**Supplementary Material**

E. Yildirim et al. ***In-situ TEM characterization of cavity evolution in tungsten at 800 °C under dual W2+/He+ irradiation***

A graph of a red and blue line

Description automatically generated

* + - 1. 10keV He ion distribution

A graph of a red and blue line

Description automatically generated

* + - 1. 600keV W ion distribution

**Fig. S1.** Normalised SRIM calculations of damage (blue) and ion distribution (red) for the different ion species.

A screenshot of a computer screen

Description automatically generated

**Fig. S2.** Steps involved in micrograph processing throughout this study. This approach was used on both in-situ and post-mortem microstructure analysis, with the filter kept consistent across all micrographs.