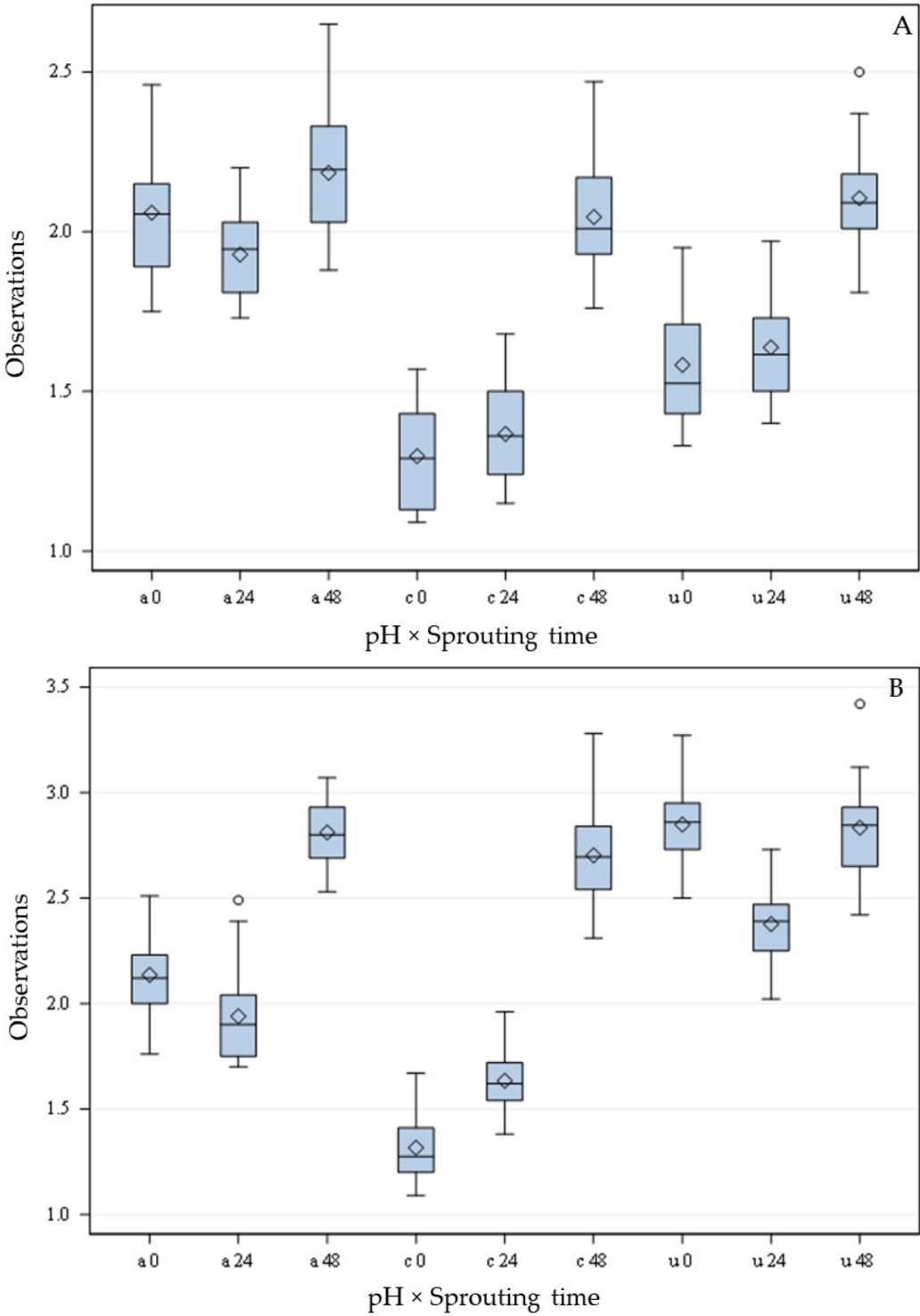


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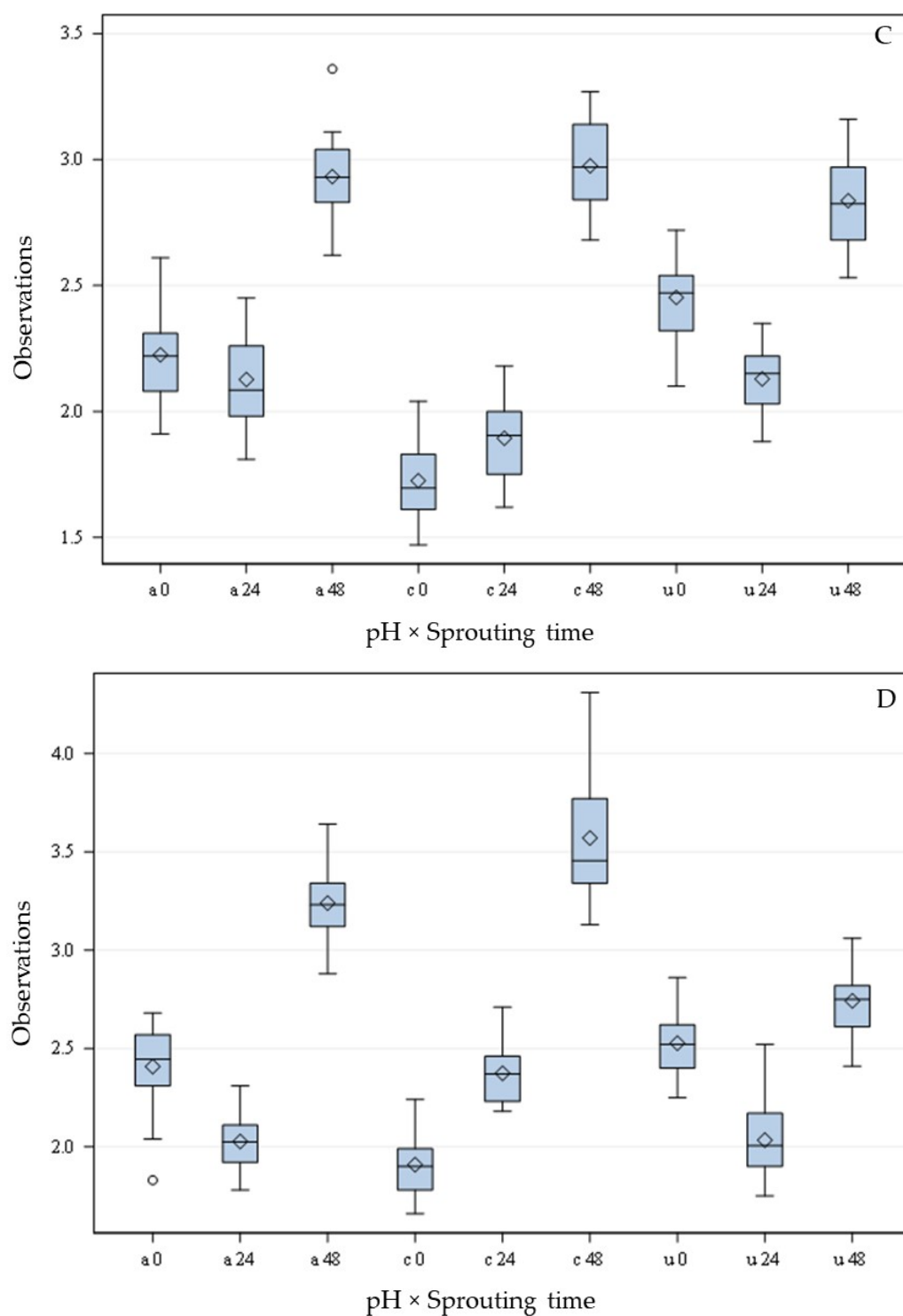
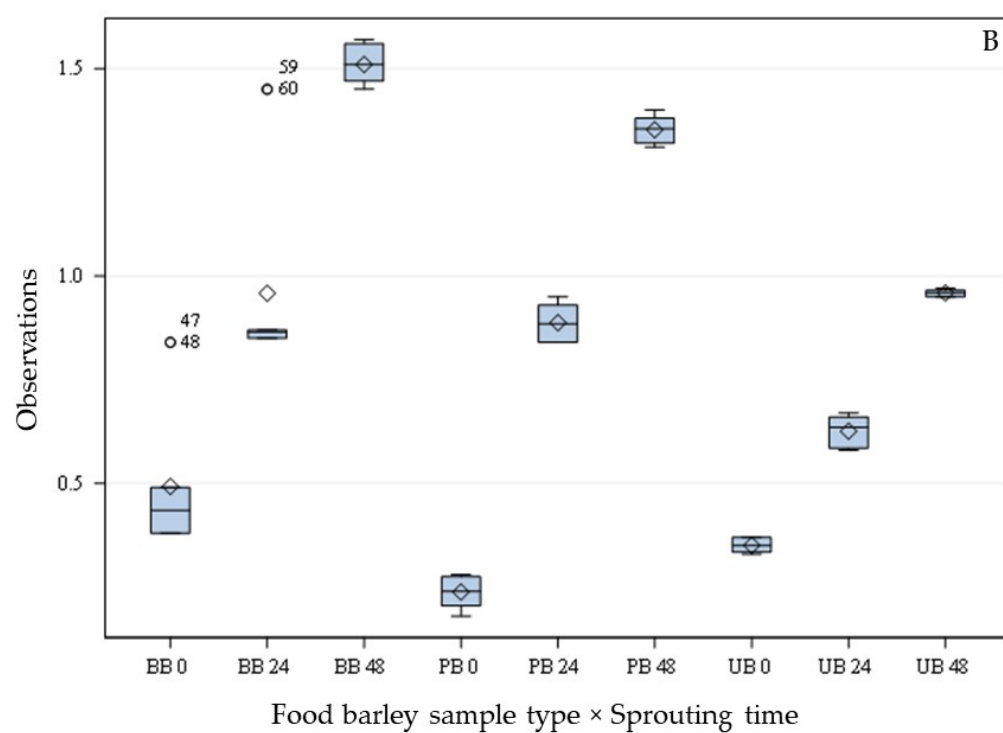
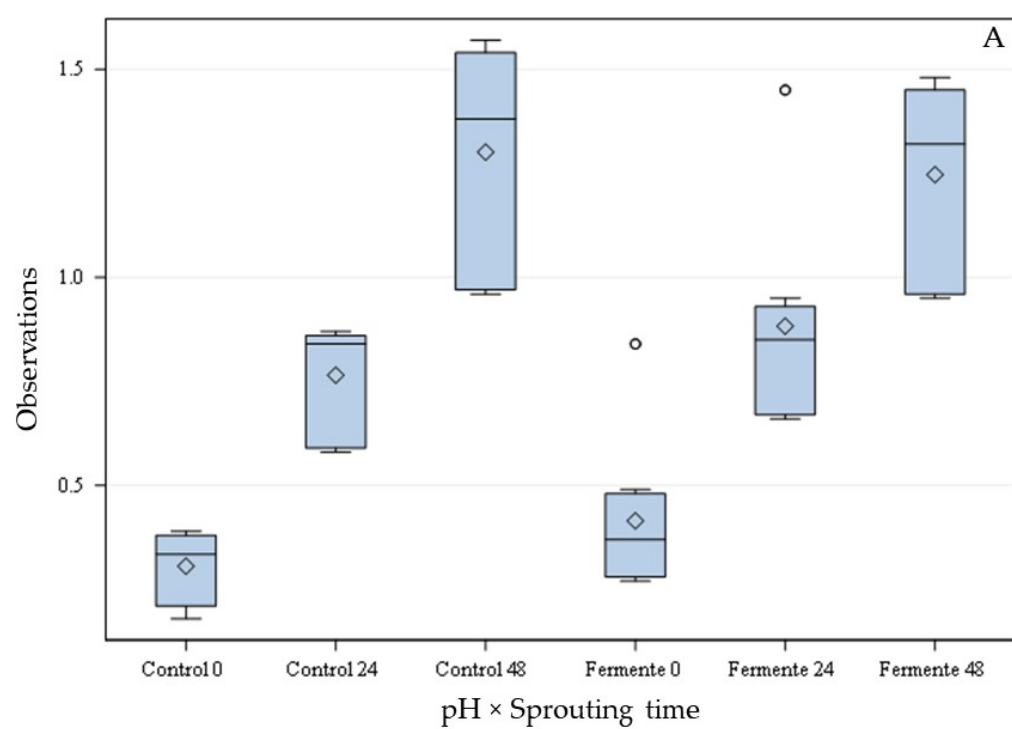
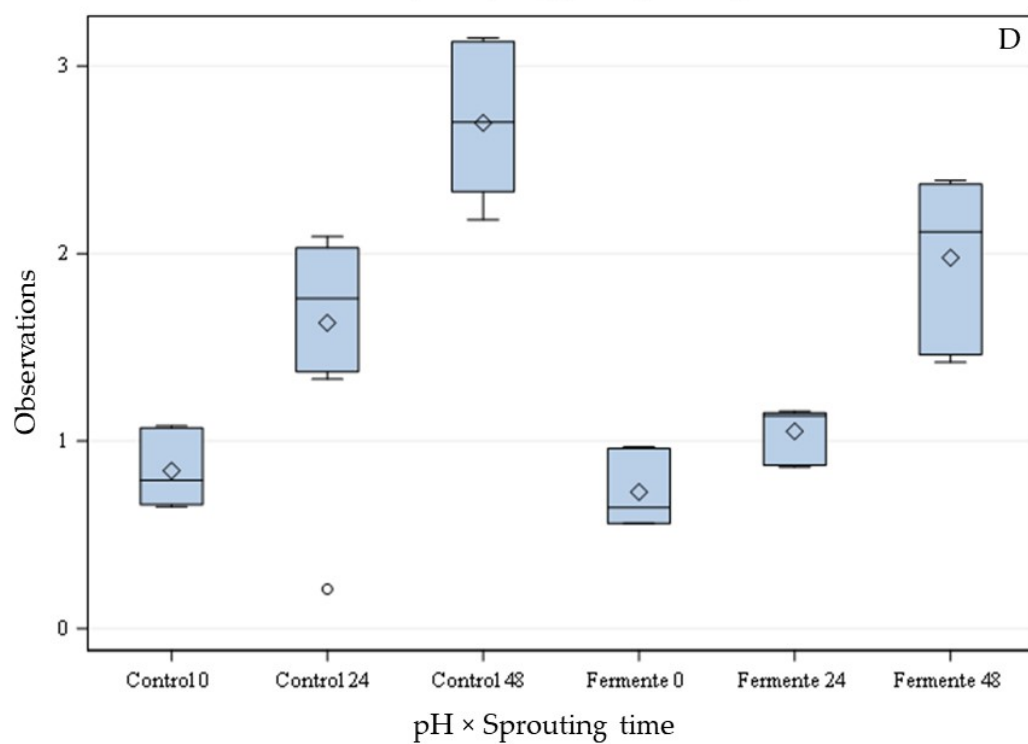
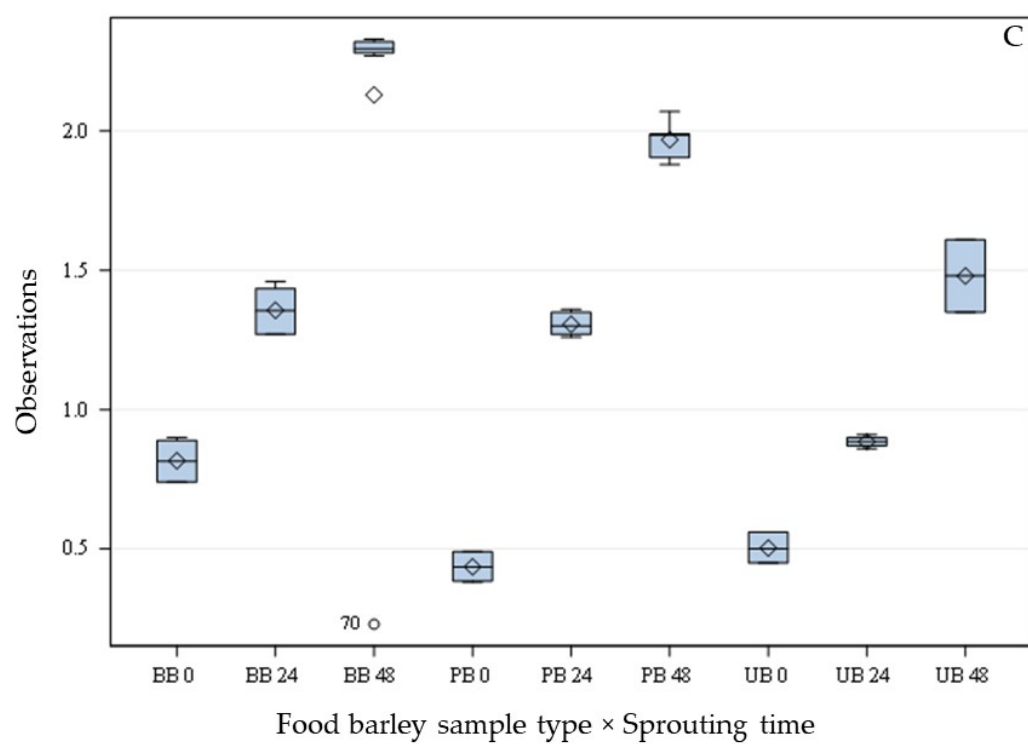


