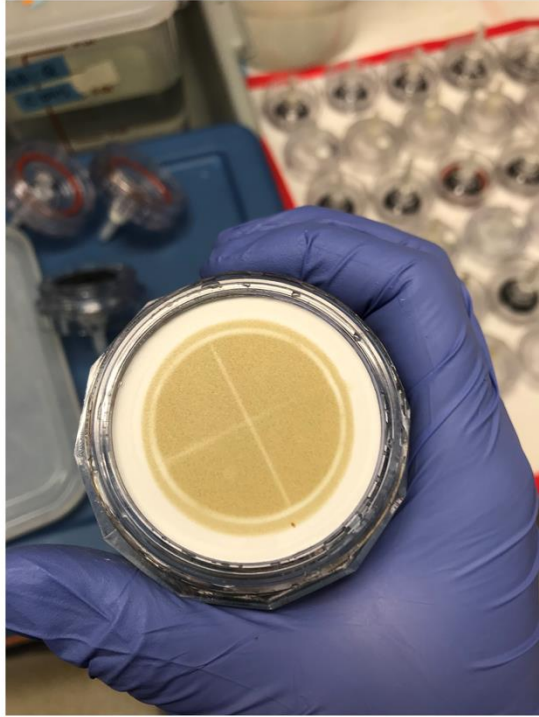
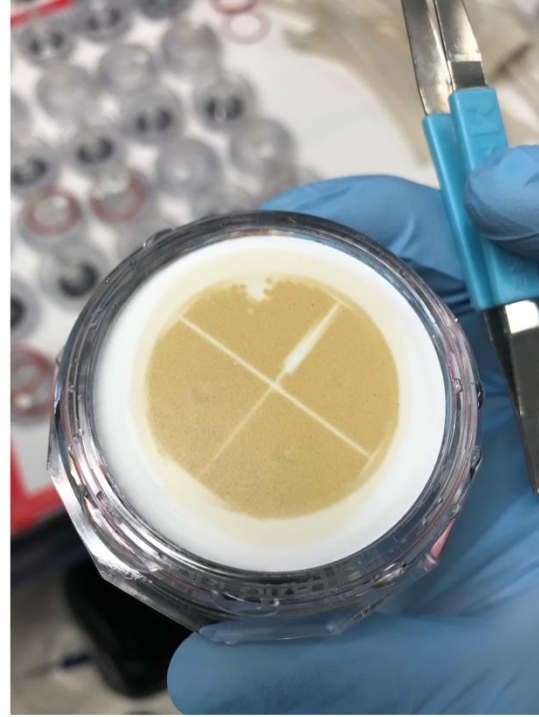


Supplementary Figure 1: Vertical profiles of (a) density, (b)  $\text{NO}_3^- + \text{NO}_2^-$ , (c)  $\text{PO}_4^{3-}$  and (d) N/P ratio at Station B adjacent to Palmer Station.

Data source: Palmer Station Antarctica LTER, H. Ducklow, M. Vernet, and B. Prezelin. 2019. Dissolved inorganic nutrients including 5 macro nutrients: silicate, phosphate, nitrate, nitrite, and ammonium from water column bottle samples collected between October and April at Palmer Station, 1991 - 2019. ver 9. Environmental Data Initiative. <https://doi.org/10.6073/pasta/8f9b7a10633d6eed2e8c0f2eefb8ac0c>



