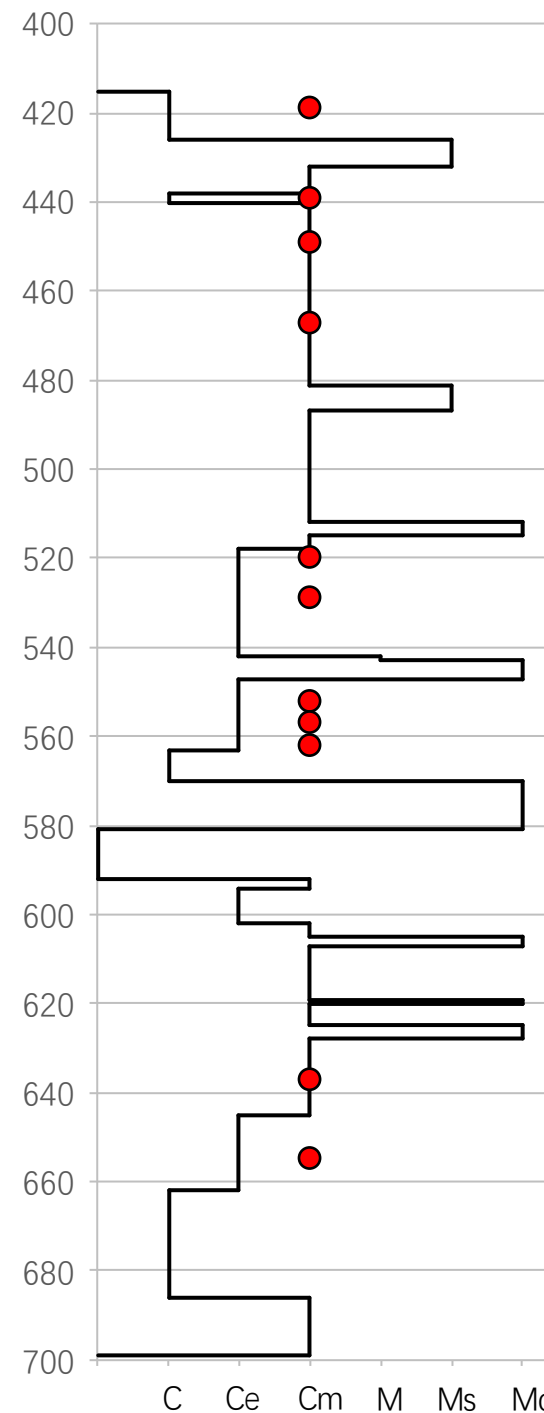


# Fabric



Fabric log:

C = Columnar

Ce = Columnar elongated

Cm = Columnar microcrystalline

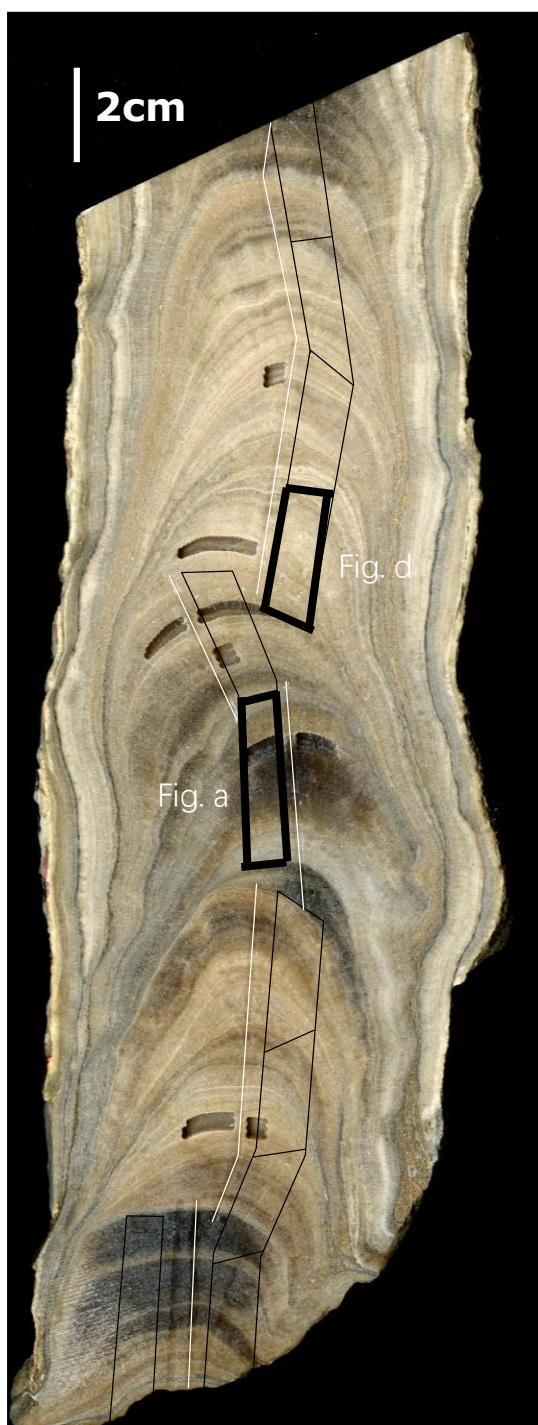
**M = Micrite**

**Ms = Microsparite**

**Mc = Mosaic calcite**

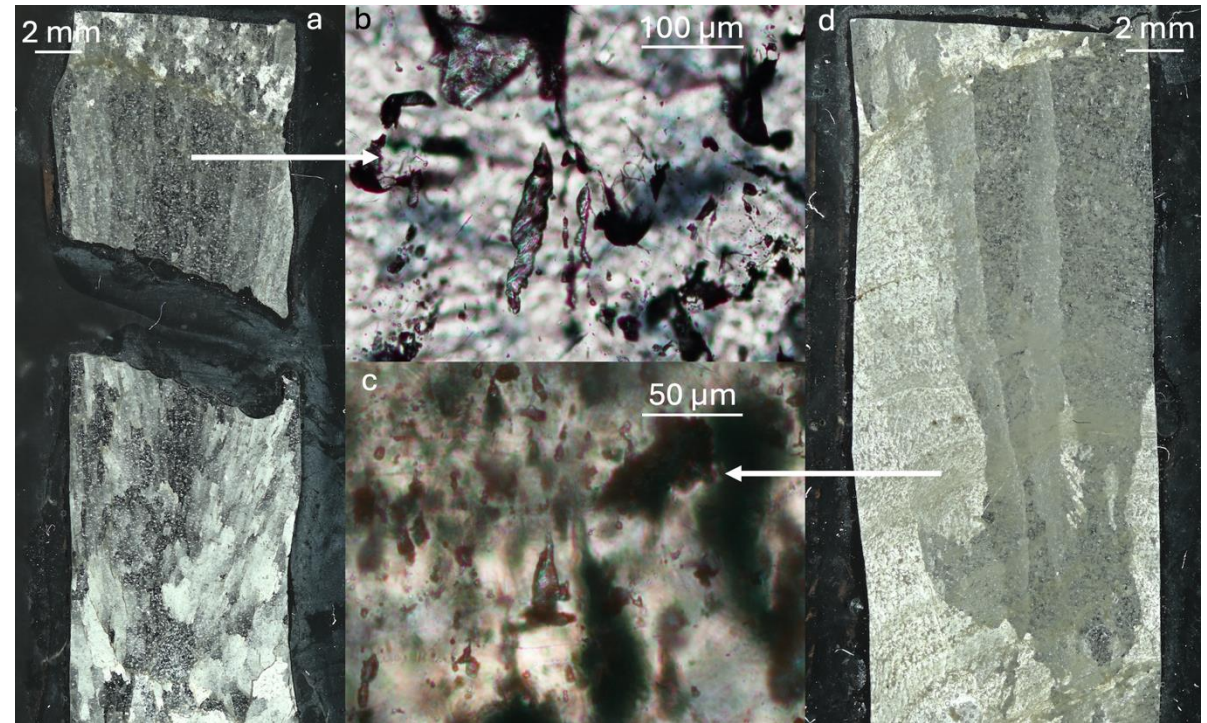
**M, Ms, Mc related to bio-influence  
and/or diagenesis**

