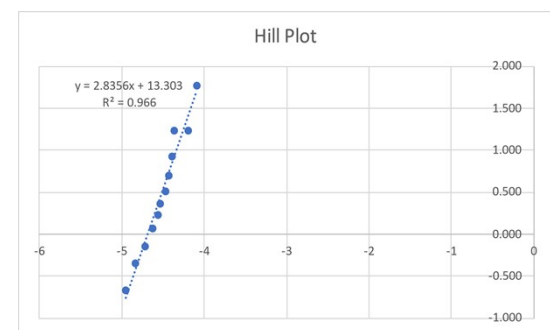
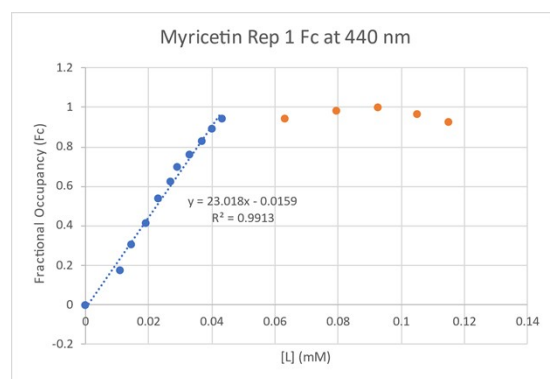
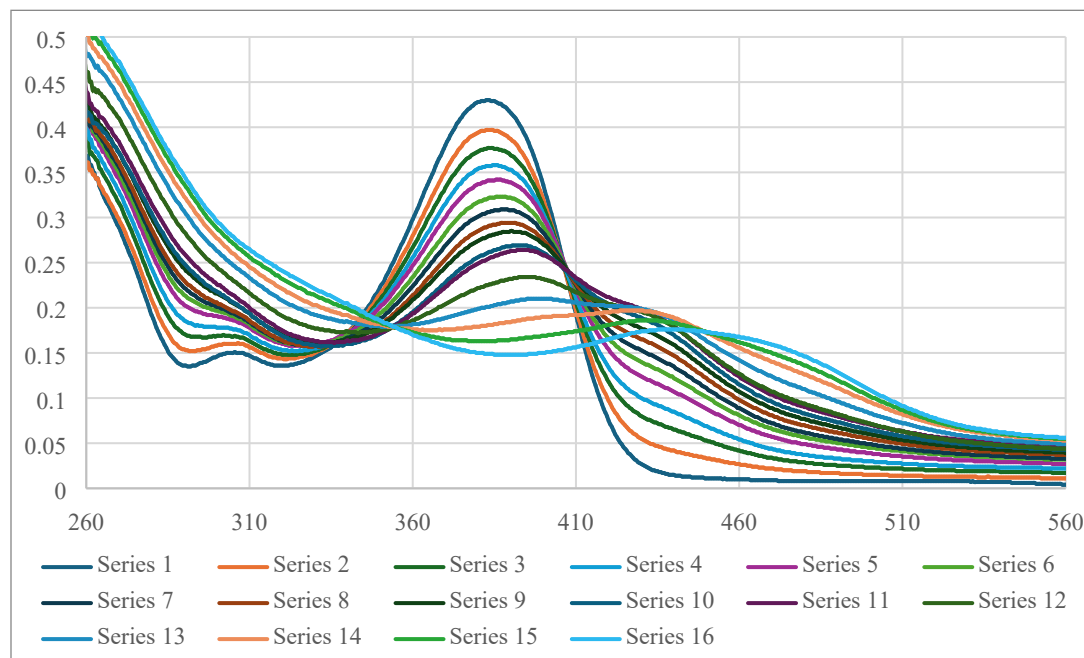


## Supplementary

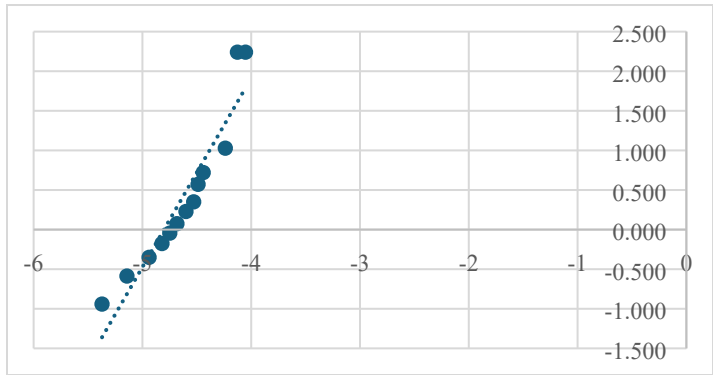
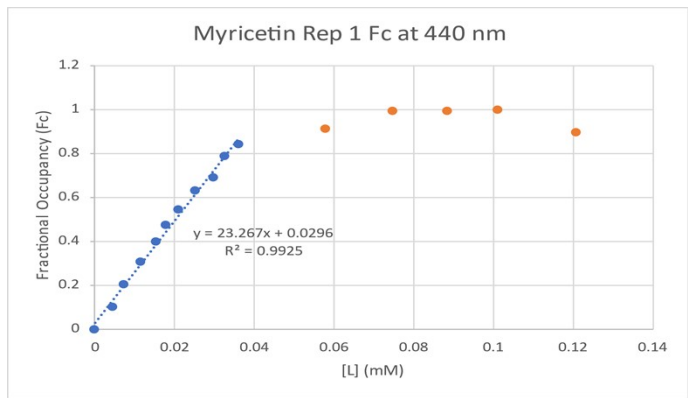
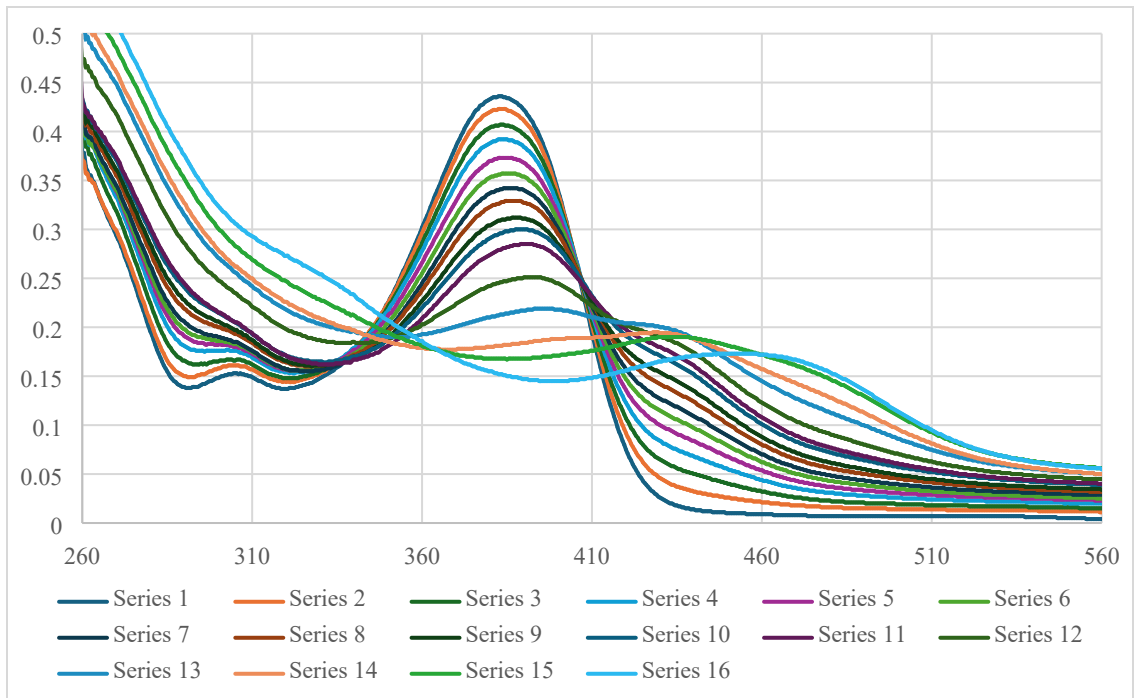
In general, the figures follow the order of: (1) absorption curves, fractional occupancy curves, and Hill plot

### Myricetin-Fe(II) Chelation

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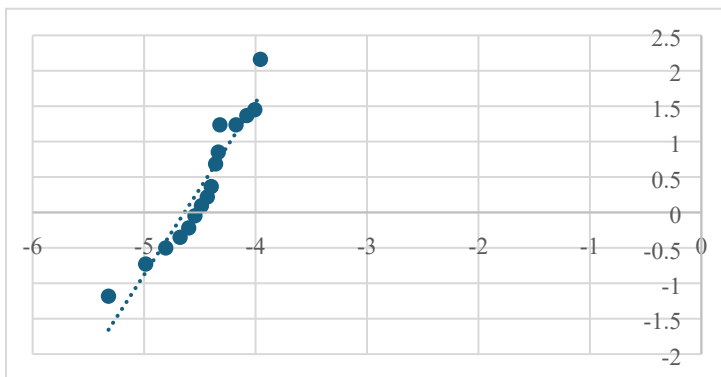
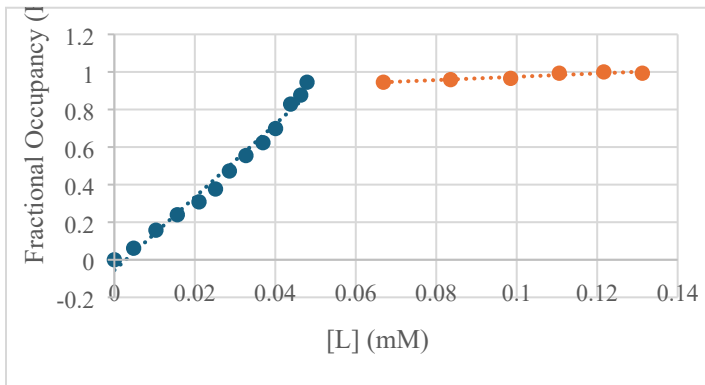
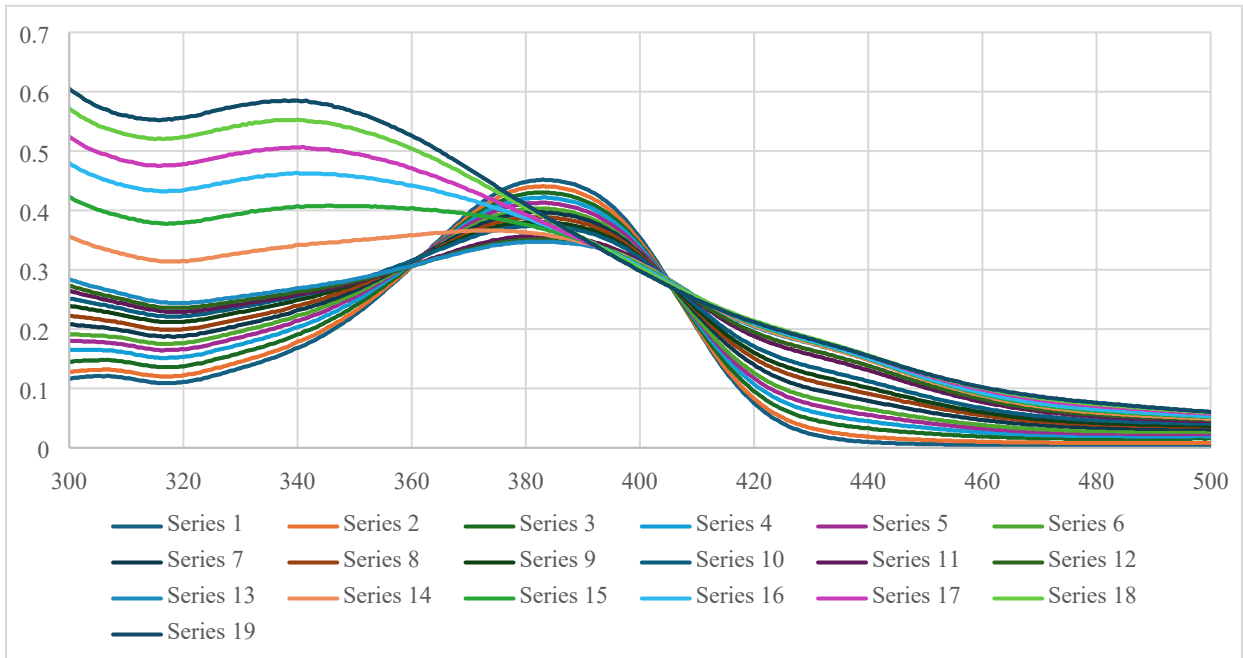