Figure S1. Box-plots showing key interaction effects (significant at $p < 0.05$) between independent variables in the total soluble phenolic (TSP) content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.





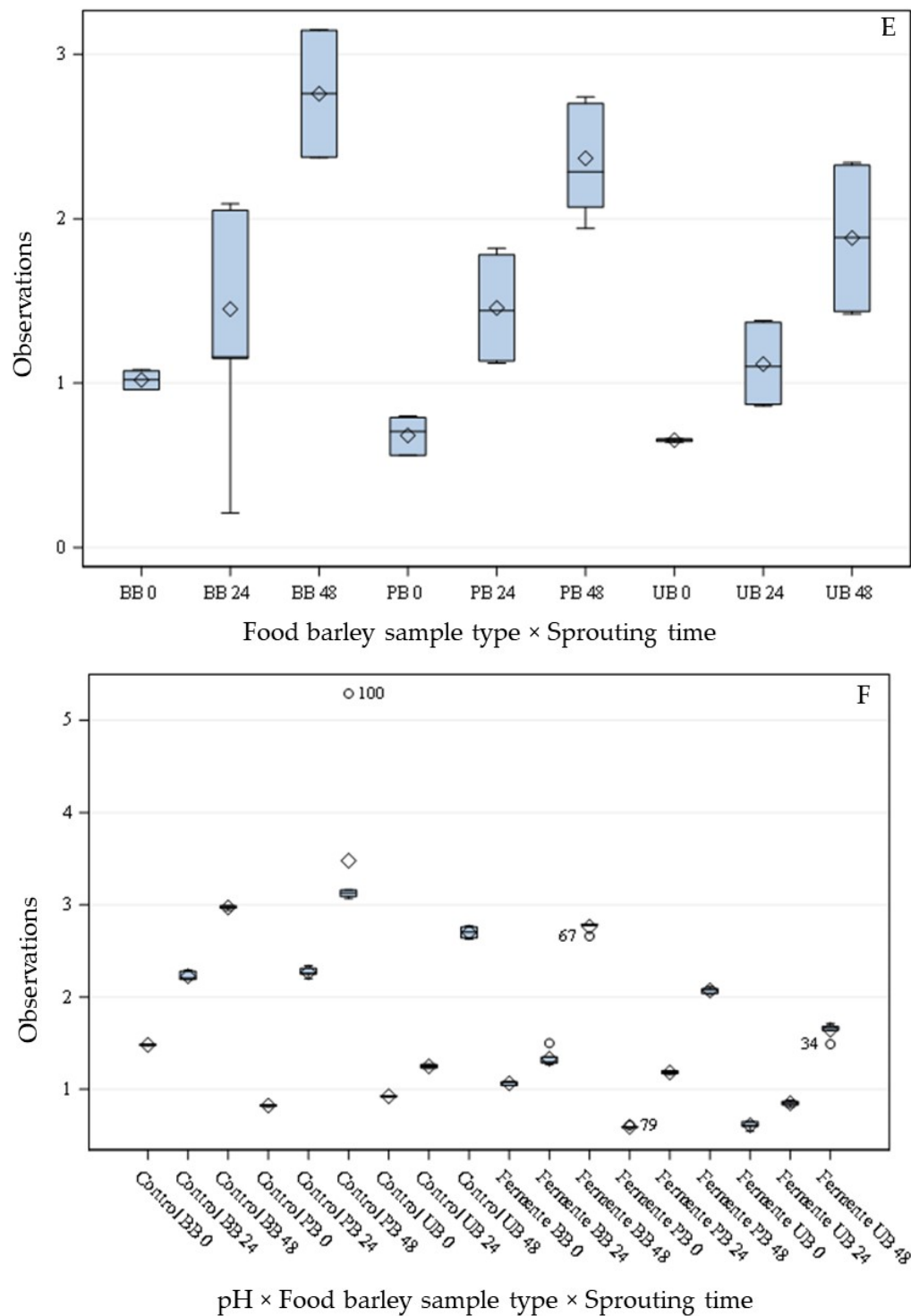


Figure S2. Box-plots showing key interaction effects (significant at $p < 0.05$) between independent variables in the total dihydroxybenzoic acid content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A,B), 24 h (C), 48 h (D,E) and 72 h (F) of fermentation with Kefir culture.

