Supporting Materials of

“Evolution of Dealloying Induced Strain in Nanoporous Gold Crystals”

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Supporting Material 1. \( \chi^2 \) vs. number of iterations
\[ \phi = Q \cdot u, \quad \phi > 0, \ u \cos \theta > 0 \]

Case Ia: \( \Gamma \cdot Q > 0 \) (for the red ball) \rightarrow tensile

Case Ib: \( \Gamma \cdot Q < 0 \) (for the red ball) \rightarrow compressive

\[ \phi = Q \cdot u, \quad \phi < 0, \ u \cos \theta < 0 \]

Case IIa: \( \Gamma \cdot Q > 0 \) (for the red ball) \rightarrow tensile

Case IIb: \( \Gamma \cdot Q < 0 \) (for the red ball) \rightarrow compressive

Supporting Material 2. Illustration of the relationship between the directions of \( Q, \Gamma, \) and strain in four different cases. Here, \( Q \) is the momentum transfer, \( u \) is the lattice displacement field and \( \Gamma \) is the gradient of \( u \cos \theta \). \( \phi \) is the phase and \( \theta \) is the angle between \( Q \) and \( u \).