

Supplementary Material

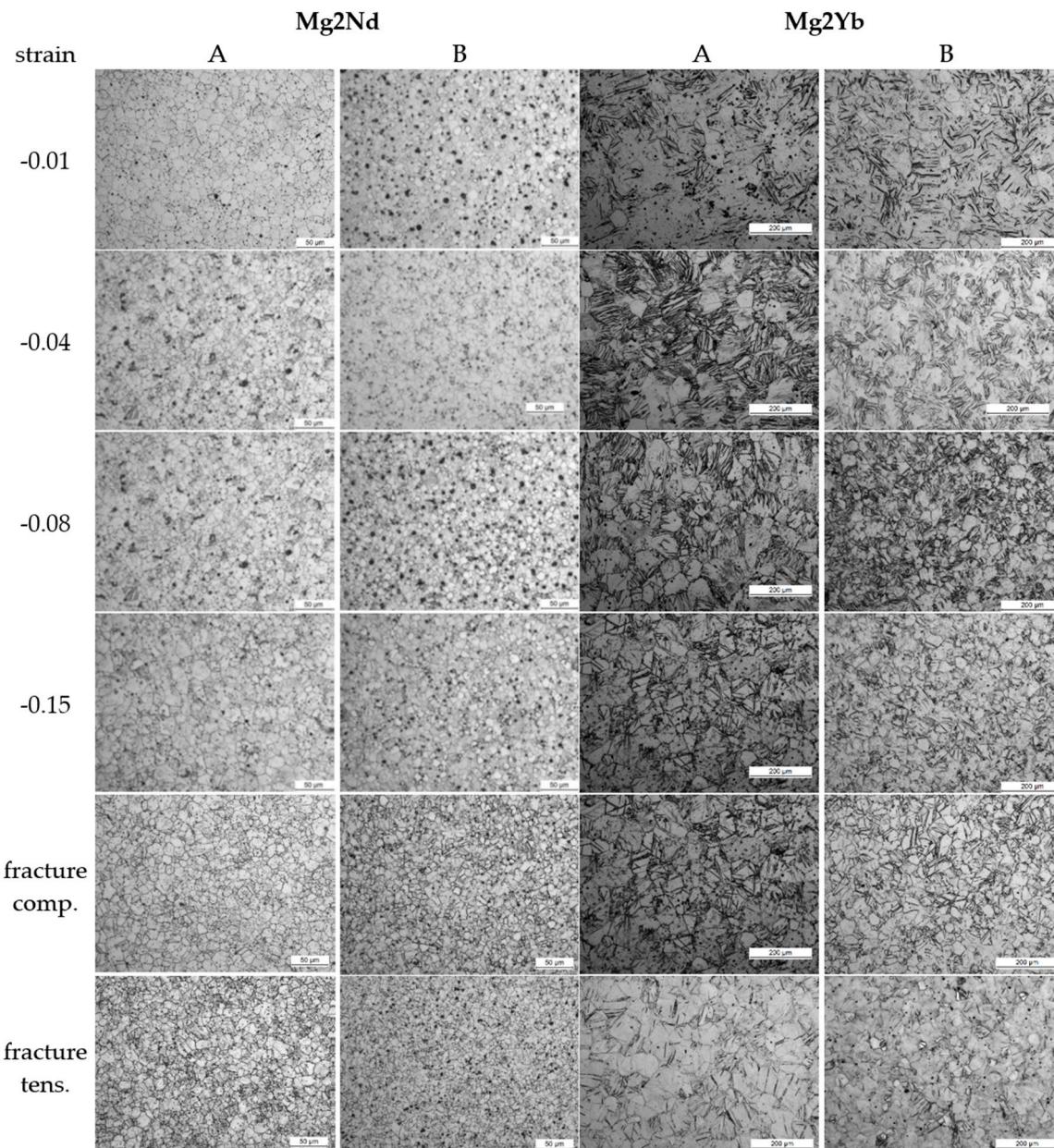


Figure S1. Cross sections of the A- and B-series of the Mg2Nd and Mg2Yb alloy at different strains and elongation to failure.

