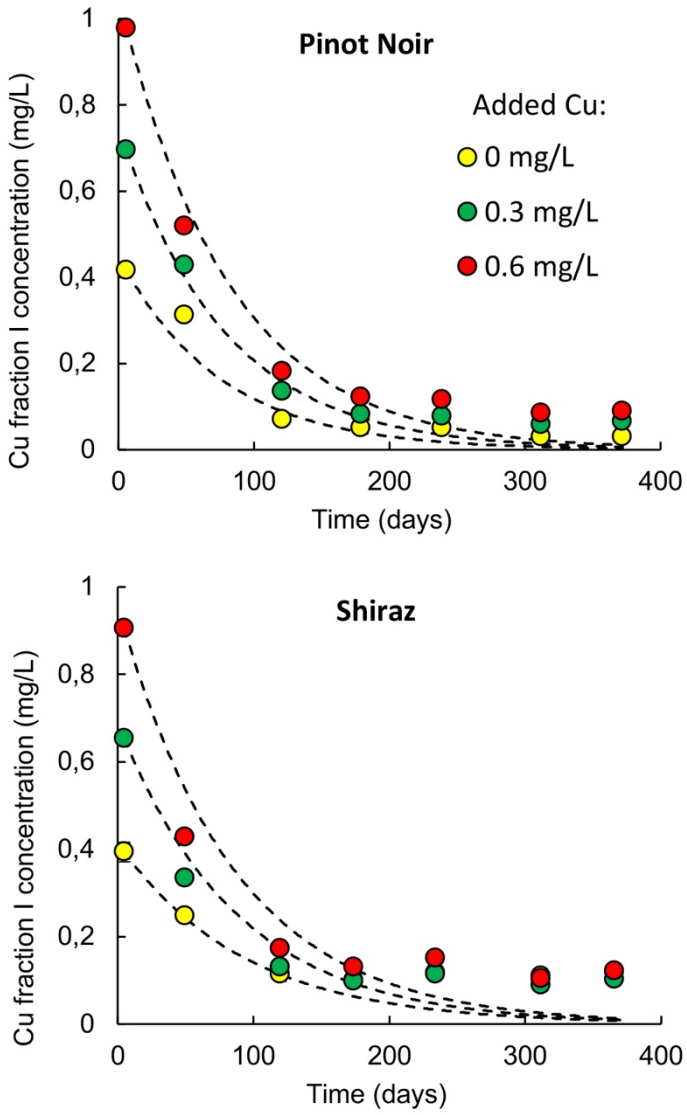
Zhang, X., & Clark, A. C. (2023). Cu fractions in Shiraz and Pinot Noir wines during bottle aging: rates of changes and capacity for conversion. *OENO One, 57*(4).
https://doi.org/10.20870/oeno-one.2023.57.4.7425

SUPPLEMENTARY DATA



Supplementary Figure 1. The Cu fraction I concentration, measured by the DEDF-ICPOES methodology, in the Pinot Noir and Shiraz wines during the storage experiment. Error bars represent the standard deviation of triplicate sample measures (most are smaller than the size of the data symbols). The dashed lines represent the modelled decay based on the first order rate constants from Table 1.

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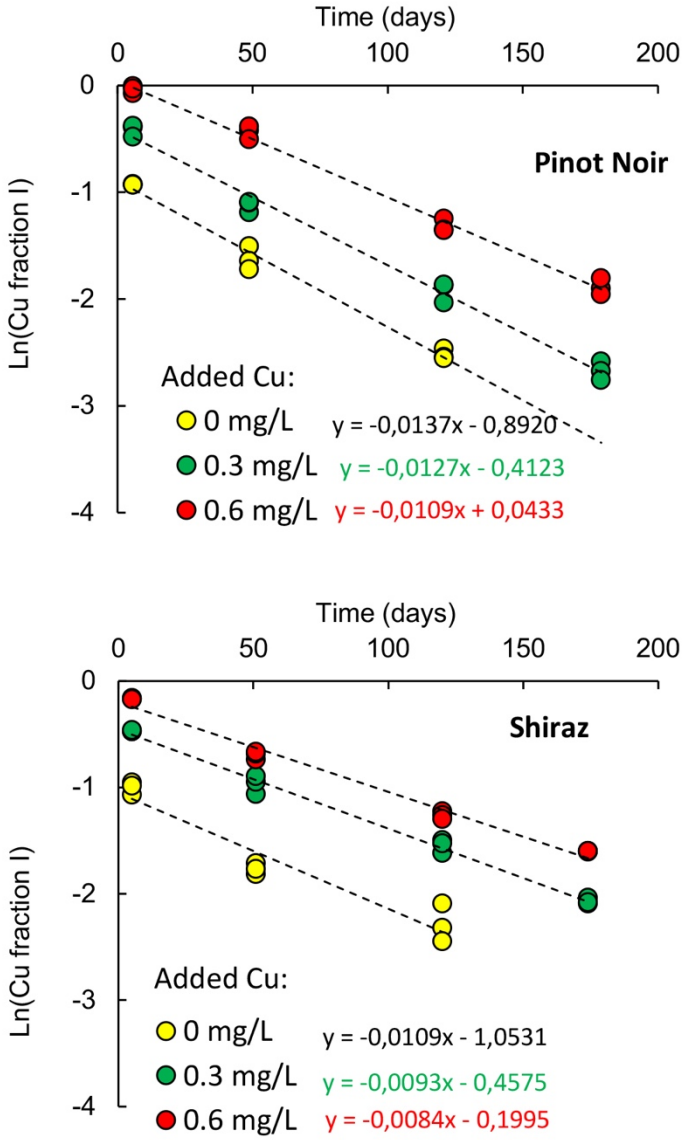

