

**Supplementary Material**

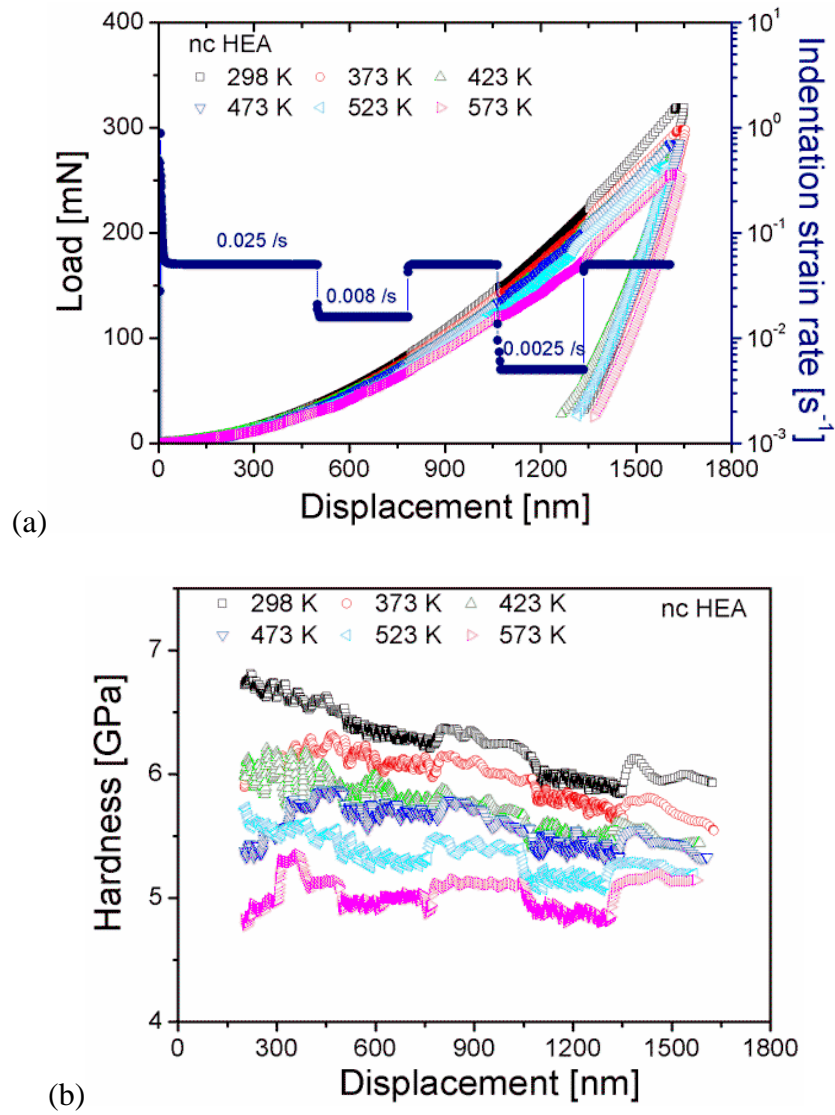
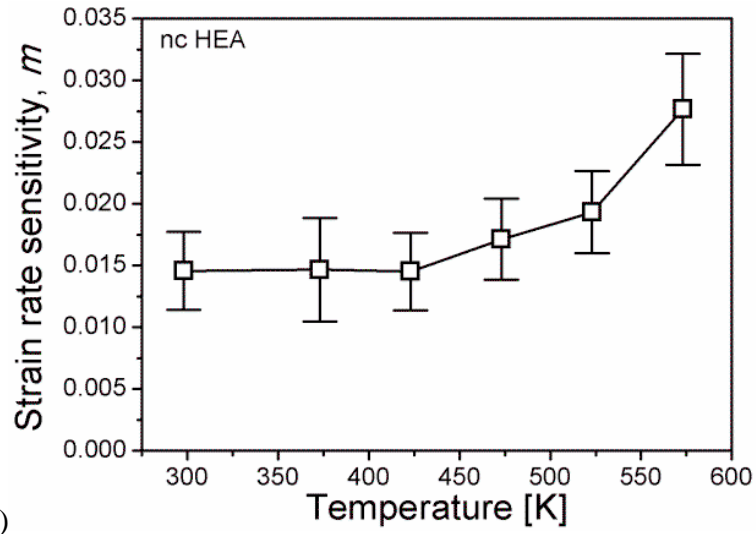
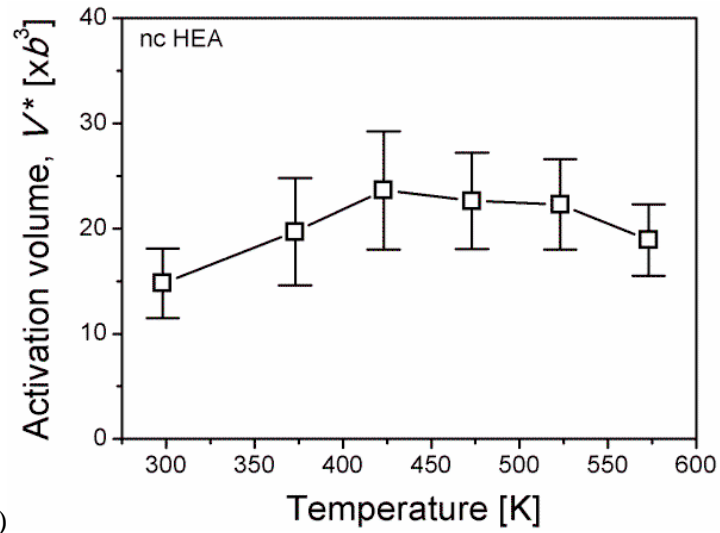


Fig. S1 Results of the nanoindentation strain rate jump tests for nc HEA: (a) representative  $P-h$  curves and (b) the corresponding  $H-h$  plots at various  $T$ .



(a)



(b)

Fig. S2 Variations in (a) the strain-rate sensitivity  $m$  and (b) corresponding activation volume

$V^*$ , both of which are determined from the nanoindentation SRJ tests on nc HEA.