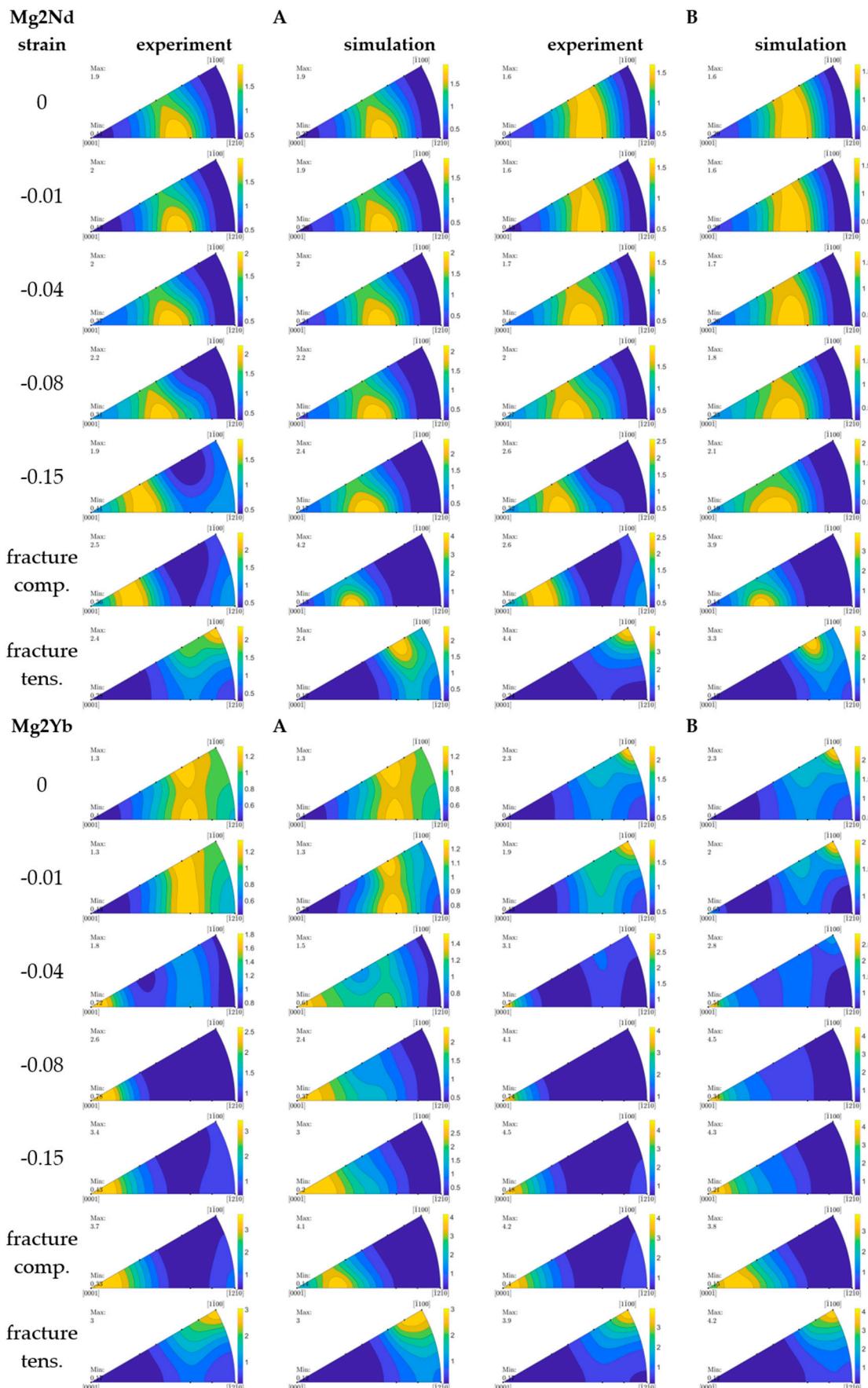


Figure S2. Comparison of the measured and simulated texture development during deformation of the A- and B-series of the Mg2Nd and Mg2Yb alloy at different strains.