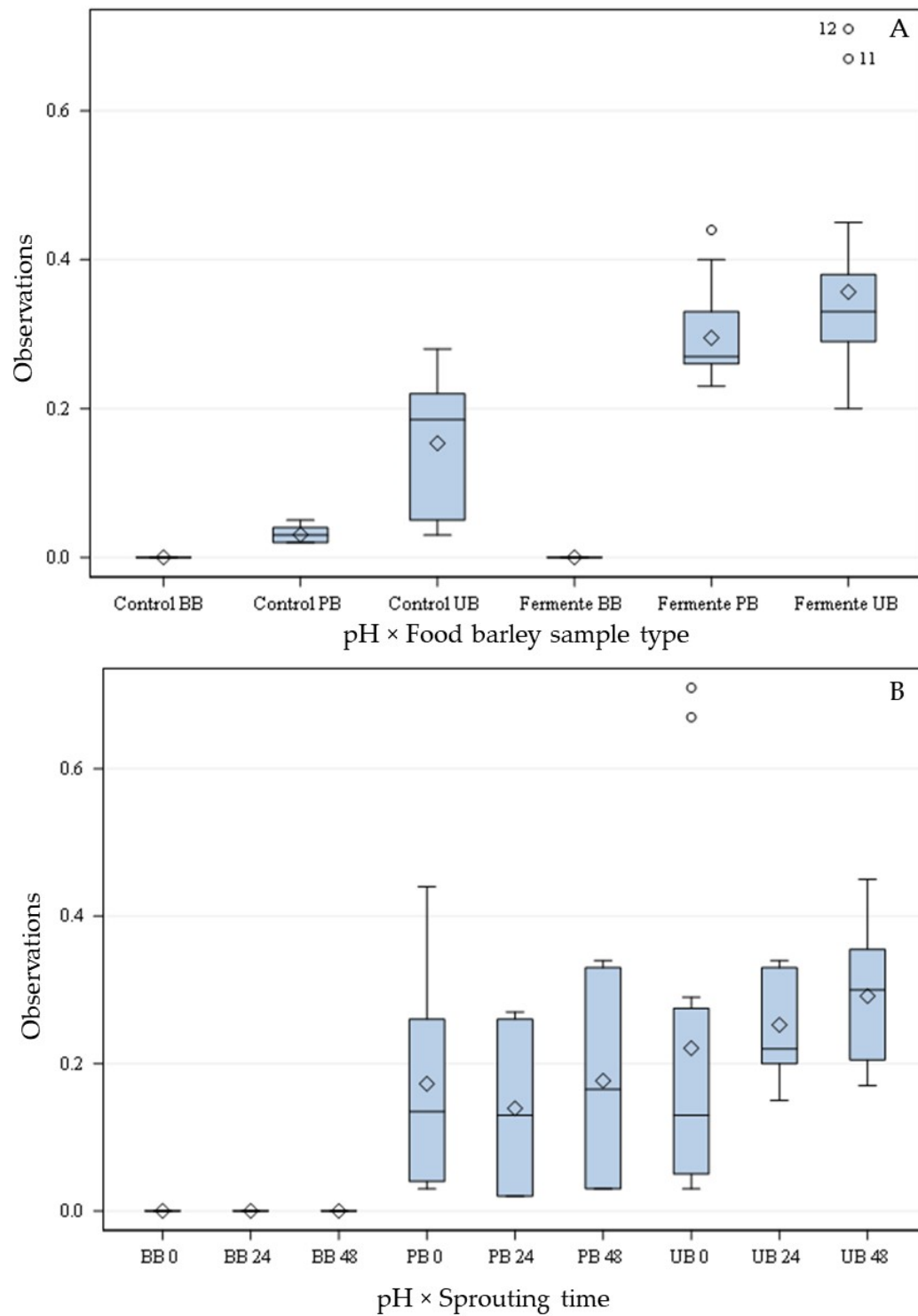
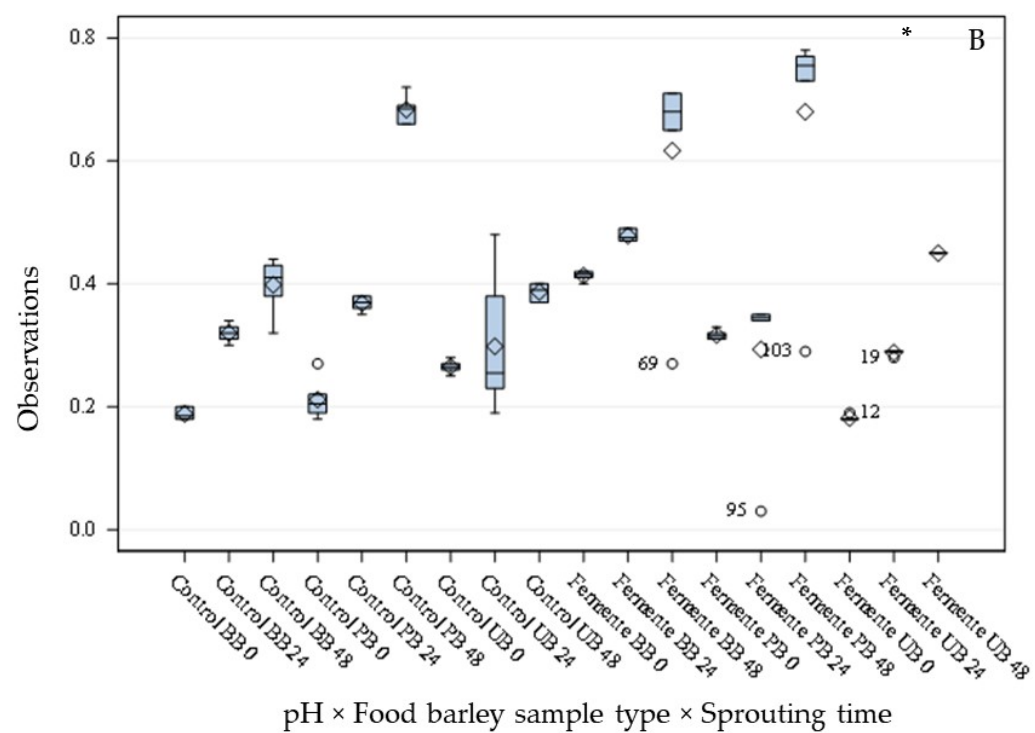
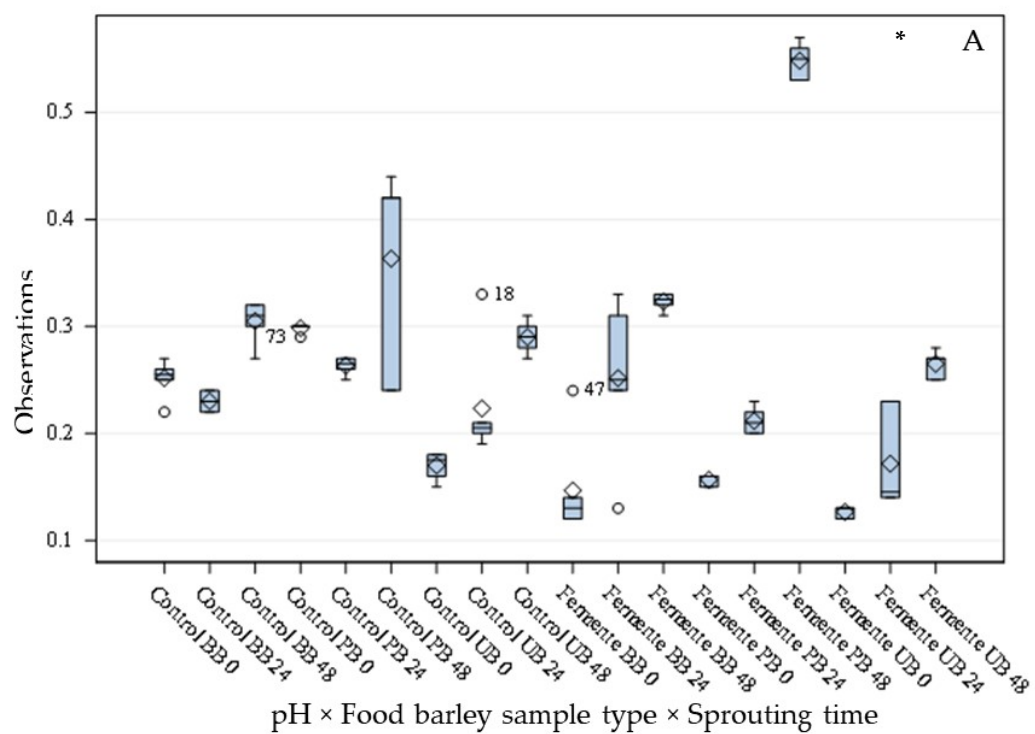


Figure S3. Box-plots showing key interaction effects (significant at $p < 0.001$) between independent variables in the benzoic acid content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A,B) of fermentation with Kefir culture. Interaction effects were not observed at other fermentation time points.



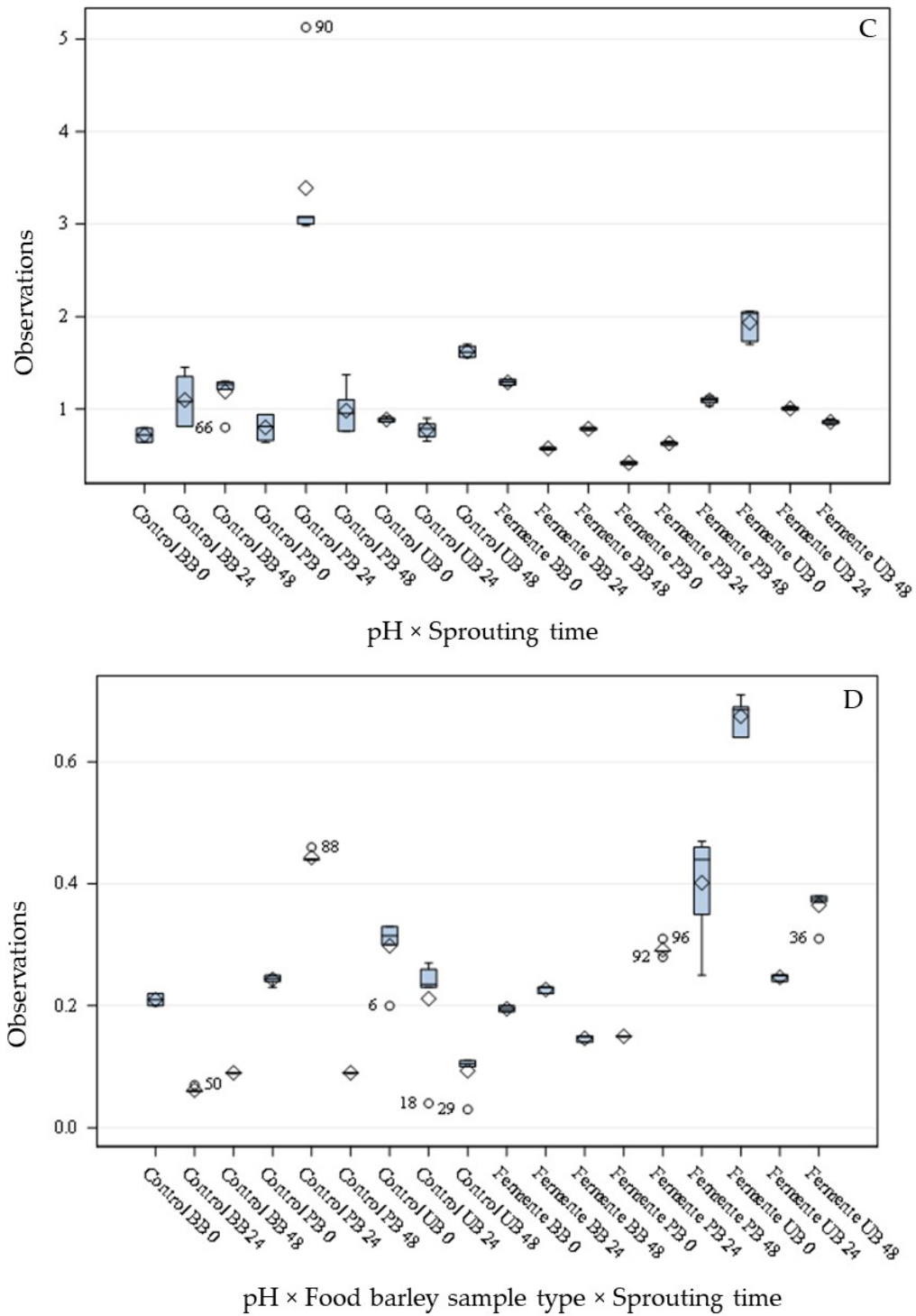
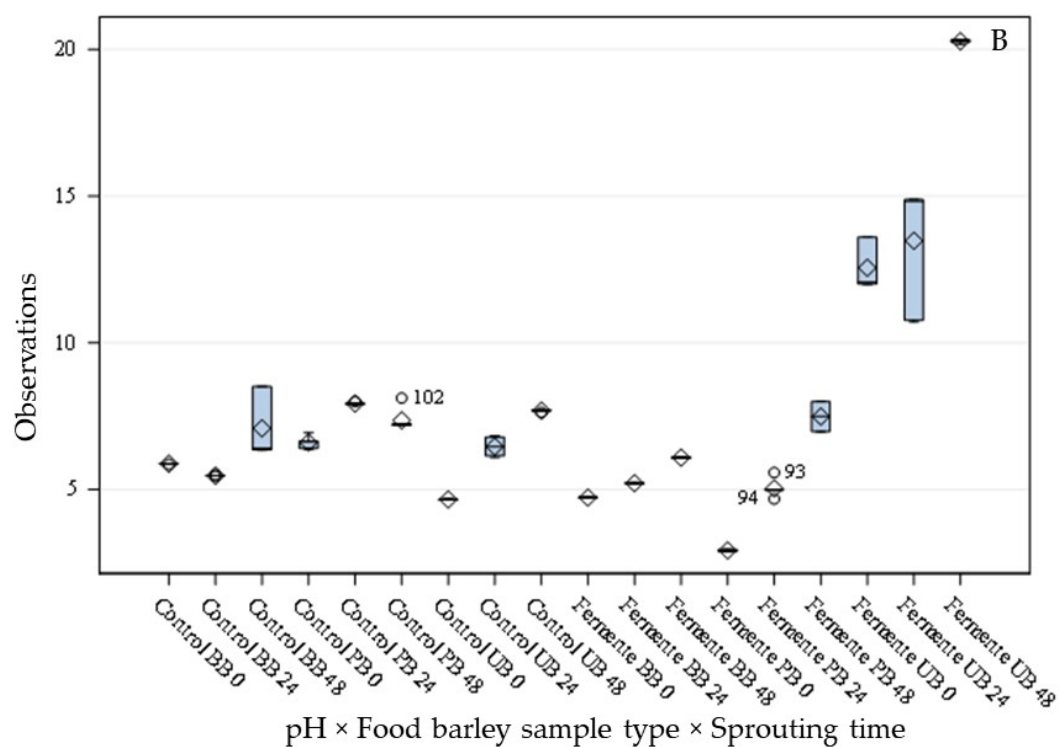
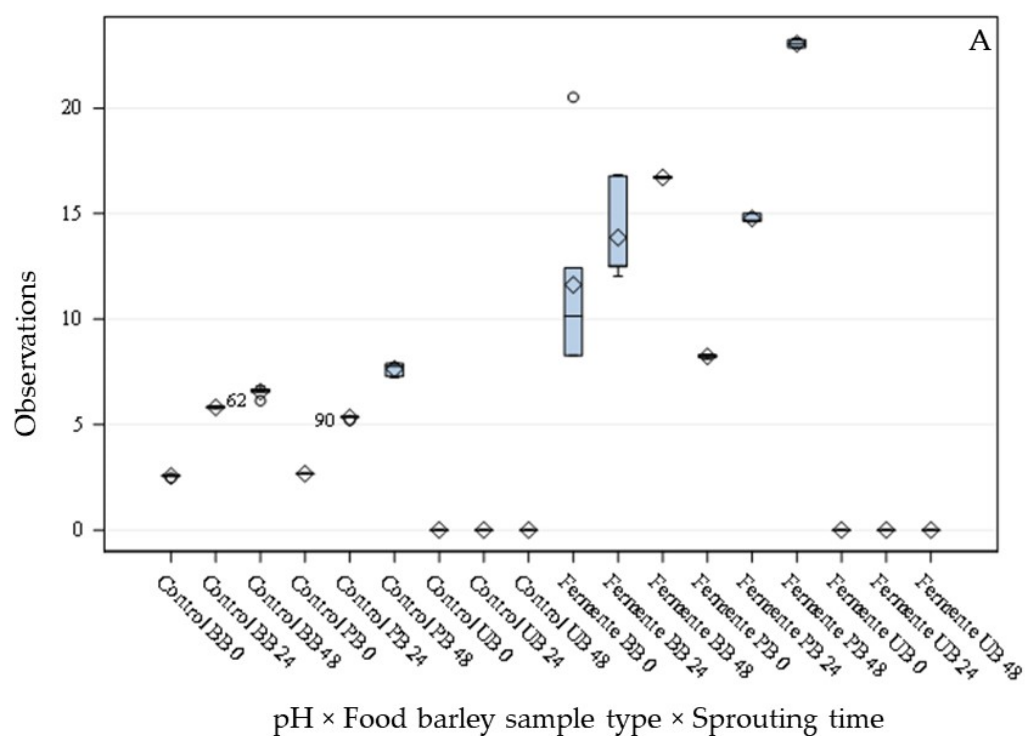


Figure S4. Box-plots showing key interaction effects (significant at $p < 0.05$) between independent variables in the catechin content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture. Interaction effects in box-plots denoted by “ * ” were also significant at $p < 0.001$.



