ECOTOXICOLOGIA

AULA TP 5

Planeamento das Aulas

Aula 1 – Introdução aos Testes de Ecotoxicologia. Biomarcadores e Delineamento Experimental

Aula 2 – Efeitos do Glifosato no crescimento dos organismos teste (taxas de inibição e constantes de inibição IC50). Marcadores biofísicos de toxicidade I

Aula 3 – Marcadores biofísicos de toxicidade II

Aula 4 – Marcadores bioquímicos de toxicidade I – Pigmentos vegetais

Aula 5 – Marcadores bioquímicos de toxicidade II – Pigmentos vegetais II

Aula 6 - Marcadores bioquímicos de toxicidade III – Dano Membranar

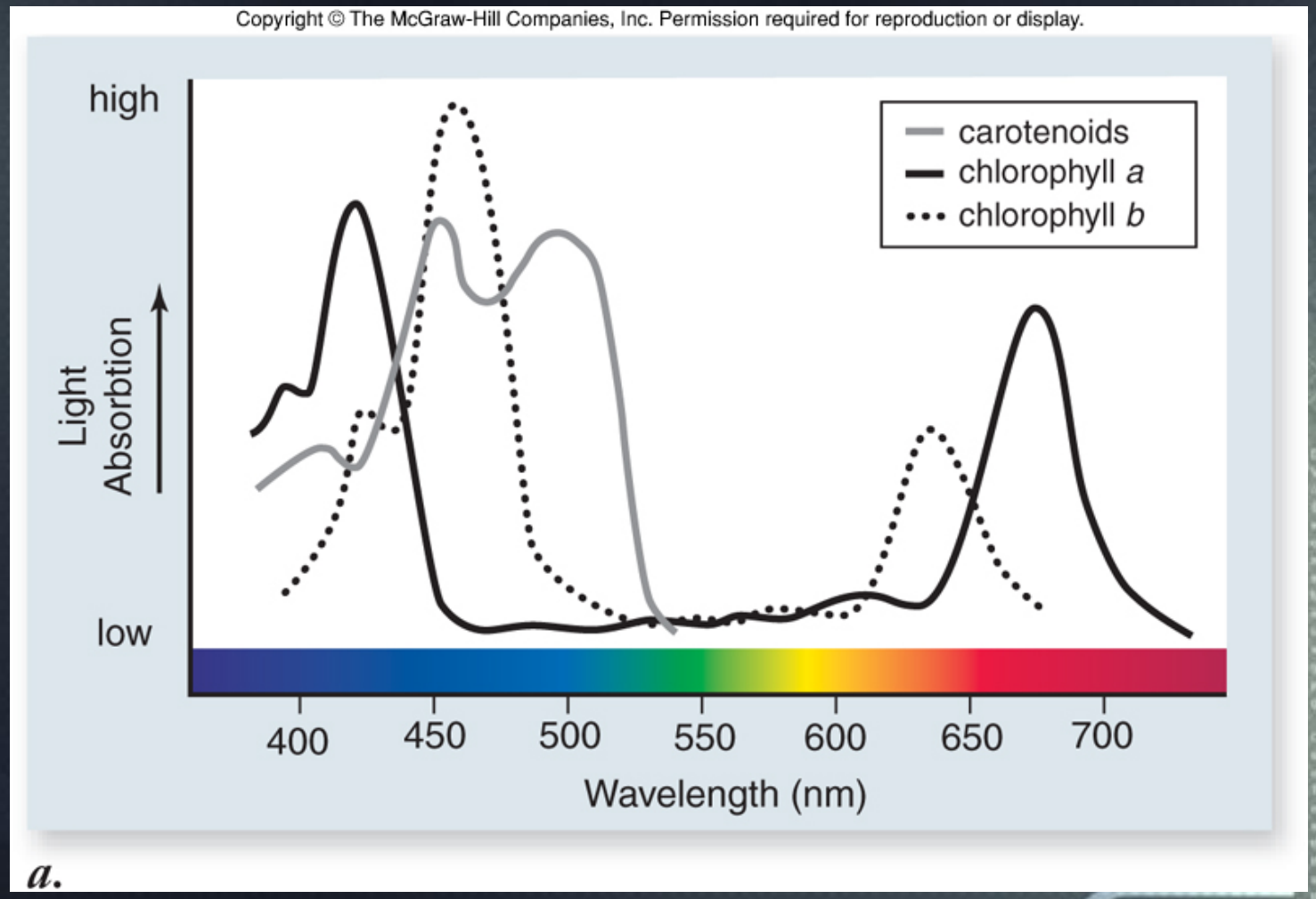
Aula 7 – Marcadores bioquímicos de toxicidade IV – Dano Membranar e Ácidos Gordos

Aula 8 - Marcadores bioquímicos de toxicidade III – SOD

Aula 9 – Técnicas de extração e análise de metais pesados

Aula 10 - Nanotoxicologia

PLANT PIGMENTS



Plant Pigments

1. Adicionar 1,5 mL de Acetona 100% ao pellet
2. Colocar as amostras no banho de ultra-sons.
3. Centrifugar as amostras
4. Fazer o Branco e a Linha de Base do Espectrofotometro com acetona apenas.
5. Usar 1 mL de sobrenadante para leitura no espectrofotómetro a 632 nm, 665 nm e 470 nm.

PLANT PIGMENTS

Clorofila a (ug/mL) = -2,6839 x $A_{632\ nm}$ + 13,2654 x $A_{665\ nm}$

Clorofila c (ug/mL) = 28,8191 x $A_{632\ nm}$ – 6,0138 x $A_{665\ nm}$

Carotenoides + Xantófilas (ug/mL) = (1000 x $A_{470\ nm}$ – 2,13 x Clorofila a – 97,63 x Clorofila c) / 209

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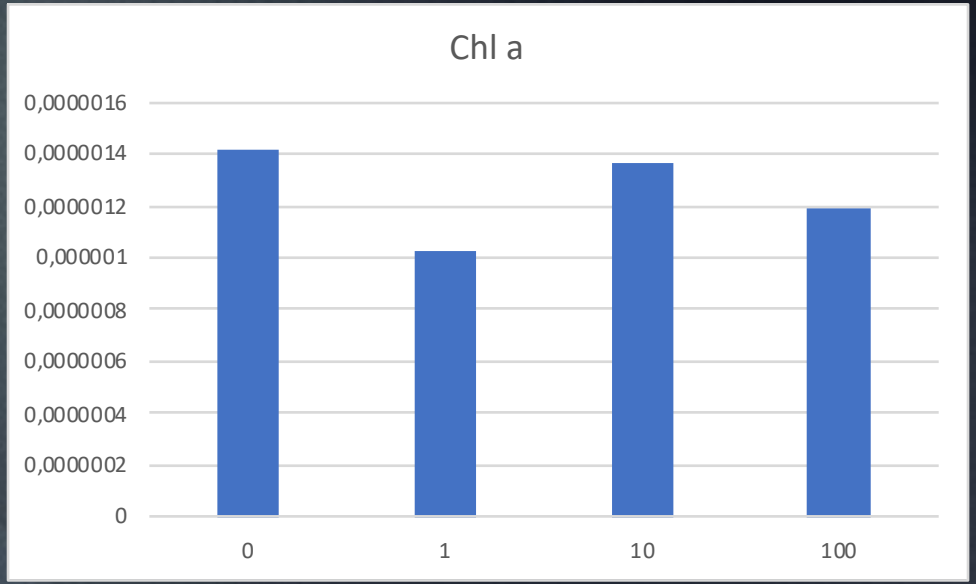
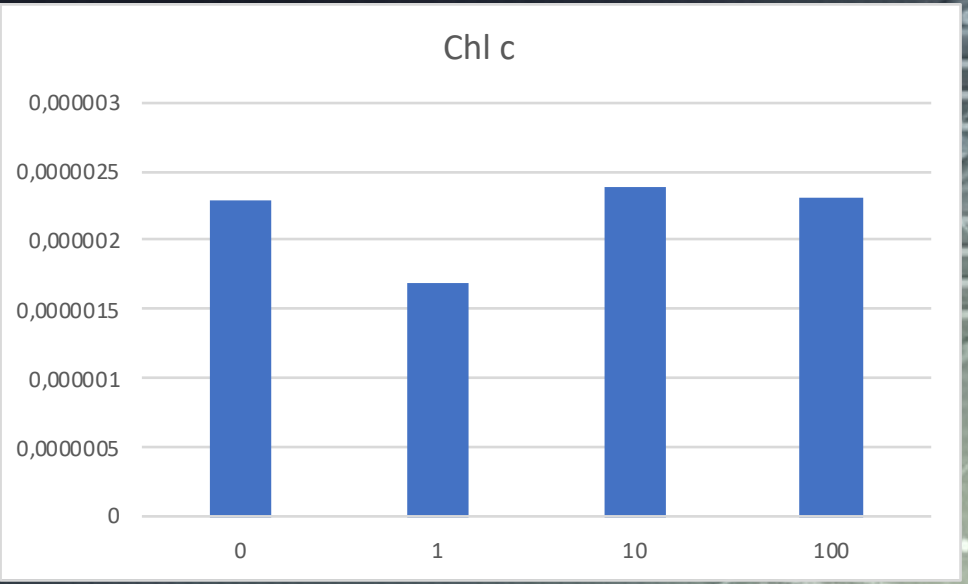
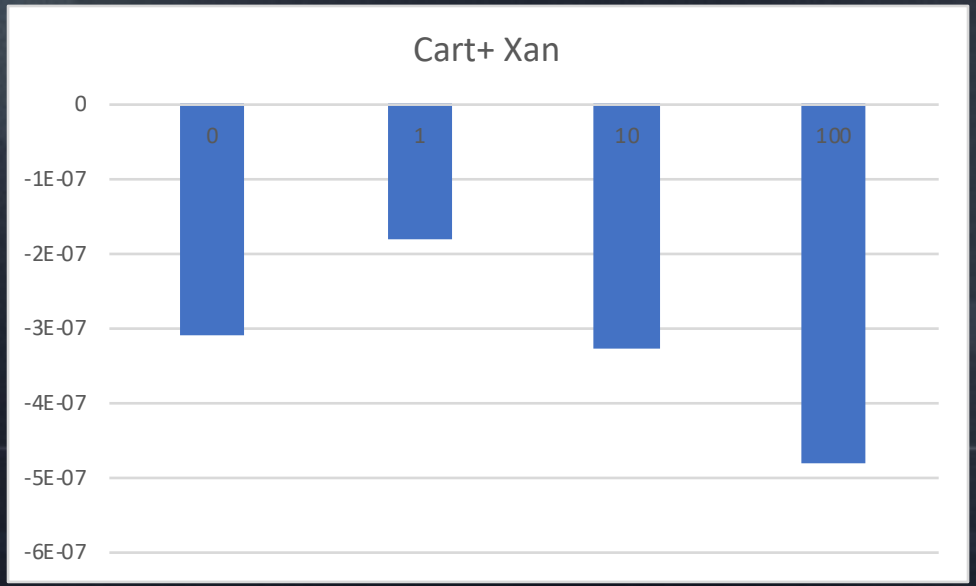
[Pigmento] x V acetona / (nº células x V cultura)

