

Supplementary Material

Analysis of copper(II) using the ascorbate/oxygen system – a valuable undergraduate resource

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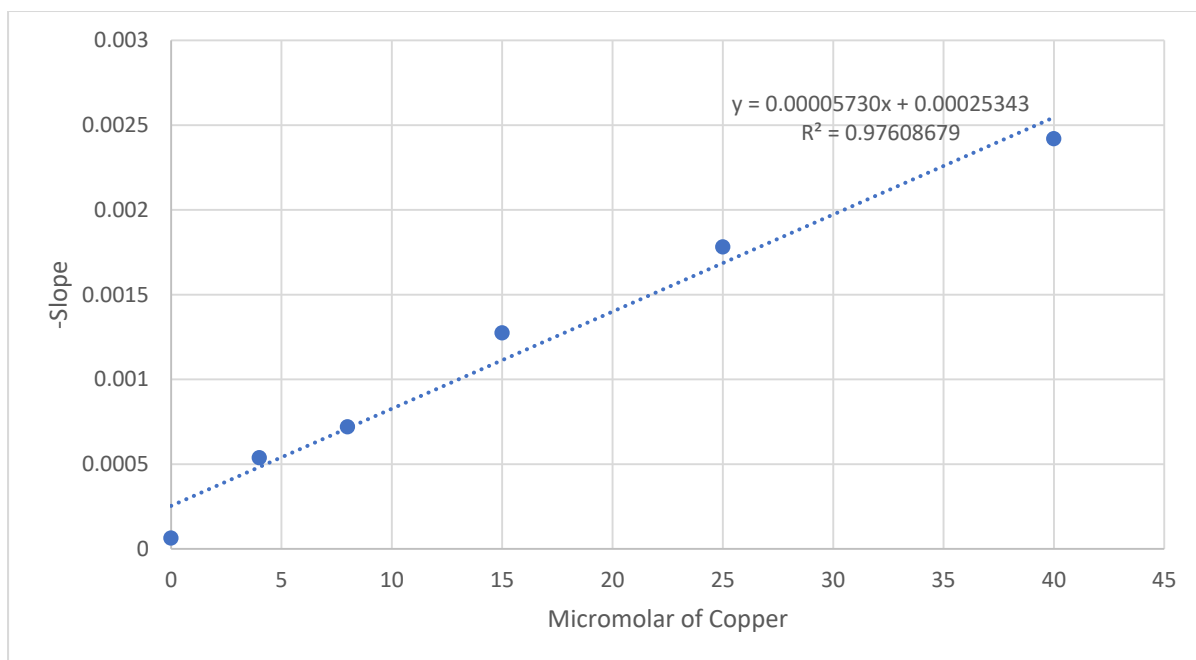
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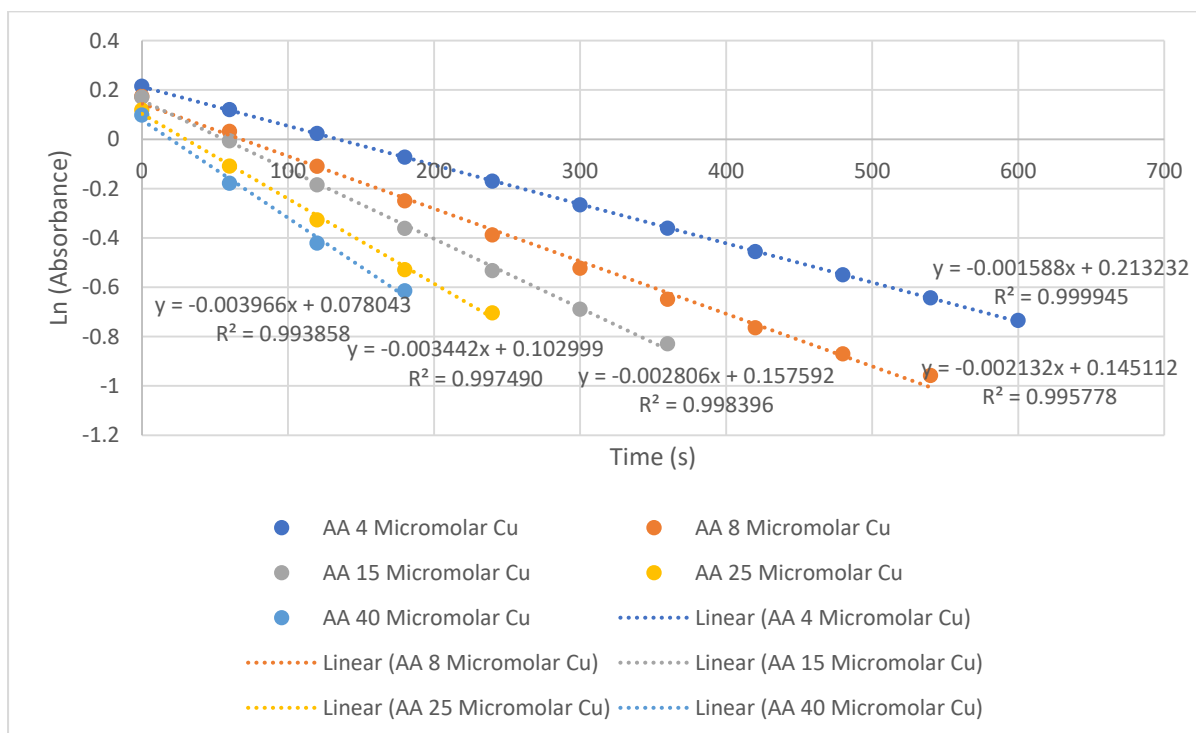
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2 Supplementary Material



