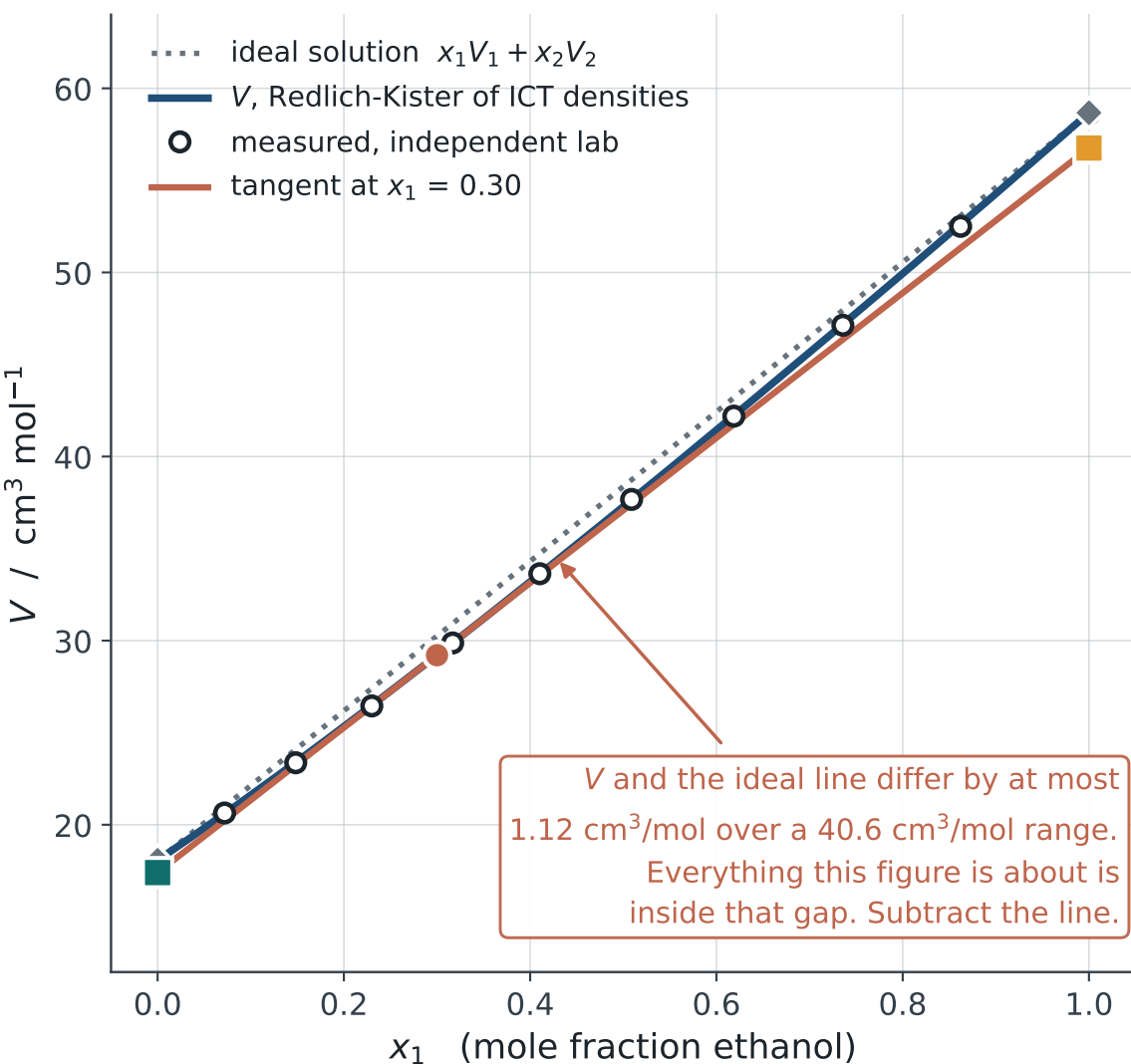


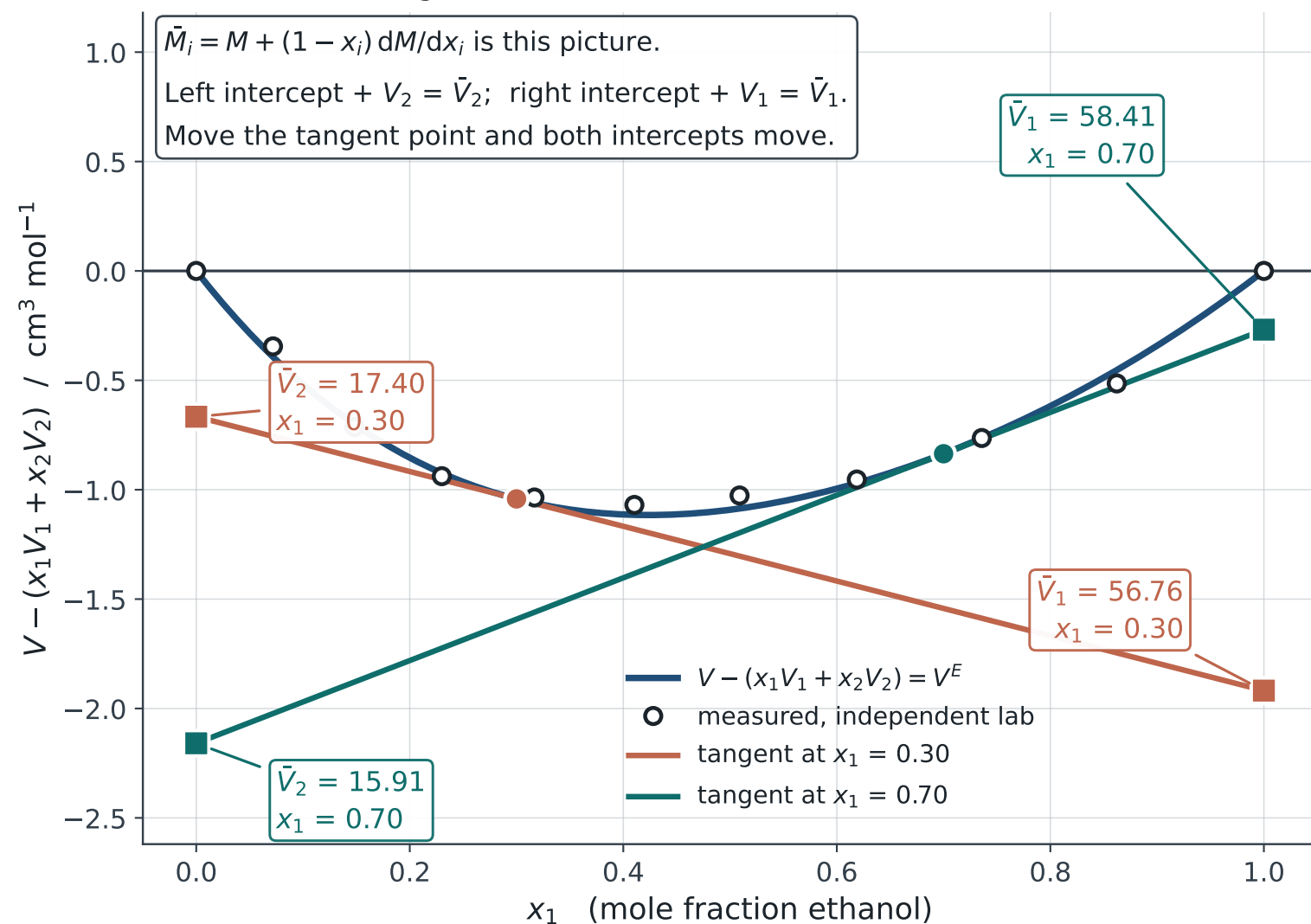
The two intercepts of one tangent are the two partial molar volumes at that composition

ethanol (1) + water (2) at 298.15 K

as measured



the same two tangents, with the ideal line subtracted



MEASURED DATA, NOTHING ASSUMED OR ILLUSTRATIVE. Curve: V^E from the Redlich-Kister correlation of Danahy, Minnick & Shiflett, *Fermentation* 2018, 4(3), 72 (open access), regressed on >700 measured density-composition points from the International Critical Tables; stated validity 283.15-313.15 K, 0-100 wt% ethanol.

Circles: an independent pycnometric dataset, Pawar & Aher, *IJSRSET* 2017, 3(6), 432-447, Table 2. The two sources agree to $0.034 \text{ cm}^3/\text{mol}$ rms; the transcribed densities reproduce that paper's own V^E column to $0.0011 \text{ cm}^3/\text{mol}$ rms. Pure V_1 , V_2 from `thermo` HEOS_FIT, computed at run time.