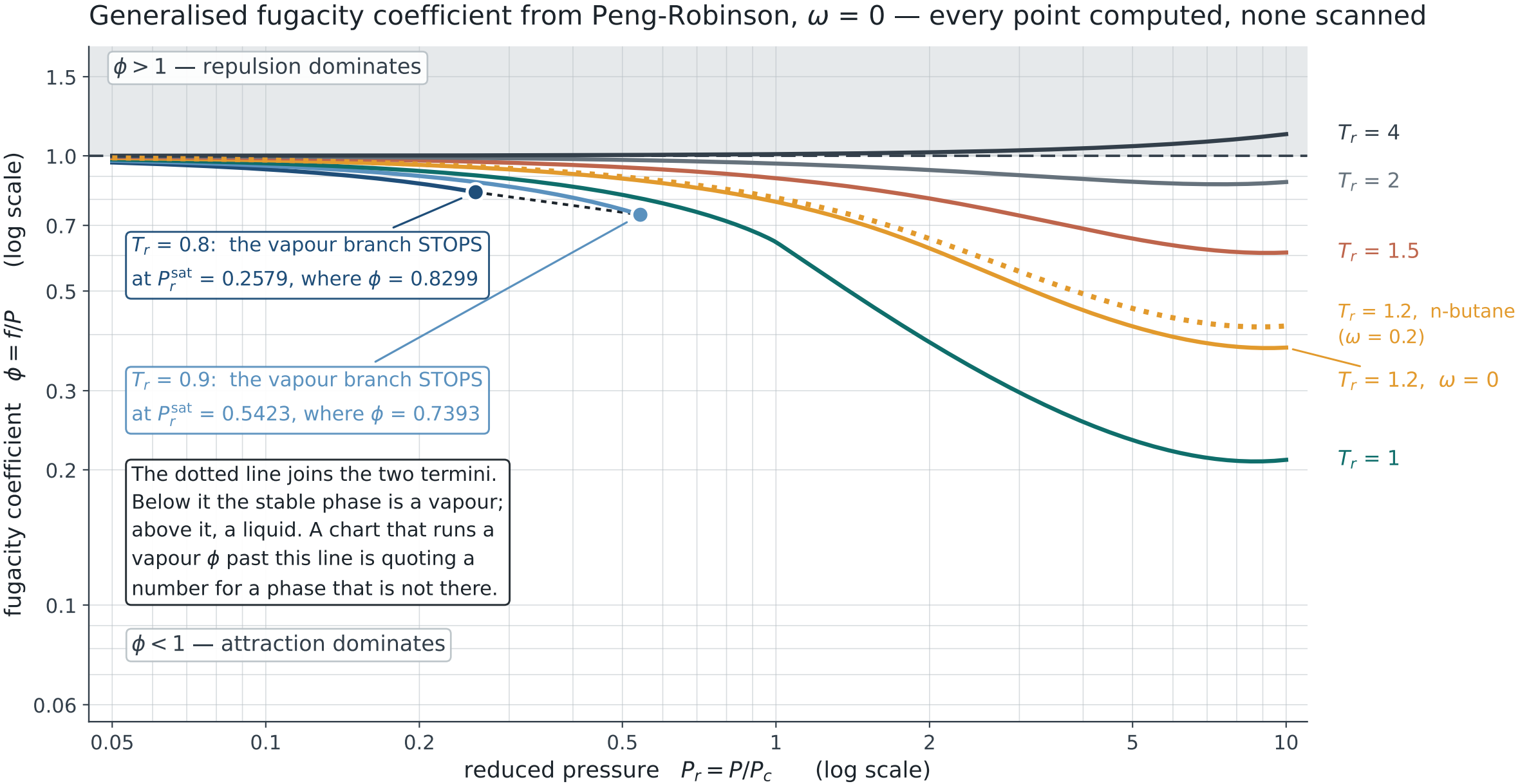

φ from `vlekit.cubic.PengRobinson.ln_phi` (1976 α, vapour root); the saturation termini from `vlekit.cubic.psat`, which solves $g^L = g^V$ on the same equation of state.
T_c = 300 K and P_c = 5000 kPa carry the reduced variables and then cancel out of $\phi(T_r, P_r)$: this is not a chart of any substance.
ONE ACENTRIC FACTOR, ASSUMED: $\omega = 0$ on every solid curve. That single choice is what "generalised" means here, and it is the chart's only real assumption.
The dotted curve is n-butane at the same T_r = 1.2 with its library ω = 0.200: at P_r = 10 it reads 0.4181 against 0.3742, a departure of 11.7 %,
and the departure grows with ω. Read the solid curves as a first estimate, never as the answer.