# Supplementary Materials

**Table S1.** Densities $\rho$, Viscosities $\eta$, Refractive Indices $n_D$, Speeds of sound $u$, Excess Molar Volumes $V^E$, Viscosity Deviations $\Delta\eta$, Deviations in refractive index $\Delta n_D$ and Deviations in isentropic compressibility $\Delta K_S$ of the investigated binary systems at T = (288.15–323.15) K and at Atmospheric Pressure (0.1MPa) [a].

| $x_1$ | $10^{-3}\,\rho$/kg·m$^{-3}$ | $\eta$/mPa·s | $n_D$ | $u$/m·s$^{-1}$ | $10^6\,V^E$/m$^3$·mol$^{-1}$ | $\Delta\eta$/mPa·s | $\Delta n_D$ | $10^{-12}\Delta\kappa_s$/ Pa$^{-1}$ |
|---|---|---|---|---|---|---|---|---|
| citral (1) + chloroform (2) | | | | | | | | |
| | | | | | 288.15 K | | | |
| 0.0000 | 1.49787 | 0.6396 | 1.4487 | 1017.2 | – | – | – | – |
| 0.1000 | 1.38451 | 0.8815 | 1.4571 | 1070.3 | −0.1999 | 0.0554 | 0.0042 | −0.0330 |
| 0.2001 | 1.29214 | 1.1187 | 1.4644 | 1121.2 | −0.4278 | 0.1060 | 0.0073 | −0.0658 |
| 0.2999 | 1.21488 | 1.3494 | 1.4701 | 1169.4 | −0.6101 | 0.1506 | 0.0089 | −0.0885 |
| 0.4000 | 1.14913 | 1.5628 | 1.4745 | 1216.2 | −0.7684 | 0.1773 | 0.0091 | −0.1098 |
| 0.4998 | 1.09194 | 1.7557 | 1.4784 | 1260.6 | −0.8052 | 0.1841 | 0.0089 | −0.1155 |
| 0.6002 | 1.04144 | 1.9386 | 1.4815 | 1303.2 | −0.7412 | 0.1798 | 0.0078 | −0.1086 |
| 0.7002 | 0.99710 | 2.1090 | 1.4843 | 1343.9 | −0.6052 | 0.1637 | 0.0063 | −0.0947 |
| 0.7999 | 0.95790 | 2.2609 | 1.4866 | 1382.9 | −0.4129 | 0.1297 | 0.0046 | −0.0743 |
| 0.8998 | 0.92301 | 2.3883 | 1.4886 | 1419.2 | −0.1973 | 0.0708 | 0.0024 | −0.0396 |
| 1.0000 | 0.89193 | 2.5044 | 1.4904 | 1454.0 | – | – | – | – |
| | | | | | 293.15 K | | | |
| 0.0000 | 1.48840 | 0.6079 | 1.4455 | 1000.3 | – | – | – | – |
| 0.1000 | 1.37651 | 0.8283 | 1.4542 | 1052.5 | −0.2181 | 0.0531 | 0.0045 | −0.0315 |
| 0.2001 | 1.28510 | 1.0450 | 1.4616 | 1102.6 | −0.4534 | 0.1023 | 0.0076 | −0.0648 |
| 0.2999 | 1.20859 | 1.2550 | 1.4674 | 1151.7 | −0.6415 | 0.1454 | 0.0092 | −0.1044 |
| 0.4000 | 1.14340 | 1.4481 | 1.4718 | 1198.4 | −0.8024 | 0.1710 | 0.0093 | −0.1277 |
| 0.4998 | 1.08667 | 1.6214 | 1.4759 | 1243.2 | −0.8402 | 0.1773 | 0.0092 | −0.1400 |
| 0.6002 | 1.03653 | 1.7841 | 1.4790 | 1285.7 | −0.7726 | 0.1721 | 0.0081 | −0.1326 |
| 0.7002 | 0.99249 | 1.9341 | 1.4818 | 1325.7 | −0.6309 | 0.1548 | 0.0066 | −0.1120 |
| 0.7999 | 0.95354 | 2.0667 | 1.4842 | 1364.3 | −0.4331 | 0.1206 | 0.0048 | −0.0867 |
| 0.8998 | 0.91885 | 2.1785 | 1.4861 | 1400.2 | −0.2080 | 0.0652 | 0.0024 | −0.0462 |
| 1.0000 | 0.88794 | 2.2809 | 1.4879 | 1434.5 | – | – | – | – |
| | | | | | 298.15 K | | | |
| 0.0000 | 1.47889 | 0.5781 | 1.4424 | 983.0 | – | – | – | – |
| 0.1000 | 1.36845 | 0.7747 | 1.4513 | 1035.6 | −0.2345 | 0.0516 | 0.0046 | −0.0490 |
| 0.2001 | 1.27804 | 0.9677 | 1.4588 | 1085.5 | −0.4798 | 0.0995 | 0.0078 | −0.0875 |
| 0.2999 | 1.20228 | 1.1542 | 1.4647 | 1134.6 | −0.6739 | 0.1412 | 0.0094 | −0.1323 |
| 0.4000 | 1.13767 | 1.3242 | 1.4692 | 1181.0 | −0.8376 | 0.1661 | 0.0096 | −0.1571 |
| 0.4998 | 1.08140 | 1.4732 | 1.4733 | 1225.9 | −0.8763 | 0.1703 | 0.0094 | −0.1706 |
| 0.6002 | 1.03161 | 1.6119 | 1.4765 | 1267.9 | −0.8037 | 0.1635 | 0.0083 | −0.1593 |
| 0.7002 | 0.98787 | 1.7398 | 1.4793 | 1307.6 | −0.6578 | 0.1463 | 0.0068 | −0.1334 |
| 0.7999 | 0.94916 | 1.8492 | 1.4818 | 1345.7 | −0.4519 | 0.1112 | 0.0050 | −0.1019 |
| 0.8998 | 0.91469 | 1.9427 | 1.4836 | 1381.2 | −0.2197 | 0.0598 | 0.0025 | −0.0544 |
| 1.0000 | 0.88394 | 2.0282 | 1.4854 | 1415.0 | – | – | – | – |
| | | | | | 303.15 K | | | |
| 0.0000 | 1.46933 | 0.5520 | 1.4392 | 965.9 | – | – | – | – |
| 0.1000 | 1.36035 | 0.7290 | 1.4484 | 1017.7 | −0.2518 | 0.0489 | 0.0048 | −0.0518 |
| 0.2001 | 1.27096 | 0.9035 | 1.4560 | 1068.7 | −0.5072 | 0.0953 | 0.0080 | −0.1137 |
| 0.2999 | 1.19595 | 1.0729 | 1.4620 | 1117.7 | −0.7075 | 0.1368 | 0.0097 | −0.1639 |
| 0.4000 | 1.13192 | 1.2239 | 1.4666 | 1164.0 | −0.8738 | 0.1596 | 0.0098 | −0.1902 |
| 0.4998 | 1.07612 | 1.3547 | 1.4707 | 1208.6 | −0.9137 | 0.1626 | 0.0096 | −0.2029 |
| 0.6002 | 1.02669 | 1.4760 | 1.4740 | 1250.0 | −0.8372 | 0.1553 | 0.0085 | −0.1847 |
| 0.7002 | 0.98324 | 1.5880 | 1.4768 | 1289.6 | −0.6855 | 0.1392 | 0.0070 | −0.1560 |
| 0.7999 | 0.94479 | 1.6795 | 1.4793 | 1327.3 | −0.4727 | 0.1030 | 0.0051 | −0.1179 |
| 0.8998 | 0.91051 | 1.7593 | 1.4811 | 1362.4 | −0.2288 | 0.0548 | 0.0026 | −0.0627 |
| 1.0000 | 0.87994 | 1.8328 | 1.4829 | 1395.8 | – | – | – | – |
| | | | | | 308.15 K | | | |
| 0.0000 | 1.45971 | 0.5268 | 1.4361 | 948.9 | – | – | – | – |
| 0.1000 | 1.35221 | 0.6868 | 1.4455 | 1001.0 | −0.2702 | 0.0462 | 0.0049 | −0.0691 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.2001 | 1.26385 | 0.8455 | 1.4532 | 1052.0 | −0.5361 | 0.0908 | 0.0082 | −0.1420 |
| 0.2999 | 1.18961 | 0.9995 | 1.4593 | 1101.0 | −0.7431 | 0.1312 | 0.0099 | −0.1984 |
| 0.4000 | 1.12615 | 1.1346 | 1.4639 | 1147.1 | −0.9119 | 0.1522 | 0.0100 | −0.2263 |
| 0.4998 | 1.07082 | 1.2506 | 1.4681 | 1191.4 | −0.9525 | 0.1545 | 0.0098 | −0.2377 |
| 0.6002 | 1.02175 | 1.3573 | 1.4715 | 1232.6 | −0.8717 | 0.1468 | 0.0087 | −0.2150 |
| 0.7002 | 0.97859 | 1.4540 | 1.4743 | 1271.7 | −0.7115 | 0.1296 | 0.0071 | −0.1801 |
| 0.7999 | 0.94039 | 1.5332 | 1.4768 | 1308.9 | −0.4912 | 0.0952 | 0.0052 | −0.1343 |
| 0.8998 | 0.90632 | 1.6031 | 1.4786 | 1343.7 | −0.2380 | 0.0513 | 0.0026 | −0.0714 |
| 1.0000 | 0.87594 | 1.6659 | 1.4805 | 1376.7 | – | – | – | – |
| | | | | | 313.15 K | | | |
| 0.0000 | 1.45003 | 0.5026 | 1.4330 | 932.0 | – | – | – | – |
| 0.1000 | 1.34404 | 0.6486 | 1.4425 | 984.3 | −0.2895 | 0.0434 | 0.0050 | −0.0883 |
| 0.2001 | 1.25671 | 0.7943 | 1.4503 | 1035.4 | −0.5665 | 0.0864 | 0.0083 | −0.1732 |
| 0.2999 | 1.18324 | 0.9354 | 1.4566 | 1084.3 | −0.7808 | 0.1251 | 0.0101 | −0.2365 |
| 0.4000 | 1.12038 | 1.0562 | 1.4613 | 1130.3 | −0.9525 | 0.1432 | 0.0102 | −0.2662 |
| 0.4998 | 1.06550 | 1.1606 | 1.4655 | 1174.3 | −0.9910 | 0.1453 | 0.0100 | −0.2754 |
| 0.6002 | 1.01680 | 1.2563 | 1.4689 | 1215.1 | −0.9056 | 0.1380 | 0.0089 | −0.2477 |
| 0.7002 | 0.97394 | 1.3406 | 1.4718 | 1253.9 | −0.7385 | 0.1197 | 0.0072 | −0.2063 |
| 0.7999 | 0.93599 | 1.4096 | 1.4744 | 1290.8 | −0.5106 | 0.0864 | 0.0053 | −0.1525 |
| 0.8998 | 0.90213 | 1.4705 | 1.4762 | 1325.2 | −0.2479 | 0.0448 | 0.0026 | −0.0812 |
| 1.0000 | 0.87193 | 1.5285 | 1.4781 | 1357.7 | – | – | – | – |
| | | | | | 318.15 K | | | |
| 0.0000 | 1.44028 | 0.4818 | 1.4299 | 915.1 | – | – | – | – |
| 0.1000 | 1.33581 | 0.6139 | 1.4397 | 967.6 | −0.3098 | 0.0406 | 0.0052 | −0.1094 |
| 0.2001 | 1.24954 | 0.7465 | 1.4475 | 1018.8 | −0.5989 | 0.0816 | 0.0085 | −0.2076 |
| 0.2999 | 1.17685 | 0.8738 | 1.4539 | 1067.7 | −0.8194 | 0.1176 | 0.0102 | −0.2785 |
| 0.4000 | 1.11456 | 0.9832 | 1.4586 | 1113.6 | −0.9926 | 0.1354 | 0.0104 | −0.3095 |
| 0.4998 | 1.06015 | 1.0764 | 1.4629 | 1157.3 | −1.0306 | 0.1372 | 0.0102 | −0.3167 |
| 0.6002 | 1.01182 | 1.1606 | 1.4664 | 1197.8 | −0.9405 | 0.1296 | 0.0090 | −0.2836 |
| 0.7002 | 0.96927 | 1.2341 | 1.4693 | 1236.3 | −0.7666 | 0.1115 | 0.0074 | −0.2351 |
| 0.7999 | 0.93158 | 1.2926 | 1.4719 | 1272.7 | −0.5308 | 0.0788 | 0.0054 | −0.1722 |
| 0.8998 | 0.89793 | 1.3450 | 1.4737 | 1306.8 | −0.2576 | 0.0398 | 0.0026 | −0.0918 |