# Fabric



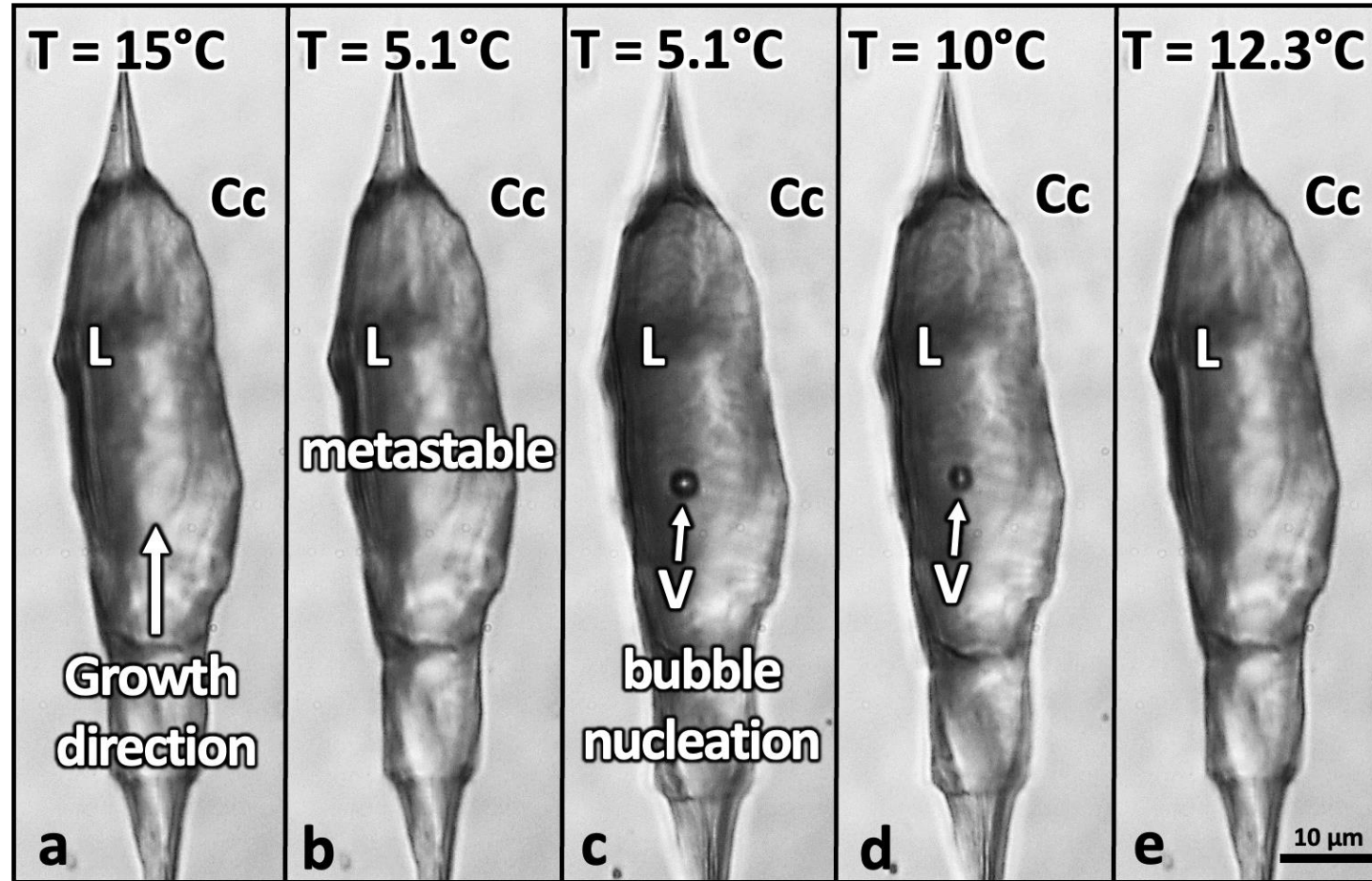
Glacial (435 – 460 ka; MIS 12)

Interglacial (410 – 420 ka; MIS 11)



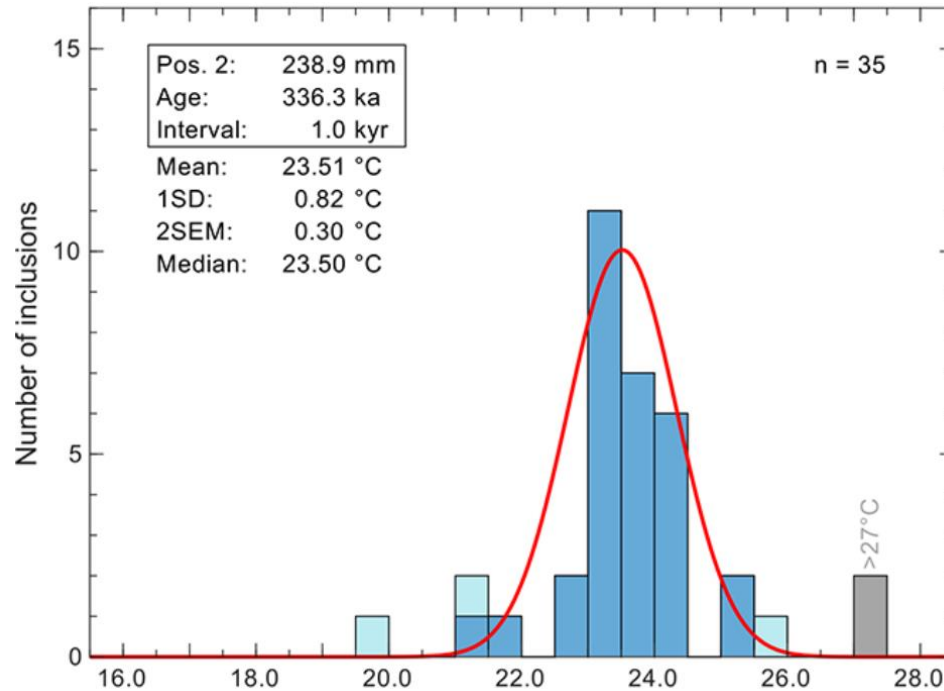
**Fig:** Optical microphotographs of two polished thick sections representing glacial (**a, b**) and interglacial (**c, d**) periods. **a)** Section photo under cross polarized light, showing an example of the stalagmite fabric from glacial period. **b)** Examples of fluid inclusions from glacial period. **c, d)** Same as b, a but for interglacial period. Growth directions are all upwards.

