6. 濃縮係数一覧表

6－1. 濃縮係数一覧表をまとめるにあたって

本章では、学会誌、シンポジウム等の会議録等に発表された論文から報告された濃縮係数を抽出し、あるいは生物体内の元素濃度等にもとづいて濃縮係数を誘導することを試みた。論文の収集と濃縮係数値抽出にあたってはもれのないように注意することに努めたが、限られた時間での解析の結果、わが国の研究機関において実施された一部の研究に専ら依らざるを得ず、十分な網羅度に達していないのが現実である。報告されている結果には、放射性同位元素を用いたトレーサー手法や環境試料の放射性核種分析、安定同位体分析手法など様々な研究手法によって行われたものが含まれている。また、分析技術の向上にともなう精度や感度の改善によって質的に異なる分析データを含む場合もあると考えられる。したがって、定義により導かれる濃縮係数ではあるがデータ間の比較吟味が欠くべからざるものであり、誘導過程を十分理解することが必要となってくる。この章では濃縮係数値としての値が原著中に明確には与えられていない場合、以下のような方法を用いて誘導することとした。誘導された値の信頼性に関する責任は、本パラメータシリーズの著者が負うべきものであることは言うまでもない。

濃縮係数の誘導法

多くのトレーサー実験においては、環境水中濃度、餌料中濃度は管理された条件下で行われており濃縮係数の誘導は容易であり、著者によって与えられている場合が多い。一方、海産生物中の元素濃度、放射性核種濃度レベルに関する研究では、海水中濃度が与えられておらず濃縮係数については明らかには言及されていない例も多い。このような場合には海水に関するデータを補塡することによって、定義により濃縮係数を誘導する必要性が生じる。海水中の元素濃度、特に海洋水中濃度は、地球化学的な平衡関係が達しており、一般に一定であるとみなし得る。したがって、外洋生物については、外洋海水中に関する報告値を用いて濃縮係数を計算することは合理的である。しかし多くの場合、対象とする海産生物は沿岸性のものであり、そこでは海水の元素濃度には大きな変動があると考えられる。ここでは、そのような変動を留保し、広く受け入れられているTUREKIANの海水中元素濃度を沿岸海水濃度に適用できるものとして濃縮係数の計算を行った。表6－1－1.にはTUREKIANの海水中元素濃度を示す。

海産生物中の放射性核種濃度は与えられているが海水中の濃度が与えられていない場合、海水中の放射性核種濃度を他の報告から求める必要が生じる。このような場合には、論文中に与えられている試料採取日時に相当する日時や期間について主としてRadioactivity Suvey Data in Japan(放

表６－１－１.　TUREKIANによる海水中の元素濃度

原子番号	元素	濃度 (ppb)	原子番号	元素	濃度 (ppb)	原子番号	元素	濃度 (ppb)
11	Na	1.08E+07	36	Kr	2.10E-01	63	Eu	1.30E-04
12	Mg	1.29E+06	37	Rb	1.20E+02	64	Gd	7.00E-04
13	Al	1.00E+00	28	Sr	8.10E+03	65	Tb	1.40E-04
14	Si	2.90E+03	39	Y	1.30E-02	66	Dy	9.10E-04
15	P	8.80E+01	40	Zr	2.60E-02	67	Ho	2.20E-04
16	S	9.04E+05	41	Nb	1.50E-02	68	Er	8.70E-04
17	Cl	1.94E+07	42	Mo	1.00E+01	69	Tm	1.70E-04
18	Ar	4.50E+02	44	Ru	7.00E-04	70	Yb	8.20E-04
19	K	3.92E+05	45	Rh		71	Lu	1.50E-04
20	Ca	4.11E+05	46	Pd		72	Hf	<0.008
21	Sc	<0.004	47	Ag	2.80E-01	73	Ta	<0.0025
22	Ti	1.00E+00	48	Cd	1.10E-01	74	W	<0.001
23	V	1.90E+00	49	In		75	Re	8.40E-03
24	Cr	2.00E-01	50	Sn	8.10E-01	76	Os	
25	Mn	4.00E-01	51	Sb	3.30E-01	77	Ir	
26	Fe	3.40E+00	52	Te		78	Pt	
27	Co	3.90E-01	53	I	6.40E+01	79	Au	1.10E-02
28	Ni	6.60E+00	54	Xe	4.70E-02	80	Hg	1.50E-01
29	Cu	9.00E-01	55	Cs	3.00E-01	81	Tl	
30	Zn	5.00E+00	56	Ba	2.10E+01	82	Pb	3.00E-02
31	Ga	3.00E-02	57	La	3.40E-03	83	Bi	2.00E-02
32	Ge	6.00E-02	58	Ce	1.20E-03	88	Ra	1.00E-07
33	As	2.60E+00	59	Pr	6.40E-04	90	Th	4.00E-04
34	Se	9.00E-02	60	Nd	2.80E-03	91	Pa	2.00E-10
35	Br	6.73E+04	62	Sm	4.50E-04	92	U	3.30E+00

from K.H.Wedepohl ed., Handbook of Geochemistry, Springer-Verlag Berlin, Heidelberg, New York, 1969

射線医学総合研究所）および海洋環境放射能総合評価事業（科学技術庁防災環境対策室）で報告されているデータから最も適当と考えられる値を求めて計算に用いることとした。一例としてNagaya, Y. et al.: ^{239,240}Pu and ^{137}Cs Concentrations in Some Marine Organisms, Mostly from the Ibaraki and Aomori Coasts, Japan, 1987-1989. に与えられた海産生物の放射性核種濃度に対応する海水中濃度を導く手順を以下に示す。論文では、1979年より1986年の間に採取した海産魚の^{137}Cs濃度が報告されている。この間の海水中 ^{137}Cs濃度は論文中に与えられていないが、上記の二つの資料から図6－1－1.のように海水中 ^{137}Cs濃度を得ることができる。表面海水について当該期間の濃度の出現頻度は図6－1－2.のとおりであり、海水中の ^{137}Cs濃度は、ほぼ対数正規分布とみなすことができる。したがって、この期間の代表的な値として幾何平均値、4.7 mBq/ℓをとることは適当であることと考えられる。

濃縮係数の報告例

本章末に引用した文献の一覧を示す。これらの文献より抽出した値を元素、生物群別に分類した場合の報告例数は表6－1－2.に示すとおりである。これらの濃縮係数一覧表を表6－2－1.に示した。また、報告値の幾何平均値（報告値の積の報告例数の累乗根）を求め総括表として表6－2－2.に示した。総括表に与えた値の確実性は報告例数に依存することを考慮する必要がある。表9－2.にみられるように研究対象は、特定の元素群、生物群に集中している傾向も否定できないところである。また、「特異的」な濃縮現象を専らの研究対象とし、結果として「大きめな濃縮係数値」を得ている場合もあり、最も適当な濃縮係数を設定するためにはさらに検討の余地があると言わざるを得ない。一方、濃縮係数を適用する場合には、元素、生物種や生物の器官や組織で大きなばらつきがあり得ることを前提として議論する必要がある。図6－1－3.、6－1－4.、6－1－5.、6－1－6.、および6－1－7.には、セシウム、ストロンチウム、マンガン、コバルト、亜鉛の濃縮係数値の報告例頻度分布（累積頻度分布）を表した。

表6－1－2. 濃縮係数値の生物種別・核種別報告例数

分類名	Al	As	Ba	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	I	K	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Pu	Rb	Ru	S	Sn	Sr	U	V	Zn	Zr
緑藻類							2		16																	5		1			
紅藻類		2				3	14		24		5	1			8							3		1			5	5		8	3
褐藻類		22				5	40		123		7	30			25							4				2	9	14		29	2
顕花植物																												1			
腔腸類																											2				
棘皮類	2			1	2		7	2	10	2	4	1	1	1	5		1		2	1	1	2					7	2		5	
甲殻類	5				5	2	9	5	6	5	7	1			7				5		5						14	6		7	
二枚貝	37		26	40	51	2	69	27	21	60	66	1	40	40	67	26	40		51	40	29	6	2	1	2	2	53	14		66	1
巻貝					19	1	29		11	21	23	1			85				19								16	3		23	
頭足類				19		3	84		56	33	35	3			35							2					69	21		36	
原索類	2		2	2	2	2	7	2	12	2	7	2	2	2	7		2		2	2				4			7		2	7	
魚類						5	23		165		13	23			13			2				50					35	23		13	2

図６－１－１.　海水中のCs-137濃度（mBq/l）

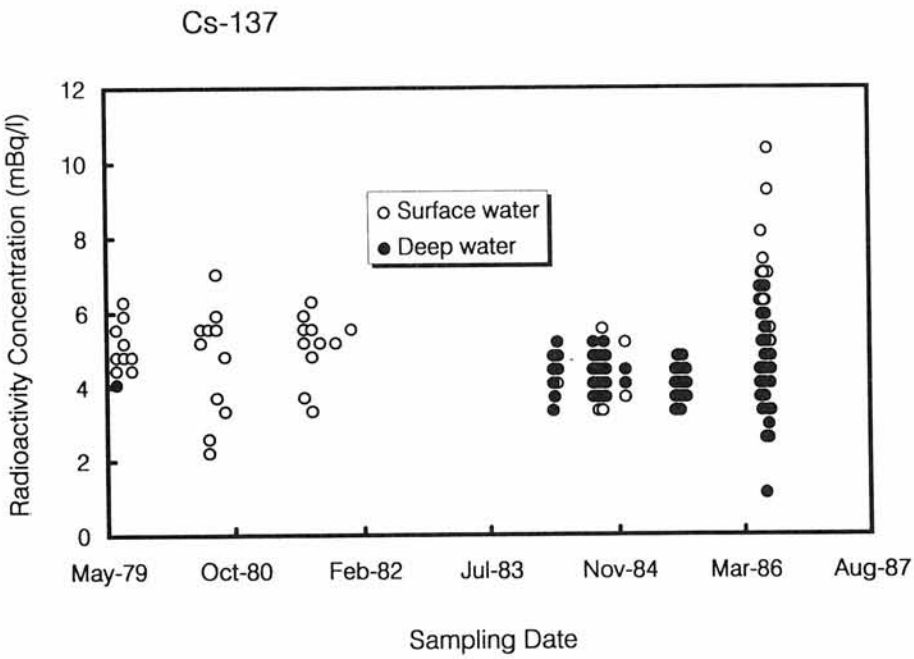


図６－１－２.　1979年より1986年に採取された日本近海海水中の
Cs-137濃度の出現頻度分布
Frequency Distribution of ^{137}Cs Concentration in Sea Water
Taken from 1979 to 1986

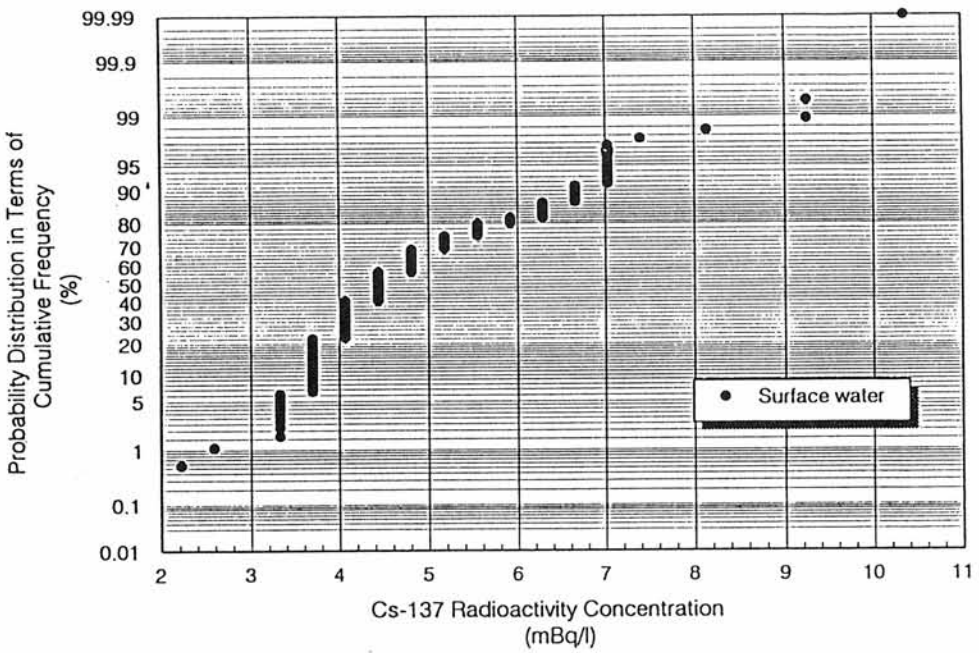


図６－１－３.　海産生物における^{137}Cs濃縮係数報告値の頻度分布

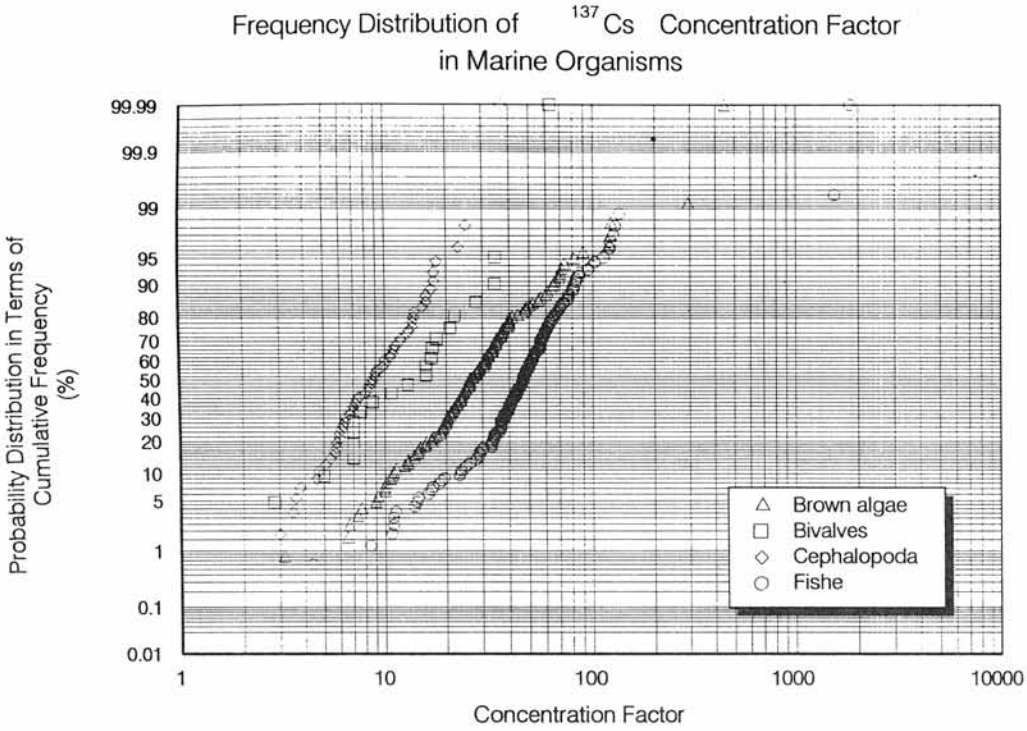


図６－１－４.　海産生物におけるSrの濃縮係数報告値の頻度分布

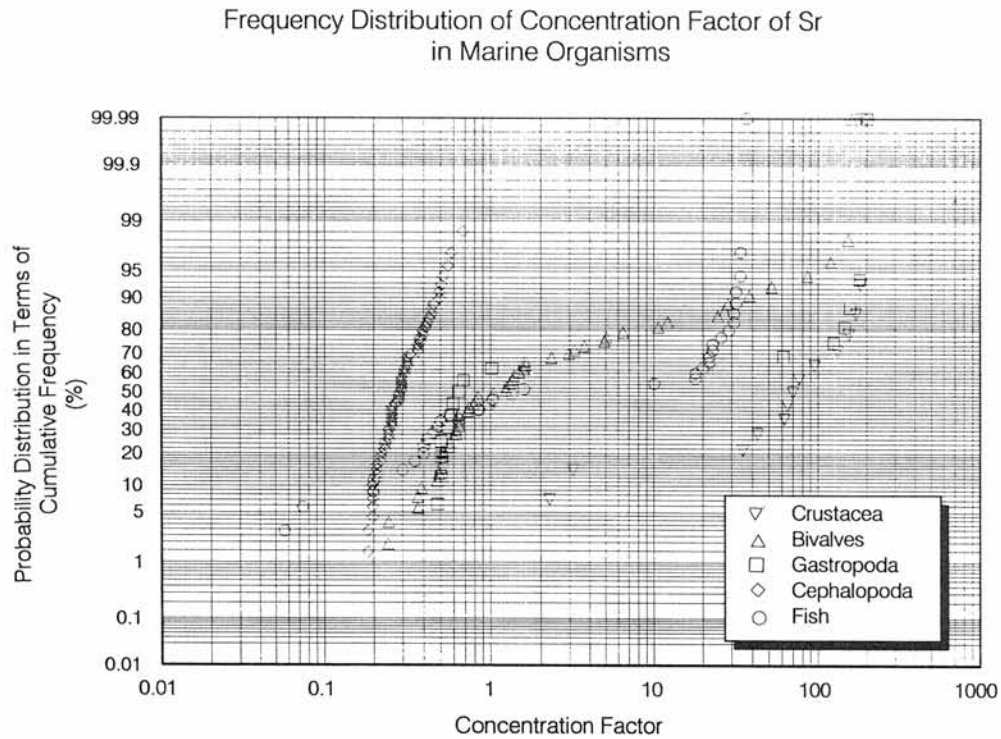


図６－１－５.　海産生物におけるMn濃縮係数報告値の頻度分布

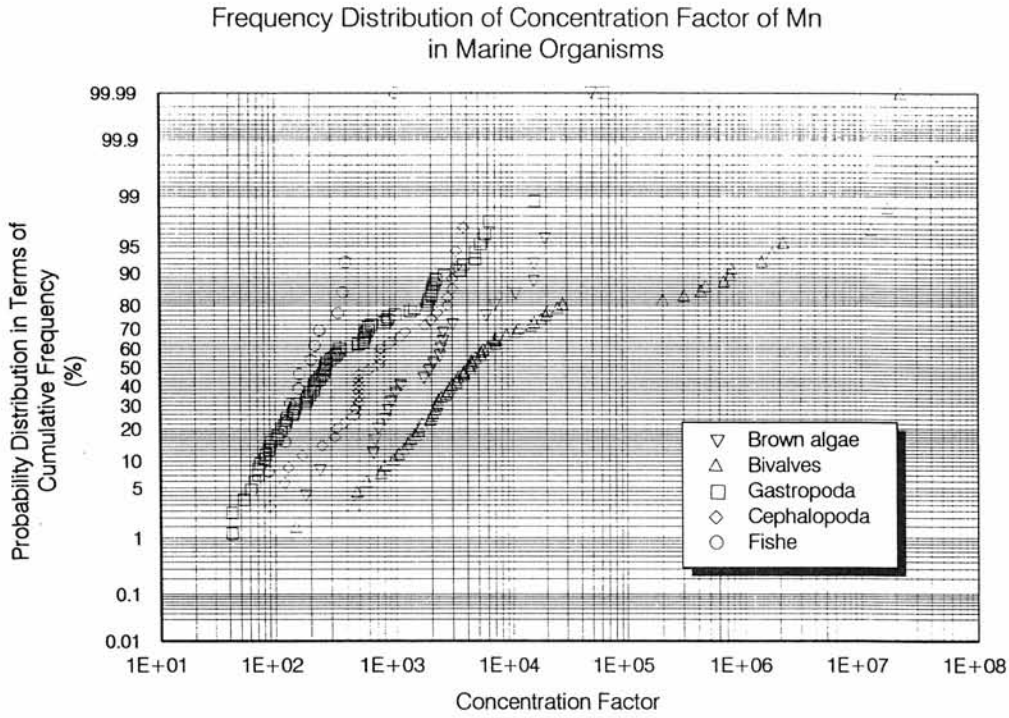


図６－１－６.　海産生物におけるCo濃縮係数報告値の頻度分布

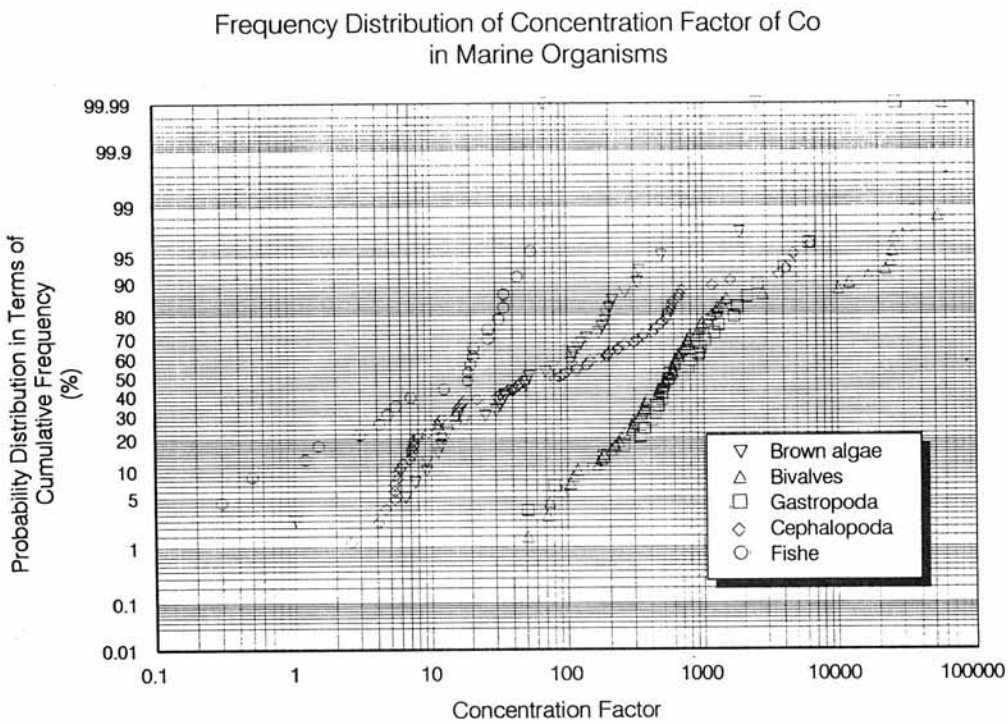
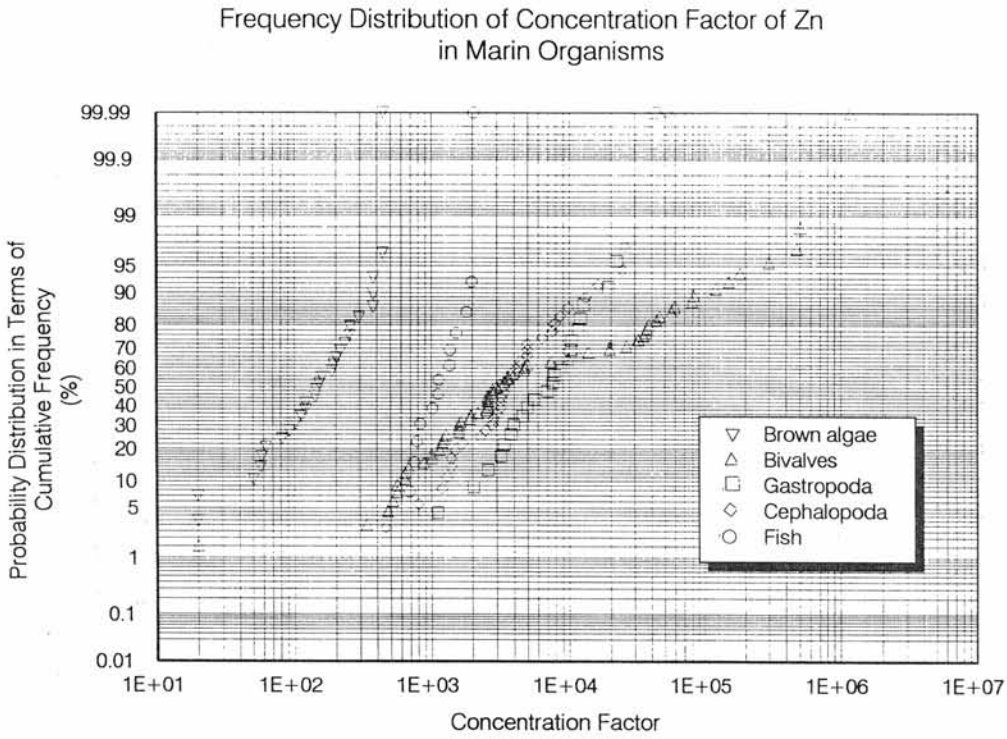


図６－１－７.　海産生物におけるZn濃縮係数報告値の頻度分布



（渡部　輝久）

6－2. オリジナル実験報告（原著論文）による濃縮係数一覧表

表6－2－1. 濃縮係数一覧表

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Al	Al	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad	3.70E+03	SEA	22
	Al		Manamako(*Stichopus japonicus*)	Whole animal	3.80E+03	SEA	24
	Al	甲殻類	Kegani(*Erimacrus isenbecki*	Edible part(muscle)	8.10E+02	SEA	24
	Al		Iseebi(*Panulirus japonicus*)	Edible part(muscle)	8.20E+02	SEA	24
	Al		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	1.80E+03	SEA	24
	Al		Iseebi(*Panulirus japonicus*)	Edible part(liver)	2.38E+03	SEA	24
	Al		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	5.00E+03	SEA	24
	Al	二枚貝	Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	2.80E+02	SEA	31
	Al		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	3.60E+02	SEA	31
	Al		Fluted giant clam(*Tridacna squamosa*)	Mantle	3.80E+02	SEA	31
	Al		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	5.60E+02	SEA	31
	Al		Crocus giant clam(*Tridacna crocea*)	Gill	7.00E+02	SEA	31
	Al		Crocus giant clam(*Tridacna crocea*)	Mantle	7.80E+02	SEA	31
	Al		Elongate giant clam(*Tridacna maxima*)	Mantle	1.02E+03	SEA	31
	Al		Elongate giant clam(*Tridacna maxima*)	Gonad	1.12E+03	SEA	31
	Al		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	1.36E+03	SEA	31
	Al		Fluted giant clam(*Tridacna squamosa*)	Gonad	1.84E+03	SEA	31
	Al		Bear paw clam(*Hippopus hippopus*)	Gonad	1.88E+03	SEA	31
	Al		Elongate giant clam(*Tridacna maxima*)	Gill	2.00E+03	SEA	31
	Al		Fluted giant clam(*Tridacna squamosa*)	Gill	2.00E+03	SEA	31
	Al		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	2.60E+03	SEA	31
	Al		Bear paw clam(*Hippopus hippopus*)	Kidney	2.80E+03	SEA	31
	Al		Fluted giant clam(*Tridacna squamosa*)	Liver	3.00E+03	SEA	31
	Al		Elongate giant clam(*Tridacna maxima*)	Kidney	3.40E+03	SEA	31
	Al		Fluted giant clam(*Tridacna squamosa*)	Kidney	3.40E+03	SEA	31
	Al		Elongate giant clam(*Tridacna maxima*)	Liver	3.80E+03	SEA	31
	Al		Bear paw clam(*Hippopus hippopus*)	Mantle	3.80E+03	SEA	31
	Al		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	4.00E+03	SEA	27
	Al		Elongate giant clam(*Tridacna maxima*)	Byssus	4.60E+03	SEA	31
	Al		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.00E+03	SEA	27
	Al		Crocus giant clam(*Tridacna crocea*)	Kidney	5.80E+03	SEA	31
	Al		Bear paw clam(*Hippopus hippopus*)	Gill	7.60E+03	SEA	31
	Al		Magaki(*Crassostrea gigas*)	Edible part(soft part)	9.40E+03	SEA	24
	Al		Cyclosunetta menstrualis	Whole soft tissue	1.00E+04	SEA	23
	Al		Crocus giant clam(*Tridacna crocea*)	Byssus	1.34E+04	SEA	31
	Al		Bear paw clam(*Hippopus hippopus*)	Liver	1.62E+04	SEA	31
	Al		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.70E+04	SEA	27
	Al		Clam(*Cyclosunetta menstrualis*)	Kidney	2.10E+04	SEA	27
	Al		Fluted giant clam(*Tridacna squamosa*)	Byssus	2.20E+04	SEA	31

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Al	Al	二枚貝	Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.50E+04	SEA	27
	Al		Clam(*Cyclosunetta menstrualis*)	Kidney	3.20E+04	SEA	27
	Al		Clam(*Cyclosunetta menstrualis*)	Kidney	4.00E+04	SEA	27
	Al		*Cyclosunetta menstrualis*	Kidney	4.90E+04	SEA	23
	Al		Clam(*Cyclosunetta menstrualis*)	Kidney	5.40E+04	SEA	27
	Al	原索類	マボヤ(*ascidian:Halocynthia roretzi*)	筋膜（可食部）	2.00E+03	SEA	13
	Al		マボヤ(*ascidian:Halocynthia roretzi*)	内蔵（可食部）	7.00E+03	SEA	13
As	As	紅藻類	マクサ		1.38E+02	SEA	34
	As		ツノムカデ		7.02E+02	SEA	34
	As	褐藻類	ワカメ	胞子葉	5.57E+01	SEA	34
	As		アメラ		9.65E+01	SEA	34
	As		ワカメ	栄養葉	1.16E+02	SEA	34
	As		ヤツマタモク		1.34E+02	SEA	34
	As		アカモク		1.46E+02	SEA	34
	As		アラメ		1.52E+02	SEA	34
	As		ワカメ	栄養葉	1.56E+02	SEA	34
	As		アカモク		1.69E+02	SEA	34
	As		アメタワラ		1.75E+02	SEA	34
	As		ヤツマタモク		1.79E+02	SEA	34
	As		フシスジモク		1.79E+02	SEA	34
	As		オオバモク		2.30E+02	SEA	34
	As		アラメ		3.63E+02	SEA	34
	As		エゾノネジモク		3.68E+02	SEA	34
	As		ヨレモク		4.04E+02	SEA	34
	As		ミヤベモク		4.45E+02	SEA	34
	As		ウミトラノオ		5.38E+02	SEA	34
	As		アカモク		5.48E+02	SEA	34
	As		ウガノモク		1.15E+03	SEA	34
	As		ヨレモク		1.17E+03	SEA	34
	As		タマハキモク		2.70E+03	SEA	34
	As		オオバモク		2.84E+03	SEA	34
Ba	Ba	二枚貝	Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	5.43E−01	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Gonad	9.52E−01	SEA	31
	Ba		Bear paw clam(*Hippopus hippopus*)	Kidney	1.05E+00	SEA	31
	Ba		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	1.24E+00	SEA	31
	Ba		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	1.52E+00	SEA	31
	Ba		Bear paw clam(*Hippopus hippopus*)	Gonad	1.62E+00	SEA	31
	Ba		Elongate giant clam(*Tridacna maxima*)	Gonad	1.71E+00	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	1.71E+00	SEA	31
	Ba		Crocus giant clam(*Tridacna crocea*)	Mantle	1.81E+00	SEA	31
	Ba		Elongate giant clam(*Tridacna maxima*)	Mantle	1.81E+00	SEA	31
	Ba		Bear paw clam(*Hippopus hippopus*)	Mantle	2.48E+00	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Mantle	3.05E+00	SEA	31

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Ba	Ba	二枚貝	Crocus giant clam(*Tridacna crocea*)	Gill	3.43E+00	SEA	31
	Ba		Bear paw clam(*Hippopus hippopus*)	Gill	3.43E+00	SEA	31
	Ba		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	3.90E+00	SEA	31
	Ba		Elongate giant clam(*Tridacna maxima*)	Gill	5.24E+00	SEA	31
	Ba		Elongate giant clam(*Tridacna maxima*)	Liver	6.10E+00	SEA	31
	Ba		Crocus giant clam(*Tridacna crocea*)	Byssus	6.38E+00	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Kidney	6.67E+00	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Gill	8.29E+00	SEA	31
	Ba		Elongate giant clam(*Tridacna maxima*)	Byssus	8.95E+00	SEA	31
	Ba		Elongate giant clam(*Tridacna maxima*)	Kidney	9.52E+00	SEA	31
	Ba		Crocus giant clam(*Tridacna crocea*)	Kidney	9.52E+00	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Liver	1.24E+01	SEA	31
	Ba		Fluted giant clam(*Tridacna squamosa*)	Byssus	1.33E+01	SEA	31
	Ba		Bear paw clam(*Hippopus hippopus*)	Liver	1.81E+01	SEA	31
	Ba	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	3.00E+00	SEA	13
	Ba		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	7.00E+00	SEA	13
Ca	Ca	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad	8.54E−01	SEA	22
	Ca	二枚貝	Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	3.55E−01	SEA	31
	Ca		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	3.89E−01	SEA	31
	Ca		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	5.55E−01	SEA	31
	Ca		Elongate giant clam(*Tridacna maxima*)	Liver	5.99E−01	SEA	31
	Ca		Fluted giant clam(*Tridacna squamosa*)	Gonad	6.81E−01	SEA	31
	Ca		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	7.69E−01	SEA	31
	Ca		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	7.88E−01	SEA	31
	Ca		Bear paw clam(*Hippopus hippopus*)	Gonad	8.13E−01	SEA	31
	Ca		Elongate giant clam(*Tridacna maxima*)	Gonad	9.15E−01	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	9.25E−01	SEA	27
	Ca		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.07E+00	SEA	27
	Ca		Fluted giant clam(*Tridacna squamosa*)	Gill	1.27E+00	SEA	31
	Ca		Fluted giant clam(*Tridacna squamosa*)	Liver	1.33E+00	SEA	31
	Ca		Crocus giant clam(*Tridacna crocea*)	Mantle	1.36E+00	SEA	31
	Ca		Fluted giant clam(*Tridacna squamosa*)	Mantle	1.68E+00	SEA	31
	Ca		Crocus giant clam(*Tridacna crocea*)	Gill	1.73E+00	SEA	31
	Ca		Elongate giant clam(*Tridacna maxima*)	Mantle	1.77E+00	SEA	31
	Ca		Bear paw clam(*Hippopus hippopus*)	Gill	1.80E+00	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.95E+00	SEA	27
	Ca		Elongate giant clam(*Tridacna maxima*)	Gill	2.08E+00	SEA	31
	Ca		Bear paw clam(*Hippopus hippopus*)	Mantle	2.38E+00	SEA	31
	Ca		*Cyclosunetta menstrualis*	Whole soft tissue	2.43E+00	SEA	23
	Ca		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.46E+00	SEA	27

