

Attachment 10 e. Comparision of the WLR and BLR variation on the IC50 values

	Geometric standard deviation						
	GIV	Lab 1	Lab 2	Lab 3	Lab 4	WLR	BLR
2,4-Dinitrochlorobenzene	1.1	1.73	1.24	1.3	1.02	1.28	1.27
4-Phenylenediamine	1.05	1.01	1.4	1.4	2.14	1.4	1.26
Cinnamic aldehyde	1.2	1.56	1.18	1.49	1.06	1.3	1.54
4-nitrobenzylbromide	1.41	2.83	1.73	1.39	1.7	1.81	1.41
4-Methylaminophenol sulphate (MET)	1.68	1.96	1.02	1.27	2.34	1.65	1.94
Isoeugenol	1.17	2.03	1.44	1.13	1.37	1.43	1.33
Eugenol	1.04	1.33	1.01	1.03	1.03	1.09	1.08
2-Mercaptobenzothiazole	1.08	1.36	1.06	1.1	1.27	1.17	1.26
(5-chloro)-Methylisothiazolinone	2.38	2.07	1.01	1.51	1.57	1.71	1.7
Sodium lauryl sulfate	1.1	1.3	1.46	1.04	1.05	1.19	1.31
Imidazolidinyl urea	1.02	1.28	1.48	1.05	1.01	1.17	1.18
Methyldibromo glutaronitrile	1.35	1.28	1.08	1.06	1.28	1.21	1.34
Glyoxal	1.03	1.38	1.08	n.c. 4	1.01	1.12	1.16
tetramethylthiuramdisulfide	1.07	1.66	1.02	1.32	1.19	1.25	1.75
Phenyl benzoate	1.02	1.56	2.25	1.45	2.06	1.67	1.76
Citral	1.04	1.27	1.43	1.07	1.05	1.17	1.35
Ethylene glycol dimethacrylate	1.06	1.68	1.04	1.37	n.c.	1.29	1.35
Hexyl cinnamic aldehyde	1.19	1.6	1.45	1.44	1.08	1.35	1.6
Averages	1.22	1.6	1.3	1.26	1.36	1.35	1.42

Geometric standard deviation

This corresponds to a factor, thus we can describe the experimental variation as:
 $EC1.5 = \text{geometric mean} * / \text{geometric Stdev}$
 instead of

$EC1.5 = \text{arithmetic average} \pm \text{STDEV}$

Numerical example: If the standard deviation of the Log2 transformed values is 0.5, the geometric standard deviation is 1.414 or the square root of 2. The 95.4% confidence interval of the Log2 transformed values then becomes ± 1 (i.e. twice the standard deviation) and the geometric (or re-transformed) 95.4% confidence interval is confined by a factor of 2. Thus in this specific case, the 95.4% confidence interval is covered by the concentration range one well in the microtiter plate up and down of the geometric mean.

WLR variation

To assess the WL variation in each lab in the ring study, the geometric standard deviation of the three repetitions was calculated for each chemical and in each Lab. These values are shown in the first five columns

To describe the overall WL variability for each chemical, the averages of these values were calculated (column WLR)

BLR variation

To assess the amount of variation contributed by BL comparison, **for each chemical the geometric standard deviation over the geometric means of the individual labs were calculated.** (column BLR) It indicates (again as a variability factor) for each chemical how big the variation between the labs is.