Table S5: Pressure. temperature and oxygen geobarometry calculated for Abgarm peridotite.

Sample	P(Opx) Mercier (1980) GPa	P(Cr-Sp) Ashchepkov (2010) GPa	T(Ca-Opx) Brey-Kolher (1991) T°C	T(Ol-Sp) Fabriès (1979) T°C	T(Ol-Sp) Ballhaus et al. (1991) T°C	(Sp-Ol±Opx) Ballhaus et al. (1991) $\Delta\log(fO_2)$FMQ
E55	1.6 (±0.1)	1.7 (±0.2)	847 (±20)	625 (±25)	645 (±13)	0.7 (±0.02)
E38	1.6 (±0.4)	1.1 (±0.2)	809 (±26)	614 (±21)	642 (±16)	0.3 (±0.2)
L7	1.8 (±0.1)	1.1 (±0.1)	850 (±36)	613 (±2)	636 (±9)	0.1 (±0.04)
S1	2.1 (±0.3)	2.3 (±0.2)	923 (±31)	648 (±27)	702 (±22)	0.7 (±0.2)
L3	0.8 (±0.1)	1.5 (±0.1)	740(±16)	603 (±2)	635 (±20)	0.1 (±0.04)
M15	0.9 (±0.2)	1.4 (±0.2)	750 (±20)	608 (±5)	630 (±0)	0.1 (±0.02)
M56	1.3 (±0.3)	1.5 (±0.2)	780 (±10)	592 (±3)	625 (±20)	0.4 (±02)
M11	-	3.2 (±0.2)	-	630 (±4)	630 (±4)	0.9 (±02)
E2	1.4 (±0.1)	1.4 (±0.2)	847 (±4)	618 (±4)	650 (±15)	0.6 (±0.4)
R17	2.3 (±0.1)	0.5 (±0.1)	885(±15)	575 (±13)	615 (±13)	0.1 (±0.1)
E35	1.3 (±0.2)	0.7 (±0.2)	730 (±20)	644 (±17)	690 (±20)	0.4 (±0.3)
M13	-	-	-	600 (±15)	620 (±15)	0.4 (±0.04)
S22	-	-	-	699 (±20)	725 (±28)	0.7 (±0.09)

Notes: Opx(Orthopyroxene). Cr- Sp (Chromium spinel). Ca- Opx (Calcium- Orthopyroxene). Ol- Sp (Olivine- Spinel). fO_2(Oxygen Fugacity). QFM (Fayalite–Magnetite–Quartz buffer).