| 1.0000 | 0.86792 | 1.3969 | 1.4756 | 1339.0 | – | – | – | – |
| | | | | | 323.15 K | | | |
| 0.0000 | 1.43046 | 0.4621 | 1.4269 | 898.4 | – | – | – | – |
| 0.1000 | 1.32757 | 0.5839 | 1.4368 | 951.1 | −0.3337 | 0.0385 | 0.0052 | −0.1321 |
| 0.2001 | 1.24234 | 0.7061 | 1.4448 | 1002.3 | −0.6332 | 0.0772 | 0.0086 | −0.2456 |
| 0.2999 | 1.17041 | 0.8220 | 1.4511 | 1051.2 | −0.8586 | 0.1100 | 0.0103 | −0.3237 |
| 0.4000 | 1.10872 | 0.9206 | 1.4559 | 1096.9 | −1.0341 | 0.1252 | 0.0105 | −0.3564 |
| 0.4998 | 1.05479 | 1.0054 | 1.4603 | 1140.4 | −1.0717 | 0.1268 | 0.0103 | −0.3616 |
| 0.6002 | 1.00684 | 1.0813 | 1.4638 | 1180.6 | −0.9769 | 0.1190 | 0.0091 | −0.3226 |
| 0.7002 | 0.96459 | 1.1464 | 1.4668 | 1218.7 | −0.7958 | 0.1008 | 0.0075 | −0.2663 |
| 0.7999 | 0.92716 | 1.1995 | 1.4694 | 1254.7 | −0.5515 | 0.0708 | 0.0055 | −0.1933 |
| 0.8998 | 0.89372 | 1.2474 | 1.4711 | 1288.5 | −0.2672 | 0.0354 | 0.0025 | −0.1027 |
| 1.0000 | 0.86391 | 1.2955 | 1.4732 | 1320.4 | – | – | – | – |
| | | | | | limonene (1) + chloroform (2) | | | |
| | | | | | 288.15 K | | | |
| 0.0000 | 1.49787 | 0.6396 | 1.4487 | 1017.2 | – | – | – | – |
| 0.1003 | 1.37730 | 0.7075 | 1.4536 | 1053.3 | 0.0547 | 0.0329 | 0.0022 | 0.0973 |
| 0.1999 | 1.27806 | 0.7624 | 1.4578 | 1089.9 | 0.1010 | 0.0530 | 0.0038 | 0.1442 |
| 0.2995 | 1.19448 | 0.8090 | 1.4612 | 1126.6 | 0.1339 | 0.0646 | 0.0046 | 0.1579 |
| 0.4000 | 1.12248 | 0.8492 | 1.4640 | 1163.1 | 0.1590 | 0.0698 | 0.0048 | 0.1529 |
| 0.4999 | 1.06066 | 0.8848 | 1.4664 | 1198.1 | 0.1784 | 0.0705 | 0.0046 | 0.1407 |
| 0.6001 | 1.00664 | 0.9137 | 1.4685 | 1232.0 | 0.1806 | 0.0644 | 0.0040 | 0.1224 |
| 0.6998 | 0.95940 | 0.9375 | 1.4705 | 1264.7 | 0.1657 | 0.0531 | 0.0034 | 0.0985 |
| 0.7987 | 0.91788 | 0.9559 | 1.4721 | 1296.5 | 0.1308 | 0.0371 | 0.0024 | 0.0679 |
| 0.8996 | 0.88010 | 0.9725 | 1.4737 | 1328.2 | 0.0791 | 0.0183 | 0.0013 | 0.0329 |
| 1.0000 | 0.84644 | 0.9892 | 1.4750 | 1358.3 | – | – | – | – |
| | | | | | 293.15 K | | | |
| 0.0000 | 1.48840 | 0.6079 | 1.4455 | 1000.3 | – | – | – | – |
| 0.1003 | 1.36902 | 0.6677 | 1.4505 | 1036.1 | 0.0554 | 0.0280 | 0.0023 | 0.0985 |
| 0.1999 | 1.27074 | 0.7176 | 1.4548 | 1072.2 | 0.1001 | 0.0464 | 0.0039 | 0.1486 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.2995 | 1.18791 | 0.7612 | 1.4583 | 1108.5 | 0.1329 | 0.0582 | 0.0047 | 0.1623 |
| 0.4000 | 1.11653 | 0.7977 | 1.4612 | 1144.6 | 0.1571 | 0.0630 | 0.0049 | 0.1573 |
| 0.4999 | 1.05520 | 0.8302 | 1.4637 | 1179.2 | 0.1768 | 0.0639 | 0.0047 | 0.1441 |
| 0.6001 | 1.00161 | 0.8559 | 1.4659 | 1212.8 | 0.1787 | 0.0578 | 0.0042 | 0.1252 |
| 0.6998 | 0.95473 | 0.8776 | 1.4679 | 1245.2 | 0.1640 | 0.0478 | 0.0035 | 0.1018 |
| 0.7987 | 0.91351 | 0.8941 | 1.4696 | 1276.6 | 0.1288 | 0.0331 | 0.0026 | 0.0716 |
| 0.8996 | 0.87599 | 0.9090 | 1.4712 | 1308.0 | 0.0769 | 0.0160 | 0.0014 | 0.0360 |
| 1.0000 | 0.84255 | 0.9248 | 1.4725 | 1338.2 | – | – | – | – |
| | | | | | 298.15 K | | | |
| 0.0000 | 1.47889 | 0.5781 | 1.4424 | 983.0 | – | – | – | – |
| 0.1003 | 1.36072 | 0.6312 | 1.4476 | 1018.3 | 0.0556 | 0.0243 | 0.0024 | 0.1030 |
| 0.1999 | 1.26339 | 0.6764 | 1.4519 | 1054.2 | 0.0990 | 0.0408 | 0.0040 | 0.1518 |
| 0.2995 | 1.18130 | 0.7159 | 1.4555 | 1090.1 | 0.1317 | 0.0516 | 0.0048 | 0.1662 |
| 0.4000 | 1.11053 | 0.7496 | 1.4584 | 1125.7 | 0.1553 | 0.0565 | 0.0050 | 0.1614 |
| 0.4999 | 1.04971 | 0.7794 | 1.4610 | 1160.1 | 0.1752 | 0.0576 | 0.0048 | 0.1479 |
| 0.6001 | 0.99654 | 0.8018 | 1.4633 | 1193.4 | 0.1772 | 0.0512 | 0.0043 | 0.1287 |
| 0.6998 | 0.95002 | 0.8204 | 1.4654 | 1225.6 | 0.1618 | 0.0410 | 0.0036 | 0.1038 |
| 0.7987 | 0.90912 | 0.8361 | 1.4672 | 1256.7 | 0.1248 | 0.0284 | 0.0027 | 0.0748 |
| 0.8996 | 0.87184 | 0.8505 | 1.4688 | 1287.8 | 0.0777 | 0.0137 | 0.0016 | 0.0397 |
| 1.0000 | 0.83864 | 0.8656 | 1.4700 | 1318.1 | – | – | – | – |
| | | | | | 303.15 K | | | |
| 0.0000 | 1.46933 | 0.5520 | 1.4392 | 965.9 | – | – | – | – |
| 0.1003 | 1.35237 | 0.5994 | 1.4445 | 1000.8 | 0.0559 | 0.0213 | 0.0025 | 0.1068 |
| 0.1999 | 1.25599 | 0.6391 | 1.4490 | 1036.5 | 0.0980 | 0.0351 | 0.0041 | 0.1536 |
| 0.2995 | 1.17466 | 0.6746 | 1.4527 | 1072.1 | 0.1304 | 0.0446 | 0.0050 | 0.1680 |
| 0.4000 | 1.10451 | 0.7056 | 1.4557 | 1107.3 | 0.1540 | 0.0496 | 0.0052 | 0.1637 |
| 0.4999 | 1.04420 | 0.7330 | 1.4583 | 1141.3 | 0.1737 | 0.0510 | 0.0049 | 0.1505 |
| 0.6001 | 0.99146 | 0.7540 | 1.4606 | 1174.3 | 0.1759 | 0.0459 | 0.0044 | 0.1308 |
| 0.6998 | 0.94530 | 0.7706 | 1.4628 | 1206.2 | 0.1591 | 0.0365 | 0.0038 | 0.1070 |
| 0.7987 | 0.90470 | 0.7841 | 1.4646 | 1237.0 | 0.1238 | 0.0244 | 0.0028 | 0.0779 |
| 0.8996 | 0.86769 | 0.7978 | 1.4663 | 1267.9 | 0.0763 | 0.0118 | 0.0016 | 0.0427 |
| 1.0000 | 0.83472 | 0.8121 | 1.4675 | 1298.2 | – | – | – | – |
| | | | | | 308.15 K | | | |
| 0.0000 | 1.45971 | 0.5268 | 1.4361 | 948.9 | – | – | – | – |
| 0.1003 | 1.34397 | 0.5688 | 1.4415 | 983.3 | 0.0562 | 0.0185 | 0.0024 | 0.1116 |
| 0.1999 | 1.24856 | 0.6048 | 1.4461 | 1018.8 | 0.0971 | 0.0310 | 0.0042 | 0.1565 |
| 0.2995 | 1.16799 | 0.6364 | 1.4499 | 1054.1 | 0.1291 | 0.0390 | 0.0051 | 0.1702 |
| 0.4000 | 1.09846 | 0.6653 | 1.4530 | 1089.0 | 0.1537 | 0.0443 | 0.0053 | 0.1664 |
| 0.4999 | 1.03867 | 0.6900 | 1.4556 | 1122.6 | 0.1721 | 0.0455 | 0.0051 | 0.1533 |
| 0.6001 | 0.98636 | 0.7085 | 1.4581 | 1155.4 | 0.1739 | 0.0404 | 0.0046 | 0.1335 |
| 0.6998 | 0.94057 | 0.7236 | 1.4603 | 1187.0 | 0.1568 | 0.0319 | 0.0039 | 0.1091 |
| 0.7987 | 0.90027 | 0.7363 | 1.4621 | 1217.6 | 0.1218 | 0.0214 | 0.0029 | 0.0801 |
| 0.8996 | 0.86354 | 0.7492 | 1.4638 | 1248.2 | 0.0740 | 0.0105 | 0.0017 | 0.0446 |
| 1.0000 | 0.83079 | 0.7623 | 1.4650 | 1278.5 | – | – | – | – |
| | | | | | 313.15 K | | | |
| 0.0000 | 1.45003 | 0.5026 | 1.4330 | 932.0 | – | – | – | – |
| 0.1003 | 1.33553 | 0.5399 | 1.4385 | 966.1 | 0.0555 | 0.0158 | 0.0025 | 0.1135 |
| 0.1999 | 1.24107 | 0.5723 | 1.4432 | 1001.3 | 0.0965 | 0.0270 | 0.0043 | 0.1591 |
| 0.2995 | 1.16129 | 0.6012 | 1.4471 | 1036.3 | 0.1264 | 0.0346 | 0.0052 | 0.1721 |
| 0.4000 | 1.09238 | 0.6272 | 1.4502 | 1070.7 | 0.1513 | 0.0392 | 0.0054 | 0.1688 |
| 0.4999 | 1.03310 | 0.6500 | 1.4530 | 1104.1 | 0.1701 | 0.0406 | 0.0052 | 0.1560 |
| 0.6001 | 0.98123 | 0.6670 | 1.4555 | 1136.5 | 0.1703 | 0.0362 | 0.0047 | 0.1370 |
| 0.6998 | 0.93580 | 0.6808 | 1.4577 | 1167.9 | 0.1545 | 0.0286 | 0.0041 | 0.1119 |
| 0.7987 | 0.89582 | 0.6922 | 1.4596 | 1198.2 | 0.1179 | 0.0189 | 0.0030 | 0.0832 |
| 0.8996 | 0.85935 | 0.7042 | 1.4613 | 1228.8 | 0.0716 | 0.0094 | 0.0018 | 0.0452 |
| 1.0000 | 0.82683 | 0.7162 | 1.4625 | 1259.0 | – | – | – | – |
| | | | | | 318.15 K | | | |
| 0.0000 | 1.44028 | 0.4818 | 1.4299 | 915.1 | – | – | – | – |
| 0.1003 | 1.32704 | 0.5149 | 1.4355 | 948.8 | 0.0547 | 0.0137 | 0.0026 | 0.1185 |
| 0.1999 | 1.23355 | 0.5442 | 1.4403 | 983.8 | 0.0958 | 0.0236 | 0.0043 | 0.1619 |
| 0.2995 | 1.15455 | 0.5708 | 1.4442 | 1018.4 | 0.1253 | 0.0308 | 0.0053 | 0.1755 |
| 0.4000 | 1.08627 | 0.5946 | 1.4475 | 1052.6 | 0.1498 | 0.0352 | 0.0055 | 0.1719 |
| 0.4999 | 1.02752 | 0.6151 | 1.4503 | 1085.6 | 0.1682 | 0.0363 | 0.0053 | 0.1593 |

