**Supplementary Materials**



Supplementary Figure 1. Illustration of the micro-diffusion dish.

Supplementary Figure 2. Lightness (L\*) of large-mouth fillet subjected to different freezing/frozen storage treatments. “-“, fresh sample; Group A, Freeze at -18 °C and storage at -18 °C; Group B, Freeze at -60 °C and storage at -18 °C; Group C, Freeze at -60 °C with forced air circulation (wind speed 2 m/s) and storage at -18 °C；Group D, Freeze at -60 °C and storage at -40 °C；Group E, Freeze at -60 °C and storage at -60 °C.