**Supplemental Material:**

**Anthropogenic 129I in the South China Sea and coastal waters around Taiwan**

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**Figure S1. Coastal sampling sites.** Photographs of the three coastal sites studied in this paper: a) National Sun Yat-Sen University, Kaohsiung; b) Yehliu Geopark; c) Zhuwei Fishing Village.

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**Figure S2. Extraction of iodine from seawater.** Immiscible chloroform at the base of a separatory funnel, with artificial seawater above. The purple color is from dissolved iodine from 20 μL methyl iodide dissolved in 1 L of artificial seawater.

**Text S1. Iodine extraction reactions**

Iodate is reduced to iodide through the reaction:

Iodide is oxidized to iodine through the reaction:

Iodine is extracted from methyl iodide (CH3I) through the reaction:

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**Figure S3. Plot of 129I/127I values from open ocean sites in the SCS.** The dashed line is the weighted average of these values and the shaded error represents the 2σ uncertainty of the weighted average (49.1 ± 2.4 × 10−12). All samples overlap with the average, within errors.

**Table S1. Chlorophyll *a* results.**

|  |  |  |
| --- | --- | --- |
| **Average depth (m)** | **Number of observations (n)** | **Chl *a* ± 1(μg L−1*)*** |
| 1.7 | 497 | 0.007 ± 0.028 |
| 2.2 | 500 | 0.004 ± 0.019 |
| 6.2 | 500 | 0.010 ± 0.009 |
| 11.1 | 500 | 0.026 ± 0.008 |
| 11.9 | 500 | 0.028 ± 0.008 |
| 12.0 | 500 | 0.025 ± 0.003 |
| 11.9 | 500 | 0.022 ± 0.005 |
| 12.2 | 500 | 0.023 ± 0.002 |
| 18.4 | 500 | 0.030 ± 0.006 |
| 26.7 | 500 | 0.044 ± 0.005 |
| 33.8 | 500 | 0.084 ± 0.041 |
| 40.8 | 500 | 0.086 ± 0.007 |
| 47.9 | 500 | 0.100 ± 0.005 |
| 59.8 | 500 | 0.185 ± 0.077 |
| 77.4 | 500 | 0.316 ± 0.045 |
| 95.0 | 500 | 0.210 ± 0.028 |
| 112.7 | 500 | 0.117 ± 0.022 |
| 130.6 | 500 | 0.062 ± 0.010 |
| 148.4 | 500 | 0.043 ± 0.005 |
| 166.2 | 500 | 0.036 ± 0.002 |
| 184.0 | 500 | 0.035 ± 0.002 |
| 201.7 | 500 | 0.035 ± 0.002 |
| 219.5 | 500 | 0.035 ± 0.001 |
| 237.3 | 500 | 0.036 ± 0.001 |
| 255.0 | 500 | 0.038 ± 0.001 |
| 272.8 | 500 | 0.039 ± 0.001 |
| 290.5 | 500 | 0.038 ± 0.001 |
| 308.3 | 500 | 0.039 ± 0.002 |
| 326.1 | 500 | 0.039 ± 0.002 |
| 343.8 | 500 | 0.040 ± 0.002 |
| 361.5 | 500 | 0.040 ± 0.002 |
| 379.4 | 500 | 0.040 ± 0.001 |
| 397.1 | 500 | 0.040 ± 0.002 |
| 414.8 | 500 | 0.040 ± 0.001 |
| 432.6 | 500 | 0.040 ± 0.002 |
| 450.4 | 500 | 0.039 ± 0.001 |
| 468.1 | 500 | 0.040 ± 0.002 |
| 485.9 | 500 | 0.039 ± 0.001 |
| 503.6 | 500 | 0.039 ± 0.002 |
| 521.2 | 500 | 0.040 ± 0.002 |
| 538.6 | 500 | 0.038 ± 0.001 |
| 556.0 | 500 | 0.039 ± 0.002 |
| 573.6 | 500 | 0.040 ± 0.002 |
| 591.0 | 500 | 0.039 ± 0.001 |