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Ca	Ca	二枚貝	Crocus giant clam(*Tridacna crocea*)	Byssus	2.71E+00	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.87E+00	SEA	27
	Ca		Bear paw clam(*Hippopus hippopus*)	Liver	3.61E+00	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Kidney	3.70E+00	SEA	27
	Ca		Clam(*Cyclosunetta menstrualis*)	Kidney	3.70E+00	SEA	27
	Ca		Clam(*Cyclosunetta menstrualis*)	Kidney	4.14E+00	SEA	27
	Ca		Clam(*Cyclosunetta menstrualis*)	Kidney	4.87E+00	SEA	27
	Ca		Fluted giant clam(*Tridacna squamosa*)	Byssus	5.74E+00	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.03E+01	SEA	27
	Ca		Elongate giant clam(*Tridacna maxima*)	Byssus	1.36E+01	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Kidney	1.95E+01	SEA	27
	Ca		Bear paw clam(*Hippopus hippopus*)	Kidney	2.57E+01	SEA	31
	Ca		*Cyclosunetta menstrualis*	Kidney	3.75E+01	SEA	23
	Ca		Fluted giant clam(*Tridacna squamosa*)	Kidney	3.99E+01	SEA	31
	Ca		Crocus giant clam(*Tridacna crocea*)	Kidney	4.65E+01	SEA	31
	Ca		Elongate giant clam(*Tridacna maxima*)	Kidney	4.98E+01	SEA	31
	Ca		Clam(*Cyclosunetta menstrualis*)	Kidney	5.47E+01	SEA	27
	Ca	頭足類	ケンサキイカ(*Photoligo edulis*)	外套膜	2.46E−01	SEA	36
	Ca		スルメイカ(*Todarodes pacificus*)	外套膜	2.51E−01	SEA	36
	Ca		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	2.58E−01	SEA	36
	Ca		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	3.02E−01	SEA	36
	Ca		アオリイカ(*Sepioteuthis lessoniana*)	脚部	3.02E−01	SEA	36
	Ca		ケンサキイカ(*Photoligo edulis*)	肝臓	3.04E−01	SEA	36
	Ca		ケンサキイカ(*Photoligo edulis*)	脚部	3.04E−01	SEA	36
	Ca		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	3.07E−01	SEA	36
	Ca		スルメイカ(*Todarodes pacificus*)	脚部	3.14E−01	SEA	36
	Ca		スルメイカ(*Todarodes pacificus*)	肝臓	4.38E−01	SEA	36
	Ca		スルメイカ(*Todarodes pacificus*)	肝臓	4.48E−01	SEA	36
	Ca		コウイカ(*Sepia esculenta*)	外套膜	4.53E−01	SEA	36
	Ca		ケンサキイカ(*Photoligo edulis*)	鰓心臓	4.62E−01	SEA	36
	Ca		コウイカ(*Sepia esculenta*)	脚部	5.79E−01	SEA	36
	Ca		スルメイカ(*Todarodes pacificus*)	鰓心臓	6.76E−01	SEA	36
	Ca		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	7.57E−01	SEA	36
	Ca		コウイカ(*Sepia esculenta*)	肝臓	8.03E−01	SEA	36
	Ca		コウイカ(*Sepia esculenta*)	鰓心臓	8.22E−01	SEA	36
	Ca		コウイカ(*Sepia esculenta*)	肝臓	1.64E+00	SEA	36
	Ca	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	8.00E−01	SEA	13
	Ca		マボヤ(ascidian:*Halocynthia roretzi*)	内臓（可食部）	8.00E−01	SEA	13
Cd	Cd	棘皮類	Manamako(*Stichopus japonicus*)	Whole animal	1.18E+02	SEA	24
	Cd		Sea urchin(*Strongylocentrotus nudus*)	Gonad	4.00E+02	SEA	22
	Cd	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	1.45E+02	SEA	24
	Cd		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	1.64E+02	SEA	24
	Cd		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	1.64E+02	SEA	24
	Cd		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	4.82E+04	SEA	24
	Cd		Iseebi(*Panulirus japonicus*)	Edible part(liver)	1.09E+05	SEA	24

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cd	Cd	二枚貝	Crocus giant clam(*Tridacna crocea*)	Byssus	8.73E+02	SEA	31
	Cd		Ubagai(*Spisula sachalinensis*)	Soft part	9.09E+02	SEA	26
	Cd		Magaki(*Crassostrea gigas*)	Soft part	1.09E+03	SEA	24
	Cd		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	1.27E+03	SEA	26
	Cd		Asari(*Tapes philippinarum*)	Soft part	1.36E+03	SEA	26
	Cd		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	1.82E+03	SEA	26
	Cd		Igai(*Mytilus coruscus*)	Soft part	1.91E+03	SEA	26
	Cd		Magaki(*Crassostrea gigas*)	Soft part	2.09E+03	SEA	24
	Cd		Magaki(*Crassostrea gigas*)	Soft part	2.18E+03	SEA	24
	Cd		Magaki(*Crassostrea gigas*)	Soft part	2.18E+03	SEA	24
	Cd		Fluted giant clam(*Tridacna squamosa*)	Byssus	2.18E+03	SEA	31
	Cd		Elongate giant clam(*Tridacna maxima*)	Byssus	2.18E+03	SEA	31
	Cd		Cyclosunetta menstrualis	Whole soft tissue	2.27E+03	SEA	23
	Cd		Nunomeasari(*Novathaca euglypta*)	Soft part	2.36E+03	SEA	26
	Cd		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	2.45E+03	SEA	26
	Cd		Magaki(*Crassostrea gigas*)	Soft part	2.73E+03	SEA	24
	Cd		Magaki(*Crassostrea gigas*)	Soft part	2.91E+03	SEA	24
	Cd		Magaki(*Crassostrea gigas*)	Edible part(soft part)	3.55E+03	SEA	24
	Cd		Fluted giant clam(*Tridacna squamosa*)	Gill	4.18E+03	SEA	31
	Cd		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	4.36E+03	SEA	31
	Cd		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	4.36E+03	SEA	31
	Cd		Magaki(*Crassostrea gigas*)	Soft part	4.45E+03	SEA	24
	Cd		Fluted giant clam(*Tridacna squamosa*)	Liver	4.55E+03	SEA	31
	Cd		Crocus giant clam(*Tridacna crocea*)	Gill	4.55E+03	SEA	31
	Cd		Bear paw clam(*Hippopus hippopus*)	Mantle	4.73E+03	SEA	31
	Cd		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	5.27E+03	SEA	31
	Cd		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	5.45E+03	SEA	31
	Cd		Fluted giant clam(*Tridacna squamosa*)	Mantle	5.45E+03	SEA	31
	Cd		Elongate giant clam(*Tridacna maxima*)	Gill	5.64E+03	SEA	31
	Cd		Bear paw clam(*Hippopus hippopus*)	Liver	5.82E+03	SEA	31
	Cd		Bear paw clam(*Hippopus hippopus*)	Gill	6.00E+03	SEA	31
	Cd		Crocus giant clam(*Tridacna crocea*)	Mantle	6.36E+03	SEA	31
	Cd		Magaki(*Crassostrea gigas*)	Soft part	6.73E+03	SEA	26
	Cd		Elongate giant clam(*Tridacna maxima*)	Mantle	6.91E+03	SEA	31
	Cd		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	6.91E+03	SEA	31
	Cd		Kotamagai(*Gomphina melanaegis*)	Soft part	7.27E+03	SEA	26
	Cd		Scallop(*Patinopecten yessoensis*)	Adductor muscle	8.36E+03	SEA	24
	Cd		Elongate giant clam(*Tridacna maxima*)	Liver	9.09E+03	SEA	31
	Cd		Bear paw clam(*Hippopus hippopus*)	Gonad	9.64E+03	SEA	31
	Cd		Marusarubo(*Scapharca satowi*)	Soft part	1.00E+04	SEA	26
	Cd		Fluted giant clam(*Tridacna squamosa*)	Gonad	1.00E+04	SEA	31
	Cd		Elongate giant clam(*Tridacna maxima*)	Gonad	1.47E+04	SEA	31

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cd	Cd	二枚貝	Hotategai(*Patinopecten yessoensis*)	Soft part	1.64E+04	SEA	26
	Cd		*Cyclosunetta menstrualis*	Kidney	1.91E+04	SEA	23
	Cd		Bear paw clam(*Hippopus hippopus*)	Kidney	2.55E+04	SEA	31
	Cd		Akazara(*Chlamys farreri*)	Soft part	3.18E+04	SEA	26
	Cd		Crocus giant clam(*Tridacna crocea*)	Kidney	3.27E+04	SEA	31
	Cd		Fluted giant clam(*Tridacna squamosa*)	Kidney	4.73E+04	SEA	31
	Cd		Elongate giant clam(*Tridacna maxima*)	Kidney	6.91E+04	SEA	31
	Cd		Scallop(*Patinopecten yessoensis*)	Liver	1.27E+05	SEA	24
	Cd		Scallop(*Patinopecten yessoensis*)	Kidney	6.18E+05	SEA	24
	Cd	巻　貝	Sazae(*Batillus cornutus*)	Muscle	8.18E+02	SEA	26
	Cd		Tsumetagai(*Neverta didyma*)	Muscle	9.09E+02	SEA	26
	Cd		Kuroawabi(*Nordotis discus*)	Muscle	1.00E+03	SEA	26
	Cd		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	1.00E+03	SEA	26
	Cd		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	1.18E+03	SEA	26
	Cd		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	1.27E+03	SEA	26
	Cd		Ishidatami(*Monodonta labio*)	Soft part	1.64E+03	SEA	26
	Cd		Yatsushirogai(*Tonna luteostoma*)	Soft part	3.00E+03	SEA	26
	Cd		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	3.09E+03	SEA	26
	Cd		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	3.91E+03	SEA	26
	Cd		Bekkougasagai(*Cellana grata*)	Soft part	5.64E+03	SEA	26
	Cd		Ibonishi(*Thais clavigera*)	Muscle	6.91E+03	SEA	26
	Cd		Boshubora(*Charonia sauliae*)	Soft part	2.27E+04	SEA	26
	Cd		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	2.36E+04	SEA	26
	Cd		Ibonishi(*Thais clavigera*)	Tissue other than muscle	2.45E+04	SEA	26
	Cd		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	2.82E+04	SEA	26
	Cd		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	4.64E+04	SEA	26
	Cd		Bai(*Babylonia japonica*)	Soft part	5.91E+04	SEA	26
	Cd		Sazae(*Batillus cornutus*)	Tissue other than muscle	1.09E+05	SEA	26
	Cd	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内臓（可食部）	3.00E+02	SEA	13
	Cd		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	6.00E+02	SEA	13
Ce	Ce-144 Pr-144	紅藻類	Algae(*Chondrus sp.*)	A portion of 4g of plant	4.20E+02	TRE	17
	Ce-144 Pr-144		Algae(*Ahnfeltia*)	A portion of 4g of plant	1.23E+03	TRE	17
	Ce-144 Pr-144		Algae(*Gracilaria verrucosa*)	A portion of 4g of plant	2.68E+03	TRE	17
	Ce-144 Pr-144	褐藻類	Algae(*Hijikia fusiforme*)	A portion of 4g of plant	4.00E+01	TRE	17
	Ce-144 Pr-144		Algae(*Sargassum thunbergii*)	A portion of 4g of plant	9.10E+02	TRE	17
	Ce		マコンブ	可食部	2.30E+03	SEA	32
	Ce		フクロノリ	可食部	3.30E+03	SEA	32
	Ce		マコンブ	可食部	8.30E+03	SEA	32

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Ce	Ce	甲殻類	ケガニ	可食部	3.70E+02	SEA	32
	Ce		ケガニ	可食部	5.20E+02	SEA	32
	Ce-144 Pr-144	二枚貝	Bivalve(*Gomphina melanaegis*)	Soft part	2.00E+01	TRE	17
	Ce		ホタテガイ	可食部	1.40E+02	SEA	32
	Ce	巻　貝	エゾアワビ	可食部	1.60E+03	SEA	32
	Ce	頭足類	スルメイカ	可食部	2.00E+01	SEA	32
	Ce		スルメイカ	可食部	6.90E+01	SEA	32
	Ce		スルメイカ	可食部	7.00E+01	SEA	32
	Ce	原索類	マボヤ	可食部	3.90E+02	SEA	32
	Ce		マボヤ	可食部	2.40E+03	SEA	32
	Ce	魚　類	アイナメ	可食部	1.90E+01	SEA	32
	Ce		ギンザケ	可食部	2.20E+01	SEA	32
	Ce		アカガレイ	可食部	7.20E+01	SEA	32
	Ce		ヒラメ	可食部	8.50E+01	SEA	32
	Ce		クロガシラガレイ	可食部	1.80E+02	SEA	32
Co	Co-60	緑藻類	*Ulva pertusa*	Whole body	9.20E+02	TRE	2
	Co-57(Cyanocobalamine)		*Ulva pertusa*	Whole body	3.70E+03	TRE	2
	Co	紅藻類	マクサ		2.96E+01	SEA	34
	Co		マクサ		9.23E+01	SEA	34
	Co-60		Algae(*Gracilaria verrucosa*)	A portion of 4g of plant	1.10E+02	TRE	17
	Co-60		Algae(*Ahnfeltia sp.*)	A portion of 4g of plant	1.20E+02	TRE	17
	Co		ツノムカデ		1.55E+02	SEA	34
	Co-57(Cyanocobalamine)		*Chondrus ocellatus*	Whole body	2.10E+02	TRE	2
	Co-60		*Chondrus ocellatus*	Whole body	2.70E+02	TRE	2
	Co-60		Red algae(*Ahnfeltia paradoxa*)		2.90E+02	TRE	9
	Co-60		Algae(*Chondrus*)	A portion of 4g of plant	3.70E+02	TRE	17
	Co-60		Red algae(*Chondrus ocellatus*)		8.33E+02	TRE	9
	Co		Red algae(*Chondrus ocellatus*)		8.60E+02	SEA	9
	Co		Red algae(*Ahnfeltia paradoxa*)		9.10E+02	SEA	9
	Co		フクロフノリ	可食部	1.01E+03	SEA	33
	Co		フクロフノリ	可食部	1.60E+03	SEA	33
	Co	褐藻類	アカモク		1.03E+00	SEA	34
	Co		アラメ		6.46E+00	SEA	34
	Co		エゾノネジモク		7.62E+00	SEA	34
	Co		ヨレモク		9.23E+00	SEA	34
	Co		ワカメ	栄養葉	9.23E+00	SEA	34
	Co		アラメ		1.13E+01	SEA	34
	Co		ヤツマタモク		1.19E+01	SEA	34
	Co		オオバモク		1.20E+01	SEA	34
	Co		ヨレモク		1.33E+01	SEA	34
	Co		ミヤベモク		1.53E+01	SEA	34

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Co	Co	褐藻類	アカモク		1.77E+01	SEA	34
	Co		ワカメ	栄養葉	2.54E+01	SEA	34
	Co		フジスジモク		3.04E+01	SEA	34
	Co		ワガノモク		3.23E+01	SEA	34
	Co-60		Brown algae(*Eisenia bicyclis*)		3.40E+01	TRE	9
	Co		オオバモク		3.51E+01	SEA	34
	Co-60		Algae(*Hijikia fusiforme*)	A portion of 4g of plant	4.00E+01	TRE	17
	Co-60		*Eisenia bicyclis*	Whole body	5.00E+01	TRE	2
	Co		マメタワラ		5.06E+01	SEA	34
	Co		ヤツマタモク		5.31E+01	SEA	34
	Co		Brown algae(*Laminaria japonica*)		7.00E+01	SEA	9
	Co-57(Cyanocobalamine)		*Eisenia bicyclis*	Whole body	8.00E+01	TRE	2
	Co		ウミトラノオ		1.07E+02	SEA	34
	Co		マコンブ	可食部	1.08E+02	SEA	33
	Co		ワカメ	可食部	1.11E+02	SEA	33
	Co		Brown algae(*Hijikia fusiforme*)		1.20E+02	SEA	9
	Co-60		Brown algae(*Hijikia fusiforme*)		1.27E+02	TRE	9
	Co-60		Brown algae(*Leminaria japonica*)		1.38E+02	TRE	9
	Co		マコンブ	可食部	1.68E+02	SEA	33
	Co		ワカメ	胞子葉	1.78E+02	SEA	34
	Co		タマハキモク		1.87 +02	SEA	34
	Co		Brown algae(*Undaria pinnatifida*)		1.90E+02	SEA	9
	Co		Brown algae(*Eisenia bicyclis*)		2.00E+02	SEA	9
	Co-60		Brown algae(*Undaria pinnatifida*)		2.10E+02	TRE	9
	Co		Brown algae(*Sargassum ringgoldianum*)		2.60E+02	SEA	9
	Co		ワカメ	可食部	3.20E+02	SEA	33
	Co-60		Algae(*Sargassum thunbergii*)	A portion of 4g of plant	3.30E+02	TRE	17
	Co		ヒジキ	可食部	4.90E+02	SEA	33
	Co		Brown algae(*Sargassum thunbergii*)		1.89E+03	SEA	9
	Co-60		Brown algae(*Sargassum thunbergii*)		2.57E+03	TRE	9
	Co-60	棘皮井	Sea cucumber(*Stichopus japonicus*)	Whole body	8.00E+00	TRE	3
	Co-60		Sea cucumber(*Stichopus japonicus*)	Intestine	2.00E+01	TRE	3
	Co		マナマコ	可食部	3.28E+01	SEA	33
	Co-60		Sea urchin(*Strongylocentrotus nudus*)	Whole body	6.60E+01	TRE	18
	Co		Manamako(*Stichopus japonicus*)	Whole animal	1.54E+02	SEA	24
	Co		エゾバフンウニ	可食部	3.22E+03	SEA	33
	Co		Sea urchin(*Strongylocentrotus nudus*)	Gonad	3.67E+03	SEA	22
	Co-60	甲殻類	Prawn(*Penaeus japonicus*)	Whole body	7.00 +00	TRE	3
	Co-57(Cyanocobalamine)		Prawn(*Penaeus japonicus*)	Whole body	2.70E+01	TRE	3
	Co		Iseebi(*Panulirus japonicus*)	Edible part(muscle)	3.59E+01	SEA	24
	Co		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	8.46E+01	SEA	24
	Co		ヒラツメガニ	可食部	3.34E+02	SEA	33

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Co	Co	甲殻類	Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	3.85E+02	SEA	24
	Co		Iseebi(*Panulirus japonicus*)	Edible part(liver)	1.15E+03	SEA	24
	Co		*ケガニ*	可食部	1.48E+03	SEA	33
	Co		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	1.95E+03	SEA	24
	Co	二枚貝	Magaki(*Crassostrea gigas*)	Soft part	5.13E+01	SEA	24
	Co		Magaki(*Crassostrea gigas*)	Soft part	7.18E+01	SEA	24
	Co		Magaki(*Crassostrea gigas*)	Edible part(soft part)	7.44E+01	SEA	24
	Co		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	9.23E+01	SEA	31
	Co		Magaki(*Crassostrea gigas*)	Soft part	1.05E+02	SEA	24
	Co-60		Bivalve(*Gomphina melanaegis*)	Soft parts	1.10E+02	TRE	17
	Co		Magaki(*Crassostrea gigas*)	Soft part	1.18E+02	SEA	24
	Co		Elongate giant clam(*Tridacna maxima*)	Liver	1.64E+02	SEA	31
	Co		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	1.74E+02	SEA	31
	Co-60		*Tridacna crocea*	Soft parts	1.80E+02	TRE	4
	Co		Magaki(*Crassostrea gigas*)	Soft part	2.05E+02	SEA	24
	Co		Magaki(*Crassostrea gigas*)	Soft part	2.18E+02	SEA	24
	Co		Scallop(*Patinopecten yessoensis*)	Adductor muscle	2.31E+02	SEA	24
	Co		Magaki(*Crassostrea gigas*)	Soft part	2.41E+02	SEA	24
	Co		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.56E+02	SEA	27
	Co		*ホタテガイ*	可食部	2.85E+02	SEA	33
	Co		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	2.92E+02	SEA	31
	Co		Elongate giant clam(*Tridacna maxima*)	Gonad	2.97E+02	SEA	31
	Co		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	2.97E+02	SEA	31
	Co		Elongate giant clam(*Tridacna maxima*)	Gill	3.23E+02	SEA	31
	Co		Bear paw clam(*Hippopus hippopus*)	Gonad	3.38E+02	SEA	31
	Co		Crocus giant clam(*Tridacna crocea*)	Mantle	3.49E+02	SEA	31
	Co		Fluted giant clam *Tridacna squamosa*)	Gonad	3.54E+02	SEA	31
	Co-60		*Gomphina melanaegis*	Whole body	3.60E+02	TRE	5
	Co-60		*Gomphina melanaegis*		3.60E+02	TRE	4
	Co		Fluted giant clam(*Tridacna squamosa*)	Mantle	3.74E+02	SEA	31
	Co		Fluted giant clam(*Tridacna squamosa*)	Liver	4.46E+02	SEA	31
	Co		Crocus giant clam(*Tridacna crocea*)	Byssus	4.56E+02	SEA	31
	Co		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	4.62E+02	SEA	26
	Co		Crocus giant clam(*Tridacna crocea*)	Gill	4.62E+02	SEA	31
	Co		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	4.97E+02	SEA	31
	Co		Ubagai(*Spisula sachalinensis*)	Soft part	5.13E+02	SEA	26
	Co		Clam(*Cyclosunetta menstrualis*)	Kidney	5.13E+02	SEA	27
	Co		Akazara(*Chlamys farreri*)	Soft part	5.64E+02	SEA	26
	Co		Fluted giant clam(*Tridacna squamosa*)	Gill	5.64E+02	SEA	31
	Co		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	5.90E+02	SEA	26
	Co		Scallop(*Patinopecten yessoensis*)	Liver	5.90E+02	SEA	24
	Co		Hotategai(*Patinopecten yessoensis*)	Soft part	5.90E+02	SEA	26

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Co	Co	二枚貝	Bear paw clam(*Hippopus hippopus*)	Mantle	6.15E+02	SEA	31
	Co		Bear paw clam(*Hippopus hippopus*)	Liver	6.15E+02	SEA	31
	Co-60		*Tridacna crocea*	Whole body	6.20E+02	TRE	4
	Co-60		*Tridacna crocea*	Shell	6.50E+02	TRE	4
	Co-57(Cyanocobalamine)		*Gomphina melanaegis*	Whole body	6.50E+02	TRE	5
	Co		Marusarubo(*Scapharca satowi*)	Soft part	6.92E+02	SEA	26
	Co		Bear paw clam(*Hippopus hippopus*)	Gill	7.18E+02	SEA	31
	Co		Nunomeasari(*Novathaca euglypta*)	Soft part	7.44E+02	SEA	26
	Co		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.69E+02	SEA	27
	Co		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.69E+02	SEA	27
	Co		Igai(*Mytilus coruscus*)	Soft part	7.95E+02	SEA	26
	Co		Scallop(*Patinopecten yessoensis*)	Kidney	8.97E+02	SEA	24
	Co		Kotamagai(*Gomphina melanaegis*)	Soft part	9.23E+02	SEA	26
	Co		Magaki(*Crassostrea gigas*)	Soft part	9.49E+02	SEA	26
	Co		Elongate giant clam(*Tridacna maxima*)	Byssus	9.74E+02	SEA	31
	Co		Asari(*Tapes philippinarum*)	Soft part	1.08E+03	SEA	26
	Co		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	1.15E+03	SEA	26
	Co		*Cyclosunetta menstrualis*	Whole soft tissue	1.26E+03	SEA	23
	Co		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.28E+03	SEA	27
	Co		Fluted giant clam(*Tridacna squamosa*)	Byssus	1.38E+03	SEA	31
	Co		Elongate giant clam(*Tridacna maxima*)	Mantle	1.49E+03	SEA	31
	Co		Clam(*Cyclosunetta menstrualis*)	Kidney	2.82E+03	SEA	27
	Co		Bear paw clam(*Hippopus hippopus*)	Kidney	1.03E+04	SEA	31
	Co		Clam(*Cyclosunetta menstrualis*)	Kidney	1.23E+04	SEA	27
	Co		Fluted giant clam(*Tridacna squamosa*)	Kidney	1.69E+04	SEA	31
	Co		Crocus giant clam(*Tridacna crocea*)	Kidney	2.26E+04	SEA	31
	Co		Elongate giant clam(*Tridacna maxima*)	Kidney	2.46E+04	SEA	31
	Co		Clam(*Cyclosunetta menstrualis*)	Kidney	2.54E+04	SEA	27
	Co		*Cyclosunetta menstrualis*	Kidney	2.62E+04	SEA	23
	Co		*Tridacna crocea*	Kidney	5.30E+04	TRE	4
	Co-60		*Tridacna crocea*	Kidney	5.80E+04	TRE	4
	Co	巻　貝	Tsumetagai(*Neverta didyma*)	Muscle	5.13E+01	SEA	26
	Co-60		*Haliotis discus*	Whole body	8.00E+01	TRE	2
	Co		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	1.54E+02	SEA	26
	Co		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	1.79E+02	SEA	26
	Co-60		*Haliotis discus*	Whole body	2.50E+02	TRE	2
	Co		Sazae(*Batillus cornutus*)	Muscle	3.33E+02	SEA	26
	Co		Yatsushirogai(*Tonna luteostoma*)	Soft part	3.59E+02	SEA	26
	Co		Tsumetagai(*Neverta didyma*)	Muscle	4.10E+02	SEA	26
	Co		Kuroawabi(*Nordotis discus*)	Muscle	4.36E+02	SEA	26
	Co		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	4.62E+02	SEA	26
	Co		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	4.87E+02	SEA	26

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Co	Co	巻貝	エゾアワビ	可食部	4.91E+02	SEA	33
	Co-57(Cyanocobalamine)		*Haliotis discus*	Whole body	5.00E+02	TRE	2
	Co		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	5.38E+02	SEA	26
	Co		Ibonishi(*Thais clavigera*)	Muscle	5.64E+02	SEA	26
	Co		Sazae(*Batillus cornutus*)	Tissue other than muscle	7.69E+02	SEA	26
	Co		Bai *Babylonia japonica*)	Soft part	7.95E+02	SEA	26
	Co		Ishidatami(*Monodonta labio*)	Soft part	9.23E+02	SEA	26
	Co		Bekkougasagai(*Cellana grate*)	Soft part	9.49E+02	SEA	26
	Co		Boshubora(*Charonia sauliae*)	Soft part	1.03E+03	SEA	26
	Co		Ibonishi(*Thais clavigera*)	Tissue other than muscle	1.21E+03	SEA	26
	Co-60		*Haliotis discus*	Whole body	1.30E+03	TRE	2
	Co-60		*Haliotis discus*	Whole body	1.70E+03	TRE	2
	Co-57(Cyanocobalamine)		*Haliotis discus*	Whole body	1.80E+03	TRE	2
	Co		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	2.13E+03	SEA	26
	Co		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	2.56E+03	SEA	26
	Co		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	4.10E+03	SEA	26
	Co-57(Cyanocobalamine)		*Haliotis discus*	Whole body	6.30E+03	TRE	2
	Co-57(Cyanocobalamine)		*Haliotis discus*	Whole body	2.70E+04	TRE	2
	Co	頭足類	ケンサキイカ(*Photoligo edulis*)	脚部	2.56E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	脚部	4.10E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	4.62E+00	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	脚部	5.38E+00	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	脚部	5.38E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	脚部	5.38E+00	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	脚部	5.64E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	脚部	5.64E+00	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	外套膜	5.90E+00	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	6.15E+00	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	6.92E+00	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	外套膜	7.18E+00	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	外套膜	7.18E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	脚部	7.18E+00	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	7.44E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	7.44E+00	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	7.95E+00	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	7.95E+00	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	9.49E+00	SEA	36

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Co	Co	頭足類	スルメイカ(*Todarodes pacificus*)	脚部	1.13E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	1.13E+01	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	外套膜	1.13E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	1.15E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.21E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.54E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.56E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.59E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	脚部	1.59E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.64E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.69E+01	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	1.74E+01	SEA	36
	Co		Mizudako(*Paroctopus dofleini*)	Edible parts	2.20E+01	SEA	21
	Co		Surumeika(*Todarodes pacificus*)	Edible parts	3.10E+01	SEA	21
	Co		スルメイカ	可食部	3.26E+01	SEA	33
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	3.59E+01	SEA	36
	Co-60		*Octopus vulgaris*	Muscle	4.00E+01	TRE	1
	Co		スルメイカ(*Todarodes pacificus*)	外套膜	4.21E+01	SEA	36
	Co		コウイカ(*Sepia esculenta*)	脚部	4.44E+01	SEA	36
	Co		Yariika(*Doryteuthis bleekeri*)	Edible parts	4.50E+01	SEA	21
	Co		ミズダコ	可食部	4.89E+01	SEA	33
	Co		Madako(*Octopus vulgaris*)	Edible parts	8.10E+01	SEA	21
	Co		Bakaika(*Sthenoteuthis bartrami*)	Edible parts	8.80E+01	SEA	21
	Co		コウイカ(*Sepia esculenta*)	外套膜	9.41E+01	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	9.92E+01	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	肝臓	1.18E+02	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	鰓心臓	1.18E+02	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	鰓心臓	1.38E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	鰓心臓	1.41E+02	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	肝臓	1.46E+02	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	1.69E+02	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	肝臓	1.92E+02	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	鰓心臓	1.94E+02	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	2.01E+02	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.31E+02	SEA	36
	Co		ケンサキイカ(*Photoligo edulis*)	肝臓	2.33E+02	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.55E+02	SEA	36
	Co		Yariika(*Doryteuthis bleekeri*)	Branchial heart	3.00E+02	SEA	21
	Co		アオリイカ(*Sepioteuthis lessoniana*)	肝臓（静脈小嚢、心臓、膵臓を含む）	3.18E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	鰓心臓	3.49E+02	SEA	36
	Co		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	3.51E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	4.18E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	4.33E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	鰓心臓	4.38E+02	SEA	36
	Co		Yariika(*Doryteuthis bleekeri*)	Liver	4.80E+02	SEA	21

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Co	Co	頭足類	コワイカ(*Sepia esculate*)	鰓心臓	5.00E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	5.36E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	5.36E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	鰓心臓	5.46E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	5.74E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	5.77E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	5.92E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	6.54E+02	SEA	36
	Co		Bakaika(*Sthenoteuthis bartrami*)	Branchial heart	6.70E+02	SEA	21
	Co		スルメイカ(*Todarodes pacificus*)	肝臓	6.90E+02	SEA	36
	Co		スルメイカ(*Todarodes pacificus*)	鰓心臓	1.17E+03	SEA	36
	Co-60		*Octopus vulgaris*	Whole body	1.60E+03	TRE	1
	Co		コウイカ(*Sepia esculenta*)	肝臓	3.71E+03	SEA	36
	Co		Mizudako(*Paroctopus dofleini*)	Branchial heart	4.20E+03	SEA	21
	Co		コウイカ(*Sepia esculenta*)	肝臓	4.56E+03	SEA	36
	Co		Surumeika(*Todarodes pacificus*)	Liver	4.80E+03	SEA	21
	Co		Mizudako(*Paroctopus dofleini*)	Liver	6.40E+03	SEA	21
	Co-60		*Octopus vulgaris*	Branchial heart	3.30E+04	TRE	1
	Co		Madako(*Octopus vulgaris*)	Liver	3.52E+04	SEA	21
	Co		Madako(*Octopus vulgaris*)	Branchial heart	9.45E+04	SEA	21
	Co-57	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜	7.70E+00	TRE	13
	Co-57		マボヤ(ascidian:*Halocynthia roretzi*)	内臓	9.40E+00	TRE	13
	Co-57		マボヤ(ascidian:*Halocynthia roretzi*)	Whole body	9.44E+01	TRE	13
	Co-57		マボヤ(ascidian:*Halocynthia roretzi*)	外皮	2.75E+02	TRE	13
	Co		マボヤ	可食部	5.90E+02	SEA	33
	Co		マボヤ(ascidian:*Halocynthia roretzi*)	内臓（可食部）	5.00E+03	SEA	13
	Co		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	5.00E+03	SEA	13
	Co-60	魚　類	Yellowtail	Muscle	3.00E−01	TRE	11
	Co-60		Sea bream	Muscle	5.00E−01	TRE	11
	Co-60		Yellowtail	Whole body	1.20E+00	TRE	11
	Co-60		Flounder	Muscle	1.50E+00	TRE	11
	Co-57(Cyanocobalamine)		Dorome(*Chasmichthys gulosus*)		3.00E+00	TRE	8
	Co-60		Rock fish	Whole body	4.20E+00	TRE	11
	Co-60		Sea bream	Whole body	4.80E+00	TRE	11
	Co-60		Flounder	Whole body	5.50E+00	TRE	11
	Co-60		Postlarval menhaden	Whole body	7.10E+00	TRE	11
	Co		ヒラメ	可食部	1.26E+01	SEA	33
	Co		バラメヌケ	可食部	1.89E+01	SEA	33
	Co		ウミタナゴ	可食部	1.91E+01	SEA	33
	Co		キツネメバル	可食部	1.98E+01	SEA	33
	Co		ホッケ	可食部	2.07E+01	SEA	33
	Co		ババガレイ	可食部	2.09E+01	SEA	33
	Co		アイナメ	可食部	2.67E+01	SEA	33
	Co		クロソイ	可食部	2.67E+01	SEA	33
	Co-60		Dorome(*Chasmichthys gulosus*)		3.20E+01	TRE	8

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Co	Co	魚　類	サケ	可食部	3.48E+01	SEA	33
	Co		クジメ	可食部	3.49E+01	SEA	33
	Co		イシガレイ	可食部	4.41E+01	SEA	33
	Co		ホッケ	可食部	5.54E+01	SEA	33
	Co		ウグイ	可食部	7.14E+01	SEA	33
Cr	Cr	棘皮類	Manamako(*Stichopus japonicus*)	Whole animal	3.90E+02	SEA	24
	Cr		Sea urchin(*Strongylocentrotus nudus*)	Gonad	8.00E+02	SEA	22
	Cr	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	9.00E+01	SEA	24
	Cr		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	2.10E+02	SEA	24
	Cr		Iseebi(*Panulirus japonicus*)	Edible part(liver)	2.25E+02	SEA	24
	Cr		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	5.50E+02	SEA	24
	Cr		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	1.05E+03	SEA	24
	Cr	二枚貝	Magaki(*Crassostrea gigas*)	Edible part(soft part)	2.15E+02	SEA	24
	Cr		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	4.40E+02	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	4.80E+02	SEA	31
	Cr		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	5.20E+02	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	5.60E+02	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Gill	9.10E+02	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Mantle	9.30E+02	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Gonad	1.20E+03	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Mantle	1.20E+03	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Gill	1.40E+03	SEA	31
	Cr		Crocus giant clam(*Tridacna crocea*)	Mantle	1.40E+03	SEA	31
	Cr		Crocus giant clam(*Tridacna crocea*)	Gill	1.50E+03	SEA	31
	Cr		Bear paw clam(*Hippopus hippopus*)	Gill	1.90E+03	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Gonad	2.00E+03	SEA	31
	Cr		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	2.30E+03	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Byssus	2.40E+03	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Byssus	2.60E+03	SEA	31
	Cr		Bear paw clam(*Hippopus hippopus*)	Mantle	2.80E+03	SEA	31
	Cr		Crocus giant clam(*Tridacna crocea*)	Byssus	2.90E+03	SEA	31
	Cr		Bear paw clam(*Hippopus hippopus*)	Gonad	3.50E+03	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Liver	5.90E+03	SEA	31
	Cr		Bear paw clam(*Hippopus hippopus*)	Kidney	9.20E+03	SEA	31
	Cr		Bear paw clam(*Hippopus hippopus*)	Liver	9.50E+03	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Kidney	9.60E+03	SEA	31
	Cr		Elongate giant clam(*Tridacna maxima*)	Kidney	9.60E+03	SEA	31
	Cr		Crocus giant clam(*Tridacna crocea*)	Kidney	1.20E+04	SEA	31
	Cr		Fluted giant clam(*Tridacna squamosa*)	Liver	2.40E+04	SEA	31
	Cr	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内臓（可食部）	4.00E+02	SEA	13
	Cr		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	5.00E+02	SEA	13
Cs	Cs	緑藻類	*Ulva pertusa*	Whole body	3.33E+00	SEA	37
	Cs		*Codium fragile*	Whole body	4.33E+00	SEA	37