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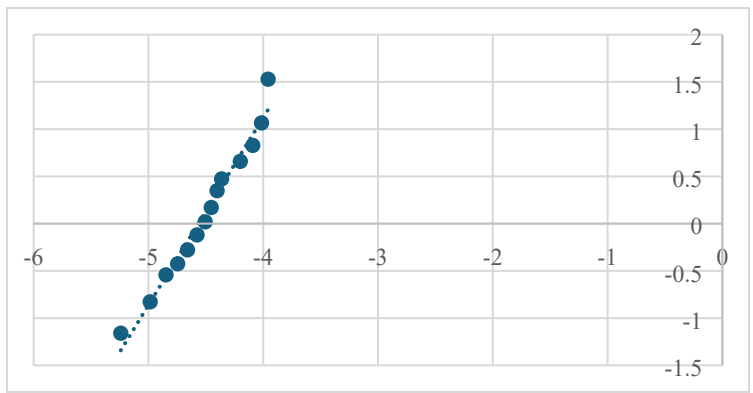
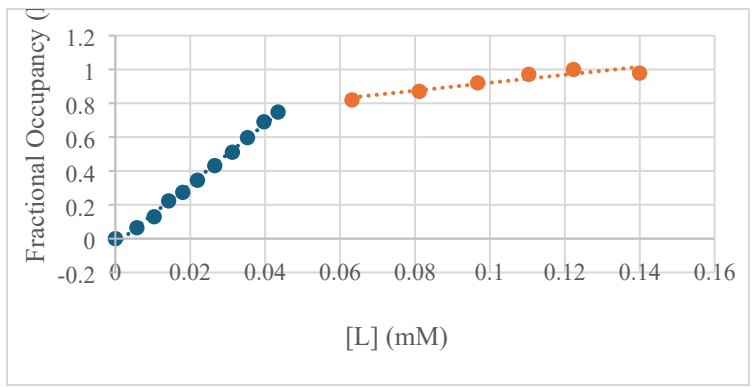
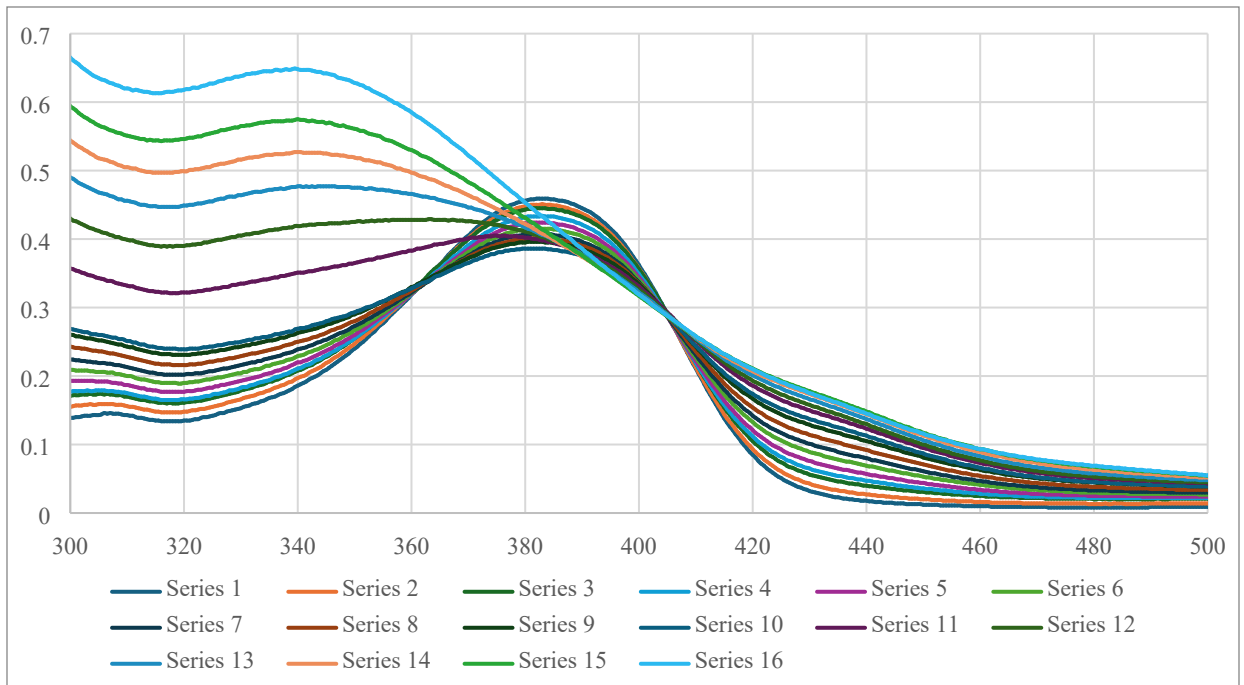


**Myricetin – Fe(III) chelation**

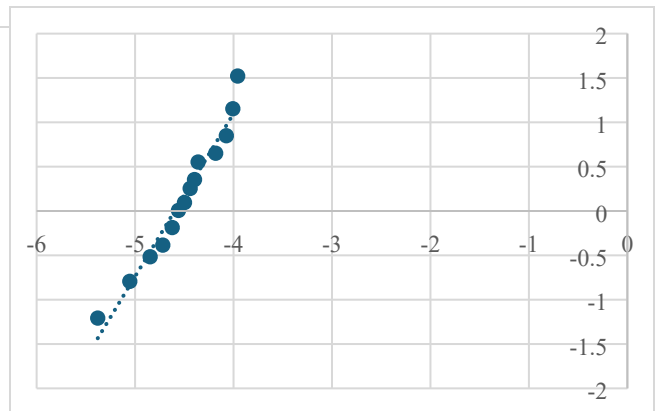
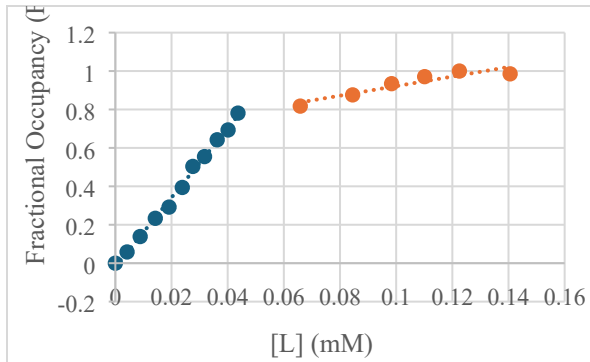
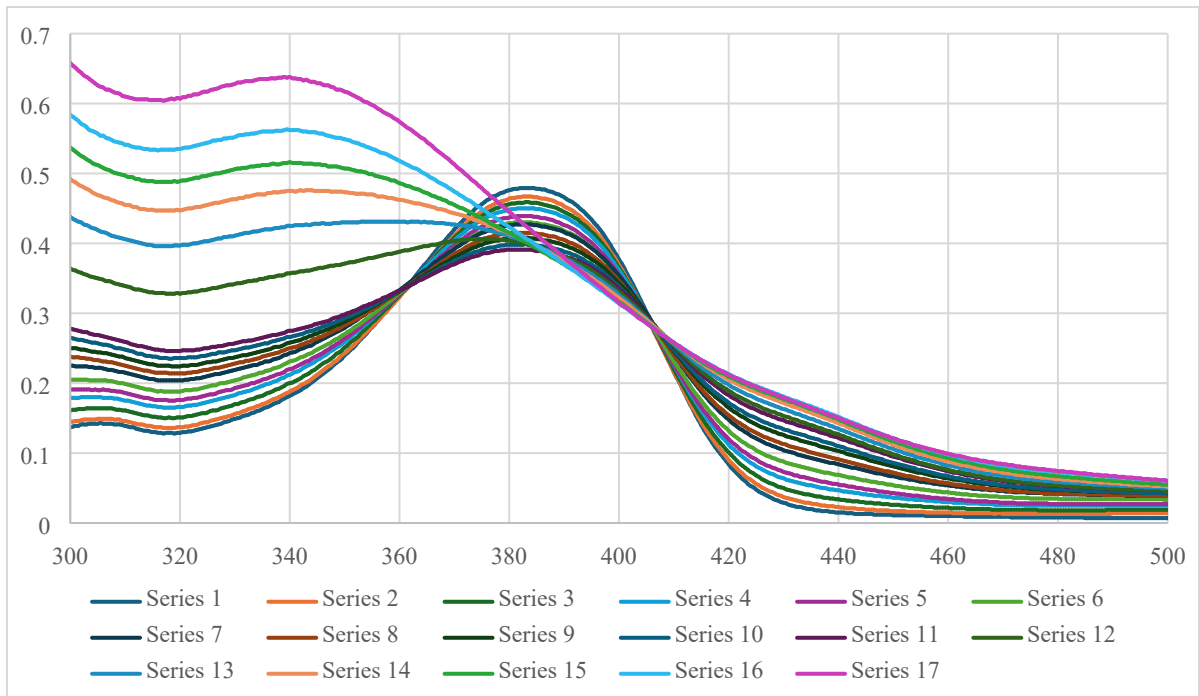
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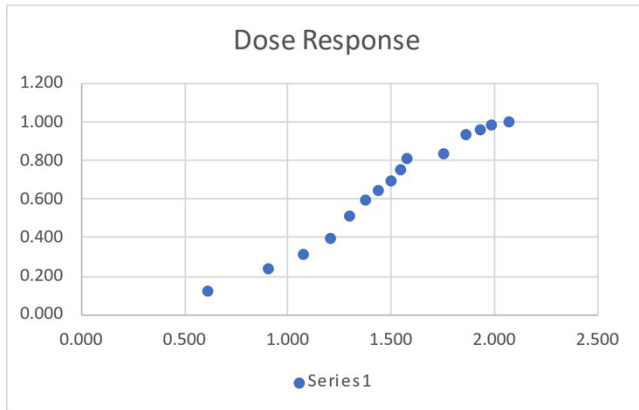
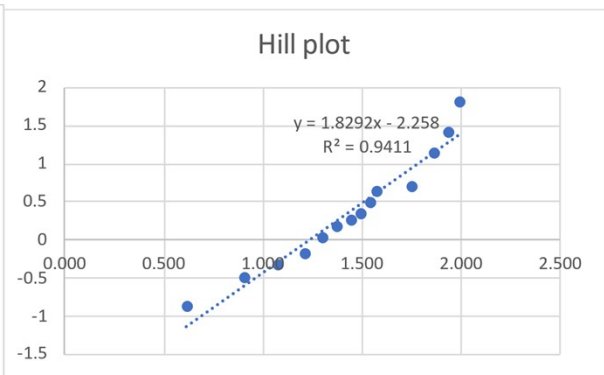
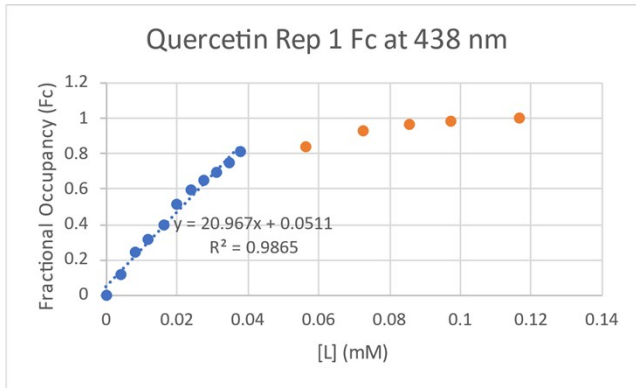
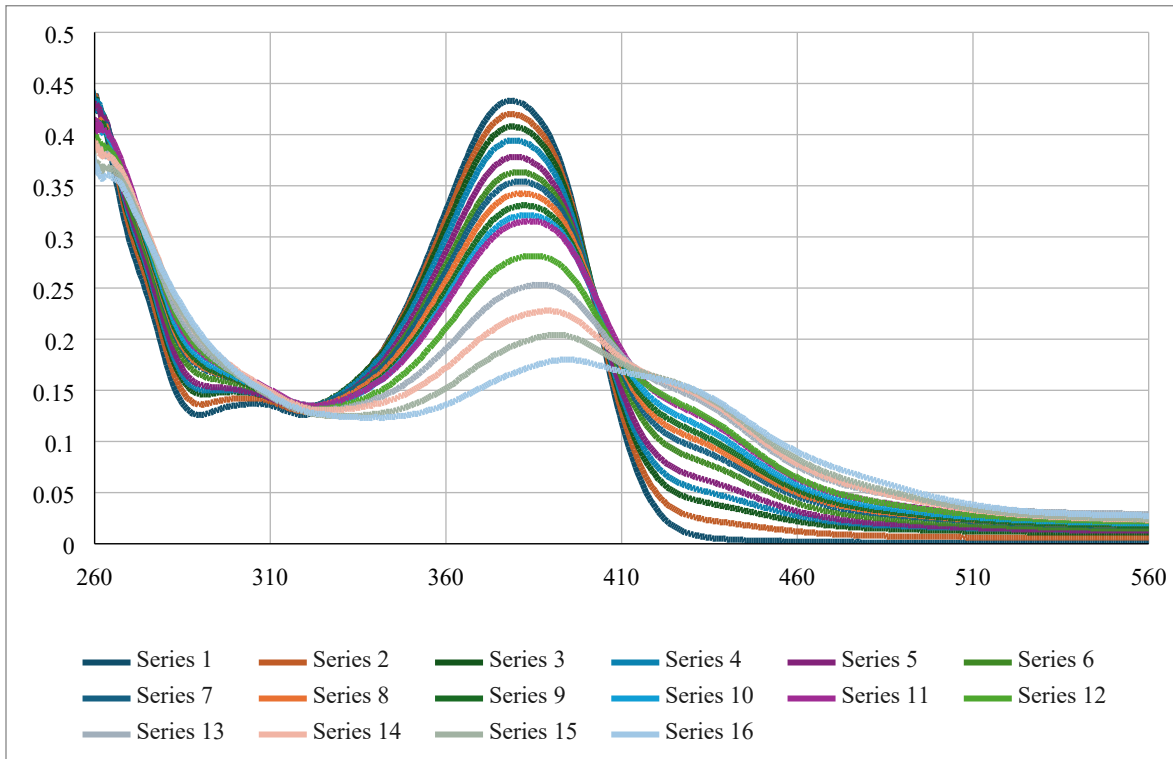


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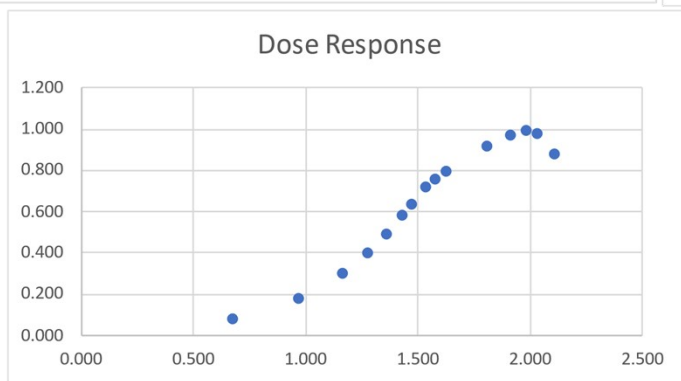
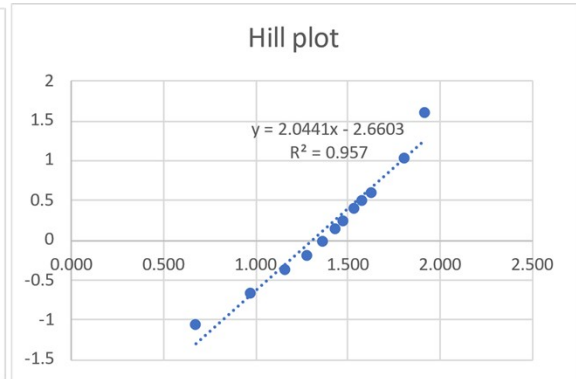
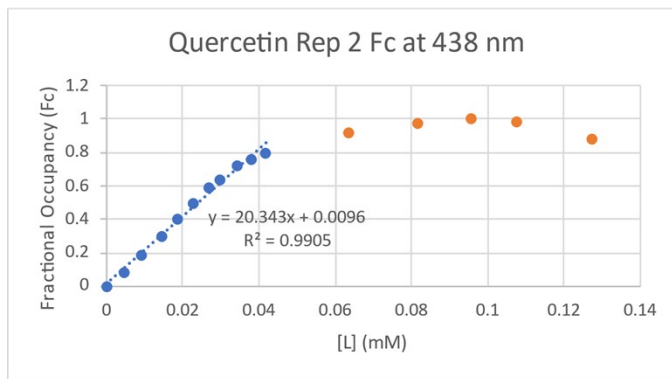
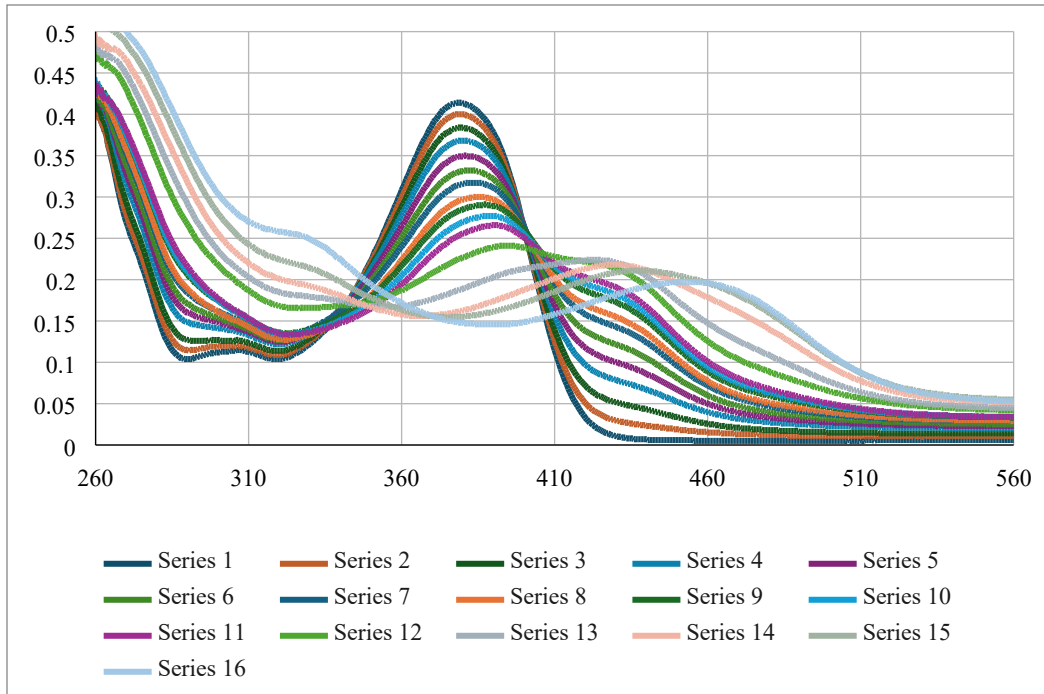


