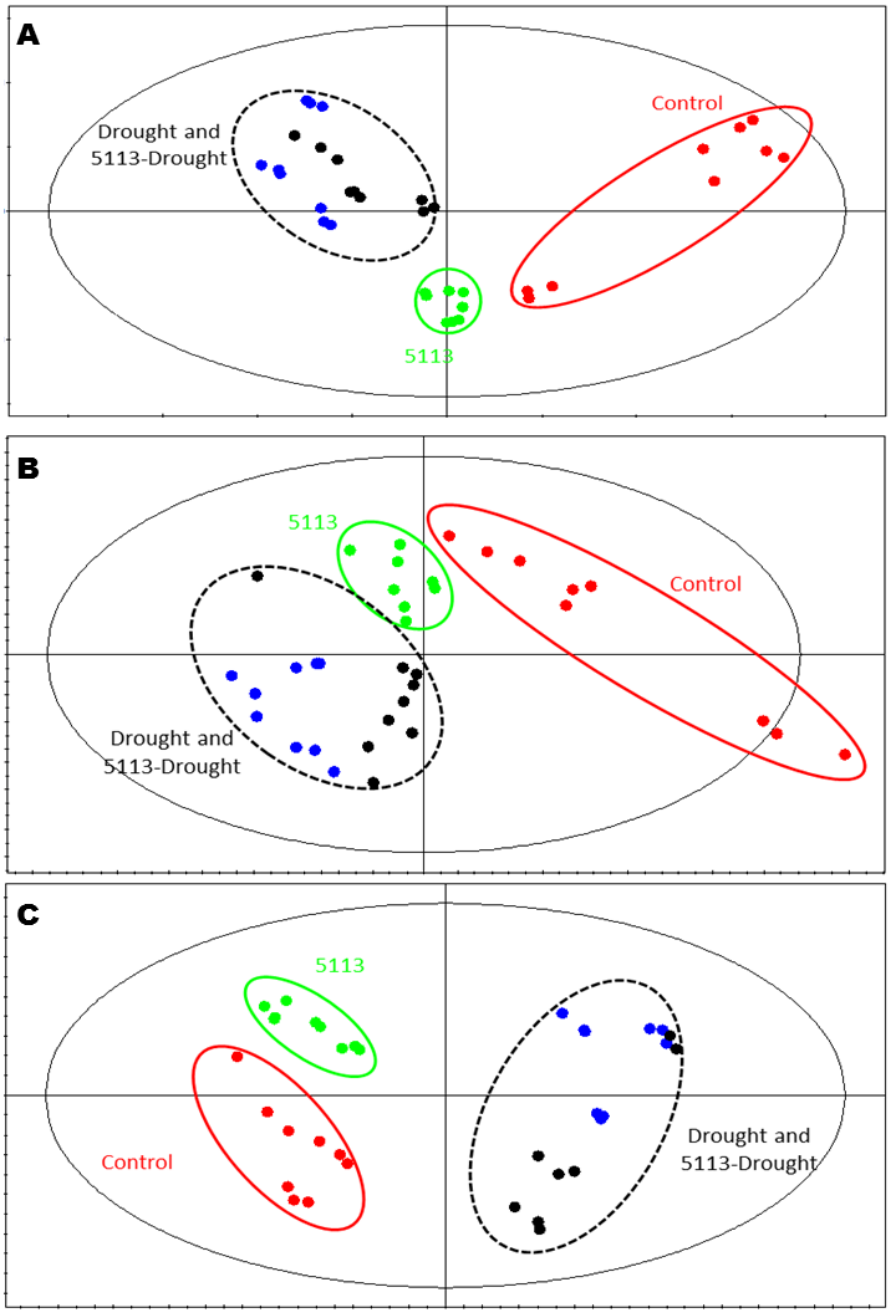

Fig. S2: Principle Component Analysis (PCA) of metabolome effects of 5113 treatment and 7 days without water (drought stress). Plant samples represented untreated plants (red dots); 5113-treated (green dots), drought stress (blue dots); or drought-stressed and 5113-treated leaves (black dots). Analysis was based on positive mode ESI-MS **(A)**; negative mode ESI-MS **(B)** and NMR **(C)**. All treatments in these analyses were represented by 9 data points (three biological samples and three technical repeats)

