Early Cretaceous oceanic island basalt-type magmatism in northern Guangdong: Implications for lithospheric thinning in the South China Block

Hai Jiang[1], Shang Shao[2], Shao-Yong Jiang[1*], Shui-Yuan Yang[1], Kui-Dong Zhao[1]

[1] *State Key Laboratory of Geological Processes and Mineral Resources, School of Earth Resources, Collaborative Innovation Center for Exploration of Strategic Mineral Resources, China University of Geosciences, Wuhan 430074, China*

[2] *Research Institute No. 290, CNNC, Shaoguan 512029, China*

*Corresponding author (e-mail: shyjiang@cug.edu.cn)

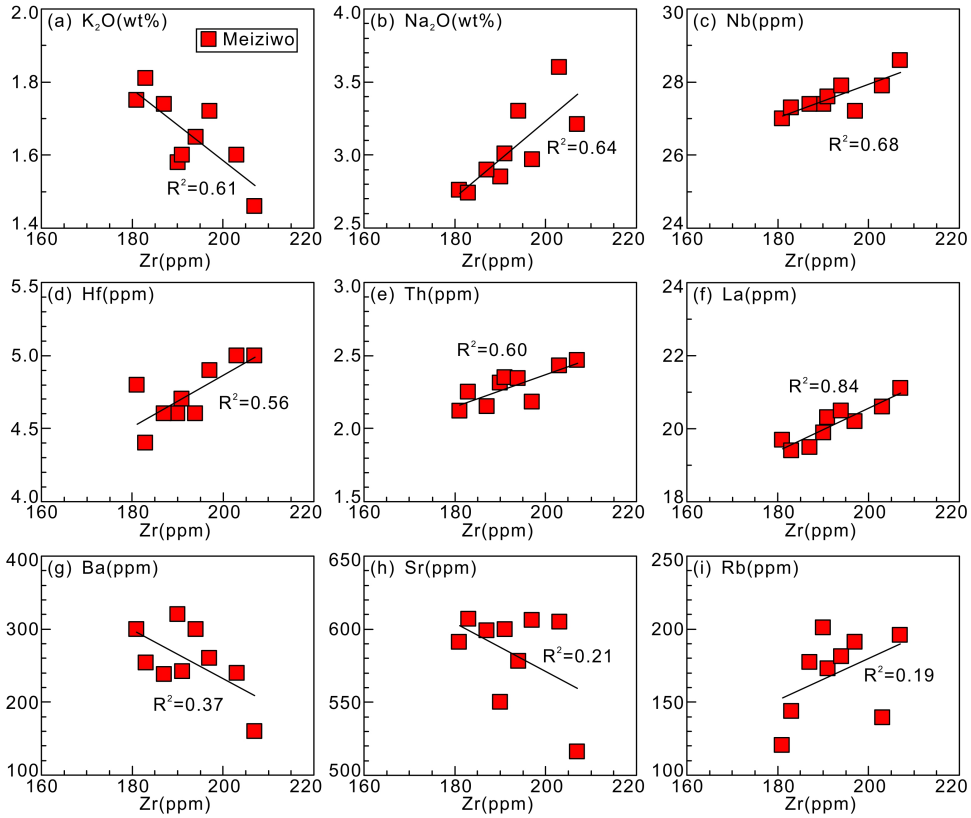
Supplementary Figure S1. Elements vs. Zr correlation diagrams for the Meiziwo lamprophyres.

Supplementary Figure S2. Plots of (a) $\varepsilon_{Nd}(t)$ vs. SiO_2, (b) Nb/La vs. SiO_2 and (c) Nb/U vs. Nb for the Meiziwo lamprophyres. AFC: assimilation and fractional crystallization; FC: fractional crystallization. Data for MORB and OIB are after Hofmann *et al.* (2014). Other data for comparison are the same as in Fig. 4.

