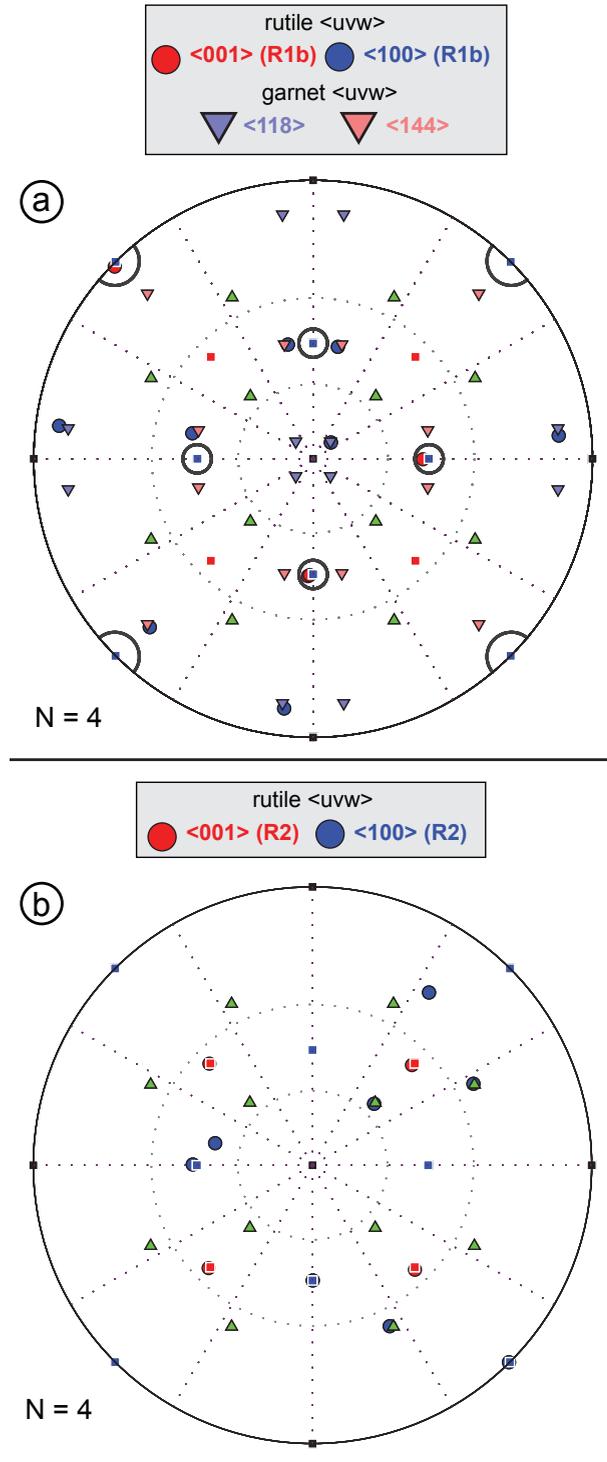
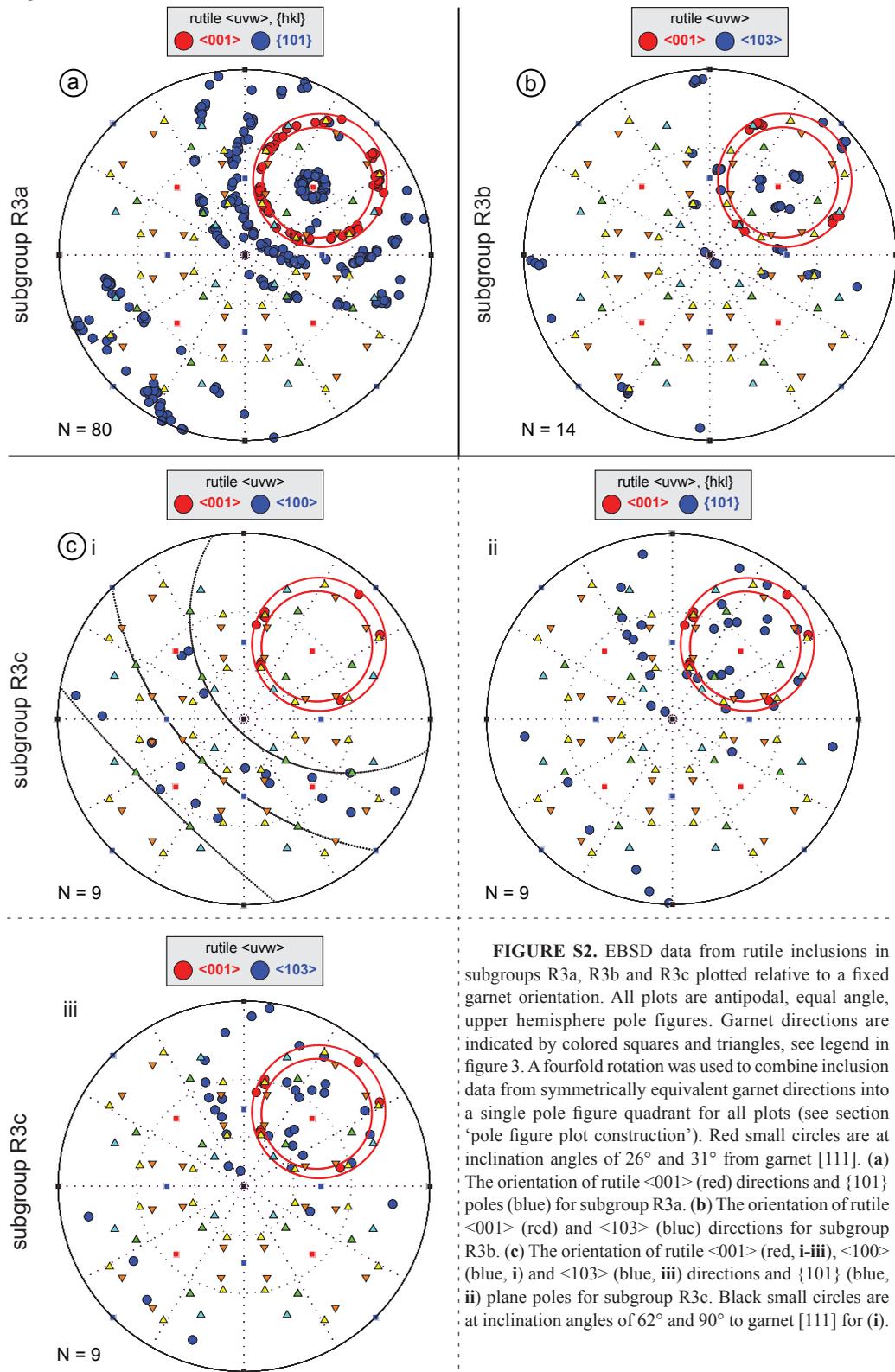


