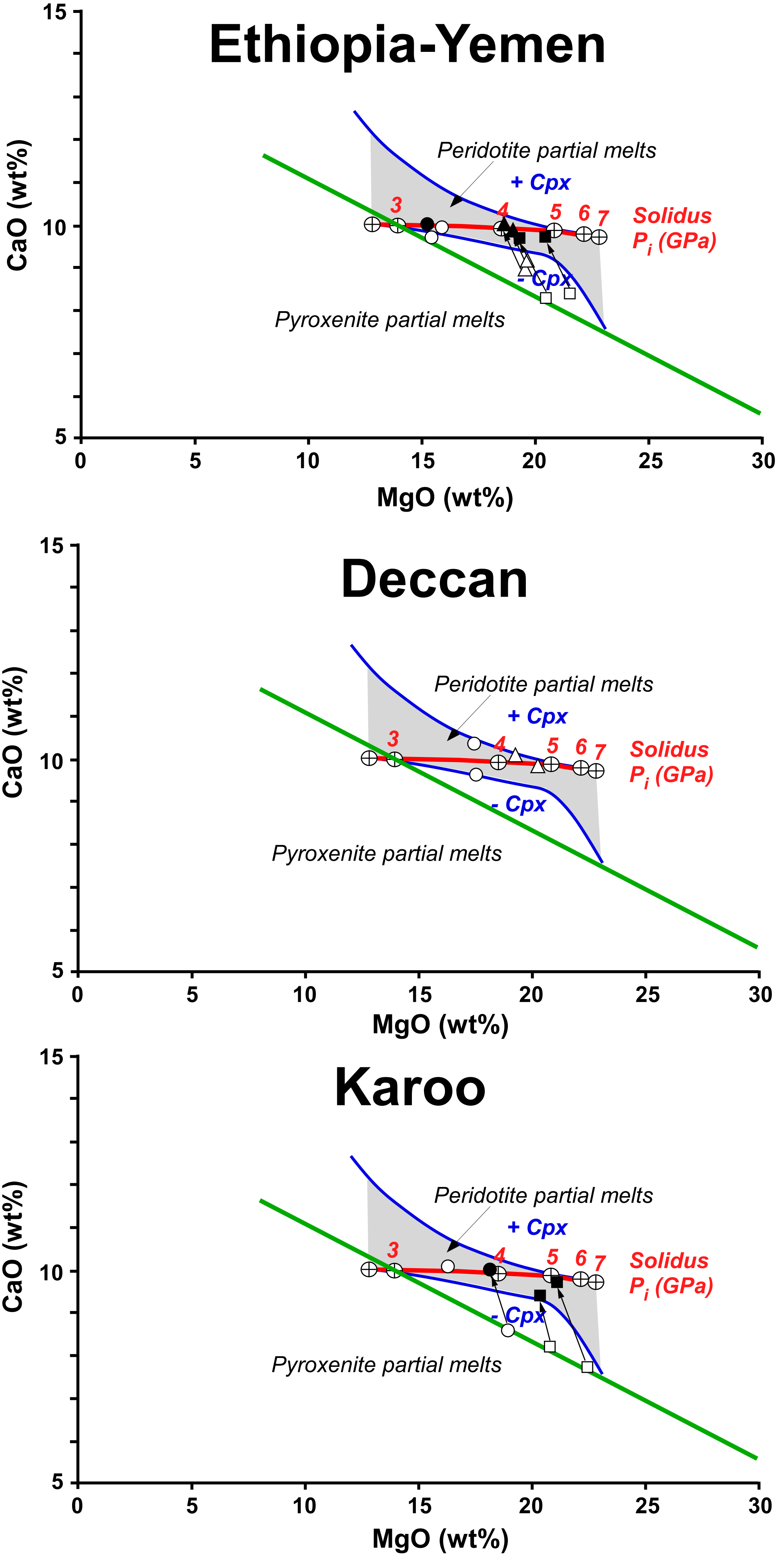
GSA Data Repository Item 2017111 accompanies

Natali, C., Beccaluva, L., Bianchini, G., and Siena, F., 2017, Comparison among Ethiopia-Yemen, Deccan, and Karoo continental flood basalts of central Gondwana: Insights on lithosphere versus asthenosphere contributions in compositionally zoned magmatic provinces, *in* Bianchini, G., Bodinier, J.-L., Braga, R., and Wilson, M., eds., The Crust-Mantle and Lithosphere-Asthenosphere Boundaries: Insights from Xenoliths, Orogenic Deep Sections, and Geophysical Studies: Geological Society of America Special Paper 526, pdoi:10.1130/2017.2526(10).

