# Quenchable water-rich aluminous post-stishovite, and implications for seismic scatterers in the lower mantle

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**Abstract**

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## 1. Introduction

The stishovite structure (tetragonal, $P4_2/mnm$) distorts slightly to the $CaCl_2$-type structure (orthorhombic, Pnnm) at 50 GPa. A few studies have suggested that the $CaCl_2$ type may undergo a phase transition to a mineral named seifertite with the scrutinyite ($\alpha$-$PbO_2$ )structure (orthorhombic, Pbcn or Pb2n) within mantle pressures

Tsuchida and Yagi (1989) Andrault et al. (1998) Kingma et al. (1995) Ono et al. (2002) Lakshtanov et al. (2007) Lakshtanov et al. (2005) Singh et al. (2012) Panero and Stixrude (2004) Bromiley et al. (2006) Litasov et al. (2007) Chung and Kagi (2002) Holland and Powell (2011) Stixrude and Lithgow-Bertelloni (2011) Cottaar et al. (2014)

## 2. Experimental and analytical techniques

## 3. Chemical composition

## 4. Conclusions

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Figure 1: Single crystal XRD spectra of post-stishovite

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