



Figure S1. :  $S^x(Q)$  and  $D^x(r)$  temperature evolution during in situ HEXRD measurements for  $\text{Mg}_{50}\text{Zn}_{43}\text{Ca}_7$  (a) and (b) and  $\text{Mg}_{50}\text{Zn}_{43}\text{Ca}_7$  (c) and (d).