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|---|---|---|---|---|---|---|---|---|
| 0.6001 | 0.97609 | 0.6307 | 1.4528 | 1117.7 | 0.1687 | 0.0325 | 0.0049 | 0.1409 |
| 0.6998 | 0.93102 | 0.6431 | 1.4552 | 1148.8 | 0.1537 | 0.0255 | 0.0042 | 0.1167 |
| 0.7987 | 0.89136 | 0.6535 | 1.4571 | 1179.0 | 0.1158 | 0.0168 | 0.0031 | 0.0866 |
| 0.8996 | 0.85518 | 0.6643 | 1.4588 | 1209.5 | 0.0696 | 0.0080 | 0.0019 | 0.0480 |
| 1.0000 | 0.82288 | 0.6758 | 1.4600 | 1239.7 | – | – | – | – |
| | | | | | 323.15 K | | | |
| 0.0000 | 1.43046 | 0.4621 | 1.4269 | 898.4 | – | – | – | – |
| 0.1003 | 1.31850 | 0.4910 | 1.4326 | 931.7 | 0.0532 | 0.0112 | 0.0027 | 0.1207 |
| 0.1999 | 1.22599 | 0.5176 | 1.4374 | 966.4 | 0.0948 | 0.0204 | 0.0044 | 0.1644 |
| 0.2995 | 1.14775 | 0.5416 | 1.4415 | 1000.7 | 0.1247 | 0.0268 | 0.0054 | 0.1775 |
| 0.4000 | 1.08013 | 0.5632 | 1.4447 | 1034.5 | 0.1489 | 0.0308 | 0.0056 | 0.1744 |
| 0.4999 | 1.02191 | 0.5820 | 1.4476 | 1067.2 | 0.1663 | 0.0320 | 0.0054 | 0.1630 |
| 0.6001 | 0.97092 | 0.5965 | 1.4502 | 1099.1 | 0.1676 | 0.0288 | 0.0050 | 0.1437 |
| 0.6998 | 0.92623 | 0.6076 | 1.4526 | 1129.9 | 0.1520 | 0.0223 | 0.0043 | 0.1197 |
| 0.7987 | 0.88688 | 0.6173 | 1.4546 | 1160.0 | 0.1161 | 0.0147 | 0.0033 | 0.0899 |
| 0.8996 | 0.85100 | 0.6274 | 1.4563 | 1190.3 | 0.0661 | 0.0070 | 0.0019 | 0.0508 |
| 1.0000 | 0.81893 | 0.6380 | 1.4574 | 1220.6 | – | – | – | – |
| linalool (1) + chloroform (2) | | | | | | | | |
| | | | | | 288.15 K | | | |
| 0.0000 | 1.49787 | 0.6396 | 1.4487 | 1017.2 | – | – | – | – |
| 0.0994 | 1.36923 | 0.8055 | 1.4509 | 1049.8 | 0.2220 | −0.4400 | 0.0007 | 0.1862 |
| 0.1997 | 1.26728 | 1.0220 | 1.4532 | 1087.4 | 0.3137 | −0.8350 | 0.0014 | 0.2445 |
| 0.3000 | 1.18439 | 1.3050 | 1.4553 | 1126.4 | 0.3588 | −1.1635 | 0.0020 | 0.2378 |
| 0.3994 | 1.11611 | 1.6664 | 1.4572 | 1164.2 | 0.3737 | −1.4080 | 0.0024 | 0.2062 |
| 0.5002 | 1.05771 | 2.1343 | 1.4589 | 1201.0 | 0.3565 | −1.5546 | 0.0026 | 0.1626 |
| 0.5993 | 1.00860 | 2.7128 | 1.4602 | 1234.9 | 0.3137 | −1.5803 | 0.0024 | 0.1211 |
| 0.6983 | 0.96608 | 3.4125 | 1.4614 | 1266.8 | 0.2506 | −1.4841 | 0.0021 | 0.0818 |
| 0.7999 | 0.92792 | 4.2780 | 1.4625 | 1297.0 | 0.1737 | −1.2380 | 0.0017 | 0.0503 |
| 0.8998 | 0.89480 | 5.3250 | 1.4634 | 1324.7 | 0.0955 | −0.8000 | 0.0010 | 0.0239 |
| 1.0000 | 0.86530 | 6.7359 | 1.4639 | 1350.9 | – | – | – | – |
| | | | | | 293.15 K | | | |
| 0.0000 | 1.48840 | 0.6079 | 1.4455 | 1000.3 | – | – | – | – |
| 0.0994 | 1.36106 | 0.7618 | 1.4479 | 1033.0 | 0.2173 | −0.3236 | 0.0008 | 0.1883 |
| 0.1997 | 1.26000 | 0.9581 | 1.4503 | 1069.9 | 0.3103 | −0.6091 | 0.0016 | 0.2537 |
| 0.3000 | 1.17780 | 1.2120 | 1.4525 | 1108.5 | 0.3555 | −0.8370 | 0.0022 | 0.2480 |
| 0.3994 | 1.11009 | 1.5277 | 1.4545 | 1146.2 | 0.3687 | −0.9988 | 0.0026 | 0.2127 |
| 0.5002 | 1.05213 | 1.9156 | 1.4562 | 1182.7 | 0.3529 | −1.0951 | 0.0027 | 0.1685 |
| 0.5993 | 1.00340 | 2.3980 | 1.4576 | 1216.4 | 0.3089 | −1.0888 | 0.0025 | 0.1263 |
| 0.6983 | 0.96120 | 2.9421 | 1.4589 | 1248.0 | 0.2448 | −1.0202 | 0.0022 | 0.0871 |
| 0.7999 | 0.92330 | 3.6314 | 1.4601 | 1278.2 | 0.1687 | −0.8190 | 0.0018 | 0.0544 |
| 0.8998 | 0.89042 | 4.4172 | 1.4610 | 1306.1 | 0.0888 | −0.5131 | 0.0011 | 0.0262 |
| 1.0000 | 0.86109 | 5.4116 | 1.4615 | 1332.6 | – | – | – | – |
| | | | | | 298.15 K | | | |
| 0.0000 | 1.47889 | 0.5781 | 1.4424 | 983.0 | – | – | – | – |
| 0.0994 | 1.35283 | 0.7135 | 1.4450 | 1015.9 | 0.2147 | −0.2378 | 0.0009 | 0.1878 |
| 0.1997 | 1.25269 | 0.8831 | 1.4475 | 1052.0 | 0.3067 | −0.4449 | 0.0017 | 0.2640 |
| 0.3000 | 1.17117 | 1.0976 | 1.4498 | 1090.2 | 0.3540 | −0.6069 | 0.0024 | 0.2590 |
| 0.3994 | 1.10402 | 1.3649 | 1.4518 | 1127.7 | 0.3672 | −0.7129 | 0.0028 | 0.2212 |
| 0.5002 | 1.04652 | 1.6753 | 1.4535 | 1164.0 | 0.3509 | −0.7809 | 0.0028 | 0.1753 |
| 0.5993 | 0.99817 | 2.0478 | 1.4550 | 1197.5 | 0.3059 | −0.7805 | 0.0026 | 0.1326 |
| 0.6983 | 0.95630 | 2.4868 | 1.4563 | 1229.2 | 0.2389 | −0.7133 | 0.0023 | 0.0919 |
| 0.7999 | 0.91867 | 3.0037 | 1.4575 | 1259.4 | 0.1636 | −0.5779 | 0.0018 | 0.0587 |
| 0.8998 | 0.88600 | 3.5976 | 1.4585 | 1287.3 | 0.0870 | −0.3591 | 0.0012 | 0.0302 |
| 1.0000 | 0.85687 | 4.3329 | 1.4590 | 1314.3 | – | – | – | – |
| | | | | | 303.15 K | | | |
| 0.0000 | 1.46933 | 0.5520 | 1.4392 | 965.9 | – | – | – | – |
| 0.0994 | 1.34455 | 0.6774 | 1.4420 | 998.7 | 0.2111 | −0.1732 | 0.0011 | 0.1921 |
| 0.1997 | 1.24533 | 0.8261 | 1.4446 | 1034.6 | 0.3029 | −0.3259 | 0.0019 | 0.2690 |
| 0.3000 | 1.16450 | 1.0100 | 1.4470 | 1072.4 | 0.3525 | −0.4435 | 0.0026 | 0.2661 |
| 0.3994 | 1.09791 | 1.2206 | 1.4491 | 1109.5 | 0.3656 | −0.5316 | 0.0029 | 0.2283 |
| 0.5002 | 1.04088 | 1.4934 | 1.4509 | 1145.3 | 0.3492 | −0.5617 | 0.0030 | 0.1850 |
| 0.5993 | 0.99291 | 1.7892 | 1.4524 | 1178.8 | 0.3037 | −0.5637 | 0.0028 | 0.1398 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.6983 | 0.95136 | 2.1451 | 1.4537 | 1210.3 | 0.2347 | −0.5053 | 0.0024 | 0.0989 |
| 0.7999 | 0.91401 | 2.5469 | 1.4550 | 1240.6 | 0.1584 | −0.4088 | 0.0019 | 0.0637 |
| 0.8998 | 0.88160 | 2.9998 | 1.4561 | 1268.8 | 0.0772 | −0.2561 | 0.0012 | 0.0327 |
| 1.0000 | 0.85263 | 3.5570 | 1.4566 | 1296.0 | – | – | – | – |
| | | | | | 308.15 K | | | |
| 0.0000 | 1.45971 | 0.5268 | 1.4361 | 948.9 | – | – | – | – |
| 0.0994 | 1.33625 | 0.6372 | 1.4391 | 981.8 | 0.2072 | −0.1312 | 0.0012 | 0.1939 |
| 0.1997 | 1.23794 | 0.7701 | 1.4417 | 1017.3 | 0.3000 | −0.2423 | 0.0020 | 0.2745 |
| 0.3000 | 1.15780 | 0.9298 | 1.4442 | 1054.6 | 0.3518 | −0.3264 | 0.0027 | 0.2749 |
| 0.3994 | 1.09179 | 1.1127 | 1.4464 | 1091.4 | 0.3643 | −0.3852 | 0.0031 | 0.2375 |
| 0.5002 | 1.03520 | 1.3400 | 1.4482 | 1127.1 | 0.3508 | −0.4030 | 0.0031 | 0.1911 |
| 0.5993 | 0.98761 | 1.5863 | 1.4498 | 1160.3 | 0.3053 | −0.3977 | 0.0029 | 0.1465 |
| 0.6983 | 0.94638 | 1.8688 | 1.4512 | 1191.6 | 0.2377 | −0.3559 | 0.0025 | 0.1052 |
| 0.7999 | 0.90935 | 2.2036 | 1.4525 | 1221.9 | 0.1559 | −0.2681 | 0.0020 | 0.0692 |
| 0.8998 | 0.87715 | 2.5531 | 1.4536 | 1250.4 | 0.0785 | −0.1616 | 0.0013 | 0.0345 |
| 1.0000 | 0.84839 | 2.9583 | 1.4541 | 1277.9 | – | – | – | – |
| | | | | | 313.15 K | | | |
| 0.0000 | 1.45003 | 0.5026 | 1.4330 | 932.0 | – | – | – | – |
| 0.0994 | 1.32791 | 0.5934 | 1.4361 | 964.9 | 0.2015 | −0.1074 | 0.0012 | 0.1959 |
| 0.1997 | 1.23052 | 0.7136 | 1.4389 | 1000.0 | 0.2949 | −0.1872 | 0.0022 | 0.2823 |
| 0.3000 | 1.15108 | 0.8553 | 1.4415 | 1037.0 | 0.3482 | −0.2455 | 0.0029 | 0.2819 |
| 0.3994 | 1.08563 | 1.0157 | 1.4437 | 1073.2 | 0.3611 | −0.2833 | 0.0033 | 0.2470 |
| 0.5002 | 1.02951 | 1.2080 | 1.4456 | 1108.6 | 0.3488 | −0.2920 | 0.0033 | 0.2011 |
| 0.5993 | 0.98229 | 1.4093 | 1.4472 | 1141.9 | 0.3041 | −0.2883 | 0.0030 | 0.1529 |
| 0.6983 | 0.94138 | 1.6442 | 1.4486 | 1173.1 | 0.2379 | −0.2508 | 0.0026 | 0.1117 |
| 0.7999 | 0.90462 | 1.8953 | 1.4499 | 1203.3 | 0.1567 | −0.2023 | 0.0021 | 0.0749 |
| 0.8998 | 0.87266 | 2.1679 | 1.4511 | 1231.9 | 0.0805 | −0.1289 | 0.0013 | 0.0384 |
| 1.0000 | 0.84412 | 2.4966 | 1.4516 | 1259.8 | – | – | – | – |
| | | | | | 318.15 K | | | |
| 0.0000 | 1.44028 | 0.4818 | 1.4299 | 915.1 | – | – | – | – |
| 0.0994 | 1.31952 | 0.5673 | 1.4332 | 948.1 | 0.1948 | −0.0781 | 0.0014 | 0.1965 |
| 0.1997 | 1.22306 | 0.6653 | 1.4361 | 982.6 | 0.2877 | −0.1450 | 0.0024 | 0.2902 |
| 0.3000 | 1.14435 | 0.7844 | 1.4388 | 1019.1 | 0.3409 | −0.1909 | 0.0031 | 0.2940 |
| 0.3994 | 1.07946 | 0.9219 | 1.4410 | 1054.9 | 0.3549 | −0.2170 | 0.0035 | 0.2604 |
| 0.5002 | 1.02379 | 1.0947 | 1.4429 | 1090.2 | 0.3439 | −0.2100 | 0.0034 | 0.2114 |
| 0.5993 | 0.97695 | 1.2644 | 1.4445 | 1123.3 | 0.3007 | −0.2034 | 0.0032 | 0.1618 |
| 0.6983 | 0.93635 | 1.4542 | 1.4460 | 1154.3 | 0.2357 | −0.1764 | 0.0027 | 0.1209 |
| 0.7999 | 0.89987 | 1.6450 | 1.4474 | 1184.8 | 0.1554 | −0.1528 | 0.0022 | 0.0807 |
| 0.8998 | 0.86816 | 1.8561 | 1.4485 | 1213.4 | 0.0771 | −0.1060 | 0.0014 | 0.0434 |
| 1.0000 | 0.83982 | 2.1270 | 1.4490 | 1241.7 | – | – | – | – |
| | | | | | 323.15 K | | | |
| 0.0000 | 1.43046 | 0.4621 | 1.4269 | 898.4 | – | – | – | – |
| 0.0994 | 1.31108 | 0.5406 | 1.4303 | 931.4 | 0.1868 | −0.0581 | 0.0015 | 0.1971 |
| 0.1997 | 1.21558 | 0.6293 | 1.4334 | 965.6 | 0.2782 | −0.1073 | 0.0026 | 0.2955 |
| 0.3000 | 1.13758 | 0.7366 | 1.4360 | 1001.4 | 0.3313 | −0.1378 | 0.0033 | 0.3051 |
| 0.3994 | 1.07325 | 0.8493 | 1.4383 | 1036.8 | 0.3465 | −0.1618 | 0.0036 | 0.2734 |
| 0.5002 | 1.01805 | 0.9943 | 1.4403 | 1071.9 | 0.3366 | −0.1554 | 0.0036 | 0.2226 |
| 0.5993 | 0.97158 | 1.1318 | 1.4419 | 1104.8 | 0.2952 | −0.1541 | 0.0033 | 0.1717 |
| 0.6983 | 0.93129 | 1.2972 | 1.4434 | 1135.9 | 0.2322 | −0.1248 | 0.0029 | 0.1278 |
| 0.7999 | 0.89509 | 1.4570 | 1.4448 | 1166.2 | 0.1532 | −0.1046 | 0.0023 | 0.0880 |
| 0.8998 | 0.86361 | 1.6225 | 1.4459 | 1195.2 | 0.0778 | −0.0765 | 0.0015 | 0.0464 |
| 1.0000 | 0.83548 | 1.8367 | 1.4464 | 1223.7 | – | – | – | – |

