

Description of Supplementary Files

File Name: Supplementary Movie 1

Description: The dissolution of large gold particles under electron beam irradiation and generation of small particles in the meantime.

File Name: Supplementary Movie 2

Description: The motion and dissolution behaviours of large gold particles inside a liquid pocket.

File Name: Supplementary Movie 3

Description: Oriented attachment trajectories of two small gold particles, which finally form a single particle with twin interface at their contact surfaces.

File Name: Supplementary Movie 4

Description: Oriented attachment trajectories of two small gold particles, which finally form a monocrystalline particle.