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	緑藻類	*Ulva pertusa*	Whole body	6.52E+00	RAS	37
	Cs-137		*Codium fragile*	Whole body	6.52E+00	RAS	37
	Cs-137		*Ulva pertusa*	Whole body	7.89E+00	RAS	37
	Cs		*Ulva pertusa*	Whole body	9.67E+00	SEA	37
	Cs		*Ulva pertusa*	Whole body	1.00E+01	SEA	37
	Cs-137		*Enteromorpha intestinalis*	Whole body	1.74E+01	RAS	37
	Cs		*Enteromorpha intestinalis*	Whole body	1.90E+01	SEA	37
	Cs		*Ulva pertusa*	Whole body	2.85E+01	SEA	37
	Cs-137		*Ulva pertusa*	Whole body	3.04E+01	RAS	37
	Cs		*Ulva pertusa*	Whole body	3.20E+01	SEA	37
	Cs-137		*Ulva pertusa*	Whole body	3.33E+01	RAS	37
	Cs-137		*Ulva pertusa*	Whole body	4.20E+01	RAS	37
	Cs-137		*Enteromorpha intestinalis*	Whole body	5.21E+01	RAS	37
	Cs		*Enteromorpha intestinalis*	Whole body	7.33E+01	SEA	37
	Cs-137	紅藻類	Fukurofunori(*Gloiopeltis furcata*)	Whole body	1.31E+00	RAS	28
	Cs-137		Algae(*Cyrtymenia sp.*)	A portion of 4g of plant	5.00E+00	TRE	17
	Cs-137		*Laurencia nipponica*	Whole body	1.05E+01	RAS	37
	Cs		*Laurencia nipponica*	Whole body	1.27E+01	SEA	37
	Cs		*Neodilsea yendoana*	Whole body	1.37E+01	SEA	37
	Cs		マクサ		2.05E+01	SEA	34
	Cs-137		*Neodilsea yendoana*	Whole body	2.17E+01	RAS	37
	Cs-137		*Laurencia nipponica*	Whole body	2.39E+01	RAS	37
	Cs		*Neodilsea yendoana*	Whole body	2.60E+01	SEA	37
	Cs		*Laurencia nipponica*	Whole body	2.63E+01	SEA	37
	Cs-137		*Laurencia nipponica*	Whole body	2.80E+01	RAS	37
	Cs		マクサ		2.88E+01	SEA	34
	Cs		*Neodilsea yendoana*	Whole body	3.20E+01	SEA	37
	Cs		*Neodilsea yendoana*	Whole body	3.23E+01	SEA	37
	Cs-137		*Neodilsea yendoana*	Whole body	3.33E+01	RAS	37
	Cs-137		*Neodilsea yendoana*	Whole body	3.42E+01	RAS	37
	Cs		*Laurencia nipponica*	Whole body	4.81E+01	SEA	37
	Cs-137		*Neodilsea yendoana*	Whole body	5.00E+01	RAS	37
	Cs		*Neodilsea yendoana*	Whole body	5.33E+01	SEA	37
	Cs-137		Harigane(*Ahnfeltia paradoxa*)	Whole body	5.49E+01	RAS	28
	Cs-137		*Neodilsea yendoana*	Whole body	5.87E+01	RAS	37
	Cs-137		Tsunomata(*Chondrus ocellatus*)	Whole body	5.97E+01	RAS	28
	Cs-137		*Neodilsea yendoana*	Whole body	7.40E+01	RAS	37
	Cs		*Neodilsea yendoana*	Whole body	1.00E+02	SEA	37
	Cs	褐藻類	アカモク		3.15E+00	SEA	34
	Cs-137		*Desmaleoa ligulata*	Whole body	6.52E+00	RAS	37
	Cs		ヨレモク		6.67E+00	SEA	34
	Cs		アラメ		7.33E+00	SEA	34
	Cs		*Desmaleoa ligulata*	Whole body	7.67E+00	SEA	37
	Cs		*Laminaria japonica*	Whole body	9.00E+00	SEA	37
	Cs		ワカメ	可食部	9.20E+00	SEA	35

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	褐藻類	フクロノリ	可食部	1.00E+01	RAS	35
	Cs		*Undaria pinnatifida*	Whole body	1.00E+01	SEA	37
	Cs		オオバモク		1.01E+01	SEA	34
	Cs		ウミトラノオ		1.07E+01	SEA	34
	Cs-137		*Laminaria japonica*	Whole body	1.09E+01	RAS	37
	Cs		*Costaria costata*	Whole body	1.10E+01	SEA	37
	Cs		アラメ		1.13E+01	SEA	34
	Cs		アラメ		1.25E+01	SEA	34
	Cs-137		フクロノリ	可食部	1.30E+01	RAS	35
	Cs		ワカメ	可食部	1.30E+01	SEA	35
	Cs-137		*Undaria pinnatifida*	Whole body	1.39E+01	RAS	37
	Cs		*Sargassum horneri*	Whole body	1.40E+01	SEA	37
	Cs-137		*Hijikia fusiformis*	Whole body	1.46E+01	RAS	37
	Cs		*Sargassum patens*	Whole body	1.47E+01	SEA	37
	Cs		ヤツマタモク		1.49E+01	SEA	34
	Cs-137		*Undaria pinnatifida*	Whole body	1.58E+01	RAS	37
	Cs		*Sargassum ringgoldianum*	Whole body	1.60E+01	SEA	37
	Cs		マコンブ	可食部	1.70E+01	SEA	35
	Cs		*Sargassum horneri*	Whole body	1.70E+01	SEA	37
	Cs-137		*Costaria costata*	Whole body	1.74E+01	RAS	37
	Cs-137		ヒジキ	可食部	1.80E+01	RAS	35
	Cs-137		*Sargassum patens*	Whole body	1.88E+01	RAS	37
	Cs-137		*Sargassum ringgoldianum*	Whole body	1.88E+01	RAS	37
	Cs		*Hijikia fusiformis*	Whole body	1.93E+01	SEA	37
	Cs		*Sargassum horneri*	Whole body	1.93E+01	SEA	37
	Cs-137		*Sargassum yessoense*	Whole body	1.94E+01	RAS	37
	Cs		*Hijikia fusiformis*	Whole body	2.00E+01	SEA	37
	Cs-137		*Sargassum horneri*	Whole body	2.00E+01	RAS	37
	Cs		ワカメ	栄養素	2.02E+01	SEA	34
	Cs		*Undaria pinnatifida*	Whole body	2.03E+01	SEA	37
	Cs		*Undaria pinnatifida*	Whole body	2.03E+01	SEA	37
	Cs		ワカメ	可食部	2.10E+01	SEA	35
	Cs		*Sargassum yezoense*	Whole body	2.10E+01	SEA	37
	Cs		*Hijikia fusiformis*	Whole body	2.13E+01	SEA	37
	Cs-137		*Sargassum horneri*	Whole body	2.17E+01	RAS	37
	Cs		*Sargassum horneri*	Whole body	2.20E+01	SEA	37
	Cs-137		*Hijikia fusiformis*	Whole body	2.20E+01	RAS	37
	Cs		*Sargassum yezoense*	Whole body	2.27E+01	SEA	37
	Cs		*Hijikia fusiformis*	Whole body	2.27E+01	SEA	37
	Cs-137		*Eisenia bicyclis*	Whole body	2.29E+01	RAS	37
	Cs		*Sargassum miyabei*	Whole body	2.37E+01	SEA	37
	Cs-137		*Laminaria religiosa*	Whole body	2.37E+01	RAS	37
	Cs		*Sargassum patens*	Whole body	2.37E+01	SEA	37
	Cs-137		*Sargassum horneri*	Whole body	2.39E+01	RAS	37
	Cs		*Laminaria religiosa*	Whole body	2.40E+01	SEA	37
	Cs		*Sargassum thunbergii*	Whole body	2.43E+01	SEA	37

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cs	Cs	褐藻類	*Sargassum ringgoldianum*	Whole body	2.44E+01	SEA	37
	Cs-137		ワカメ	可食部	2.50E+01	RAS	35
	Cs-137		*Hijikia fusiformis*	Whole body	2.50E+01	RAS	37
	Cs		*Laminaria religiosa*	Whole body	2.56E+01	SEA	37
	Cs-137		*Sargassum horneri*	Whole body	2.60E+01	RAS	37
	Cs-137		*Sargassum yezoense*	Whole body	2.60E+01	RAS	37
	Cs-137		*Laminaria religiosa*	Whole body	2.60E+01	RAS	37
	Cs-137		*Hijikia fusiformis*	Whole body	2.61E+01	RAS	37
	Cs-137		*Sargassum ringgoldianum*	Whole body	2.61E+01	RAS	37
	Cs		*Hijikia fusiformis*	Whole body	2.67E+01	SEA	37
	Cs-137		*Sargassum yezoense*	Whole body	2.71E+01	RAS	37
	Cs-137		*Sargassum miyabei*	Whole body	2.78E+01	RAS	37
	Cs		*Sargassum patens*	Whole body	2.80E+01	SEA	37
	Cs-137		*Sargassum yezoense*	Whole body	2.83E+01	RAS	37
	Cs		*Sargassum ringgoldianum*	Whole body	2.85E+01	SEA	37
	Cs		マコンブ	可食部	2.90E+01	SEA	35
	Cs-137		*Undaria pinnatifida*	Whole body	2.92E+01	RAS	37
	Cs-137		*Sargassum patens*	Whole body	3.04E+01	RAS	37
	Cs-137		*Sargassum horneri*	Whole body	3.04E+01	RAS	37
	Cs-137		ワカメ	可食部	3.10E+01	RAS	35
	Cs		*Eisenia bicyclis*	Whole body	3.10E+01	SEA	37
	Cs		*Hijikia fusiformis*	Whole body	3.10E+01	SEA	37
	Cs		*Eisenia bicyclis*	Whole body	3.10E+01	SEA	37
	Cs		ヒジキ	可食部	3.20E+01	SEA	35
	Cs		*Sargassum ringgoldianum*	Whole body	3.20E+01	SEA	37
	Cs-137		*Sargassum patens*	Whole body	3.20E+01	RAS	37
	Cs		*Sargassum thunbergii*	Whole body	3.33E+01	SEA	37
	Cs		*Sargassum patens*	Whole body	3.33E+01	SEA	37
	Cs-137		*Sargassum ringgoldianum*	Whole body	3.33E+01	RAS	37
	Cs		ワカメ	胞子葉	3.36E+01	SEA	34
	Cs-137		*Sargassum ringgoldianum*	Whole body	3.40E+01	RAS	37
	Cs-137		*Hijikia fusiformis*	Whole body	3.48E+01	RAS	37
	Cs-137		*Sargassum thunbergii*	Whole body	3.48E+01	RAS	37
	Cs-137		*Sargassum thunbergii*	Whole body	3.48E+01	RAS	37
	Cs-137		*Laminaria religiosa*	Whole body	3.54E+01	RAS	37
	Cs		*Sargassum yezoense*	Whole body	3.67E+01	SEA	37
	Cs		*Sargassum ringgoldianum*	Whole body	3.67E+01	SEA	37
	Cs-137		*Undaria pinnatifida*	Whole body	3.70E+01	RAS	37
	Cs		*Sargassum horneri*	Whole body	3.70E+01	SEA	37
	Cs-137		Arame(*Eisenia bicyclis*)	Whole body	3.74E+01	RAS	28
	Cs-137		*Sargassum patens*	Whole body	3.91E+01	RAS	37
	Cs-137		Makonbu(*Laminaria japonica*)	Whole body	3.97E+01	RAS	28
	Cs		*Undaria pinnatifida*	Whole body	4.00E+01	SEA	37
	Cs		*Laminaria religiosa*	Whole body	4.00E+01	SEA	37
	Cs		*Laminaria religiosa*	Whole body	4.00E+01	SEA	37
	Cs		タマハキモク		4.14E+01	SEA	34

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	褐藻類	*Hijikia fusiformis*	Whole body	4.40E+01	RAS	37
	Cs-137		Hijiki(*Hizikia fusiformis*)	Whole body	4.64E+01	RAS	28
	Cs-137		*Eisenia bicyclis*	Whole body	4.78E+01	RAS	37
	Cs		*Eisenia bicyclis*	Whole body	4.81E+01	SEA	37
	Cs-137		*Eisenia bicyclis*	Whole body	5.00E+01	RAS	37
	Cs-137		*Sargassum ringgoldianum*	Whole body	5.20E+01	RAS	37
	Cs		*Sargassum yezoense*	Whole body	5.56E+01	SEA	37
	Cs		*Sargassum horneri*	Whole body	5.67E+01	SEA	37
	Cs-137		Umitoranoo(*Sargassum thunbergii*)	Whole body	6.00E+01	RAS	28
	Cs-137		*Laminaria religiosa*	Whole body	6.09E+01	RAS	37
	Cs		フクロノリ	可食部	6.40E+01	SEA	35
	Cs-137		*Sargassum ringgoldianum*	Whole body	6.52E+01	RAS	37
	Cs-137		*Undaria pinnatifida*	Whole body	6.60E+01	RAS	37
	Cs-137		*Sargassum horneri*	Whole body	6.96E+01	RAS	37
	Cs		*Undaria pinnatifida*	Whole body	7.04E+01	SEA	37
	Cs		フクロノリ	可食部	7.10E+01	SEA	35
	Cs-137		ワカメ	可食部	7.40E+01	RAS	35
	Cs		*Sargassum thunbergii*	Whole body	8.15E+01	SEA	37
	Cs-137		*Sargassum thunbergii*	Whole body	9.00E+01	RAS	37
	Cs		*Sargassum ringgoldianum*	Whole body	1.20E+02	SEA	37
	Cs-137		*Sargassum horneri*	Whole body	1.22E+02	RAS	37
	Cs		*Sargassum horneri*	Whole body	1.22E+02	SEA	37
	Cs		*Sargassum thunbergii*	Whole body	2.93E+02	SEA	37
	Cs-137		*Sargassum thunbergii*	Whole body	4.46E+02	RAS	37
	Cs	棘皮類	*Stichopus japonicus*	Soft part	3.67E+00	SEA	37
	Cs		マナマコ	可食部	3.80E+00	SEA	35
	Cs-137		Sea urchin(*Strongylocentrotus mudus*)	Whole body	3.90E+00	TRE	18
	Cs-137		マナマコ	可食部	4.00E+00	RAS	35
	Cs-137		*Stichopus japonicus*	Soft part	6.52E+00	RAS	37
	Cs-137		キタムラサキウニ	可食部	1.90E+01	RAS	35
	Cs-137		*Anthocidaris crassipina*	Soft part	2.33E+01	RAS	37
	Cs-137		Kitamurasakiuni(*Strongylocentrotus nudus*)	Ovary	3.31E+01	RAS	28
	Cs		*Anthocidaris crassipina*	Soft part	3.33E+01	SEA	37
	Cs		キタムラサキウニ	可食部	3.60E+01	SEA	35
	Cs-137	甲殻類	ケガニ	可食部	7.00E+00	RAS	35
	Cs		*Erimacrus isenbeckii*	Soft part	8.33E+00	SEA	37
	Cs		ケガニ	可食部	8.90E+00	SEA	35
	Cs-137		*Erimacrus isenbeckii*	Soft part	9.30E+00	RAS	37
	Cs		ケガニ	可食部	1.20E+01	SEA	35
	Cs		ヒラツメガニ	可食部	1.40E+01	SEA	35
	Cs-137	二枚貝	Hotategai(*Patinopecten yessoensis*)	Viscera	2.82E+00	RAS	28
	Cs-137		ホタテ	可食部	5.00E+00	RAS	35
	Cs-137		Pelecypoda(*Anadara broughtonii*)	Edible part	7.00E+00	RAS	12
	Cs-137		Pelecypoda(*Gomphina melanaegis*)	Edible part	7.00E+00	RAS	12
	Cs-137		Bivalve(*Gomphina melanaegis*)	Soft part	7.00E+00	TRE	17

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cs	Cs	二枚貝	*Patinopecten yessoensis*	Soft part	7.00E+00	SEA	37
	Cs		ホタテ	可食部	7.60E+00	SEA	35
	Cs-137		*Patinopecten yessoensis*	Soft part	8.70E+00	RAS	37
	Cs-137		Ubagai(*Spisula sachalinensis*)	Soft part	1.08E+01	RAS	28
	Cs-137		Pelecypoda(*Fulvia mutica*)	Edible part	1.30E+01	RAS	12
	Cs-137		Pelecypoda(*Crassostrea gigas*)	Edible part	1.60E+01	RAS	12
	Cs		ホタテ	可食部	1.60E+01	SEA	35
	Cs-137		ホタテ	可食部	1.70E+01	RAS	35
	Cs-137		Hotategai(*Patinopecten yessoensis*)	Muscle	1.72E+01	RAS	28
	Cs-137		Pelecypoda(*Patinopecten yessoensis*)	Edible part	1.80E+01	RAS	12
	Cs-137		*Patinopecten yessoensis*	Soft part	2.09E+01	RAS	37
	Cs		*Patinopecten yessoensis*	Soft part	2.20E+01	SEA	37
	Cs-137		Pelecypoda(*Meretrix lamarckii*)	Edible part	2.80E+01	RAS	12
	Cs-137		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	3.41E+01	RAS	28
	Cs-137		Kotamagai(*Gomphina melanaegis*)	Soft part	3.44E+01	RAS	28
	Cs-137		Saragai(*Peronidia venulosa*)	Soft part	6.31E+01	RAS	28
	Cs-137	巻　貝	エゾアワビ	可食部	7.00E+00	RAS	35
	Cs		*Turbo cornutus*	Soft part	7.00E+00	SEA	37
	Cs		*Haliotis discus*	Soft part	8.67E+00	SEA	37
	Cs		*Haliotis discus*	Soft part	9.00E+00	SEA	37
	Cs		エゾアワビ	可食部	9.30E+00	SEA	35
	Cs-137		*Haliotis discus*	Soft part	9.30E+00	RAS	37
	Cs-137		*Haliotis discus*	Soft part	1.09E+01	RAS	37
	Cs		エゾアワビ	可食部	1.10E+01	SEA	35
	Cs-137		*Turbo cornutus*	Soft part	1.30E+01	RAS	37
	Cs-137		Gastropoda(*Haliotis discus*)	Edible part	2.40E+01	RAS	12
	Cs-137		Gastropoda(*Charonia sauliae*)	Edible part	3.00E+01	RAS	12
	Cs-137	頭足類	Cephalopoda(*Octopus ocellatus*)	Edible part	3.00E+00	RAS	12
	Cs-137		*Octopus vulgaris*	Mantle	3.50E+00	TRE	12
	Cs		Yariika(*Doryteuthis bleekeri*)	Branchial heart	3.60E+00	SEA	21
	Cs		Mizudako(*Paroctopus dofleini*)	Edible part	3.80E+00	SEA	21
	Cs		Mizudako(*Paroctopus dofleini*)	Liver	4.60E+00	SEA	21
	Cs-137		*Octopus vulgaris*	Stomach	4.70E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Sucker	5.10E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Oesophagus	5.40E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Salivary gland	5.70E+00	TRE	12
	Cs		Bakaika(*Sthenoteuthis bartrami*)	Branchial heart	5.80E+00	SEA	21
	Cs		Madoko(*Octopus vulgaris*)	Liver	5.80E+00	SEA	21
	Cs		Surumeika(*Todarodes pacificus*)	Liver	6.00E+00	SEA	21
	Cs-137		*Octopus vulgaris*	Whole body	6.00E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Heart	6.10E+00	TRE	12
	Cs		Yariika(*Doryteuthis bleekeri*)	Liver	6.20E+00	SEA	21
	Cs-137		*Octopus vulgaris*	Arms and tentacles	6.40E+00	TRE	12
	Cs		Yariika(*Doryteuthis bleekeri*)	Edible part	6.40E+00	SEA	21
	Cs-137		*Octopus vulgaris*	Buccul bulb	6.70E+00	TRE	12
	Cs		Madako(*Octopus vulgaris*)	Edible part	7.00E+00	SEA	21

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	頭足類	Cephalopoda(*Octopus hongkongenis*)	Edible part	7.00E+00	RAS	12
	Cs		Surumeika(*Todarodes pacificus*)	Edible parts	7.20E+00	SEA	21
	Cs-137		*Octopus vulgaris*	Ctenidium	7.30E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Gastric caecum	7.50E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Kidney	8.00E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Funnel	8.30E+00	TRE	12
	Cs-137		*Octopus vulgaris*	Branchial heart	8.30E+00	TRE	12
	Cs		Mizudako(*Paroctopus dofleini*)	Branchial heart	8.60E+00	SEA	21
	Cs		*Todarodes pacificus*	Sost part	8.67E+00	SEA	37
	Cs-137		ミズダコ	可食部	9.00E+00	RAS	35
	Cs-137		スルメイカ	可食部	9.00E+00	RAS	35
	Cs		Bakaika(*Sthenoteuthis bartrami*)	Edible parts	9.20E+00	SEA	21
	Cs-137		*Todarodes pacificus*	Sost part	9.76E+00	RAS	37
	Cs-137		スルメイカ	可食部	1.00E+01	RAS	35
	Cs		*Paroctopus dolfeni*	Soft part	1.00E+01	SEA	37
	Cs		*Loligo bleekeri*	Soft part	1.07E+01	SEA	37
	Cs-137		*Octopus vulgaris*	Ovotestis	1.09E+01	TRE	12
	Cs		ミズダコ	可食部	1.10E+01	SEA	35
	Cs		Madako(*Octopus vulgaris*)	Branchial heart	1.12E+01	SEA	21
	Cs-137		Iidako(*Octopus ocellatus*)	Whole body	1.18E+01	RAS	28
	Cs		スルメイカ	可食部	1.20E+01	SEA	35
	Cs-137		*Octopus vulgaris*	Liver	1.28E+01	TRE	12
	Cs-137		*Paroctopus dolfeni*	Soft part	1.30E+01	RAS	37
	Cs		*Loligo bleekeri*	Soft part	1.37E+01	SEA	37
	Cs		*Todarodes pacificus*	Soft part	1.37E+01	SEA	37
	Cs-137		Madako(*Octopus vulgaris*)	Muscle	1.38E+01	RAS	28
	Cs-137		*Todarodes pacificus*	Soft part	1.40E+01	RAS	37
	Cs		*Todarodes pacificus*	Soft part	1.53E+01	SEA	37
	Cs-137		Cephalopoda(*Sepia esculenta*)	Edible part	1.60E+01	RAS	12
	Cs		スルメイカ	可食部	1.60E+01	SEA	35
	Cs-137		Cephalopoda(*Sthenoteuthis bartrami*)	Edible part	1.70E+01	RAS	12
	Cs-137		*Loligo bleekeri*	Soft part	1.74E+01	RAS	37
	Cs-137		*Loligo bleekeri*	Soft part	1.74E+01	RAS	37
	Cs-137		Cephalopoda(*Doryteuthis bleekeri*)	Edible part	1.80E+01	RAS	12
	Cs-137		Cephalopoda(*Octopus vulgaris*)	Edible part	2.30E+01	RAS	12
	Cs-137		スルメイカ	可食部	2.50E+01	RAS	35
	Cs-137		*Todarodes pacificus*	Soft part	3.70E+01	RAS	37
	Cs-137	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	外皮	3.00E−01	TRE	13
	Cs-137		マボヤ(ascidian:*Halocynthia roretzi*)	Whole body	3.40E−01	TRE	13
	Cs-137		マボヤ(ascidian:*Halocynthia roretzi*)	内臓	4.00E−01	TRE	13
	Cs-137		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜	7.00E−01	TRE	13
	Cs-137		マボヤ	可食部	5.00E+00	RAS	35
	Cs-137		*Halocynthia roretzi*	Soft part	6.98E+00	RAS	37
	Cs		*Halocynthia roretzi*	Soft part	1.30E+01	SEA	37
	Cs		マボヤ	可食部	1.40E+01	SEA	35
	Cs		*Halocynthia roretzi*	Soft part	1.73E+01	SEA	37

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	原索類	マボヤ	可食部	1.90E+01	RAS	35
	Cs		マボヤ	可食部	1.90E+01	SEA	35
	Cs-137		*Halocynthia roretzi*	Soft part	2.61E+01	RAS	37
	Cs-137	魚　類	Sake(*Oncorhynchus keta*)	Gill	4.36E+00	RAS	28
	Cs-137		Ainame(*Hexagrammos otakii*)(juvenile)	Viscera	8.46E+00	RAS	28
	Cs-137		Maanago(*Conger myriaster*)	Muscle	1.08E+01	RAS	28
	Cs-137		Mahata(*Epinephelus septemfasciatus*)	Muscle	1.10E+01	RAS	30
	Cs-137		ウミタナゴ	可食部	1.10E+01	RAS	35
	Cs-137		Hirame(*Paralichthys olivaceus*)(adult)	Gill	1.13E+01	RAS	28
	Cs-137		*Ditrema temmincki*	Muscle	1.40E+01	RAS	37
	Cs-137		Sake(*Oncorhynchus keta*)	Skin	1.44E+01	RAS	28
	Cs		*Ditrema temmincki*	Muscle	1.47E+01	SEA	37
	Cs-137		Konoshiro(*Konosirus punctatus*)	Viscera	1.64E+01	RAS	28
	Cs-137		サケ	可食部	1.70E+01	RAS	35
	Cs-137		Sake(*Oncorhynchus keta*)	Viscera	1.72E+01	RAS	28
	Cs-137		Makogarei(*Limanda yokohamae*)	Muscle	1.85E+01	RAS	28
	Cs-137		Hirame(*Paralichthys olivaceus*)(jevenile)	Skin	1.90E+01	RAS	28
	Cs-137		*Oncorhyncus keta*	Muscle	1.95E+01	RAS	37
	Cs-137		*Hippoglossoides dubius*	Muscle	2.33E+01	RAS	37
	Cs-137		Ainame(*Hexagrammos otakii*)(adult)	Viscera	2.36E+01	RAS	28
	Cs		*Hexagrammos otakii*	Muscle	2.37E+01	SEA	37
	Cs-137		Hirame(*Paralichthys olivaceus*)(jevenile)	Gill	2.46E+01	RAS	28
	Cs-137		Masaba(*Scomber japonicus*)	Muscle	2.50E+01	RAS	30
	Cs-137		アカガレイ	可食部	2.60E+01	RAS	35
	Cs		*Kareius bicoloratus*	Muscle	2.63E+01	SEA	37
	Cs-137		Madai(*Chrysophrys major*)	Muscle	2.80E+01	RAS	30
	Cs-137		*Kareius bicoloratus*	Muscle	2.83E+01	RAS	37
	Cs-137		*Hexagrammos otakii*	Muscle	2.89E+01	RAS	37
	Cs		イシガレイ	可食部	2.90E+01	SEA	35
	Cs		*Sebastes pachycephalus*	Muscle	2.90E+01	SEA	37
	Cs-137		Katsuo(*Katsuwonus pelamis*)	Skin	2.97E+01	RAS	28
	Cs-137		Makochi(*Platycephalus indicus*)	Muscle	3.00E+01	RAS	30
	Cs-137		ヒラメ	可食部	3.30E+01	RAS	35
	Cs-137		マコガレイ	可食部	3.30E+01	RAS	35
	Cs		*Parapristipoma trilineatum*	Muscle	3.33E+01	SEA	37
	Cs		*Oncorhyncus keta*	Muscle	3.33E+01	SEA	37
	Cs-137		Konoshiro(*Konosirus punctatus*)	Muscle	3.36E+01	RAS	28
	Cs-137		Kuromebaru(*Sebastodes guntherii*)	Muscle	3.40E+01	RAS	30
	Cs		Umitanago(*Ditrema temmincki*)	Muscle	3.40E+01	SEA	30
	Cs-137		マコガレイ	可食部	3.40E+01	RAS	35
	Cs-137		Sake(*Oncorhynchus keta*)	Muscle	3.41E+01	RAS	28
	Cs		Madai(*Chrysophrys major*)	Muscle	3.60E+01	SEA	30
	Cs-137		Magarei(*Limanda irrdorum*)	Muscle	3.60E+01	RAS	30
	Cs-137		バラメヌケ	可食部	3.60E+01	RAS	35
	Cs		*Paralichthys olivaceus*	Muscle	3.67E+01	SEA	37

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Cs	Cs	魚　類	*Hippoglossoides dubius*	Muscle	3.67E+01	SEA	37
	Cs		*Limanda yokohamae*	Muscle	3.67E+01	SEA	37
	Cs		*Hexagrammos otakii*	Muscle	3.67E+01	SEA	37
	Cs		*Microstomus achne*	Muscle	3.67E+01	SEA	37
	Cs		*Hexagrammos otakii*	Muscle	3.67E+01	SEA	37
	Cs		*Ditrema temmincki*	Muscle	3.67E+01	SEA	37
	Cs-137		Hirame(*Paralichthys olivaceus*)(adult)	Skin	3.79E+01	RAS	28
	Cs		Suzuki(*Lateolabrax japonicus*)	Muscle	3.80E+01	SEA	30
	Cs		Amadai(*Branchiostegus japonicus*)	Muscle	3.80E+01	SEA	30
	Cs		Guchi(*Argyrosomus argentatus*)	Muscle	3.80E+01	SEA	30
	Cs		マコガレイ	可食部	3.80E+01	SEA	35
	Cs		ババガレイ	可食部	3.90E+01	SEA	35
	Cs-137		*Parapristipoma trilineatum*	Muscle	3.96E+01	RAS	37
	Cs-137		*Sebastes pachycephalus*	Muscle	3.96E+01	RAS	37
	Cs-137		Hirame(*Paralichthys olivaceus*)(adult)	Viscera	3.97E+01	RAS	28
	Cs		Bora(*Mugil cephalus*)	Muscle	4.00E+01	SEA	30
	Cs-137		Buri(*Seriola quinqueradiata*)	Muscle	4.00E+01	RAS	30
	Cs		*Paralichthys olivaceus*	Muscle	4.00E+01	SEA	37
	Cs-137		Hirame(*Paralichthys olivaceus*) (jevenile)	Viscera	4.08E+01	RAS	28
	Cs		ヒラメ	可食部	4.10E+01	SEA	35
	Cs		ウミタナゴ	可食部	4.10E+01	SEA	35
	Cs-137		ウミタナゴ	可食部	4.10E+01	RAS	35
	Cs-137		*Siganus fusescens*	Muscle	4.13E+01	RAS	37
	Cs-137		*Hexagrammos otakii*	Muscle	4.17E+01	RAS	37
	Cs-137		Ainame(*Hexagrammos otakii*)(juvenile)	Muscle	4.26E+01	RAS	28
	Cs-137		Konoshiro(*Konosirus punctatus*)	Muscle	4.30E+01	RAS	30
	Cs		アカガレイ	可食部	4.30E+01	SEA	35
	Cs		*Hexagrammos otakii*	Muscle	4.33E+01	SEA	37
	Cs		*Hexagrammos otakii*	Muscle	4.33E+01	SEA	37
	Cs		*Ditrema temmincki*	Muscle	4.33E+01	SEA	37
	Cs		Hirame(*Paralichthys olivaceus*)	Muscle	4.40E+01	SEA	30
	Cs		Akaei(*Dasyatis akajei*)	Muscle	4.40E+01	SEA	30
	Cs-137		*Limanda yokohamae*	Muscle	4.42E+01	RAS	37
	Cs-137		Katsuo(*Katsuwonus pelamis*)	Gill	4.49E+01	RAS	28
	Cs-137		Maaji(*Trachurus japonicus*)	Muscle	4.60E+01	RAS	30
	Cs		ウミタナゴ	可食部	4.60E+01	SEA	35
	Cs		ホッケ	可食部	4.60E+01	SEA	35
	Cs-137		ホッケ	可食部	4.60E+01	RAS	35
	Cs-137		Medai(*Hyperogyphe japonica*)	Muscle	4.64E+01	RAS	28
	Cs		*Hexagrammos otakii*	Muscle	4.67E+01	SEA	37
	Cs		*Hexagrammos agurammus*	Muscle	4.67E+01	SEA	37
	Cs		*Pleurogrammus azonus*	Muscle	4.67E+01	SEA	37
	Cs		*Ditrema temmincki*	Muscle	4.67E+01	SEA	37
	Cs		*Pleurogrammus azonus*	Muscle	4.67E+01	SEA	37
	Cs-137		*Microstomus achne*	Muscle	4.78E+01	RAS	37

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	魚類	*Paralichthys olivaceus*	Muscle	4.78E+01	RAS	37
	Cs-137		Mebaru(*Sebastes inermis*)	Viscera	4.79E+01	RAS	28
	Cs-137		クロソイ	可食部	4.80E+01	RAS	35
	Cs		アイナメ	可食部	4.80E+01	SEA	35
	Cs-137		サケ	可食部	4.90E+01	RAS	35
	Cs		Masaba(*Scomber japonicus*)	Muscle	5.00E+01	SEA	30
	Cs-137		ヒラメ	可食部	5.00E+01	RAS	35
	Cs-137		ヒラメ	可食部	5.00E+01	RAS	35
	Cs		*Paralichthys olivaceus*	Muscle	5.00E+01	SEA	37
	Cs-137		*Hexagrammos agurammus*	Muscle	5.00E+01	RAS	37
	Cs-137		Kurodai(*Mylio macrocephalus*)	Muscle	5.10E+01	RAS	30
	Cs		ホッケ	可食部	5.10E+01	SEA	35
	Cs		Madara(*Gadus macrocephalus*)	Muscle	5.20E+01	SEA	30
	Cs		Kurodai(*Mylio macrocephalus*)	Muscle	5.20E+01	SEA	30
	Cs-137		*Ditrema temmincki*	Muscle	5.21E+01	RAS	37
	Cs-137		*Sebastes baramenuke*	Muscle	5.22E+01	RAS	37
	Cs-137		*Hexagrammos otakii*	Muscle	5.28E+01	RAS	37
	Cs		キツネメバル	可食部	5.30E+01	SEA	35
	Cs		*Sebastes baramenuke*	Muscle	5.33E+01	SEA	37
	Cs		*Paralichthys olivaceus*	Muscle	5.33E+01	SEA	37
	Cs-137		Maiwashi(*Sardinops melanosticta*)	Muscle	5.50E+01	RAS	30
	Cs-137		Ainame(*Hexagrammos otakii*)(adult)	Skin	5.59E+01	RAS	28
	Cs		バラメヌケ	可食部	5.60E+01	SEA	35
	Cs-137		アイナメ	可食部	5.60E+01	RAS	35
	Cs-137		*Paralichthys olivaceus*	Muscle	5.61E+01	RAS	37
	Cs-137		Ainame(*Hexagrammos otakii*)(adult)	Gill	5.67E+01	RAS	28
	Cs		*Limanda schlencki*	Muscle	5.67E+01	SEA	37
	Cs		*Sebastiscus marmoratus*	Muscle	5.67E+01	SEA	37
	Cs		*Sebastes inermis*	Muscle	5.67E+01	SEA	37
	Cs		ヒラメ	可食部	5.70E+01	SEA	35
	Cs-137		Mebachi(*Parathunnus sibi*)	Skin	5.79E+01	RAS	28
	Cs-137		Bora(*Mugil cephalus*)	Muscle	5.80E+01	RAS	30
	Cs-137		*Ditrema temmincki*	Muscle	5.87E+01	RAS	37
	Cs-137		*Ditrema temmincki*	Muscle	5.87E+01	RAS	37
	Cs-137		Sayori(*Hemiramphus sajori*)	Muscle	5.90E+01	RAS	30
	Cs-137		Aodai(*Paracaesio caeruleus*)	Muscle	6.00E+01	RAS	28
	Cs		*Siganus fusescens*	Muscle	6.00E+01	SEA	37
	Cs		クロソイ	可食部	6.10E+01	SEA	35
	Cs-137		ホッケ	可食部	6.10E+01	RAS	35
	Cs-137		Mebachi(*Parathunnus sibi*)	Gill	6.13E+01	RAS	28
	Cs-137		Umitanago(*Ditrema temmincki*)	Muscle	6.20E+01	RAS	30
	Cs-137		*Paralichthys olivaceus*	Muscle	6.30E+01	RAS	37
	Cs-137		*Hexagrammos otakii*	Muscle	6.30E+01	RAS	37
	Cs-137		*Sebastes inermis*	Muscle	6.46E+01	RAS	37
	Cs-137		*Paralichthys olivaceus*	Muscle	6.51E+01	RAS	37
	Cs		サケ	可食部	6.60E+01	SEA	35

