

**Supplemental Figure S1** – illustrations, for each sample, of the relative-age-probability plots (or probability density plots; PDPs) showing YPP dates, concordia diagrams, and Isoplot of weighted mean dates with 2σ internal error bars. All dates are shown in Ma.

**PDPs** (left): colour bar height proportional to the number of zircons in a given age bin. YPP dates are shown in the text box, next to the first major peak.

**Concordia diagrams** (middle): youngest cluster of zircons with some degree of overlap, are represented in colour. Zircons not contributing the youngest cluster are coloured in grey. Concordia dates (as calculated by a built in function in Isoplot) are shown in the text box.

**Isoplot of weighted mean date** (right): the youngest concordant dates (< ~270 Ma) are plotted with 2 sigma error bars. Coloured bars correspond to the youngest grains (at least 2) overlapping at 2 sigma. Weighted mean dates (Yc2σ(2+)) at 95% confidence are shown in the text box.