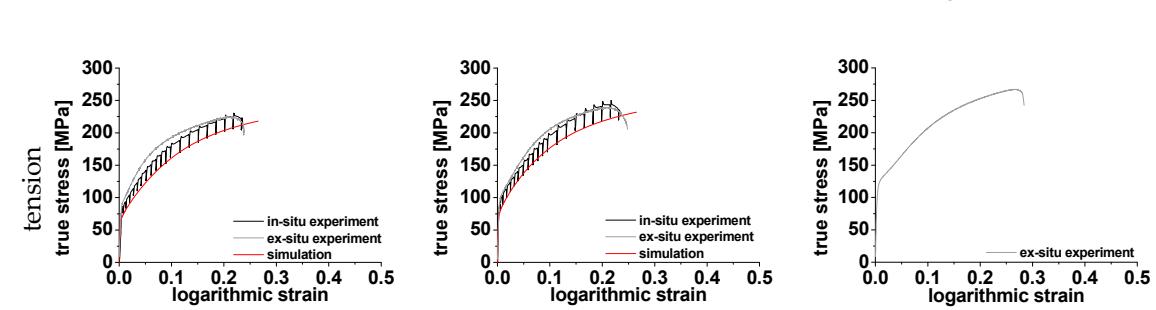
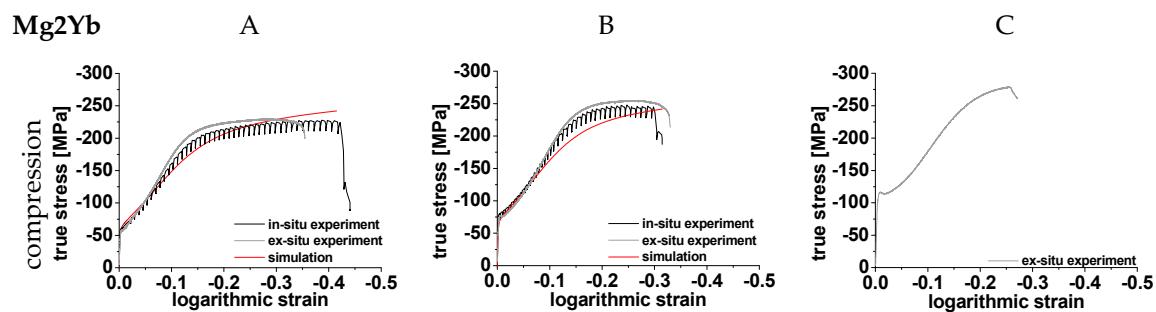
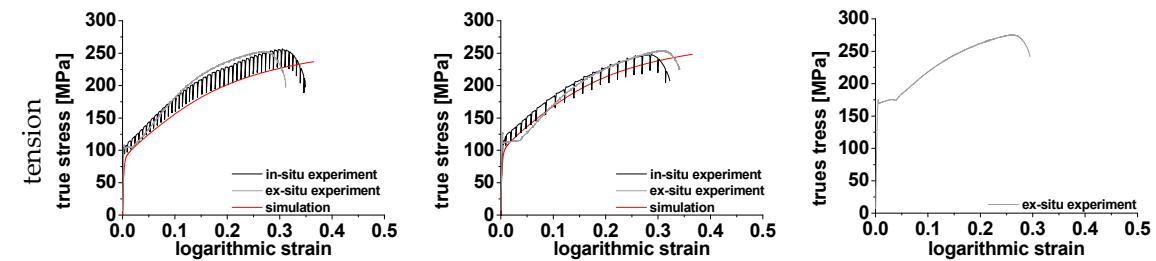
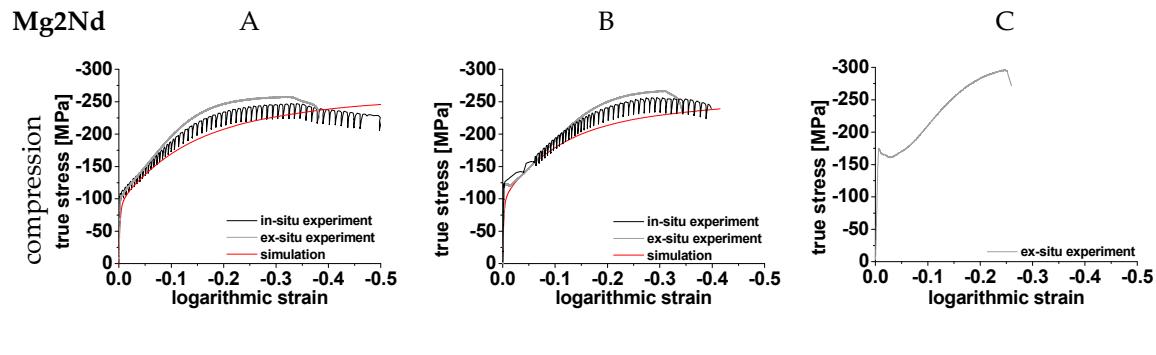