PLANT PIGMENTS (UG/CEL)







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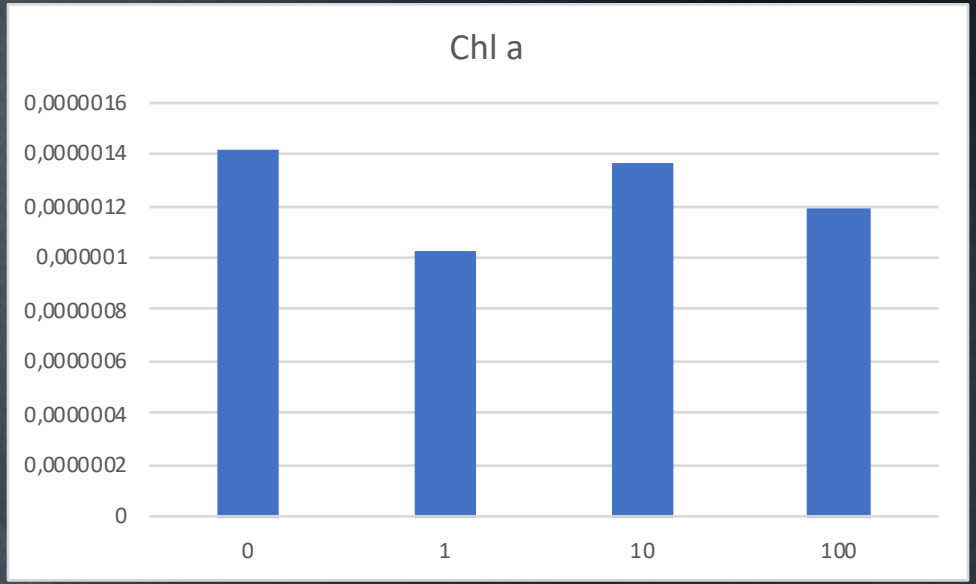

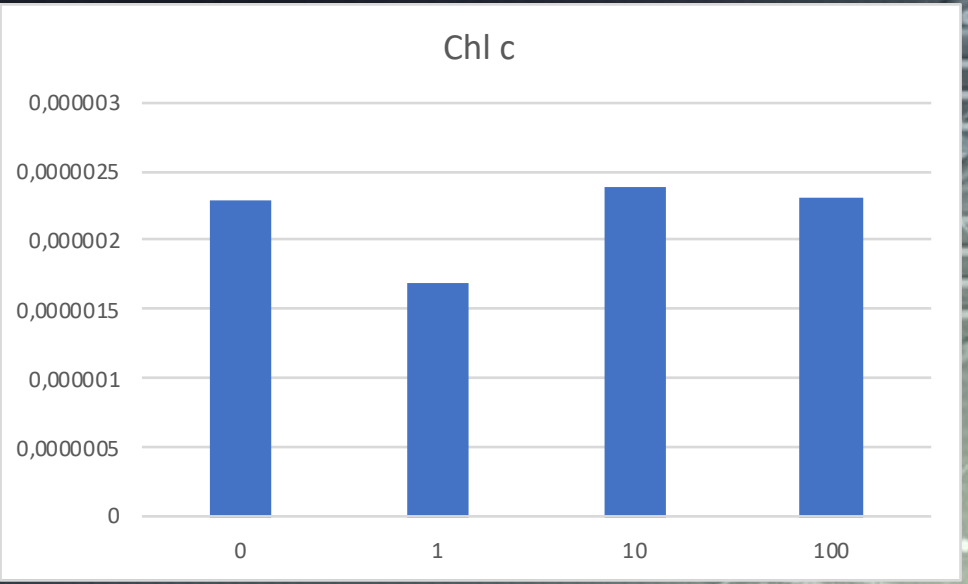

Chl a	[redacted]	Chl c	[redacted]
1,41318E-09	[redacted]	2,3E-09	[redacted]
1,02191E-09	[redacted]	1,69E-09	[redacted]
1,36622E-09	[redacted]	2,39E-09	[redacted]
1,1859E-09	[redacted]	2,31E-09	[redacted]

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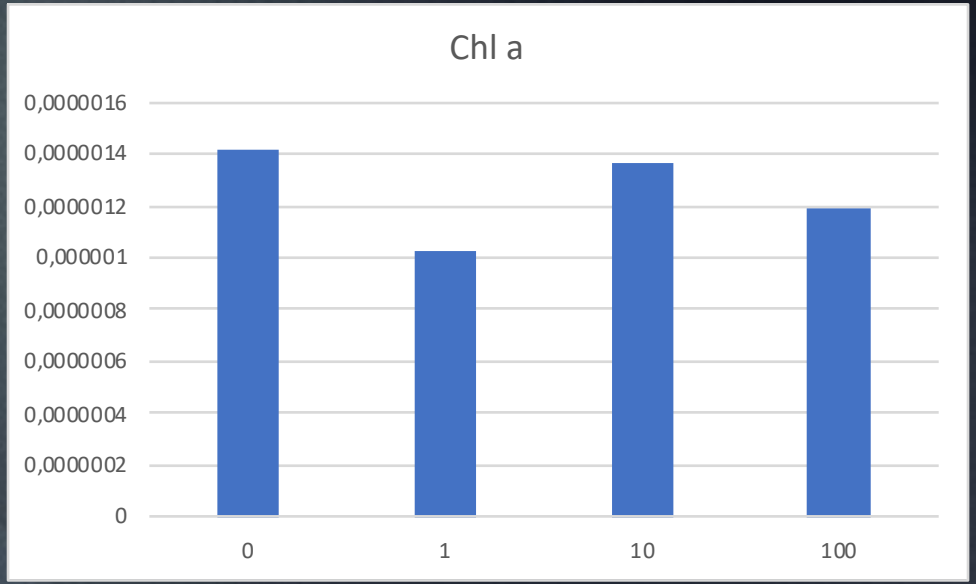
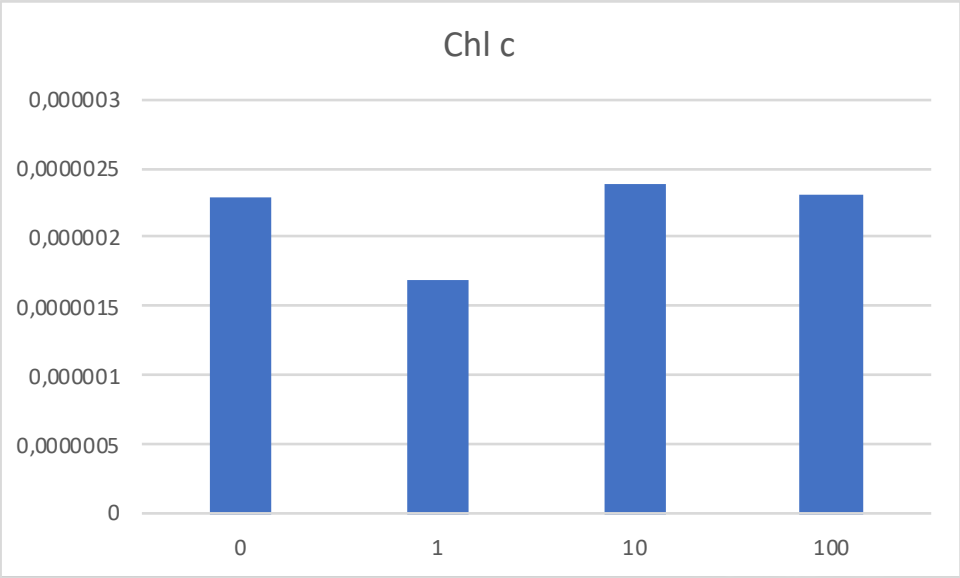
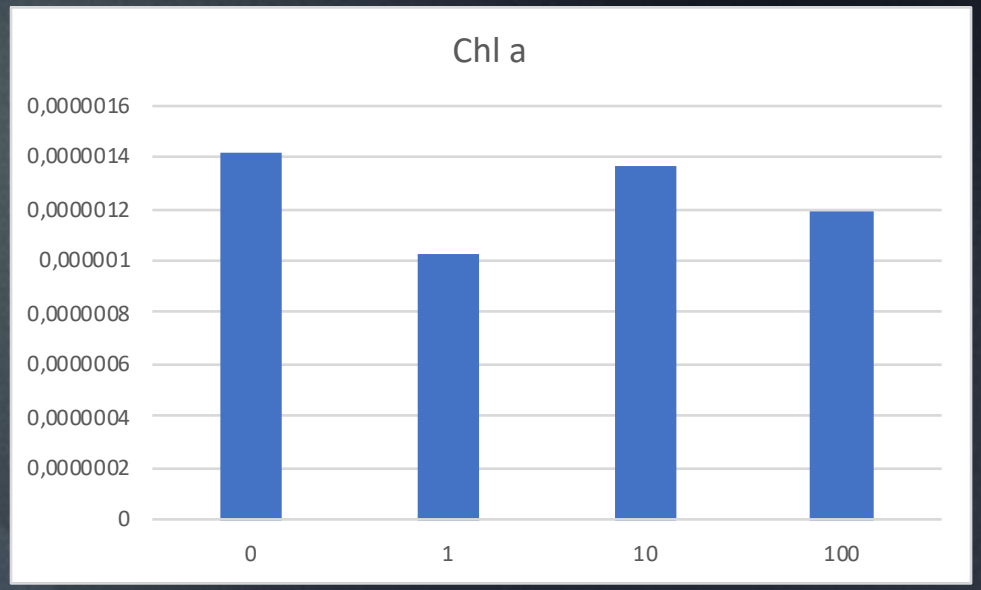




