

# Supplementary Materials

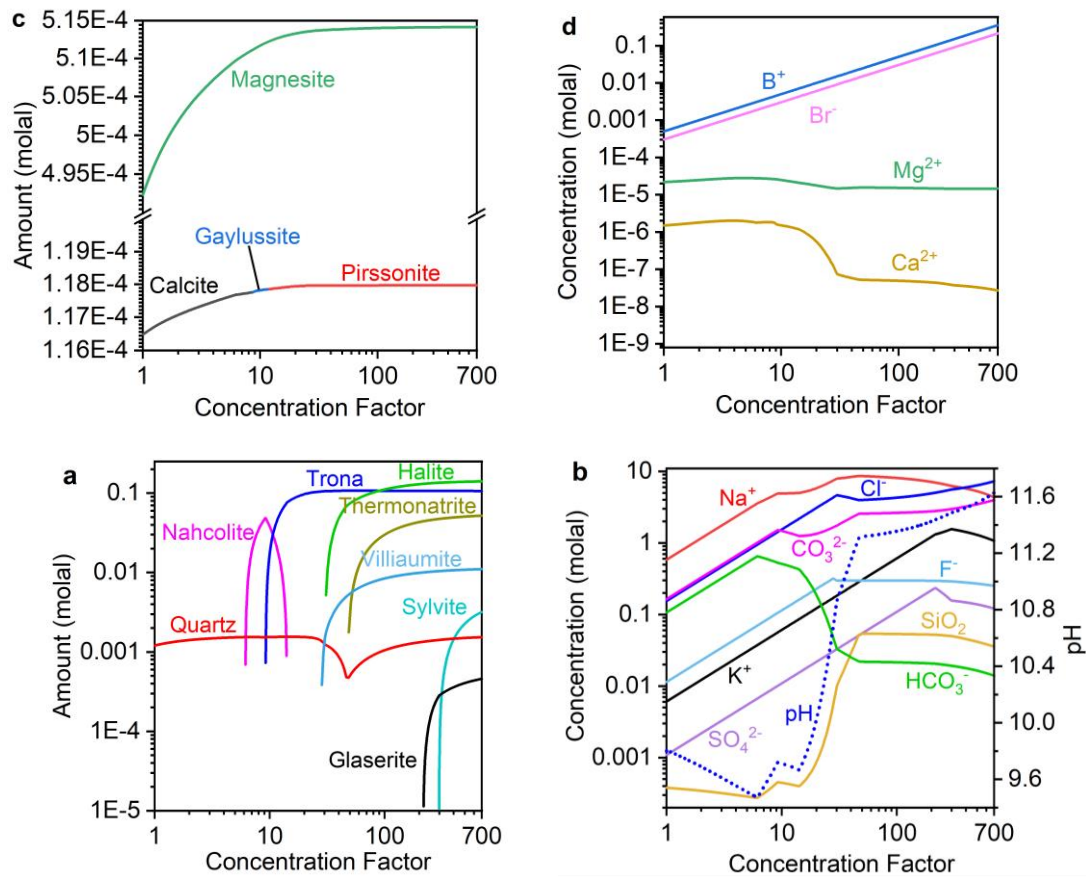
## Mineral Precipitation and Hydrochemical Evolution Through Evaporitic Processes in Soda Brines (East African Rift Valley)

