

Evolution of Catalyst Coated Atomised Magnesium Spheres - an alternative thermal storage medium for concentrated solar power applications - Supplementary Information

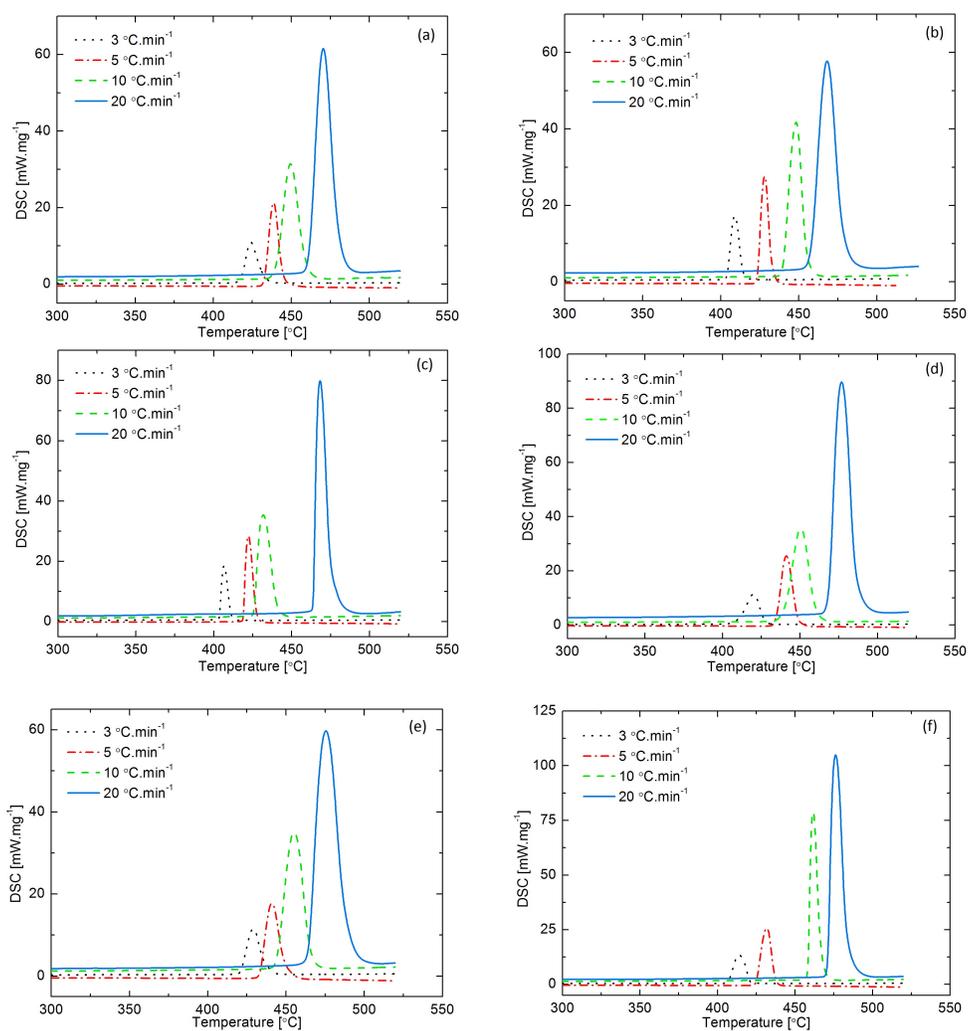


Figure S1: DSC endotherms produced under 1 bar of flowing Ar at a rate of 100 ml min⁻¹, using heating rates of 3, 5, 10 and 20 °C min⁻¹ (a) Mg30, (b) V_Mg30, (c) SS_Mg30, (d) Fe_Mg30, (e) Mg26 and (f) Cr_Mg26.