Chl a	% inibição	Chl c	% inibição
1,41318E-09	0%	2,3E-09	0%
1,02191E-09	28%	1,69E-09	-27%
1,36622E-09	3%	2,39E-09	4%
1,1859E-09	16%	2,31E-09	1%

PLANT PIGMENTS (UG/CEL)



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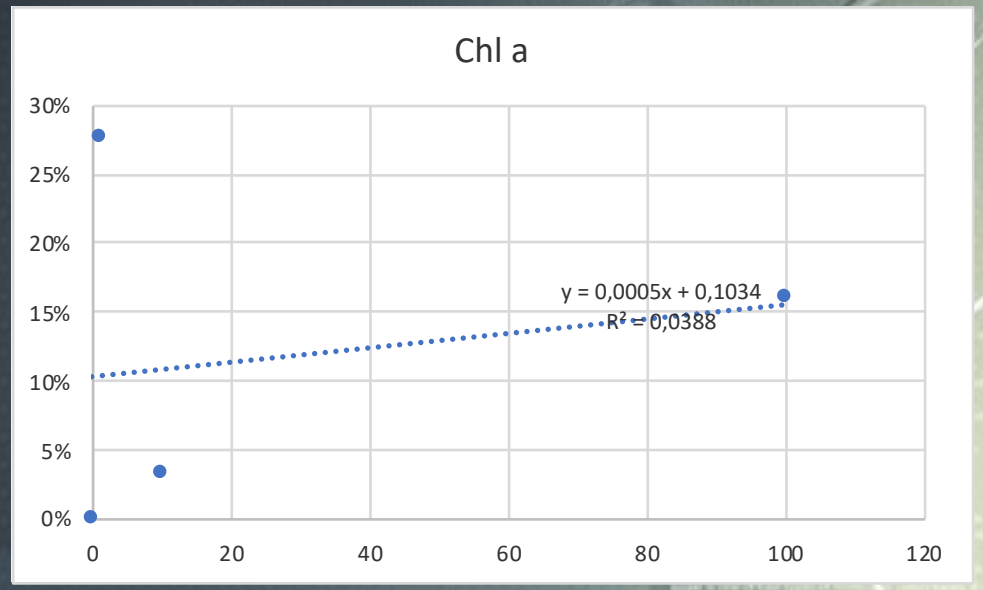

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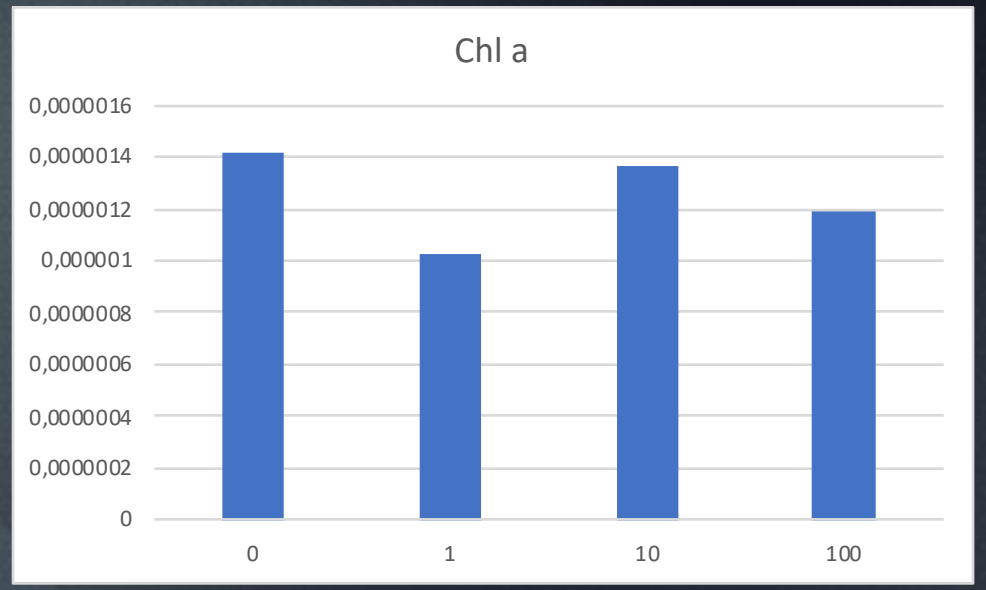