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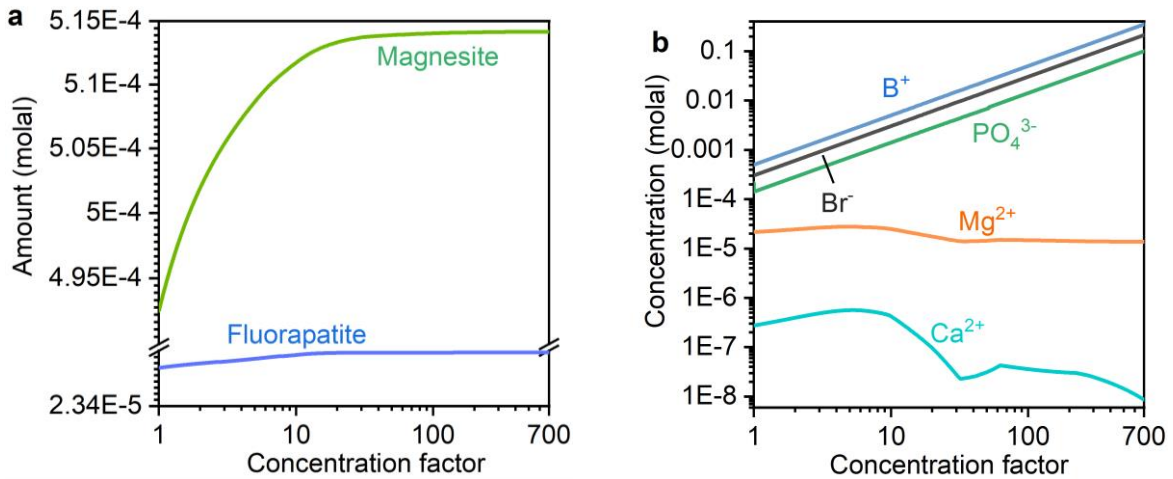
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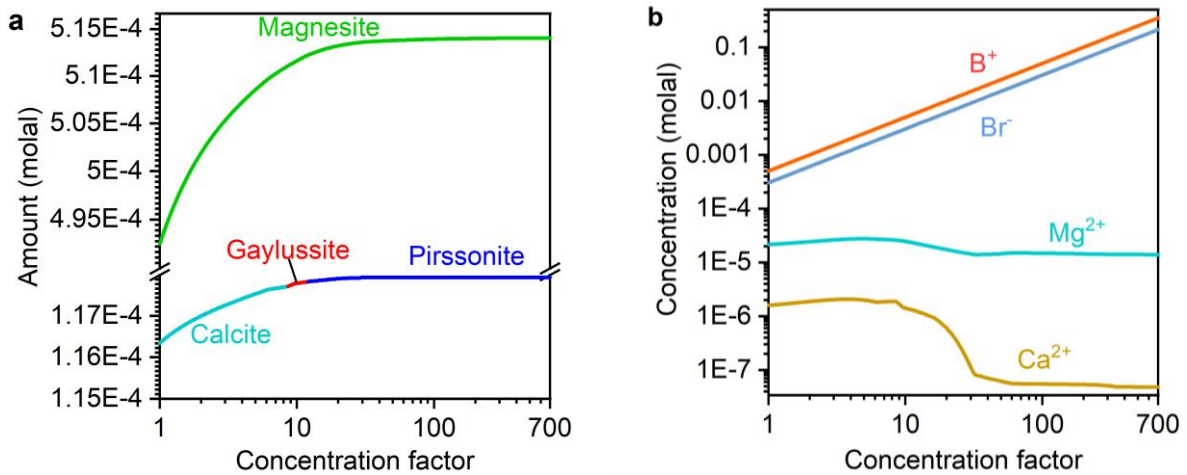
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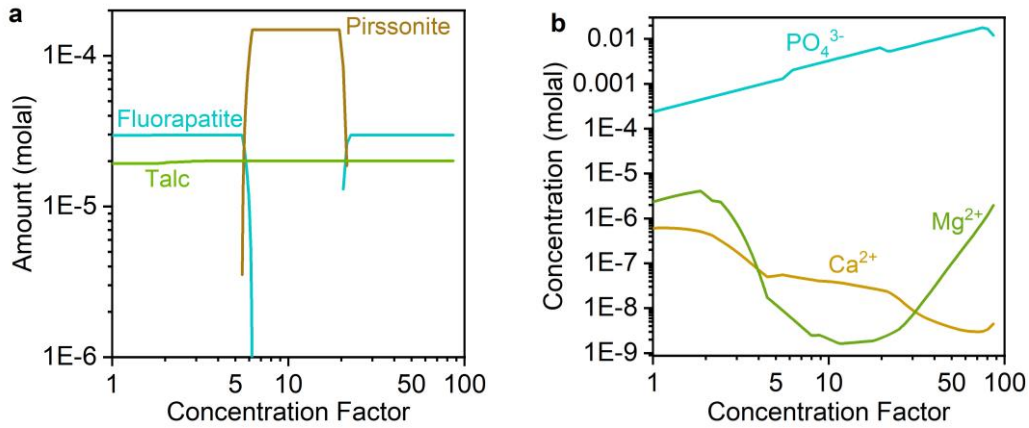
**Figure S1.** PHREEQC simulation of evaporation and mineral precipitation from Lake Magadi brine at 30 °C. (a,c) the mineral precipitation sequence of phases and the amount precipitated; (b,d) evolution of ionic concentrations



