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QB 80 113

SUGAR TABLES  
FOR  
LABORATORY USE

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C. A. BROWNE











# SUGAR TABLES

FOR  
LABORATORY USE

SELECTED AND ARRANGED

BY

C. A. BROWNE, PH.D.

*Chemist in charge of the New York Sugar Trade Laboratory  
(Formerly Chief of the Sugar Laboratory, U. S. Bureau of Chemistry,  
Washington, D.C., and Research Chemist of the Louisiana  
Sugar Experiment Station, New Orleans, La.)*

FIRST EDITION

FIRST THOUSAND

NEW YORK  
JOHN WILEY & SONS  
LONDON: CHAPMAN & HALL, LIMITED

1912

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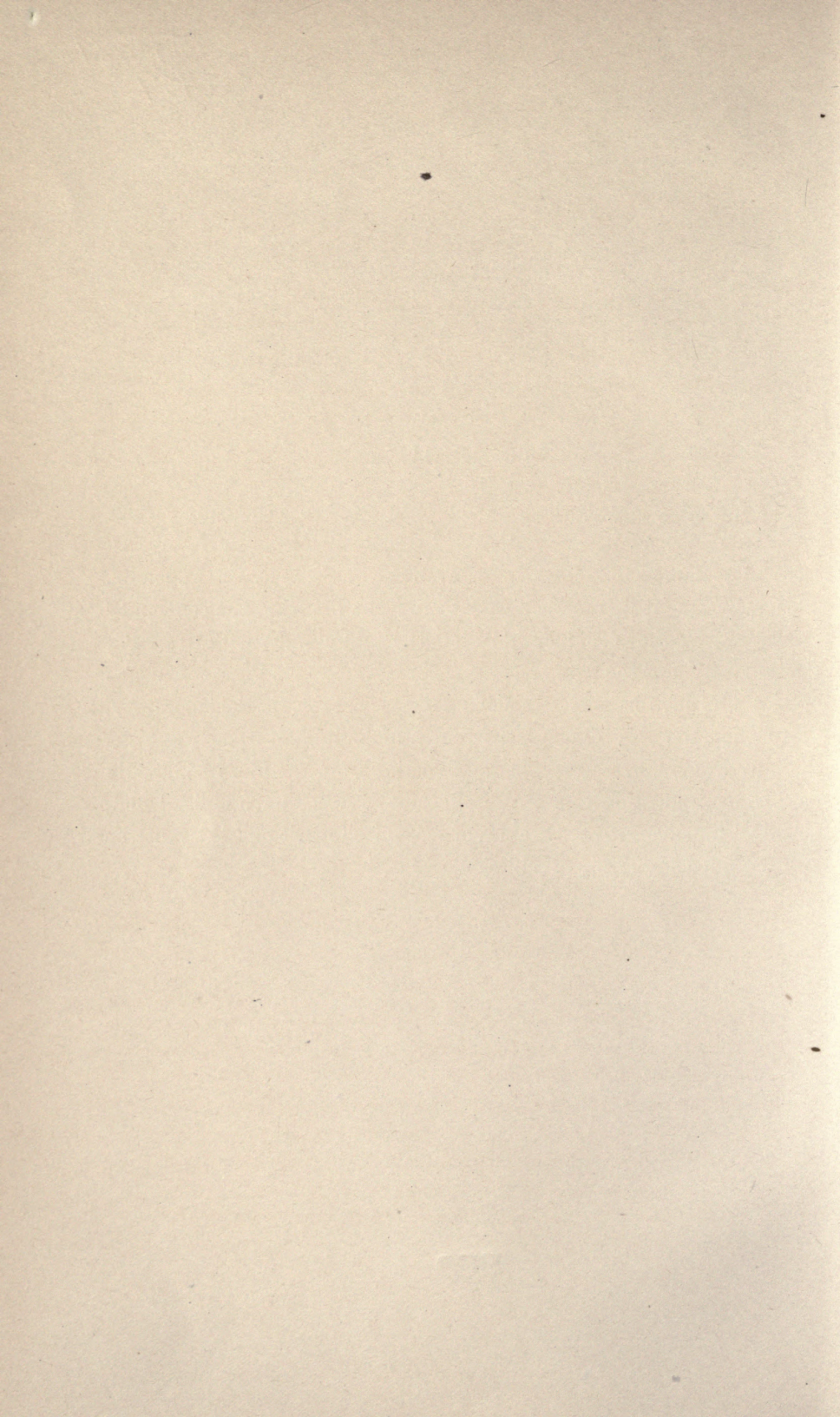
**Stanhope Press**  
F. H. GILSON COMPANY  
BOSTON, U. S. A.



## INTRODUCTION

THE following tables, which have been selected to accompany various methods described in the author's "Handbook of Sugar Analysis," have been grouped together for convenience as a separate Appendix. This arrangement was made partly to prevent breaking the continuity of the text by the introduction of lengthy tables and partly to permit the publication of the Appendix as a separate book for the convenience of those who have occasion to make use of special tables in the laboratory.

Knowing the very diverse preferences of individual sugar chemists, the author has made a rather wide selection from the more commonly used copper reduction tables. Limitations of space have obliged him, however, to leave out many tables of recognized merit and this must be his excuse for any errors of omission.



## LIST OF TABLES

TABLE	PAGE
1. Specific Gravity of Sucrose Solutions at $\frac{20^{\circ}}{4^{\circ}}$ C. (Kaiserliche Normal-Eichungs-Kommission).....	1
2. Temperature Corrections for Changing Percentages of Sugar by Specific Gravity to True Values at 20° C.....	5
3. Specific Gravity of Sucrose Solutions at $\frac{17.5^{\circ}}{17.5^{\circ}}$ C. with Corresponding Degrees Brix and Baumé.....	6
4. Table for Correcting Readings of Brix Hydrometers at Different Temperatures to 17.5° C.....	16
5. Main's Table for Determining Water in Sugar Solutions by Means of the Abbe Refractometer at 20° C.....	17
6. Stanek's Correction Table for Determining Water in Sugar Solutions by Means of the Abbe Refractometer when Readings are Made at Other Temperatures than 20° C.....	21
7. Geerlig's Table for Determining Dry Substance in Sugar House Products by the Abbe Refractometer at 28° C.....	22
8. Hübener's Table for Determining Percentages by Weight of Sucrose in Sugar Solutions from Readings of the Zeiss Immersion Refractometer	24
9. Kruis's Table for Determining Glucose by Reischauer's Method.....	27
10. Allihn's Table for Determining Glucose.....	30
11. Pflüger's Table for Determining Glucose.....	33
12. Koch and Ruhsam's Table for Determining Glucose in Tanning Materials	35
13. Meissl's Table for Determining Invert Sugar.....	38
14. Wein's Table for Determining Maltose.....	40
15. Soxhlet and Wein's Table for Determining Lactose.....	42
16. Woy's Table for Determining Glucose, Fructose, Invert Sugar, Lactose and Maltose by Kjeldahl's Method.....	44
17. Brown, Morris and Millar's Table for Determining Glucose, Fructose and Invert Sugar.....	62
18. Defren's Table for Determining Glucose, Maltose and Lactose.....	63
19. Munson and Walker's Table for Determining Glucose, Invert Sugar Alone, Invert Sugar in the Presence of Sucrose (0.4 gram and 2 grams Total Sugar), Lactose and Maltose.....	66

TABLE	PAGE
20. Bertrand's Table for Determining Invert Sugar, Glucose, Galactose, Maltose and Lactose .....	79
21. Herzfeld's Table for Determining Invert Sugar in Raw Sugars (Invert Sugar not to Exceed 1.5%) .....	81
22. Kröber's Table for Determining Pentoses and Pentosans .....	83
23. Tollens, Ellet and Mayer's Table for Determining Methylpentoses and Methylpentosans .....	89
24. Formulæ, Descriptions, Melting Points and Solubilities of the Principal Hydrzones and Osazones of the Sugars .....	90
25. Reciprocals of Numbers from 1 to 100 .....	101

SUGAR TABLES

TABLE \* 1.  
SPECIFIC GRAVITY OF SUCROSE SOLUTIONS AT 20° C. (KAISERLICHE NORMAL-EICHUNGS-KOMMISSION.)

Per cent sucrose	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	0.998234	0.998622	0.999010	0.999398	0.999786	1.000174	1.000563	1.000952	1.001342	1.001731
1	1.002120	1.002509	1.002897	1.003286	1.003675	1.004064	1.004453	1.004844	1.005234	1.005624
2	1.006015	1.006405	1.006796	1.007188	1.007580	1.007972	1.008363	1.008755	1.009148	1.009541
3	1.009934	1.010327	1.010721	1.011115	1.011510	1.011904	1.012298	1.012694	1.013089	1.013485
4	1.013881	1.014277	1.014673	1.015070	1.015467	1.015864	1.016261	1.016659	1.017058	1.017456
5	1.017854	1.018253	1.018652	1.019052	1.019451	1.019851	1.020251	1.020651	1.021053	1.021454
6	1.021855	1.022257	1.022659	1.023061	1.023463	1.023867	1.024270	1.024673	1.025077	1.025481
7	1.025885	1.026289	1.026694	1.027099	1.027504	1.027910	1.028316	1.028722	1.029128	1.029535
8	1.029942	1.030349	1.030757	1.031165	1.031573	1.031982	1.032391	1.032800	1.033209	1.033619
9	1.034029	1.034439	1.034850	1.035260	1.035671	1.036082	1.036494	1.036906	1.037318	1.037730
10	1.038143	1.038556	1.038970	1.039383	1.039797	1.040212	1.040626	1.041041	1.041456	1.041872
11	1.042288	1.042704	1.043121	1.043537	1.043954	1.044370	1.044788	1.045206	1.045625	1.046043
12	1.046482	1.046881	1.047290	1.047700	1.048110	1.048520	1.048930	1.049340	1.049752	1.050163
13	1.050665	1.051087	1.051510	1.051933	1.052356	1.052778	1.053202	1.053626	1.054050	1.054475
14	1.054900	1.055325	1.055751	1.056176	1.056602	1.057029	1.057455	1.057882	1.058310	1.058737
15	1.059165	1.059593	1.060022	1.060451	1.060880	1.061308	1.061738	1.062168	1.062598	1.063029
16	1.063460	1.063892	1.064324	1.064756	1.065188	1.065621	1.066054	1.066487	1.066921	1.067355
17	1.067789	1.068223	1.068658	1.069093	1.069529	1.069964	1.070400	1.070836	1.071273	1.071710
18	1.072147	1.072585	1.073023	1.073461	1.073900	1.074338	1.074777	1.075217	1.075657	1.076097
19	1.076537	1.076978	1.077419	1.077860	1.078302	1.078744	1.079187	1.079629	1.080072	1.080515
20	1.080959	1.081403	1.081848	1.082292	1.082737	1.083182	1.083628	1.084074	1.084520	1.084967
21	1.085414	1.085861	1.086309	1.086757	1.087205	1.087652	1.088101	1.088550	1.089000	1.089450
22	1.089900	1.090351	1.090802	1.091253	1.091704	1.092155	1.092607	1.093060	1.093513	1.093966
23	1.094420	1.094874	1.095328	1.095782	1.096236	1.096691	1.097147	1.097603	1.098058	1.098514
24	1.098971	1.099428	1.099886	1.100344	1.100802	1.101259	1.101718	1.102177	1.102637	1.103097

\* See "Handbook", page 30.

## SUGAR TABLES

TABLE 1. (Continued.)

Per cent sucrose.	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
25	1.103557	1.104017	1.104478	1.104938	1.105400	1.105862	1.106324	1.106786	1.107248	1.107711
26	1.108175	1.108639	1.109103	1.109568	1.110033	1.110497	1.110963	1.111429	1.111895	1.112361
27	1.112828	1.113295	1.113763	1.114229	1.114697	1.115166	1.115635	1.116104	1.116572	1.117042
28	1.117512	1.117982	1.118453	1.118923	1.119395	1.119867	1.120339	1.120812	1.121284	1.121757
29	1.122231	1.122705	1.123179	1.123653	1.124128	1.124603	1.125079	1.125555	1.126030	1.126507
30	1.126984	1.127461	1.127939	1.128417	1.128896	1.129374	1.129853	1.130332	1.130812	1.131292
31	1.131773	1.132254	1.132735	1.133216	1.133698	1.134180	1.134663	1.135146	1.135628	1.136112
32	1.136596	1.137080	1.137565	1.138049	1.138534	1.139020	1.139506	1.139993	1.140479	1.140966
33	1.141453	1.141941	1.142429	1.142916	1.143405	1.143894	1.144384	1.144874	1.145363	1.145854
34	1.146345	1.146836	1.147328	1.147820	1.148313	1.148805	1.149298	1.149792	1.150286	1.150780
35	1.151275	1.151770	1.152265	1.152760	1.153256	1.153752	1.154249	1.154746	1.155242	1.155740
36	1.156238	1.156736	1.157235	1.157733	1.158233	1.158733	1.159233	1.159733	1.160233	1.160734
37	1.161236	1.161738	1.162240	1.162742	1.163245	1.163748	1.164252	1.164756	1.165259	1.165764
38	1.166269	1.166775	1.167281	1.167786	1.168293	1.168800	1.169307	1.169815	1.170322	1.170831
39	1.171340	1.171849	1.172359	1.172869	1.173379	1.173889	1.174400	1.174911	1.175423	1.175935
40	1.176447	1.176960	1.177473	1.177987	1.178501	1.179014	1.179527	1.180044	1.180560	1.181076
41	1.181592	1.182108	1.182625	1.183142	1.183660	1.184178	1.184696	1.185215	1.185734	1.186253
42	1.186773	1.187293	1.187814	1.188335	1.188856	1.189379	1.189901	1.190423	1.190946	1.191469
43	1.191993	1.192517	1.193041	1.193565	1.194090	1.194616	1.195141	1.195667	1.196193	1.196720
44	1.197247	1.197775	1.198303	1.198832	1.199360	1.199890	1.200420	1.200950	1.201480	1.202010
45	1.202540	1.203071	1.203603	1.204136	1.204668	1.205200	1.205733	1.206266	1.206801	1.207335
46	1.207870	1.208405	1.208940	1.209477	1.210013	1.210549	1.211086	1.211623	1.212162	1.212700
47	1.213238	1.213777	1.214317	1.214856	1.215395	1.215936	1.216476	1.217017	1.217559	1.218101
48	1.218643	1.219185	1.219729	1.220272	1.220815	1.221360	1.221904	1.222449	1.222995	1.223540
49	1.224086	1.224632	1.225180	1.225727	1.226274	1.226823	1.227371	1.227919	1.228469	1.229018

## SUGAR TABLES

3

TABLE 1. (Continued.)

Per cent sucrose.	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
50	1.229567	1.230117	1.230668	1.231219	1.231770	1.232322	1.232874	1.233426	1.233979	1.234532
51	1.235085	1.235639	1.236194	1.236748	1.237303	1.237859	1.238414	1.238970	1.239527	1.240084
52	1.240641	1.241198	1.241757	1.242315	1.242873	1.243433	1.243992	1.244552	1.245113	1.245673
53	1.246234	1.246795	1.247358	1.247920	1.248482	1.249046	1.249609	1.250172	1.250737	1.251301
54	1.251866	1.252431	1.252997	1.253563	1.254129	1.254697	1.255264	1.255831	1.256400	1.256967
55	1.257535	1.258104	1.258674	1.259244	1.259815	1.260385	1.260955	1.261527	1.262099	1.262671
56	1.263243	1.263816	1.264390	1.264963	1.265537	1.266112	1.266686	1.267261	1.267837	1.268413
57	1.268989	1.269565	1.270143	1.270720	1.271299	1.271877	1.272455	1.273035	1.273614	1.274194
58	1.274774	1.275354	1.275936	1.276517	1.277098	1.277680	1.278262	1.278844	1.279428	1.280011
59	1.280595	1.281179	1.281764	1.282349	1.282935	1.283521	1.284107	1.284694	1.285281	1.285869
60	1.286456	1.287044	1.287633	1.288222	1.288811	1.289401	1.289991	1.290581	1.291172	1.291763
61	1.292354	1.292946	1.293539	1.294131	1.294725	1.295318	1.295911	1.296506	1.297100	1.297696
62	1.298291	1.298886	1.299483	1.300079	1.300677	1.301274	1.301871	1.302470	1.303068	1.303668
63	1.304267	1.304867	1.305467	1.306068	1.306669	1.307271	1.307872	1.308475	1.309077	1.309680
64	1.310282	1.310885	1.311489	1.312093	1.312699	1.313304	1.313909	1.314515	1.315121	1.315728
65	1.316334	1.316941	1.317549	1.318157	1.318766	1.319374	1.319983	1.320593	1.321203	1.321814
66	1.322425	1.323036	1.323648	1.324259	1.324872	1.325484	1.326097	1.326711	1.327325	1.327940
67	1.328554	1.329170	1.329785	1.330401	1.331017	1.331633	1.332250	1.332868	1.333485	1.334103
68	1.334722	1.335342	1.335961	1.336581	1.337200	1.337821	1.338441	1.339063	1.339684	1.340306
69	1.340928	1.341551	1.342174	1.342798	1.343421	1.344046	1.344671	1.345296	1.345922	1.346547
70	1.347174	1.347801	1.348427	1.349055	1.349682	1.350311	1.350939	1.351568	1.352197	1.352827
71	1.353456	1.354087	1.354717	1.355349	1.355980	1.356612	1.357245	1.357877	1.358511	1.359144
72	1.359778	1.360413	1.361047	1.361682	1.362317	1.362953	1.363590	1.364226	1.364864	1.365501
73	1.366139	1.366777	1.367415	1.368054	1.368693	1.369333	1.369973	1.370613	1.371254	1.371894
74	1.372536	1.373178	1.373820	1.374463	1.375105	1.375749	1.376392	1.377036	1.377680	1.378326





TABLE \* 2.

TEMPERATURE CORRECTIONS FOR CHANGING PERCENTAGES OF SUGAR BY SPECIFIC GRAVITY TO TRUE VALUES AT 20°C.

Temperature, Degrees Centigrade.	Observed per cent of sugar.													
	0	5	10	15	20	25	30	35	40	45	50	55	60	70
	Correction to be subtracted from observed per cent.													
0	0.30	0.49	0.65	0.77	0.89	0.99	1.08	1.16	1.24	1.31	1.37	1.41	1.44	1.49
5	0.36	0.47	0.56	0.65	0.73	0.80	0.86	0.91	0.97	1.01	1.05	1.08	1.10	1.14
10	0.32	0.38	0.43	0.48	0.52	0.57	0.60	0.64	0.67	0.70	0.72	0.74	0.75	0.77
11	0.31	0.35	0.40	0.44	0.48	0.51	0.55	0.58	0.60	0.63	0.65	0.66	0.68	0.70
12	0.29	0.32	0.36	0.40	0.43	0.46	0.50	0.52	0.54	0.56	0.58	0.59	0.60	0.62
13	0.26	0.29	0.32	0.35	0.38	0.41	0.44	0.46	0.48	0.49	0.51	0.52	0.53	0.55
14	0.24	0.26	0.29	0.31	0.34	0.36	0.38	0.40	0.41	0.42	0.44	0.45	0.46	0.47
15	0.20	0.22	0.24	0.26	0.28	0.30	0.32	0.33	0.34	0.36	0.36	0.37	0.38	0.39
16	0.17	0.18	0.20	0.22	0.23	0.25	0.26	0.27	0.28	0.28	0.29	0.30	0.31	0.32
17	0.13	0.14	0.15	0.16	0.18	0.19	0.20	0.20	0.21	0.21	0.22	0.23	0.23	0.24
18	0.09	0.10	0.10	0.11	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16
19	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08
	Correction to be added to observed per cent.													
21	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.09
22	0.10	0.10	0.11	0.12	0.12	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.16
23	0.16	0.16	0.17	0.17	0.19	0.20	0.21	0.21	0.22	0.23	0.24	0.24	0.24	0.24
24	0.21	0.22	0.23	0.24	0.26	0.27	0.28	0.29	0.30	0.31	0.32	0.32	0.32	0.32
25	0.27	0.28	0.30	0.31	0.32	0.34	0.35	0.36	0.38	0.38	0.39	0.39	0.40	0.39
26	0.33	0.34	0.36	0.37	0.40	0.40	0.42	0.44	0.46	0.47	0.47	0.48	0.48	0.48
27	0.40	0.41	0.42	0.44	0.46	0.48	0.50	0.52	0.54	0.54	0.55	0.56	0.56	0.56
28	0.46	0.47	0.49	0.51	0.54	0.56	0.58	0.60	0.61	0.62	0.63	0.64	0.64	0.64
29	0.54	0.55	0.56	0.59	0.61	0.63	0.66	0.68	0.70	0.70	0.71	0.72	0.72	0.72
30	0.61	0.62	0.63	0.66	0.68	0.71	0.73	0.76	0.78	0.78	0.79	0.80	0.80	0.81
35	0.99	1.01	1.02	1.06	1.10	1.13	1.16	1.18	1.20	1.21	1.22	1.22	1.23	1.22
40	1.42	1.45	1.47	1.51	1.54	1.57	1.60	1.62	1.64	1.65	1.65	1.65	1.66	1.65
45	1.91	1.94	1.96	2.00	2.03	2.05	2.07	2.09	2.10	2.10	2.10	2.10	2.10	2.08
50	2.46	2.48	2.50	2.53	2.56	2.57	2.58	2.59	2.59	2.58	2.58	2.57	2.56	2.52
55	3.05	3.07	3.09	3.12	3.12	3.12	3.12	3.11	3.10	3.08	3.07	3.05	3.03	2.97
60	3.69	3.72	3.73	3.73	3.72	3.70	3.67	3.65	3.62	3.60	3.57	3.54	3.50	3.43

\* Taken from Circular 19, 1909, U. S. Bureau of Standards. The data of the Kaiserliche Normal-Eichungs-Kommission were used in making the calculations, the specific gravity instrument being assumed to be of Jena 16111 glass. On account of the differences in cubical expansion of glass the corrections must be used with caution for temperatures much different from 20° C. See also "Handbook," page 31.

TABLE \* 3.

SPECIFIC GRAVITY OF SUCROSE SOLUTIONS AT  $\frac{17.5^\circ}{17.5^\circ}$  C. WITH CORRESPONDING DEGREES BRIX AND BAUMÉ

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
0.0	1.00000	0.0	0.0	4.8	1.01890	2.7	2.7
0.1	1.00038	0.1	0.1	4.9	1.01930	2.8	2.7
0.2	1.00077	0.1	0.1	5.0	1.01970	2.8	2.8
0.3	1.00116	0.2	0.2	5.1	1.02010	2.9	2.8
0.4	1.00155	0.2	0.2	5.2	1.02051	2.95	2.9
0.5	1.00193	0.3	0.3	5.3	1.02091	3.0	2.9
0.6	1.00232	0.3	0.3	5.4	1.02131	3.1	3.0
0.7	1.00271	0.4	0.4	5.5	1.02171	3.1	3.0
0.8	1.00310	0.45	0.4	5.6	1.02211	3.2	3.1
0.9	1.00349	0.5	0.5	5.7	1.02252	3.2	3.2
1.0	1.00388	0.6	0.55	5.8	1.02292	3.3	3.2
1.1	1.00427	0.6	0.6	5.9	1.02333	3.35	3.3
1.2	1.00466	0.7	0.7	6.0	1.02373	3.4	3.3
1.3	1.00505	0.7	0.7	6.1	1.02413	3.5	3.4
1.4	1.00544	0.8	0.8	6.2	1.02454	3.5	3.4
1.5	1.00583	0.85	0.8	6.3	1.02494	3.6	3.5
1.6	1.00622	0.9	0.9	6.4	1.02535	3.6	3.6
1.7	1.00662	1.0	0.9	6.5	1.02575	3.7	3.6
1.8	1.00701	1.0	1.0	6.6	1.02616	3.7	3.7
1.9	1.00740	1.1	1.05	6.7	1.02657	3.8	3.7
2.0	1.00779	1.1	1.1	6.8	1.02697	3.9	3.8
2.1	1.00818	1.2	1.2	6.9	1.02738	3.9	3.8
2.2	1.00858	1.2	1.2	7.0	1.02779	4.0	3.9
2.3	1.00897	1.3	1.3	7.1	1.02819	4.0	3.9
2.4	1.00936	1.4	1.3	7.2	1.02860	4.1	4.0
2.5	1.00976	1.4	1.4	7.3	1.02901	4.1	4.1
2.6	1.01015	1.5	1.4	7.4	1.02942	4.2	4.1
2.7	1.01055	1.5	1.5	7.5	1.02983	4.25	4.2
2.8	1.01094	1.6	1.55	7.6	1.03024	4.3	4.2
2.9	1.01134	1.6	1.6	7.7	1.03064	4.4	4.3
3.0	1.01173	1.7	1.7	7.8	1.03105	4.4	4.3
3.1	1.01213	1.8	1.7	7.9	1.03146	4.5	4.4
3.2	1.01252	1.8	1.8	8.0	1.03187	4.5	4.4
3.3	1.01292	1.9	1.8	8.1	1.03228	4.6	4.5
3.4	1.01332	1.9	1.9	8.2	1.03270	4.6	4.6
3.5	1.01371	2.0	1.9	8.3	1.03311	4.7	4.6
3.6	1.01411	2.0	2.0	8.4	1.03352	4.8	4.7
3.7	1.01451	2.1	2.0	8.5	1.03393	4.8	4.7
3.8	1.01491	2.2	2.1	8.6	1.03434	4.9	4.8
3.9	1.01531	2.2	2.2	8.7	1.03475	4.9	4.8
4.0	1.01570	2.3	2.2	8.8	1.03517	5.0	4.9
4.1	1.01610	2.3	2.3	8.9	1.03558	5.0	4.9
4.2	1.01650	2.4	2.3	9.0	1.03599	5.1	5.0
4.3	1.01690	2.4	2.4	9.1	1.03640	5.2	5.05
4.4	1.01730	2.5	2.4	9.2	1.03682	5.2	5.1
4.5	1.01770	2.55	2.5	9.3	1.03723	5.3	5.2
4.6	1.01810	2.6	2.6	9.4	1.03765	5.3	5.2
4.7	1.01850	2.7	2.6	9.5	1.03806	5.4	5.3

\* See "Handbook," pages 29 and 48.

## SUGAR TABLES

7

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
9.6	1.03848	5.4	5.3	14.8	1.06047	8.4	8.2
9.7	1.03889	5.5	5.4	14.9	1.06090	8.4	8.3
9.8	1.03931	5.55	5.4	15.0	1.06133	8.5	8.3
9.9	1.03972	5.6	5.5	15.1	1.06176	8.5	8.4
10.0	1.04014	5.7	5.55	15.2	1.06219	8.55	8.4
10.1	1.04055	5.7	5.6	15.3	1.06262	8.6	8.5
10.2	1.04097	5.8	5.7	15.4	1.06306	8.7	8.5
10.3	1.04139	5.8	5.7	15.5	1.06349	8.8	8.6
10.4	1.04180	5.9	5.8	15.6	1.06392	8.8	8.65
10.5	1.04222	5.9	5.8	15.7	1.06436	8.9	8.7
10.6	1.04264	6.0	5.9	15.8	1.06479	8.9	8.8
10.7	1.04306	6.1	5.9	15.9	1.06522	9.0	8.8
10.8	1.04348	6.1	6.0	16.0	1.06566	9.0	8.9
10.9	1.04390	6.2	6.05	16.1	1.06609	9.1	8.9
11.0	1.04431	6.2	6.1	16.2	1.06653	9.2	9.0
11.1	1.04473	6.3	6.2	16.3	1.06696	9.2	9.0
11.2	1.04515	6.3	6.2	16.4	1.06740	9.3	9.1
11.3	1.04557	6.4	6.3	16.5	1.06783	9.3	9.1
11.4	1.04599	6.5	6.3	16.6	1.06827	9.4	9.2
11.5	1.04641	6.5	6.4	16.7	1.06871	9.4	9.25
11.6	1.04683	6.6	6.4	16.8	1.06914	9.5	9.3
11.7	1.04726	6.6	6.5	16.9	1.06958	9.5	9.4
11.8	1.04768	6.7	6.55	17.0	1.07002	9.6	9.4
11.9	1.04810	6.7	6.6	17.1	1.07046	9.7	9.5
12.0	1.04852	6.8	6.7	17.2	1.07090	9.7	9.5
12.1	1.04894	6.8	6.7	17.3	1.07133	9.8	9.6
12.2	1.04937	6.9	6.8	17.4	1.07177	9.8	9.6
12.3	1.04979	7.0	6.8	17.5	1.07221	9.9	9.7
12.4	1.05021	7.0	6.9	17.6	1.07265	9.9	9.75
12.5	1.05064	7.1	6.9	17.7	1.07309	10.0	9.8
12.6	1.05106	7.1	7.0	17.8	1.07353	10.0	9.9
12.7	1.05149	7.2	7.05	17.9	1.07397	10.1	9.9
12.8	1.05191	7.2	7.1	18.0	1.07441	10.1	10.0
12.9	1.05233	7.3	7.2	18.1	1.07485	10.2	10.0
13.0	1.05276	7.4	7.2	18.2	1.07530	10.3	10.1
13.1	1.05318	7.4	7.3	18.3	1.07574	10.3	10.1
13.2	1.05361	7.5	7.3	18.4	1.07618	10.4	10.2
13.3	1.05404	7.5	7.4	18.5	1.07662	10.4	10.2
13.4	1.05446	7.6	7.4	18.6	1.07706	10.5	10.3
13.5	1.05489	7.6	7.5	18.7	1.07751	10.5	10.35
13.6	1.05532	7.7	7.5	18.8	1.07795	10.6	10.4
13.7	1.05574	7.75	7.6	18.9	1.07839	10.6	10.5
13.8	1.05617	7.8	7.65	19.0	1.07884	10.7	10.5
13.9	1.05660	7.9	7.7	19.1	1.07928	10.8	10.6
14.0	1.05703	7.9	7.8	19.2	1.07973	10.8	10.6
14.1	1.05746	8.0	7.8	19.3	1.08017	10.9	10.7
14.2	1.05789	8.0	7.9	19.4	1.08062	10.9	10.7
14.3	1.05831	8.1	7.9	19.5	1.08106	11.0	10.8
14.4	1.05874	8.1	8.0	19.6	1.08151	11.1	10.85
14.5	1.05917	8.2	8.0	19.7	1.08196	11.1	10.9
14.6	1.05960	8.3	8.1	19.8	1.08240	11.2	11.0
14.7	1.06003	8.3	8.15	19.9	1.08285	11.2	11.0

## SUGAR TABLES

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
20.0	1.08329	11.3	11.1	25.2	1.10700	14.2	13.9
20.1	1.08374	11.3	11.1	25.3	1.10746	14.2	14.0
20.2	1.08419	11.4	11.2	25.4	1.10793	14.3	14.0
20.3	1.08464	11.5	11.2	25.5	1.10839	14.3	14.1
20.4	1.08509	11.5	11.3	25.6	1.10886	14.4	14.1
20.5	1.08553	11.6	11.3	25.7	1.10932	14.5	14.2
20.6	1.08599	11.6	11.4	25.8	1.10979	14.5	14.2
20.7	1.08643	11.7	11.45	25.9	1.11026	14.6	14.3
20.8	1.08688	11.7	11.5	26.0	1.11072	14.6	14.35
20.9	1.08733	11.8	11.6	26.1	1.11119	14.7	14.4
21.0	1.08778	11.8	11.6	26.2	1.11166	14.7	14.5
21.1	1.08824	11.9	11.7	26.3	1.11213	14.8	14.5
21.2	1.08869	11.95	11.7	26.4	1.11259	14.85	14.6
21.3	1.08914	12.0	11.8	26.5	1.11306	14.9	14.6
21.4	1.08959	12.0	11.8	26.6	1.11353	15.0	14.7
21.5	1.09004	12.1	11.9	26.7	1.11400	15.0	14.7
21.6	1.09049	12.1	11.95	26.8	1.11447	15.1	14.8
21.7	1.09095	12.2	12.0	26.9	1.11494	15.1	14.8
21.8	1.09140	12.3	12.05	27.0	1.11541	15.2	14.9
21.9	1.09185	12.3	12.1	27.1	1.11588	15.2	14.9
22.0	1.09231	12.4	12.2	27.2	1.11635	15.3	15.0
22.1	1.09276	12.5	12.2	27.3	1.11682	15.3	15.1
22.2	1.09321	12.5	12.3	27.4	1.11729	15.4	15.1
22.3	1.09367	12.6	12.3	27.5	1.11776	15.5	15.2
22.4	1.09412	12.6	12.4	27.6	1.11824	15.5	15.2
22.5	1.09458	12.7	12.4	27.7	1.11871	15.6	15.3
22.6	1.09503	12.7	12.5	27.8	1.11918	15.6	15.3
22.7	1.09549	12.8	12.55	27.9	1.11965	15.7	15.4
22.8	1.09595	12.85	12.6	28.0	1.12013	15.7	15.4
22.9	1.09640	12.9	12.7	28.1	1.12060	15.8	15.5
23.0	1.09686	13.0	12.7	28.2	1.12107	15.8	15.55
23.1	1.09732	13.0	12.8	28.3	1.12155	15.9	15.6
23.2	1.09777	13.1	12.8	28.4	1.12202	16.0	15.7
23.3	1.09823	13.1	12.9	28.5	1.12250	16.0	15.7
23.4	1.09869	13.2	12.9	28.6	1.12297	16.1	15.8
23.5	1.09915	13.2	13.0	28.7	1.12345	16.1	15.8
23.6	1.09961	13.3	13.0	28.8	1.12393	16.2	15.9
23.7	1.10007	13.3	13.1	28.9	1.12440	16.2	15.9
23.8	1.10053	13.4	13.15	29.0	1.12488	16.3	16.0
23.9	1.10099	13.5	13.2	29.1	1.12536	16.3	16.0
24.0	1.10145	13.5	13.3	29.2	1.12583	16.4	16.1
24.1	1.10191	13.6	13.3	29.3	1.12631	16.5	16.1
24.2	1.10237	13.6	13.4	29.4	1.12679	16.5	16.2
24.3	1.10283	13.7	13.4	29.5	1.12727	16.6	16.25
24.4	1.10329	13.7	13.5	29.6	1.12775	16.6	16.3
24.5	1.10375	13.8	13.5	29.7	1.12823	16.7	16.4
24.6	1.10421	13.8	13.6	29.8	1.12871	16.7	16.4
24.7	1.10468	13.9	13.6	29.9	1.12919	16.8	16.5
24.8	1.10514	14.0	13.7	30.0	1.12967	16.8	16.5
24.9	1.10560	14.0	13.75	30.1	1.13015	16.9	16.6
25.0	1.10607	14.1	13.8	30.2	1.13063	16.95	16.6
25.1	1.10653	14.1	13.9	30.3	1.13111	17.0	16.7

## SUGAR TABLES

9

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
30.4	1.13159	17.1	16.7	35.6	1.15710	19.9	19.55
30.5	1.13207	17.1	16.8	35.7	1.15760	20.0	19.6
30.6	1.13255	17.2	16.85	35.8	1.15810	20.0	19.65
30.7	1.13304	17.2	16.9	35.9	1.15861	20.1	19.7
30.8	1.13352	17.3	17.0	36.0	1.15911	20.1	19.8
30.9	1.13400	17.3	17.0	36.1	1.15961	20.2	19.8
31.0	1.13449	17.4	17.1	36.2	1.16011	20.25	19.9
31.1	1.13497	17.45	17.1	36.3	1.16061	20.3	19.9
31.2	1.13545	17.5	17.2	36.4	1.16111	20.4	20.0
31.3	1.13594	17.6	17.2	36.5	1.16162	20.4	20.0
31.4	1.13642	17.6	17.3	36.6	1.16212	20.5	20.1
31.5	1.13691	17.7	17.3	36.7	1.16262	20.5	20.1
31.6	1.13740	17.7	17.4	36.8	1.16313	20.6	20.2
31.7	1.13788	17.8	17.4	36.9	1.16363	20.6	20.2
31.8	1.13837	17.8	17.5	37.0	1.16413	20.7	20.3
31.9	1.13885	17.9	17.55	37.1	1.16464	20.7	20.35
32.0	1.13934	17.95	17.6	37.2	1.16514	20.8	20.4
32.1	1.13983	18.0	17.7	37.3	1.16565	20.9	20.5
32.2	1.14032	18.0	17.7	37.4	1.16616	20.9	20.5
32.3	1.14081	18.1	17.8	37.5	1.16666	21.0	20.6
32.4	1.14129	18.2	17.8	37.6	1.16717	21.0	20.6
32.5	1.14178	18.2	17.9	37.7	1.16768	21.1	20.7
32.6	1.14227	18.3	17.9	37.8	1.16818	21.1	20.7
32.7	1.14276	18.3	18.0	37.9	1.16869	21.2	20.8
32.8	1.14325	18.4	18.0	38.0	1.16920	21.2	20.8
32.9	1.14374	18.4	18.1	38.1	1.16971	21.3	20.9
33.0	1.14423	18.5	18.15	38.2	1.17022	21.35	20.9
33.1	1.14472	18.55	18.2	38.3	1.17072	21.4	21.0
33.2	1.14521	18.6	18.25	38.4	1.17123	21.5	21.05
33.3	1.14570	18.7	18.3	38.5	1.17174	21.5	21.1
33.4	1.14620	18.7	18.4	38.6	1.17225	21.6	21.15
33.5	1.14669	18.8	18.4	38.7	1.17276	21.6	21.2
33.6	1.14718	18.8	18.5	38.8	1.17327	21.7	21.3
33.7	1.14767	18.9	18.5	38.9	1.17379	21.7	21.3
33.8	1.14817	18.9	18.6	39.0	1.17430	21.8	21.4
33.9	1.14866	19.0	18.6	39.1	1.17481	21.8	21.4
34.0	1.14915	19.05	18.7	39.2	1.17532	21.9	21.5
34.1	1.14965	19.1	18.7	39.3	1.17583	21.9	21.5
34.2	1.15014	19.2	18.8	39.4	1.17635	22.0	21.6
34.3	1.15064	19.2	18.85	39.5	1.17686	22.05	21.6
34.4	1.15113	19.3	18.9	39.6	1.17737	22.1	21.7
34.5	1.15163	19.3	18.95	39.7	1.17789	22.2	21.7
34.6	1.15213	19.4	19.0	39.8	1.17840	22.2	21.8
34.7	1.15262	19.4	19.1	39.9	1.17892	22.3	21.85
34.8	1.15312	19.5	19.1	40.0	1.17943	22.3	21.9
34.9	1.15362	19.5	19.2	40.1	1.17995	22.4	22.0
35.0	1.15411	19.6	19.2	40.2	1.18046	22.4	22.0
35.1	1.15461	19.65	19.3	40.3	1.18098	22.5	22.1
35.2	1.15511	19.7	19.3	40.4	1.18150	22.5	22.1
35.3	1.15561	19.8	19.4	40.5	1.18201	22.6	22.2
35.4	1.15611	19.8	19.4	40.6	1.18253	22.6	22.2
35.5	1.15661	19.9	19.5	40.7	1.18305	22.7	22.3

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
40.8	1.18357	22.8	22.3	46.0	1.21100	25.6	25.1
40.9	1.18408	22.8	22.4	46.1	1.21154	25.6	25.1
41.0	1.18460	22.9	22.4	46.2	1.21208	25.7	25.2
41.1	1.18512	22.9	22.5	46.3	1.21261	25.7	25.2
41.2	1.18564	23.0	22.5	46.4	1.21315	25.8	25.3
41.3	1.18616	23.0	22.6	46.5	1.21369	25.8	25.35
41.4	1.18668	23.1	22.65	46.6	1.21423	25.9	25.4
41.5	1.18720	23.1	22.7	46.7	1.21477	25.95	25.45
41.6	1.18772	23.2	22.75	46.8	1.21531	26.0	25.5
41.7	1.18824	23.25	22.8	46.9	1.21585	26.1	25.6
41.8	1.18877	23.3	22.9	47.0	1.21639	26.1	25.6
41.9	1.18929	23.4	22.9	47.1	1.21693	26.2	25.7
42.0	1.18981	23.4	23.0	47.2	1.21747	26.2	25.7
42.1	1.19033	23.5	23.0	47.3	1.21802	26.3	25.8
42.2	1.19086	23.5	23.1	47.4	1.21856	26.3	25.8
42.3	1.19138	23.6	23.1	47.5	1.21910	26.4	25.9
42.4	1.19190	23.6	23.2	47.6	1.21964	26.4	25.9
42.5	1.19243	23.7	23.2	47.7	1.22019	26.5	26.0
42.6	1.19295	23.7	23.3	47.8	1.22073	26.5	26.0
42.7	1.19348	23.8	23.3	47.9	1.22127	26.6	26.1
42.8	1.19400	23.8	23.4	48.0	1.22182	26.6	26.1
42.9	1.19453	23.9	23.45	48.1	1.22236	26.7	26.2
43.0	1.19505	23.95	23.5	48.2	1.22291	26.75	26.2
43.1	1.19558	24.0	23.55	48.3	1.22345	26.8	26.3
43.2	1.19611	24.1	23.6	48.4	1.22400	26.9	26.35
43.3	1.19663	24.1	23.7	48.5	1.22455	26.9	26.4
43.4	1.19716	24.2	23.7	48.6	1.22509	27.0	26.45
43.5	1.19769	24.2	23.8	48.7	1.22564	27.0	26.5
43.6	1.19822	24.3	23.8	48.8	1.22619	27.1	26.6
43.7	1.19875	24.3	23.9	48.9	1.22673	27.1	26.6
43.8	1.19927	24.4	23.9	49.0	1.22728	27.2	26.7
43.9	1.19980	24.4	24.0	49.1	1.22783	27.2	26.7
44.0	1.20033	24.5	24.0	49.2	1.22838	27.3	26.8
44.1	1.20086	24.55	24.1	49.3	1.22893	27.3	26.8
44.2	1.20139	24.6	24.1	49.4	1.22948	27.4	26.9
44.3	1.20192	24.65	24.2	49.5	1.23003	27.4	26.9
44.4	1.20245	24.7	24.2	49.6	1.23058	27.5	27.0
44.5	1.20299	24.8	24.3	49.7	1.23113	27.6	27.0
44.6	1.20352	24.8	24.35	49.8	1.23168	27.6	27.1
44.7	1.20405	24.9	24.4	49.9	1.23223	27.7	27.1
44.8	1.20458	24.9	24.45	50.0	1.23278	27.7	27.2
44.9	1.20512	25.0	24.5	50.1	1.23334	27.8	27.2
45.0	1.20565	25.0	24.6	50.2	1.23389	27.8	27.3
45.1	1.20618	25.1	24.6	50.3	1.23444	27.9	27.3
45.2	1.20672	25.1	24.7	50.4	1.23499	27.9	27.4
45.3	1.20725	25.2	24.7	50.5	1.23555	28.0	27.45
45.4	1.20779	25.2	24.8	50.6	1.23610	28.0	27.5
45.5	1.20832	25.3	24.8	50.7	1.23666	28.1	27.55
45.6	1.20886	25.4	24.9	50.8	1.23721	28.1	27.6
45.7	1.20939	25.4	24.9	50.9	1.23777	28.2	27.7
45.8	1.20993	25.5	25.0	51.0	1.23832	28.2	27.7
45.9	1.21046	25.5	25.0	51.1	1.23888	28.3	27.8

