

Supplementary information

Dissolution-Precipitation Synthesis and Thermal Stability of Magnesium Whitlockite

Agne Kizalaite¹, Vytautas Klimavicius², Vytautas Balevicius², Gediminas Niaura²,
Andrei N. Salak³, Jen-Chang Yang⁴, Sung Hun Cho⁵, Tomoyo Goto^{5,6}, Tohru Sekino⁵,
Aleksej Zarkov^{1,*}

¹*Institute of Chemistry, Vilnius University, Naugarduko 24, LT-03225 Vilnius, Lithuania*

²*Institute of Chemical Physics, Vilnius University, Sauletekio 3, LT-10257 Vilnius, Lithuania*

³*Department of Materials and Ceramics Engineering/CICECO-Aveiro Institute of Materials,
University of Aveiro, 3810-193 Aveiro, Portugal*

⁴*Graduate Institute of Nanomedicine and Medical Engineering, College of Biomedical Engineering,
Taipei Medical University, 250 Wu-Hsing St., Taipei 11052, Taiwan*

⁵*SANKEN (The Institute of Scientific and Industrial Research), Osaka University, 8-1 Mihogaoka,
Ibaraki, Osaka 567-0047, Japan*

⁶*Institute for Advanced Co-Creation Studies, Osaka University, 1-1 Yamadaoka, Suita, Osaka 565-
0871, Japan*

*Author to whom correspondence should be addressed.

Aleksej Zarkov: e-mail: aleksej.zarkov@chf.vu.lt

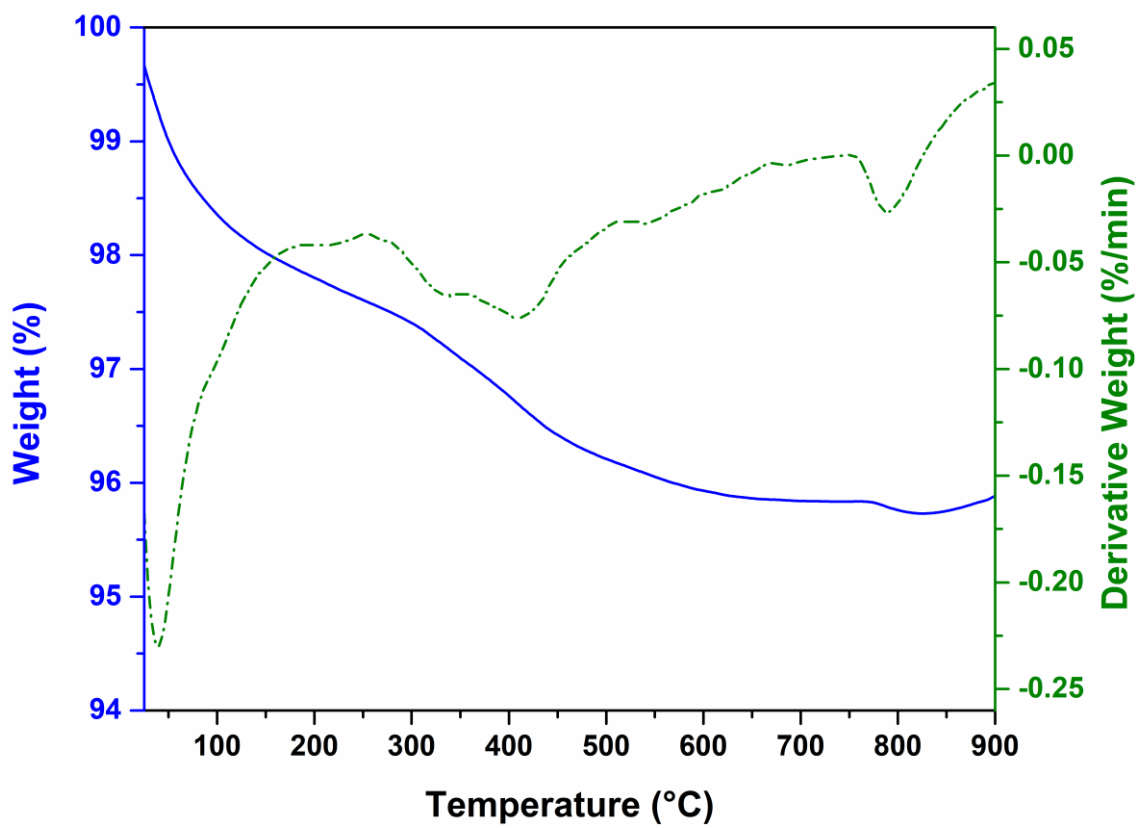


Figure S1. TG/DTG curves of as-prepared Mg-WH powder.