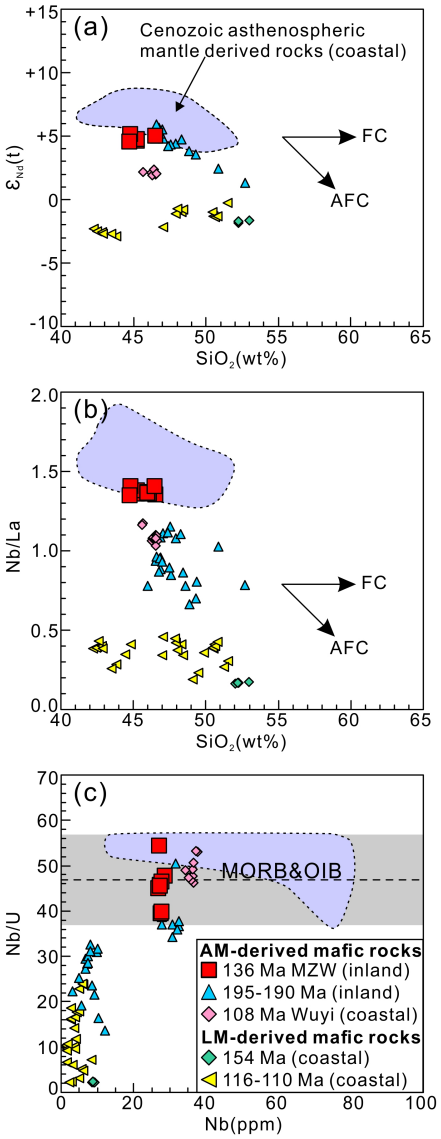
Supplementary Figure S3. Binary diagrams of (a) SiO_2 vs. MgO, (b) Ni vs. MgO, (c) Dy/Dy* vs. Dy/Yb (after Davidson *et al.* 2013), (d) TiO_2 vs. SiO_2, (e) $Fe_2O_3^T$ vs. SiO_2 and (f) Al_2O_3 vs. MgO for the Meiziwo lamprophyres. In (c), Amp = amphibole, Cpx = clinopyroxene, Grt = garnet; the definition of Dy/Dy* [Dy/Dy* = $Dy_N/(La_N^{4/13}\cdot Yb_N^{9/13}$, where N denotes the chondrite-normalized values of Sun and McDonough (1989)] is from Davidson *et al.* (2013). Abbreviations: PM: primitive mantle; MORB: mid-oceanic-ridge basalt; OIB: oceanic island basalt.

Supplementary Figure S4. Plots of (a) Yb and (b) Mg# vs. Fe/Mn for the Meiziwo lamprophyres (after Wang *et al.* 2012). The range of Fe/Mn ratios in mid-oceanic ridge basalts (MORB) is from Qin and Humayun (2008).

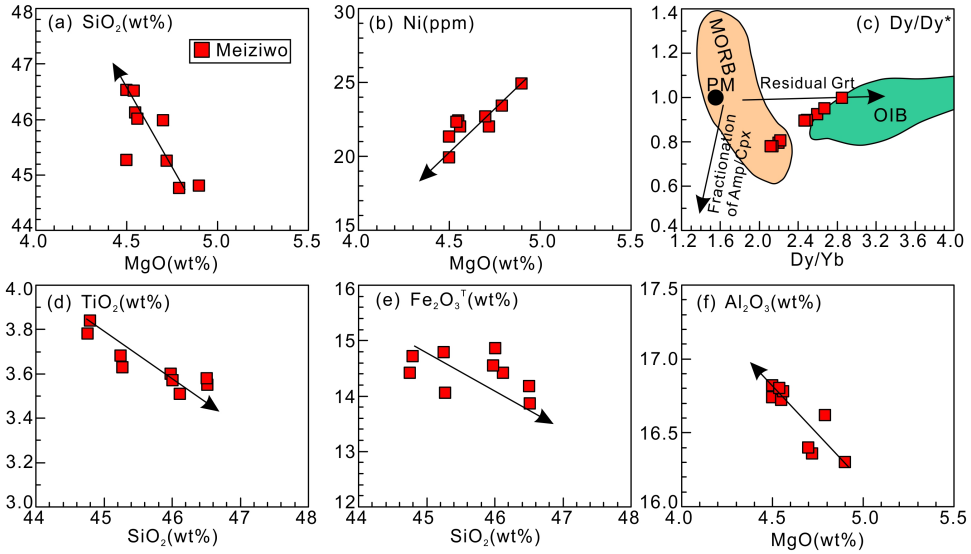
Supplementary Figure S1



Supplementary Figure S2



Supplementary Figure S3



Supplementary Figure S4