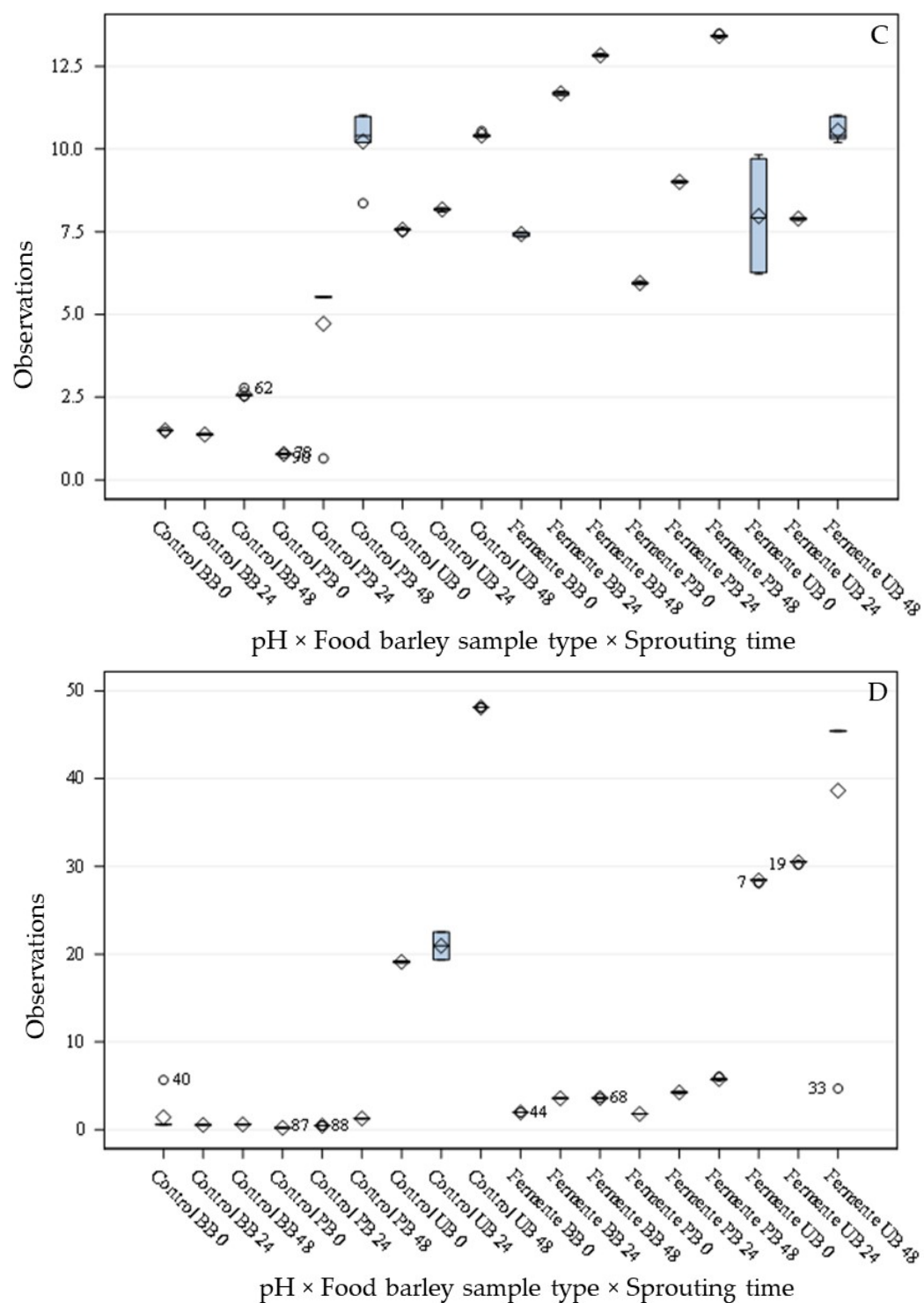
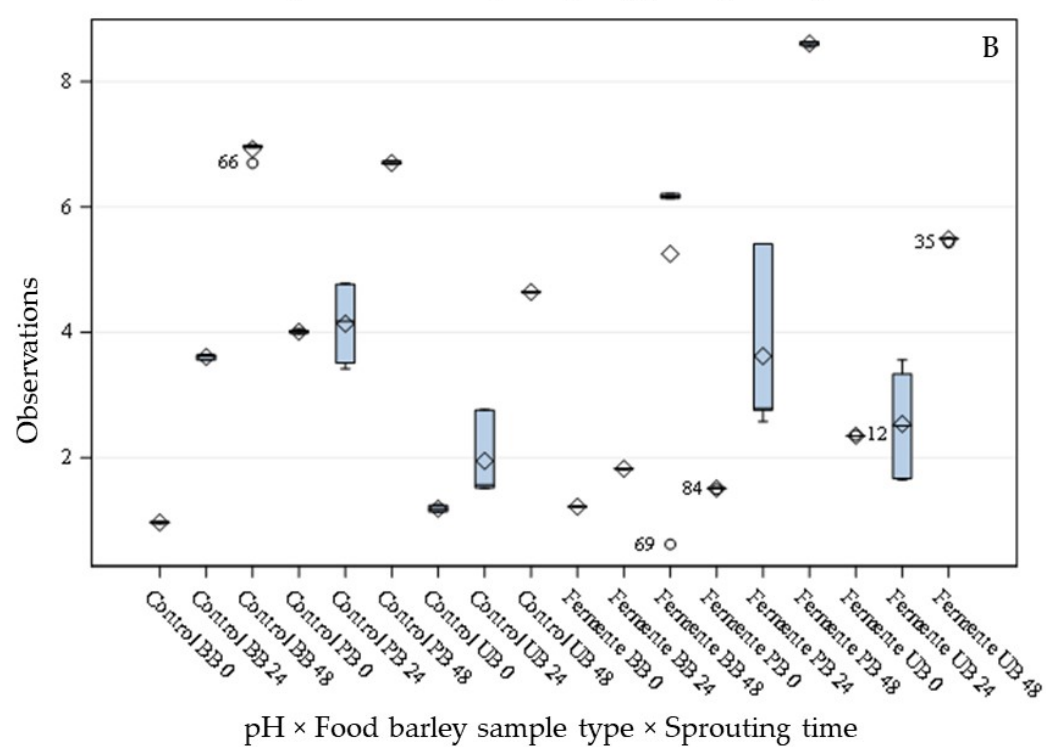
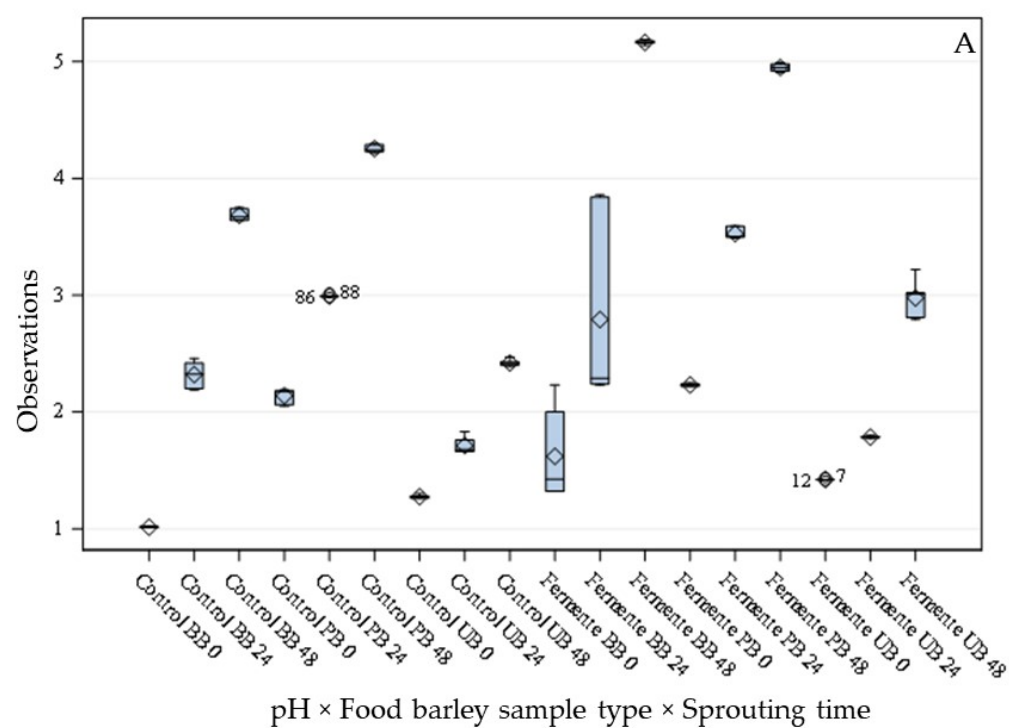


Figure S5. Box-plots showing key interaction effects (significant at $p < 0.05$) between independent variables in the cinnamic acid content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.



