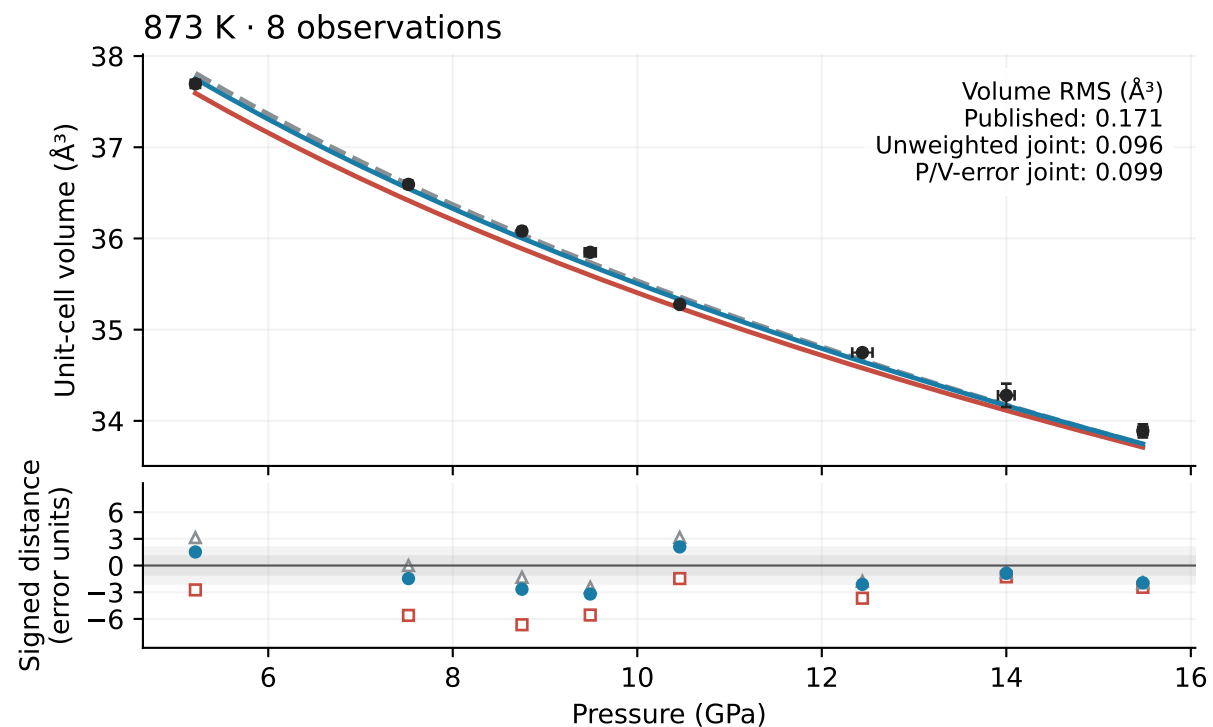
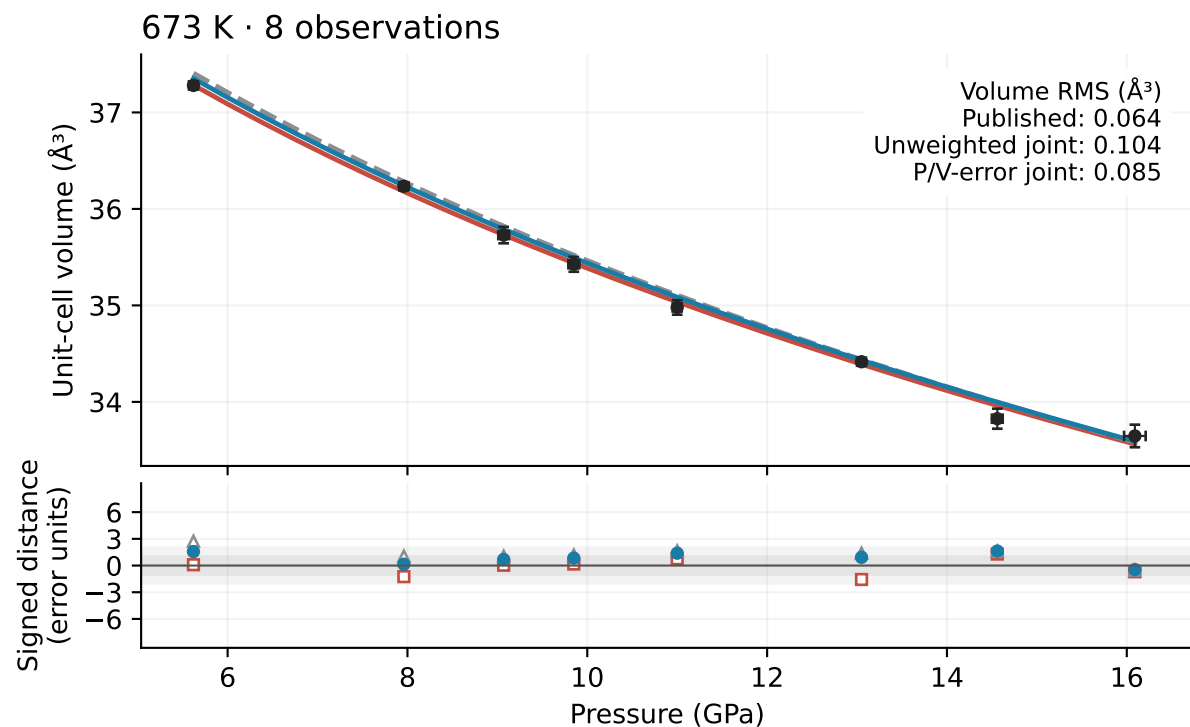
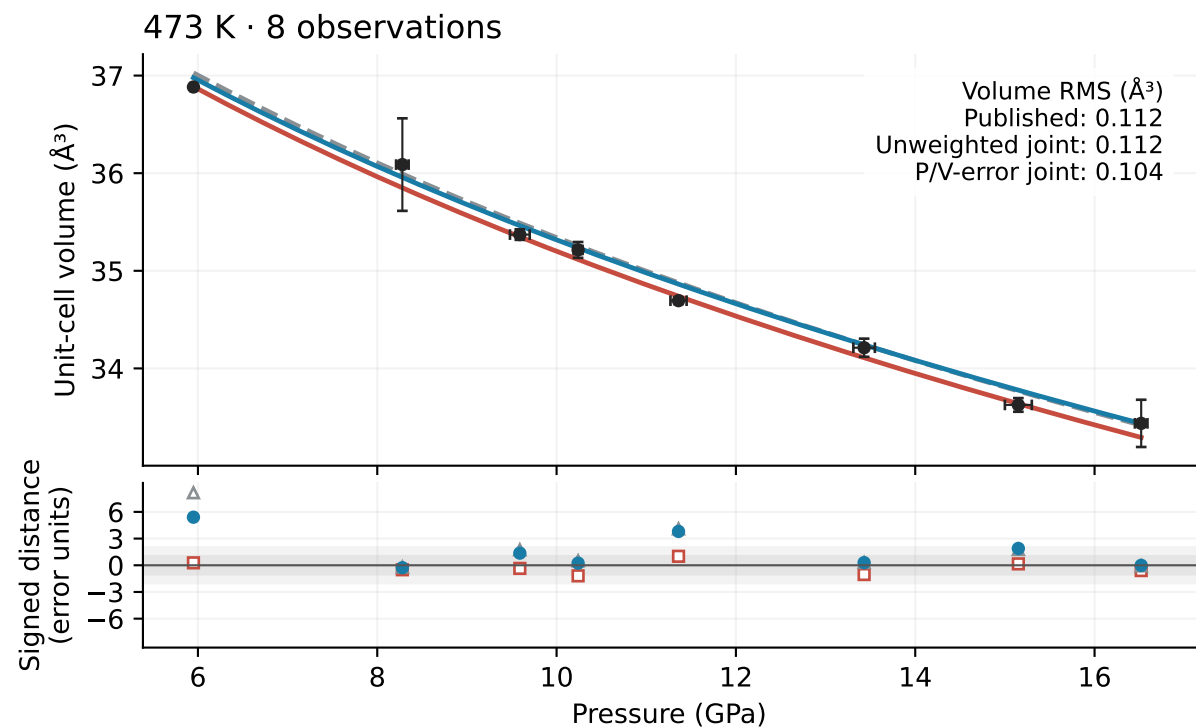
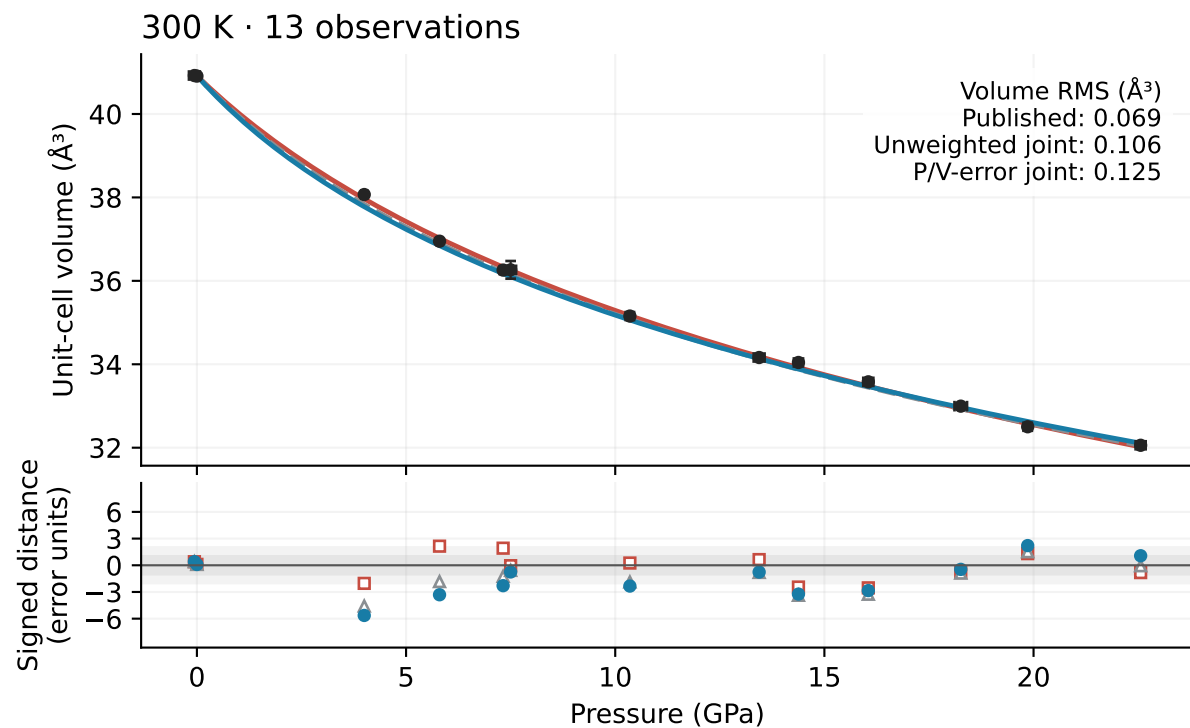


Brucite: joint P-V-T fit with pressure and volume uncertainties

- Published Table 4 observations + reported P/V errors
- Joint fit with both P and V errors; ambient expansion fixed
- Joint unweighted pressure-residual baseline; same fixed expansion
- Published separate isotherms: original expansion + tabulated moduli



All 37 P-V-T rows fitted simultaneously with 4 global linear-modulus parameters + 37 latent volumes; ambient $V_0(T)$ retained exactly.

Minimize $\Sigma[(P_{\text{model}}(V_{\text{true}}, T) - P_{\text{obs}})/\sigma_P]^2 + [(V_{\text{true}} - V_{\text{obs}})/\sigma_V]^2$; $\chi^2 = 173.41$, dof = 33, reduced $\chi^2 = 5.25$.

Lower panels: signed orthogonal distance in reported P/V error units; shaded bands are ± 1 and ± 2 . Temperature and ambient-law uncertainty excluded.

Independent Gaussian coordinate errors assumed; source phase/pressure-scale limitations remain. This diagnostic does not change the catalog.