Supplementary Figures

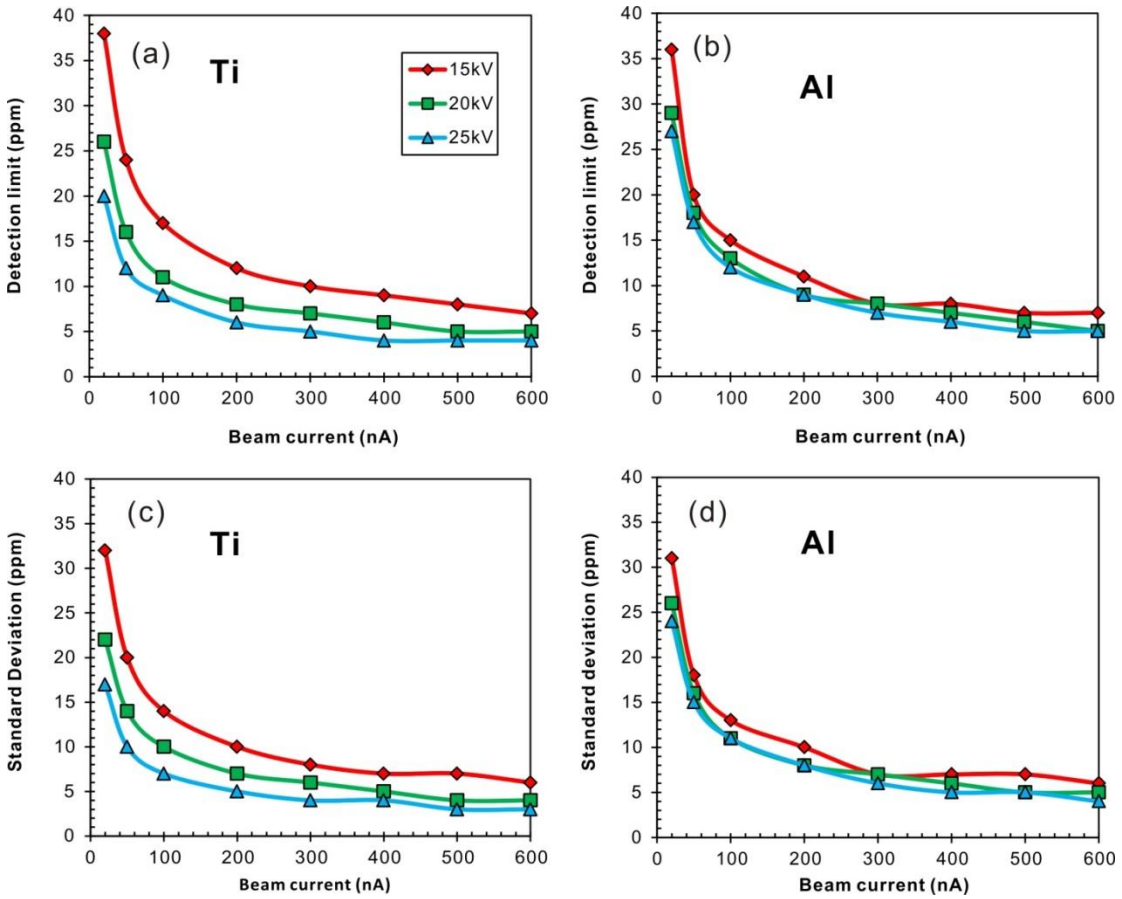

Figure S1. Detection limits (a-b) and standard deviations (c-d) for Al and Ti in the quartz reference standard as a function of accelerating voltage and beam current.