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cs	Cs-137	魚類	ホッケ	可食部	6.60E+01	RAS	35
	Cs-137		*Pleurogrammus azonus*	Muscle	6.74E+01	RAS	37
	Cs-137		Hirame(*Paralichthys olivaceus*)(jevenile)	Muscle	6.82E+01	RAS	28
	Cs-137		*Limanda schlencki*	Muscle	6.96E+01	RAS	37
	Cs		*Pleurogrammus azonus*	Muscle	7.00E+01	SEA	37
	Cs-137		Akoudai(*Sebastes matsubarae*)	Muscle	7.04E+01	RAS	28
	Cs-137		*Hexagrammos otakii*	Muscle	7.22E+01	RAS	37
	Cs		ホッケ	可食部	7.30E+01	SEA	35
	Cs-137		Madara(*Gadus macrocephalus*)	Muscle	7.60E+01	RAS	30
	Cs		*Scombrops boops*	Muscle	7.67E+01	SEA	37
	Cs		*Hexagrammos otakii*	Muscle	7.67E+01	SEA	37
	Cs-137		Hirame(*Paralichthys olivaceus*)(adult)	Muscle	7.69E+01	RAS	28
	Cs-137		アイナメ	可食部	8.00E+01	RAS	35
	Cs-137		Shirogisu(*Sillago sihama*)	Muscle	8.10E+01	RAS	30
	Cs		アイナメ	可食部	8.10E+01	SEA	35
	Cs-137		*Hexagrammos otakii*	Muscle	8.26E+01	RAS	37
	Cs-137		Kinmedai(*Beryx splendens*)	Muscle	8.32E+01	RAS	28
	Cs-137		*Sebastiscus marmoratus*	Muscle	8.33E+01	RAS	37
	Cs-137		*Pleurogrammus azonus*	Muscle	8.60E+01	RAS	37
	Cs-137		*Pleurogrammus azonus*	Muscle	8.70E+01	RAS	37
	Cs-137		Katsuo(*Katsuwonus pelamis*)	Viscera	9.49E+01	RAS	28
	Cs-137		Kuromutsu(*Scombrops gilberti*)	Muscle	9.91E+01	RAS	28
	Cs-137		*Hexagrammos otakii*	Muscle	1.02E+02	RAS	37
	Cs-137		Katsuo(*Katsuwonus pelamis*)	Muscle	1.12E+02	RAS	28
	Cs-137		Mebachi(*Parathunnus sibi*)	Muscle	1.17E+02	RAS	28
	Cs-137		Mebachi(*Parathunnus sibi*)	Digestive tract	1.21E+02	RAS	28
	Cs-137		Katsuo(*Katsuwonus pelamis*)	Digestive tract	1.21E+02	RAS	28
	Cs-137		Mebachi(*Parathunnus sibi*)	Viscera	1.25E+02	RAS	28
	Cs-137		*Scombrops boops*	Muscle	1.28E+02	RAS	37
	Cs-137		Ainame(*Hexagrammos otakii*)(adult)	Muscle	1.34E+02	RAS	28
	Cs-137		Mebaru(*Sebastes inermis*)	Muscle	1.54E+03	RAS	28
	Cs-137		Makogarei(*Limanda yokohamae*)	Viscera	1.83E+03	RAS	28
Cu	Cu	棘皮類	Manamako(*Stichopus japonicus*)	Whole animal	1.44E+02	SEA	24
	Cu		Sea urchin(*Strongylocentrotus nudus*)	Gonad	8.00E+02	SEA	22
	Cu	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	7.22E+03	SEA	24
	Cu		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	1.06E+04	SEA	24
	Cu		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	1.67E+04	SEA	24
	Cu		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	1.67E+04	SEA	24
	Cu		Iseebi(*Panulirus japonicus*)	Edible part(liver)	4.33E+05	SEA	24
	Cu	二枚貝	Fluted giant clam(*Tridacna squanosa*)	Foot & Adductor muscle	2.67E+02	SEA	31
	Cu		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	2.67E+02	SEA	31
	Cu		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	3.56E+02	SEA	31
	Cu		Scallop(*Patinopecten yessoensis*)	Adductor muscle	4.00E+02	SEA	24

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cu	Cu	二枚貝	Bear paw clam(*Hippopus hippopus*)	Mantle	6.00E+02	SEA	31
	Cu		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	7.11E+02	SEA	31
	Cu		Bear paw clam(*Hippopus hippopus*)	Gonad	7.56E+02	SEA	31
	Cu		Clam(*Cyclosunetta menstrualis*)	Kidney	7.78E+02	SEA	27
	Cu		Akazara(*Chlamys farreri*)	Soft part	8.00E+02	SEA	26
	Cu		Fluted giant clam(*Tridacna squamosa*)	Gonad	8.00E+02	SEA	31
	Cu		Igai(*Mytilus coruscus*)	Soft part	8.22E+02	SEA	26
	Cu		Elongate giant clam(*Tridacna maxima*)	Mantle	8.22E+02	SEA	31
	Cu		Hotategai(*Patinopecten yessoensis*)	Soft part	8.44E+02	SEA	26
	Cu		Crocus giant clam(*Tridacna crocea*)	Mantle	8.67E+02	SEA	31
	Cu		Marusarubo(*Scapharca satowi*)	Soft part	1.11E+03	SEA	26
	Cu		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	1.11E+03	SEA	26
	Cu		Elongate giant clam(*Tridacna maxima*)	Gonad	1.13E+03	SEA	31
	Cu		Bear paw clam(*Hippopus hippopus*)	Kidney	1.33E+03	SEA	31
	Cu		Bear paw clam(*Hippopus hippopus*)	Gill	1.36E+03	SEA	31
	Cu		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	1.51E+03	SEA	31
	Cu		Asari(*Tapes philippinarum*)	Soft part	1.56E+03	SEA	26
	Cu		Ubagai(*Spisula sachalinensis*)	Soft part	2.11E+03	SEA	26
	Cu		Nunomeasari(*Novathaca euglypta*)	Soft part	2.33E+03	SEA	26
	Cu		Fluted giant clam(*Tridacna squamosa*)	Gill	2.44E+03	SEA	31
	Cu		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	2.67E+03	SEA	26
	Cu		Fluted giant clam(*Tridacna squamosa*)	Mantle	2.89E+03	SEA	31
	Cu		Bear paw clam(*Hippopus hippopus*)	Liver	2.89E+03	SEA	31
	Cu		Crocus giant clam(*Tridacna crocea*)	Gill	3.56E+03	SEA	31
	Cu		Crocus giant clam(*Tridacna crocea*)	Kidney	3.56E+03	SEA	31
	Cu		Scallop(*Patinopecten yessoensis*)	Liver	3.67E+03	SEA	24
	Cu		Elongate giant clam(*Tridacna maxima*)	Byssus	3.78E+03	SEA	31
	Cu		Elongate giant clam(*Tridacna maxima*)	Kidney	5.11E+03	SEA	31
	Cu		Fluted giant clam(*Tridacna squamosa*)	Byssus	5.33E+03	SEA	31
	Cu		Fluted giant clam(*Tridacna squamosa*)	Kidney	5.78E+03	SEA	31
	Cu		Scallop(*Patinopecten yessoensis*)	Kidney	6.00E+03	SEA	24
	Cu		Fluted giant clam(*Tridacna squamosa*)	Liver	6.00E+03	SEA	31
	Cu		Kotamagai(*Gomphina melanaegis*)	Soft part	6.22E+03	SEA	26
	Cu		Clam(*Cyclosunetta menstrualis*)	Kidney	6.44E+03	SEA	27
	Cu		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.67E+03	SEA	27
	Cu		*Cyclosunetta menstrualis*	Whole soft tissue	7.78E+03	SEA	23
	Cu		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	8.00E+03	SEA	27
	Cu		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	8.33E+03	SEA	27
	Cu		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	8.67E+03	SEA	26
	Cu		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	8.67E+03	SEA	27
	Cu		Magaki(*Crassostrea gigas*)	Soft part	8.89E+03	SEA	26
	Cu		Elongate giant clam(*Tridacna maxima*)	Liver	1.02E+04	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cu	Cu	二枚貝	Magaki(*Crassostrea gigas*)	Soft part	1.11E+04	SEA	24
	Cu		Elongate giant clam(*Tridacna maxima*)	Gill	1.20E+04	SEA	31
	Cu		Magaki(*Crassostrea gigas*)	Edible part(soft part)	1.22E+04	SEA	24
	Cu		Clam(*Cyclosunetta menstrualis*)	Kidney	1.22E+04	SEA	27
	Cu		Crocus giant clam(*Tridacna crocea*)	Byssus	1.24E+04	SEA	31
	Cu		Magaki(*Crassostrea gigas*)	Soft part	1.33E+04	SEA	24
	Cu		Clam(*Cyclosunetta menstrualis*)	Kidney	2.46E+04	SEA	27
	Cu		*Cyclosunetta menstrualis*	Kidney	3.22E+04	SEA	23
	Cu		Magaki(*Crassostrea gigas*)	Soft part	4.00E+04	SEA	24
	Cu		Magaki(*Crassostrea gigas*)	Soft part	7.44E+04	SEA	24
	Cu		Magaki(*Crassostrea gigas*)	Soft part	8.56E+04	SEA	24
	Cu		Magaki(*Crassostrea gigas*)	Soft part	1.29E+05	SEA	24
	Cu		Magaki(*Crassostrea gigas*)	Soft part	5.11E+05	SEA	26
	Cu		Magaki(*Crassostrea gigas*)	Soft part	6.93E+05	SEA	24
	Cu	巻　貝	Shiraitomakibai(*Buccunum isaotakii*)	Muscle	4.56E+02	SEA	26
	Cu		Yatsushirogai(*Tonna luteostoma*)	Soft part	1.10E+03	SEA	26
	Cu		Bekkougasagai(*Cellane grate*)	Soft part	2.00E+03	SEA	26
	Cu		Sazae(*Batillus cornutus*)	Muscle	5.56E+03	SEA	26
	Cu		Bekkougasagai(*Cellana grata*)	Soft part	6.22E+03	SEA	26
	Cu		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	8.67E+03	SEA	26
	Cu		Tsumetagai(*Neverta didyma*)	Muscle	1.00E+04	SEA	26
	Cu		Kuroawabi(*Nordotis discus*)	Muscle	1.11E+04	SEA	26
	Cu		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	1.33E+04	SEA	26
	Cu		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	1.56E+04	SEA	26
	Cu		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	1.89E+04	SEA	26
	Cu		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	1.89E+04	SEA	26
	Cu		Ibonishi(*Thais clavigera*)	Muscle	2.11E+04	SEA	26
	Cu		Sazae(*Batillus cornutus*)	Tissue other than muscle	2.22E+04	SEA	26
	Cu		Ishidatami(*Monodonta labio*)	Soft part	3.67E+04	SEA	26
	Cu		Boshubora(*Charonia sauliae*)	Soft part	5.22E+04	SEA	26
	Cu		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	1.22E+05	SEA	26
	Cu		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	1.33E+05	SEA	26
	Cu		Bai(*Babylonia japonica*)	Soft part	1.44E+05	SEA	26
	Cu		*Ibonishi*(*Thais clavigera*)	Tissue other than muscle	2.78E+05	SEA	26
	Cu		Bai(*Babylonia japonica*)	Soft part	4.67E+05	SEA	26
	Cu	頭足類	Surumeika(*Todarodes pacificus*)	Edible parts	4.00E+02	SEA	21
	Cu		Yariika(*Doryteuthis bleekeri*)	Edible parts	4.00E+02	SEA	21
	Cu		Madako(*Octopus vulgaris*)	Edible parts	8.33E+02	SEA	21
	Cu		Bakaika(*Sthenoteuthis bartrami*)	Edible parts	8.67E+02	SEA	21
	Cu		Mizudako(*Paroctopus dofleini*)	Edible parts	1.33E+03	SEA	21

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Cu	Cu	足頭類	Surumeika(*Todarodes pacificus*)	Branchial heart	1.60E+03	SEA	21
	Cu		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	3.33E+03	SEA	36
	Cu		ケンサキイカ(*Photoligo edulis*)	脚部	3.33E+03	SEA	36
	Cu		ケンサキイカ(*Photoligo edulis*)	外套膜	3.33E+03	SEA	36
	Cu		アオリイカ(*Sepioteuthis lessoniana*)	脚部	4.44E+03	SEA	36
	Cu		スルメイカ(*Todarodes pacificus*)	外套膜	5.56E+03	SEA	36
	Cu		スルメイカ(*Todarodes pacificus*)	脚部	5.56E+03	SEA	36
	Cu		Mizudako(*Paroctopus dofleini*)	Branchial heart	6.67E+03	SEA	21
	Cu		コウイカ(*Sepia esculenta*)	脚部	1.00E+04	SEA	36
	Cu		コウイカ(*Sepia esculenta*)	外套膜	1.11E+04	SEA	36
	Cu		Madako(*Octopus vulgaris*)	Branchial heart	1.37E+04	SEA	21
	Cu		ケンサキイカ(*Photoligo edulis*)	肝臓	1.78E+04	SEA	36
	Cu		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.00E+04	SEA	36
	Cu		Bakaika(*Sthenoteuthis-bartrami*)	Branchial heart	2.20E+04	SEA	21
	Cu		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.56E+04	SEA	36
	Cu		Yariika(*Doryteuthis bleekeri*)	Liver	3.00E+04	SEA	21
	Cu		Surumeika(*Todarodes pacificus*)	Liver	3.20E+04	SEA	21
	Cu		Madako(*Octopus vulgaris*)	Liver	3.67E+04	SEA	21
	Cu		Mizudako(*Paroctopus dofleini*)	Liver	6.33E+04	SEA	21
	Cu		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	7.11E+04	SEA	36
	Cu		ケンサキイカ(*Photoligo edulis*)	鰓心臓	8.78E+04	SEA	36
	Cu		コウイカ(*Sepia esculenta*)	鰓心臓	9.00E+04	SEA	36
	Cu		スルメイカ(*Todarodes pacificus*)	鰓心臓	1.01E+05	SEA	36
	Cu		スルメイカ(*Todarodes pacificus*)	肝臓	1.56E+05	SEA	36
	Cu		コウイカ(*Sepia esculenta*)	肝臓	1.56E+05	SEA	36
	Cu		Bakaika(*Sthenoteuthis-bartrami*)	Liver	1.80E+05	SEA	21
	Cu		コウイカ(*Sepia esculenta*)	肝臓	2.29E+05	SEA	36
	Cu		スルメイカ(*Todarodes pacificus*)	肝臓	2.39E+05	SEA	36
	Cu	原索類	マボヤ(*ascidian:Halocynthia roretzi*)	筋膜（可食部）	5.00E+03	SEA	13
	Cu		マボヤ(*ascidian:Halocynthia roretzi*)	内蔵（可食部）	2.00E+04	SEA	13
Fe	Fe-59	紅藻類	Algae(*Chondrus sp.*)	A portion of 4g of plant	1.50E+02	TRE	17
	Fe-59		Algae(*Gracilaria verrucosa*)	A portion of 4g of plant	2.40E+02	TRE	17
	Fe-59		Algae(*Ahnfeltia sp.*)	A portion of 4g of plant	3.40E+02	TRE	17
	Fe		フクロフノリ	可食部	2.98E+03	SEA	33
	Fe		フクロフノリ	可食部	6.07E+03	SEA	33
	Fe-59	褐藻類	Algae(*Hijikia fusiforme*)	A portion of 4g of plant	2.00E+01	TRE	17
	Fe		マコンブ	可食部	5.51E+01	SEA	33
	Fe		ワカメ	可食部	1.64E+02	SEA	33
	Fe		ワカメ	可食部	2.23E+02	SEA	33
	Fe		マコンブ	可食部	4.32E+02	SEA	33
	Fe-59		Algae(*Sargassum thunbergii*)	A portion of 4g of plant	5.00E+02	TRE	17
	Fe		ヒジキ	可食部	6.36E+02	SEA	33
	Fe	棘皮類	マナマコ	可食部	3.92E+01	SEA	33

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Fe	Fe	棘皮類	Manamako(*Stichopus japonicus*)	Whole animal	3.53E+02	SEA	24
	Fe		Sea urchin(*Strongylocentrotus nudus*)	Gonad	3.43E+03	SEA	22
	Fe		エゾバフンウニ	可食部	1.46E+04	SEA	33
	Fe	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	2.50E+02	SEA	24
	Fe		ケガニ	可食部	3.36E+02	SEA	33
	Fe		ヒラツメガニ	可食部	4.22E+02	SEA	33
	Fe		Ibraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	7.65E+02	SEA	24
	Fe		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	7.65E+02	SEA	24
	Fe		Iseebi(*Panulirus japonicus*)	Edible part(liver)	7.06E+03	SEA	24
	Fe		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	2.32E+04	SEA	24
	Fe-59	二枚貝	Bivalve(*Gomphina melanaegis*)	Soft parts	1.00E+02	TRE	17
	Fe		ホタテガイ	可食部	1.89E+02	SEA	33
	Fe		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	3.06E+02	SEA	31
	Fe		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	4.59E+02	SEA	31
	Fe		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	5.76E+02	SEA	31
	Fe		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	5.88E+02	SEA	31
	Fe		Scallop(*Patinopecten yessoensis*)	Adductor muscle	9.41E+02	SEA	24
	Fe		Elongate giant clam(*Tridacna maxima*)	Mantle	1.06E+03	SEA	31
	Fe		Fluted giant clam(*Tridacna squamosa*)	Gonad	1.29E+03	SEA	31
	Fe		Bear paw clam(*Hippopus hippopus*)	Gonad	1.29E+03	SEA	31
	Fe		Fluted giant clam(*Tridacna squamosa*)	Mantle	1.35E+03	SEA	31
	Fe		Elongate giant clam(*Tridacna maxima*)	Gill	1.76E+03	SEA	31
	Fe		Crocus giant clam(*Tridacna crocea*)	Byssus	1.88E+03	SEA	31
	Fe		Crocus giant clam(*Tridacna crocea*)	Mantle	2.00E+03	SEA	31
	Fe		Elongate giant clam(*Tridacna maxima*)	Gonad	2.00E+03	SEA	31
	Fe		Elongate giant clam(*Tridacna maxima*)	Byssus	2.18E+03	SEA	31
	Fe		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	3.00E+03	SEA	31
	Fe		Fluted giant clam(*Tridacna squamosa*)	Gill	3.18E+03	SEA	31
	Fe		Bear paw clam(*Hippopus hippopus*)	Gill	3.18E+03	SEA	31
	Fe		Bear paw clam(*Hippopus hippopus*)	Mantle	3.24E+03	SEA	31
	Fe		Crocus giant clam(*Tridacna crocea*)	Gill	3.88E+03	SEA	31
	Fe		Hotategai(*Patinopecten yessoensis*)	Soft part	5.29E+03	SEA	26
	Fe		Akazara(*Chlamys farreri*)	Soft part	5.88E+03	SEA	26
	Fe		CLam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.18E+03	SEA	27
	Fe		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	6.18E+03	SEA	26
	Fe		Igai(*Mytilus coruscus*)	Soft part	6.47E+03	SEA	26
	Fe		Fluted giant clam(*Tridacna squamosa*)	Byssus	6.47E+03	SEA	31
	Fe		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.65E+03	SEA	27
	Fe		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	8.82E+03	SEA	27
	Fe		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	9.12E+03	SEA	27

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Fe	Fe	二枚貝	Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	9.71E+03	SEA	27
	Fe		Kotamagai(*Gomphina melanaegis*)	Soft part	1.03E+04	SEA	26
	Fe		Nunomeasari(*Novathaca euglypta*)	Soft part	1.09E+04	SEA	26
	Fe		Bear paw clam(*Hippopus hippopus*)	Kidney	1.12E+04	SEA	31
	Fe		Asari(*Tapes philippinarum*)	Soft part	1.38E+04	SEA	26
	Fe		Clam(*Cyclosunetta menstrualis*)	Kidney	1.41E+04	SEA	27
	Fe		Fluted giant clam(*Tridacna squamosa*)	Kidney	1.41E+04	SEA	31
	Fe		Elongate giant clam(*Tridacna maxima*)	Liver	1.41E+04	SEA	31
	Fe		Elongate giant clam(*Tridacna maxima*)	Kidney	1.41E+04	SEA	31
	Fe		Wasuregai *Cyclosunetta menstrualis*)	Soft part	1.44E+04	SEA	26
	Fe		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.56E+04	SEA	27
	Fe		Magaki(*Crassostrea gigas*)	Soft part	1.59E+04	SEA	26
	Fe		Scallop(*Patinopecten yessoensis*)	Liver	1.59E+04	SEA	24
	Fe		Fluted giant clam(*Tridacna squamosa*)	Liver	1.71E+04	SEA	31
	Fe		*Cyclosunetta menstrualis*	Whole soft tissue	1.79E+04	SEA	23
	Fe		Clam(*Cyclosunetta menstrualis*)	Kidney	1.79E+04	SEA	27
	Fe		Magaki(*Crassostrea gigas*)	Soft part	1.91E+04	SEA	24
	Fe		Magaki(*Crassostrea gigas*)	Soft part	2.03E+04	SEA	24
	Fe		Scallop(*Patinopecten yessoensis*)	Kidney	2.06E+04	SEA	24
	Fe		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	2.35E+04	SEA	26
	Fe		Magaki(*Crassostrea gigas*)	Soft part	2.62E+04	SEA	24
	Fe		Bear paw clam(*Hippopus hippopus*)	Liver	2.76E+04	SEA	31
	Fe		Crocus giant clam(*Tridacna crocea*)	Kidney	2.82E+04	SEA	31
	Fe		Magaki(*Crassostrea gigas*)	Edible part(soft part)	2.94E+04	SEA	24
	Fe		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	2.94E+04	SEA	26
	Fe		Magaki(*Crassostrea gigas*)	Soft part	2.94E+04	SEA	24
	Fe		Ubagai(*Spisula sachalinensis*)	Soft part	2.94E+04	SEA	26
	Fe		Magaki(*Crassostrea gigas*)	Soft part	3.24E+04	SEA	24
	Fe		Clam(*Cyclosunetta menstrualis*)	Kidney	3.82E+04	SEA	27
	Fe		Marusarubo(*Scapharca satowi*)	Soft part	4.12E+04	SEA	26
	Fe		Magaki(*Crassostrea gigas*)	Soft part	4.38E+04	SEA	24
	Fe		Magaki(*Crassostrea gigas*)	Soft part	5.00E+04	SEA	24
	Fe		Clam(*Cyclosunetta menstrualis*)	Kidney	6.47E+04	SEA	27
	Fe		Clam(*Cyclosunetta menstrualis*)	Kidney	1.41E+05	SEA	27
	Fe		*Cyclosunetta menstrualis*	Kidney	2.03E+05	SEA	23
	Fe		Clam(*Cyclosunetta menstrualis*)	Kidney	5.71E+05	SEA	27
	Fe-59	巻貝	Abalone(*Haliotis discus*)		6.60E+01	SEA	7
	Fe		エゾアワビ	可食部	1.43E+02	SEA	33
	Fe		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	2.91E+03	SEA	26
	Fe		Tsumetagai(*Neverta didyma*)	Muscle	5.00E+03	SEA	26
	Fe		Sazae(*Batillus cornutus*)	Muscle	5.00E+03	SEA	26
	Fe		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	6.47E+03	SEA	26
	Fe		Kuroawabi(*Nordotis discus*)	Muscle	1.18E+04	SEA	26

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Fe	Fe	巻　貝	Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	1.29E+04	SEA	26
	Fe		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	1.47E+04	SEA	26
	Fe		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	1.65E+04	SEA	26
	Fe		Ibonishi(*Thais clavigera*)	Muscle	2.32E+04	SEA	26
	Fe		Ishidatami(*Monodonta labio*)	Soft part	2.94E+04	SEA	26
	Fe		Yatsushirogai(*Tonna luteostoma*)	Soft part	3.24E+04	SEA	26
	Fe		Bai(*Babylonia japonica*)	Soft part	3.24E+04	SEA	26
	Fe		Kuroawabi(*Nordotis discus*)	Muscle	3.53E+04	SEA	26
	Fe		Boshubora(*Charonia sauliae*)	Soft part	4.41E+04	SEA	26
	Fe		Ibonishi(*Thais clavigera*)	Tissue other than muscle	4.41E+04	SEA	26
	Fe		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	6.18E+04	SEA	26
	Fe		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	7.06E+04	SEA	26
	Fe		Bekkougasagai(*Cellana grata*)	Soft part	1.15E+05	SEA	26
	Fe		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	1.18E+05	SEA	26
	Fe		Sazae(*Batillus cornutus*)	Tissue other than muscle	1.82E+05	SEA	26
	Fe		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	5.29E+05	SEA	26
	Fe	頭足類	スルメイカ	可食部	3.76E+01	SEA	33
	Fe		Surumeika(*Todarodes pacificus*)	Edible parts	1.10E+02	SEA	21
	Fe		Mizudako(*Paroctopus doflein*)	Edible parts	1.40E+02	SEA	21
	Fe		Madako(*Octopus vulgaris*)	Edible parts	1.80E+02	SEA	21
	Fe		Bakaika(*Sthenoteuthis bartrami*)	Edible parts	1.80E+02	SEA	21
	Fe		Yariika(*Doryteuthis bleekeri*)	Edible parts	2.80E+02	SEA	21
	Fe		ミズダコ	可食部	2.82E+02	SEA	33
	Fe		ケンサキイカ(*Photoligo edulis*)	外套部	2.94E+02	SEA	36
	Fe		ケンサキイカ(*Photoligo edulis*)	脚部	2.94E+02	SEA	36
	Fe		アオリイカ(*Sepioteuthis lessoniana*)	外套部	2.94E+02	SEA	36
	Fe		コウイカ(*Sepia esculenta*)	外套部	2.94E+02	SEA	36
	Fe		Mizudako(*Paroctopus dofleini*)	Branchial heart	5.00E+02	SEA	21
	Fe		アオリイカ(*Sepioteuthis lessoniana*)	脚部	8.82E+02	SEA	36
	Fe		コウイカ(*Sepia esculenta*)	脚部	8.82E+02	SEA	36
	Fe		Bakaika(*Sthenoteuthis bartrami*)	Branchial heart	1.00E+03	SEA	21
	Fe		Surumeika(*Todarodes pacificus*)	Branchial heart	1.60E+03	SEA	21
	Fe		スルメイカ(*Todarodes pacificus*)	外套部	2.65E+03	SEA	36
	Fe		コウイカ(*Sepia esculenta*)	鰓心臓	2.94E+03	SEA	36
	Fe		ケンサキイカ(*Photoligo edulis*)	鰓心臓	3.24E+03	SEA	36
	Fe		Yariika(*Doryteuthis bleekeri*)	Liver	3.30E+03	SEA	21
	Fe		スルメイカ(*Todarodes pacificus*)	脚部	4.12E+03	SEA	36
	Fe		スルメイカ(*Todarodes pacificus*)	鰓心臓	4.71E+03	SEA	36
	Fe		Madako(*Octopus vulgaris*)	Branchial heart	6.90E+03	SEA	21
	Fe		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	7.06E+03	SEA	36

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Fe	Fe	巻　貝	Bakaika(*Sthenoteuthis bartrami*)	Liver	8.10E+03	SEA	21
	Fe		Mizudako(*Paroctopus doflein*)	Liver	9.00E+03	SEA	21
	Fe		Madako(*Octopus vulgaris*)	Liver	1.10E+04	SEA	21
	Fe		Surumeika(*Todarodes pacificus*)	Liver	1.50E+04	SEA	21
	Fe		コウイカ(*Sepia esculenta*)	肝臓	2.68E+04	SEA	36
	Fe		スルメイカ(*Todarodes pacificus*)	肝臓	3.26E+04	SEA	36
	Fe		コウイカ(*Sepia esculenta*)	肝臓	3.53E+04	SEA	36
	Fe		スルメイカ(*Todarodes pacificus*)	肝臓	3.85E+04	SEA	36
	Fe		ケンサキイカ(*Photoligo edulis*)	肝臓	4.09E+04	SEA	36
	Fe		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	5.88E+04	SEA	36
	Fe		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	6.09E+04	SEA	36
	Fe-59	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜	1.70E+00	TRE	13
	Fe-59		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵	4.00E+00	TRE	13
	Fe-59		マボヤ(ascidian:*Halocynthia roretzi*)	Whole body	1.43E+01	TRE	13
	Fe-59		マボヤ(ascidian:*Halocynthia roretzi*)	外皮	3.79E+01	TRE	13
	Fe		マボヤ	可食部	6.36E+02	SEA	33
	Fe		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	8.00E+02	SEA	13
	Fe		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	3.00E+03	SEA	13
	Fe	魚　類	イシガレイ	可食部	3.39E+01	SEA	33
	Fe		ヒラメ	可食部	4.28E+01	SEA	33
	Fe		バラメヌケ	可食部	5.77E+01	SEA	33
	Fe		クジメ	可食部	5.83E+01	SEA	33
	Fe		ウミタナゴ	可食部	6.35E+01	SEA	33
	Fe		アイナメ	可食部	6.86E+01	SEA	33
	Fe		クロソイ	可食部	8.02E+01	SEA	33
	Fe		ババガレイ	可食部	8.12E+01	SEA	33
	Fe		キツネメバル	可食部	8.98E+01	SEA	33
	Fe		ホッケ	可食部	1.12E+02	SEA	33
	Fe		サケ	可食部	1.27E+02	SEA	33
	Fe		ホッケ	可食部	1.40E+02	SEA	33
	Fe		ウグイ	可食部	1.45E+02	SEA	33
I	I	紅藻類	ツノマタ	可食部	1.10E+03	SEA	32
	I	褐藻類	ワカメ	可食部	2.00E+02	SEA	32
	I		ワカメ	可食部	2.10E+02	SEA	32
	I		フクロノリ	可食部	3.60E+02	SEA	32
	I-131(IO_3^-)		Hijiki(*Hijikia fusiforme*)		4.26E+02	TRE	6
	I-131(IO_3^-)		Hijiki(*Hijikia fusiforme*)		4.49E+02	TRE	6
	I-131(IO_3^-)		Hijiki(*Hijikia fusiforme*)		6.16E+02	TRE	6
	I-131(IO_3^-)		Hijiki(*Hijikia fusiforme*)		6.96E+02	TRE	6
	I-125(IO_3^-)		Hijiki(*Hijikia fusiforme*)		8.24E+02	TRE	6
	I-125(IO_3^-)		Hijiki(*Hijikia fusiforme*)		8.63E+02	TRE	6
	I-129(IO_3^-)		Hijiki(*Hijikia fusiforme*)		9.83E+02	TRE	6
	I-129(IO_3^-)		Hijiki(*Hijikia fusiforme*)		1.02E+03	TRE	6
	I-125(IO_3^-)		Hijiki(*Hijikia fusiforme*)		1.18E+03	TRE	6
	I-131(I^-)		Hijiki(*Hijikia fusiforme*)		1.31E+03	TRE	6
	I-125(IO_3^-)		Hijiki(*Hijikia fusiforme*)		1.36E+03	TRE	6

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
I	I-129(IO_3^-)	褐藻類	Hijiki(*Hijikia fusiforme*)		1.40E+03	TRE	6
	I-131(I^-)		Hijiki(*Hijikia fusiforme*)		1.61E+03	TRE	6
	I-129(IO_3^-)		Hijiki(*Hijikia fusiforme*)		1.62E+03	TRE	6
	I-131(I^-)		Hijiki(*Hijikia fusiforme*)		1.68E+03	TRE	6
	I-131(I^-)		Hijiki(*Hijikia fusiforme*)		1.82E+03	TRE	6
	I-125(I^-)		Hijiki(*Hijikia fusiforme*)		2.42E+03	TRE	6
	I-129(I^-)		Hijiki(*Hijikia fusiforme*)		2.75E+03	TRE	6
	I-125(I^-)		Hijiki(*Hijikia fusiforme*)		4.14E+03	TRE	6
	I-125(I^-)		Hijiki(*Hijikia fusiforme*)		4.25E+03	TRE	6
	I-125(I^-)		Hijiki(*Hijikia fusiforme*)		4.69E+03	TRE	6
	I-129(I^-)		Hijiki(*Hijikia fusiforme*)		5.68E+03	TRE	6
	I-129(I^-)		Hijiki(*Hijikia fusiforme*)		5.83E+03	TRE	6
	I-129(I^-)		Hijiki(*Hijikia fusiforme*)		6.45E+03	TRE	6
	I		マコンブ	可食部	8.20E+03	SEA	32
	I		スジメコンブ	可食部	8.70E+03	SEA	32
	I		ミツイシコンブ	可食部	9.10E+03	SEA	32
	I	棘皮類	マナマコ	可食部	1.80E+01	SEA	32
	I	甲殻類	ヒラツメガニ	可食部	1.10E+01	SEA	32
	I	二枚貝	ホタテガイ	可食部	1.30E+01	SEA	32
	I	巻　貝	エゾアワビ	可食部	6.80E+01	SEA	32
	I	頭足類	スルメイカ	可食部	9.60E+01	SEA	32
	I		スルメイカ	可食部	9.90E+01	SEA	32
	I		スルメイカ	可食部	1.20E+00	SEA	32
	I	原索類	マボヤ	可食部	3.80E+01	SEA	32
	I		マボヤ	可食部	8.90E+01	SEA	32
	I	魚　類	ギンザケ	可食部	1.60E+00	SEA	32
	I		ヒラメ	可食部	1.70E+00	SEA	32
	I		クロガシラガレイ	可食部	2.40E+00	SEA	32
	I		アイナメ	可食部	3.50E+00	SEA	32
	I		アイナメ	可食部	4.30E+00	SEA	32
	I		ギンザケ	可食部	8.10E+00	SEA	32
	I		ホッケ	可食部	1.00E+01	SEA	32
	I		ギンザケ	可食部	1.60E+01	SEA	32
	I		アカガレイ	可食部	1.90E+01	SEA	32
	I		ヒラメ	可食部	3.30E+01	SEA	32
	I-131(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	4.70E+01	TRE	6
	I		ババガレイ	可食部	5.20E+01	SEA	32
	I-131(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	5.30E+01	TRE	6
	I-131(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	5.60E+01	TRE	6
	I-125(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	8.30E+01	TRE	6
	I-129(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	9.50E+01	TRE	6
	I-125(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	1.02E+02	TRE	6
	I-131(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	1.16E+02	TRE	6
	I-129(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	1.20E+02	TRE	6
	I-125(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	1.20E+02	TRE	6
	I-129(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	1.50E+02	TRE	6

