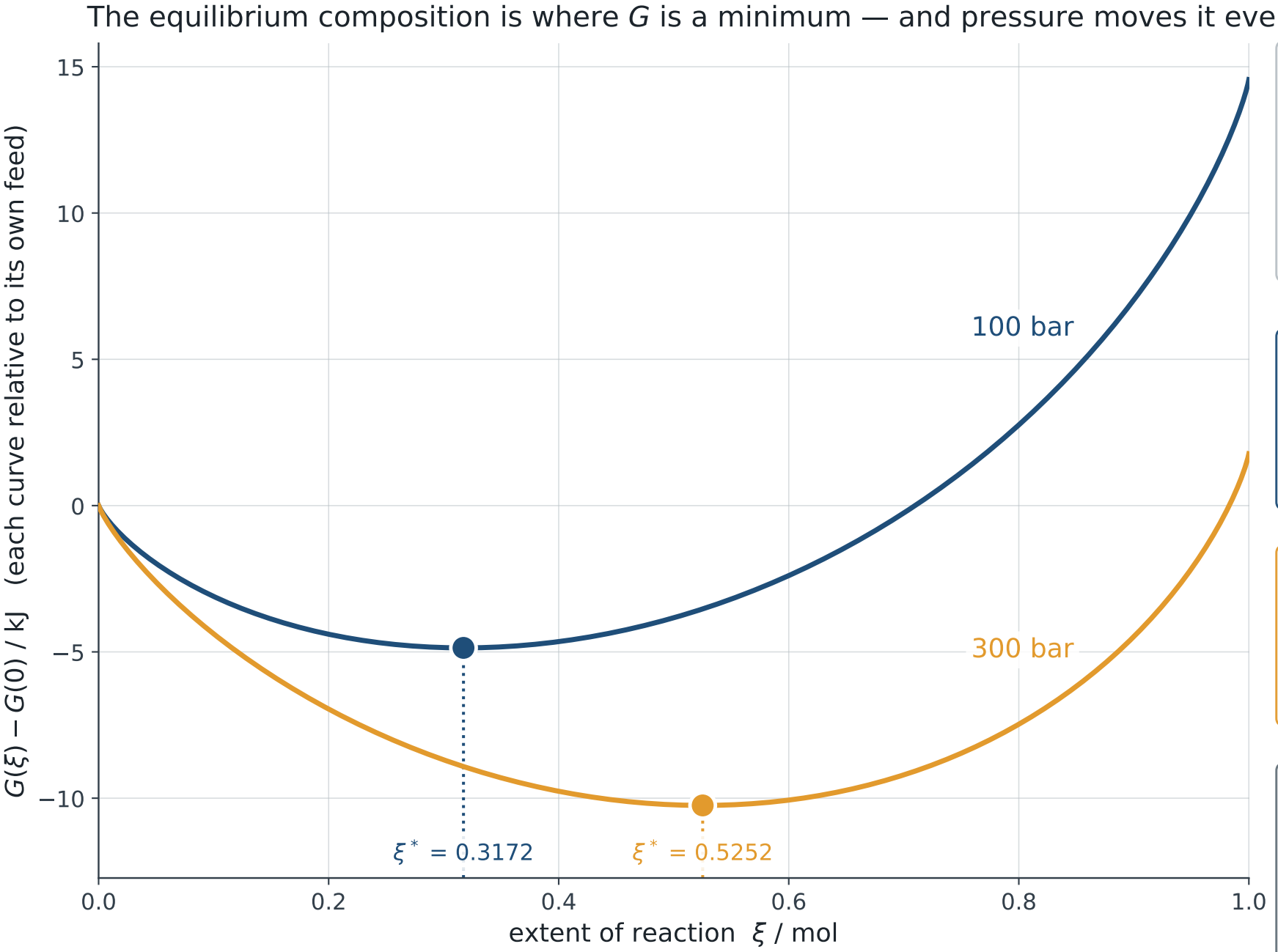

$N_2 + 3\ H_2 \rightarrow 2\ NH_3$
feed 1 : 3 : 0 mol, T = 700 K, ideal gas
ΔH°_{298} = -91.12 kJ/mol ΔG°_{298} = -32.05 kJ/mol
ΔG°(700 K) = 55.07 kJ/mol
K(700 K) = 7.77e-05 — the same at both pressures
feasible window from `extent_bounds`:
ξ = -0.000 to 1.000 mol

P = 100 bar
ξ^* = 0.31723 mol y_{NH_3} = 0.1885
$G(\xi^*) - G(0)$ = -4.863 kJ
$|\xi^*$ from `solve_extent` $- \xi^*$ from min $G|$
= 7.9e-08 mol

P = 300 bar
ξ^* = 0.52517 mol y_{NH_3} = 0.3561
$G(\xi^*) - G(0)$ = -10.248 kJ
$|\xi^*$ from `solve_extent` $- \xi^*$ from min $G|$
= 7.0e-08 mol

What is ΔG° worth?
1 kJ/mol on ΔG° is a factor 1.19 in K at 700 K
and a factor 1.50 — 50 % — at 298 K.
It moves ξ^* at 300 bar by +0.0157 / -0.0159 mol.
`chemicals` gives ΔG°_{298} = -32.05 against the usual
literature −32.8 kJ/mol: 0.75 kJ/mol, 30 % in K.

Formation properties from `chemicals` via `reaction.from_chemicals`; nothing typed in.
Curves are `total_G`; markers are `solve_extent`, which solves $K_a(\xi) = K(T)$ and never evaluates G.