**Quercetin – Fe(II) Chelation**

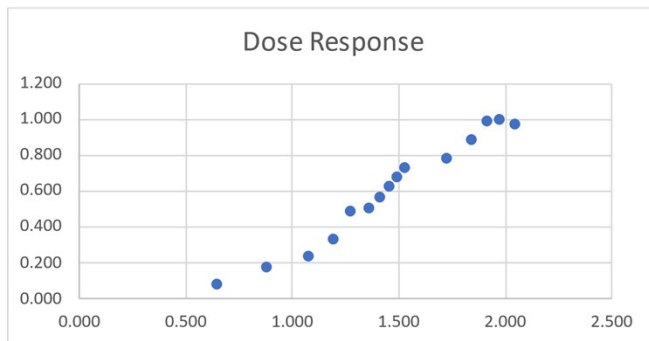
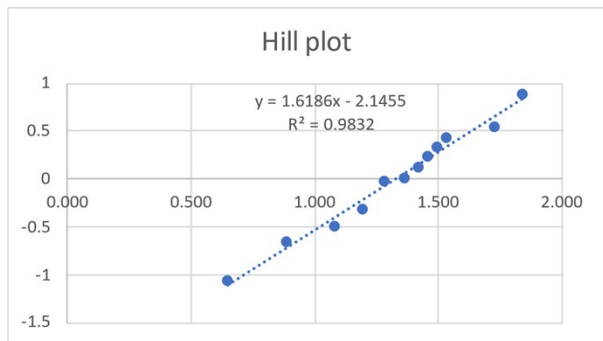
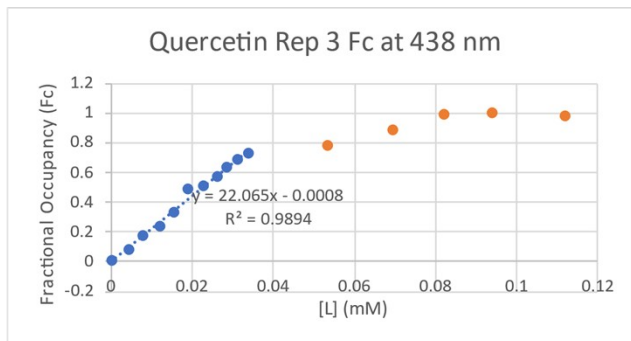
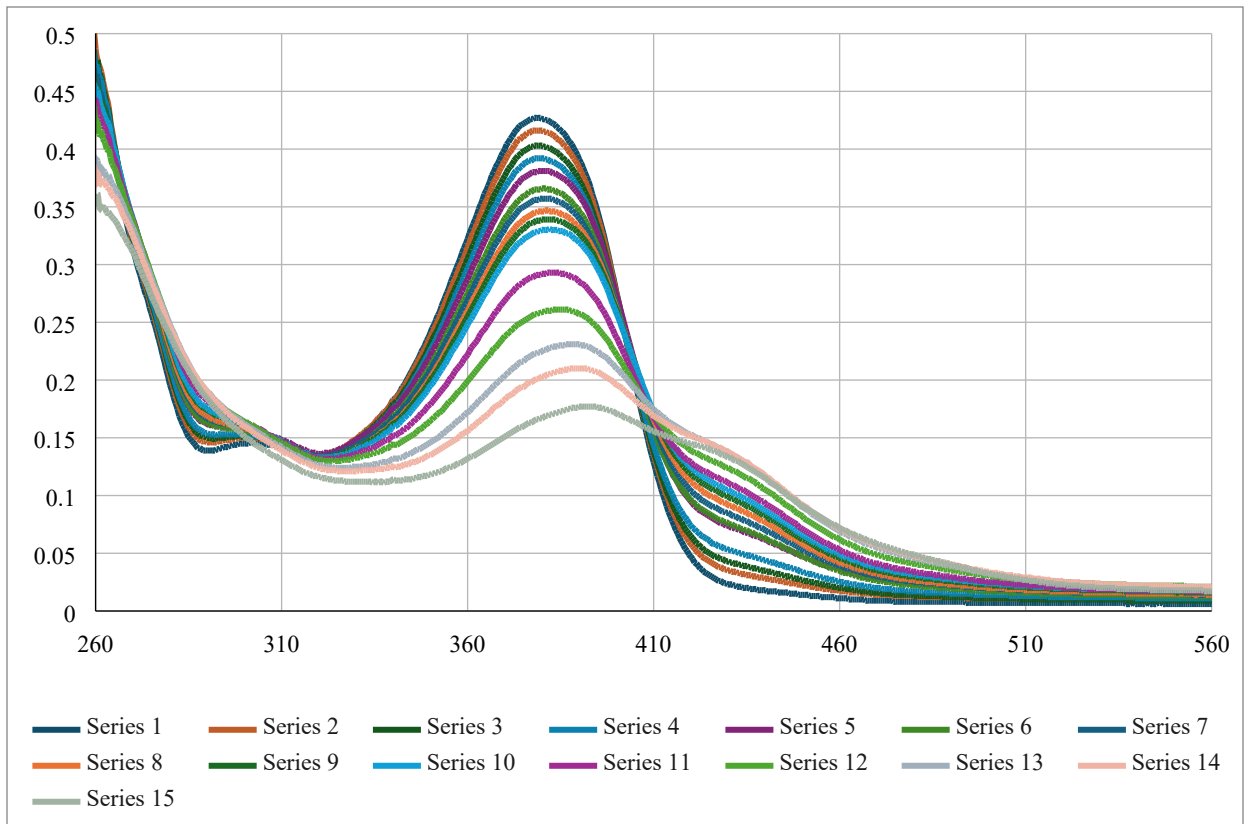
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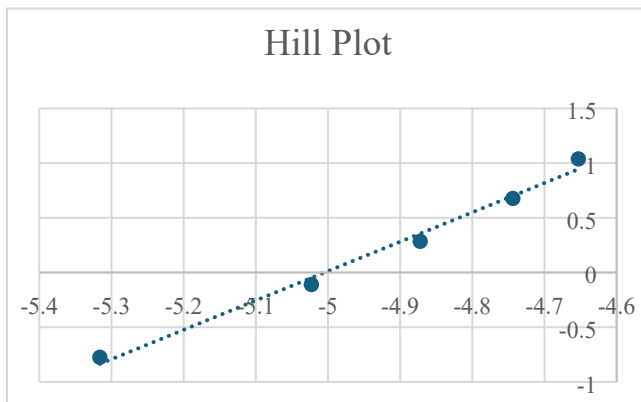
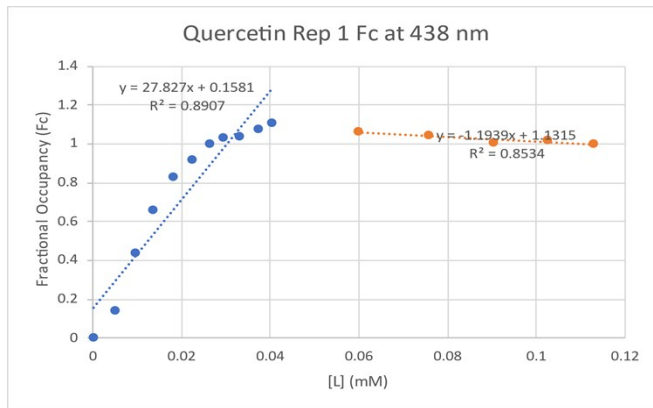
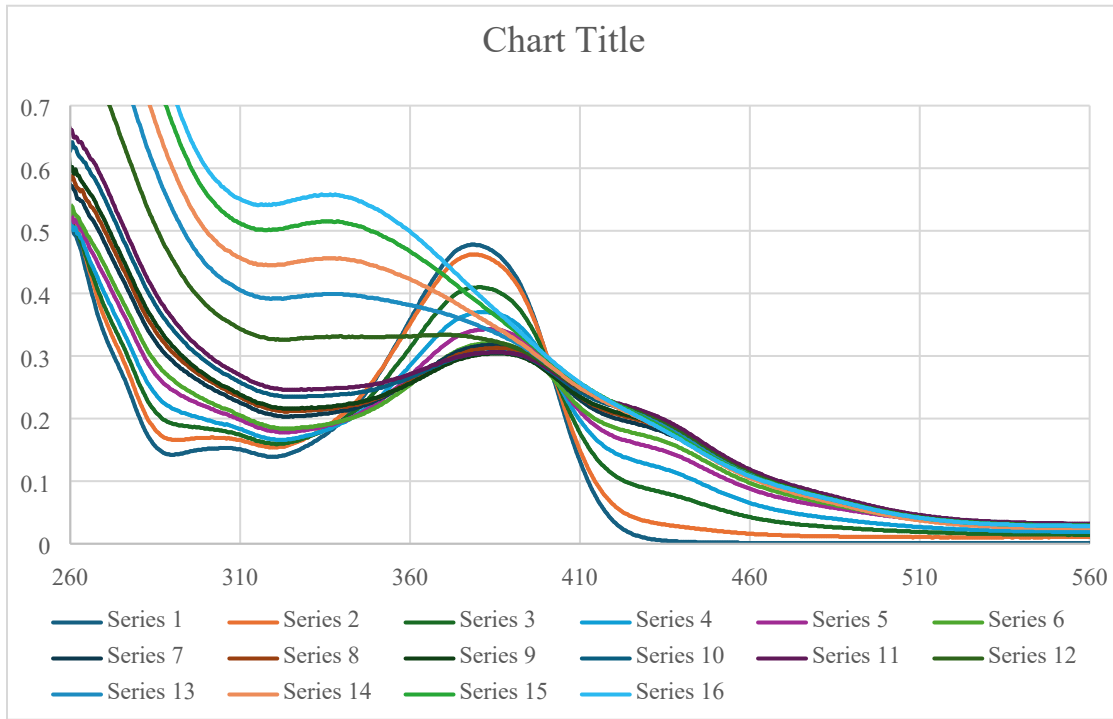
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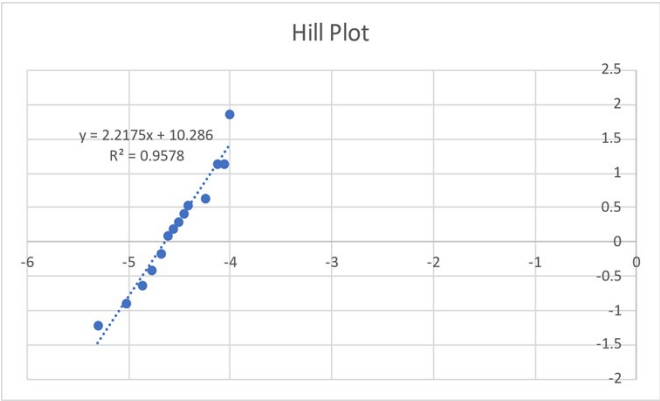
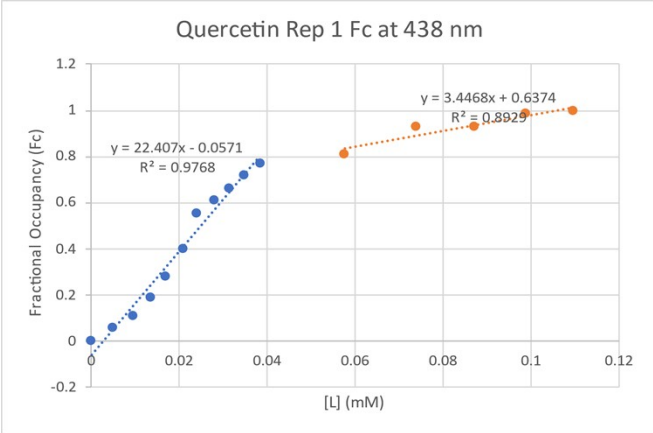
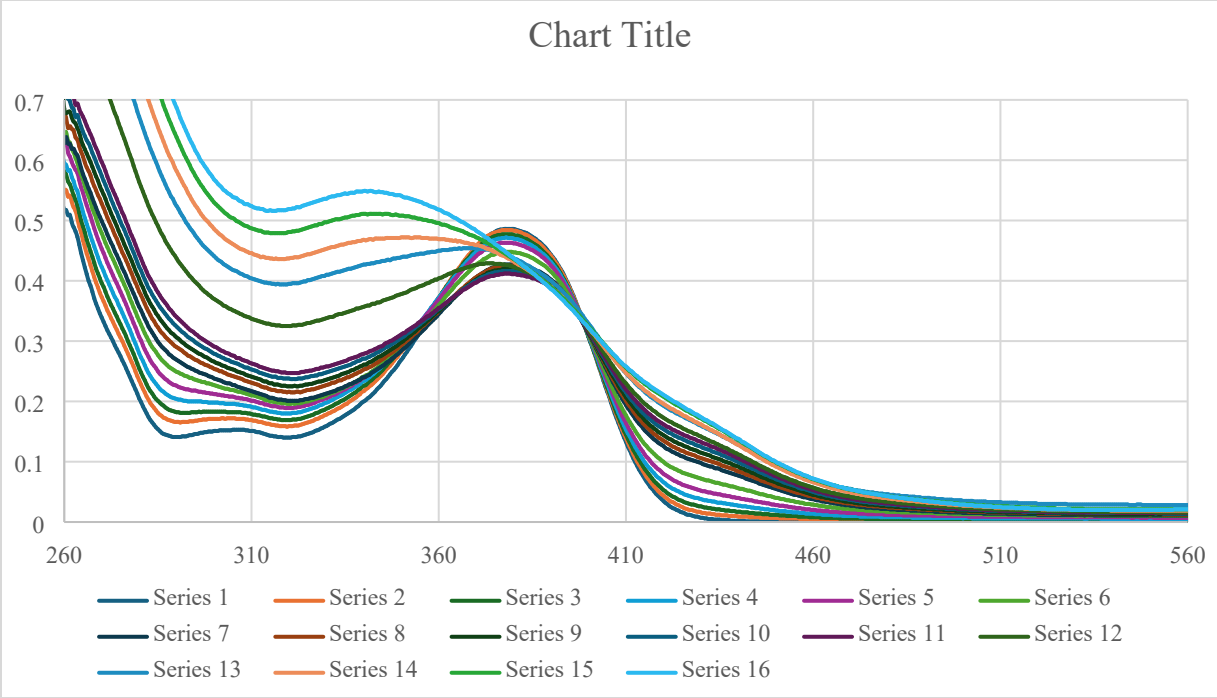
**Quercetin – Fe(III) Chelation**