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
I	I-125(I^-)	魚　類	Dorome(*Chasmichthys gulosus*)	Whole body	2.67E+02	TRE	6
	I-129(I^-)		Dorome(*Chasmichthys gulosus*)	Whole body	3.44E+02	TRE	6
K	K	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad	7.67E+00	SEA	22
	K	二枚貝	Fluted giant clam(*Tridacna squamosa*)	Byssus	1.59E+00	SEA	31
	K		Elongate giant clam(*Tridacna maxima*)	Byssus	1.84E+00	SEA	31
	K		Elongate giant clam(*Tridacna maxima*)	Kidney	2.39E+00	SEA	31
	K		Bear paw clam(*Hippopus hippopus*)	Kidney	2.40E+00	SEA	31
	K		Elongate giant clam(*Tridacna maxima*)	Gill	2.41E+00	SEA	31
	K		Crocus giant clam(*Tridacna crocea*)	Byssus	2.96E+00	SEA	31
	K		Fluted giant clam(*Tridacna squamosa*)	Kidney	2.99E+00	SEA	31
	K		Bear paw clam(*Hippopus hippopus*)	Gill	2.99E+00	SEA	31
	K		Clam(*Cyclosunetta menstrualis*)	Kidney	3.06E+00	SEA	27
	K		Crocus giant clam(*Tridacna crocea*)	Kidney	3.24E+00	SEA	31
	K		Clam(*Cyclosunetta menstrualis*)	Kidney	3.49E+00	SEA	27
	K		Clam(*Cyclosunetta menstrualis*)	Kidney	3.62E+00	SEA	27
	K		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.83E+00	SEA	27
	K		Clam(*Cyclosunetta menstrualis*)	Kidney	4.01E+00	SEA	27
	K		Elongate giant clam(*Tridacna maxima*)	Mantle	4.08E+00	SEA	31
	K		Elongate giant clam(*Tridacna maxima*)	Liver	4.82E+00	SEA	31
	K		Clam(*Cyclosunetta menstrualis*)	Kidney	4.90E+00	SEA	27
	K		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.15E+00	SEA	27
	K		Fluted giant clam(*Tridacna squamosa*)	Gill	5.15E+00	SEA	31
	K		Fluted giant clam(*Tridacna squamosa*)	Gonad	5.15E+00	SEA	31
	K		*Cyclosunetta menstrualis*	Whole soft tissue	5.18E+00	SEA	23
	K		Fluted giant clam(*Tridacna squamosa*)	Liver	5.20E+00	SEA	31
	K		Bear paw clam(*Hippopus hippopus*)	Gonad	5.20E+00	SEA	31
	K		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	5.37E+00	SEA	31
	K		Fluted giant clam(*Tridacna squamosa*)	Mantle	5.46E+00	SEA	31
	K		Elongate giant clam(*Tridacna maxima*)	Gonad	5.51E+00	SEA	31
	K		Bear paw clam(*Hippopus hippopus*)	Liver	5.56E+00	SEA	31
	K		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.59E+00	SEA	27
	K		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.77E+00	SEA	27
	K		Crocus giant clam(*Tridacna crocea*)	Gill	5.94E+00	SEA	31
	K		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.99E+00	SEA	27
	K		Crocus giant clam(*Tridacna crocea*)	Mantle	6.27E+00	SEA	31
	K		Clam(*Cyclosunetta menstrualis*)	Kidney	6.30E+00	SEA	27
	K		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.30E+00	SEA	27
	K		Bear paw clam(*Hippopus hippopus*)	Mantle	6.94E+00	SEA	31
	K		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	7.05E+00	SEA	31
	K		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	7.45E+00	SEA	31
	K		*Cyclosunetta menstrualis*	Kidney	7.53E+00	SEA	23

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
K	K	二枚貝	Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	7.81E+00	SEA	31
	K		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	8.23E+00	SEA	31
	K	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	2.00E+00	SEA	13
	K		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	2.00E+00	SEA	13
Mg	Mg	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad(testis)	6.20E−01	SEA	22
	Mg	二枚貝	Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	3.86E−01	SEA	31
	Mg		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	3.88E−01	SEA	31
	Mg		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	4.28E−01	SEA	31
	Mg		Clam(*Cyclosunetta menstrualis*)	Kidney	4.50E−01	SEA	27
	Mg		Clam(*Cyclosunetta menstrualis*)	Kidney	4.57E−01	SEA	27
	Mg		Elongate giant clam(*Tridacna maxima*)	Liver	4.73E−01	SEA	31
	Mg		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	4.81E−01	SEA	27
	Mg		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.27E−01	SEA	27
	Mg		Elongate giant clam(*Tridacna maxima*)	Mantle	5.43E−01	SEA	31
	Mg		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	5.47E−01	SEA	31
	Mg		Clam(*Cyclosunetta menstrualis*)	Kidney	5.50E−01	SEA	27
	Mg		Elongate giant clam(*Tridacna maxima*)	Gonad	5.52E−01	SEA	31
	Mg		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	5.81E−01	SEA	27
	Mg		Fluted giant clam(*Tridacna squamosa*)	Liver	5.83E−01	SEA	31
	Mg		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.05E−01	SEA	27
	Mg		Bear paw clam(*Hippopus hippopus*)	Liver	6.17E−01	SEA	31
	Mg		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.20E−01	SEA	27
	Mg		Clam(*Cyclosunetta menstrualis*)	Kidney	6.28E−01	SEA	27
	Mg		*Cyclosunetta menstrualis*	Whole soft tissue	6.36E−01	SEA	23
	Mg		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.36E−01	SEA	27
	Mg		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	6.51E−01	SEA	31
	Mg		Elongate giant clam(*Tridacna maxima*)	Gill	7.47E−01	SEA	31
	Mg		Crocus giant clam(*Tridacna crocea*)	Mantle	7.53E−01	SEA	31
	Mg		Bear paw clam(*Hippopus hippopus*)	Gonad	7.67E−01	SEA	31
	Mg		Fluted giant clam(*Tridacna squamosa*)	Gonad	8.06E−01	SEA	31
	Mg		Elongate giant clam(*Tridacna maxima*)	Byssus	8.43E−01	SEA	31
	Mg		Fluted giant clam(*Tridacna squamosa*)	Mantle	9.02E−01	SEA	31
	Mg		Fluted giant clam(*Tridacna squamosa*)	Byssus	1.01E+00	SEA	31
	Mg		Crocus giant clam(*Tridacna crocea*)	Byssus	1.04E+00	SEA	31
	Mg		Crocus giant clam(*Tridacna crocea*)	Gill	1.13E+00	SEA	31
	Mg		Bear paw clam(*Hippopus hippopus*)	Kidney	1.17E+00	SEA	31
	Mg		Fluted giant clam(*Tridacna squamosa*)	Gill	1.18E+00	SEA	31
	Mg		Bear paw clam(*Hippopus hippopus*)	Gill	1.44E+00	SEA	31
	Mg		Bear paw clam(*Hippopus hippopus*)	Mantle	1.75E+00	SEA	31

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Mg	Mg	二枚貝	Clam(*Cyclosunetta menstrualis*)	Kidney	1.76E+00	SEA	27
	Mg		Crocus giant clam(*Tridacna crocea*)	Kidney	1.86E+00	SEA	31
	Mg		Fluted giant clam(*Tridacna squamosa*)	Kidney	2.84E+00	SEA	31
	Mg		Elongate giant clam(*Tridacna maxima*)	Kidney	2.95E+00	SEA	31
	Mg		*Cyclosunetta menstrualis*	Kidney	3.22E+00	SEA	23
	Mg		Clam(*Cyclosunetta menstrualis*)	Kidney	3.74E+00	SEA	27
	Mg	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	7.00E−01	SEA	13
	Mg		マボヤ(ascidian:*Halocynthia roretzi*)	筋肉（可食部）	8.00E−01	SEA	13
Mn	Mn-54	紅藻類	Algae(*Ahnfeltia sp.*)	A portion of 4g of plant	7.20E+02	TRE	17
	Mn-54		Algae(*Chondrus sp.*)	A portion of 4g of plant	1.32E+03	TRE	17
	Mn-54		Algae(*Gracilaria verrucosa*)	A portion of 4g of plant	1.97E+03	TRE	17
	Mn		マクサ		2.89E+03	SEA	34
	Mn		フクロフノリ	可食部	5.81E+03	SEA	33
	Mn		マクサ		7.74E+03	SEA	34
	Mn		フクロフノリ	可食部	1.09E+04	SEA	33
	Mn		ツノムカデ		2.49E+04	SEA	34
	Mn	褐藻類	アカモク		1.83E+02	SEA	34
	Mn-54		Algae(*Hijikia fusiforme*)	A portion of 4g of plant	2.40E+02	TRE	17
	Mn		マコンブ	可食部	6.54E+02	SEA	33
	Mn		アラメ		6.77E+02	SEA	34
	Mn		ヨレモク		7.20E+02	SEA	34
	Mn		ワカメ	可食部	8.20E+02	SEA	33
	Mn		アラメ		8.69E+02	SEA	34
	Mn		マコンブ	可食部	9.20E+02	SEA	33
	Mn		ワカメ	可食部	9.98E+02	SEA	33
	Mn		アラメ		1.10E+03	SEA	34
	Mn		ヒジキ	可食部	1.71E+03	SEA	33
	Mn		ワカメ	栄養葉	1.93E+03	SEA	34
	Mn		オオバモク		2.09E+03	SEA	34
	Mn		ワカメ	栄養葉	2.36E+03	SEA	34
	Mn-54		Algae(*Sargassum thunbergii*)	A portion of 4g of plant	2.41E+03	TRE	17
	Mn		ワカメ	胞子葉	2.52E+03	SEA	34
	Mn		ヤツマタモク		2.52E+03	SEA	34
	Mn		エゾノネジモク		3.03E+03	SEA	34
	Mn		マメタワラ		5.88E+03	SEA	34
	Mn		タマハキモク		6.94E+03	SEA	34
	Mn		ミヤベモク		1.06E+04	SEA	34
	Mn		アカモク		1.54E+04	SEA	34
	Mn		ウガノモク		1.56E+04	SEA	34
	Mn		フジスジモク		1.95E+04	SEA	34
	Mn		ウミトラノオ		4.90E+04	SEA	34
	Mn-54	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Whole body	1.14E+01	TRE	18
	Mn		マナマコ	可食部	1.44E+02	SEA	33

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Mn	Mn	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad	5.75E+02	SEA	22
	Mn		Manamako(*Stichopus japonicus*)	Whole animal	7.25E+02	SEA	24
	Mn		エゾバフンウニ	可食部	1.24E+04	SEA	33
	Mn	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	4.00E+02	SEA	24
	Mn		ヒラツメガニ	可食部	5.28E+02	SEA	33
	Mn		ケガニ	可食部	1.27E+03	SEA	33
	Mn		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	1.53E+03	SEA	24
	Mn		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	1.98E+03	SEA	24
	Mn		Iseebi(*Panulirus japonicus*)	Edible part(liver)	4.50E+03	SEA	24
	Mn		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	4.75E+03	SEA	24
	Mn-54	二枚貝	Bivalve(*Gomphina melanaegis*)	Soft parts	1.50E+02	TRE	17
	Mn		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	4.50E+02	SEA	31
	Mn		ホタテガイ	可食部	4.81E+02	SEA	33
	Mn		Scallop(*Patinopecten yessoensis*)	Adductor muscle	5.75E+02	SEA	24
	Mn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.50E+02	SEA	27
	Mn		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	8.00E+02	SEA	31
	Mn		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	9.50E+02	SEA	31
	Mn		Elongate giant clam(*Tridacna maxima*)	Byssus	1.05E+03	SEA	31
	Mn		Hotategai(*Patinopecten yessoensis*)	Soft Part	1.15E+03	SEA	26
	Mn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.25E+03	SEA	27
	Mn		Chosenhamaguri(*Meretrix lamarckii*)	Soft Part	1.33E+03	SEA	26
	Mn		Elongate giant clam(*Tridacna maxima*)	Gill	1.45E+03	SEA	31
	Mn		Igai(*Mytilus coruscus*)	Soft Part	1.55E+03	SEA	26
	Mn		Fluted giant clam(*Tridacna squamosa*)	Gill	1.55E+03	SEA	31
	Mn		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	1.65E+03	SEA	31
	Mn		Fluted giant clam(*Tridacna squamosa*)	Liver	1.95E+03	SEA	31
	Mn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.00E+03	SEA	27
	Mn		Elongate giant clam(*Tridacna maxima*)	Mantle	2.05E+03	SEA	31
	Mn		Crocus giant clam(*Tridacna crocea*)	Byssus	2.15E+03	SEA	31
	Mn		Crocus giant clam(*Tridacna crocea*)	Gill	2.20E+03	SEA	31
	Mn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.25E+03	SEA	27
	Mn		Nunomeasari(*Novathaca euglypta*)	Soft part	2.28E+03	SEA	26
	Mn		Akazara(*Chlamys farreri*)	Soft part	2.43E+03	SEA	26
	Mn		Fluted giant clam(*Tridacna squamosa*)	Mantle	2.65E+03	SEA	31
	Mn		Asari(*Tapes philippinarum*)	Soft part	2.75E+03	SEA	26
	Mn		Bear paw clam(*Hippopus hippopus*)	Mantle	2.85E+03	SEA	31
	Mn		Elongate giant clam(*Tridacna maxima*)	Liver	2.95E+03	SEA	31
	Mn		Scallop(*Patinopecten yessoensis*)	Liver	3.25E+03	SEA	24
	Mn		Fluted giant clam(*Tridacna squamosa*)	Byssus	3.25E+03	SEA	31
	Mn		Bear paw clam(*Hippopus hippopus*)	Gill	3.35E+03	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Mn	Mn	二枚貝	Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.75E+03	SEA	27
	Mn		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	3.75E+03	SEA	26
	Mn		Nunomeasari(*Novathaca euglypta*)	Soft part	4.25E+03	SEA	26
	Mn		Marusarubo(*Scapharca satowi*)	Soft part	4.25E+03	SEA	26
	Mn		Bear paw clam(*Hippopus hippopus*)	Gonad	4.35E+03	SEA	31
	Mn		Bear paw clam(*Hippopus hippopus*)	Liver	4.35E+03	SEA	31
	Mn		Magaki(*Crassostrea gigas*)	Soft part	4.75E+03	SEA	24
	Mn		Magaki(*Crassostrea gigas*)	Soft part	5.25E+03	SEA	24
	Mn		Magaki(*Crassostrea gigas*)	Soft part	5.25E+03	SEA	26
	Mn		Crocus giant clam(*Tridacna crocea*)	Mantle	5.50E+03	SEA	31
	Mn		Fluted giant clam(*Tridacna squamosa*)	Gonad	6.00E+03	SEA	31
	Mn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.00E+03	SEA	27
	Mn		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	7.00E+03	SEA	31
	Mn		Elongate giant clam(*Tridacna maxima*)	Gonad	7.00E+03	SEA	31
	Mn		Magaki(*Crassostrea gigas*)	Soft part	8.75E+03	SEA	24
	Mn		Magaki(*Crassostrea gigas*)	Soft part	1.08E+04	SEA	24
	Mn		Magaki(*Crassostrea gigas*)	Soft part	1.13E+04	SEA	24
	Mn		Magaki(*Crassostrea gigas*)	Soft part	1.45E+04	SEA	24
	Mn		Magaki(*Crassostrea gigas*)	Soft part	1.55E+04	SEA	26
	Mn		Magaki(*Crassostrea gigas*)	Soft part	1.80E+04	SEA	24
	Mn		Ubagai(*Spisula sachalinensis*)	Soft part	1.98E+04	SEA	26
	Mn		Magaki(*Crassostrea gigas*)	Edible part(soft part)	2.03E+04	SEA	24
	Mn		Scallop(*Patinopecten yessoensis*)	Kidney	2.50E+04	SEA	24
	Mn		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	2.75E+04	SEA	26
	Mn		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	2.00E+05	SEA	26
	Mn		*Cyclosunetta menstrualis*	Whole soft tissue	3.03E+05	SEA	23
	Mn		Fluted giant clam(*Tridacna squamosa*)	Kidney	4.20E+05	SEA	31
	Mn		Crocus giant clam(*Tridacna crocea*)	Kidney	4.60E+05	SEA	31
	Mn		Elongate giant clam(*Tridacna maxima*)	Kidney	6.60E+05	SEA	31
	Mn		Bear paw clam(*Hippopus hippopus*)	Kidney	7.45E+05	SEA	31
	Mn		Clam(*Cyclosunetta menstrualis*)	Kidney	7.68E+05	SEA	27
	Mn		Clam(*Cyclosunetta menstrualis*)	Kidney	1.40E+06	SEA	27
	Mn		Clam(*Cyclosunetta menstrualis*)	Kidney	1.73E+06	SEA	27
	Mn		Clam(*Cyclosunetta menstrualis*)	Kidney	2.15E+06	SEA	27
	Mn		Clam(*Cyclosunetta menstrualis*)	Kidney	1.24E+07	SEA	27
	Mn		*Cyclosunetta menstrualis*	Kidney	1.71E+07	SEA	23
	Mn		Clam(*Cyclosunetta menstrualis*)	Kidney	2.18E+07	SEA	27
	Mn-54	巻貝	*Haliotis discus*	Mantle	4.20E+01	TRE	16
	Mn-54		*Haliotis discus*	Foot	4.20E+01	TRE	16
	Mn-54		*Haliotis discus*	Mantle	5.30E+01	TRE	16
	Mn-54		*Haliotis discus*	Foot	6.10E+01	TRE	16
	Mn-54		*Haliotis discus*	Whole soft tissue	6.60E+01	TRE	16
	Mn-54		*Haliotis discus*	Buccal mass	7.10E+01	TRE	16

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Mn	Mn-54	巻貝	*Haliotis discus*	Foot	7.10E+01	TRE	16
	Mn-54		*Haliotis discus*	Foot	7.40E+01	TRE	16
	Mn-54		*Haliotis discus*	Mantle	8.10E+01	TRE	16
	Mn-54		*Haliotis discus*	Mantle	8.30E+01	TRE	16
	Mn-54		*Haliotis discus*	Buccal mass	8.80E+01	TRE	16
	Mn-54		Perry Whelk(*Voluthарpa ampullacea perryi*)	Conch	9.00E+01	TRE	16
	Mn-54		*Haliotis discus*	Whole soft bodies	9.20E+01	TRE	16
	Mn-54		*Haliotis discus*	Remains	1.03E+02	TRE	16
	Mn-54		*Haliotis discus*	Whole soft bodies	1.06E+02	TRE	16
	Mn-54		*Haliotis discus*	Buccal mass	1.12E+02	TRE	16
	Mn-54		*Haliotis discus*	Remains	1.13E+02	TRE	16
	Mn-54		*Haliotis discus*	Buccal mass	1.20E+02	TRE	16
	Mn-54		*Haliotis discus*	Remains	1.24E+02	TRE	16
	Mn-54		Perry Whelk(*Voluthарpa ampullacea perryi*)	Conch	1.25E+02	TRE	15
	Mn-54		*Haliotis discus*	Whole body	1.26E+02	TRE	16
	Mn-54		*Haliotis discus*	Whole body	1.42E+02	TRE	16
	Mn-54		*Haliotis discus*	Gill	1.45E+02	TRE	16
	Mn-54		*Haliotis discus*	Gonad	1.46E+02	TRE	16
	Mn-54		*Haliotis discus*	Whole soft bodies	1.49E+02	TRE	16
	Mn-54		*Haliotis discus*	Whole body	1.53E+02	TRE	16
	Mn-54		Perry Whelk(*Voluthарpa ampullacea perryi*)	Buccal mass(tentacles, snout, radula and its sac, salivary gland, odontophore, etc)	1.83E+02	TRE	15
	Mn-54		*Haliotis discus*	Digestive diverticulum	1.87E+02	TRE	16
	Mn-54		*Haliotis discus*	Gonad	1.89E+02	TRE	16
	Mn-54		Perry Whelk(*Voluthарpa ampullacea perryi*)	Foot(reduced operculum, columellar muscle in female, penis and vas deferens in male)	1.98E+02	TRE	15
	Mn-54		*Haliotis discus*	Gill	1.99E+02	TRE	16
	Mn-54		*Haliotis discus*	Digestive diverticulum	2.13E+02	TRE	16
	Mn-54		*Haliotis discus*	Gonad	2.14E+02	TRE	16
	Mn-54		*Haliotis discus*	Remains	2.15E+02	TRE	16
	Mn-54		Perry Whelk(*Voluthарpa ampullacea perryi*)	Digestive diverticulum	2.17E+02	TRE	15
	Mn-54		Perry Whelk(*Voluthарpa ampullacea perryi*)	Mantle(tickened edge of mantle, siphon, siphonal retractor muscle)	2.27E+02	TRE	15
	Mn-54		*Haliotis discus*	Whole body	2.40E+02	TRE	16

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Mn	Mn-54	巻　貝	Perry Whelk(*Volutharpa ampullacea perryi*)	Foot(reduced operculum, columellar muscle in female, penis and vas deferens in male)	2.40E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Buccal mass(tentacles, snout, radula and its sac, salivary gland, odontophore, etc)	2.51E+02	TRE	15
	Mn-54		*Haliotis discus*	Digestive diverticulum	2.59E+02	TRE	16
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Whole body	2.64E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Mantle(tickened edge of mantle, siphon, siphonal retractor muscle)	2.65E+02	TRE	15
	Mn-54		*Haliotis discus*	Gill	2.69E+02	TRE	16
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Digestive diverticulum	2.72E+02	TRE	15
	Mn-54		*Haliotis discus*	Gill	2.75E+02	TRE	16
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Whole soft body	2.97E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Whole body	3.12E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Remains(digestive system, circulatory system and others)	3.28E+02	TRE	15
	Mn-54		*Haliotis discus*	Digestive diverticulum	3.38E+02	TRE	16
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Whole soft body	3.50E+02	TRE	15
	Mn		Kuroawabi(*Nordotis discus*)	Muscle	3.50E+02	SEA	26
	Mn		エゾアワビ	可食部	4.01E+02	SEA	33
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Remains(digestive system, circulatory system and others)	4.99E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Capsule gland(female only)	5.48E+02	TRE	15
	Mn		Sazae(*Batillus cornutus*)	Muscle	5.50E+02	SEA	26
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Gonad(Ovary of Spemary)	5.60E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Gonad(Ovary of Spemary)	5.65E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Kidney	5.73E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Osphradium	5.98E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Kidney	6.02E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Osphradium	6.35E+02	TRE	15
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Ctenidium	8.15E+02	TRE	15
	Mn		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	8.50E+02	SEA	26

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Mn	Mn-54	巻貝	Perry Whelk(*Volutharpa ampullacea perryi*)	Ctenidium	8.71E+02	TRE	15
	Mn-54		*Haliotis discus*	Gonad	9.90E+02	TRE	16
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Whole body	1.33E+03	TRE	14
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Whole body	1.45E+03	TRE	14
	Mn		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	1.85E+03	SEA	26
	Mn		Tsumetagai(*Neverta didyma*)	Muscle	1.88E+03	SEA	26
	Mn		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	1.93E+03	SEA	26
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Hypobranchial gland(or Mucus gland)	2.01E+03	TRE	15
	Mn		Ibonishi(*Thais clavigera*)	Muscle	2.03E+03	SEA	26
	Mn		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	2.05E+03	SEA	26
	Mn		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	2.13E+03	SEA	26
	Mn		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	2.20E+03	SEA	26
	Mn-54		Perry Whelk(*Volutharpa ampullacea perryi*)	Hypobranchial gland(or Mucus gland)	2.60E+03	TRE	15
	Mn		Ibonishi(*Thais clavigera*)	Tissue other than muscle	3.50E+03	SEA	26
	Mn		Boshubora(*Charonia sauliae*)	Soft part	3.75E+03	SEA	26
	Mn		Ishidatami(*Monodonta labio*)	Soft part	4.75E+03	SEA	26
	Mn		Bekkougasagai(*Cellana grata*)	Soft part	4.75E+03	SEA	26
	Mn		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	5.25E+03	SEA	26
	Mn		Sazae(*Batillus cornutus*)	Tissue other than muscle	5.75E+03	SEA	26
	Mn		Yatsushirogai(*Tonna luteostoma*)	Soft part	6.25E+03	SEA	26
	Mn		Bai(*Babylonia japonica*)	Soft part	1.58E+04	SEA	26
	Mn		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	6.25E+04	SEA	26
	Mn	頭足類	Surumeika(*Todarodes pacificus*)	Edible parts	9.00E+01	SEA	21
	Mn		Yariika(*Doryteuthis bleekeri*)	Edible parts	1.20E+02	SEA	21
	Mn		Bakaika(*Sthenoteuthis bartrami*)	Edible parts	1.30E+02	SEA	21
	Mn		Mizudako(*Paroctopus dofleini*)	Edible parts	1.70E+02	SEA	21
	Mn		スルメイカ	可食部	2.50E+02	SEA	33
	Mn		Bakaika(*Sthenoteuthis bartrami*)	Branchial heart	3.20E+02	SEA	21
	Mn		Madako(*Octopus vulgaris*)	Edible parts	3.30E+02	SEA	21
	Mn		Yariika(*Doryteuthis bleekeri*)	Liver	3.90E+02	SEA	21
	Mn		Bakaika(*Sthenoteuthis bartrami*)	Liver	4.60E+02	SEA	21
	Mn		Surumeika(*Todarodes pacificus*)	Branchial heart	4.70E+02	SEA	21
	Mn		Mizudako(*Paroctopus dofleini*)	Branchial heart	5.00E+02	SEA	21
	Mn		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	5.00E+02	SEA	36
	Mn		アオリイカ(*Sepioteuthis lessoniana*)	脚部	5.00E+02	SEA	36
	Mn		ケンサキイカ(*Photoligo edulis*)	脚部	5.00E+02	SEA	36
	Mn		ケンサキイカ(*Photoligo edulis*)	外套膜	5.00E+02	SEA	36

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Mn	Mn	頭足類	スルメイカ(*Todarodes pacificus*)	脚部	5.00E+02	SEA	36
	Mn		ミズダコ	可食部	6.02E+02	SEA	33
	Mn		Surumeika(*Todarodes pacificus*)	Liver	7.30E+02	SEA	21
	Mn		コウイカ(*Sepia esculenta*)	脚部	7.50E+02	SEA	36
	Mn		スルメイカ(*Todarodes pacificus*)	外套膜	7.50E+02	SEA	36
	Mn		コウイカ(*Sepia esculenta*)	外套膜	7.50E+02	SEA	36
	Mn		Madako(*Octopus vulgaris*)	Branchial heart	8.90E+02	SEA	21
	Mn		Madako(*Octopus vulgaris*)	Liver	1.08E+03	SEA	21
	Mn		Mizudako(*Paroctopus dofleini*)	Liver	1.20E+03	SEA	21
	Mn		スルメイカ(*Todarodes pacificus*)	鰓心臓	1.75E+03	SEA	36
	Mn		ケンサキイカ(*Photoligo edulis*)	鰓心臓	2.00E+03	SEA	36
	Mn		コウイカ(*Sepia esculenta*)	肝臓	2.25E+03	SEA	36
	Mn		スルメイカ(*Todarodes pacificus*)	肝臓	2.75E+03	SEA	36
	Mn		スルメイカ(*Todarodes pacificus*)	肝臓	2.75E+03	SEA	36
	Mn		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	3.00E+03	SEA	36
	Mn		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	3.00E+03	SEA	36
	Mn		コウイカ(*Sepia esculenta*)	鰓心臓	3.25E+03	SEA	36
	Mn		コウイカ(*Sepia esculenta*)	肝臓	3.25E+03	SEA	36
	Mn		ケンサキイカ(*Photoligo edulis*)	肝臓	3.75E+03	SEA	36
	Mn		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	4.00E+03	SEA	36
	Mn-54	原索類	マボヤ	内蔵	1.36E+01	TRE	13
	Mn-54		マボヤ	筋膜	1.64E+01	TRE	13
	Mn-54		マボヤ	Whole body	3.02E+02	TRE	13
	Mn-54		マボヤ	外皮	9.07E+02	TRE	13
	Mn		マボヤ	可食部	2.95E+03	SEA	33
	Mn		マボヤ	筋膜（可食部）	5.00E+03	SEA	13
	Mn		マボヤ	内蔵（可食部）	7.00E+03	SEA	13
	Mn	魚　類	サケ	可食部	8.76E+01	SEA	33
	Mn		バラメヌケ	可食部	1.22E+02	SEA	33
	Mn		キツネメバル	可食部	1.25E+02	SEA	33
	Mn		イシガレイ	可食部	1.36E+02	SEA	33
	Mn		ホッケ	可食部	1.60E+02	SEA	33
	Mn		クロソイ	可食部	1.62E+02	SEA	33
	Mn		ウミタナゴ	可食部	2.03E+02	SEA	33
	Mn		クジラ	可食部	2.19E+02	SEA	33
	Mn		ヒラメ	可食部	2.39E+02	SEA	33
	Mn		アイナメ	可食部	3.43E+02	SEA	33
	Mn		ウグイ	可食部	3.74E+02	SEA	33
	Mn		ホッケ	可食部	3.94E+02	SEA	33
	Mn		ババガレイ	可食部	1.01E+03	SEA	33
Mo	Mo	二枚貝	Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	4.40E+01	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	4.60E+01	SEA	31
	Mo		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	5.40E+01	SEA	31
	Mo		Elongate giant clam(*Tridacna maxima*)	Gonad	5.80E+01	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Mo	Mo	二枚貝	Elongate giant clam(*Tridacna maxima*)	Mantle	6.20E+01	SEA	31
	Mo		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	6.40E+01	SEA	31
	Mo		Elongate giant clam(*Tridacna maxima*)	Liver	6.80E+01	SEA	31
	Mo		Elongate giant clam(*Tridacna maxima*)	Gill	7.00E+01	SEA	31
	Mo		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	7.60E+01	SEA	31
	Mo		Crocus giant clam(*Tridacna crocea*)	Mantle	7.80E+01	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Gonad	9.80E+01	SEA	31
	Mo		Crocus giant clam(*Tridacna crocea*)	Gill	1.02E+02	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Mantle	1.08E+02	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Liver	1.12E+02	SEA	31
	Mo		Bear paw clam(*Hippopus hippopus*)	Gonad	1.14E+02	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Gill	1.28E+02	SEA	31
	Mo		Elongate giant clam(*Tridacna maxima*)	Byssus	1.44E+02	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Byssus	1.68E+02	SEA	31
	Mo		Bear paw clam(*Hippopus hippopus*)	Liver	1.76E+02	SEA	31
	Mo		Bear paw clam(*Hippopus hippopus*)	Gill	2.20E+02	SEA	31
	Mo		Bear paw clam(*Hippopus hippopus*)	Kidney	2.20E+02	SEA	31
	Mo		Bear paw clam(*Hippopus hippopus*)	Mantle	2.40E+02	SEA	31
	Mo		Crocus giant clam(*Tridacna crocea*)	Kidney	2.60E+02	SEA	31
	Mo		Elongate giant clam(*Tridacna maxima*)	Kidney	4.00E+02	SEA	31
	Mo		Fluted giant clam(*Tridacna squamosa*)	Kidney	4.60E+02	SEA	31
	Mo		Crocus giant clam(*Tridacna crocea*)	Byssus	5.20E+02	SEA	31
Na	Na	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad	2.51E−01	SEA	22
	Na	二枚貝	Elongate giant clam(*Tridacna maxima*)	Kidney	1.36E−01	SEA	31
	Na		Crocus giant clam(*Tridacna crocea*)	Kidney	1.81E−01	SEA	31
	Na		Bear paw clam(*Hippopus hippopus*)	Kidney	2.06E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.47E−01	SEA	27
	Na		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	2.57E−01	SEA	31
	Na		Fluted giant clam(*Tridacna squamosa*)	Kidney	2.61E−01	SEA	31
	Na		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	2.63E−01	SEA	31
	Na		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	2.89E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.91E−01	SEA	27
	Na		Bear paw clam(*Hippopus hippopus*)	Liver	2.94E−01	SEA	31
	Na		*Cyclosunetta menstrualis*	Whole soft tissue	3.19E−01	SEA	23
	Na		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.38E−01	SEA	27
	Na		Elongate giant clam(*Tridacna maxima*)	Liver	3.52E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Kidney	3.69E−01	SEA	27
	Na		Clam(*Cyclosunetta menstrualis*)	Kidney	3.75E−01	SEA	27
	Na		Elongate giant clam(*Tridacna maxima*)	Mantle	3.82E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.89E−01	SEA	27

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Na	Na	二枚貝	Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	3.90E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	4.00E−01	SEA	27
	Na		Clam(*Cyclosunetta menstrualis*)	Kidney	4.02E−01	SEA	27
	Na		Elongate giant clam(*Tridacna maxima*)	Gonad	4.07E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	4.11E−01	SEA	27
	Na		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	4.18E−01	SEA	31
	Na		*Cyclosunetta menstrualis*	Kidney	4.22E−01	SEA	23
	Na		Fluted giant clam(*Tridacna squamosa*)	Liver	4.22E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Kidney	4.62E−01	SEA	27
	Na		Clam(*Cyclosunetta menstrualis*)	Kidney	4.75E−01	SEA	27
	Na		Elongate giant clam(*Tridacna maxima*)	Byssus	4.92E−01	SEA	31
	Na		Crocus giant clam(*Tridacna crocea*)	Mantle	5.67E−01	SEA	31
	Na		Elongate giant clam(*Tridacna maxima*)	Gill	5.84E−01	SEA	31
	Na		Clam(*Cyclosunetta menstrualis*)	Kidney	5.93E−01	SEA	27
	Na		Bear paw clam(*Hippopus hippopus*)	Gonad	6.11E−01	SEA	31
	Na		Fluted giant clam(*Tridacna squamosa*)	Gonad	6.83E−01	SEA	31
	Na		Fluted giant clam(*Tridacna squamosa*)	Byssus	7.11E−01	SEA	31
	Na		Crocus giant clam(*Tridacna crocea*)	Byssus	7.20E−01	SEA	31
	Na		Fluted giant clam(*Tridacna squamosa*)	Mantle	8.19E−01	SEA	31
	Na		Crocus giant clam(*Tridacna crocea*)	Gill	1.05E+00	SEA	31
	Na		Fluted giant clam(*Tridacna squamosa*)	Gill	1.05E+00	SEA	31
	Na		Bear paw clam(*Hippopus hippopus*)	Gill	1.06E+00	SEA	31
	Na		Bear paw clam(*Hippopus hippopus*)	Mantle	1.63E+00	SEA	31
	Na	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	7.00E−01	SEA	13
	Na		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	9.00E−01	SEA	13
Nb	Nb-95	魚　類	Common goby(*Acanthogobius flavimanus*)	Whole body	4.00E+00	TRE	10
	Nb-95		Common goby(*Acanthogobius flavimanus*)	Viscera	8.30E+01	TRE	10
Ni	Ni	棘皮類	Manamako(*Stichopus japonicus*)	Whole animal	9.85E+00	SEA	24
	Ni		Sea urchin(*Strongylocentrotus nudus*)	Gonad	2.42E+01	SEA	22
	Ni	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	2.73E+00	SEA	24
	Ni		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	3.79E+00	SEA	24
	Ni		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	5.30E+00	SEA	24
	Ni		Iseebi(*Panulirus japonicus*)	Edible part(liver)	1.97E+01	SEA	24
	Ni		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	5.45E+02	SEA	24
	Ni	二枚貝	Magaki(*Crassostrea gigas*)	Soft part	4.55E+00	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Edible part(soft part)	6.06E+00	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Soft part	6.06E+00	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Soft part	6.06E+00	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Soft part	1.36E+01	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Soft part	1.67E+01	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Soft part	1.97E+01	SEA	24
	Ni		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	2.12E+01	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Ni	Ni	二枚貝	Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	2.15E+01	SEA	31
	Ni		Magaki(*Crassostrea gigas*)	Soft part	2.27E+01	SEA	24
	Ni		Magaki(*Crassostrea gigas*)	Soft part	3.79E+01	SEA	26
	Ni		Fluted giant clam(*Tridacna squamosa*)	Mantle	3.94E+01	SEA	31
	Ni		Fluted giant clam(*Tridacna squamosa*)	Gonad	3.94E+01	SEA	31
	Ni		Scallop(*Patinopecten yessoensis*)	Adductor muscle	4.24E+01	SEA	24
	Ni		Crocus giant clam(*Tridacna crocea*)	Mantle	4.55E+01	SEA	31
	Ni		Elongate giant clam(*Tridacna maxima*)	Mantle	4.55E+01	SEA	31
	Ni		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	4.55E+01	SEA	31
	Ni		Igai(*Mytilus coruscus*)	Soft part	4.85E+01	SEA	26
	Ni		Bear paw clam(*Hippopus hippopus*)	Gonad	4.85E+01	SEA	31
	Ni		Akazara(*Chlamys farreri*)	Soft part	5.30E+01	SEA	26
	Ni		Marusarubo(*Scapharca satowi*)	Soft part	5.76E+01	SEA	26
	Ni		Bear paw clam(*Hippopus hippopus*)	Mantle	6.06E+01	SEA	31
	Ni		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	7.27E+01	SEA	31
	Ni		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	7.42E+01	SEA	26
	Ni		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	7.58E+01	SEA	26
	Ni		Fluted giant clam(*Tridacna squamosa*)	Gill	7.58E+01	SEA	31
	Ni		Nunomeasari(*Novathaca euglypta*)	Soft part	7.88E+01	SEA	26
	Ni		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	8.79E+01	SEA	31
	Ni		Ubagai(*Spisula sachalinensis*)	Soft part	8.94E+01	SEA	26
	Ni		Elongate giant clam(*Tridacna maxima*)	Liver	1.00E+02	SEA	31
	Ni		Kotamagai(*Gomphina melanaegis*)	Soft part	1.08E+02	SEA	26
	Ni		Scallop(*Patinopecten yessoensis*)	Liver	1.11E+02	SEA	24
	Ni		Asari(*Tapes philippinarum*)	Soft part	1.15E+02	SEA	26
	Ni		Elongate giant clam(*Tridacna maxima*)	Gonad	1.24E+02	SEA	31
	Ni		Hotategai(*Patinopecten yessoensis*)	Soft part	1.30E+02	SEA	26
	Ni		Crocus giant clam(*Tridacna crocea*)	Byssus	1.39E+02	SEA	31
	Ni		Elongate giant clam(*Tridacna maxima*)	Gill	1.45E+02	SEA	31
	Ni		Bear paw clam(*Hippopus hippopus*)	Gill	1.45E+02	SEA	31
	Ni		Fluted giant clam(*Tridacna squamosa*)	Liver	1.48E+02	SEA	31
	Ni		*Cyclosunetta menstrualis*	Whole soft tissue	1.50E+02	SEA	23
	Ni		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	1.52E+02	SEA	26
	Ni		Crocus giant clam(*Tridacna crocea*)	Gill	1.61E+02	SEA	31
	Ni		Elongate giant clam(*Tridacna maxima*)	Byssus	1.85E+02	SEA	31
	Ni		Fluted giant clam(*Tridacna squamosa*)	Byssus	2.06E+02	SEA	31
	Ni		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	2.58E+02	SEA	26
	Ni		Bear paw clam(*Hippopus hippopus*)	Liver	3.33E+02	SEA	31
	Ni		*Cyclosunetta menstrualis*	Kidney	2.73E+03	SEA	23
	Ni		Bear paw clam(*Hippopus hippopus*)	Kidney	1.00E+04	SEA	31
	Ni		Fluted giant clam(*Tridacna squamosa*)	Kidney	1.36E+04	SEA	31
	Ni		Crocus giant clam(*Tridacna crocea*)	Kidney	1.70E+04	SEA	31
	Ni		Elongate giant clam(*Tridacna maxima*)	Kidney	2.94E+04	SEA	31