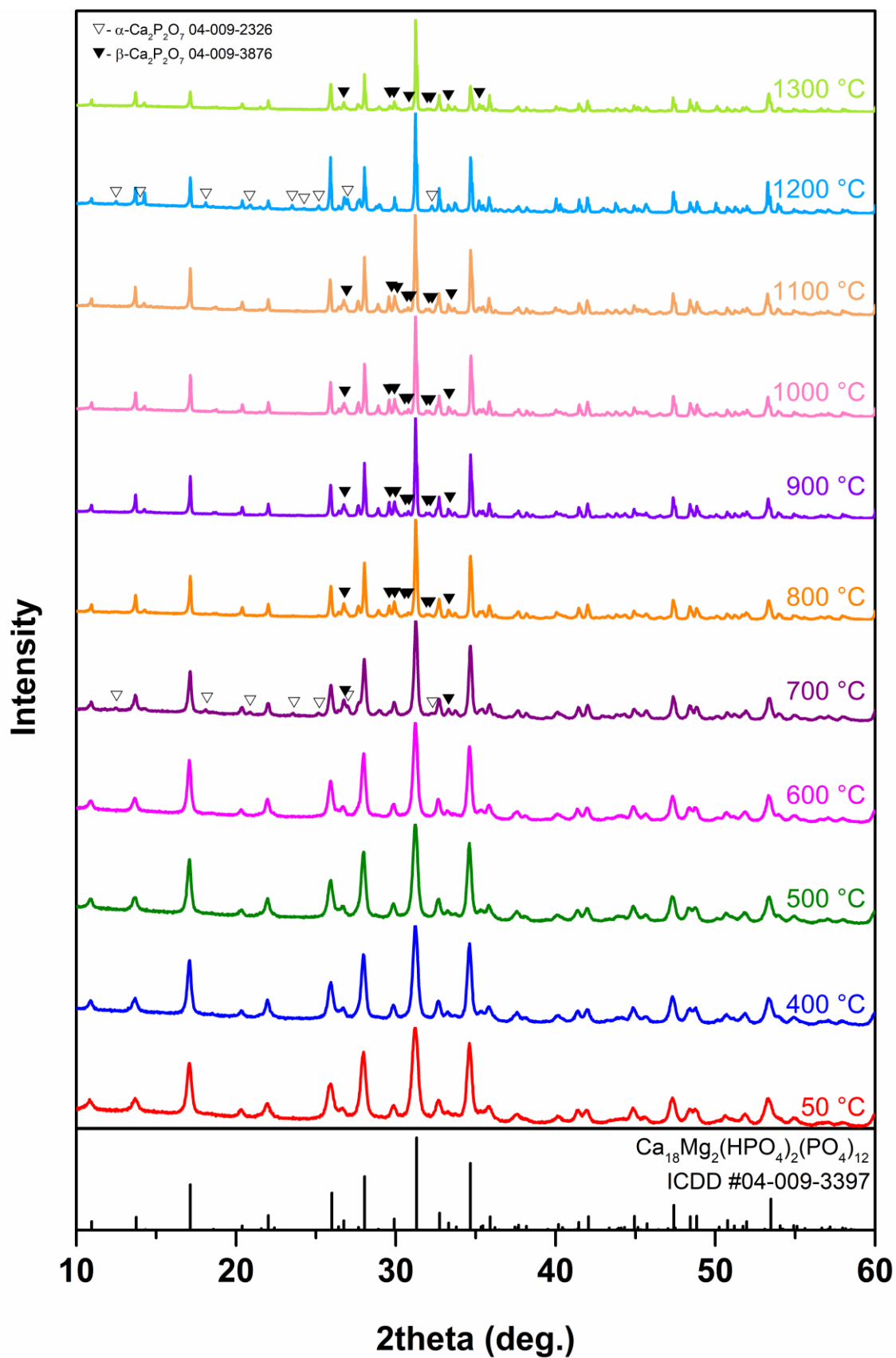


Figure S2. XRD patterns of Mg-WH powders annealed at different temperatures.

