**Supplementary Information for:**

# Dislocation "Bubble-Like-Effect" and the Ambient Temperature Super-plastic Elongation of Body-centred Cubic Single Crystalline Molybdenum

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**Super-plastic elongation of single crystal Mo nanowire.** The plastic strain measurement exclude the necking region. The nanowire with 300 nm in diameter and aspect ratio of ~2:1 is demonstrated in Fig. S1. The *in situ* TEM images of single crystalline Mo nanowire with 136 nm and 243 nm in diameter are shown in Fig. S2 and Fig. S3, respectively.

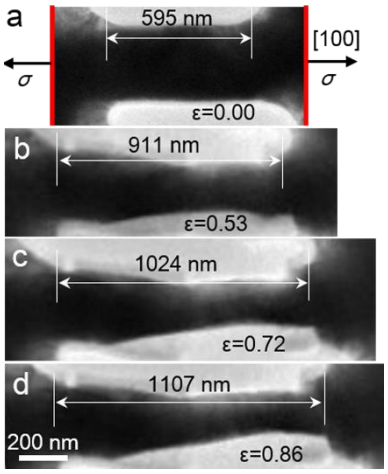


Figure S1. A series of bright-field TEM images of a nanowire with an aspect ratio of ~2:1. The nanowire is with an initial width of ~300 nm and a length of 595 nm. The elongation is ~86% before fracture.

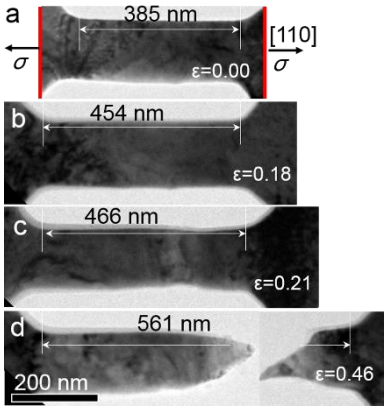


Figure S2. The *in situ* tensile progress of Mo nanowire that is 136 nm in diameter and 385 nm in initial length with aspect ratio of ~3:1. The final length of nanowire is measured to be 561 nm; the plastic elongation is 46%.

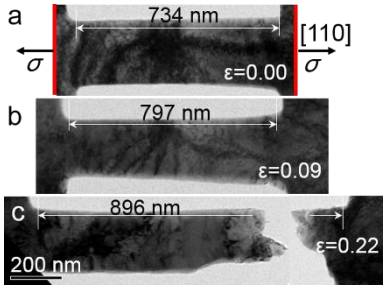


Figure S3. The in situ TEM images of a nanowire with 243 nm in diameter, 734 nm in initial length and aspect ratio of ~3:1. The final length excluding necking region is 896 nm; the plastic elongation is 22%.