[a] Standard uncertainties $u$ for each variables are $u$(T) = 0.01 K; $u_r$(p) = 0.05 MPa; $u$($x_1$) = 0.0001, and the combined expanded uncertainties $U_c$ are $U_c(\rho)$ = 0.9 kg·m$^{-3}$; $U_c(\eta)$ = 0.002 mPa·s, $U_c(n_D)$ = 5·10$^{-4}$ and $U_c(u)$ =0.6 m·s$^{-1}$ with 0.95 level of confidence (k = 2).

**Table S2.** Redlich-Kister parameters for excess molar volume $V^E$, viscosity deviation $\Delta\eta$, refractive indices deviation $\Delta n_D$, isentropic compressibility $\Delta\kappa_s$ and the corresponding root-mean-square deviations.

| Function | $T$/K | $A_0$ | $A_1$ | $A_2$ | $A_3$ | $A_4$ | $\sigma$ |
|---|---|---|---|---|---|---|---|
| | | | citral (1) + chloroform (2) | | | | |
| $10^6V^E$/m$^3$·mol$^{-1}$ | 288.15 | −3.2158 | 0.1317 | 1.9471 | −0.1856 | −0.6258 | 0.0088 |
| | 293.15 | −3.3539 | 0.1547 | 1.9709 | −0.1497 | −0.7197 | 0.0088 |
| | 298.15 | −3.4955 | 0.1929 | 1.9959 | −0.1546 | −0.7926 | 0.0089 |
| | 303.15 | −3.6419 | 0.2173 | 1.9899 | −0.1114 | −0.7894 | 0.0091 |
| | 308.15 | −3.7956 | 0.2638 | 2.0388 | −0.0842 | −0.8675 | 0.0090 |
| | 313.15 | −3.9504 | 0.3271 | 2.0476 | −0.0870 | −0.8986 | 0.0091 |
| | 318.15 | −4.1071 | 0.3832 | 2.0308 | −0.0618 | −0.8999 | 0.0091 |
| | 323.15 | −4.2699 | 0.4287 | 2.0337 | 0.0180 | −0.9636 | 0.0095 |
| $\Delta\eta$/mPa·s | 288.15 | 0.7397 | 0.0632 | 0.0805 | 0.1007 | −0.2274 | 0.0025 |
| | 293.15 | 0.7124 | 0.0419 | 0.0344 | 0.0934 | −0.1959 | 0.0021 |
| | 298.15 | 0.6854 | 0.0102 | 0.0029 | 0.0975 | −0.1791 | 0.0022 |
| | 303.15 | 0.6555 | −0.0079 | 0.0042 | 0.0975 | −0.2181 | 0.0025 |
| | 308.15 | 0.6235 | −0.0320 | −0.0292 | 0.1225 | −0.1724 | 0.0022 |
| | 313.15 | 0.5864 | −0.0460 | −0.0295 | 0.0998 | −0.2075 | 0.0019 |
| | 318.15 | 0.5537 | −0.0488 | −0.0551 | 0.0765 | −0.1906 | 0.0016 |
| | 323.15 | 0.5107 | −0.0638 | −0.0564 | 0.0711 | −0.1686 | 0.0012 |
| $\Delta n_D$ | 288.15 | 0.0351 | −0.0153 | 0.0092 | 0.0031 | −0.0107 | 0.0001 |
| | 293.15 | 0.0362 | −0.0149 | 0.0097 | 0.0010 | −0.0098 | 0.0001 |
| | 298.15 | 0.0371 | −0.0150 | 0.0116 | −0.0001 | −0.0119 | 0.0001 |
| | 303.15 | 0.0381 | −0.0153 | 0.0118 | −0.0004 | −0.0111 | 0.0001 |
| | 308.15 | 0.0388 | −0.0154 | 0.0117 | −0.0012 | −0.0105 | 0.0001 |
| | 313.15 | 0.0396 | −0.0157 | 0.0122 | −0.0011 | −0.0118 | 0.0001 |
| | 318.15 | 0.0402 | −0.0156 | 0.0120 | −0.0028 | −0.0106 | 0.0001 |
| | 323.15 | 0.0406 | −0.0153 | 0.0142 | −0.0051 | −0.0164 | 0.0001 |
| $10^{10}\Delta\kappa_s$/Pa$^{-1}$ | 288.15 | −45.74 | −1.937 | 7.884 | −5.308 | −45.74 | 0.1974 |
| | 293.15 | −55.63 | −4.687 | 28.16 | −11.54 | −13.75 | 0.2412 |
| | 298.15 | −67.68 | −2.145 | 33.13 | −6.070 | −26.77 | 0.3074 |
| | 303.15 | −79.95 | 7.526 | 23.67 | −24.41 | − | 0.2393 |
| | 308.15 | −93.79 | 13.76 | 23.06 | −24.70 | − | 0.2397 |
| | 313.15 | −108.9 | 21.05 | 21.73 | −25.98 | − | 0.2338 |
| | 318.15 | −125.4 | 29.01 | 20.25 | −26.91 | − | 0.2384 |
| | 323.15 | −143.3 | 37.47 | 18.77 | −26.88 | − | 0.2446 |
| | | | limonene (1) + chloroform (2) | | | | |
| $10^6V^E$/m$^3$·mol$^{-1}$ | 288.15 | 0.7080 | 0.1977 | 0.0443 | −0.0737 | − | 0.0019 |
| | 293.15 | 0.7009 | 0.1999 | 0.0413 | −0.1039 | − | 0.0018 |
| | 298.15 | 0.6982 | 0.1907 | −0.0518 | −0.0957 | 0.1737 | 0.0027 |
| | 303.15 | 0.6924 | 0.1894 | −0.0675 | −0.1067 | 0.1992 | 0.0023 |
| | 308.15 | 0.6872 | 0.1832 | −0.0851 | −0.1168 | 0.2134 | 0.0018 |
| | 313.15 | 0.6768 | 0.1802 | −0.0983 | −0.1370 | 0.2187 | 0.0022 |
| | 318.15 | 0.6697 | 0.1828 | −0.0822 | −0.1570 | 0.1708 | 0.0024 |
| | 323.15 | 0.6612 | 0.1842 | −0.0071 | −0.1693 | − | 0.0047 |
| $\Delta\eta$/mPa·s | 288.15 | 0.2802 | −0.0574 | 0.0036 | −0.0697 | − | 0.0003 |
| | 293.15 | 0.2540 | −0.0544 | −0.0154 | −0.0449 | − | 0.0004 |
| | 298.15 | 0.2279 | −0.0579 | −0.0492 | −0.0236 | 0.0376 | 0.0005 |
| | 303.15 | 0.2027 | −0.0413 | −0.0705 | −0.0402 | 0.0641 | 0.0003 |
| | 308.15 | 0.1804 | −0.0397 | −0.0779 | −0.0259 | 0.0754 | 0.0003 |
| | 313.15 | 0.1610 | −0.0329 | −0.0741 | −0.0211 | 0.0657 | 0.0003 |
| | 318.15 | 0.1443 | −0.0292 | −0.0706 | −0.0173 | 0.0514 | 0.0002 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 323.15 | 0.1270 | −0.0249 | −0.0664 | −0.0098 | 0.0413 | 0.0003 |
| $\Delta n_D$ | 288.15 | 0.0182 | −0.0080 | 0.0051 | 0.0028 | −0.0047 | 0.00004 |
| | 293.15 | 0.0187 | −0.0079 | 0.0060 | 0.0028 | −0.0042 | 0.00003 |
| | 298.15 | 0.0191 | −0.0077 | 0.0064 | 0.0027 | −0.0032 | 0.00003 |
| | 303.15 | 0.0197 | −0.0081 | 0.0073 | 0.0034 | −0.0043 | 0.00004 |
| | 308.15 | 0.0203 | −0.0078 | 0.0076 | 0.0036 | −0.0054 | 0.00005 |
| | 313.15 | 0.0209 | −0.0074 | 0.0072 | 0.0032 | −0.0044 | 0.00006 |
| | 318.15 | 0.0214 | −0.0071 | 0.0077 | 0.0028 | −0.0044 | 0.00006 |
| | 323.15 | 0.0218 | −0.0068 | 0.0083 | 0.0027 | −0.0042 | 0.00005 |
| $10^{10}\Delta\kappa_s$/Pa$^{-1}$ | 288.15 | 56.19 | −32.09 | 31.61 | −20.42 | −10.52 | 0.0593 |
| | 293.15 | 57.50 | −33.68 | 36.08 | −16.27 | −14.60 | 0.0785 |
| | 298.15 | 59.21 | −34.52 | 31.49 | −15.180 | − | 0.0480 |
| | 303.15 | 60.15 | −33.58 | 31.68 | −17.00 | 5.86 | 0.0219 |
| | 308.15 | 61.32 | −33.00 | 29.23 | −20.54 | 15.81 | 0.0375 |
| | 313.15 | 62.40 | −31.85 | 31.24 | −23.57 | 13.88 | 0.0534 |
| | 318.15 | 63.85 | −30.26 | 31.54 | −27.99 | 19.64 | 0.0877 |
| | 323.15 | 65.10 | −29.73 | 30.61 | −28.19 | 25.25 | 0.0828 |
| | linalool (1) + chloroform (2) | | | | | | |
| $10^6V^E$/m$^3$·mol$^{-1}$ | 288.15 | 1.4304 | −0.5804 | −0.0519 | −0.4553 | 0.8953 | 0.0018 |
| | 293.15 | 1.4115 | −0.5882 | −0.0369 | −0.4628 | 0.7710 | 0.0015 |
| | 298.15 | 1.4049 | −0.6175 | −0.1238 | −0.4087 | 0.8615 | 0.0016 |
| | 303.15 | 1.3974 | −0.6178 | −0.1311 | −0.4619 | 0.7119 | 0.0026 |
| | 308.15 | 1.4032 | −0.6041 | −0.1778 | −0.4478 | 0.7222 | 0.0020 |
| | 313.15 | 1.3947 | −0.5908 | −0.1774 | −0.3901 | 0.6911 | 0.0021 |
| | 318.15 | 1.3742 | −0.5578 | −0.1610 | −0.4027 | 0.5825 | 0.0018 |
| | 323.15 | 1.3456 | −0.5322 | −0.1809 | −0.3544 | 0.5827 | 0.0017 |
| $\Delta\eta$/mPa·s | 288.15 | −6.2153 | −1.6968 | −0.3182 | −1.1764 | −1.1659 | 0.0027 |
| | 293.15 | −4.3617 | −0.9478 | −0.1629 | −0.5051 | −0.4398 | 0.0067 |
| | 298.15 | −3.1141 | −0.5918 | −0.0942 | −0.3299 | −0.3619 | 0.0043 |
| | 303.15 | −2.2674 | −0.2933 | 0.0782 | −0.4092 | −0.4193 | 0.0043 |
| | 308.15 | −1.6196 | −0.1584 | − | − | − | 0.0036 |
| | 313.15 | −1.1813 | −0.0059 | 0.0399 | −0.2070 | −0.3862 | 0.0029 |
| | 318.15 | −0.8568 | 0.1734 | −0.1173 | −0.5746 | −0.2274 | 0.0034 |
| | 323.15 | −0.6436 | 0.1373 | 0.1234 | −0.3849 | −0.4529 | 0.0049 |
| $\Delta n_D$ | 288.15 | 0.0102 | −0.0003 | −0.0025 | 0.0045 | 0.0028 | 0.00002 |
| | 293.15 | 0.0107 | −0.0005 | −0.0015 | 0.0040 | 0.0013 | 0.00001 |
| | 298.15 | 0.0113 | −0.0013 | −0.0018 | 0.0048 | 0.0034 | 0.00001 |
| | 303.15 | 0.0119 | −0.0019 | −0.0021 | 0.0049 | 0.0053 | 0.00002 |
| | 308.15 | 0.0125 | −0.0023 | −0.0022 | 0.0052 | 0.0059 | 0.00003 |
| | 313.15 | 0.0132 | −0.0026 | −0.0014 | 0.0052 | 0.0048 | 0.00003 |
| | 318.15 | 0.0138 | −0.0032 | −0.0002 | 0.0053 | 0.0040 | 0.00001 |
| | 323.15 | 0.0144 | −0.0034 | 0.0008 | 0.0053 | 0.0031 | 0.00001 |
| $10^{10}\Delta\kappa_s$/Pa$^{-1}$ | 288.15 | 65.22 | −86.65 | 64.77 | −41.06 | 25.67 | 0.074246 |
| | 293.15 | 67.38 | −90.07 | 76.84 | −36.84 | 7.64 | 0.084301 |
| | 298.15 | 70.33 | −95.60 | 82.26 | −25.69 | 70.33 | 0.24160 |
| | 303.15 | 73.64 | −95.16 | 82.34 | −27.94 | − | 0.21730 |
| | 308.15 | 76.26 | −97.08 | 92.73 | −24.18 | −19.70 | 0.16321 |
| | 313.15 | 79.75 | −99.18 | 93.17 | −19.48 | −19.75 | 0.24339 |
| | 318.15 | 84.14 | −103.52 | 97.75 | −8.558 | −30.68 | 0.25219 |
| | 323.15 | 88.75 | −106.8 | 97.66 | 0.5580 | −36.71 | 0.18193 |

