

Figure S1: Western blot displaying the expression of caspase 3 in A2780 S cells

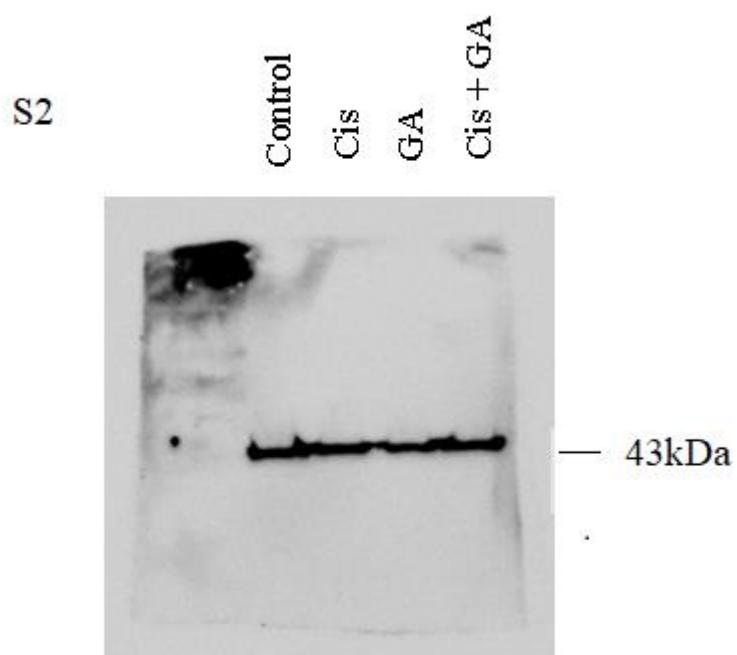


Figure S2: Western blot displaying the expression of beta actin in A2780 S cells

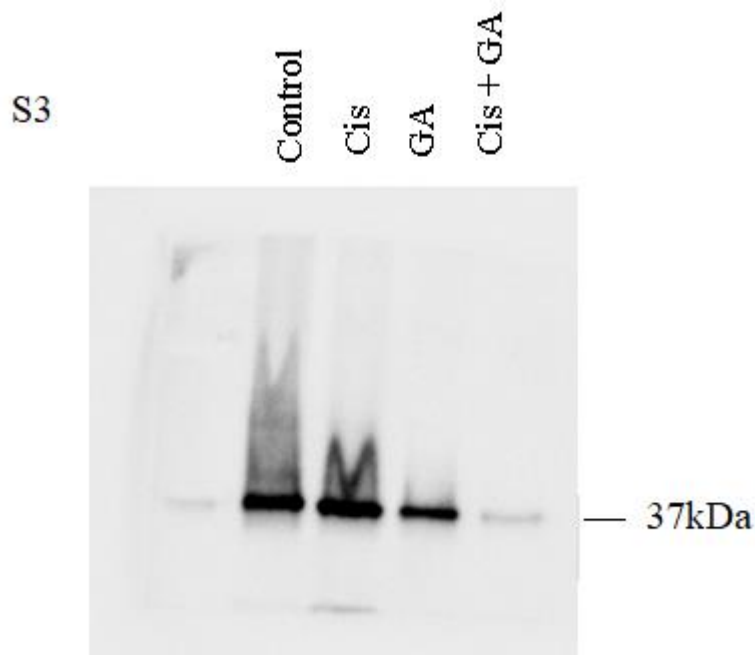


Figure S3: Western blot displaying the expression of caspase 3 in A2780 Cp cells

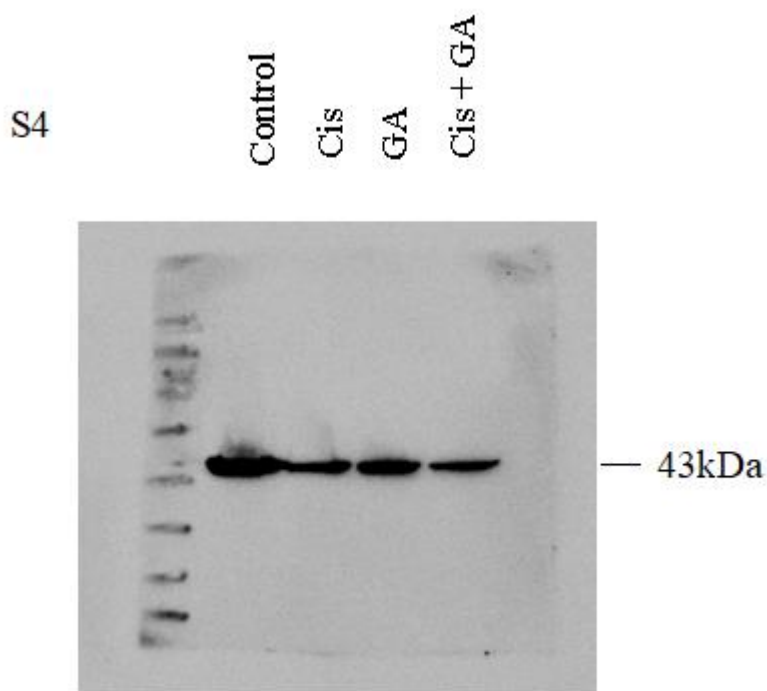


Figure S4: Western blot displaying the expression of beta actin in A2780 Cp cells

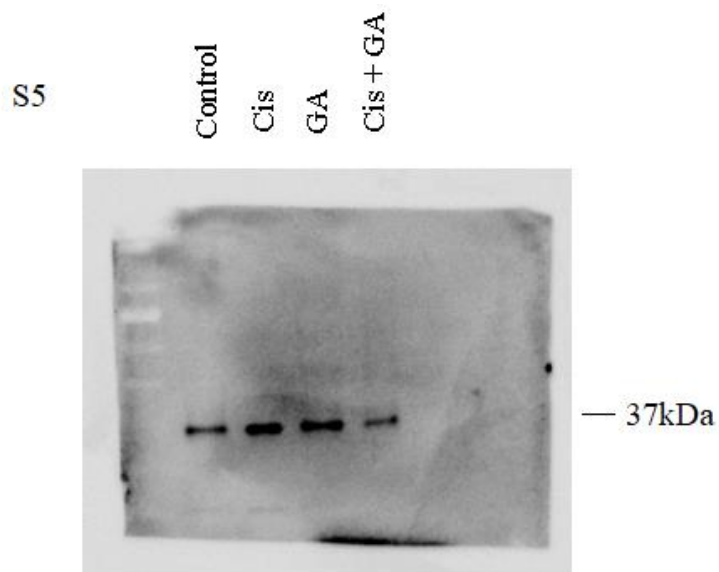


Figure S5: Western blot displaying the expression of caspase 3 in HOSE 6-3 cells

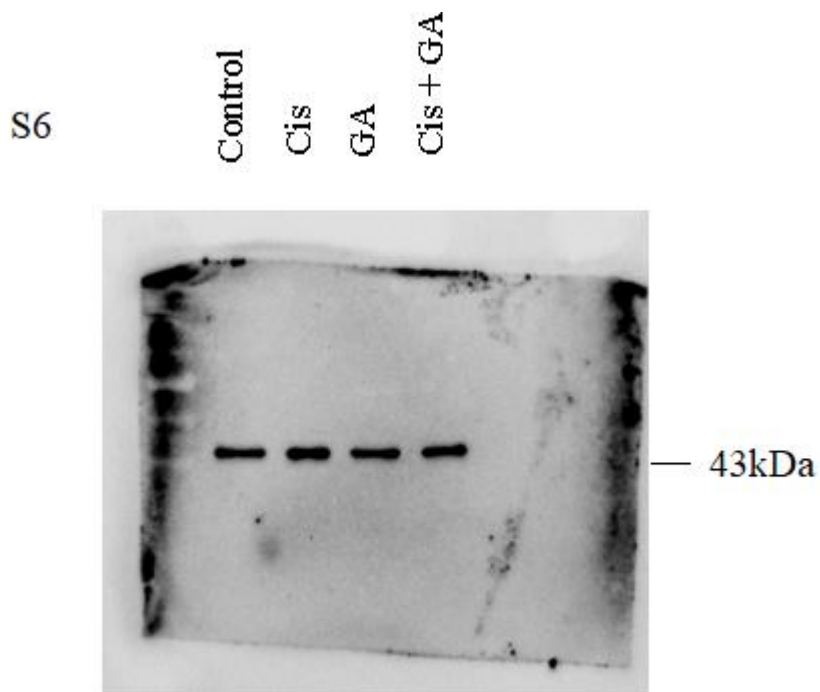


Figure S6: Western blot displaying the expression of beta actin in HOSE 6-3 cells

