

# EXFOR News (August 2020)

## New experimental data available from Nuclear Reaction Data Centres

EXFOR [1] is a world-wide data library for experimental neutron, charged-particle and photon induced reaction data compiled by the [International Network of the Nuclear Reaction Data Centres \(NRDC\)](#)<sup>a</sup> coordinated by the [IAEA Nuclear Data Section](#). Regularly updated web retrieval databases are available at [IAEA-NDS](#) as well as [NNDC](#), [NEADB](#), [JCPRG](#) and [CDFE](#).

This News lists newly created EXFOR entries as well as revised EXFOR entries where new data subentries are added. Entries from articles published in past 10 years are flagged by asterisks (\*). Please send an email to the NRDC Coordinator ([n.otsuka@iaea.org](mailto:n.otsuka@iaea.org)) for inclusion in the EXFOR News distribution list as well as any question on EXFOR.

[1] N. Otuka, E. Dupont, V. Semkova, B. Pritychenko et al., [Nucl.Data.Sheets](#) **120**(2014)272.

### Quantity codes

ALF	$\alpha$ -value ( $\sigma_{\text{capt}}/\sigma_{\text{fis}}$ )	KE	Kinetic energy
AMP	Length or amplitude	INT	Cross section integral over incident energy
CHG	Fragment charge	KER	Kerma factor
CS	Cross section	MAS	Fragment mass
CSP	Partial cross section	MFQ	Differential fission neutron multiplicity
CST	Temperature dependent cross section	MLT	Multiplicity
D3A	Triple differential $d\Omega_1/d\Omega_2/dE'$	NQ	Nuclear quantity
D3E	Triple differential $d\Omega/dE'_1/dE'_2$	NU	Fission neutron multiplicity $\bar{\nu}$
D4A	Quadruple diff. $d\Omega_1/d\Omega_2/dE'_1/dE'_2$	NUD	Delayed fission neutron multiplicity $\bar{\nu}_d$
DA	Differential $d/d\Omega$	POL	Polarization
DAA	Double differential $d\Omega_1/d\Omega_2$	POD	Differential polarization
DAE	Double differential $d\Omega/dE'$	PY	Product yield (other than fission)
DAP	Partial differential $d/d\Omega$	RI	Resonance integral
DAT	Temperature-dependent Legendre coefficient	RP	Resonance parameter
DE	Differential $d/dE'$	RR	Reaction rate
DEP	Energy spectrum for specific group	SIF	Self indication
DP	Diff. by linear momentum of outgoing part.	SPC	Gamma spectrum
DT	Diff. by 4-momentum transfer squared	TSL	Thermal scattering
ETA	$\eta$ -value = $\bar{\nu}\sigma_{\text{fis}}/(\sigma_{\text{capt}} + \sigma_{\text{fis}})$	TT	Thick target yield
EVL	Evaluation	TTD	Differential thick target yield, $d/d\Omega$
FY	Fission product yield	TTP	Partial thick target yield

### Special codes in outgoing particle field

abs	Absorption	fus	Fusion	sct	Scattering	tot	Total
el	Elastic	inel	Inelastic	tex	Total charge changing		
fis	Fission	non	Nonelastic	ths	Thermal scattering		

### Special codes in incident energy field

Fast	Fast reactor spectrum average	Maxw	Maxwellian spectrum average
Fiss	Fission spectrum average	Spont	Spontaneous (for fission)

<sup>a</sup> [NNDC](#) (USA), [NEADB](#) (France), [NDS](#) (Austria), [CJD](#) (Russia), [CNDC](#) (China), [ATOMKI](#) (Hungary), [NDPCI](#) (India), [JAEA](#) (Japan), [JCPRG](#) (Japan), [KAERI](#) (Korea), [CDFE](#) (Russia), [CNPD](#) (Russia), [UkrNDC](#) (Ukraine)

