



## 2. Methods



Α 8, y.Α 5 25 μ. 3. 24 . *4*, 4 }, Æ Æ 1 P. 50 Æ F 1 24 Æ 2 ε., ε, 540 μ. ε. Æ Æ₽, ₽, 1 R, ( F Æ F 🖌 F. . F F R, ⊬ ⊰; **-**?, -?, . . - F.a. F. B. B. F., - F. , e F 49, 4, 4, . FF, FR.

## 4. Results

## 5. Discussion

5.1. Controls on seawater  $\delta^{34}S_{sulfate}$ 



## 5.2. Fractionation of sulfur isotopes

A A **y** A 4, , 1 4. · ~ 3. 2 **6** j A Æ Æ 4, ₽, ▲ ₽, ▲ 3. 1-F 1 - 2; R. J. A. 18, *v* − − <del>\*</del>? 4, 4, 1 Æ Æ A A 49, -R. 1 F F Æ ( ., 1 F 18, F 4, 1 13 1 Æ, 2 Æ y & ₽, (R) . ≁, **₽**, **y**, FRAFA 13.1 . Æ F2 F -₽; 4, 4, F 13 -4 32 AB, AB, A A ₽, -R, 1 **y**. . . Fa . 13, F. R. R. A. . 49, **▲**\$ **.** . . 32 Æ 6 1 R, F. 43, 43, × 3, × 3, A. 4, Æ 4 . 4. 4 Æ 32 0‰ 0‰, ∡ *F* ₽, 4, , 1 . 🕹 🖌 🤻 Æ Æ 🖌 ~+12 ( 1/2 R,-**∱** ~+33‰ ( *F F* •  $\delta^{34}$ Ś. ₽, ₽, 3, ▲ J. 0‰. 49,49,

 $\begin{pmatrix} & , 1 & 1 \\ \delta^{34} & & & \delta^{34} \\ \bullet & & \mathfrak{s} \\ \bullet &$ 





 $C_{1}, a_{1}, a_{2}, b_{1}, a_{2}, b_{1}, a_{2}, b_{1}, a_{2}, b_{2}, b_{1}, b_{2}, b_{2}, b_{2}, b_{2}, b_{1}, b_{2}, b_{2},$