

Supplementary

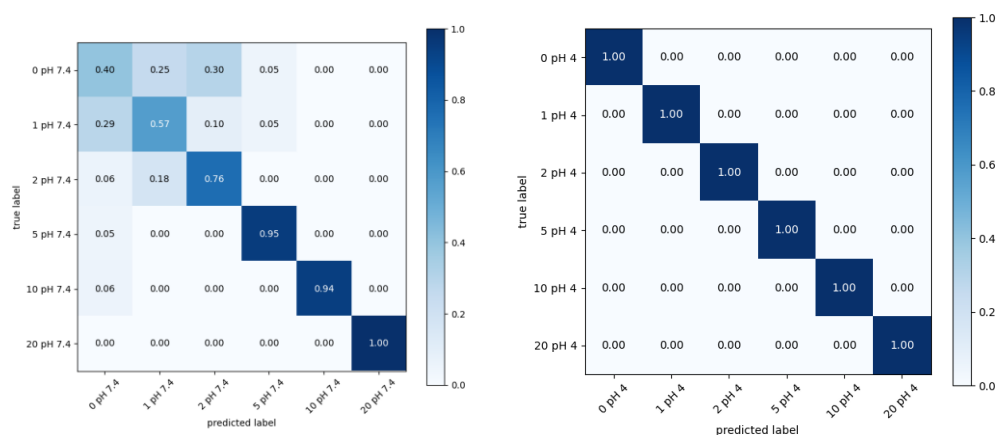


Figure S1. Confusion matrix for six classes of copper ions concentration in MEM at the same pH condition (pH 7.4 on the left, pH 4 on the right) using DT as classifier.

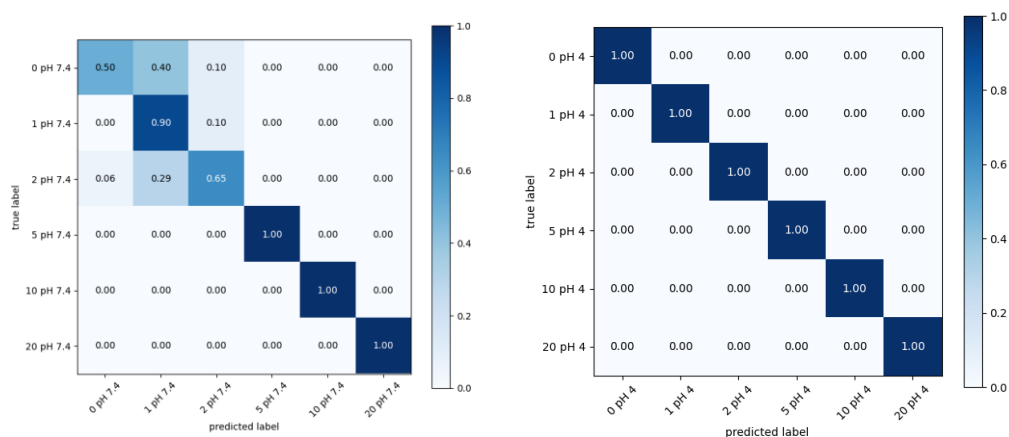


Figure S2. Confusion matrix for six classes of copper ions concentration in MEM at the same pH condition (pH 7.4 on the left, pH 4 on the right) using NB as classifier.

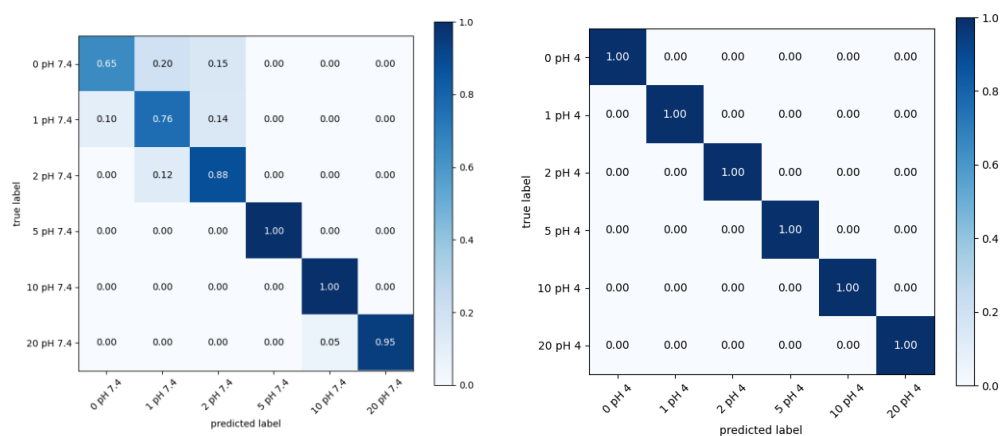


Figure S3. Confusion matrix for six classes of copper ions concentration in MEM at the same pH condition (pH 7.4 on the left, pH 4 on the right) using SVM as classifier.