**1 Hydrogen 1**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^7\text{B,eI}$	$^1\text{H}$	?	2GERGSI	7.0+08	7.0+08	Jour	<a href="#">NP/A,989,40</a>	19	A.V.Dobrovolsky+	<a href="#">O2456</a>
* $^8\text{B,eI}$	$^1\text{H}$	?	2GERGSI	7.0+08	7.0+08	Jour	<a href="#">NP/A,989,40</a>	19	A.V.Dobrovolsky+	<a href="#">O2456</a>
* $^{63}\text{V},2p$	$^{62}\text{Ti}$	?	2JPNIPC	1.5+10	1.5+10	Jour	<a href="#">PL/B,800,135071</a>	20	M.L.Cortes+	<a href="#">E2634</a>
* $^{70}\text{Ni},2p$	$^{69}\text{Co}$	?	2JPNIPC	1.8+10	1.8+10	Jour	<a href="#">PR/C,101,034314</a>	20	T.Lokotko+	<a href="#">E2655</a>
* $^{72}\text{Ni},2p$	$^{71}\text{Co}$	?	2JPNIPC	1.7+10	1.7+10	Jour	<a href="#">PR/C,101,034314</a>	20	T.Lokotko+	<a href="#">E2655</a>
* $^{74}\text{Ni},2p$	$^{73}\text{Co}$	?	2JPNIPC	1.7+10	1.7+10	Jour	<a href="#">PR/C,101,034314</a>	20	T.Lokotko+	<a href="#">E2655</a>
* $^{93}\text{Nb},x$	Many	?	2JPNIPC	1.1+10	1.1+10	Jour	<a href="#">PR/C,100,044605</a>	19	K.Nakano+	<a href="#">E2641</a>
* $^{132}\text{Sn},n$	$^{132}\text{Sb}$	?	2JPNIPC	2.9+10	2.9+10	Jour	<a href="#">PRL,121,132501</a>	18	J.Yasuda+	<a href="#">E2625</a>

**1 Hydrogen 2**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{11}\text{Be,eI}$	$^2\text{H}$	?	2JPNOSA	3.0+08	3.0+08	Jour	<a href="#">PR/C,94,064620</a>	16	J.Chen+	<a href="#">E2527</a>
* $^{11}\text{Be,inel}$	$^2\text{H}$	?	2JPNOSA	3.0+08	3.0+08	Jour	<a href="#">PR/C,94,064620</a>	16	J.Chen+	<a href="#">E2527</a>
* $^{93}\text{Nb},x$	Many	CS	2JPNIPC	1.1+10	1.1+10	Jour	<a href="#">PR/C,100,044605</a>	19	K.Nakano+	<a href="#">E2641</a>
* $^{93}\text{Nb},x$	Many	?	2JPNIPC	1.1+10	1.1+10	Jour	<a href="#">PR/C,100,044605</a>	19	K.Nakano+	<a href="#">E2641</a>

**2 Helium 4**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{10}\text{C,eI}$	$^4\text{He}$	?	2JPNOSA	6.8+08	6.8+08	Jour	<a href="#">PR/C,100,054322</a>	19	T.Furuno+	<a href="#">E2642</a>
* $^{10}\text{C,inel}$	$^4\text{He}$	?	2JPNOSA	6.8+08	6.8+08	Jour	<a href="#">PR/C,100,054322</a>	19	T.Furuno+	<a href="#">E2642</a>
* $^{12}\text{C,eI}$	$^4\text{He}$	?	2JPNOSA	1.1+09	1.1+09	Jour	<a href="#">PR/C,100,054322</a>	19	T.Furuno+	<a href="#">E2642</a>
* $^{132}\text{Sn},x$	$^{131}\text{In}$	?	2JPNIPC	2.7+10	2.7+10	Jour	<a href="#">PRL,124,022501</a>	20	V.Vaquero+	<a href="#">E2646</a>
* $^{132}\text{Sn},x$	$^{131}\text{Sn}$	?	2JPNIPC	2.7+10	2.7+10	Jour	<a href="#">PRL,124,022501</a>	20	V.Vaquero+	<a href="#">E2646</a>

**3 Lithium**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$d,x+n$	inclusive	PY	3CZRUF	1.6+07	1.7+07	Rept	ISINN-12,168	04	P.Bem+	<a href="#">D0976</a>

**3 Lithium 6**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$d,n$	$^7\text{Be}$	DAP	4UZ UZB	1.5+07	1.5+07	Jour	YF,22,225	75	S.A.Azimov+	<a href="#">A1127</a>
$d,x+^3\text{He}$	inclusive	DAE	1USAPUP	1.5+07	1.5+07	Jour	<a href="#">PR,117,781</a>	60	E.W.Hamburger+	<a href="#">A1379</a>
$d,x+n$	inclusive	DA	3CPRAEP	3.7+06	5.0+06	Jour	CST,11,10	77	Liang Qichang+	<a href="#">S0002</a>