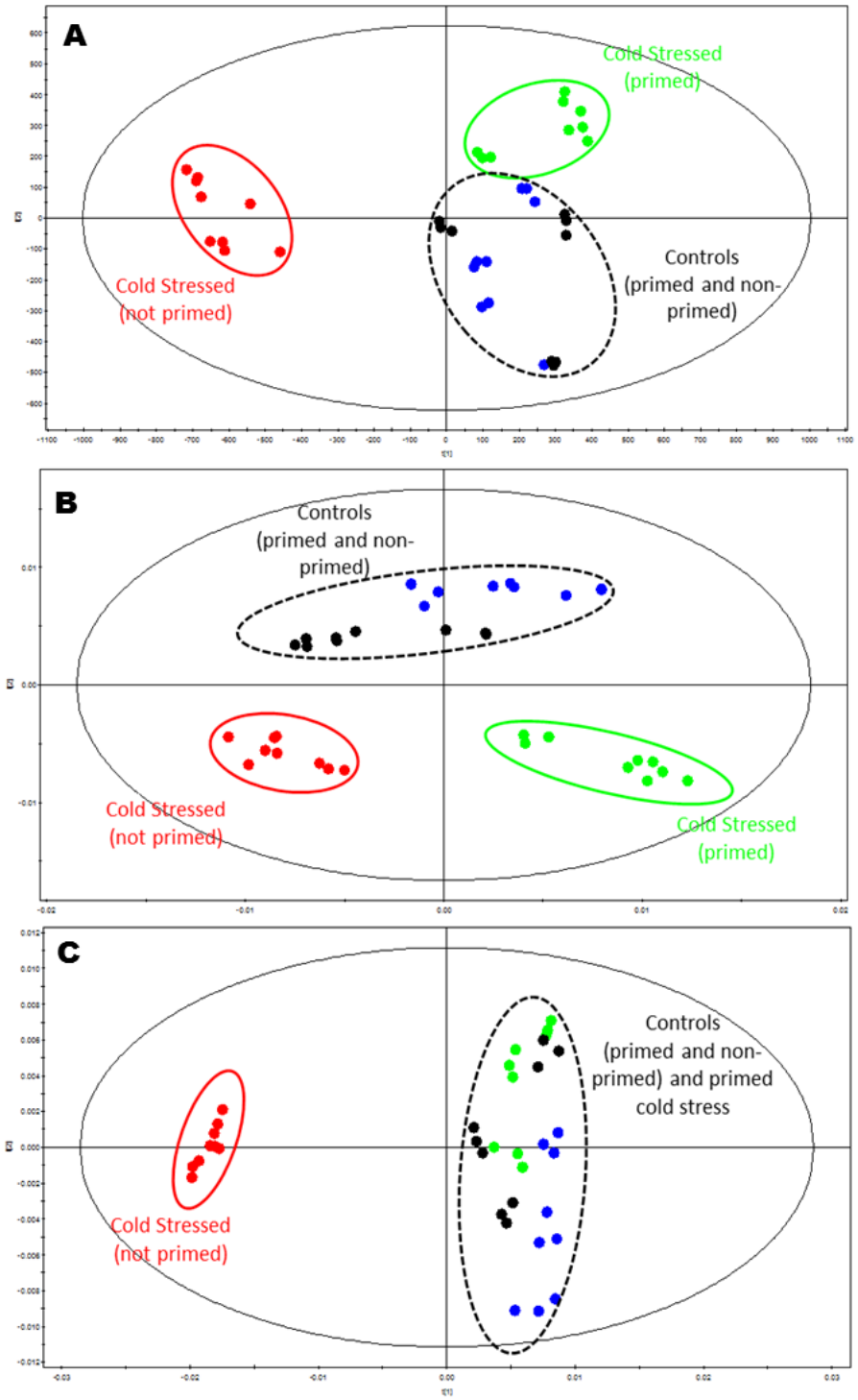

Fig. S3: Principle Component Analysis (PCA) of metabolome effects of 5113 treatment and cold stress as 12 h at -5 ºC. Plant samples represented untreated plants (red dots); 5113-treated (green dots), cold stress (blue dots); or cold-stressed and 5113-treated leaves (black dots). Analysis was based on positive mode ESI-MS **(A)**; negative mode ESI-MS **(B)** and NMR **(C)**. All treatments in these analyses were represented by 9 data points (three biological samples and three technical repeats)