Supplementary Figure 2. The first-order plots for Cu fraction I decay, with the Cu fraction I concentration measured by stripping potentiometry. The Cu fraction I concentrations are shown for the time-period when concentrations were in decay (and not in plateau), which was 0-120 days for the control samples and 0-174 days for the 0.3 and 0.6 mg/L Cu(II) addition samples.

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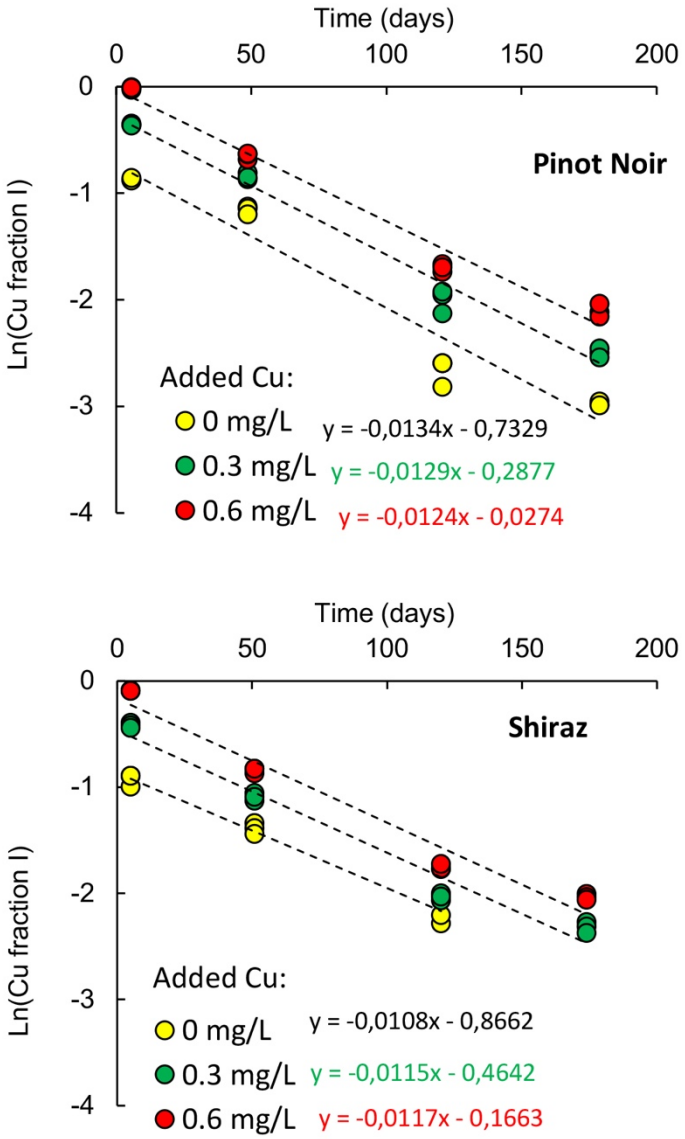

Supplementary Figure 3. The first-order plots for Cu fraction I decay, with the Cu fraction I concentration measured by DEDF-ICPOES. The Cu fraction I concentrations are shown for the time-period when concentrations were in decay (and not in plateau), which was 0-120 days for the control samples and 0-174 days for the 0.3 and 0.6 mg/L Cu(II) addition samples.