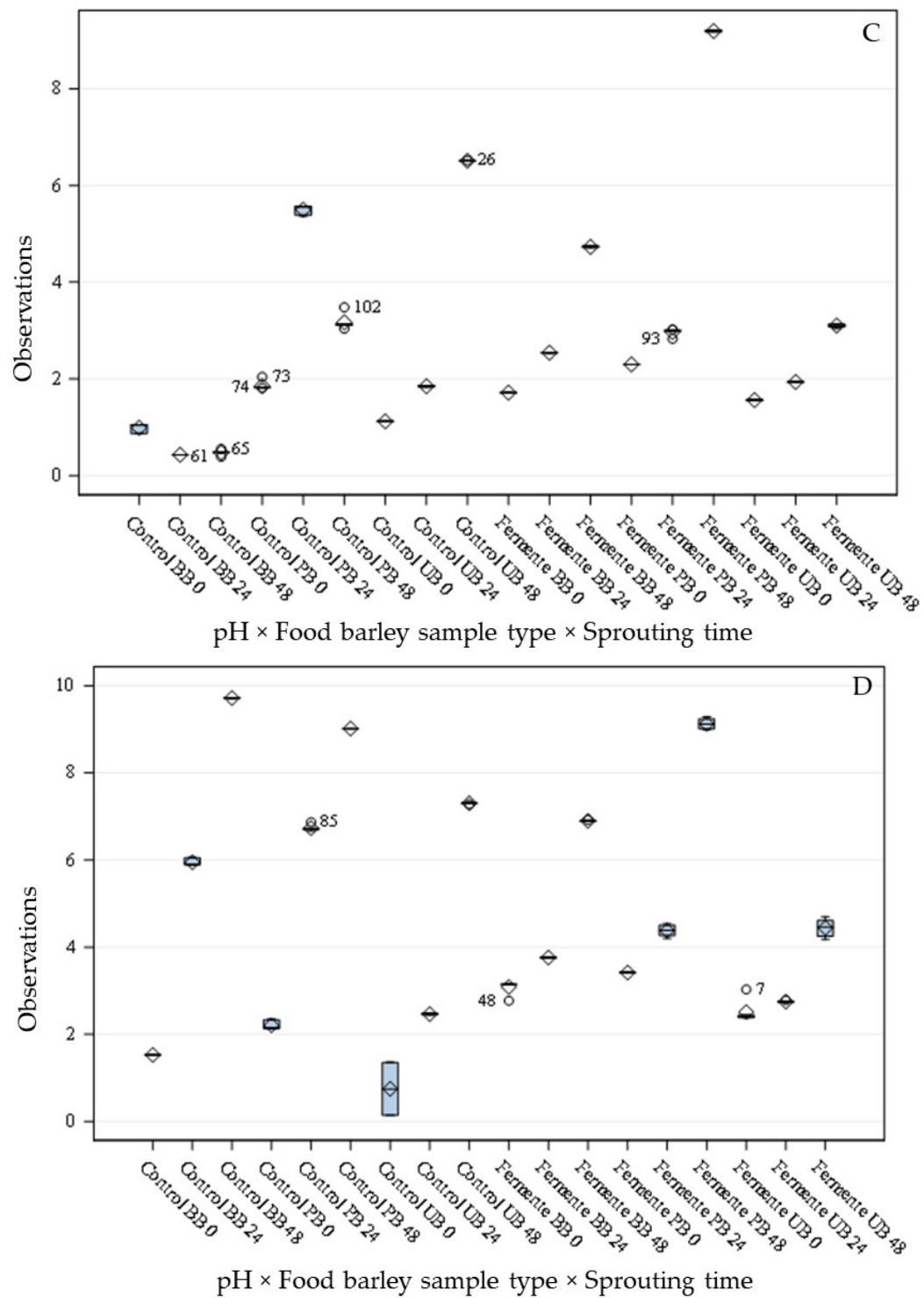
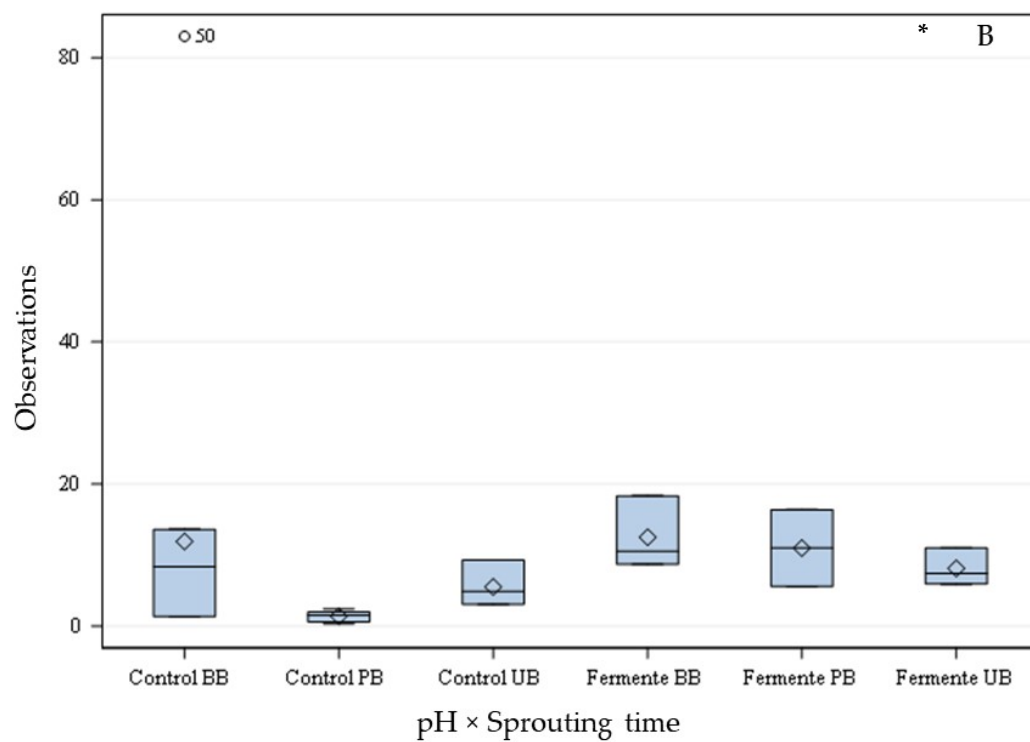
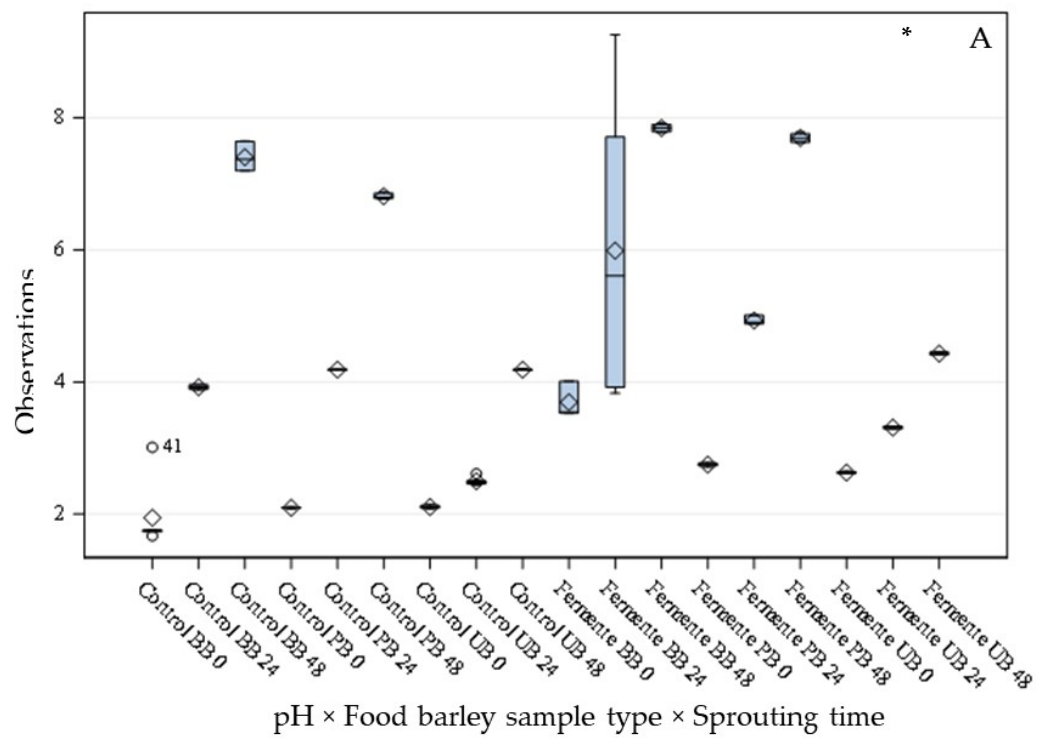
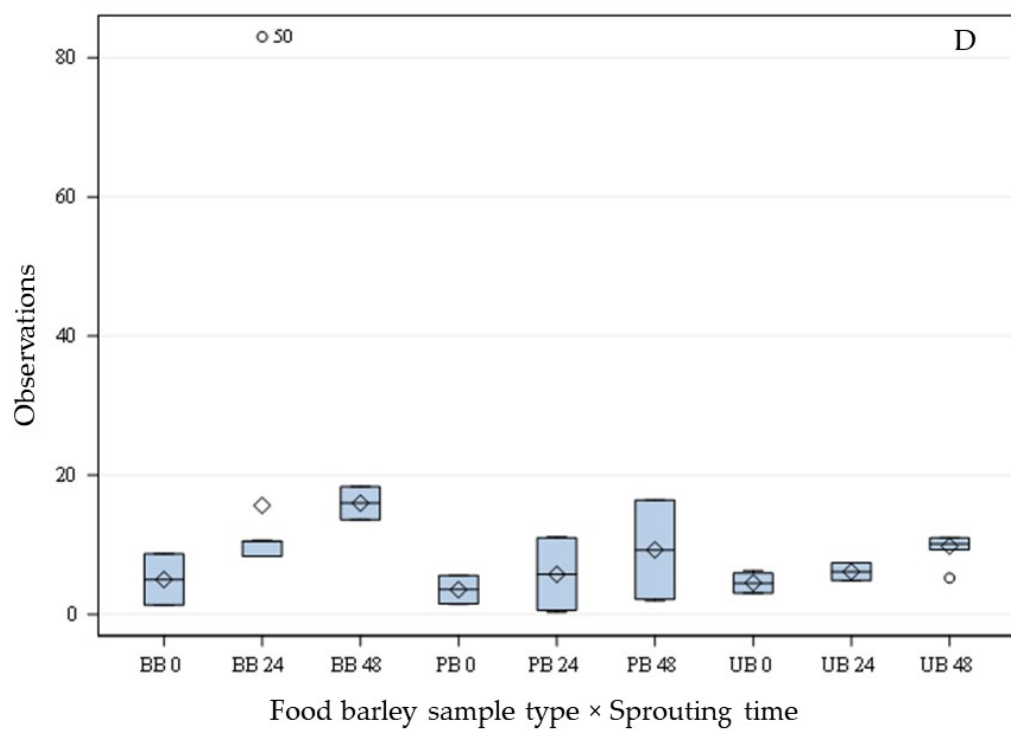
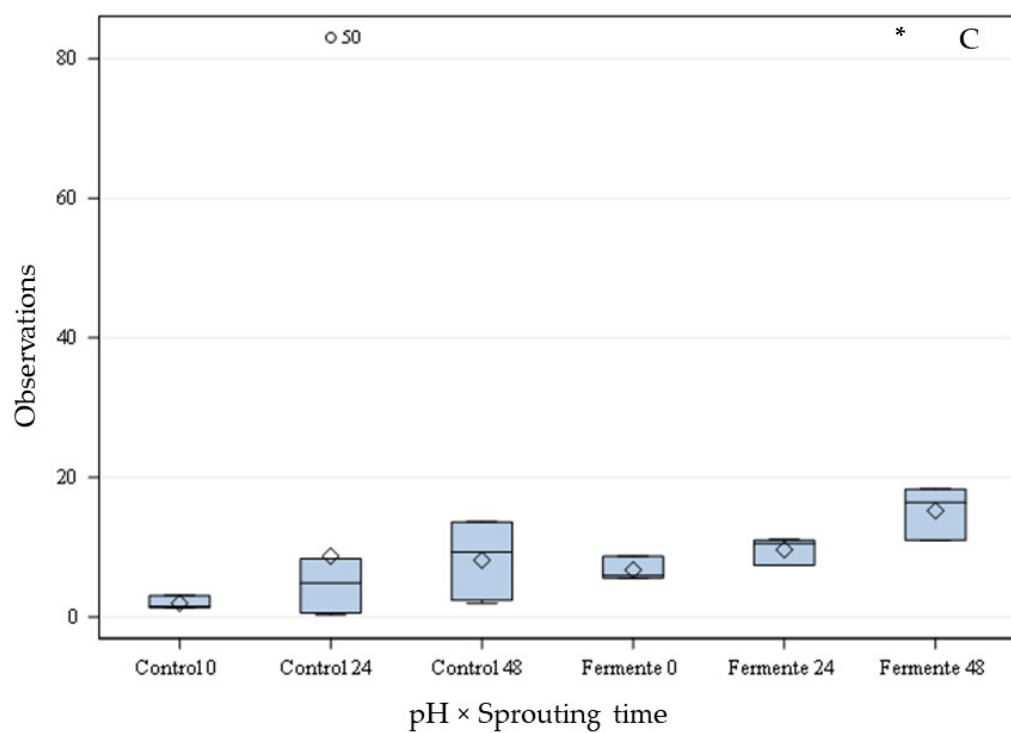


Figure S6. Box-plots showing key interaction effects (significant at $p < 0.05$) between independent variables in gallic acid content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.