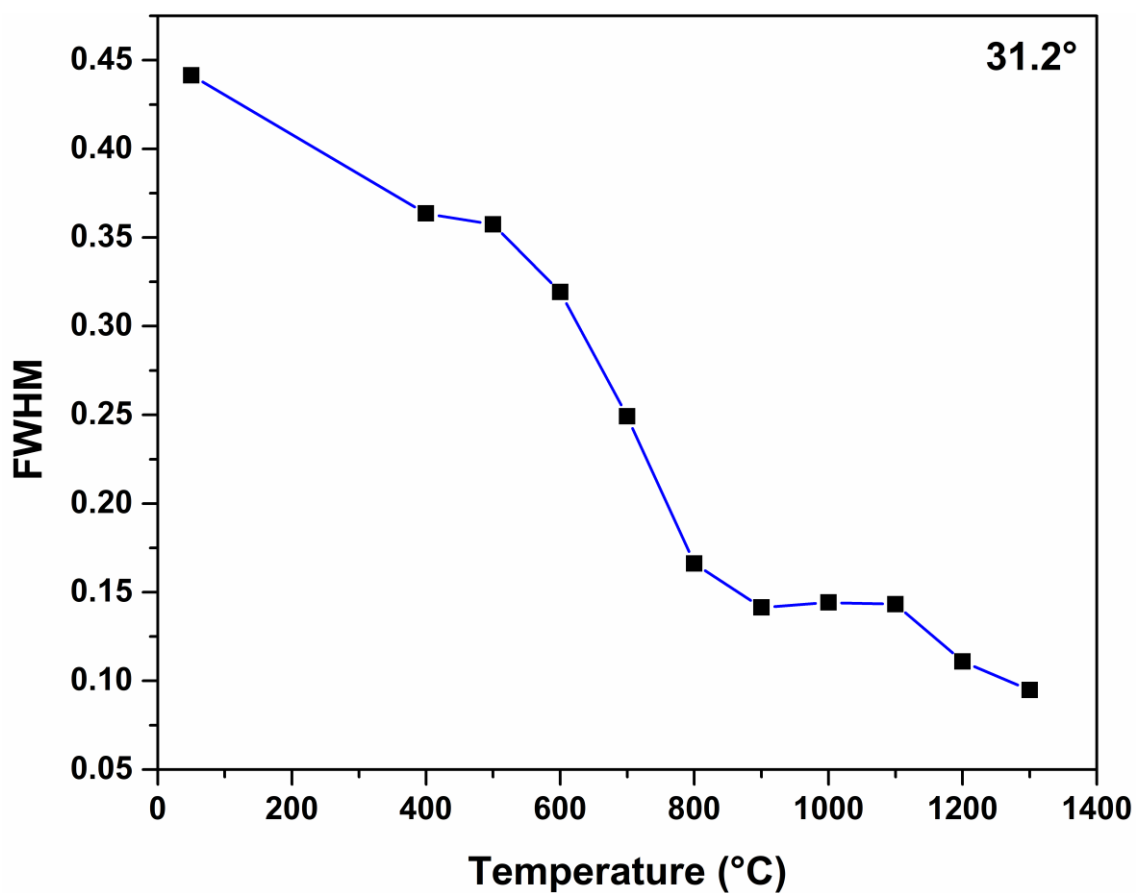


Figure S3. FWHM of (2010) peak of Mg-WH/ β -TCP powders annealed at different temperatures.

Table S1. Results of Rietveld refinement of Mg-WH powders annealed at different temperatures.

