Supplement of

Projections of oceanic $\text{N}_2\text{O}$ emissions in the 21st century using the IPSL Earth system model

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The $O_2$ modulating function $f(O_2)$ in P.OMZ is defined as,

$$f(O_2) = \begin{cases} 
\frac{O_2}{O_2^1} & O_2 < O_2^1 \\
1 & O_2^1 < O_2 < O_2^2 \\
0.7 \cdot \exp \left( -0.5\frac{(O_2 - O_2^2)}{O_2^2} \right) + 0.3 \cdot \exp \left( -0.05\frac{(O_2 - O_2^2)}{O_2^2} \right) & O_2 \geq O_2^2
\end{cases}$$

where $O_2^1$ is 1 µmol L$^{-1}$ and $O_2^2$ is 5 µmol L$^{-1}$. The shape of the function is shown in Fig. S1.

Fig. S1: Oxygen modulating function $f(O_2)$ in the low-$O_2$ production pathway term included in P.OMZ from Goreau et al. (1980).

Fig. S2: Vertically integrated (a) high-$O_2$ and (b) low-$O_2$ production pathways (in gN m$^{-2}$ yr$^{-1}$) in P.OMZ for the averaged 1985 to 2005 historical simulation.