**Table S3.** Partial molar volume $\overline{V}_i$ and the excess partial molar volume $\overline{V}_i^E$ for binary mixtures (citral (1) + chloroform (2), limonene (1) + chloroform (2) and linalool (1) + chloroform (2)) for different mole fractions $x_i$ at $T$=(288.15 - 323.15) K and atmospheric pressure, 0.1MPa.

| $x_1$ | $\overline{V}_1$ /cm³·mol⁻¹ | $\overline{V}_2$ /cm³·mol⁻¹ | $\overline{V}_1^E$ /cm³·mol⁻¹ | $\overline{V}_2^E$ /cm³·mol⁻¹ | $\overline{V}_1$ /cm³·mol⁻¹ | $\overline{V}_2$ /cm³·mol⁻¹ | $\overline{V}_1^E$ /cm³·mol⁻¹ | $\overline{V}_2^E$ /cm³·mol⁻¹ |
|---|---|---|---|---|---|---|---|---|
| citral (1) + chloroform (2) | | | | | | | | |
| | | 288.15 K | | | | 293.15 K | | |
| 0.1000 | 168.986 | 79.665 | −1.699 | −0.035 | 169.560 | 80.173 | −1.892 | −0.033 |
| 0.2001 | 168.714 | 79.666 | −1.971 | −0.034 | 169.334 | 80.177 | −2.119 | −0.029 |
| 0.2999 | 168.547 | 79.728 | −2.138 | 0.028 | 169.196 | 80.241 | −2.256 | 0.034 |
| 0.4000 | 168.674 | 79.775 | −2.011 | 0.075 | 169.348 | 80.287 | −2.104 | 0.080 |
| 0.4998 | 169.076 | 79.700 | −1.608 | 0.003 | 169.775 | 80.207 | −1.678 | 0.001 |
| 0.6002 | 169.625 | 79.423 | −1.060 | −0.276 | 170.347 | 79.918 | −1.105 | −0.288 |
| 0.7002 | 170.147 | 78.941 | −0.538 | −0.758 | 170.891 | 79.416 | −0.562 | −0.790 |
| 0.7999 | 170.511 | 78.349 | −0.173 | −1.350 | 171.271 | 78.793 | −0.182 | −1.413 |
| 0.8998 | 170.669 | 77.848 | −0.015 | −1.851 | 171.436 | 78.252 | −0.016 | −1.954 |
| | | 298.15 K | | | | 303.15 K | | |
| 0.1000 | 170.164 | 80.690 | −2.064 | −0.032 | 170.745 | 81.218 | −2.265 | −0.029 |
| 0.2001 | 169.965 | 80.696 | −2.263 | −0.026 | 170.580 | 81.228 | −2.430 | −0.019 |
| 0.2999 | 169.850 | 80.763 | −2.378 | 0.040 | 170.501 | 81.296 | −2.510 | 0.048 |
| 0.4000 | 170.027 | 80.809 | −2.202 | 0.086 | 170.708 | 81.340 | −2.302 | 0.092 |
| 0.4998 | 170.480 | 80.723 | −1.748 | 0.001 | 171.189 | 81.248 | −1.822 | 0.001 |
| 0.6002 | 171.078 | 80.422 | −1.150 | −0.301 | 171.811 | 80.935 | −1.199 | −0.312 |
| 0.7002 | 171.643 | 79.900 | −0.585 | −0.822 | 172.398 | 80.394 | −0.612 | −0.853 |
| 0.7999 | 172.037 | 79.251 | −0.191 | −1.471 | 172.809 | 79.718 | −0.202 | −1.529 |
| 0.8998 | 172.210 | 78.671 | −0.018 | −2.051 | 172.990 | 79.114 | −0.020 | −2.133 |
| | | 308.15 K | | | | 313.15 K | | |
| 0.1000 | 171.339 | 81.755 | −2.462 | −0.027 | 171.929 | 82.303 | −2.671 | −0.026 |
| 0.2001 | 171.210 | 81.768 | −2.591 | −0.014 | 171.829 | 82.320 | −2.771 | −0.009 |
| 0.2999 | 171.158 | 81.839 | −2.643 | 0.055 | 171.809 | 82.393 | −2.790 | 0.064 |
| 0.4000 | 171.393 | 81.882 | −2.408 | 0.098 | 172.080 | 82.435 | −2.520 | 0.106 |
| 0.4998 | 171.903 | 81.783 | −1.899 | 0.001 | 172.624 | 82.329 | −1.976 | 0.001 |
| 0.6002 | 172.555 | 81.456 | −1.246 | −0.326 | 173.306 | 81.988 | −1.294 | −0.340 |
| 0.7002 | 173.167 | 80.892 | −0.635 | −0.890 | 173.941 | 81.404 | −0.659 | −0.924 |
| 0.7999 | 173.594 | 80.187 | −0.208 | −1.595 | 174.383 | 80.676 | −0.217 | −1.652 |
| 0.8998 | 173.782 | 79.555 | −0.0203 | −2.227 | 174.578 | 80.016 | −0.022 | −2.312 |
| | | 318.15 K | | | | 323.15 K | | |
| 0.1000 | 172.500 | 82.864 | −2.907 | −0.022 | 173.037 | 83.438 | −3.185 | −0.017 |
| 0.2001 | 172.440 | 82.886 | −2.968 | 0.001 | 173.045 | 83.465 | −3.177 | 0.009 |
| 0.2999 | 172.463 | 82.961 | −2.944 | 0.075 | 173.122 | 83.541 | −3.100 | 0.085 |
| 0.4000 | 172.774 | 83.001 | −2.633 | 0.114 | 173.474 | 83.577 | −2.748 | 0.121 |
| 0.4998 | 173.353 | 82.887 | −2.054 | 0.001 | 174.086 | 83.456 | −2.136 | 0.001 |
| 0.6002 | 174.064 | 82.532 | −1.343 | −0.354 | 174.827 | 83.087 | −1.395 | −0.368 |
| 0.7002 | 174.722 | 81.929 | −0.685 | −0.957 | 175.511 | 82.460 | −0.711 | −0.995 |
| 0.7999 | 175.180 | 81.176 | −0.227 | −1.710 | 175.987 | 81.674 | −0.235 | −1.781 |
| 0.8998 | 175.383 | 80.492 | −0.024 | −2.39395 | 176.199 | 80.960 | −0.023 | −2.495 |
| limonene (1) + chloroform (2) | | | | | | | | |
| | | 288.15 K | | | | 293.15 K | | |
| 0.1003 | 161.533 | 79.697 | 0.575 | −0.002 | 162.276 | 80.204 | 0.577 | −0.002 |
| 0.1999 | 161.487 | 79.691 | 0.530 | −0.008 | 162.224 | 80.199 | 0.525 | −0.007 |
| 0.2995 | 161.439 | 79.685 | 0.482 | −0.014 | 162.175 | 80.193 | 0.475 | −0.013 |
| 0.4000 | 161.381 | 79.685 | 0.424 | −0.014 | 162.118 | 80.193 | 0.419 | −0.014 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.4999 | 161.311 | 79.700 | 0.354 | −0.001 | 162.049 | 80.207 | 0.350 | −0.001 |
| 0.6001 | 161.229 | 79.741 | 0.271 | 0.041 | 161.968 | 80.247 | 0.269 | 0.040 |
| 0.6998 | 161.140 | 79.825 | 0.183 | 0.125 | 161.880 | 80.330 | 0.181 | 0.123 |
| 0.7987 | 161.054 | 79.972 | 0.097 | 0.272 | 161.796 | 80.472 | 0.096 | 0.265 |
| 0.8996 | 160.986 | 80.213 | 0.028 | 0.513 | 161.727 | 80.703 | 0.028 | 0.496 |
| | | 298.15 K | | | | 303.15 K | | |
| 0.1003 | 163.045 | 80.720 | 0.591 | −0.003 | 163.807 | 81.245 | 0.590 | −0.002 |
| 0.1999 | 162.970 | 80.715 | 0.516 | −0.007 | 163.727 | 81.241 | 0.510 | −0.006 |
| 0.2995 | 162.920 | 80.710 | 0.466 | −0.013 | 163.677 | 81.236 | 0.460 | −0.011 |
| 0.4000 | 162.869 | 80.709 | 0.415 | −0.013 | 163.628 | 81.234 | 0.411 | −0.013 |