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
51.2	1.23943	28.35	27.8	56.4	1.26889	31.1	30.5
51.3	1.23999	28.4	27.9	56.5	1.26946	31.2	30.6
51.4	1.24055	28.5	27.9	56.6	1.27004	31.2	30.6
51.5	1.24111	28.5	28.0	56.7	1.27062	31.3	30.7
51.6	1.24166	28.6	28.0	56.8	1.27120	31.3	30.7
51.7	1.24222	28.6	28.1	56.9	1.27177	31.4	30.8
51.8	1.24278	28.7	28.1	57.0	1.27235	31.4	30.8
51.9	1.24334	28.7	28.2	57.1	1.27293	31.5	30.9
52.0	1.24390	28.8	28.2	57.2	1.27351	31.5	30.9
52.1	1.24446	28.8	28.3	57.3	1.27409	31.6	31.0
52.2	1.24502	28.9	28.3	57.4	1.27464	31.6	31.0
52.3	1.24558	28.9	28.4	57.5	1.27525	31.7	31.1
52.4	1.24614	29.0	28.4	57.6	1.27583	31.7	31.1
52.5	1.24670	29.0	28.5	57.7	1.27641	31.8	31.2
52.6	1.24726	29.1	28.5	57.8	1.27699	31.8	31.2
52.7	1.24782	29.15	28.6	57.9	1.27758	31.9	31.3
52.8	1.24839	29.2	28.65	58.0	1.27816	31.9	31.3
52.9	1.24895	29.2	28.7	58.1	1.27874	32.0	31.4
53.0	1.24951	29.3	28.75	58.2	1.27932	32.0	31.4
53.1	1.25008	29.4	28.8	58.3	1.27991	32.1	31.5
53.2	1.25064	29.4	28.85	58.4	1.28049	32.15	31.5
53.3	1.25120	29.5	28.9	58.5	1.28107	32.2	31.6
53.4	1.25177	29.5	28.9	58.6	1.28166	32.3	31.6
53.5	1.25233	29.6	29.0	58.7	1.28224	32.3	31.7
53.6	1.25290	29.6	29.1	58.8	1.28283	32.4	31.7
53.7	1.25347	29.7	29.1	58.9	1.28342	32.4	31.8
53.8	1.25403	29.7	29.2	59.0	1.28400	32.5	31.85
53.9	1.25460	29.8	29.2	59.1	1.28459	32.5	31.9
54.0	1.25517	29.8	29.3	59.2	1.28518	32.6	31.95
54.1	1.25573	29.9	29.3	59.3	1.28576	32.6	32.0
54.2	1.25630	29.9	29.4	59.4	1.28635	32.7	32.05
54.3	1.25687	30.0	29.4	59.5	1.28694	32.7	32.1
54.4	1.25744	30.05	29.5	59.6	1.28753	32.8	32.15
54.5	1.25801	30.1	29.5	59.7	1.28812	32.8	32.2
54.6	1.25857	30.2	29.6	59.8	1.28871	32.9	32.3
54.7	1.25914	30.2	29.6	59.9	1.28930	32.9	32.3
54.8	1.25971	30.3	29.7	60.0	1.28989	33.0	32.4
54.9	1.26028	30.3	29.7	60.1	1.29048	33.0	32.4
55.0	1.26086	30.4	29.8	60.2	1.29107	33.1	32.5
55.1	1.26143	30.4	29.8	60.3	1.29166	33.1	32.5
55.2	1.26200	30.5	29.9	60.4	1.29225	33.2	32.6
55.3	1.26257	30.5	29.9	60.5	1.29284	33.2	32.6
55.4	1.26314	30.6	30.0	60.6	1.29343	33.3	32.7
55.5	1.26372	30.6	30.05	60.7	1.29403	33.35	32.7
55.6	1.26429	30.7	30.1	60.8	1.29462	33.4	32.8
55.7	1.26486	30.7	30.15	60.9	1.29521	33.45	32.8
55.8	1.26544	30.8	30.2	61.0	1.29581	33.5	32.9
55.9	1.26601	30.8	30.25	61.1	1.29640	33.6	32.9
56.0	1.26658	30.9	30.3	61.2	1.29700	33.6	33.0
56.1	1.26716	30.9	30.4	61.3	1.29759	33.7	33.0
56.2	1.26773	31.0	30.4	61.4	1.29819	33.7	33.1
56.3	1.26831	31.05	30.5	61.5	1.29878	33.8	33.1

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
61.6	1.29938	33.8	33.2	66.8	1.33093	36.5	35.8
61.7	1.29998	33.9	33.2	66.9	1.33155	36.5	35.9
61.8	1.30057	33.9	33.3	67.0	1.33217	36.6	35.9
61.9	1.30117	34.0	33.3	67.1	1.33278	36.6	36.0
62.0	1.30177	34.0	33.4	67.2	1.33340	36.7	36.0
62.1	1.30237	34.1	33.4	67.3	1.33402	36.75	36.1
62.2	1.30297	34.1	33.5	67.4	1.33464	36.8	36.1
62.3	1.30356	34.2	33.5	67.5	1.33526	36.85	36.2
62.4	1.30416	34.2	33.6	67.6	1.33588	36.9	36.2
62.5	1.30476	34.3	33.6	67.7	1.33650	36.95	36.3
62.6	1.30536	34.3	33.7	67.8	1.33712	37.0	36.3
62.7	1.30596	34.4	33.7	67.9	1.33774	37.0	36.4
62.8	1.30657	34.4	33.8	68.0	1.33836	37.1	36.4
62.9	1.30717	34.5	33.8	68.1	1.33899	37.1	36.5
63.0	1.30777	34.5	33.9	68.2	1.33961	37.2	36.5
63.1	1.30837	34.6	33.9	68.3	1.34023	37.3	36.6
63.2	1.30897	34.6	34.0	68.4	1.34085	37.3	36.6
63.3	1.30958	34.7	34.0	68.5	1.34148	37.4	36.7
63.4	1.31018	34.7	34.1	68.6	1.34210	37.4	36.7
63.5	1.31078	34.8	34.1	68.7	1.34273	37.5	36.8
63.6	1.31139	34.85	34.2	68.8	1.34335	37.5	36.8
63.7	1.31199	34.9	34.2	68.9	1.34398	37.6	36.9
63.8	1.31260	34.95	34.3	69.0	1.34460	37.6	36.9
63.9	1.31320	35.0	34.3	69.1	1.34523	37.7	37.0
64.0	1.31381	35.1	34.4	69.2	1.34585	37.7	37.0
64.1	1.31442	35.1	34.4	69.3	1.34648	37.8	37.1
64.2	1.31502	35.2	34.5	69.4	1.34711	37.8	37.1
64.3	1.31563	35.2	34.5	69.5	1.34774	37.9	37.2
64.4	1.31624	35.3	34.6	69.6	1.34836	37.9	37.2
64.5	1.31684	35.3	34.6	69.7	1.34899	38.0	37.3
64.6	1.31745	35.4	34.7	69.8	1.34962	38.0	37.3
64.7	1.31806	35.4	34.7	69.9	1.35025	38.1	37.4
64.8	1.31867	35.5	34.8	70.0	1.35088	38.1	37.4
64.9	1.31928	35.5	34.8	70.1	1.35151	38.2	37.5
65.0	1.31989	35.6	34.9	70.2	1.35214	38.2	37.5
65.1	1.32050	35.6	34.95	70.3	1.35277	38.3	37.6
65.2	1.32111	35.7	35.0	70.4	1.35340	38.3	37.6
65.3	1.32172	35.7	35.05	70.5	1.35403	38.4	37.7
65.4	1.32233	35.8	35.1	70.6	1.35466	38.4	37.7
65.5	1.32294	35.8	35.15	70.7	1.35530	38.5	37.8
65.6	1.32355	35.9	35.2	70.8	1.35593	38.5	37.8
65.7	1.32417	35.9	35.25	70.9	1.35656	38.6	37.9
65.8	1.32478	36.0	35.3	71.0	1.35720	38.6	37.9
65.9	1.32539	36.0	35.35	71.1	1.35783	38.7	37.9
66.0	1.32601	36.1	35.4	71.2	1.35847	38.7	38.0
66.1	1.32662	36.1	35.5	71.3	1.35910	38.8	38.0
66.2	1.32724	36.2	35.5	71.4	1.35974	38.8	38.1
66.3	1.32785	36.2	35.6	71.5	1.36037	38.9	38.1
66.4	1.32847	36.3	35.6	71.6	1.36101	38.9	38.2
66.5	1.32908	36.3	35.7	71.7	1.36164	39.0	38.2
66.6	1.32970	36.4	35.7	71.8	1.36228	39.0	38.3
66.7	1.33031	36.4	35.8	71.9	1.36292	39.1	38.3



TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
72.0	1.36355	39.1	38.4	77.2	1.39726	41.7	40.9
72.1	1.36419	39.2	38.4	77.3	1.39792	41.8	41.0
72.2	1.36483	39.2	38.5	77.4	1.39858	41.8	41.0
72.3	1.36547	39.3	38.5	77.5	1.39924	41.9	41.1
72.4	1.36611	39.3	38.6	77.6	1.39990	41.9	41.1
72.5	1.36675	39.4	38.6	77.7	1.40056	42.0	41.2
72.6	1.36739	39.4	38.7	77.8	1.40122	42.0	41.2
72.7	1.36803	39.5	38.7	77.9	1.40188	42.1	41.3
72.8	1.36867	39.5	38.8	78.0	1.40254	42.1	41.3
72.9	1.36931	39.6	38.8	78.1	1.40321	42.2	41.4
73.0	1.36995	39.6	38.9	78.2	1.40387	42.2	41.4
73.1	1.37059	39.7	38.9	78.3	1.40453	42.3	41.5
73.2	1.37124	39.7	39.0	78.4	1.40520	42.3	41.5
73.3	1.37188	39.8	39.0	78.5	1.40586	42.4	41.6
73.4	1.37252	39.8	39.1	78.6	1.40652	42.4	41.6
73.5	1.37317	39.9	39.1	78.7	1.40719	42.5	41.7
73.6	1.37381	39.9	39.2	78.8	1.40785	42.5	41.7
73.7	1.37446	40.0	39.2	78.9	1.40852	42.6	41.8
73.8	1.37510	40.0	39.3	79.0	1.40918	42.6	41.8
73.9	1.37575	40.1	39.3	79.1	1.40985	42.7	41.9
74.0	1.37639	40.1	39.4	79.2	1.41052	42.7	41.9
74.1	1.37704	40.2	39.4	79.3	1.41118	42.8	42.0
74.2	1.37768	40.2	39.5	79.4	1.41185	42.8	42.0
74.3	1.37833	40.3	39.5	79.5	1.41252	42.9	42.1
74.4	1.37898	40.3	39.6	79.6	1.41318	42.9	42.1
74.5	1.37962	40.4	39.6	79.7	1.41385	43.0	42.1
74.6	1.38027	40.4	39.7	79.8	1.41452	43.0	42.2
74.7	1.38092	40.5	39.7	79.9	1.41519	43.1	42.2
74.8	1.38157	40.5	39.8	80.0	1.41586	43.1	42.3
74.9	1.38222	40.6	39.8	80.1	1.41653	43.2	42.3
75.0	1.38287	40.6	39.9	80.2	1.41720	43.2	42.4
75.1	1.38352	40.7	39.9	80.3	1.41787	43.2	42.4
75.2	1.38417	40.7	40.0	80.4	1.41854	43.3	42.5
75.3	1.38482	40.8	40.0	80.5	1.41921	43.3	42.5
75.4	1.38547	40.8	40.1	80.6	1.41989	43.4	42.6
75.5	1.38612	40.9	40.1	80.7	1.42056	43.45	42.6
75.6	1.38677	40.9	40.2	80.8	1.42123	43.5	42.7
75.7	1.38743	41.0	40.2	80.9	1.42190	43.55	42.7
75.8	1.38808	41.0	40.3	81.0	1.42258	43.6	42.8
75.9	1.38873	41.1	40.3	81.1	1.42325	43.65	42.8
76.0	1.38939	41.1	40.4	81.2	1.42393	43.7	42.9
76.1	1.39004	41.2	40.4	81.3	1.42460	43.7	42.9
76.2	1.39070	41.2	40.5	81.4	1.42528	43.8	43.0
76.3	1.39135	41.3	40.5	81.5	1.42595	43.8	43.0
76.4	1.39201	41.3	40.6	81.6	1.42663	43.9	43.1
76.5	1.39266	41.4	40.6	81.7	1.42731	43.9	43.1
76.6	1.39332	41.4	40.7	81.8	1.42798	44.0	43.2
76.7	1.39397	41.5	40.7	81.9	1.42866	44.0	43.2
76.8	1.39463	41.5	40.8	82.0	1.42934	44.1	43.2
76.9	1.39529	41.6	40.8	82.1	1.43002	44.1	43.3
77.0	1.39595	41.6	40.8	82.2	1.43070	44.2	43.3
77.1	1.39660	41.7	40.9	82.3	1.43137	44.2	43.4

TABLE 3. (Continued.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
82.4	1.43205	44.3	43.4	87.6	1.46794	46.8	45.9
82.5	1.43273	44.3	43.5	87.7	1.46864	46.8	45.9
82.6	1.43341	44.4	43.5	87.8	1.46934	46.9	46.0
82.7	1.43409	44.4	43.6	87.9	1.47004	46.9	46.0
82.8	1.43478	44.5	43.6	<b>88.0</b>	1.47074	47.0	46.1
82.9	1.43546	44.5	43.7	88.1	1.47145	47.0	46.1
<b>83.0</b>	1.43614	44.6	43.7	88.2	1.47215	47.1	46.2
83.1	1.43682	44.6	43.8	88.3	1.47285	47.1	46.2
83.2	1.43750	44.7	43.8	88.4	1.47356	47.2	46.3
83.3	1.43819	44.7	43.9	88.5	1.47426	47.2	46.3
83.4	1.43887	44.8	43.9	88.6	1.47496	47.3	46.4
83.5	1.43955	44.8	44.0	88.7	1.47567	47.3	46.4
83.6	1.44024	44.9	44.0	88.8	1.47637	47.4	46.5
83.7	1.44092	44.9	44.1	88.9	1.47708	47.4	46.5
83.8	1.44161	45.0	44.1	<b>89.0</b>	1.47778	47.45	46.5
83.9	1.44229	45.0	44.2	89.1	1.47849	47.5	46.6
<b>84.0</b>	1.44298	45.1	44.2	89.2	1.47920	47.55	46.6
84.1	1.44367	45.1	44.2	89.3	1.47991	47.6	46.7
84.2	1.44435	45.15	44.3	89.4	1.48061	47.6	46.7
84.3	1.44504	45.2	44.3	89.5	1.48132	47.7	46.8
84.4	1.44573	45.25	44.4	89.6	1.48203	47.7	46.8
84.5	1.44641	45.3	44.4	89.7	1.48274	47.8	46.9
84.6	1.44710	45.35	44.5	89.8	1.48345	47.8	46.9
84.7	1.44779	45.4	44.5	89.9	1.48416	47.9	47.0
84.8	1.44848	45.4	44.6	<b>90.0</b>	1.48486	47.9	47.0
84.9	1.44917	45.5	44.6	90.1	1.48558	48.0	47.1
<b>85.0</b>	1.44986	45.5	44.7	90.2	1.48629	48.0	47.1
85.1	1.45055	45.6	44.7	90.3	1.48700	48.1	47.2
85.2	1.45124	45.6	44.8	90.4	1.48771	48.1	47.2
85.3	1.45193	45.7	44.8	90.5	1.48842	48.2	47.2
85.4	1.45262	45.7	44.9	90.6	1.48913	48.2	47.3
85.5	1.45331	45.8	44.9	90.7	1.48985	48.3	47.3
85.6	1.45401	45.8	45.0	90.8	1.49056	48.3	47.4
85.7	1.45470	45.9	45.0	90.9	1.49127	48.35	47.4
85.8	1.45539	45.9	45.0	<b>91.0</b>	1.49199	48.4	47.5
85.9	1.45609	46.0	45.1	91.1	1.49270	48.45	47.5
<b>86.0</b>	1.45678	46.0	45.1	91.2	1.49342	48.5	47.6
86.1	1.45748	46.1	45.2	91.3	1.49413	48.5	47.6
86.2	1.45817	46.1	45.2	91.4	1.49485	48.6	47.7
86.3	1.45887	46.2	45.3	91.5	1.49556	48.6	47.7
86.4	1.45956	46.2	45.3	91.6	1.49628	48.7	47.8
86.5	1.46026	46.3	45.4	91.7	1.49700	48.7	47.8
86.6	1.46095	46.3	45.4	91.8	1.49771	48.8	47.8
86.7	1.46165	46.35	45.5	91.9	1.49843	48.8	47.9
86.8	1.46235	46.4	45.5	<b>92.0</b>	1.49915	48.9	47.9
86.9	1.46304	46.45	45.6	92.1	1.49987	48.9	48.0
<b>87.0</b>	1.46374	46.5	45.6	92.2	1.50058	49.0	48.0
87.1	1.46444	46.55	45.7	92.3	1.50130	49.0	48.1
87.2	1.46514	46.6	45.7	92.4	1.50202	49.05	48.1
87.3	1.46584	46.65	45.8	92.5	1.50274	49.1	48.2
87.4	1.46654	46.7	45.8	92.6	1.50346	49.15	48.2
87.5	1.46724	46.7	45.8	92.7	1.50419	49.2	48.3

TABLE 3. (Concluded.)

Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.		Per cent sucrose by weight or degrees Brix.	Specific gravity.	Degrees Baumé.	
		New.	Old.			New.	Old.
92.8	1.50491	49.25	48.3	<b>94.0</b>	1.51359	49.8	48.8
92.9	1.50563	49.3	48.3	94.1	1.51431	49.85	48.9
<b>93.0</b>	1.50635	49.3	48.4	94.2	1.51504	49.9	48.9
93.1	1.50707	49.4	48.4	94.3	1.51577	49.9	49.0
93.2	1.50779	49.4	48.5	94.4	1.51649	50.0	49.0
93.3	1.50852	49.5	48.5	94.5	1.51722	50.0	49.1
93.4	1.50924	49.5	48.6	94.6	1.51795	50.1	49.1
93.5	1.50996	49.6	48.6	94.7	1.51868	50.1	49.2
93.6	1.51069	49.6	48.7	94.8	1.51941	50.2	49.2
93.7	1.51141	49.7	48.7	94.9	1.52014	50.2	49.3
93.8	1.51214	49.7	48.8	<b>95.0</b>	1.52087	50.3	49.3
93.9	1.51286	49.8	48.8				

TABLE \* 4.

TABLE FOR CORRECTING READINGS OF BRIX HYDROMETERS AT DIFFERENT TEMPERATURES TO 17.5°C.

Temperature, Degrees Centigrade.	Degrees Brix of solution.												
	0	5	10	15	20	25	30	35	40	50	60	70	75
	Corrections to be subtracted from degrees Brix.												
0°	0.17	0.30	0.41	0.52	0.62	0.72	0.82	0.92	0.98	1.11	1.22	1.25	1.29
5	0.23	0.30	0.37	0.44	0.52	0.59	0.65	0.72	0.75	0.80	0.88	0.91	0.94
10	0.20	0.26	0.29	0.33	0.36	0.39	0.42	0.45	0.48	0.50	0.54	0.58	0.61
11	0.18	0.23	0.26	0.28	0.31	0.34	0.36	0.39	0.41	0.43	0.47	0.50	0.53
12	0.16	0.20	0.22	0.24	0.26	0.29	0.31	0.33	0.34	0.36	0.40	0.42	0.46
13	0.14	0.18	0.19	0.21	0.22	0.24	0.26	0.27	0.28	0.29	0.33	0.35	0.39
14	0.12	0.15	0.16	0.17	0.18	0.19	0.21	0.22	0.22	0.23	0.26	0.28	0.32
15	0.09	0.11	0.12	0.14	0.14	0.15	0.16	0.17	0.16	0.17	0.19	0.21	0.25
16	0.06	0.07	0.08	0.09	0.10	0.10	0.11	0.12	0.12	0.12	0.14	0.16	0.18
17	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.06
	Corrections to be added to degrees Brix.												
18	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02
19	0.06	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.08	0.06
20	0.11	0.14	0.15	0.17	0.17	0.18	0.18	0.18	0.19	0.19	0.18	0.15	0.11
21	0.16	0.20	0.22	0.24	0.24	0.25	0.25	0.25	0.26	0.26	0.25	0.22	0.18
22	0.21	0.26	0.29	0.31	0.31	0.32	0.32	0.32	0.33	0.34	0.32	0.29	0.25
23	0.27	0.32	0.35	0.37	0.38	0.39	0.39	0.39	0.40	0.42	0.39	0.36	0.33
24	0.32	0.38	0.41	0.43	0.44	0.46	0.46	0.47	0.47	0.50	0.46	0.43	0.40
25	0.37	0.44	0.47	0.49	0.51	0.53	0.54	0.55	0.55	0.58	0.54	0.51	0.48
26	0.43	0.50	0.54	0.56	0.58	0.60	0.61	0.62	0.62	0.66	0.62	0.58	0.55
27	0.49	0.57	0.61	0.63	0.65	0.68	0.68	0.69	0.70	0.74	0.70	0.65	0.62
28	0.56	0.64	0.68	0.70	0.72	0.76	0.76	0.78	0.78	0.82	0.78	0.72	0.70
29	0.63	0.71	0.75	0.78	0.79	0.84	0.84	0.86	0.86	0.90	0.86	0.80	0.78
30	0.70	0.78	0.82	0.87	0.87	0.92	0.92	0.94	0.94	0.98	0.94	0.88	0.86
35	1.10	1.17	1.22	1.24	1.30	1.32	1.33	1.35	1.36	1.39	1.34	1.27	1.25
40	1.50	1.61	1.67	1.71	1.73	1.79	1.79	1.80	1.82	1.83	1.78	1.69	1.65
50	.....	2.65	2.71	2.74	2.78	2.80	2.80	2.80	2.80	2.79	2.70	2.56	2.51
60	.....	3.87	3.88	3.88	3.88	3.88	3.88	3.88	3.90	3.82	3.70	3.43	3.41
70	.....	5.17	5.18	5.20	5.14	5.13	5.10	5.08	5.06	4.90	4.72	4.47	4.35
80	.....	.....	6.62	6.59	6.54	6.46	6.38	6.30	6.26	6.06	5.82	5.50	5.33
90	.....	.....	8.26	8.16	8.06	7.97	7.83	7.71	7.58	7.30	6.96	6.58	6.37
100	.....	.....	10.01	9.87	9.72	9.56	9.39	9.21	9.03	8.64	8.22	7.76	7.42

\* See "Handbook," page 31.

TABLE \* 5.

MAIN'S TABLE FOR DETERMINING WATER IN SUGAR SOLUTIONS BY MEANS OF  
THE ABBE REFRACTOMETER.

Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.
	Per cent.		Per cent.		Per cent.		Per cent.
1.3330	100	1.3397	95.2	1.3469	90.4	1.3545	85.6
1.3331	99.9	1.3399	95.1	1.3471	90.3	1.3546	85.5
1.3333	99.8	1.3400	95	1.3472	90.2	1.3548	85.4
1.3334	99.7	1.3402	94.9	1.3474	90.1	1.3549	85.3
1.3336	99.6	1.3403	94.8	1.3475	90	1.3551	85.2
1.3337	99.5	1.3405	94.7	1.3477	89.9	1.3552	85.1
1.3338	99.4	1.3406	94.6	1.3478	89.8	1.3554	85
1.3340	99.3	1.3408	94.5	1.3480	89.7	1.3556	84.9
1.3341	99.2	1.3409	94.4	1.3481	89.6	1.3557	84.8
1.3343	99.1	1.3411	94.3	1.3483	89.5	1.3559	84.7
1.3344	99	1.3412	94.2	1.3484	89.4	1.3561	84.6
1.3345	98.9	1.3414	94.1	1.3486	89.3	1.3562	84.5
1.3347	98.8	1.3415	94	1.3488	89.2	1.3564	84.4
1.3348	98.7	1.3417	93.9	1.3489	89.1	1.3566	84.3
1.3350	98.6	1.3418	93.8	1.3491	89	1.3567	84.2
1.3351	98.5	1.3420	93.7	1.3492	88.9	1.3569	84.1
1.3352	98.4	1.3421	93.6	1.3494	88.8	1.3571	84
1.3354	98.3	1.3423	93.5	1.3496	88.7	1.3572	83.9
1.3355	98.2	1.3424	93.4	1.3497	88.6	1.3574	83.8
1.3357	98.1	1.3426	93.3	1.3499	88.5	1.3576	83.7
1.3358	98	1.3427	93.2	1.3500	88.4	1.3577	83.6
1.3359	97.9	1.3429	93.1	1.3502	88.3	1.3579	83.5
1.3361	97.8	1.3430	93	1.3503	88.2	1.3581	83.4
1.3362	97.7	1.3432	92.9	1.3505	88.1	1.3582	83.3
1.3364	97.6	1.3433	92.8	1.3507	88	1.3584	83.2
1.3365	97.5	1.3435	92.7	1.3508	87.9	1.3586	83.1
1.3366	97.4	1.3436	92.6	1.3510	87.8	1.3587	83
1.3368	97.3	1.3438	92.5	1.3511	87.7	1.3589	82.9
1.3369	97.2	1.3439	92.4	1.3513	87.6	1.3591	82.8
1.3371	97.1	1.3441	92.3	1.3515	87.5	1.3592	82.7
1.3372	97	1.3442	92.2	1.3516	87.4	1.3594	82.6
1.3373	96.9	1.3444	92.1	1.3518	87.3	1.3596	82.5
1.3375	96.8	1.3445	92	1.3519	87.2	1.3597	82.4
1.3376	96.7	1.3447	91.9	1.3521	87.1	1.3599	82.3
1.3378	96.6	1.3448	91.8	1.3522	87	1.3600	82.2
1.3379	96.5	1.3450	91.7	1.3524	86.9	1.3602	82.1
1.3380	96.4	1.3451	91.6	1.3526	86.8	1.3604	82
1.3382	96.3	1.3453	91.5	1.3527	86.7	1.3605	81.9
1.3383	96.2	1.3454	91.4	1.3529	86.6	1.3607	81.8
1.3385	96.1	1.3456	91.3	1.3530	86.5	1.3609	81.7
1.3386	96	1.3457	91.2	1.3532	86.4	1.3610	81.6
1.3387	95.9	1.3459	91.1	1.3533	86.3	1.3612	81.5
1.3389	95.8	1.3460	91	1.3535	86.2	1.3614	81.4
1.3390	95.7	1.3462	90.9	1.3537	86.1	1.3615	81.3
1.3392	95.6	1.3463	90.8	1.3538	86	1.3617	81.2
1.3393	95.5	1.3465	90.7	1.3540	85.9	1.3619	81.1
1.3394	95.4	1.3466	90.6	1.3541	85.8	1.3620	81
1.3396	95.3	1.3468	90.5	1.3543	85.7	1.3622	80.9

\* See "Handbook," page 64.

TABLE 5. (Continued.)

Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.
	Per cent.		Per cent.		Per cent.		Per cent.
1.3624	80.8	1.3709	75.7	1.3799	70.6	1.3893	65.5
1.3625	80.7	1.3711	75.6	1.3801	70.5	1.3895	65.4
1.3627	80.6	1.3713	75.5	1.3803	70.4	1.3896	65.3
1.3629	80.5	1.3714	75.4	1.3805	70.3	1.3898	65.2
1.3630	80.4	1.3716	75.3	1.3806	70.2	1.3900	65.1
1.3632	80.3	1.3718	75.2	1.3808	70.1	1.3902	65
1.3634	80.2	1.3719	75.1	1.3810	70	1.3904	64.9
1.3635	80.1	1.3721	75	1.3812	69.9	1.3906	64.8
1.3637	80	1.3723	74.9	1.3814	69.8	1.3908	64.7
1.3639	79.9	1.3725	74.8	1.3816	69.7	1.3910	64.6
1.3640	79.8	1.3726	74.7	1.3817	69.6	1.3912	64.5
1.3642	79.7	1.3728	74.6	1.3819	69.5	1.3913	64.4
1.3644	79.6	1.3730	74.5	1.3821	69.4	1.3915	64.3
1.3645	79.5	1.3732	74.4	1.3823	69.3	1.3917	64.2
1.3647	79.4	1.3733	74.3	1.3825	69.2	1.3919	64.1
1.3649	79.3	1.3735	74.2	1.3827	69.1	1.3921	64
1.3650	79.2	1.3737	74.1	1.3828	69	1.3923	63.9
1.3652	79.1	1.3739	74	1.3830	68.9	1.3925	63.8
1.3654	79	1.3741	73.9	1.3832	68.8	1.3927	63.7
1.3655	78.9	1.3742	73.8	1.3834	68.7	1.3929	63.6
1.3657	78.8	1.3744	73.7	1.3836	68.6	1.3931	63.5
1.3659	78.7	1.3746	73.6	1.3838	68.5	1.3932	63.4
1.3661	78.6	1.3748	73.5	1.3839	68.4	1.3934	63.3
1.3662	78.5	1.3749	73.4	1.3841	68.3	1.3936	63.2
1.3664	78.4	1.3751	73.3	1.3843	68.2	1.3938	63.1
1.3666	78.3	1.3753	73.2	1.3845	68.1	1.3940	63
1.3667	78.2	1.3755	73.1	1.3847	68	1.3942	62.9
1.3669	78.1	1.3757	73	1.3849	67.9	1.3944	62.8
1.3671	78	1.3758	72.9	1.3850	67.8	1.3946	62.7
1.3672	77.9	1.3760	72.8	1.3852	67.7	1.3948	62.6
1.3674	77.8	1.3762	72.7	1.3854	67.6	1.3950	62.5
1.3676	77.7	1.3764	72.6	1.3856	67.5	1.3951	62.4
1.3677	77.6	1.3766	72.5	1.3858	67.4	1.3953	62.3
1.3679	77.5	1.3767	72.4	1.3860	67.3	1.3955	62.2
1.3681	77.4	1.3769	72.3	1.3862	67.2	1.3957	62.1
1.3682	77.3	1.3771	72.2	1.3863	67.1	1.3959	62
1.3684	77.2	1.3773	72.1	1.3865	67	1.3961	61.9
1.3686	77.1	1.3774	72	1.3867	66.9	1.3963	61.8
1.3687	77	1.3776	71.9	1.3869	66.8	1.3965	61.7
1.3689	76.9	1.3778	71.8	1.3871	66.7	1.3967	61.6
1.3691	76.8	1.3780	71.7	1.3873	66.6	1.3969	61.5
1.3692	76.7	1.3782	71.6	1.3874	66.5	1.3970	61.4
1.3694	76.6	1.3783	71.5	1.3876	66.4	1.3972	61.3
1.3696	76.5	1.3785	71.4	1.3878	66.3	1.3974	61.2
1.3697	76.4	1.3787	71.3	1.3880	66.2	1.3976	61.1
1.3699	76.3	1.3789	71.2	1.3882	66.1	1.3978	61
1.3701	76.2	1.3790	71.1	1.3884	66	1.3980	60.9
1.3703	76.1	1.3792	71	1.3885	65.9	1.3982	60.8
1.3704	76	1.3794	70.9	1.3887	65.8	1.3984	60.7
1.3706	75.9	1.3796	70.8	1.3889	65.7	1.3986	60.6
1.3708	75.8	1.3798	70.7	1.3891	65.6	1.3988	60.5

TABLE 5. (Continued.)

Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.
	Per cent.		Per cent.		Per cent.		Per cent.
1.3989	60.4	1.4089	55.3	1.4197	50.2	1.4302	45.1
1.3991	60.3	1.4091	55.2	1.4199	50.1	1.4304	45
1.3993	60.2	1.4093	55.1	1.4201	50	1.4306	44.9
1.3995	60.1	1.4095	55	1.4203	49.9	1.4309	44.8
1.3997	60	1.4097	54.9	1.4205	49.8	1.4311	44.7
1.3999	59.9	1.4099	54.8	1.4207	49.7	1.4313	44.6
1.4001	59.8	1.4101	54.7	1.4209	49.6	1.4316	44.5
1.4003	59.7	1.4103	54.6	1.4211	49.5	1.4318	44.4
1.4005	59.6	1.4106	54.5	1.4213	49.4	1.4320	44.3
1.4007	59.5	1.4108	54.4	1.4215	49.3	1.4322	44.2
1.4009	59.4	1.4110	54.3	1.4217	49.2	1.4325	44.1
1.4011	59.3	1.4112	54.2	1.4220	49.1	1.4327	44
1.4013	59.2	1.4114	54.1	1.4222	49	1.4329	43.9
1.4015	59.1	1.4116	54	1.4224	48.9	1.4332	43.8
1.4017	59	1.4118	53.9	1.4226	48.8	1.4334	43.7
1.4019	58.9	1.4120	53.8	1.4228	48.7	1.4336	43.6
1.4021	58.8	1.4123	53.7	1.4230	48.6	1.4339	43.5
1.4022	58.7	1.4125	53.6	1.4232	48.5	1.4341	43.4
1.4024	58.6	1.4127	53.5	1.4234	48.4	1.4343	43.3
1.4026	58.5	1.4129	53.4	1.4236	48.3	1.4345	43.2
1.4028	58.4	1.4131	53.3	1.4238	48.2	1.4348	43.1
1.4030	58.3	1.4133	53.2	1.4240	48.1	1.4350	43
1.4032	58.2	1.4135	53.1	1.4242	48	1.4352	42.9
1.4034	58.1	1.4137	53	1.4244	47.9	1.4355	42.8
1.4036	58	1.4140	52.9	1.4246	47.8	1.4357	42.7
1.4038	57.9	1.4142	52.8	1.4248	47.7	1.4359	42.6
1.4040	57.8	1.4144	52.7	1.4250	47.6	1.4362	42.5
1.4042	57.7	1.4146	52.6	1.4253	47.5	1.4364	42.4
1.4044	57.6	1.4148	52.5	1.4255	47.4	1.4366	42.3
1.4046	57.5	1.4150	52.4	1.4257	47.3	1.4368	42.2
1.4048	57.4	1.4152	52.3	1.4259	47.2	1.4371	42.1
1.4050	57.3	1.4154	52.2	1.4261	47.1	1.4373	42
1.4052	57.2	1.4156	52.1	1.4263	47	1.4375	41.9
1.4054	57.1	1.4159	52	1.4265	46.9	1.4378	41.8
1.4056	57	1.4161	51.9	1.4267	46.8	1.4380	41.7
1.4058	56.9	1.4163	51.8	1.4269	46.7	1.4382	41.6
1.4060	56.8	1.4165	51.7	1.4271	46.6	1.4385	41.5
1.4062	56.7	1.4167	51.6	1.4273	46.5	1.4387	41.4
1.4064	56.6	1.4169	51.5	1.4275	46.4	1.4389	41.3
1.4066	56.5	1.4171	51.4	1.4277	46.3	1.4391	41.2
1.4068	56.4	1.4173	51.3	1.4279	46.2	1.4394	41.1
1.4070	56.3	1.4176	51.2	1.4281	46.1	1.4396	41
1.4071	56.2	1.4178	51.1	1.4283	46	1.4398	40.9
1.4073	56.1	1.4180	51	1.4285	45.9	1.4401	40.8
1.4075	56	1.4182	50.9	1.4288	45.8	1.4403	40.7
1.4077	55.9	1.4184	50.8	1.4290	45.7	1.4405	40.6
1.4079	55.8	1.4186	50.7	1.4292	45.6	1.4408	40.5
1.4081	55.7	1.4188	50.6	1.4294	45.5	1.4410	40.4
1.4083	55.6	1.4190	50.5	1.4296	45.4	1.4412	40.3
1.4085	55.5	1.4193	50.4	1.4298	45.3	1.4414	40.2
1.4087	55.4	1.4195	50.3	1.4300	45.2	1.4417	40.1

TABLE 5. (Continued.)

Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.
	Per cent.		Per cent.		Per cent.		Per cent.
1.4419	40	1.4537	34.9	1.4656	29.8	1.4782	24.7
1.4421	39.9	1.4540	34.8	1.4658	29.7	1.4784	24.6
1.4424	39.8	1.4542	34.7	1.4661	29.6	1.4787	24.5
1.4426	39.7	1.4544	34.6	1.4663	29.5	1.4789	24.4
1.4428	39.6	1.4547	34.5	1.4666	29.4	1.4792	24.3
1.4431	39.5	1.4549	34.4	1.4668	29.3	1.4794	24.2
1.4433	39.4	1.4551	34.3	1.4671	29.2	1.4797	24.1
1.4435	39.3	1.4554	34.2	1.4673	29.1	1.4799	24
1.4438	39.2	1.4556	34.1	1.4676	29	1.4802	23.9
1.4440	39.1	1.4558	34	1.4678	28.9	1.4804	23.8
1.4442	39	1.4561	33.9	1.4681	28.8	1.4807	23.7
1.4445	38.9	1.4563	33.8	1.4683	28.7	1.4810	23.6
1.4447	38.8	1.4565	33.7	1.4685	28.6	1.4812	23.5
1.4449	38.7	1.4567	33.6	1.4688	28.5	1.4815	23.4
1.4451	38.6	1.4570	33.5	1.4690	28.4	1.4817	23.3
1.4454	38.5	1.4572	33.4	1.4693	28.3	1.4820	23.2
1.4456	38.4	1.4574	33.3	1.4695	28.2	1.4822	23.1
1.4458	38.3	1.4577	33.2	1.4698	28.1	1.4825	23
1.4461	38.2	1.4579	33.1	1.4700	28	1.4827	22.9
1.4463	38.1	1.4581	33	1.4703	27.9	1.4830	22.8
1.4465	38	1.4584	32.9	1.4705	27.8	1.4832	22.7
1.4468	37.9	1.4586	32.8	1.4708	27.7	1.4835	22.6
1.4470	37.8	1.4588	32.7	1.4710	27.6	1.4838	22.5
1.4472	37.7	1.4591	32.6	1.4713	27.5	1.4840	22.4
1.4475	37.6	1.4593	32.5	1.4715	27.4	1.4843	22.3
1.4477	37.5	1.4595	32.4	1.4717	27.3	1.4845	22.2
1.4479	37.4	1.4598	32.3	1.4720	27.2	1.4848	22.1
1.4482	37.3	1.4600	32.2	1.4722	27.1	1.4850	22
1.4484	57.2	1.4602	32.1	1.4725	27	1.4853	21.9
1.4486	37.1	1.4605	32	1.4727	26.9	1.4855	21.8
1.4489	37	1.4607	31.9	1.4730	26.8	1.4858	21.7
1.4491	36.9	1.4609	31.8	1.4732	26.7	1.4860	21.6
1.4493	36.8	1.4612	31.7	1.4735	26.6	1.4863	21.5
1.4496	36.7	1.4614	31.6	1.4737	26.5	1.4865	21.4
1.4498	36.6	1.4616	31.5	1.4740	26.4	1.4868	21.3
1.4500	36.5	1.4619	31.4	1.4742	26.3	1.4871	21.2
1.4503	36.4	1.4621	31.3	1.4744	26.2	1.4873	21.1
1.4505	36.3	1.4623	31.2	1.4747	26.1	1.4876	21
1.4507	36.2	1.4625	31.1	1.4749	26	1.4878	20.9
1.4509	36.1	1.4628	31	1.4752	25.9	1.4881	20.8
1.4512	36	1.4630	30.9	1.4754	25.8	1.4883	20.7
1.4514	35.9	1.4632	30.8	1.4757	25.7	1.4886	20.6
1.4516	35.8	1.4635	30.7	1.4759	25.6	1.4888	20.5
1.4519	35.7	1.4637	30.6	1.4762	25.5	1.4891	20.4
1.4521	35.6	1.4639	30.5	1.4764	25.4	1.4893	20.3
1.4523	35.5	1.4642	30.4	1.4767	25.3	1.4896	20.2
1.4526	35.4	1.4644	30.3	1.4769	25.2	1.4898	20.1
1.4528	35.3	1.4646	30.2	1.4772	25.1	1.4901	20
1.4530	35.2	1.4649	30.1	1.4774	25	1.4904	19.9
1.4533	35.1	1.4651	30	1.4777	24.9	1.4906	19.8
1.4535	35	1.4653	29.9	1.4779	24.8	1.4909	19.7



TABLE 5. (Concluded.)

Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.	Refractive index at 20° C.	Water.
	Per cent.		Per cent.		Per cent.		Per cent.
1.4912	19.6	1.4943	18.4	1.4975	17.2	1.5007	16
1.4914	19.5	1.4946	18.3	1.4978	17.1	1.5009	15.9
1.4917	19.4	1.4949	18.2	1.4980	17	1.5012	15.8
1.4919	19.3	1.4951	18.1	1.4983	16.9	1.5015	15.7
1.4922	19.2	1.4954	18	1.4985	16.8	1.5017	15.6
1.4925	19.1	1.4956	17.9	1.4988	16.7	1.5020	15.5
1.4927	19	1.4959	17.8	1.4991	16.6	1.5022	15.4
1.4930	18.9	1.4962	17.7	1.4993	16.5	1.5025	15.3
1.4933	18.8	1.4964	17.6	1.4996	16.4	1.5028	15.2
1.4935	18.7	1.4967	17.5	1.4999	16.3	1.5030	15.1
1.4938	18.6	1.4970	17.4	<b>1.5001</b>	16.2	1.5033	15
1.4941	18.5	1.4972	17.3	1.5004	16.1		

TABLE \* 6.

## STANEK'S CORRECTION TABLE.

For Determining Water in Sugar Solutions by Means of the Abbe Refractometer when Readings are Made at Other Temperatures than 20° C.

Water, per cent.	95	90	85	80	70	60	50	40	30	25	Water, per cent.
Temperature °C.	To be added to the per cent of water.										Temperature °C.
15	0.25	0.27	0.31	0.31	0.34	0.35	0.36	0.37	0.36	0.36	15
16	0.21	0.23	0.26	0.27	0.29	0.31	0.31	0.32	0.31	0.29	16
17	0.16	0.18	0.20	0.20	0.22	0.23	0.23	0.23	0.20	0.17	17
18	0.11	0.12	0.14	0.14	0.15	0.16	0.16	0.15	0.12	0.09	18
19	0.06	0.07	0.08	0.08	0.08	0.09	0.09	0.08	0.07	0.05	19
Temperature °C.	To be subtracted from the per cent of water.										Temperature °C.
21	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	21
22	0.12	0.14	0.14	0.14	0.14	0.14	0.15	0.14	0.14	0.14	22
23	0.18	0.20	0.20	0.21	0.21	0.21	0.23	0.21	0.22	0.22	23
24	0.24	0.26	0.26	0.27	0.28	0.28	0.30	0.28	0.29	0.29	24
25	0.30	0.32	0.32	0.34	0.36	0.36	0.38	0.36	0.36	0.37	25
26	0.36	0.39	0.39	0.41	0.43	0.43	0.46	0.44	0.43	0.44	26
27	0.43	0.46	0.46	0.48	0.50	0.51	0.55	0.62	0.50	0.51	27
28	0.50	0.53	0.53	0.55	0.58	0.59	0.63	0.70	0.57	0.59	28
29	0.57	0.60	0.61	0.62	0.66	0.67	0.71	0.78	0.65	0.67	29
30	0.64	0.67	0.70	0.71	0.74	0.75	0.80	0.86	0.73	0.75	30
Water, per cent.	95	90	85	80	70	60	50	40	30	25	Water, per cent.

\* See "Handbook," page 64.

TABLE \* 7.

GEERLIG'S TABLE FOR DETERMINING DRY SUBSTANCE IN SUGAR-HOUSE PRODUCTS.