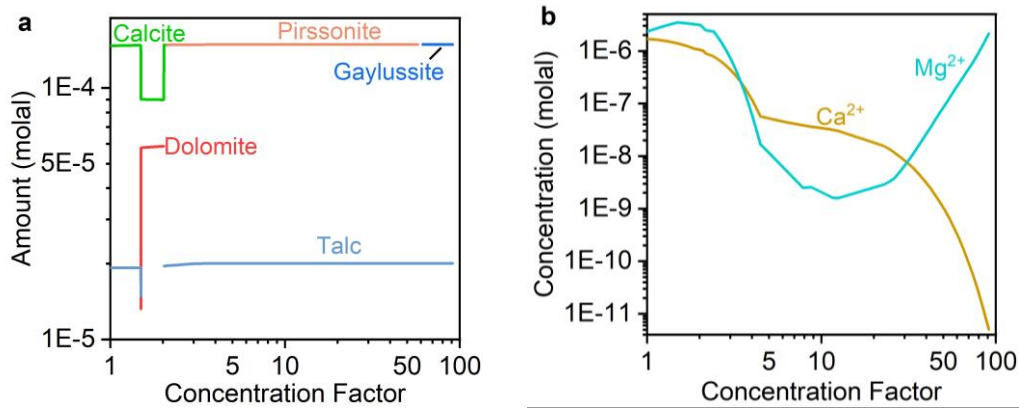
**Figure S2.** PHREEQC simulation of evaporation and mineral precipitation from Lake Magadi brine at 25 °C in the presence of phosphate ion. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations.



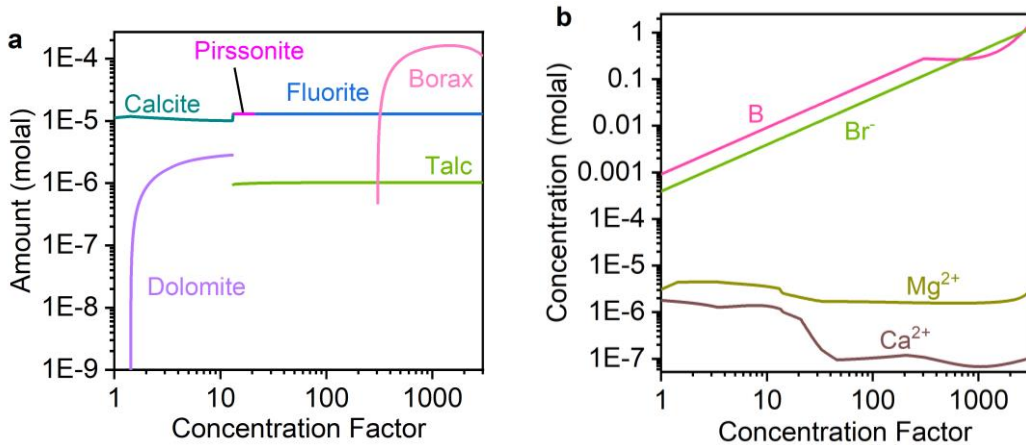
**Figure S3.** PHREEQC simulation of evaporation and mineral precipitation from Lake Magadi brine at 25 °C in the absence of phosphate ion. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations.