# FI microthermometry



**Fig:** Schematic series of a stalagmite fluid inclusion during different phases of a microthermometric measurement. Adapted after Pasqualetto et al. (2023 ECROFI poster). L = liquid, V = vapor, Cc = calcite host.

# FI microthermometry

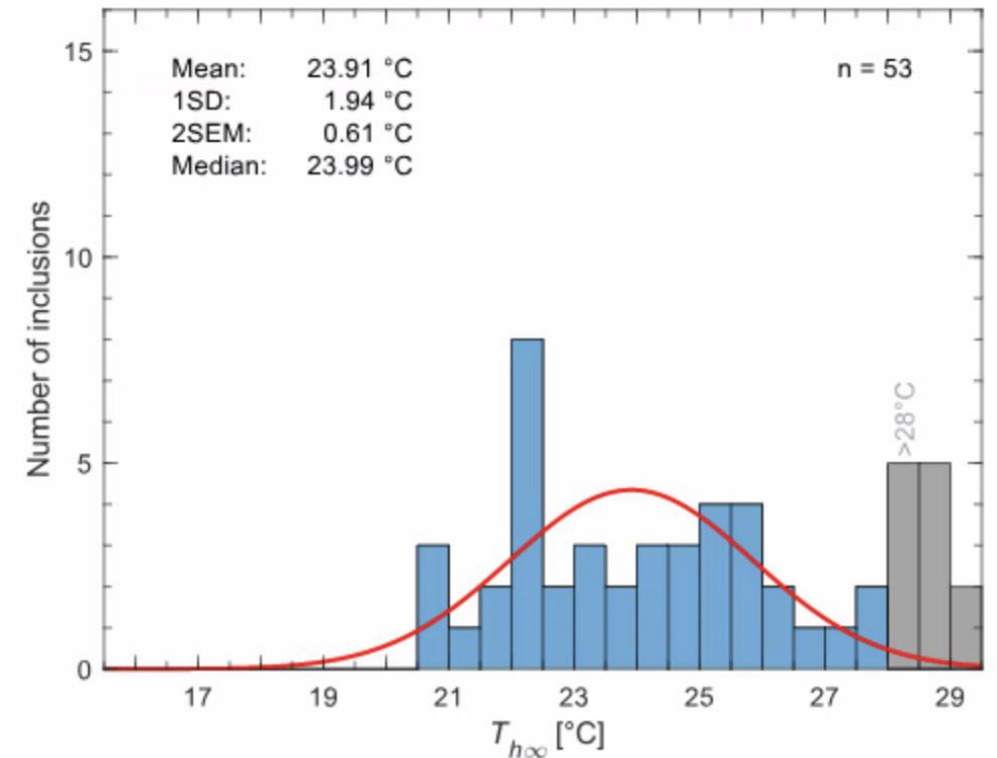


Typical temperature distribution  
(example from WR5):

avg. 1SD  $\approx 1$  °C

avg. 2SEM  $\approx 0.3$  °C

Some FIs homogenize over threshold



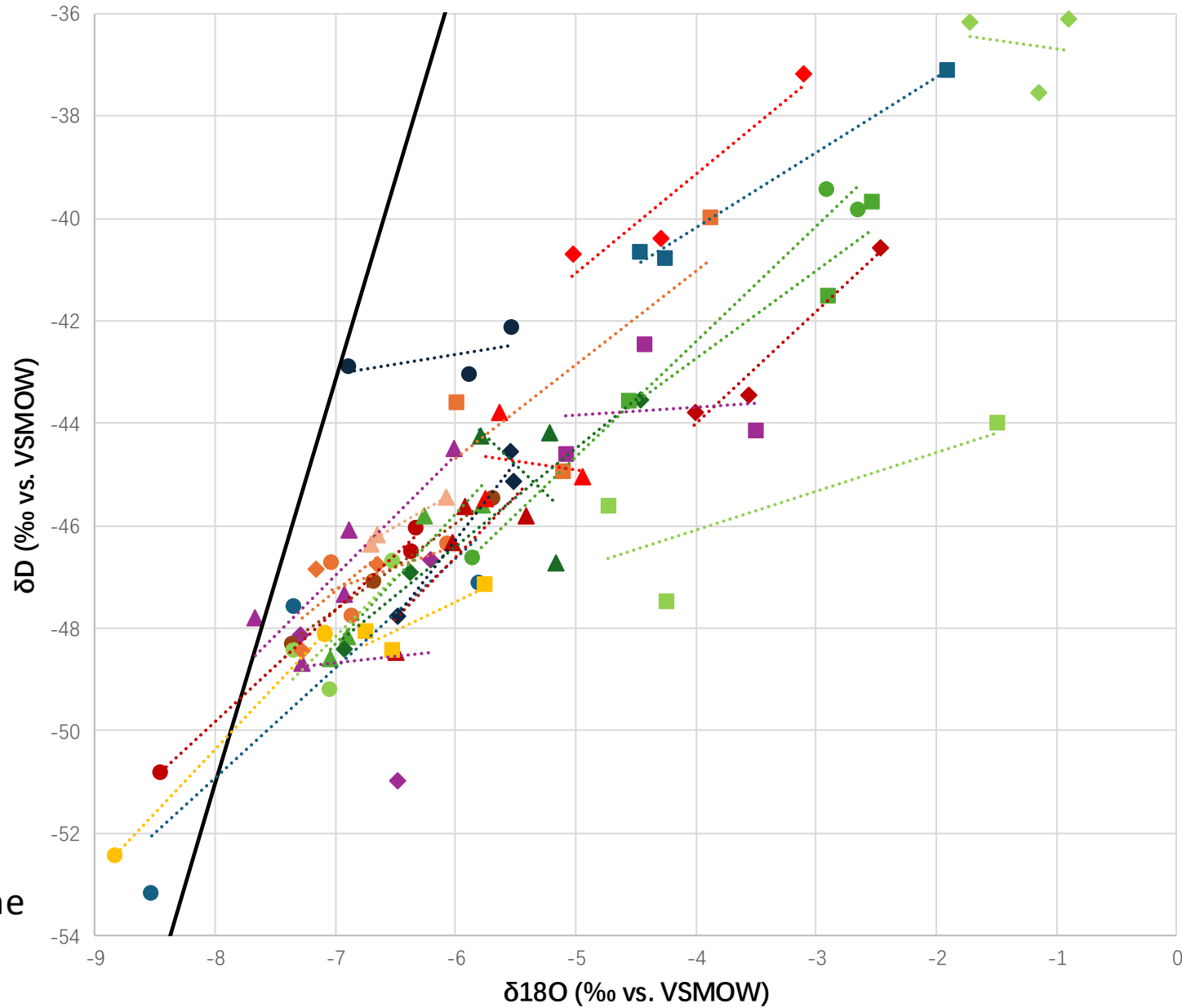
Typical temperature distribution of  
GC08:

avg. 1SD  $\approx 2$  °C

avg. 2SEM  $\approx 0.7$  °C

Many FIs homogenize over threshold

# FI water isotopes



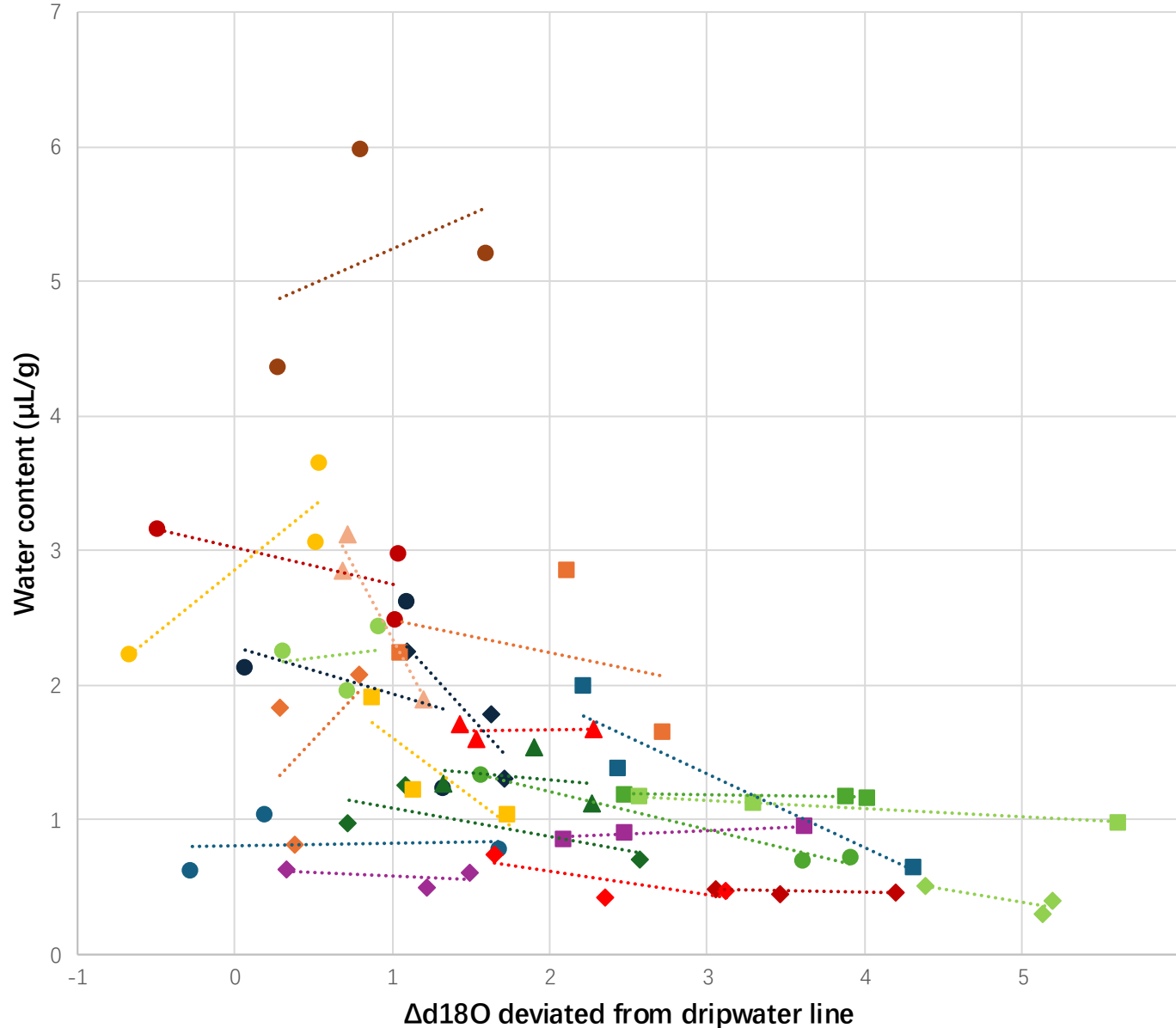
Local dripwater line

Only for samples with:

- At least 3 replicates
- SD of  $d18O > 0.3$

Average slope: **1.42**

# FI water isotopes



Water content vs.  $\Delta d18O$

To check if: the lower the water content (of the same sample), the larger the deviation from water line

