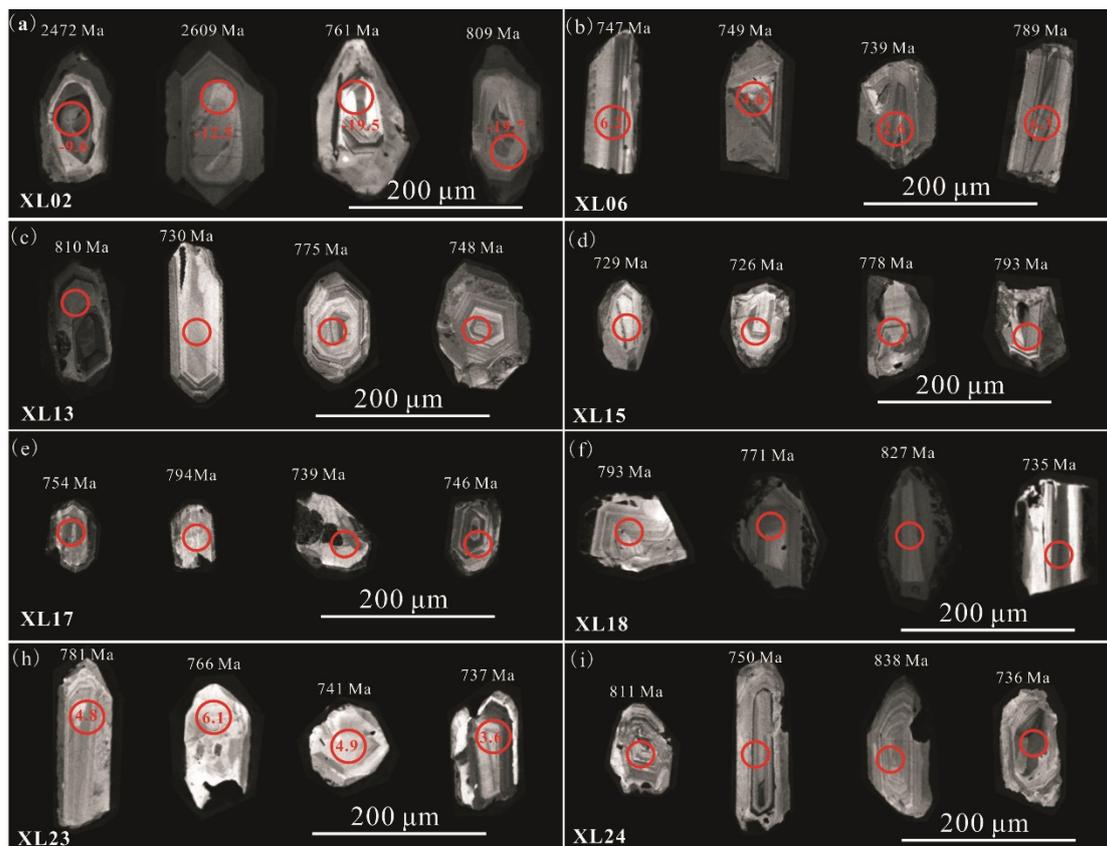


**Figure S1:** Cathodoluminescence images of representative zircon grains from volcanic rocks of the Xileng Formation.



Note: Red circles represent sites of laser ablation for isotopic analysis and numbers in the circles are initial  $\epsilon_{\text{Hf}}$  values of the analytical spots.