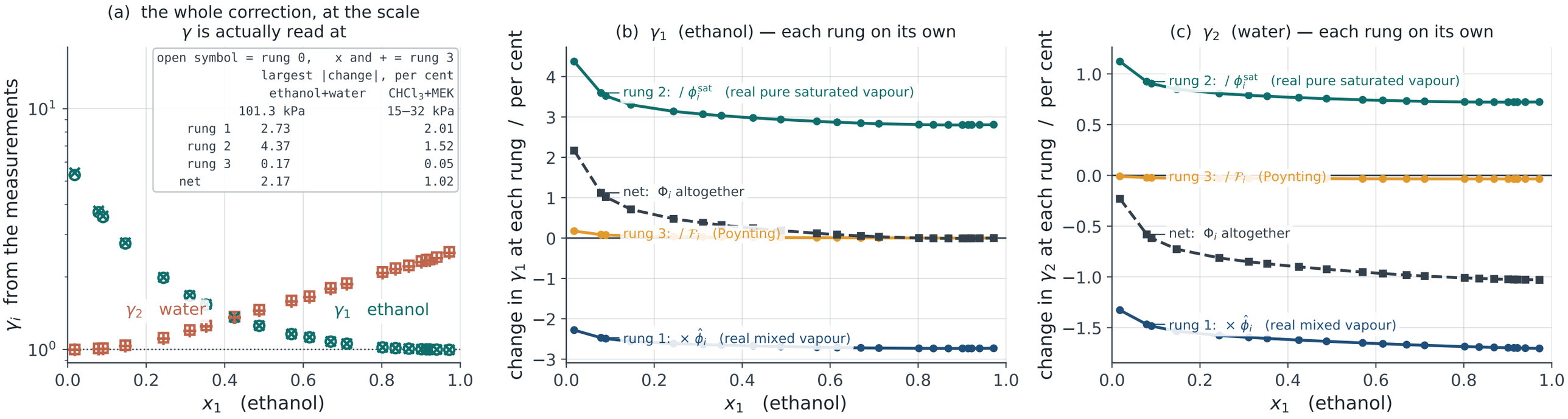
What each vapour-phase correction is actually worth: $\gamma_i = y_i \Phi_i P/(x_i P_i^{\mathrm{sat}})$, one piece of Φ_i at a time



DATA: ethanol (1) + water (2), 21 points, 101.3 kPa, 351-368 K, doi:10.1021/je2008704. Contrast set: chloroform + 2-butanone, 22 points, 303.15 K, 15-32 kPa, doi:10.1021/je060150a. Nothing here is fitted: every number is the measured x, y, P, T put through the definition.

$\hat{\phi}_i$ and ϕ_i^{sat} from the two-term virial equation with Pitzer-Curl / Tsonopoulos $B(T)$ and $k_{12} = 0$; v_i^L constant, from vlekit.data.LIBRARY. THAT CORRELATION IS FOR NON-POLAR AND SLIGHTLY POLAR SPECIES: water and ethanol associate, the polar term is missing, and the $\hat{\phi}$ used here is itself uncertain by more than the Poynting rung it is being compared against. Read the figure for the size of each rung, not for the fourth decimal place of any one of them.