*d,x+t* inclusive DAE 1USAPUP 1.5+07 1.5+07 Jour [PR,117,781](#) 60 E.W.Hamburger+ [A1379](#)

### 3 Lithium 7

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,el</i>	<sup>7</sup> Li	DA	4KASKAZ	4.0+05	9.9+05	Jour	<a href="#">IMP/E,20,980</a>	11	A.Amar+	<a href="#">D8002</a>
<i>d,n</i>	<sup>8</sup> Be	DAP	4UZ UZB	1.5+07	1.5+07	Jour	YF,22,225	75	S.A.Azimov+	<a href="#">A1127</a>
<i>d,x+n</i>	inclusive	DA	3CPRAEP	3.7+06	5.0+06	Jour	CST,11,10	77	Liang Qichang+	<a href="#">S0002</a>
<i>d,x+n</i>	inclusive	DAE	3CZRUF	1.6+07	1.6+07	Rept	ISINN-12,168	04	P.Bem+	<a href="#">D0976</a>
* <sup>6</sup> Li, <i>d</i>	<sup>11</sup> B	DAP	3CPRAEP	2.4+07	2.4+07	Jour	<a href="#">PL/B,797,134820</a>	19	Y.P.Shen+	<a href="#">S0220</a>
* <sup>6</sup> Li, <i>el</i>	<sup>7</sup> Li	DA	3CPRAEP	2.4+07	2.4+07	Jour	<a href="#">PL/B,797,134820</a>	19	Y.P.Shen+	<a href="#">S0220</a>

### 4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,n</i>	<sup>9</sup> B	CS	2JPNETL	2.6+06	2.6+06	Jour	JJAP,3,(1),36	64	E.Teranishi+	<a href="#">F0177</a>
* <i>d,el</i>	<sup>9</sup> Be	DA	2GRCATH	1.9+06	2.2+06	Jour	<a href="#">NIM/B,459,90</a>	19	E.Ntemou+	<a href="#">O2454</a>
<i>d,el</i>	<sup>9</sup> Be	DA	1USAMHG	7.8+06	7.8+06	Jour	<a href="#">PR,127,926</a>	62	J.A.Green+	<a href="#">F0201</a>
<i>d,el</i>	<sup>9</sup> Be	POD	3AULCBR	6.3+06	6.3+06	Jour	<a href="#">NP/A,163,131</a>	71	A.Djaloeis+	<a href="#">F0176</a>
<i>d,n</i>	<sup>10</sup> B	DAP	4UZ UZB	1.5+07	1.5+07	Jour	YF,22,225	75	S.A.Azimov+	<a href="#">A1127</a>
<i>d,p</i>	<sup>10</sup> Be	POD	1USAMHG	7.8+06	7.8+06	Jour	<a href="#">PR,127,926</a>	62	J.A.Green+	<a href="#">F0201</a>
<i>t,n</i>	<sup>11</sup> B	CSP	4ZZZDUB	1.1+06	1.3+06	Jour	APP/B,8,309	77	K.Malushinska+	<a href="#">A0014</a>
<i>t,n</i>	<sup>11</sup> B	DAP	4ZZZDUB	1.1+06	1.3+06	Jour	APP/B,8,309	77	K.Malushinska+	<a href="#">A0014</a>
* <sup>3</sup> He, <i>p</i>	<sup>11</sup> B	DAP	3CRORBZ	1.3+06	2.9+06	Jour	<a href="#">NIM/B,472,36</a>	20	G.Provatas+	<a href="#">D0977</a>
<i>α,n</i>	<sup>12</sup> C	DAP	1CANOTC	1.5+06	7.5+06	Jour	<a href="#">NP/A,152,481</a>	70	L.Vanderzwan+	<a href="#">F0175</a>
* <sup>48</sup> Ca, <i>fis</i>	Many	CS	2JPNIPC	1.7+10	1.7+10	Jour	<a href="#">PRL,123,212501</a>	19	D.S.Ahn+	<a href="#">E2645</a>
* <sup>238</sup> U, <sup>8</sup> Be+ <i>fis</i>	Many	?	2FR GAN	1.4+09	1.4+09	Jour	<a href="#">PRL,123,092503</a>	19	D.Ramos+	<a href="#">O2464</a>

