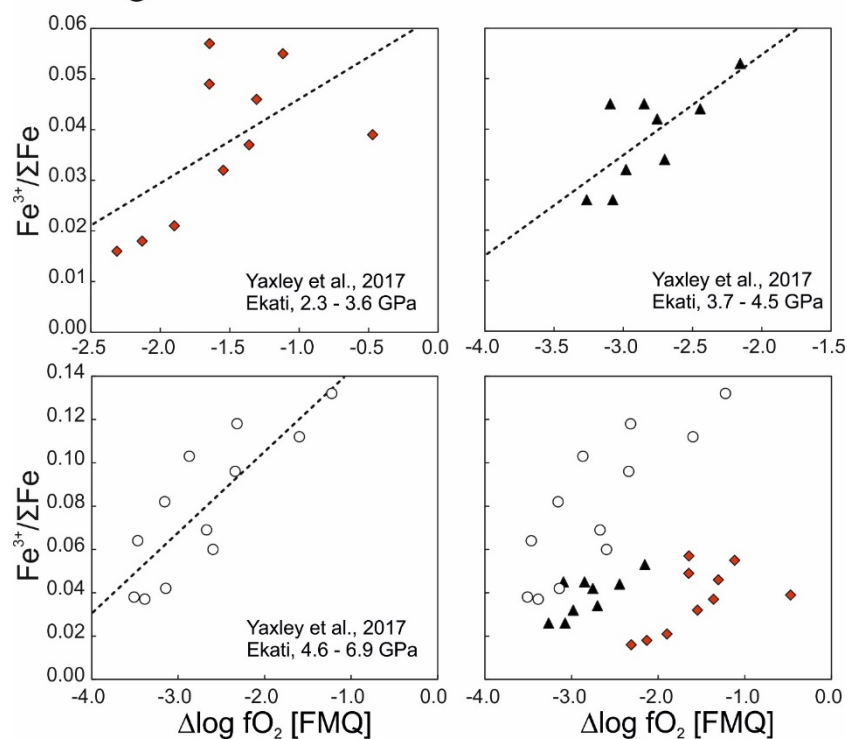


Appendix

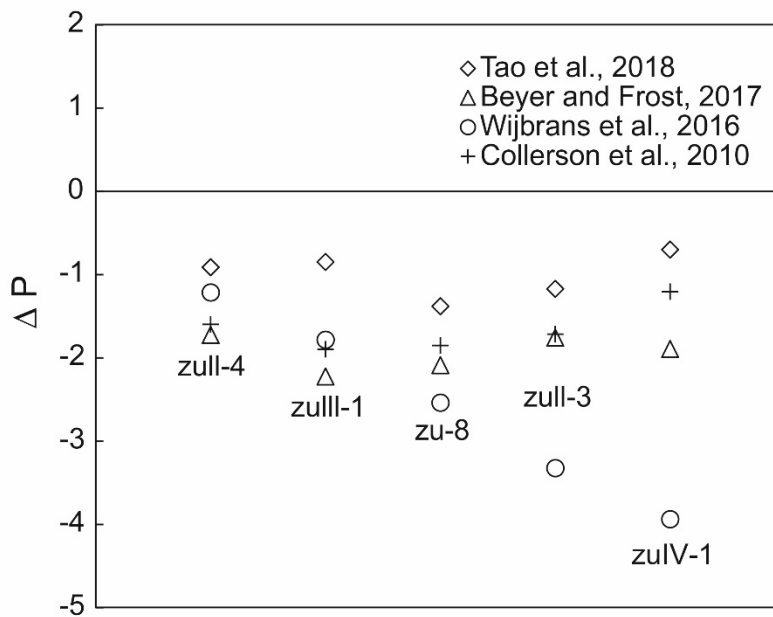
Figure S1



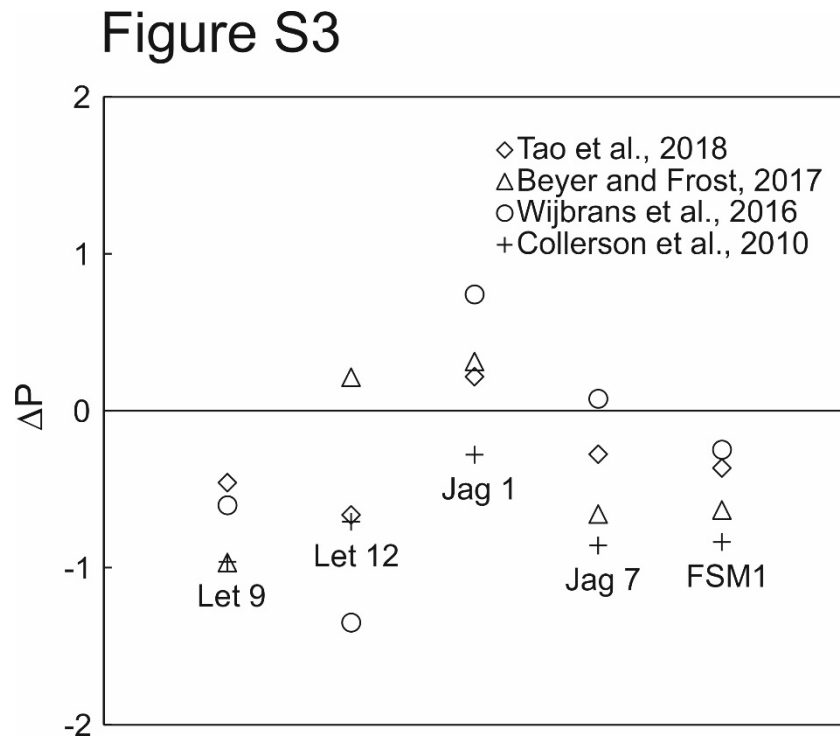
Supplementary Figure S1. Natural garnets from the Ekati Diamond Mine of Yaxley et al. (2017).

The three subgroups, representing garnet equilibrated at similar P and T , show that $Fe^{3+}/\Sigma Fe$ and fO_2 are positively correlated (dashed lines represent linear fits of the data), similar to our experimentally derived trend. We note that such trends may not be easy to see when plotting the whole dataset inheriting large differences in equilibration P and T .

Figure S2



Supplementary Figure S2 The geobarometer by Tao et al. (2018) reveals the best fit for the dataset of Rohrbach et al. (2011), results using Collerson et al. (2010), and Beyer and Frost (2017) are slightly lower, whereas Wijbrans et al. (2016) provide the least fit for this dataset.



Supplementary Figure S3 All geobarometers reveal accurate results within ± 1 GPa for the natural garnets of Woodland and Koch (2003).