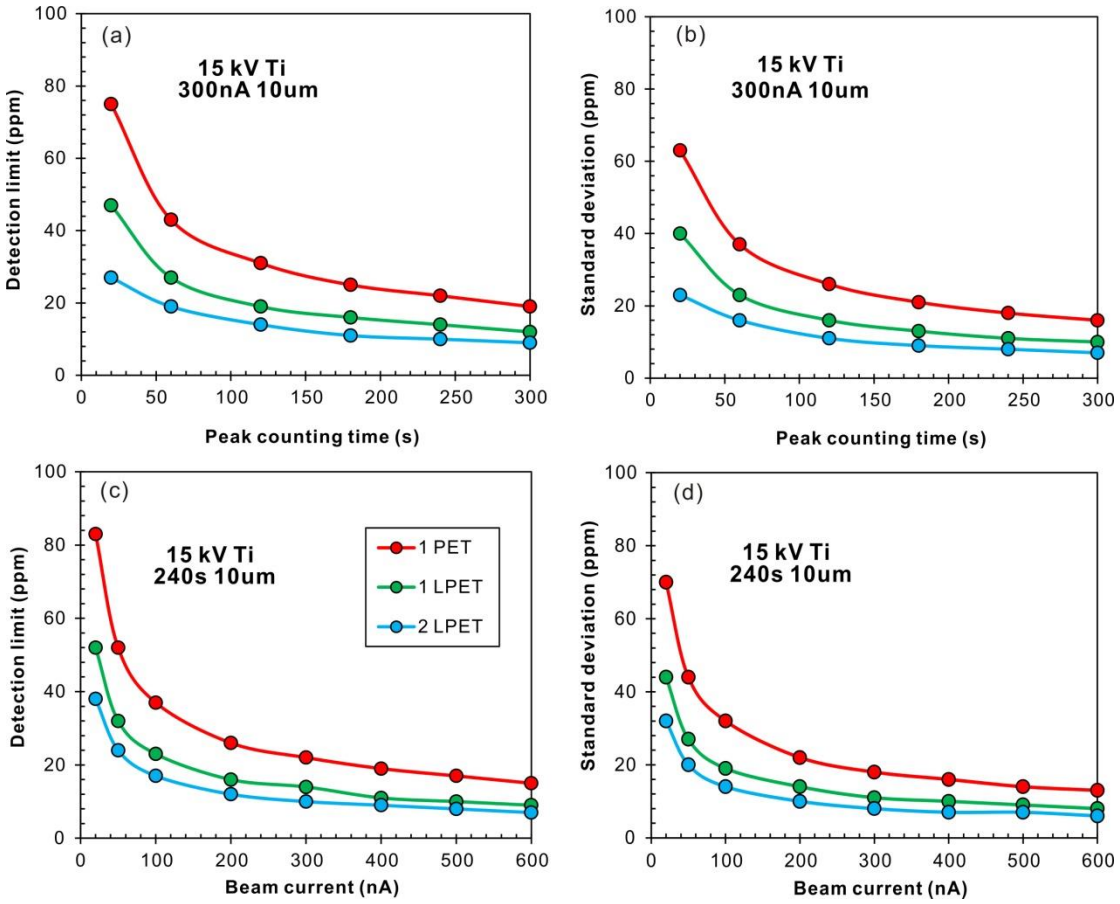

Figure S2. Comparison of individual spectrometer detection limits (3σ) and standard deviation (3σ) of normal analyzing crystal (PET), large analyzing crystal (LPET) and the aggregate intensity counting method (2LPET) as a function of peak counting time (a-b) and beam current (c-d) as measured with the reference standard.

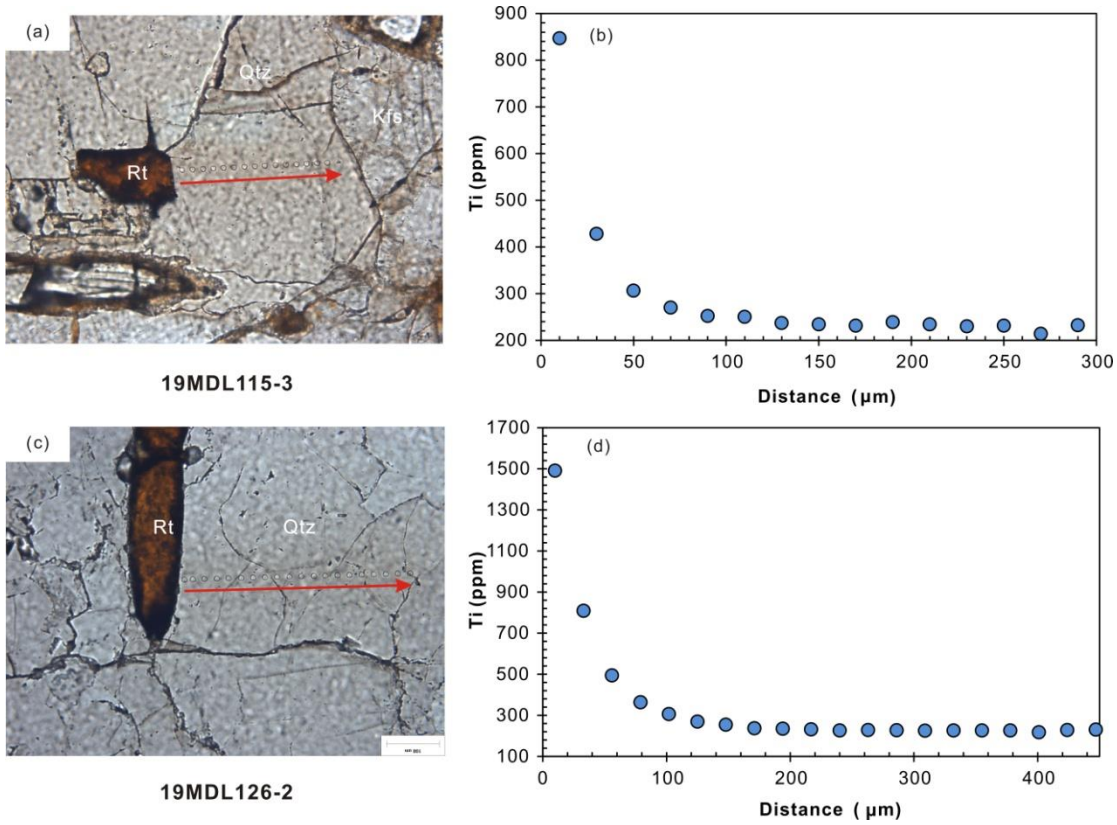

Figure S3. Secondary fluorescence effects of Ti in quartz. (a) and (c) show the analysis spots besides the rutile grains. (b) and (d) exhibit the variation of Ti concentrations due to secondary fluorescence effects. Analysis was taken along the red lines.