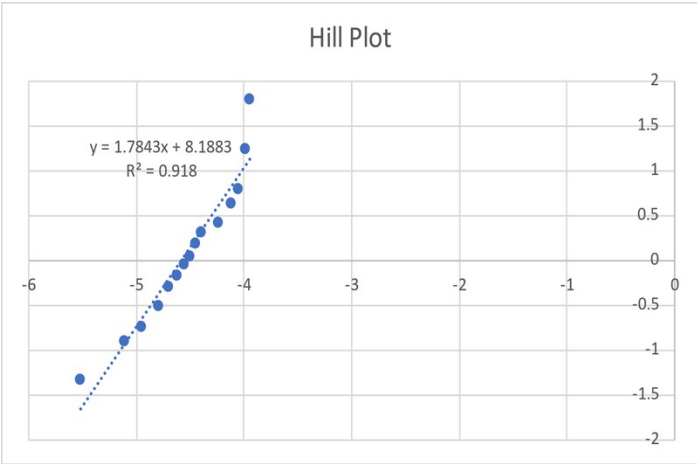
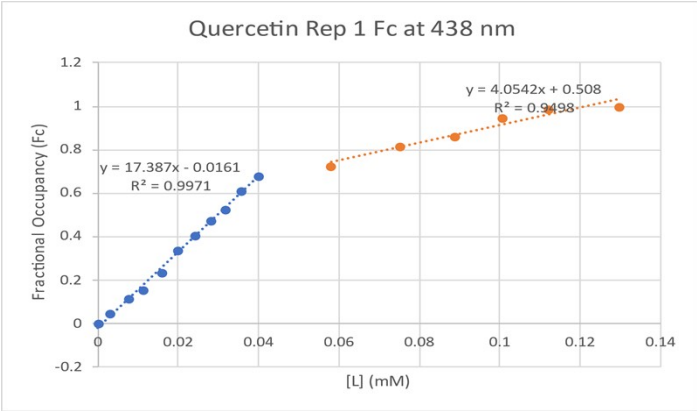
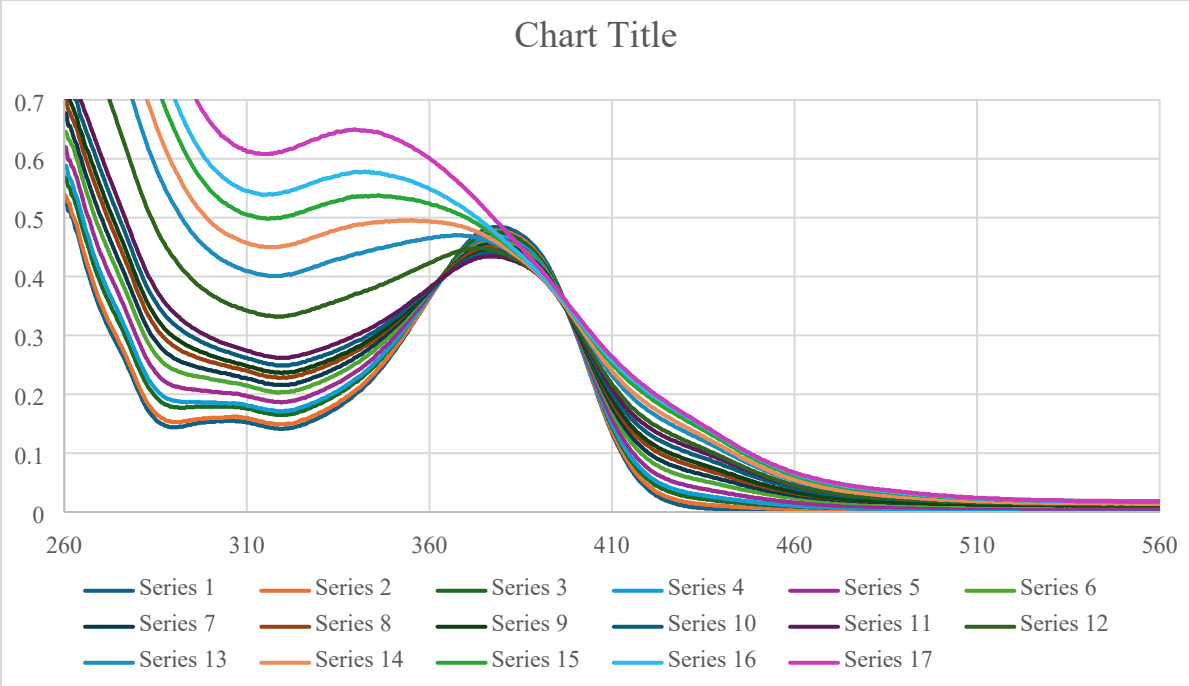
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### Replicate 2

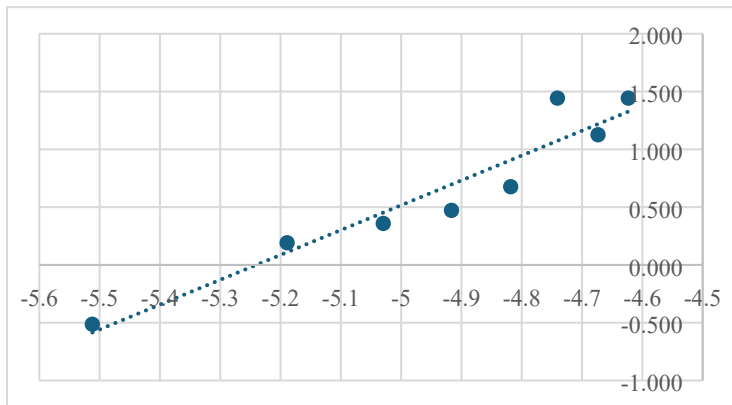
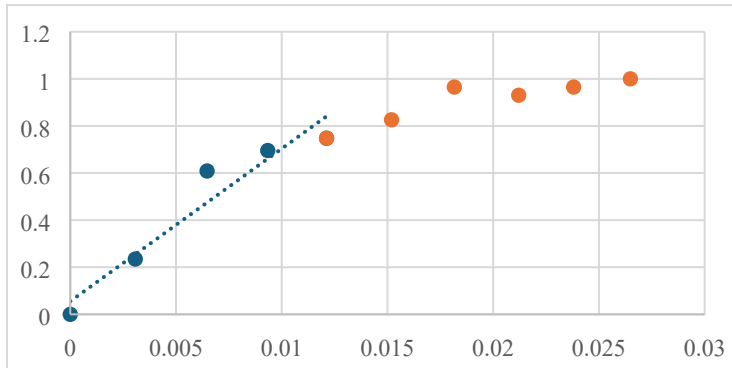
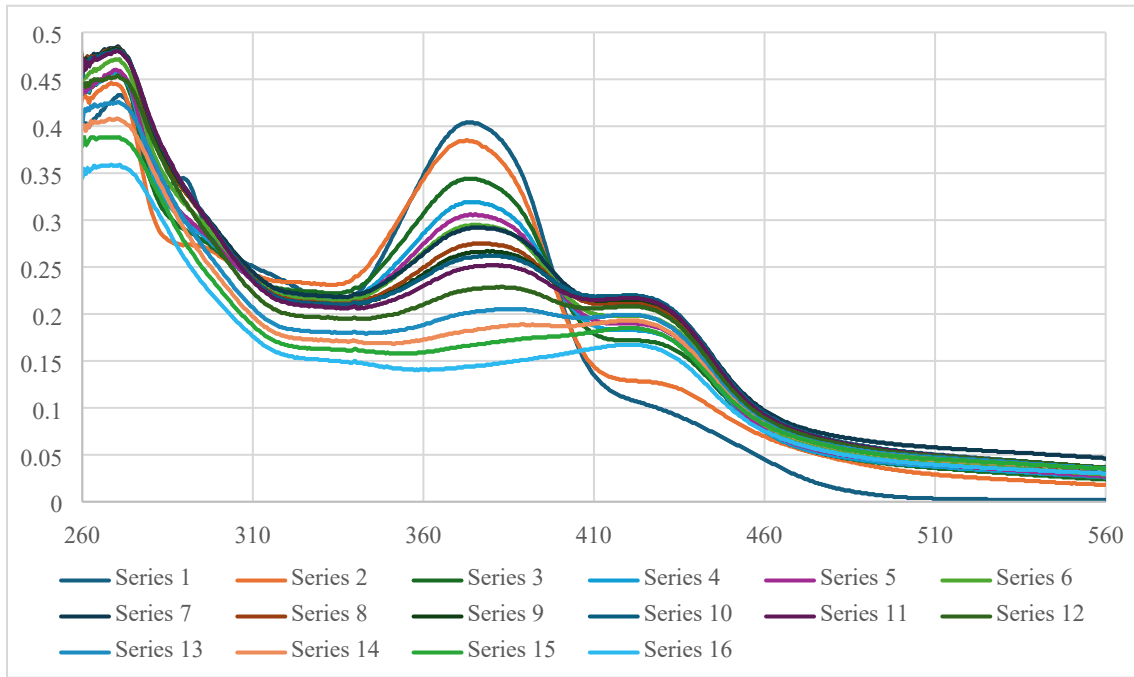


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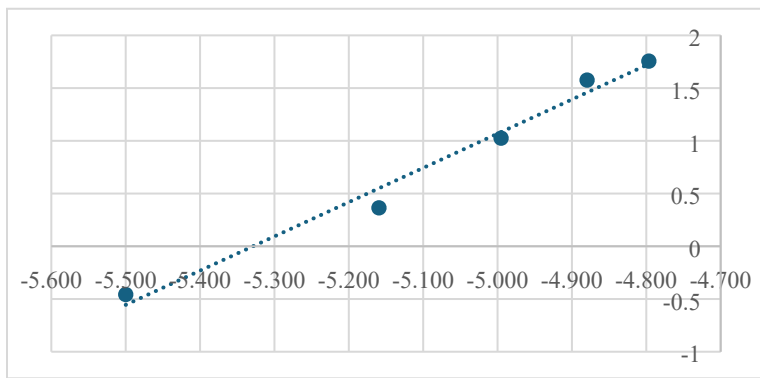
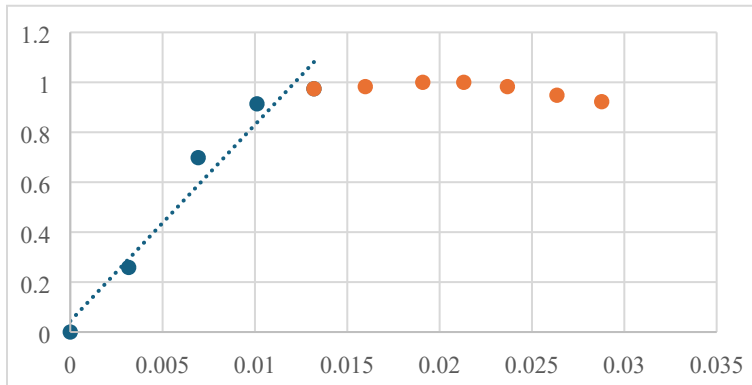
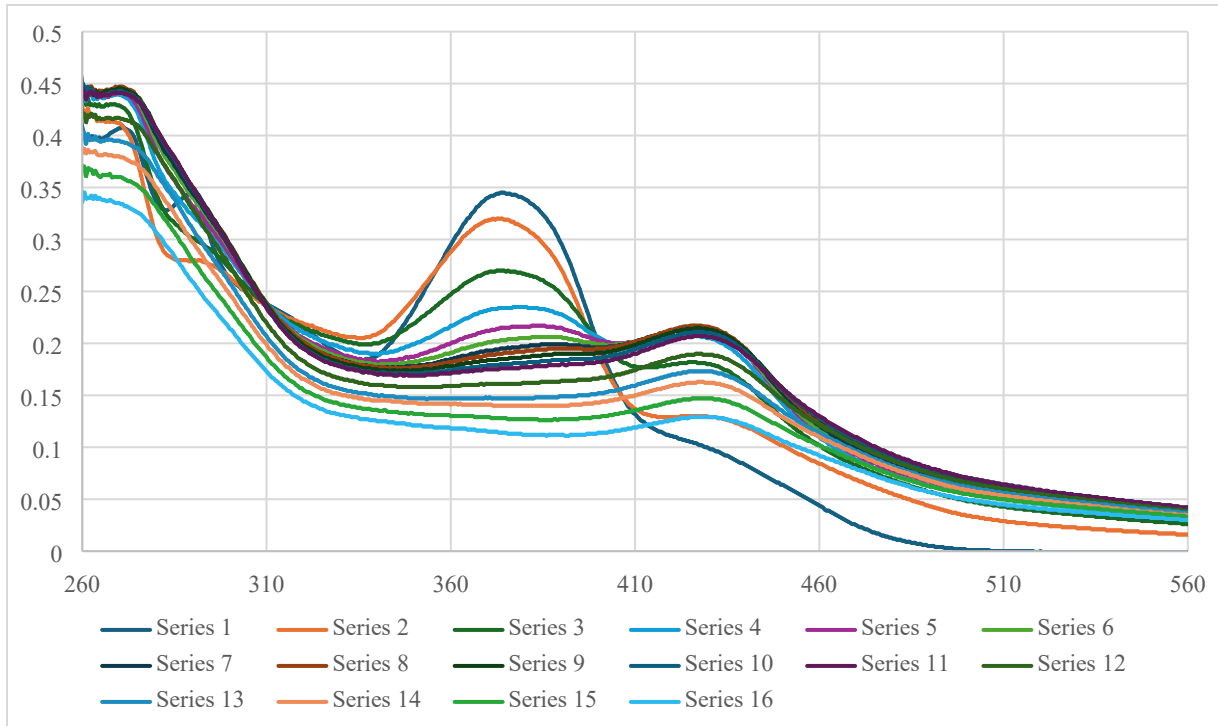


