

**Figure S1:** Effect of different concentrations of MGS1 exposure on A) growth and B) storage root and C) storage root fresh weight of *I. batatas*. Results are expressed as mean of triplicates ± SD. \*\**P* < 0.01, and \*\*\**P* < 0.001.



**Figure S2**: Effect of different MGS – 1 on amino acid profiling. Results are expressed as the means of three replicates ± SD and the asterisks indicate the significance at \**P* < 0.05, \*\**P* < 0.01, and \*\*\**P* < 0.001 compared to the control according to the independent samples t test.



**Figure S3**: Box-Whisker plot for the significantly different amino acids for the different exposure of MGS – 1. The significantly different amino acids obtained from ANOVA and post-hoc analysis.