

The difference between the maximum 22·8 and the minimum 15·4, is equal to a variation in the morphia-strength of about 3 to 4½. The average percentage is 19·7.

I next give a list of the samples of *Extractum Opii Liquidum* examined, with their specific gravities and the amount of morphia in the fluid ounce.

No.	Spec. Grav.	Grs. Morphia in fl. oz.			No.	Spec. Grav.	Grs. Morphia in fl. oz.		
		I.	II.	mean			I.	II.	mean
1	·987	3·82	4·08	3·95	9	0·985	4·68	4·34	4·51
2	·992	4·02	3·95	3·98	10	1·000	4·17	4·01	4·09
3	·986	2·66	2·87	2·76	11	0·989	3·63	3·75	3·70
4	·993	3·04	3·89	3·46	12		3·71		
5	·996	3·73	3·12	3·42	13		2·28		
6	·9·5	2·26	2·06	2·16	14		0·61		
7	·992	1·78	1·63	1·66	15		2·22		
8	·996	4·33	4·34	4·33					

It will be observed that in these fifteen samples the grains of morphia in the fluid ounce varied from 0·6 to 4·5, the average being 3·12. Only one estimation of the last four was made as these were examined some months ago, without any intention of publishing the results. In one or two cases it would have been advisable to repeat the determination of the morphia, but the quantity of each sample admitted of only two estimations being made.

In the following table I give the assays of eighteen samples of the *Tinctura Opii*, with the specific gravities.

No.	Spec. Grav.	Grs. Morphia in fl. oz.			No.	Spec. Grav.	Grs. Morphia in fl. oz.		
		I.	II.	mean			I.	II.	mean
1	0·922	3·30	3·50	3·40	10	·960	3·50	3·57	3·53
2	0·938	2·80	2·70	2·75	11	·953	3·04		
3	0·955	2·10	2·10	2·10	12	·936	3·50		
4	0·940	2·90	3·70	3·30	13		3·71		
5	0·956	2·05	2·10	2·07	14		4·37		
6	0·937	2·08	2·23	2·15	15		2·02		
7	0·929	3·12	3·28	3·20	16		0·83		
8	0·957	3·62	3·45	3·53	17		1·91		
9	0·962	1·40	1·59	1·49	18		0·55		

In this, the most important of the opium preparations, the variation in morphia strength extends from 4·37 to 0·55 grs. in the fluid ounce; the average being 2·66.

The method employed in all the above noted assays, is a modification of that recommended in the *British Pharmacopœia*. I find