Figure S3. Comparison of the flow curves from compression and tensile tests of the A-, B- and C-series of the Mg2Nd and Mg2Yb alloy.

Mg2Nd

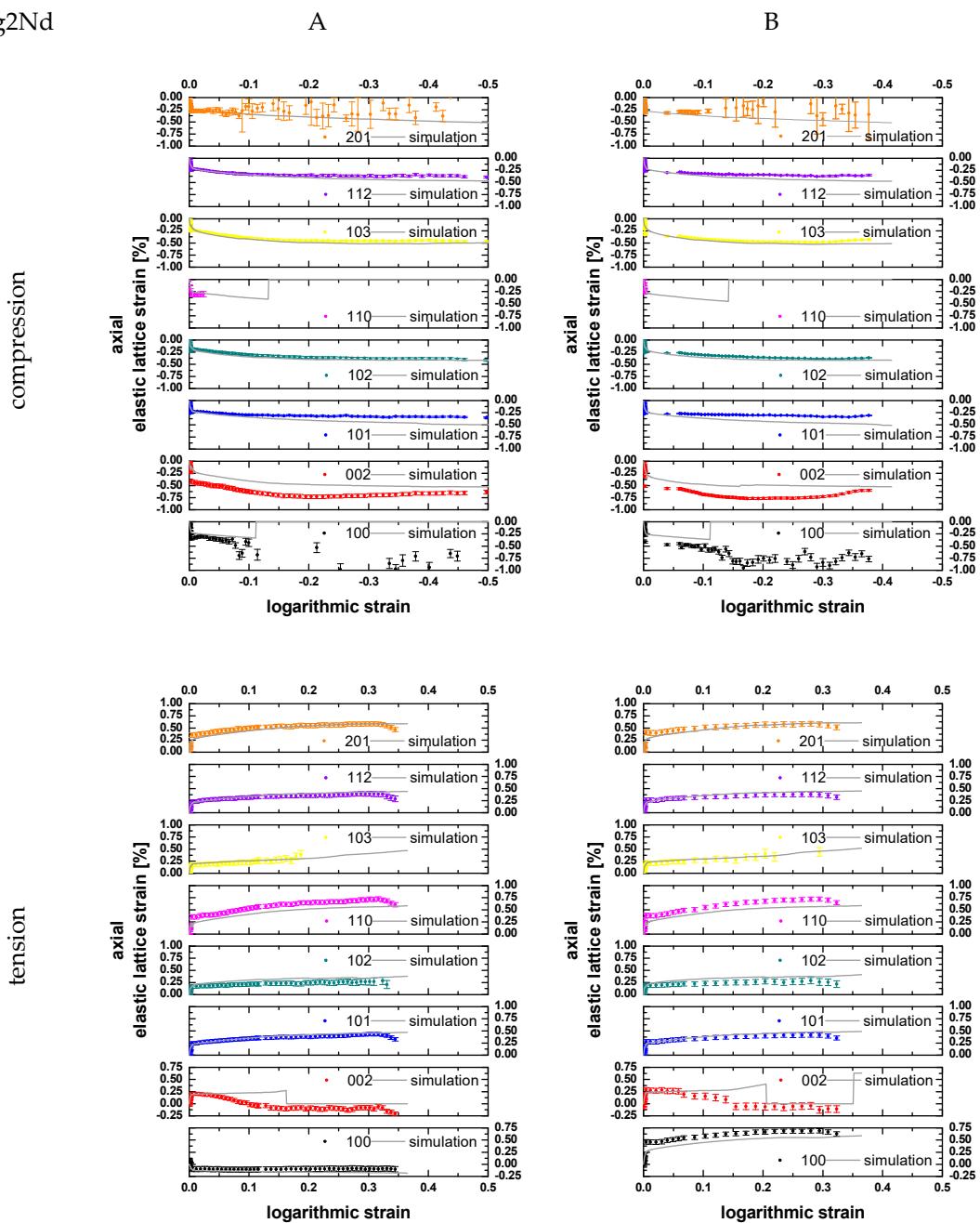


Figure S4. Comparison of the experimentally measured and simulated axial elastic lattice strains during (a, b) compression and (c, d) tensile tests of the A- and B-series of the Mg2Nd alloy.

