

Erratum to: Clinopyroxene–melt trace element partitioning and the development of a predictive model for HFSE and Sc

Eddy Hill · Jonathan D. Blundy · Bernard J. Wood

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Unfortunately, an error in the spreadsheet used during development of the model has resulted in publication of incorrect equations. The correct equations with original equation numbers are given below:

$$E_{M1}^{4+} = 11228 - 5.74T + 15204X_{Al}^T (\pm 298 \text{ GPa}) \quad (3)$$

$$r_{0,M1}^{4+} = 0.659 - 0.008P + 0.028X_{M1}^{Al} (\pm 0.004 \text{ \AA}) \quad (7)$$

$$\Delta G_{\text{elec}}^{\text{cpx}} = 14 \text{ kJ}$$

$$-RT \ln \left(\frac{D_{\text{Ti}}}{\emptyset} \right) = -35730 + 2183P + 1457P^2, \quad (15)$$

with standard deviation of 3.88 kJ

$$-RT \ln \left(\frac{D_{\text{Ti}}}{\emptyset} \right) = -30583 + 2984P + 1253P^2 - 1280\Delta Z_m^2, \quad (16)$$

with standard deviation of 3.82 kJ

$$-RT \ln \left(\frac{D_{\text{Sc}}}{\emptyset} \right) - \Delta G_{\text{elec}}^{\text{melt}} \Delta Z_m^2 = -24232 + 143T - 4117P^2, \quad (18)$$

with standard deviation of 3.96 kJ and $\Delta G_{\text{elec}}^{\text{melt}} = 1280$

As a result of refitting of the data, Figs. 6 and 7 have been modified slightly and are shown below.

Other than for the fit to E_{M1}^{4+} no longer being dependent on a pressure term, the conclusions drawn in the paper are unaffected by this erratum.

We would like to thank Chenguang Sun at Brown University for drawing attention to the error.

The online version of the original article can be found under doi:[10.1007/s00410-010-0540-0](https://doi.org/10.1007/s00410-010-0540-0).