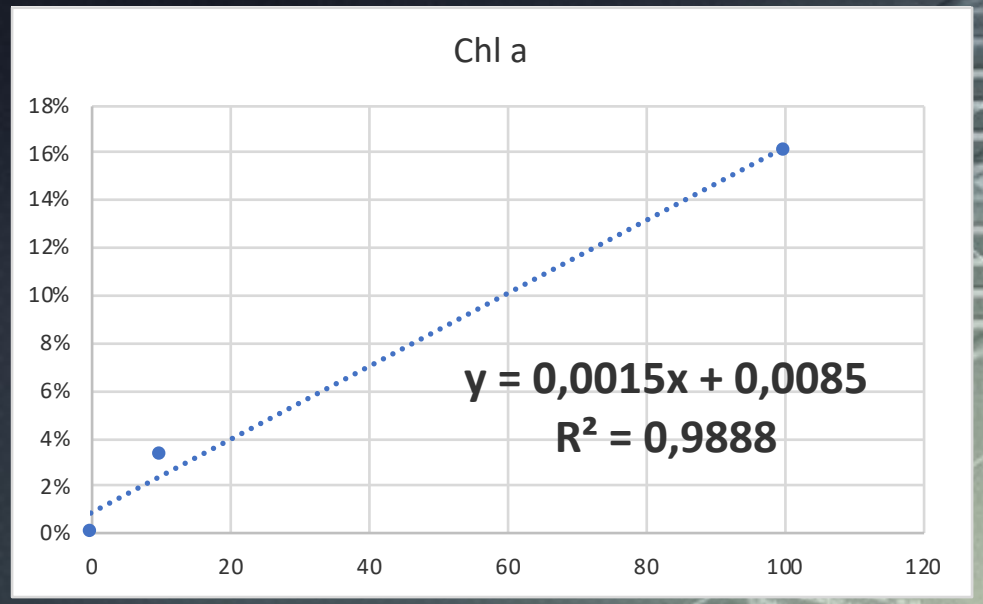

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IC50 = 333,32 ug/L

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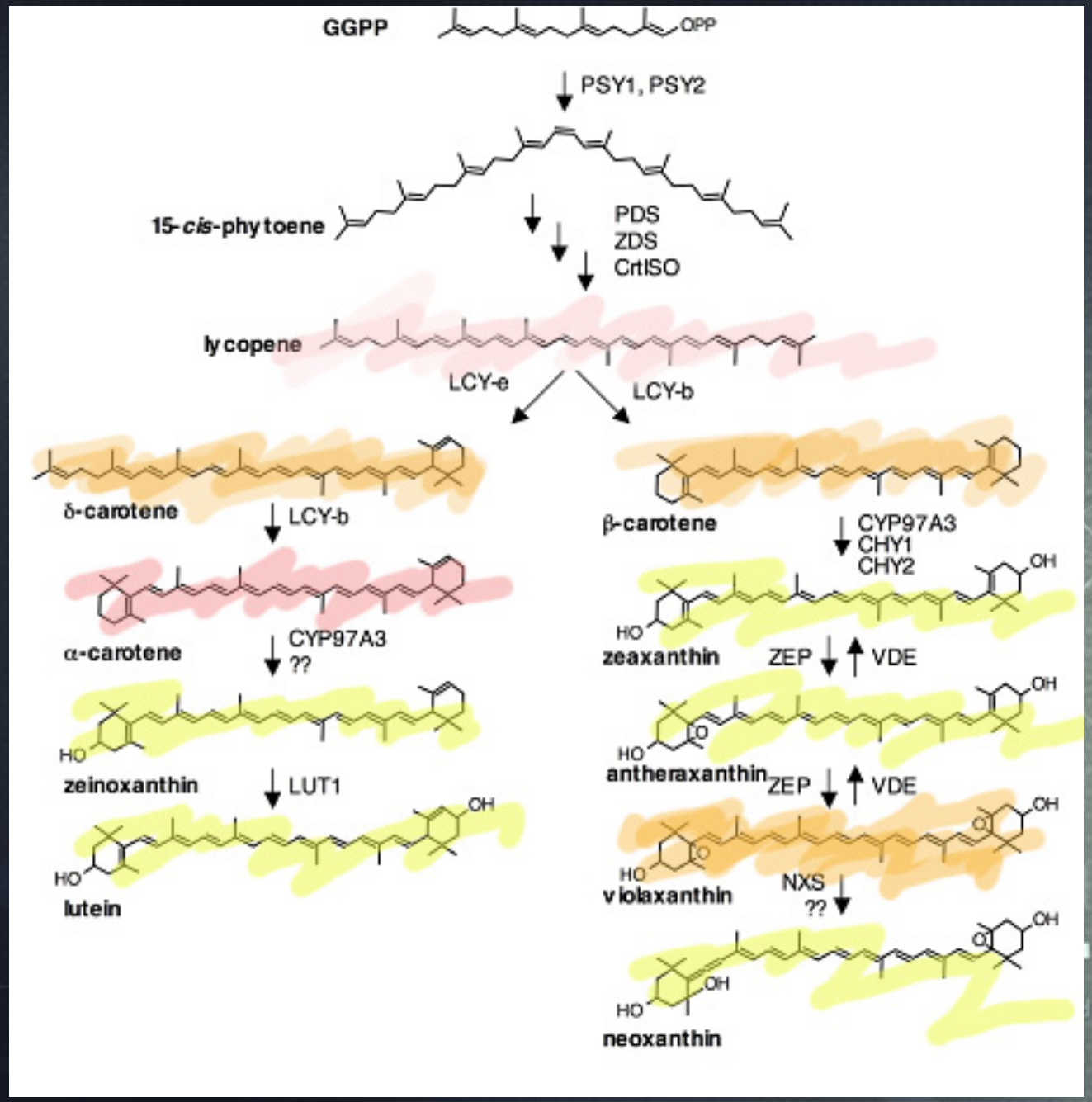

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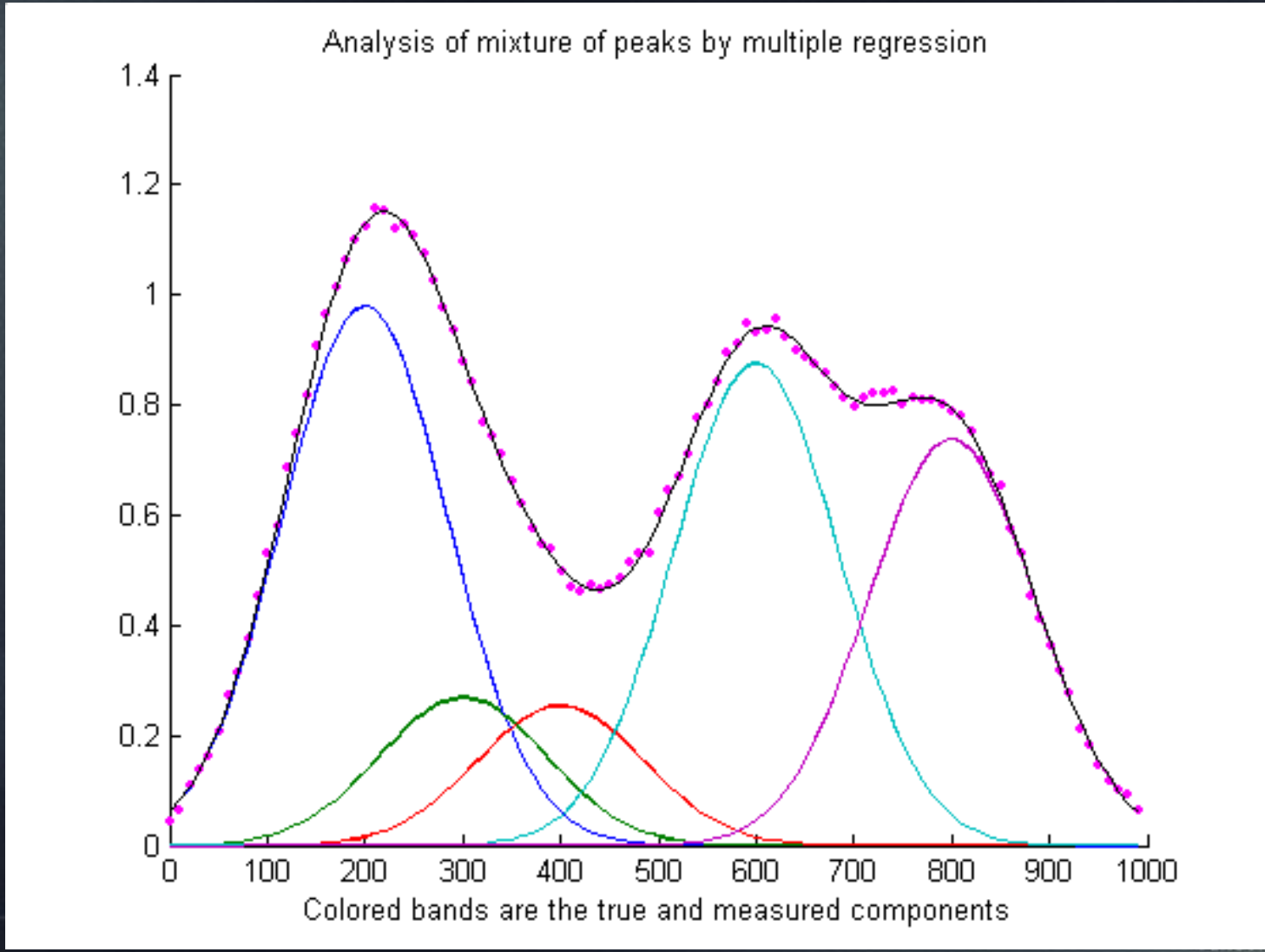

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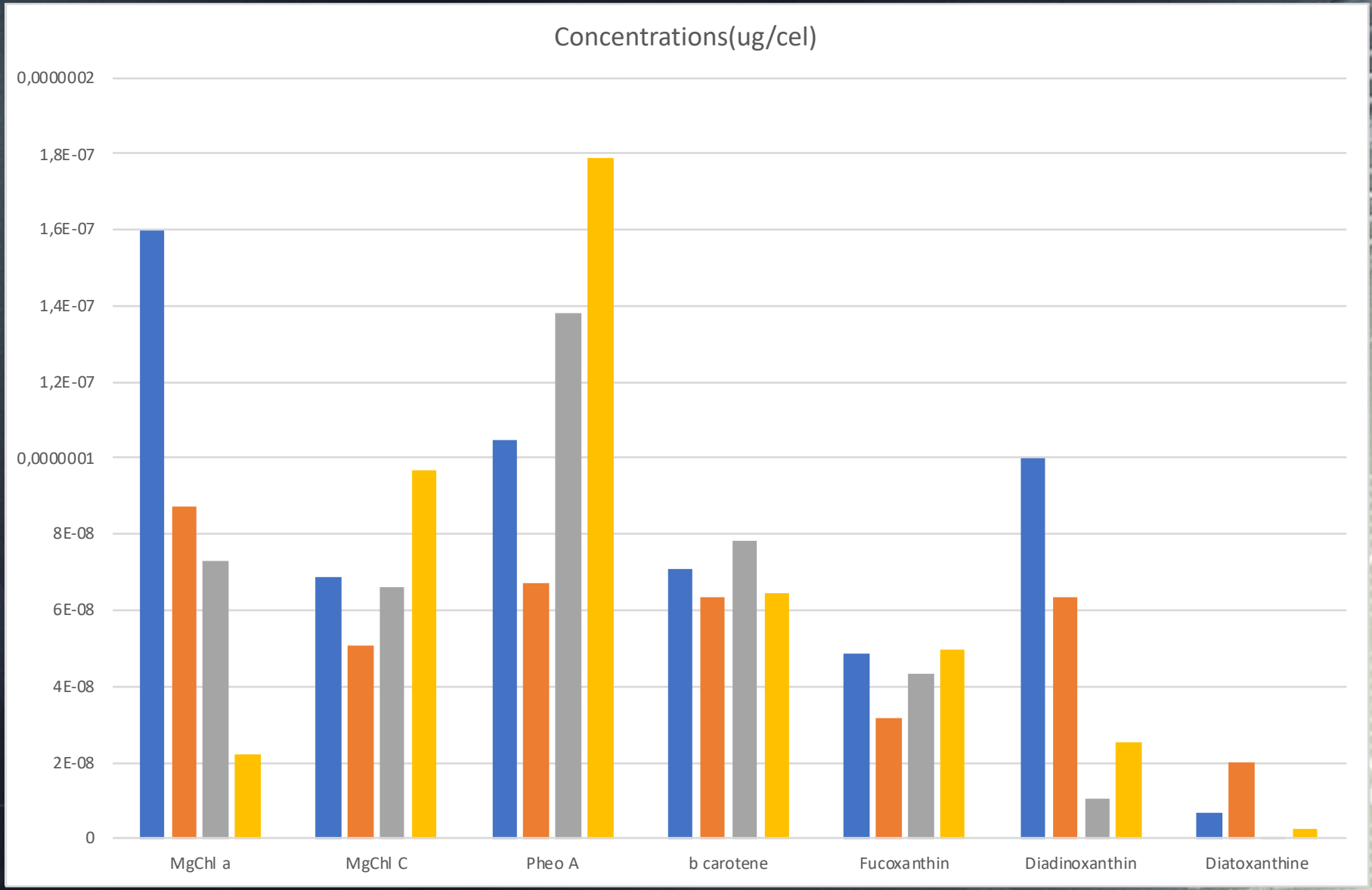

