

Table S1. Variables at bottom water of different sampling stations, e.g., Sts. 8, 17, 29, 31, and 34, in different sampling periods. Water properties at bottom water of these station might be relevant to Kuroshio subsurface water which intrude into the East China Sea. Variables include temperature (Temp; °C), salinity, nitrate (NO_3^- ; μM), phosphate (PO_4^{3-} ; μM), dissolve oxygen (DO; mg L^{-1}), and DO saturated rate (DO %). Water column depth (Depth_w) and sampling depth (Depth_s) at each station were also indicated for reference.

Sampling periods	Stations	Depth_w (Depth_s)	Temp	Salinity	NO_3^-	PO_4^{3-}	DO (DO %)
2003/06	29	60 (50)	18.8	34.26	13.8	0.79	3.84 (50.6%)
	17	70 (60)	23.2	34.45	3.5	0.32	6.19 (88.7%)
	31	-	-	-	-	-	-
	8	110 (80)	21.2	34.77	4.3	0.23	6.36 (87.9%)
	34	-	-	-	-	-	-
2003/08	29	60 (50)	19.7	34.55	12.5	0.52	3.28 (44.1%)
	17	72 (60)	17.9	34.51	10.9	0.48	4.48 (58.1%)
	31	81 (75)	18.6	34.45	10.8	0.67	4.81 (63.2%)
	8	109 (100)	18.2	34.59	9.6	0.45	5.20 (68.0%)
	34	106 (100)	18.4	34.58	9.6	0.55	5.36 (70.3%)
2014/07	29	62 (54)	19.1	34.42	11.8	0.92	3.60 (47.7%)
	17	75 (65)	19.2	34.47	10.0	0.91	4.21 (55.9%)
	31	85 (80)	18.3	34.44	8.0	0.72	5.11 (66.8%)
	8	113 (96)	17.9	34.60	8.3	0.55	5.53 (71.7%)
	34	107 (100)	16.3	34.51	15.2	0.76	5.27 (66.2%)
2014/08	29	60 (55)	20.1	34.36	15.4	1.30	2.81 (37.9%)
	17	70 (64)	19.9	34.38	10.6	1.01	3.87 (51.9%)
	31	83 (80)	17.4	34.42	11.5	1.07	4.75 (61.0%)
	8	110 (105)	17.3	34.51	10.7	0.93	5.13 (65.8%)
	34	105 (100)	18.1	34.43	9.5	0.86	5.30 (68.9%)

-: no data