### 5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,α</i>	<sup>7</sup> Be	CSP	2ITYPAD	2.5+05	1.8+06	Jour	<a href="#">EPJ/A,55,171</a>	19	A.Cacioli+	<a href="#">O2449</a>
* <i>p,el</i>	<sup>10</sup> B	DA	4KASKAZ	4.0+05	1.2+06	Jour	<a href="#">IMP/E,20,980</a>	11	A.Amar+	<a href="#">D8002</a>

### 5 Boron 11

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,el</i>	<sup>11</sup> B	DA	4KASKAZ	5.4+05	1.2+06	Jour	<a href="#">IMP/E,20,980</a>	11	A.Amar+	<a href="#">D8002</a>
<i>p,γ</i>		RP	1USACAL	1.6+05	1.4+06	Jour	<a href="#">PR,91,599</a>	53	T.Huus+	<a href="#">F0363</a>

## 6 Carbon

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$p,x$	$^{11}\text{C}$	CS	4ZZZDUB	1.5+08	6.6+08	Jour	ZET,32,(1),177	57	Ju.D.Prokoshkin+	A0065
*	$p,x+p$	inclusive	DAE	2JPNIRS	4.0+07	7.0+07	Jour	<a href="#">NIM/A,953,163158</a>	20	Y.Yamaguchi+	E2651
*	$^{93}\text{Nb},x$	Many	CS	2JPNIPC	1.1+10	1.1+10	Jour	<a href="#">PR/C,100,044605</a>	19	K.Nakano+	E2641

## 6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,\alpha$	$^9\text{Be}$	CSP	3CZRUF	1.7+07	3.4+07	Jour	<a href="#">NIM/A,951,163014</a>	20	M.Majerle+	31821
*	$n,d$	$^{11}\text{B}$	CSP	3CZRUF	1.7+07	3.4+07	Jour	<a href="#">NIM/A,951,163014</a>	20	M.Majerle+	31821
*	$n,p$	$^{12}\text{B}$	CSP	3CZRUF	1.7+07	3.1+07	Jour	<a href="#">NIM/A,951,163014</a>	20	M.Majerle+	31821
	$d,n$	$^{13}\text{N}$	DAP	4UZ UZB	1.5+07	1.5+07	Jour	YF,22,225	75	S.A.Azimov+	A1127
	$d,p$	$^{13}\text{C}$	DA	1USAMIN	3.3+06	3.3+06	Jour	<a href="#">PR,95,1544</a>	54	H.D.Holmgren+	F0078
	$t,\alpha$	$^{11}\text{B}$	DAP	2UK ALD	1.0+07	1.0+07	Jour	<a href="#">NP,36,1</a>	62	D.J.Pullen+	F0179
*	$^{11}\text{B},^7\text{Li}$	$^{16}\text{O}$	DAP	3CPRAEP	5.0+07	5.0+07	Jour	<a href="#">PRL,124,162701</a>	20	Y.P.Shen+	S0230

## 6 Carbon 13

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\alpha,\text{inel}$	$^{13}\text{C}$	DAP	4KASKAZ	2.9+07	2.9+07	Jour	<a href="#">IMP/E,27,1850025</a>	18	N.Burtebayev+	D8003

## 7 Nitrogen 15

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$p,\text{tot}$		RP	2GERMST			Jour	<a href="#">ZP/A,305,325</a>	82	A.Redder+	A0142

## 8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$d,p$	$^{17}\text{O}$	DAP	3CPRAEP	1.5+07	1.5+07	Jour	<a href="#">NP/A,986,26</a>	19	T.L.Ma+	S0218
	$d,x+n$	inclusive	DA	3CPRAEP	3.7+06	5.0+06	Jour	CST,11,10	77	Liang Qichang+	S0002
*	$^{12}\text{C},\text{el}$	$^{16}\text{O}$	DA	4KASKAZ	2.1+07	2.1+07	Jour	<a href="#">IMP/E,20,980</a>	11	A.Amar+	D8002

## 11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$d,\text{el}$	$^{23}\text{Na}$	DA	2GRCATH	1.2+06	2.4+06	Jour	<a href="#">NIM/B,461,124</a>	19	E.Ntemou+	O2455