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4 **Fig. S1 -Slope Vs micromolar of copper added to ascorbic acid (0.2 mM) in deionised water**



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Fig. S2 0.2 mM ascorbic acid (AA) degradation log (absorbance) with various copper (Cu) concentrations (4, 8, 15, 25, 40 micromolar) Vs. time (s) in phosphate buffer @ pH 7.4

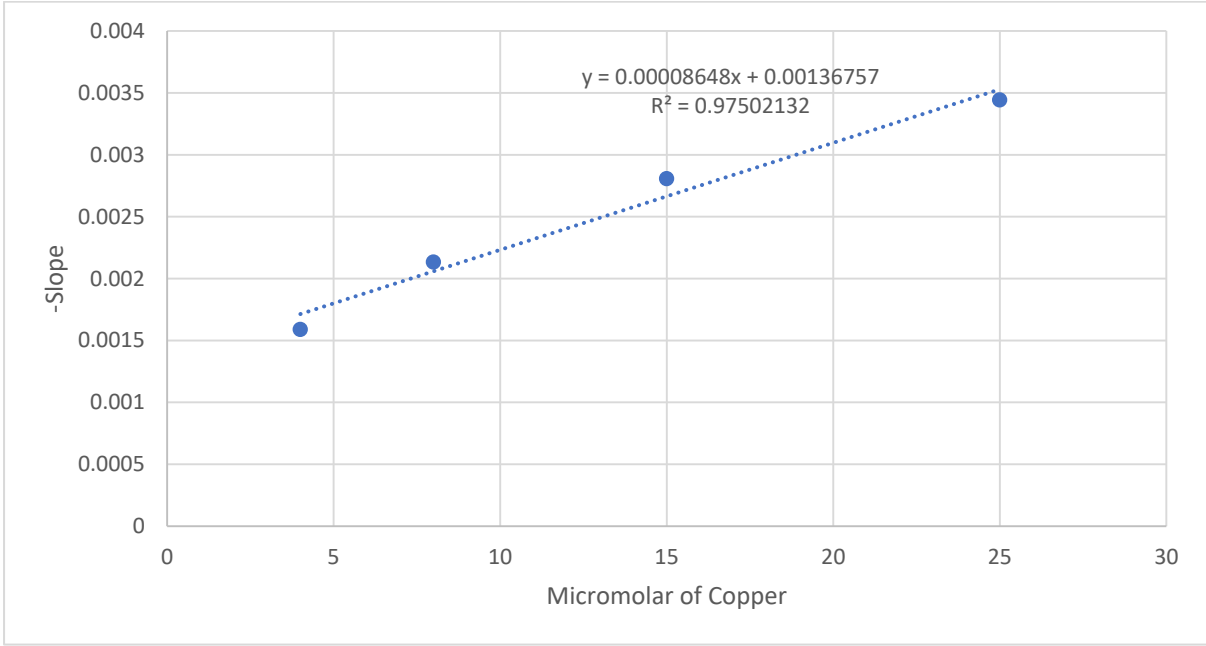


Fig. S3 Plot of -Slope Vs micromolar amount of copper added to ascorbic acid (0.2 mM) in phosphate buffer pH 7.4

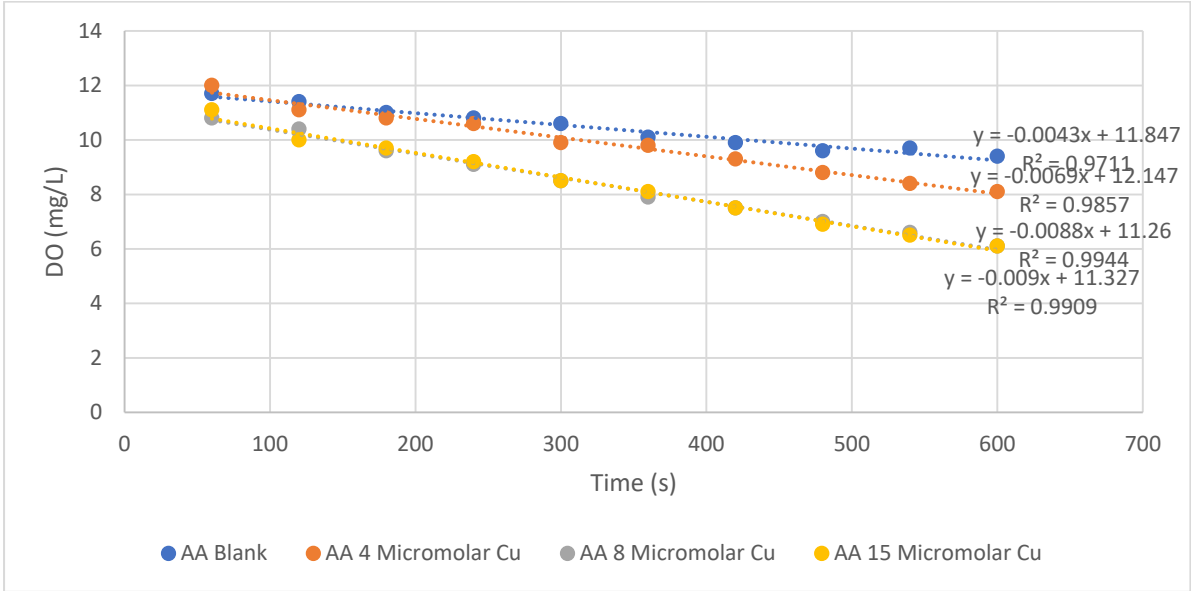


Fig. S4. Plot showing the decrease of dissolved oxygen (mg/L) in 10 mM AA with various copper (Cu) concentrations (0, 4, 8, 15 micromolar) Vs time (s) in deionised water

