

Supplementary Material for:

Advanced polycrystalline γ' strengthened CoNiCr-based superalloys

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Supplementary Figures

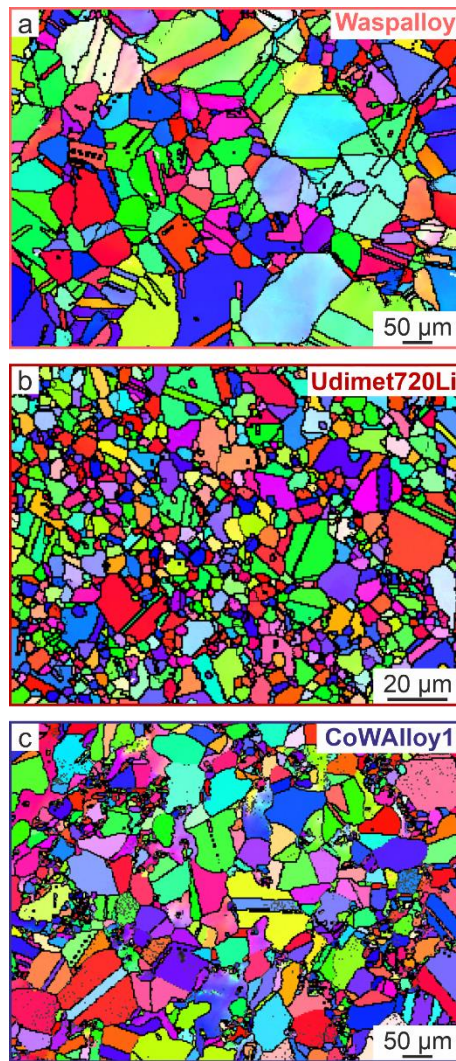


Figure S1: EBSD image of a) Waspalloy and b) Udimet720Li in the as-received condition and c) CoWAlloy1 after the recrystallization heat treatment at 1075 °C and 4h (CoWAlloy1_nRX).

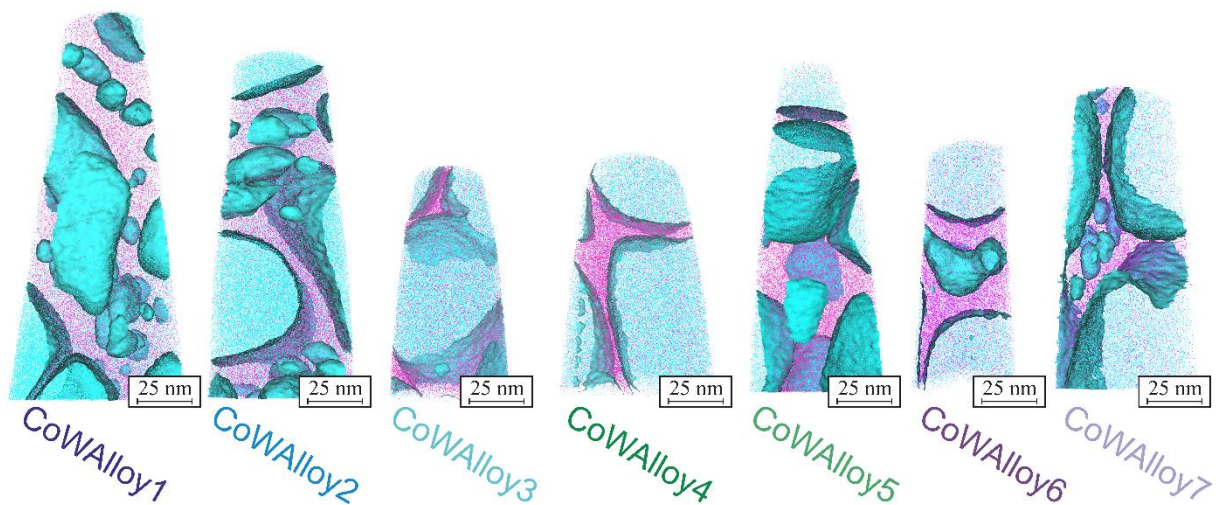


Figure S2: Atom probe reconstructions of the investigated CoWAlloys. An isosurface of 7 - 11 at.% Al shows the interfaces between the matrix and the secondary and tertiary precipitates.

