

*Tectonics*

Supporting Information for

**Protracted thermal evolution of a migmatitic terrane as revealed by multiple geochronometers from the retro-arc of the Paleozoic Famatinian Orogen in NW Argentina**

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**Introduction**

The tables list U-Pb isotopes and trace element composition of zircon, monazite and titanite, as well as whole-rock geochemistry. They are results of LA-ICP-MS analyses of samples from the Agua del Sapo Complex, Sierra de Quilmes in NW Argentina, part of the retro-arc of the Famatinian Orogen. The methodology is detailed in the main body of the manuscript. The tables are uploaded as separate files and can be found at 4TU online data repository.

Table S1. U-Pb isotope data for zircon samples for unknowns and reference materials.

Table S2. Trace element data for zircon samples for unknowns and reference materials.

Table S3. U-Pb isotope data for monazite samples for unknowns and reference materials.

Table S4. Trace element data for titanite samples for unknowns and reference materials.

Table S5. Whole-rock geochemistry.

Table S6. Mineral chemistry data for garnet, plagioclase and biotite for sample SQ17-34b used for thermodynamic phase equilibrium calculations.