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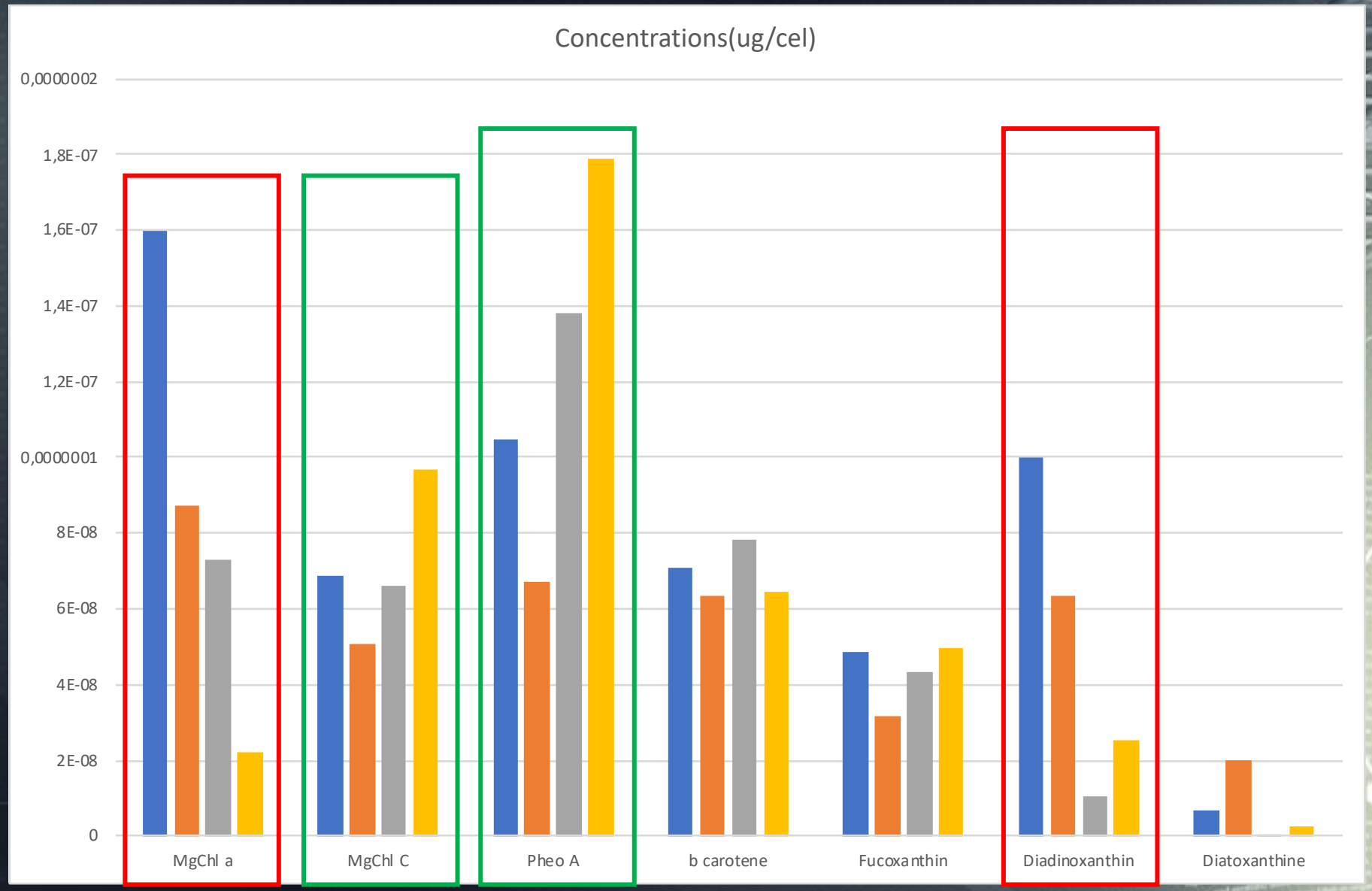

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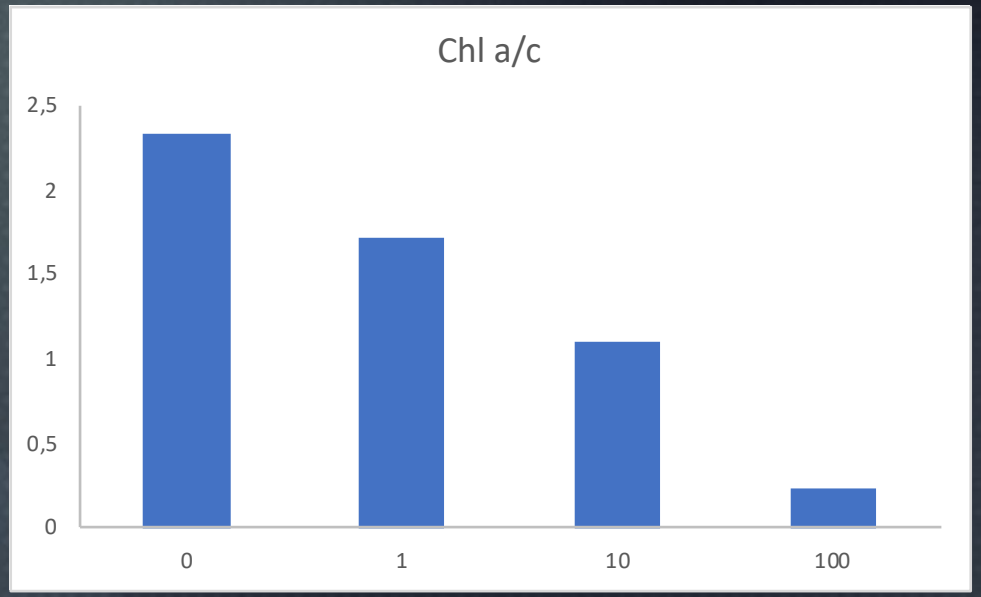

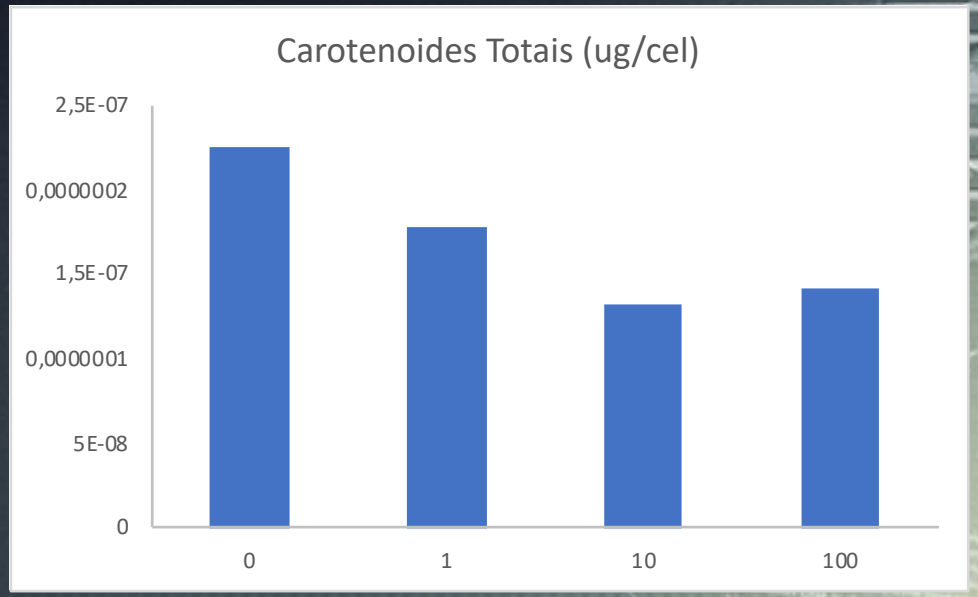

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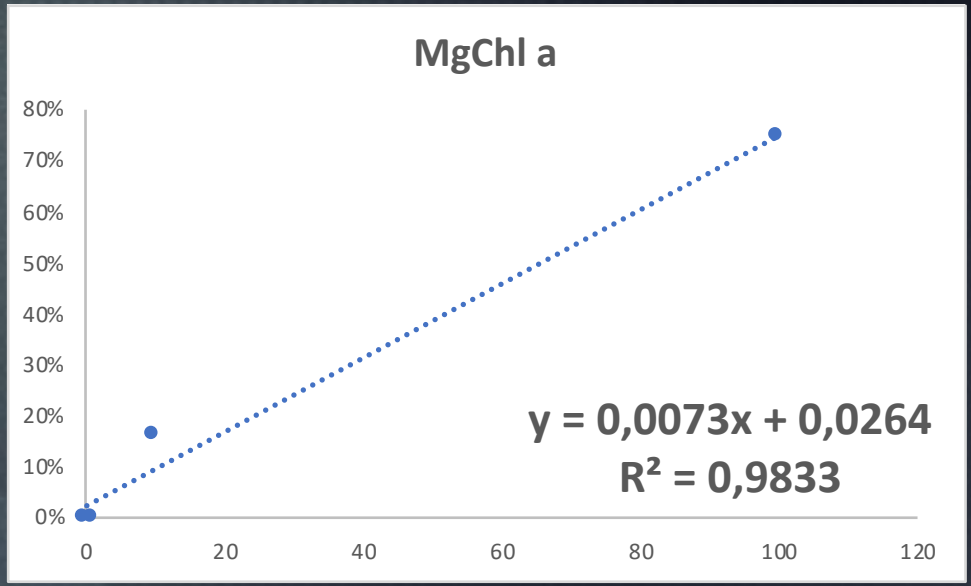

