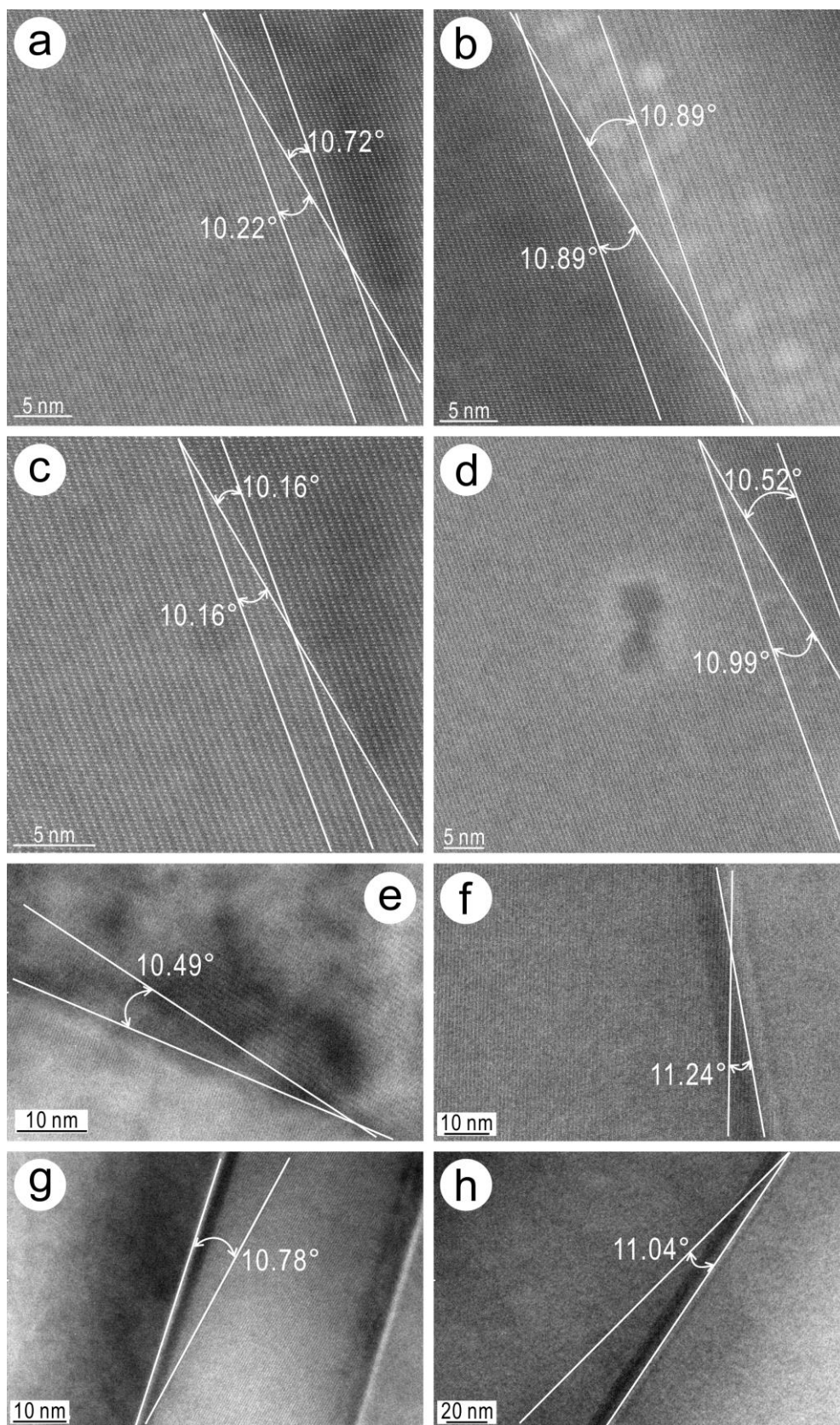


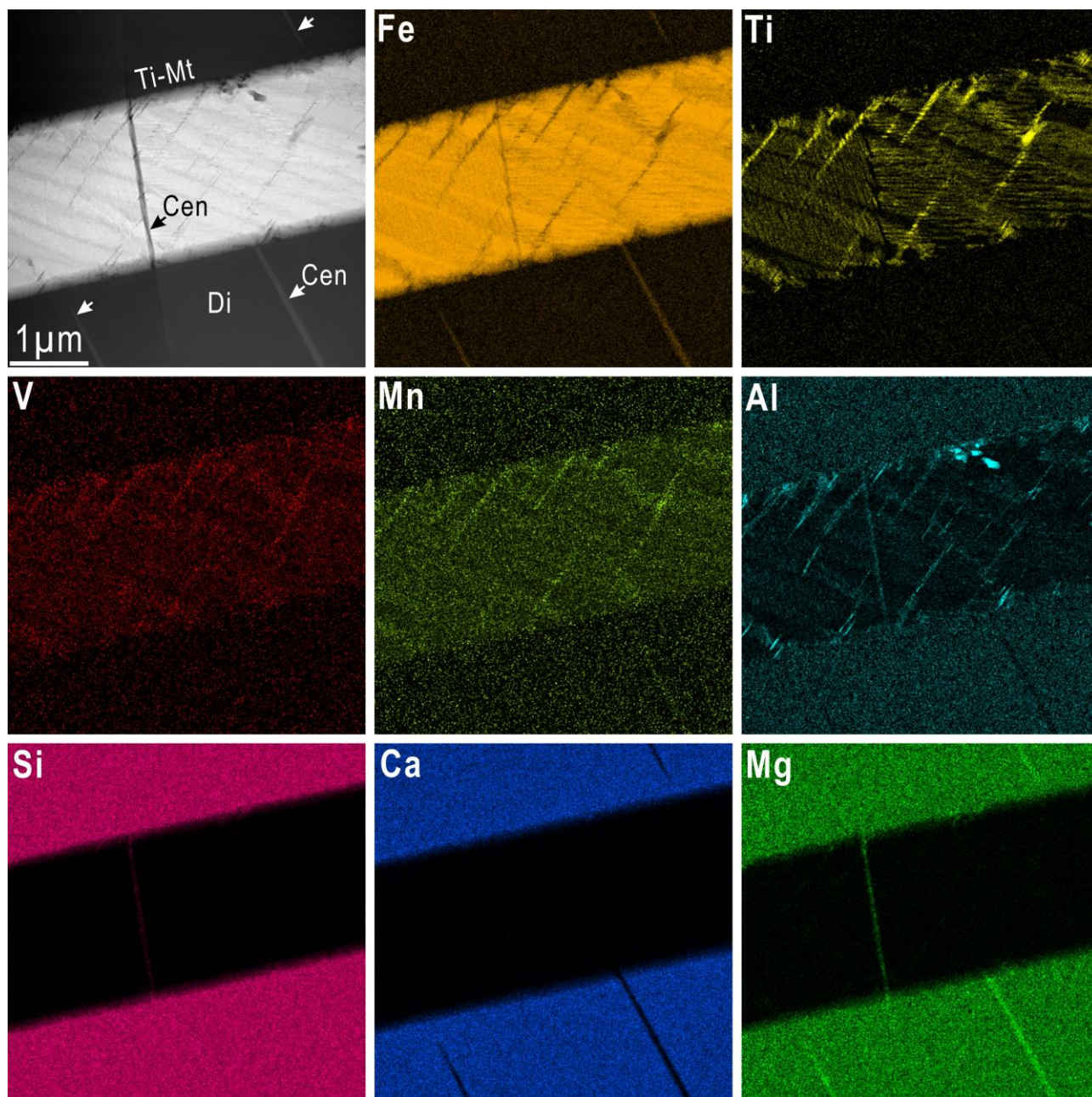
## Supplemental Figures

**FIGURE S1.**



Measurements of the pyroxene phase interface orientation. Measurements from HAADF-STEM images (a–d) and BF TEM images (e–h).

**FIGURE S2**



HAADF-STEM image (top left) and STEM EDS element maps (Fe, Ti, V, Mn, Al, Si, Ca and Mg) of the titanomagnetite lamella (Ti-Mt) and host diopside (Di). Clinoenstatite (Cen) lamellae are arrowed. Note exsolution of ilmenite, which also incorporates V and Mn, and of Al-rich spinel.