**12 Magnesium 24**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,\alpha$	$^{21}\text{Ne}$	CSP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">BAS,84,367</a>	20	N.A.Fedorov+	<a href="#">41685</a>
*	$n,\alpha$	$^{21}\text{Ne}$	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">BAS,84,367</a>	20	N.A.Fedorov+	<a href="#">41685</a>
*	$n,\text{inel}$	$^{24}\text{Mg}$	CSP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">BAS,84,367</a>	20	N.A.Fedorov+	<a href="#">41685</a>
*	$n,\text{inel}$	$^{24}\text{Mg}$	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">BAS,84,367</a>	20	N.A.Fedorov+	<a href="#">41685</a>
*	$n,x$	$^{23}\text{Na}$	CSP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">BAS,84,367</a>	20	N.A.Fedorov+	<a href="#">41685</a>

**13 Aluminium 27**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,\text{inel}$	$^{27}\text{Al}$	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">PAN,82,343</a>	19	N.A.Fedorov+	<a href="#">41684</a>
*	$n,x$	$^{26}\text{Mg}$	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	<a href="#">PAN,82,343</a>	19	N.A.Fedorov+	<a href="#">41684</a>
*	$p,x+p$	inclusive	DAE	2JPNIRS	4.0+07	7.0+07	Jour	<a href="#">NIM/A,953,163158</a>	20	Y.Yamaguchi+	<a href="#">E2651</a>

**14 Silicon**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$^{28}\text{Si},x+n$	inclusive		2JPNIRS	2.8+09	8.1+09	Jour	<a href="#">NIM/B,445,26</a>	19	E.Lee+	<a href="#">E2628</a>
*	$^{28}\text{Si},x+n$	inclusive	PY	2JPNIRS	2.8+09	8.1+09	Jour	<a href="#">NIM/B,445,26</a>	19	E.Lee+	<a href="#">E2628</a>

**15 Phosphorus 31**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$d,\text{el}$	$^{31}\text{P}$	DA	2GRCATH	1.2+06	2.4+06	Jour	<a href="#">NIM/B,459,84</a>	19	E.Ntemou+	<a href="#">O2460</a>

**21 Scandium 45**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$^{16}\text{O},x$	$^{48}\text{Cr}$	CS	3INDVEC	6.6+07	1.1+08	Jour	<a href="#">JPI,82,114201</a>	13	D.Singh+	<a href="#">D6298</a>

**22 Titanium**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$p,x$	$^{43}\text{Sc}$	CS	3EGYCAI	4.4+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
*	$p,x$	$^{44}\text{Sc}$	CS	3EGYCAI	3.1+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
*	$p,x$	$^{47}\text{Sc}$	CS	3EGYCAI	3.1+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>

\*  $p,x$   $^{48}\text{V}$  CS 3EGYCAI 4.4+06 1.3+07 Jour [NP/A,999,121790](#) 20 A.Azzam+ [D0978](#)

22 Titanium 46

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,p$	$^{46}\text{Sc}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>

22 Titanium 47

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,p$	$^{47}\text{Sc}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>

22 Titanium 48

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,p$	$^{48}\text{Sc}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>

22 Titanium 50

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha,d$	$^{52}\text{V}$	DAP	2JPNOSA	2.4+07	2.4+07	Jour	<a href="#">NP/A,349,125</a>	80	K.Okada+	<a href="#">E2570</a>
* $^{36}\text{S}_{,fus}$		CS	2ITYPAD	4.2+07	5.6+07	Jour	<a href="#">EPJ/A,55,111</a>	19	G.Colucci+	<a href="#">D8019</a>
* $^{36}\text{S}_{,fus}$		DA	2ITYPAD	8.0+07	9.0+07	Jour	<a href="#">EPJ/A,55,111</a>	19	G.Colucci+	<a href="#">D8019</a>

23 Vanadium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,x$	$^{46}\text{Sc}$	CS	2FR NTE	3.1+07	7.0+07	Jour	<a href="#">JRN,322,1711</a>	19	G.Pupillo+	<a href="#">O2450</a>
* $p,x$	$^{47}\text{Sc}$	CS	2FR NTE	2.6+07	7.0+07	Jour	<a href="#">JRN,322,1711</a>	19	G.Pupillo+	<a href="#">O2450</a>

