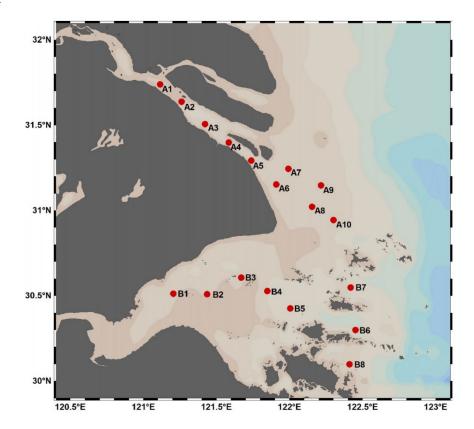
Fig. S1



 $Fig. \ S1 \ Sampling \ stations \ from \ the \ Yangze \ River \ Estuary \ and \ Hangzhou \ Bay \ from \ August \ 24 \ to \ 29, \ 2019.$

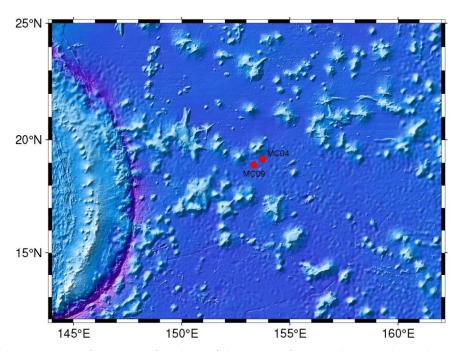


Fig. S2 Multi corer stations from the Pigafetta basin of the West Pacific on October 2023 during the 81thCruise by the Dayanghao.

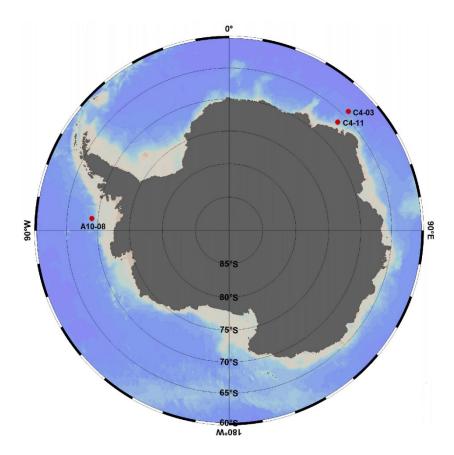


Fig. S3 CTD profiles from the regions around the Antarctic uring 37th cruise by Xuelong 2 from November 10, 2020, to May 6, 2021.