**Supplementary Material for PUBLICATION**

**In-situ Synchrotron X‑ray Characterisation of Corrosion Products in Zr Artificial Pits in Simulated Physiological Solutions**

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Figure S1

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**Figure S1**. A stack plot of integrated diffraction patterns as shown in Figure 5. Diffraction patterns of Zr foil and ZrOCl2  8H2O were shown at the bottom for reference.

Figure S2

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**Figure S2**. Stack plots of averaged diffraction patterns from a) black corrosion products in 0.9% NaCl with and without addition of 0.1% H2O2 and/or 4% albumin; b) salt layer in 0.9% NaCl with and without addition of 0.1% H2O2 and/or 4% albumin in Zr artificial pits at 0.8 V (Ag/AgCl) and room temperature. Standards of Zr powder, ZrO2, ZrOCl2  8H2O were indicated at the bottom of the figure.