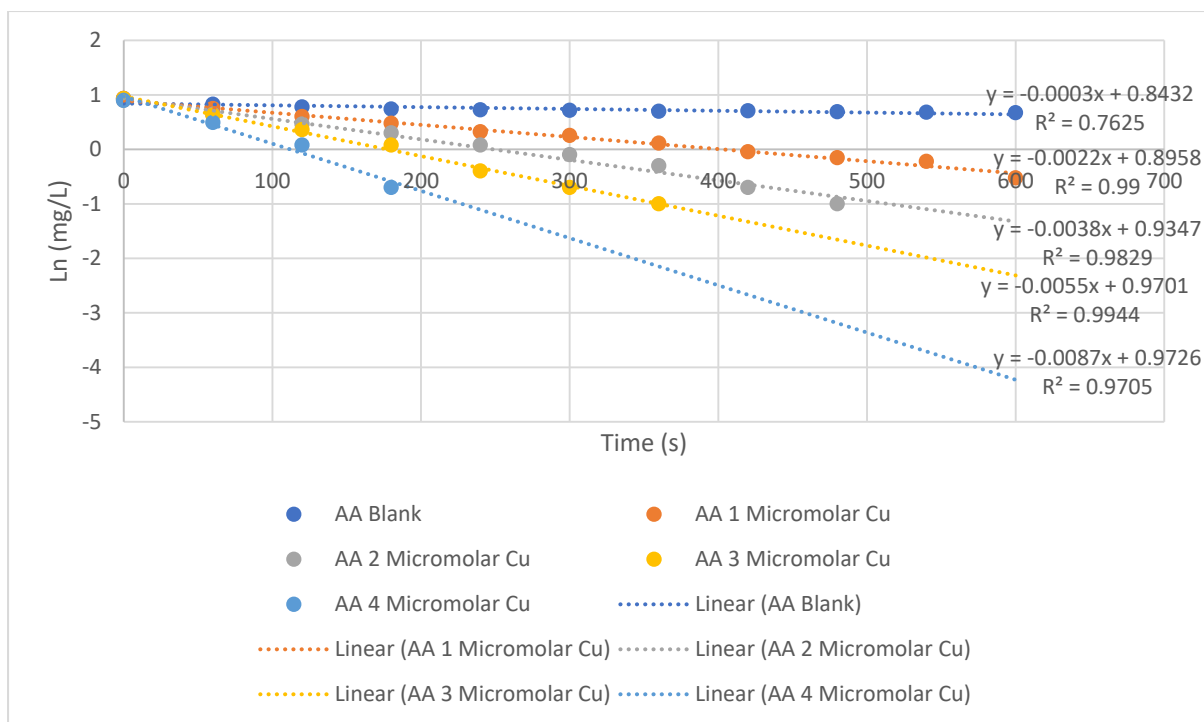


Fig. S5. Degradation of dissolved oxygen log (mg/L) with various copper (Cu) concentrations (1, 2, 3, 4 micromolar) Vs. time (s) in phosphate buffer @ pH 7.4 and 10 mM ascorbic acid