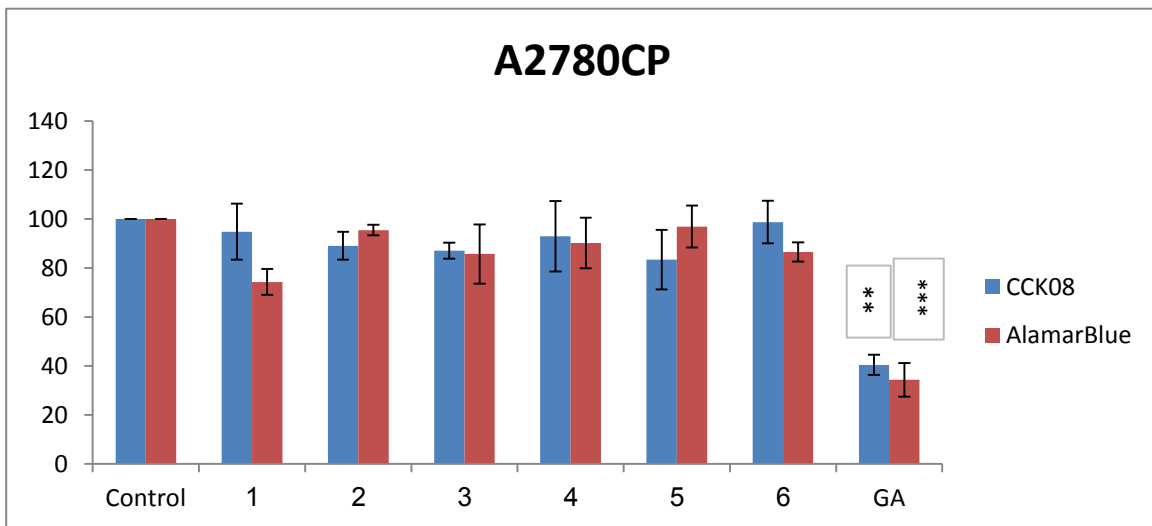
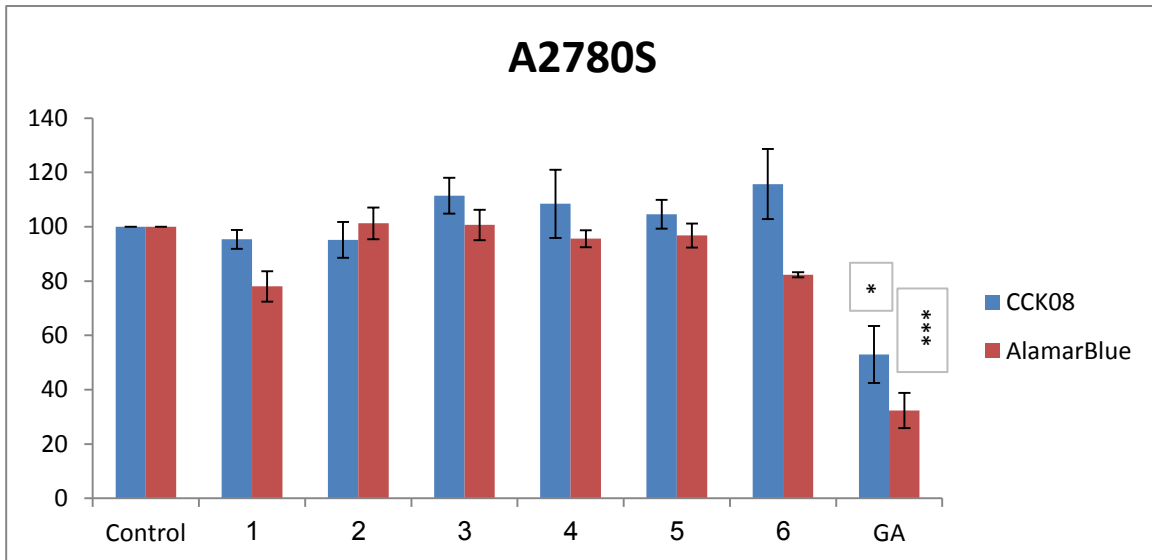


Figure S7: The anticancer activity of GA and its congeners (**1-6**) on A2780S and A2780CP. All compounds were added at 103 μ M (equivalent to gallic acid monohydrate IC_{50} of 19.4 μ g/ml) in A2780S and at 189 μ M (equivalent to gallic acid monohydrate IC_{50} of 35.6 μ g/ml) in A2780CP. Data represents the means \pm SE from three independent experiments. All data were analyzed by one-way ANOVA followed by Tukey Post Hoc test. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

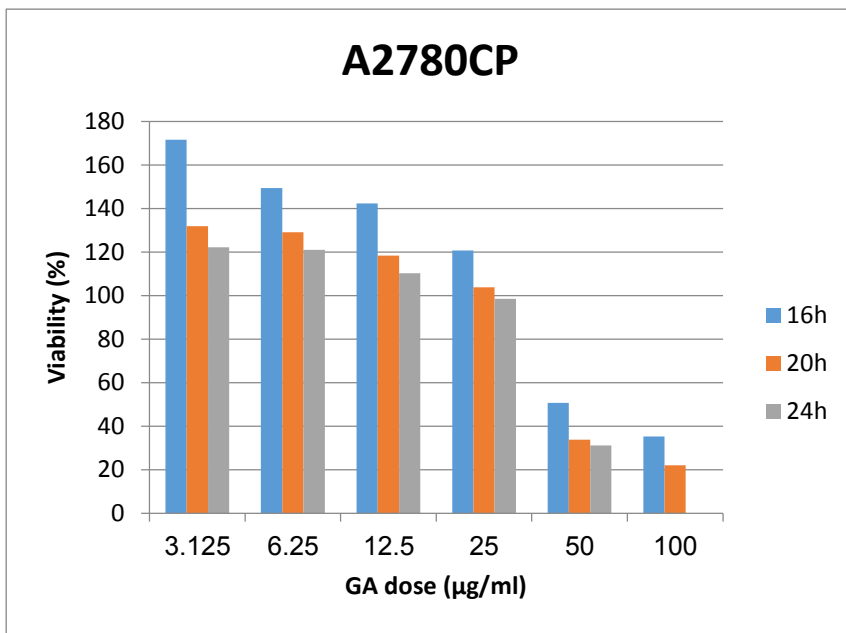
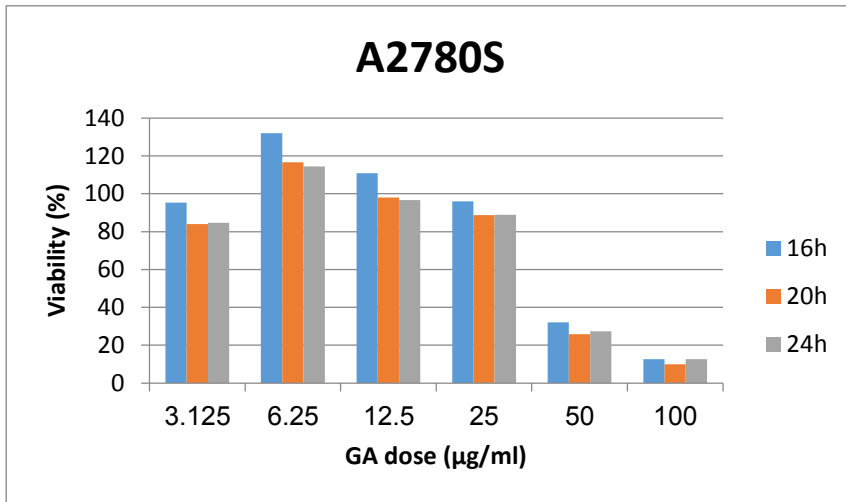