＊TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Ni	Ni	巻貝	Sazae(*Batillus cornutus*)	Muscle	1.67E+01	SEA	26
	Ni		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	2.42E+01	SEA	26
	Ni		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	2.88E+01	SEA	26
	Ni		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	4.24E+01	SEA	26
	Ni		Yatsushirogai(*Tonna luteostoma*)	Soft part	4.24E+01	SEA	26
	Ni		Bai(*Babylonia japonica*)	Soft part	4.70E+01	SEA	26
	Ni		Ibonishi(*Thais clavigera*)	Muscle	4.85E+01	SEA	26
	Ni		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	5.76E+01	SEA	26
	Ni		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	5.91E+01	SEA	26
	Ni		Tsumetagai(*Neverta didyma*)	Muscle	6.06E+01	SEA	26
	Ni		Sazae(*Batillus cornutus*)	Tissue other than muscle	1.05E+02	SEA	26
	Ni		Kuroawabi(*Nordotis discus*)	Muscle	1.44E+02	SEA	26
	Ni		Bekkougasagai(*Cellana grata*)	Soft part	1.48E+02	SEA	26
	Ni		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	2.12E+02	SEA	26
	Ni		Boshubora(*Charonia sauliae*)	Soft part	2.12E+02	SEA	26
	Ni		Ishidatami(*Monodonta labio*)	Soft part	2.12E+02	SEA	26
	Ni		Ibonishi(*Thais clavigera*)	Tissue other than muscle	2.27E+02	SEA	26
	Ni		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	6.36E+02	SEA	26
	Ni		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	9.55E+02	SEA	26
	Ni	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	3.00E+02	SEA	13
	Ni		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	3.00E+02	SEA	13
P	P	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad(testis)	3.41E+00	SEA	22
	P	二枚貝	Fluted giant clam(*Tridacna squamosa*)	Byssus	1.11E+03	SEA	31
	P		Elongate giant clam(*Tridacna maxima*)	Byssus	1.39E+03	SEA	31
	P		Crocus giant clam(*Tridacna crocea*)	Byssus	1.77E+03	SEA	31
	P		Bear paw clam(*Hippopus hippopus*)	Mantle	6.80E+03	SEA	31
	P		Elongate giant clam(*Tridacna maxima*)	Gill	7.43E+03	SEA	31
	P		Elongate giant clam(*Tridacna maxima*)	Mantle	7.64E+03	SEA	31
	P		Fluted giant clam(*Tridacna squamosa*)	Mantle	9.45E+03	SEA	31
	P		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.02E+04	SEA	27
	P		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	1.03E+04	SEA	31
	P		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	1.03E+04	SEA	31
	P		Bear paw clam(*Hippopus hippopus*)	Liver	1.15E+04	SEA	31
	P		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.18E+04	SEA	27
	P		Crocus giant clam(*Tridacna crocea*)	Mantle	1.20E+04	SEA	31
	P		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	1.20E+04	SEA	31
	P		Elongate giant clam(*Tridacna maxima*)	Liver	1.26E+04	SEA	31

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
P	P	二枚貝	Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.30E+04	SEA	27
	P		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.32E+04	SEA	27
	P		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	1.33E+04	SEA	31
	P		Bear paw clam(*Hippopus hippopus*)	Gill	1.35E+04	SEA	31
	P		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.38E+04	SEA	27
	P		*Cyclosunetta menstrualis*	Whole soft tissue	1.48E+04	SEA	23
	P		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.49E+04	SEA	27
	P		Fluted giant clam(*Tridacna squamosa*)	Gill	1.52E+04	SEA	31
	P		Fluted giant clam(*Tridacna squamosa*)	Liver	1.53E+04	SEA	31
	P		Crocus giant clam(*Tridacna crocea*)	Gill	1.72E+04	SEA	31
	P		Elongate giant clam(*Tridacna maxima*)	Gonad	1.95E+04	SEA	31
	P		Clam(*Cyclosunetta menstrualis*)	Kidney	2.13E+04	SEA	27
	P		Bear paw clam(*Hippopus hippopus*)	Gonad	2.13E+04	SEA	31
	P		Clam(*Cyclosunetta menstrualis*)	Kidney	2.14E+04	SEA	27
	P		Clam(*Cyclosunetta menstrualis*)	Kidney	2.18E+04	SEA	27
	P		Clam(*Cyclosunetta menstrualis*)	Kidney	2.42E+04	SEA	27
	P		Fluted giant clam(*Tridacna squamosa*)	Gonad	2.45E+04	SEA	31
	P		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	2.79E+04	SEA	31
	P		Bear paw clam(*Hippopus hippopus*)	Kidney	5.14E+04	SEA	31
	P		Crocus giant clam(*Tridacna crocea*)	Kidney	8.27E+04	SEA	31
	P		Clam(*Cyclosunetta menstrualis*)	Kidney	9.61E+04	SEA	27
	P		Elongate giant clam(*Tridacna maxima*)	Kidney	1.02E+05	SEA	31
	P		Fluted giant clam(*Tridacna squamosa*)	Kidney	1.10E+05	SEA	31
	P		*Cyclosunetta menstrualis*	Kidney	1.65E+05	SEA	23
	P		Clam(*Cyclosunetta menstrualis*)	Kidney	2.19E+05	SEA	27
	P	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	2.00E+03	SEA	13
	P		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	2.00E+03	SEA	13
Pb	Pb	棘皮類	Manamako(*Stichopus japonicus*)	Whole animal	5.67E+02	SEA	24
	Pb	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	3.33E+02	SEA	24
	Pb		Iseebi(*Panulirus japonicus*)	Edible part(liver)	5.00E+02	SEA	24
	Pb		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	5.33E+02	SEA	24
	Pb		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	7.67E+02	SEA	24
	Pb		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	2.97E+03	SEA	24
	Pb	二枚貝	Magaki(*Crassostrea gigas*)	Edible part(soft part)	1.03E+03	SEA	24
	Pb		*Cyclosunetta menstrualis*	Whole soft tissue	7.67E+03	SEA	23
	Pb		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	1.00E+04	SEA	31
	Pb		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	2.07E+04	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	2.53E+04	SEA	31
	Pb		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	2.67E+04	SEA	31
	Pb		Elongate giant clam(*Tridacna maxima*)	Mantle	3.07E+04	SEA	31

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Pb	Pb	二枚貝	Elongate giant clam(*Tridacna maxima*)	Gonad	3.20E+04	SEA	31
	Pb		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	3.53E+04	SEA	31
	Pb		Crocus giant clam(*Tridacna crocea*)	Mantle	4.07E+04	SEA	31
	Pb		Bear paw clam(*Hippopus hippopus*)	Gonad	4.07E+04	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Gonad	5.20E+04	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Mantle	5.60E+04	SEA	31
	Pb		Elongate giant clam(*Tridacna maxima*)	Gill	6.00E+04	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Liver	6.07E+04	SEA	31
	Pb		Bear paw clam(*Hippopus hippopus*)	Liver	6.13E+04	SEA	31
	Pb		Crocus giant clam(*Tridacna crocea*)	Byssus	6.27E+04	SEA	31
	Pb		Crocus giant clam(*Tridacna crocea*)	Gill	7.33E+04	SEA	31
	Pb		Bear paw clam(*Hippopus hippopus*)	Gill	7.33E+04	SEA	31
	Pb		Bear paw clam(*Hippopus hippopus*)	Mantle	7.33E+04	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Gill	8.00E+04	SEA	31
	Pb		Elongate giant clam(*Tridacna maxima*)	Liver	9.33E+04	SEA	31
	Pb		Elongate giant clam(*Tridacna maxima*)	Byssus	1.80E+05	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Byssus	2.33E+05	SEA	31
	Pb		Bear paw clam(*Hippopus hippopus*)	Kidney	2.87E+05	SEA	31
	Pb		Elongate giant clam(*Tridacna maxima*)	Kidney	5.07E+05	SEA	31
	Pb		Fluted giant clam(*Tridacna squamosa*)	Kidney	5.33E+05	SEA	31
	Pb		*Cyclosunetta menstrualis*	Kidney	6.00E+05	SEA	23
	Pb		Crocus giant clam(*Tridacna crocea*)	Kidney	8.00E+05	SEA	31
Pu	Pu-239+240	紅藻類	Tsunomata(*Chondrus ocellatus*)	Whole body	6.43E+02	RAS	28
	Pu-239+240		Fukurofunori(*Gloiopeltis furcata*)	Whole body	7.29E+02	RAS	28
	Pu-239+240		Harigane(*Ahnfeltia paradoxa*)	Whole body	2.74E+03	RAS	28
	Pu-239+240	褐藻類	Arame(*Eisenia bicyclis*)	Whole body	4.00E+02	RAS	28
	Pu-239+240		Hiziki(*Hizikia fusiformis*)	Whole body	5.71E+02	RAS	28
	Pu-239+240		Makonbu(*Laminaria japonica*)	Whole body	1.54E+03	RAS	28
	Pu-239+240		Umitoranoo(*Sargassum thunbergii*)	Whole body	3.89E+03	RAS	28
	Pu-239+240	棘皮類	Kitamurasakiuni(*Strongylocentrotus nudus*)	Ovary	6.00E+02	RAS	28
	Pu-239+240		Kitamurasakiuni(*Strongylocentrotus nudus*)	Shell	2.59E+03	RAS	28
	Pu-239+240	二枚貝	Chosenhamaguri(*Meretrix lamarckii*)	Soft part	1.71E+02	RAS	28
	Pu-239+240		Kotamagai(*Gomphina melanaegis*)	Soft part	1.86E+02	RAS	28
	Pu-239+240		Hotategai(*Patinopecten yessoensis*)	Muscle	2.14E+02	RAS	28
	Pu-239+240		Saragai(*Peronidia venulosa*)	Soft part	4.71E+02	RAS	28
	Pu-239+240		Hotategai(*Patinopecten yessoensis*)	Viscera	7.29E+02	RAS	28
	Pu-239+240		Ubagai(*Spisula sachalinensis*)	Soft part	8.14E+02	RAS	28
	Pu-239+240	頭足類	Madako(*Octopus vulgaris*)	Muscle	1.00E+02	RAS	28
	Pu-239+240		Iidako(*Octopus ocellatus*)	Whole body	3.43E+02	RAS	28
	Pu-239+240	魚　類	Makogarei(*Limanda yokohamae*)	Muscle	7.14E−01	RAS	28
	Pu-239+240		Maanago(*Conger myriaster*)	Muscle	1.14E+00	RAS	28
	Pu-239+240		Medai(*Hyperogyphe japonica*)	Muscle	2.86E+00	RAS	28
	Pu-239+240		Kuromutsu(*Scombrops gilberti*)	Muscle	4.29E+00	RAS	28
	Pu-239+240		Sake(*Oncorhynchus keta*)	Gill	4.29E+00	RAS	28
	Pu-239+240		Kinmedai(*Beryx splendens*)	Muscle	5.71E+00	RAS	28

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Pu	Pu-239+240	魚類	Aodai(*Paracaesio caeruleus*)	Muscle	5.71E+00	RAS	28
	Pu-239+240		Sake(*Oncorhynchus keta*)	Muscle	7.14E+00	RAS	28
	Pu-239+240		Mebachi(*Parathunnus sibi*)	Muscle	8.57E+00	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*)(adult)	Muscle	1.43E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*)(adult)	Viscera	1.43E+01	RAS	28
	Pu-239+240		Mebachi(*Parathunnus sibi*)	Skin	1.43E+01	RAS	28
	Pu-239+240		Sake(*Oncorhynchus keta*)	Skin	1.57E+01	RAS	28
	Pu-239+240		Akoudai(*Sebastes matsubarae*)	Muscle	2.43E+01	RAS	28
	Pu-239+240		Katsuo(*Katsuwonus pelamis*)	Muscle	2.43E+01	RAS	28
	Pu-239+240		Ainame(*Hexagrammos otakii*)(juvenile)	Muscle	2.71E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*) (adult)	Muscle	2.71E+01	RAS	28
	Pu-239+240		Mebaru(*Sebastes inermis*)	Muscle	2.86E+01	RAS	28
	Pu-239+240		Mebachi(*Parathunnus sibi*)	Digestive tract	2.86E+01	RAS	28
	Pu-239+240		Ainame(*Hexagrammos otakii*)(juvenile)	Spine	2.86E+01	RAS	28
	Pu-239+240		Mebachi(*Parathunnus sibi*)	Viscera	2.86E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*) (adult)	Skin	2.86E+01	RAS	28
	Pu-239+240		Aodai(*Paracaesio caeruleus*)	Spine	3.14E+01	RAS	28
	Pu-239+240		Mebachi(*Parathunnus sibi*)	Gill	4.29E+01	RAS	28
	Pu-239+240		Katsuo(*Katsuwonus pelamis*)	Spine	4.29E+01	RAS	28
	Pu-239+240		Ainame(*Hexagrammos otakii*)(adult)	Gill	4.29E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*)(adult)	Skin	5.71E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*) (adult)	Gill	5.71E+01	RAS	28
	Pu-239+240		Katsuo(*Katsuwonus pelamis*)	Skin	7.14E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*)(adult)	Gill	8.57E+01	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*)(adult)	Spine	8.57E+01	RAS	28
	Pu-239+240		Katsuo(*Katsuwonus pelamis*)	Viscera	8.57E+01	RAS	28
	Pu-239+240		Katsuo(*Katsuwonus pelamis*)	Gill	8.57E+01	RAS	28
	Pu-239+240		Kinmèdai(*Beryx splendens*)	Spine	9.00E+01	RAS	28
	Pu-239+240		Akoudai(*Sebastes matsubarae*)	Spine	9.57E+01	RAS	28
	Pu-239+240		Sake(*Oncorhynchus keta*)	Viscera	1.00E+02	RAS	28
	Pu-239+240		Sake(*Oncorhynchus keta*)	Spine	1.00E+02	RAS	28
	Pu-239+240		Kuromutsu(*Scombrops gilberti*)	Spine	1.11E+02	RAS	28
	Pu-239+240		Mebachi(*Parathunnus sibi*)	Spine	1.29E+02	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*) (juvenile)	Spine	1.29E+02	RAS	28
	Pu-239+240		Hirame(*Paralichthys olivaceus*) (juvenile)	Viscera	1.43E+02	RAS	28
	Pu-239+240		Medai(*Hyperogyphe japonica*)	Spine	1.96E+02	RAS	28
	Pu-239+240		Katsuo(*Katsuwonus pelamis*)	Digestive tract	2.71E+02	RAS	28
	Pu-239+240		Ainame(*Hexagrammos otakii*)(adult)	Spine	3.57E+02	RAS	28
	Pu-239+240		Konoshiro(*Konosirus punctatus*)	Muscle	4.00E+02	RAS	28
	Pu-239+240		Mebaru(*Sebastes inermis*)	Viscera	4.29E+02	RAS	28
	Pu-239+240		Ainame(*Hexagrammos otakii*)(adult)	Viscera	6.57E+02	RAS	28
	Pu-239+240		Makogarei(*Limanda yokohamae*)	Viscera	6.86E+02	RAS	28
	Pu-239+240		Ainame(*Hexagrammos otakii*)(juvenile)	Viscera	7.14E+02	RAS	28

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Pu	Pu-239+240	魚　類	Konoshiro(*Konosirus punctatus*)	Viscera	3.06E+03	RAS	28
Rb	Rb	二枚貝	*Cyclosunetta menstrualis*	Kidney	1.67E+00	SEA	23
	Rb		*Cyclosunetta menstrualis*	Whole soft tissue	1.92E+00	SEA	23
Pu	Pu-106 Rh-106	紅藻類	Algae(*Cyrtymenia sp.*)	A portion of 4g of plant	2.90E+02	TRE	17
	Pu-106 Rh-106	二枚貝	Bivalve(*Gomphina melanaegis*)	Soft parts	2.00E+00	TRE	17
	Pu-106	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜	8.00E−01	TRE	13
	Pu-106		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵	3.30E+00	TRE	13
	Pu-106		マボヤ(ascidian:*Halocynthia roretzi*)	Whole body	1.15E+01	TRE	13
	Pu-106		マボヤ(ascidian:*Halocynthia roretzi*)	外皮	3.07E+01	TRE	13
S	S	二枚貝	*Cyclosunetta menstrualis*	Whole soft tissue	4.33E+00	SEA	23
	S		*Cyclosunetta menstrualis*	Kidney	4.52E+00	SEA	23
Sn	Sn	緑藻類	*Ulva sp.*	Whole part	1.85E+00	SEA	25
	Sn		*Enteromorpha sp.*	Whole part	2.47E+00	SEA	25
	Sn		*Enteromorpha sp.*	Whole part	4.44E+00	SEA	25
	Sn		*Enteromorpha sp.*	Whole part	5.19E+00	SEA	25
	Sn		*Enteromorpha sp.*	Whole part	1.85E+01	SEA	25
	Sn	褐藻類	*Sargassum sp.*	Whole part	4.94E−01	SEA	25
	Sn		*Sargassum sp.*	Whole part	1.36E+00	SEA	25
	Sn	二枚貝	*Cyclosunetta menstrualis*	Whole soft tissue	9.88E+02	SEA	23
	Sn		*Cyclosunetta menstrualis*	Kidney	1.07E+04	SEA	23
Sr	Sr	紅藻類	Iwanori(*Porphyra pseudolinearis*)	Not specified	1.00E+00	RAS	20
	Sr		Funori(*Bangia gloiopeltidicota*)	Not specified	1.00E+00	RAS	20
	Sr		フクロノリ	可食部	1.87E+00	SEA	33
	Sr		フクロノリ	可食部	2.99E+00	SEA	33
	Sr		Tengusa(*Gelidium amansii*)	Not specified	5.00E+00	RAS	20
	Sr	褐藻類	マコンブ	可食部	9.23E+00	SEA	33
	Sr		ワカメ	可食部	1.08E+01	SEA	33
	Sr		マコンブ	可食部	1.31E+01	SEA	33
	Sr		ワカメ	可食部	1.54E+01	SEA	33
	Sr		Wakame(*Undaria pinnatifida*)	Not specified	1.80E+01	RAS	20
	Sr		ヒジキ	可食部	2.01E+01	SEA	33
	Sr		Kajime(*Ecklonia cava*)	Not specified	2.20E+01	RAS	20
	Sr		Arame(*Eisenia bicyclis*)	Not specified	2.50E+01	RAS	20
	Sr		Hondawara(*Sargassum fulvellum*)	Not specified	3.10E+01	RAS	20
	Sr	腔腸類	Mizukurage(*Aurellia aurita*)	Not specified	7.00E−01	RAS	20
	Sr		Umeboshiisoginchaku(*Actinia eqina*)	Not specified	7.00E−01	RAS	20
	Sr	棘皮類	Sea urchin(*Strongylocentrotus nudus*)	Gonad	4.44E−01	SEA	22
	Sr		マナマコ	可食部	1.43E+00	SEA	33
	Sr		エゾバフンウニ	可食部	2.48E+00	SEA	33
	Sr		Yatsude-hitode(*Coscinasterias acutispina*)	Not specified	3.00E+01	RAS	20
	Sr		Murasakiuni(*Anthocidaris Crassispina*)	Not specified	7.60E+01	RAS	20
	Sr		Itomaki-hitode(*Asterina pectinifera*)	Not specified	1.03E+02	RAS	20
	Sr		Bafununi(*Hemicentrotus pulcherrimus*)	Not specified	1.06E+02	RAS	20
	Sr	甲殻類	ヒラツメガニ	可食部	2.26E+00	SEA	33
	Sr		ケガニ	可食部	3.15E+00	SEA	33

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Sr	Sr	甲殻類	Sakuraebi(*Sergestes lucens*)	Exoskeleton	3.50E+01	RAS	20
	Sr		Kurumaebi(*Penaeus japonicus*)	Exoskeleton	4.30E+01	RAS	20
	Sr		Hiratsumegani(*Ovalipes punctatus*)	Exoskeleton	6.20E+01	RAS	20
	Sr		Taishoebi(*Penaeus orientalis*)	Exoskeleton	6.50E+01	RAS	20
	Sr		Shako(*Squilla oratoria*)	Exoskeleton	7.00E+01	RAS	20
	Sr		Gazami(*Portunus trituberculatus*)	Exoskeleton	7.60E+01	RAS	20
	Sr		Isogani(*Hemigrapsus sanquineus*)	Whole body	9.50E+01	RAS	20
	Sr		Iseebi(*Panulirus japonicus*)	Exoskeleton	1.32E+02	RAS	20
	Sr		Kegani(*Erimacrus isenhechii*)	Exoskeleton	1.55E+02	RAS	20
	Sr		Takaashigani(*Macrocheira Kaempferi*)	Exoskeleton	1.72E+02	RAS	20
	Sr		Tarabagani(*Paralithodes camtschatica*)	Exoskeleton	1.83E+02	RAS	20
	Sr		Matsubagani(*Acanthodes armatus*)	Exoskeleton	1.84E+02	RAS	20
	Sr	二枚貝	Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	2.44E−01	SEA	31
	Sr		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	2.47E−01	SEA	31
	Sr		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.70E−01	SEA	27
	Sr		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	3.70E−01	SEA	31
	Sr		ホタテガイ	可食部	3.88E−01	SEA	33
	Sr		Magaki(*Crassostrea gigas*)	Soft part	4.81E−01	SEA	26
	Sr		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	4.94E−01	SEA	27
	Sr		Chosenhomaguri(*Meretrix lamarckii*)	Soft part	5.06E−01	SEA	26
	Sr		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	5.19E−01	SEA	31
	Sr		Bear paw clam(*Hippopus hippopus*)	Liver	5.19E−01	SEA	31
	Sr		Ubagai(*Spisula sachalinensis*)	Soft part	5.19E−01	SEA	26
	Sr		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	5.68E−01	SEA	31
	Sr		Elongate giant clam(*Tridacna maxima*)	Liver	5.68E−01	SEA	31
	Sr		Hotategai(*Patinopecten yessoensis*)	Soft part	6.05E−01	SEA	26
	Sr		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.17E−01	SEA	27
	Sr		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	6.17E−01	SEA	27
	Sr		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	6.42E−01	SEA	26
	Sr		Fluted giant clam(*Tridacna squamosa*)	Gonad	6.42E−01	SEA	31
	Sr		Elongate giant clam(*Tridacna maxima*)	Gonad	6.42E−01	SEA	31
	Sr		Bear paw clam(*Hippopus hippopus*)	Gonad	6.42E−01	SEA	31
	Sr		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	7.28E−01	SEA	26
	Sr		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	7.41E−01	SEA	27
	Sr		Crocus giant clam(*Tridacna crocea*)	Mantle	7.90E−01	SEA	31
	Sr		Elongate giant clam(*Tridacna maxima*)	Mantle	8.15E−01	SEA	31
	Sr		Fluted giant clam(*Tridacna squamosa*)	Mantle	8.40E−01	SEA	31
	Sr		Fluted giant clam(*Tridacna squamosa*)	Gill	1.04E+00	SEA	31
	Sr		Cyclosunetta menstrualis	Whole soft tissue	1.23E+00	SEA	23
	Sr		Crocus giant clam(*Tridacna crocea*)	Gill	1.23E+00	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Sr	Sr	二枚貝	Elongate giant clam(*Tridacna maxima*)	Gill	1.31E+00	SEA	31
	Sr		Asari(*Tapes philippinarum*)	Soft part	1.36E+00	SEA	26
	Sr		Bear paw clam(*Hippopus hippopus*)	Gill	1.38E+00	SEA	31
	Sr		Marusarubo(*Scapharca satowi*)	Soft part	1.48E+00	SEA	26
	Sr		Fluted giant clam(*Tridacna squamosa*)	Liver	1.58E+00	SEA	31
	Sr		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.60E+00	SEA	27
	Sr		Bear paw clam(*Hippopus hippopus*)	Mantle	1.60E+00	SEA	31
	Sr		Crocus giant clam(*Tridacna crocea*)	Byssus	2.32E+00	SEA	31
	Sr		Clam(*Cyclosunetta menstrualis*)	Kidney	2.96E+00	SEA	27
	Sr		Clam(*Cyclosunetta menstrualis*)	Kidney	3.21E+00	SEA	27
	Sr		Fluted giant clam(*Tridacna squamosa*)	Byssus	3.70E+00	SEA	31
	Sr		Clam(*Cyclosunetta menstrualis*)	Kidney	4.94E+00	SEA	27
	Sr		Clam(*Cyclosunetta menstrualis*)	Kidney	5.06E+00	SEA	27
	Sr		Bear paw clam(*Hippopus hippopus*)	Kidney	6.42E+00	SEA	31
	Sr		Elongate giant clam(*Tridacna maxima*)	Byssus	1.06E+01	SEA	31
	Sr		Fluted giant clam(*Tridacna squamosa*)	Kidney	1.21E+01	SEA	31
	Sr		Elongate giant clam(*Tridacna maxima*)	Kidney	2.47E+01	SEA	31
	Sr		Clam(*Cyclosunetta menstrualis*)	Kidney	2.72E+01	SEA	27
	Sr		Crocus giant clam(*Tridacna crocea*)	Kidney	2.86E+01	SEA	31
	Sr		Cyclosunetta menstrualis	Kidney	3.83E+01	SEA	23
	Sr		CLma(*Cyclosunetta menstrualis*)	Kidney	5.19E+01	SEA	27
	Sr		Magaki(*Crassostrea gigas*)	Shell	8.60E+01	RAS	20
	Sr		Murasakiigai(*Mytilus edulis*)	Shell	1.20E+02	RAS	20
	Sr		Chosenhamaguri(*Meretrix meretrix lamarckii*)	Shell	1.54E+02	RAS	20
	Sr		Asari *Tapes philippinarum*)	Shell	1.61E+02	RAS	20
	Sr	巻　貝	Ibonishi(*Thais clavigera*)	Muscle	4.81E−01	SEA	26
	Sr		Ibonishi(*Thais clavigera*)	Tissue other than muscle	5.06E−01	SEA	26
	Sr		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	5.06E−01	SEA	26
	Sr		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	5.06E−01	SEA	26
	Sr		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	5.56E−01	SEA	26
	Sr		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	5.80E−01	SEA	26
	Sr		Sazae(*Batillus cornutus*)	Muscle	5.93E−01	SEA	26
	Sr		Kuroawabi(*Nordotis discus*)	Muscle	6.42E−01	SEA	26
	Sr		エゾアワビ	可食部	6.86E−01	SEA	33
	Sr		Tsumetagai(*Neverta didyma*)	Muscle	1.01E+00	SEA	26
	Sr		Karamatsugai(*Siphonaria japonica*)	Shell	6.10E+01	RAS	20
	Sr		Unereishidamashi(*Cronia margariticola*)	Shell	1.25E+02	RAS	20
	Sr		Sazae(*Batillus cornutus*)	Shell	1.46E+02	RAS	20
	Sr		Tokobushi(*Sulcus diversicolor aquatilis*)	Shell	1.58E+02	RAS	20
	Sr		Kuroawabi(*Nordotis discus*)	Shell	1.81E+02	RAS	20
	Sr		Hizaragai(*Liolophura japonica*)	Shell	2.00E+02	RAS	20
	Sr	頭足類	スルメイカ(*Todarodes pacificus*)	外套膜	1.85E−01	SEA	36

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Sr	Sr	頭足類	アオリイカ(*Sepioteuthis lessoniana*)	外套膜	1.85E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	1.98E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	1.98E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	1.98E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	外套膜	1.98E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	外套膜	1.98E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	2.10E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	外套膜	2.10E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	脚部	2.10E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	2.10E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	肝臓	2.22E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.22E−01	SEA	36
	Sr		スルメイカ	可食部	2.24E−01	SEA	33
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	2.35E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	2.35E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.35E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	2.47E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.47E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	2.47E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	外套膜	2.47E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.59E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	2.59E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	2.59E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	外套膜	2.59E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	2.59E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	肝臓（静脈小嚢、心臓、膵臓を含む）	2.59E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	鰓心臓	2.59E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	2.59E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.72E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.84E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.84E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	2.84E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	脚部	2.84E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.96E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	2.96E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	2.96E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	2.96E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	脚部	2.96E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	脚部	2.96E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	脚部	3.09E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	3.09E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	脚部	3.09E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	脚部	3.21E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	3.21E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	3.21E−01	SEA	36

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Sr	Sr	頭足類	ケンサキイカ(*Photoligo edulis*)	肝臓	3.21E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	脚部	3.33E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	肝臓	3.70E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	脚部	3.70E−01	SEA	36
	Sr		コウイカ(*Sepia esculenta*)	外套膜	3.70E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	鰓心臓	3.83E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	肝臓	3.83E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	鰓心臓	3.95E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	3.95E−01	SEA	36
	Sr		ミズダコ	可食部	4.10E−01	SEA	33
	Sr		スルメイカ(*Todarodes pacificus*)	鰓心臓	4.20E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	肝臓	4.32E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	鰓心臓	4.44E−01	SEA	36
	Sr		コウイカ(*Sepia esculenta*)	鰓心臓	4.44E−01	SEA	36
	Sr		コウイカ(*Sepia esculenta*)	脚部	4.57E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	鰓心臓	4.94E−01	SEA	36
	Sr		コウイカ(*Sepia esculenta*)	肝臓	4.94E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	5.06E−01	SEA	36
	Sr		ケンサキイカ(*Photoligo edulis*)	鰓心臓	5.19E−01	SEA	36
	Sr		コウイカ(*Sepia esculenta*)	肝臓	5.56E−01	SEA	36
	Sr		スルメイカ(*Todarodes pacificus*)	鰓心臓	5.80E−01	SEA	36
	Sr		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	6.79E−01	SEA	36
	Sr		*Koika(Sepia seculenta)*	Shell	1.96E+02	RAS	20
	Sr-85	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	外皮	4.00E−01	TRE	13
	Sr-85		マボヤ(ascidian:*Halocynthia roretzi*)	Whole body	5.10E−01	TRE	13
	Sr		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	6.00E−01	SEA	13
	Sr-85		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵	6.00E−01	TRE	13
	Sr-85		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜	6.00E−01	TRE	13
	Sr		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	6.00E−01	SEA	13
	Sr		マボヤ	可食部	6.98E−01	SEA	33
	Sr	魚　類	サケ	可食部	5.69E−02	SEA	33
	Sr		イシガレイ	可食部	7.39E−02	SEA	33
	Sr		Suzuki(*Lateolabrax japonicus*)	Fish flesh	2.00E−01	RAS	20
	Sr		Madai(*Chrysophrys major*)	Fish flesh	2.00E−01	RAS	20
	Sr		Kurodai(*Mylio macrocephalus*)	Fish flesh	3.00E−01	RAS	20
	Sr		ヒラメ	可食部	3.55E−01	SEA	33
	Sr		Bora(*Mugil cephalus*)	Fish flesh	4.00E−01	RAS	20
	Sr		Kuromebaru(*Sebastodes guentherii*)	Fish flesh	4.00E−01	RAS	20
	Sr		アイナメ	可食部	4.23E−01	SEA	33
	Sr		バラメヌケ	可食部	4.55E−01	SEA	33
	Sr		ホッケ	可食部	4.89E−01	SEA	33
	Sr		ウミタナゴ	可食部	5.05E−01	SEA	33
	Sr		キツネメバル	可食部	5.75E−01	SEA	33
	Sr		クジメ	可食部	8.49E−01	SEA	33
	Sr		ババガレイ	可食部	9.78E−01	SEA	33
	Sr		ホッケ	可食部	1.03E+00	SEA	33