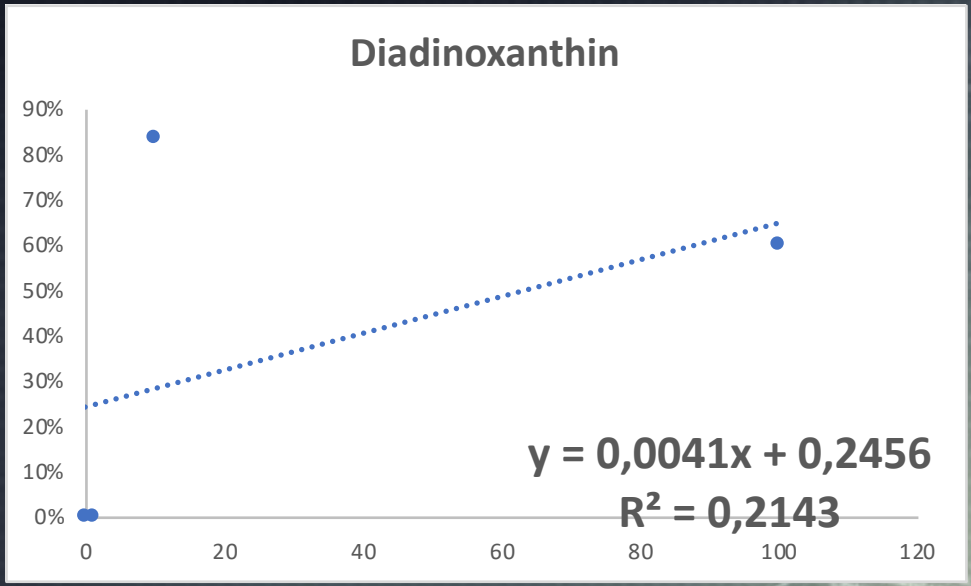

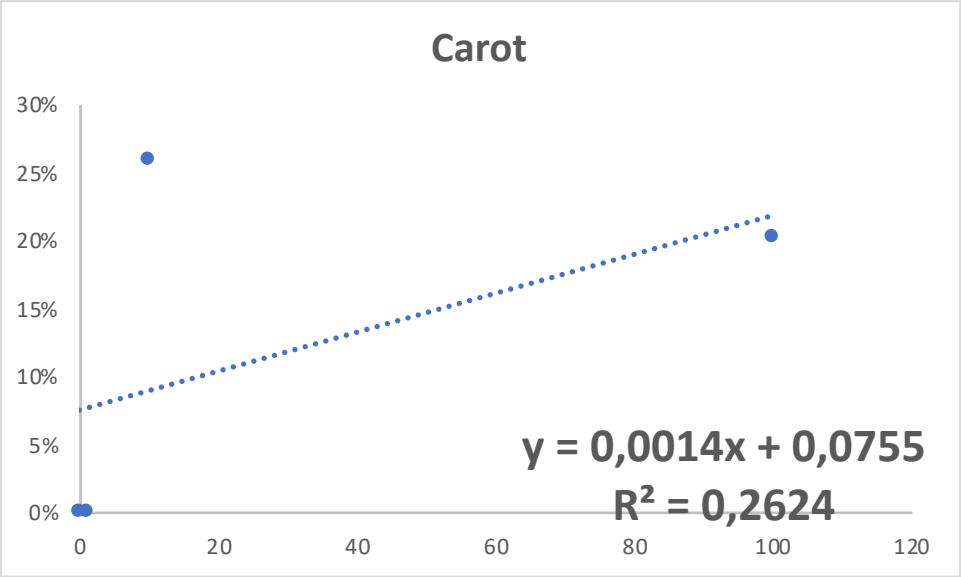

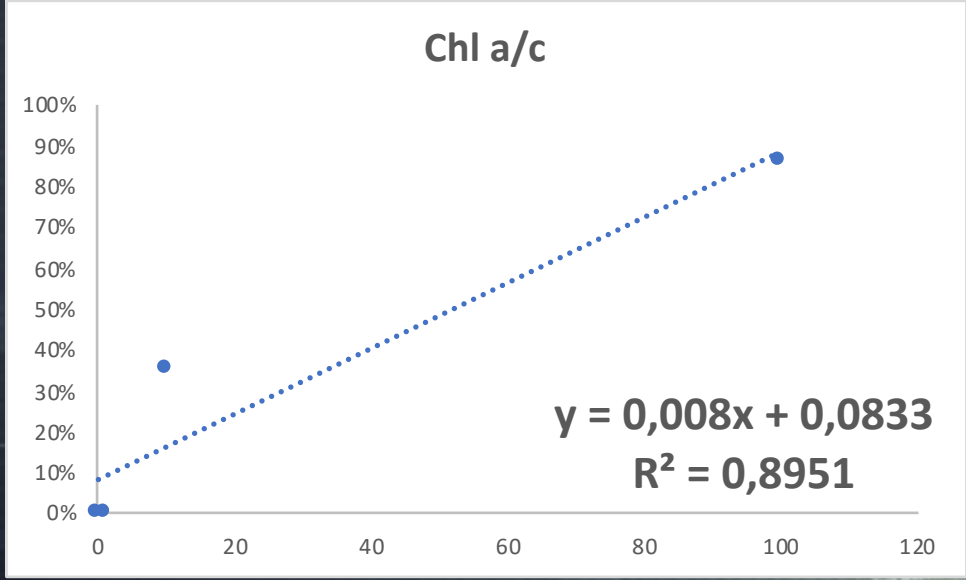

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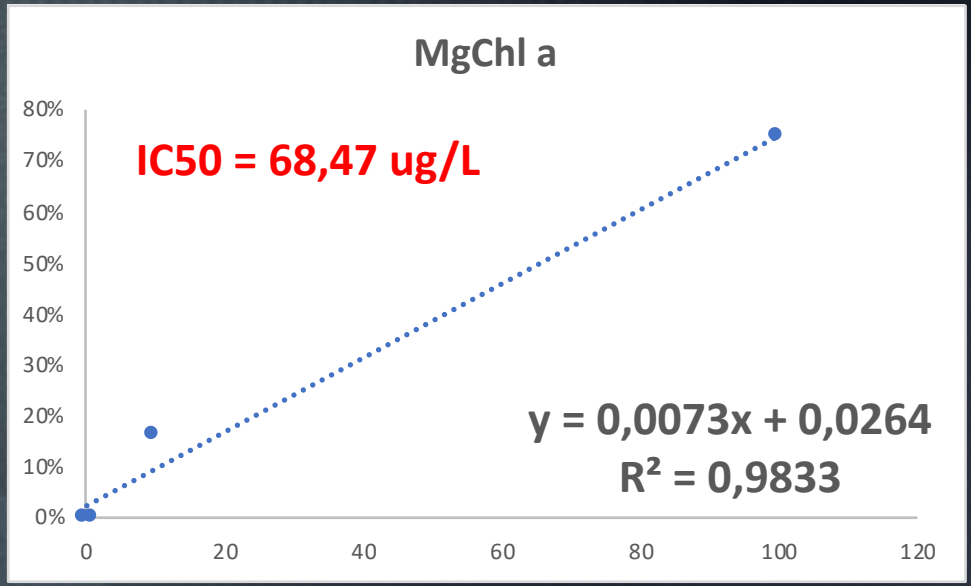