15/23 samples show negative slope

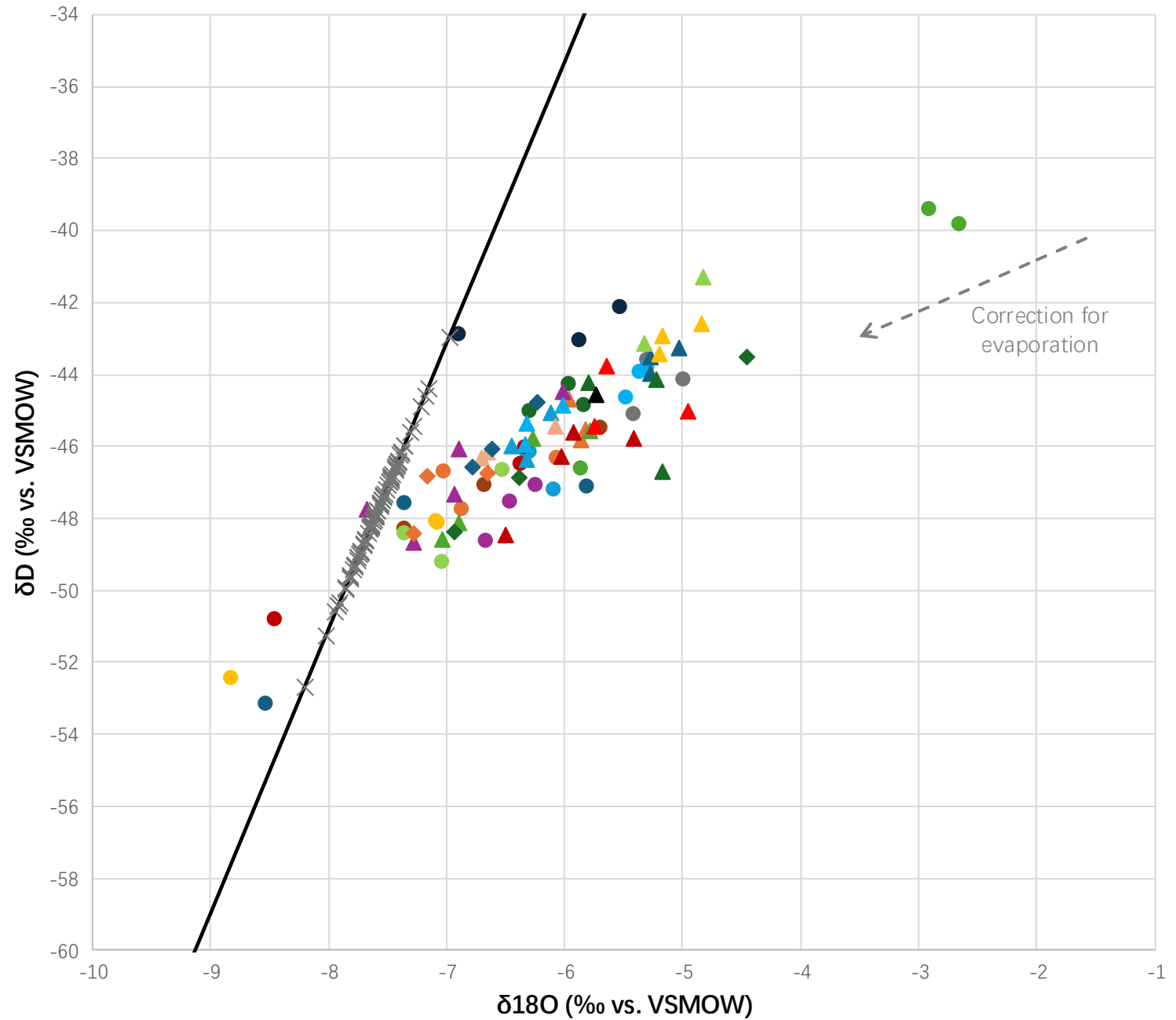
# FI water isotopes

Using WR5 temperatures

WR5 temp. +  $\delta^{18}O_{cc}$  ->  
 $\delta^{18}O_{dw}$

All replicates (360 – 460 ka)

Correction slope: 1.41



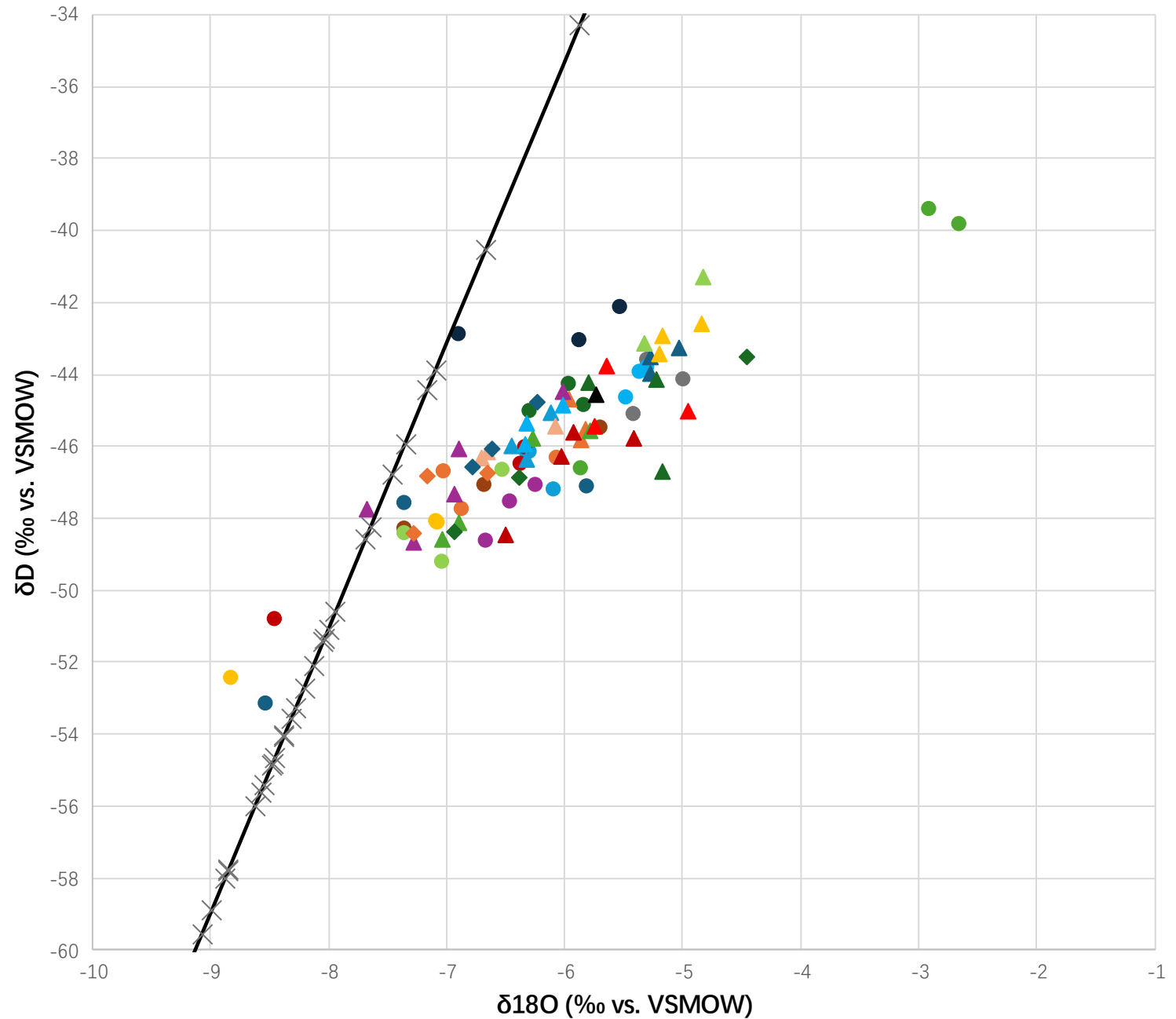
# FI water isotopes

Using WR5 temperatures

WR5 temp. +  $\delta^{18}O_{cc}$  ->  
 $\delta^{18}O_{dw}$

All replicates (360 – 460 ka)