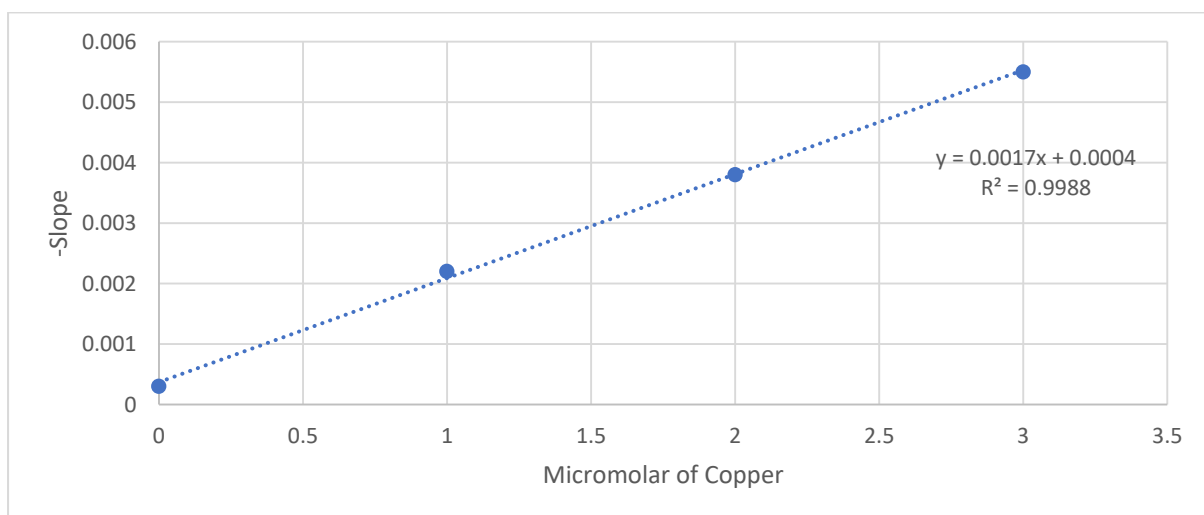
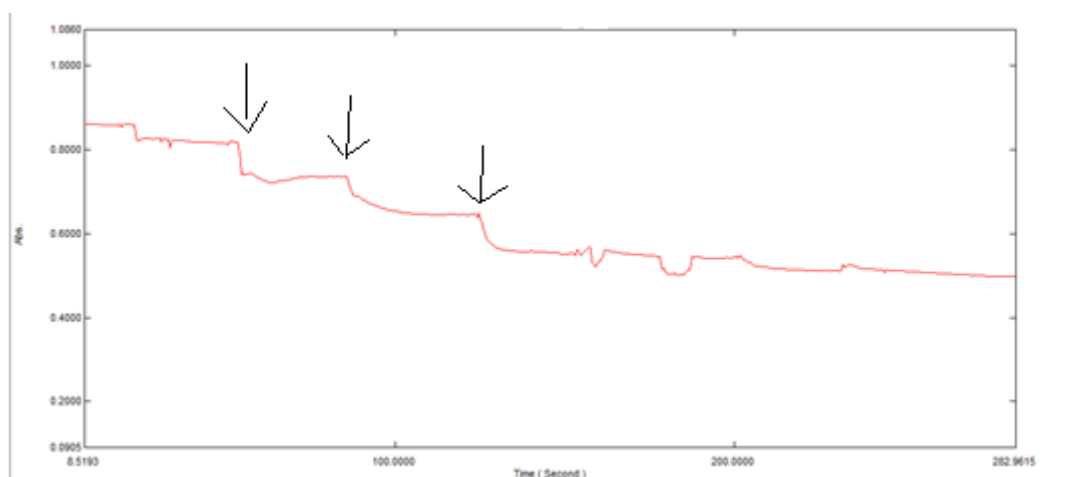


Fig. S6. -Slope Vs micromolar of copper added to ascorbic acid (10 mM) in phosphate buffer @ pH 7.4

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28 Figure S7. Starting off with 0.1mM ascorbate and adding 5 micromolar amounts of Fe(III),
29 indicated there is an immediate drop in absorbance