*By the Abbe Refractometer, at 28° C.*

Refractive Index.	Per cent. dry substance.	Decimals.		Refractive Index.	Per cent. dry substance.	Decimals.	
1.3335	1	0.0001=0.05	0.0010=0.75	1.4104	46	0.0005=0.25	0.0016=0.8
1.3349	2	0.0002=0.1	0.0011=0.8	1.4124	47	0.0006=0.3	0.0017=0.85
1.3364	3	0.0003=0.2	0.0012=0.8	1.4145	48	0.0007=0.35	0.0018=0.9
1.3379	4	0.0004=0.25	0.0013=0.85	1.4166	49	0.0008=0.4	0.0019=0.95
1.3394	5	0.0005=0.3	0.0014=0.9	1.4186	50	0.0009=0.45	0.0020=1.0
1.3409	6	0.0006=0.4	0.0015=1.0	1.4207	51	0.0010=0.5	0.0021=1.0
1.3424	7	0.0007=0.5		1.4228	52	0.0011=0.55	
1.3439	8	0.0008=0.6		1.4249	53		
1.3454	9	0.0009=0.7		1.4270	54		
1.3469	10						
1.3484	11	0.0001=0.05		1.4292	55	0.0001=0.05	0.0013=0.55
1.3500	12	0.0002=0.1		1.4314	56	0.0002=0.1	0.0014=0.6
1.3516	13	0.0003=0.2		1.4337	57	0.0003=0.1	0.0015=0.65
1.3530	14	0.0004=0.25		1.4359	58	0.0004=0.15	0.0016=0.7
1.3546	15	0.0005=0.3		1.4382	59	0.0005=0.2	0.0017=0.75
1.3562	16	0.0006=0.4		1.4405	60	0.0006=0.25	0.0018=0.8
1.3578	17	0.0007=0.45		1.4428	61	0.0007=0.3	0.0019=0.85
1.3594	18	0.0008=0.5		1.4451	62	0.0008=0.35	0.0020=0.9
1.3611	19	0.0009=0.6		1.4474	63	0.0009=0.4	0.0021=0.9
1.3627	20	0.0010=0.65		1.4497	64	0.0010=0.45	0.0022=0.95
1.3644	21	0.0011=0.7		1.4520	65	0.0011=0.5	0.0023=1.0
1.3661	22	0.0012=0.75		1.4543	66	0.0012=0.5	0.0024=1.0
1.3678	23	0.0013=0.8		1.4567	67		
1.3695	24	0.0014=0.85		1.4591	68		
1.3712	25	0.0015=0.9		1.4615	69		
1.3729	26	0.0016=0.95		1.4639	70		
				1.4663	71		
				1.4687	72		
1.3746	27	0.0001=0.05	0.0012=0.6				
1.3764	28	0.0002=0.1	0.0013=0.65	1.4711	73	0.0001=0.0	0.0015=0.55
1.3782	29	0.0003=0.15	0.0014=0.7	1.4736	74	0.0002=0.05	0.0016=0.6
1.3800	30	0.0004=0.2	0.0015=0.75	1.4761	75	0.0003=0.1	0.0017=0.65
1.3818	31	0.0005=0.25	0.0016=0.8	1.4786	76	0.0004=0.15	0.0018=0.65
1.3836	32	0.0006=0.3	0.0017=0.85	1.4811	77	0.0005=0.2	0.0019=0.7
1.3854	33	0.0007=0.35	0.0018=0.9	1.4836	78	0.0006=0.2	0.0020=0.75
1.3872	34	0.0008=0.4	0.0019=0.95	1.4862	79	0.0007=0.25	0.0021=0.8
1.3890	35	0.0009=0.45	0.0020=1.0	1.4888	80	0.0008=0.3	0.0022=0.8
1.3909	36	0.0010=0.5	0.0021=1.0	1.4914	81	0.0009=0.35	0.0023=0.85
1.3928	37	0.0011=0.55		1.4940	82	0.0010=0.35	0.0024=0.9
1.3947	38			1.4966	83	0.0011=0.4	0.0025=0.9
1.3966	39			1.4992	84	0.0012=0.45	0.0026=0.95
1.3984	40			1.5019	85	0.0013=0.5	0.0027=1.0
1.4003	41			1.5046	86	0.0014=0.5	0.0028=1.0
				1.5073	87		
1.4023	42	0.0001=0.05	0.0012=0.6	1.5100	88		
1.4043	43	0.0002=0.1	0.0013=0.65	1.5127	89		
1.4063	44	0.0003=0.15	0.0014=0.7	1.5155	90		
1.4083	45	0.0004=0.2	0.0015=0.75				

\* See "Handbook" page 65.

TABLE 7. (Concluded.)  
CORRECTIONS FOR TEMPERATURE.

Temperature of the prisms in ° C.	Dry substance.												
	0	5	10	15	20	25	30	40	50	60	70	80	90
	Subtract.												
20	0.53	0.54	0.55	0.56	0.57	0.58	0.60	0.62	0.64	0.62	0.61	0.60	0.58
21	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.54	0.56	0.54	0.53	0.52	0.50
22	0.40	0.41	0.42	0.42	0.43	0.44	0.45	0.47	0.48	0.47	0.46	0.45	0.44
23	0.33	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.39	0.38	0.38	0.38
24	0.26	0.26	0.27	0.28	0.28	0.29	0.30	0.31	0.32	0.31	0.31	0.30	0.30
25	0.20	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.24	0.23	0.23	0.23	0.22
26	0.12	0.12	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.15	0.14
27	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.07
	Add.												
29	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.07
30	0.12	0.12	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.15	0.14
31	0.20	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.24	0.23	0.23	0.23	0.22
32	0.26	0.26	0.27	0.28	0.28	0.29	0.30	0.31	0.32	0.31	0.31	0.30	0.30
33	0.33	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.39	0.38	0.38	0.38
34	0.40	0.41	0.42	0.42	0.43	0.44	0.45	0.47	0.48	0.47	0.46	0.45	0.44
35	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.54	0.56	0.54	0.53	0.52	0.50

TABLE \* 8.

HÜBENER'S TABLE FOR DETERMINING PERCENTAGES BY WEIGHT OF SUCROSE IN SUGAR SOLUTIONS FROM READINGS OF THE ZEISS IMMERSION REFRACTOMETER.

Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.
15.0	0.00	21.0	1.58	27.0	3.16	33.0	4.74	39.0	6.31	45.0	7.84	51.0	9.32
.1	0.03	.1	.61	.1	.19	.1	.77	.1	.33	.1	.87	.1	.34
.2	0.05	.2	.64	.2	.21	.2	.79	.2	.36	.2	.90	.2	.36
.3	0.08	.3	.66	.3	.24	.3	.82	.3	.39	.3	.92	.3	.39
.4	0.11	.4	.69	.4	.26	.4	.84	.4	.41	.4	.95	.4	.41
.5	0.13	.5	.71	.5	.29	.5	.87	.5	.43	.5	.97	.5	.44
.6	0.16	.6	.74	.6	.32	.6	.90	.6	.46	.6	8.00	.6	.46
.7	0.19	.7	.77	.7	.34	.7	.92	.7	.49	.7	.03	.7	.49
.8	0.21	.8	.79	.8	.37	.8	.95	.8	.51	.8	.05	.8	.51
.9	0.24	.9	.82	.9	.40	.9	.98	.9	.54	.9	.07	.9	.53
16.0	0.26	22.0	.84	28.0	.42	34.0	5.00	40.0	5.56	46.0	6.10	52.0	6.56
.1	0.29	.1	.87	.1	.45	.1	.03	.1	.59	.1	.12	.1	.58
.2	0.32	.2	.90	.2	.48	.2	.05	.2	.61	.2	.15	.2	.60
.3	0.34	.3	.92	.3	.50	.3	.08	.3	.64	.3	.17	.3	.63
.4	0.37	.4	.95	.4	.53	.4	.11	.4	.66	.4	.19	.4	.66
.5	0.40	.5	.98	.5	.56	.5	.13	.5	.69	.5	.22	.5	.68
.6	0.42	.6	2.00	.6	.58	.6	.16	.6	.72	.6	.24	.6	.70
.7	0.45	.7	.03	.7	.61	.7	.19	.7	.74	.7	.27	.7	.73
.8	0.48	.8	.05	.8	.64	.8	.21	.8	.77	.8	.29	.8	.75
.9	0.50	.9	.08	.9	.66	.9	.24	.9	.79	.9	.32	.9	.78
17.0	0.53	23.0	.11	29.0	.69	35.0	.26	41.0	.82	47.0	.34	53.0	.80
.1	0.56	.1	.13	.1	.71	.1	.29	.1	.84	.1	.36	.1	.83
.2	0.58	.2	.16	.2	.74	.2	.32	.2	.87	.2	.39	.2	.85
.3	0.61	.3	.19	.3	.77	.3	.34	.3	.90	.3	.41	.3	.88
.4	0.64	.4	.21	.4	.79	.4	.37	.4	.92	.4	.44	.4	.90
.5	0.66	.5	.24	.5	.82	.5	.40	.5	.95	.5	.46	.5	.92
.6	0.69	.6	.26	.6	.84	.6	.42	.6	.97	.6	.49	.6	.95
.7	0.71	.7	.29	.7	.87	.7	.45	.7	7.00	.7	.51	.7	.97
.8	0.74	.8	.32	.8	.90	.8	.48	.8	.03	.8	.53	.8	10.00
.9	0.77	.9	.34	.9	.92	.9	.50	.9	.05	.9	.56	.9	.03
18.0	0.79	24.0	.37	30.0	.95	36.0	.53	42.0	.08	48.0	.58	54.0	.05
.1	0.82	.1	.40	.1	.98	.1	.56	.1	.10	.1	.60	.1	.07
.2	0.84	.2	.42	.2	4.00	.2	.58	.2	.13	.2	.63	.2	.10
.3	0.87	.3	.45	.3	.03	.3	.61	.3	.15	.3	.66	.3	.12
.4	0.90	.4	.48	.4	.05	.4	.64	.4	.18	.4	.68	.4	.15
.5	0.92	.5	.50	.5	.08	.5	.66	.5	.20	.5	.70	.5	.17
.6	0.95	.6	.53	.6	.11	.6	.69	.6	.23	.6	.73	.6	.19
.7	0.98	.7	.56	.7	.13	.7	.71	.7	.26	.7	.75	.7	.22
.8	1.00	.8	.58	.8	.16	.8	.74	.8	.28	.8	.78	.8	.24
.9	.03	.9	.61	.9	.19	.9	.77	.9	.31	.9	.80	.9	.27
19.0	.05	25.0	.64	31.0	.21	37.0	.79	43.0	.33	49.0	.83	55.0	.29
.1	.08	.1	.66	.1	.24	.1	.82	.1	.36	.1	.85	.1	.32
.2	.11	.2	.69	.2	.26	.2	.84	.2	.39	.2	.88	.2	.34
.3	.13	.3	.71	.3	.29	.3	.87	.3	.41	.3	.90	.3	.36
.4	.16	.4	.74	.4	.32	.4	.90	.4	.43	.4	.92	.4	.39
.5	.19	.5	.77	.5	.34	.5	.92	.5	.46	.5	.95	.5	.41
.6	.21	.6	.79	.6	.37	.6	.95	.6	.49	.6	.97	.6	.44
.7	.24	.7	.82	.7	.39	.7	.98	.7	.51	.7	9.00	.7	.46
.8	.26	.8	.84	.8	.42	.8	6.00	.8	.54	.8	.03	.8	.49
.9	.29	.9	.87	.9	.45	.9	.03	.9	.56	.9	.05	.9	.51
20.0	.32	26.0	.90	32.0	.48	38.0	.05	44.0	.59	50.0	.07	56.0	.53
.1	.34	.1	.92	.1	.50	.1	.08	.1	.61	.1	.10	.1	.56
.2	.37	.2	.95	.2	.53	.2	.10	.2	.64	.2	.12	.2	.58
.3	.40	.3	.98	.3	.56	.3	.13	.3	.66	.3	.15	.3	.60
.4	.42	.4	3.00	.4	.58	.4	.15	.4	.69	.4	.17	.4	.63
.5	.45	.5	.03	.5	.61	.5	.17	.5	.72	.5	.19	.5	.66
.6	.48	.6	.05	.6	.64	.6	.20	.6	.74	.6	.22	.6	.68
.7	.50	.7	.08	.7	.66	.7	.23	.7	.77	.7	.24	.7	.70
.8	.53	.8	.11	.8	.69	.8	.26	.8	.79	.8	.27	.8	.73
.9	.56	.9	.13	.9	.71	.9	.28	.9	.82	.9	.29	.9	.75

\* See "Handbook," page 74.

TABLE 8. (Continued.)

Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.
<b>57.0</b>	<b>10.78</b>	<b>63.0</b>	<b>12.23</b>	<b>69.0</b>	<b>13.61</b>	<b>75.0</b>	<b>14.98</b>	<b>81.0</b>	<b>16.31</b>	<b>87.0</b>	<b>17.66</b>	<b>93.0</b>	<b>18.95</b>
.1	.80	.1	.25	.1	.63	.1	<b>15.00</b>	.1	.33	.1	.68	.1	.97
.2	.83	.2	.28	.2	.66	.2	.03	.2	.35	.2	.71	.2	<b>19.00</b>
.3	.85	.3	.30	.3	.68	.3	.05	.3	.38	.3	.73	.3	.02
.4	.88	.4	.32	.4	.70	.4	.07	.4	.40	.4	.75	.4	.04
.5	.90	.5	.35	.5	.73	.5	.09	.5	.42	.5	.77	.5	.06
.6	.92	.6	.37	.6	.75	.6	.11	.6	.44	.6	.79	.6	.08
.7	.95	.7	.39	.7	.77	.7	.13	.7	.47	.7	.82	.7	.10
.8	.97	.8	.42	.8	.79	.8	.16	.8	.49	.8	.84	.8	.13
.9	<b>11.00</b>	.9	.44	.9	.82	.9	.18	.9	.51	.9	.86	.9	.15
<b>58.0</b>	.03	<b>64.0</b>	.46	<b>70.0</b>	.84	<b>76.0</b>	.20	<b>82.0</b>	.54	<b>88.0</b>	.89	<b>94.0</b>	.17
.1	.05	.1	.49	.1	.87	.1	.22	.1	.56	.1	.91	.1	.19
.2	.07	.2	.51	.2	.89	.2	.24	.2	.59	.2	.93	.2	.21
.3	.10	.3	.53	.3	.92	.3	.26	.3	.61	.3	.95	.3	.23
.4	.12	.4	.56	.4	.94	.4	.28	.4	.63	.4	.98	.4	.25
.5	.15	.5	.58	.5	.96	.5	.30	.5	.65	.5	<b>18.00</b>	.5	.27
.6	.17	.6	.60	.6	.98	.6	.32	.6	.68	.6	.02	.6	.29
.7	.19	.7	.63	.7	<b>14.00</b>	.7	.34	.7	.70	.7	.04	.7	.31
.8	.22	.8	.65	.8	.03	.8	.36	.8	.72	.8	.06	.8	.34
.9	.24	.9	.67	.9	.05	.9	.38	.9	.74	.9	.08	.9	.36
<b>59.0</b>	.27	<b>65.0</b>	.69	<b>71.0</b>	.07	<b>77.0</b>	.40	<b>83.0</b>	.76	<b>89.0</b>	.10	<b>96.0</b>	.38
.1	.29	.1	.72	.1	.09	.1	.42	.1	.79	.1	.13	.1	.40
.2	.32	.2	.74	.2	.11	.2	.44	.2	.81	.2	.15	.2	.42
.3	.34	.3	.76	.3	.14	.3	.47	.3	.83	.3	.17	.3	.44
.4	.36	.4	.79	.4	.16	.4	.49	.4	.85	.4	.19	.4	.47
.5	.39	.5	.81	.5	.18	.5	.51	.5	.88	.5	.21	.5	.49
.6	.41	.6	.83	.6	.20	.6	.54	.6	.90	.6	.23	.6	.51
.7	.44	.7	.86	.7	.23	.7	.56	.7	.92	.7	.25	.7	.53
.8	.46	.8	.88	.8	.25	.8	.59	.8	.95	.8	.27	.8	.55
.9	.49	.9	.90	.9	.27	.9	.61	.9	.97	.9	.29	.9	.57
<b>60.0</b>	.51	<b>66.0</b>	.93	<b>72.0</b>	.29	<b>78.0</b>	.63	<b>84.0</b>	<b>17.00</b>	<b>90.0</b>	.31	<b>96.0</b>	.59
.1	.53	.1	.95	.1	.32	.1	.65	.1	.02	.1	.34	.1	.61
.2	.56	.2	.97	.2	.34	.2	.68	.2	.04	.2	.36	.2	.63
.3	.58	.3	<b>13.00</b>	.3	.36	.3	.70	.3	.07	.3	.38	.3	.66
.4	.60	.4	.03	.4	.38	.4	.72	.4	.09	.4	.40	.4	.68
.5	.63	.5	.05	.5	.40	.5	.74	.5	.11	.5	.42	.5	.70
.6	.66	.6	.07	.6	.43	.6	.76	.6	.13	.6	.44	.6	.72
.7	.68	.7	.09	.7	.45	.7	.79	.7	.15	.7	.47	.7	.74
.8	.70	.8	.11	.8	.48	.8	.81	.8	.18	.8	.49	.8	.76
.9	.73	.9	.14	.9	.50	.9	.83	.9	.20	.9	.51	.9	.78
<b>61.0</b>	.75	<b>67.0</b>	.16	<b>73.0</b>	.52	<b>79.0</b>	.85	<b>85.0</b>	.22	<b>91.0</b>	.53	<b>97.0</b>	.80
.1	.78	.1	.18	.1	.54	.1	.88	.1	.24	.1	.55	.1	.82
.2	.80	.2	.20	.2	.57	.2	.90	.2	.27	.2	.57	.2	.85
.3	.83	.3	.23	.3	.59	.3	.92	.3	.29	.3	.59	.3	.87
.4	.85	.4	.25	.4	.61	.4	.95	.4	.31	.4	.61	.4	.89
.5	.88	.5	.27	.5	.63	.5	.97	.5	.33	.5	.63	.5	.91
.6	.90	.6	.29	.6	.66	.6	<b>16.00</b>	.6	.35	.6	.66	.6	.93
.7	.92	.7	.32	.7	.68	.7	.03	.7	.38	.7	.68	.7	.95
.8	.95	.8	.34	.8	.70	.8	.05	.8	.40	.8	.70	.8	.97
.9	.97	.9	.36	.9	.73	.9	.07	.9	.42	.9	.72	.9	<b>20.00</b>
<b>62.0</b>	<b>12.00</b>	<b>68.0</b>	.38	<b>74.0</b>	.75	<b>80.0</b>	.09	<b>86.0</b>	.44	<b>92.0</b>	.74	<b>98.0</b>	.02
.1	.03	.1	.40	.1	.77	.1	.11	.1	.47	.1	.76	.1	.04
.2	.05	.2	.43	.2	.79	.2	.13	.2	.49	.2	.78	.2	.06
.3	.07	.3	.45	.3	.82	.3	.16	.3	.51	.3	.80	.3	.08
.4	.09	.4	.48	.4	.84	.4	.18	.4	.53	.4	.82	.4	.10
.5	.12	.5	.50	.5	.87	.5	.20	.5	.55	.5	.85	.5	.13
.6	.14	.6	.52	.6	.89	.6	.22	.6	.58	.6	.87	.6	.15
.7	.16	.7	.54	.7	.92	.7	.24	.7	.60	.7	.89	.7	.17
.8	.18	.8	.57	.8	.94	.8	.27	.8	.62	.8	.91	.8	.19
.9	.21	.9	.59	.9	.96	.9	.29	.9	.64	.9	.93	.9	.21

TABLE 8. (Concluded).

Scale reading of refractometer.	Per cent sucrose	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.	Scale reading of refractometer.	Per cent sucrose.
<b>99.0</b>	<b>20.23</b>	<b>100.0</b>	<b>20.44</b>	<b>101.0</b>	<b>20.66</b>	<b>102.0</b>	<b>20.87</b>	<b>103.0</b>	<b>21.08</b>	<b>104.0</b>	<b>21.29</b>	<b>105.0</b>	<b>21.51</b>
.1	.25	.1	.47	.1	.68	.1	.89	.1	.10	.1	.31	.1	.53
.2	.27	.2	.49	.2	.70	.2	.91	.2	.13	.2	.34	.2	.55
.3	.29	.3	.51	.3	.72	.3	.93	.3	.15	.3	.36	.3	.57
.4	.31	.4	.53	.4	.74	.4	.95	.4	.17	.4	.38	.4	.59
.5	.34	.5	.55	.5	.76	.5	.97	.5	.19	.5	.40	.5	.61
.6	.36	.6	.57	.6	.78	.6	<b>21.00</b>	.6	.21	.6	.42	.6	.63
.7	.38	.7	.59	.7	.80	.7	.02	.7	.23	.7	.44	.7	.66
.8	.40	.8	.61	.8	.82	.8	.04	.8	.25	.8	.47	.8	.68
.9	.42	.9	.63	.9	.85	.9	.06	.9	.27	.9	.49	.9	.70
.....		.....		.....		.....		.....		.....		<b>106.0</b>	<b>21.71</b>

TABLE \* 9.

KRUIS'S TABLE FOR DETERMINING GLUCOSE BY REISCHAUER'S METHOD.

Fehling's solution.	Glucose.	Fehling's solution.	Glucose.	Fehling's solution.	Glucose.	Fehling's solution.	Glucose.
c.c.	mgs.	c.c.	mgs.	c.c.	mgs.	c.c.	mgs.
1.00	5.57	1.53	8.20	2.06	10.64	2.59	13.06
1.01	5.64	1.54	8.24	2.07	10.68	2.60	13.11
1.02	5.81	1.55	8.29	2.08	10.73	2.61	13.16
1.03	5.85	1.56	8.34	2.09	10.77	2.62	13.20
1.04	5.90	1.57	8.38	2.10	10.82	2.63	13.25
1.05	5.94	1.58	8.43	2.11	10.87	2.64	13.29
1.06	5.99	1.59	8.48	2.12	10.91	2.65	13.34
1.07	6.04	1.60	8.52	2.13	10.96	2.66	13.39
1.08	6.08	1.61	8.57	2.14	11.00	2.67	13.43
1.09	6.13	1.62	8.62	2.15	11.04	2.68	13.48
1.10	6.18	1.63	8.66	2.16	11.09	2.69	13.52
1.11	6.22	1.64	8.71	2.17	11.14	2.70	13.57
1.12	6.27	1.65	8.76	2.18	11.18	2.71	13.62
1.13	6.32	1.66	8.80	2.19	11.23	2.72	13.66
1.14	6.36	1.67	8.85	2.20	11.28	2.73	13.71
1.15	6.41	1.68	8.89	2.21	11.32	2.74	13.76
1.16	6.46	1.69	8.94	2.22	11.37	2.75	13.80
1.17	6.51	1.70	8.99	2.23	11.41	2.76	13.85
1.18	6.55	1.71	9.03	2.24	11.46	2.77	13.89
1.19	6.60	1.72	9.08	2.25	11.50	2.78	13.94
1.20	6.65	1.73	9.13	2.26	11.55	2.79	13.99
1.21	6.69	1.74	9.17	2.27	11.60	2.80	14.03
1.22	6.74	1.75	9.22	2.28	11.64	2.81	14.08
1.23	6.79	1.76	9.26	2.29	11.69	2.82	14.12
1.24	6.84	1.77	9.31	2.30	11.73	2.83	14.17
1.25	6.88	1.78	9.36	2.31	11.78	2.84	14.22
1.26	6.93	1.79	9.40	2.32	11.82	2.85	14.26
1.27	6.98	1.80	9.45	2.33	11.87	2.86	14.31
1.28	7.02	1.81	9.49	2.34	11.92	2.87	14.35
1.29	7.07	1.82	9.54	2.35	12.96	2.88	14.40
1.30	7.12	1.83	9.59	2.36	12.00	2.89	14.45
1.31	7.17	1.84	9.63	2.37	12.05	2.90	14.49
1.32	7.21	1.85	9.68	2.38	12.10	2.91	14.54
1.33	7.26	1.86	9.72	2.39	12.14	2.92	14.58
1.34	7.31	1.87	9.77	2.40	12.19	2.93	14.63
1.35	7.35	1.88	9.81	2.41	12.24	2.94	14.68
1.36	7.40	1.89	9.86	2.42	12.28	2.95	14.72
1.37	7.45	1.90	9.91	2.43	12.33	2.96	14.77
1.38	7.49	1.91	9.95	2.44	12.37	2.97	14.81
1.39	7.54	1.92	10.00	2.45	12.42	2.98	14.86
1.40	7.59	1.93	10.04	2.46	12.47	2.99	14.91
1.41	7.64	1.94	10.09	2.47	12.51	3.00	14.95
1.42	7.68	1.95	10.13	2.48	12.56	3.01	15.00
1.43	7.73	1.96	10.18	2.49	12.60	3.02	15.04
1.44	7.77	1.97	10.23	2.50	12.65	3.03	15.09
1.45	7.82	1.98	10.27	2.51	12.69	3.04	15.14
1.46	7.87	1.99	10.32	2.52	12.74	3.05	15.18
1.47	7.92	2.00	10.36	2.53	12.79	3.06	15.23
1.48	7.96	2.01	10.41	2.54	12.83	3.07	15.27
1.49	8.01	2.02	10.45	2.55	12.88	3.08	15.32
1.50	8.06	2.03	10.50	2.56	12.92	3.09	15.37
1.51	8.10	2.04	10.55	2.57	12.97	3.10	15.41
1.52	8.15	2.05	10.59	2.58	13.02	3.11	15.46

\* See "Handbook," page 398.

TABLE 9. (Continued.)

Fehling's solution.	Glucose.	Fehling's solution.	Glucose.	Fehling's solution.	Glucose.	Fehling's solution.	Glucose.
c.c.	mgs.	c.c.	mgs.	c.c.	mgs.	c.c.	mgs.
3.12	15.50	3.65	17.95	4.18	20.41	4.71	22.90
3.13	15.55	3.66	17.99	4.19	20.46	4.72	22.94
3.14	15.60	3.67	18.04	4.20	20.51	4.73	22.99
3.15	15.64	3.68	18.09	4.21	20.55	4.74	23.04
3.16	15.69	3.69	18.13	4.22	20.60	4.75	23.09
3.17	15.73	3.70	18.18	4.23	20.65	4.76	23.13
3.18	15.78	3.71	18.23	4.24	20.69	4.77	23.18
3.19	15.83	3.72	18.27	4.25	20.74	4.78	23.23
3.20	15.87	3.73	18.32	4.26	20.79	4.79	23.28
3.21	15.92	3.74	18.37	4.27	20.83	4.80	23.32
3.22	15.96	3.75	18.41	4.28	20.88	4.81	23.37
3.23	16.01	3.76	18.46	4.29	20.93	4.82	23.42
3.24	16.06	3.77	18.50	4.30	20.98	4.83	23.46
3.25	16.10	3.78	18.55	4.31	21.02	4.84	23.51
3.26	16.15	3.79	18.60	4.32	21.07	4.85	23.56
3.27	16.19	3.80	18.64	4.33	21.12	4.86	23.60
3.28	16.24	3.81	18.69	4.34	21.16	4.87	23.65
3.29	16.29	3.82	18.73	4.35	21.21	4.88	23.70
3.30	16.33	3.83	18.78	4.36	21.26	4.89	23.74
3.31	16.38	3.84	18.83	4.37	21.30	4.90	23.79
3.32	16.43	3.85	18.88	4.38	21.35	4.91	23.84
3.33	16.47	3.86	18.92	4.39	21.40	4.92	23.89
3.34	16.52	3.87	18.97	4.40	21.44	4.93	23.93
3.35	16.56	3.88	19.02	4.41	21.49	4.94	23.98
3.36	16.61	3.89	19.06	4.42	21.54	4.95	24.03
3.37	16.66	3.90	19.11	4.43	21.58	4.96	24.07
3.38	16.70	3.91	19.15	4.44	21.63	4.97	24.12
3.39	16.75	3.92	19.20	4.45	21.68	4.98	24.17
3.40	16.79	3.93	19.25	4.46	21.73	4.99	24.22
3.41	16.84	3.94	19.29	4.47	21.77	5.00	24.26
3.42	16.89	3.95	19.34	4.48	21.82	5.01	24.31
3.43	16.93	3.96	19.39	4.49	21.87	5.02	24.36
3.44	16.98	3.97	19.43	4.50	21.91	5.03	24.40
3.45	17.02	3.98	19.48	4.51	21.96	5.04	24.45
3.46	17.07	3.99	19.53	4.52	22.01	5.05	24.50
3.47	17.12	4.00	19.57	4.53	22.05	5.06	24.55
3.48	17.16	4.01	19.62	4.54	22.10	5.07	24.59
3.49	17.21	4.02	19.67	4.55	22.14	5.08	24.64
3.50	17.26	4.03	19.71	4.56	22.19	5.09	24.69
3.51	17.30	4.04	19.76	4.57	22.24	5.10	24.73
3.52	17.35	4.05	19.80	4.58	22.29	5.11	24.78
3.53	17.39	4.06	19.85	4.59	22.34	5.12	24.83
3.54	17.44	4.07	19.90	4.60	22.38	5.13	24.88
3.55	17.49	4.08	19.95	4.61	22.43	5.14	24.92
3.56	17.53	4.09	19.99	4.62	22.48	5.15	24.97
3.57	17.58	4.10	20.04	4.63	22.52	5.16	25.02
3.58	17.62	4.11	20.09	4.64	22.57	5.17	25.06
3.59	17.67	4.12	20.13	4.65	22.62	5.18	25.11
3.60	17.72	4.13	20.18	4.66	22.66	5.19	25.16
3.61	17.76	4.14	20.23	4.67	22.71	5.20	25.20
3.62	17.81	4.15	20.27	4.68	22.76	5.21	25.25
3.63	17.86	4.16	20.32	4.69	22.80	5.22	25.30
3.64	17.90	4.17	20.37	4.70	22.85	5.23	25.34



TABLE 9. (Concluded.)

Fehling's solution.	Glucose.	Fehling's solution.	Glucose.	Fehling's solution.	Glucose.	Fehling's solution.	Glucose.
c.c.	mgs.	c.c.	mgs.	c.c.	mgs.	c.c.	mgs.
5.24	25.39	5.44	26.34	5.64	27.28	5.84	28.22
5.25	25.44	5.45	26.38	5.65	27.32	5.85	28.26
5.26	25.49	5.46	26.43	5.66	27.37	5.86	28.31
5.27	25.53	5.47	26.48	5.67	27.42	5.87	28.36
5.28	25.58	5.48	26.52	5.68	27.47	5.88	28.41
5.29	25.63	5.49	26.57	5.69	27.51	5.89	28.46
<b>5.30</b>	25.68	<b>5.50</b>	26.62	<b>5.70</b>	27.56	<b>5.90</b>	28.50
5.31	25.72	5.51	26.66	5.71	27.61	5.91	28.55
5.32	25.77	5.52	26.72	5.72	27.65	5.92	28.60
5.33	25.82	5.53	26.76	5.73	27.70	5.93	28.64
5.34	25.86	5.54	26.81	5.74	27.75	5.94	28.69
5.35	25.91	5.55	26.85	5.75	27.80	5.95	28.74
5.36	25.96	5.56	26.90	5.76	27.84	5.96	28.79
5.37	26.00	5.57	26.95	5.77	27.89	5.97	28.83
5.38	26.05	5.58	26.99	5.78	27.90	5.98	28.88
5.39	26.10	5.59	27.04	5.79	27.98	5.99	28.93
<b>5.40</b>	26.15	<b>5.60</b>	27.09	<b>5.80</b>	28.03	<b>6.00</b>	28.97
5.41	26.19	5.61	27.14	5.81	28.08		
5.42	26.24	5.62	27.19	5.82	28.13		
5.43	26.29	5.63	27.23	5.83	28.17		

TABLE \* 10.

ALLIHN'S TABLE FOR DETERMINING GLUCOSE.

Cop- per. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
11	12.4	6.6	51	57.4	26.4	91	102.4	46.4	131	147.5	66.7
12	13.5	7.1	52	58.5	26.9	92	103.6	46.9	132	148.6	67.2
13	14.6	7.6	53	59.7	27.4	93	104.7	47.4	133	149.7	67.7
14	15.8	8.1	54	60.8	27.9	94	105.8	47.9	134	150.9	68.2
15	16.9	8.6	55	61.9	28.4	95	107.0	48.4	135	152.0	68.8
16	18.0	9.0	56	63.0	28.8	96	108.1	48.9	136	153.1	69.3
17	19.1	9.5	57	64.2	29.3	97	109.2	49.4	137	154.2	69.8
18	20.3	10.0	58	65.3	29.8	98	110.3	49.9	138	155.4	70.3
19	21.4	10.5	59	66.4	30.3	99	111.5	50.4	139	156.5	70.8
20	22.5	11.0	60	67.6	30.8	100	112.6	50.9	140	157.6	71.3
21	23.6	11.5	61	68.7	31.3	101	113.7	51.4	141	158.7	71.8
22	24.8	12.0	62	69.8	31.8	102	114.8	51.9	142	159.9	72.3
23	25.9	12.5	63	70.9	32.3	103	116.0	52.4	143	161.0	72.9
24	27.0	13.0	64	72.1	32.8	104	117.1	52.9	144	162.1	73.4
25	28.1	13.5	65	73.2	33.3	105	118.2	53.5	145	163.2	73.9
26	29.3	14.0	66	74.3	33.8	106	119.3	54.0	146	164.4	74.4
27	30.4	14.5	67	75.4	34.3	107	120.5	54.5	147	165.5	74.9
28	31.5	15.0	68	76.6	34.8	108	121.6	55.0	148	166.6	75.5
29	32.7	15.5	69	77.7	35.3	109	122.7	55.5	149	167.7	76.0
30	33.8	16.0	70	78.8	35.8	110	123.8	56.0	150	168.9	76.5
31	34.9	16.5	71	79.9	36.3	111	125.0	56.5	151	170.0	77.0
32	36.0	17.0	72	81.1	36.8	112	126.1	57.0	152	171.1	77.5
33	37.2	17.5	73	82.2	37.3	113	127.2	57.5	153	172.3	78.1
34	38.3	18.0	74	83.3	37.8	114	128.3	58.0	154	173.4	78.6
35	39.4	18.5	75	84.4	38.3	115	129.6	58.6	155	174.5	79.1
36	40.5	18.9	76	85.6	38.8	116	130.6	59.1	156	175.6	79.6
37	41.7	19.4	77	86.7	39.3	117	131.7	59.6	157	176.8	80.1
38	42.8	19.9	78	87.8	39.8	118	132.8	60.1	158	177.9	80.7
39	43.9	20.4	79	88.9	40.3	119	134.0	60.6	159	179.0	81.2
40	45.0	20.9	80	90.1	40.8	120	135.1	61.1	160	180.1	81.7
41	46.2	21.4	81	91.2	41.3	121	136.2	61.6	161	181.3	82.2
42	47.3	21.9	82	92.3	41.8	122	137.4	62.1	162	182.4	82.7
43	48.4	22.4	83	93.4	42.3	123	138.5	62.6	163	183.5	83.3
44	49.5	22.9	84	94.6	42.8	124	139.6	63.1	164	184.6	83.8
45	50.7	23.4	85	95.7	43.4	125	140.7	63.7	165	185.8	84.3
46	51.8	23.9	86	96.8	43.9	126	141.9	64.2	166	186.9	84.8
47	52.9	24.4	87	97.9	44.4	127	143.0	64.7	167	188.0	85.3
48	54.0	24.9	88	99.1	44.9	128	144.1	65.2	168	189.1	85.9
49	55.2	25.4	89	100.2	45.4	129	145.2	65.7	169	190.3	86.4
50	56.3	25.9	90	101.3	45.9	130	146.4	66.2	170	191.4	86.9

\* See "Handbook," page 403.

## SUGAR TABLES

31

TABLE 10. (Continued.)

Copper (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
171	192.5	87.4	216	243.2	111.1	261	293.8	135.1	306	344.5	159.8
172	193.6	87.9	217	244.3	111.6	262	295.0	135.7	307	345.6	160.4
173	194.8	88.5	218	245.4	112.1	263	296.1	136.2	308	346.8	160.9
174	195.9	89.0	219	246.6	112.7	264	297.2	136.8	309	347.9	161.5
175	197.0	89.5	220	247.7	113.2	265	298.3	137.3	310	349.0	162.0
176	198.1	90.0	221	248.7	113.7	266	299.5	137.8	311	350.1	162.6
177	199.3	90.5	222	249.9	114.3	267	300.6	138.4	312	351.3	163.1
178	200.4	91.1	223	251.0	114.8	268	301.7	138.9	313	352.4	163.7
179	201.5	91.6	224	252.4	115.3	269	302.8	139.5	314	353.5	164.2
180	202.6	92.1	225	253.3	115.9	270	304.0	140.0	315	354.6	164.8
181	203.8	92.6	226	254.4	116.4	271	305.1	140.6	316	355.8	165.3
182	204.9	93.1	227	255.6	116.9	272	306.2	141.1	317	356.9	165.9
183	206.0	93.7	228	256.7	117.4	273	307.3	141.7	318	358.0	166.4
184	207.1	94.2	229	257.8	118.0	274	308.5	142.2	319	359.1	167.0
185	208.3	94.7	230	258.9	118.5	275	309.6	142.8	320	360.3	167.5
186	209.4	95.2	231	260.1	119.0	276	310.7	143.3	321	361.4	168.1
187	210.5	95.7	232	261.2	119.6	277	311.9	143.9	322	362.5	168.6
188	211.7	96.3	233	262.3	120.1	278	313.0	144.4	323	363.7	169.2
189	212.8	96.8	234	263.4	120.7	279	314.1	145.0	324	364.8	169.7
190	213.9	97.3	235	264.6	121.2	280	315.2	145.5	325	365.9	170.3
191	215.0	97.8	236	265.7	121.7	281	316.4	146.1	326	367.0	170.9
192	216.2	98.4	237	266.8	122.3	282	317.5	146.6	327	368.2	171.4
193	217.3	98.9	238	268.0	122.8	283	318.6	147.2	328	369.3	172.0
194	218.4	99.4	239	269.1	123.4	284	319.7	147.7	329	370.4	172.5
195	219.5	100.0	240	270.2	123.9	285	320.9	148.3	330	371.5	173.1
196	220.7	100.5	241	271.3	124.4	286	322.0	148.8	331	372.7	173.7
197	221.8	101.0	242	272.5	125.0	287	323.1	149.4	332	373.8	174.2
198	222.9	101.5	243	273.6	125.5	288	324.2	149.9	333	374.9	174.8
199	224.0	102.0	244	274.7	126.0	289	325.4	150.5	334	376.0	175.3
200	225.2	102.6	245	275.8	126.6	290	326.5	151.0	335	377.2	175.9
201	226.3	103.1	246	277.0	127.1	291	327.4	151.6	336	378.3	176.5
202	227.4	103.7	247	278.1	127.6	292	328.7	152.1	337	379.4	177.0
203	228.5	104.2	248	279.2	128.1	293	329.9	152.7	338	380.5	177.6
204	229.7	104.7	249	280.3	128.7	294	331.0	153.2	339	381.7	178.1
205	230.8	105.3	250	281.5	129.2	295	332.1	153.8	340	382.8	178.7
206	231.9	105.8	251	282.6	129.7	296	333.3	154.3	341	383.9	179.3
207	233.0	106.3	252	283.7	130.3	297	334.4	154.9	342	385.0	179.8
208	234.2	106.8	253	284.8	130.8	298	335.5	155.4	343	386.2	180.4
209	235.3	107.4	254	286.0	131.4	299	336.6	156.0	344	387.3	180.9
210	236.4	107.9	255	287.1	131.9	300	337.8	156.5	345	388.4	181.5
211	237.6	108.4	256	288.2	132.4	301	338.9	157.1	346	389.6	182.1
212	238.7	109.0	257	289.3	133.0	302	340.0	157.6	347	390.7	182.6
213	239.8	109.5	258	290.5	133.5	303	341.1	158.2	348	391.8	183.2
214	240.9	110.0	259	291.6	134.1	304	342.3	158.7	349	392.9	183.7
215	242.1	110.6	260	292.7	134.6	305	343.4	159.3	350	394.0	184.3



TABLE\* 11.  
 PFLÜGERS TABLE FOR DETERMINING GLUCOSE.

Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
12	32.8	36.8	64	139.4	157.0	116	244.0	274.7
13	34.9	39.2	65	141.4	159.3	117	246.0	276.9
14	37.0	41.6	66	143.4	161.6	118	248.0	279.2
15	39.1	43.9	67	145.5	163.9	119	250.0	281.4
16	41.2	46.3	68	147.5	166.2	120	252.0	283.6
17	43.3	48.7	69	149.6	168.5	121	253.9	285.9
18	45.4	51.0	70	151.6	170.8	122	255.9	288.1
19	47.5	53.4	71	153.6	173.0	123	257.8	290.3
20	49.6	55.8	72	155.7	175.3	124	259.8	292.6
21	51.7	58.1	73	157.7	177.6	125	261.8	294.8
22	53.8	60.5	74	159.8	179.9	126	263.7	296.9
23	55.9	62.9	75	161.8	182.2	127	265.6	299.0
24	58.0	65.2	76	163.8	184.5	128	267.5	301.2
25	60.1	67.6	77	165.8	186.7	129	269.3	303.3
26	62.1	69.9	78	167.9	189.0	130	271.2	305.4
27	64.2	72.2	79	169.9	191.3	131	273.1	307.5
28	66.2	74.5	80	171.9	193.6	132	275.0	309.6
29	68.2	76.8	81	173.9	195.8	133	276.9	311.8
30	70.2	79.1	82	175.9	198.1	134	278.8	313.9
31	72.3	81.3	83	178.0	200.4	135	280.6	316.0
32	74.3	83.6	84	180.0	202.6	136	282.5	318.1
33	76.3	85.9	85	182.0	204.9	137	284.4	320.2
34	78.4	88.2	86	184.0	207.2	138	286.3	322.4
35	80.4	90.5	87	186.0	209.5	139	288.2	324.5
36	82.4	92.8	88	188.1	211.7	140	290.1	326.6
37	84.4	95.1	89	190.1	214.0	141	291.9	328.7
38	86.5	97.4	90	192.1	216.3	142	293.8	330.8
39	88.5	99.7	91	194.1	218.6	143	295.7	333.0
40	90.5	101.9	92	196.1	220.8	144	297.6	335.1
41	92.6	104.2	93	198.2	223.1	145	299.5	337.2
42	94.6	106.5	94	200.2	225.4	146	301.4	339.3
43	96.6	108.8	95	202.2	227.6	147	303.2	341.4
44	98.6	111.1	96	204.2	229.9	148	305.1	343.6
45	100.7	113.4	97	206.2	232.2	149	307.0	345.7
46	102.7	115.7	98	208.3	234.5	150	308.9	347.8
47	104.7	118.0	99	210.3	236.7	151	310.7	349.8
48	106.7	120.2	100	212.3	239.0	152	312.4	351.8
49	108.8	122.5	101	214.3	241.2	153	314.2	353.8
50	110.8	124.8	102	216.3	243.5	154	315.9	355.7
51	112.8	127.1	103	218.2	245.7	155	317.7	357.7
52	114.9	129.4	104	220.2	247.9	156	319.5	359.7
53	116.9	131.7	105	222.2	250.2	157	321.2	361.7
54	119.0	134.0	106	224.2	252.4	158	323.0	363.7
55	121.0	136.3	107	226.2	254.6	159	324.7	365.7
56	123.0	138.6	108	228.1	256.8	160	326.5	367.7
57	125.1	140.9	109	230.1	259.1	161	328.3	369.6
58	127.1	143.2	110	232.1	261.3	162	330.0	371.6
59	129.2	145.5	111	234.1	263.6	163	331.8	373.6
60	131.2	147.8	112	236.1	265.8	164	333.5	375.6
61	133.2	150.1	113	238.0	268.0	165	335.3	377.6
62	135.3	152.4	114	240.0	270.2	166	337.1	379.6
63	137.3	154.7	115	242.0	272.5	167	338.8	381.6

\* See "Handbook," page 419.\*

## SUGAR TABLES

TABLE 11. (Concluded.)

Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).	Glucose.	Copper. (Cu).	Cuprous oxide. (Cu <sub>2</sub> O).
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
168	340.6	383.5	196	337.8	436.8	224	432.2	487.0
169	342.3	385.5	197	339.5	438.7	225	433.8	488.8
170	344.1	387.5	198	391.2	440.6	226	435.3	490.4
171	345.9	389.5	199	392.8	442.4	227	436.7	492.1
172	347.6	391.5	200	394.5	444.3	228	438.1	493.7
173	349.4	393.5	201	396.1	446.1	229	439.6	495.3
174	351.1	395.5	202	397.6	447.9	230	441.1	497.0
175	352.9	397.5	203	399.2	449.6	231	442.6	498.6
176	354.6	399.3	204	400.8	451.4	232	444.0	500.3
177	356.2	401.2	205	402.4	453.2	233	445.5	501.9
178	357.9	403.1	206	403.9	455.0	234	446.9	503.5
179	359.6	404.9	207	405.5	456.8	235	448.4	505.2
180	361.2	406.8	208	407.1	458.5	236	449.9	506.8
181	362.9	408.7	209	408.6	460.3	237	451.3	508.4
182	364.5	410.6	210	410.2	462.1	238	452.8	510.1
183	366.2	412.4	211	411.8	463.9	239	454.2	511.7
184	367.9	414.3	212	413.4	465.7	240	455.7	513.3
185	369.5	416.2	213	414.9	467.4	241	457.2	515.0
186	371.2	418.1	214	416.5	469.2	242	458.6	516.6
187	372.9	419.9	215	418.1	471.0	243	460.1	518.2
188	374.5	421.8	216	419.7	472.8	244	461.5	519.9
189	376.2	423.7	217	421.2	474.6	245	463.0	521.5
190	377.9	425.6	218	422.8	476.3	246	464.5	523.6
191	379.5	427.4	219	424.4	478.1	247	465.9	524.8
192	381.2	429.3	220	425.9	479.9	248	467.4	526.4
193	382.9	431.2	221	427.5	481.7	249	468.8	528.1
194	384.5	433.1	222	429.1	483.5	250	470.3	529.7
195	386.2	434.9	223	430.7	485.2			

TABLE \* 12.

KOCH AND RUHSAM'S TABLE FOR DETERMINING GLUCOSE IN TANNING MATERIALS.

Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
1	0.4	53	22.8	105	49.5	157	75.5
2	0.8	54	23.3	106	50.0	158	76.0
3	1.2	55	23.9	107	50.5	159	76.5
4	1.6	56	24.4	108	51.0	160	77.0
5	2.0	57	24.9	109	51.6	161	77.5
6	2.5	58	25.4	110	52.1	162	78.0
7	2.9	59	25.9	111	52.6	163	78.5
8	3.3	60	26.4	112	53.1	164	79.0
9	3.7	61	26.9	113	53.6	165	79.5
10	4.1	62	27.4	114	54.1	166	80.0
11	4.5	63	28.0	115	54.6	167	80.5
12	4.9	64	28.5	116	55.1	168	81.0
13	5.3	65	29.0	117	55.7	169	81.4
14	5.7	66	29.5	118	56.2	170	81.9
15	6.1	67	30.0	119	56.7	171	82.4
16	6.5	68	30.5	120	57.2	172	82.9
17	7.0	69	31.0	121	57.7	173	83.4
18	7.4	70	31.6	122	58.2	174	83.9
19	7.8	71	32.1	123	58.7	175	84.4
20	8.2	72	32.6	124	59.2	176	84.9
21	8.6	73	33.1	125	59.7	177	85.4
22	9.0	74	33.6	126	60.2	178	85.9
23	9.4	75	34.1	127	60.7	179	86.4
24	9.9	76	34.6	128	61.2	180	86.9
25	10.3	77	35.1	129	61.7	181	87.4
26	10.7	78	35.7	130	62.2	182	87.9
27	11.1	79	36.2	131	62.6	183	88.4
28	11.6	80	36.7	132	63.1	184	88.9
29	12.0	81	37.2	133	63.6	185	89.4
30	12.4	82	37.7	134	64.1	186	89.9
31	12.9	83	38.2	135	64.6	187	90.4
32	13.3	84	38.7	136	65.1	188	90.9
33	13.7	85	39.2	137	65.6	189	91.3
34	14.1	86	39.8	138	66.1	190	91.8
35	14.6	87	40.3	139	66.6	191	92.3
36	15.0	88	40.8	140	67.1	192	92.8
37	15.4	89	41.2	141	67.6	193	93.3
38	15.9	90	41.8	142	68.1	194	93.8
39	16.3	91	42.3	143	68.6	195	94.3
40	16.7	92	42.8	144	69.1	196	94.8
41	17.2	93	43.3	145	69.6	197	95.3
42	17.6	94	43.9	146	70.1	198	95.8
43	18.0	95	44.4	147	70.6	199	96.3
44	18.4	96	44.9	148	71.1	200	96.8
45	18.9	97	45.4	149	71.5	201	97.3
46	19.3	98	45.9	150	72.0	202	97.8
47	19.7	99	46.4	151	72.5	203	98.3
48	20.2	100	46.9	152	73.0	204	98.8
49	20.7	101	47.5	153	73.5	205	99.3
50	21.3	102	48.0	154	74.0	206	99.8
51	21.8	103	48.5	155	74.5	207	100.3
52	22.3	104	49.0	156	75.0	208	100.8

\* See "Handbook," page 420.

## SUGAR TABLES

TABLE 12. (Continued.)

Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
209	101.4	263	129.5	317	158.1	371	188.3
<b>210</b>	101.9	264	130.1	318	158.7	372	188.8
211	102.4	265	130.6	319	159.2	373	189.4
212	102.9	266	131.1	<b>320</b>	159.8	374	190.0
213	103.5	267	131.6	321	160.3	375	190.6
214	104.0	268	132.2	322	160.9	376	191.1
215	104.5	269	132.7	323	161.4	377	191.7
216	105.0	<b>270</b>	133.2	324	162.0	378	192.3
217	105.5	271	133.7	325	162.5	379	192.8
218	106.0	272	134.2	326	163.0	<b>380</b>	193.4
219	106.6	273	134.7	327	163.6	381	194.0
<b>220</b>	107.1	274	135.5	328	164.1	382	194.6
221	107.6	275	135.8	329	164.7	383	195.2
222	108.1	276	136.3	<b>330</b>	165.2	384	195.7
223	108.7	277	136.8	331	165.8	385	196.3
224	109.2	278	137.4	332	166.3	386	196.9
225	109.7	279	137.9	333	166.9	387	197.5
226	110.2	<b>280</b>	138.4	334	167.4	388	198.0
227	110.7	281	139.0	335	167.9	389	198.6
228	111.2	282	139.5	336	168.4	<b>390</b>	199.2
229	111.8	283	140.0	337	169.0	391	199.8
<b>230</b>	112.3	284	140.5	338	169.5	392	200.3
231	112.8	285	141.1	339	170.1	393	200.9
232	113.3	286	141.6	<b>340</b>	170.6	394	201.5
233	113.8	287	142.1	341	171.2	395	202.1
234	114.4	288	142.6	342	171.7	396	202.7
235	114.9	289	143.2	343	172.2	397	203.3
236	115.4	<b>290</b>	143.7	344	172.8	398	203.8
237	115.9	291	144.2	345	173.3	399	204.4
238	116.4	292	144.7	346	173.9	<b>400</b>	205.0
239	117.0	293	145.3	347	174.5	401	205.6
<b>240</b>	117.5	294	145.8	348	175.0	402	206.2
241	118.0	295	146.3	349	175.6	403	206.8
242	118.5	296	146.9	<b>350</b>	176.2	404	207.3
243	119.0	297	147.4	351	176.8	405	207.9
244	119.5	298	147.9	352	177.3	406	208.5
245	120.1	299	148.4	353	177.9	407	209.1
246	120.6	<b>300</b>	149.0	354	178.5	408	209.7
247	121.1	301	149.5	355	179.1	409	210.3
248	121.6	302	150.1	356	179.6	<b>410</b>	210.8
249	122.1	303	150.6	357	180.2	411	211.4
<b>250</b>	122.7	304	151.1	358	180.8	412	212.0
251	123.2	305	151.7	359	181.4	413	212.6
252	123.7	306	152.2	<b>360</b>	181.9	414	213.2
253	124.2	307	152.8	361	182.5	415	213.8
254	124.8	308	153.3	362	183.1	416	214.4
255	125.3	309	153.9	363	183.7	417	214.9
256	125.8	<b>310</b>	154.4	364	184.2	418	215.5
257	126.3	311	155.0	365	184.8	419	216.1
258	126.9	312	155.5	366	185.4	<b>420</b>	216.7
259	127.5	313	156.0	367	186.0	421	217.3
<b>260</b>	128.0	314	156.5	368	186.5	422	217.9
261	128.5	315	157.1	369	187.1	423	218.4
262	129.0	316	157.6	<b>370</b>	187.7	424	219.0



TABLE 12. (Concluded.)

Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.	Copper. (Cu).	Glucose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
425	219.6	438	227.8	451	236.6	464	245.3
426	220.2	439	228.5	452	237.2	465	246.0
427	220.8	<b>440</b>	229.1	453	237.9	466	246.7
428	221.4	441	229.8	454	238.6	467	247.4
429	221.9	442	230.5	455	239.3	468	248.0
<b>430</b>	222.5	443	231.2	456	239.9	469	248.7
431	223.1	444	231.8	457	240.6	<b>470</b>	249.4
432	223.7	445	232.5	458	241.3	471	250.1
433	224.4	446	233.2	459	242.0	472	250.8
434	225.1	447	233.9	<b>460</b>	242.6	473	251.4
435	225.8	448	234.5	461	243.3	474	252.1
436	226.4	449	235.2	462	244.0	475	252.8
437	227.1	<b>450</b>	235.9	463	244.7	476	253.5

TABLE \* 13.  
 MEISSL'S TABLE FOR DETERMINING INVERT SUGAR.

Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
90	46.9	135	70.8	180	95.2	225	120.4
91	47.4	136	71.3	181	95.7	226	120.9
92	47.9	137	71.9	182	96.2	227	121.5
93	48.4	138	72.4	183	96.8	228	122.1
94	48.9	139	72.9	184	97.3	229	122.6
95	49.5	140	73.5	185	97.8	230	123.2
96	50.0	141	74.0	186	98.4	231	123.8
97	50.5	142	74.5	187	99.0	232	124.3
98	51.1	143	75.1	188	99.5	233	124.9
99	51.6	144	75.6	189	100.1	234	125.5
100	52.1	145	76.1	190	100.6	235	126.0
101	52.7	146	76.7	191	101.2	236	126.6
102	53.2	147	77.2	192	101.7	237	127.2
103	53.7	148	77.8	193	102.3	238	127.8
104	54.3	149	78.3	194	102.9	239	128.3
105	54.8	150	78.9	195	103.4	240	128.9
106	55.3	151	79.4	196	104.0	241	129.5
107	55.9	152	80.0	197	104.6	242	130.0
108	56.4	153	80.5	198	105.1	243	130.6
109	56.9	154	81.0	199	105.7	244	131.2
110	57.5	155	81.6	200	106.3	245	131.8
111	58.0	156	82.1	201	106.8	246	132.3
112	58.5	157	82.7	202	107.4	247	132.9
113	59.1	158	83.2	203	107.9	248	133.5
114	59.6	159	83.8	204	108.5	249	134.1
115	60.1	160	84.3	205	109.1	250	134.6
116	60.7	161	84.8	206	109.6	251	135.2
117	61.2	162	85.4	207	110.2	252	135.8
118	61.7	163	85.9	208	110.8	253	136.3
119	62.3	164	86.5	209	111.3	254	136.9
120	62.8	165	87.0	210	111.9	255	137.5
121	63.3	166	87.6	211	112.5	256	138.1
122	63.9	167	88.1	212	113.0	257	138.6
123	64.4	168	88.6	213	113.6	258	139.2
124	64.9	169	89.2	214	114.2	259	139.8
125	65.5	170	89.7	215	114.7	260	140.4
126	66.0	171	90.3	216	115.3	261	140.9
127	66.5	172	90.8	217	115.8	262	141.5
128	67.1	173	91.4	218	116.4	263	142.1
129	67.6	174	91.9	219	117.0	264	142.7
130	68.1	175	92.4	220	117.5	265	143.2
131	68.7	176	93.0	221	118.1	266	143.8
132	69.2	177	93.5	222	118.7	267	144.4
133	69.7	178	94.1	223	119.2	268	144.9
134	70.3	179	94.6	224	119.8	269	145.5

\* See "Handbook," page 423.

TABLE 13. (Concluded.)

Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
270	146.1	310	169.7	350	193.8	390	218.7
271	146.7	311	170.3	351	194.4	391	219.3
272	147.2	312	170.9	352	195.0	392	219.9
273	147.8	313	171.5	353	195.6	393	220.5
274	148.4	314	172.1	354	196.2	394	221.2
275	149.0	315	172.7	355	196.8	395	221.8
276	149.5	316	173.3	356	197.4	396	222.4
277	150.1	317	173.9	357	198.0	397	223.1
278	150.7	318	174.5	358	198.6	398	223.7
279	151.3	319	175.1	359	199.2	399	224.3
280	151.9	320	175.6	360	199.8	400	224.9
281	152.5	321	176.2	361	200.4	401	225.7
282	153.1	322	176.8	362	201.1	402	226.4
283	153.7	323	177.4	363	201.7	403	227.1
284	154.3	324	178.0	364	202.3	404	227.8
285	154.9	325	178.6	365	203.0	405	228.6
286	155.5	326	179.2	366	203.6	406	229.3
287	156.1	327	179.8	367	204.2	407	230.0
288	156.7	328	180.4	368	204.8	408	230.7
289	157.2	329	181.0	369	205.5	409	231.4
290	157.8	330	181.6	370	206.1	410	232.1
291	158.4	331	182.2	371	206.7	411	232.8
292	159.0	332	182.8	372	207.3	412	233.5
293	159.6	333	183.5	373	208.0	413	234.3
294	160.2	334	184.1	374	208.6	414	235.0
295	160.8	335	184.7	375	209.2	415	235.7
296	161.4	336	185.4	376	209.9	416	236.4
297	162.0	337	186.0	377	210.5	417	237.1
298	162.6	338	186.6	378	211.1	418	237.8
299	163.2	339	187.2	379	211.7	419	238.5
300	163.8	340	187.8	380	212.4	420	239.2
301	164.4	341	188.4	381	213.0	421	239.9
302	165.0	342	189.0	382	213.6	422	240.6
303	165.6	343	189.6	383	214.3	423	241.3
304	166.2	344	190.2	384	214.9	424	242.0
305	166.8	345	190.8	385	215.5	425	242.7
306	167.3	346	191.4	386	216.1	426	243.4
307	167.9	347	192.0	387	216.8	427	244.1
308	168.5	348	192.6	388	217.4	428	244.9
309	169.1	349	193.2	389	218.0	429	245.6
						430	246.3

## SUGAR TABLES

 TABLE \* 14.  
 WEIN'S TABLE FOR DETERMINING MALTOSE.

Cop- per (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
31	34.9	26.1	76	85.6	65.4	121	136.2	105.3	166	186.9	145.8			
32	36.0	27.0	77	86.7	66.2	122	137.4	106.2	167	188.0	146.7			
33	37.2	27.9	78	87.8	67.1	123	138.5	107.1	168	189.1	147.6			
34	38.3	28.7	79	88.9	68.0	124	139.6	108.0	169	190.3	148.5			
35	39.4	29.6	80	90.1	68.9	125	140.7	108.9	170	191.4	149.4			
36	40.5	30.5	81	91.2	69.7	126	141.9	109.8	171	192.5	150.3			
37	41.7	31.3	82	92.3	70.6	127	143.0	110.7	172	193.6	151.2			
38	42.8	32.2	83	93.4	71.5	128	144.1	111.6	173	194.8	152.0			
39	43.9	33.1	84	94.6	72.4	129	145.2	112.5	174	195.9	152.9			
40	45.0	33.9	85	95.7	73.2	130	146.4	113.4	175	197.0	153.8			
41	46.2	34.8	86	96.8	74.1	131	147.5	114.3	176	198.1	154.7			
42	47.3	35.7	87	97.9	75.0	132	148.6	115.2	177	199.3	155.6			
43	48.4	36.5	88	99.1	75.9	133	149.7	116.1	178	200.4	156.5			
44	49.5	37.4	89	100.2	76.8	134	150.9	117.0	179	201.5	157.4			
45	50.7	38.3	90	101.3	77.7	135	152.0	117.9	180	202.6	158.3			
46	51.8	39.1	91	102.4	78.6	136	153.1	118.8	181	203.8	159.2			
47	52.9	40.0	92	103.6	79.5	137	154.2	119.7	182	204.9	160.1			
48	54.0	40.9	93	104.7	80.3	138	155.4	120.6	183	206.0	160.9			
49	55.2	41.8	94	105.8	81.2	139	156.5	121.5	184	207.1	161.8			
50	56.3	42.6	95	107.0	82.1	140	157.6	122.4	185	208.3	162.7			
51	57.4	43.5	96	108.1	83.0	141	158.7	123.3	186	209.4	163.6			
52	58.5	44.4	97	109.2	83.9	142	159.9	124.2	187	210.5	164.5			
53	59.7	45.2	98	110.3	84.8	143	161.0	125.1	188	211.7	165.4			
54	60.8	46.1	99	111.5	85.7	144	162.1	126.0	189	212.8	166.3			
55	61.9	47.0	100	112.6	86.6	145	163.2	126.9	190	213.9	167.2			
56	63.0	47.8	101	113.7	87.5	146	164.4	127.8	191	215.0	168.1			
57	64.2	48.7	102	114.8	88.4	147	165.5	128.7	192	216.2	169.0			
58	65.3	49.6	103	116.0	89.2	148	166.6	129.6	193	217.3	169.8			
59	66.4	50.4	104	117.1	90.1	149	167.7	130.5	194	218.4	170.7			
60	67.6	51.3	105	118.2	91.0	150	168.9	131.4	195	219.5	171.6			
61	68.7	52.2	106	119.3	91.9	151	170.0	132.3	196	220.7	172.5			
62	69.8	53.1	107	120.5	92.8	152	171.1	133.2	197	221.8	173.4			
63	70.9	53.9	108	121.6	93.7	153	172.3	134.1	198	222.9	174.3			
64	72.1	54.8	109	122.7	94.6	154	173.4	135.0	199	224.0	175.2			
65	73.2	55.7	110	123.8	95.5	155	174.5	135.9	200	225.2	176.1			
66	74.3	56.6	111	125.0	96.4	156	175.6	136.8	201	226.3	177.0			
67	75.4	57.4	112	126.1	97.3	157	176.8	137.7	202	227.4	177.9			
68	76.6	58.3	113	127.2	98.1	158	177.9	138.6	203	228.5	178.7			
69	77.7	59.2	114	128.3	99.0	159	179.0	139.5	204	229.7	179.6			
70	78.8	60.1	115	129.6	99.9	160	180.1	140.4	205	230.8	180.5			
71	79.9	61.0	116	130.6	100.8	161	181.3	141.3	206	231.9	181.4			
72	81.1	61.8	117	131.7	101.7	162	182.4	142.2	207	233.0	182.3			
73	82.2	62.7	118	132.8	102.6	163	183.5	143.1	208	234.2	183.2			
74	83.3	63.6	119	134.0	103.5	164	184.6	144.0	209	235.3	184.1			
75	84.4	64.5	120	135.1	104.4	165	185.8	144.9	210	236.4	185.0			

\* See "Handbook," page 423.

TABLE 14. (Concluded.)

Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.	Copper (Cu).	Cu- prous oxide (Cu <sub>2</sub> O).	Mal- tose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
211	237.6	185.9	236	265.7	208.3	261	293.8	230.7	286	322.0	253.1
212	238.7	186.8	237	266.8	209.1	262	295.0	231.6	287	323.1	254.0
213	239.8	187.7	238	268.0	210.0	263	296.1	232.5	288	324.2	254.9
214	240.9	188.6	239	269.1	210.9	264	297.2	233.4	289	325.4	255.8
215	242.1	189.5	240	270.2	211.8	265	298.3	234.3	290	326.5	256.6
216	243.2	190.4	241	271.3	212.7	266	299.5	235.2	291	327.4	257.5
217	244.3	191.2	242	272.5	213.6	267	300.6	236.1	292	328.7	258.4
218	245.4	192.1	243	273.6	214.5	268	301.7	237.0	293	329.9	259.3
219	246.6	193.0	244	274.7	215.4	269	302.8	237.9	294	331.0	260.2
220	247.7	193.9	245	275.8	216.3	270	304.0	238.8	295	332.1	261.1
221	248.7	194.8	246	277.0	217.2	271	305.1	239.7	296	333.2	262.0
222	249.9	195.7	247	278.1	218.1	272	306.2	240.6	297	334.4	262.8
223	251.0	196.6	248	279.2	219.0	273	307.3	241.5	298	335.5	263.7
224	252.4	197.5	249	280.3	219.9	274	308.5	242.4	299	336.6	264.6
225	253.3	198.4	250	281.5	220.8	275	309.6	243.3	300	337.8	265.5
226	254.4	199.3	251	282.6	221.7	276	310.7	244.2			
227	255.6	200.2	252	283.7	222.6	277	311.9	245.1			
228	256.7	201.1	253	284.8	223.5	278	313.0	246.0			
229	257.8	202.0	254	286.0	224.4	279	314.1	246.9			
230	258.9	202.9	255	287.1	225.3	280	315.2	247.8			
231	260.1	203.8	256	288.2	226.2	281	316.4	248.7			
232	261.2	204.7	257	289.3	227.1	282	317.5	249.6			
233	262.3	205.6	258	290.5	228.0	283	318.6	250.4			
234	263.4	206.5	259	291.6	228.9	284	319.7	251.3			
235	264.6	207.4	260	292.7	229.8	285	320.9	252.2			

TABLE\* 15.  
 SOXHLET AND WEIN'S TABLE FOR DETERMINING LACTOSE.

Copper. (Cu).	Lactose.	Copper. (Cu).	Lactose.	Copper. (Cu).	Lactose.	Copper. (Cu).	Lactose.	Copper. (Cu).	Lactose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
100	71.6	145	105.1	190	139.3	235	173.1	280	208.3
101	72.4	146	105.8	191	140.0	236	173.9	281	209.1
102	73.1	147	106.6	192	140.8	237	174.6	282	209.9
103	73.8	148	107.3	193	141.6	238	175.4	283	210.7
104	74.6	149	108.1	194	142.3	239	176.2	284	211.5
105	75.3	150	108.8	195	143.1	240	176.9	285	212.3
106	76.1	151	109.6	196	143.9	241	177.7	286	213.1
107	76.8	152	110.3	197	144.6	242	178.5	287	213.9
108	77.6	153	111.1	198	145.4	243	179.3	288	214.7
109	78.3	154	111.9	199	146.2	244	180.1	289	215.5
110	79.0	155	112.6	200	146.9	245	180.8	290	216.3
111	79.8	156	113.4	201	147.7	246	181.6	291	217.1
112	80.5	157	114.1	202	148.5	247	182.4	292	217.9
113	81.3	158	114.9	203	149.2	248	183.2	293	218.7
114	82.0	159	115.6	204	150.0	249	184.0	294	219.5
115	82.7	160	116.4	205	150.7	250	184.8	295	220.3
116	83.5	161	117.1	206	151.5	251	185.5	296	221.1
117	84.2	162	117.9	207	152.2	252	186.3	297	221.9
118	85.0	163	118.6	208	153.0	253	187.1	298	222.7
119	85.7	164	119.4	209	153.7	254	187.9	299	223.5
120	86.4	165	120.2	210	154.5	255	188.7	300	224.4
121	87.2	166	120.9	211	155.2	256	189.4	301	225.2
122	87.9	167	121.7	212	156.0	257	190.2	302	225.9
123	88.7	168	122.4	213	156.7	258	191.0	303	226.7
124	89.4	169	123.2	214	157.5	259	191.8	304	227.5
125	90.1	170	123.9	215	158.2	260	192.5	305	228.3
126	90.9	171	124.7	216	159.0	261	193.3	306	229.1
127	91.6	172	125.5	217	159.7	262	194.1	307	229.8
128	92.4	173	126.2	218	160.4	263	194.9	308	230.6
129	93.1	174	127.0	219	161.2	264	195.7	309	231.4
130	93.8	175	127.8	220	161.9	265	196.4	310	232.2
131	94.6	176	128.5	221	162.7	266	197.2	311	232.9
132	95.3	177	129.3	222	163.4	267	198.0	312	233.7
133	96.1	178	130.1	223	164.2	268	198.8	313	234.5
134	96.9	179	130.8	224	164.9	269	199.5	314	235.3
135	97.6	180	131.6	225	165.7	270	200.3	315	236.1
136	98.3	181	132.4	226	166.4	271	201.1	316	236.8
137	99.1	182	133.1	227	167.2	272	201.9	317	237.6
138	99.8	183	133.9	228	167.9	273	202.7	318	238.4
139	100.5	184	134.7	229	168.6	274	203.5	319	239.2
140	101.3	185	135.4	230	169.4	275	204.3	320	240.0
141	102.0	186	136.2	231	170.1	276	205.1	321	240.7
142	102.8	187	137.0	232	170.9	277	205.9	322	241.5
143	103.5	188	137.7	233	171.6	278	206.7	323	242.3
144	104.3	189	138.5	234	172.4	279	207.5	324	243.1

\* See "Handbook," page 424.



## SUGAR TABLES

TABLE\* 16.

WOY'S TABLE FOR DETERMINING GLUCOSE, FRUCTOSE, INVERT SUGAR,  
LACTOSE AND MALTOSE BY KJELDAHL'S METHOD.

15 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
5	4.0	1.7	2.1	2.0	2.0	2.8	3.0
6	4.8	2.1	2.5	2.4	2.4	3.3	3.6
7	5.6	2.5	2.9	2.8	2.8	3.8	4.2
8	6.4	2.9	3.3	3.2	3.2	4.3	4.8
9	7.2	3.2	3.7	3.6	3.6	4.8	5.4
10	8.0	3.5	4.1	4.0	4.0	5.4	6.0
11	8.8	3.9	4.5	4.4	4.4	5.9	6.6
12	9.6	4.2	5.0	4.9	4.9	6.4	7.2
13	10.4	4.6	5.4	5.3	5.2	7.0	7.8
14	11.2	5.0	5.8	5.7	5.7	7.5	8.4
15	12.0	5.4	6.2	6.1	6.1	8.1	9.0
16	12.8	5.7	6.6	6.4	6.5	8.7	9.6
17	13.6	6.1	7.0	6.8	6.9	9.2	10.2
18	14.4	6.5	7.4	7.2	7.3	9.8	10.8
19	15.2	6.8	7.9	7.6	7.7	10.3	11.4
20	16.0	7.2	8.3	8.0	8.1	10.8	12.0
21	16.8	7.6	8.7	8.4	8.6	11.4	12.6
22	17.6	7.9	9.2	8.8	9.0	11.9	13.2
23	18.4	8.3	9.6	9.2	9.4	12.5	13.8
24	19.2	8.7	10.0	9.6	9.8	13.0	14.5
25	20.0	9.0	10.4	10.0	10.2	13.6	15.1
26	20.8	9.4	10.8	10.4	10.6	14.2	15.7
27	21.6	9.8	11.3	10.8	11.1	14.7	16.3
28	22.4	10.1	11.7	11.2	11.5	15.2	16.9
29	23.2	10.5	12.1	11.6	11.9	15.8	17.5
30	24.0	10.9	12.5	12.0	12.3	16.4	18.1
31	24.8	11.2	13.0	12.4	12.8	17.0	18.8
32	25.6	11.6	13.4	12.8	13.2	17.5	19.4
33	26.4	12.0	13.8	13.2	13.6	18.0	20.0
34	27.2	12.4	14.2	13.6	14.0	18.6	20.6
35	28.0	12.8	14.7	14.0	14.4	19.1	21.2
36	28.7	13.2	15.1	14.4	14.9	19.7	21.8
37	29.5	13.5	15.5	14.8	15.3	20.2	22.4
38	30.3	13.9	16.0	15.2	15.7	20.7	23.1
39	31.1	14.3	16.4	15.5	16.1	21.3	23.7
40	31.9	14.6	16.8	16.0	16.5	21.8	24.3
41	32.7	15.0	17.3	16.4	16.9	22.4	24.9
42	33.5	15.4	17.7	16.8	17.4	22.9	25.5
43	34.3	15.8	18.1	17.2	17.8	23.5	26.1
44	35.1	16.1	18.5	17.6	18.2	24.1	26.7
45	35.9	16.5	18.9	18.0	18.6	24.7	27.4
46	36.7	17.0	19.4	18.5	19.1	25.3	28.1
47	37.5	17.4	19.8	18.9	19.6	25.9	28.7
48	38.3	17.8	20.3	19.3	20.0	26.4	29.3
49	39.1	18.2	20.9	19.7	20.5	27.0	30.0

\* See "Handbook," page 424.



## SUGAR TABLES

45

TABLE 16. (Continued.)  
15 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert. sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
50	39.9	18.6	21.2	20.2	20.9	27.6	30.7
51	40.7	19.0	21.6	20.6	21.3	28.1	31.3
52	41.5	19.4	22.0	21.0	21.8	28.7	31.9
53	42.3	19.8	22.5	21.4	22.2	29.3	32.5
54	43.1	20.2	22.9	21.8	22.7	29.9	33.2
55	43.9	20.6	23.4	22.3	23.2	30.5	33.9
56	44.7	21.0	23.8	22.7	23.6	31.1	34.5
57	45.5	21.4	24.2	23.1	24.0	31.7	35.1
58	46.3	21.8	24.7	23.5	24.5	32.2	35.7
59	47.1	22.2	25.2	24.0	24.9	32.8	36.4
60	47.9	22.7	25.6	24.4	25.4	33.4	37.1
61	48.7	23.1	26.0	24.9	25.9	34.0	37.7
62	49.5	23.5	26.5	25.3	26.3	34.6	38.3
63	50.3	23.9	27.0	25.7	26.8	35.1	39.0
64	51.1	24.3	27.4	26.1	27.2	35.7	39.6
65	51.9	24.7	27.9	26.6	27.7	36.4	40.3
66	52.7	25.1	28.3	27.0	28.1	36.9	40.9
67	53.5	25.5	28.7	27.4	28.6	37.5	41.5
68	54.3	25.9	29.1	27.8	29.0	38.1	42.2
69	55.1	26.3	29.6	28.2	29.5	38.7	42.9
70	55.9	26.8	30.1	28.7	30.0	39.3	43.6
71	56.7	27.2	30.5	29.1	30.4	39.8	44.2
72	57.5	27.6	31.0	29.6	30.9	40.4	44.8
73	58.3	28.0	31.4	30.0	31.4	40.9	45.4
74	59.1	28.5	31.9	30.5	31.8	41.6	46.1
75	59.9	28.9	32.4	30.9	32.3	42.2	46.9
76	60.7	29.3	32.9	31.3	32.7	42.8	47.5
77	61.5	29.7	33.2	31.7	33.2	43.4	48.1
78	62.3	30.2	33.7	32.2	33.7	43.9	48.7
79	63.1	30.6	34.2	32.7	34.2	44.6	49.4
80	63.9	31.0	34.7	33.1	34.7	45.2	50.2
81	64.7	31.4	35.1	33.5	35.1	45.8	50.8
82	65.5	31.9	35.5	34.0	35.6	46.4	51.4
83	66.3	32.3	36.0	34.5	36.1	47.0	52.1
84	67.1	32.8	36.5	34.9	36.6	47.6	52.8
85	67.9	33.2	37.0	35.4	37.1	48.2	53.5
86	68.7	33.6	37.4	35.8	37.5	48.8	54.1
87	69.5	34.1	37.9	36.3	38.0	49.4	54.8
88	70.3	34.5	38.3	36.7	38.5	50.0	55.4
89	71.1	35.0	38.8	37.2	39.0	50.6	56.1
90	71.9	35.4	39.3	37.6	39.5	51.3	56.9
91	72.7	35.8	39.7	38.1	39.9	51.8	57.5
92	73.5	36.3	40.2	38.5	40.4	52.4	58.2
93	74.3	36.8	40.7	39.0	40.9	53.0	58.8
94	75.1	37.3	41.2	39.5	41.4	53.7	59.5
95	75.9	37.7	41.7	39.9	42.0	54.4	60.3
96	76.7	38.1	42.0	40.3	42.4	54.9	60.9
97	77.5	38.6	42.5	40.8	42.9	55.6	61.6
98	78.3	39.1	43.0	41.3	43.4	56.1	62.4
99	79.1	39.5	43.5	41.8	43.9	56.8	63.0

## SUGAR TABLES

TABLE 16. (Continued.)  
15 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
100	79.9	40.0	44.0	42.3	44.4	57.5	63.8
101	80.7	40.4	44.4	42.7	44.8	58.1	64.4
102	81.5	40.9	44.9	43.1	45.3	58.7	65.0
103	82.3	41.4	45.4	43.7	45.8	59.3	65.7
104	83.1	41.9	45.9	44.2	46.5	60.0	66.5
105	83.9	42.4	46.4	44.7	47.0	60.7	67.2
106	84.7	42.8	46.8	45.1	47.4	61.3	67.8
107	85.5	43.3	47.3	45.6	47.8	61.9	68.5
108	86.3	43.8	47.8	46.1	48.5	62.4	69.2
109	87.1	44.3	48.3	46.6	49.0	63.1	69.9
110	87.8	44.7	48.7	47.0	49.5	63.6	70.5
111	88.6	45.1	49.2	47.5	50.0	64.3	71.2
112	89.4	45.6	49.7	48.0	50.5	65.0	72.0
113	90.2	46.1	50.1	48.4	50.9	65.6	72.6
114	91.0	46.6	50.6	48.9	51.5	66.2	73.3
115	91.8	47.1	51.2	49.4	52.1	66.8	74.0
116	92.6	47.6	51.7	49.9	52.6	67.5	74.7
117	93.4	48.1	52.1	50.4	53.1	68.1	75.5
118	94.2	48.6	52.6	50.9	53.6	68.8	76.2
119	95.0	49.1	53.1	51.4	54.2	69.5	76.9
120	95.8	49.6	53.6	51.9	54.7	69.1	77.6
121	96.6	50.1	54.1	52.4	55.2	70.8	78.3
122	97.4	50.6	54.6	52.9	55.7	71.4	79.0
123	98.2	51.1	55.1	53.4	56.3	72.1	79.7
124	99.0	51.6	55.6	53.9	56.8	72.7	80.4
125	99.8	52.2	56.1	54.4	57.4	73.4	81.2
126	100.6	52.7	56.6	54.9	57.9	74.0	81.8
127	101.4	53.2	57.0	55.4	58.5	74.7	82.6
128	102.2	53.7	57.5	55.9	59.0	75.4	83.4
129	103.0	54.2	58.1	56.4	59.6	76.0	84.1
130	103.8	54.8	58.6	57.0	60.2	76.7	84.9
131	104.6	55.3	59.1	57.5	60.7	77.3	85.5
132	105.4	55.8	59.6	58.0	61.3	78.0	86.3
133	106.2	56.3	60.0	58.4	61.8	78.7	87.0
134	107.0	56.9	60.6	59.0	62.4	79.3	87.7
135	107.8	57.5	61.1	59.6	63.0	79.9	88.4
136	108.6	58.0	61.6	60.1	63.5	80.6	89.0
137	109.4	58.5	62.1	60.6	64.0	81.3	89.8
138	110.2	59.0	62.6	61.1	64.5	82.0	90.6
139	111.0	59.6	63.1	61.6	65.2	82.7	91.4
140	111.8	60.2	63.7	62.2	65.8	83.3	92.1
141	112.6	60.7	64.2	62.7	66.3	84.0	92.8
142	113.4	61.3	64.7	63.3	66.9	84.7	93.6
143	114.2	61.8	65.1	63.7	67.5	85.4	94.4
144	115.0	62.4	65.7	64.3	68.1	86.1	95.1
145	115.8	63.0	66.2	64.9	68.7	86.7	95.9
146	116.6	63.5	66.7	65.4	69.2	87.4	96.6
147	117.4	64.1	67.3	66.0	69.8	88.1	97.4
148	118.2	64.7	67.8	66.5	70.4	88.8	98.1
149	119.0	65.3	68.3	67.1	71.0	89.5	98.9

TABLE 16. (Continued.)

15 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
150	119.8	65.8	68.9	67.7	71.6	90.1	99.6
151	120.6	66.5	69.4	68.2	72.1	90.8	100.4
152	121.4	67.1	70.0	68.9	72.9	91.5	101.2
153	122.2	67.6	70.4	69.3	73.4	92.3	101.9
154	123.0	68.3	70.9	69.9	74.0	93.0	102.7
155	123.8	68.9	71.5	70.5	74.7	93.7	103.4
156	124.6	69.5	72.0	71.0	75.3	94.4	104.2
157	125.4	70.1	72.6	71.6	75.9	95.1	105.0
158	126.2	70.7	73.0	72.1	76.4	95.8	105.7
159	127.0	71.3	73.6	72.7	77.1	96.5	106.5
160	127.8	72.0	74.2	73.4	77.7	97.2	107.2

30 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
50	39.9	17.7	19.8	19.1	19.8	26.6	30.8
51	40.7	18.1	20.2	19.4	20.2	27.2	31.5
52	41.5	18.5	20.6	19.8	20.7	27.8	32.1
53	42.3	18.8	21.0	20.2	21.1	28.3	32.7
54	43.1	19.2	21.4	20.6	21.5	28.9	33.4
55	43.9	19.6	21.8	21.0	21.9	29.4	34.0
56	44.7	20.0	22.2	21.4	22.3	30.0	34.7
57	45.5	20.3	22.7	21.8	22.7	30.5	35.3
58	46.3	20.7	23.1	22.1	23.1	31.0	35.8
59	47.1	21.1	23.5	22.6	23.5	31.6	36.5
60	47.9	21.5	23.9	23.0	23.9	32.1	37.1
61	48.7	21.8	24.3	23.3	24.3	32.7	37.8
62	49.5	22.2	24.7	23.7	24.7	33.3	38.4
63	50.3	22.5	25.1	24.1	25.2	33.8	38.9
64	51.1	22.9	25.5	24.5	25.6	34.3	39.6
65	51.9	23.3	25.9	24.9	26.0	34.9	40.3
66	52.7	23.7	26.3	25.3	26.4	35.5	41.0
67	53.5	24.0	26.8	25.7	26.8	36.1	41.6
68	54.3	24.4	27.2	26.1	27.2	36.6	42.2
69	55.1	24.8	27.6	26.4	27.6	37.2	42.9
70	55.9	25.2	28.0	26.9	28.1	37.7	43.5
71	56.7	25.6	28.4	27.3	28.5	38.3	44.2
72	57.5	25.9	28.8	27.6	28.9	38.9	44.8
73	58.3	26.3	29.2	28.0	29.3	39.4	45.4
74	59.1	26.7	29.6	28.4	29.6	40.0	46.1
75	59.9	27.0	30.1	28.8	30.1	40.5	46.7
76	60.7	27.4	30.5	29.2	30.5	41.1	47.3
77	61.5	27.8	30.9	29.6	30.9	41.7	48.0
78	62.3	28.2	31.3	30.0	31.4	42.2	48.6
79	63.1	28.5	31.7	30.4	31.8	42.8	49.3

## SUGAR TABLES

TABLE 16. (Continued.)  
30 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose. C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O	Maltose C <sub>12</sub> H <sub>22</sub> O <sub>11</sub>
mg.	mg.	mg.	mg.	mg.	mg.	mg.	mg.
80	63.9	28.9	32.1	30.8	32.2	43.3	49.9
81	64.7	29.3	32.5	31.2	32.6	43.9	50.6
82	65.5	29.7	32.9	31.6	33.0	44.5	51.2
83	66.3	30.1	33.4	32.0	33.5	45.0	51.8
84	67.1	30.4	33.8	32.4	33.9	45.6	52.5
85	67.9	30.8	34.2	32.8	34.3	46.1	53.1
86	68.7	31.2	34.6	33.2	34.9	46.7	53.8
87	69.5	31.6	35.0	33.6	35.1	47.3	54.4
88	70.3	32.0	35.4	34.0	35.6	47.8	55.0
89	71.1	32.3	35.9	34.4	36.0	48.4	55.7
90	71.9	32.7	36.3	34.8	36.4	48.9	56.3
91	72.7	33.1	36.7	35.2	36.8	49.5	57.0
92	73.5	33.5	37.1	35.6	37.2	50.1	57.7
93	74.3	33.9	37.6	36.0	37.7	50.6	58.3
94	75.1	34.3	38.0	36.4	38.1	51.2	59.0
95	75.9	34.6	38.4	36.8	38.5	51.7	59.6
96	76.7	35.0	38.8	37.2	38.9	52.3	60.3
97	77.5	35.4	39.3	37.6	39.4	52.9	60.9
98	78.3	35.8	39.7	38.0	39.8	53.4	61.5
99	79.1	36.2	40.1	38.4	40.2	54.0	62.2
100	79.9	36.6	40.5	38.8	40.7	54.5	62.9
101	80.7	37.0	40.9	39.2	41.1	55.1	63.6
102	81.5	37.4	41.4	39.7	41.5	55.7	64.2
103	82.3	37.7	41.8	40.2	41.9	56.2	64.8
104	83.1	38.1	42.2	40.5	42.4	56.8	65.4
105	83.9	38.5	42.7	40.9	42.8	57.4	66.1
106	84.7	38.9	43.1	41.3	43.2	58.0	66.8
107	85.5	39.3	43.5	41.7	43.6	58.6	67.5
108	86.3	39.7	44.0	42.1	44.1	59.1	68.1
109	87.1	40.1	44.4	42.5	44.5	59.7	68.8
110	87.8	40.4	44.7	42.8	44.8	60.2	69.3
111	88.6	40.7	45.2	43.2	45.3	60.8	70.0
112	89.4	41.1	45.6	43.6	45.8	61.4	70.8
113	90.2	41.5	46.0	44.0	46.1	61.9	71.4
114	91.0	41.9	46.5	44.4	46.6	62.5	72.0
115	91.8	42.3	46.9	44.9	47.0	63.1	72.7
116	92.6	42.7	47.2	45.3	47.4	63.7	73.3
117	93.4	43.1	47.7	45.7	47.9	64.3	74.0
118	94.2	43.5	48.2	46.1	48.3	64.8	74.6
119	95.0	43.9	48.6	46.5	48.7	65.4	75.3
120	95.8	44.3	49.0	46.9	49.2	66.0	75.9
121	96.6	44.7	49.5	47.4	49.6	66.5	76.7
122	97.4	45.1	49.9	47.8	50.0	67.1	77.3
123	98.2	45.5	50.3	48.2	50.5	67.7	78.0
124	99.0	45.9	50.8	48.6	50.9	68.3	78.6
125	99.8	46.3	51.2	49.0	51.4	68.9	79.3
126	100.6	46.7	51.7	49.5	51.8	69.4	80.0
127	101.4	47.1	52.1	49.9	52.2	70.0	80.6
128	102.2	47.5	52.5	50.3	52.7	70.6	81.3
129	103.0	47.9	53.0	50.7	53.1	71.2	81.9

