**Supporting Information**

**S1 Figure**. The C4n structure model revealed a crystallization artefact related to Zn2+-mediated chain swapping. The conformation of the last 15 amino acids in the monomeric Fc structure was changed substantially due to the presence of Zn2+ ions in the crystallization solution and the absence of a second Fc chain that stabilizes the positions of the last β strand in the conventional Fc. As illustrated in (**A**), the 15 amino acids constituting the last β strand of Fc (in light salmon) were swapped with those from a symmetry related molecule (in green). (**B**) Detailed analysis showed that H433 and H435 have adopted a different position to coordinate a Zn2+ ion (shown in stereo). IgG4 Fc, in cyan, is superimposed with C4n structure in light salmon color, to show the extent of the conformational changes. (**C**) The tetrahedral coordination sphere of the Zn2+ ion is completed by H310 from the symmetry related molecule (in green) and a water molecule (W). (**D**) The electron density omit map of the chain swapping region is shown.