Temperature, °C	a , Å	Standard deviation, Å	c , Å	Standard deviation, Å	χ^2
50	10.348(74)	0.00045	37.15(349)	0.00167	1.91
600	10.349(40)	0.00030	37.13(499)	0.00109	1.52
700	10.336(71)	0.00026	37.13(620)	0.00100	1.92
800	10.333(89)	0.00018	37.15(524)	0.00070	2.57
900	10.329(56)	0.00012	37.17(502)	0.00050	2.90
1000	10.327(44)	0.00015	37.20(289)	0.00062	3.12
1100	10.325(05)	0.00013	37.21(154)	0.00055	2.71
1200	10.328(19)	0.00016	37.19(312)	0.00057	6.60
1300	10.332(03)	0.00011	37.15(300)	0.00060	9.50

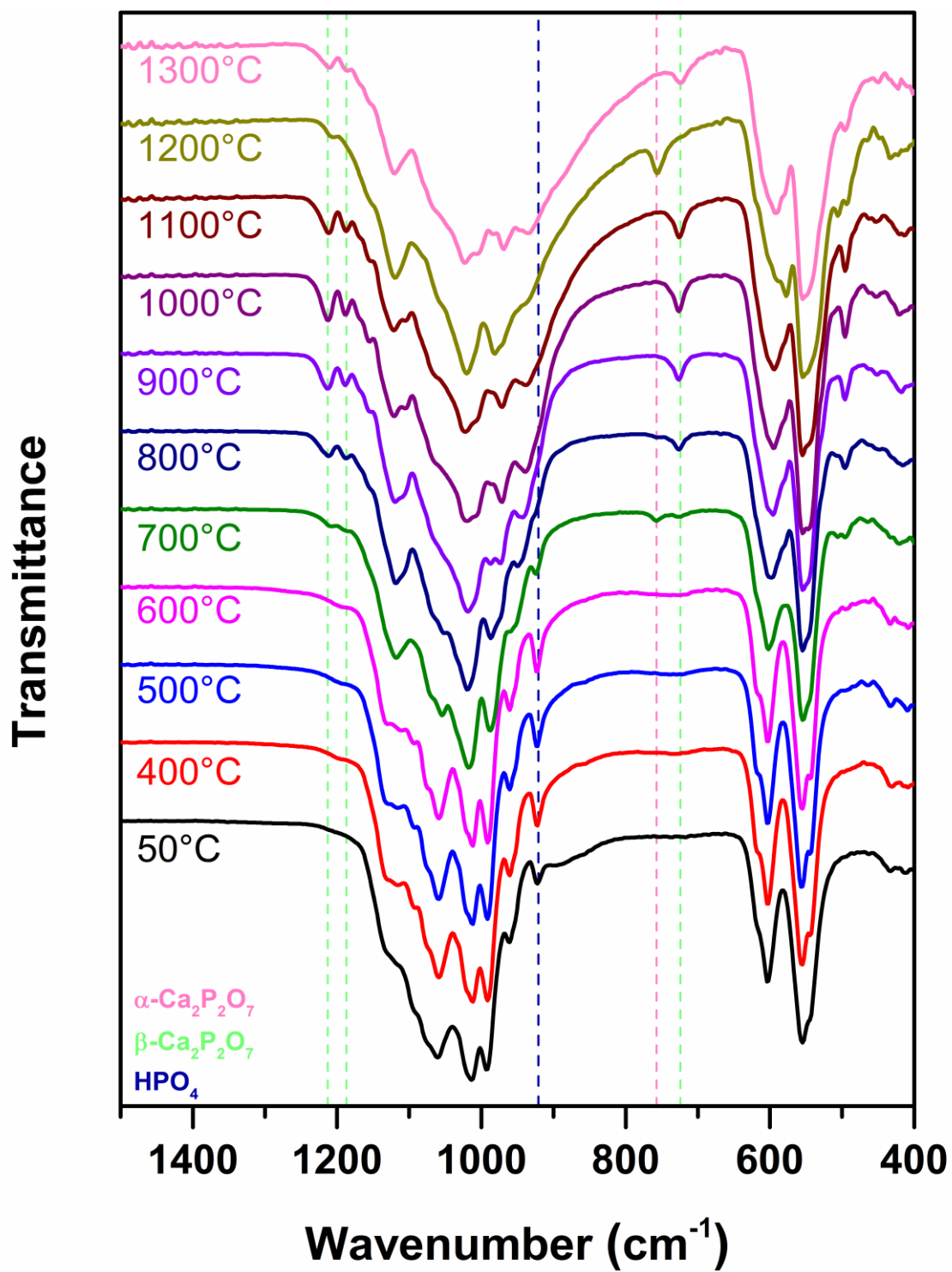


Figure S4. FTIR spectra of Mg-WH powders annealed at different temperatures.

