Supplementary Fig. 1. View along the a direction. Projection of two unit cells adjacent in the b direction. The ZrO~8~ polyhedra are dotted, the ZrO~7~ polyhedra are marked with crosses. The disordered Cr1 and Cr 2 atoms are represented by open circles and circles marked with parallel lines, respectively. Only one of the two available equivalent positions for each Cr atom has to be occupied. Once the site of one disordered Cr atom within one layer ( $\mathrm{L} \sim \mathrm{n} \sim$ ) is arbitrarily chosen, the position of all the remaining Cr atoms within the layer ( $\mathrm{L} \sim \mathrm{n} \sim$ ) follow accordingly.


