

**Supplementary Material**

A simulation, taking into account the whole single cell stack of F1004-67, was implemented. The model consists of 30 channels and manifolds. Figure S1 gives the temperature distribution. At the reactive parts, the temperature variation is  $\sim 14.1\text{ }^{\circ}\text{C}$ .

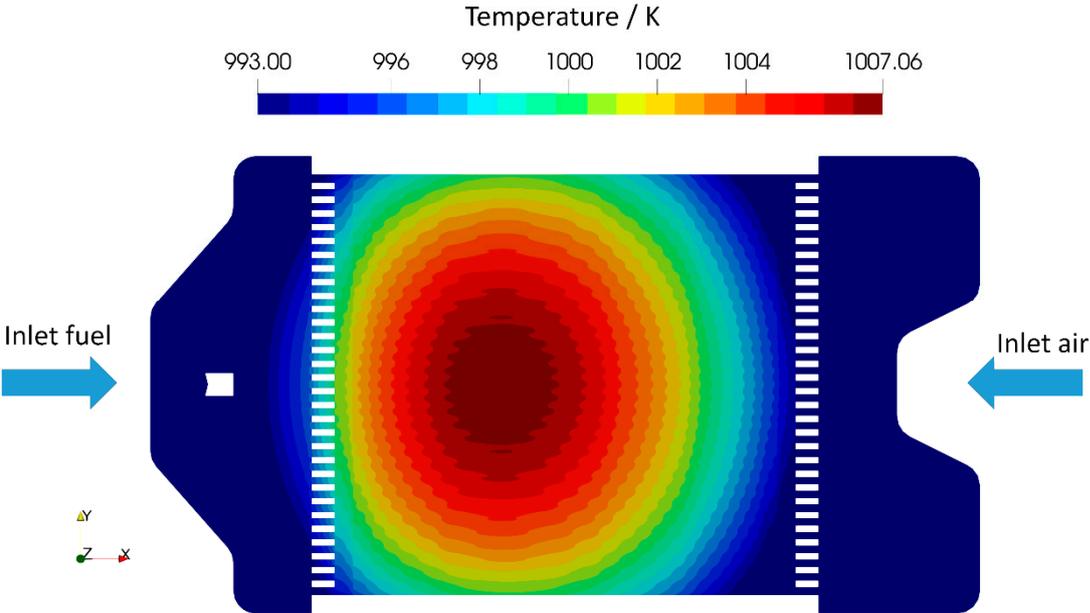


Figure S1. Temperature distribution in the single cell stack during fuel cell operation.