Figure S8: Cytotoxicity of Gallic acid at different time points

Table S1: ¹H NMR data of GA and compounds **1-6**

H	GA (7)	1	2	3	4	5	6
2	6.90 (m)	7.29 (m)	7.61 (m)	7.77 (m)	6.96 (m)	6.40 (m)	7.35 (m)
3	-	6.79 (m)	-	6.76 (m)	-	6.79 (m)	-
4	-	-	6.98 (m)	-	7.25 (m)	6.79 (m)	-
5	-	6.79 (m)	-	6.76 (m)	7.25 (m)	6.79 (m)	7.19 (m)
6	6.90 (m)	7.29 (m)	7.61 (m)	7.77 (m)	7.25 (m)	-	7.50 (m)
<i>COOH</i>	12.25 (br.s)	12.31 (br.s)	12.65 (br. s)	12.42 (br. s)	12.72 (br. s)	12.65 (br. s)	12.65 (br. s)
<i>OH</i>	9.18 (br.s)	9.64, 9.27 (br. s)	10.82 (br. s)	10.22 (br. s)	9.76 (br.s)	9.51 (br.s)	10.82 (br. s)

CompuSyn Report for A2780S

Experiment Name: gallic acid exp (A2780S)
Date: 6/27/2021
File Name: C:\Users\user\Desktop\synergism S.cse
Description: Testing the effect of two drugs cisplatin and gallic acid on ovarian cancer cell lines
Drug: Cisplatin (Cis) [ug/ml]
Drug: Gallic (Gal) [ug/ml]
Drug Combo: Cisplatin + Gallic acid (cisgal) (Cis+Gal [1:1])

Data for Drug: Cis [ug/ml]

Dose	Effect
------	--------

3.0	0.9
-----	-----

7.5	0.63
-----	------

9.0	0.61
-----	------

10.5	0.52
------	------

12.0	0.49
------	------

13.5	0.46
------	------

16.5	0.42
------	------

7 data points entered.

X-int: 1.07695

Y-int: 1.63078 +/- 0.09369

m: -1.5143 +/- 0.09457

Dm: 11.9385

r: -0.9904

Data for Drug: Gal [ug/ml]

Dose	Effect
------	--------

3.125	0.9
-------	-----

12.5	0.93
------	------

15.6	0.58
------	------

18.7	0.48
------	------

25.0	0.36
------	------

28.0	0.294
------	-------

34.3	0.192
------	-------

Dose Effect

37.5 0.2

40.6 0.144

46.8 0.122

10 data points entered.

X-int: 1.25515

Y-int: 2.21768 +/- 0.44579

m: -1.7669 +/- 0.32556

Dm: 17.9949

r: -0.8868

Data for Drug Combo: cisgal (Cis+Gal [1:1])

Dose A Effect

14.4+ 0.29

14.4+ 0.18

14.4+ 0.16

14.4+ 0.3

14.4+ 0.48

14.4+ 0.31

14.4+ 0.49

7 data points entered.

X-int: 0.73506

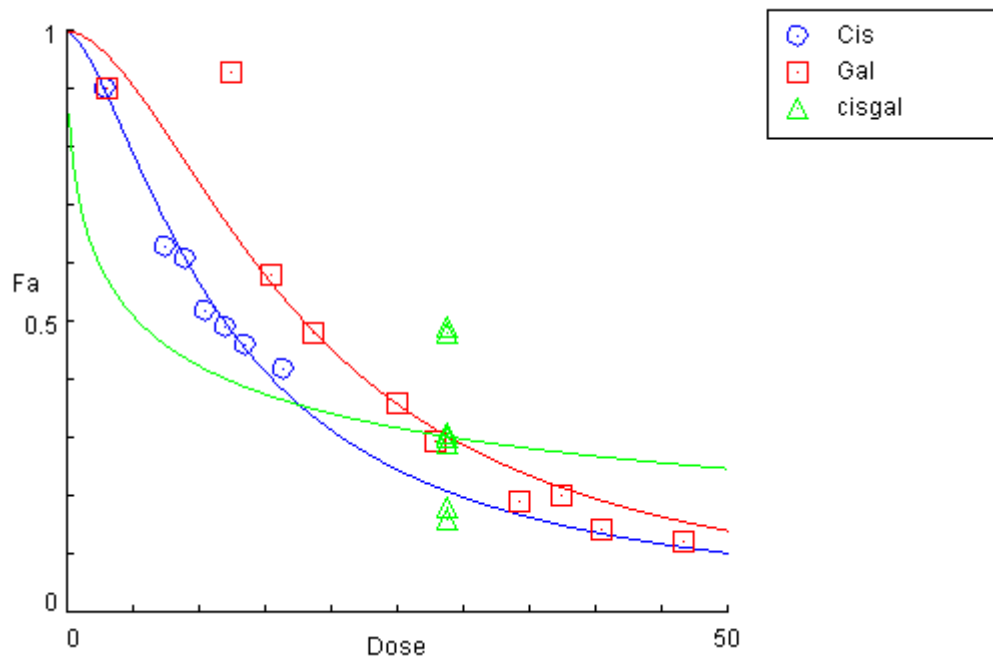
Y-int: 0.36753 +/- 7.39E14

m: -0.5 +/- 5.07E14

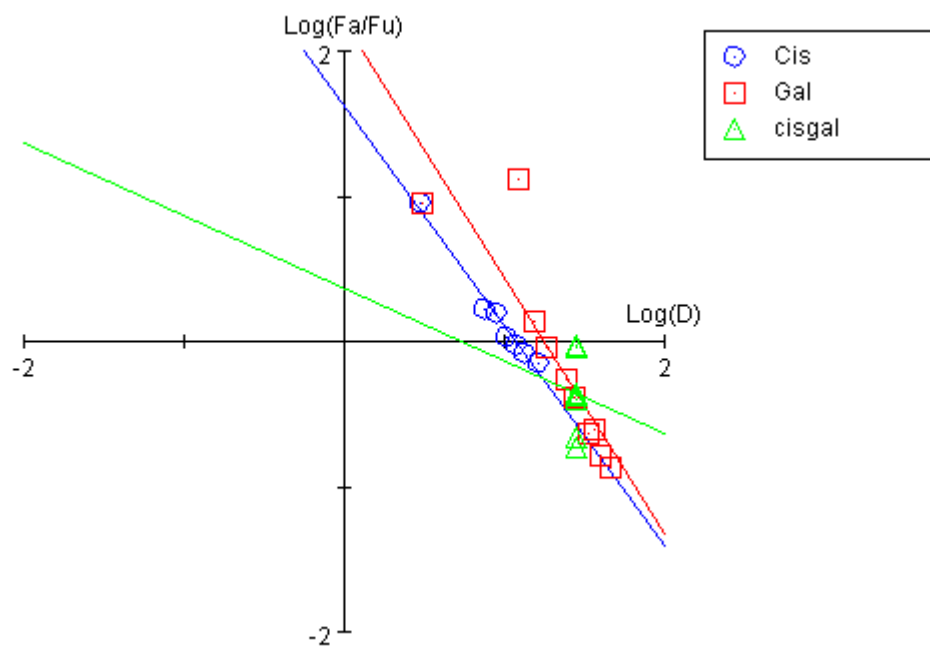
Dm: 5.43326

r: -1.E-16

Dose-Effect Curve



Median-Effect Plot



CI Data for Drug Combo: cisgal (Cis+Gal [1:1])