| 0.4999 | 162.803 | 80.722 | 0.349 | −0.001 | 163.563 | 81.247 | 0.346 | −0.001 |
| 0.6001 | 162.718 | 80.766 | 0.264 | 0.043 | 163.478 | 81.291 | 0.261 | 0.043 |
| 0.6998 | 162.624 | 80.861 | 0.169 | 0.138 | 163.384 | 81.387 | 0.167 | 0.139 |
| 0.7987 | 162.537 | 81.027 | 0.083 | 0.304 | 163.297 | 81.554 | 0.080 | 0.306 |
| 0.8996 | 162.475 | 81.287 | 0.021 | 0.564 | 163.237 | 81.812 | 0.020 | 0.564 |
| | | 308.15 K | | | | 313.15 K | | |
| 0.1003 | 164.577 | 81.781 | 0.588 | −0.002 | 165.361 | 82.326 | 0.587 | −0.002 |
| 0.1999 | 164.494 | 81.776 | 0.505 | −0.007 | 165.273 | 82.322 | 0.499 | −0.006 |
| 0.2995 | 164.445 | 81.771 | 0.456 | −0.012 | 165.223 | 82.318 | 0.448 | −0.011 |
| 0.4000 | 164.397 | 81.770 | 0.408 | −0.013 | 165.175 | 82.316 | 0.401 | −0.012 |
| 0.4999 | 164.332 | 81.783 | 0.343 | −0.001 | 165.112 | 82.329 | 0.338 | −0.001 |
| 0.6001 | 164.247 | 81.827 | 0.258 | 0.044 | 165.028 | 82.373 | 0.253 | 0.043 |
| 0.6998 | 164.152 | 81.923 | 0.163 | 0.140 | 164.933 | 82.469 | 0.158 | 0.140 |
| 0.7987 | 164.066 | 82.089 | 0.077 | 0.306 | 164.847 | 82.634 | 0.073 | 0.305 |
| 0.8996 | 164.007 | 82.342 | 0.018 | 0.558 | 164.790 | 82.877 | 0.016 | 0.548 |
| | | 318.15 K | | | | 323.15 K | | |
| 0.1003 | 166.154 | 82.882 | 0.590 | −0.004 | 166.903 | 83.455 | 0.539 | −0.001 |
| 0.1999 | 166.066 | 82.878 | 0.502 | −0.008 | 166.848 | 83.451 | 0.484 | −0.004 |
| 0.2995 | 166.011 | 82.874 | 0.447 | −0.012 | 166.806 | 83.445 | 0.442 | −0.010 |
| 0.4000 | 165.962 | 82.873 | 0.397 | −0.013 | 166.757 | 83.443 | 0.394 | −0.013 |
| 0.4999 | 165.899 | 82.886 | 0.334 | −0.001 | 166.694 | 83.455 | 0.330 | −0.001 |
| 0.6001 | 165.816 | 82.929 | 0.252 | 0.043 | 166.615 | 83.495 | 0.252 | 0.039 |
| 0.6998 | 165.722 | 83.024 | 0.158 | 0.138 | 166.530 | 83.573 | 0.166 | 0.117 |
| 0.7987 | 165.637 | 83.186 | 0.073 | 0.299 | 166.449 | 83.698 | 0.086 | 0.242 |
| 0.8996 | 165.580 | 83.417 | 0.016 | 0.530 | 166.387 | 83.883 | 0.024 | 0.427 |
| linalool (1) + chloroform (2) | | | | | | | | |
| | | 288.15 K | | | | 293.15 K | | |
| 0.0994 | 180.776 | 79.667 | 2.515 | −0.032 | 181.612 | 80.173 | 2.480 | −0.033 |
| 0.1997 | 180.157 | 79.621 | 1.896 | −0.078 | 181.017 | 80.126 | 1.884 | −0.080 |
| 0.3000 | 179.681 | 79.603 | 1.420 | −0.096 | 180.543 | 80.109 | 1.411 | −0.097 |
| 0.3994 | 179.302 | 79.626 | 1.041 | −0.073 | 180.163 | 80.133 | 1.031 | −0.073 |
| 0.5002 | 178.975 | 79.700 | 0.714 | 0.001 | 179.837 | 80.207 | 0.705 | 0.001 |
| 0.5993 | 178.698 | 79.831 | 0.437 | 0.131 | 179.562 | 80.337 | 0.430 | 0.130 |
| 0.6983 | 178.475 | 80.033 | 0.213 | 0.333 | 179.341 | 80.535 | 0.209 | 0.327 |
| 0.7999 | 178.322 | 80.318 | 0.061 | 0.618 | 179.191 | 80.807 | 0.058 | 0.600 |
| 0.8998 | 178.262 | 80.649 | 0.001 | 0.949 | 179.132 | 81.102 | 0.001 | 0.895 |
| | | 298.15 K | | | | 303.15 K | | |
| 0.0994 | 182.432 | 80.693 | 2.417 | −0.029 | 183.306 | 81.216 | 2.394 | −0.031 |
| 0.1997 | 181.857 | 80.648 | 1.842 | −0.074 | 182.750 | 81.171 | 1.839 | −0.076 |
| 0.3000 | 181.409 | 80.629 | 1.394 | −0.093 | 182.302 | 81.153 | 1.391 | −0.094 |
| 0.3994 | 181.042 | 80.650 | 1.027 | −0.072 | 181.934 | 81.175 | 1.022 | −0.072 |
| 0.5002 | 180.716 | 80.722 | 0.701 | 0.001 | 181.609 | 81.248 | 0.698 | 0.001 |
| 0.5993 | 180.437 | 80.855 | 0.422 | 0.132 | 181.330 | 81.380 | 0.419 | 0.132 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.6983 | 180.214 | 81.054 | 0.199 | 0.332 | 181.106 | 81.579 | 0.194 | 0.331 |
| 0.7999 | 180.066 | 81.325 | 0.052 | 0.602 | 180.957 | 81.840 | 0.046 | 0.592 |
| 0.8998 | 180.012 | 81.618 | −0.002 | 0.895 | 180.906 | 82.083 | −0.005 | 0.835 |
| | | 308.15 K | | | | 313.15 K | | |
| 0.0994 | 184.156 | 81.753 | 2.341 | −0.029 | 185.002 | 82.301 | 2.268 | −0.027 |
| 0.1997 | 183.621 | 81.710 | 1.806 | −0.072 | 184.501 | 82.259 | 1.766 | −0.069 |
| 0.3000 | 183.192 | 81.691 | 1.378 | −0.091 | 184.093 | 82.240 | 1.359 | −0.089 |
| 0.3994 | 182.835 | 81.711 | 1.021 | −0.071 | 183.747 | 82.259 | 1.012 | −0.070 |
| 0.5002 | 182.515 | 81.783 | 0.701 | 0.001 | 183.431 | 82.329 | 0.696 | 0.001 |
| 0.5993 | 182.236 | 81.916 | 0.421 | 0.132 | 183.154 | 82.460 | 0.420 | 0.131 |
| 0.6983 | 182.009 | 82.117 | 0.195 | 0.334 | 182.931 | 82.658 | 0.197 | 0.329 |
| 0.7999 | 181.859 | 82.380 | 0.045 | 0.597 | 182.783 | 82.917 | 0.049 | 0.587 |
| 0.8998 | 181.808 | 82.622 | −0.006 | 0.839 | 182.730 | 83.163 | −0.003 | 0.833 |
| | | 318.15 K | | | | 323.15 K | | |
| 0.0994 | 185.876 | 82.858 | 2.205 | −0.028 | 186.725 | 83.430 | 2.101 | −0.025 |
| 0.1997 | 185.400 | 82.817 | 1.729 | −0.069 | 186.282 | 83.391 | 1.658 | −0.063 |
| 0.3000 | 185.004 | 82.798 | 1.332 | −0.087 | 185.913 | 83.373 | 1.289 | −0.082 |
| 0.3994 | 184.665 | 82.818 | 0.994 | −0.068 | 185.593 | 83.390 | 0.969 | −0.065 |
| 0.5002 | 184.357 | 82.886 | 0.686 | 0.001 | 185.296 | 83.455 | 0.672 | 0.001 |
| 0.5993 | 184.088 | 83.014 | 0.417 | 0.128 | 185.033 | 83.580 | 0.409 | 0.124 |
| 0.6983 | 183.868 | 83.208 | 0.197 | 0.322 | 184.819 | 83.770 | 0.195 | 0.315 |
| 0.7999 | 183.721 | 83.460 | 0.051 | 0.573 | 184.675 | 84.017 | 0.051 | 0.561 |
| 0.8998 | 183.668 | 83.686 | −0.003 | 0.799 | 184.622 | 84.246 | −0.002 | 0.791 |

