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# Au-In (Gold-Indium)

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Figure 1 shows the Au-In phase diagram obtained by [2003Liu] by thermodynamic optimization.

The Au-In phase diagram in [Massalski2] was adopted from the evaluation done by [1987Oka]. [1992Ans] calculated the Au-In phase diagram. The result showed that the $\alpha_1$ phase decomposes eutectoidally into (Au) and ζ at about 200 °C. Phases other than (Au), $\alpha_1$, and ζ were treated as line compounds in [1992Ans], although γ and ψ showed substantial solubility ranges. Accordingly, [1993Oka] introduced the work of [1992Ans] by modifying the diagram of [1987Oka] in the region involving (Au), $\alpha_1$, and ζ according to [1992Ans] (Fig. 2). Because the solubility of In in (Au) must become 0 at.% at 0 K, the (Au) solvus calculated by [2002Ans] appears to require unlikely inflection when extrapolated below 0 °C. Accordingly, the work of [2003Liu], which shows more similarity to [1987Oka], may be a better representation of the true equilibrium. However, this result needs experimental corroboration.

## References

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**1992Ans:** I. Ansara and J.P. Nabot: "A Thermodynamic Re-Assessment of the Au-In System in the Au-rich Region," *Calphad*, 1992, *16*(1), pp. 13-18.

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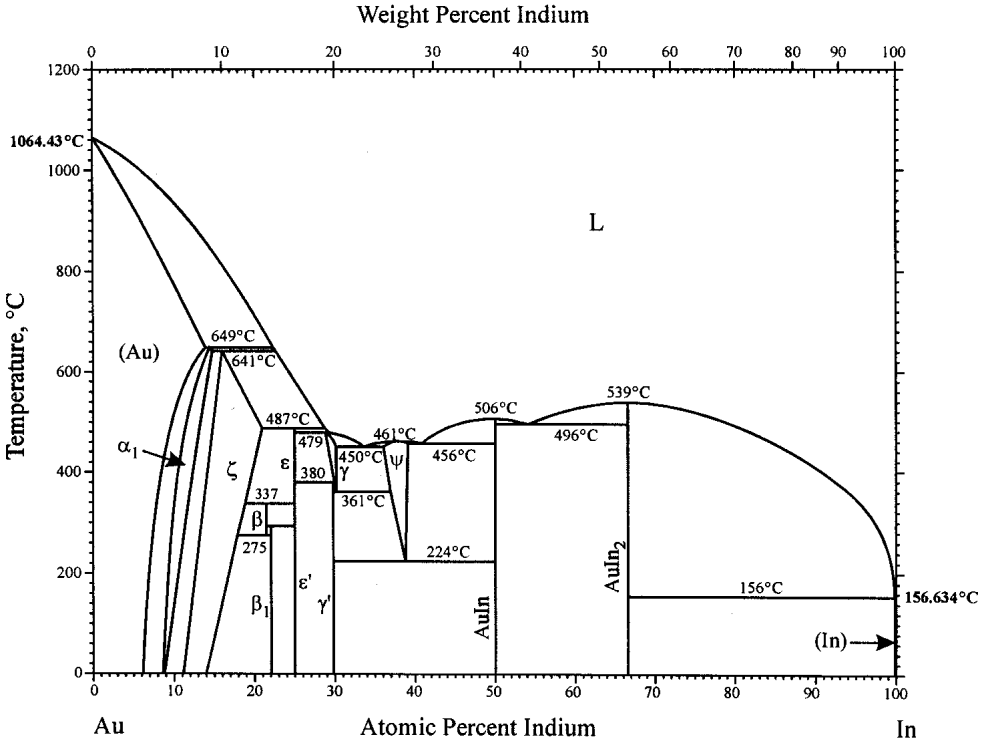


**Fig. 1** Au-In phase diagram calculated by [2003Liu]

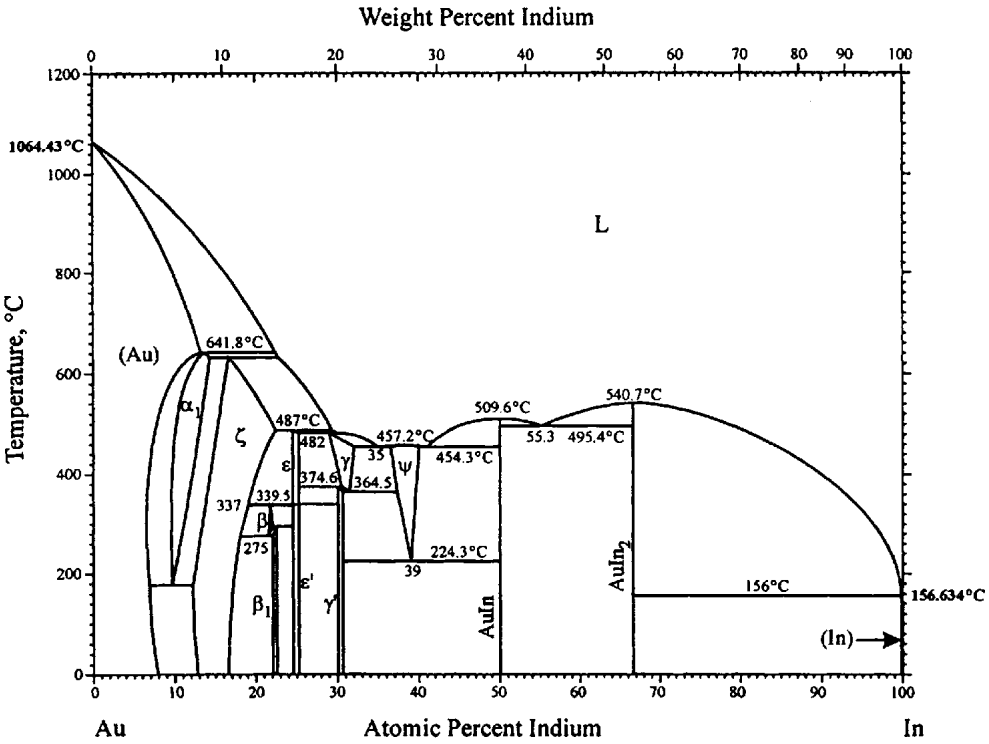


**Fig. 2** Au-In phase diagram in [1993Oka]. The region involving (Au), $\alpha_1$, and $\zeta$ is from [1992Ans] and the rest is from [1987Oka].