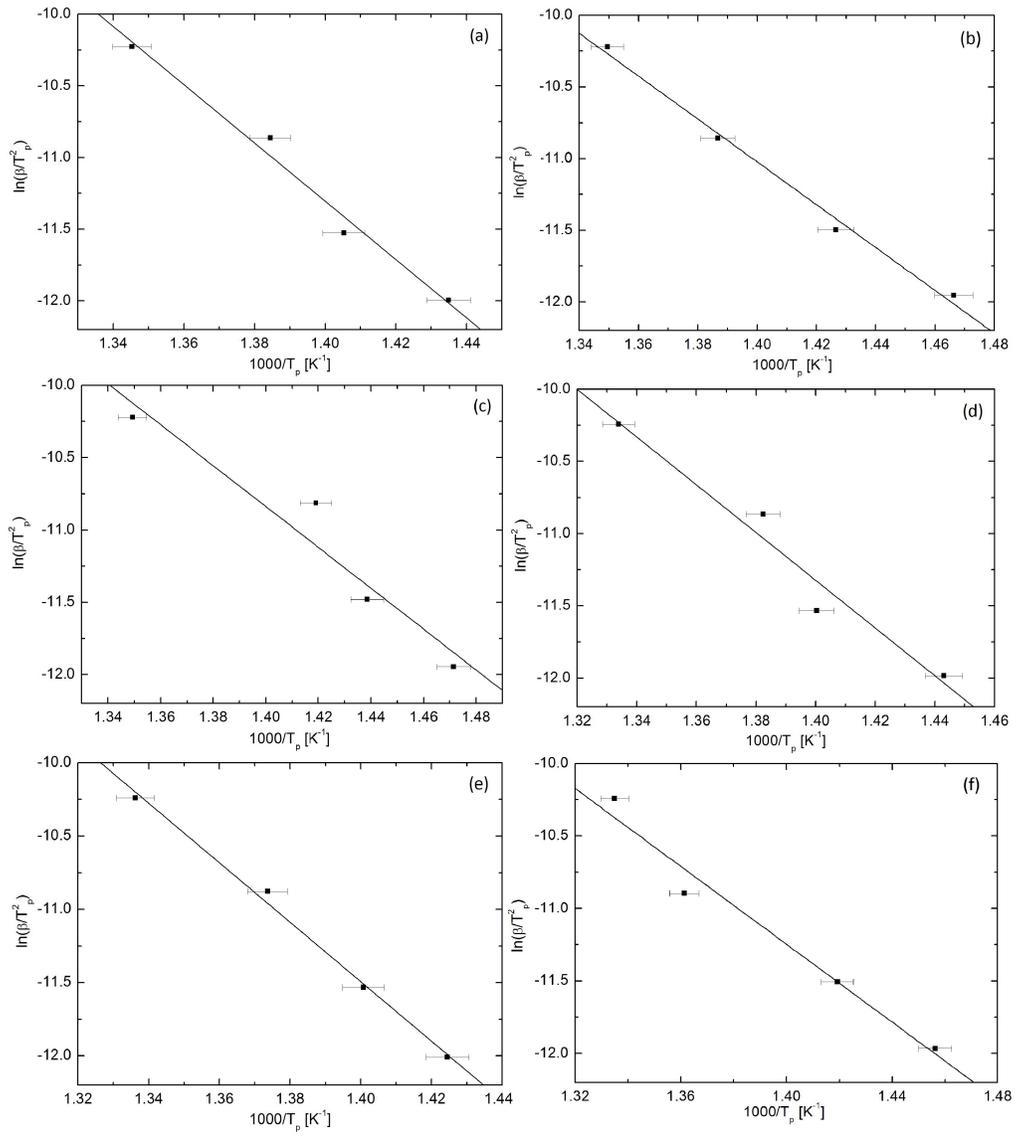


Figure S2: Kissinger plots of (a) Mg30, (b) V_Mg30, (c) SS_Mg30, (d) Fe_Mg30, (e) Mg26 and (f) Cr_Mg26.