Mg2Yb

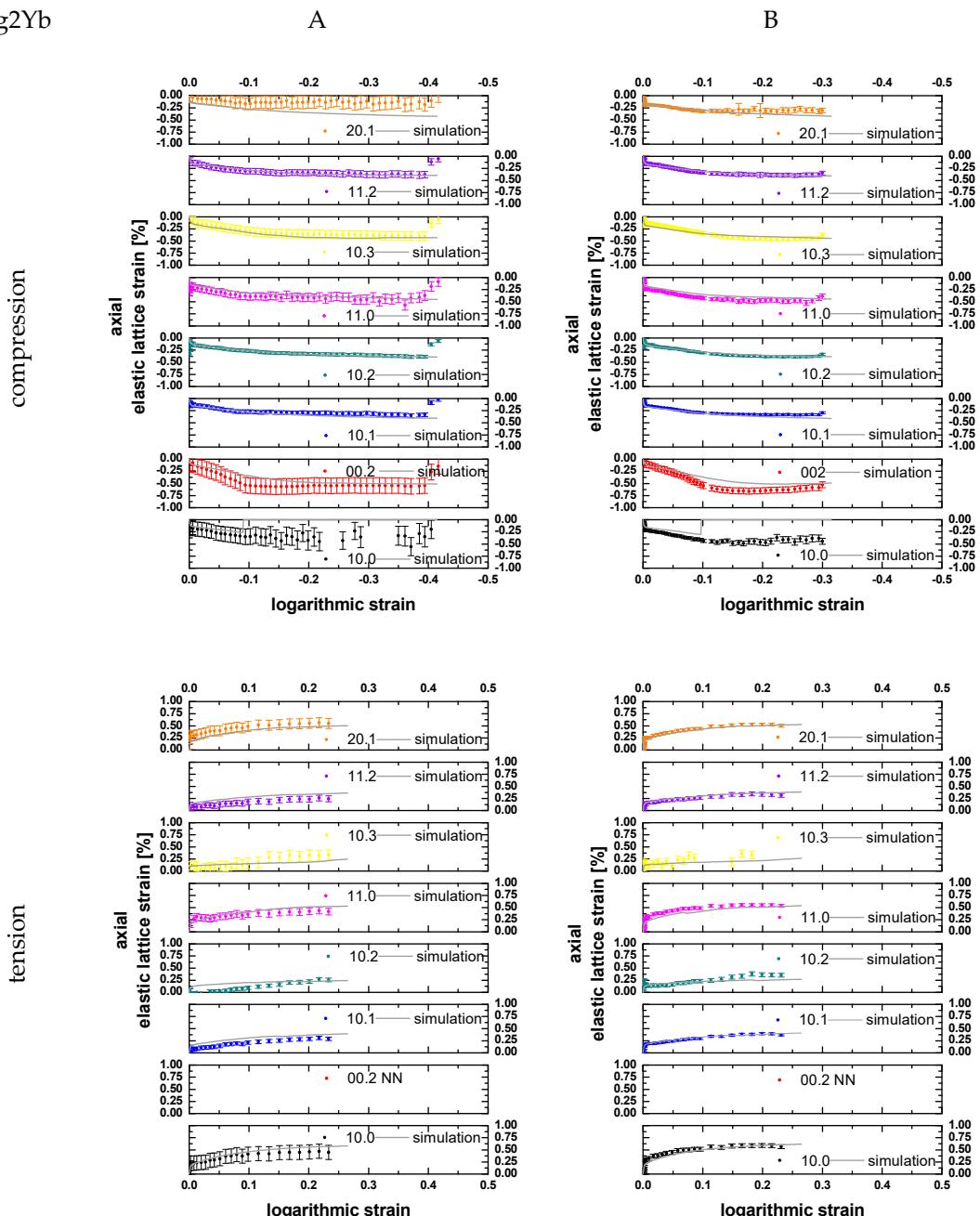


Figure S5. Comparison of the experimentally measured and simulated axial elastic lattice strains during (a, b) compression and (c, d) tensile tests of the A- and B-series of the Mg2Yb alloy.