**Kaempferol – Fe(II) chelation**

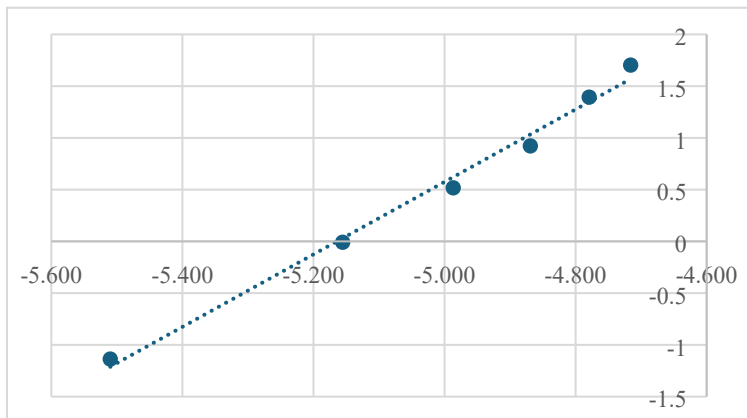
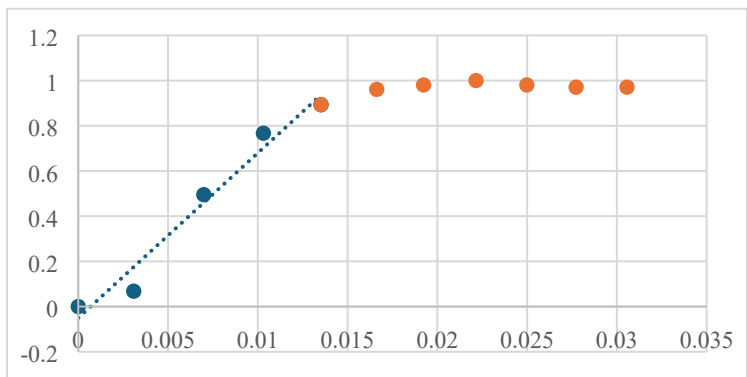
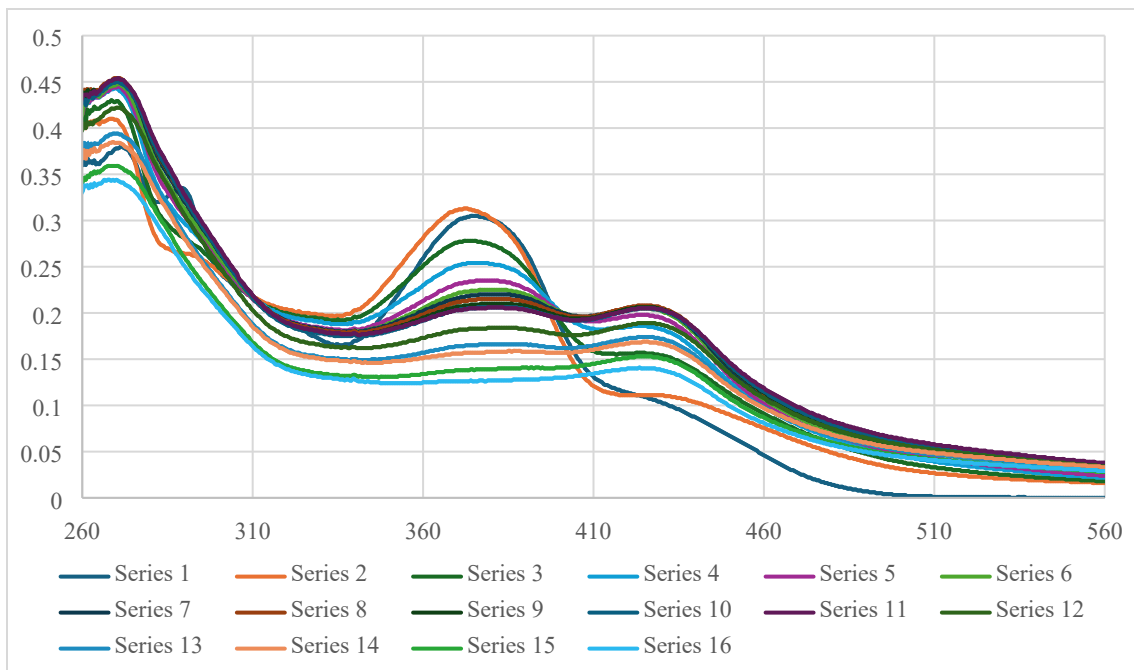
### Replicate 1



### Replicate 2

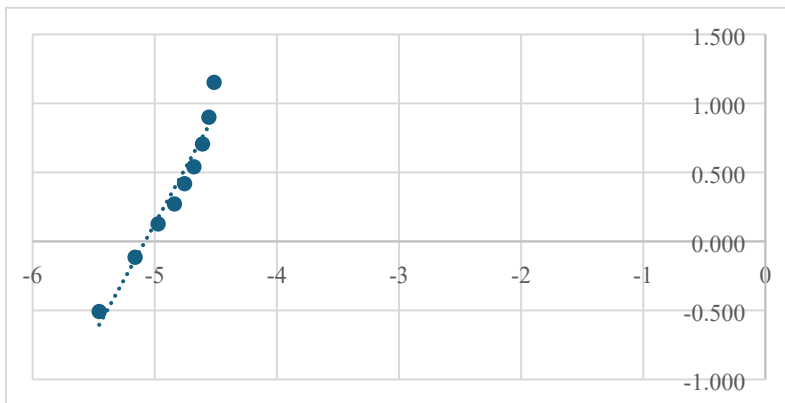
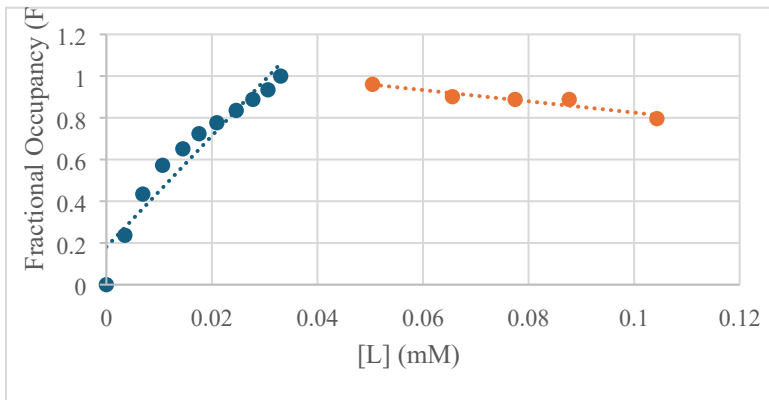
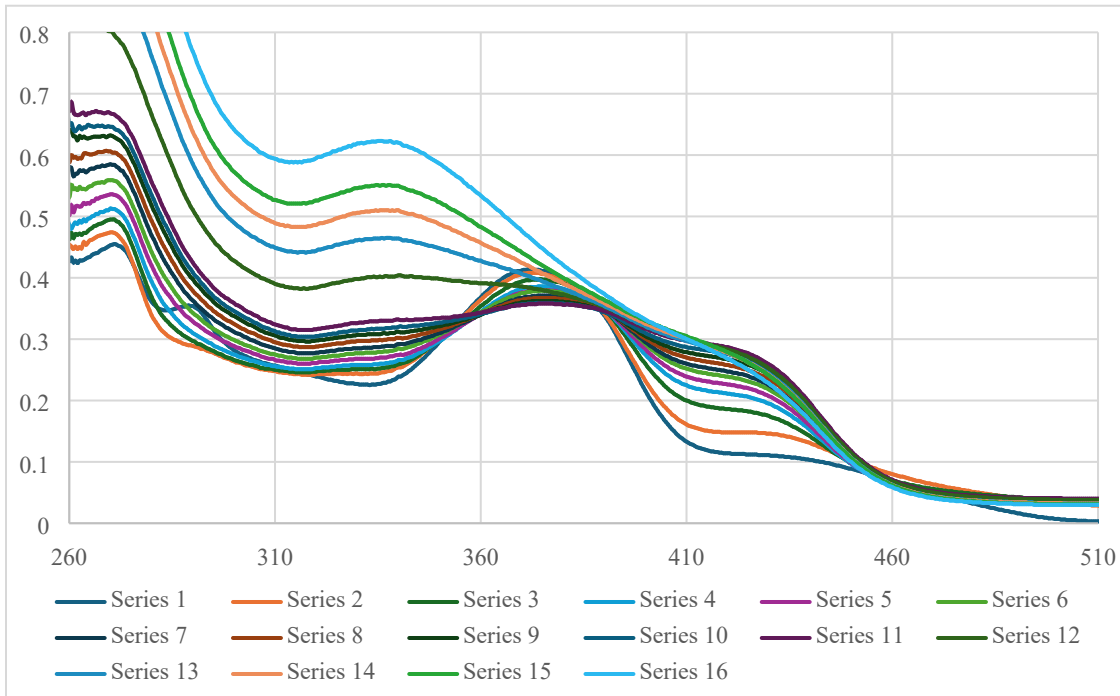


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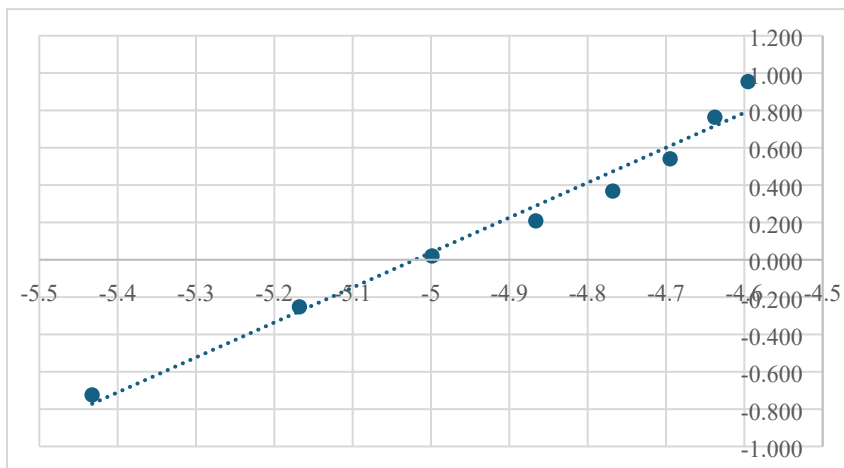
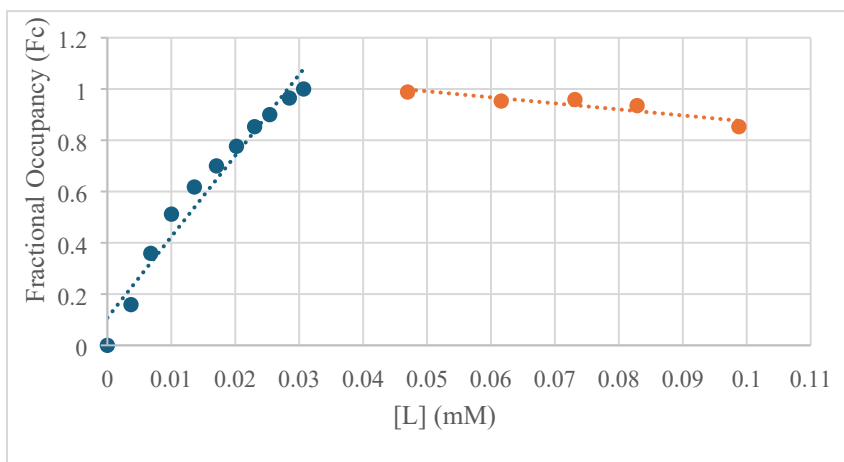
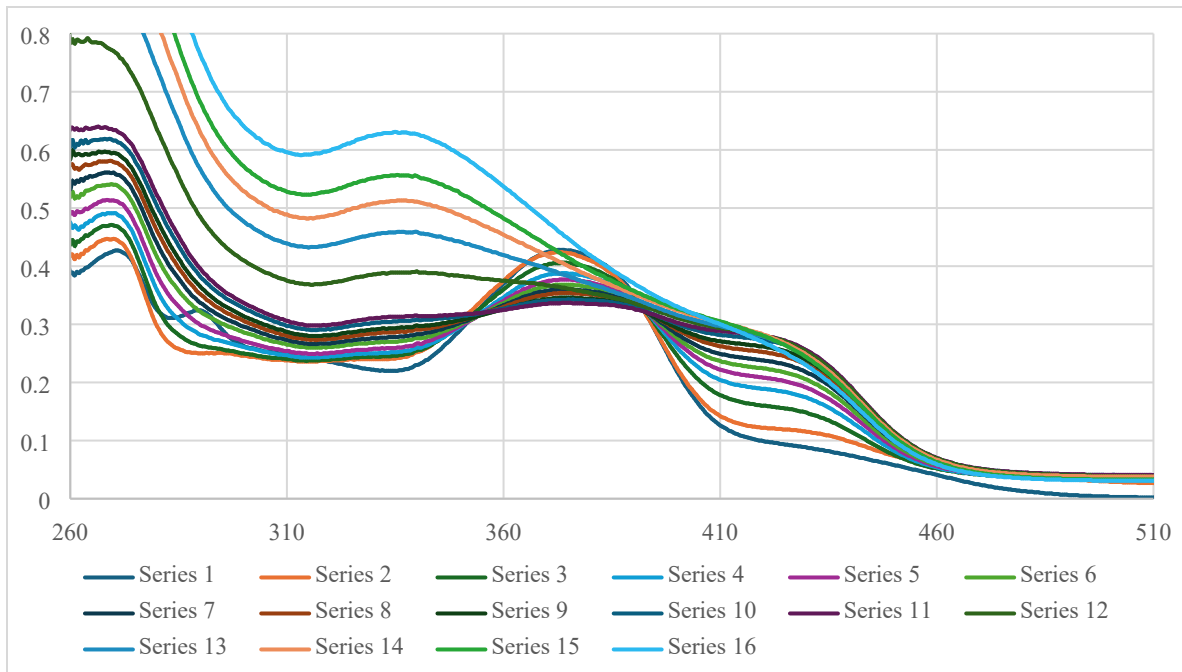