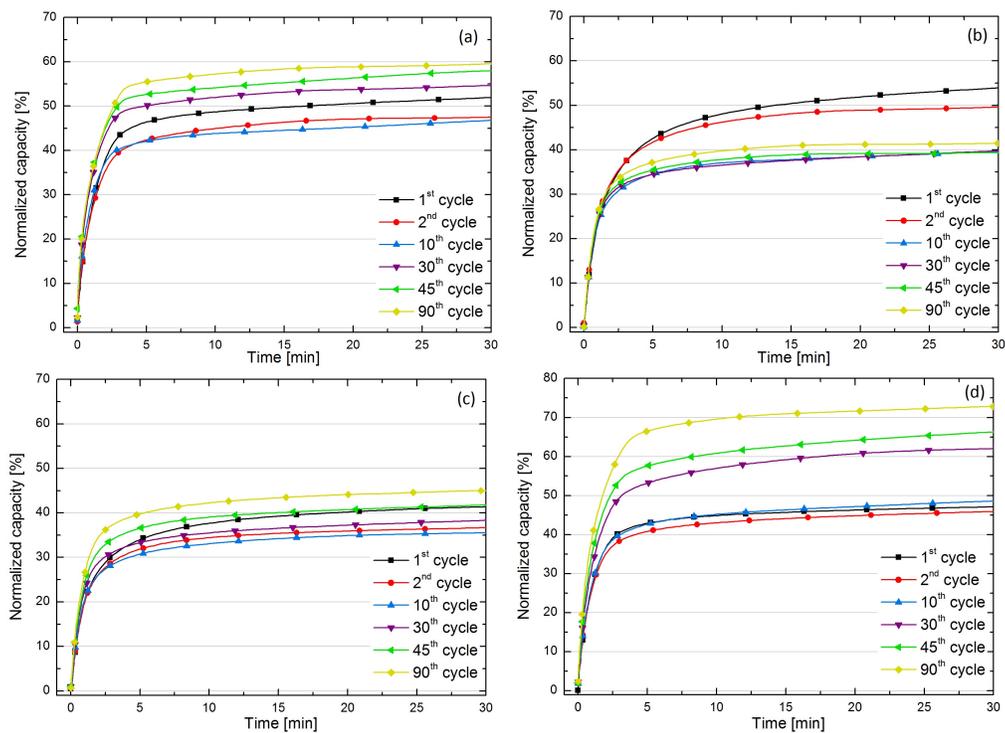


Figure S3: Comparing the normalized capacity versus time during selected cycles for (a) SS_Mg30, (b) Fe_Mg30, (c) Mg26 and (d) Cr_Mg26 when cycled at 350 °C.

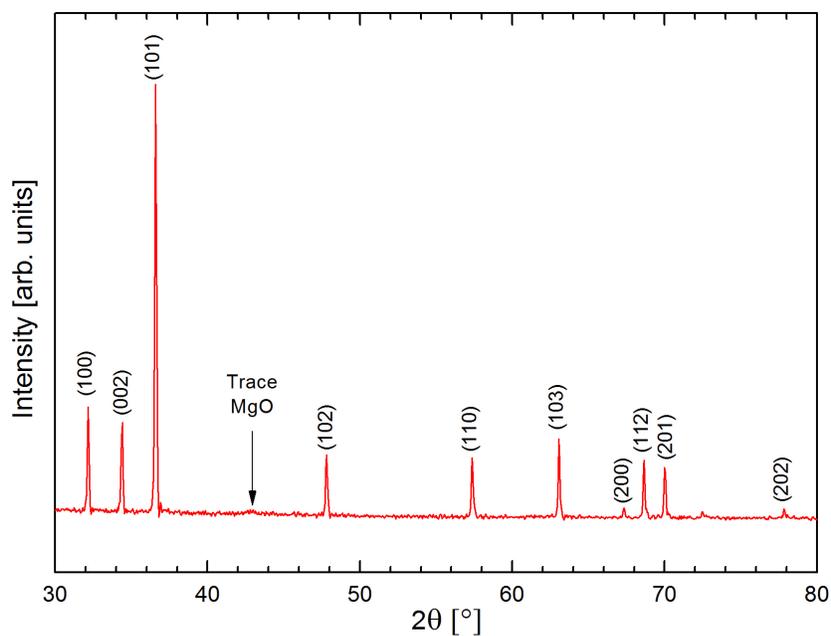


Figure S4: Powder X-ray diffraction pattern of V_Mg30 dehydrogenated following cycling at 400 °C. Peaks correspond only to Mg although there may be a trace presence of MgO.

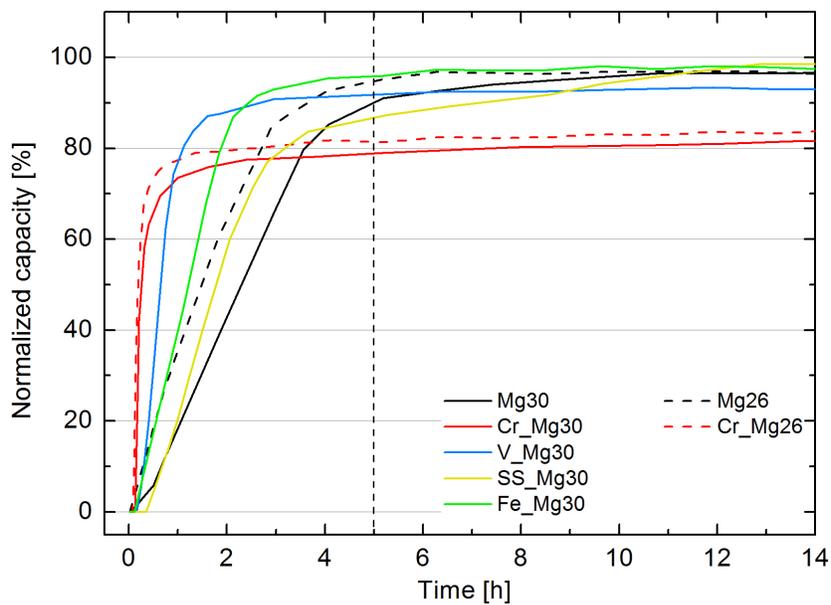


Figure S5: Normalised capacity versus time for each sample during the soaking process for activation at 400 °C and a starting pressure 40 bar.