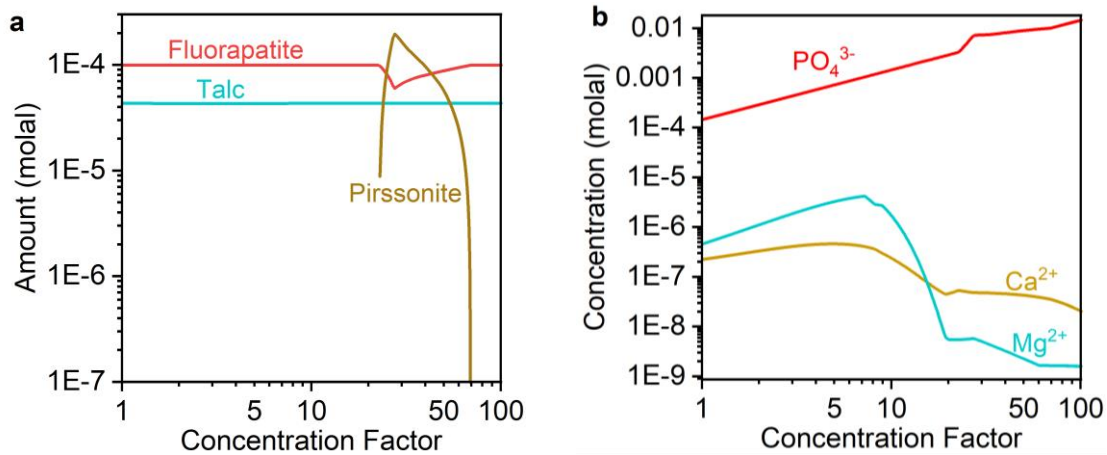
**Figure S4.** PHREEQC simulation of evaporation and mineral precipitation from Nasikie Engida brine at 30 °C in the presence of phosphate ion. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations.



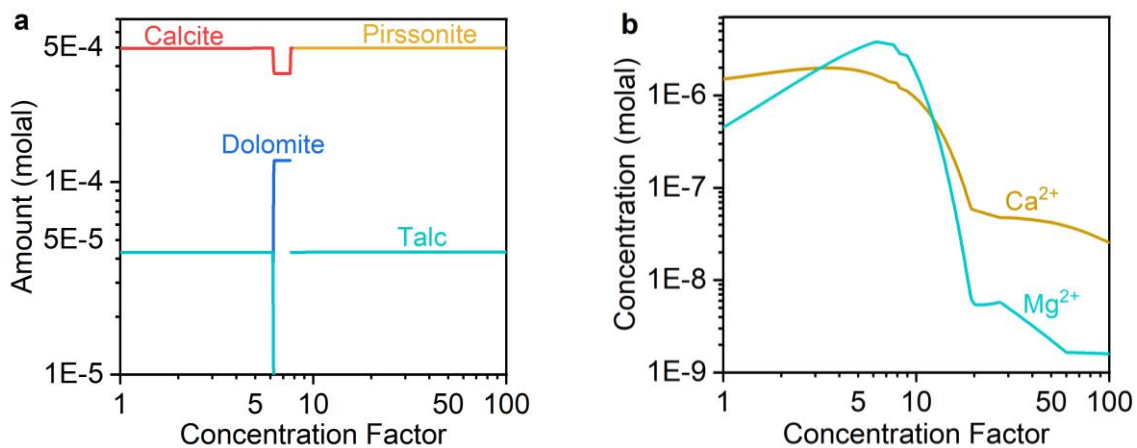
**Figure S5.** PHREEQC simulation of evaporation and mineral precipitation from Nasikie Engida brine at 30 °C in the absence of phosphate ion. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations.



**Figure S6.** PHREEQC simulation of evaporation and mineral precipitation from Nasikie Engida hot spring at 30 °C. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations



**Figure S7.** PHREEQC simulation of evaporation and mineral precipitation from Lake Natron brine at 30 °C in the presence of phosphate ions. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations.



**Figure S8.** PHREEQC simulation of evaporation and mineral precipitation from Lake Natron brine at 30 °C in the absence of phosphate. (a) the mineral precipitation sequence of minor phases and the amount precipitated; (b) evolution of minor ions concentrations