Calculated  $\delta^{18}O_{dw}$   
(on dripwater line)



# FI water isotopes

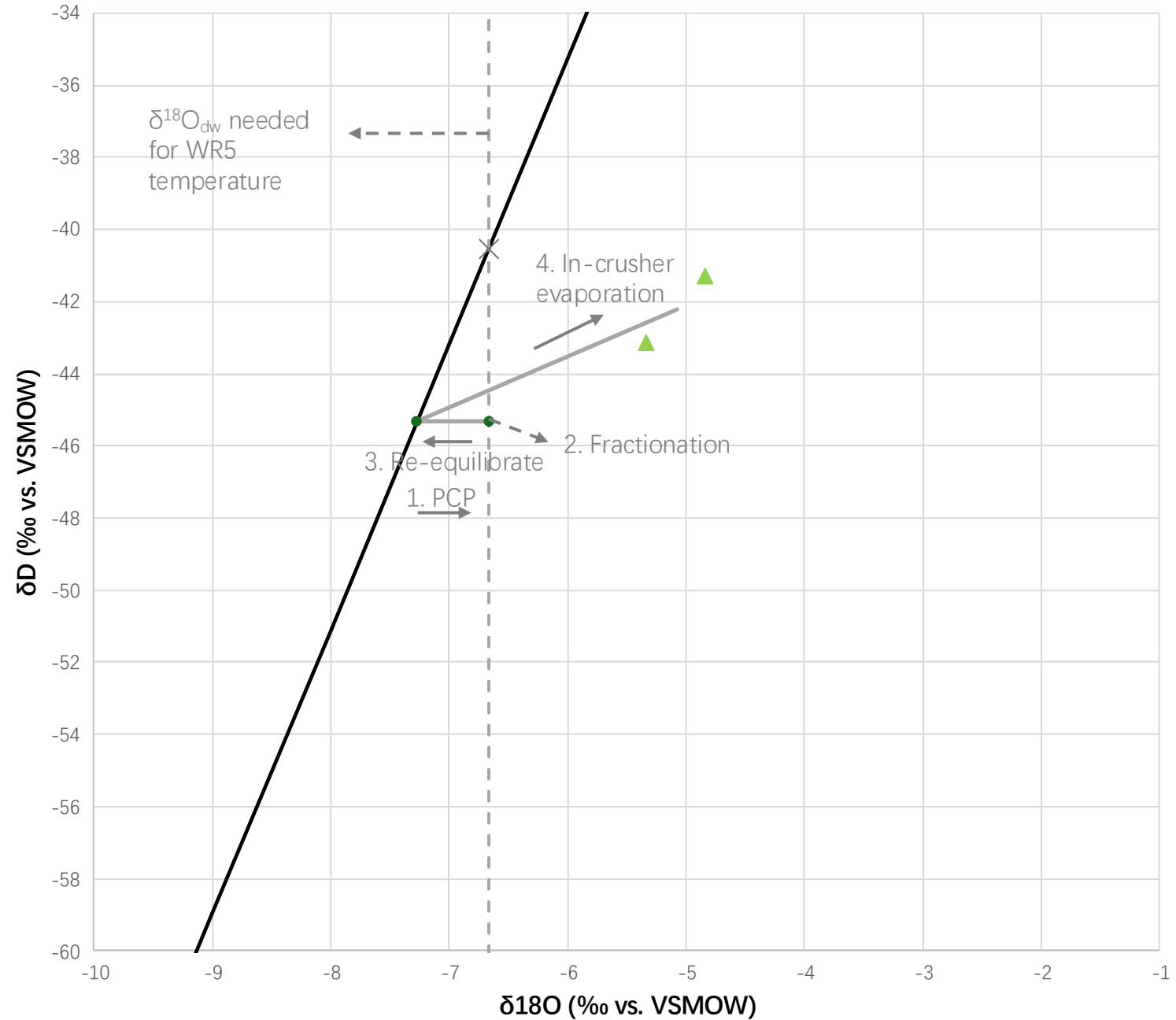
Example A6\_3 (429.1 ka)

**PCP**

+

In-crusher evaporation

See poster for schematic plot of **in-cave + in-crusher evaporation**

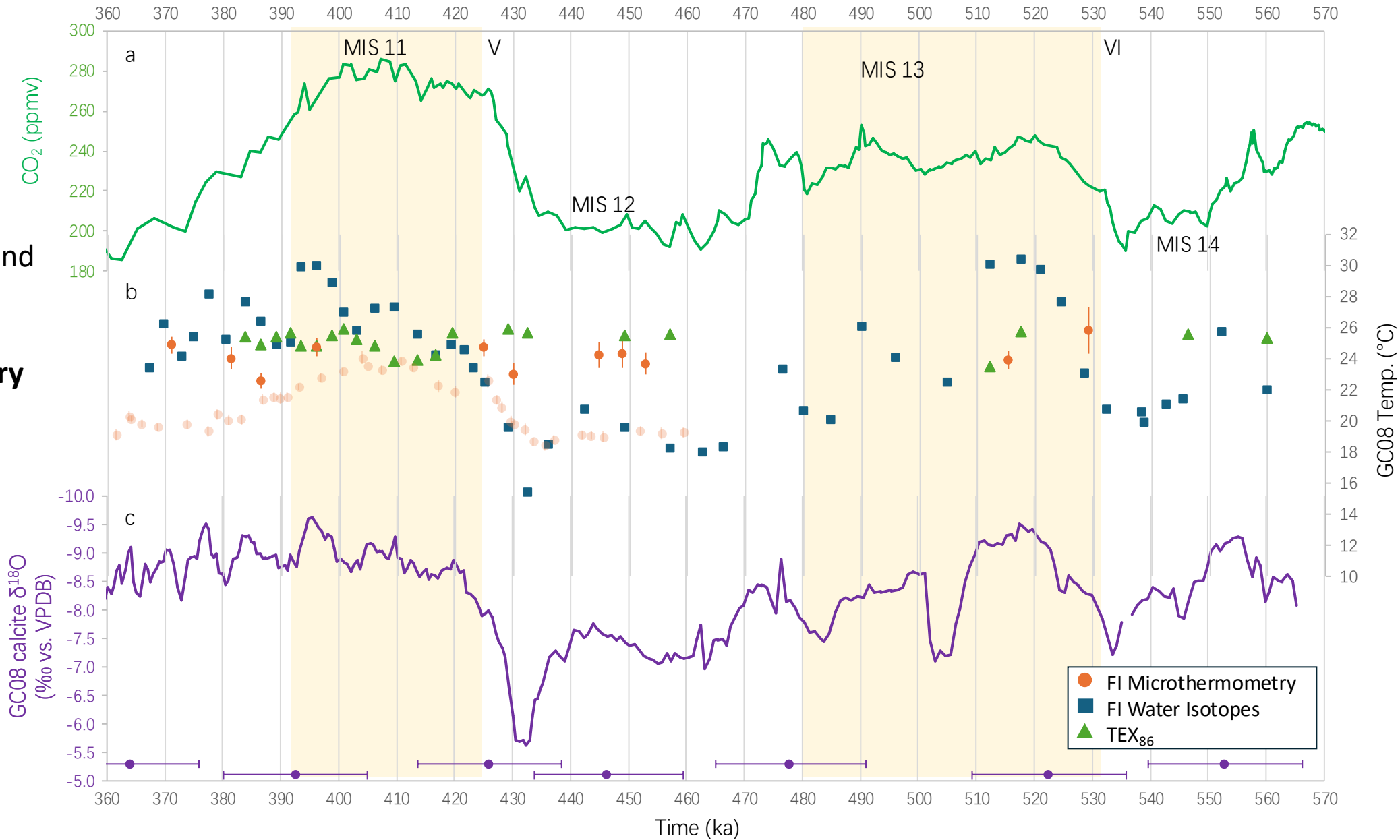
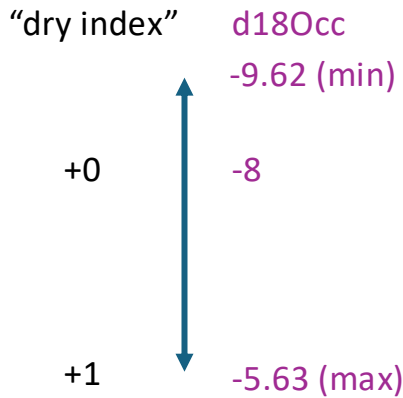


