

Correction

In the article, "Some Electrolyte Solution Refractive Indices at 5893 and 6528 Å," by R. N. O'Brien [J. Chem. Eng. Data, 13 (1), 2 (1968)], the values for the HeNe laser wavelength 632.8 nm have been found to be in error by +0.00189. These values appear in Table I for water. In Tables V and VI, constant errors ranging from +0.00189 to 0.00070 were found with +0.00130 and 0.00110 being the most common.

The amount to be subtracted from the published values was found by interpolating between Tilton and Taylor's

values (1) for 630.0 and 635.0 nm and calibrating the instrument with an A.P.I. sample of toluene.

The corrected tables are shown below. Some disorder in the listings of concentrations has also been corrected.

Literature Cited

- (1) Tilton, L. W., Taylor, J. K., J. Res. Natl. Bur. Stand., 20, 419 (1938).

Table I. Refractive Index of Pure Water^a at Various Temperatures

| Temp, °C | Refractive index | | |
|-------------|------------------|-----------|---------|
| | 5893Å | 5893Å (1) | 6328Å |
| 0 | 1.33377 | | |
| 5 | 1.33371 | | |
| 10 | 1.33364 | | 1.33223 |
| 15 | 1.33346 | 1.33339 | 1.33204 |
| 20 | 1.33294 | 1.33299 | 1.33178 |
| 25 | 1.33248 | 1.33250 | 1.33126 |
| 30 | 1.33183 | 1.33194 | 1.33070 |
| 35 | | | 1.33010 |
| 40 | | | 1.32941 |
| 45 | | | 1.32871 |
| 50 | | | 1.32804 |

^a Distilled four times.

Table V. Refractive Indices of Some Common Electrolyte Solutions at 25°C and 6328Å

| Concn, M | Refractive index | | |
|-------------|------------------|---------|-------------------|
| | NaCl | KCl | CaCl ₂ |
| 1 | 1.34130 | 1.34083 | 1.35594 |
| 0.5 | 1.33628 | 1.33616 | 1.34383 |
| 0.2 | 1.33313 | 1.33326 | 1.33610 |
| 0.1 | 1.33216 | 1.33229 | 1.33365 |
| 0.05 | 1.33172 | 1.33170 | 1.33236 |
| 0.03 | 1.33151 | 1.33151 | 1.33178 |
| 0.02 | 1.33140 | 1.33132 | 1.33152 |
| 0.01 | 1.33126 | 1.33126 | 1.33126 |

Table VI. Refractive Indices of Various Salt Solutions at 25°C and 6328Å

| Concn, N | Refractive index | Concn, N | Refractive index | Concn, N | Refractive index | Concn, N | Refractive index |
|--------------------|---------------------|-------------|---------------------|-------------|---------------------|-------------|---------------------|
| Cupric nitrate | | | | | | | |
| 1.1670 | 1.34772 | 0.7669 | 1.34030 | 0.8722 | 1.34003 | 0.0276 | 1.33215 |
| 1.0545 | 1.34603 | 0.7584 | 1.34260 | 0.5815 | 1.33720 | 0.7198 | 1.34973 |
| 0.9331 | 1.34446 | 0.5750 | 1.33812 | 0.4361 | 1.33603 | 0.6405 | 1.34813 |
| 0.8192 | 1.34267 | 0.4792 | 1.33702 | 0.2567 | 1.33455 | 0.5180 | 1.34513 |
| 0.7124 | 1.34145 | 0.3833 | 1.33586 | 0.1253 | 1.33255 | 0.4364 | 1.34296 |
| 0.4672 | 1.33787 | 0.2875 | 1.33476 | 0.0581 | 1.33205 | 0.4146 | 1.33777 |
| 0.2543 | 1.33464 | 0.1916 | 1.33367 | | | 0.2904 | 1.33918 |
| 0.1171 | 1.33284 | 0.0950 | 1.33250 | | | 0.2764 | 1.33570 |
| 0.0919 | 1.33257 | 0.0383 | 1.33183 | | | 0.2007 | 1.33687 |
| 0.0737 | 1.33225 | | | 3.0161 | 1.35183 | 0.1492 | 1.33538 |
| 0.0439 | 1.33187 | | | 2.6951 | 1.35018 | 0.1387 | 1.33358 |
| 0.0224 | 1.33155 | | | 2.4116 | 1.34881 | 0.0660 | 1.33309 |
| Cupric perchlorate | | | | | | | |
| | | 1.0728 | 1.34993 | 2.0907 | 1.34558 | 0.0553 | 1.33241 |
| | | 0.8593 | 1.34544 | 1.4537 | 1.34149 | 0.0285 | 1.33170 |
| | | 0.6722 | 1.34295 | 1.8265 | 1.34392 | | |
| 0.8920 | 1.34356 | 0.4234 | 1.33866 | 0.8891 | 1.33764 | | |
| 0.7136 | 1.34113 | 0.2218 | 1.33512 | 0.6020 | 1.33560 | | |
| 0.5352 | 1.33870 | 0.1034 | 1.33333 | 0.3004 | 1.33351 | 0.9271 | 1.35195 |
| 0.4460 | 1.33754 | 0.0897 | 1.33305 | 0.1230 | 1.33215 | 0.7417 | 1.34780 |
| 0.3568 | 1.33632 | 0.0630 | 1.33254 | | | 0.3708 | 1.33994 |
| 0.2676 | 1.33505 | 0.0408 | 1.33206 | | | 0.2781 | 1.33789 |
| 0.1784 | 1.33376 | 0.0257 | 1.33113 | | | 0.1854 | 1.33570 |
| 0.0713 | 1.33225 | | | 1.3822 | 1.35151 | 0.1112 | 1.35402 |
| 0.0357 | 1.33180 | | | 1.1057 | 1.34762 | 0.0742 | 1.33299 |
| 0.0176 | 1.33150 | | | 0.8293 | 1.34366 | 0.0371 | 1.33231 |
| | | 1.4537 | 1.34521 | 0.5528 | 1.33969 | | |
| | | 1.1630 | 1.34259 | | | | |