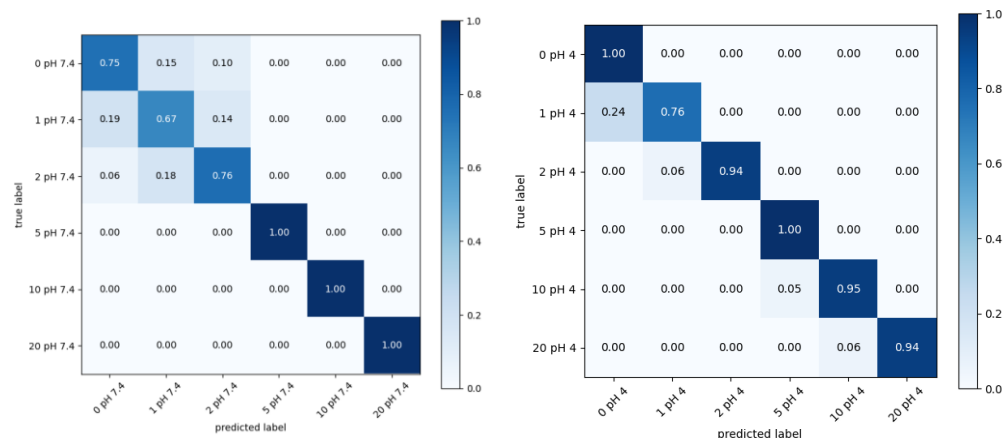


Figure S4. Confusion matrix for six classes of copper ions concentration in MEM at the same pH condition (pH 7.4 on the left, pH 4 on the right) using ANN as classifier.

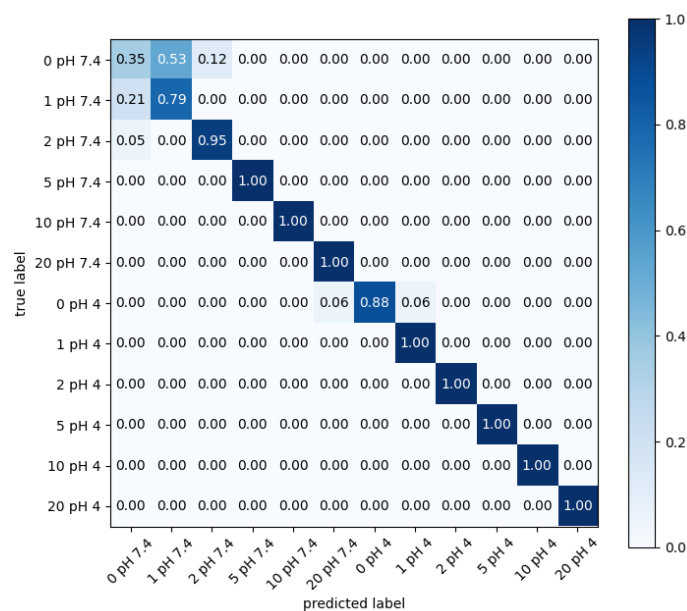


Figure S5. Confusion matrix for twelve classes of copper ions concentration in DMEM at different pH conditions using DT as classifier.

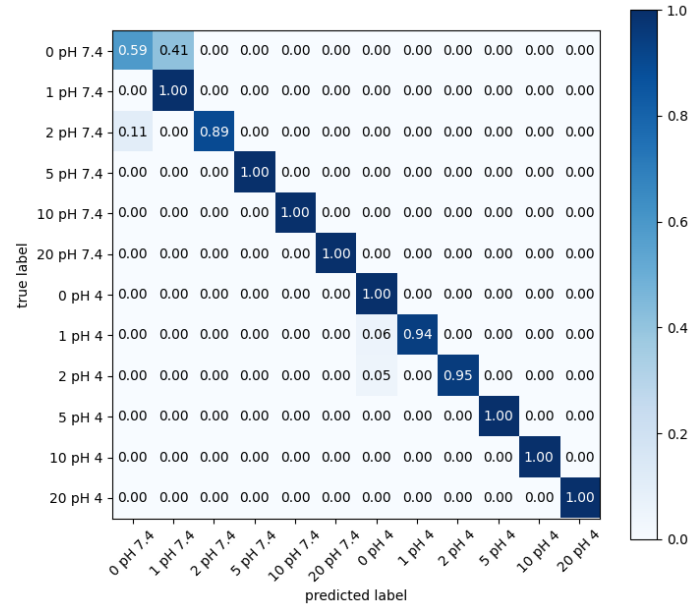


Figure S6. Confusion matrix for twelve classes of copper ions concentration in DMEM at different pH conditions using NB as classifier.