**Jan. 17<sup>th</sup>**  
**DNA 10B**



**Jan. 19<sup>th</sup>**  
**DNA 15B**

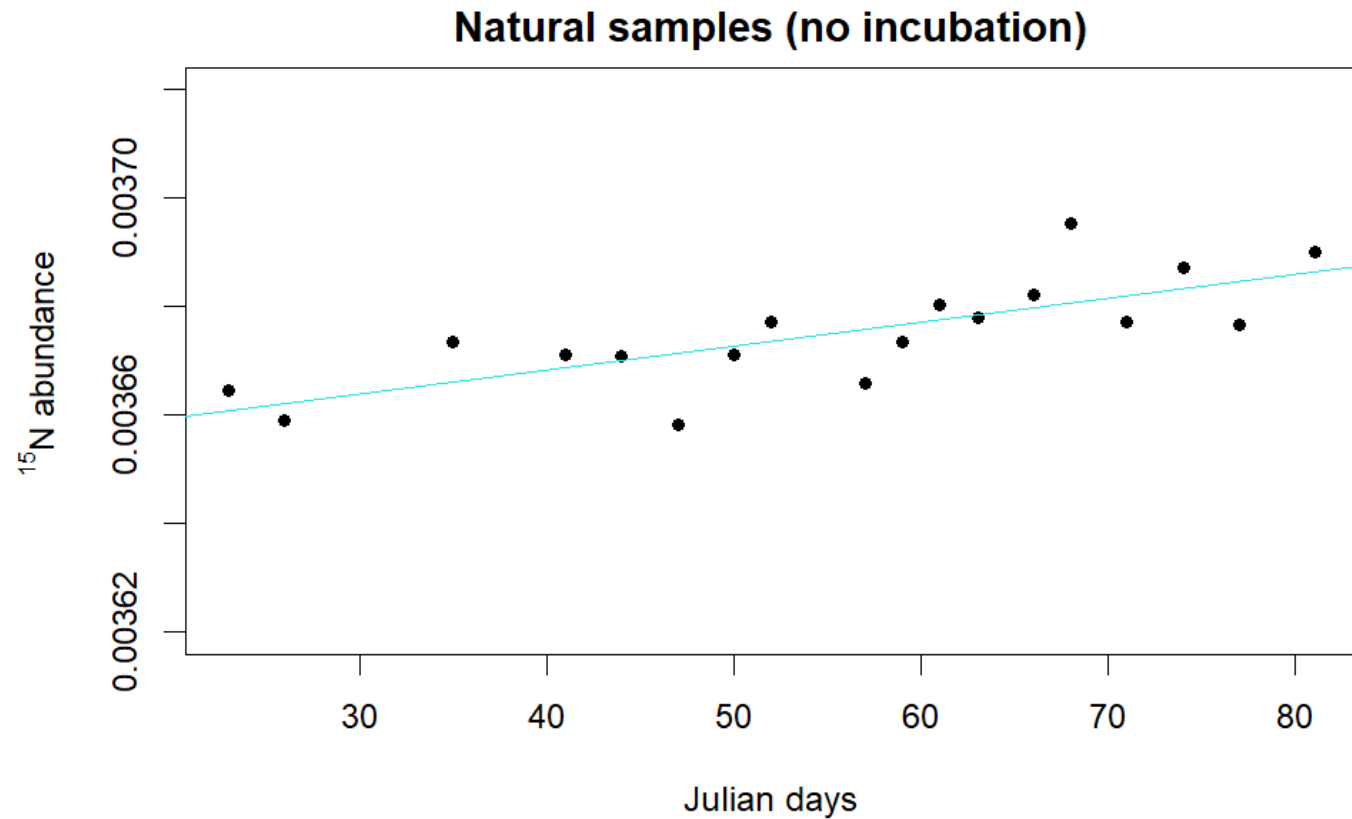


**Jan. 25<sup>th</sup>**  
**1<sup>st</sup>  $^{15}\text{N}_2$  incubation**



**Jan. 28<sup>th</sup>**  
**2<sup>nd</sup>  $^{15}\text{N}_2$  incubation**

Supplementary Figure 2: The colors of the filtered biomass on different days.



Supplementary Figure 3: Evolution of the  $^{15}\text{N}$  abundance in the particulate organic N before the incubation (natural abundance) as a function of the Julian days measured at Palmer Station. The blue line is the linear regression (least square method,  $r=0.75$ ,  $p\text{-value} = 0.0003$ ,  $n=18$ ).