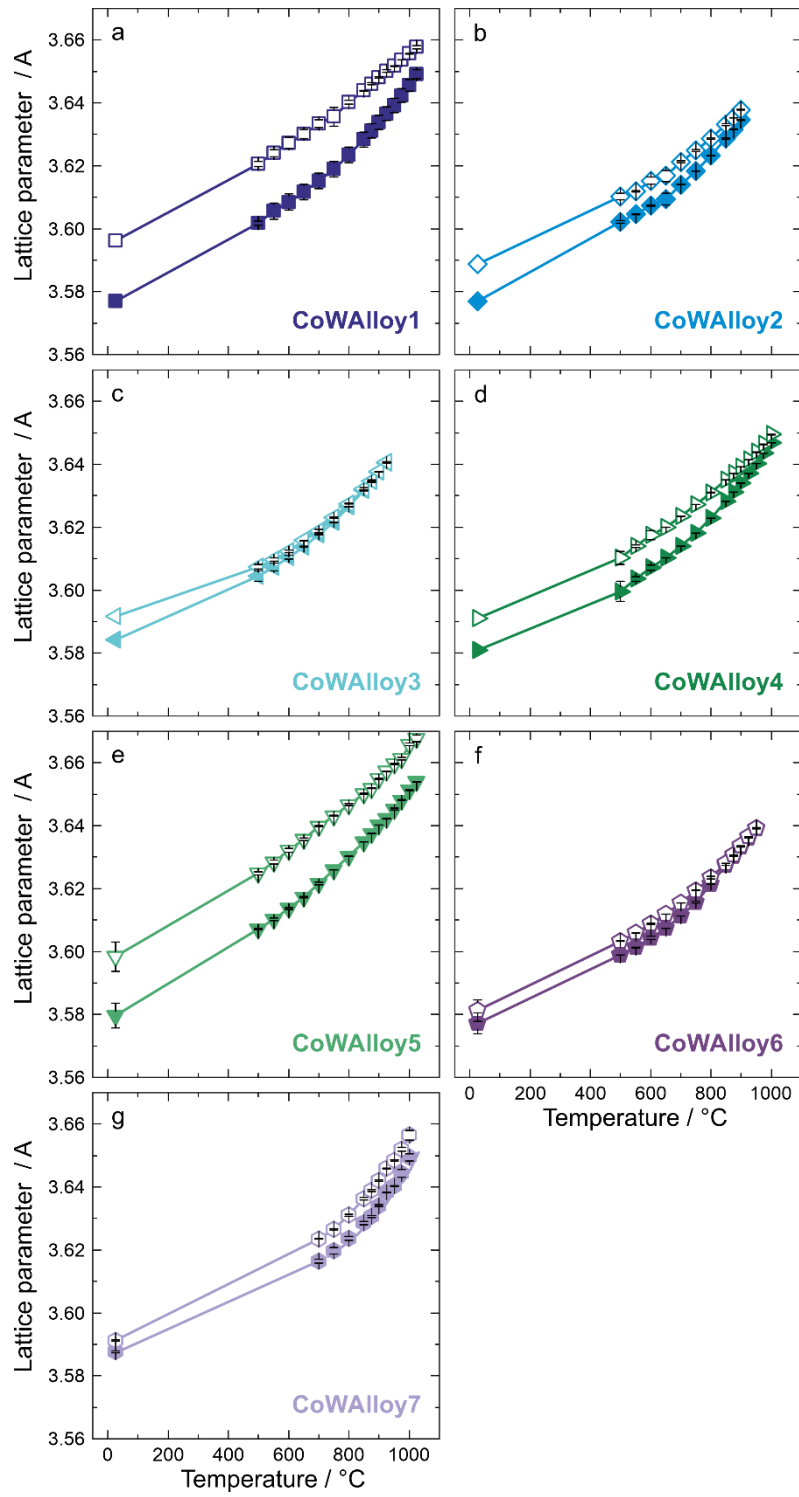


Figure S3: Evolution of the lattice parameters of the γ and γ' phases with temperature as determined by HEXRD measurements for (a-g) CoWAlloy1-7.

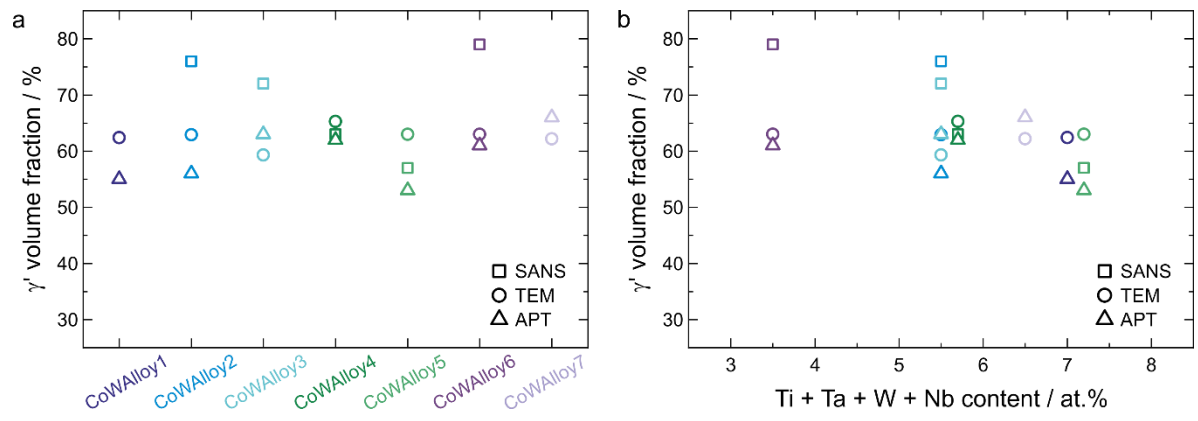


Figure S4: Determined γ' volume fractions of CoWAlloy1-7 by SANS, TEM and APT plotted for (a) the different alloys and (b) as a function of the Ti+Ta+W+Nb content.

Supplementary Tables

Supplementary Table S1: Concentration of alloying elements in secondary γ' precipitates and the surrounding γ phase as determined by APT in at.%.

[illegible]

Supplementary Table S2: Concentration of alloying elements in tertiary γ' precipitates and the surrounding γ phase as determined by APT in at.%.

[illegible]