The standard uncertainties: $u(x_1)$=0.0001, $u(\overline{V}_1)$=0.06 cm³·mol⁻¹, $u(\overline{V}_2)$=0.03 cm³·mol⁻¹, $u(\overline{V}_1^E)$=0.02 cm³·mol⁻¹, $u(\overline{V}_2^E)$=0.02 cm³·mol⁻¹.

**Table S4.** Apparent molar volumes $V_{\varphi,i}$ for binary mixtures (citral (1) + chloroform (2), limonene (1) + chloroform (2) and linalool (1) + chloroform (2)) for different mole fractions $x_i$ at $T$ = (288.15 - 323.15) K and atmospheric pressure, 0.1MPa.

| $x_1$ | $V_{\phi,1}$/cm³·mol⁻¹ | $V_{\phi,2}$/cm³·mol⁻¹ | $V_{\phi,1}$/cm³·mol⁻¹ | $V_{\phi,2}$/cm³·mol⁻¹ |
|---|---|---|---|---|
| | citral (1) + chloroform (2) | | | |
| | 288.15 K | | 293.15 K | |
| 0.1000 | 168.686 | 79.477 | 169.272 | 79.964 |
| 0.2001 | 168.547 | 79.165 | 169.187 | 79.640 |
| 0.2999 | 168.651 | 78.828 | 169.314 | 79.290 |
| 0.4000 | 168.764 | 78.419 | 169.447 | 78.869 |
| 0.4998 | 169.074 | 78.090 | 169.772 | 78.527 |
| 0.6002 | 169.450 | 77.846 | 170.165 | 78.274 |
| 0.7002 | 169.820 | 77.681 | 170.552 | 78.102 |
| 0.7999 | 170.169 | 77.636 | 170.911 | 78.042 |
| 0.8998 | 170.466 | 77.730 | 171.222 | 78.131 |
| | 298.15 K | | 303.15 K | |
| 0.1000 | 169.883 | 80.462 | 170.493 | 80.968 |
| 0.2001 | 169.831 | 80.122 | 170.476 | 80.613 |
| 0.2999 | 169.981 | 79.760 | 170.652 | 80.237 |
| 0.4000 | 170.134 | 79.326 | 170.826 | 79.791 |
| 0.4998 | 170.475 | 78.970 | 171.183 | 79.421 |
| 0.6002 | 170.889 | 78.712 | 171.616 | 79.154 |
| 0.7002 | 171.289 | 78.528 | 172.032 | 78.961 |
| 0.7999 | 171.663 | 78.464 | 172.420 | 78.885 |
| 0.8998 | 171.984 | 78.530 | 172.756 | 78.964 |
| | 308.15 K | | 313.15 K | |

