

On the Interface Crystallography of Heat Induced Self-Welding TiO₂ Nanofibers Grown by Oriented Attachment

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Supplementary Materials

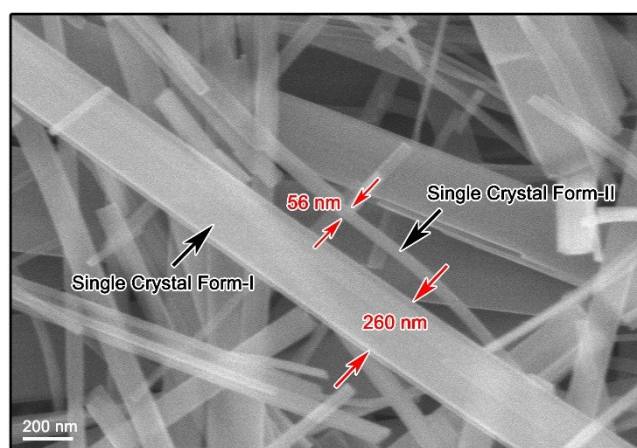


Fig. S1 The SEM image of the as synthesized H₂Ti₃O₇ nanofibers

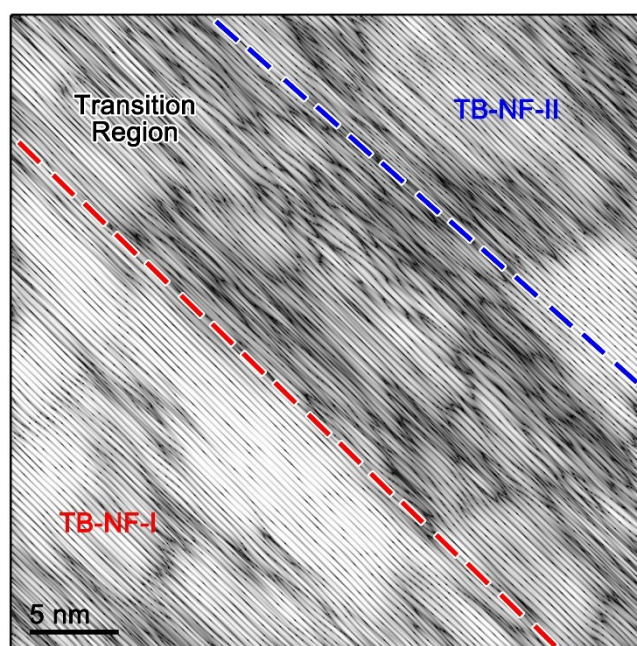


Fig. S2 The IFFT image of the TB-TB self-welded nanofibers with different SCFs

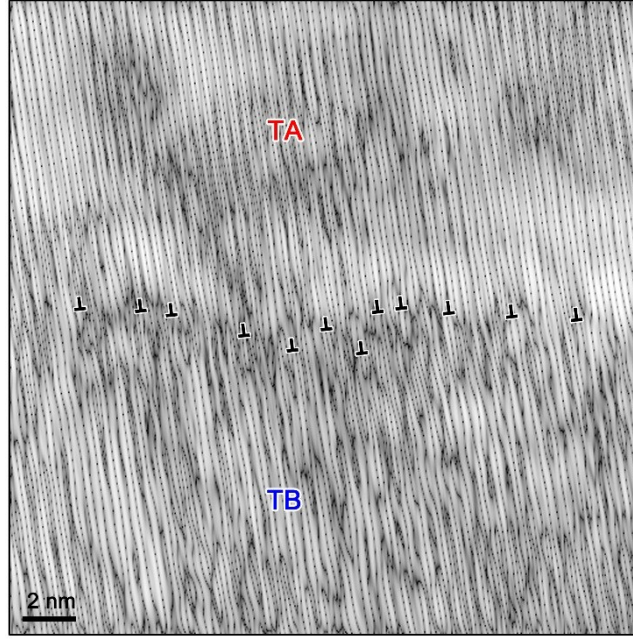


Fig. S3 The IFFT image of the TB-TA self-welded nanofibers with $\{001\}$ SCF. The dislocations are mainly distributed on the TB nanofiber and interface.

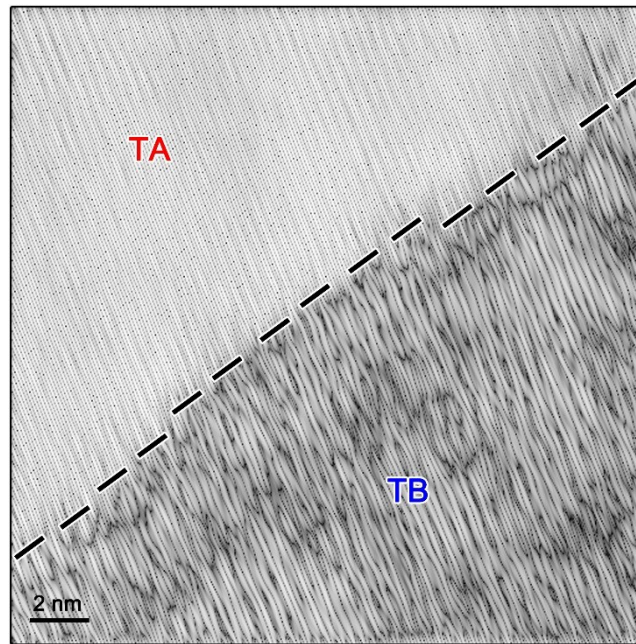


Fig. S4 The IFFT image of the TB-TA self-welded nanofibers with $\{100\}$ SCF. There is almost no dislocation can be found at the TA side, which may be due to the similar atom distribution at $(010)_{TB}$ and $(010)_{TA}$ under the current orientation relationship.

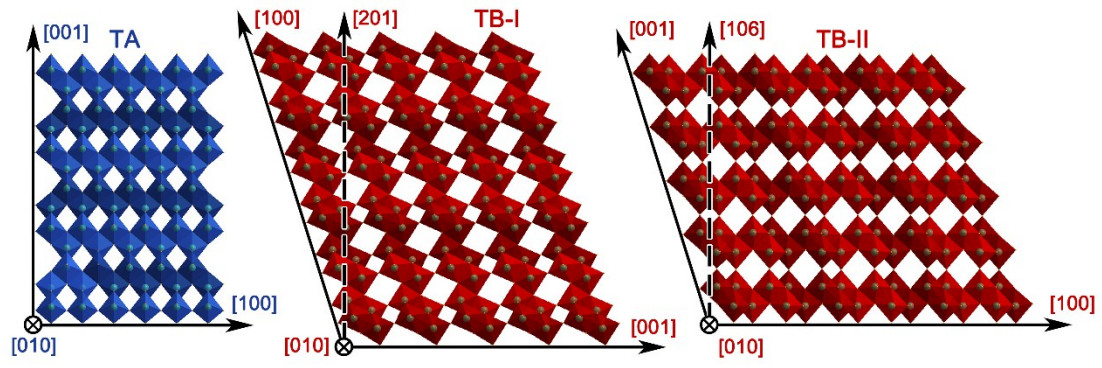


Fig. S5 The crystal models of TA and TB projected along $[010]_{TB} // [010]_{TA}$. The similar voids distribution between the crystals of TA and TB under the orientation relationship of $[010]_{TB} // [010]_{TA}$, $[100]_{TB} // [100]_{TA}$ and $[106]_{TB} // [001]_{TA}$ may be the reason of lower dislocation density after the self-welding process.