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CORRECTION

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Correction: Quantitative *in situ* TEM tensile fatigue testing on nanocrystalline metallic ultrathin films

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Correction for 'Quantitative *in situ* TEM tensile fatigue testing on nanocrystalline metallic ultrathin films' by Ehsan Hosseinian, *et al.*, *Nanoscale*, 2013, **5**, 12532–12541.

The authors have found an error in the post-processing scheme to calculate the stress–strain curves from the raw electrical data ($\Delta C_1 - \Delta C_2$ *vs.* $V_{\rm in}$, with and without the specimen). The scheme consists of calculating $X_{\rm A}^{\rm F}$ (using eqn (6)), from which ΔC_1 is known (using eqn (1)). ΔC_2 is then determined knowing the measured $\Delta C_1 - \Delta C_2$ value, from which $X_{\rm LS}$ can be determined using eqn (1). The calibration constant α from eqn (1) to calculate $X_{\rm LS}$ was omitted. As shown in corrected Fig. 3(d)–(f), the correct scheme provides a better match between the calculated and measured $X_{\rm A}$, $X_{\rm LS}$ and $X_{\rm S}$ values.

The corrected versions of Fig. 3(d)–(f)are as follows:

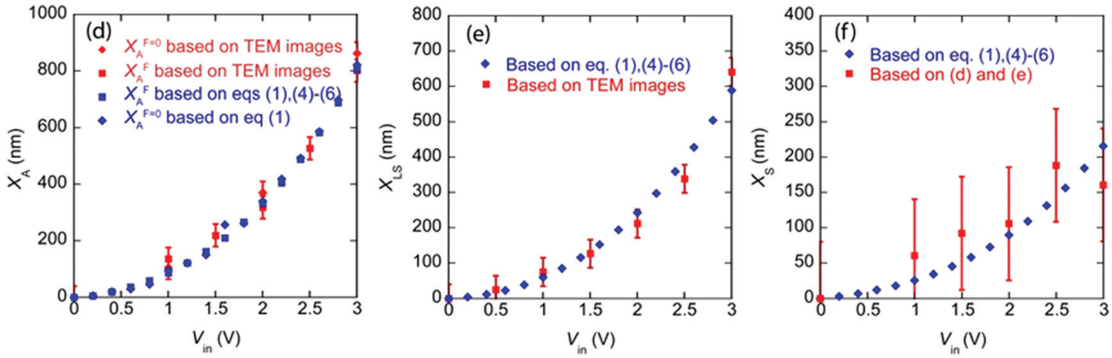

Fig. 3 (d) Comparison of the calculated and measured thermal actuator displacement for an *in situ* TEM test with a specimen, along with the same data without a specimen. (e) Comparison of the calculated and measured load sensor displacement for the same *in situ* TEM test as (d). (f) Comparison of the calculated and measured specimen elongation for the same *in situ* TEM test as (d)–(e).

Other figures within the original version of the manuscript, also affected by the error detailed above, have been revised. Two significant changes have been made to the following figures: (a) the calculated elastic modulus, E, of the Au specimens is now ~25–50 GPa, which is significantly lower than the expected values (~70 GPa) and highlights compliance issues with the glue; (b) the Au specimens exhibit significantly more stress relaxation and ratcheting during the fatigue tests.

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The aforementioned revised figures are as follows:

Revised Fig. 4(a)

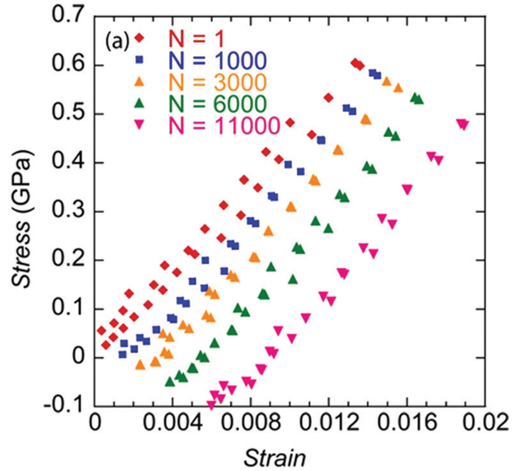

Fig. 4 (a) Selected stress–strain curves for an *ex situ* fatigue test for five different cycles (N = 1, 1000, 3000, 6000, and 11 000). The elastic modulus E is about 47 GPa.