Figure S1



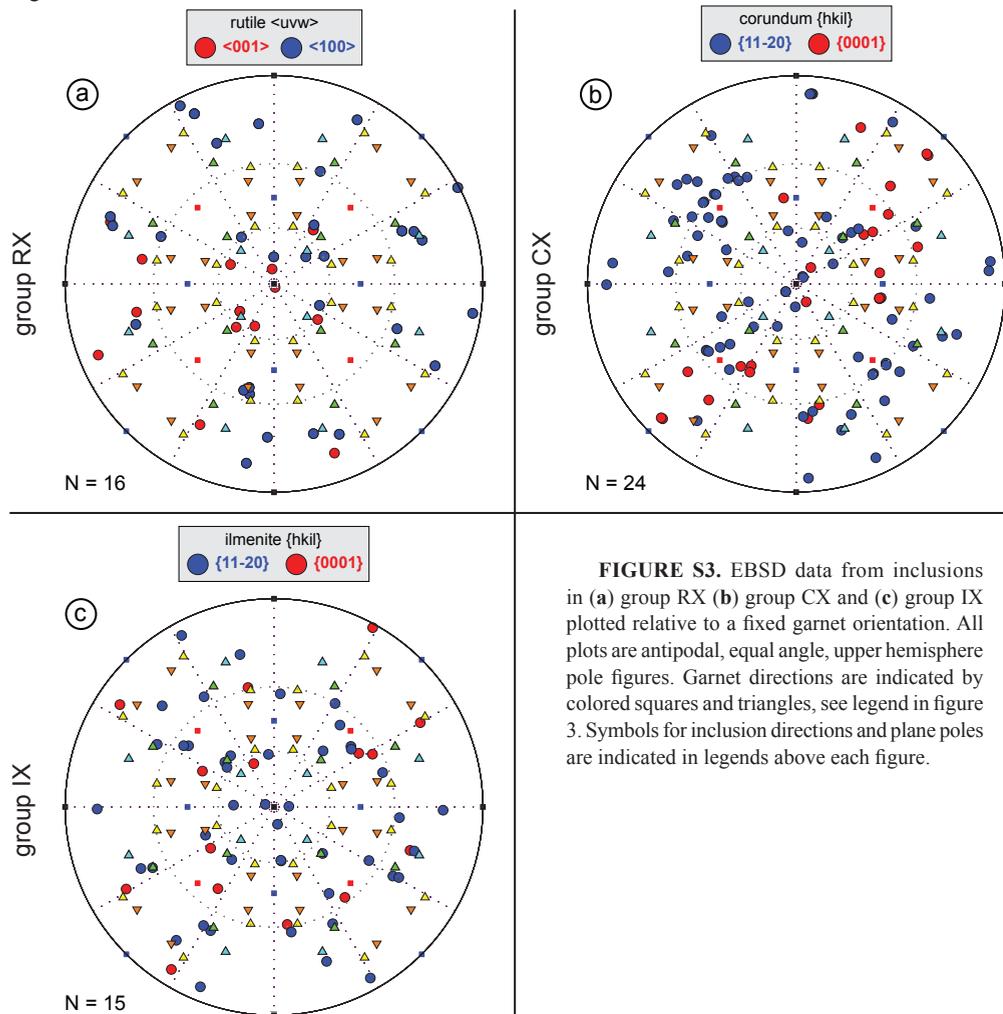
**FIGURE S1.** EBSD data from rutile inclusions in subgroup R1b and group R2 plotted relative to a fixed garnet orientation. Both plots are antipodal, equal angle, upper hemisphere pole figures. Garnet directions are indicated by colored squares and triangles, see legend in figure 3 and at the top of part (a). (a) The orientation of rutile  $\langle 001 \rangle$  (red) and  $\langle 100 \rangle$  (blue) directions for subgroup R1b. Dark grey small circles have a radius of  $5^\circ$ . (b) The orientation of rutile  $\langle 001 \rangle$  (red) and  $\langle 100 \rangle$  (blue) directions for group R2.

