

Example Table: Densities and Speeds of Sound

TABLE 1

Experimental values of density ρ and speed of sound c at temperature T , molality m , and mass fraction w , for the system glyglyglyline peptide (1) in solutions of water (2) + glucose (3) at pressure $p = 0.1$ MPa.^a

T/K	w_2	m_1	$\rho/\text{kg}\cdot\text{m}^{-3}$	$c/\text{m}\cdot\text{s}^{-1}$
288.15	0.0591	0.00000	1022.2	1490
288.15	0.0591	0.04088	1025.3	1494
288.15	0.0591	0.04989	1026.0	1495
288.15	0.0591	0.06001	1026.8	1497
288.15	0.0591	0.07200	1027.7	1498
288.15	0.0591	0.07945	1028.2	1499
288.15	0.0591	0.08861	1028.9	1500
288.15	0.0591	0.09872	1029.7	1501
293.15	0.0591	0.00000	1021.1	1505
293.15	0.0591	0.04088	1024.2	1509
293.15	0.0591	0.04989	1024.9	1510
293.15	0.0591	0.06001	1025.7	1512
293.15	0.0591	0.07200	1026.6	1513
293.15	0.0591	0.07945	1027.1	1514
293.15	0.0591	0.08861	1027.8	1514
293.15	0.0591	0.09872	1028.5	1516
298.15	0.0591	0.00000	1019.8	1518
298.15	0.0591	0.04088	1022.9	1523
298.15	0.0591	0.04989	1023.6	1524
298.15	0.0591	0.06001	1024.3	1525
298.15	0.0591	0.07200	1025.2	1526
298.15	0.0591	0.07945	1025.7	1527
298.15	0.0591	0.08861	1026.4	1528
298.15	0.0591	0.09872	1027.1	1529
303.15	0.0591	0.00000	1018.3	1530
303.15	0.0591	0.04088	1021.3	1534
303.15	0.0591	0.04989	1022.0	1535
303.15	0.0591	0.06001	1022.7	1536
303.15	0.0591	0.07200	1023.6	1537
303.15	0.0591	0.07945	1024.2	1538
303.15	0.0591	0.08861	1024.8	1539
303.15	0.0591	0.09872	1025.5	1540
308.15	0.0591	0.00000	1016.5	1540
308.15	0.0591	0.04088	1019.6	1543
308.15	0.0591	0.04989	1020.2	1544
308.15	0.0591	0.06001	1021.0	1545
308.15	0.0591	0.07200	1021.8	1546
308.15	0.0591	0.07945	1022.4	1547
308.15	0.0591	0.08861	1023.0	1548
308.15	0.0591	0.09872	1023.8	1549

^a w_2 is the mass fraction of water in the (water + glucose) solutions, and m_1 is the molality of glyglyglyline peptide in the (water + glucose) solvent. Standard uncertainties u are $u(T) = 0.01$ K, $u(p) = 10$ kPa, $u(w_2) = 0.0001$, $u(m_1) = 0.00002$, and the combined expanded uncertainties U_c are $U_c(\rho) = 0.1$ kg·m⁻³, and $U_c(c) = 1$ m·s⁻¹ (level of confidence = 0.95).