

## Supporting Information

# Tetragonal tungsten bronzes $\text{Nb}_{8-x}\text{W}_{9+x}\text{O}_{47-\delta}$ : Optimization strategies and transport properties of a new *n*-type thermoelectric oxide

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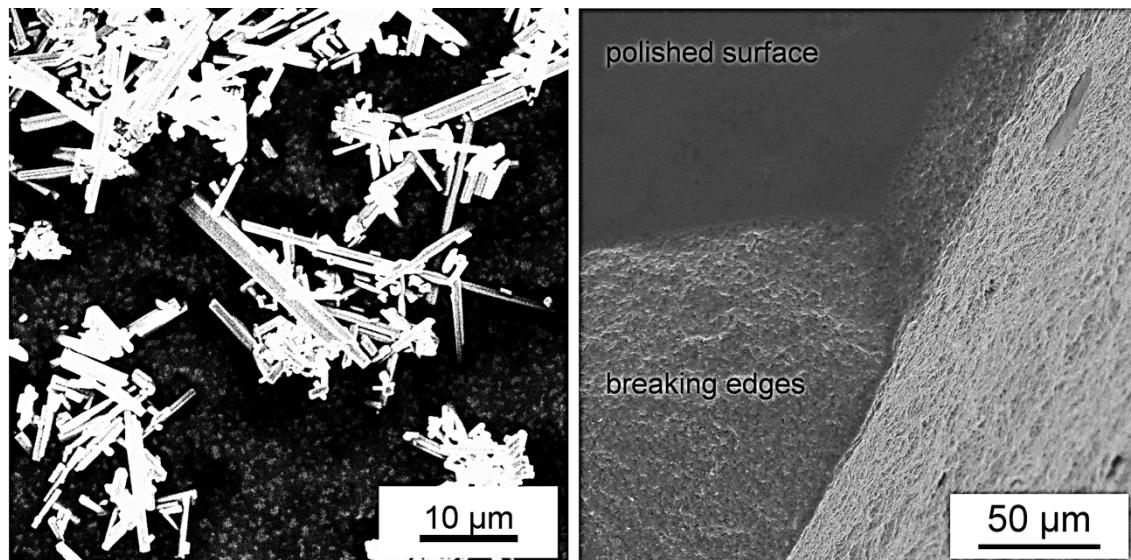


Figure S1: Scanning electron microscopy images of the as-synthesized powder (left) and the consolidated pellet (right).

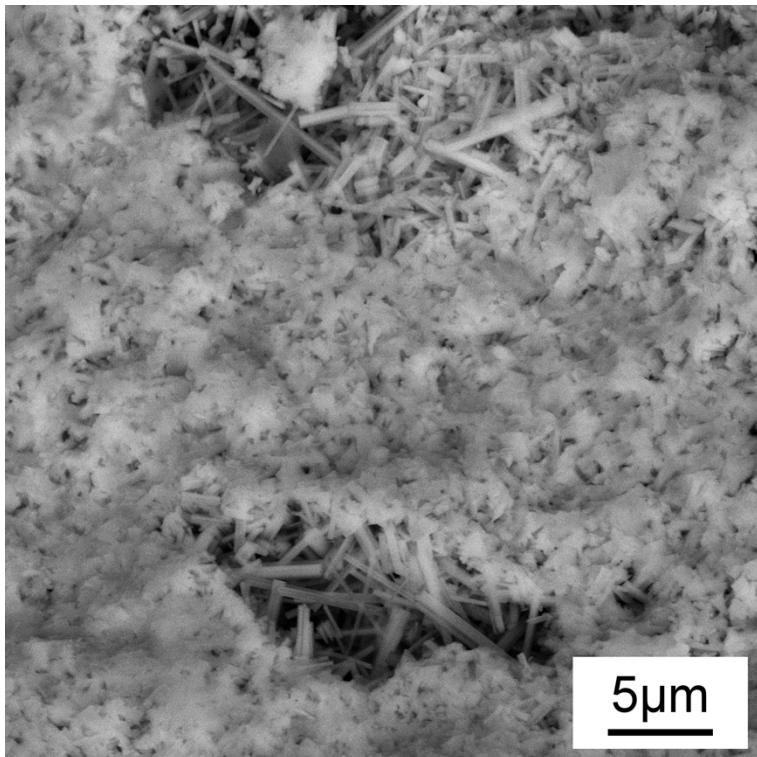


Figure S2. Zoomed-in SEM image of small cavities found in short-time sintered tetragonal tungsten bronzes. The consolidation process leads to a random orientation of the anisotropic crystals similar to a compressed haystack.

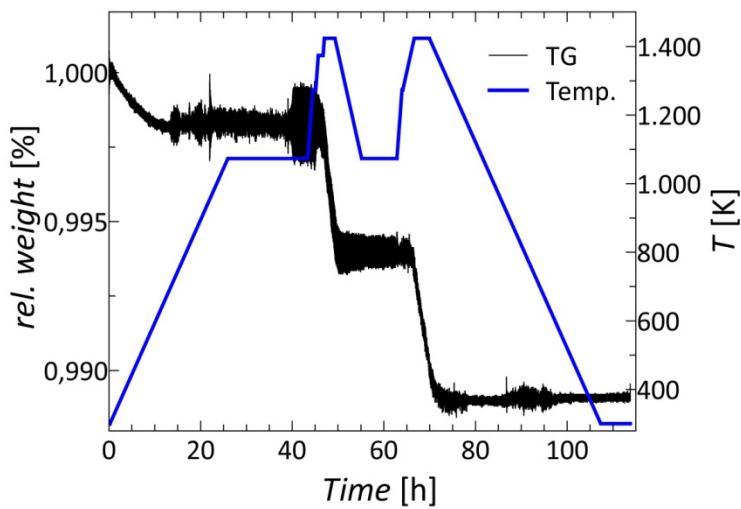


Figure S3. Relative weight of  $\text{Nb}_8\text{W}_9\text{O}_{47}$  as a function of time under different oxygen partial pressures. The weight loss above 1373 K indicates an irreversible decomposition at lower ( $p\text{O}_2 \sim 10^{-5}$  atm;  $0 \text{ h} < t < 64 \text{ h}$ ) and higher ( $p\text{O}_2 \sim 10^{-5}$  atm;  $t > 64 \text{ h}$ ) oxygen partial pressures, probably associated with an evaporation of  $\text{WO}_3$ .