

FIGURE 1. (a) Elemental maps of QUE 94201 pyroxene grain with c-axis normal to image. Field of view is ~1 mm. Warmer colors indicate higher concentration. Numbers and letters indicated on the X-ray maps also refer to points on the accompanying pyroxene quadrilateral (b) and are explained as follows: Pigeonite cores crystallize at point 1 and become increasingly more Ca and Al-rich toward augite rims at point 2. Augite grains then drop in Ca and zone toward metastable pyroxferroite ( $\text{Ca}_{1/7}\text{Fe}_{6/7}\text{SiO}_3$ ) at point 3. Point A corresponds to the time at which plagioclase crystallizes and is shown in the pyroxene elemental maps as a sharp drop in Al concentration. Point B conceivably marks the onset of ilmenite/ulvöspinel crystallization and is revealed as an abrupt decrease in Ti concentration in the pyroxene elemental map. Plag = plagioclase and Wt = whitlockite. X-ray maps modified from McKay et al. (2003).

