

NOTE NO. 25 - August 31 1987

ISRP GFF CAPACITY FACTORS: THOSE OF ISRP GFF, VS THOSE OF ODS

Discussion: We are frequently asked whether Pinkerton ISRP capacity factors can be predicted from those of ODS. Thanks to a 21-drug study carried out by Richard A. Sams and Linda L. Evec of The Ohio State University Veterinary Hospital (1935 Coffey Road, Columbus, Ohio 43210), we can now comment on this matter.

Our general pre-study feeling--that because GFF and ODS are different materials no correlation is expectable--proves somewhat too harsh. There is in fact the statistical correlation (0.6498) implied in the figure. The regression line:

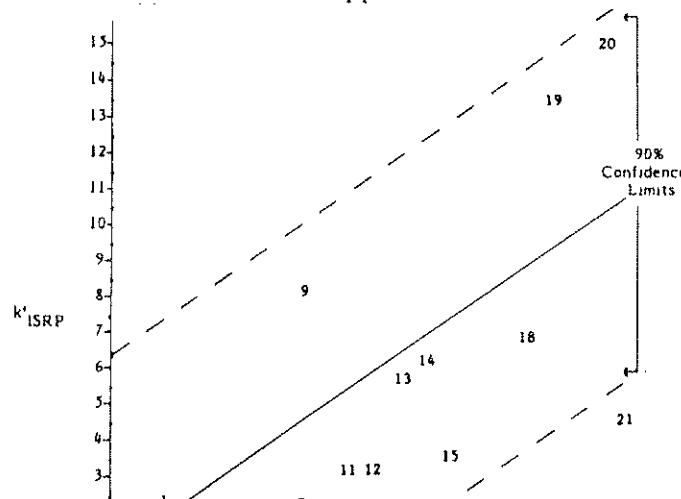
$$k'_{ISRP} = 2.0929 k'_{ODS} + 0.9603$$

Nevertheless, ISRP GFF retentions are a strong but nonuniform function of pH, and the data cited here hold only for one pH: 7.5. Our conclusion: The relationship is loose at best. ODS retentions are not good predictors for GFF retentions.

In passing, compare the selectivities of the two materials. While the ODS retentions range by a factor of less than 4, from 2.71 minutes to no greater than 8.74 minutes, the GFF retentions range by a factor of nearly 10, from 2.74 minutes to 22.54. Clearly, GFF is far more selective in this application.

Capacity Factors - Phenylbutazone Study

Drug	ISRP		ODS	
	t _r (min)	k' (min)	t _r (min)	k' (min)
Ibuprofen	2.74	1.03	5.46	3.32
Toimetin, Na,H ₂ O	2.83	1.05	3.45	1.31
Probenecid	2.78	1.06	3.83	1.69
Naproxen	2.98	1.17	3.69	1.55
Oxyphenbutazone	3.02	1.19	3.39	1.25
Fenaprofen	3.67	1.68	4.32	2.18
Bumetanide	4.38	2.17	3.32	1.18
PHENYLBUTAZONE	4.36	2.18	5.35	3.21
Sulindac	4.36	2.18	3.01	0.87
Ethacrynic Acid	4.36	2.25	4.03	1.89
Furosemide	4.72	2.42	2.71	0.57
Flurbiprofen	5.44	3.03	4.48	2.34
Cicloprofen	5.53	3.04	4.66	2.49
Peptrozone	5.56	3.63	5.32	3.18
Flunixin	8.33	5.17	7.26	5.12
Indomethacin	9.92	6.09	4.82	2.68
Diclofenac	9.98	6.28	4.98	2.84
Acetylsalicylic Acid	10.68	6.85	5.98	3.84



J. A. Perry and Susan E. Lye,
Regis Chemical Company
8210 Austin Avenue, Morton
Grove, IL 60053