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Sr	Sr	魚類	ウグイ	可食部	1.35E+00	SEA	33
	Sr		クロソイ	可食部	1.59E+00	SEA	33
	Sr		Konoshiro(*Konosirus punctatus*)	Bone	1.00E+01	RAS	20
	Sr		Ainame(*Hexagrammos otaki*)	Bone	1.80E+01	RAS	20
	Sr		Kuromebaru(*Sebastodes guentherii*)	Bone	1.80E+01	RAS	20
	Sr		Buri(*Seriola quinqueradiata*)	Bone	2.00E+01	RAS	20
	Sr		Hirame(*Paralichthys olivaceus*)	Bone	2.20E+01	RAS	20
	Sr		Kurosoi(*Sebastodes schlegeli*)	Bone	2.20E+01	RAS	20
	Sr		Maaji(*Trachurus japonicus*)	Bone	2.30E+01	RAS	20
	Sr		Suzuki(*Lateolabrax japonicus*)	Bone	2.30E+01	RAS	20
	Sr		Ishimochi(*Argyrosomus argentatus*)	Bone	2.60E+01	RAS	20
	Sr		Bora(*Mugil cephalus*)	Bone	2.90E+01	RAS	20
	Sr		Masaba(*Scomber japonicus*)	Bone	3.10E+01	RAS	20
	Sr		Umitanago(*Ditrema temmincki*)	Bone	3.10E+01	RAS	20
	Sr		Kichiji(*Sebastolobus macrochir*)	Bone	3.20E+01	RAS	20
	Sr		Magarei(*Limanda irrdorum*)	Bone	3.20E+01	RAS	20
	Sr		Madara(*Gadus macrocephalus*)	Bone	3.40E+01	RAS	20
	Sr		Madai(*Chrysophrys major*)	Bone	3.40E+01	RAS	20
	Sr		Kurodai(*Mylio macrocephalus*)	Bone	3.70E+01	RAS	20
U	U-238	緑藻類	Anaaosa(*Ulva pertusa*)	Whole body	6.25E+00	SEA	29
	U-238	紅藻類	Makusa(*Gelidium amansii*)	Whole body	6.88E+01	SEA	29
	U-238		Harigane(*Ahnfeltia paradoxa*)	Whole body	1.19E+02	SEA	29
	U-238		Tsunomata(*Chondrus ocellatus*)	Whole body	1.88E+02	SEA	29
	U-238		Akaba(*Neodilsea yendoana*)	Whole body	3.13E+02	SEA	29
	U-238		Kushibenihiba(*Ptilota pectinata*)	Whole body	3.88E+02	SEA	29
	U-238	褐藻類	Uganomoku(*Cystophyllum hakodatense*)	Whole body	1.13E+02	SEA	29
	U-238		Makonbu(*Laminaria japonica*)	Whole body	1.50E+02	SEA	29
	U-238		Sujime(*Costaria costata*)	Whole body	1.56E+02	SEA	29
	U-238		Arame(*Eisenia bicyclis*)	Whole body	2.38E+02	SEA	29
	U-238		Hahakimoku(*Sargassum kijellmanianum*)	Whole body	2.50E+02	SEA	29
	U-238		Nejimoku(*Sargassum samianum*)	Whole body	2.63E+02	SEA	29
	U-238		Umitoranoo(*Sargassum thunbergii*)	Whole body	2.94E+02	SEA	29
	U-238		Hijiki(*Hijikia fusiforme*)	Whole body	3.13E+02	SEA	29
	U-238		Oobamoku(*Sargassum ringgoldianum*)	Whole body	3.25E+02	SEA	29
	U-238		Wakame(*Undaria pinnatifida*)	Whole body	3.75E+02	SEA	29
	U-238		Fushisujimoku(*Sargassum confusum*)	Whole body	3.88E+02	SEA	29
	U-238		Akamoku(*Sargassum horneri*)	Whole body	4.19E+02	SEA	29
	U-238		Chigaiso(*Alaria crassifolia*)	Whole body	4.25E+02	SEA	29
	U-238		Wakame(*Undaria pinnatifida*)	Whole body	2.31E+03	SEA	29
	U-238	顕花植物	Sugamo(*Phyllospadix iwatensis*)	Whole body	1.69E+02	SEA	29
	U-238	棘皮類	Kitamurasakiuni(*Strongylocentrotus nudus*)	Gonad	4.06E+02	SEA	29
	U-238		Bafununi(*Hemicentrotus pulcherrimus*)	Gonad	7.81E+02	SEA	29
	U-238	甲殻類	Gazami(*Portumus trituberculatus*)	Foot muscle	1.31E+00	SEA	29
	U-238		Hiratsumegani(*Ovalipes punctatus*)	Foot muscle	1.94E+00	SEA	29
	U-238		Kurumaebi *Penaeus japonicus*)	Tail muscle	2.72E+00	SEA	29

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
U	U-238	甲殻類	Shako(*Oratosquilla oratoria*)	Tail muscle	5.00E+00	SEA	29
	U-238		Gazami(*Portunus trituberculatus*)	Liver	4.69E+01	SEA	29
	U-238		Hiratsumegani(*Ovalipes punctatus*)	Liver	6.88E+01	SEA	29
	U-238	二次貝	Hirejakogai(*Tridacna squamosa*)	Gonad	4.38E+00	SEA	29
	U-238		Hirejakogai(*Tridacna Squamosa*)	Adductor mescle & foot	5.94E+00	SEA	29
	U-238		Hirejakogai(*Tridacna Squamosa*)	Mantle	6.56E+00	SEA	29
	U-238		Hirejakogai(*Tridacna Squamosa*)	Gill	7.50E+00	SEA	29
	U-238		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	3.75E+01	SEA	29
	U-238		Murasakiigai(*Mytilus edulis*)	Soft part	5.00E+01	SEA	29
	U-238		Kotamagai(*Gomphina melanaegis*)	Soft part	5.94E+01	SEA	29
	U-238		Ubagai(*Spisula sachalinensis*)	Soft part	5.94E+01	SEA	29
	U-238		Hirejakogai(*Tridacna squamosa*)	Kidney	8.75E+01	SEA	29
	U-238		Hirejakogai(*Tridacna squamosa*)	Byssus	1.03E+02	SEA	29
	U-238		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	1.09E+02	SEA	29
	U-238		Hirejakogai(*Tridacna squamosa*)	Liver	1.16E+02	SEA	29
	U-238		Shiranamigai(*Tridacna maxima*)	Soft part	3.44E+02	SEA	29
	U-238		Himejako(*Tridacna crocea*)	Soft part	9.38E+02	SEA	29
	U-238	巻　貝	Kuroawabi(*Nordotis discus*)	Foot muscle	1.59E+00	SEA	29
	U-238		Kuroawabi(*Nordotis discus*)	Liver	1.50E+01	SEA	29
	U-238		Agemakigai(*Sinnovacula constricta*)	Soft part	1.03E+02	SEA	29
	U-238	頭足類	Kouika(*Sepia esculenta*)	Trunk muscle	3.44E−01	SEA	29
	U-238		Madako(*Octopus vulgaris*)	Arm muscle	7.81E−01	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Ink sac	2.09E+00	SEA	29
	U-238		Kaminariika(*Sepia lycidas*)	Trunk muscle	2.19E+00	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Gonad	2.69E+00	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Gill	2.75E+00	SEA	29
	U-238		Iidako(*Octopus ocellatus*)	Arm muscle	2.78E+00	SEA	29
	U-238		Mizudako(*Paroctopus dofleini*)	Arm muscle	3.09E+00	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Kidney	6.88E+00	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Cuttlebone	9.69E+00	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Liver	3.03E+01	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Branchial heart	6.88E+01	SEA	29
	U-238		Kouika(*Sepia esculenta*)	Jaw	1.31E+02	SEA	29
	U-238		Madako(*Octopus vulgaris*)	Liver	2.66E+02	SEA	29
	U-238		Kaminariika(*Sepia lycidas*)	Liver	2.88E+02	SEA	29
	U-238		Madako(*Octopus vulgaris*)	Jaw	3.75E+02	SEA	29
	U-238		Kaminariika(*Sepia lycidas*)	Jaw	5.94E+02	SEA	29
	U-238		Kaminariika(*Sepia lycidas*)	Branchial heart	7.81E+02	SEA	29
	U-238		Mizudako(*Paroctopus dofleini*)	Branchial heart	2.22E+03	SEA	29
	U-238		Iidako(*Octopus ocellatus*)	Branchial heart	3.63E+03	SEA	29
	U-238		Madako(*Octopus vulgaris*)	Branchial heart	1.56E+04	SEA	29
	U-238	魚　類	Kuromaguro(*Thunnus thynnus*)	Muscle	8.44E−02	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Muscle	8.44E−02	SEA	29
	U-238		Mebachi(*Thunnus obesus*)	Muscle	1.00E−01	SEA	29
	U-238		Kichiji(*Sebastolobus macrochir*)	Muscle	2.38E−01	SEA	29

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
U	U-238	魚　類	Kuromaguro(*Thunnus thynnus*)	Gall bladder	2.59E−01	SEA	29
	U-238		Katsuo(*Euthynnus pelamis*)	Muscle	4.06E−01	SEA	29
	U-238		Kinmedai(*Beryx splendens*)	Muscle	4.38E−01	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Spleen	4.69E−01	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Kidney	5.00E−01	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Liver	5.00E−01	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Pyloric caecum	7.50E−01	SEA	29
	U-238		Suzuki(*Lateolabrax japonicus*)	Muscle	7.81E−01	SEA	29
	U-238		Sake(*Oncorhynchus keta*)	Muscle	9.06E−01	SEA	29
	U-238		Isaki(*Parapristipoma trilineatum*)	Muscle	9.38E−01	SEA	29
	U-238		Hirame(*Paralichthys olivaceus*)	Muscle	1.00E+00	SEA	29
	U-238		Maiwashi(*Sardinops melanosticta*)	Muscle	1.41E+00	SEA	29
	U-238		Tachiuo(*Trichiurus lepturus*)	Muscle	1.50E+00	SEA	29
	U-238		Ainame(*Hexagrammos otakii*)	Muscle	1.63E+00	SEA	29
	U-238		Sanma(*Cololabis saira*)	Muscle	2.22E+00	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Gill	2.41E+00	SEA	29
	U-238		Masaba(*Scomber japonicus*)	Muscle	2.78E+00	SEA	29
	U-238		Kuromaguro(*Thunnus thynnus*)	Bone	8.44E+00	SEA	29
	U-238		Maiwashi(*Sardinops melanosticta*)	Whole body	1.78E+01	SEA	29
V	V	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	4.00E+00	SEA	13
	V		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	2.00E+01	SEA	13
Zn	Zn-65	紅藻類	Algae(*Ahnfeltia sp.*)	A portion of 4g of plant	1.30E+02	TRE	17
	Zn-65		Algae(*Gracilaria verrucosa*)	A portion of 4g of plant	1.70E+02	TRE	17
	Zn-65		Algae(*Chondrus sp.*)	A portion of 4g of plant	2.60E+02	TRE	17
	Zn		マクサ		1.23E+03	SEA	34
	Zn		フクロフノリ	可食部	1.41E+03	SEA	33
	Zn		フクロフノリ	可食部	1.59E+03	SEA	33
	Zn		マクサ		1.73E+03	SEA	34
	Zn		ツノムカデ		1.83E+03	SEA	34
	Zn-65	褐藻類	Algae(*Hijikia fusiforme*)	A portion of 4g of plant	2.00E+01	TRE	17
	Zn		アカモク		2.00E+01	SEA	34
	Zn		エゾノネジモク		5.06E+01	SEA	34
	Zn		オオバモク		5.72E+01	SEA	34
	Zn		ヤツマタモク		5.80E+01	SEA	34
	Zn		ヨレモク		6.24E+01	SEA	34
	Zn		ヤツマタモク		8.18E+01	SEA	34
	Zn		ミヤベモク		9.18E+01	SEA	34
	Zn		ヨレモク		1.02E+02	SEA	34
	Zn		アカモク		1.12E+02	SEA	34
	Zn-65		Algae(*Sargassum thunbergii*)	A portion of 4g of plant	1.20E+02	TRE	17
	Zn		フジスジモク		1.20E+02	SEA	34
	Zn		オオバモク		1.41E+02	SEA	34
	Zn		ワカメ	栄養葉	1.44E+02	SEA	34

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Zn	Zn	褐藻類	ワカメ	胞子葉	1.51E+02	SEA	34
	Zn		アラメ		1.58E+02	SEA	34
	Zn		ヒジキ	可食部	1.87E+02	SEA	33
	Zn		アラメ		1.94E+02	SEA	34
	Zn		アラメ		2.02E+02	SEA	34
	Zn		アメタワラ		2.16E+02	SEA	34
	Zn		タマハキモク		2.34E+02	SEA	34
	Zn		ワカメ	栄養葉	2.53E+02	SEA	34
	Zn		アカモク		2.55E+02	SEA	34
	Zn		マコンブ	可食部	2.95E+02	SEA	33
	Zn		マコンブ	可食部	3.76E+02	SEA	33
	Zn		ワカメ	可食部	3.76E+02	SEA	33
	Zn		ワカメ	可食部	3.77E+02	SEA	33
	Zn		ウミトラノオ		4.40E+02	SEA	34
	Zn		ウガノモク		4.42E+02	SEA	34
	Zn	棘皮類	マナマコ	可食部	1.44E+02	SEA	33
	Zn-65		Sea urchin(*Strongylocentrotus nudus*)	Whole body	3.20E+02	TRE	18
	Zn		Manamako(*Stichopus japonicus*)	Whole animal	5.20E+02	SEA	24
	Zn		エゾバフンウニ	可食部	2.19E+03	SEA	33
	Zn		Sea urchin(*Strongylocentrotus nudus*)	Gonad(ovary)	1.10E+04	SEA	22
	Zn	甲殻類	Iseebi(*Panulirus japonicus*)	Edible part(muscle)	5.00E+03	SEA	24
	Zn		ヒラツメガニ	可食部	5.39E+03	SEA	33
	Zn		Kegani(*Erimacrus isenbecki*)	Edible part(muscle)	6.20E+03	SEA	24
	Zn		Ibaraganimodoki(*Lithodes aequispina*)	Edible part(muscle)	6.40E+03	SEA	24
	Zn		ケガニ	可食部	7.53E+03	SEA	33
	Zn		Iseebi(*Panulirus japonicus*)	Edible part(liver)	9.80E+03	SEA	24
	Zn		Kegani(*Erimacrus isenbecki*)	Edible part(liver)	1.04E+04	SEA	24
	Zn-65	二枚貝	Bivalve(*Gomohina melanaegis*)	Soft parts	2.00E+01	TRE	17
	Zn		Fluted giant clam(*Tridacna squamosa*)	Byssus	3.36E+02	SEA	31
	Zn		Elongate giant clam(*Tridacna maxima*)	Foot & Adductor muscle	4.80E+02	SEA	31
	Zn		Bear paw clam(*Hippopus hippopus*)	Gill	5.20E+02	SEA	31
	Zn		Bear paw clam(*Hippopus hippopus*)	Foot & Adductor muscle	5.60E+02	SEA	31
	Zn		Elongate giant clam(*Tridacna maxima*)	Mantle	5.60E+02	SEA	31
	Zn		Fluted giant clam(*Tridacna squamosa*)	Foot & Adductor muscle	6.40E+02	SEA	31
	Zn		Elongate giant clam(*Tridacna maxima*)	Byssus	6.40E+02	SEA	31
	Zn		Crocus giant clam(*Tridacna crocea*)	Byssus	6.80E+02	SEA	31
	Zn		Fluted giant clam(*Tridacna squamosa*)	Gonad	8.80E+02	SEA	31
	Zn		Fluted giant clam(*Tridacna squamosa*)	Mantle	1.00E+03	SEA	31
	Zn		Bear paw clam(*Hippopus hippopus*)	Mantle	1.00E+03	SEA	31
	Zn		Crocus giant clam(*Tridacna crocea*)	Foot & Adductor muscle	1.16E+03	SEA	31
	Zn		Elongate giant clam(*Tridacna maxima*)	Gonad	1.20E+03	SEA	31
	Zn		Elongate giant clam(*Tridacna maxima*)	Gill	1.20E+03	SEA	31
	Zn		Crocus giant clam(*Tridacna crocea*)	Mantle	1.24E+03	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生物	器官・組織	濃縮係数	手法*	文献
Zn	Zn	二枚貝	Bear paw clam(*Hippopus hippopus*)	Kidney	1.28E+03	SEA	31
	Zn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	1.60E+03	SEA	27
	Zn		FLuted giant clam(*Tridacna squamosa*)	Liver	1.60E+03	SEA	31
	Zn		Elongate giant clam(*Tridacna maxima*)	Liver	1.60E+03	SEA	31
	Zn		Fluted giant clam(*Tridacna squamosa*)	Gill	1.64E+03	SEA	31
	Zn		Crocus giant clam(*Tridacna crocea*)	Liver & Gonad	1.92E+03	SEA	31
	Zn		Bear paw clam(*Hippopus hippopus*)	Gonad	1.96E+03	SEA	31
	Zn		Ishikagegai(*Clinocardium californiense buellowi*)	Soft part	2.20E+03	SEA	26
	Zn		Crocus giant clam(*Tridacna crocea*)	Gill	2.52E+03	SEA	31
	Zn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.60E+03	SEA	27
	Zn		Chosenhamaguri(*Meretrix lamarckii*)	Soft part	2.60E+03	SEA	26
	Zn		Kotamagai(*Gomphina melanaegis*)	Soft part	2.60E+03	SEA	26
	Zn		Ubagai(*Spisula sachalinensis*)	Soft part	2.60E+03	SEA	26
	Zn		Awari(*Tapes phillppinarum*)	Soft part	2.60E+03	SEA	26
	Zn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	2.80E+03	SEA	27
	Zn		Magaki(*Crassostrea gigas*)	Soft part	2.80E+03	SEA	26
	Zn		Nunomeasari(*Novathaca euglypta*)	Soft part	3.00E+03	SEA	26
	Zn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.20E+03	SEA	27
	Zn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.40E+03	SEA	27
	Zn		Clam(*Cyclosunetta menstrualis*)	Soft part other than kidney	3.60E+03	SEA	27
	Zn		Igai(*Mytilus coruscus*)	Soft part	3.60E+03	SEA	26
	Zn		Scallop(*Patinopecten yessoensis*)	Adductor muscle	3.80E+03	SEA	24
	Zn		ホタテガイ	可食部	4.72E+03	SEA	33
	Zn		Hotategai(*Patinopecten yessoensis*)	Soft part	4.80E+03	SEA	26
	Zn		Scallop(*Patinopecten yessoensis*)	Liver	5.00E+03	SEA	24
	Zn		Marusarubo(*Scapharca satowi*)	Soft part	7.40E+03	SEA	26
	Zn		Wasuregai(*Cyclosunetta menstrualis*)	Soft part	9.80E+03	SEA	26
	Zn		Akazara(*Chlamys farreri*)	Soft part	1.18E+04	SEA	26
	Zn		*Cyclosunetta menstrualis*	Whole soft tissue	1.36E+04	SEA	23
	Zn		Bear paw clam(*Hippopus hippopus*)	Liver	1.96E+04	SEA	31
	Zn		Magaki(*Crassostrea gigas*)	Soft part	2.60E+04	SEA	24
	Zn		Magaki(*Crassostrea gigas*)	Edible part(soft part)	3.06E+04	SEA	24
	Zn		Clam(*Cyclosunetta menstrualis*)	Kidney	3.20E+04	SEA	27
	Zn		Scallop(*Patinopecten yessoensis*)	Kidney	3.48E+04	SEA	24
	Zn		Clam(*Cyclosunetta menstrualis*)	Kidney	3.60E+04	SEA	27
	Zn		Magaki(*Crassostrea gigas*)	Soft part	3.68E+04	SEA	24
	Zn		Clam(*Cyclosunetta menstrualis*)	Kidney	3.80E+04	SEA	27
	Zn		Elongate giant clam(*Tridacna maxima*)	Kidney	4.32E+04	SEA	31
	Zn		Fluted giant clam(*Tridacna squamosa*)	Kidney	4.60E+04	SEA	31
	Zn		Magaki(*Crassostrea gigas*)	Soft part	5.60E+04	SEA	24
	Zn		Crocus giant clam(*Tridacna crocea*)	Kidney	5.92E+04	SEA	31

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Zn	Zn	二枚貝	Magaki(*Crassostrea gigas*)	Soft part	7.98E+04	SEA	24
	Zn		Magaki(*Crassostrea gigas*)	Soft part	8.20E+04	SEA	24
	Zn		Magaki(*Crassostrea gigas*)	Soft part	1.20E+05	SEA	24
	Zn		Clam(*Cyclosunetta menstrualis*)	Kidney	1.50E+05	SEA	27
	Zn		Magaki(*Crassostrea gigas*)	Soft part	1.82E+05	SEA	26
	Zn		Magaki(*Crassostrea gigas*)	Soft part	2.98E+05	SEA	24
	Zn		*Cyclosunetta menstrualis*	Kidney	4.74E+05	SEA	23
	Zn		Clam(*Cyclosunetta menstrualis*)	Kidney	5.04E+05	SEA	27
	Zn		Clam(*Cyclosunetta menstrualis*)	Kidney	1.17E+06	SEA	27
	Zn		Kuroawabi(*Nordotis discus*)	Muscle	1.12E+03	SEA	26
	Zn	巻　貝	エゾアワビ	可食部	2.05E+03	SEA	33
	Zn		Yatsushirogai(*Tonna luteostoma*)	Soft part	2.60E+03	SEA	26
	Zn		Ezoboramodoki(*Neptunea intersculpta*)	Muscle	3.20E+03	SEA	26
	Zn		Shiraitomakibai(*Buccunum isaotakii*)	Muscle	3.40E+03	SEA	26
	Zn		Ishidatami(*Monodonta labio*)	Soft part	3.80E+03	SEA	26
	Zn		Kuroawabi(*Nordotis discus*)	Muscle	4.00E+03	SEA	26
	Zn		Sazae(*Batillus cornutus*)	Muscle	4.60E+03	SEA	26
	Zn		Ibonishi(*Thais clavigera*)	Muscle	5.00E+03	SEA	26
	Zn		Tsumetagai(*Neverta didyma*)	Muscle	5.60E+03	SEA	26
	Zn		Bekkougasagai(*Cellana grata*)	Soft part	7.00E+03	SEA	26
	Zn		Kubogai(*Chlorostoma argyrostoma lischkei*)	Muscle	7.60E+03	SEA	26
	Zn		Shiraitomakibai(*Buccunum isaotakii*)	Tissue other than muscle	7.80E+03	SEA	26
	Zn		Sazae(*Batillus cornutus*)	Tissue other than muscle	8.60E+03	SEA	26
	Zn		Tsumetagai(*Neverta didyma*)	Tissue other than muscle	8.80E+03	SEA	26
	Zn		Kubogai(*Chlorostoma argyrostoma lischkei*)	Tissue other than muscle	1.02E+04	SEA	26
	Zn		Ezoboramodoki(*Neptunea intersculpta*)	Tissue other than muscle	1.04E+04	SEA	26
	Zn		Kuroawabi(*Nordotis discus*)	Tissue other than muscle	1.16E+04	SEA	26
	Zn		Boshubora(*Charonia sauliae*)	Soft part	1.20E+04	SEA	26
	Zn		Bai(*Babylonia japonica*)	Soft part	1.26E+04	SEA	26
	Zn		Ibonishi(*Thais clavigera*)	Tissue other than muscle	1.90E+04	SEA	26
	Zn		Ibonishi(*Thais clavigera*)	Muscle	2.20E+04	SEA	26
	Zn		Bai(*Babylonia japonica*)	Soft part	4.20E+04	SEA	26
	Zn-65	頭足類	Octopus(*Octopus vulgaris*)	Whole body	4.60E+02	TRE	19
	Zn		Yariika(*Doryteuthis bleekeri*)	Edible parts	8.00E+02	SEA	21
	Zn		Surumeika(*Todarodes pacificus*)	Edible parts	1.20E+03	SEA	21
	Zn		Mizudako(*Paroctopus dofleini*)	Edible parts	1.30E+03	SEA	21
	Zn		Madako(*Octopus vulgaris*)	Edible parts	1.40E+03	SEA	21
	Zn		Bakaika(*Sthenoteuthis bartrami*)	Edible parts	1.40E+03	SEA	21
	Zn		Bakaika(*Sthenoteuthis bartrami*)	Branchial heart	1.50E+03	SEA	21
	Zn		Mizudako(*Paroctopus dofleini*)	Branchial heart	1.70E+03	SEA	21
	Zn		Surumeika(*Todarodes pacificus*)	Branchial heart	2.30E+03	SEA	21

*TRE：トレーサー実験：SEA：安定元素分析：RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Zn	Zn	頭足類	Yariika(*Doryteuthis bleekeri*)	Liver	2.50E+03	SEA	21
	Zn		アオリイカ(*Sepioteuthis lessoniana*)	脚部	2.80E+03	SEA	36
	Zn		スルメイカ	可食部	2.86E+03	SEA	33
	Zn		ケンサキイカ(*Photoligo edulis*)	外套膜	3.00E+03	SEA	36
	Zn		アオリイカ(*Sepioteuthis lessoniana*)	外套膜	3.20E+03	SEA	36
	Zn		ケンサキイカ(*Photoligo edulis*)	脚部	3.20E+03	SEA	36
	Zn		ミズダコ	可食部	3.22E+03	SEA	33
	Zn		スルメイカ(*Todarodes pacificus*)	外套膜	3.40E+03	SEA	36
	Zn		スルメイカ(*Todarodes pacificus*)	脚部	3.40E+03	SEA	36
	Zn		コウイカ(*Sepia esculenta*)	外套膜	3.60E+03	SEA	36
	Zn		コウイカ(*Sepia esculenta*)	脚部	4.00E+03	SEA	36
	Zn		Madako(*Octopus vulgaris*)	Branchial heart	4.30E+03	SEA	21
	Zn		Surumeika(*Todarodes pacificus*)	Liver	4.30E+03	SEA	21
	Zn		ケンサキイカ(*Photoligo edulis*)	鰓心臓	4.40E+03	SEA	36
	Zn		スルメイカ(*Todarodes pacificus*)	鰓心臓	5.00E+03	SEA	36
	Zn		アオリイカ(*Sepioteuthis lessoniana*)	鰓心臓	5.00E+03	SEA	36
	Zn		コウイカ(*Sepia esculenta*)	鰓心臓	5.00E+03	SEA	36
	Zn		ケンサキイカ(*Photoligo edulis*)	肝臓	6.40E+03	SEA	36
	Zn		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	7.60E+03	SEA	36
	Zn		Bakaika(*Sthenoteuthis bartrami*)	Liver	7.80E+03	SEA	21
	Zn		アオリイカ(*Sepioteuthis lessoniana*)	肝臓	8.60E+03	SEA	36
	Zn		スルメイカ(*Todarodes pacificus*)	肝臓	9.80E+03	SEA	36
	Zn		スルメイカ(*Todarodes pacificus*)	肝臓	1.30E+04	SEA	36
	Zn		Mizudako(*Paroctopus dofleini*)	Liver	1.60E+04	SEA	21
	Zn		コウイカ(*Sepia esculenta*)	肝臓	2.42E+04	SEA	36
	Zn		コウイカ(*Sepia esculenta*)	肝臓	2.52E+04	SEA	36
	Zn		Madako(*Octopus vulgaris*)	Liver	5.20E+04	SEA	21
	Zn-65	原索類	マボヤ(ascidian:*Halocynthia roretzi*)	内蔵	1.61E+02	TRE	13
	Zn-65		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜	1.71E+02	TRE	13
	Zn-65		マボヤ(ascidian:*Halocynthia roretzi*)	Whole body	1.80E+02	TRE	13
	Zn-65		マボヤ(ascidian:*Halocynthia roretzi*)	外皮	2.12E+02	TRE	13
	Zn		マボヤ(ascidian:*Halocynthia roretzi*)	筋膜（可食部）	7.00E+03	SEA	13
	Zn		マボヤ(ascidian:*Halocynthia roretzi*)	内蔵（可食部）	8.00E+03	SEA	13
	Zn		マボヤ	可食部	1.85E+04	SEA	33
	Zn	魚　類	ホッケ	可食部	6.89E+02	SEA	33
	Zn		バラメヌケ	可食部	7.48E+02	SEA	33
	Zn		サケ	可食部	7.84E+02	SEA	33
	Zn		クジメ	可食部	8.31E+02	SEA	33
	Zn		キツネメバル	可食部	1.02E+03	SEA	33
	Zn		ババガレイ	可食部	1.13E+03	SEA	33
	Zn		アイナメ	可食部	1.14E+03	SEA	33
	Zn		ヒラメ	可食部	1.36E+03	SEA	33
	Zn		ウミタナゴ	可食部	1.37E+03	SEA	33
	Zn		ホッケ	可食部	1.53E+03	SEA	33
	Zn		ウグイ	可食部	1.82E+03	SEA	33
	Zn		クロソイ	可食部	1.99E+03	SEA	33

*TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

元素	対象核種	生物種	生　　物	器官・組織	濃縮係数	手法*	文献
Zn	Zn	魚　類	イシガレイ	可食部	2.05E+03	SEA	33
Zr	Zr-95 Nb-95	紅藻類	Algae(*Chondrus sp.*)	A portion of 4g of plant	4.10E+02	TRE	17
	Zr-95 Nb-95		Algae(*Chondrus sp.*)	A portion of 4g of plant	7.60E+02	TRE	17
	Zr-95 Nb-95		Algae(*Gracilaria verrucosa*)	A portion of 4g of plant	8.70E+02	TRE	17
	Zr-95 Nb-95	褐藻類	Algae(*Hijikia fusiforme*)	A portion of 4g of plant	2.30E+02	TRE	17
	Zr-95 Nb-95		Algae(*Sargassum thunbergii*)	A portion of 4g of plant	1.39E+03	TRE	17
	Zr-95 Nb-95	二枚貝	Bivalve(*Gomphina melanaegis*)	Soft parts	5.00E+00	TRE	17
	Zr-95	魚　類	Common goby(*Acanthogobius flavimanus*)	Whole body	3.00E+00	TRE	10
	Zr-95		Common goby(*Acanthogobius flavimanus*)	Viscera	7.00E+01	TRE	10

＊TRE：トレーサー実験；SEA：安定元素分析；RAS：放射能分析

表 6 － 2 － 2.　濃縮係数総括表

元素	緑藻類	紅藻類	褐藻類	顕花植物	腔腸類	棘皮類	甲殻類	二枚貝		巻貝		頭足類	原索類	魚類	
								軟体部	貝殻	軟体部	貝殻			軟組織	骨部
Al						3.7E+03	1.7E+03	4.1E+03					3.7E+03		
As		3.1E+02	3.0E+02												
Ba								4.0E+00					5.0E+00		
Ca						(9.0E-01)		3.0E+00				4.0E-01	8.0E-01		
Cd						2.2E+02	1.8E+03	6.1E+03		5.8E+03			4.2E+02		
Ce		1.1E+03	1.2E+03				4.4E+02	5.3E+01		(1.6E+03)		4.6E+01	9.7E+02	5.4E+01	
Co	1.8E+03	2.9E+02	6.0E+01			1.3E+02	1.8E+02	7.1E+02		7.3E+02		9.7E+01	2.2E+02	1.0E+01	
Cr						5.6E+02	3.0E+02	2.2E+03					4.5E+02		
Cs	1.6E+01	2.7E+01	2.7E+01			1.1E+01	9.7E+00	1.3E+01		1.1E+01		8.9E+00	3.0E+00	4.6E+01	
Cu						3.4E+02	2.5E+04	4.2E+03		1.9E+04		1.4E+04	1.0E+04		
Fe		7.4E+02	1.8E+02			9.1E+02	1.2E+03	8.0E+03		1.8E+04		2.2E+03	6.6E+01	7.7E+01	
I		(1.1E+03)				(1.8E+01)	(1.1E+01)	(1.3E+01)				1.0E+00	5.8E+01	2.8E+01	
K						(7.7E+00)	4.5E+00						2.0E+00		
Mg						(6.0E-01)		8.0E-01					7.0E-01		
Mn		4.0E+03	2.3E+03			3.9E+02	1.5E+03	1.0E+04		4.0E+02		7.5E+02	4.8E+02	2.2E+02	
Mo								1.2E+02							
Na						(3.0E-01)		4.0E-01					8.0E-01		
Nb														1.8E+01	
Ni						1.5E+01	1.4E+01	1.0E+02		9.4E+01			3.0E+02		
P						(3.4E+00)		1.7E+04					2.0E+03		
Pb						(5.7E+02)	7.3E+02	6.2E+04							
Pu		1.1E+03	1.1E+03			(6.0E+02)		3.5E+02				1.9E+02		4.5E+01	
Rb								1.8E+00							
Ru		2.9E+02						(2.0E+00)					5.5E+00		
S								4.4E+00							
Sn	4.6E+00		8.0E-01					3.3E+03							
Sr		1.9E+00	1.7E+01		7.0E-01	2.1E+01	5.5E+01	1.5E+00	1.3E+02	6.0E-01	1.4E+02	3.0E-01	6.0E-01	4.0E-01	2.5E+01
U	(6.3E+00)	1.8E+02	3.1E+02	(1.7E+02)		5.6E+02	6.9E+00	4.8E+01		1.4E+01		3.9E+01		8.0E-01	
V													8.9E+00		
Zn		6.9E+02	1.4E+02			9.0E+02	7.0E+03	5.9E+03		6.8E+03		4.0E+03	1.0E+03	1.2E+03	
Zr		6.5E+02	5.7E+02					(5.0E+00)						1.4E+01	

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6－3. 総説等による濃縮係数一覧表（政府機関の資料を含む）

6－3－1. 日　本（評価指針、動燃等）

国内の原子力施設の安全審査において用いられた実績を有する濃縮係数として、「発電用軽水型原子炉施設周辺の線量目標値に対する評価指針」[1]（以下「評価指針」という。）の濃縮係数及び動燃東海再処理施設の線量評価に用いられた濃縮係数[2]がある。評価指針の値はUCRL-50564 Rev. 1[3]から採用されたものである。

動燃東海再処理施設の線量評価に用いられた濃縮係数は、東海地先海域における海水中及び各種海産物中の放射性核種の濃度の実測値に基づき算出された値（よう素については、安定よう素の濃度の実測値を基に算出された値）であり、再処理施設の安全評価に用いられた実績を有する。

これらの濃縮係数を、国内で得られた文献値と合わせて6－3－1－1.に示す。

6－3－2. 国際機関（ＩＥＡ、ＣＥＣ等）

国際機関によりまとめられた濃縮係数の総説としては、海洋投棄の環境評価を目的としてＩＡＥＡが主にフィールドデータに基づいて濃縮係数等の見直し及び改訂を行ったＩＡＥＡ Technical Reports Series No. 247[4]、ヨーロッパ共同体委員会によりまとめられた、“Methodology for Evaluating the Radiological Concequences of Radioactive Effluents Released in Normal Operations”[5]等がある。これら国際機関における濃縮係数を、表6－3－2－1.に示す。

6－3－3. 諸外国

諸外国における濃縮係数としては、米国における原子力施設の環境評価のため米国原子力規制委員会（ＮＲＣ）の指針であるRegulatory Guide 1.109[6]、ＯＲＮＬがそれまでの知見を整理してとりまとめた、米国エネルギ省（ＤＯＥ）の報告書であるＤＯＥ／ＴＩＣ－11468[7]等がある。これら諸外国における濃縮係数を、表6－3－3－1.に示す。

表６－３－１－１．日本における濃縮係数一覧表

単位$\left(\frac{Bq/g}{Bq/cm^2}\right)$

元素		動燃（1980）	評価指標（1976, 1989一部改訂）	動燃（1990）	電中研の報告書（1988～91）	放医研の報告書（1991）＊1	六ケ所再処理施設の線量当量評価に用いている値
文献番号		(2)	(1)	(14)	(8)(9)(10)	(11) (12)	－
魚類		成魚	魚類	－	成魚		－
	H	－	1	－	－		1
	Co	－	100	－	40(8)		100
	Sr	3	1	－	1(8)		3
	Ru	50	－	－	－	－	50
	I	30	10	－	8(10)		30
	Cs	30	30	－	40(9)		30
	Ce	50	－	－	50(10)		50
	Pu	100	－	－	－		100
貝類		貝類	無脊椎動物	貝類	軟体動物	貝類	－
	H	－	1	－	－	－	1
	Co	－	1,000	－	400(8)	－	1,000
	Sr	5	6	－	0.7(8)	－	5
	Ru	300	－	－	－	120（ホタテガイ）(11) 180（ウバガイ）(12) 8,375（エゾアワビ）(12)	300
	I	60	50	－	30(10)	－	60
	Cs	9	20	－	10(9)	20（ホタテガイ）(11) 20（ウバガイ）(12) 103（エゾアワビ）(12)	9
	Ce	200	－	－	500(10)	－	200
	Pu	200	－	140	－	－	200
頭足類		頭足類	無脊椎動物	頭足類	頭足類		－
	H	－	1	－	－		1
	Co	－	1,000	－	40(8)		1,000
	Sr	2	6	－	0.3(8)		2
	Ru	80	－	－	－	－	80
	I	3	50	－	1(10)		3
	Cs	10	20	－	20(9)		10
	Ce	30	－	－	40(10)		30
	Pu	200	－	－	－		200
甲殻類		甲殻類	無脊椎動物	甲殻類	甲殻類		－
	H	－	1	－	－		1
	Co	－	1,000	－	700(8)		1,000
	Sr	30	6	－	3(8)		30
	Ru	200	－	－	－	－	200
	I	30	50	－	10(10)		30
	Cs	20	20	－	10(9)		20
	Ce	90	－	－	400(10)		90
	Pu	400	－	250	－		400
海藻類		褐藻 / 紅藻	海藻類	海藻類	褐藻 / 紅藻		－
	H	－	1	－	－		1
	Co	－	1,000	－	200(8) / 1,000(8)		1,000
	Sr	20 / 20	10	－	10(8) / 1(8)		20
	Ru	500 / 2,000	－	－	－ / －	－	2,000
	I	2,000 / 1,000	4,000	－	2,000(10) / 600(10)		2,000
	Cs	30 / 10	20	－	20（海藻類）(9)		30
	Ce	600 / 600	－	－	4,000(10) / 3,000(10)		600
	Pu	3,000 / 3,000	－	350	－ / －		3,000