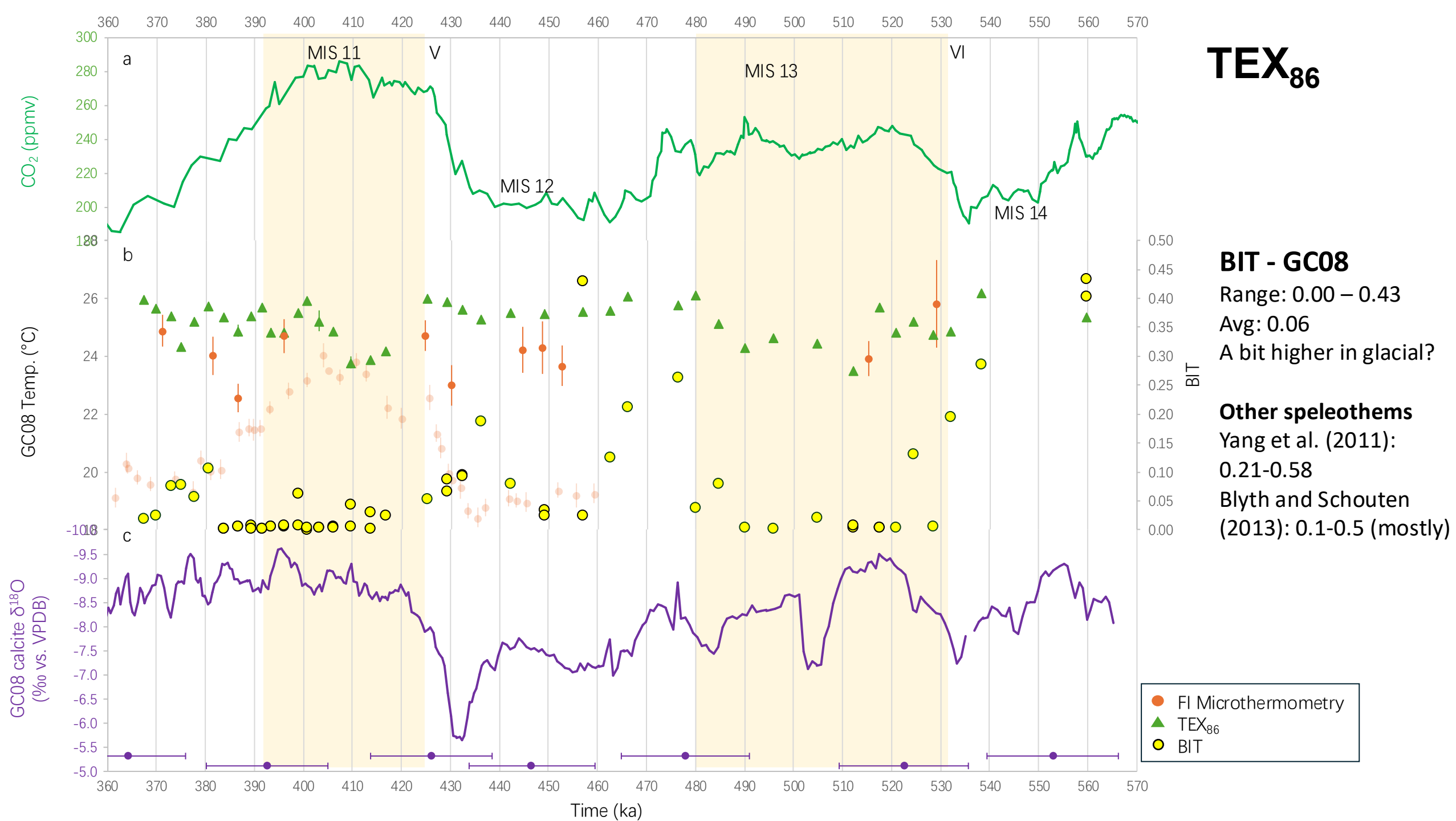
# FI water isotopes

## Numerical experiment

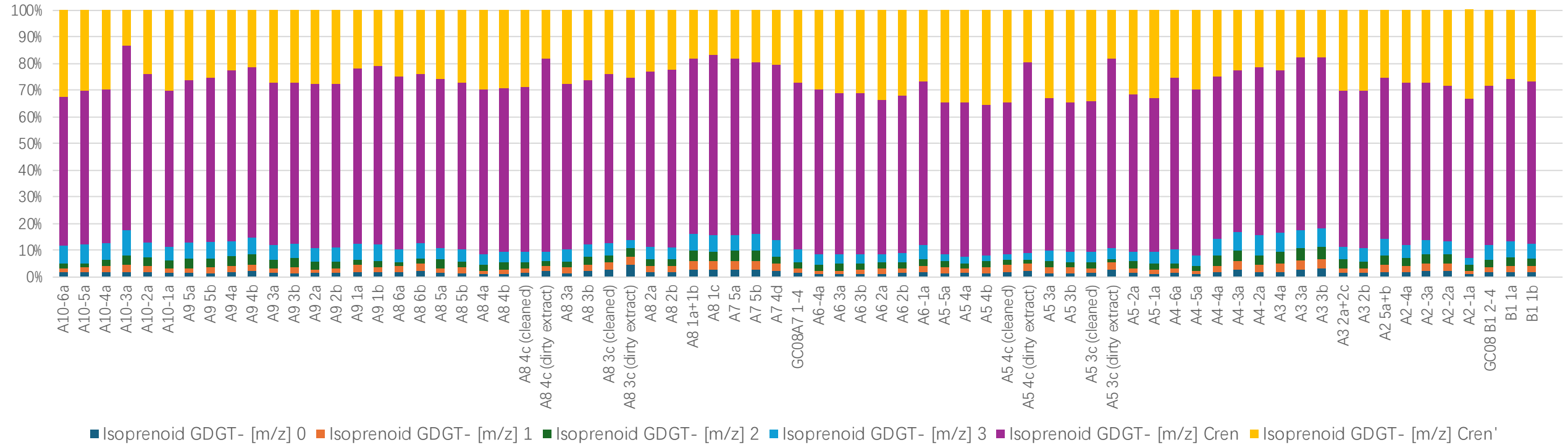
Correction for **in-cave** and **in-crusher** evaporation