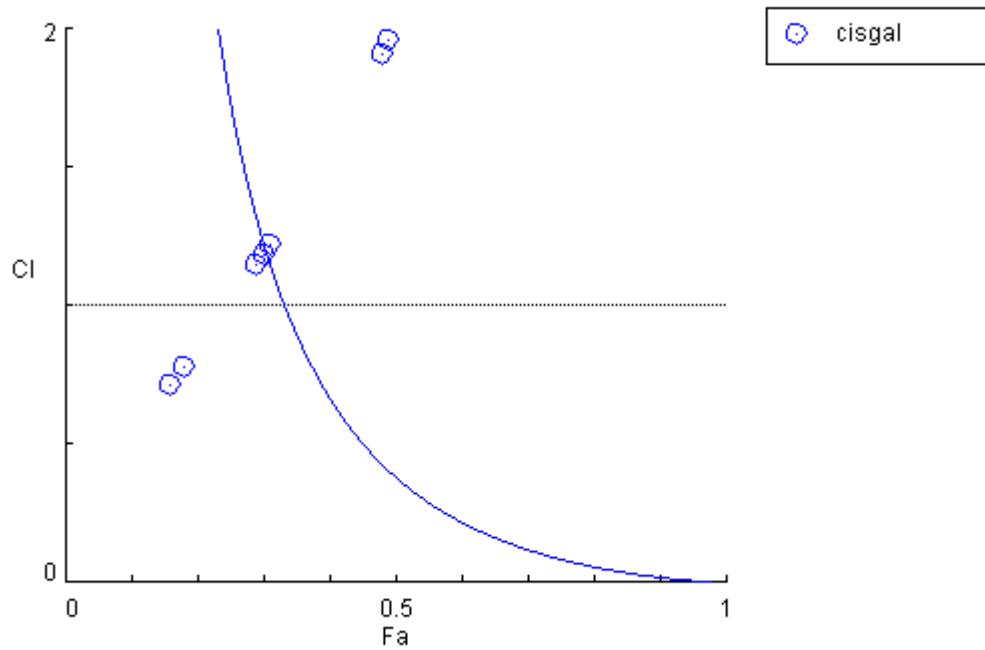
Fa	CI Value	Total Dose
0.05	22.0476	1961.41
0.1	7.84520	440.094
0.15	4.14031	174.468

Fa	CI Value	Total Dose
0.2	2.55968	86.9322
0.25	1.72098	48.8994
0.3	1.21682	29.5811
0.35	0.88826	18.7392
0.4	0.66174	12.2248
0.45	0.49904	8.11635
0.5	0.37852	5.43326
0.55	0.28713	3.63714
0.6	0.21659	2.41478
0.65	0.16143	1.57532
0.7	0.11793	0.99795
0.75	0.08347	0.60370
0.8	0.05620	0.33958
0.85	0.03483	0.16920
0.9	0.01845	0.06708
0.95	0.00662	0.01505
0.97	0.00319	0.00520

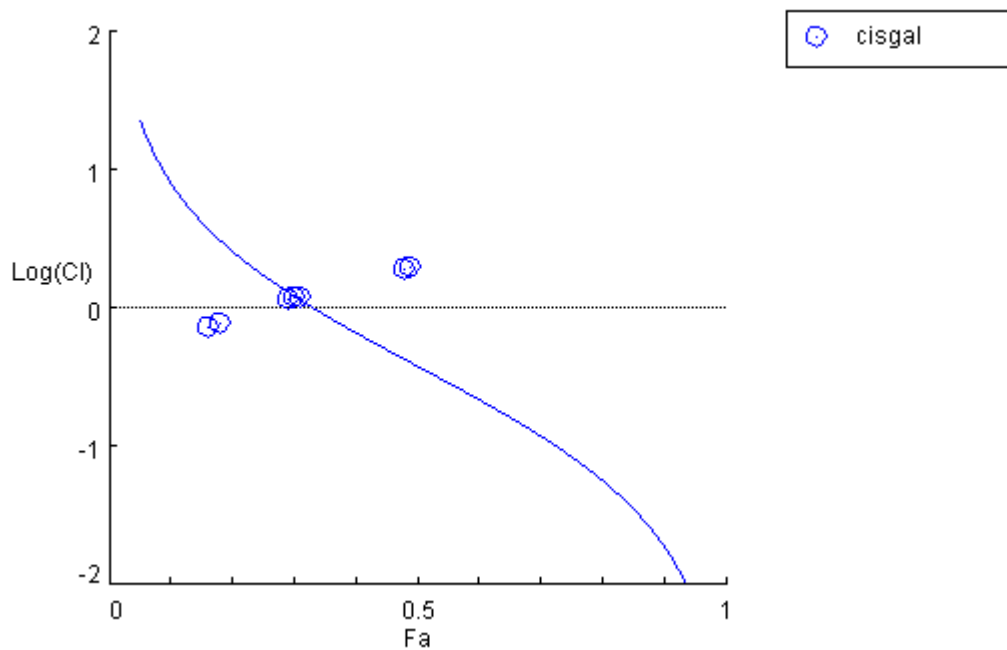
CI values for actual experimental points:

Total Dose	Fa	CI Value
28.8	0.29	1.14984
28.8	0.18	0.78235
28.8	0.16	0.71654
28.8	0.3	1.18469
28.8	0.48	1.90887
28.8	0.31	1.21991
28.8	0.49	1.95705

Combination Index Plot



Logarithmic Combination Index Plot



DRI Data for Drug Combo: cisgal (Cis+Gal [1:1])

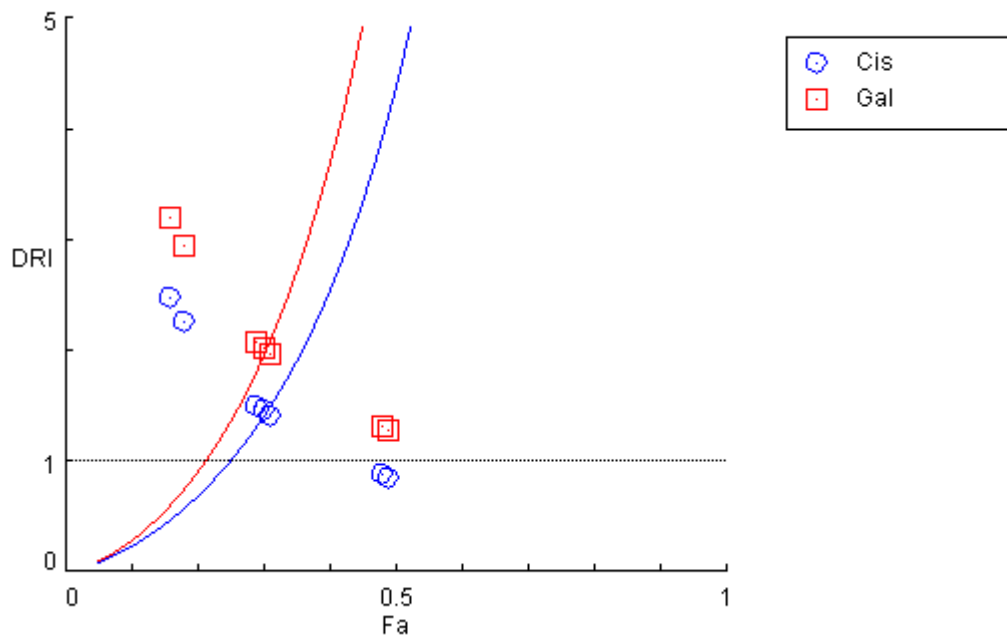
Fa	Dose Cis	Dose Gal	DRI Cis	DRI Gal
0.05	83.4492	95.2553	0.08509	0.09713
0.1	50.9471	62.4058	0.23153	0.28360
0.15	37.5351	48.0300	0.43028	0.55059