**Kaempferol – Fe(III) chelation**

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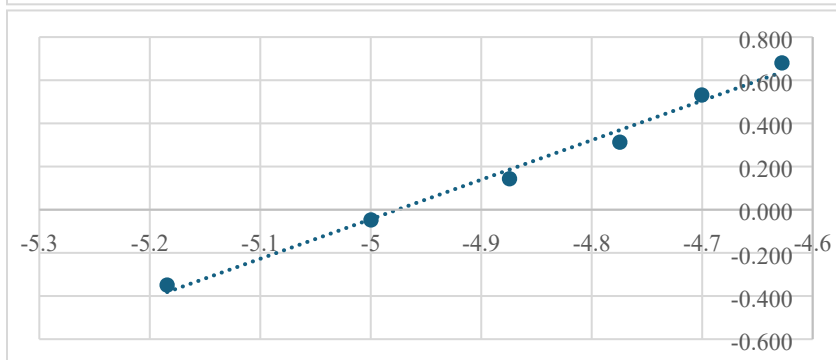
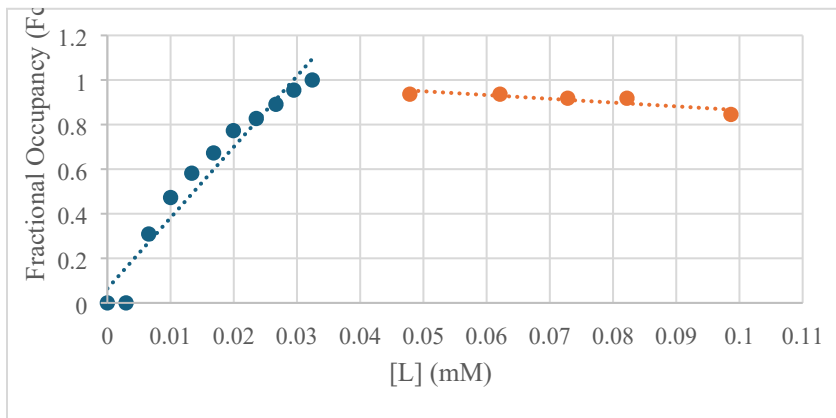
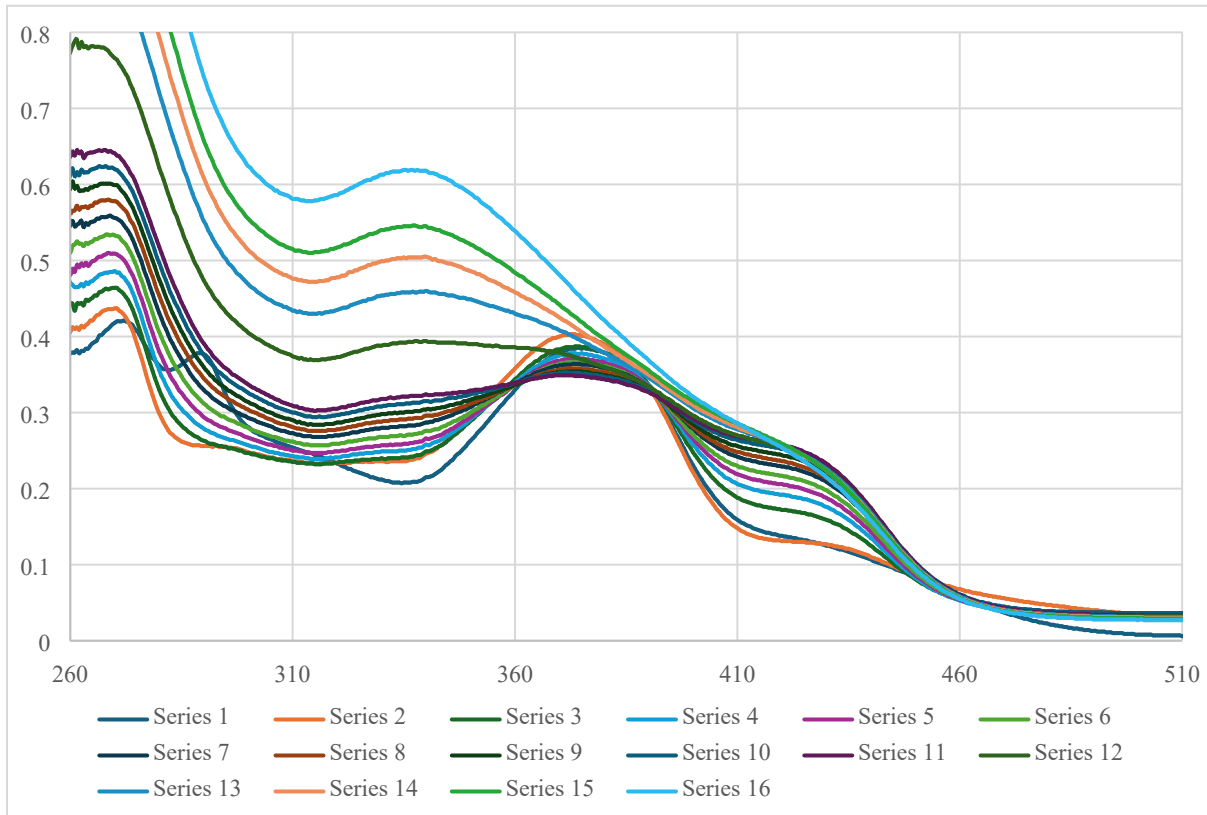


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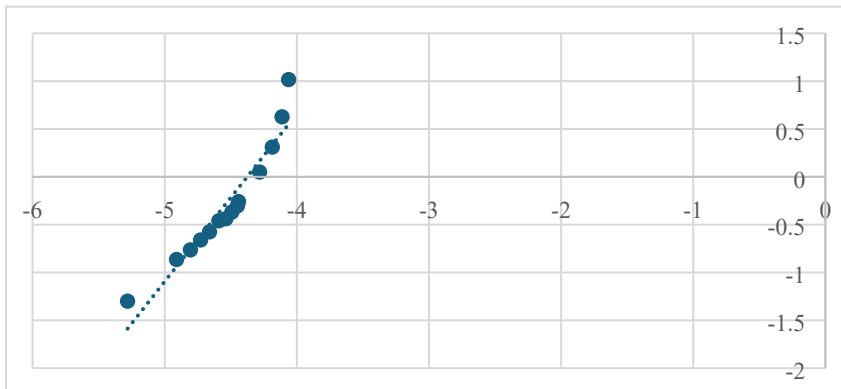
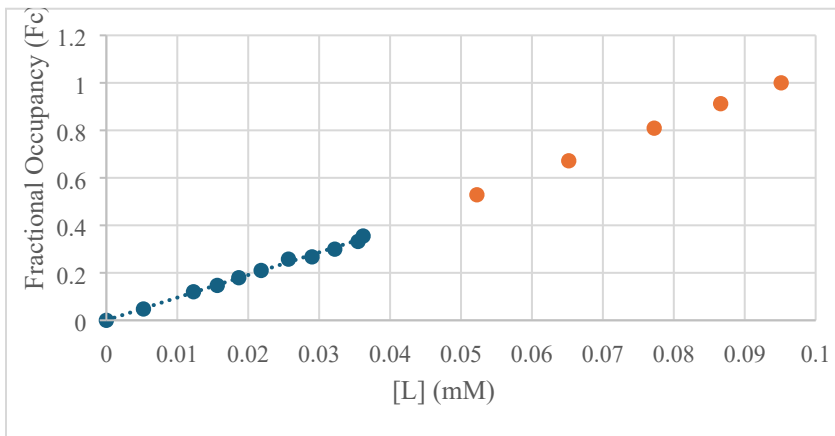
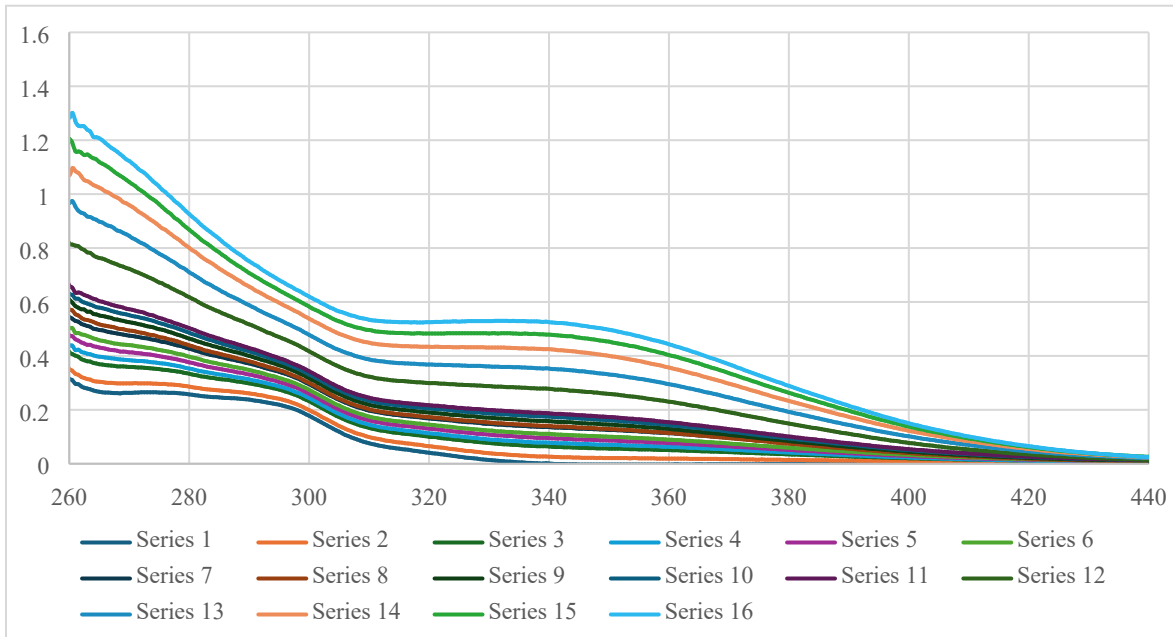


### Replicate 3

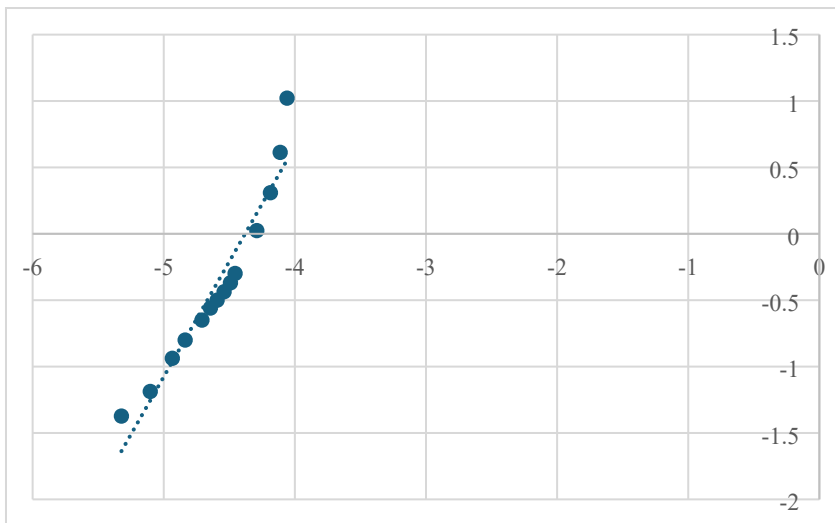
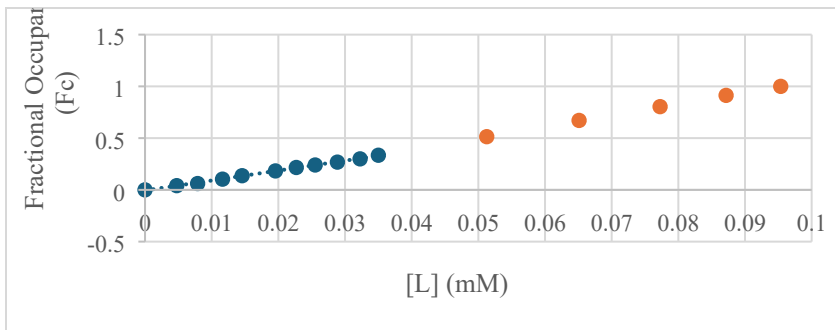
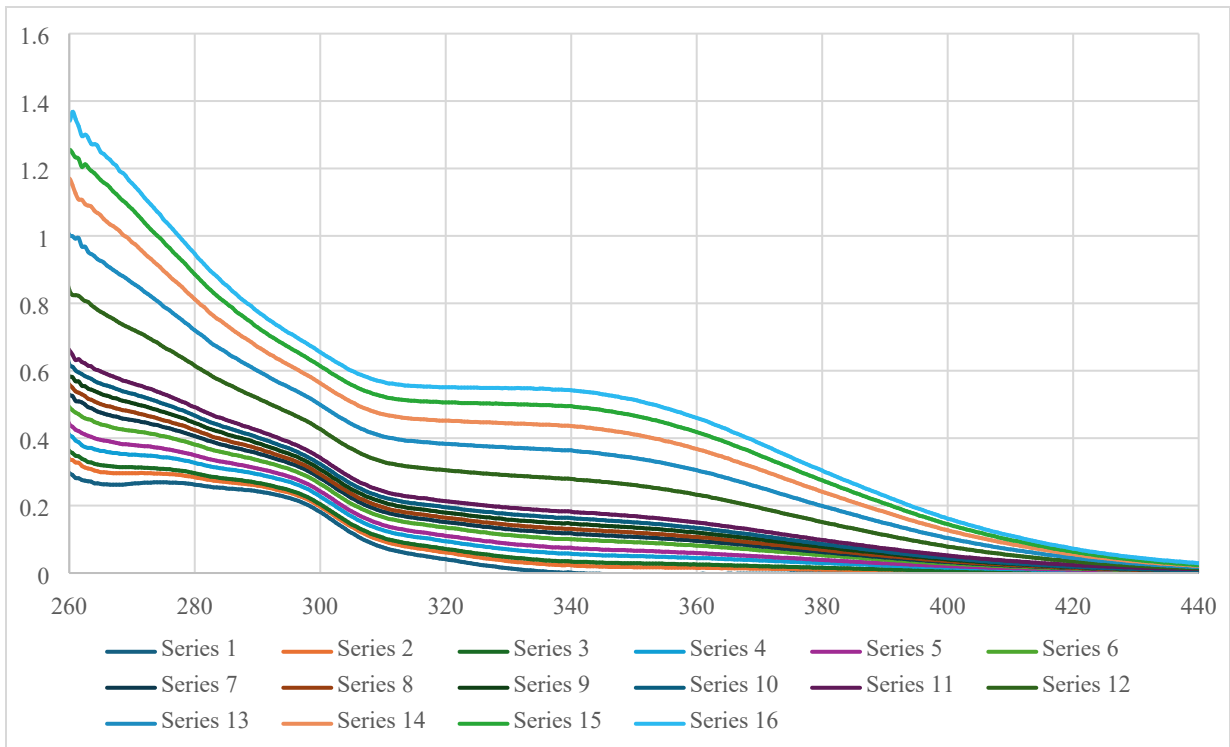