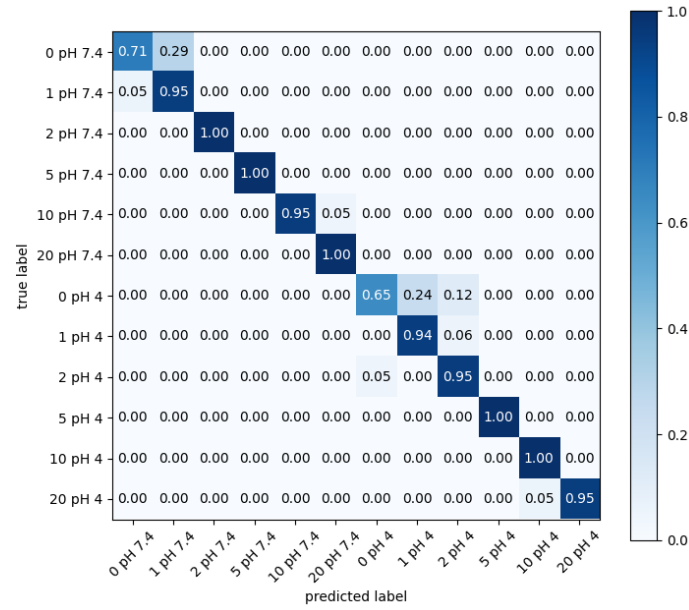


Figure S7. Confusion matrix for twelve classes of copper ions concentration in DMEM at different pH conditions using SVM as classifier.

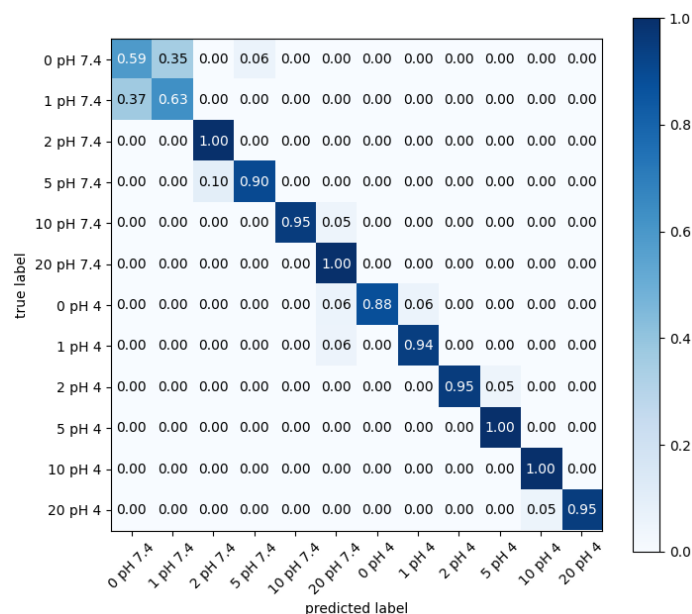


Figure S8. Confusion matrix for twelve classes of copper ions concentration in DMEM at different pH conditions using ANN as classifier.

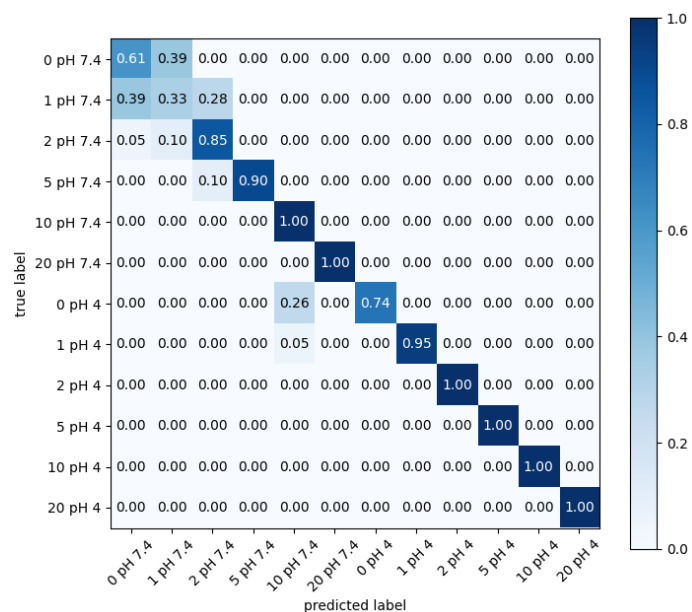


Figure S9. Confusion matrix for twelve classes of copper ions concentration in F12 at different pH conditions using DT as classifier.