Fa	Dose Cis	Dose Gal	DRI Cis	DRI Gal
0.2	29.8223	39.4366	0.68611	0.90729
0.25	24.6623	33.5110	1.00870	1.37061
0.3	20.8908	29.0679	1.41245	1.96530
0.35	17.9676	25.5451	1.91765	2.72638
0.4	15.6040	22.6367	2.55284	3.70339
0.45	13.6302	20.1592	3.35869	4.96756
0.5	11.9385	17.9949	4.39458	6.62397
0.55	10.4567	16.0629	5.74997	8.83272
0.6	9.13398	14.3050	7.56505	11.8478
0.65	7.93243	12.6762	10.0709	16.0935
0.7	6.82246	11.1400	13.6730	22.3258
0.75	5.77914	9.66299	19.1459	32.0128
0.8	4.77920	8.21107	28.1478	48.3603
0.85	3.79717	6.74196	44.8833	79.6913
0.9	2.79755	5.18888	83.4127	154.714
0.95	1.70795	3.39946	226.961	451.737
0.97	1.20225	2.51610	462.661	968.274

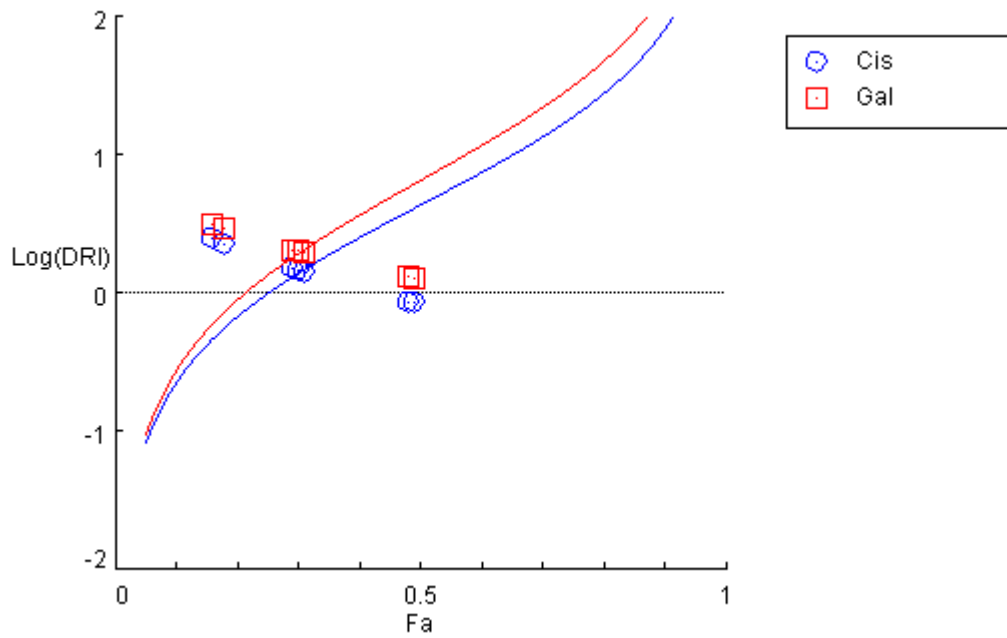
DRI values calculated at experimental points

Fa	Dose Cis	Dose Gal	DRI Cis	DRI Gal
0.29	21.5649	29.8699	1.49756	2.07430
0.18	32.4969	42.4488	2.25673	2.94784
0.16	35.6889	45.9981	2.47840	3.19431
0.3	20.8908	29.0679	1.45075	2.01861
0.48	12.5865	18.8288	0.87406	1.30756
0.31	20.2500	28.3020	1.40625	1.96542
0.49	12.2581	18.4070	0.85125	1.27826

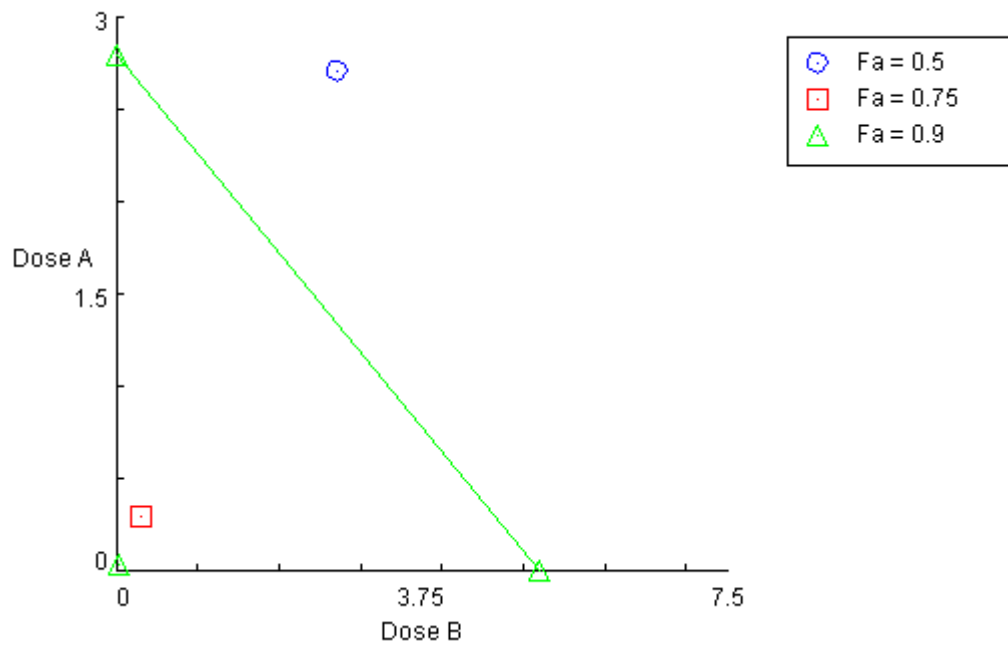
DRI Plot for Combo: cisgal (Cis+Gal [1:1])



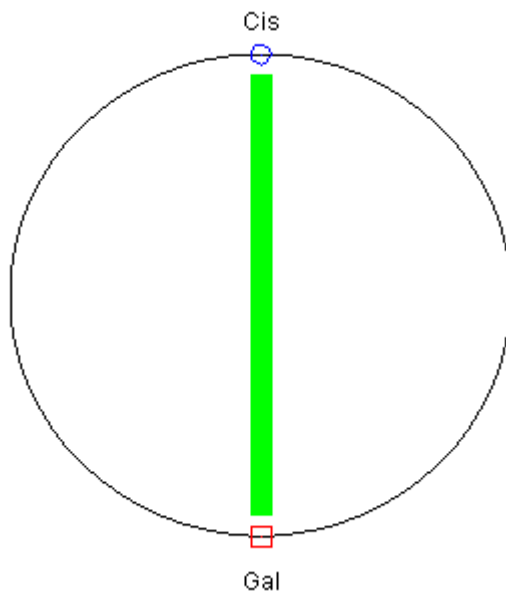
Log(DRI) Plot for Combo: cisgal (Cis+Gal [1:1])



Isobologram for Combo: cisgal (Cis+Gal [1:1])



Polygonogram at Fa = 0.9



Summary Table

Experiment Name:	gallic acid exp (A2780S)
Date:	6/27/2021
File Name:	C:\Users\user\Desktop\synergism S.cse
Description	Testing the effect of two drugs cisplatin and gallic acid on ovarian cancer cell lines

Drug: Cisplatin (Cis) [ug/ml]

Drug: Gallic (Gal) [ug/ml]

