

## Supplementary materials

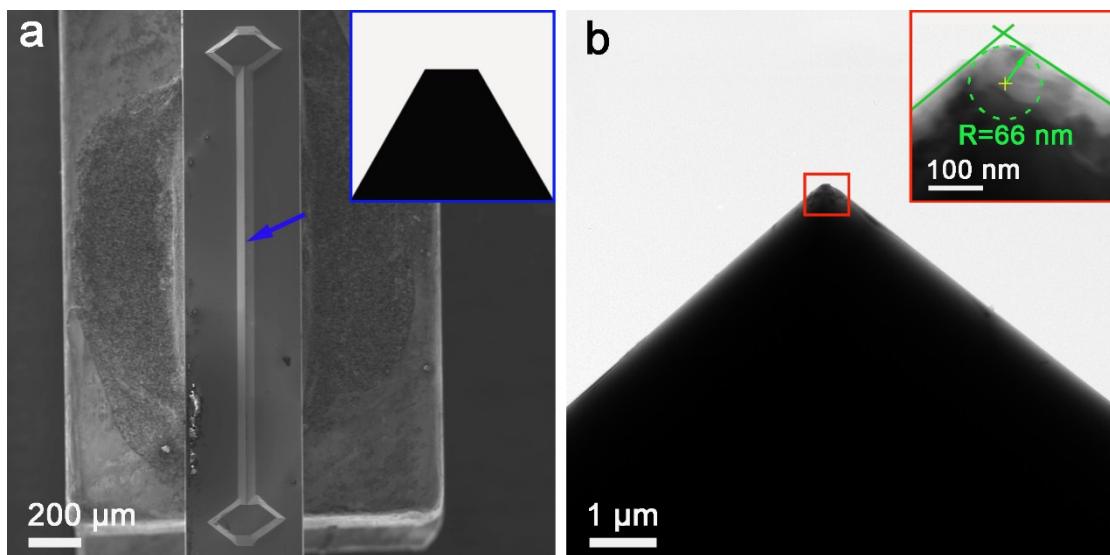


Figure S1 SEM images of (a) over view on (a) a Si wedge terminated with a flat plateau and (b) side view of a diamond indenter. Inset in (a) showing the schematic diagram of side view on the shape of Si wedge marked by a blue arrow. Inset in (b) showing the enlarged diamond tip marked by a red square.

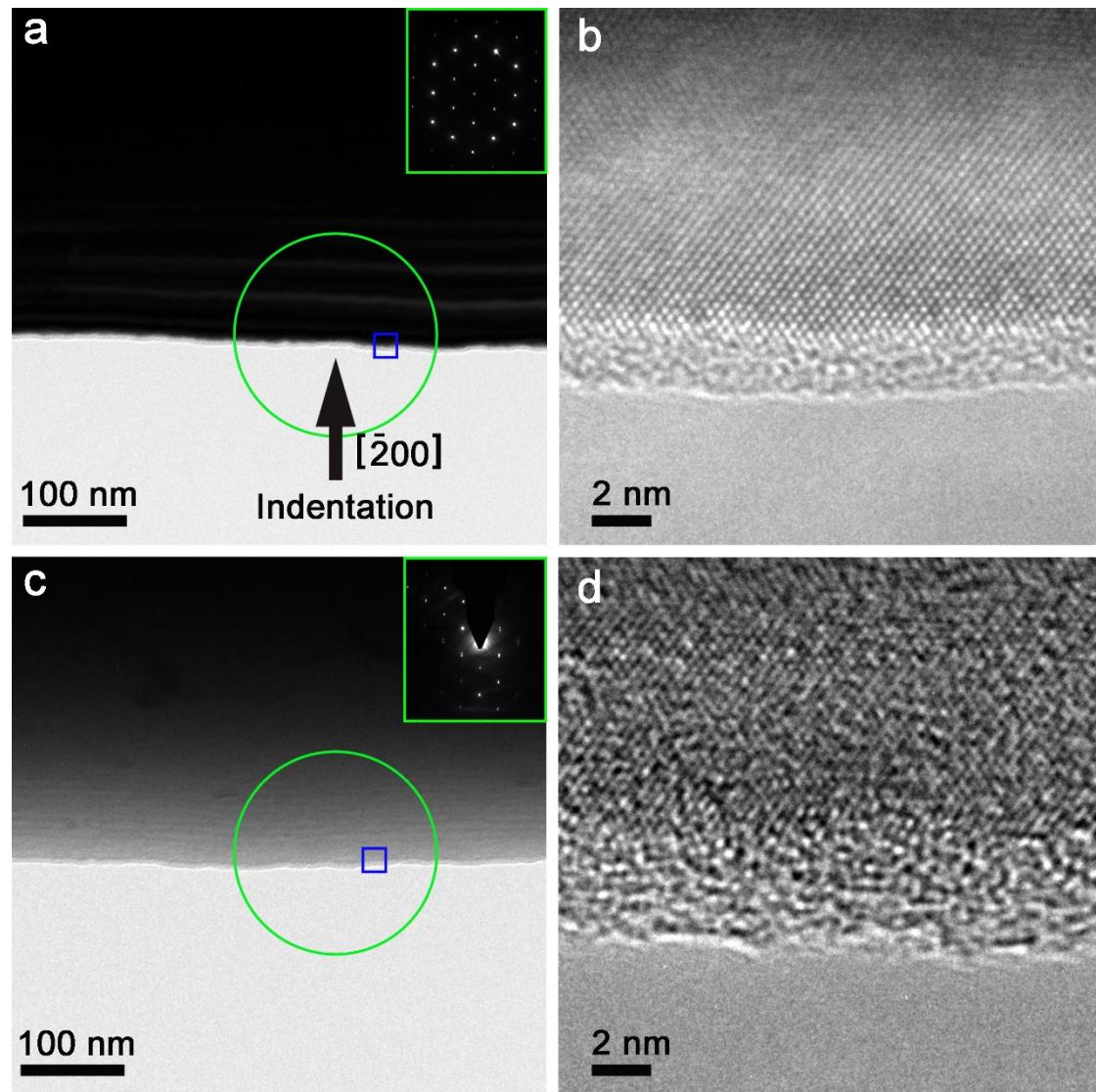


Figure S2 TEM images of the Si wedge prior to (a), (b) and after (c), (d) tilting an angle of  $1.52^\circ$  at low (a), (c) and high (b), (d) magnifications. Insets in (a) and (c) show the SAED patterns taken from their corresponding green circles. (b) and (d) are the HRTEM images taken from blue squares in (a) and (c) respectively.