＊1：放射性物質の海水経由の移行実験と餌料経由の移行実験をそれぞれ水槽実験により行って求められた値であり、他の文献値と単純に比較はできない。

表６－３－２－１.　国際機関における濃縮係数一覧表

単位$\left(\frac{Bq/g}{Bq/cm^3}\right)$

元　　素		IAEA'95(1985)	ＣＥＣの報告書(1979)	IAEA'78(1978)	Coughtrey(1983)＊1	備　　考
文献番号		(4)	(5)	(15)	(16)	
魚　　類		魚　類	魚　類	魚　類	魚　類	
	H	1	1	1	－	
	Co	1,000	100	100	3（筋肉）	
	Sr	2	1	1	3	
	Ru	2	1	1	0.1～1.0	
	I	10	10	10	10	
	Cs	100	50	50	70	
	Ce	50	10	(10)	50	
	Pu	40	10	10	10～100	
貝　　類		軟体動物	軟体動物	軟体動物除頭足類	軟体動物	
	H	1	1	1	－	
	Co	5,000	1,000	1,000	3,000	
	Sr	1	10	10	100	
	Ru	2,000	2,000	2,000	500	
	I	10	100	100	50	
	Cs	30	30	10	20	
	Ce	5,000	1,000	1,000	500	
	Pu	3,000	1,000	1,000	300	
頭　足　類		頭足類	軟体動物		軟体動物	
	H	－	1		－	
	Co	200	1,000		3,000	
	Sr	2	10		100	
	Ru	50	2,000	－	500	
	I	－	100		50	
	Cs	10	30		20	
	Ce	30	1,000		500	
	Pu	50	1,000		300	
甲　殻　類		甲殻類	甲殻類	甲殻類	甲殻類	
	H	1	1	1	－	
	Co	5,000	1,000	1,000	2,000	
	Sr	2	10	10	10	
	Ru	100	500	600	＜10	
	I	10	100	100	50	
	Cs	30	30	30	20	
	Ce	1,000	1,000	1,000	500	
	Pu	300	100	100	890	
海　藻　類		海藻類	海藻類	海藻類	海藻類	
	H	1	1	1	－	
	Co	10,000	1,000	1,000	400	
	Sr	5	10	10	300	
	Ru	2,000	2,000	2,000	1,000	
	I	1,000	1,000	1,000	1,500	
	Cs	50	30	10	700	
	Ce	5,000	1,000	1,000	5,000	
	Pu	2,000	1,000	1,000	360	

＊1：海藻類については、生重量に対する濃縮係数ではなく、乾燥重量に対する濃縮係数であるため、他の文献値と単純に比較はできない。

表６－３－３－１.　諸外国における濃縮係数一覧表

単位$\left(\frac{Bq/g}{Bq/cm^2}\right)$

元　　素		Regulatory Guide (1977)	ＤＯＥの報告書(1984)	ＵＣＲＬ（1972）	備　　考
文献番号		(6)	(7)	(3)	
魚　　類		魚　類	魚　類	魚　類	
	Ｈ	0.9	－	0.926	
	Ｃｏ	100	100	100	
	Ｓｒ	2	2	2	
	Ｒｕ	3	10	3	
	Ｉ	10	100	10	
	Ｃｓ	40	40	40	
	Ｃｅ	10	30	10	
	Ｐｕ	－	3	3	
貝　　類		無脊椎動物	無脊椎動物	無脊椎動物	
	Ｈ	0.93	－	0.926	
	Ｃｏ	1,000	1,000	1,000	
	Ｓｒ	20	20	20	
	Ｒｕ	1,000	1,000	1,000	
	Ｉ	50	50	50	
	Ｃｓ	25	20	25	
	Ｃｅ	600	1,000	500	
	Ｐｕ	－	100	200	
頭　足　類		無脊椎動物	無脊椎動物	無脊椎動物	
	Ｈ	0.93	－	0.926	
	Ｃｏ	1,000	1,000	1,000	
	Ｓｒ	20	20	20	
	Ｒｕ	1,000	1,000	1,000	
	Ｉ	50	50	50	
	Ｃｓ	25	20	25	
	Ｃｅ	600	1,000	500	
	Ｐｕ	－	100	200	
甲　殻　類		無脊椎動物	無脊椎動物	無脊椎動物	
	Ｈ	0.93	－	0.926	
	Ｃｏ	1,000	1,000	1,000	
	Ｓｒ	20	20	20	
	Ｒｕ	1,000	1,000	1,000	
	Ｉ	50	50	50	
	Ｃｓ	25	20	25	
	Ｃｅ	600	1,000	500	
	Ｐｕ	－	100	200	
海　藻　類		－	海藻類	海藻類	
	Ｈ		－	0.925	
	Ｃｏ		1,000	1,000	
	Ｓｒ		10	10	
	Ｒｕ		2,000	2,000	
	Ｉ		4,000	1,000	
	Ｃｓ		20	50	
	Ｃｅ		5,000	600	
	Ｐｕ		400	1,000	

（佐伯　誠道）

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6－3－4. 最近のデータ集(SAND89-1585・UC-721、1991）要約一覧表

この要約一覧表は海洋環境からの被ばく線量を算定するに際して、有効な濃縮係数を提供するために作成されている。

収集された濃縮係数データは、実験方法ごと、核種ごと、生物種ごと部位ごとに統計解析された上で分類されてデータ・ベースを作成し、要約一覧表としたものである。

対象とした機種は、各分類項目ごとに特徴性があり、調査研究データが豊富で、被ばく線量算定に際して重要な放射性核種であるFe－55、Co－60、Tc－95m(Tc－99類似)、Cs－134、Cs－137、Pb－210、Po－210、Ra－226、Np－235、Np－237、Pu－237、Pu－239、Pu－239＋240、およびAm－241を選定している。

出典 Leo S. Gomez, Melvin G. Marietta, Douglas W. Jackson :
Compilation of Selected Marine Radioecological Data for the Formerly Utilized Sites Remedial Action Program : Summaries of Available Radioecological Concentration Factors and Biological Half-Lives ;
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（木村　健一、鎌田　　博）

表Ⅰ　野外実験による濃縮係数データの要約

核　　種	供試生物（生物種，部位／採取場所）	実験ﾃﾞｰﾀ 数	平 均 値	標準偏差	最 低 値	最 高 値	引　　用　　文　　献
Co-60	魚類　消化器官／米国太平洋岸	4	33500.00	10279.43	22000.00	47000.00	Jenn80
Co-60	魚類　肉／米国　太平洋岸	11	7145.45	3152.26	3200.00	13000.00	Jenn80
Co-60	魚類　生殖器官／米国太平洋岸	4	34750.00	19311.05	14000.00	60000.00	Jenn80
Sr,Y-90	二枚貝　貝殻／日本沿岸	5	94.60	16.99	71.00	114.00	Ue75
Sr,Y-90	二枚貝　全体／日本沿岸、バルチック海、黒海	8	121.95	182.71	2.50	500.00	Ku80, Po61b, Sa80
Sr,Y-90	表在性動物　全体／アイルランド海、黒海、ビキニ	3	375.33	627.69	1.00	1100.00	Mau63, No75, Po61b
Sr,Y-90	魚類　骨／日本沿岸	4	46.75	12.23	35.00	62.00	Ue75
Sr,Y-90	魚類　肉／日本沿岸、バルチック海	8	4.51	3.45	2.00	10.00	Ag58, Ku80, Ue75, Ya77
Sr,Y-90	魚類　全体／日本沿岸、バルチック海	10	9.03	9.43	2.60	24.00	Ag58, Ku80, Ue75, Ya77
Sr,Y-90	植物プランクトン／地中海	17	131.62	145.40	11.80	568.50	Ta69
Sr,Y-90	緑藻類／日本沿岸、バルチック海	4	25.25	29.84	10.00	70.0	Sa80, Ya77
Sr,Y-90	褐藻類／日本沿岸、東海村、バルチック海	11	33.08	42.01	7.90	150.00	Da56, Ku80, Mau63, Sa80 Ue75, Ya77
Sr,Y-90	内湾の海藻／日本沿岸、東海村、バルチック海	17	29.11	36.18	7.90	150.00	Da56, Ku80, Mau63, Sa80 Ue75, Ya77
Cs-137	二枚貝　身／フンボルト湾、地中海	3	65.33	29.19	47.00	99.00	Bro75, Har76
Cs-137	二枚貝　全体　海底堆積物に対する濃縮係数／ﾎﾞﾝﾍﾞｲ港	10	0.71	0.28	0.31	1.24	Pa75
Cs-137	二枚貝　全体／ボンベイ港	14	973.93	1414.71	35.00	5250.00	Pa75
Cs-137	二枚貝　全体／日本沿岸	6	14.83	7.88	7.00	28.00	Su78
Cs-137	二枚貝　全体／地中海	12	29.42	58.05	4.00	210.00	De74
Cs-137	二枚貝　全体／５海域	36	392.66	982.67	4.00	5250.00	Bro75, De74, Ku80, Pa75, Su78
Cs-137	頭足類　全体／地中海、東海村	9	17.11	12.74	3.00	47.00	Gi75, Ku80, Su78
Cs-137	クルマエビ属十脚類／地中海	6	63.83	22.60	35.00	102.00	Gi75, Pa75

核　種	供試生物（生物種，部位／採取場所）	実験ﾃﾞｰﾀ数	平均値	標準偏差	最低値	最高値	引　用　文　献
Cs-137	表在性動物　全体／アイルランド海、地中海	6	150.67	126.55	8.00	339.00	Gi75, Mau63
Cs-137	魚類肉／米国西海岸　アイルランド海、マラッカ海峡	17	296.45	524.35	26.70	156200	Do82, Jenk69, Pe71
Cs-137	魚類　消化管／米国西海岸	5	35.40	16.20	18.00	62.00	Jenk69
Cs-137	魚類　生殖器官／米国西海岸	5	60.60	42.27	30.00	130.00	Jenk69
Cs-137	魚類　全体／ボンベイ港	7	35.71	24.90	7.50	75.00	Pa75
Cs-137	魚類　全体／カスピ海	6	176.67	119.40	50.00	350.00	Bak74
Cs-137	魚類　全体／地中海	11	106.00	56.58	37.00	208.00	Gi75
Cs-137	魚類　全体／東海村	4	22.00	5.94	17.00	30.00	Ku80
Cs-137	魚類　全体／千海域	29	92.07	83.29	7.50	350.00	Bak74, Fo169, Gi75, Ku80, Pa75
Cs-137	褐藻類／アイルランド海、バルチック海、東海村	7	54.71	27.92	20.00	95.00	Bro75, Ku80, Mau63, Ni181
Pb-210	頭足類／地中海	3	700.00	529.15	300.00	1300.00	He79
Pb-210	ヌマエビ属十脚類　全体／地中海	3	466.67	305.51	200.00	800.00	He79
Pb-210	動物プランクトン全体／地中海	3	608.00	644.82	24.00	1300.00	He79, Kh76
Po-210	頭足類　全体／地中海	4	22250.00	10012.49	9000.00	30000.00	Gua81, He79
Po-210	ヌマエビ属十脚類／地中海	3	43333.33	30550.50	10000.00	70000.00	He79
Po-210	魚類肉／ビキニ、エニウェトク	7	7339.29	13985.86	795.00	39000.00	Ne75
Po-210	魚類消化器官／ビキニ、エニウェトク	5	33960.00	15282.07	16850.00	50000.00	Ne75
Po-210	魚類　全体／ビキニ、エニウェトク	7	14864.29	10791.46	8200.00	39000.00	Ne75
Po-210	動物プランクトン　全体／ビキニ、エニウェトク	4	19742.50	21647.75	970.00	50000.00	Ch74, He79, Kh76
Ra-226	魚類　肉／米国西海岸	8	390.63	331.60	45.00	950.00	Jenk69
Pu-239+40	二枚貝　身／ラ・アーグ、地中海	6	41.97	27.52	1.80	85.00	Gua80, Mur78
Pu-239+40	二枚貝　貝殻／ラ・アーグ	5	188.20	128.92	43.00	330.00	Gua77a, Gua77b

核　　種	供試生物（生物種，部位／採取場所）	実験ﾃﾞｰﾀ 数	平 均 値	標準偏差	最 低 値	最 高 値	引　　用　　文　　献
Pu-239＋40	二枚貝　全体／ラ・アーグ、北太平洋	6	196.33	84.29	48.00	290.00	Gua77b, Gua80, Pi64
Pu-239＋40	ヌマエビ属十脚類／ラ・アーグ	5	133.60	98.87	38.00	240.00	Ch74, Gua80
Pu-239＋40	表在性動物　消化器官／地中海	8	805.00	506.08	50.00	1300.00	Gua80, Gua8211
Pu-239＋40	表在性動物　生殖器／地中海	4	303.75	174.71	135.00	500.00	Gua80, Gua8211
Pu-239＋40	表在性動物　全体／ﾗ･ｱｰｸﾞ、ﾋﾞｷﾆ、ｴﾆｳｪﾄｸ、地中海	13	1183.92	913.16	16.00	2700.00	Gua77a, Gua80, Gua821, Gua8211, No75
Pu-239＋40	魚類　全体／ﾗ･ｱｰｸﾞ、ﾋﾞｷﾆ、ｴﾆｳｪﾄｸ、日本沿岸	14	78.21	75.58	1.00	239.00	Gua76, Gua77a, Gua80, Ne75, Pi64, Ya77
Pu-239＋40	魚類　肉／ﾗ･ｱｰｸﾞ、ﾋﾞｷﾆ、ｴﾆｳｪﾄｸ、日本沿岸	18	103.17	351.30	5.00	1500.00	Ch74, Gua76, Ne75, No81, Ya77
Pu-239＋40	魚類　消化器官／ﾗ･ｱｰｸﾞ、ﾋﾞｷﾆ、ｴﾆｳｪﾄｸ	7	4052.43	6408.77	5.00	18000.00	Gua76, Gua77a, Gua80, Ne75
Pu-239＋40	魚類　呼吸器、濾過海水に対する濃縮係数／ｱｲﾙﾗﾝﾄﾞ海	4	6.35	1.18	5.20	7.80	Pe78
Pu-239＋40	魚類　消化器官、濾過海水に対する濃縮係数/ｱｲﾙﾗﾝﾄﾞ海	4	24.78	14.16	9.20	37.80	Pe78
Pu-239＋40	魚類　消化管内容物／アイルランド海	4	2263.00	1080.27	986.00	3609.00	Pe78
Pu-239＋40	魚類　排泄器／アイルランド海	9	1013.68	2994.90	2.40	9000.00	Pe78
Pu-239＋40	腹足類　身／ラ・アーグ	7	86.14	110.03	20.00	333.00	Gua77a, Gua77b
Pu-239＋40	腹足類　貝殻／ラ・アーグ	7	481.86	777.51	80.00	2225.00	Gua77a, Gua77b
Pu-239＋40	腹足類　全体／ラ・アーグ	8	329.38	517.44	60.00	1580.00	Ch74, Gua80, Pi64
Pu-239＋40	埋在性動物　全体／地中海	4	208.25	123.27	100.00	315.00	Gua80, Gua8211
Pu-239＋40	植物プランクトン／北太平洋、ラ・アーグ	4	46015.00	76724.78	400.00	160000.00	Ch74, Gua80, Pi64
Pu-239＋40	緑藻類／北太平洋、ラ・アーグ、日本沿岸	5	420.20	643.88	85.0	1570.00	Gua77a, Gua80, Pi64, Ya77
Pu-239＋40	褐藻類、乾燥物に対する濃縮係数／北太平洋、ﾊﾙﾁｯｸ海	20	8885.00	4299.24	3000.00	21000.00	Ho180, NIL81
Pu-239＋40	褐藻類／北太平洋、ラ・アーグ、日本沿岸	5	606.60	321.72	290.00	1080.00	Gua80, Pi64
Pu-239＋40	紅藻類／北太平洋、ラ・アーグ、日本沿岸	4	432.75	502.15	103.00	1175.00	Gua80
Pu-239＋40	海藻類	14	490.36	475.09	85.00	1570.00	Gua77a, Gua80, Pi64, Ya77

核　　種	供試生物（生物種，部位／採取場所）	実験ﾃﾞｰﾀ数	平均値	標準偏差	最低値	最高値	引　用　文　献
Pu-239＋40	動物プランクトン全体／北太平洋、ラ・アーグ	4	9222.50	12556.27	2000.00	28000.00	Ch74, Gua80, Pi64
Am-241	表在性動物　消化器官／地中海	6	10940.00	11241.52	90.00	29000.00	Gua80
Am-241	表在性動物　生殖器／地中海	4	9187.50	11498.87	250.00	26000.00	Gua80
Am-241	魚類　呼吸器／アイルランド海	3	49.67	15.57	35.00	66.00	Pe78
Am-241	魚類　消化器官／アイルランド海	4	123.25	66.60	44.00	194.00	Pe78
Am-241	魚類　消化管内容物／アイルランド海	4	10466.25	9125.43	2521.00	23059.00	Pe78
Am-241	魚類　排泄器／アイルランド海	9	130.67	68.85	74.00	296.00	Pe78

表Ⅱ　室内実験による濃縮係数データの要約

核　　種	供試生物（生物種，部位）	実験ﾃﾞｰﾀ 数	平 均 値	標準偏差	最 低 値	最 高 値	引　　用　　文　　献
Fe-55	埋在性動物　全体、海底堆積物に対する濃縮係数	8	0.0614	0.0401	0.0009	0.1400	Jenn80
Fe-55	褐藻類抽出物	10	329.93	362.48	60.20	1220.00	Ry76
Co-60	バクテリア	19	3.62	3.85	0.14	13.20	Avi76
Co-60	二枚貝　身	30	44.64	46.57	4.60	155.00	Am75, Cr75, Ev82, Har73, Hi64I, Nis81, Ca87
Co-60	二枚貝　体液	6	25.97	36.64	5.80	100.00	Cr75, Har73, Ca87
Co-60	二枚貝　貝殻／足糸	19	258.66	620.06	2.60	2699.00	Am75, Cr75, Ev82, Hi62, Hi64I, Nis81, Sh70, VanW73, Ca87
Co-60	二枚貝　消化器等	9	79.80	111.80	2.00	350.00	Cr75, Har73, Hi62, Hi64I, Nis81, Ca87
Co-60	二枚貝　呼吸器	9	61.30	35.90	17.00	100.00	Cr75, Har73, Hi62, Hi64I
Co-60	二枚貝　全体	5	137.24	120.32	26.20	300.00	Bon78, Cr75, Har73, Nis81, Ue75
Co-60	ヌマエビ属十脚類　全体	5	16.40	12.92	5.00	37.00	Bon78, Hi62, Hi64I, VanW73
Co-60	ロブスター、カニ　全体	3	202.33	275.44	30.00	520.00	Bon78, Sh70
Co-60	表在性動物　消化器管	4	232.00	412.73	3.00	850.00	Hi62, Hi64I, Sh70
Co-60	表在性動物　外殻／貝殻	4	102.85	198.11	1.00	400.00	Hi62, Hi64I, Sh70
Co-60	魚類　肉	3	0.77	0.64	0.30	1.50	Na79
Co-60	魚類　全体	11	4.27	1.72	1.20	7.10	Hi62, Hi64I, Na79
Co-60	埋在性動物　全体、海底堆積物に対する濃縮係数	3	0.0500	0.0050	0.0450	0.0550	Ue77, Ue85
Co-60	埋在性動物　全体	4	88.50	164.33	6.00	335.00	Am75, Ue77, Ue85
Co-60	植物プランクトン	3	175.33	130.48	100.00	326.00	Bon78, Kir77, Mar58
Co-60	緑藻類	8	321.63	181.05	17.00	612.00	Bon78, Hi64I, Kir77, Na75
Co-60	褐藻類	7	493.29	923.14	34.00	2574.00	Na75, Ue85

核　種	供試生物（生物種，部位）	実験ﾃﾞｰﾀ数	平均値	標準偏差	最低値	最高値	引　用　文　献
Tc-95m	二枚貝　全体、海底堆積物間隙水に対する濃縮係数	12	0.0633	0.0098	0.0500	0.0800	Fow83
Tc-95m	ロブスター、カニ　体液	5	109.26	136.07	1.00	333.00	Be81
Tc-95m	ロブスター、カニ　身	5	349.32	349.02	0.60	763.00	Be81, Sw85
Tc-95m	ロブスター、カニ　全体	13	301.32	477.08	2.00	1400.00	Co85, Mas81, Pe81, Sw85
Tc-95m	表在性動物　全体	4	6.38	3.90	3.00	10.00	Be81, Mas81
Tc-95m	魚類　体液	6	7.87	7.65	2.20	20.00	Be81
Tc-95m	魚類　消化器官	5	60.52	64.53	2.00	133.00	Be81, Mas81
Tc-95m	魚類　排泄器	7	116.29	112.75	8.00	272.00	Be81, Pe81
Tc-95m	魚類　肉	4	0.3825	0.1721	0.1400	0.5100	Be81, Mas81, Pe81
Tc-95m	魚類　全体	4	6.10	3.15	1.70	8.70	Be81, Mas81, Pe81
Tc-95m	埋在性動物　全体	8	302.38	360.24	10.00	1100.00	Fow81, Mas81, Pe81
Tc-95m	埋在性動物　全体、海底堆積物に対する濃縮係数	6	0.2963	0.1887	0.0280	0.4800	Mas81
Tc-95m	植物プランクトン	14	3.50	5.03	0.00	17.00	Fi82
Tc-95m	褐藻類	7	2677.00	4187.41	14.00	12000.00	Top84, Bo88
Cs-134	ヌマエビ属十脚類	10	11.51	7.11	0.95	20.00	Bon78, Hi64II, Mo64
Cs-134	ロブスター、カニ、呼吸器	5	8.36	1.55	6.00	10.30	Bry61
Cs-134	ロブスター、カニ、肝膵臓	5	20.08	5.61	11.90	25.90	Bry61
Cs-134	ロブスター、カニ、身	5	13.10	2.67	11.30	17.70	Bry61
Cs-134	ロブスター、カニ、全体	10	6.04	1.45	4.00	8.50	Bon78, Bry61, Mo64
Cs-134	ロブスター、カニ、体液	5	1.41	0.12	1.26	1.56	Bry61
Cs-134	魚類　呼吸器	3	5.53	3.88	3.00	10.00	Hi64II, Jef71
Cs-134	魚類　消化器官	3	10.80	5.01	5.30	15.10	Hi64II, Jef71

核種	供試生物（生物種，部位）	実験データ数	平均値	標準偏差	最低値	最高値	引用文献
Cs-134	魚類　排泄器	5	7.16	3.87	2.70	11.40	Hi64II, Jef71
Cs-134	魚類　肉	3	15.83	11.96	2.30	25.00	Hi64II, Jef71
Cs-134	魚類　骨	3	3.57	1.80	1.80	5.40	Hi64II, Jef71
Cs-134	魚類　全体	15	3.52	2.73	0.50	10.60	Jef71, Mo64
Cs-134	魚類　皮	3	4.70	1.66	2.80	5.90	Hi64II, Jef71
Cs-134	二枚貝　全体	5	2.44	0.80	1.70	3.50	Bon78, Mo64
Cs-134	緑藻類	16	5.23	7.98	0.12	28.00	Bon81, Hi64II
Cs-134	褐藻類	3	27.33	24.11	2.00	50.00	Bol81, Bon81, Sc54
Cs-134	紅藻類	4	2.65	1.08	1.60	4.00	Bon78, Bon81, Hi64II
Cs-134	海藻類	23	7.67	12.57	0.12	50.00	Bon78, Bon81, Hi64II, Sc54
Cs-137	二枚貝　身	40	11.27	14.13	3.00	97.00	Am75, An68, Bry63, Cr75, Har73, Pol61a, Pol64, Pr65
Cs-137	二枚貝　体液	7	1.56	0.69	1.10	3.10	Bry63, Cr75, Har73
Cs-137	二枚貝　消化器管	10	10.16	2.90	4.00	13.70	Bry63, Cr75, Har73
Cs-137	二枚貝　呼吸器管	5	8.68	1.83	6.20	10.30	Bry63, Cr75, Har73
Cs-137	二枚貝　貝殻	15	1.43	2.52	0.00	9.20	Am75, An68, Bry63, Cr75, Po64
Cs-137	二枚貝　全体	10	20.64	44.17	2.30	146.00	Ar66, Bry63, Cr75, Har73, Pol61a, Ue78, Wo70, Ue85
Cs-137	頭足類　身	5	6.44	1.80	3.50	8.30	Su78
Cs-137	頭足類　消化器管	6	7.35	2.96	4.70	12.80	Su78
Cs-137	ヌマエビ属十脚類　全体	5	22.80	8.86	12.40	34.00	An68, Bry62, Le70
Cs-137	クルマエビ属十脚類　排泄器	5	34.56	13.91	20.60	54.00	Bry62
Cs-137	クルマエビ属十脚類　呼吸器	3	31.30	3.76	27.70	35.20	Bry62

核種	供試生物（生物種，部位）	実験ﾃﾞｰﾀ数	平均値	標準偏差	最低値	最高値	引用文献
Cs-137	クルマエビ属十脚類　身	3	24.80	3.08	21.40	27.40	Bry62
Cs-137	クルマエビ属十脚類　全体	3	23.87	6.28	17.10	29.50	Bry62
Cs-137	ロブスター、カニ　体液	3	1.04	0.04	1.00	1.07	Bry62, Bry65
Cs-137	ロブスター、カニ　排泄器	6	22.75	7.33	9.40	29.90	Bry62, Bry65
Cs-137	ロブスター、カニ　呼吸器	3	13.93	6.62	6.40	18.80	Bry62, Bry65
Cs-137	ロブスター、カニ　身	3	13.70	1.15	12.60	14.90	Bry62, Bry65
Cs-137	表在性動物　身	4	18.28	1.24	16.60	19.60	Bry63
Cs-137	表在性動物　消火器等	9	10.57	7.05	4.60	28.10	Bry63
Cs-137	表在性動物　全体	31	13.90	16.00	4.00	66.00	An68, Bry63, Po169a
Cs-137	魚類　生殖器	3	6.27	4.56	1.00	9.00	Iv72, Pe73
Cs-137	魚類　肉	4	20.13	13.49	4.50	36.00	An68, Ava68, Bap62
Cs-137	魚類　全体	7	14.16	8.31	4.20	26.10	An68, Ava68, Bap62, Iv72, Kim84
Cs-137	埋在性動物　全体、海底堆積物に対する濃縮係数	5	1.04	1.93	0.16	4.50	Am75, Ue77
Cs-137	埋在性動物　全体	6	5.30	1.44	2.50	6.30	Am75, Bry63, Ue77, Ue78
Cs-137	植物プランクトン、乾燥重量から計算した濃縮係数	6	102.00	148.49	11.50	403.00	St76
Cs-137	植物プランクトン	8	1.73	0.97	0.00	3.10	Bor57, Ma58
Cs-137	緑藻類	23	5.90	9.05	0.14	37.00	An68, Bon81, Gu65, Po64, Ry72
Cs-137	褐藻類	14	25.95	51.04	2.00	200.00	An68, Bon81, Gu65, Po64, Ry72
Cs-137	紅藻類	26	11.40	10.47	1.30	50.00	An68, Bon81, Bor57, Gu65, Po64, Ry72, Ue78, Ue85
Cs-137	海藻類	63	12.63	26.02	0.14	200.00	An68, Bon81, Bor57, Gu65, Po161a, Po64, Ry72, Ue78, Ue85
Cs-137	動物プランクトン	6	7.69	4.73	2.66	14.00	Bry63, Ri72

核　　種	供試生物（生物種，部位）	実験ﾃﾞｰﾀ 数	平 均 値	標準偏差	最 低 値	最 高 値	引　　用　　文　　献
Co-60	紅藻類、海底堆積物に対する濃縮係数	3	0.0363	0.0067	0.0320	0.0440	Ue85
Co-60	紅藻類	7	351.00	242.89	110.00	833.00	Bon78, Hi64I, Ue85
Co-60	海藻類	24	354.50	513.90	5.00	2574.00	Bon78, Hi64I, Kir77, Na75, Ue85
Co-60	海藻類　海底堆積物に対する濃縮係数	5	0.0552	0.0443	0.0320	0.1340	Ue85
Sr,Y-90	二枚貝　身	4	0.74	0.13	0.60	0.90	Hi64II, Po61a, Po64
Sr,Y-90	魚類　生殖器	10	51.82	62.55	0.80	191.00	Iv72, Pe73
Sr,Y-90	魚類　全体	10	23.30	42.29	0.80	114.00	Iv72, Te59
Sr,Y-90	緑藻類	21	0.79	1.42	0.23	6.70	Ham67, Hi64II, Po64, Ry72
Sr,Y-90	褐藻類　抽出物	13	114.62	170.47	3.30	439.10	Ry74, Ry76
Sr,Y-90	褐藻類	9	28.31	12.94	6.40	44.00	Po61a, Po64, Ry72, Sp74
Sr,Y-90	紅藻類	12	3.15	2.38	1.00	8.00	Hi64II, Po64, Ry72
Sr,Y-90	海藻類	57	31.65	91.73	0.23	439.10	Ham67, Hi64I, Hi64II, Po64, Ry72, Ry74, Ry76, Sp49
Sr,Y-90	動物プランクトン　全体	13	4.11	8.34	0.10	29.00	Bor58, To176
Tc-95m	二枚貝　身	36	1.69	0.80	0.56	3.90	Be81, Fow81
Tc-95m	二枚貝　貝殻／足糸	25	2.86	2.61	0.19	8.43	Be82, Fow81, Fow83
Tc-95m	二枚貝　呼吸器	14	1.94	0.90	0.79	4.10	Be82, Fow81, Fow83
Tc-95m	二枚貝　消化器官	13	10.26	6.22	1.57	21.00	Be82, Fow81
Tc-95m	二枚貝　身、海底堆積物に対する濃縮係数	15	0.1913	0.0491	0.0800	0.3000	Fow83
Tc-95m	二枚貝　身、海底堆積物間隙水に対する濃縮係数	15	0.0980	0.0278	0.0400	0.1600	Fow83
Tc-95m	二枚貝　全体、海底堆積物に対する濃縮係数	13	0.1169	0.0170	0.0900	0.1400	As84a, Fow83
Tc-95m	二枚貝　全体	5	1.03	0.51	0.49	1.50	As84a, Fow83

核　　種	供試生物（生物種，部位）	実験ﾃﾞｰﾀ数	平均値	標準偏差	最低値	最高値	引　　用　　文　　献
Pb-210	植物プランクトン、容積から計算した濃縮係数	14	255857.14	696389.60	5500.00	2640000.00	Fi83b, Fi87
	植物プランクトン、乾燥重量から計算した濃縮係数	5	2366000.00	831954.06	30000.00	11000000.00	Fi87
Po-210	植物プランクトン	4	51100.00	50162	80	7400.00	Fi83b
Ra-226	褐藻類	4	82.00	16.79	7400.00	99.00	Bon81
Ra-226	海藻類	5	65.76	39.12	0.80	99.00	Bon81
Np-235	植物プランクトン	12	68.75	30.76	15.00	120.00	Fi83a
Np-237	二枚貝　身	3	6.67	7.23	2.00	15.00	Gua77, Gua78
Np-237	二枚貝　貝殻	3	41.67	20.21	20.00	60.00	Gua77, Gua78
Np-237	二枚貝　全体	3	14.00	6.56	7.00	15.00	Gua77, Gua78
*Pu	二枚貝　貝殻	5	1538.00	1190.72	200.00	2900.00	Fow75, Gr81, Mi82, Mi85
*Pu	二枚貝　身	5	57.00	64.48	5.00	160.00	Gr81, Mi82, Mi85
Pu-237	頭足類　身	3	41.67	34.03	15.00	80.00	Gia821
Pu-237	頭足類　排泄器	3	35.67	24.83	7.00	50.00	Gua821
Pu-237	ヌマエビ属十脚類　全体	3	124.67	33.25	94.00	160.00	Fow75
*Pu	ロブスター、カニ、身	3	5.33	2.52	3.00	8.00	Gua80, Wa66
Pu-237	ロブスター、カニ、消化器管	9	107.22	89.83	5.00	230.00	Gua80, Gua81, Gua8211
Pu-237	表在性動物、体壁	4	521.25	411.59	10.00	1000.00	Gua80, Gua81, Gua8211
Pu-237	表在性動物、体液	4	15.38	16.89	0.50	30.00	Gua80, Gua81, Gua8211
*Pu	表在性動物　全体	7	257.57	272.88	7.00	700.00	As84b, Ca85, Gua81, Mi82
Pu-237	魚類　消化器管	6	9.08	7.79	1.20	19.00	Pe78
Pu-237	埋在性動物　全体	5	179.20	138.02	58.00	370.00	As84b, Gr81
Pu-237	植物プランクトン	12	173333.33	14345.89	30000.00	380000.00	Fi83b

核　種	供試生物（生物種，部位）	実験ﾃﾞｰﾀ数	平均値	標準偏差	最低値	最高値	引　用　文　献
Pu-237	植物プランクトン、細胞の容積から計算した濃縮係数	12	237500.00	195547.02	30000.00	630000.00	Fi83b
Pu-237	植物プランクトン、吸着濃縮係数	8	37650.00	18587.86	8100.00	72300.00	Z170
Am-241	二枚貝　貝類	7	265.36	203.55	8.50	580.00	Gua80
Am-241	二枚貝　身	9	207.83	384.34	21.50	1200.00	Gr81, Mi81, Mi85
Am-241	二枚貝　身、海底堆積物に対する濃縮係数	7	0.0071	0.0047	0.0011	0.0140	Mi81, Mi85, Vang83
Am-241	二枚貝　体液、海底堆積物に対する濃縮係数	4	0.0028	0.0018	0.0008	0.0050	Mi81, Mi85, Vang83
Am-241	二枚貝　貝殻、海底堆積物に対する濃縮係数	6	0.0087	0.0056	0.0030	0.0190	Mi81, Mi85, Vang83
Am-241	頭足類　呼吸器	3	2440.00	4035.69	100.00	7100.00	Gua81, Gua821
Am-241	頭足類　排泄器	3	20.00	0.00	20.00	20.00	Gua81, Gua821
Am-241	表在性動物　全体	7	370.29	442.58	20.00	1200.00	Gr81, Mi81
Am-241	表在性動物　消化器等	7	72.14	63.70	15.00	175.00	Gua81, Gua821
Am-241	表在性動物　体液	3	2.57	2.21	0.70	5.00	Gua81, Gua821
Am-241	埋在性動物、全体、海底堆積物に対する濃縮係数	8	0.0017	0.0012	0.0004	0.0043	Be76

＊　全てのPu放射性核種のデータが含まれている。

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