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**Early Late Permian coupled carbon and strontium isotope chemostratigraphy
from South China: extended Emeishan volcanism?**

Borhan Bagherpour^{1*}, Hugo Bucher¹, Elke Schneebeili-Hermann¹, Torsten Vennemann²,
Massimo Chiaradia³, Shu-zhong Shen⁴

1- Paleontological institute, University of Zürich, Karl Schmid-Strasse 4, 8006 Zürich,
Switzerland.

2- Institute of Earth Surface Dynamics, University of Lausanne, Géopolis, 1015 Lausanne,
Switzerland.

3- Department of Earth Sciences, University of Geneva, Geneva, 1205, Switzerland.

4- Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing
210008, China.

*Corresponding author: borhan.bagherpour@pim.uzh.ch; borhan.b@gmail.com

Abstract

Carbon isotope compositions of carbonates ($\delta^{13}\text{C}_{\text{carb}}$) document a new 3.5 ‰ CIE toward lower values concomitant with an ELIP-related drowning event (Mapojiao Event, southern Guizhou) during the early Wuchiapingian. Organic carbon isotope data ($\delta^{13}\text{C}_{\text{org}}$) have a 2 ‰ shift toward higher values across the drowning event, showing decoupling with the $\delta^{13}\text{C}_{\text{carb}}$ evolution. Rock-Eval and palynofacies analyses suggest an elevated flux of terrestrial OM during the drowning episode. Therefore, the decoupling between $\delta^{13}\text{C}_{\text{carb}}$ and $\delta^{13}\text{C}_{\text{org}}$ is best explained by the mixing of different organic carbon pools in the $\delta^{13}\text{C}_{\text{org}}$ curve. Strontium isotope data ($^{87}\text{Sr}/^{86}\text{Sr}$) also show a transient shift from 0.70715 to 0.70694 associated with this early Wuchiapingian CIE, which is superimposed on the late Permian prolonged global rising trend. This short-lived $^{87}\text{Sr}/^{86}\text{Sr}$ excursion is best interpreted as an enhanced hydrothermal flux related to a short pulse of ELIP-related volcanism.

Comparison of the Mapojiao Event with other C isotope records from South China and other parts of Tethys reveals substantial discrepancies. Moreover, older Capitanian CIEs

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