23 Vanadium 51

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{36}\text{S}_{,fus}$		CS	2ITYPAD	4.4+07	5.8+07	Jour	<a href="#">EPJ/A,55,111</a>	19	G.Colucci+	<a href="#">D8019</a>
* $^{36}\text{S}_{,fus}$		DA	2ITYPAD	8.0+07	9.0+07	Jour	<a href="#">EPJ/A,55,111</a>	19	G.Colucci+	<a href="#">D8019</a>

24 Chromium 52

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	$n,0$	RP	4UKRIJD			Jour	<a href="#">YFE,17,411</a>	16	O.O.Gritzay+	<a href="#">32243</a>
*	$p,e1$	$^{52}\text{Cr}$	2GERLMU	2.4+07	2.4+07	Jour	<a href="#">PR/C,100,014320</a>	19	K.G.Leach+	<a href="#">O2309</a>

24 Chromium 53

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	$p,n$	$^{53}\text{Mn}$	2JPNETL	1.4+06	2.2+06	Jour	<a href="#">JJAP,3,(1),36</a>	64	E.Teranishi+	<a href="#">F0177</a>

25 Manganese 53

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	$n,x+p$	inclusive	3INDTRM	8.2+06	1.6+07	Jour	<a href="#">PR/C,100,054613</a>	19	R.Gandhi+	<a href="#">33138</a>

26 Iron 54

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	$n,p$	$^{54}\text{Mn}$	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>
	$\alpha,d$	$^{56}\text{Co}$	2JPNOSA	2.4+07	2.4+07	Jour	<a href="#">NP/A,349,125</a>	80	K.Okada+	<a href="#">E2570</a>

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	$\alpha,d$	$^{58}\text{Co}$	2JPNOSA	2.4+07	2.4+07	Jour	<a href="#">NP/A,349,125</a>	80	K.Okada+	<a href="#">E2570</a>

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\alpha,x$	$^{56}\text{Co}$	CS	3KORKRM	3.2+07	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>
*	$\alpha,x$	$^{57}\text{Co}$	CS	3KORKRM	1.7+07	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>
*	$\alpha,x$	$^{58}\text{Co}$	CS	3KORKRM	3.0+07	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>
*	$\alpha,x$	$^{56}\text{Ni}$	CS	3KORKRM	3.3+07	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>
*	$\alpha,x$	$^{62}\text{Zn}$	CS	3KORKRM	1.8+07	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>
*	$\alpha,x$	$^{63}\text{Zn}$	CS	3KORKRM	4.8+06	3.6+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>
*	$\alpha,x$	$^{65}\text{Zn}$	CS	3KORKRM	7.7+06	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,x$	$^{57}\text{Co}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>
$\alpha,e1$	$^{58}\text{Ni}$	DA	2JPNTOK	3.4+07	3.4+07	Jour	<a href="#">NP/A,119,449</a>	68	M.Inoue	<a href="#">E2573</a>
$\alpha,inel$	$^{58}\text{Ni}$	DAP	2JPNTOK	3.4+07	3.4+07	Jour	<a href="#">NP/A,119,449</a>	68	M.Inoue	<a href="#">E2573</a>
* $\alpha,x$	$^{57}\text{Ni}$	CS	3KORKRM	1.8+07	4.3+07	Jour	<a href="#">EPJ/A,53,100</a>	17	M.S.Uddin+	<a href="#">D7026</a>

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha,e1$	$^{60}\text{Ni}$	DA	2JPNTOK	3.4+07	3.4+07	Jour	<a href="#">NP/A,119,449</a>	68	M.Inoue	<a href="#">E2573</a>
$\alpha,inel$	$^{60}\text{Ni}$	DAP	2JPNTOK	3.4+07	3.4+07	Jour	<a href="#">NP/A,119,449</a>	68	M.Inoue	<a href="#">E2573</a>

28 Nickel 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{36}\text{Ar},x$	Many	DA	3CPRIMP	1.8+09	1.8+09	Jour	<a href="#">IMP/E,19,1815</a>	10	W.D.Tian+	<a href="#">S0182</a>
* $^{40}\text{Ar},x$	Many	DA	3CPRIMP	2.0+09	2.0+09	Jour	<a href="#">IMP/E,19,1815</a>	10	W.D.Tian+	<a href="#">S0182</a>