Supplementary Figure 1. CaO vs. MgO (wt%) diagram of theoretical primary magmas produced by accumulated fractional melting model (after Herzberg and Asimow, 2008). Blue lines define upper and lower CaO filters of primary magmas in equilibrium with a fertile peridotite source, whereas the green line separates theoretical peridotite melts from pyroxenite melts. As thoroughly discussed by Herzberg and Asimow (2008), when a primary magma is modified by addition of augite, it increases the CaO content and may plot above the upper blue curve (+ clinopyroxene [Cpx]), whereas when it is affected by subtraction of augite, it will be deficient in CaO and may plot below the lower blue curve (– Cpx). In this work, primary magma types plotting between the lower blue curve and the green line (and showing augite phenocrysts) have been reprocessed after adding a proper amount of augite to the starting composition, in order to correct fractionation effects. Selected primary melts from the three investigated provinces are reported as open symbols (starting compositions) and filled symbols (after correction for augite fractionation) joined by arrows.

Supplementary Figure 1



Supplementary Table 1

	Ethiopia-Yemen CFB					
Rock type	LT		HT1		HT2	
Data source	Teklay et al. (2005)		Baker et al. (1996)		Beccluva et al. (2009)	
Sample	**s 98MG11**	**s98MG12**	**JB11**	**JB281**	**LAL6**	**LAL9**
% ol accumulation	*1*		*13*	*17*	*10*	*18*
% augite addition	*2*		*9*	*6*	*11*	*10*
SiO_2 *(wt%)*	47.61	46.70	47.99	47.38	45.62	46.22
TiO_2	0.75	0.75	1.75	1.97	3.45	2.68
Al_2O_3	14.44	14.48	8.23	8.39	7.04	6.78
Cr_2O_3	0.11	0.07	0.20	0.17	0.27	0.15
Fe_2O_3	1.05	1.03	1.06	1.05	1.21	1.11
FeO	8.58	9.02	9.79	10.00	10.64	10.61
MnO	0.16	0.18	0.16	0.16	0.16	0.16
MgO	15.11	15.78	18.66	19.11	19.33	20.43
CaO	9.90	9.85	10.05	9.88	9.70	9.64
Na_2O	1.89	1.76	1.39	1.37	1.46	1.18
K_2O	0.25	0.24	0.41	0.21	0.60	0.60
NiO	0.05	0.05	0.10	0.12	0.18	0.22
P_2O_5	0.09	0.09	0.22	0.18	0.33	0.22
T_p *(°C)*	1438	1455	1530	1541	1546	1574

	Deccan CFB			
Rock type	LT		HT1	
Data source	Melluso et al. (1995)	Narain (1984)	Cucciniello et al. (2015)	
Sample	**D57**	**331/A**	**CSD8**	**CSD18**
% ol accumulation	*25*	*5*	*20*	*26*
% augite addition				
SiO_2 *(wt%)*	45.94	47.31	47.47	47.81
TiO_2	0.73	0.77	0.92	0.84
Al_2O_3	13.04	10.84	8.72	8.26
Cr_2O_3	0.09	0.13	0.04	0.05
Fe_2O_3	1.10	1.11	1.02	0.95
FeO	9.82	9.46	10.05	10.20
MnO	0.18	0.20	0.18	0.18
MgO	17.45	17.36	19.19	20.13
CaO	9.47	10.32	10.09	9.78
Na_2O	1.68	1.50	1.61	1.27
K_2O	0.32	0.79	0.50	0.32
NiO	0.08	0.06	0.08	0.08
P_2O_5	0.09	0.16	0.12	0.13
T_p *(°C)*	1498	1496	1543	1567

	Karoo CFB			
Rock type	LT		HT2	
Data source	Riley et al. (2006)		Ellam and Cox (1989)	Cox and Bristow (1984)
Sample	**SA.20.1**	**SA.19.1**	**N77**	**N335**
% ol accumulation	*14*	*19*	*16*	*16*
% augite addition		*15*	*20*	*13*
SiO_2 *(wt%)*	49.00	47.92	47.58	47.94
TiO_2	0.75	0.86	1.26	1.78
Al_2O_3	12.29	10.37	7.09	6.05
Cr_2O_3	0.06	0.04	0.06	0.14
Fe_2O_3	0.86	0.97	1.12	1.09
FeO	8.84	9.59	10.45	10.18
MnO	0.16	0.16	0.15	0.17
MgO	16.24	18.11	21.06	20.29
CaO	10.04	9.97	9.67	9.34
Na_2O	1.30	1.53	0.97	1.71
K_2O	0.30	0.30	0.40	1.06
NiO	0.03	0.02	0.06	0.05
P_2O_5	0.14	0.15	0.14	0.22
T_p *(°C)*	1467	1515	1590	1571