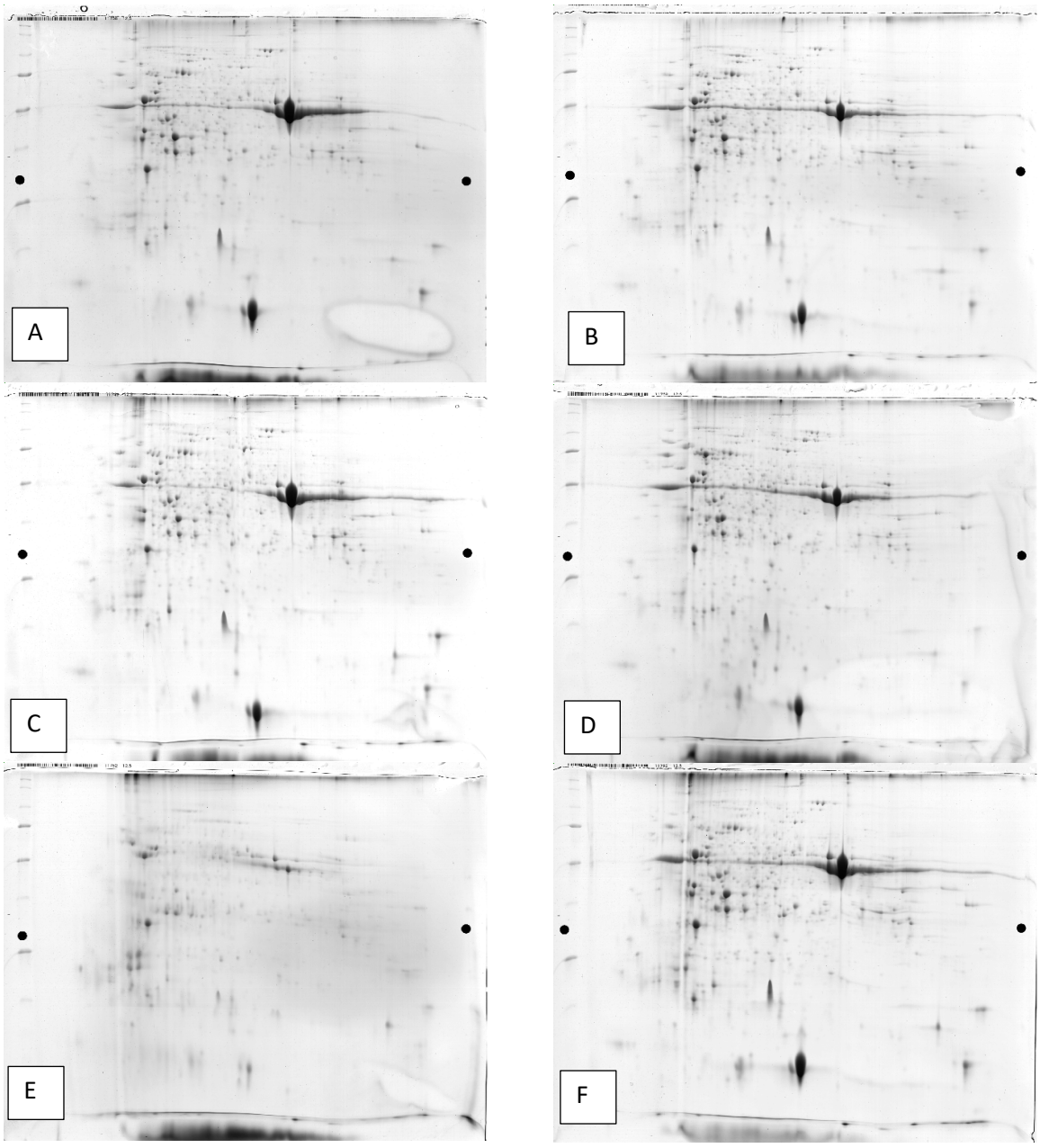

Fig. S4: Typical (un-processed) two-dimensional gel profiles of protein from wheat leaves after bacterial inoculation with 5113 and abiotic stress treatments (heat and cold). **A:** Control, **B:** Control inoculated, **C:** Heat-stressed (12h at 45ºC), **D:** Heat-stressed inoculated (12h at 45ºC), **E:** Cold-stressed (12h at -5ºC), **F:** Cold-stressed inoculated (12h at -5ºC).

