

Table S2. Summary of previous experimental results on ferropericlase-Fe element partitioning. Experiments with reported carbon and sulfur contamination are excluded.

P (GPa)	T (K)	X _{FeO}	X _O	X _{Fe}	log ₁₀ K _D ⁰	Reference
3	2673	0.108	0.037	0.963	-0.4815957	Asahara et al., 2007
4	2373	0.217	0.029	0.971	-0.8868425	Asahara et al., 2007
5	2373	0.267	0.028	0.972	-0.991687	Asahara et al., 2007
5	2473	0.195	0.033	0.967	-0.7860942	Asahara et al., 2007
5	2833	0.105	0.061	0.939	-0.2631939	Asahara et al., 2007
7	2473	0.206	0.026	0.974	-0.9103349	Asahara et al., 2007
7	2573	0.169	0.041	0.959	-0.6332842	Asahara et al., 2007
9	2473	0.264	0.032	0.968	-0.9305786	Asahara et al., 2007
9	2673	0.161	0.069	0.931	-0.3990271	Asahara et al., 2007
9	2873	0.102	0.051	0.949	-0.3237638	Asahara et al., 2007
12	2873	0.115	0.059	0.941	-0.3162562	Asahara et al., 2007
15	2273	0.566	0.051	0.949	-1.06798	Asahara et al., 2007
15	2473	0.281	0.037	0.963	-0.8968783	Asahara et al., 2007
15	2473	0.318	0.056	0.944	-0.7792671	Asahara et al., 2007
15	2473	0.519	0.112	0.888	-0.7175364	Asahara et al., 2007
15	2873	0.18	0.109	0.891	-0.2679683	Asahara et al., 2007
15	2873	0.125	0.07	0.93	-0.283329	Asahara et al., 2007
15	2873	0.085	0.04	0.96	-0.3450877	Asahara et al., 2007
15	3073	0.091	0.059	0.941	-0.2145998	Asahara et al., 2007
15	3073	0.133	0.107	0.893	-0.1436164	Asahara et al., 2007
15	3123	0.159	0.12	0.88	-0.1777332	Asahara et al., 2007
15	3123	0.138	0.12	0.88	-0.1162152	Asahara et al., 2007
15	3123	0.138	0.121	0.879	-0.1131048	Asahara et al., 2007
20	3073	0.107	0.098	0.902	-0.0829512	Asahara et al., 2007
24.5	2273	0.71	0.061	0.939	-1.0932629	Asahara et al., 2007
24.5	2473	0.358	0.069	0.931	-0.7460843	Asahara et al., 2007
24.5	2473	0.521	0.215	0.785	-0.4895296	Asahara et al., 2007
24.5	2473	0.314	0.059	0.941	-0.752488	Asahara et al., 2007
24.5	2773	0.257	0.124	0.876	-0.3740073	Asahara et al., 2007
24.5	2773	0.232	0.077	0.923	-0.5137956	Asahara et al., 2007
24.5	3073	0.098	0.088	0.912	-0.0867486	Asahara et al., 2007
24.5	3073	0.145	0.128	0.872	-0.1136415	Asahara et al., 2007
24.5	3073	0.181	0.175	0.825	-0.0981866	Asahara et al., 2007
24.5	3173	0.133	0.195	0.805	0.07197885	Asahara et al., 2007
18	2900	0.196	0.109	0.891	-0.3049519	Ozawa et al., 2008
33	2900	0.222	0.076	0.924	-0.4998674	Ozawa et al., 2008
33	2900	0.227	0.064	0.936	-0.57857	Ozawa et al., 2008
38	2860	0.28	0.08	0.92	-0.5802802	Ozawa et al., 2008
74	3000	0.21	0.066	0.934	-0.5323285	Ozawa et al., 2008
94	3120	0.196	0.069	0.931	-0.4844573	Ozawa et al., 2008
134	3200	0.202	0.191	0.809	-0.1163695	Ozawa et al., 2008
124	3150	0.277	0.152	0.848	-0.3322403	Ozawa et al., 2008
72	3500	0.191	0.241	0.759	-0.0187745	Frost et al., 2010
70	3100	0.035	0.047	0.953	0.10712271	Frost et al., 2010
33	2800	0.059	0.045	0.955	-0.1376361	Frost et al., 2010
30	2800	0.076	0.063	0.937	-0.1097335	Frost et al., 2010

Note: X_{FeO} , X_{Fe} , X_{O} are the FeO content in ferropericlasite, Fe content in metallic liquid, O content in metallic liquid, respectively.

Only data of Asahara et al., 2007 and Ozawa et al., 2008 are used for fitting.