Drug Combo: Cisplatin + Gallic acid (cisgal) (Cis+Gal [1:1])

Drug/Combo	Dm	m	r
Cis	11.9385	-1.5143	-0.9904
Gal	17.9949	-1.7669	-0.8868
cisgal	5.43326	-0.5	-1.E-16

CI values at:

Combo	ED50	ED75	ED90	ED95
cisgal	0.37852	0.08347	0.01845	0.00662

Data for Fa = 0.5

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		11.9385	
Gal			17.9949
cisgal	0.37852	2.71663	2.71663

Data for Fa = 0.75

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		5.77914	
Gal			9.66299
cisgal	0.08347	0.30185	0.30185

Data for Fa = 0.9

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		2.79755	
Gal			5.18888
cisgal	0.01845	0.03354	0.03354

Data for Fa = 0.95

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		1.70795	
Gal			3.39946
cisgal	0.00662	0.00753	0.00753

Data for Fa = 0.97

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		1.20225	
Gal			2.51610
cisgal	0.00319	0.00260	0.00260

CompuSyn Report for A2780CP

Experiment Name: Gallic exp A2780CP
Date: 6/27/2021
File Name: C:\Users\user\Desktop\gallic exp cp.cse
Description: two drugs have been testing on ovarian cancer cell lines
Drug: Cisplatin (Cis) [ug/ml]
Drug: Gallic (Gal) [ug/ml]
Drug Combo: Gallic and Cis on CP (CisGal) (Cis+Gal [1:1])

Data for Drug: Cis [ug/ml]

Dose	Effect
3.0	0.81
7.5	0.65
9.0	0.56
10.5	0.57
12.0	0.54
13.5	0.58
16.5	0.69
21.0	0.69

8 data points entered.

X-int: 1.69117

Y-int: 0.62979 +/- 0.26426

m: -0.3724 +/- 0.25458

Dm: 49.1101

r: -0.5127

Data for Drug: Gal [ug/ml]

Dose	Effect
3.125	0.91
12.5	0.9
15.6	0.83

Dose	Effect
18.7	0.86
25.0	0.76
28.12	0.69
34.3	0.52
37.5	0.49
40.6	0.36
46.8	0.197

10 data points entered.

X-int: 1.59697

Y-int: 2.05224 +/- 0.42625

m: -1.2851 +/- 0.31125

Dm: 39.5343

r: -0.8250

Data for Drug Combo: CisGal (Cis+Gal [1:1])

Dose A	Effect
33.495+	0.168
33.495+	0.123
33.495+	0.161
33.495+	0.178
33.495+	0.09
33.495+	0.07

6 data points entered.

X-int: -1.5456

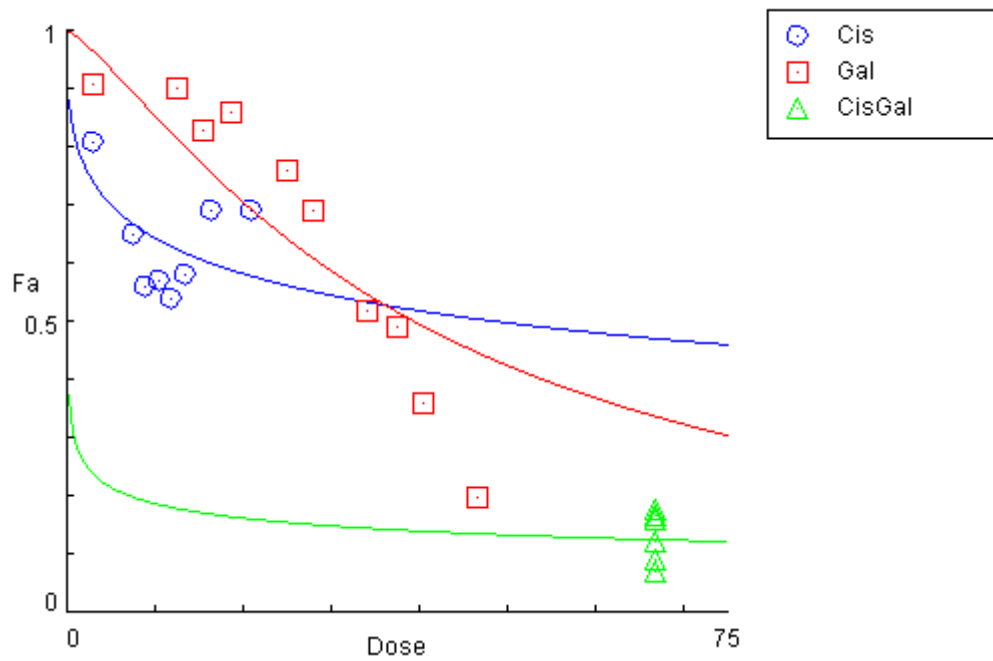
Y-int: -0.3864 +/- 7.01E14

m: -0.25 +/- 3.84E14

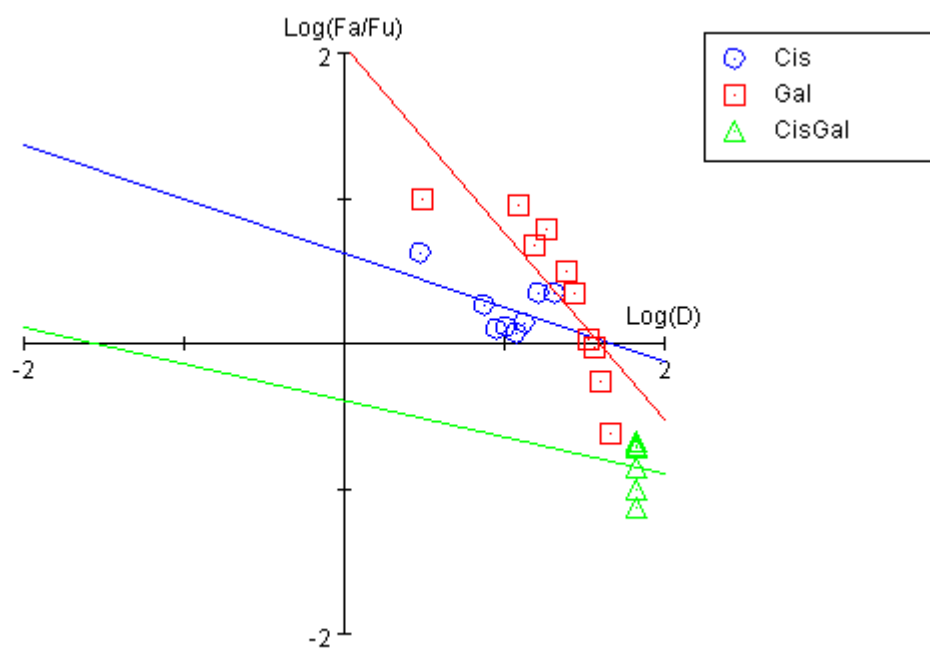
Dm: 0.02847

r: 4.4E-17

Dose-Effect Curve



Median-Effect Plot



CI Data for Drug Combo: CisGal (Cis+Gal [1:1])