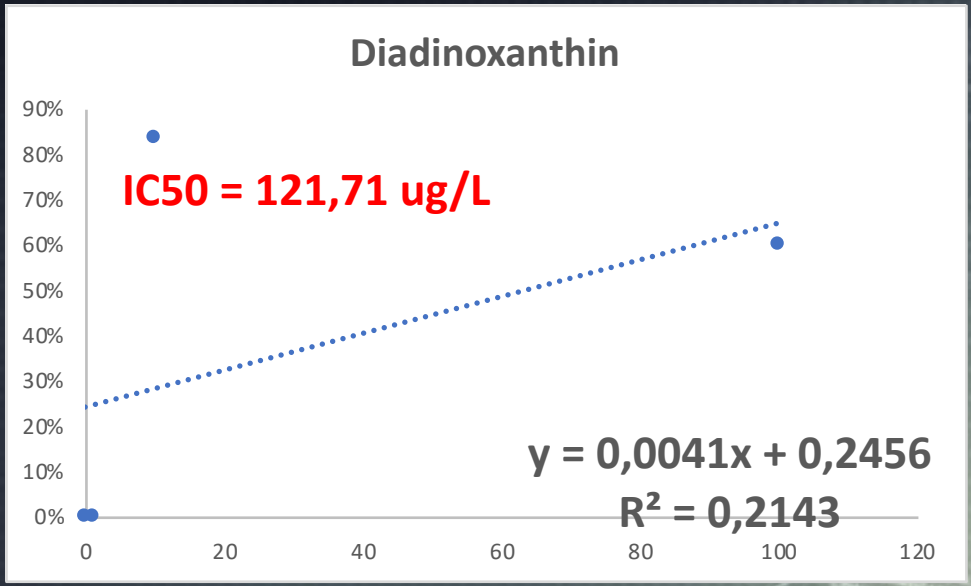

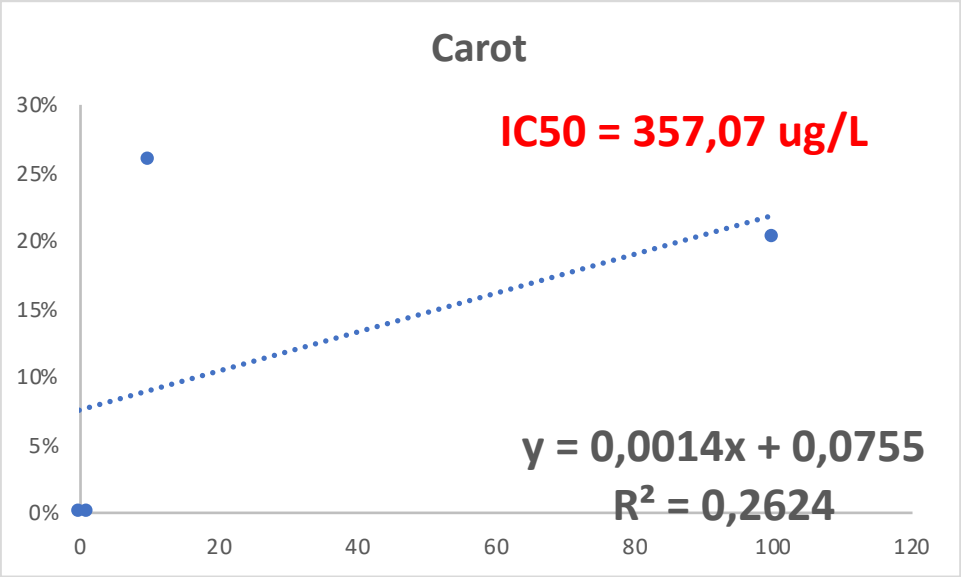

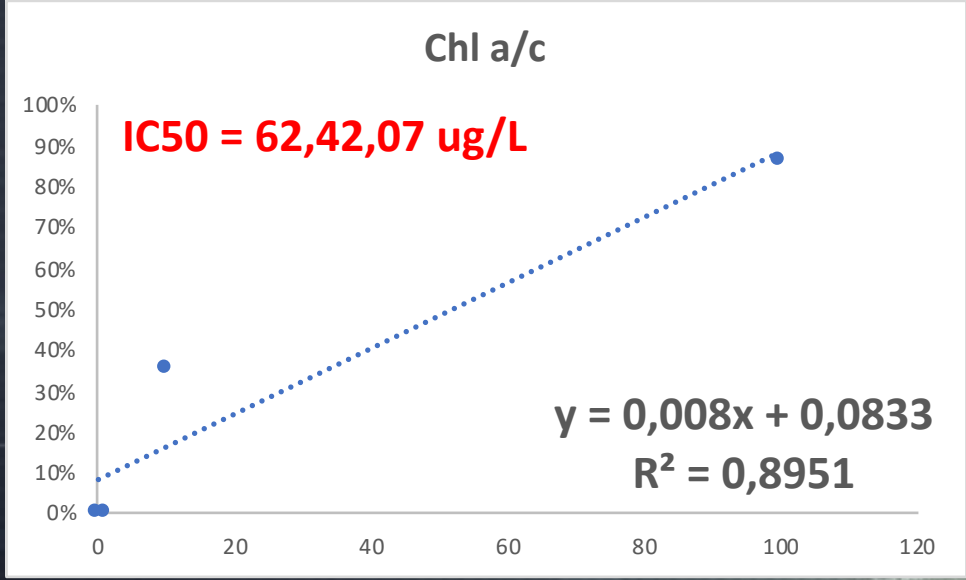

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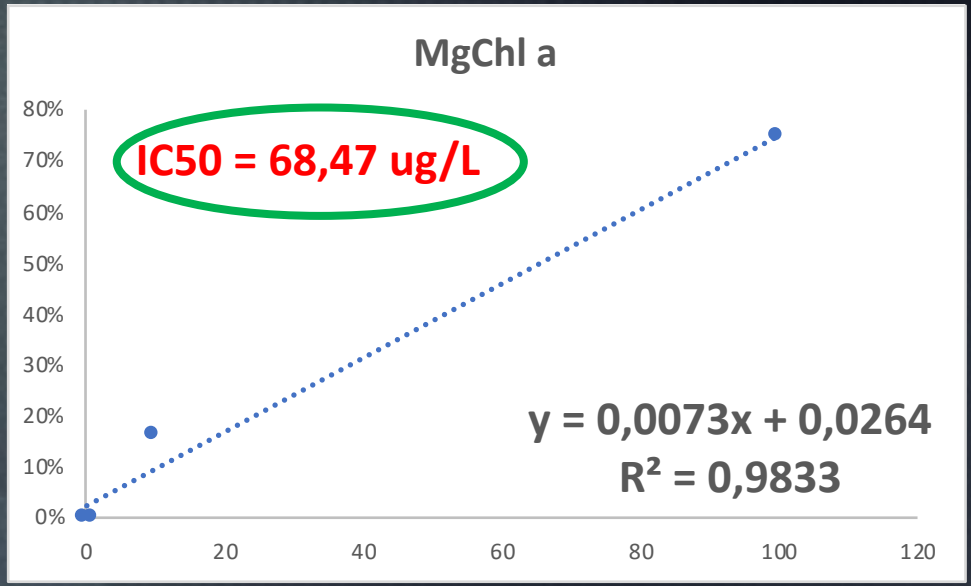