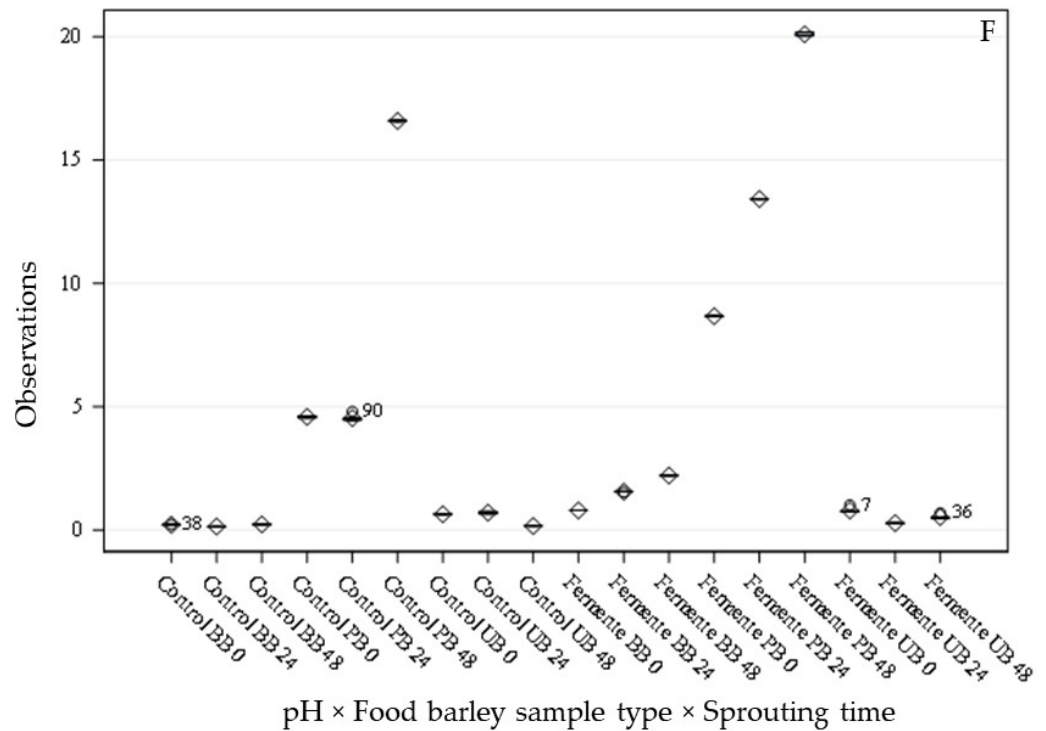
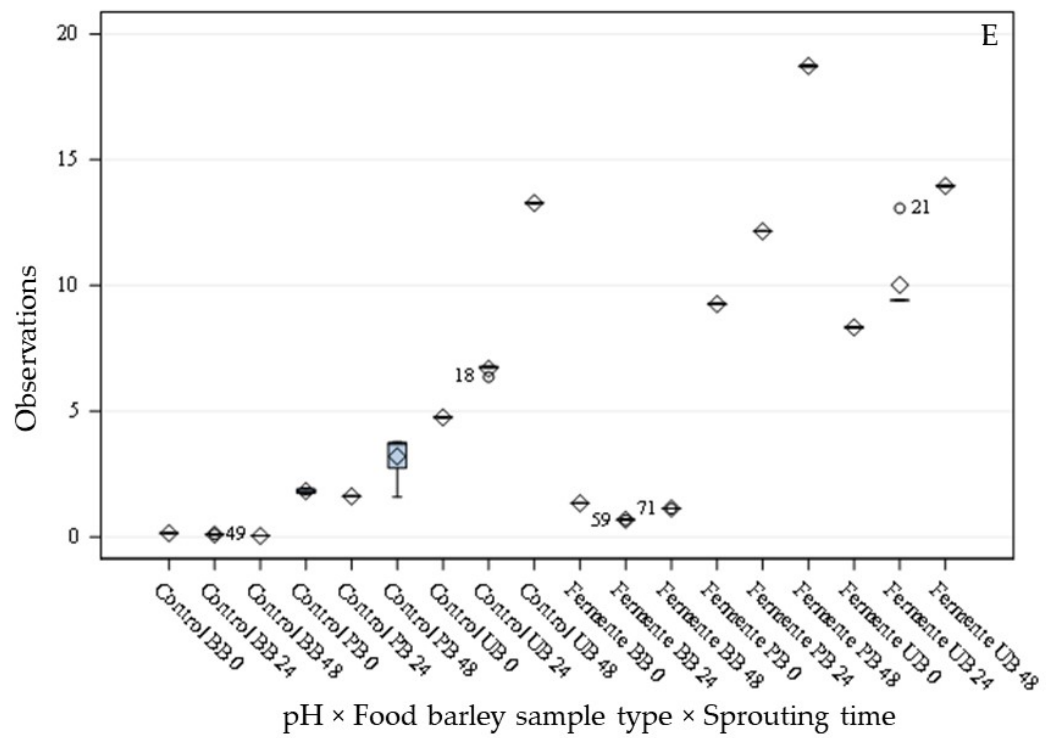
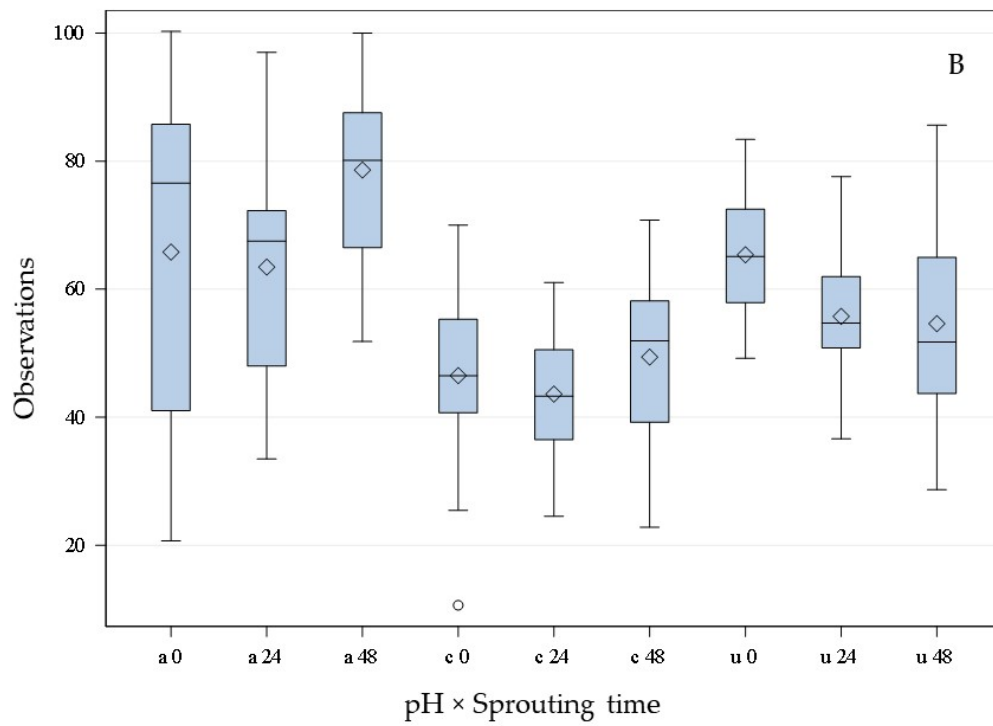
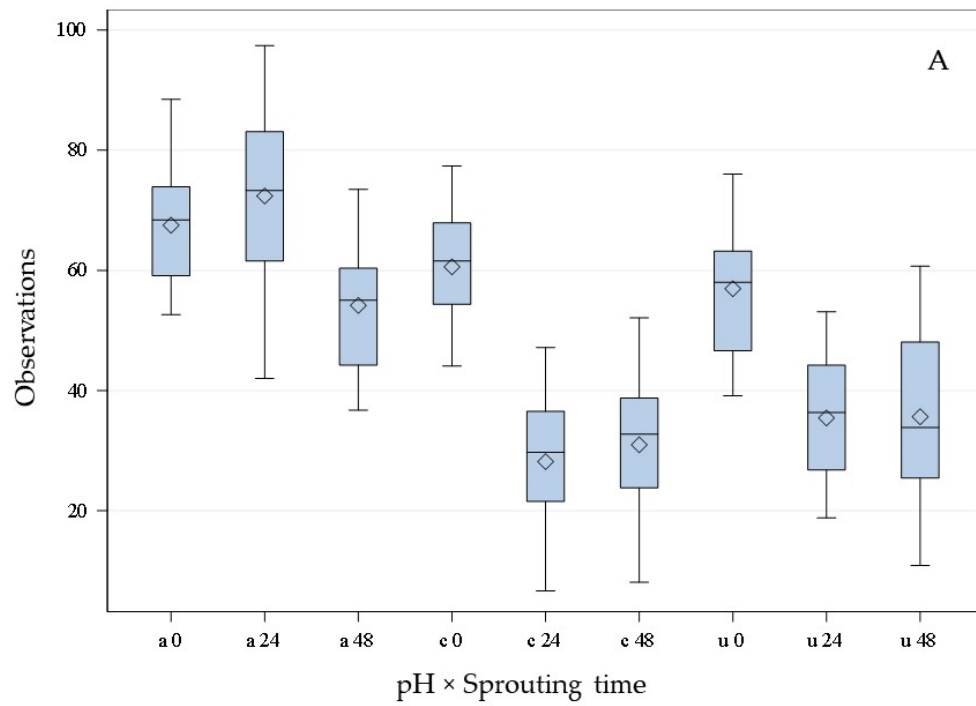
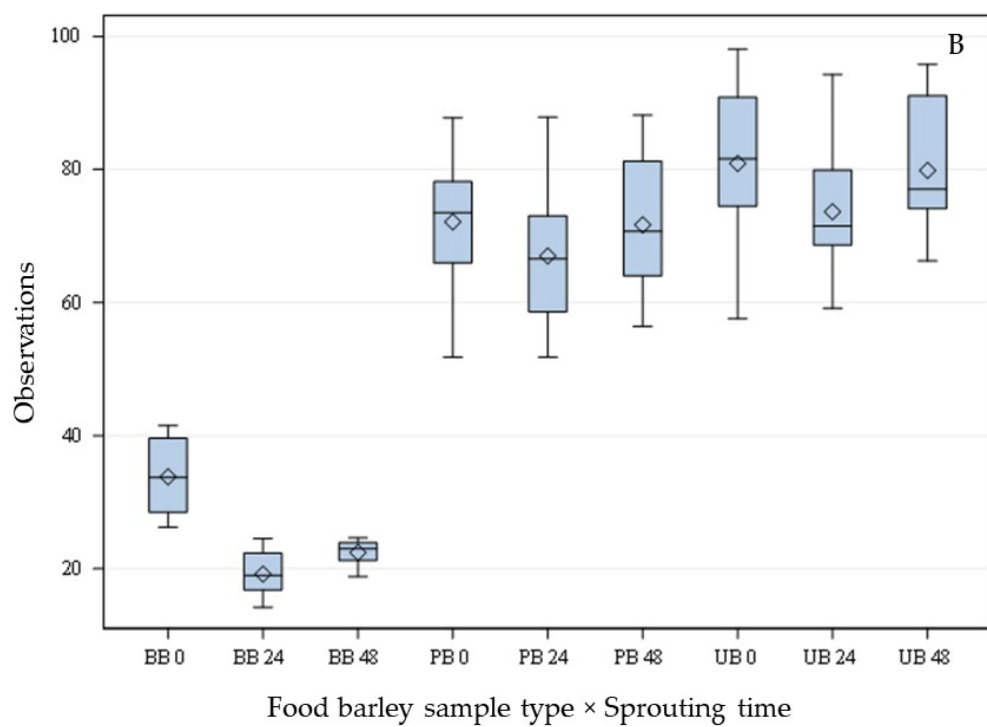
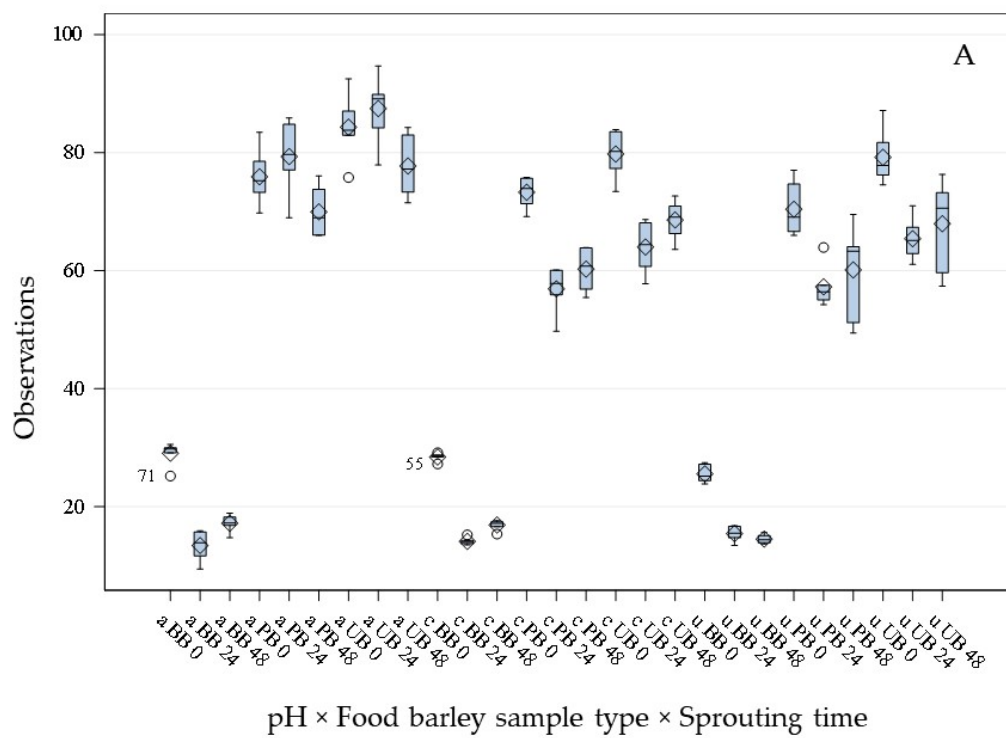


Figure S7. Box-plots showing key interaction effects (significant at $p < 0.05$) between independent variables in protocathechuic acid content of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B,C,D), 48 h (E) and 72 h (F) of fermentation with Kefir culture. Interaction effects in box-plots denoted by “*” were also significant at $p < 0.001$.





