

Experiment	Experiment set-up
Gas fast	CO ₂ gas exchange rate multiplied by 4
Gas slow	CO ₂ gas exchange rate divided by 4
Efficient biological pump	POC sinking rate doubled to 6 m d ⁻¹
Inefficient biological pump	POC sinking rate halved to 1.5 m d ⁻¹
V_{\max}	High nutrient uptake rate (control \times 5) in the Southern Ocean
Ice large	Southern Ocean sea ice cover south of 50° S
Ice small	Southern Ocean sea ice cover south of 70° S