Mg2Nd

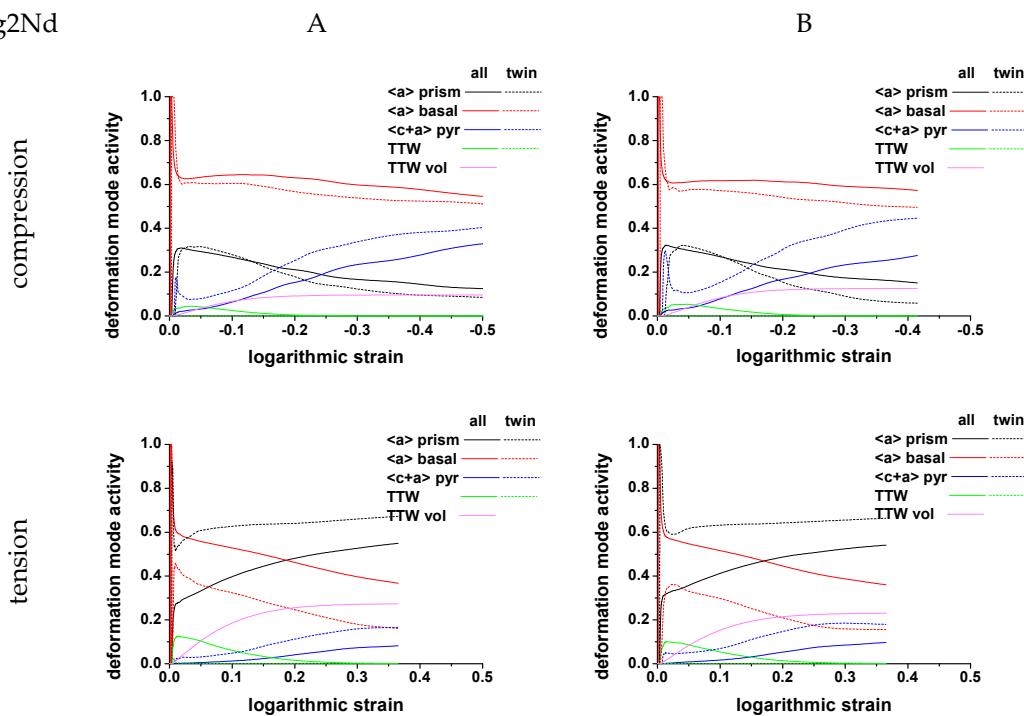


Figure S6. Deformation mode activity as a function of strain of the A- and B-series of the Mg2Nd alloy.

Mg2Nd

