Effects of water on mechanisms and kinetics of the postspinel transformation in Mg2SiO4

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High pressure and temperature experiments were conducted to investigate effects of water on mechanism and kinetics of the post-spinel transformation using multi-anvil apparatus. We found a new transformation mechanism in addition to the eutectoid transformation reported previously from microstructural observations of the recovered sample. Furthermore, the rate of the post-spinel transformation is greater in the wet run compared to that of the dry run.