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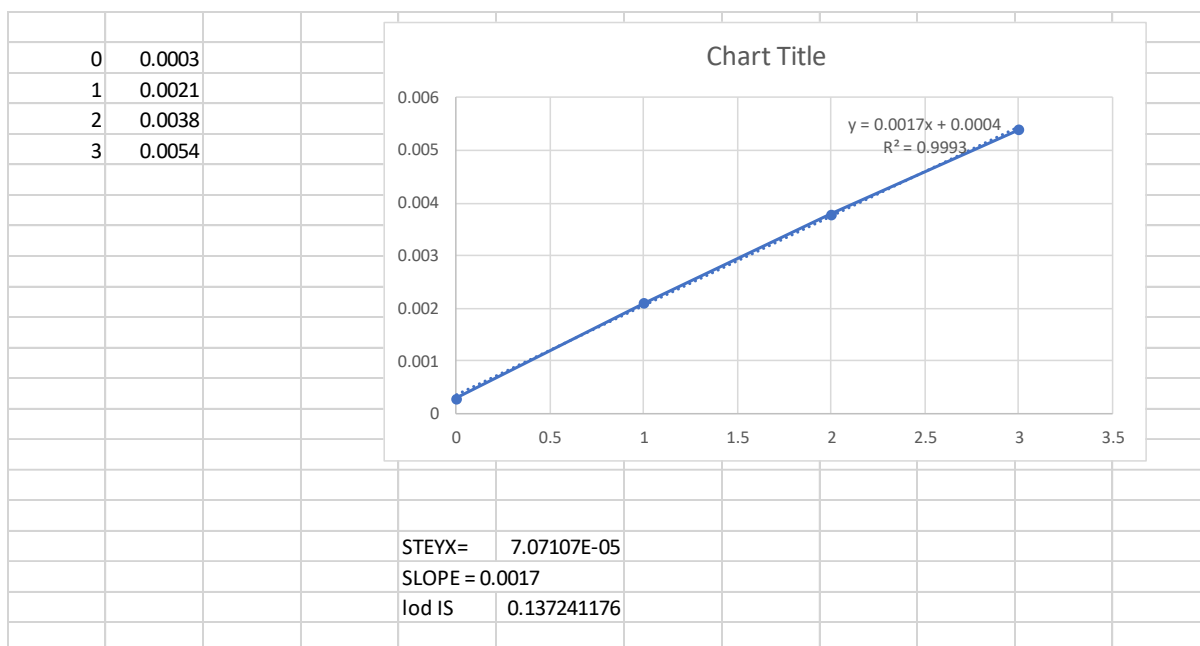
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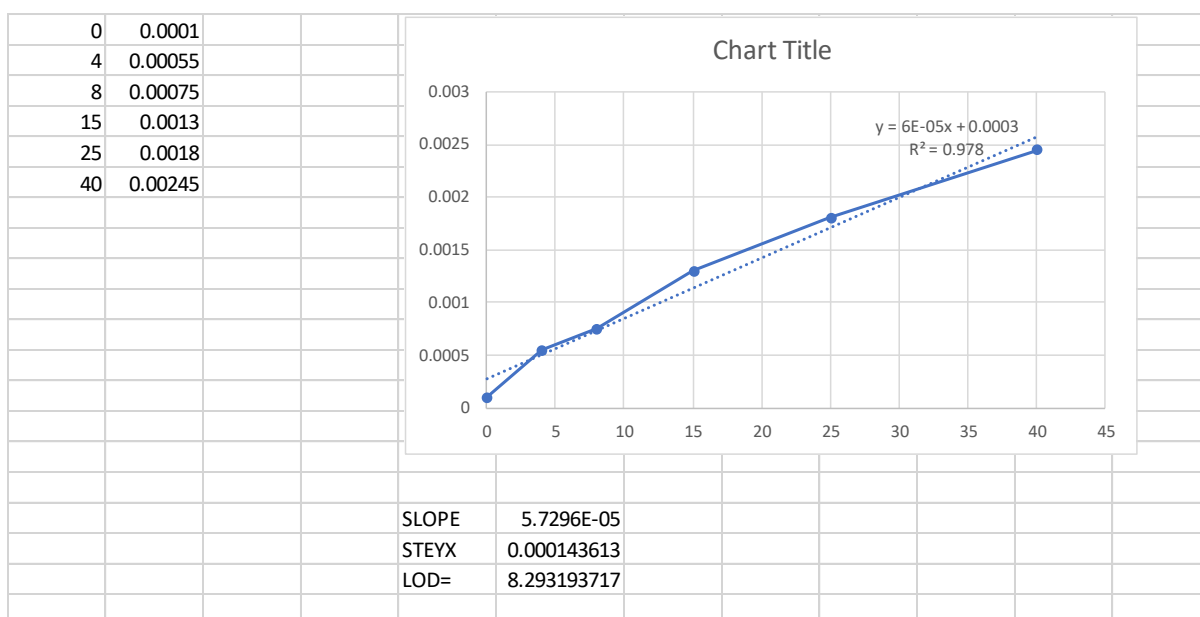
35 For plot S6 for example, the LOD was calculated as follows using the STEYX and SLOPE function in
36 EXCEL. The $LOD = 3.3 * (STEYX / SLOPE)$ as shown for plots S6 and S1 below.



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39 For plot S1



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