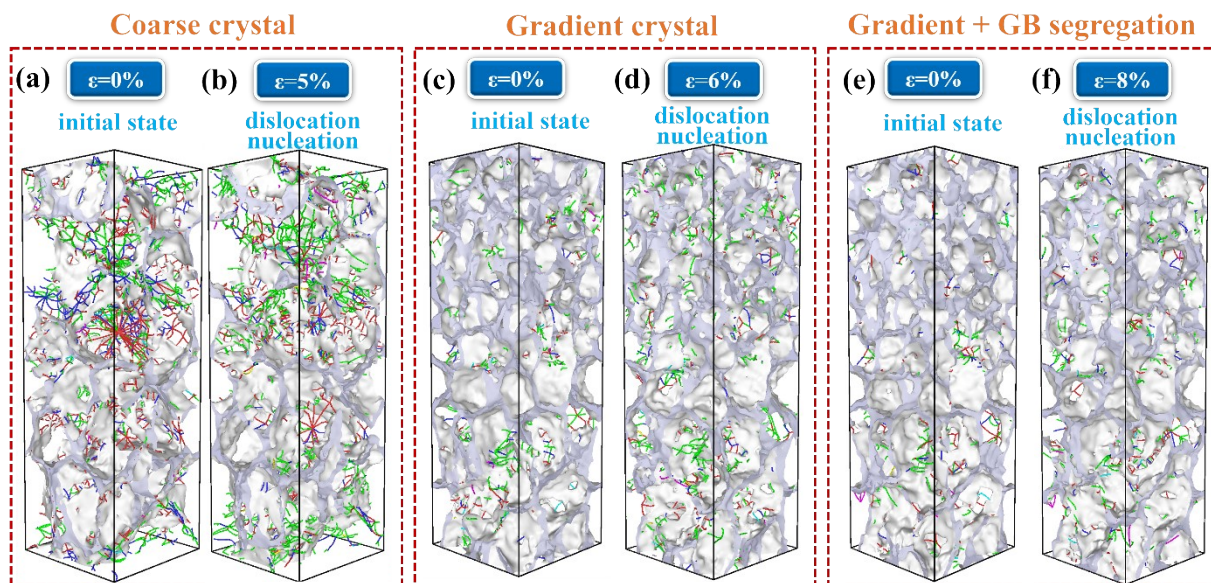
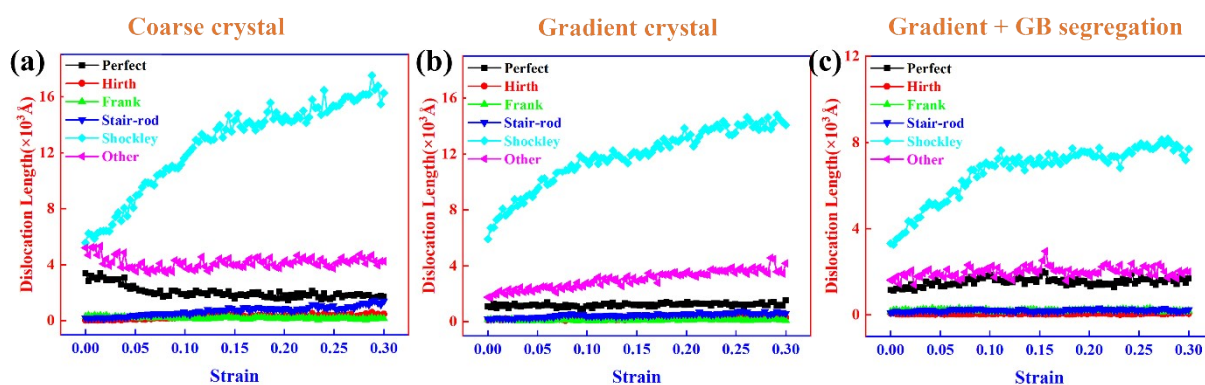


Supplemental Materials



S1 Initial dislocation network structure in a stable structure with strain 0 of (a)coarse crystal (c)gradient crystal and (e) double structure, the dislocation network in the grain collapses and the nucleation state of dislocation in the grain under the corresponding strain of (b)coarse crystal (d)gradient crystal and (f) double structure.



S2 Variations in the length of various dislocations of (a)Coarse crystal (b)gradient crystal and (c) double structure.