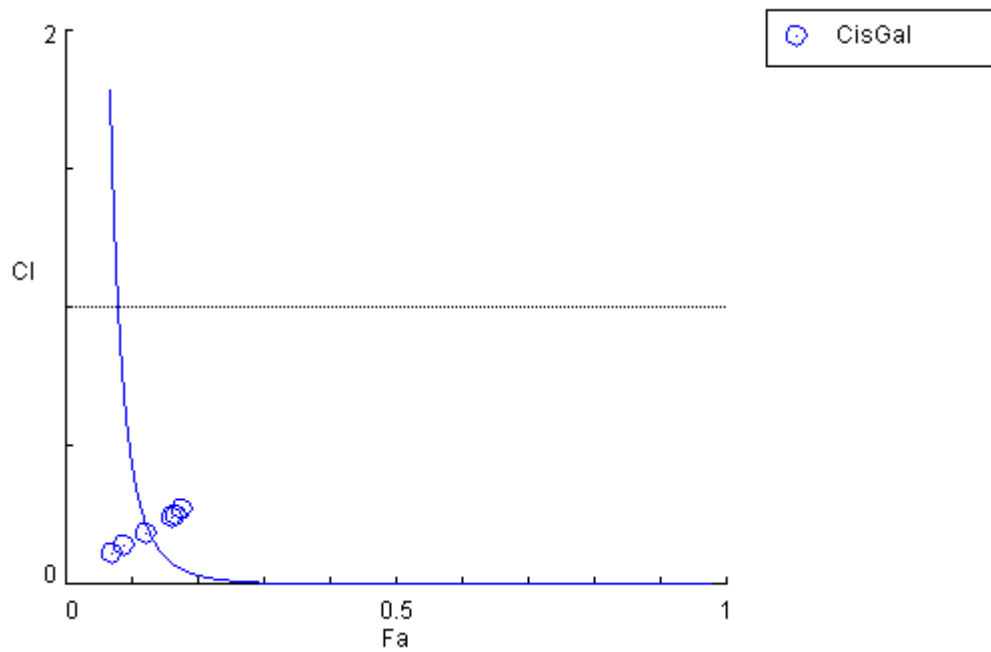
Fa	CI Value	Total Dose
0.05	4.75947	3709.97
0.1	0.43254	186.778
0.15	0.09910	29.3540

Fa	CI Value	Total Dose
0.2	0.03313	7.28780
0.25	0.01363	2.30591
0.3	0.00640	0.84385
0.35	0.00330	0.33864
0.4	0.00182	0.14412
0.45	0.00106	0.06353
0.5	6.50E-4	0.02847
0.55	4.11E-4	0.01276
0.6	2.68E-4	0.00562
0.65	1.77E-4	0.00239
0.7	1.19E-4	9.60E-4
0.75	7.88E-5	3.51E-4
0.8	5.10E-5	1.11E-4
0.85	3.10E-5	2.76E-5
0.9	1.64E-5	4.34E-6
0.95	6.07E-6	2.18E-7
0.97	3.01E-6	2.60E-8

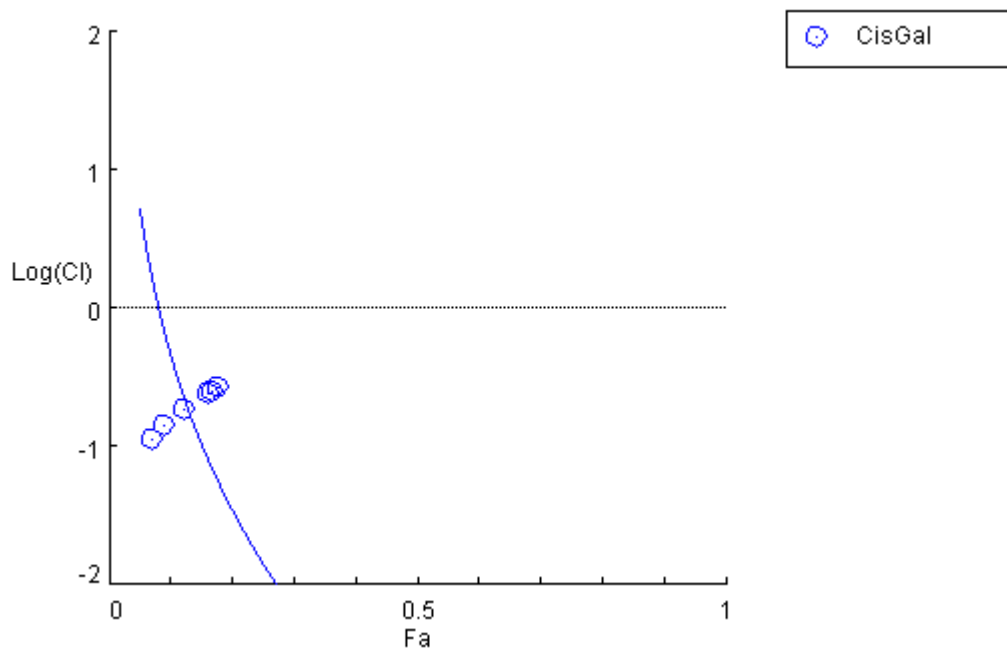
CI values for actual experimental points:

Total Dose	Fa	CI Value
66.99	0.168	0.25325
66.99	0.123	0.18721
66.99	0.161	0.24259
66.99	0.178	0.26881
66.99	0.09	0.14136
66.99	0.07	0.11385

Combination Index Plot



Logarithmic Combination Index Plot



DRI Data for Drug Combo: CisGal (Cis+Gal [1:1])

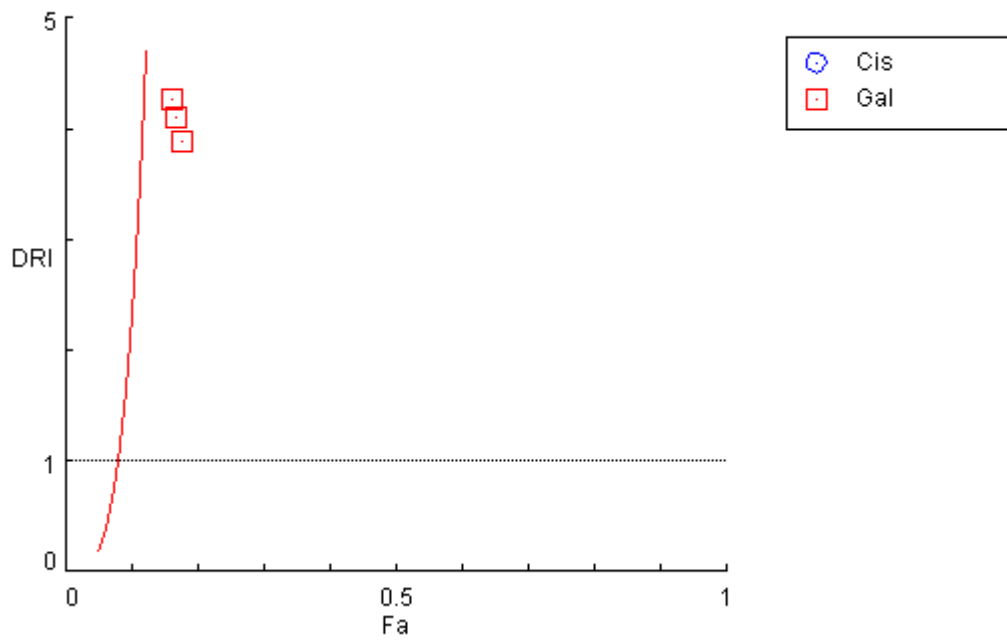
Fa	Dose Cis	Dose Gal	DRI Cis	DRI Gal
0.05	133357.	390.889	71.8910	0.21072
0.1	17931.0	218.540	192.003	2.34010
0.15	5177.10	152.471	352.735	10.3884

Fa	Dose Cis	Dose Gal	DRI Cis	DRI Gal
0.2	2031.82	116.272	557.596	31.9087
0.25	938.399	92.9507	813.909	80.6197
0.3	477.861	76.4399	1132.58	181.170
0.35	258.883	64.0000	1528.96	377.983
0.4	145.891	54.2004	2024.60	752.161
0.45	84.1775	46.2159	2650.14	1455.00
0.5	49.1101	39.5343	3450.20	2777.46
0.55	28.6514	33.8187	4491.80	5301.90
0.6	16.5315	28.8368	5879.64	10256.2
0.65	9.31620	24.4213	7785.63	20409.1
0.7	5.04709	20.4469	10510.5	42580.3
0.75	2.57013	16.8150	14625.6	95687.4
0.8	1.18701	13.4423	21348.6	241761.
0.85	0.46586	10.2509	33747.4	742586.
0.9	0.13450	7.15184	61998.5	3296563
0.95	0.01809	3.99848	165582.	3.661E7
0.97	0.00434	2.64375	333099.	2.030E8

