Spectral slit width and the absorption of light by substances in the Addendum 1964 to the British Pharmacopoeia 1963

SIR,—The previous surveys (Rogers, 1959, 1964) of slit-width effects have now been extended to those substances that are subject to spectrophotometric assay in the Addendum 1964 to the B.P. 1963. On this occasion, a Hilger and Watts Uvispek H.700 and a Unicam SP. 700 spectrophotometer have been used.

Table 1 lists the drugs examined and shows on the left of the third column the widest instrumental half-intensity spectral slit width h that may safely be used. Prednisolone trimethylacetate has been included in the Table; its assay was changed from a colorimetric to a direct ultraviolet spectrophotometric procedure by an amendment official from January, 1964. Levorphanol tartrate was the subject of a spectrophotometric assay in the B.P. 1963, and so was reported previously (Rogers, 1964), but the figures are repeated here because the injection is the subject of a spectrophotometric assay in the Addendum 1964.

Examination of the Table shows that special care in selecting a sufficiently narrow slit width is needed with levallorphan tartrate and levorphanol tartrate.

TABLE 1. EFFECT OF CHANGE OF SPECTRAL SLIT WIDTH ON THE SPECTROPHOTOMETRIC DETERMINATION OF EXTINCTION

Substance	λ max (mμ)	Max. h (mμ) for extinction error of		
		0·2%	1%	2%
Dichlorophen	304	1·3	1·8	
Edrophonium chloride	273	1·1	1·5	2·2
Ethosuximide	248	1·5		
Levallorphan tartrate	279	0·9	1·6	2·3
Levorphanol tartrate	279	0·7	1·5	2·1
Paracetamol	257	1·7		
Phenolphthalein	550	1·0		
Phenylephrine hydrochloride	273	1·1	1·5	2·2
Prednisolone trimethylacetate	242	1·2		
Spironolactone	238	1·2		

Solutions were prepared as directed by the Addendum 1964 to the B.P. 1963.

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