E. Hill (✉)
Lunar and Planetary Laboratory, University of Arizona,
Tucson, AZ 85721, USA
e-mail: eddy@lpl.arizona.edu

J. D. Blundy
CETSEI, Department of Earth Sciences, University of Bristol,
Wills Memorial Building, Bristol BS8 1RJ, UK

B. J. Wood
Department of Earth Sciences, University of Oxford,
Parks Road, Oxford OX1 3PR, UK

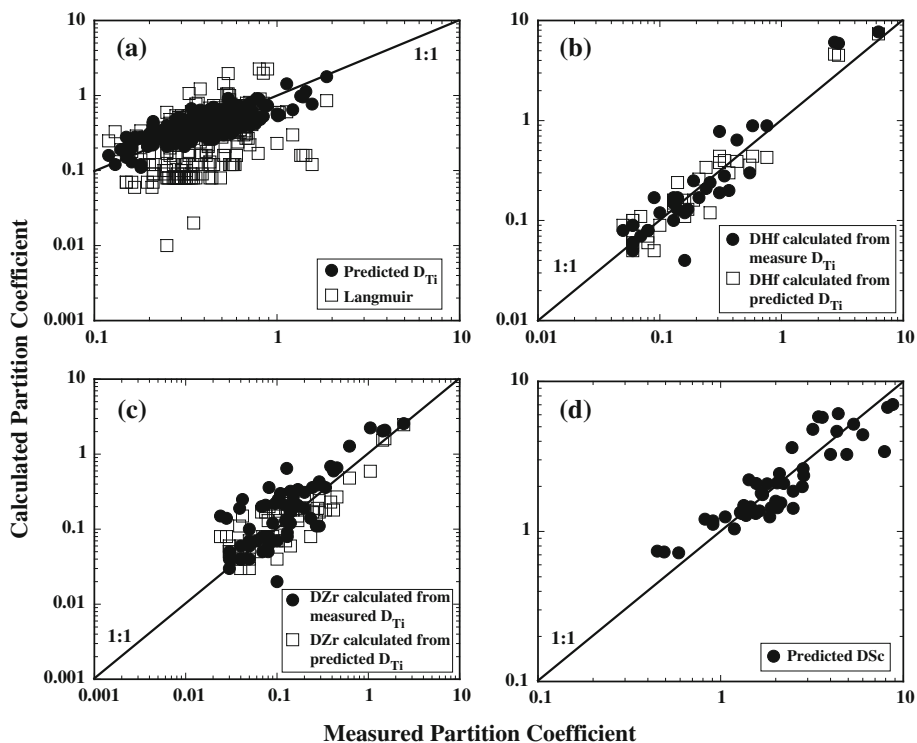
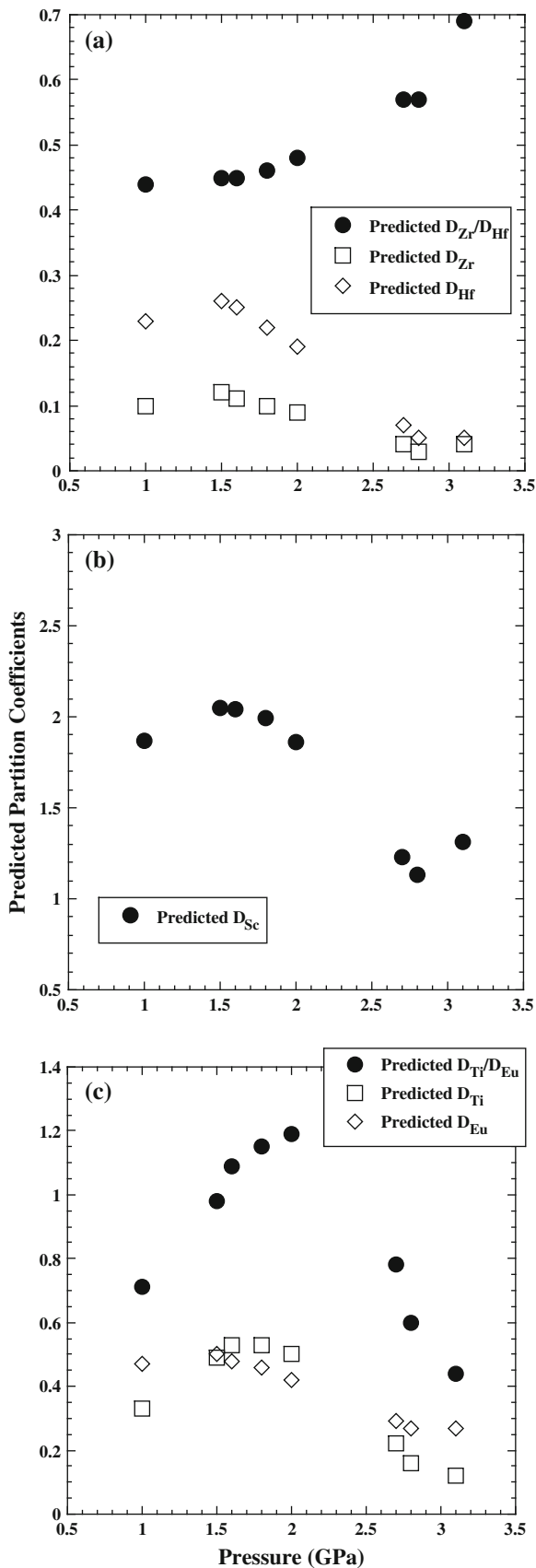


Fig. 6 Comparison of predicted versus measured D_{M1}^{4+} and D_{M1}^{3+} . Figure **a** reveals the good correlation between D_{Ti} obtained from Eq. (16) and measured D_{Ti} used in the regressions. The same treatment is afforded to values obtained using an expression for D_{Ti} from Langmuir et al. (1992). **b** and **c** experimentally obtained values of D_{Hf} and D_{Zr} (not used in regressions) are plotted against predicted D_{Hf} and D_{Zr} values from Eq. (17). E_{M1} and $r_{0,M1}$ used in the

predictions are obtained from Eqs. (3) and (7), using the T, P and composition of the experiments. There is a close correlation between fits using D_{Ti} calculated using Eq. (16) and fits using measured D_{Ti} . **d** Comparison of calculated and experimentally determined D_{Sc} values used in the regressions. Due to lack of D_{M1}^{3+} data, development of E_{M1}^{3+} and $r_{0,M1}^{3+}$ expressions has not been possible, thus impeding the determination of D_{M1}^{3+} using Eq. (18)



◀ **Fig. 7** Plots of predicted partition coefficients along the lherzolite solidus, using P–T–X data from Walter and Presnall (1994). **a** Plot of D_{Zr}/D_{Hf} ratios against P . Predicted ratios along the lherzolite solidus show systematic variations with P but lie within the range observed in experimental data. **b** Calculated D_{Sc} along the lherzolite solidus predict Sc remains compatible in cpx even at high- P . **c** Predicted D_{Ti}/D_{Eu} indicate variable fractionation along the lherzolite solidus with varying P