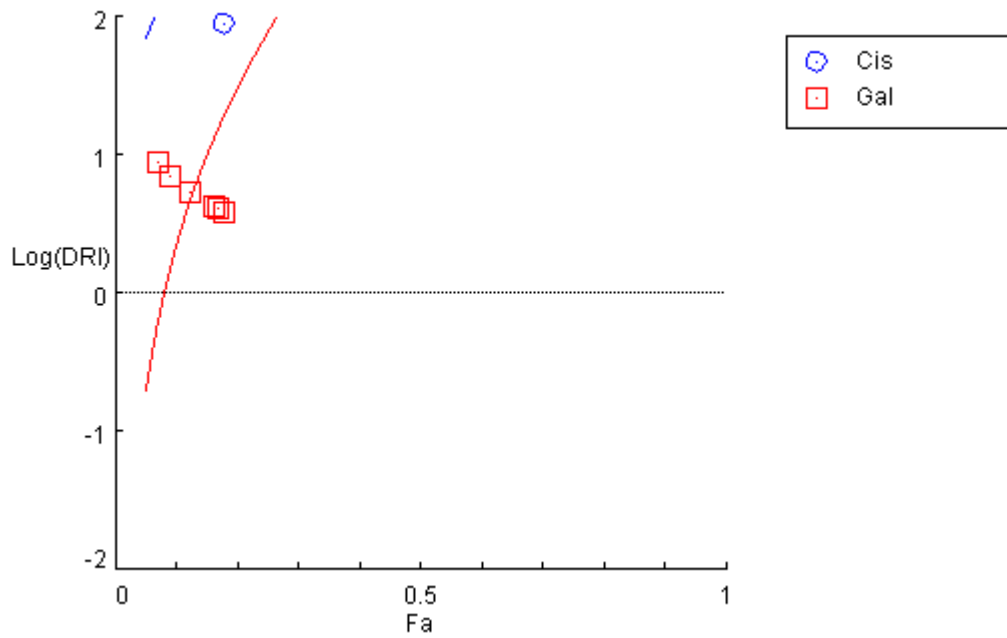
DRI values calculated at experimental points

Fa	Dose Cis	Dose Gal	DRI Cis	DRI Gal
0.168	3605.45	137.294	107.641	4.09895
0.123	9593.80	182.314	286.425	5.44304
0.161	4133.94	142.846	123.419	4.26469
0.178	2988.32	130.025	89.2170	3.88192
0.09	24511.1	239.261	731.785	7.14319
0.07	51027.4	295.904	1523.43	8.83428

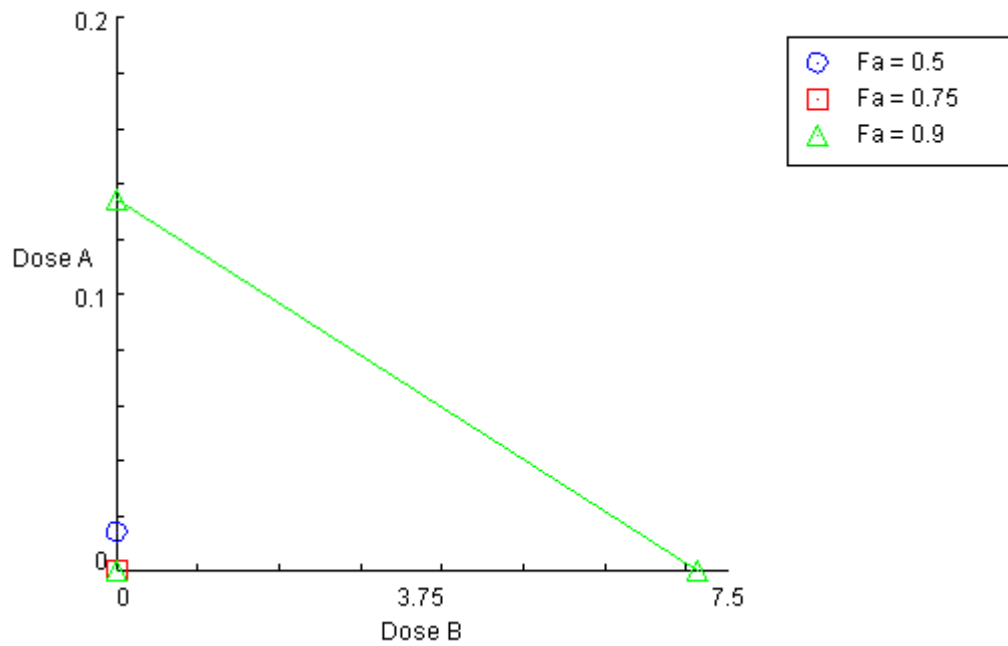
DRI Plot for Combo: CisGal (Cis+Gal [1:1])



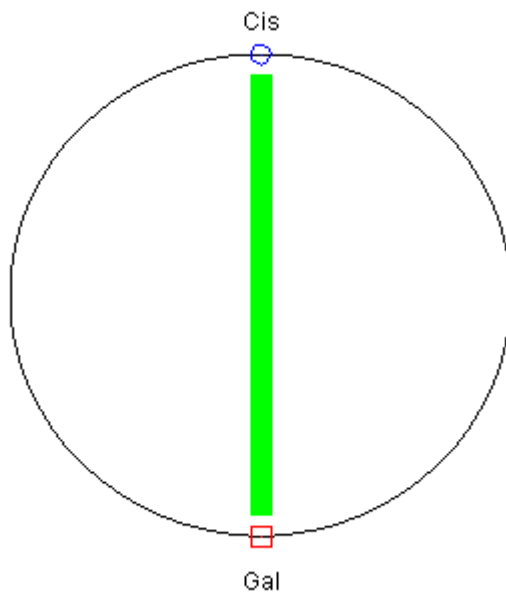
Log(DRI) Plot for Combo: CisGal (Cis+Gal [1:1])



Isobologram for Combo: CisGal (Cis+Gal [1:1])



Polygonogram at Fa = 0.9



Summary Table

Experiment Name:	Gallic exp A2780CP
Date:	6/27/2021
File Name:	C:\Users\user\Desktop\gallic exp cp.cse
Description	two drugs have been testing on ovarian cancer cell lines
Drug:	Cisplatin (Cis) [ug/ml]

Drug: Gallic (Gal) [ug/ml]

Drug Combo: Gallic and Cis on CP (CisGal) (Cis+Gal [1:1])

Drug/Combo	Dm	m	r
Cis	49.1101	-0.3724	-0.5127
Gal	39.5343	-1.2851	-0.8250
CisGal	0.02847	-0.25	4.4E-17

CI values at:

Combo	ED50	ED75	ED90	ED95
CisGal	6.50E-4	7.88E-5	1.64E-5	6.07E-6

Data for Fa = 0.5

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		49.1101	
Gal			39.5343
CisGal	6.50E-4	0.01423	0.01423

Data for Fa = 0.75

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		2.57013	
Gal			16.8150
CisGal	7.88E-5	1.76E-4	1.76E-4

Data for Fa = 0.9

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		0.13450	
Gal			7.15184
CisGal	1.64E-5	2.17E-6	2.17E-6

Data for Fa = 0.95

Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		0.01809	
Gal			3.99848
CisGal	6.07E-6	1.09E-7	1.09E-7

Data for Fa = 0.97

Drug/Combo	CI value	Dose Cis	Dose Gal
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Drug/Combo	CI value	Dose Cis	Dose Gal
Cis		0.00434	
Gal			2.64375
CisGal	3.01E-6	1.30E-8	1.30E-8