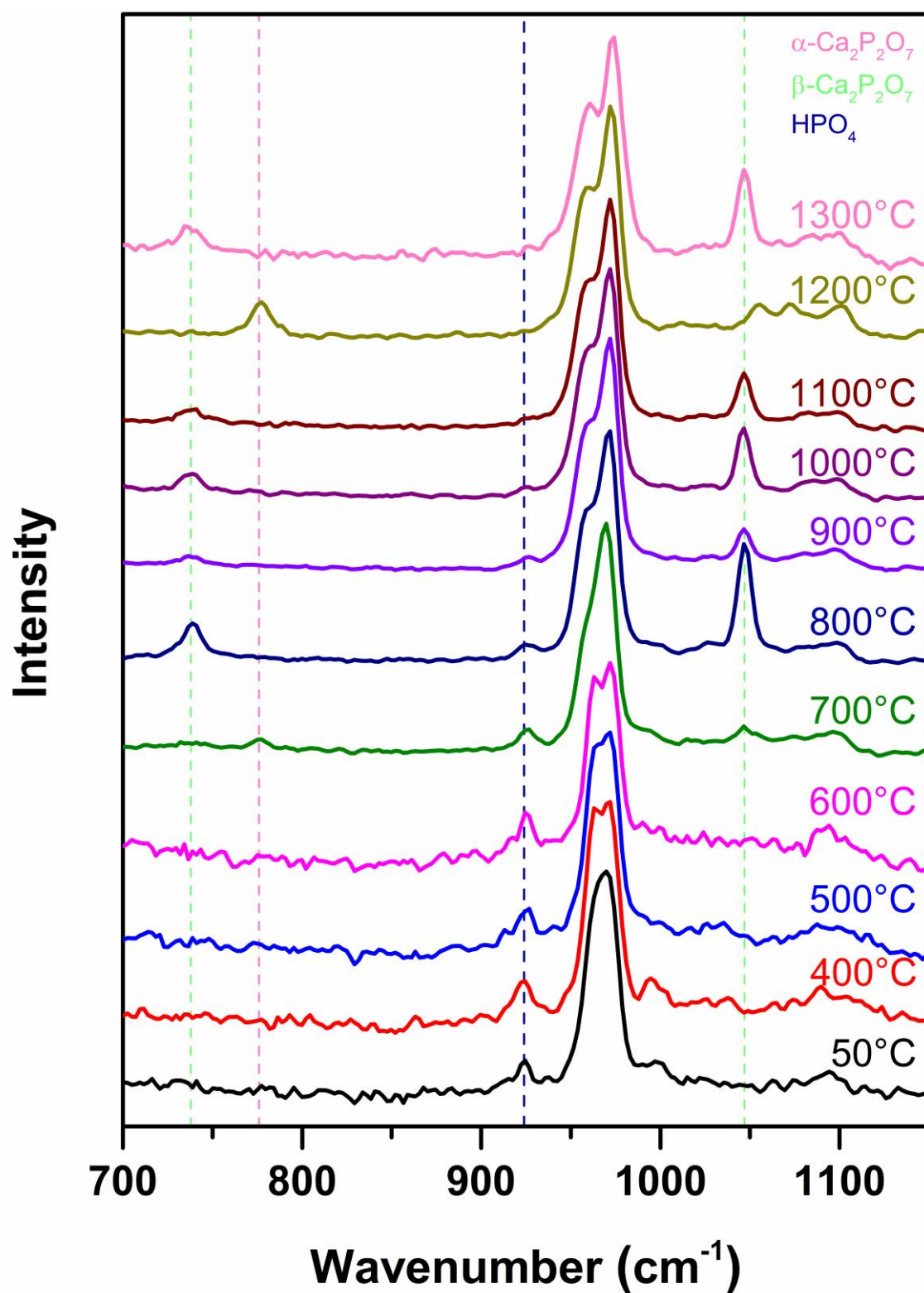


Figure S5. Raman spectra of Mg-WH powders annealed at different temperatures (excitation wavelength 325 nm).