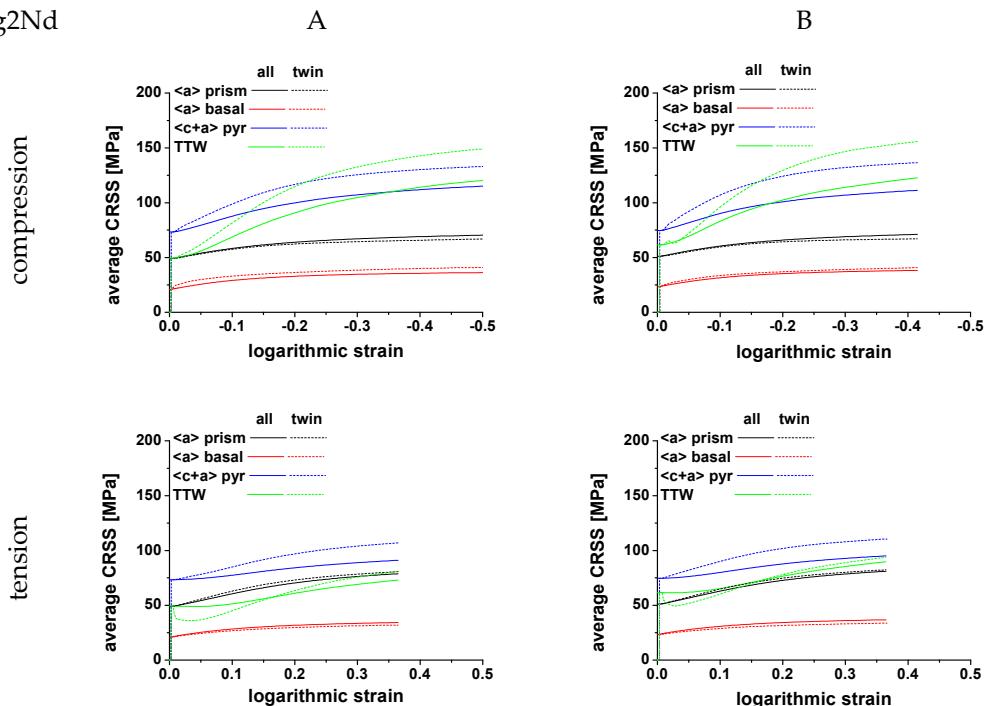


Figure S7. CRSS of the different deformation systems as a function of strain of the A- and B-series of the Mg2Nd alloy.