1.41-corr.  $\delta^{18}O_{dw}$  + “**dry index**” (‰)





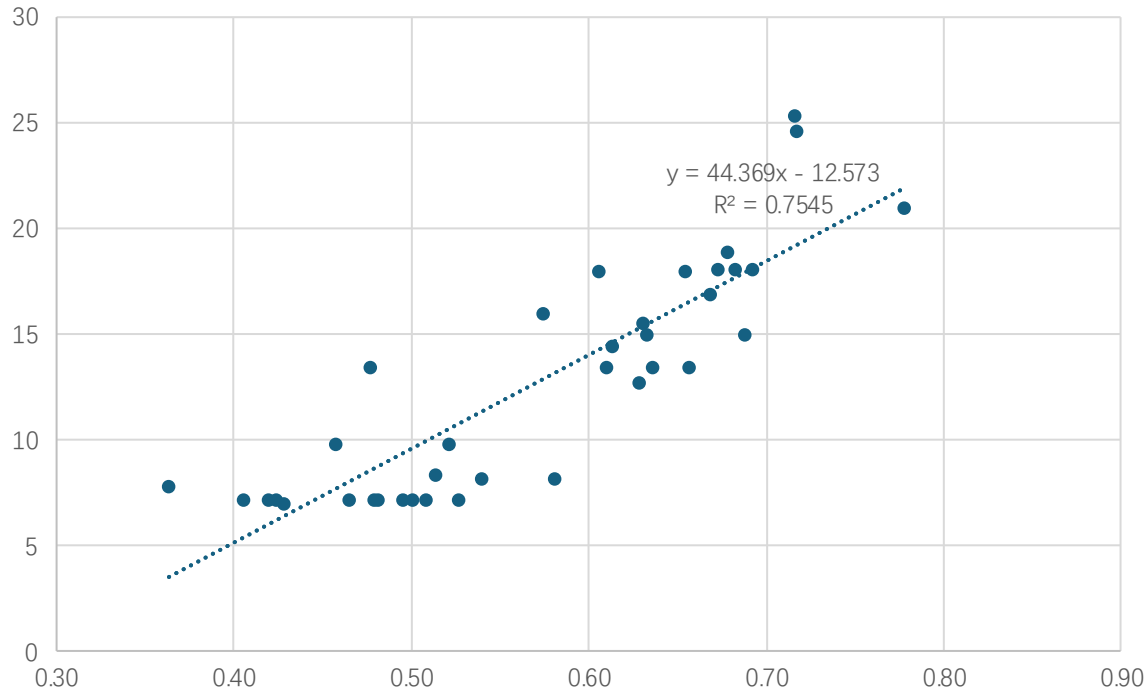
## Isoprenoid GDGT distribution



# TEX<sub>86</sub>

New hypothetical calibrations (new indices using Baker 2019 data, unweighted)

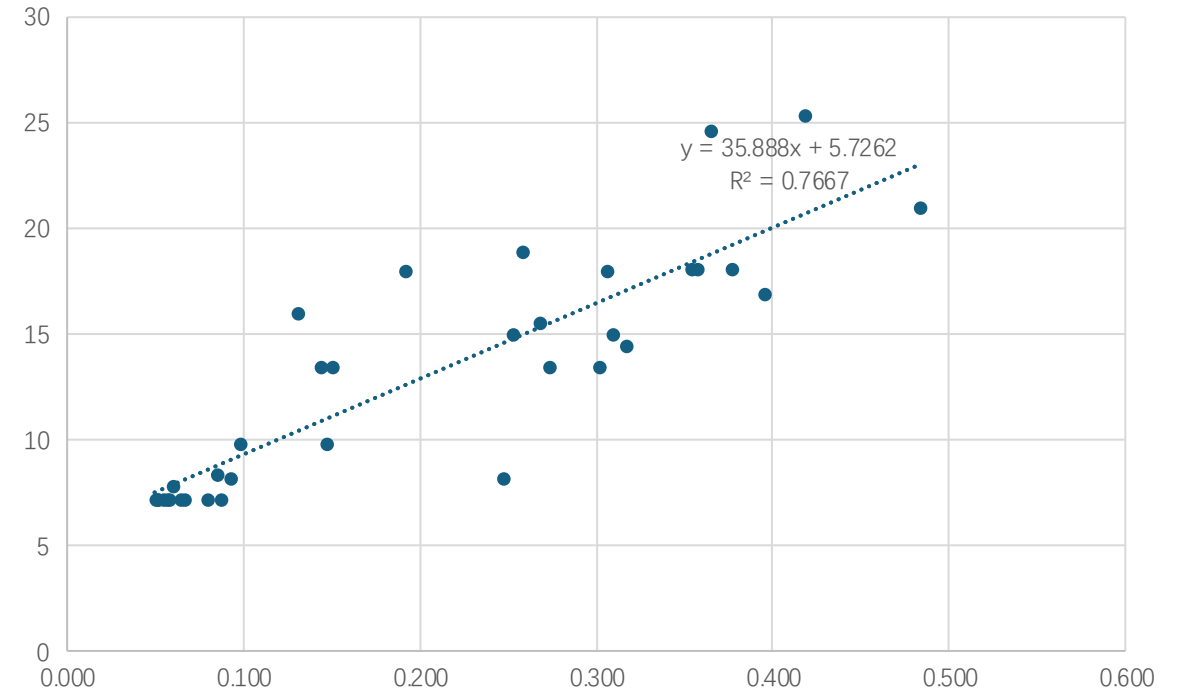
TEX86 excl. Cren'  $(2+3)/(1+2+3)$



GDGT-1 vs. (GDGT-2 & GDGT-3)

**(Shown on poster)**

$3/(1+2+3)$



(GDGT-1 & GDGT-2) vs. GDGT-3

# TEX<sub>86</sub>