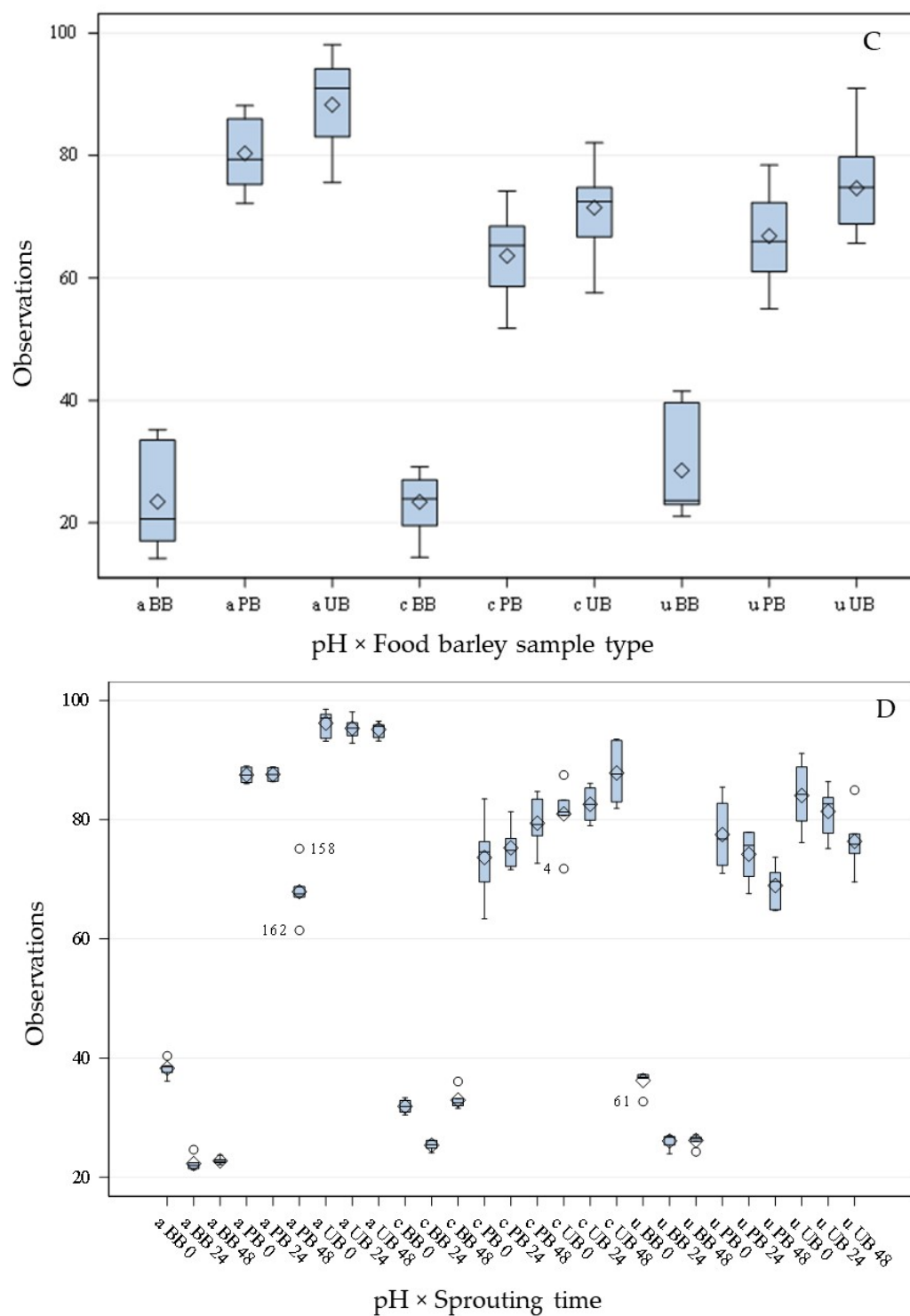


Figure S8. Box-plots showing interaction effects (significant at $p < 0.05$) between independent variables observed in the contents of DPPH free radical scavenging capacity of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.

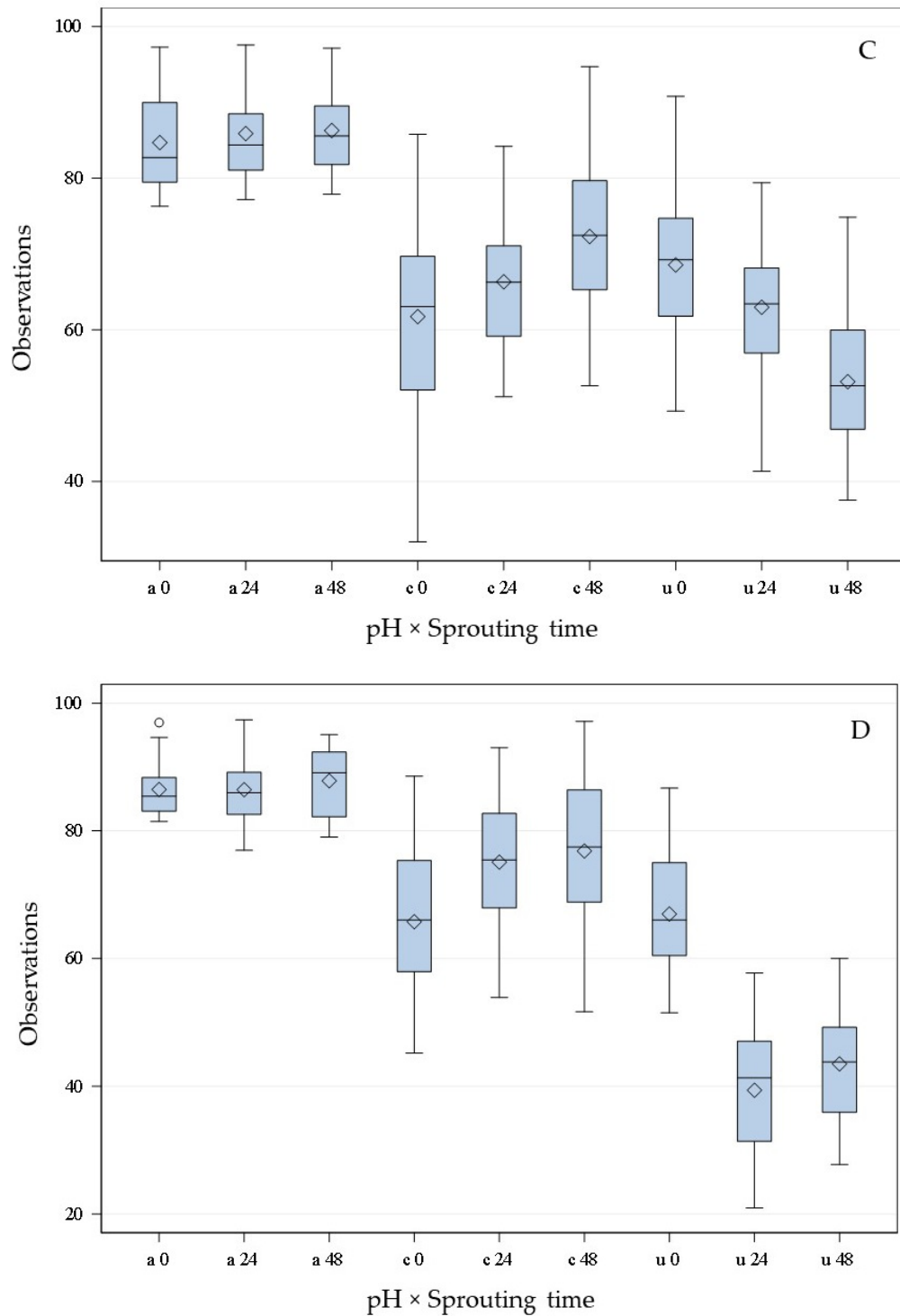
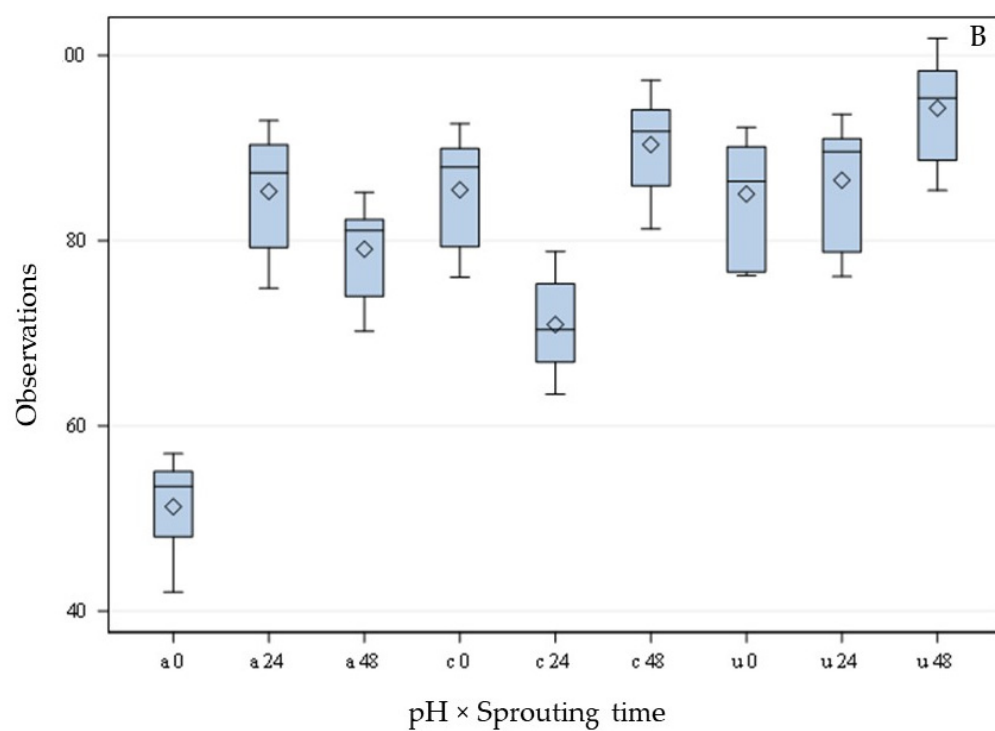
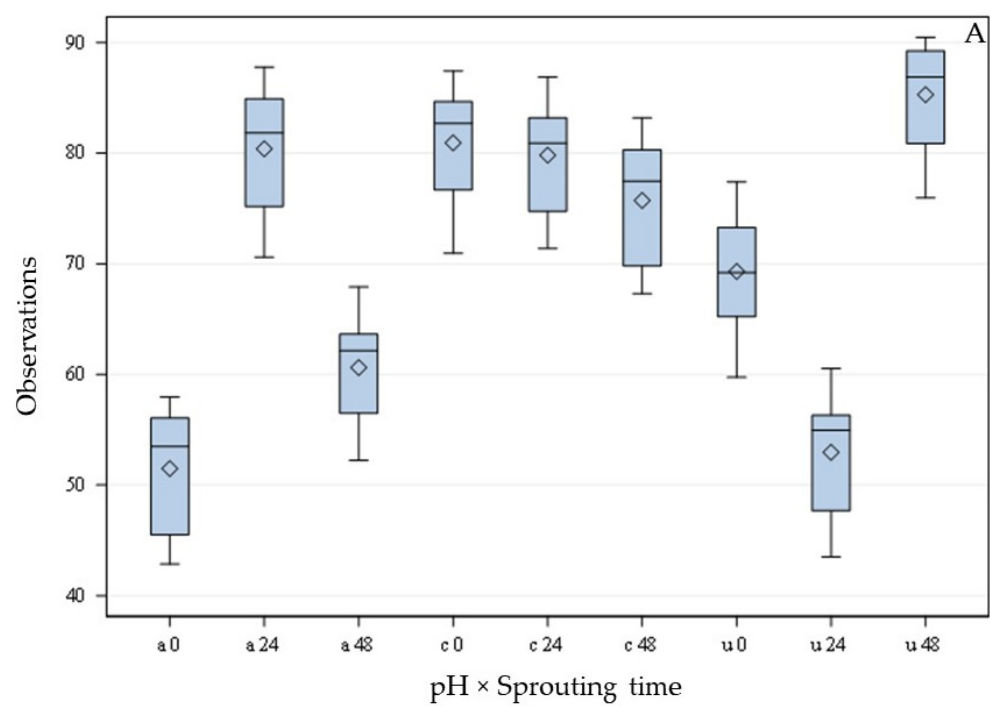


Figure S9. Box-plots showing interaction effects (significant at $p < 0.05$) between independent variables observed in the contents of ABTS free radical scavenging capacity of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.