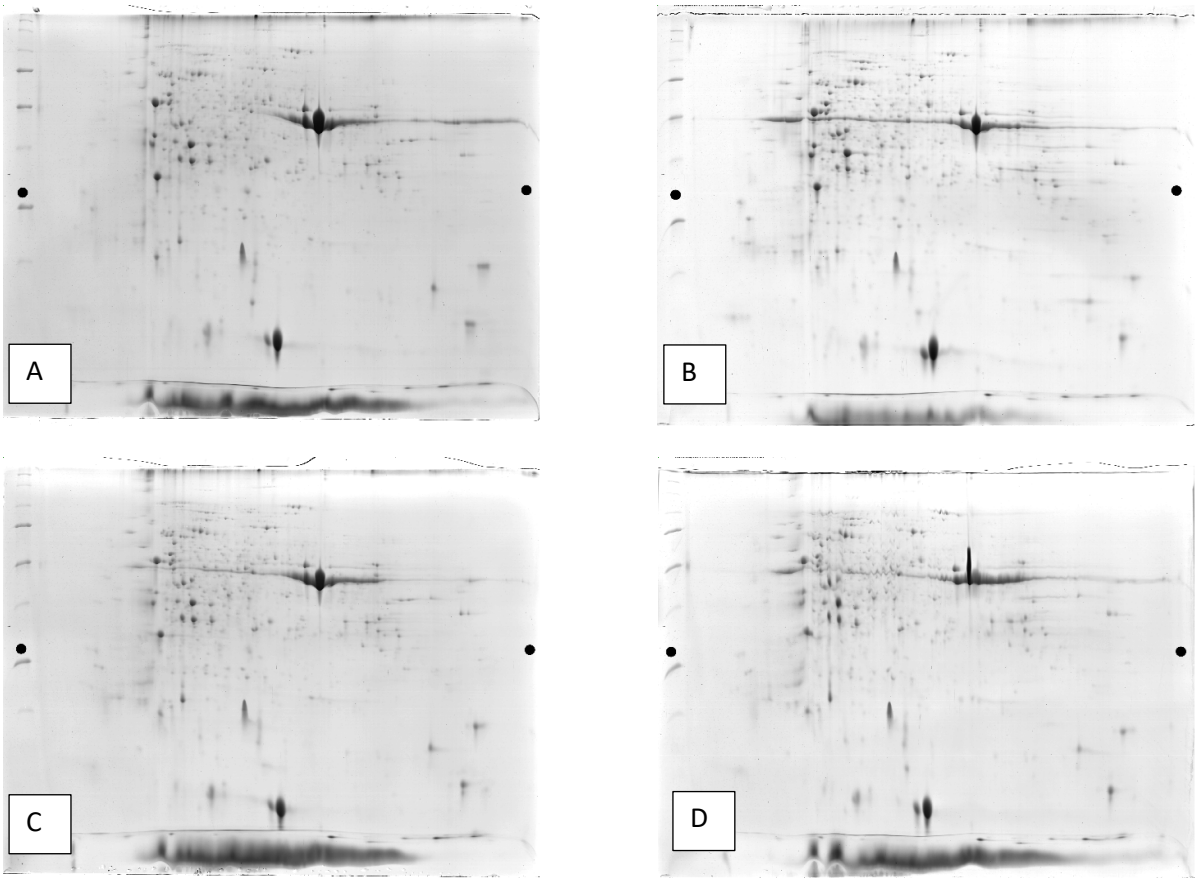

Fig. S5: Typical (un-processed) two-dimensional gel profiles of proteins from wheat leaves after bacterial inoculation with 5113 and drought stress **A:** Control, **B:** Control inoculated, **C:** Drought-stressed (7 days without water) and **D:** Drought-stressed inoculated (7 days without water).