Revised Fig. 6

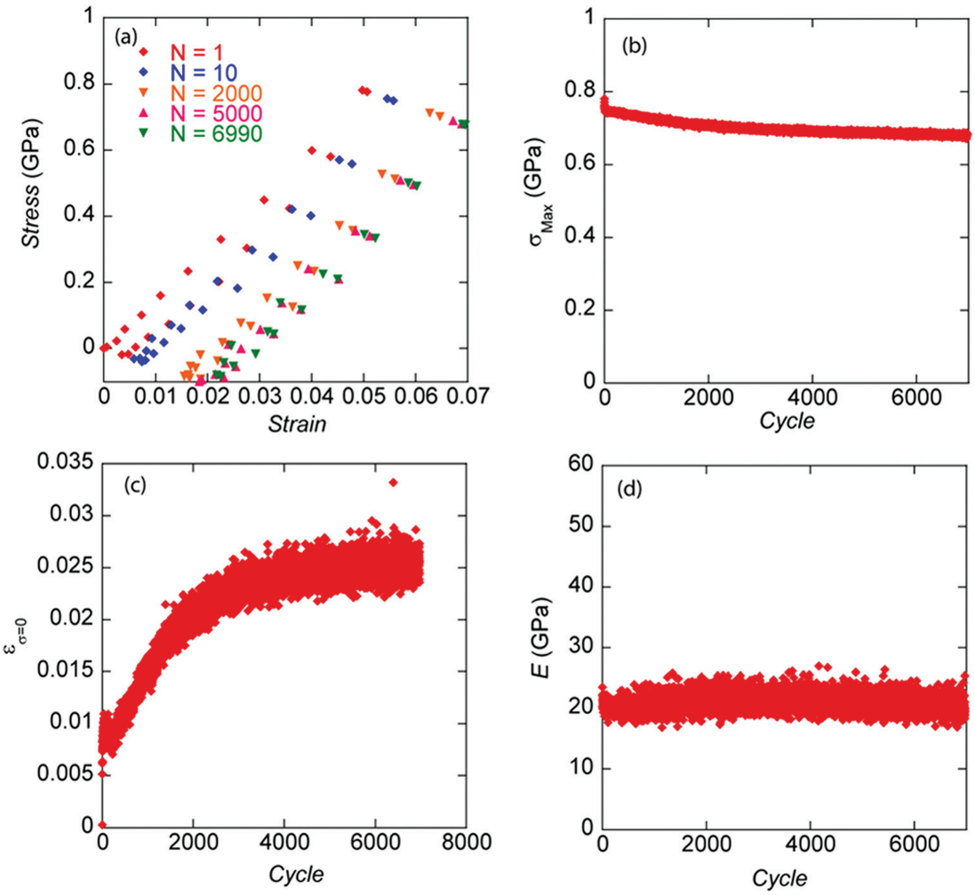

Fig. 6 Selected stress–strain curves for an *in situ* TEM fatigue test for five different cycles (N = 1, 10, 2000, 5000, and 6990). (b) Evolution of the maximum applied stress, $\sigma_{\max}$, as a function of cycles. (c) Evolution of the permanent strain under no applied stress, $\varepsilon_{\sigma=0}$, as a function of cycles. (d) Evolution of elastic modulus, E, as a function of cycles.

Revised Fig. S7(c)

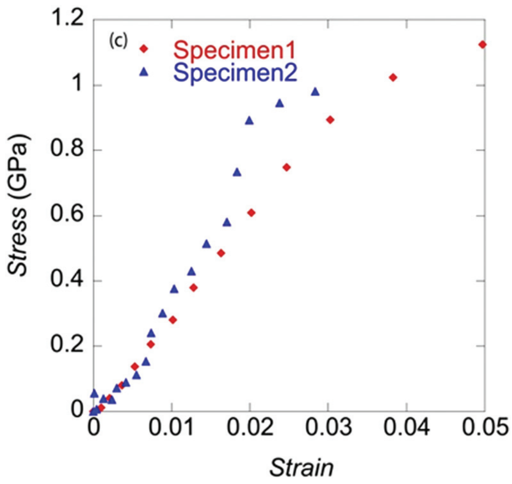

Fig. S7 (c) Corresponding stress–strain curves of specimens 1 and 2.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.