| | | | | | |
|---|---|---|---|---|---|
| 0.1000 | 171.100 | | 81.483 | 171.705 | 82.007 |
| 0.2001 | 171.122 | | 81.113 | 171.769 | 81.621 |
| 0.2999 | 171.324 | | 80.721 | 171.997 | 81.214 |
| 0.4000 | 171.522 | | 80.263 | 172.219 | 80.741 |
| 0.4998 | 171.896 | | 79.879 | 172.617 | 80.348 |
| 0.6002 | 172.349 | | 79.602 | 173.091 | 80.064 |
| 0.7002 | 172.785 | | 79.410 | 173.545 | 79.865 |
| 0.7999 | 173.187 | | 79.328 | 173.962 | 79.777 |
| 0.8998 | 173.537 | | 79.408 | 174.325 | 79.855 |
| | | 318.15 K | | 323.15 K | |
| 0.1000 | 172.309 | | 82.542 | 172.886 | 83.084 |
| 0.2001 | 172.414 | | 82.137 | 173.058 | 82.664 |
| 0.2999 | 172.675 | | 81.716 | 173.360 | 82.229 |
| 0.4000 | 172.925 | | 81.232 | 173.637 | 81.732 |
| 0.4998 | 173.345 | | 80.826 | 174.078 | 81.313 |
| 0.6002 | 173.840 | | 80.533 | 174.595 | 81.012 |
| 0.7002 | 174.312 | | 80.329 | 175.086 | 80.801 |
| 0.7999 | 174.743 | | 80.233 | 175.533 | 80.699 |
| 0.8998 | 175.121 | | 80.315 | 175.926 | 80.789 |

limonene (1) + chloroform (2)

| | | | | | |
|---|---|---|---|---|---|
| | | 288.15 K | | 293.15 K | |
| 0.1003 | 161.503 | | 79.760 | 162.252 | 80.268 |
| 0.1999 | 161.462 | | 79.826 | 162.200 | 80.332 |
| 0.2995 | 161.404 | | 79.891 | 162.143 | 80.396 |
| 0.4000 | 161.354 | | 79.965 | 162.092 | 80.468 |
| 0.4999 | 161.314 | | 80.056 | 162.053 | 80.560 |
| 0.6001 | 161.258 | | 80.151 | 161.997 | 80.653 |
| 0.6998 | 161.194 | | 80.252 | 161.933 | 80.753 |
| 0.7987 | 161.121 | | 80.349 | 161.860 | 80.846 |
| 0.8996 | 161.045 | | 80.487 | 161.784 | 80.973 |
| | | 298.15 K | | 303.15 K | |
| 0.1003 | 163.008 | | 80.784 | 163.774 | 81.310 |
| 0.1999 | 162.949 | | 80.846 | 163.707 | 81.370 |
| 0.2995 | 162.893 | | 80.910 | 163.652 | 81.434 |
| 0.4000 | 162.842 | | 80.981 | 163.602 | 81.504 |
| 0.4999 | 162.804 | | 81.073 | 163.564 | 81.595 |
| 0.6001 | 162.749 | | 81.165 | 163.510 | 81.687 |
| 0.6998 | 162.685 | | 81.261 | 163.444 | 81.778 |
| 0.7987 | 162.610 | | 81.342 | 163.372 | 81.862 |
| 0.8996 | 162.540 | | 81.496 | 163.301 | 82.007 |
| | | 308.15 K | | 313.15 K | |
| 0.1003 | 164.548 | | 81.845 | 165.327 | 82.390 |
| 0.1999 | 164.474 | | 81.904 | 165.257 | 82.449 |
| 0.2995 | 164.420 | | 81.967 | 165.196 | 82.509 |
| 0.4000 | 164.373 | | 82.039 | 165.152 | 82.581 |
| 0.4999 | 164.333 | | 82.127 | 165.114 | 82.669 |
| 0.6001 | 164.278 | | 82.218 | 165.057 | 82.755 |
| 0.6998 | 164.213 | | 82.305 | 164.994 | 82.843 |
| 0.7987 | 164.141 | | 82.388 | 164.921 | 82.914 |
| 0.8996 | 164.071 | | 82.520 | 164.853 | 83.042 |
| | | 318.15 K | | 323.15 K | |
| 0.1003 | 166.109 | | 82.947 | 166.893 | 83.514 |
| 0.1999 | 166.043 | | 83.006 | 166.837 | 83.574 |

| | | | | |
|---|---|---|---|---|
| 0.2995 | 165.982 | 83.065 | 166.780 | 83.633 |
| 0.4000 | 165.938 | 83.136 | 166.735 | 83.703 |
| 0.4999 | 165.900 | 83.222 | 166.696 | 83.788 |
| 0.6001 | 165.845 | 83.308 | 166.643 | 83.874 |
| 0.6998 | 165.783 | 83.398 | 166.580 | 83.962 |
| 0.7987 | 165.709 | 83.461 | 166.509 | 84.032 |
| 0.8996 | 165.641 | 83.579 | 166.437 | 84.114 |
| linalool (1) + chloroform (2) | | | | |
| | 288.15 K | | 293.15 K | |
| 0.0994 | 180.494 | 79.946 | 181.318 | 80.448 |
| 0.1997 | 179.831 | 80.091 | 180.686 | 80.594 |
| 0.3000 | 179.457 | 80.212 | 180.317 | 80.714 |
| 0.3994 | 179.197 | 80.322 | 180.055 | 80.820 |
| 0.5002 | 178.974 | 80.413 | 179.838 | 80.913 |
| 0.5993 | 178.784 | 80.482 | 179.648 | 80.977 |
| 0.6983 | 178.620 | 80.530 | 179.483 | 81.018 |
| 0.7999 | 178.478 | 80.568 | 179.343 | 81.050 |
| 0.8998 | 178.367 | 80.652 | 179.231 | 81.093 |
| | 298.15 K | | 303.15 K | |
| 0.0994 | 182.174 | 80.961 | 183.035 | 81.482 |
| 0.1997 | 181.550 | 81.106 | 182.428 | 81.626 |
| 0.3000 | 181.194 | 81.228 | 182.086 | 81.751 |
| 0.3994 | 180.934 | 81.334 | 181.826 | 81.856 |
| 0.5002 | 180.716 | 81.424 | 181.609 | 81.946 |
| 0.5993 | 180.525 | 81.486 | 181.418 | 82.005 |
| 0.6983 | 180.356 | 81.514 | 181.247 | 82.025 |
| 0.7999 | 180.219 | 81.540 | 181.109 | 82.039 |
| 0.8998 | 180.111 | 81.591 | 180.997 | 82.018 |
| | 308.15 K | | 313.15 K | |
| 0.0994 | 183.898 | 82.013 | 184.761 | 82.553 |
| 0.1997 | 183.316 | 82.158 | 184.210 | 82.697 |
| 0.3000 | 182.987 | 82.285 | 183.895 | 82.826 |
| 0.3994 | 182.726 | 82.389 | 183.638 | 82.930 |
| 0.5002 | 182.515 | 82.485 | 183.431 | 83.027 |
| 0.5993 | 182.323 | 82.545 | 183.241 | 83.088 |
| 0.6983 | 182.154 | 82.571 | 183.074 | 83.117 |
| 0.7999 | 182.009 | 82.562 | 182.930 | 83.112 |
| 0.8998 | 181.901 | 82.566 | 182.823 | 83.132 |
| | 318.15 K | | 323.15 K | |
| 0.0994 | 185.631 | 83.102 | 186.503 | 83.663 |
| 0.1997 | 185.111 | 83.245 | 186.017 | 83.803 |
| 0.3000 | 184.807 | 83.373 | 185.728 | 83.929 |
| 0.3994 | 184.559 | 83.477 | 185.491 | 84.032 |
| 0.5002 | 184.358 | 83.574 | 185.296 | 84.129 |
| 0.5993 | 184.172 | 83.636 | 185.116 | 84.192 |
| 0.6983 | 184.008 | 83.667 | 184.956 | 84.225 |
| 0.7999 | 183.865 | 83.663 | 184.815 | 84.221 |
| 0.8998 | 183.756 | 83.655 | 184.710 | 84.232 |

The standard uncertainties $u(x_1)$=0.0001, $u(T)$=0.01 K, $u(P)$=0.05 MPa. The relative standard uncertainty: $u_r(V_{\phi,1})$=0.01 $cm^3 \cdot mol^{-1}$, $u_r(V_{\phi,2})$=0.01 $cm^3 \cdot mol^{-1}$.

**Table S5.** Partial molar volume at infinite dilution $\overline{V}_i^{\infty}$ for binary mixtures (citral (1) + chloroform (2), limonene (1) + chloroform (2) and linalool (1) + chloroform (2)) at $T$ = (288.15 - 328.15) K and atmospheric pressure, 0.1MPa.

| ***T*/K** | $\overline{V}_1^{\infty}$ **/cm³·mol⁻¹** | $\overline{V}_2^{\infty}$ **/cm³·mol⁻¹** | ***T*/K** | $\overline{V}_1^{\infty}$ **/cm³·mol⁻¹** | $\overline{V}_2^{\infty}$ **/cm³·mol⁻¹** |
|---|---|---|---|---|---|
| | | citral (1) + chloroform (2) | | | |
| 288.15 | 168.844 | 77.751 | 308.15 | 170.997 | 79.338 |
| 293.15 | 169.345 | 78.109 | 313.15 | 171.559 | 79.767 |
| 298.15 | 169.898 | 78.468 | 318.15 | 172.109 | 80.231 |
| 303.15 | 170.463 | 78.912 | 323.15 | 172.576 | 80.702 |
| | | limonene (1) + chloroform (2) | | | |
| 288.15 | 161.585 | 80.576 | 308.15 | 164.738 | 82.665 |
| 293.15 | 162.345 | 81.045 | 313.15 | 165.528 | 83.169 |
| 298.15 | 163.179 | 81.637 | 318.15 | 166.296 | 83.670 |
| 303.15 | 163.958 | 82.154 | 323.15 | 167.002 | 84.124 |
| | | linalool (1) + chloroform (2) | | | |
| 288.15 | 181.570 | 80.938 | 308.15 | 184.813 | 82.678 |
| 293.15 | 182.329 | 81.301 | 313.15 | 185.623 | 83.256 |
| 298.15 | 183.183 | 81.839 | 318.15 | 186.427 | 83.721 |
| 303.15 | 183.969 | 82.146 | 323.15 | 187.257 | 84.316 |

The standard uncertainties: $u(\overline{V}_1^{\infty})$=0.06 cm³·mol⁻¹, $u(\overline{V}_2^{\infty})$=0.03 cm³·mol⁻¹.