

Supplementary material for

High-pressure phase transition and equation of state of hydrous Al-bearing silica

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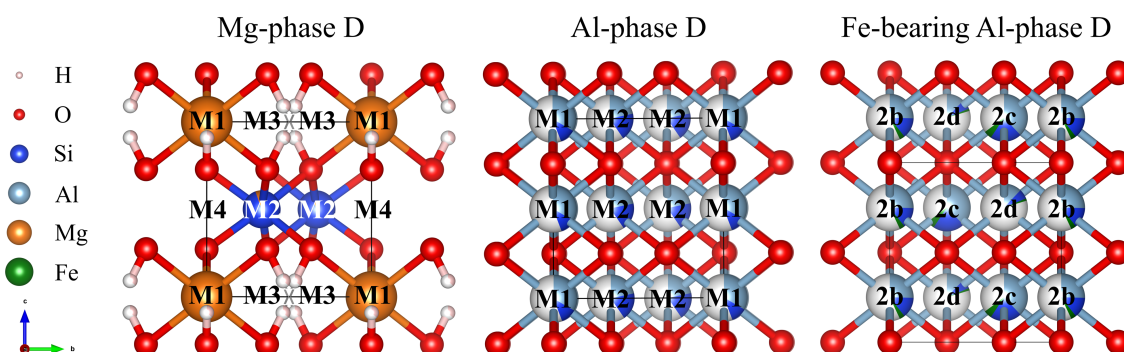
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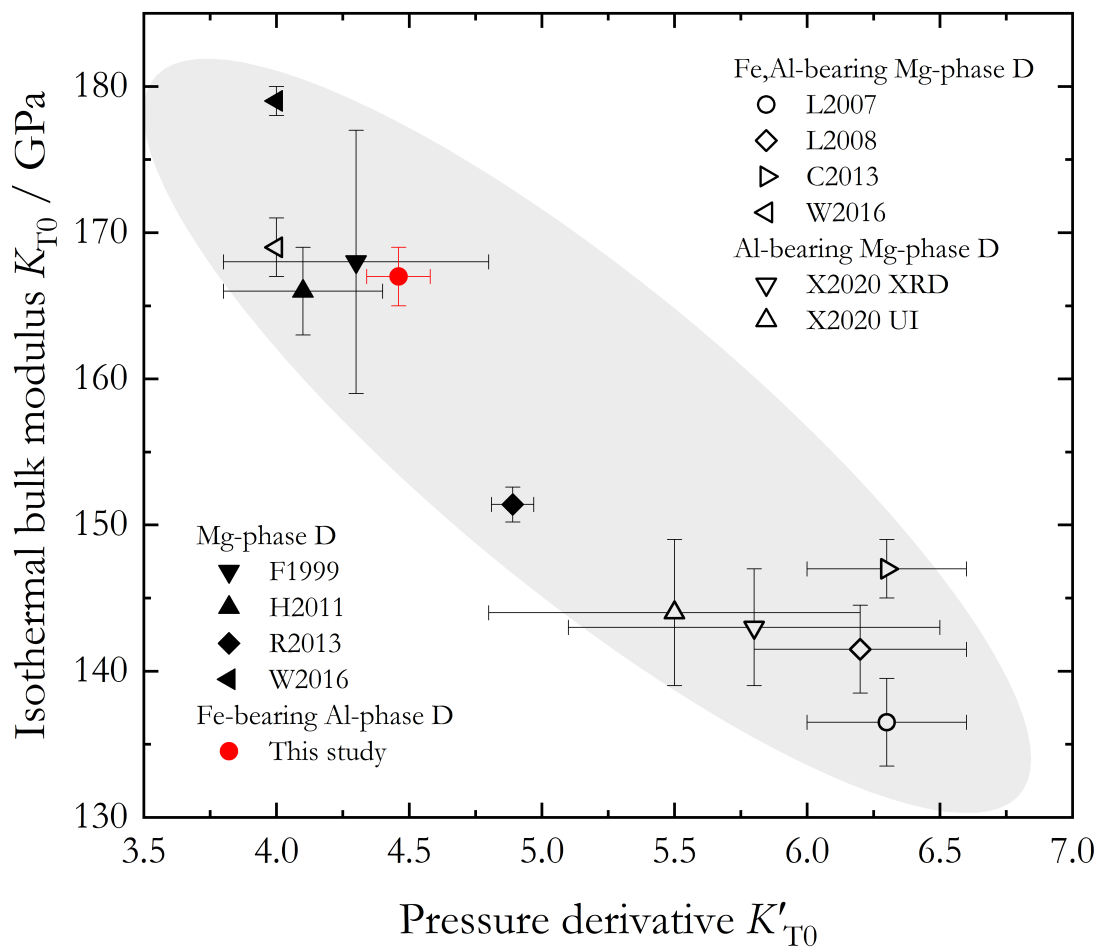
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Supplementary Figures



Supplementary Figure S1. Crystal structures of phase D samples having different Mg and Al content viewed along the *a* crystallographic axis. The arrows on the bottom left corner show the orientation of the three crystallographic axes. a) Mg-phase D, nominally $\text{MgSi}_2\text{O}_6\text{H}_2$, space group $P\bar{3}1m$ (Yang et al. 1997). b) Al-phase D, nominally $\text{Al}_2\text{SiO}_6\text{H}_2$, space group $P6_3/mcm$ (Pamato et al. 2015). c) Fe-bearing Al-Phase D, space group $P6_322$ (this study).



Supplementary Figure S2. Isothermal bulk moduli (K_{T0}) of high-pressure diffraction and elasticity studies of Phase D plotted against their pressure derivatives (K'_{T0}). The grey area is a guide to the eye showing the narrow range of K_{T0} - K'_{T0} values determined for Phase D samples in this and previous studies. F1999: Frost and Fei (1999), H2011: Hushur et al. (2011), R2013: Rosa et al. (2013), W2016: Wu et al. (2016), L2007: Litasov et al. (2007), L2008: Litasov et al. (2008), C2013: Chang et al. (2013), X2020: Xu et al. (2020).