Figure S2



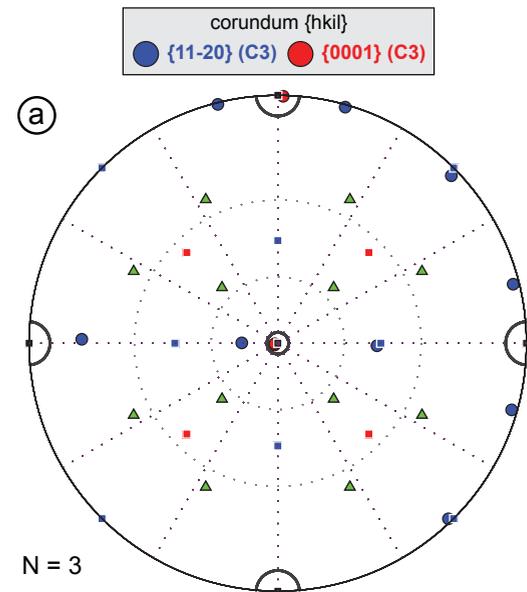
**FIGURE S2.** EBSD data from rutile inclusions in subgroups R3a, R3b and R3c plotted relative to a fixed garnet orientation. All plots are antipodal, equal angle, upper hemisphere pole figures. Garnet directions are indicated by colored squares and triangles, see legend in figure 3. A fourfold rotation was used to combine inclusion data from symmetrically equivalent garnet directions into a single pole figure quadrant for all plots (see section ‘pole figure plot construction’). Red small circles are at inclination angles of 26° and 31° from garnet [111]. **(a)** The orientation of rutile <001> (red) directions and {101} poles (blue) for subgroup R3a. **(b)** The orientation of rutile <001> (red) and <103> (blue) directions for subgroup R3b. **(c)** The orientation of rutile <001> (red, **i-iii**), <100> (blue, **i**) and <103> (blue, **iii**) directions and {101} (blue, **ii**) plane poles for subgroup R3c. Black small circles are at inclination angles of 62° and 90° to garnet [111] for (i).

Figure S3



**FIGURE S3.** EBSD data from inclusions in (a) group RX (b) group CX and (c) group IX plotted relative to a fixed garnet orientation. All plots are antipodal, equal angle, upper hemisphere pole figures. Garnet directions are indicated by colored squares and triangles, see legend in figure 3. Symbols for inclusion directions and plane poles are indicated in legends above each figure.

Figure S4



**FIGURE S4.** EBSD data from corundum inclusions in group C3 plotted relative to a fixed garnet orientation in an antipodal, equal angle, upper hemisphere pole figure. Garnet directions are indicated by colored squares and triangles, see legend in figure 3. Corundum <0001> (red) directions and {11-20} (blue) plane poles are indicated.