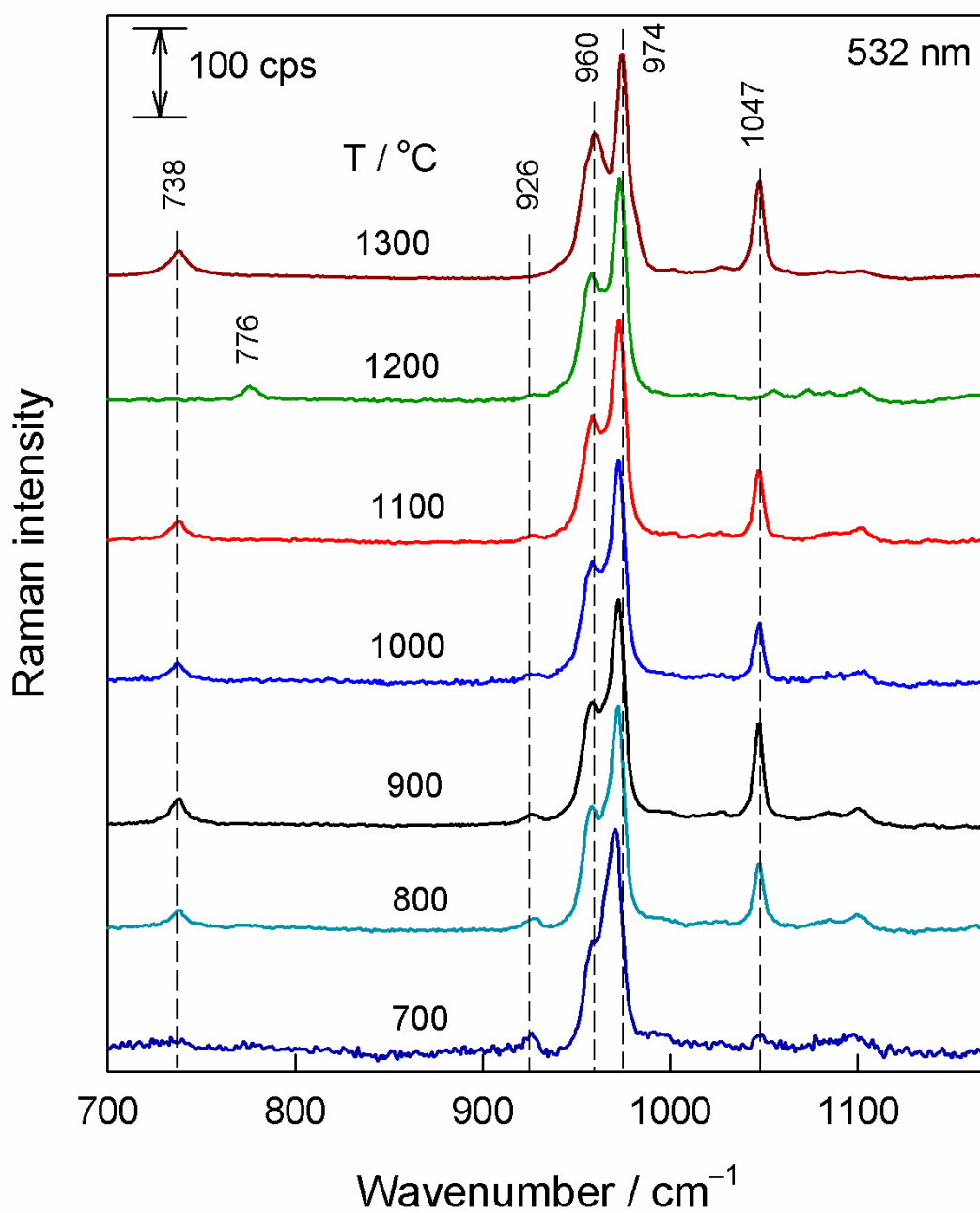


Figure S6. Raman spectra of Mg-WH powders annealed at different temperatures (excitation wavelength 532 nm).