TABLE 16. (Continued.)  
30 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert. sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
130	103.8	48.3	53.4	51.1	53.6	71.9	82.7
131	104.6	48.7	53.9	51.6	54.0	72.4	83.3
132	105.4	49.1	54.3	52.0	54.4	73.0	83.9
133	106.2	49.5	54.7	52.4	54.9	73.6	84.6
134	107.0	49.9	55.2	52.8	55.3	74.3	85.2
135	107.8	50.3	55.6	53.2	55.8	74.8	86.0
136	108.6	50.7	56.1	53.7	56.2	75.4	86.6
137	109.4	51.2	56.5	54.1	56.6	76.0	87.2
138	110.2	51.5	56.9	54.5	57.1	76.6	87.8
139	111.0	51.9	57.4	54.9	57.5	77.1	88.6
140	111.8	52.4	57.9	55.4	58.0	77.8	89.3
141	112.6	52.8	58.3	55.8	58.5	78.3	89.9
142	113.4	53.2	58.7	56.2	58.9	78.9	90.6
143	114.2	53.6	59.2	56.7	59.3	79.5	91.3
144	115.0	54.0	59.6	57.1	59.8	80.1	91.9
145	115.8	54.4	60.1	57.5	60.2	80.7	92.6
146	116.6	54.8	60.5	57.9	60.6	81.3	93.3
147	117.4	55.2	60.9	58.3	61.1	81.9	94.0
148	118.2	55.6	61.4	58.8	61.6	82.5	94.7
149	119.0	56.0	61.8	59.2	62.0	83.1	95.3
150	119.8	56.5	62.3	59.7	62.5	83.7	95.9
151	120.6	56.9	62.8	60.1	62.9	84.3	96.6
152	121.4	57.3	63.2	60.5	63.3	84.9	97.3
153	122.2	57.7	63.6	60.9	63.8	85.5	98.0
154	123.0	58.1	64.1	61.4	64.3	86.1	98.7
155	123.8	58.5	64.5	61.8	64.7	86.7	99.3
156	124.6	59.0	65.0	62.3	65.2	87.3	99.9
157	125.4	59.4	65.4	62.7	65.6	87.9	100.7
158	126.2	59.8	65.9	63.1	66.1	88.5	101.5
159	127.0	60.2	66.3	63.5	66.5	89.1	102.1
160	127.8	60.6	66.8	64.0	67.0	89.7	102.8
161	128.6	61.0	67.3	64.4	67.5	90.3	103.5
162	129.4	61.4	67.7	64.8	67.9	90.9	104.2
163	130.2	61.9	68.1	65.2	68.4	91.5	104.9
164	131.0	62.3	68.6	65.7	68.8	92.1	105.5
165	131.8	62.7	69.1	66.2	69.3	92.7	106.2
166	132.6	63.2	69.6	66.7	69.8	93.2	107.0
167	133.4	63.6	70.0	67.1	70.2	93.9	107.6
168	134.2	64.0	70.4	67.5	70.7	94.5	108.3
169	135.0	64.4	70.9	67.9	71.1	95.1	109.0
170	135.8	64.8	71.4	68.4	71.6	95.8	109.7
171	136.6	65.3	71.8	68.8	72.1	96.3	110.3
172	137.4	65.7	72.2	69.2	72.5	96.9	111.1
173	138.2	66.1	72.7	69.7	73.0	97.5	111.8
174	139.0	66.6	73.2	70.2	73.4	98.1	112.4
175	139.8	67.0	73.6	70.6	74.0	98.8	113.1
176	140.6	67.4	74.1	71.0	74.4	99.4	113.8
177	141.4	67.8	74.5	71.4	74.9	100.0	114.5
178	142.2	68.3	75.0	71.9	75.3	100.6	115.2
179	143.0	68.7	75.5	72.4	75.8	101.2	115.9

TABLE 16. (Continued.)  
30 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
180	143.8	69.1	76.0	72.8	76.3	101.8	116.5
181	144.6	69.6	76.4	73.3	76.7	102.4	117.2
182	145.4	70.0	76.8	73.7	77.1	103.0	118.0
183	146.2	70.4	77.3	74.1	77.6	103.6	118.7
184	147.0	70.9	77.8	74.6	78.1	104.2	119.3
185	147.7	71.3	78.2	75.0	78.5	104.8	119.9
186	148.5	71.7	78.7	75.5	79.0	105.4	120.7
187	149.3	72.2	79.2	76.0	79.5	105.9	121.3
188	150.1	72.6	79.7	76.4	80.0	106.6	122.0
189	150.9	73.0	80.1	76.8	80.5	107.3	122.8
190	151.7	73.4	80.5	77.2	80.9	107.9	123.4
191	152.5	73.9	81.0	77.7	81.4	108.5	124.2
192	153.3	74.3	81.5	78.2	81.8	109.0	124.8
193	154.1	74.8	82.0	78.7	82.3	109.7	125.5
194	154.9	75.2	82.5	79.1	82.8	110.3	126.2
195	155.7	75.6	82.9	79.5	83.2	111.0	126.9
196	156.5	76.1	83.4	80.0	83.7	111.6	127.7
197	157.3	76.6	83.9	80.5	84.2	112.2	128.4
198	158.1	77.0	84.4	81.0	84.7	112.8	129.1
199	158.9	77.5	84.9	81.5	85.2	113.4	129.8
200	159.7	77.9	85.3	81.9	85.6	114.1	130.5
201	160.5	78.3	85.8	82.3	86.1	114.7	131.2
202	161.3	78.8	86.3	82.8	86.6	115.3	131.9
203	162.1	79.3	86.8	83.3	87.1	116.0	132.6
204	162.9	79.7	87.3	83.8	87.6	116.5	133.3
205	163.7	80.1	87.7	84.2	88.0	117.3	134.0
206	164.5	80.6	88.2	84.7	88.5	117.9	134.8
207	165.3	81.0	88.7	85.1	89.0	118.5	135.4
208	166.1	81.5	89.2	85.6	89.5	119.1	136.1
209	166.9	82.0	89.7	86.1	90.0	119.7	136.8
210	167.7	82.4	90.1	86.5	90.5	120.4	137.5
211	168.5	82.8	90.6	87.0	91.0	121.0	138.3
212	169.3	83.3	91.1	87.5	91.5	121.6	138.9
213	170.1	83.8	91.6	88.0	92.0	122.3	139.7
214	170.9	84.2	92.1	88.4	92.5	122.9	140.3
215	171.7	84.6	92.5	88.8	92.9	123.6	141.1
216	172.5	85.1	93.0	89.3	93.4	124.2	141.9
217	173.3	85.6	93.5	89.8	93.9	124.8	142.5
218	174.1	86.1	94.0	90.3	94.4	125.5	143.3
219	174.9	86.5	94.5	90.8	94.9	126.2	144.0
220	175.7	86.9	94.9	91.2	95.3	126.9	144.7
221	176.5	87.4	95.5	91.7	95.8	127.5	145.5
222	177.3	87.9	96.0	92.2	96.4	128.1	146.1
223	178.1	88.4	96.5	92.7	96.9	128.8	146.9
224	178.9	88.8	97.0	93.2	97.4	129.4	147.6
225	179.7	89.2	97.4	93.6	97.8	130.1	148.3
226	180.5	89.7	97.9	94.1	98.3	130.7	149.1
227	181.3	90.2	98.5	94.6	98.8	131.3	149.7
228	182.1	90.7	99.0	95.1	99.4	132.0	150.5
229	182.9	91.2	99.5	95.6	99.9	132.6	151.2

TABLE 16. (Continued.)  
30 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11} + H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
230	183.7	91.6	99.9	96.0	100.3	133.3	151.9
231	184.5	92.1	100.4	96.5	100.8	133.9	152.7
232	185.3	92.6	101.0	97.1	101.3	134.6	153.3
233	186.1	93.1	101.5	97.6	101.9	135.3	154.1
234	186.9	93.5	102.0	98.1	102.4	135.9	154.8
235	187.7	93.9	102.5	98.5	102.8	136.6	155.5
236	188.5	94.5	103.0	99.0	103.3	137.2	156.3
237	189.3	94.9	103.5	99.5	103.8	137.8	156.9
238	190.1	95.4	104.0	100.0	104.4	138.5	157.7
239	190.9	95.9	104.5	100.5	104.9	139.1	158.5
240	191.7	96.3	105.0	100.9	105.3	139.8	159.2
241	192.5	96.8	105.5	101.4	105.8	140.5	160.0
242	193.3	97.3	106.0	101.9	106.4	141.1	160.6
243	194.1	97.8	106.5	102.4	106.9	141.8	161.4
244	194.9	98.3	107.1	103.0	107.4	142.5	162.1
245	195.7	98.7	107.5	103.4	107.9	143.2	162.8
246	196.5	99.2	107.9	103.9	108.4	143.8	163.6
247	197.3	99.7	108.5	104.4	108.9	144.4	164.2
248	198.1	100.2	109.0	104.9	109.5	145.1	165.1
249	198.9	100.7	109.6	105.4	110.0	145.8	165.8
250	199.7	101.1	110.0	105.8	110.5	146.5	166.5
251	200.5	101.7	110.5	106.3	110.9	147.1	167.3
252	201.3	102.2	111.0	106.9	111.5	147.7	167.9
253	202.1	102.7	111.6	107.4	112.0	148.5	168.8
254	202.9	103.2	112.1	107.9	112.6	149.1	169.5
255	203.6	103.6	112.5	108.3	113.0	149.7	170.1
256	204.4	104.0	113.0	108.8	113.5	150.4	170.9
257	205.2	104.5	113.5	109.3	114.0	151.1	171.7
258	206.0	105.0	114.1	109.8	114.5	151.7	172.4
259	206.8	105.6	114.6	110.4	115.1	152.3	173.1
260	207.6	106.1	115.1	110.9	115.6	153.0	173.8
261	208.4	106.5	115.6	111.3	116.1	153.7	174.6
262	209.2	107.0	116.1	111.8	116.6	154.4	175.4
263	210.0	107.5	116.7	112.4	117.1	155.0	176.1
264	210.8	108.1	117.2	112.9	117.7	155.7	176.8
265	211.6	108.6	117.7	113.4	118.2	156.4	177.5
266	212.4	109.0	118.2	113.9	118.8	157.1	178.4
267	213.2	109.5	118.7	114.4	119.2	157.8	179.1
268	214.0	110.1	119.2	114.9	119.8	158.4	179.8
269	214.8	110.6	119.8	115.5	120.3	159.1	180.6
270	215.6	111.1	120.3	116.0	120.8	159.8	181.3
271	216.4	111.5	120.7	116.4	121.4	160.5	182.1
272	217.2	112.1	121.3	117.0	121.9	161.2	182.9
273	218.0	112.6	121.9	117.5	122.4	161.8	183.6
274	218.8	113.2	122.4	118.1	123.0	162.5	184.4
275	219.6	113.7	122.9	118.6	123.5	163.2	185.1
276	220.4	114.1	123.4	119.0	124.1	163.9	185.9
277	221.2	114.6	124.0	119.6	124.5	164.6	186.7
278	222.0	115.2	124.6	120.2	125.1	165.2	187.4
279	222.8	115.7	125.1	120.7	125.7	165.9	188.2

TABLE 16. (Continued.)  
30 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
280	223.6	116.2	125.6	121.2	126.2	166.6	188.9
281	224.4	116.7	126.1	121.7	126.8	167.4	189.7
282	225.2	117.2	126.7	122.2	127.3	168.1	190.5
283	226.0	117.8	127.2	122.8	127.8	168.7	191.2
284	226.8	118.3	127.8	123.3	128.4	169.4	192.0
285	227.6	118.8	128.3	123.8	128.9	170.1	192.7
286	228.4	119.3	128.8	124.3	129.5	170.9	193.5
287	229.2	119.8	129.4	124.9	130.0	171.5	194.3
288	230.0	120.4	130.0	125.5	130.5	172.2	195.1
289	230.8	121.0	130.5	126.0	131.1	172.9	195.8
290	231.6	121.5	131.0	126.5	131.6	173.6	196.5
291	232.4	122.0	131.5	127.0	132.2	174.4	197.4
292	233.2	122.5	132.1	127.6	132.7	175.0	198.1
293	234.0	123.1	132.7	128.2	133.3	175.7	198.9
294	234.8	123.7	133.3	128.8	133.9	176.4	199.7
295	235.6	124.2	133.8	129.3	134.4	177.1	200.4
296	236.4	124.6	134.3	129.7	135.0	177.9	201.2
297	237.2	125.2	134.9	130.3	135.5	178.6	202.0
298	238.0	125.8	135.5	130.9	136.1	179.2	202.7
299	238.8	126.4	136.0	131.5	136.7	179.9	203.5
300	239.6	126.9	136.5	132.0	137.2	180.6	204.2
301	240.4	127.3	137.0	132.4	137.8	181.4	205.1
302	241.2	127.9	137.6	133.0	138.3	182.1	205.8
303	242.0	128.5	138.2	133.6	138.9	182.8	206.6
304	242.8	129.1	138.8	134.2	139.5	183.5	207.4
305	243.6	129.6	139.3	134.7	140.0	184.2	208.1
306	244.4	130.1	139.8	135.2	140.6	185.0	208.9
307	245.2	130.7	140.4	135.8	141.1	185.7	209.7
308	246.0	131.3	141.0	136.4	141.7	186.3	210.5
309	246.8	131.9	141.6	137.0	142.3	187.0	211.3
310	247.6	132.4	142.1	137.5	142.8	187.7	212.0
311	248.4	132.9	142.6	138.0	143.4	188.5	212.8
312	249.2	133.5	143.2	138.6	143.9	189.2	213.6
313	250.0	134.1	143.8	139.2	144.5	189.9	214.4
314	250.8	134.7	144.4	139.8	145.1	190.6	215.2
315	251.6	135.2	144.9	140.3	145.6	191.3	215.9
316	252.4	135.7	145.4	140.8	146.3	192.1	216.8
317	253.2	136.3	146.1	141.5	146.8	192.8	217.6
318	254.0	136.9	146.7	142.1	147.4	193.5	218.3
319	254.8	137.5	147.3	142.7	148.0	194.3	219.1
320	255.6	138.0	147.8	143.2	148.5	195.0	219.8
321	256.4	138.5	148.3	143.7	149.2	195.8	220.7
322	257.2	139.2	148.9	144.3	149.7	196.5	221.5
323	258.0	139.8	149.5	144.9	150.3	197.2	222.3
324	258.8	140.4	150.1	145.5	150.9	197.9	223.1
325	259.6	140.9	150.6	146.0	151.4	198.6	223.8
326	260.4	141.4	151.1	146.5	152.1	199.4	224.7
327	261.2	142.1	151.7	147.2	152.6	200.1	225.5
328	262.0	142.7	152.3	147.8	153.2	200.8	226.3



## SUGAR TABLES

53

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose. $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
126	100.6	44.9	49.4	47.5	49.8	71.8	83.4
127	101.4	45.3	49.8	47.9	50.2	72.4	84.0
128	102.2	45.7	50.3	48.3	50.6	73.0	84.6
129	103.0	46.1	50.7	48.7	51.0	73.6	85.4
130	103.8	46.4	51.1	49.1	51.4	74.2	86.0
131	104.6	46.8	51.5	49.5	51.8	74.7	86.7
132	105.4	47.2	51.9	49.9	52.2	75.4	87.4
133	106.2	47.6	52.3	50.3	52.6	75.9	88.0
134	107.0	48.0	52.7	50.7	53.1	76.5	88.8
135	107.8	48.3	53.1	51.1	53.5	77.1	89.4
136	108.6	48.7	53.5	51.5	53.9	77.7	90.1
137	109.4	49.1	54.0	51.9	54.3	78.3	90.8
138	110.2	49.5	54.4	52.3	54.7	78.8	91.4
139	111.0	49.8	54.8	52.6	55.1	79.4	92.2
140	111.8	50.2	55.2	53.0	55.6	80.1	92.8
141	112.6	50.6	55.6	53.4	56.0	80.6	93.5
142	113.4	51.0	56.0	53.8	56.4	81.2	94.2
143	114.2	51.3	56.4	54.2	56.8	81.8	94.8
144	115.0	51.7	56.8	54.6	57.2	82.4	95.6
145	115.8	52.1	57.3	55.0	57.6	83.0	96.2
146	116.6	52.5	57.7	55.4	58.0	83.6	96.9
147	117.4	52.9	58.1	55.8	58.5	84.2	97.6
148	118.2	53.2	58.5	56.2	58.9	84.7	98.2
149	119.0	53.6	58.9	56.6	59.3	85.4	99.0
150	119.8	54.0	59.3	57.0	59.7	86.0	99.6
151	120.6	54.4	59.7	57.4	60.1	86.5	100.3
152	121.4	54.8	60.1	57.8	60.5	87.1	101.0
153	122.2	55.1	60.6	58.2	61.0	87.7	101.7
154	123.0	55.5	61.0	58.6	61.4	88.3	102.4
155	123.8	55.9	61.4	59.0	61.8	89.0	103.1
156	124.6	56.3	61.8	59.4	62.2	89.5	103.8
157	125.4	56.7	62.2	59.8	62.6	90.1	104.4
158	126.2	57.0	62.6	60.1	63.0	90.6	105.1
159	127.0	57.4	63.1	60.5	63.5	91.3	105.8
160	127.8	57.8	63.5	60.9	63.9	91.9	106.5
161	128.6	58.2	63.9	61.3	64.3	92.5	107.2
162	129.4	58.6	64.3	61.7	64.7	93.1	107.9
163	130.2	58.9	64.7	62.1	65.1	93.6	108.5
164	131.0	59.3	65.2	62.5	65.6	94.2	109.3
165	131.8	59.7	65.6	62.9	66.0	94.9	109.9
166	132.6	60.1	66.0	63.3	66.4	95.4	110.6
167	133.4	60.5	66.4	63.7	66.8	96.0	111.3
168	134.2	60.9	66.8	64.1	67.3	96.6	112.0
169	135.0	61.2	67.2	64.5	67.7	97.2	112.6
170	135.8	61.6	67.7	64.9	68.1	97.8	113.4
171	136.6	62.0	68.1	65.3	68.5	98.4	114.1
172	137.4	62.4	68.5	65.7	68.9	99.0	114.7
173	138.2	62.8	68.9	66.1	69.4	99.5	115.4
174	139.0	63.2	69.3	66.5	69.8	100.2	116.2

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert. sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
175	139.8	63.6	69.7	66.9	70.2	100.8	116.8
176	140.6	63.9	70.2	67.3	70.6	101.4	117.5
177	141.4	64.3	70.6	67.7	71.1	102.0	118.2
178	142.2	64.7	71.0	68.1	71.5	102.5	118.8
179	143.0	65.1	71.4	68.5	71.9	103.2	119.6
180	143.8	65.5	71.9	69.0	72.3	103.8	120.3
181	144.6	65.9	72.3	69.4	72.8	104.4	121.0
182	145.4	66.3	72.6	69.8	73.2	105.0	121.7
183	146.2	66.7	73.1	70.2	73.6	105.5	122.3
184	147.0	67.1	73.6	70.6	74.0	106.2	123.1
185	147.7	67.4	74.0	71.0	74.4	106.7	123.7
186	148.5	67.8	74.4	71.4	74.9	107.3	124.4
187	149.3	68.2	74.8	71.8	75.3	107.9	125.1
188	150.1	68.6	75.3	72.2	75.7	108.5	125.8
189	150.9	69.0	75.7	72.6	76.2	109.1	126.4
190	151.7	69.4	76.1	73.0	76.6	109.7	127.1
191	152.5	69.8	76.5	73.4	77.0	110.3	127.8
192	153.3	70.2	77.0	73.8	77.4	110.9	128.5
193	154.1	70.6	77.4	74.3	77.9	111.5	129.2
194	154.9	71.0	77.8	74.7	78.3	112.1	129.9
195	155.7	71.4	78.1	75.1	78.7	112.7	130.6
196	156.5	71.8	78.6	75.5	79.2	113.3	131.3
197	157.3	72.1	79.1	75.9	79.6	113.9	132.0
198	158.1	72.5	79.5	76.3	80.0	114.5	132.7
199	158.9	72.9	79.9	76.7	80.5	115.1	133.3
200	159.7	73.3	80.3	77.1	80.9	115.7	134.0
201	160.5	73.7	80.8	77.5	81.3	116.3	134.8
202	161.3	74.1	81.2	77.9	81.7	116.8	135.5
203	162.1	74.5	81.6	78.3	82.2	117.5	136.1
204	162.9	74.9	82.1	78.8	82.6	118.1	136.8
205	163.7	75.3	82.5	79.2	83.0	118.7	137.5
206	164.5	75.7	82.9	79.6	83.5	119.3	138.3
207	165.3	76.1	83.4	80.0	83.9	119.9	139.0
208	166.1	76.5	83.8	80.4	84.3	120.5	139.6
209	166.9	76.9	84.2	80.8	84.8	121.1	140.3
210	167.7	77.3	84.6	81.2	85.2	121.7	141.0
211	168.5	77.7	85.1	81.7	85.6	122.3	141.7
212	169.3	78.1	85.5	82.1	86.1	122.9	142.4
213	170.1	78.5	86.0	82.5	86.5	123.5	143.1
214	170.9	78.9	86.4	82.9	87.0	124.1	143.8
215	171.7	79.3	86.8	83.3	87.4	124.7	144.5
216	172.5	79.7	87.2	83.7	87.8	125.3	145.2
217	173.3	80.1	87.7	84.2	88.2	125.9	145.9
218	174.1	80.5	88.1	84.6	88.7	126.5	146.6
219	174.9	80.9	88.6	85.0	89.1	127.1	147.3
220	175.7	81.3	89.0	85.4	89.5	127.7	148.0
221	176.5	81.7	89.4	85.8	90.0	128.3	148.8
222	177.3	82.1	89.8	86.4	90.4	128.9	149.5
223	178.1	82.5	90.3	86.7	90.9	129.5	150.1

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
224	178.9	82.9	90.7	87.1	91.3	130.1	150.8
225	179.7	83.3	91.1	87.5	91.7	130.7	151.5
226	180.5	83.7	91.6	87.9	92.2	131.3	152.3
227	181.3	84.1	92.0	88.3	92.6	131.9	153.0
228	182.1	84.5	92.5	88.8	93.1	132.5	153.6
229	182.9	84.9	92.9	89.2	93.5	133.1	154.3
230	183.7	85.3	93.3	89.6	93.9	133.7	155.0
231	184.5	85.7	93.8	90.0	94.4	134.3	155.8
232	185.3	86.1	94.2	90.4	94.8	134.9	156.5
233	186.1	86.5	94.7	90.9	95.3	135.5	157.2
234	186.9	86.9	95.1	91.3	95.7	136.1	157.8
235	187.7	87.3	95.5	91.7	96.1	136.7	158.5
236	188.5	87.7	96.0	92.1	96.6	137.3	159.3
237	189.3	88.1	96.4	92.6	97.0	137.9	160.0
238	190.1	88.5	96.9	93.0	97.5	138.6	160.7
239	190.9	88.9	97.3	93.4	97.9	139.2	161.4
240	191.7	89.3	97.7	93.8	98.3	139.8	162.1
241	192.5	89.6	98.1	94.2	98.7	140.4	162.8
242	193.3	90.2	98.6	94.7	99.2	141.0	163.5
243	194.1	90.6	99.1	95.1	99.7	141.6	164.2
244	194.9	91.0	99.5	95.5	100.2	142.2	164.9
245	195.7	91.4	99.9	95.9	100.6	142.8	165.6
246	196.5	91.8	100.4	96.4	101.1	143.4	166.3
247	197.3	92.2	100.8	96.8	101.5	144.0	167.0
248	198.1	92.6	101.3	97.2	101.9	144.6	167.7
249	198.9	93.0	101.7	97.6	102.2	145.4	168.4
250	199.7	93.4	102.1	98.0	102.6	145.9	169.1
251	200.5	93.8	102.6	98.5	103.2	146.5	169.8
252	201.3	94.3	103.0	98.9	103.7	147.1	170.6
253	202.1	94.7	103.5	99.4	104.2	147.7	171.3
254	202.9	95.1	103.9	99.8	104.6	148.3	172.0
255	203.6	95.4	104.3	100.1	105.0	148.9	172.6
256	204.4	95.8	104.7	100.5	105.4	149.5	173.3
257	205.2	96.2	105.1	100.9	105.8	150.1	174.0
258	206.0	96.6	105.6	101.4	106.3	150.7	174.7
259	206.8	97.1	106.1	101.9	106.8	151.3	175.4
260	207.6	97.5	106.5	102.3	107.2	152.0	176.1
261	208.4	97.9	106.9	102.7	107.6	152.6	176.9
262	209.2	98.3	107.4	103.1	108.1	153.2	177.6
263	210.0	98.7	107.9	103.6	108.5	153.8	178.3
264	210.8	99.1	108.3	104.0	109.0	154.4	179.0
265	211.6	99.5	108.7	104.4	109.4	155.0	179.7
266	212.4	99.9	109.2	104.8	109.9	155.6	180.4
267	213.2	100.4	109.6	105.3	110.3	156.3	181.2
268	214.0	100.8	110.1	105.7	110.8	156.9	181.9
269	214.8	101.2	110.6	106.2	111.3	157.5	182.6
270	215.6	101.6	111.0	106.6	111.7	158.1	183.3
271	216.4	102.0	111.4	107.0	112.1	158.7	184.0
272	217.2	102.5	111.9	107.5	112.6	159.4	184.7

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
273	218.0	102.9	112.3	107.9	113.1	160.0	185.4
274	218.8	103.3	112.8	108.3	113.5	160.5	186.1
275	219.6	103.7	113.2	108.7	113.9	161.2	186.8
276	220.4	104.1	113.7	109.2	114.4	161.8	187.6
277	221.2	104.5	114.1	109.6	114.9	162.5	188.3
278	222.0	105.0	114.6	110.1	115.3	163.1	189.0
279	222.8	105.4	115.1	110.5	115.8	163.6	189.7
280	223.6	105.8	115.5	110.9	116.2	164.3	190.4
281	224.4	106.2	115.9	111.3	116.7	164.9	191.2
282	225.2	106.7	116.4	111.8	117.1	165.6	191.9
283	226.0	107.1	116.9	112.3	117.6	166.2	192.6
284	226.8	107.5	117.4	112.7	118.1	166.8	193.3
285	227.6	107.9	117.8	113.1	118.5	167.4	194.0
286	228.4	108.3	118.2	113.5	118.9	168.0	194.8
287	229.2	108.8	118.7	114.0	119.4	168.7	195.5
288	230.0	109.2	119.2	114.5	119.9	169.3	196.2
289	230.8	109.6	119.6	114.9	120.4	169.9	196.9
290	231.6	110.1	120.1	115.4	120.8	170.6	197.6
291	232.4	110.5	120.5	115.8	121.2	171.2	198.4
292	233.2	110.9	121.0	116.2	121.7	171.8	199.1
293	234.0	111.3	121.4	116.6	122.2	172.4	199.8
294	234.8	111.8	121.9	117.1	122.7	173.0	200.5
295	235.6	112.2	122.4	117.6	123.1	173.7	201.2
296	236.4	112.6	122.8	118.0	123.5	174.3	202.0
297	237.2	113.0	123.3	118.4	124.0	174.9	202.7
298	238.0	113.5	123.7	118.9	124.5	175.5	203.4
299	238.8	113.9	124.2	119.3	125.0	176.1	204.1
300	239.6	114.3	124.7	119.8	125.5	176.8	204.8
301	240.4	114.7	125.1	120.2	125.9	177.4	205.6
302	241.2	115.2	125.5	120.6	126.3	178.1	206.3
303	242.0	115.6	126.0	121.1	126.8	178.7	207.0
304	242.8	116.1	126.5	121.6	127.3	179.2	207.7
305	243.6	116.5	127.0	122.0	127.8	179.9	208.4
306	244.4	116.9	127.4	122.4	128.2	180.5	209.2
307	245.2	117.3	127.9	122.9	128.7	181.2	209.9
308	246.0	117.8	128.3	123.3	129.1	181.8	210.6
309	246.8	118.2	128.8	123.8	129.6	182.4	211.3
310	247.6	118.6	129.2	124.2	130.0	183.0	212.0
311	248.4	119.1	129.7	124.7	130.5	183.6	212.8
312	249.2	119.5	130.2	125.1	131.0	184.3	213.6
313	250.0	119.9	130.7	125.6	131.5	184.9	214.3
314	250.8	120.4	131.2	126.1	132.0	185.5	215.0
315	251.6	120.8	131.6	126.5	132.4	186.2	215.7
316	252.4	121.2	132.0	126.9	132.9	186.8	216.5
317	253.2	121.7	132.5	127.4	133.3	187.4	217.2
318	254.0	122.1	133.0	127.8	133.8	188.0	217.9
319	254.8	122.6	133.5	128.3	134.3	188.6	218.6
320	255.6	123.0	133.9	128.7	134.7	189.3	219.3
321	256.4	123.4	134.4	129.2	135.2	189.9	220.1
322	257.2	123.9	134.8	129.6	135.7	190.6	220.8

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
323	258.0	124.3	135.3	130.1	136.2	191.2	221.5
324	258.8	124.8	135.8	130.6	136.7	191.7	222.2
325	259.6	125.2	136.2	131.0	137.1	192.4	222.9
326	260.4	125.6	136.7	131.4	137.6	193.0	223.7
327	261.2	126.1	137.2	131.9	138.1	193.7	224.5
328	262.0	126.5	137.7	132.4	138.6	194.3	225.2
329	262.7	126.9	138.1	132.8	139.0	194.9	225.8
330	263.5	127.4	138.6	133.3	139.4	195.5	226.6
331	264.3	127.8	139.0	133.7	139.9	196.1	227.3
332	265.1	128.3	139.5	134.2	140.4	196.8	228.0
333	265.9	128.7	140.0	134.6	140.9	197.3	228.7
334	266.7	129.1	140.4	135.0	141.3	198.0	229.4
335	267.5	129.6	140.9	135.5	141.8	198.6	230.6
336	268.3	130.1	141.4	136.0	142.3	199.2	231.0
337	269.1	130.5	141.9	136.5	142.8	199.9	231.7
338	269.9	131.0	142.4	137.0	143.3	200.5	232.4
339	270.7	131.4	142.8	137.4	143.7	201.1	233.1
340	271.5	131.8	143.3	137.8	144.2	201.8	233.9
341	272.3	132.3	143.8	138.3	144.7	202.4	234.6
342	273.1	132.7	144.3	138.8	145.2	203.1	235.3
343	273.9	133.2	144.8	139.3	145.7	203.7	236.1
344	274.7	133.6	145.2	139.7	146.1	204.3	236.8
345	275.5	134.1	145.7	140.2	146.6	205.0	237.6
346	276.3	134.5	146.2	140.6	147.1	205.6	238.3
347	277.1	135.0	146.7	141.1	147.6	206.3	239.0
348	277.9	135.5	147.1	141.6	148.1	206.9	239.7
349	278.7	135.9	147.5	142.0	148.5	207.6	240.4
350	279.5	136.3	148.0	142.4	149.0	208.2	241.3
351	280.3	136.8	148.5	142.9	149.5	208.8	242.0
352	281.1	137.3	149.0	143.4	150.0	209.5	242.7
353	281.9	137.7	149.5	143.9	150.5	210.1	243.4
354	282.7	138.1	149.9	144.3	150.9	210.8	244.1
355	283.5	138.6	150.4	144.8	151.4	211.4	245.0
356	284.3	139.1	150.9	145.3	151.9	212.0	245.7
357	285.1	139.5	151.4	145.7	152.5	212.7	246.4
358	285.9	140.0	151.9	146.2	153.0	213.3	247.1
359	286.7	140.4	152.3	146.6	153.4	214.0	247.8
360	287.5	140.9	152.8	147.1	153.9	214.6	248.7
361	288.3	141.3	153.3	147.6	154.4	215.2	249.4
362	289.1	141.8	153.8	148.1	154.9	215.9	250.1
363	289.9	142.3	154.3	148.6	155.4	216.5	250.9
364	290.7	142.7	154.7	149.0	155.8	217.2	251.6
365	291.5	143.2	155.2	149.5	156.3	217.8	252.4
366	292.3	143.6	155.8	150.0	156.8	218.4	253.1
367	293.1	144.1	156.3	150.5	157.3	219.1	253.8
368	293.9	144.6	156.8	151.0	157.8	219.7	254.6
369	294.7	145.0	157.2	151.4	158.2	220.4	255.3

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose	Lactose. $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
370	295.5	145.4	157.7	151.8	158.8	221.0	256.1
371	296.3	145.9	158.2	152.3	159.3	221.6	256.8
372	297.1	146.4	158.7	152.8	159.8	222.3	257.6
373	297.9	146.9	159.2	153.3	160.3	222.9	258.3
374	298.7	147.3	159.6	153.7	160.7	223.6	259.0
375	299.5	147.8	160.1	154.2	161.2	224.2	259.8
376	300.3	148.2	160.6	154.7	161.7	224.8	260.5
377	301.1	148.7	161.1	155.2	162.3	225.5	261.3
378	301.9	149.2	161.7	155.7	162.8	226.1	262.0
379	302.7	149.6	162.1	156.1	163.2	226.8	262.7
380	303.5	150.1	162.6	156.6	163.7	227.4	263.5
381	304.3	150.6	163.1	157.1	164.2	228.0	264.3
382	305.1	151.0	163.6	157.6	164.7	228.8	265.0
383	305.9	151.5	164.1	158.1	165.3	229.4	265.7
384	306.7	151.9	164.5	158.5	165.7	230.1	266.4
385	307.5	152.4	165.1	159.0	166.2	230.7	267.3
386	308.3	152.9	165.6	159.5	166.7	231.3	268.0
387	309.1	153.4	166.1	160.0	167.2	232.0	268.7
388	309.9	153.9	166.6	160.5	167.7	232.6	269.5
389	310.7	154.3	167.0	160.9	168.1	233.3	270.2
390	311.5	154.8	167.5	161.4	168.7	233.9	271.0
391	312.3	155.3	168.0	161.9	169.2	234.5	271.8
392	313.1	155.7	168.6	162.4	169.7	235.2	272.5
393	313.9	156.2	169.1	162.9	170.2	235.8	273.2
394	314.7	156.6	169.5	163.3	170.6	236.5	274.0
395	315.5	157.1	170.0	163.8	171.2	237.2	274.8
396	316.3	157.6	170.5	164.3	171.7	237.8	275.5
397	317.0	158.0	170.9	164.7	172.1	238.4	276.2
398	317.8	158.5	171.5	165.3	172.6	239.0	276.9
399	318.6	159.0	172.0	165.8	173.1	239.7	277.6
400	319.4	159.4	172.4	166.2	173.6	240.3	278.4
401	320.2	159.9	172.9	166.7	174.1	241.0	279.2
402	321.0	160.4	173.4	167.2	174.6	241.6	279.9
403	321.8	160.9	174.0	167.7	175.2	242.2	280.7
404	322.6	161.4	174.5	168.2	175.7	242.9	281.4
405	323.4	161.8	174.9	168.6	176.2	243.6	282.2
406	324.2	162.3	175.4	169.1	176.6	244.3	282.9
407	325.0	162.8	176.0	169.7	177.2	244.9	283.7
408	325.8	163.3	176.5	170.2	177.7	245.5	284.4
409	326.6	163.8	177.0	170.7	178.2	246.2	285.2
410	327.4	164.2	177.5	171.1	178.7	246.9	286.0
411	328.2	164.7	178.0	171.6	179.2	247.6	286.7
412	329.0	165.2	178.5	172.1	179.7	248.2	287.5
413	329.8	165.7	179.0	172.6	180.2	248.8	288.2
414	330.6	166.2	179.5	173.1	180.7	249.5	289.0
415	331.4	166.6	180.0	173.6	181.2	250.1	289.8
416	332.2	167.1	180.5	174.1	181.7	250.8	290.5
417	333.0	167.6	181.0	174.6	182.3	251.5	291.3
418	333.8	168.1	181.6	175.1	182.8	252.1	292.0
419	334.6	168.6	182.1	175.6	183.3	252.8	292.8

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert. sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
420	335.4	169.1	182.5	176.1	183.8	253.4	293.6
421	336.2	169.6	183.0	176.6	184.3	254.1	294.3
422	337.0	170.1	183.6	177.1	184.8	254.7	295.1
423	337.8	170.6	184.1	177.6	185.4	255.4	295.8
424	338.6	171.1	184.6	178.1	185.9	256.1	296.6
425	339.4	171.5	185.0	178.6	186.4	256.7	297.4
426	340.2	172.0	185.6	179.1	186.9	257.4	298.1
427	341.0	172.5	186.1	179.6	187.4	258.0	298.9
428	341.8	173.1	186.6	180.1	188.0	258.6	299.6
429	342.6	173.6	187.1	180.6	188.5	259.3	300.4
430	343.4	174.0	187.6	181.1	189.0	260.0	301.2
431	344.2	174.5	188.1	181.6	189.5	260.7	301.9
432	345.0	175.0	188.7	182.1	190.0	261.3	302.7
433	345.8	175.5	189.2	182.6	190.6	261.9	303.4
434	346.6	176.0	189.7	183.1	191.1	262.6	304.2
435	347.4	176.5	190.2	183.6	191.6	263.3	305.0
436	348.2	177.0	190.7	184.1	192.1	264.0	305.7
437	349.0	177.5	191.3	184.7	192.6	264.6	306.5
438	349.8	178.0	191.8	185.2	193.2	265.2	307.3
439	350.6	178.5	192.3	185.7	193.7	265.9	308.0
440	351.4	179.0	192.8	186.2	194.2	266.6	308.8
441	352.2	179.5	193.3	186.7	194.7	267.3	309.5
442	353.0	180.0	193.8	187.2	195.2	267.9	310.3
443	353.8	180.5	194.4	187.7	195.8	268.5	311.1
444	354.6	181.0	194.9	188.2	196.3	269.2	311.8
445	355.4	181.5	195.4	188.7	196.8	269.9	312.6
446	356.2	182.0	195.9	189.2	197.3	270.6	313.5
447	357.0	182.5	196.4	189.7	197.9	271.2	314.2
448	357.8	183.1	197.0	190.3	198.4	271.8	315.0
449	358.6	183.6	197.5	190.8	198.9	272.5	315.7
450	359.4	184.0	198.0	191.3	199.4	273.2	316.5
451	360.2	184.5	198.5	191.8	199.9	273.9	317.2
452	361.0	185.1	199.0	192.3	200.5	274.5	318.0
453	361.8	185.6	199.6	192.9	201.1	275.2	318.8
454	362.6	186.1	200.1	193.4	201.6	275.9	319.6
455	363.4	186.6	200.7	193.9	202.1	276.6	320.3
456	364.2	187.1	201.1	194.4	202.6	277.3	321.1
457	365.0	187.6	201.7	194.9	203.3	277.9	321.9
458	365.8	188.2	202.3	195.5	203.7	278.5	322.6
459	366.6	188.7	202.8	196.0	204.2	279.2	323.4
460	367.4	189.1	203.3	196.5	204.8	279.9	324.2
461	368.2	189.6	203.8	197.0	205.3	280.6	325.0
462	369.0	190.2	204.3	197.5	205.8	281.3	325.7
463	369.8	190.7	204.9	198.1	206.4	281.9	326.5
464	370.6	191.2	205.4	198.6	206.9	282.6	327.3
465	371.4	191.7	206.0	199.2	207.5	283.3	328.1
466	372.2	192.2	206.4	199.6	208.0	284.0	328.8
467	373.0	192.8	207.0	200.2	208.5	284.6	329.6
468	373.7	193.2	207.5	200.6	209.0	285.2	330.3
469	374.5	193.8	208.1	201.2	209.6	285.9	331.1

TABLE 16. (Continued.)  
50 c.c. Fehling's Solution.

Cupric oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
470	375.3	194.3	208.5	201.7	210.1	286.5	331.8
471	376.1	194.8	209.1	202.2	210.7	287.2	332.6
472	376.9	195.3	209.6	202.7	211.1	287.9	333.4
473	377.7	195.8	210.2	203.2	211.7	288.6	334.1
474	378.5	196.4	210.7	203.8	212.3	289.2	334.9
475	379.3	196.9	211.2	204.3	212.8	289.9	335.7
476	380.1	197.4	211.8	204.9	213.4	290.6	336.5
477	380.9	197.9	212.2	205.3	213.8	291.3	337.3
478	381.7	198.5	212.8	205.9	214.4	292.0	338.0
479	382.5	199.0	213.4	206.5	215.0	292.7	338.8
480	383.3	199.5	213.9	207.0	215.5	293.3	339.6
481	384.1	200.1	214.5	207.6	216.1	294.0	340.4
482	384.9	200.5	215.0	208.0	216.6	294.7	341.2
483	385.7	201.1	215.5	208.6	217.2	295.4	342.0
484	386.5	201.7	216.1	209.2	217.8	296.1	342.8
485	387.3	202.2	216.6	209.7	218.3	296.7	343.5
486	388.1	202.7	217.2	210.2	218.8	297.4	344.3
487	388.9	203.2	217.7	210.7	219.3	298.1	345.1
488	389.7	203.8	218.3	211.3	219.9	298.8	345.9
489	390.5	204.3	218.9	211.9	220.5	299.5	346.7
490	391.3	204.8	219.4	212.4	221.0	300.1	347.5
491	392.1	205.4	219.8	212.9	221.6	300.8	348.2
492	392.9	205.9	220.4	213.4	222.1	301.5	349.0
493	393.7	206.5	221.0	214.0	222.7	302.2	349.8
494	394.5	207.0	221.6	214.6	223.3	302.9	350.6
495	395.3	207.5	222.1	215.1	223.8	303.5	351.4
496	396.1	208.1	222.7	215.7	224.4	304.2	352.2
497	396.9	208.6	223.2	216.2	224.9	304.9	352.9
498	397.7	209.2	223.7	216.7	225.5	305.6	353.7
499	398.5	209.7	224.3	217.3	226.1	306.3	354.5
500	399.3	210.2	224.8	217.8	226.6	306.9	355.3
501	400.1	210.8	225.4	218.4	227.2	307.6	356.1
502	400.9	211.3	225.9	218.9	227.7	308.3	356.9
503	401.7	211.9	226.5	219.5	228.3	309.0	357.7
504	402.5	212.5	227.2	220.1	228.9	309.7	358.5
505	403.3	213.0	227.6	220.6	229.4	310.3	359.2
506	404.1	213.6	228.2	221.2	230.0	311.0	360.0
507	404.9	214.0	228.7	221.6	230.5	311.7	360.8
508	405.7	214.6	229.3	222.2	231.1	312.4	361.6
509	406.5	215.2	229.9	222.8	231.7	313.1	362.4
510	407.3	215.7	230.4	223.3	232.3	313.7	363.2
511	408.1	216.3	231.0	223.9	232.8	314.4	364.0
512	408.9	216.8	231.5	224.4	233.3	315.1	364.8
513	409.7	217.4	232.1	225.0	233.9	315.8	365.6
514	410.5	218.0	232.7	225.6	234.5	316.5	366.4
515	411.3	218.5	233.2	226.1	235.0	317.1	367.1
516	412.1	219.1	233.8	226.7	235.6	317.8	367.9
517	412.9	219.6	234.3	227.2	236.2	318.5	368.7
518	413.7	220.2	234.9	227.8	236.8	319.2	369.5
519	414.5	220.8	235.5	228.4	237.4	319.9	370.3



TABLE 16. (Concluded.)  
 50 c.c. Fehling's Solution.

Copper oxide (CuO).	Copper (Cu).	Glucose.	Fructose.	Invert sugar.	Galactose.	Lactose $C_{12}H_{22}O_{11}+H_2O$	Maltose $C_{12}H_{22}O_{11}$
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
520	415.3	221.3	236.0	228.9	237.9	320.6	371.1
521	416.1	221.9	236.6	229.5	238.5	321.3	371.9
522	416.9	222.4	237.1	230.0	239.0	321.9	372.7
523	417.7	223.0	237.7	230.6	239.6	322.6	373.5
524	418.5	223.6	238.3	231.2	240.2	323.3	374.3
525	419.3	224.2	238.8	231.7	240.7	323.9	375.1
526	420.1	224.7	239.5	232.4	241.3	324.7	375.9
527	420.9	225.2	240.0	233.0	241.9	325.4	376.7
528	421.7	225.8	240.6	233.5	242.5	326.1	377.5
529	422.5	226.4	241.2	234.1	243.1	326.8	378.3
530	423.3	227.0	241.7	234.6	243.6	327.4	379.1
531	424.1	227.6	242.3	235.2	244.2	328.1	379.9
532	424.9	228.1	242.9	235.8	244.8	328.9	380.7
533	425.7	228.7	243.5	236.4	245.4	329.6	381.5
534	426.4	229.2	244.0	236.9	245.9	330.2	382.2
535	427.2	229.7	244.5	237.4	246.5	330.9	383.0
536	428.0	230.3	245.1	238.0	247.1	331.6	383.8
537	428.8	230.9	245.7	238.6	247.6	332.2	384.6
538	429.6	231.5	246.3	239.2	248.2	332.9	385.4
539	430.4	232.1	246.9	239.8	248.8	333.7	386.2
540	431.2	232.6	247.4	240.3	249.4	334.4	387.0
541	432.0	233.2	248.0	240.9	250.0	335.1	387.8
542	433.8	233.8	248.6	241.5	250.6	335.7	388.6
543	434.6	234.4	249.2	242.1	251.2	336.4	389.4

TABLE \* 17.

BROWN, MORRIS AND MILLAR'S TABLE FOR DETERMINING GLUCOSE, FRUCTOSE AND INVERT SUGAR.