### Syringic Acid – Fe(III) chelation

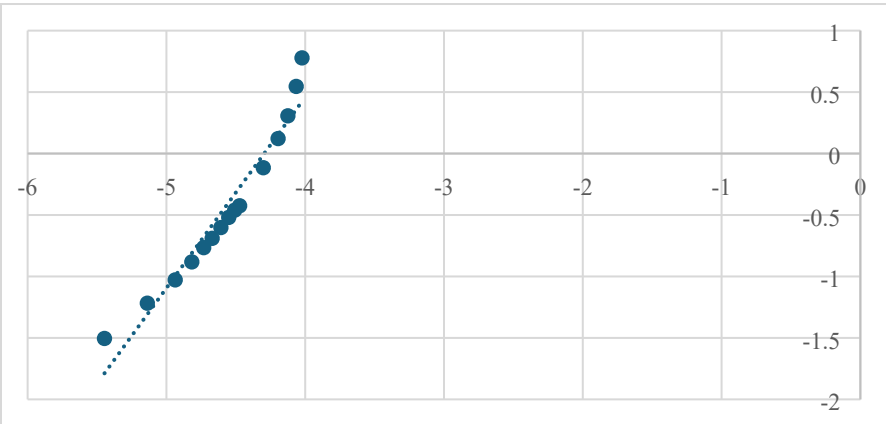
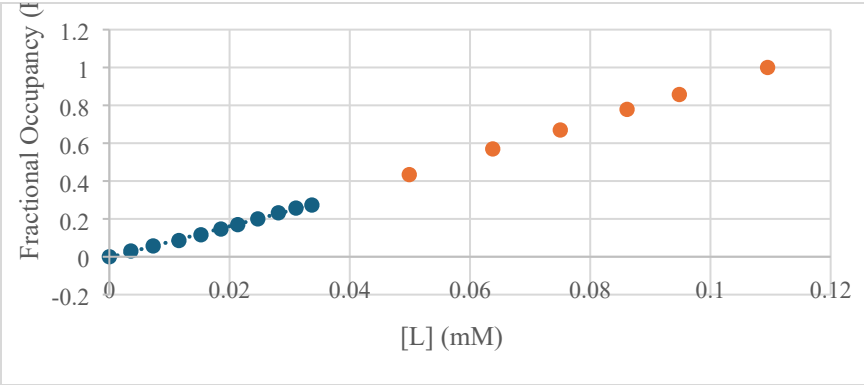
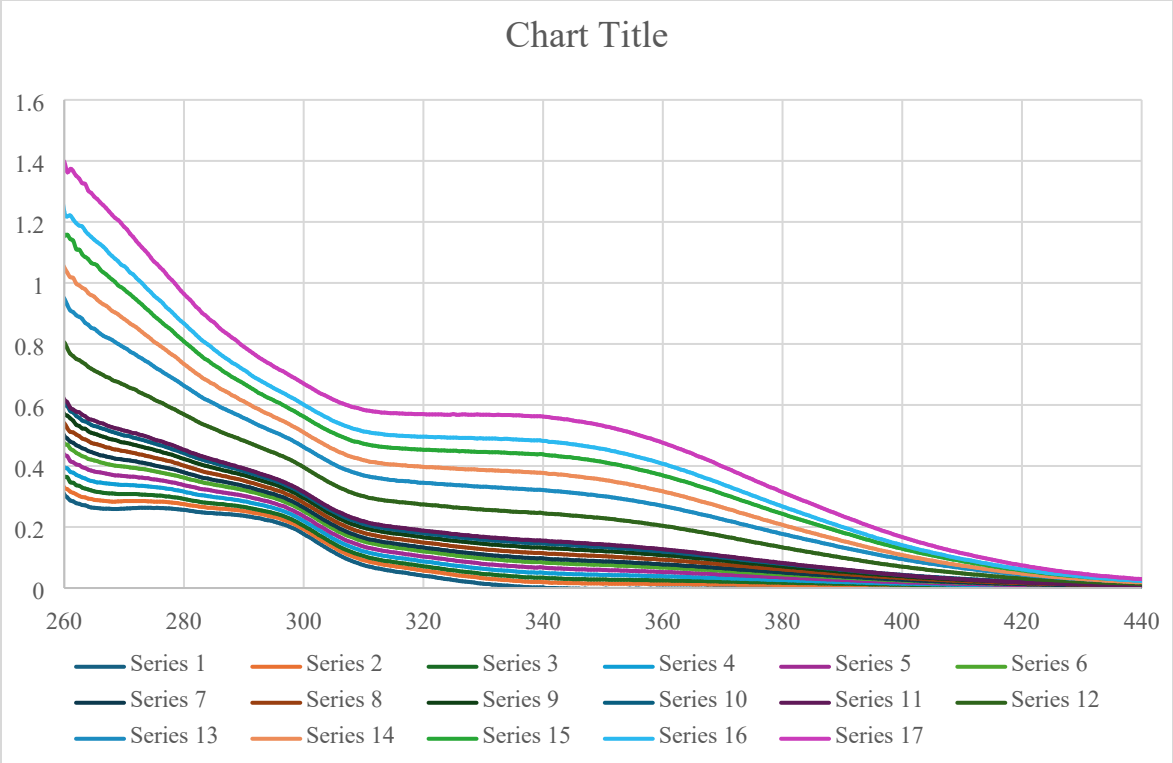
### Replicate 1



### Replicate 2

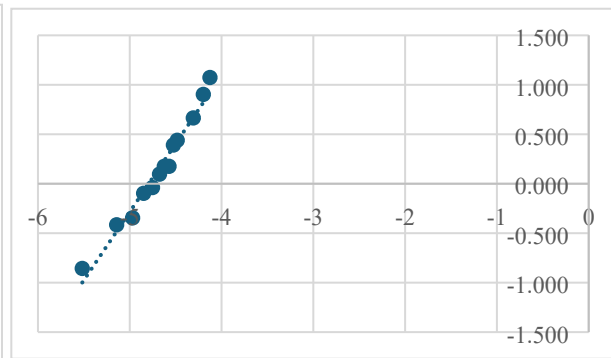
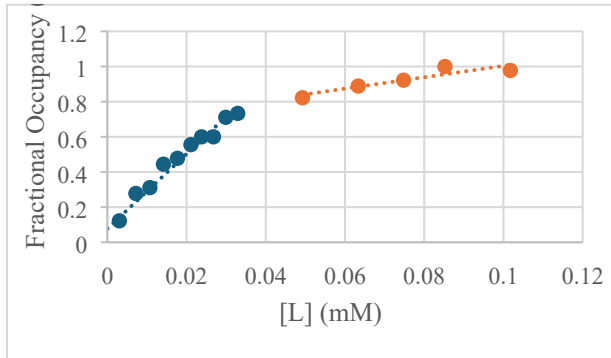
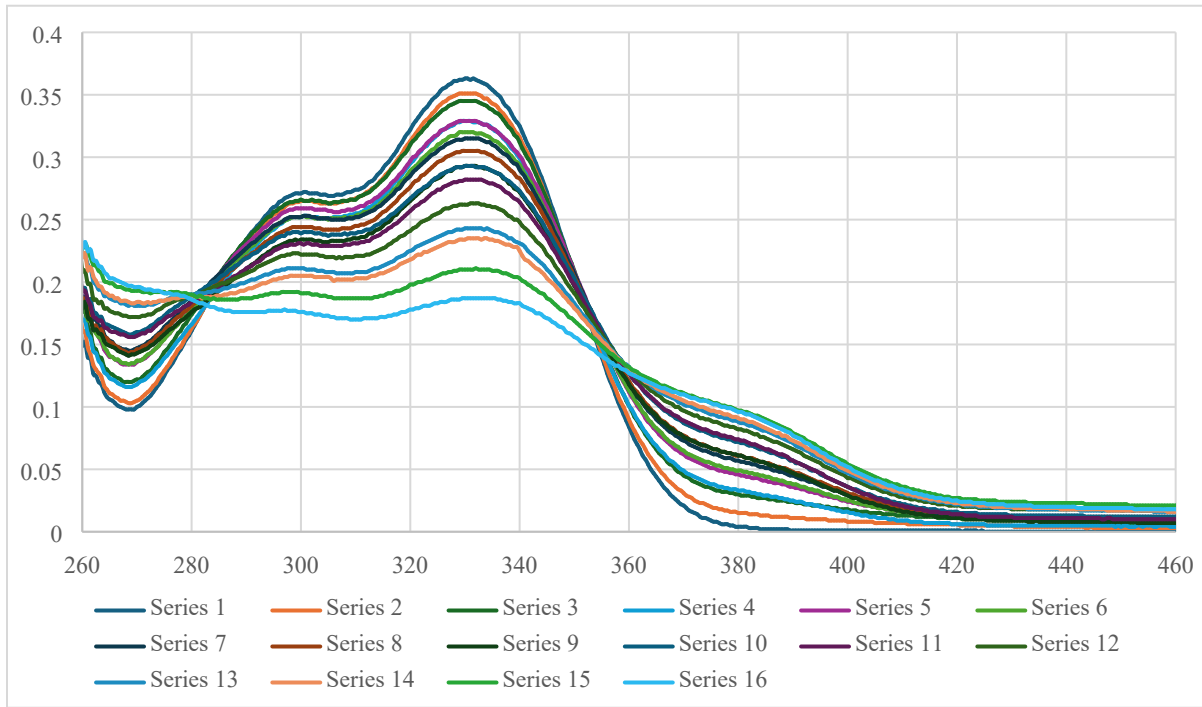


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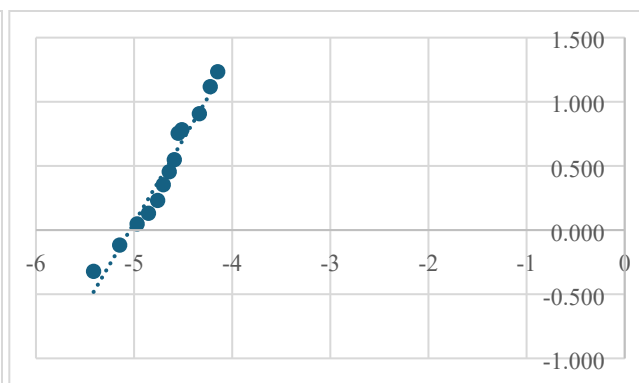
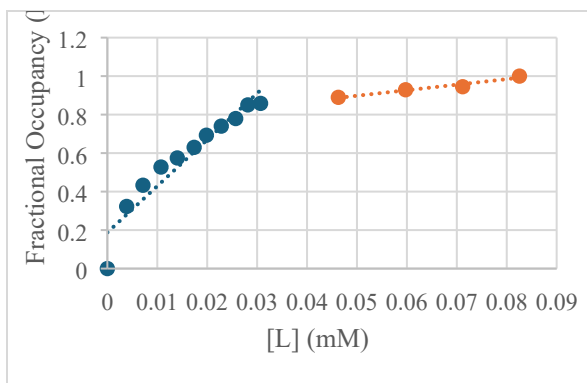
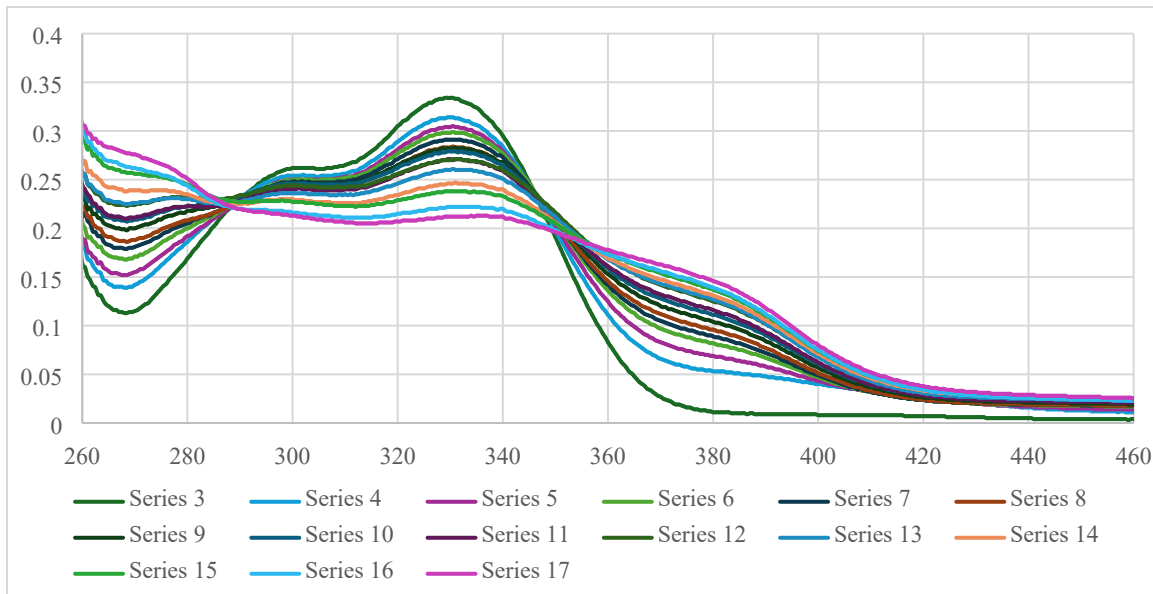