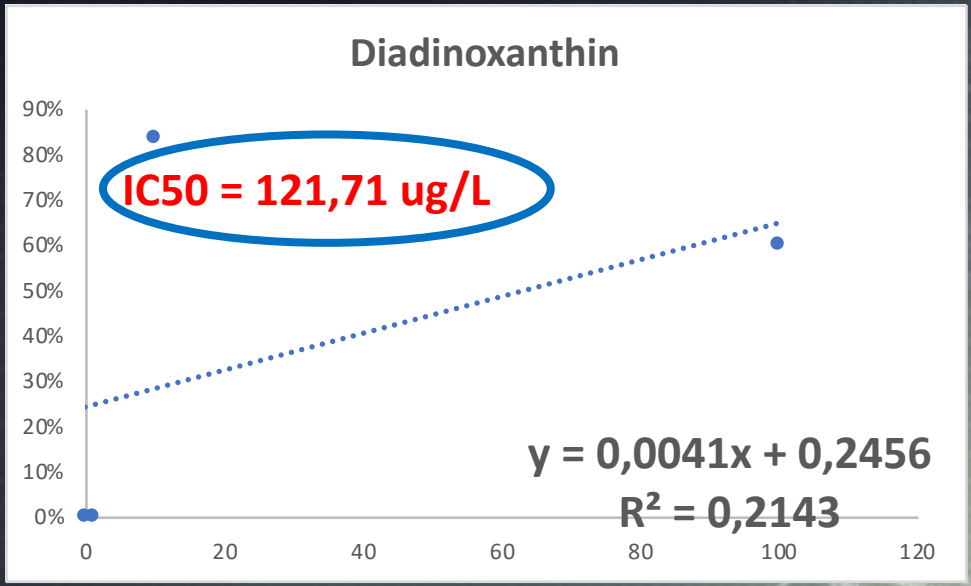

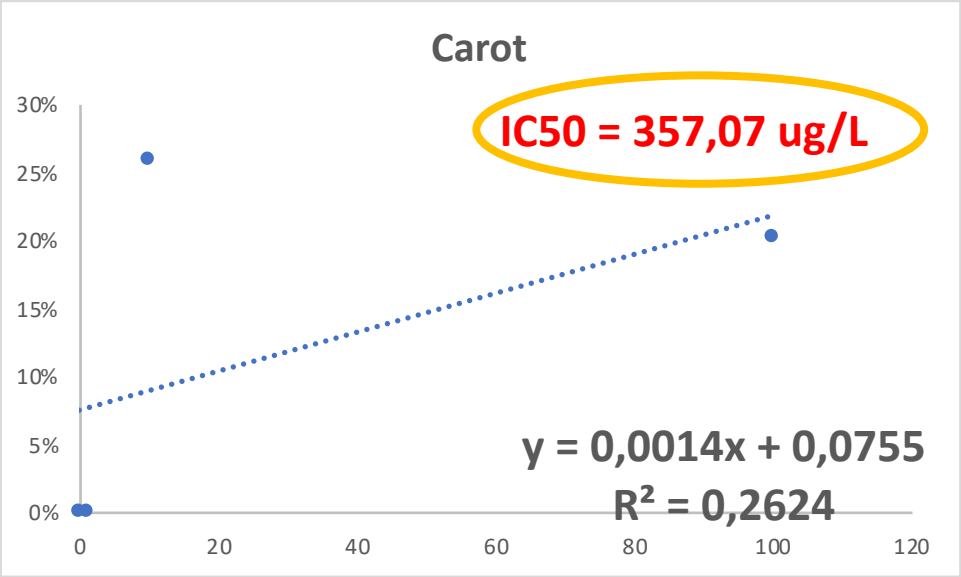

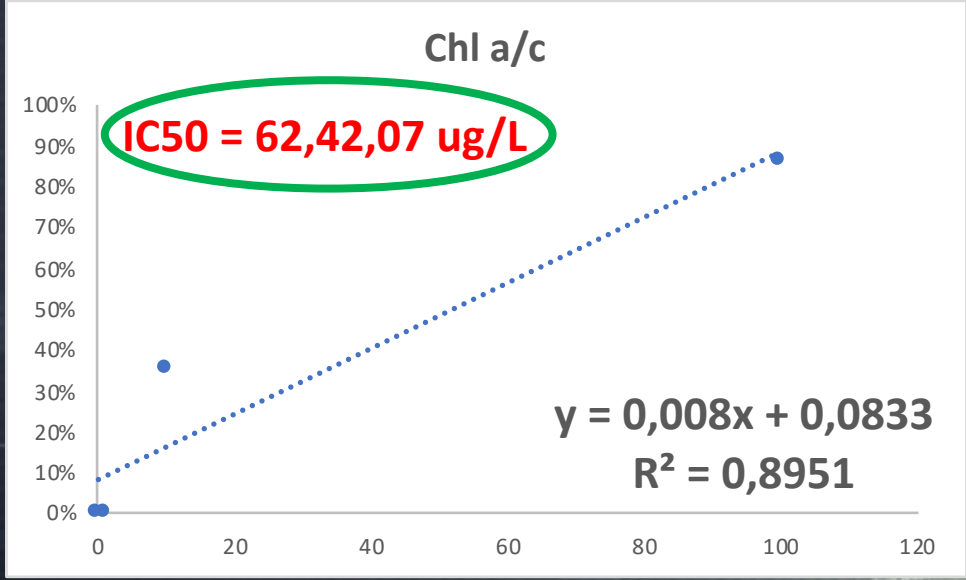

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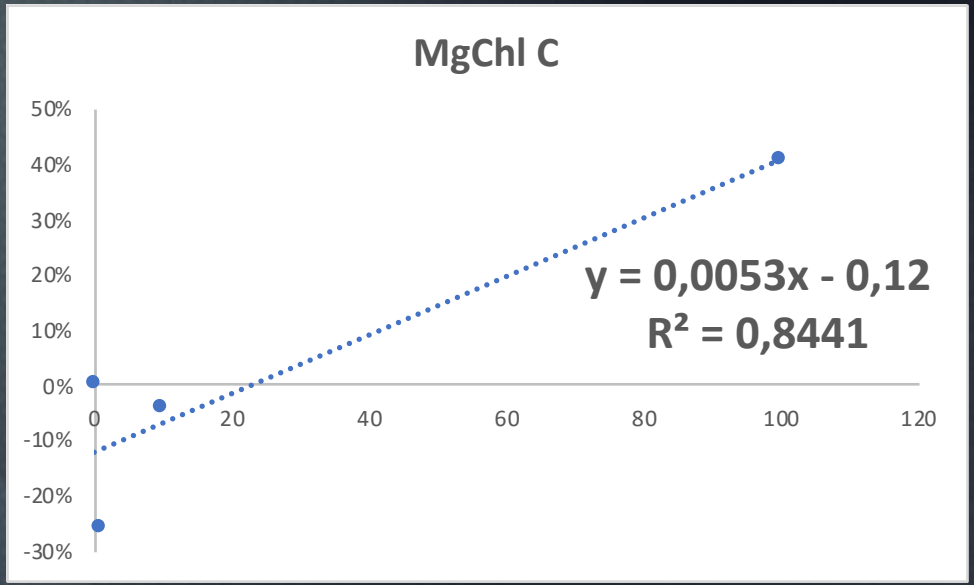

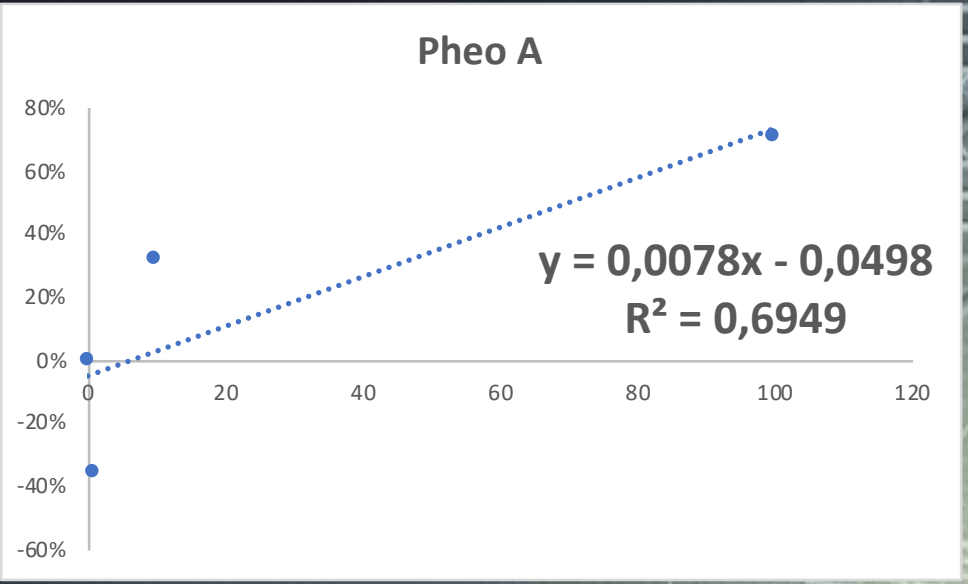

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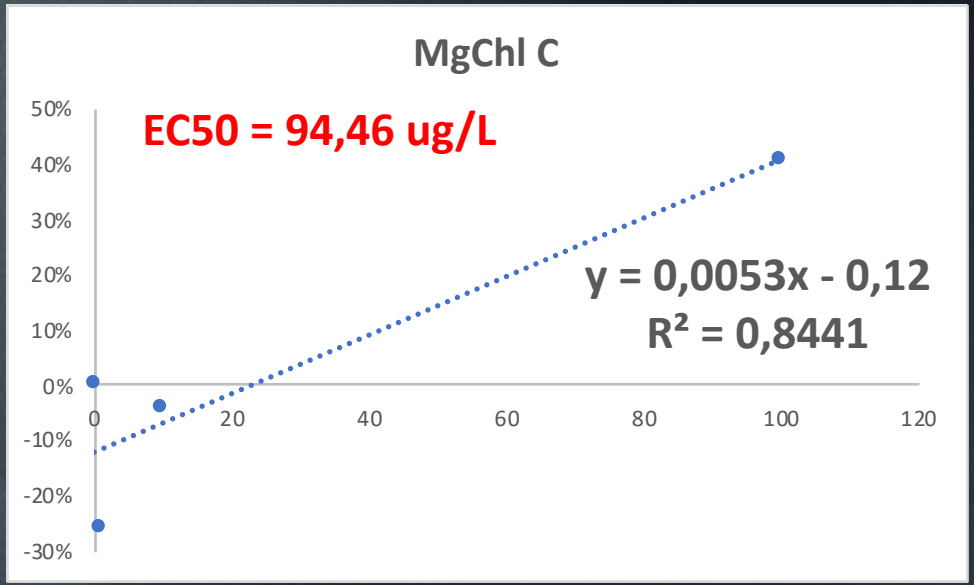

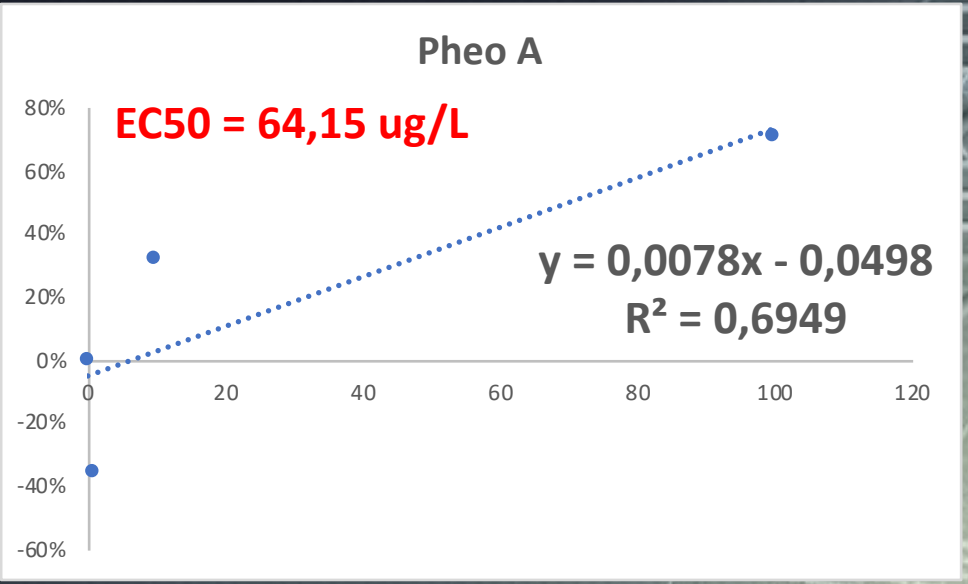

PLANT PIGMENTS

	IC50 (ug/L)
Crescimento	142,6
Phi_Pav	4945
Area	120,9
ABS	121,7
ET	117,782
TR	137,057
DI	127,5
Chl a	68,47
Diadinoxantina	121,71
Carotenoides	357,07
Chl a/c	62,42

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Qual a relação entre estes marcadores com IC50 próximos?

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