Milligrams of sugar.	Glucose.		Fructose.		Invert sugar.	
	Copper (Cu).	Cupric oxide (CuO).	Copper (Cu).	Cupric oxide (CuO).	Copper (Cu).	Cupric oxide (CuO).
	grams.	grams.	grams.	grams.	grams.	grams.
50	0.1030	0.1289	0.0923	0.1155	0.0975	0.1221
55	0.1134	0.1422	0.1027	0.1287	0.1076	0.1349
60	0.1238	0.1552	0.1122	0.1407	0.1176	0.1474
65	0.1342	0.1682	0.1216	0.1524	0.1275	0.1598
70	0.1443	0.1809	0.1312	0.1645	0.1373	0.1721
75	0.1543	0.1935	0.1405	0.1761	0.1468	0.1840
80	0.1644	0.2061	0.1500	0.1881	0.1566	0.1963
85	0.1740	0.2187	0.1590	0.1993	0.1662	0.2084
90	0.1834	0.2299	0.1686	0.2114	0.1755	0.2200
95	0.1930	0.2420	0.1774	0.2224	0.1848	0.2317
100	0.2027	0.2538	0.1862	0.2331	0.1941	0.2430
105	0.2123	0.2662	0.1952	0.2447	0.2034	0.2550
110	0.2218	0.2781	0.2040	0.2558	0.2128	0.2668
115	0.2313	0.2900	0.2129	0.2669	0.2220	0.2783
120	0.2404	0.3014	0.2215	0.2777	0.2311	0.2898
125	0.2496	0.3130	0.2303	0.2887	0.2400	0.3009
130	0.2585	0.3241	0.2390	0.2997	0.2489	0.3121
135	0.2675	0.3354	0.2477	0.3106	0.2578	0.3232
140	0.2762	0.3463	0.2559	0.3209	0.2663	0.3339
145	0.2850	0.3573	0.2641	0.3311	0.2750	0.3448
150	0.2934	0.3673	0.2723	0.3409	0.2832	0.3546
155	0.3020	0.3787	0.2805	0.3517	0.2915	0.3655
160	0.3103	0.3891	0.2889	0.3622	0.3002	0.3764
165	0.3187	0.3996	0.2972	0.3726	0.3086	0.3869
170	0.3268	0.4098	0.3053	0.3828	0.3167	0.3971
175	0.3350	0.4200	0.3134	0.3930	0.3251	0.4076
180	0.3431	0.4302	0.3216	0.4032	0.3331	0.4177
185	0.3508	0.4399	0.3297	0.4134	0.3410	0.4276
190	0.3590	0.4501	0.3377	0.4234	0.3490	0.4376
195	0.3668	0.4599	0.3457	0.4335	0.3570	0.4476
200	0.3745	0.4689	0.3539	0.4431	0.3650	0.4570
205	0.3822	0.4792	0.3616	0.4534	0.3726	0.4672

\* See "Handbook," page 425.

TABLE \* 18.

DEFREN'S TABLE FOR DETERMINING GLUCOSE, MALTOSE AND LACTOSE.

Cupric oxide. (CuO).	Glucose.	Maltose.	Lactose.	Cupric oxide. (CuO).	Glucose.	Maltose.	Lactose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
30	13.2	21.7	18.8	83	36.8	60.3	52.4
31	13.7	22.4	19.5	84	37.2	61.1	53.0
32	14.1	23.1	20.1	85	37.7	61.8	53.6
33	14.6	23.9	20.7	86	38.1	62.5	54.3
34	15.0	24.6	21.4	87	38.5	63.3	54.9
35	15.4	25.3	22.0	88	39.0	64.0	55.5
36	15.9	26.1	22.6	89	39.4	64.7	56.2
37	16.3	26.8	23.3	90	39.9	65.5	56.8
38	16.8	27.5	23.9	91	40.3	66.2	57.4
39	17.2	28.3	24.5	92	40.8	66.9	58.1
40	17.6	29.0	25.2	93	41.2	67.7	58.7
41	18.1	29.7	25.8	94	41.7	68.4	59.3
42	18.5	30.5	26.4	95	42.1	69.1	60.0
43	19.0	31.2	27.1	96	42.5	69.9	60.6
44	19.4	31.9	27.7	97	43.0	70.6	61.2
45	19.9	32.7	28.3	98	43.4	71.3	61.9
46	20.3	33.4	29.0	99	43.9	72.1	62.5
47	20.7	34.1	29.6	100	44.4	72.8	63.2
48	21.2	34.8	30.2	101	44.8	73.5	63.8
49	21.6	35.5	30.8	102	45.3	74.3	64.4
50	22.1	36.2	31.5	103	45.7	75.0	65.1
51	22.5	37.0	32.1	104	46.2	75.7	65.7
52	23.0	37.7	32.7	105	46.6	76.5	66.3
53	23.4	38.4	33.3	106	47.0	77.2	67.0
54	23.8	39.2	34.0	107	47.5	77.9	67.6
55	24.2	39.9	34.6	108	48.0	78.7	68.2
56	24.7	40.5	35.2	109	48.4	79.4	68.9
57	25.1	41.3	35.9	110	48.9	80.1	69.5
58	25.5	42.1	36.5	111	49.3	80.9	70.1
59	26.0	42.8	37.1	112	49.8	81.6	70.8
60	26.4	43.5	37.8	113	50.2	82.3	71.4
61	26.9	44.3	38.4	114	50.7	83.1	72.0
62	27.3	45.0	39.0	115	51.1	83.8	72.7
63	27.8	45.7	39.7	116	51.6	84.5	73.3
64	28.2	46.5	40.3	117	52.0	85.2	74.0
65	28.7	47.2	40.9	118	52.4	85.9	74.6
66	29.1	47.9	41.6	119	52.9	86.6	75.2
67	29.5	48.6	42.2	120	53.3	87.4	75.9
68	30.0	49.4	42.8	121	53.8	88.1	76.6
69	30.4	50.1	43.5	122	54.2	88.9	77.2
70	30.9	50.8	44.1	123	54.7	89.6	77.9
71	31.3	51.6	44.7	124	55.1	90.3	78.5
72	31.8	52.3	45.4	125	55.6	91.1	79.1
73	32.2	53.0	46.0	126	56.0	91.8	79.8
74	32.6	53.8	46.6	127	56.5	92.5	80.4
75	33.1	54.5	47.3	128	56.9	93.3	81.1
76	33.5	55.2	47.9	129	57.3	94.0	81.7
77	34.0	56.0	48.5	130	57.8	94.8	82.4
78	34.4	56.7	49.2	131	58.2	95.5	83.0
79	34.9	57.4	49.8	132	58.7	96.2	83.6
80	35.4	58.1	50.5	133	59.1	97.0	84.2
81	35.9	58.9	51.1	134	59.6	97.7	84.9
82	36.3	59.6	51.7	135	60.0	98.4	85.5

\* See "Handbook," page 425.

TABLE 18. (Continued.)

Cupric oxide (CuO).	Glucose.	Maltose.	Lactose.	Cupric oxide (CuO).	Glucose.	Maltose.	Lactose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
136	60.5	99.2	86.1	<b>190</b>	84.9	139.1	121.0
137	60.9	99.9	86.8	191	85.4	139.9	121.7
138	61.3	100.7	87.4	192	85.9	140.6	122.3
139	61.8	101.4	88.1	193	86.3	141.4	123.0
<b>140</b>	62.2	102.1	88.7	194	86.8	142.1	123.6
141	62.7	102.8	89.3	195	87.2	142.8	124.3
142	63.1	103.5	90.0	196	87.7	143.6	124.9
143	63.6	104.3	90.6	197	88.1	144.3	125.6
144	64.0	105.0	91.3	198	88.6	145.1	126.2
145	64.5	105.8	91.9	199	89.0	145.8	126.9
146	64.9	106.5	92.6	<b>200</b>	89.5	146.6	127.5
147	65.4	107.2	93.2	201	89.9	147.3	128.2
148	65.8	108.0	93.9	202	90.4	148.1	128.8
149	66.3	108.7	94.5	203	90.8	148.8	129.5
<b>150</b>	66.8	109.5	95.2	204	91.3	149.6	130.1
151	67.3	110.2	95.8	205	91.7	150.3	130.8
152	67.7	111.0	96.5	206	92.2	151.1	131.5
153	68.3	111.7	97.1	207	92.6	151.8	132.1
154	68.7	112.4	97.8	208	93.1	152.5	132.8
155	69.2	113.2	98.4	209	93.5	153.3	133.4
156	69.6	113.9	99.1	<b>210</b>	94.0	154.1	134.1
157	70.0	114.7	99.7	211	94.4	154.8	134.7
158	70.5	115.4	100.4	212	94.9	155.6	135.4
159	70.9	116.1	101.0	213	95.3	156.3	136.0
<b>160</b>	71.3	116.9	101.7	214	95.8	157.1	136.7
161	71.8	117.6	102.3	215	96.3	157.8	137.3
162	72.3	118.4	103.0	216	96.7	158.6	138.0
163	72.7	119.1	103.6	217	97.2	159.3	138.6
164	73.2	119.9	104.3	218	97.6	160.0	139.3
165	73.6	120.6	104.9	219	98.1	160.8	139.9
166	74.1	121.4	105.6	<b>220</b>	98.6	161.5	140.6
167	74.5	122.1	106.2	221	99.0	162.3	141.2
168	74.9	122.9	106.9	222	99.5	163.0	141.9
169	75.4	123.6	107.5	223	99.9	163.7	142.5
<b>170</b>	75.8	124.4	108.2	224	100.4	164.5	143.2
171	76.3	125.1	108.8	225	100.9	165.3	143.8
172	76.8	125.8	109.5	226	101.3	166.0	144.5
173	77.3	126.6	110.1	227	101.8	166.8	145.1
174	77.7	127.3	110.8	228	102.2	167.5	145.8
175	78.2	128.1	111.4	229	102.7	168.3	146.4
176	78.6	128.8	112.0	<b>230</b>	103.1	169.1	147.0
177	79.1	129.5	112.6	231	103.6	169.8	147.7
178	79.5	130.3	113.3	232	104.0	170.6	148.3
179	80.0	131.0	113.9	233	104.5	171.3	149.0
<b>180</b>	80.4	131.8	114.6	234	105.0	172.1	149.6
181	80.8	132.5	115.2	235	105.4	172.8	150.3
182	81.3	133.2	115.8	236	105.9	173.6	150.9
183	81.8	134.0	116.5	237	106.3	174.3	151.6
184	82.2	134.7	117.1	238	106.8	175.1	152.2
185	82.7	135.5	117.8	239	107.2	175.8	152.9
186	83.1	136.2	118.4	<b>240</b>	107.7	176.6	153.5
187	83.5	136.9	119.1	241	108.1	177.3	154.2
188	84.0	137.7	119.7	242	108.6	178.1	154.8
189	84.4	138.4	120.4	243	109.0	178.8	155.5

TABLE 18. (Concluded.)

Cupric oxide (CuO).	Glucose.	Maltose.	Lactose.	Cupric oxide (CuO).	Glucose.	Maltose.	Lactose.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
244	109.5	179.6	156.1	283	127.4	209.0	181.5
245	109.9	180.3	156.8	284	127.9	209.8	182.2
246	110.4	181.1	157.4	285	128.3	210.5	182.9
247	110.9	181.8	158.1	286	128.8	211.3	183.6
248	111.3	182.6	158.7	287	129.3	212.1	184.2
249	111.8	183.3	159.4	288	129.7	212.8	184.9
250	112.3	184.1	160.0	289	130.2	213.6	185.6
251	112.7	184.8	160.7	290	130.6	214.3	186.2
252	113.2	185.5	161.3	291	131.1	215.1	186.9
253	113.7	186.3	162.0	292	131.5	215.9	187.6
254	114.1	187.1	162.6	293	132.0	216.6	188.2
255	114.6	187.8	163.3	294	132.5	217.4	188.9
256	115.0	188.6	163.9	295	133.0	218.2	189.5
257	115.5	189.3	164.6	296	133.4	218.9	190.2
258	116.0	190.1	165.2	297	133.9	219.7	190.8
259	116.4	190.8	165.9	298	134.3	220.4	191.5
260	116.9	191.6	166.5	299	134.8	221.2	192.1
261	117.3	192.4	167.2	300	135.3	221.9	192.8
262	117.8	193.1	167.8	301	135.7	222.7	193.4
263	118.3	193.9	168.1	302	136.2	223.5	194.1
264	118.7	194.6	169.5	303	136.6	224.2	194.7
265	119.2	195.4	169.8	304	137.1	225.0	195.3
266	119.6	196.1	170.4	305	137.6	225.8	196.0
267	120.1	196.9	171.1	306	138.0	226.5	196.6
268	120.6	197.7	171.7	307	138.5	227.3	197.3
269	121.0	198.4	172.4	308	138.9	228.1	197.9
270	121.4	199.2	173.0	309	139.4	228.8	198.6
271	121.9	199.9	173.7	310	139.9	229.6	199.3
272	122.4	200.7	174.4	311	140.3	230.4	199.9
273	122.8	201.5	175.0	312	140.8	231.1	200.6
274	123.3	202.2	175.7	313	141.2	231.9	201.3
275	123.7	203.0	176.3	314	141.7	232.7	202.0
276	124.2	203.7	177.0	315	142.2	233.4	202.6
277	124.6	204.5	177.6	316	142.6	234.2	203.3
278	125.1	205.2	178.3	317	143.1	234.9	203.9
279	125.6	206.0	178.9	318	143.6	235.7	204.6
280	126.1	206.8	179.6	319	144.0	236.5	205.3
281	126.5	207.5	180.2	320	144.5	237.2	205.9
282	127.0	208.3	180.9				

TABLE \* 19.

MUNSON AND WALKER'S TABLE FOR DETERMINING GLUCOSE, INVERT SUGAR ALONE, INVERT SUGAR IN THE PRESENCE OF SUCROSE (0.4 GRAM AND 2 GRAMS TOTAL SUGAR), LACTOSE AND MALTOSE.

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
10	8.9	4.0	4.5	1.6	.....	3.8	4.0	5.9	6.2
11	9.8	4.5	5.0	2.1	.....	4.5	4.7	6.7	7.0
12	10.7	4.9	5.4	2.5	.....	5.1	5.4	7.5	7.9
13	11.5	5.3	5.8	3.0	.....	5.8	6.1	8.3	8.7
14	12.4	5.7	6.3	3.4	.....	6.4	6.8	9.1	9.5
15	13.3	6.2	6.7	3.9	.....	7.1	7.5	9.9	10.4
16	14.2	6.6	7.2	4.3	.....	7.8	8.2	10.6	11.2
17	15.1	7.0	7.6	4.8	.....	8.4	8.9	11.4	12.0
18	16.0	7.5	8.1	5.2	.....	9.1	9.5	12.2	12.9
19	16.9	7.9	8.5	5.7	.....	9.7	10.2	13.0	13.7
20	17.8	8.3	8.9	6.1	.....	10.4	10.9	13.8	14.6
21	18.7	8.7	9.4	6.6	.....	11.0	11.6	14.6	15.4
22	19.5	9.2	9.8	7.0	.....	11.7	12.3	15.4	16.2
23	20.4	9.6	10.3	7.5	.....	12.3	13.0	16.2	17.1
24	21.3	10.0	10.7	7.9	.....	13.0	13.7	17.0	17.9
25	22.2	10.5	11.2	8.4	.....	13.7	14.4	17.8	18.7
26	23.1	10.9	11.6	8.8	.....	14.3	15.1	18.6	19.6
27	24.0	11.3	12.0	9.3	.....	15.0	15.8	19.4	20.4
28	24.9	11.8	12.5	9.7	.....	15.6	16.5	20.2	21.2
29	25.8	12.2	12.9	10.2	.....	16.3	17.1	21.0	22.1
30	26.6	12.6	13.4	10.7	4.3	16.9	17.8	21.8	22.9
31	27.5	13.1	13.8	11.1	4.7	17.6	18.5	22.6	23.7
32	28.4	13.5	14.3	11.6	5.2	18.3	19.2	23.3	24.6
33	29.3	13.9	14.7	12.0	5.6	18.9	19.9	24.1	25.4
34	30.2	14.3	15.2	12.5	6.1	19.6	20.6	24.9	26.2
35	31.1	14.8	15.6	12.9	6.5	20.2	21.3	25.7	27.1
36	32.0	15.2	16.1	13.4	7.0	20.9	22.0	26.5	27.9
37	32.9	15.6	16.5	13.8	7.4	21.5	22.7	27.3	28.7
38	33.8	16.1	16.9	14.3	7.9	22.2	23.4	28.1	29.6
39	34.6	16.5	17.4	14.7	8.4	22.8	24.1	28.9	30.4
40	35.5	16.9	17.8	15.2	8.8	23.5	24.8	29.7	31.3
41	36.4	17.4	18.3	15.6	9.3	24.2	25.4	30.5	32.1
42	37.3	17.8	18.7	16.1	9.7	24.8	26.1	31.3	32.9
43	38.2	18.2	19.2	16.6	10.2	25.5	26.8	32.1	33.8
44	39.1	18.7	19.6	17.0	10.7	26.1	27.5	32.9	34.6

\* See "Handbook," page 426.

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar. and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
45	40.0	19.1	20.1	17.5	11.1	26.8	28.2	33.7	35.4
46	40.9	19.6	20.5	17.9	11.6	27.4	28.9	34.4	36.3
47	41.7	20.0	21.0	18.4	12.0	28.1	29.6	35.2	37.1
48	42.6	20.4	21.4	18.8	12.5	28.7	30.3	36.0	37.9
49	43.5	20.9	21.9	19.3	12.9	29.4	31.0	36.8	38.8
50	44.4	21.3	22.3	19.7	13.4	30.1	31.7	37.6	39.6
51	45.3	21.7	22.8	20.2	13.9	30.7	32.4	38.4	40.4
52	46.2	22.2	23.2	20.7	14.3	31.4	33.0	39.2	41.3
53	47.1	22.6	23.7	21.1	14.8	32.1	33.7	40.0	42.1
54	48.0	23.0	24.1	21.6	15.2	32.7	34.4	40.8	42.9
55	48.9	23.5	24.6	22.0	15.7	33.4	35.1	41.6	43.8
56	49.7	23.9	25.0	22.5	16.2	34.0	35.8	42.4	44.6
57	50.6	24.3	25.5	22.9	16.6	34.7	36.5	43.2	45.4
58	51.5	24.8	25.9	23.4	17.1	35.4	37.2	44.0	46.3
59	52.4	25.2	26.4	23.9	17.5	36.0	37.9	44.8	47.1
60	53.3	25.6	26.8	24.3	18.0	36.7	38.6	45.6	48.0
61	54.2	26.1	27.3	24.8	18.5	37.3	39.3	46.3	48.8
62	55.1	26.5	27.7	25.2	18.9	38.0	40.0	47.1	49.6
63	56.0	27.0	28.2	25.7	19.4	38.6	40.7	47.9	50.5
64	56.8	27.4	28.6	26.2	19.8	39.3	41.4	48.7	51.3
65	57.7	27.8	29.1	26.6	20.3	40.0	42.1	49.5	52.1
66	58.6	28.3	29.5	27.1	20.8	40.6	42.8	50.3	53.0
67	59.5	28.7	30.0	27.5	21.2	41.3	43.5	51.1	53.8
68	60.4	29.2	30.4	28.0	21.7	41.9	44.2	51.9	54.6
69	61.3	29.6	30.9	28.5	22.2	42.6	44.8	52.7	55.5
70	62.2	30.0	31.3	28.9	22.6	43.3	45.5	53.5	56.3
71	63.1	30.5	31.8	29.4	23.1	43.9	46.2	54.3	57.1
72	64.0	30.9	32.3	29.8	23.5	44.6	46.9	55.1	58.0
73	64.8	31.4	32.7	30.3	24.0	45.2	47.6	55.9	58.8
74	65.7	31.8	33.2	30.8	24.5	45.9	48.3	56.7	59.6
75	66.6	32.2	33.6	31.2	24.9	46.6	49.0	57.5	60.5
76	67.5	32.7	34.1	31.7	25.4	47.2	49.7	58.2	61.3
77	68.4	33.1	34.5	32.1	25.9	47.9	50.4	59.0	62.1
78	69.3	33.6	35.0	32.6	26.3	48.5	51.1	59.8	63.0
79	70.2	34.0	35.4	33.1	26.8	49.2	51.8	60.6	63.8
80	71.1	34.4	35.9	33.5	27.3	49.9	52.5	61.4	64.6
81	71.9	34.9	36.3	34.0	27.7	50.5	53.2	62.2	65.5
82	72.8	35.3	36.8	34.5	28.2	51.2	53.9	63.0	66.3
83	73.7	35.8	37.3	34.9	28.6	51.8	54.6	63.8	67.1
84	74.6	36.2	37.7	35.4	29.1	52.5	55.3	64.6	68.0

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
85	75.5	36.7	38.2	35.8	29.6	53.1	56.0	65.4	68.8
86	76.4	37.1	38.6	36.3	30.0	53.8	56.6	66.2	69.7
87	77.3	37.5	39.1	36.8	30.5	54.5	57.3	67.0	70.5
88	78.2	38.0	39.5	37.2	31.0	55.1	58.0	67.8	71.3
89	79.1	38.4	40.0	37.7	31.4	55.8	58.7	68.5	72.2
90	79.9	38.9	40.4	38.2	31.9	56.4	59.4	69.3	73.0
91	80.8	39.3	40.9	38.6	32.4	57.1	60.1	70.1	73.8
92	81.7	39.8	41.4	39.1	32.8	57.8	60.8	70.9	74.7
93	82.6	40.2	41.8	39.6	33.3	58.4	61.5	71.7	75.5
94	83.5	40.6	42.3	40.0	33.8	59.1	62.2	72.5	76.3
95	84.4	41.1	42.7	40.5	34.2	59.7	62.9	73.3	77.2
96	85.3	41.5	43.2	41.0	34.7	60.4	63.6	74.1	78.0
97	86.2	42.0	43.7	41.4	35.2	61.1	64.3	74.9	78.8
98	87.1	42.4	44.1	41.9	35.6	61.7	65.0	75.7	79.7
99	87.9	42.9	44.6	42.4	36.1	62.4	65.7	76.5	80.5
100	88.8	43.3	45.0	42.8	36.6	63.0	66.4	77.3	81.3
101	89.7	43.8	45.5	43.3	37.0	63.7	67.1	78.1	82.2
102	90.6	44.2	46.0	43.8	37.5	64.4	67.8	78.8	83.0
103	91.5	44.7	46.4	44.2	38.0	65.0	68.5	79.6	83.8
104	92.4	45.1	46.9	44.7	38.5	65.7	69.1	80.4	84.7
105	93.3	45.5	47.3	45.2	38.9	66.4	69.8	81.2	85.5
106	94.2	46.0	47.8	45.6	39.4	67.0	70.5	82.0	86.3
107	95.0	46.4	48.3	46.1	39.9	67.7	71.2	82.8	87.2
108	95.9	46.9	48.7	46.6	40.3	68.3	71.9	83.6	88.0
109	96.8	47.3	49.2	47.0	40.8	69.0	72.6	84.4	88.8
110	97.7	47.8	49.6	47.5	41.3	69.7	73.3	85.2	89.7
111	98.6	48.2	50.1	48.0	41.7	70.3	74.0	86.0	90.5
112	99.5	48.7	50.6	48.4	42.2	71.0	74.7	86.8	91.3
113	100.4	49.1	51.0	48.9	42.7	71.6	75.4	87.6	92.2
114	101.3	49.6	51.5	49.4	43.2	72.3	76.1	88.4	93.0
115	102.2	50.0	51.9	49.8	43.6	73.0	76.8	89.2	93.9
116	103.0	50.5	52.4	50.3	44.1	73.6	77.5	90.0	94.7
117	103.9	50.9	52.9	50.8	44.6	74.3	78.2	90.7	95.5
118	104.8	51.4	53.3	51.2	45.0	75.0	78.9	91.5	96.4
119	105.7	51.8	53.8	51.7	45.5	75.6	79.6	92.3	97.2
120	106.6	52.3	54.3	52.2	46.0	76.3	80.3	93.1	98.0
121	107.5	52.7	54.7	52.7	46.5	76.9	81.0	93.9	98.9
122	108.4	53.2	55.2	53.1	46.9	77.6	81.7	94.7	99.7
123	109.3	53.6	55.7	53.6	47.4	78.3	82.4	95.5	100.5
124	110.1	54.1	56.1	54.1	47.9	78.9	83.1	96.3	101.4



TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
125	111.0	54.5	56.6	54.5	48.3	79.6	83.8	97.1	102.2
126	111.9	55.0	57.0	55.0	48.8	80.3	84.5	97.9	103.0
127	112.8	55.4	57.5	55.5	49.3	80.9	85.2	98.7	103.9
128	113.7	55.9	58.0	55.9	49.8	81.6	85.9	99.4	104.7
129	114.6	56.3	58.4	56.4	50.2	82.2	86.6	100.2	105.5
130	115.5	56.8	58.9	56.9	50.7	82.9	87.3	101.0	106.4
131	116.4	57.2	59.4	57.4	51.2	83.6	88.0	101.8	107.2
132	117.3	57.7	59.8	57.8	51.7	84.2	88.7	102.6	108.0
133	118.1	58.1	60.3	58.3	52.1	84.9	89.4	103.4	108.9
134	119.0	58.6	60.8	58.8	52.6	85.5	90.1	104.2	109.7
135	119.9	59.0	61.2	59.3	53.1	86.2	90.8	105.0	110.5
136	120.8	59.5	61.7	59.7	53.6	86.9	91.5	105.8	111.4
137	121.7	60.0	62.2	60.2	54.0	87.5	92.1	106.6	112.2
138	122.6	60.4	62.6	60.7	54.5	88.2	92.8	107.4	113.0
139	123.5	60.9	63.1	61.2	55.0	88.9	93.5	108.2	113.9
140	124.4	61.3	63.6	61.6	55.5	89.5	94.2	109.0	114.7
141	125.2	61.8	64.0	62.1	55.9	90.2	94.9	109.8	115.5
142	126.1	62.2	64.5	62.6	56.4	90.8	95.6	110.5	116.4
143	127.0	62.7	65.0	63.1	56.9	91.5	96.3	111.3	117.2
144	127.9	63.1	65.4	63.5	57.4	92.2	97.0	112.1	118.0
145	128.8	63.6	65.9	64.0	57.8	92.8	97.7	112.9	118.9
146	129.7	64.0	66.4	64.5	58.3	93.5	98.4	113.7	119.7
147	130.6	64.5	66.9	65.0	58.8	94.2	99.1	114.5	120.5
148	131.5	65.0	67.3	65.4	59.3	94.8	99.8	115.3	121.4
149	132.4	65.4	67.8	65.9	59.7	95.5	100.5	116.1	122.2
150	133.2	65.9	68.3	66.4	60.2	96.1	101.2	116.9	123.0
151	134.1	66.3	68.7	66.9	60.7	96.8	101.9	117.7	123.9
152	135.0	66.8	69.2	67.3	61.2	97.5	102.6	118.5	124.7
153	135.9	67.2	69.7	67.8	61.7	98.1	103.3	119.3	125.5
154	136.8	67.7	70.1	68.3	62.1	98.8	104.0	120.0	126.4
155	137.7	68.2	70.6	68.8	62.6	99.5	104.7	120.8	127.2
156	138.6	68.6	71.1	69.2	63.1	100.1	105.4	121.6	128.0
157	139.5	69.1	71.6	69.7	63.6	100.8	106.1	122.4	128.9
158	140.3	69.5	72.0	70.2	64.1	101.5	106.8	123.2	129.7
159	141.2	70.0	72.5	70.7	64.5	102.1	107.5	124.0	130.5
160	142.1	70.4	73.0	71.2	65.0	102.8	108.2	124.8	131.4
161	143.0	70.9	73.4	71.6	65.5	103.4	108.9	125.6	132.2
162	143.9	71.4	73.9	72.1	66.0	104.1	109.6	126.4	133.0
163	144.8	71.8	74.4	72.6	66.5	104.8	110.3	127.2	133.9
164	145.7	72.3	74.9	73.1	66.9	105.4	111.0	128.0	134.7

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose ( <i>D</i> -glucose).	Invert sugar.	Invert sugar. and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
165	146.6	72.8	75.3	73.6	67.4	106.1	111.7	128.8	135.5
166	147.5	73.2	75.8	74.0	67.9	106.8	112.4	129.6	136.4
167	148.3	73.7	76.3	74.5	68.4	107.4	113.1	130.3	137.2
168	149.2	74.1	76.8	75.0	68.9	108.1	113.8	131.1	138.0
169	150.1	74.6	77.2	75.5	69.3	108.8	114.5	131.9	138.9
170	151.0	75.1	77.7	76.0	69.8	109.4	115.2	132.7	139.7
171	151.9	75.5	78.2	76.4	70.3	110.1	115.9	133.5	140.5
172	152.8	76.0	78.7	76.9	70.8	110.8	116.6	134.3	141.4
173	153.7	76.4	79.1	77.4	71.3	111.4	117.3	135.1	142.2
174	154.6	76.9	79.6	77.9	71.7	112.1	118.0	135.9	143.0
175	155.5	77.4	80.1	78.4	72.2	112.8	118.7	136.7	143.9
176	156.3	77.8	80.6	78.8	72.7	113.4	119.4	137.5	144.7
177	157.2	78.3	81.0	79.3	73.2	114.1	120.1	138.3	145.5
178	158.1	78.8	81.5	79.8	73.7	114.8	120.8	139.1	146.4
179	159.0	79.2	82.0	80.3	74.2	115.4	121.5	139.8	147.2
180	159.9	79.7	82.5	80.8	74.6	116.1	122.2	140.6	148.0
181	160.8	80.1	82.9	81.3	75.1	116.7	122.9	141.4	148.9
182	161.7	80.6	83.4	81.7	75.6	117.4	123.6	142.2	149.7
183	162.6	81.1	83.9	82.2	76.1	118.1	124.3	143.0	150.5
184	163.4	81.5	84.4	82.7	76.6	118.7	125.0	143.8	151.4
185	164.3	82.0	84.9	83.2	77.1	119.4	125.7	144.6	152.2
186	165.2	82.5	85.3	83.7	77.6	120.1	126.4	145.4	153.0
187	166.1	82.9	85.8	84.2	78.0	120.7	127.1	146.2	153.9
188	167.0	83.4	86.3	84.6	78.5	121.4	127.8	147.0	154.7
189	167.9	83.9	86.8	85.1	79.0	122.1	128.5	147.8	155.5
190	168.8	84.3	87.2	85.6	79.5	122.7	129.2	148.6	156.4
191	169.7	84.8	87.7	86.1	80.0	123.4	129.9	149.3	157.2
192	170.5	85.3	88.2	86.6	80.5	124.1	130.6	150.1	158.0
193	171.4	85.7	88.7	87.1	81.0	124.7	131.3	150.9	158.9
194	172.3	86.2	89.2	87.6	81.4	125.4	132.0	151.7	159.7
195	173.2	86.7	89.6	88.0	81.9	126.1	132.7	152.5	160.5
196	174.1	87.1	90.1	88.5	82.4	126.7	133.4	153.3	161.4
197	175.0	87.6	90.6	89.0	82.9	127.4	134.1	154.1	162.2
198	175.9	88.1	91.1	89.5	83.4	128.1	134.8	154.9	163.0
199	176.8	88.5	91.6	90.0	83.9	128.7	135.5	155.7	163.9
200	177.7	89.0	92.0	90.5	84.4	129.4	136.2	156.5	164.7
201	178.5	89.5	92.5	91.0	84.8	130.0	136.9	157.3	165.5
202	179.4	89.9	93.0	91.4	85.3	130.7	137.6	158.1	166.4
203	180.3	90.4	93.5	91.9	85.8	131.4	138.3	158.8	167.2
204	181.2	90.9	94.0	92.4	86.3	132.0	139.0	159.6	168.0

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
205	182.1	91.4	94.5	92.9	86.8	132.7	139.7	160.4	168.9
206	183.0	91.8	94.9	93.4	87.3	133.4	140.4	161.2	169.7
207	183.9	92.3	95.4	93.9	87.8	134.0	141.1	162.0	170.5
208	184.8	92.8	95.9	94.4	88.3	134.7	141.8	162.8	171.4
209	185.6	93.2	96.4	94.9	88.8	135.4	142.5	163.6	172.2
210	186.5	93.7	96.9	95.4	89.2	136.0	143.2	164.4	173.0
211	187.4	94.2	97.4	95.8	89.7	136.7	143.9	165.2	173.8
212	188.3	94.6	97.8	96.3	90.2	137.4	144.6	166.0	174.7
213	189.2	95.1	98.3	96.8	90.7	138.0	145.3	166.8	175.5
214	190.1	95.6	98.8	97.3	91.2	138.7	146.0	167.5	176.4
215	191.0	96.1	99.3	97.8	91.7	139.4	146.7	168.3	177.2
216	191.9	96.5	99.8	98.3	92.2	140.0	147.4	169.1	178.0
217	192.8	97.0	100.3	98.8	92.7	140.7	148.1	169.9	178.9
218	193.6	97.5	100.8	99.3	93.2	141.4	148.8	170.7	179.7
219	194.5	98.0	101.2	99.8	93.7	142.0	149.5	171.5	180.5
220	195.4	98.4	101.7	100.3	94.2	142.7	150.2	172.3	181.4
221	196.3	98.9	102.2	100.8	94.7	143.4	150.9	173.1	182.2
222	197.2	99.4	102.7	101.2	95.1	144.0	151.6	173.9	183.0
223	198.1	99.9	103.2	101.7	95.6	144.7	152.3	174.7	183.9
224	199.0	100.3	103.7	102.2	96.1	145.4	153.0	175.5	184.7
225	199.9	100.8	104.2	102.7	96.6	146.0	153.7	176.2	185.5
226	200.7	101.3	104.6	103.2	97.1	146.7	154.4	177.0	186.4
227	201.6	101.8	105.1	103.7	97.6	147.4	155.1	177.8	187.2
228	202.5	102.2	105.6	104.2	98.1	148.0	155.8	178.6	188.0
229	203.4	102.7	106.1	104.7	98.6	148.7	156.5	179.4	188.8
230	204.3	103.2	106.6	105.2	99.1	149.4	157.2	180.2	189.7
231	205.2	103.7	107.1	105.7	99.6	150.0	157.9	181.0	190.5
232	206.1	104.1	107.6	106.2	100.1	150.7	158.6	181.8	191.3
233	207.0	104.6	108.1	106.7	100.6	151.4	159.3	182.6	192.2
234	207.9	105.1	108.6	107.2	101.1	152.0	160.0	183.4	193.0
235	208.7	105.6	109.1	107.7	101.6	152.7	160.7	184.2	193.8
236	209.6	106.0	109.5	108.2	102.1	153.4	161.4	184.9	194.7
237	210.5	106.5	110.0	108.7	102.6	154.0	162.1	185.7	195.5
238	211.4	107.0	110.5	109.2	103.1	154.7	162.8	186.5	196.3
239	212.3	107.5	111.0	109.6	103.5	155.4	163.5	187.3	197.2
240	213.2	108.0	111.5	110.1	104.0	156.1	164.3	188.1	198.0
241	214.1	108.4	112.0	110.6	104.5	156.7	165.0	188.9	198.8
242	215.0	108.9	112.5	111.1	105.0	157.4	165.7	189.7	199.7
243	215.8	109.4	113.0	111.6	105.5	158.1	166.4	190.5	200.5
244	216.7	109.9	113.5	112.1	106.0	158.7	167.1	191.3	201.3

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose ( <i>d</i> -glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
245	217.6	110.4	114.0	112.6	106.5	159.4	167.8	192.1	202.2
246	218.5	110.8	114.5	113.1	107.0	160.1	168.5	192.9	203.0
247	219.4	111.3	115.0	113.6	107.5	160.7	169.2	193.6	203.8
248	220.3	111.8	115.4	114.1	108.0	161.4	169.9	194.4	204.7
249	221.2	112.3	115.9	114.6	108.5	162.1	170.6	195.2	205.5
250	222.1	112.8	116.4	115.1	109.0	162.7	171.3	196.0	206.3
251	223.0	113.2	116.9	115.6	109.5	163.4	172.0	196.8	207.2
252	223.8	113.7	117.4	116.1	110.0	164.1	172.7	197.6	208.0
253	224.7	114.2	117.9	116.6	110.5	164.7	173.4	198.4	208.8
254	225.6	114.7	118.4	117.1	111.0	165.4	174.1	199.2	209.7
255	226.5	115.2	118.9	117.6	111.5	166.1	174.8	200.0	210.5
256	227.4	115.7	119.4	118.1	112.0	166.8	175.5	200.8	211.3
257	228.3	116.1	119.9	118.6	112.5	167.4	176.2	201.6	212.2
258	229.2	116.6	120.4	119.1	113.0	168.1	176.9	202.3	213.0
259	230.1	117.1	120.9	119.6	113.5	168.8	177.6	203.1	213.8
260	231.0	117.6	121.4	120.1	114.0	169.4	178.3	203.9	214.7
261	231.8	118.1	121.9	120.6	114.5	170.1	179.0	204.7	215.5
262	232.7	118.6	122.4	121.1	115.0	170.8	179.8	205.5	216.3
263	233.6	119.0	122.9	121.6	115.5	171.4	180.5	206.3	217.2
264	234.5	119.5	123.4	122.1	116.0	172.1	181.2	207.1	218.0
265	235.4	120.0	123.9	122.6	116.5	172.8	181.9	207.9	218.8
266	236.3	120.5	124.4	123.1	117.0	173.5	182.6	208.7	219.7
267	237.2	121.0	124.9	123.6	117.5	174.1	183.3	209.5	220.5
268	238.1	121.5	125.4	124.1	118.0	174.8	184.0	210.3	221.3
269	238.9	122.0	125.9	124.6	118.5	175.5	184.7	211.0	222.1
270	239.8	122.5	126.4	125.1	119.0	176.1	185.4	211.8	223.0
271	240.7	122.9	126.9	125.6	119.5	176.8	186.1	212.6	223.8
272	241.6	123.4	127.4	126.2	120.0	177.5	186.8	213.4	224.6
273	242.5	123.9	127.9	126.7	120.6	178.1	187.5	214.2	225.5
274	243.4	124.4	128.4	127.2	121.1	178.8	188.2	215.0	226.3
275	244.3	124.9	128.9	127.7	121.6	179.5	188.9	215.8	227.1
276	245.2	125.4	129.4	128.2	122.1	180.2	189.6	216.6	228.0
277	246.1	125.9	129.9	128.7	122.6	180.8	190.3	217.4	228.8
278	246.9	126.4	130.4	129.2	123.1	181.5	191.0	218.2	229.6
279	247.8	126.9	130.9	129.7	123.6	182.2	191.7	218.9	230.5
280	248.7	127.3	131.4	130.2	124.1	182.8	192.4	219.7	231.3
281	249.6	127.8	131.9	130.7	124.6	183.5	193.1	220.5	232.1
282	250.5	128.3	132.4	131.2	125.1	184.2	193.9	221.3	233.0
283	251.4	128.8	132.9	131.7	125.6	184.8	194.6	222.1	233.8
284	252.3	129.3	133.4	132.2	126.1	185.5	195.3	222.9	234.6

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
285	253.2	129.8	133.9	132.7	126.6	186.2	196.0	223.7	235.5
286	254.0	130.3	134.4	133.2	127.1	186.9	196.7	224.5	236.3
287	254.9	130.8	134.9	133.7	127.6	187.5	197.4	225.3	237.1
288	255.8	131.3	135.4	134.3	128.1	188.2	198.1	226.1	238.0
289	256.7	131.8	135.9	134.8	128.6	188.9	198.8	226.9	238.8
290	257.6	132.3	136.4	135.3	129.2	189.5	199.5	227.6	239.6
291	258.5	132.7	136.9	135.8	129.7	190.2	200.2	228.4	240.5
292	259.4	133.2	137.4	136.3	130.2	190.9	200.9	229.2	241.3
293	260.3	133.7	137.9	136.8	130.7	191.5	201.6	230.0	242.1
294	261.2	134.2	138.4	137.3	131.2	192.2	202.3	230.8	242.9
295	262.0	134.7	138.9	137.8	131.7	192.9	203.0	231.6	243.8
296	262.9	135.2	139.4	138.3	132.2	193.6	203.7	232.4	244.6
297	263.8	135.7	140.0	138.8	132.7	194.2	204.4	233.2	245.4
298	264.7	136.2	140.5	139.4	133.2	194.9	205.1	234.0	246.3
299	265.6	136.7	141.0	139.9	133.7	195.6	205.8	234.8	247.1
300	266.5	137.2	141.5	140.4	134.2	196.2	206.6	235.5	247.9
301	267.4	137.7	142.0	140.9	134.8	196.9	207.3	236.3	248.8
302	268.3	138.2	142.5	141.4	135.3	197.6	208.0	237.1	249.6
303	269.1	138.7	143.0	141.9	135.8	198.3	208.7	237.9	250.4
304	270.0	139.2	143.5	142.4	136.3	198.9	209.4	238.7	251.3
305	270.9	139.7	144.0	142.9	136.8	199.6	210.1	239.5	252.1
306	271.8	140.2	144.5	143.4	137.3	200.3	210.8	240.3	252.9
307	272.7	140.7	145.0	144.0	137.8	201.0	211.5	241.1	253.8
308	273.6	141.2	145.5	144.5	138.3	201.6	212.2	241.9	254.6
309	274.5	141.7	146.1	145.0	138.8	202.3	212.9	242.7	255.4
310	275.4	142.2	146.6	145.5	139.4	203.0	213.7	243.5	256.3
311	276.3	142.7	147.1	146.0	139.9	203.6	214.4	244.2	257.1
312	277.1	143.2	147.6	146.5	140.4	204.3	215.1	245.0	257.9
313	278.0	143.7	148.1	147.0	140.9	205.0	215.8	245.8	258.8
314	278.9	144.2	148.6	147.6	141.4	205.7	216.5	246.6	259.6
315	279.8	144.7	149.1	148.1	141.9	206.3	217.2	247.4	260.4
316	280.7	145.2	149.6	148.6	142.4	207.0	217.9	248.2	261.2
317	281.6	145.7	150.1	149.1	143.0	207.7	218.6	249.0	262.1
318	282.5	146.2	150.7	149.6	143.5	208.4	219.3	249.8	262.9
319	283.4	146.7	151.2	150.1	144.0	209.0	220.0	250.6	263.7
320	284.2	147.2	151.7	150.7	144.5	209.7	220.7	251.3	264.6
321	285.1	147.7	152.2	151.2	145.0	210.4	221.4	252.1	265.4
322	286.0	148.2	152.7	151.7	145.5	211.0	222.2	252.9	266.2
323	286.9	148.7	153.2	152.2	146.0	211.7	222.9	253.7	267.1
324	287.8	149.2	153.7	152.7	146.6	212.4	223.6	254.5	267.9