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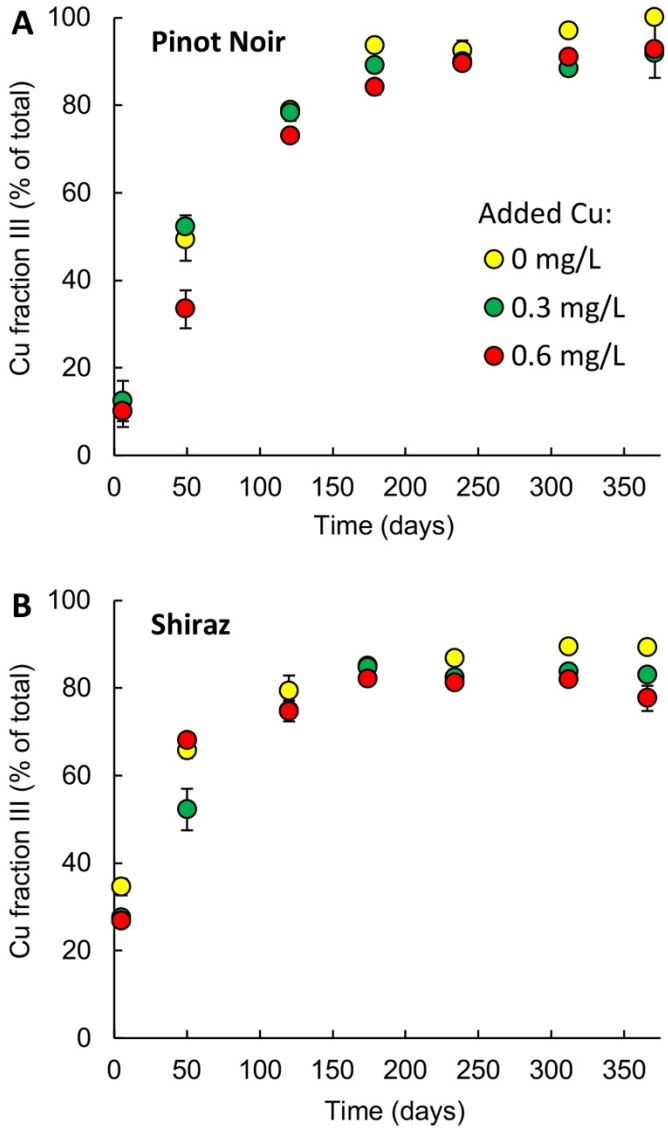

Supplementary Figure 4. The increase in Cu fraction III, determined from stripping potentiometry analysis data, as a percentage of total Cu in the Pinot Noir and Shiraz wines during the storage experiment. Error bars represent the standard deviation of triplicate sample measures, and where they are not evident, they are smaller than the size of the data symbols.

Supplementary Table 1. Compositional parameters measured for the base Pinot Noir and Shiraz wines. The uncertainty indicates the standard deviation (n = 3).

Added Cu	Pinot Noir	Shiraz
pH	3.57 ± 0.03	3.55 ± 0.03
Titratable acidity (g/L TAE)[1]	6.45 ± 0.05	6.30 ± 0.05
Malic acid (g/L)	0.08 ± 0.01	0.06 ± 0.01
Free sulfur dioxide (mg/L)	34 ± 2	34 ± 1
Total sulfur dioxide (mg/L)	107 ± 1	109 ± 2
Alcohol concentration (%(v/v))	14.6 ± 0.3	14.6 ± 0.2
Acetic acid concentration (g/L)	0.67 ± 0.04	0.67 ± 0.05
Glucose concentration (g/L)	0.72 ± 0.06	0.61 ± 0.05
Fructose concentration (g/L)	0.55 ± 0.03	0.60 ± 0.04
Total Cu concentration (mg/L)	0.43 ± 0.01	0.56 ± 0.02
Total Fe concentration (mg/L)	0.68 ± 0.02	0.48 ± 0.03
Total Al concentration (mg/L)	0.38 ± 0.02	1.1 ± 0.1
Total Mg concentration (mg/L)	100 ± 1	93 ± 7
Total Mn concentration (mg/L)	1.06 ± 0.02	1.12 ± 0.08
Total Zn concentration (mg/L)	0.51 ± 0.02	0.47 ± 0.02

[1.] The units for titratable acidity are: g/L tartaric acid equivalents with titration to pH 8.2.