Table S1. Summary of cruises of SOCAT data used in this study.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Expocode | Platform name | Platform type | Investigator(s) | Qc flag | Period |
| 09AR20011031 | Aurora Australis | Ship | Tilbrook, B. | B | 2001/2002 |
| 09AR20060102 | Aurora Australis | Ship | Tilbrook, B. | C | 2005/2006 |
| 320620001220  | Nathaniel B. Palmer | Ship | Takahashi, T., Sweeney, C., Sutherland, S.C. | D | 2000/2001 |
| 320620010130  | Nathaniel B. Palmer | Ship | Takahashi, T., Sweeney, C., Sutherland, S.C. | B | 2000/2001 |
| 33RR20070204 | Roger Revelle | Ship | Wanninkhof, R. | D | 2006/2007 |
| 353L20041230 | L Astrolabe | Ship | Goyet, C. | D | 2004/2005 |
| 353L20050218 | L Astrolabe | Ship | Goyet, C. | D | 2004/2005 |
| 35MF19980121 | Marion Dufresne | Ship | Metzl, N. | D | 1997/1998 |
| 35MF19981204 | Marion Dufresne | Ship | Metzl, N. | D | 1998/1999 |
| 35MF20000115 | Marion Dufresne | Ship | Metzl, N. | D | 1999/2000 |
| 35MF20010104 | Marion Dufresne | Ship | Metzl, N. | D | 2000/2001 |
| 35MF20020105 | Marion Dufresne | Ship | Metzl, N. | D | 2001/2002 |
| 35MF20030126 | Marion Dufresne | Ship | Metzl, N. | D | 2002/2003 |
| 35MF20040106 | Marion Dufresne | Ship | Metzl, N. | D | 2003/2004 |
| 49HH20011128 | Hakuho Maru | Ship | Inoue, H. | D | 2001/2002 |
| 61TG19990202 | Tangaroa | Ship | Bakker, D. | D | 1998/1999 |