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
325	288.7	149.7	154.3	153.2	147.1	213.1	224.3	255.3	268.7
326	289.6	150.2	154.8	153.8	147.6	213.7	225.0	256.1	269.6
327	290.5	150.7	155.3	154.3	148.1	214.4	225.7	256.9	270.4
328	291.4	151.2	155.8	154.8	148.6	215.1	226.4	257.7	271.2
329	292.2	151.7	156.3	155.3	149.1	215.8	227.1	258.5	272.1
330	293.1	152.2	156.8	155.8	149.7	216.4	227.8	259.3	272.9
331	294.0	152.7	157.3	156.4	150.2	217.1	228.5	260.0	273.7
332	294.9	153.2	157.9	156.9	150.7	217.8	229.2	260.8	274.6
333	295.8	153.7	158.4	157.4	151.2	218.4	230.0	261.6	275.4
334	296.7	154.2	158.9	157.9	151.7	219.1	230.7	262.4	276.2
335	297.6	154.7	159.4	158.4	152.3	219.8	231.4	263.2	277.0
336	298.5	155.2	159.9	159.0	152.8	220.5	232.1	264.0	277.9
337	299.3	155.8	160.5	159.5	153.3	221.1	232.8	264.8	278.7
338	300.2	156.3	161.0	160.0	153.8	221.8	233.5	265.6	279.5
339	301.1	156.8	161.5	160.5	154.3	222.5	234.2	266.4	280.4
340	302.0	157.3	162.0	161.0	154.8	223.2	234.9	267.1	281.2
341	302.9	157.8	162.5	161.6	155.4	223.8	235.6	267.9	282.0
342	303.8	158.3	163.1	162.1	155.9	224.5	236.3	268.7	282.9
343	304.7	158.8	163.6	162.6	156.4	225.2	237.0	269.5	283.7
344	305.6	159.3	164.1	163.1	156.9	225.9	237.8	270.3	284.5
345	306.5	159.8	164.6	163.7	157.5	226.5	238.5	271.1	285.4
346	307.3	160.3	165.1	164.2	158.0	227.2	239.2	271.9	286.2
347	308.2	160.8	165.7	164.7	158.5	227.9	239.9	272.7	287.0
348	309.1	161.4	166.2	165.2	159.0	228.5	240.6	273.5	287.9
349	310.0	161.9	166.7	165.7	159.5	229.2	241.3	274.3	288.7
350	310.9	162.4	167.2	166.3	160.1	229.9	242.0	275.0	289.5
351	311.8	162.9	167.7	166.8	160.6	230.6	242.7	275.8	290.4
352	312.7	163.4	168.3	167.3	161.1	231.2	243.4	276.6	291.2
353	313.6	163.9	168.8	167.8	161.6	231.9	244.1	277.4	292.0
354	314.4	164.4	169.3	168.4	162.2	232.6	244.8	278.2	292.8
355	315.3	164.9	169.8	168.9	162.7	233.3	245.6	279.0	293.7
356	316.2	165.4	170.4	169.4	163.2	233.9	246.3	279.8	294.5
357	317.1	166.0	170.9	170.0	163.7	234.6	247.0	280.6	295.3
358	318.0	166.5	171.4	170.5	164.3	235.3	247.7	281.4	296.2
359	318.9	167.0	171.9	171.0	164.8	236.0	248.4	282.2	297.0
360	319.8	167.5	172.5	171.5	165.3	236.7	249.1	282.9	297.8
361	320.7	168.0	173.0	172.1	165.8	237.3	249.8	283.7	298.7
362	321.6	168.5	173.5	172.6	166.4	238.0	250.5	284.5	299.5
363	322.4	169.0	174.0	173.1	166.9	238.7	251.2	285.3	300.3
364	323.3	169.6	174.6	173.7	167.4	239.4	252.0	286.1	301.2

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
365	324.2	170.1	175.1	174.2	167.9	240.0	252.7	286.9	302.0
366	325.1	170.6	175.6	174.7	168.5	240.7	253.4	287.7	302.8
367	326.0	171.1	176.1	175.2	169.0	241.4	254.1	288.5	303.6
368	326.9	171.6	176.7	175.8	169.5	242.1	254.8	289.3	304.5
369	327.8	172.1	177.2	176.3	170.0	242.7	255.5	290.0	305.3
370	328.7	172.7	177.7	176.8	170.6	243.4	256.2	290.8	306.1
371	329.5	173.2	178.3	177.4	171.1	244.1	256.9	291.6	307.0
372	330.4	173.7	178.8	177.9	171.6	244.8	257.7	292.4	307.8
373	331.3	174.2	179.3	178.4	172.2	245.4	258.4	293.2	308.6
374	332.2	174.7	179.8	179.0	172.7	246.1	259.1	294.0	309.5
375	333.1	175.3	180.4	179.5	173.2	246.8	259.8	294.8	310.3
376	334.0	175.8	180.9	180.0	173.7	247.5	260.5	295.6	311.1
377	334.9	176.3	181.4	180.6	174.3	248.1	261.2	296.4	312.0
378	335.8	176.8	182.0	181.1	174.8	248.8	261.9	297.2	312.8
379	336.7	177.3	182.5	181.6	175.3	249.5	262.6	297.9	313.6
380	337.5	177.9	183.0	182.1	175.9	250.2	263.4	298.7	314.5
381	338.4	178.4	183.6	182.7	176.4	250.8	264.1	299.5	315.3
382	339.3	178.9	184.1	183.2	176.9	251.5	264.8	300.3	316.1
383	340.2	179.4	184.6	183.8	177.5	252.2	265.5	301.1	316.9
384	341.1	180.0	185.2	184.3	178.0	252.9	266.2	301.9	317.8
385	342.0	180.5	185.7	184.8	178.5	253.6	266.9	302.7	318.6
386	342.9	181.0	186.2	185.4	179.1	254.2	267.6	303.5	319.4
387	343.8	181.5	186.8	185.9	179.6	254.9	268.3	304.2	320.3
388	344.6	182.0	187.3	186.4	180.1	255.6	269.0	305.0	321.1
389	345.5	182.6	187.8	187.0	180.6	256.3	269.8	305.8	321.9
390	346.4	183.1	188.4	187.5	181.2	256.9	270.5	306.6	322.8
391	347.3	183.6	188.9	188.0	181.7	257.6	271.2	307.4	323.6
392	348.2	184.1	189.4	188.6	182.3	258.3	271.9	308.2	324.4
393	349.1	184.7	190.0	189.1	182.8	259.0	272.6	309.0	325.2
394	350.0	185.2	190.5	189.7	183.3	259.6	273.3	309.8	326.1
395	350.9	185.7	191.0	190.2	183.9	260.3	274.0	310.6	326.9
396	351.8	186.2	191.6	190.7	184.4	261.0	274.7	311.4	327.7
397	352.6	186.8	192.1	191.3	184.9	261.7	275.5	312.1	328.6
398	353.5	187.3	192.7	191.8	185.5	262.3	276.2	312.9	329.4
399	354.4	187.8	193.2	192.3	186.0	263.0	276.9	313.7	330.2
400	355.3	188.4	193.7	192.9	186.5	263.7	277.6	314.5	331.1
401	356.2	188.9	194.3	193.4	187.1	264.4	278.3	315.3	331.9
402	357.1	189.4	194.8	194.0	187.6	265.0	279.0	316.1	332.7
403	358.0	189.9	195.4	194.5	188.1	265.7	279.7	316.9	333.6
404	358.9	190.5	195.9	195.0	188.7	266.4	280.4	317.7	334.4

TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
405	359.7	191.0	196.4	195.6	189.2	267.1	281.1	318.5	335.2
406	360.6	191.5	197.0	196.1	189.8	267.8	281.9	319.2	336.0
407	361.5	192.1	197.5	196.7	190.3	268.4	282.6	320.0	336.9
408	362.4	192.6	198.1	197.2	190.8	269.1	283.3	320.8	337.7
409	363.3	193.1	198.6	197.7	191.4	269.8	284.0	321.6	338.5
410	364.2	193.7	199.1	198.3	191.9	270.5	284.7	322.4	339.4
411	365.1	194.2	199.7	198.8	192.5	271.2	285.4	323.2	340.2
412	366.0	194.7	200.2	199.4	193.0	271.8	286.2	324.0	341.0
413	366.9	195.2	200.8	199.9	193.5	272.5	286.9	324.8	341.9
414	367.7	195.8	201.3	200.5	194.1	273.2	287.6	325.6	342.7
415	368.6	196.3	201.8	201.0	194.6	273.9	288.3	326.3	343.5
416	369.5	196.8	202.4	201.6	195.2	274.6	289.0	327.1	344.4
417	370.4	197.4	202.9	202.1	195.7	275.2	289.7	327.9	345.2
418	371.3	197.9	203.5	202.6	196.2	275.9	290.4	328.7	346.0
419	372.2	198.4	204.0	203.2	196.8	276.6	291.2	329.5	346.8
420	373.1	199.0	204.6	203.7	197.3	277.3	291.9	330.3	347.7
421	374.0	199.5	205.1	204.3	197.9	277.9	292.6	331.1	348.5
422	374.8	200.1	205.7	204.8	198.4	278.6	293.3	331.9	349.3
423	375.7	200.6	206.2	205.4	198.9	279.3	294.0	332.7	350.2
424	376.6	201.1	206.7	205.9	199.5	280.0	294.7	333.4	351.0
425	377.5	201.7	207.3	206.5	200.0	280.7	295.4	334.2	351.8
426	378.4	202.2	207.8	207.0	200.6	281.3	296.2	335.0	352.7
427	379.3	202.8	208.4	207.6	201.1	282.0	296.9	335.8	353.5
428	380.2	203.3	208.9	208.1	201.7	282.7	297.6	336.6	354.3
429	381.1	203.8	209.5	208.7	202.2	283.4	298.3	337.4	355.1
430	382.0	204.4	210.0	209.2	202.7	284.1	299.0	338.2	356.0
431	382.8	204.9	210.6	209.8	203.3	284.7	299.7	339.0	356.8
432	383.7	205.5	211.1	210.3	203.8	285.4	300.5	339.7	357.6
433	384.6	206.0	211.7	210.9	204.4	286.1	301.2	340.5	358.5
434	385.5	206.5	212.2	211.4	204.9	286.8	301.9	341.3	359.3
435	386.4	207.1	212.8	212.0	205.5	287.5	302.6	342.1	360.1
436	387.3	207.6	213.3	212.5	206.0	288.1	303.3	342.9	361.0
437	388.2	208.2	213.9	213.1	206.6	288.8	304.0	343.7	361.8
438	389.1	208.7	214.4	213.6	207.1	289.5	304.7	344.5	362.6
439	390.0	209.2	215.0	214.2	207.7	290.2	305.5	345.3	363.4
440	390.8	209.8	215.5	214.7	208.2	290.9	306.2	346.1	364.3
441	391.7	210.3	216.1	215.3	208.8	291.5	306.9	346.8	365.1
442	392.6	210.9	216.6	215.8	209.3	292.2	307.6	347.6	365.9
443	393.5	211.4	217.2	216.4	209.9	292.9	308.3	348.4	366.8
444	394.4	212.0	217.8	216.9	210.4	293.6	309.0	349.2	367.6



TABLE 19. (Continued.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose (d-glucose)	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
445	395.3	212.5	218.3	217.5	211.0	294.2	309.7	350.0	368.4
446	396.2	213.1	218.9	218.0	211.5	294.9	310.5	350.8	369.3
447	397.1	213.6	219.4	218.6	212.1	295.6	311.2	351.6	370.1
448	397.9	214.1	220.0	219.1	212.6	296.3	311.9	352.4	370.9
449	398.8	214.7	220.5	219.7	213.2	297.0	312.6	353.2	371.7
450	399.7	215.2	221.1	220.2	213.7	297.6	313.3	353.9	372.6
451	400.6	215.8	221.6	220.8	214.3	298.3	314.0	354.7	373.4
452	401.5	216.3	222.2	221.4	214.8	299.0	314.7	355.5	374.2
453	402.4	216.9	222.8	221.9	215.4	299.7	315.5	356.3	375.1
454	403.3	217.4	223.3	222.5	215.9	300.4	316.2	357.1	375.9
455	404.2	218.0	223.9	223.0	216.5	301.1	316.9	357.9	376.7
456	405.1	218.5	224.4	223.6	217.0	301.7	317.6	358.7	377.6
457	405.9	219.1	225.0	224.1	217.6	302.4	318.3	359.5	378.4
458	406.8	219.6	225.5	224.7	218.1	303.1	319.0	360.3	379.2
459	407.7	220.2	226.1	225.3	218.7	303.8	319.8	361.0	380.0
460	408.6	220.7	226.7	225.8	219.2	304.5	320.5	361.8	380.9
461	409.5	221.3	227.2	226.4	219.8	305.1	321.2	362.6	381.7
462	410.4	221.8	227.8	226.9	220.3	305.8	321.9	363.4	382.5
463	411.3	222.4	228.3	227.5	220.9	306.5	322.6	364.2	383.4
464	412.2	222.9	228.9	228.1	221.4	307.2	323.4	365.0	384.2
465	413.0	223.5	229.5	228.6	222.0	307.9	324.1	365.8	385.0
466	413.9	224.0	230.0	229.2	222.5	308.6	324.8	366.6	385.9
467	414.8	224.6	230.6	229.7	223.1	309.2	325.5	367.3	386.7
468	415.7	225.1	231.2	230.3	223.7	309.9	326.2	368.1	387.5
469	416.6	225.7	231.7	230.9	224.2	310.6	326.9	368.9	388.3
470	417.5	226.2	232.3	231.4	224.8	311.3	327.7	369.7	389.2
471	418.4	226.8	232.8	232.0	225.3	312.0	328.4	370.5	390.0
472	419.3	227.4	233.4	232.5	225.9	312.6	329.1	371.3	390.8
473	420.2	227.9	234.0	233.1	226.4	313.3	329.8	372.1	391.7
474	421.0	228.5	234.5	233.7	227.0	314.0	330.5	372.9	392.5
475	421.9	229.0	235.1	234.2	227.6	314.7	331.3	373.7	393.3
476	422.8	229.6	235.7	234.8	228.1	315.4	332.0	374.4	394.2
477	423.7	230.1	236.2	235.4	228.7	316.1	332.7	375.2	395.0
478	424.6	230.7	236.8	235.9	229.2	316.7	333.4	376.0	395.8
479	425.5	231.3	237.4	236.5	229.8	317.4	334.1	376.8	396.6
480	426.4	231.8	237.9	237.1	230.3	318.1	334.8	377.6	397.5
481	427.3	232.4	238.5	237.6	230.9	318.8	335.6	378.4	398.3
482	428.1	232.9	239.1	238.2	231.5	319.5	336.3	379.2	399.1
483	429.0	233.5	239.6	238.8	232.0	320.1	337.0	380.0	400.0
484	429.9	234.1	240.2	239.3	232.6	320.8	337.7	380.7	400.8

TABLE 19. (Concluded.)

Cuprous oxide (Cu <sub>2</sub> O).	Copper (Cu).	Dextrose( <i>d</i> -glucose).	Invert sugar.	Invert sugar and sucrose.		Lactose.		Maltose.	
				0.4 gram total sugar.	2 grams total sugar.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> .	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> +H <sub>2</sub> O.
mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.	mgs.
485	430.8	234.6	240.8	239.9	233.2	321.5	338.4	381.5	401.6
486	431.7	235.2	241.4	240.5	233.7	322.2	339.1	382.3	402.4
487	432.6	235.7	241.9	241.0	234.3	322.9	339.9	383.1	403.3
488	433.5	236.3	242.5	241.6	234.8	323.6	340.6	383.9	404.1
489	434.4	236.9	243.1	242.2	235.4	324.2	341.3	384.7	404.9
490	435.3	237.4	243.6	242.7	236.0	324.9	342.0	385.5	405.8

## SUGAR TABLES

79

TABLE \* 20.

BERTRAND'S TABLE FOR DETERMINING INVERT SUGAR, GLUCOSE, GALACTOSE, MALTOSE, AND LACTOSE.

Milligrams of sugar.	Milligrams of copper corresponding to				
	Invert sugar.	Glucose.	Galactose.	Maltose.	Lactose.
10	20.6	20.4	19.3	11.2	14.4
11	22.6	22.4	21.2	12.3	15.8
12	24.6	24.3	23.0	13.4	17.2
13	26.5	26.3	24.9	14.5	18.6
14	28.5	28.3	26.7	15.6	20.0
15	30.5	30.2	28.6	16.7	21.4
16	32.5	32.2	30.5	17.8	22.8
17	34.5	34.2	32.3	18.9	24.2
18	36.4	36.2	34.2	20.0	25.6
19	38.4	38.1	36.0	21.1	27.0
20	40.4	40.1	37.9	22.2	28.4
21	42.3	42.0	39.7	23.3	29.8
22	44.2	43.9	41.6	24.4	31.1
23	46.1	45.8	43.4	25.5	32.5
24	48.0	47.7	45.2	26.6	33.9
25	49.8	49.6	47.0	27.7	35.2
26	51.7	51.5	48.9	28.9	36.6
27	53.6	53.4	50.7	30.0	38.0
28	55.5	55.3	52.5	31.1	39.4
29	57.4	57.2	54.4	32.2	40.7
30	59.3	59.1	56.2	33.3	42.1
31	61.1	60.9	58.0	34.4	43.4
32	63.0	62.8	59.7	35.5	44.8
33	64.8	64.6	61.5	36.5	46.1
34	66.7	66.5	63.3	37.6	47.4
35	68.5	68.3	65.0	38.7	48.7
36	70.3	70.1	66.8	39.8	50.1
37	72.2	72.0	68.6	40.9	51.4
38	74.0	73.8	70.4	41.9	52.7
39	75.9	75.7	72.1	43.0	54.1
40	77.7	77.5	73.9	44.1	55.4
41	79.5	79.3	75.6	45.2	56.7
42	81.2	81.1	77.4	46.3	58.0
43	83.0	82.9	79.1	47.4	59.3
44	84.8	84.7	80.8	48.5	60.6
45	86.5	86.4	82.5	49.5	61.9
46	88.3	88.2	84.3	50.6	63.3
47	90.1	90.0	86.0	51.7	64.6
48	91.9	91.8	87.7	52.8	65.9
49	93.6	93.6	89.5	53.9	67.2
50	95.4	95.4	91.2	55.0	68.5
51	97.1	97.1	92.9	56.1	69.8
52	98.8	98.9	94.6	57.1	71.1
53	100.6	100.6	96.3	58.2	72.4
54	102.2	102.3	98.0	59.3	73.7
55	104.0	104.1	99.7	60.3	74.9
56	105.7	105.8	101.5	61.4	76.2
57	107.4	107.6	103.2	62.5	77.5
58	109.2	109.3	104.9	63.5	78.8
59	110.9	111.1	106.6	64.6	80.1

\* See "Handbook," page 426.

TABLE 20. (Concluded.)

Milligrams of sugar.	Milligrams of copper corresponding to				
	Invert sugar.	Glucose.	Galactose.	Maltose.	Lactose.
60	112.6	112.8	108.3	65.7	81.4
61	114.3	114.5	110.0	66.8	82.7
62	115.9	116.2	111.6	67.9	83.9
63	117.6	117.9	113.3	68.9	85.2
64	119.2	119.6	115.0	70.0	86.5
65	120.9	121.3	116.6	71.1	87.7
66	122.6	123.0	118.3	72.2	89.9
67	124.2	124.7	120.0	73.3	90.3
68	125.9	126.4	121.7	74.3	91.6
69	127.5	128.1	123.3	75.4	92.8
70	129.2	129.8	125.0	76.5	94.1
71	130.8	131.4	126.6	77.6	95.4
72	132.4	133.1	128.3	78.6	96.9
73	134.0	134.7	130.0	79.7	98.0
74	135.6	136.3	131.5	80.8	99.1
75	137.2	137.9	133.1	81.8	100.4
76	138.9	139.6	134.8	82.9	101.7
77	140.5	141.2	136.4	84.0	102.9
78	142.1	142.8	138.0	85.1	104.2
79	143.7	144.5	139.7	86.1	105.4
80	145.3	146.1	141.3	87.2	106.7
81	146.9	147.7	142.9	88.3	107.9
82	148.5	149.3	144.6	89.4	109.2
83	150.0	150.9	146.2	90.4	110.4
84	151.6	152.5	147.8	91.5	111.7
85	153.2	154.0	149.4	92.6	112.9
86	154.8	155.6	151.1	93.7	114.1
87	156.4	157.2	152.7	94.8	115.4
88	157.9	158.8	154.3	95.8	116.6
89	159.5	160.4	156.0	96.9	117.9
90	161.1	162.0	157.6	98.0	119.1
91	162.6	163.6	159.2	99.0	120.3
92	164.2	165.2	160.8	100.1	121.6
93	165.7	166.7	162.4	101.1	122.8
94	167.3	168.3	164.0	102.2	124.0
95	168.8	169.9	165.6	103.2	125.2
96	170.3	171.5	167.2	104.2	126.5
97	171.9	173.1	168.8	105.3	127.7
98	173.4	174.6	170.4	106.3	128.9
99	175.0	176.2	172.0	107.4	130.2
100	176.5	177.8	173.6	108.4	131.4

TABLE \* 21.

HERZFELD'S TABLE FOR DETERMINING INVERT SUGAR IN RAW SUGARS (INVERT SUGAR NOT TO EXCEED 1.5%)

Copper. (Cu.)	Invert sugar.	Copper. (Cu.)	Invert sugar.	Copper. (Cu.)	Invert sugar.	Copper. (Cu.)	Invert sugar.
mgs.	per cent.	mgs.	per cent.	mgs.	per cent.	mgs.	per cent.
50	0.050	101	0.305	152	0.574	203	0.863
51	0.054	102	0.310	153	0.580	204	0.869
52	0.058	103	0.315	154	0.586	205	0.874
53	0.062	104	0.320	155	0.592	206	0.880
54	0.066	105	0.325	156	0.598	207	0.885
55	0.070	106	0.330	157	0.604	208	0.891
56	0.074	107	0.335	158	0.609	209	0.896
57	0.078	108	0.340	159	0.615	210	0.902
58	0.082	109	0.346	160	0.621	211	0.907
59	0.086	110	0.351	161	0.627	212	0.913
60	0.090	111	0.356	162	0.633	213	0.918
61	0.094	112	0.361	163	0.639	214	0.924
62	0.098	113	0.366	164	0.645	215	0.929
63	0.103	114	0.371	165	0.651	216	0.935
64	0.108	115	0.376	166	0.657	217	0.940
65	0.113	116	0.381	167	0.663	218	0.946
66	0.118	117	0.386	168	0.669	219	0.951
67	0.123	118	0.392	169	0.675	220	0.957
68	0.128	119	0.397	170	0.680	221	0.962
69	0.133	120	0.402	171	0.686	222	0.968
70	0.138	121	0.407	172	0.692	223	0.973
71	0.143	122	0.412	173	0.698	224	0.979
72	0.148	123	0.417	174	0.704	225	0.984
73	0.152	124	0.423	175	0.709	226	0.990
74	0.157	125	0.428	176	0.715	227	0.996
75	0.162	126	0.433	177	0.720	228	1.001
76	0.167	127	0.438	178	0.726	229	1.007
77	0.172	128	0.443	179	0.731	230	1.013
78	0.177	129	0.448	180	0.737	231	1.018
79	0.182	130	0.453	181	0.742	232	1.024
80	0.187	131	0.458	182	0.748	233	1.030
81	0.192	132	0.463	183	0.753	234	1.036
82	0.197	133	0.468	184	0.759	235	1.041
83	0.202	134	0.473	185	0.764	236	1.047
84	0.208	135	0.478	186	0.770	237	1.053
85	0.213	136	0.483	187	0.775	238	1.058
86	0.219	137	0.488	188	0.781	239	1.064
87	0.225	138	0.493	189	0.786	240	1.070
88	0.231	139	0.498	190	0.792	241	1.076
89	0.236	140	0.503	191	0.797	242	1.081
90	0.242	141	0.509	192	0.803	243	1.087
91	0.248	142	0.515	193	0.808	244	1.093
92	0.254	143	0.521	194	0.814	245	1.099
93	0.260	144	0.527	195	0.819	246	1.104
94	0.265	145	0.533	196	0.825	247	1.110
95	0.271	146	0.538	197	0.830	248	1.116
96	0.277	147	0.544	198	0.836	249	1.122
97	0.283	148	0.550	199	0.841	250	1.127
98	0.288	149	0.556	200	0.847	251	1.133
99	0.294	150	0.562	201	0.852	252	1.139
100	0.300	151	0.568	202	0.858	253	1.144

\* See "Handbook," page 428.

TABLE 21. (Concluded.)

Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.	Copper. (Cu).	Invert sugar.
mgs.	per cent.	mgs.	per cent.	mgs.	per cent.	mgs.	per cent.
254	1.150	<b>270</b>	1.242	286	1.334	302	1.425
255	1.156	271	1.248	287	1.339	303	1.431
256	1.162	272	1.253	288	1.345	304	1.437
257	1.167	273	1.259	289	1.351	305	1.443
258	1.173	274	1.265	<b>290</b>	1.357	306	1.448
259	1.179	275	1.271	291	1.362	307	1.454
<b>260</b>	1.185	276	1.276	292	1.368	308	1.460
261	1.190	277	1.282	293	1.374	309	1.466
262	1.196	278	1.288	294	1.380	<b>310</b>	1.471
263	1.202	279	1.294	295	1.385	311	1.477
264	1.207	<b>280</b>	1.299	296	1.391	312	1.483
265	1.213	281	1.305	297	1.397	313	1.489
266	1.219	282	1.311	298	1.403	314	1.494
267	1.225	283	1.317	299	1.408	315	1.500
268	1.231	284	1.322	<b>300</b>	1.414		
269	1.236	285	1.328	301	1.420		

TABLE \* 22.

KRÖBER'S TABLE FOR DETERMINING PENTOSE AND PENTOSANS.

Furfural phloroglu- cide.	Furfural.	Arabinose.	Araban.	Xylose.	Xylan.	Pentose.	Pentosan.
grams.	grams.	grams.	grams.	grams.	grams.	grams.	grams.
0.030	0.0182	0.0391	0.0344	0.0324	0.0285	0.0358	0.0315
.031	.0188	.0402	.0354	.0333	.0293	.0368	.0324
.032	.0193	.0413	.0363	.0342	.0301	.0378	.0333
.033	.0198	.0424	.0373	.0352	.0309	.0388	.0341
.034	.0203	.0435	.0383	.0361	.0317	.0398	.0350
.035	.0209	.0446	.0393	.0370	.0326	.0408	.0359
.036	.0214	.0457	.0402	.0379	.0334	.0418	.0368
.037	.0219	.0468	.0412	.0388	.0342	.0428	.0377
.038	.0224	.0479	.0422	.0398	.0350	.0439	.0386
.039	.0229	.0490	.0431	.0407	.0358	.0449	.0395
.040	.0235	.0501	.0441	.0416	.0366	.0459	.0404
.041	.0240	.0512	.0451	.0425	.0374	.0469	.0413
.042	.0245	.0523	.0460	.0434	.0382	.0479	.0422
.043	.0250	.0534	.0470	.0443	.0390	.0489	.0431
.044	.0255	.0545	.0480	.0452	.0398	.0499	.0440
.045	.0260	.0556	.0490	.0462	.0406	.0509	.0448
.046	.0266	.0567	.0499	.0471	.0414	.0519	.0457
.047	.0271	.0578	.0509	.0480	.0422	.0529	.0466
.048	.0276	.0589	.0519	.0489	.0430	.0539	.0475
.049	.0281	.0600	.0528	.0498	.0438	.0549	.0484
.050	.0286	.0611	.0538	.0507	.0446	.0559	.0492
.051	.0292	.0622	.0548	.0516	.0454	.0569	.0501
.052	.0297	.0633	.0557	.0525	.0462	.0579	.0510
.053	.0302	.0644	.0567	.0534	.0470	.0589	.0519
.054	.0307	.0655	.0576	.0543	.0478	.0599	.0528
.055	.0312	.0666	.0586	.0553	.0486	.0610	.0537
.056	.0318	.0677	.0596	.0562	.0494	.0620	.0546
.057	.0323	.0688	.0605	.0571	.0502	.0630	.0555
.058	.0328	.0699	.0615	.0580	.0510	.0640	.0564
.059	.0333	.0710	.0624	.0589	.0518	.0650	.0573
.060	.0338	.0721	.0634	.0598	.0526	.0660	.0581
.061	.0344	.0732	.0644	.0607	.0534	.0670	.0590
.062	.0349	.0743	.0653	.0616	.0542	.0680	.0599
.063	.0354	.0754	.0663	.0626	.0550	.0690	.0608
.064	.0359	.0765	.0673	.0635	.0558	.0700	.0617
.065	.0364	.0776	.0683	.0644	.0567	.0710	.0625
.066	.0370	.0787	.0692	.0653	.0575	.0720	.0634
.067	.0375	.0798	.0702	.0662	.0583	.0730	.0643
.068	.0380	.0809	.0712	.0672	.0591	.0741	.0652
.069	.0385	.0820	.0721	.0681	.0599	.0751	.0661
.070	.0390	.0831	.0731	.0690	.0607	.0761	.0670
.071	.0396	.0842	.0741	.0699	.0615	.0771	.0679
.072	.0401	.0853	.0750	.0708	.0623	.0781	.0688
.073	.0406	.0864	.0760	.0717	.0631	.0791	.0697
.074	.0411	.0875	.0770	.0726	.0639	.0801	.0706

\* See "Handbook," page 450.

TABLE 22. (Continued.)

Furfural phloroglu- cide.	Furfural.	Arabinose.	Araban.	Xylose.	Xylan.	Pentose.	Pentosan.
grams.	grams.	grams.	grams.	grams.	grams.	grams.	grams.
0.075	0.0416	0.0886	0.0780	0.0736	0.0647	0.0811	0.0714
.076	.0422	.0897	.0789	.0745	.0655	.0821	.0722
.077	.0427	.0908	.0799	.0754	.0663	.0831	.0731
.078	.0432	.0919	.0809	.0763	.0671	.0841	.0740
.079	.0437	.0930	.0818	.0772	.0679	.0851	.0749
.080	.0442	.0941	.0828	.0781	.0687	.0861	.0758
.081	.0448	.0952	.0838	.0790	.0695	.0871	.0767
.082	.0453	.0963	.0847	.0799	.0703	.0881	.0776
.083	.0458	.0974	.0857	.0808	.0711	.0891	.0785
.084	.0463	.0985	.0867	.0817	.0719	.0901	.0794
.085	.0468	.0996	.0877	.0827	.0727	.0912	.0803
.086	.0474	.1007	.0886	.0836	.0735	.0922	.0812
.087	.0479	.1018	.0896	.0845	.0743	.0932	.0821
.088	.0484	.1029	.0906	.0854	.0751	.0942	.0830
.089	.0489	.1040	.0915	.0863	.0759	.0952	.0838
.090	.0494	.1051	.0925	.0872	.0767	.0962	.0847
.091	.0499	.1062	.0935	.0881	.0775	.0972	.0856
.092	.0505	.1073	.0944	.0890	.0783	.0982	.0865
.093	.0510	.1084	.0954	.0900	.0791	.0992	.0874
.094	.0515	.1095	.0964	.0909	.0800	.1002	.0883
.095	.0520	.1106	.0974	.0918	.0808	.1012	.0891
.096	.0525	.1117	.0983	.0927	.0816	.1022	.0899
.097	.0531	.1128	.0993	.0936	.0824	.1032	.0908
.098	.0536	.1139	.1003	.0946	.0832	.1043	.0917
.099	.0541	.1150	.1012	.0955	.0840	.1053	.0926
.100	.0546	.1161	.1022	.0964	.0848	.1063	.0935
.101	.0551	.1171	.1032	.0973	.0856	.1073	.0944
.102	.0557	.1182	.1041	.0982	.0864	.1083	.0953
.103	.0562	.1193	.1051	.0991	.0872	.1093	.0962
.104	.0567	.1204	.1060	.1000	.0880	.1103	.0971
.105	.0572	.1215	.1070	.1010	.0888	.1113	.0979
.106	.0577	.1226	.1080	.1019	.0896	.1123	.0988
.107	.0582	.1237	.1089	.1028	.0904	.1133	.0997
.108	.0588	.1248	.1099	.1037	.0912	.1143	.1006
.109	.0593	.1259	.1108	.1046	.0920	.1153	.1015
.110	.0598	.1270	.1118	.1055	.0928	.1163	.1023
.111	.0603	.1281	.1128	.1064	.0936	.1173	.1032
.112	.0608	.1292	.1137	.1073	.0944	.1183	.1041
.113	.0614	.1303	.1147	.1082	.0952	.1193	.1050
.114	.0619	.1314	.1156	.1091	.0960	.1203	.1059
.115	.0624	.1325	.1166	.1101	.0968	.1213	.1067
.116	.0629	.1336	.1176	.1110	.0976	.1223	.1076
.117	.0634	.1347	.1185	.1119	.0984	.1233	.1085
.118	.0640	.1358	.1195	.1128	.0992	.1243	.1094
.119	.0645	.1369	.1204	.1137	.1000	.1253	.1103



TABLE 22. (Continued.)

Furfural phloroglu- cide.	Furfural.	Arabinose.	Araban.	Xylose.	Xylan.	Pentose.	Pentosan.
grams.	grams.	grams.	grams.	grams.	grams.	grams.	grams.
0.120	0.0650	0.1380	0.1214	0.1146	0.1008	0.1263	0.1111
.121	.0655	.1391	.1224	.1155	.1016	.1273	.1120
.122	.0660	.1402	.1233	.1164	.1024	.1283	.1129
.123	.0665	.1413	.1243	.1173	.1032	.1293	.1138
.124	.0671	.1424	.1253	.1182	.1040	.1303	.1147
.125	.0676	.1435	.1263	.1192	.1049	.1314	.1156
.126	.0681	.1446	.1272	.1201	.1057	.1324	.1165
.127	.0686	.1457	.1282	.1210	.1065	.1334	.1174
.128	.0691	.1468	.1292	.1219	.1073	.1344	.1183
.129	.0697	.1479	.1301	.1228	.1081	.1354	.1192
.130	.0702	.1490	.1311	.1237	.1089	.1364	.1201
.131	.0707	.1501	.1321	.1246	.1097	.1374	.1210
.132	.0712	.1512	.1330	.1255	.1105	.1384	.1219
.133	.0717	.1523	.1340	.1264	.1113	.1394	.1227
.134	.0723	.1534	.1350	.1273	.1121	.1404	.1236
.135	.0728	.1545	.1360	.1283	.1129	.1414	.1244
.136	.0733	.1556	.1369	.1292	.1137	.1424	.1253
.137	.0738	.1567	.1379	.1301	.1145	.1434	.1262
.138	.0743	.1578	.1389	.1310	.1153	.1444	.1271
.139	.0748	.1589	.1398	.1319	.1161	.1454	.1280
.140	.0754	.1600	.1408	.1328	.1169	.1464	.1288
.141	.0759	.1611	.1418	.1337	.1177	.1474	.1297
.142	.0764	.1622	.1427	.1346	.1185	.1484	.1306
.143	.0769	.1633	.1437	.1355	.1193	.1494	.1315
.144	.0774	.1644	.1447	.1364	.1201	.1504	.1324
.145	.0780	.1655	.1457	.1374	.1209	.1515	.1333
.146	.0785	.1666	.1466	.1383	.1217	.1525	.1342
.147	.0790	.1677	.1476	.1392	.1225	.1535	.1351
.148	.0795	.1688	.1486	.1401	.1233	.1545	.1360
.149	.0800	.1699	.1495	.1410	.1241	.1555	.1369
.150	.0805	.1710	.1505	.1419	.1249	.1565	.1377
.151	.0811	.1721	.1515	.1428	.1257	.1575	.1386
.152	.0816	.1732	.1524	.1437	.1265	.1585	.1395
.153	.0821	.1743	.1534	.1446	.1273	.1595	.1404
.154	.0826	.1754	.1544	.1455	.1281	.1605	.1413
.155	.0831	.1765	.1554	.1465	.1289	.1615	.1421
.156	.0837	.1776	.1563	.1474	.1297	.1625	.1430
.157	.0842	.1787	.1573	.1483	.1305	.1635	.1439
.158	.0847	.1798	.1583	.1492	.1313	.1645	.1448
.159	.0852	.1809	.1592	.1501	.1321	.1655	.1457
.160	.0857	.1820	.1602	.1510	.1329	.1665	.1465
.161	.0863	.1831	.1612	.1519	.1337	.1675	.1474
.162	.0868	.1842	.1621	.1528	.1345	.1685	.1483
.163	.0873	.1853	.1631	.1537	.1353	.1695	.1492
.164	.0878	.1864	.1640	.1546	.1361	.1705	.1501

TABLE 22. (Continued.)

Furfural phloroglu- cide.	Furfural.	Arabinose.	Araban.	Xylose.	Xylan.	Pentose.	Pentosan.
grams.	grams.	grams.	grams.	grams.	grams.	grams.	grams.
0.165	0.0883	0.1875	0.1650	0.1556	0.1369	0.1716	0.1510
.166	.0888	.1886	.1660	.1565	.1377	.1726	.1519
.167	.0894	.1897	.1669	.1574	.1385	.1736	.1528
.168	.0899	.1908	.1679	.1583	.1393	.1746	.1537
.169	.0904	.1919	.1688	.1592	.1401	.1756	.1546
.170	.0909	.1930	.1698	.1601	.1409	.1766	.1554
.171	.0914	.1941	.1708	.1610	.1417	.1776	.1563
.172	.0920	.1952	.1717	.1619	.1425	.1786	.1572
.173	.0925	.1963	.1727	.1628	.1433	.1796	.1581
.174	.0930	.1974	.1736	.1637	.1441	.1806	.1590
.175	.0935	.1985	.1746	.1647	.1449	.1816	.1598
.176	.0940	.1996	.1756	.1656	.1457	.1826	.1607
.177	.0946	.2007	.1765	.1665	.1465	.1836	.1616
.178	.0951	.2018	.1775	.1674	.1473	.1846	.1625
.179	.0956	.2029	.1784	.1683	.1481	.1856	.1634
.180	.0961	.2039	.1794	.1692	.1489	.1866	.1642
.181	.0966	.2050	.1804	.1701	.1497	.1876	.1651
.182	.0971	.2061	.1813	.1710	.1505	.1886	.1660
.183	.0977	.2072	.1823	.1719	.1513	.1896	.1669
.184	.0982	.2082	.1832	.1728	.1521	.1906	.1678
.185	.0987	.2093	.1842	.1738	.1529	.1916	.1686
.186	.0992	.2104	.1851	.1747	.1537	.1926	.1695
.187	.0997	.2115	.1861	.1756	.1545	.1936	.1704
.188	.1003	.2126	.1870	.1765	.1553	.1946	.1712
.189	.1008	.2136	.1880	.1774	.1561	.1955	.1721
.190	.1013	.2147	.1889	.1783	.1569	.1965	.1729
.191	.1018	.2158	.1899	.1792	.1577	.1975	.1738
.192	.1023	.2168	.1908	.1801	.1585	.1985	.1747
.193	.1028	.2179	.1918	.1810	.1593	.1995	.1756
.194	.1034	.2190	.1927	.1819	.1601	.2005	.1764
.195	.1039	.2201	.1937	.1829	.1609	.2015	.1773
.196	.1044	.2212	.1946	.1838	.1617	.2025	.1782
.197	.1049	.2222	.1956	.1847	.1625	.2035	.1791
.198	.1054	.2233	.1965	.1856	.1633	.2045	.1800
.199	.1059	.2244	.1975	.1865	.1641	.2055	.1808
.200	.1065	.2255	.1984	.1874	.1649	.2065	.1817
.201	.1070	.2266	.1994	.1883	.1657	.2075	.1826
.202	.1075	.2276	.2003	.1892	.1665	.2085	.1835
.203	.1080	.2287	.2013	.1901	.1673	.2095	.1844
.204	.1085	.2298	.2022	.1910	.1681	.2105	.1853
.205	.1090	.2309	.2032	.1920	.1689	.2115	.1861
.206	.1096	.2320	.2041	.1929	.1697	.2125	.1869
.207	.1101	.2330	.2051	.1938	.1705	.2134	.1878
.208	.1106	.2341	.2060	.1947	.1713	.2144	.1887
.209	.1111	.2352	.2069	.1956	.1721	.2154	.1896

TABLE 22. (Continued.)

Furfural phloroglucide.	Furfural.	Arabinose.	Araban.	Xylose.	Xylan.	Pentose.	Pentosan.
grams.	grams.	grams.	grams.	grams.	grams.	grams.	grams.
0.210	0.1116	0.2363	0.2079	0.1965	0.1729	0.2164	0.1904
.211	.1121	.2374	.2089	.1975	.1737	.2174	.1913
.212	.1127	.2384	.2098	.1984	.1745	.2184	.1922
.213	.1132	.2395	.2108	.1993	.1753	.2194	.1931
.214	.1137	.2406	.2117	.2002	.1761	.2204	.1940
.215	.1142	.2417	.2127	.2011	.1770	.2214	.1948
.216	.1147	.2428	.2136	.2020	.1778	.2224	.1957
.217	.1152	.2438	.2146	.2029	.1786	.2234	.1966
.218	.1158	.2449	.2155	.2038	.1794	.2244	.1974
.219	.1163	.2460	.2165	.2047	.1802	.2254	.1983
.220	.1168	.2471	.2174	.2057	.1810	.2264	.1992
.221	.1173	.2482	.2184	.2066	.1818	.2274	.2001
.222	.1178	.2492	.2193	.2075	.1826	.2284	.2010
.223	.1183	.2503	.2203	.2084	.1834	.2294	.2019
.224	.1189	.2514	.2212	.2093	.1842	.2304	.2028
.225	.1194	.2525	.2222	.2102	.1850	.2314	.2037
.226	.1199	.2536	.2232	.2111	.1858	.2324	.2046
.227	.1204	.2546	.2241	.2121	.1866	.2334	.2054
.228	.1209	.2557	.2251	.2130	.1874	.2344	.2063
.229	.1214	.2568	.2260	.2139	.1882	.2354	.2072
.230	.1220	.2579	.2270	.2148	.1890	.2364	.2081
.231	.1225	.2590	.2280	.2157	.1898	.2374	.2089
.232	.1230	.2600	.2289	.2166	.1906	.2383	.2097
.233	.1235	.2611	.2299	.2175	.1914	.2393	.2106
.234	.1240	.2622	.2308	.2184	.1922	.2403	.2115
.235	.1245	.2633	.2318	.2193	.1930	.2413	.2124
.236	.1251	.2644	.2327	.2202	.1938	.2423	.2132
.237	.1256	.2654	.2337	.2211	.1946	.2433	.2141
.238	.1261	.2665	.2346	.2220	.1954	.2443	.2150
.239	.1266	.2676	.2356	.2229	.1962	.2453	.2159
.240	.1271	.2687	.2365	.2239	.1970	.2463	.2168
.241	.1276	.2698	.2375	.2248	.1978	.2473	.2176
.242	.1281	.2708	.2384	.2257	.1986	.2483	.2185
.243	.1287	.2719	.2394	.2266	.1994	.2493	.2194
.244	.1292	.2730	.2403	.2275	.2002	.2503	.2203
.245	.1297	.2741	.2413	.2284	.2010	.2513	.2212
.246	.1302	.2752	.2422	.2293	.2018	.2523	.2220
.247	.1307	.2762	.2432	.2302	.2026	.2533	.2229
.248	.1312	.2773	.2441	.2311	.2034	.2543	.2238
.249	.1318	.2784	.2451	.2320	.2042	.2553	.2247
.250	.1323	.2795	.2460	.2330	.2050	.2563	.2256
.251	.1328	.2806	.2470	.2339	.2058	.2573	.2264
.252	.1333	.2816	.2479	.2348	.2066	.2582	.2272
.253	.1338	.2827	.2489	.2357	.2074	.2592	.2281
.254	.1343	.2838	.2498	.2366	.2082	.2602	.2290

TABLE 22. (Concluded.)