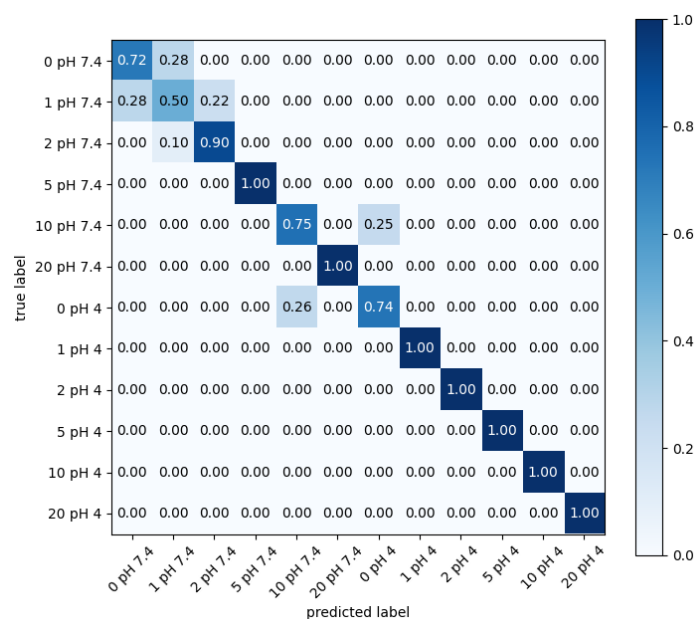


Figure S10. Confusion matrix for twelve classes of copper ions concentration in F12 at different pH conditions using NB as classifier.

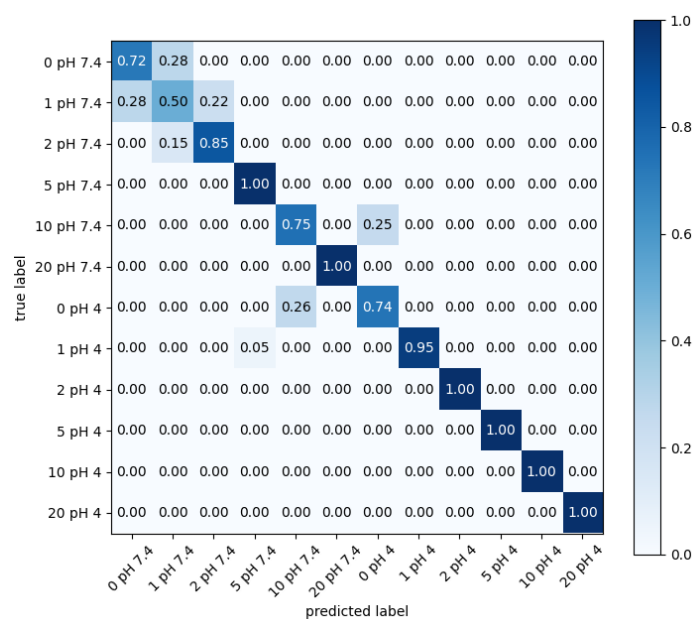


Figure S11. Confusion matrix for twelve classes of copper ions concentration in F12 at different pH conditions using SVM as classifier.

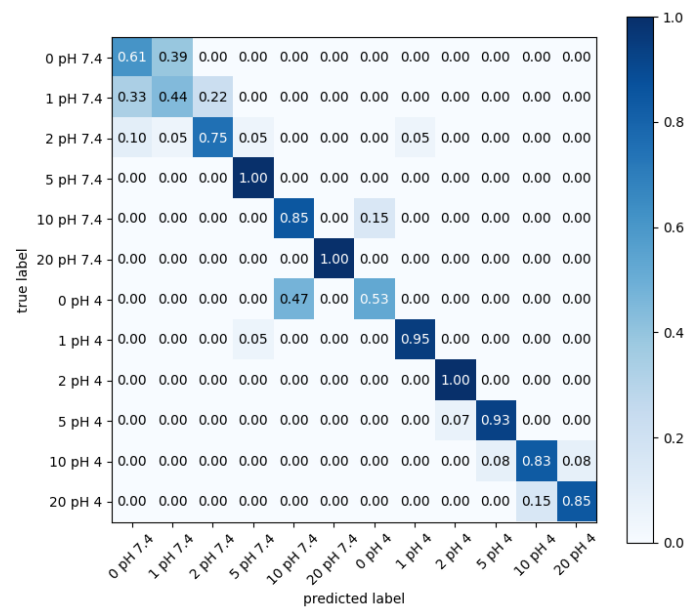


Figure S12. Confusion matrix for twelve classes of copper ions concentration in F12 at different pH conditions using ANN as classifier.