Mg2Yb

A

B

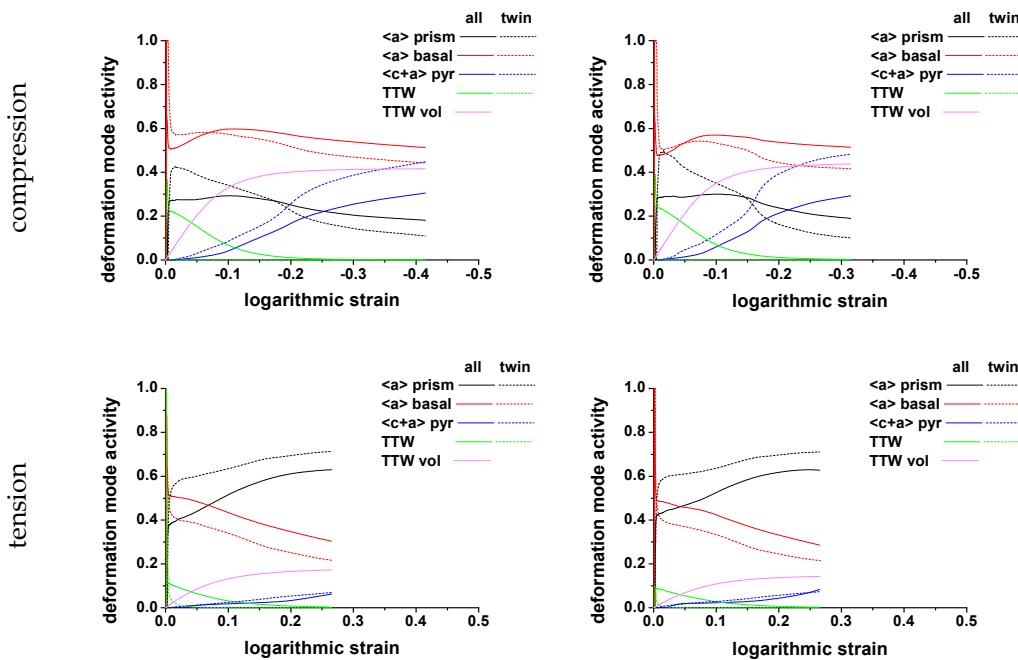


Figure S8. Deformation mode activity as a function of strain of the A- and B-series of the Mg2Yb alloy.

Mg2Yb

A

B

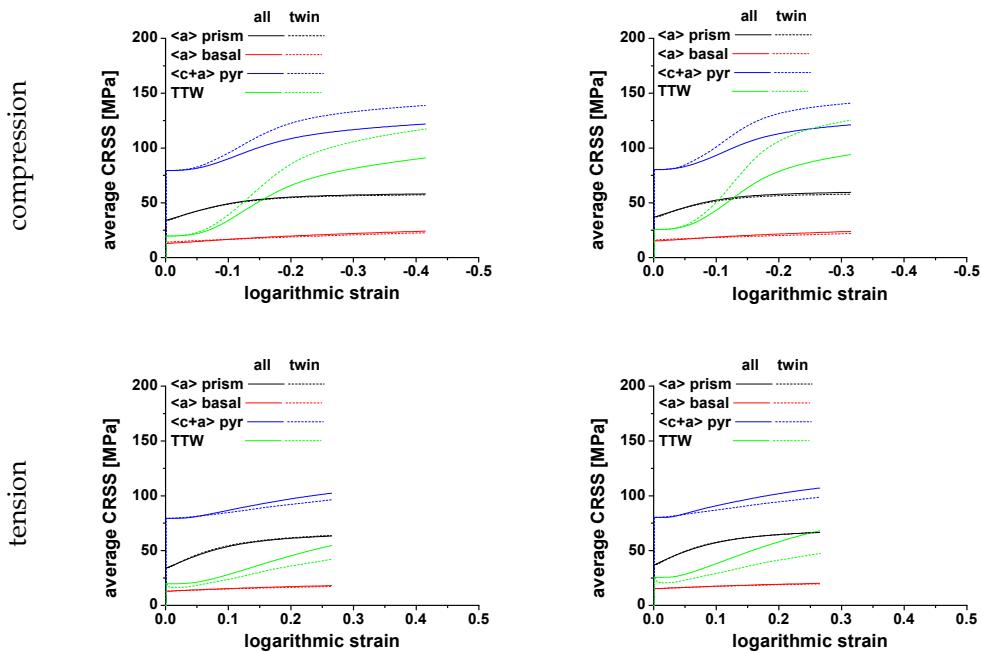


Figure S9. CRSS of the different deformation systems as a function of strain of the A- and B-series of the Mg2Yb alloy.