Furfural phloroglu- cide.	Furfural.	Arabinose.	Araban.	Xylose.	Xylan.	Pentose.	Pentosan.
grams.	grams.	grams.	grams.	grams.	grams.	grams.	grams.
0.255	0.1349	0.2849	0.2508	0.2375	0.2090	0.2612	0.2299
.256	.1354	.2860	.2517	.2384	.2098	.2622	.2307
.257	.1359	.2870	.2526	.2393	.2106	.2632	.2316
.258	.1364	.2881	.2536	.2402	.2114	.2642	.2325
.259	.1369	.2892	.2545	.2411	.2122	.2652	.2334
.260	.1374	.2903	.2555	.2420	.2130	.2662	.2342
.261	.1380	.2914	.2565	.2429	.2138	.2672	.2351
.262	.1385	.2924	.2574	.2438	.2146	.2681	.2359
.263	.1390	.2935	.2584	.2447	.2154	.2691	.2368
.264	.1395	.2946	.2593	.2456	.2162	.2701	.2377
.265	.1400	.2957	.2603	.2465	.2170	.2711	.2385
.266	.1405	.2968	.2612	.2474	.2178	.2721	.2394
.267	.1411	.2978	.2622	.2483	.2186	.2731	.2403
.268	.1416	.2989	.2631	.2492	.2194	.2741	.2412
.269	.1421	.3000	.2641	.2502	.2202	.2751	.2421
.270	.1426	.3011	.2650	.2511	.2210	.2761	.2429
.271	.1431	.3022	.2660	.2520	.2218	.2771	.2438
.272	.1436	.3032	.2669	.2529	.2226	.2781	.2447
.273	.1442	.3043	.2679	.2538	.2234	.2791	.2456
.274	.1447	.3054	.2688	.2547	.2242	.2801	.2465
.275	.1452	.3065	.2698	.2556	.2250	.2811	.2473
.276	.1457	.3076	.2707	.2565	.2258	.2821	.2482
.277	.1462	.3086	.2717	.2574	.2266	.2830	.2490
.278	.1467	.3097	.2726	.2583	.2274	.2840	.2499
.279	.1473	.3108	.2736	.2592	.2282	.2850	.2508
.280	.1478	.3119	.2745	.2602	.2290	.2861	.2517
.281	.1483	.3130	.2755	.2611	.2298	.2871	.2526
.282	.1488	.3140	.2764	.2620	.2306	.2880	.2534
.283	.1493	.3151	.2774	.2629	.2314	.2890	.2543
.284	.1498	.3162	.2783	.2638	.2322	.2900	.2552
.285	.1504	.3173	.2793	.2647	.2330	.2910	.2561
.286	.1509	.3184	.2802	.2656	.2338	.2920	.2570
.287	.1514	.3194	.2812	.2665	.2346	.2930	.2578
.288	.1519	.3205	.2821	.2674	.2354	.2940	.2587
.289	.1524	.3216	.2831	.2683	.2362	.2950	.2596
.290	.1529	.3227	.2840	.2693	.2370	.2960	.2605
.291	.1535	.3238	.2850	.2702	.2378	.2970	.2614
.292	.1540	.3248	.2859	.2711	.2386	.2980	.2622
.293	.1545	.3259	.2868	.2720	.2394	.2990	.2631
.294	.1550	.3270	.2878	.2729	.2402	.3000	.2640
.295	.1555	.3281	.2887	.2738	.2410	.3010	.2649
.296	.1560	.3292	.2897	.2747	.2418	.3020	.2658
.297	.1566	.3302	.2906	.2756	.2426	.3030	.2666
.298	.1571	.3313	.2916	.2765	.2434	.3040	.2675
.299	.1576	.3324	.2925	.2774	.2442	.3050	.2684
.300	.1581	.3335	.2935	.2784	.2450	.3060	.2693

TABLE \* 23.

TOLLENS, ELLET, AND MAYER'S TABLE FOR DETERMINING METHYLPENTOSE  
AND METHYLPENTOSANS.

Methylfurfural phloroglucide.	Fucose.	Fucosan (fucose $\times 0.89$ ).	Rhamnose.	Rhamnosan (rhamnose $\times 0.8$ ).	Methylpentosan (average of fucosan and rhamnosan).
grams.	grams.	grams.	grams.	grams.	grams.
0.010	0.0260	0.0231	0.0266	0.0213	0.0222
0.011	0.0284	0.0253	0.0279	0.0223	0.0238
0.012	0.0307	0.0274	0.0295	0.0236	0.0255
0.013	0.0331	0.0295	0.0311	0.0249	0.0272
0.014	0.0354	0.0315	0.0327	0.0262	0.0288
0.015	0.0377	0.0336	0.0343	0.0274	0.0305
0.016	0.0400	0.0356	0.0359	0.0287	0.0321
0.017	0.0423	0.0376	0.0375	0.0300	0.0338
0.018	0.0445	0.0396	0.0391	0.0313	0.0354
0.019	0.0467	0.0416	0.0407	0.0326	0.0371
0.020	0.0489	0.0435	0.0423	0.0338	0.0386
0.021	0.0510	0.0454	0.0438	0.0350	0.0402
0.022	0.0532	0.0473	0.0454	0.0363	0.0418
0.023	0.0553	0.0492	0.0469	0.0375	0.0433
0.024	0.0574	0.0511	0.0485	0.0388	0.0449
0.025	0.0594	0.0529	0.0500	0.0400	0.0462
0.026	0.0614	0.0547	0.0516	0.0413	0.0480
0.027	0.0634	0.0565	0.0531	0.0425	0.0495
0.028	0.0654	0.0583	0.0547	0.0438	0.0510
0.029	0.0674	0.0600	0.0562	0.0450	0.0525
0.030	0.0693	0.0617	0.0578	0.0462	0.0539
0.031	0.0712	0.0634	0.0593	0.0474	0.0554
0.032	0.0731	0.0651	0.0609	0.0487	0.0569
0.033	0.0750	0.0668	0.0624	0.0499	0.0584
0.034	0.0768	0.0684	0.0639	0.0511	0.0598
0.035	0.0786	0.0700	0.0655	0.0524	0.0612
0.036	0.0804	0.0716	0.0670	0.0536	0.0626
0.037	0.0822	0.0732	0.0685	0.0548	0.0640
0.038	0.0839	0.0747	0.0700	0.0560	0.0654
0.039	0.0857	0.0764	0.0716	0.0573	0.0668
0.040	0.0874	0.0778	0.0731	0.0585	0.0681
0.041	0.0890	0.0792	0.0747	0.0598	0.0695
0.042	0.0907	0.0807	0.0761	0.0609	0.0708
0.043	0.0923	0.0821	0.0775	0.0620	0.0721
0.044	0.0939	0.0836	0.0790	0.0632	0.0734
0.045	0.0954	0.0850	0.0803	0.0644	0.0747
0.046	0.0970	0.0863	0.0820	0.0656	0.0759
0.047	0.0985	0.0877	0.0835	0.0668	0.0772
0.048	0.1000	0.0890	0.0849	0.0679	0.0785
0.049	0.1015	0.0903	0.0864	0.0691	0.0797
0.050	0.1029	0.0916	0.0879	0.0703	0.0809

\* See "Handbook," page 456.

TABLE \* 24.  
 FORMULÆ, DESCRIPTIONS, MELTING POINTS AND SOLUBILITIES OF THE PRINCIPAL HYDRAZONES AND OSAZONES OF THE SUGARS.  
*Phenylhydrazones.*

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Methylidiose.....	Lactic aldehyde	$C_9H_{12}N_2O$	Colorless plates	93	Alcohol
Methylidiose.....	Acetol	$C_9H_{12}N_2O$	Colorless crystals	100-102	
Phenyltriose.....	.....	$C_{10}H_{14}N_2O_2$	Colorless needles	170.5	
Phenyltetrose.....	.....	$C_{10}H_{14}N_2O_3$	Shining leaflets	154	Ether, alcohol
Pentose.....	<i>l</i> -Arabinose	$C_{11}H_{16}N_2O_4$	White crystals	151-153	Water
Pentose.....	<i>l</i> -Xylose	$C_{11}H_{16}N_2O_4$	White needles	116	Very soluble in water
Pentose.....	<i>l</i> -Ribose	$C_{11}H_{16}N_2O_4$	White crystals	154-155	Very soluble in water
Methylpentose.....	Fucose	$C_{12}H_{18}N_2O_4$	White needles	170-173	Slightly in water
Methylpentose.....	Rhamnose	$C_{12}H_{18}N_2O_4$	White leaflets	156-159	Water, alcohol
Hexose.....	<i>d</i> -Glucose	$\alpha C_{12}H_{18}N_2O_5$	White leaflets	159-160	Water, alcohol
Hexose.....	<i>d</i> -Glucose	$\beta C_{12}H_{18}N_2O_5$	White needles	140-141	Water, alcohol
Hexose.....	<i>d</i> -Mannose	$C_{12}H_{18}N_2O_5$	White prisms	195-200	Hot water
Hexose.....	<i>l</i> -Mannose	$C_{12}H_{18}N_2O_5$	White crystals	195	Hot water
Hexose.....	<i>d, l</i> -Mannose	$C_{12}H_{18}N_2O_5$	White crystals	195	Hot water
Hexose.....	<i>d</i> -Galactose	$C_{12}H_{18}N_2O_5$	White needles	158	Hot water
Hexose.....	<i>l</i> -Galactose	$C_{12}H_{18}N_2O_5$	White crystals	158-160	Hot water
Hexose.....	<i>d, l</i> -Galactose	$C_{12}H_{18}N_2O_5$	White crystals	158-160	Hot water
Hexose.....	<i>d, l</i> -Galactose	$C_{12}H_{18}N_2O_5$	White leaflets	.....	Hot water
Hexose.....	<i>d</i> -Fructose	$C_{12}H_{18}N_2O_5$	White needles	143	Hot water, alcohol
Hexose.....	<i>l</i> -Gulose	$C_{12}H_{18}N_2O_5$	White needles	143	Slightly in water
Hexose.....	<i>d, l</i> -Gulose	$C_{12}H_{18}N_2O_5$	.....	.....	Water
Methylhexose.....	Rhamnohexose	$C_{13}H_{20}N_2O_5$	.....	.....	Alcohol
Methylhexose.....	$\alpha$ -Rhodeohexose	$C_{13}H_{20}N_2O_5$	Yellow plates	150	Alcohol
Methylhexose.....	$\beta$ -Rhodeohexose	$C_{13}H_{20}N_2O_5$	White plates	131-137	Alcohol
Heptose.....	$\alpha$ -Glucoheptose	$C_{14}H_{22}N_2O_6$	White needles	170	Water
Heptose.....	$\beta$ -Glucoheptose	$C_{14}H_{22}N_2O_6$	White needles	190-193	Water
Heptose.....	<i>l</i> -Mannoheptose	$C_{14}H_{22}N_2O_6$	Fine white needles	197-200	Hot water
Heptose.....	<i>d, l</i> -Mannoheptose	$C_{14}H_{22}N_2O_6$	Fine white needles	196	Hot water
Heptose.....	<i>d, l</i> -Mannoheptose	$C_{14}H_{22}N_2O_6$	Fine white needles	175-177	Hot water, alcohol
Heptose.....	$\alpha$ -Galapeptose	$C_{14}H_{22}N_2O_6$	Fine white needles	200	Hot water
Methylheptose.....	Rhamnoheptose	$C_{14}H_{22}N_2O_6$	Fine white needles	200	Hot water
Octose.....	$\alpha$ -Glucococctose	$C_{14}H_{22}N_2O_7$	Colorless prisms	190	Hot water

\* See "Handbook," page 353.

TABLE 24. (Continued.)  
Phenylhydrazones.

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Octose.....	<i>d</i> -Mannooctose	$C_{14}H_{22}N_2O_7$	Fine white needles	212	Slightly in hot water
Octose.....	<i>d</i> -Galactose	$C_{17}H_{23}N_2O_7$	Fine white leaflets	200-205	Hot water
Nonose.....	$\alpha$ -Glucnononose	$C_{15}H_{24}N_2O_8$	White crystals	195-200	Hot water
Nonose.....	<i>d</i> -Mannononose	$C_{15}H_{24}N_2O_8$	White crystals	223	Hot water
Decose.....	$\alpha$ -Glucodecose	$C_{16}H_{26}N_2O_9$	Prismatic needles	278	Water, alcohol
Disaccharide.....	Lactose	$C_{13}H_{28}N_2O_{10}$	White hygroscopic crystals	.....	Abs. alcohol
Disaccharide.....	Maltose	$C_{17}H_{38}N_2O_{10}$	White hygroscopic needles	130	Water
Disaccharide.....	Melbiose	$C_{18}H_{38}N_2O_{10}$	Yellowish needles	145	Alcohol
Disaccharide.....	Cellose	$C_{15}H_{28}N_2O_{10}$	Yellow hygroscopic powder	.....	Water, alcohol
Trisaccharide.....	Mannatrisaccharide	$C_{24}H_{38}N_2O_{15}$	Yellow amorphous	.....	Water, alcohol
<i>Phenylsazones.</i>					
Diose.....	Glycolose	$C_{14}H_{14}N_4$	Yellow leaflets	179	Hot alcohol
Methylidiose.....	Acetol	$C_{13}H_{16}N_4$	Yellow leaflets	145-148	Benzol
Methylidiose.....	Lactic aldehyde	Identical with preceding	Identical with preceding	245	Very slightly in ether
Dimethylidiose.....	Dimethylglycolose	$C_{14}H_{18}N_4$	Fine yellow crystals	132	Alcohol, ether
Triose.....	<i>d</i> -l-Glycerose	$C_{13}H_{16}N_4O$	Yellow leaflets	175.5	Hot benzol
Triose.....	Dioxyacetone	Identical with preceding	Identical with preceding	166-168	Ether, benzol
Methyltriose.....	Methylglycerose	$C_{14}H_{18}N_4O$	Yellow crystals	164	Benzol
Tetrose.....	<i>d</i> -Erythrose	$C_{16}H_{18}N_4O_2$	Yellow needles	164	Alcohol, acetone
Tetrose.....	<i>l</i> -Erythrose	$C_{16}H_{18}N_4O_2$	Yellow needles	164	Alcohol, acetone
Tetrose.....	<i>d</i> -l-Erythrose	$C_{16}H_{18}N_4O_2$	Yellow needles	173-174	Alcohol
Tetrose.....	<i>l</i> -Threose	Identical with osazone of <i>d</i> -erythrose	osazone of <i>d</i> -erythrose	156	Hot water, alcohol
Tetrose.....	<i>d</i> -Erythrulose	Identical with osazone of <i>d</i> -erythrose	osazone of <i>d</i> -erythrose	160-163	Hot water, alcohol
Methyltetrose.....	Methyltetrose	$C_{17}H_{20}N_4O_2$	Yellow needles	160	Hot water, alcohol
Oxymethyltetrose.....	Apiose	$C_{17}H_{20}N_4O_3$	Yellow needles	166-168	Hot water
Pentose.....	<i>d</i> -Arabinose	$C_{17}H_{20}N_4O_3$	Yellow needles	160-161	Hot water
Pentose.....	<i>l</i> -Arabinose	$C_{17}H_{20}N_4O_3$	Yellow needles	210-215	Slightly in hot alcohol
Pentose.....	<i>d</i> -l-Arabinose	$C_{17}H_{20}N_4O_3$	Yellow needles		
Pentose.....	<i>l</i> -Xylose	$C_{17}H_{20}N_4O_3$	Yellow needles		
Pentose.....	<i>d</i> -l-Xylose	$C_{17}H_{20}N_4O_3$	Yellow needles		

TABLE 24. (Continued.)  
Phenyllosazones.

Class.	Sugar.	Formula.	Description.	Melting point ° C.	Solubility.
Pentose.....	<i>d</i> -Lyxose		Identical with osazone of <i>l</i> -xylose		
Pentose.....	<i>l</i> -Ribose		Identical with osazone of <i>l</i> -arabinose		
Pentose.....	<i>d</i> -Araboketose		Identical with osazone of <i>d</i> -arabinose		
Pentose.....	<i>l</i> -Araboketose		Identical with osazone of <i>l</i> -arabinose		
Pentose.....	<i>d,l</i> -Xyloketose		Identical with osazone of <i>d,l</i> -xylose		
Methylpentose.....	Fucose	$C_{18}H_{22}N_4O_3$	Yellow crystals	177	Acetone
Methylpentose.....	Rhodoose	$C_{18}H_{22}N_4O_3$	Yellow crystals	176.5	
Methylpentose.....	Fucose + Rhodoose	$C_{18}H_{22}N_4O_3$	Yellow crystals	187	
Methylpentose.....	Rhamnose	$C_{18}H_{22}N_4O_3$	Yellow crystals	180	Acetone, pyridine
Methylpentose.....	Isorhamnose		Identical with preceding		
Methylpentose.....	Isorhodoose	$C_{18}H_{22}N_4O_3$	Yellow prisms	190	Alcohol
Methylpentose.....	Quinovose	$C_{18}H_{22}N_4O_3$	Yellow needles	193-194	Hot abs. alcohol
Hexose.....	<i>d</i> -Glucose	$C_{18}H_{22}N_4O_4$	Yellow needles	204-205	Hot alcohol
Hexose.....	<i>l</i> -Glucose	$C_{18}H_{22}N_4O_4$	Yellow needles	205	Hot alcohol
Hexose.....	<i>d,l</i> -Glucose	$C_{18}H_{22}N_4O_4$	Yellow needles	217	Glacial acetic acid
Hexose.....	<i>d</i> -Mannose		Identical with osazone of <i>d</i> -glucose		
Hexose.....	<i>l</i> -Mannose		Identical with osazone of <i>l</i> -glucose		
Hexose.....	<i>d,l</i> -Mannose		Identical with osazone of <i>d,l</i> -glucose		
Hexose.....	<i>d</i> -Fructose		Identical with osazones of <i>d</i> -glucose and <i>d</i> -mannose		
Hexose.....	<i>l</i> -Fructose		Identical with osazones of <i>l</i> -glucose and <i>l</i> -mannose		
Hexose.....	<i>d,l</i> -Fructose		Identical with osazones of <i>d,l</i> -glucose and <i>d,l</i> -mannose		
Hexose.....	<i>d</i> -Gulose		Identical with osazones of <i>d</i> -sorbose and <i>d</i> -idose		
Hexose.....	<i>l</i> -Gulose	$C_{18}H_{22}N_4O_4$	Yellow flakes	156	Water, methyl alcohol
Hexose.....	<i>d,l</i> -Gulose	$C_{18}H_{22}N_4O_4$	Yellow needles	157-159	Slightly in hot water
Hexose.....	<i>d</i> -Idose		Identical with osazones of <i>d</i> -sorbose and <i>d</i> -gulose		
Hexose.....	<i>l</i> -Idose		Identical with osazones of <i>l</i> -sorbose and <i>l</i> -gulose		
Hexose.....	<i>d</i> -Galactose	$C_{18}H_{22}N_4O_4$	Yellow needles	188-191	
Hexose.....	<i>l</i> -Galactose	$C_{18}H_{22}N_4O_4$	Yellow needles	196-197	
Hexose.....	<i>d,l</i> -Galactose	$C_{18}H_{22}N_4O_4$	Yellow needles	192-195	
Hexose.....	<i>d</i> -Talose		Identical with osazone of <i>d</i> -galactose	206	60% alcohol



TABLE 24. (Continued.)  
*Phenylsazones.*

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Hexose.....	<i>d</i> -Sorbose	$C_{18}H_{22}N_4O_4$	Yellow needles	164	Alcohol, methyl alcohol
Hexose.....	<i>l</i> -Sorbose	Identical with osazones of <i>l</i> -gulose and <i>l</i> -idose	Needles	165	Methyl alcohol
Hexose.....	Glucose	$C_{18}H_{22}N_4O_4$	Identical with osazone of <i>d</i> -galactose		
Hexose.....	<i>d</i> -Tagatose	Identical with osazone of <i>l</i> -galactose	Yellow needles	182	Methyl alcohol
Hexose.....	Galtose	$C_{18}H_{22}N_4O_4$	Yellow needles	144	Hot alcohol
Hexose.....	Formose	$C_{18}H_{22}N_4O_4$	Yellow needles		
Hexose.....	$\alpha$ -Acrose	Identical with osazone of <i>d</i> , <i>l</i> -glucose	osazone of <i>d</i> , <i>l</i> -glucose	158-159	Alcohol, acetone
Hexose.....	$\beta$ -Acrose	$C_{18}H_{22}N_4O_4$	Yellow needles	200	Hot alcohol
Methylhexose.....	$\alpha$ -Rhamnohexose	$C_{19}H_{24}N_4O_4$	Identical with preceding		
Methylhexose.....	$\beta$ -Rhamnohexose	Identical with preceding	Yellow needles	231	Acetone
Methylhexose.....	$\alpha$ -Rhodeohexose	$C_{19}H_{24}N_4O_4$	Yellow needles	213	Alcohol
Methylhexose.....	$\beta$ -Rhodeohexose	$C_{19}H_{24}N_4O_4$	Yellow powder	195	Pyridine-alcohol
Heptose.....	$\alpha$ -Glucoseheptose	$C_{19}H_{24}N_4O_5$	Yellow needles		
Heptose.....	$\beta$ -Glucoseheptose	Identical with preceding	Yellow needles	200	Hot alcohol
Heptose.....	<i>d</i> -Mannoheptose	$C_{19}H_{24}N_4O_5$	Yellow needles	203	Hot alcohol
Heptose.....	<i>l</i> -Mannoheptose	$C_{19}H_{24}N_4O_5$	Yellow needles	210	Hot alcohol
Heptose.....	<i>d</i> , <i>l</i> -Mannoheptose	$C_{19}H_{24}N_4O_5$	Yellow needles	218	Hot alcohol
Heptose.....	$\alpha$ -Galahaheptose	$C_{19}H_{24}N_4O_5$	Yellow needles	196	Hot alcohol
Heptose.....	Volemosé	$C_{19}H_{24}N_4O_5$	Yellow crystals	200	Slightly in hot alcohol
Methylheptose.....	Rhamnheptose	$C_{20}H_{26}N_4O_5$	Yellow needles	223	Hot alcohol
Octose.....	$\alpha$ -Glucoseoctose	$C_{20}H_{26}N_4O_6$	Yellow needles	210-212	Hot alcohol
Octose.....	<i>d</i> -Mannoctose	$C_{20}H_{26}N_4O_6$	Yellow crystals		
Octose.....	<i>d</i> -Galaoctose	$C_{20}H_{26}N_4O_6$	Yellow needles	220-225	Hot alcohol
Methylloctose.....	Rhamnoolctose	$C_{21}H_{28}N_4O_6$	Yellow needles	216	Very slightly in water
Nonose.....	$\alpha$ -Glucnonose	$C_{21}H_{28}N_4O_7$	Yellow needles	220-223	Very slightly in water
Nonose.....	<i>d</i> -Mannonnose	$C_{21}H_{28}N_4O_7$	Yellow needles	217	Hot water
Disaccharide.....	Galactosarabinose	$C_{33}H_{50}N_4O_8$	Needles	236-238	Hot water
Disaccharide.....	Maltose	$C_{34}H_{52}N_4O_9$	Yellow needles	202-208	Hot water
Disaccharide.....	Isomaltose	$C_{34}H_{52}N_4O_9$	Yellow needles	140-158	Hot water
Disaccharide.....	Lactose	$C_{34}H_{52}N_4O_9$	Yellow needles	200	Hot water

TABLE 24. (Continued.)  
*Phenylosazones.*

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Disaccharide.....	Isolactose	$C_{24}H_{32}N_4O_9$	Yellow needles	190-193	Hot water
Disaccharide.....	Turanose	$C_{24}H_{32}N_4O_9$	Yellow needles	215-220	Hot water
Disaccharide.....	Melibiose	$C_{24}H_{32}N_4O_9$	Yellow needles	176-178	
Disaccharide.....	Gentiobiose	$C_{24}H_{32}N_4O_9$	.....	142	
Disaccharide.....	Cellose	$C_{24}H_{32}N_4O_9$	Yellow needles	198	Alcohol, hot water
Disaccharide.....	Glucosidogalactose	$C_{24}H_{32}N_4O_9$	Yellow needles	172-174	Hot water
Disaccharide.....	Galactosidogalactose	$C_{24}H_{32}N_4O_9$	Yellow needles	173-175	Hot water
Trisaccharide.....	Mannatrisaccharide	$C_{30}H_{42}N_4O_{14}$	Microscopic needles	122	Hot water
<i>p-Bromophenylhydrazones.</i>					
Pentose.....	<i>d</i> -Arabinose	$C_{11}H_{15}BrN_2O_4$	White needles	163	Hot alcohol
Pentose.....	<i>l</i> -Arabinose	$C_{11}H_{15}BrN_2O_4$	White needles	162	Hot alcohol
Pentose.....	<i>d,l</i> -Arabinose	$C_{11}H_{15}BrN_2O_4$	White needles	160	Pyridine
Pentose.....	<i>l</i> -Xylose	$C_{11}H_{15}BrN_2O_4$	Yellowish crystals	128	Hot water
Pentose.....	<i>l</i> -Ribose	$C_{11}H_{15}BrN_2O_4$	White crystals	164-165	Hot water
Methylpentose.....	Rhamnose	$C_{12}H_{17}BrN_2O_4$	Rhombic crystals	160, 167	Hot water
Methylpentose.....	Fucose	$C_{12}H_{17}BrN_2O_4$	Glossy scales	181-183	50% alcohol
Methylpentose.....	Rhodoose	$C_{12}H_{17}BrN_2O_4$	Glossy scales	184	Hot alcohol
Hexose.....	<i>d</i> -Glucose	$C_{12}H_{17}BrN_2O_5$	.....	147, 166	Pyridine
Hexose.....	<i>d</i> -Mannose	$C_{12}H_{17}BrN_2O_5$	Glossy leaflets	208-210	Glacial acetic acid
Hexose.....	<i>d</i> -Galactose	$C_{12}H_{17}BrN_2O_5$	.....	168	
Methylhexose.....	$\alpha$ -Rhodohexose	$C_{13}H_{19}BrN_2O_5$	White powder	173	Acetone
Methylhexose.....	$\beta$ -Rhodohexose	$C_{13}H_{19}BrN_2O_5$	White scales	145	Alcohol
Heptose.....	$\alpha$ -Glucuheptose	$C_{13}H_{19}BrN_2O_6$	.....	158	
<i>p-Bromophenylosazones.</i>					
Triose.....	<i>d,l</i> -Glycerose	$C_{15}H_{14}Br_2N_4O$	Yellow needles	168	Ether, acetone
Tetrose.....	<i>d</i> -Erythrose	$C_{16}H_{16}Br_2N_4O_2$	Yellow needles	195	
Oxymethyltetrose.....	Apiose	$C_{17}H_{18}Br_2N_4O_3$	Yellow needles	209-212	Alcohol

TABLE 24. (Continued.)  
*p*-Bromophenylosazones.

Class.	Sugar.	Formula.	Description.	Melting point ° C.	Solubility.
Pentose.....	<i>l</i> -Arabinose	$C_{17}H_{18}Br_2N_4O_3$	Yellow needles	196-200	Hot water, alcohol
Pentose.....	<i>d</i> -Arabinose	$C_{17}H_{18}Br_2N_4O_3$	Yellow needles	200-202	
Pentose.....	<i>l</i> -Xylose	$C_{17}H_{18}Br_2N_4O_3$	Yellow needles	208	Pyridine
Methylpentose.....	Rhamnose	$C_{18}H_{20}Br_2N_4O_3$	Yellow needles	215	Alcohol
Methylpentose.....	Isorhodoose	$C_{18}H_{20}Br_2N_4O_3$	Yellow needles	183-184	
Hexose.....	<i>d</i> -Glucose	$C_{18}H_{20}Br_2N_4O_4$	Yellow needles	222	Pyridine
Hexose.....	<i>d</i> -Gulose	$C_{18}H_{20}Br_2N_4O_4$	Identical with <i>d</i> -sorbose- <i>p</i> -bromophenylosazone	180-183	Acetic ether
Hexose.....	<i>d</i> -L-Gulose	$C_{18}H_{20}Br_2N_4O_4$	Yellow needles	181	Hot water
Hexose.....	<i>d</i> -Sorbose	$C_{18}H_{20}Br_2N_4O_4$	Yellow needles	180-183	Acetic ether
Hexose.....	$\beta$ -Acrose	$C_{18}H_{20}Br_2N_4O_4$	Yellow needles	219	Alcohol
Methylhexose.....	$\alpha$ -Rhodeohexose	$C_{19}H_{22}Br_2N_4O_4$	Yellow scales	200	Alcohol
Methylhexose.....	$\beta$ -Rhodeohexose	$C_{19}H_{22}Br_2N_4O_4$	Yellow powder	198	Alcohol, acetone
Disaccharide.....	Maltose	$C_{24}H_{30}Br_2N_4O_9$	Yellow needles	181-182	Hot alcohol
Disaccharide.....	Melibiose	$C_{24}H_{30}Br_2N_4O_9$	Yellow needles		
<i>p</i> -Nitrophenylhydrazones.					
Pentose.....	<i>l</i> -Arabinose	$C_{11}H_{16}N_3O_6$	Yellow crystalline powder	181-182	Slightly in alcohol
Pentose.....	<i>l</i> -Xylose	$C_{11}H_{16}N_3O_6$	Yellow crystals	156	Alcohol
Methylpentose.....	Rhamnose	$C_{12}H_{17}N_3O_7$	Yellow needles	186	
Hexose.....	<i>d</i> -Glucose	$\alpha$ - $C_{12}H_{17}N_3O_7$	Yellow needles	185-188	Pyridine + methyl alcohol
Hexose.....	<i>d</i> -Glucose	$\beta$ - $C_{12}H_{17}N_3O_7$	Yellow needles	195	
Hexose.....	<i>d</i> -Mannose	$\alpha$ - $C_{12}H_{17}N_3O_7$	Yellow needles	190	
Hexose.....	<i>d</i> -Mannose	$\beta$ - $C_{12}H_{17}N_3O_7$	Yellow needles	202	
Hexose.....	<i>d</i> -Fructose	$C_{12}H_{17}N_3O_7$	Yellow needles	176	Pyridine + methyl alcohol
Hexose.....	<i>d</i> -Galactose	$C_{12}H_{17}N_3O_7$	Yellow needles	192	Pyridine + methyl alcohol
<i>p</i> -Nitrophenylosazones.					
Diose.....	Glycolose	$C_{14}H_{12}N_4O_4$	Red needles	311	Pyridine
Methylpentose.....	Rhamnose	$C_{18}H_{20}N_4O_7$	Red needles	208	In NaOH with blue color

TABLE 24. (Continued.)  
*p*-Nitrophenylosazones.

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Hexose.....	<i>d</i> -Glucose	$C_{12}H_{20}N_6O_8$	Red needles	257	Pyridine + methyl alcohol
Hexose.....	<i>d</i> -Fructose	Identical with preceding	Red needles	261	In NaOH with blue color
Disaccharide.....	Maltose	$C_{24}H_{30}N_6O_{13}$	Red needles	258	
Disaccharide.....	Lactose	$C_{24}H_{30}N_6O_{13}$	Red needles		
<i>o</i> -Nitrophenylhydrazones.					
Pentose.....	<i>l</i> -Arabinose	$C_{11}H_{16}N_3O_6$	Red-yellow crystals	180	Slightly in alcohol
Methylpentose.....	Rhamnose	$C_{12}H_{17}N_3O_6$	Yellow crystalline powder	151	Alcohol
Hexose.....	<i>d</i> -Glucose	$C_{12}H_{17}N_3O_7$	Yellow crystals	148	Slightly in methyl alcohol
Hexose.....	<i>d</i> -Mannose	$C_{12}H_{17}N_3O_7$	Yellow crystals	172	Slightly in alcohol
Hexose.....	<i>d</i> -Galactose	$C_{12}H_{17}N_3O_7$	Red-yellow crystals	173	Methyl alcohol
Hexose.....	<i>d</i> -Fructose	$C_{12}H_{17}N_3O_7$	Brick-red powder	155-156	
<i>o</i> -Nitrophenylosazones.					
Hexose.....	<i>d</i> -Glucose	$C_{18}H_{20}N_6O_8$	Brick red powder	215-217	Very slightly in alcohol
<i>m</i> -Nitrophenylhydrazones.					
Pentose.....	<i>l</i> -Arabinose	$C_{11}H_{15}N_3O_6$	Red-yellow crystals	179-180	Slightly in alcohol
Methylpentose.....	Rhamnose	$C_{12}H_{17}N_3O_6$	Red-yellow crystals	104-105	Alcohol
Hexose.....	<i>d</i> -Glucose	$C_{12}H_{17}N_3O_7$	Yellow crystals	115-116	Alcohol
Hexose.....	<i>d</i> -Mannose	$C_{12}H_{17}N_3O_7$	Yellow crystals	162-163	Alcohol
Hexose.....	<i>d</i> -Galactose	$C_{12}H_{17}N_3O_7$	Yellow crystals	181-182	Slightly in alcohol
<i>m</i> -Nitrophenylosazones.					
Hexose.....	<i>d</i> -Glucose	$C_{18}H_{20}N_6O_8$	Red-brown powder	228	Very slightly in alcohol

TABLE 24. (Continued.)  
*Methylphenylhydrazones.*

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Triose.....	<i>d,l</i> -Glycerose	$C_{10}H_{14}N_2O_2$	White needles	120	Hot water, alcohol
Pentose.....	<i>l</i> -Arabinose	$C_{12}H_{18}N_2O_4$	White crystals	161-164	Alcohol, pyridine
Pentose.....	<i>d,l</i> -Arabinose	$C_{12}H_{18}N_2O_4$	White leaflets	173	Water, alcohol, pyridine
Pentose.....	<i>l</i> -Xylose	$C_{12}H_{18}N_2O_4$	White leaflets	103-110	Water, alcohol, pyridine
Methylpentose.....	Rhamnose	$C_{13}H_{20}N_2O_4$	White crystals	124	Abs. methyl alcohol
Methylpentose.....	Fucose	$C_{13}H_{20}N_2O_4$	White needles	177	Alcohol, pyridine
Methylpentose.....	Rhodoose	$C_{13}H_{20}N_2O_4$	White needles	181	Hot water, alcohol
Hexose.....	<i>d</i> -Glucose	$C_{13}H_{20}N_2O_5$	Long white leaflets	130	Alcohol
Hexose.....	<i>d</i> -Mannose	$C_{13}H_{20}N_2O_5$	White crystals	178	Methyl alcohol
Hexose.....	<i>d</i> -Galactose	$C_{13}H_{20}N_2O_5$	White crystals	188-191	Methyl alcohol
Hexose.....	<i>d,l</i> -Galactose	$C_{13}H_{20}N_2O_5$	White crystals	183	Hot water
Hexose.....	<i>d</i> -Talose	$C_{13}H_{20}N_2O_5$	White crystals	154	Methyl alcohol
Hexose.....	<i>d</i> -Fructose	$C_{13}H_{20}N_2O_5$	Prisms	116-120	Alcohol
Methylhexose.....	$\alpha$ -Rhodeohexose	$C_{14}H_{22}N_2O_5$	White scales	188	Acetone
Methylhexose.....	$\beta$ -Rhodeohexose	$C_{14}H_{22}N_2O_5$	Silvery lustrous plates	163	Alcohol
Heptose.....	$\alpha$ -Glucoheptose	$C_{14}H_{22}N_2O_5$	Fine needles	150	Alcohol
<i>Methylphenylsazones.</i>					
Triose.....	Dioxyacetone	$C_{17}H_{26}N_4O$	Yellow needles	127-130	Alcohol, pyridine
Tetrose.....	<i>d,l</i> -Erythrulose	$C_{18}H_{22}N_4O_2$	Yellow needles	158-159	Alcohol, pyridine
Pentose.....	<i>d</i> -Araboketose	$C_{19}H_{24}N_4O_3$	Yellow needles	173	Pyridine
Pentose.....	<i>d,l</i> -Xyloketose	$C_{19}H_{24}N_4O_3$	Yellow needles	173	Pyridine
Pentose.....	<i>d,l</i> -Riboketose	$C_{19}H_{24}N_4O_3$	Yellow needles	175	Pyridine
Hexose.....	<i>d</i> -Fructose	$C_{20}H_{26}N_4O_4$	Yellow needles	158-160	Pyridine
Hexose.....	<i>d,l</i> -Fructose	$C_{20}H_{26}N_4O_4$	Yellow needles	158	10% alcohol
Hexose.....	<i>d</i> -Sorbose	$C_{20}H_{26}N_4O_4$	Yellow oil	.....	Alcohol
Hexose.....	<i>d,l</i> -Tagatose	$C_{20}H_{26}N_4O_4$	Yellow needles	148-150	Pyridine-water

TABLE 24. (Continued.)

*Ethylphenylhydrazones.*

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Pentose.....	<i>l</i> -Arabinose	$C_{13}H_{20}N_2O_4$	Yellow needles	153	Methyl alcohol
Methylpentose.....	Rhamnose	$C_{14}H_{22}N_2O_4$	Yellow needles	123	Methyl alcohol
Methylpentose.....	Rhodoose	$C_{14}H_{22}N_2O_4$	White needles	193	96% alcohol
Hexose.....	<i>d</i> -Mannose	$C_{14}H_{22}N_2O_5$	Yellow needles	159	Methyl alcohol
Hexose.....	<i>d</i> -Galactose	$C_{14}H_{22}N_2O_5$	White needles	169	Methyl alcohol
<i>Alkylphenylhydrazones.</i>					
Pentose.....	<i>l</i> -Arabinose	$C_{14}H_{20}N_2O_4$	Yellow needles	145	Methyl alcohol
Methylpentose.....	Rhamnose	$C_{15}H_{22}N_2O_4$	Yellow needles	135	Methyl alcohol
Hexose.....	<i>d</i> -Glucose	$C_{15}H_{22}N_2O_5$	Yellow needles	155	Methyl alcohol
Hexose.....	<i>d</i> -Mannose	$C_{16}H_{22}N_2O_5$	Yellow needles	142	Methyl alcohol
Hexose.....	<i>d</i> -Galactose	$C_{16}H_{22}N_2O_5$	Yellow needles	157	Methyl alcohol
Disaccharide.....	Lactose	$C_{21}H_{32}N_2O_{10}$	Yellow needles	132	Methyl alcohol
Disaccharide.....	Melibiose	$C_{21}H_{32}N_2O_{10}$	Yellow needles	197	Methyl alcohol
<i>Amylphenylhydrazones.</i>					
Pentose.....	<i>l</i> -Arabinose	$C_{16}H_{26}N_2O_4$	Yellow needles	120	Methyl alcohol
Methylpentose.....	Rhamnose	$C_{17}H_{28}N_2O_4$	Brown crystals	99	Methyl alcohol
Hexose.....	<i>d</i> -Glucose	$C_{17}H_{28}N_2O_5$	Brown needles	128	Methyl alcohol
Hexose.....	<i>d</i> -Mannose	$C_{17}H_{28}N_2O_5$	Yellow needles	134	Methyl alcohol
Hexose.....	<i>d</i> -Galactose	$C_{17}H_{28}N_2O_5$	Yellow needles	116	Methyl alcohol
Disaccharide.....	Lactose	$C_{23}H_{38}N_2O_{10}$	Brown needles	123	Methyl alcohol
<i>d</i> -Amylphenylhydrazones.					
Pentose.....	<i>d</i> -Arabinose	$C_{16}H_{26}N_2O_4$	White needles	115	Water, alcohol
Pentose.....	<i>l</i> -Arabinose	$C_{16}H_{26}N_2O_4$	White needles	127	Alcohol



TABLE 2A. (Continued.)  
Benzylphenylhydrazones.

Class.	Sugar.	Formula.	Description.	Melting point °C.	Solubility.
Pentose.....	<i>d</i> -l-Arabinose	$C_{18}H_{22}N_2O_4$	Yellow needles	185	Pyridine
Pentose.....	<i>l</i> -Xylose	$C_{18}H_{22}N_2O_4$	White needles	99	Alcohol
Pentose.....	<i>d</i> -Lyxose	$C_{18}H_{22}N_2O_4$	Fine needles	116	Alcohol
Methylpentose.....	Rhamnose	$C_{19}H_{24}N_2O_4$	Yellow crystals	121	Absolute alcohol
Methylpentose.....	Fucose	$C_{19}H_{24}N_2O_4$	Yellow crystals	173	Pyridine
Methylpentose.....	Rhodoose	$C_{19}H_{24}N_2O_4$	White needles	179	Hot alcohol
Hexose.....	<i>d</i> -Glucose.	$C_{19}H_{24}N_2O_5$	Yellow needles	163-165	Pyridine
Hexose.....	<i>d</i> -Mannose	$C_{19}H_{24}N_2O_5$	White needles	165	Methyl alcohol
Hexose.....	<i>l</i> -Gulose	$C_{19}H_{24}N_2O_5$	Yellow needles	124	Methyl alcohol
Hexose.....	<i>d</i> -Galactose	$C_{19}H_{24}N_2O_5$	Yellow needles	154-158	Methyl alcohol
Disaccharide.....	Galactoarabinose	$C_{24}H_{32}N_2O_9$	White leaflets	.....	Water, alcohol
Disaccharide.....	Lactose	$C_{25}H_{34}N_2O_{10}$	Yellow needles	128	Methyl alcohol
<i>Benzylphenylsazones.</i>					
Diose.....	Glycolose	$C_{28}H_{26}N_4$	Yellow needles	197.5	Pyridine-alcohol
Hexose.....	<i>d</i> -Fructose	$C_{32}H_{34}N_4O_4$	Yellow needles	190.0	
<i><math>\beta</math>-Naphthylhydrazones.</i>					
Pentose.....	<i>l</i> -Arabinose (a)	$C_{15}H_{18}N_2O_4$	Brown needles	141	Methyl alcohol
Pentose.....	<i>l</i> -Arabinose (b)	$C_{15}H_{18}N_2O_4$	White needles	176-177	Methyl alcohol
Pentose.....	<i>l</i> -Xylose (a)	$C_{15}H_{18}N_2O_4$	Brown needles	70	
Pentose.....	<i>l</i> -Xylose (b)	$C_{15}H_{18}N_2O_4$	White needles	123-124	Methyl alcohol
Methylpentose.....	Rhamnose	$C_{16}H_{20}N_2O_4$	Brown needles	170	
Hexose.....	<i>d</i> -Glucose	$C_{17}H_{20}N_2O_5$	Yellow needles	178-179	Hot alcohol
Hexose.....	<i>d</i> -Mannose (a)	$C_{17}H_{20}N_2O_5$	Brown needles	157	Methyl alcohol
Hexose.....	<i>d</i> -Mannose (b)	$C_{17}H_{20}N_2O_5$	White crystals	186	Methyl alcohol
Hexose.....	<i>d</i> -Galactose (a)	$C_{17}H_{20}N_2O_5$	Brown needles	167	
Hexose.....	<i>d</i> -Galactose (b)	$C_{17}H_{20}N_2O_5$	White crystals	190	Methyl alcohol
Hexose.....	<i>d</i> -Fructose	$C_{17}H_{20}N_2O_5$	Yellow needles	162	Methyl alcohol
Disaccharide.....	Maltose	$C_{22}H_{30}N_2O_{10}$	Brown crystals	176	Methyl alcohol
Disaccharide.....	Lactose.....	$C_{22}H_{30}N_2O_{10}$	Brown needles	203	Glacial acetic acid
Disaccharide.....	Melibiose	$C_{22}H_{30}N_2O_{10}$	Brown needles	135	Methyl alcohol



TABLE 25.  
 RECIPROCAL OF NUMBERS FROM 1 TO 100.

Number.	Reciprocal.	Number.	Reciprocal.	Number.	Reciprocal.	Number.	Reciprocal.
1	1.0000	26	0.0385	51	0.0196	76	0.0132
2	0.5000	27	0.0370	52	0.0192	77	0.0130
3	0.3333	28	0.0357	53	0.0189	78	0.0128
4	0.2500	29	0.0345	54	0.0185	79	0.0127
5	0.2000	30	0.0333	55	0.0182	80	0.0125
6	0.1667	31	0.0323	56	0.0179	81	0.0123
7	0.1429	32	0.0313	57	0.0175	82	0.0122
8	0.1250	33	0.0303	58	0.0172	83	0.0120
9	0.1111	34	0.0294	59	0.0169	84	0.0119
10	0.1000	35	0.0286	60	0.0167	85	0.0118
11	0.0909	36	0.0278	61	0.0164	86	0.0116
12	0.0833	37	0.0270	62	0.0161	87	0.0115
13	0.0769	38	0.0263	63	0.0159	88	0.0114
14	0.0714	39	0.0256	64	0.0156	89	0.0112
15	0.0667	40	0.0250	65	0.0154	90	0.0111
16	0.0625	41	0.0244	66	0.0152	91	0.0110
17	0.0588	42	0.0238	67	0.0149	92	0.0109
18	0.0555	43	0.0233	68	0.0147	93	0.0108
19	0.0526	44	0.0227	69	0.0145	94	0.0106
20	0.0500	45	0.0222	70	0.0143	95	0.0105
21	0.0476	46	0.0217	71	0.0141	96	0.0104
22	0.0455	47	0.0213	72	0.0139	97	0.0103
23	0.0435	48	0.0208	73	0.0137	98	0.0102
24	0.0417	49	0.0204	74	0.0135	99	0.0101
25	0.0400	50	0.0200	75	0.0133	100	0.0100









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