; also useful to compare graphs of
›ther substances for which similar

ON on *Chemical Process Principles*,
l correlation of many properties of
ie reduced viscosity[6] vs. reduced
ıtes, "This relationship is based on
ı of viscosity with temperature and
is approximately the same for all

n's concepts further and extended
tivity. He specifically uses liquid
› the Watson viscosity relationship.
ys fit, in view of the very nature of
ıer substances. Thus, for example,
times higher than their N.B.P.,

whether metals, as a class, *do* or
lume of experimental information
ıelting point to the critical point—
h as hydrocarbons (and recently
ments—$H_2$, $O_2$, $N_2$, $Cl_2$—and the
ther as molecules or atoms (in the
iquid by comparatively weak *van*

als (and presumably other typical
ances (a comparison with a third
such as NaCl—will have to be
ıtire liquid range becomes avail-

sities (or specific volumes) of the
made of the same properties, all
ferences (1) and (2). The reduced
, of the three metals have been
ted, as a function of reduced
le 2a and 2b for potassium and
the critical viscosities and critical
d in Table 6.

*nciples*, p. 870, Vol. 3, J. Wiley, New

L and A. V. GROSSE, *J. Inorg. Nucl.*



TABLE 1a.—REDUCED DYNAMIC (ABSOLUTE), $\eta_{red.}$, AND KINEMATIC, $\nu_{red.}$, VISCOSITY OF *liquid* MERCURY

| $T_{red.}$ | $\eta_{red.}$ | $\nu_{red.}$ | |
|---|---|---|---|
| 0·135 = m.p. | 4·94 | $1{\cdot}85_9$ | Experimental Range |
| 0·215 | $2{\cdot}91_8$ | $1{\cdot}12_5$ | |
| 0·273 | $2{\cdot}47_6$ | $0{\cdot}97_2$ | |
| 0·331 | $2{\cdot}18_8$ | $0{\cdot}87_5$ | |
| 0·388 | $1{\cdot}95_0$ | $0{\cdot}79_5$ | |
| 0·445 | $1{\cdot}82_3$ | $0{\cdot}75_9$ | |
| 0·503 | $1{\cdot}73_8$ | $0{\cdot}74_0$ | |
| 0·561 | $1{\cdot}64_4$ | 0·709 | Extrapolated Range |
| 0·619 | 1·568 | | |
| 0·677 | $1{\cdot}50_8$ | 0·701 | |
| 0·735 | $1{\cdot}45_4$ | | |
| 0·792 | $1{\cdot}39_9$ | 0·709 | |
| 0·850 | $1{\cdot}34_2$ | | |
| 0·907 | $1{\cdot}28_8$ | 0·755 | |
| 0·965 | $1{\cdot}17_6$ | | |
| 1·000 = c.p. | 1·000 | 1·000 | |

TABLE 1b.—REDUCED DYNAMIC (ABSOLUTE), $\eta_{red.}$, AND KINEMATIC, $\nu_{red.}$, VISCOSITY OF THE *saturated vapour* OF *mercury*

| $T_{red.}$ | $\eta_{red.}$ | $\nu_{red.}$ |
|---|---|---|
| 0·331 | $0{\cdot}095_2$ | 343 |
| 0·445 | $0{\cdot}207_3$ | 41·9 |
| 0·561 | 0·317 | 12·3 |
| 0·677 | 0·439 | 6·16 |
| 0·792 | 0·561 | 3·48 |
| 0·850 | 0·629 | 2·72 |
| 0·907 | 0·683 | 2·01 |
| 0·965 | 0·776 | $1{\cdot}37_5$ |
| 1·000 | 1·000 | 1·000 |

TABLE 2a.—REDUCED DYNAMIC (ABSOLUTE), $\eta_{red.}$, AND KINEMATIC, $\nu_{red.}$, VISCOSITY OF *liquid* POTASSIUM

| $T_{red.}$ | $\eta_{red.}$ | $\nu_{red.}$ | |
|---|---|---|---|
| 0·1375 = m.p. | 10·77 | 2·208 | Experimental Range |
| 0·204 | 5·31 | $1{\cdot}14_3$ | |
| 0·286 | 3·56 | 0·8169 | |
| 0·367 | 2·83 | $0{\cdot}694_7$ | |
| 0·449 | $2{\cdot}32_7$ | $0{\cdot}615_2$ | |
| 0·490 | $2{\cdot}17_3$ | $0{\cdot}597_3$ | |
| 0·531 | $2{\cdot}03_8$ | $0{\cdot}583_5$ | |
| 0·571 | $1{\cdot}92_3$ | $0{\cdot}574_0$ | |
| 0·653 | $1{\cdot}77_3$ | $0{\cdot}585_1$ | Extrapolated Range |
| 0·735 | $1{\cdot}61_2$ | $0{\cdot}595_6$ | |
| 0·816 | $1{\cdot}48_7$ | $0{\cdot}631_9$ | |
| 0·898 | $1{\cdot}36_2$ | $0{\cdot}680_6$ | |
| 0·980 | $1{\cdot}18_8$ | $0{\cdot}792_1$ | |
| 1·000 = c.p. | 1·000 | 1·000 | |