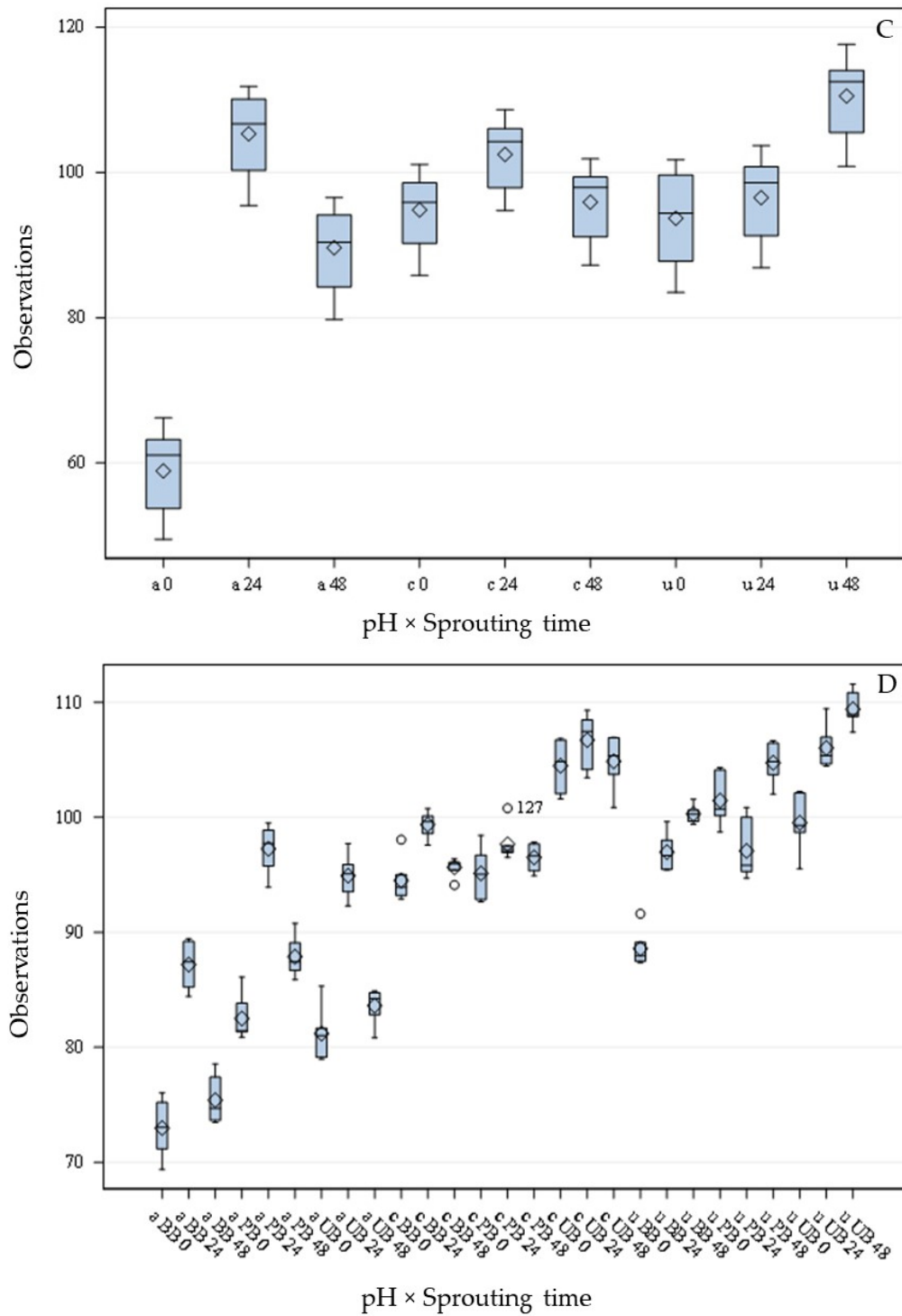
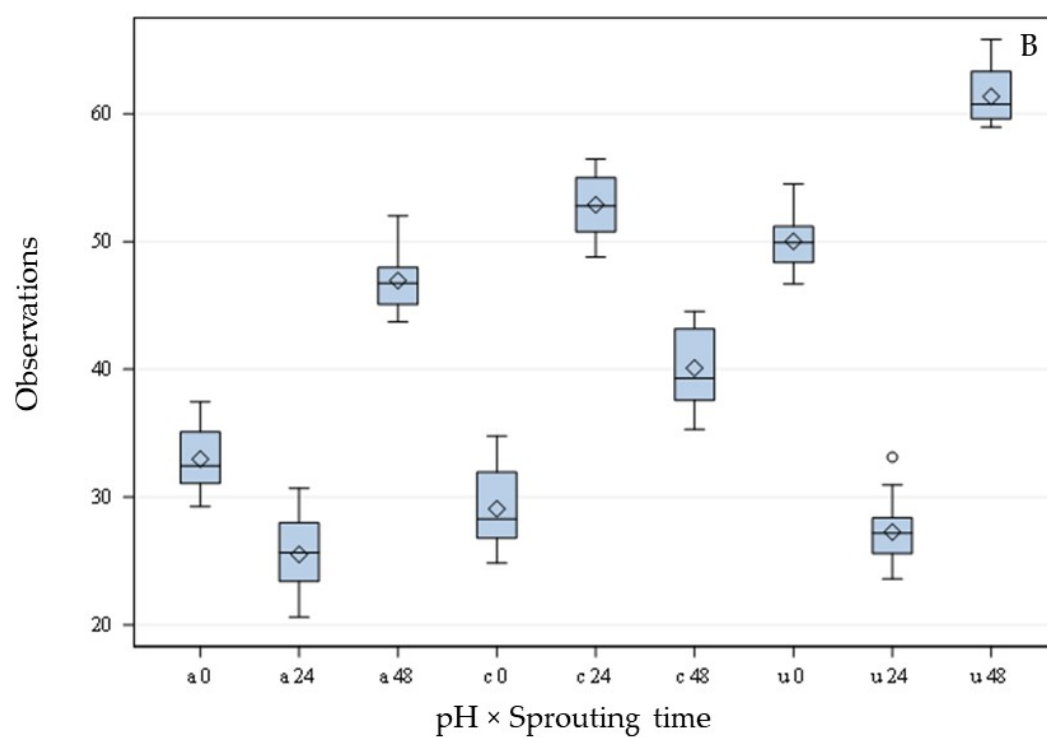
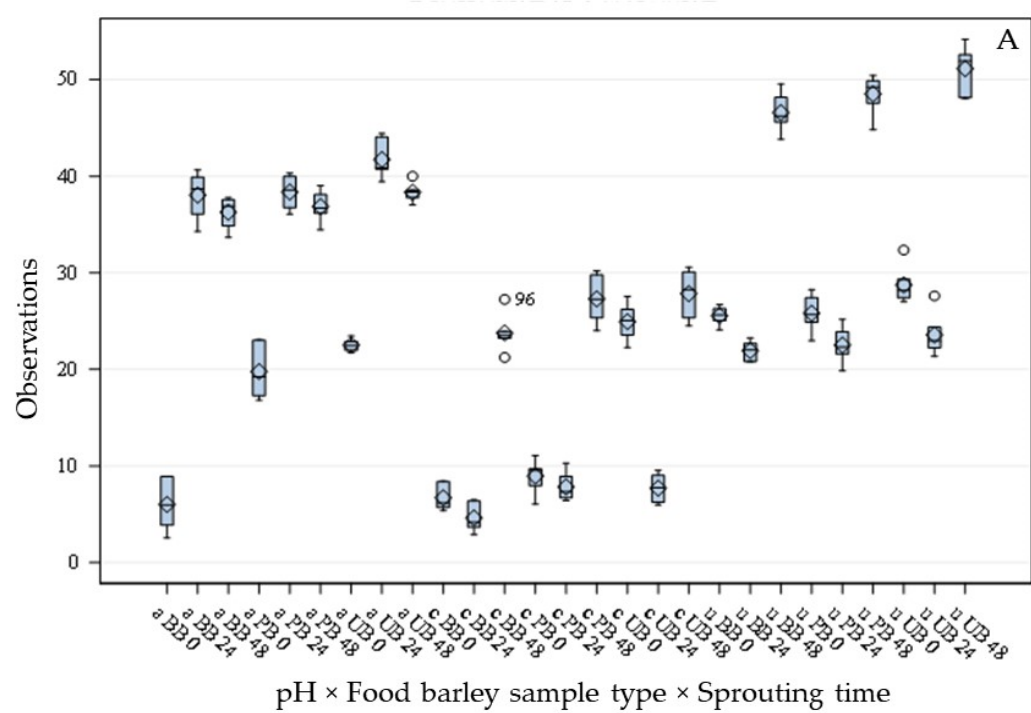


Figure S10. Box-plots showing interaction effects (significant at $p < 0.05$) between independent variables observed in the contents of α -amylase inhibitory activity of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.



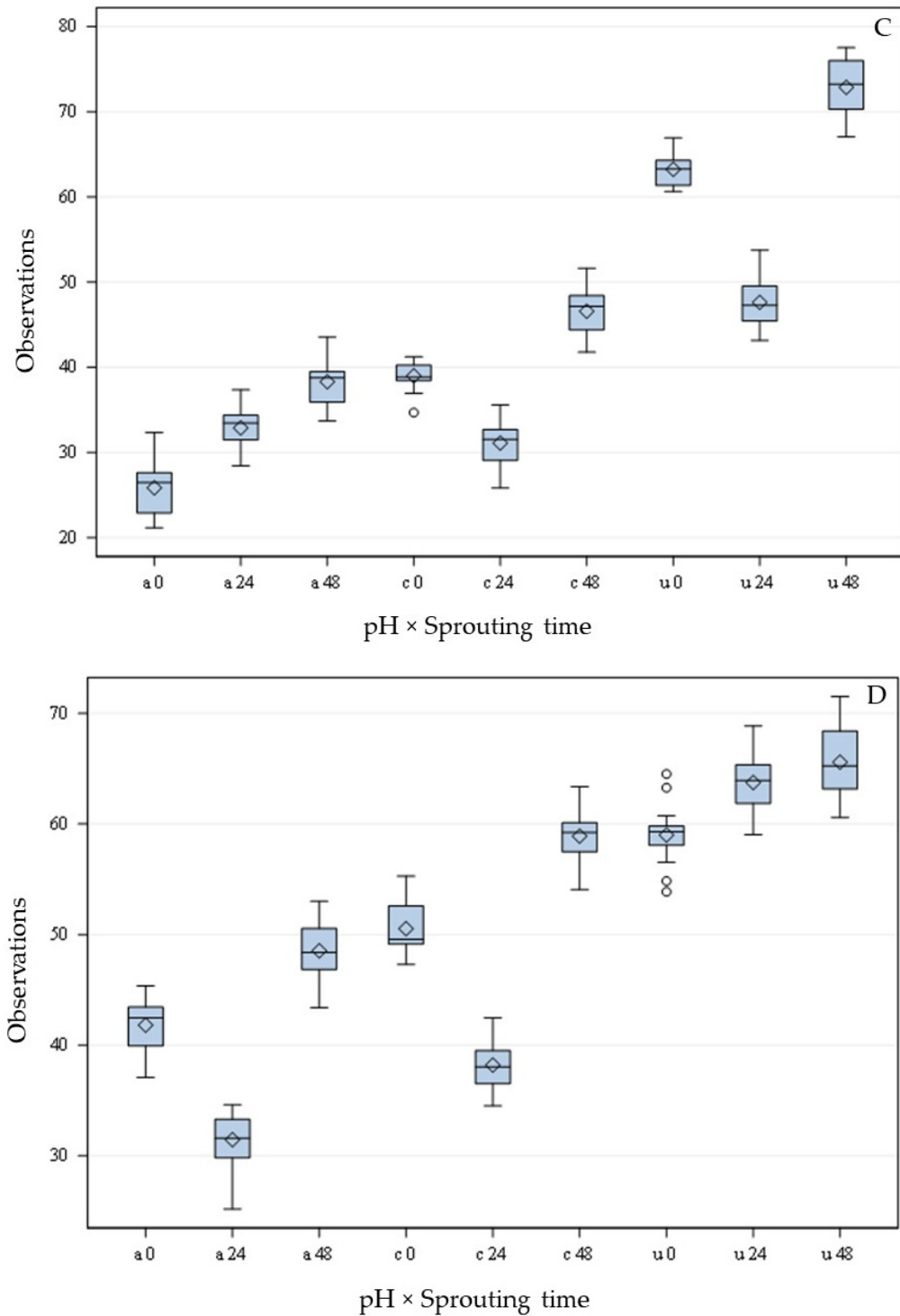


Figure S11. Box-plots showing interaction effects (significant at $p < 0.05$) between independent variables observed in the contents of α -glucosidase inhibitory activity of flour extracts derived from germinated (0, 24, 48 h) unpigmented barley (UB), black barley (BB) and purple barley (PB) after 0 h (A), 24 h (B), 48 h (C) and 72 h (D) of fermentation with Kefir culture.