**Caffeic Acid – Fe(II) chelation**

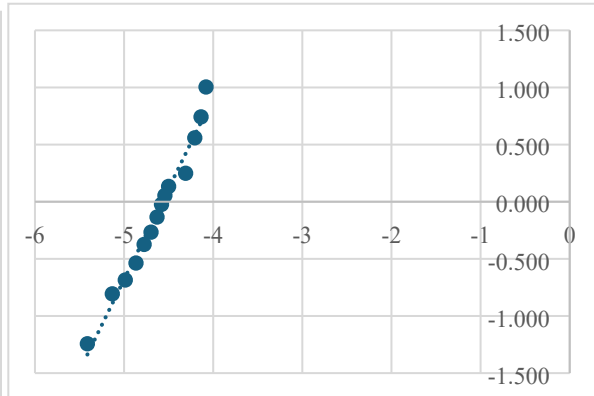
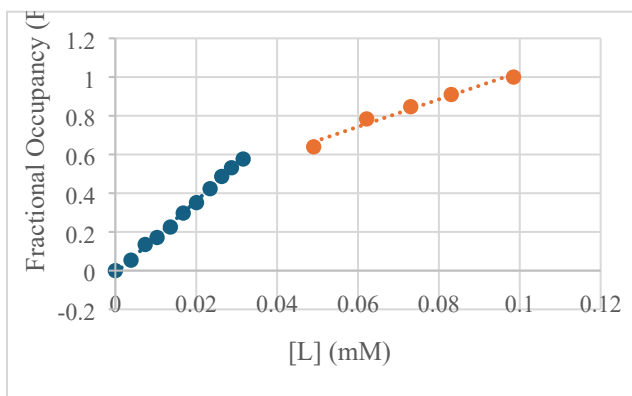
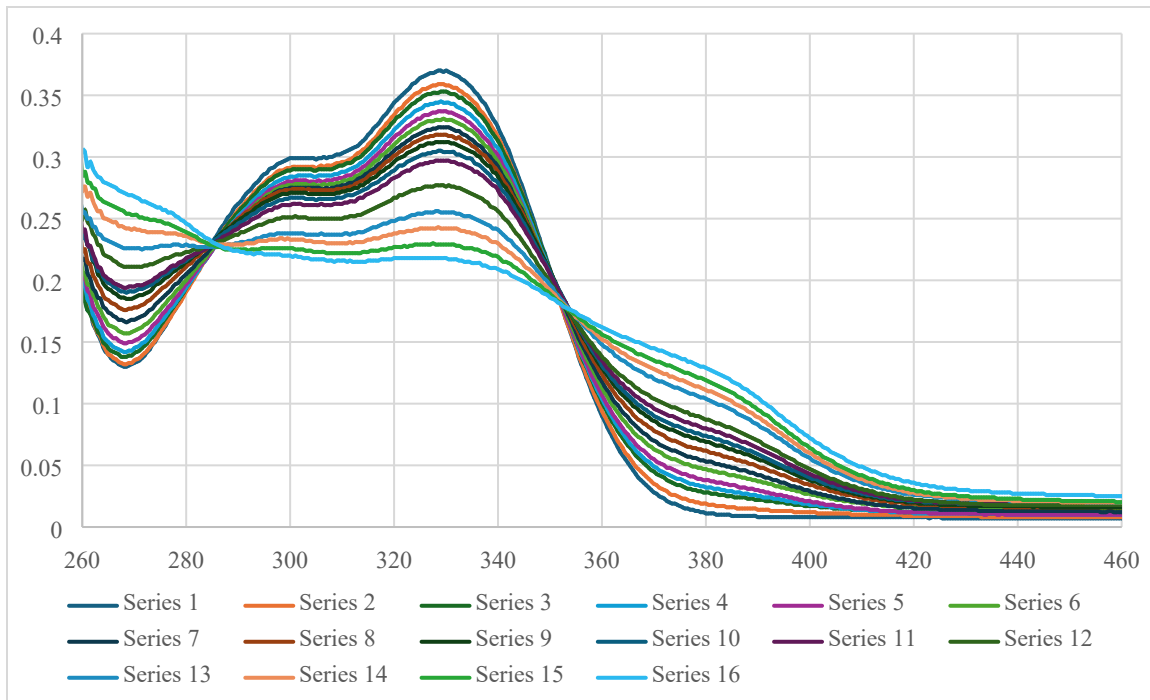
### Replicate 1



### Replicate 2



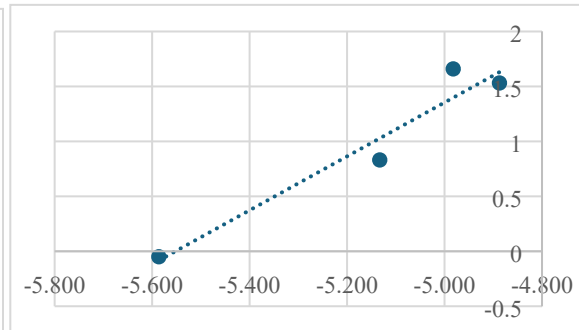
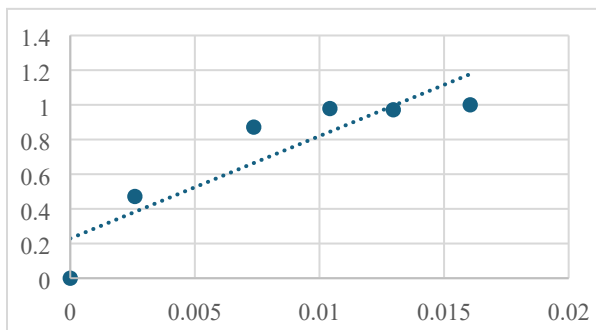
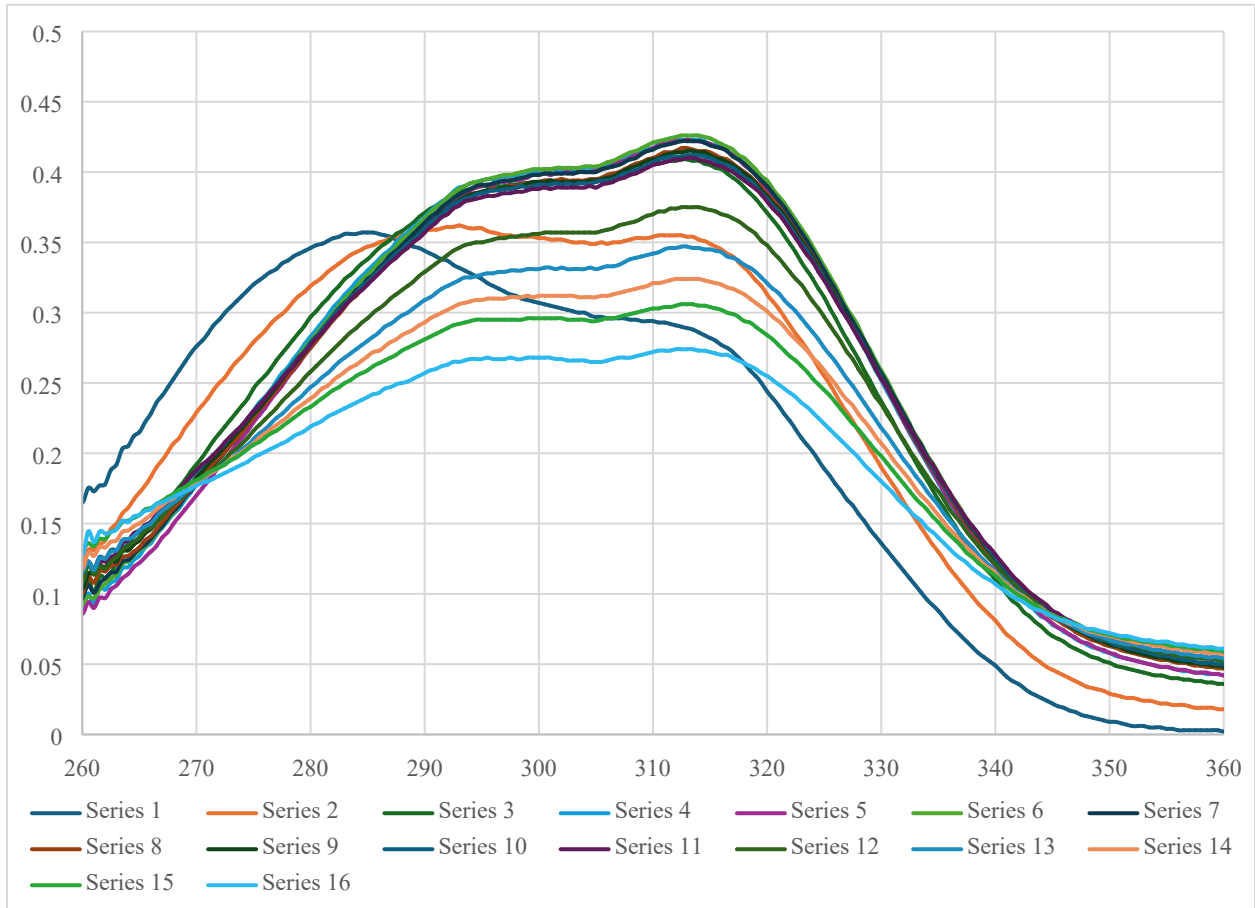
Replicate 3



**p-Coumaric Acid – Fe(II) chelation**

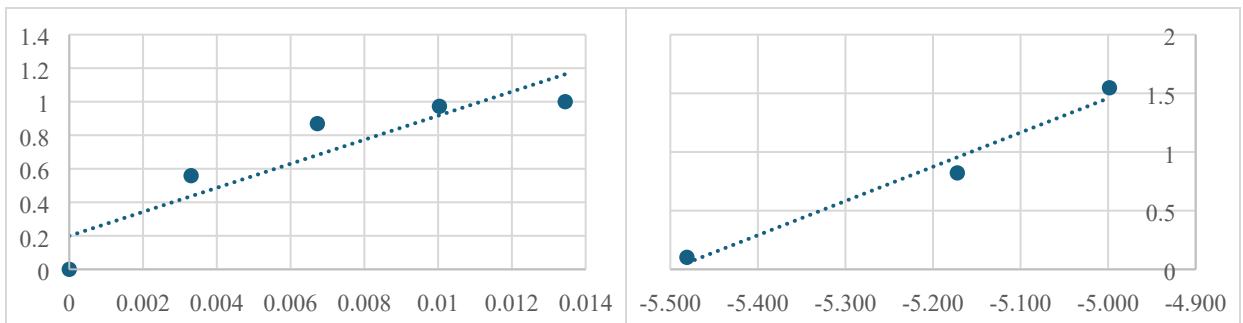
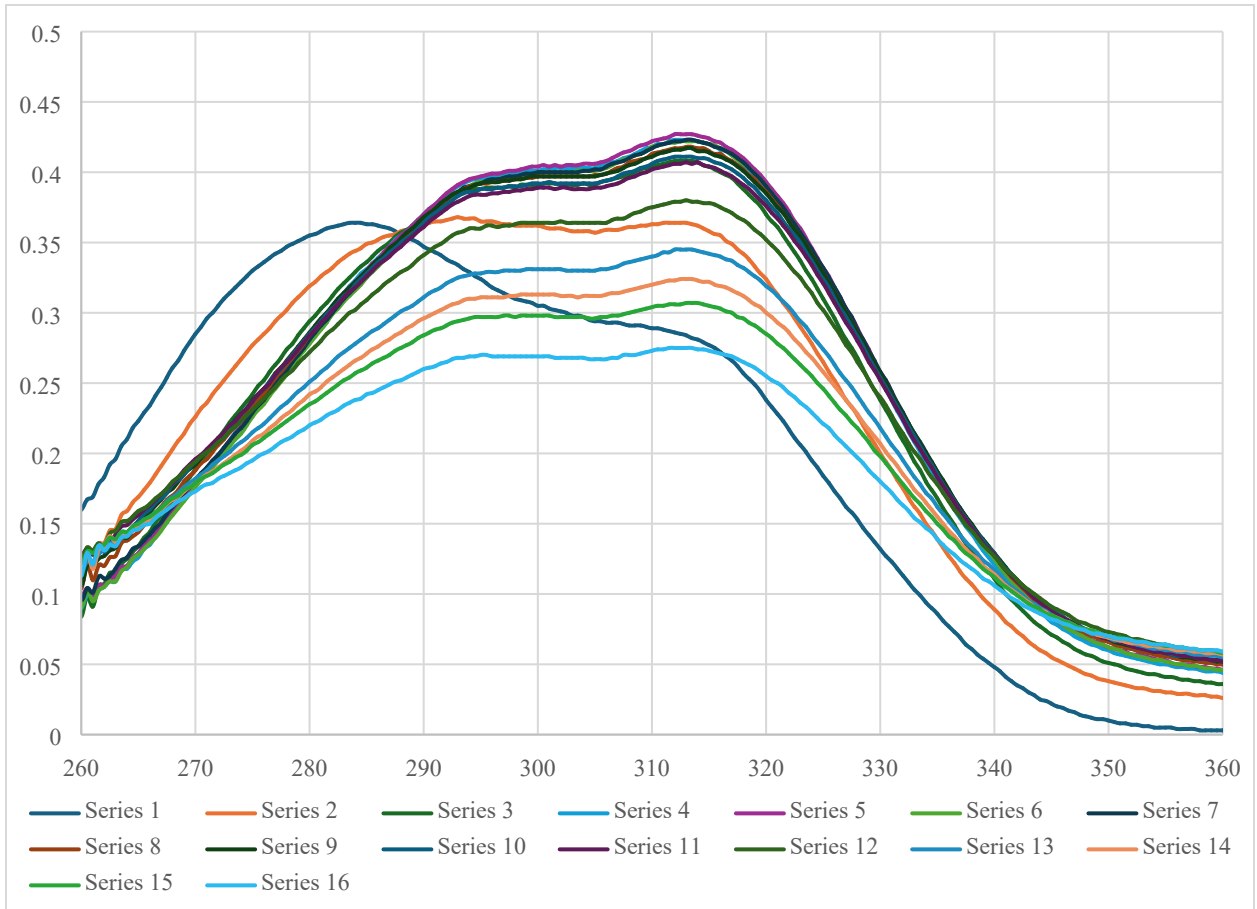
Note: For chelation experiments of p-coumaric acid, the absorbance at 314 nm sharply lowered at higher Fe(II) dosages, thereby limiting the calculation of fractional occupancy to the first 3-5 data points.

### Replicate 2



### Replicate 3





**Summary Table**

Hill Coefficients	Fe(II)						Fe(III)		
Model Compound	Rep 1	Rep 2	Rep 3	Average	Std Dev	Rep 1	Rep 2	Rep 3	
<i>Myricetin</i>	2.836	2.388		2.612	0.317	2.432	1.985	1.885	
<i>Quercetin</i>	1.829	2.044	1.619	1.831	0.213	2.685	2.218	1.781	
<i>Kaempferol</i>	2.150	3.247	3.503	2.967	0.719	1.609	1.872	1.885	
<i>Syringic Acid</i>	0.000	0.000	0.000	0.000	0.000	1.754	1.736	1.550	
<i>Gallic Acid</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
<i>p-Coumaric Acid</i>		2.452	2.917	2.684	0.329	0.000	0.000	0.000	
<i>Caffeic Acid</i>	1.380	1.302	1.595	1.426	0.152	0.000	0.000	0.000	
<i>Vanillic Acid</i>	0.000	0.000		0.000	0.000	0.000	0.000		
<i>Fructose</i>	0.000	0.000		0.000	0.000	0.000	0.000		
<i>Arabinose</i>	0.000	0.000		0.000	0.000	0.000	0.000		
<i>Xylose</i>	0.000	0.000		0.000	0.000	0.000	0.000		
<i>Glucose</i>	0.000	0.000		0.000	0.000	0.000	0.000		
<i>Tannic Acid (0.01 mM)</i>	0.090	0.060		0.075	0.021	0.002	0.002	0.000	