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**High Iron Wadsleyite in Shocked Melt Droplets
of CB Chondrite QC 001.**

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Wadsleyite, a high-pressure polymorph of olivine is one of the most abundant phases in the Earth's transition zone. It is frequently found in ordinary and CB chondrites [1,2]. Experimental work implies that the Fe content of wadsleyite is limited to $< \text{Fa}_{35}$ [3]. However, Finger et al. [3] reported of a single synthesized wadsleyite with Fa_{40} [4].

During a detailed investigation of silicate melt droplets within metal in the CB chondrite QC 001 applying HR-EDX, nano-EBSD and TEM, we identified wadsleyite grains with unusual high Fe-contents ranging from Fa_{30} to Fa_{56} . This is contrary to experimental predictions and will have significant impact on temperature and compositional estimates of the Earth's transition zone.

[1] Weisberg, M.K. & Kimura, M. (2010) *Meteorit. Planet. Sci.*, 45, 873–884. [2] Sharp, T.G. and de Carli P. [3] Fei, Y. et al. (1991) *J. Geophys. Res.* [4] Finger, L.W. et al. (2000) *Phys. Chem. Miner.*, 19, 361–368.

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