Table S1. Summary of the results for the refinement of the 100 K structure of $MgSi(OH)_6$ crystal 7 for space group $P2_1$.

Crystal data	
Ideal formula	$MgSi(OH)_6$
Crystal system, space group	Monoclinic, $P2_1$ (No. 4)
a (Å)	5.1029(1)
b (Å)	5.1770(1)
c (Å)	7.3172(2)
β(°)	90.001(2)
V (Å^3)	193.304(8)
Z	2
ρ_{calc} (g.cm^{-3})	2.653
Data collection	
Diffractometer	Xcalibur E (1K Eos detector)
Radiation	MoKα
Crystal	Colourless tablet
Max. Med. Min. dimensions (mm)	0.095, 0.065, 0.015
Temperature (K)	100(2)
Scan type, frame-width (°), frame-time (s)	ω, 1, 180
Absorption correction	Multi-scan
T_{min}, T_{max}	0.9778, 1
Reflections used for cell, $I > 7\sigma(I)$	2132
Reflections measured	5491
R_σ	0.029
Independent reflections	1784
Independent reflections with $I > 2\sigma(I)$	1496
R_{int}	0.033
θ_{min}, θ_{max} (°)	2.78, 35.91
Index ranges	h ±8, k ±8, l ±11
Data completeness to 35°θ	100
Refinement	
Reflections, restraints, parameters	1784, 11, 104
$R_1[I > 2\sigma(I)]$, R_1(all)	0.026, 0.036
$wR_2[I > 2\sigma(I)]$, wR_2(all)	0.057, 0.062
$S(F^2)$, restrained $S(F^2)$	1.051, 1.049
Reflection weighting coefficients a, b	0.0259, 0
$(\Delta/\sigma)_{max}$	< 0.001
$\Delta\rho_{max}$, $\Delta\rho_{min}$ (e.Å^{-3})	+0.37, -0.33
Flack parameter: classical, Parsons	0.0(5), 0.0(4)