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,x+p$	inclusive	DAE	2JPNIRS	4.0+07	7.0+07	Jour	<a href="#">NIM/A,953,163158</a>	20	Y.Yamaguchi+	<a href="#">E2651</a>

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,\alpha$	$^{60}\text{Co}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>

30 Zinc

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $d,x$	$^{58}\text{Co}$	CS	2JPNIPC	1.6+07	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
* $d,x$	$^{61}\text{Cu}$	CS	2JPNIPC	1.2+07	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
* $d,x$	$^{63}\text{Zn}$	CS	2JPNIPC	1.6+07	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
* $d,x$	$^{65}\text{Zn}$	CS	2JPNIPC	6.2+06	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
* $d,x$	$^{69}\text{Zn}$	CS	2JPNIPC	2.6+06	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
* $d,x$	$^{65}\text{Ga}$	CS	2JPNIPC	6.2+06	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
* $d,x$	$^{66}\text{Ga}$	CS	2JPNIPC	9.2+06	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>



*	$d,x$	$^{67}\text{Ga}$	CS	2JPNIPC	2.6+06	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>
*	$d,x$	$^{68}\text{Ga}$	CS	2JPNIPC	6.2+06	2.3+07	Jour	<a href="#">ARI,159,109095</a>	20	Z.Tsoodol+	<a href="#">E2648</a>

**30                      Zinc                      64**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,2n$	$^{63}\text{Zn}$	CS	3INDTRM	1.5+07	1.5+07	Jour	<a href="#">JRN,322,2057</a>	19	I.Pasha+	<a href="#">33137</a>
*	$p,el$	$^{64}\text{Zn}$	DA	2GERLMU	2.4+07	2.4+07	Jour	<a href="#">PR/C,100,014320</a>	19	K.G.Leach+	<a href="#">O2165</a>
*	$\alpha,el$	$^{64}\text{Zn}$	DA	2BLGLVN	1.7+07	1.7+07	Jour	<a href="#">PR/C,99,054605</a>	19	J.P.Fernandez-Garcia+	<a href="#">O2458</a>
*	$^6\text{He},el$	$^{64}\text{Zn}$	DA	2BLGLVN	1.5+07	1.8+07	Jour	<a href="#">PR/C,99,054605</a>	19	J.P.Fernandez-Garcia+	<a href="#">O2458</a>
*	$^6\text{He},x+\alpha$	inclusive	DA	2BLGLVN	1.5+07	1.8+07	Jour	<a href="#">PR/C,84,064604</a>	11	V.Scuderi+	<a href="#">O1970</a>
*	$^6\text{He},x+\alpha$	inclusive	DAE	2BLGLVN	1.5+07	1.8+07	Jour	<a href="#">PR/C,99,054605</a>	19	J.P.Fernandez-Garcia+	<a href="#">O2458</a>

**30                      Zinc                      67**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,p$	$^{67}\text{Cu}$	CS	3INDTRM	1.5+07	1.5+07	Jour	<a href="#">JRN,322,2057</a>	19	I.Pasha+	<a href="#">33137</a>

**32                      Germanium                      74**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$^{16}\text{O},x$	$^{76}\text{Br}$	CS	3INDVEC	7.4+07	1.1+08	Jour	<a href="#">JPJ,82,114201</a>	13	D.Singh+	<a href="#">D6298</a>
*	$^{16}\text{O},x$	$^{81}\text{Rb}$	CS	3INDVEC	7.4+07	1.1+08	Jour	<a href="#">JPJ,82,114201</a>	13	D.Singh+	<a href="#">D6298</a>

**39                      Yttrium                      89**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,2n$	$^{88}\text{Y}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>
*	$n,2n$	$^{88}\text{Y}$	CS	3INDTRM	1.5+07	1.5+07	Jour	<a href="#">JRN,322,2057</a>	19	I.Pasha+	<a href="#">33137</a>
*	$n,\gamma$	$^{90}\text{Y}$	CS	3INDTRM	1.5+07	1.5+07	Jour	<a href="#">JRN,322,2057</a>	19	I.Pasha+	<a href="#">33137</a>
*	$d,2n$	$^{89}\text{Zr}$	CS	2FR NTE	6.0+06	3.2+07	Jour	<a href="#">NIM/B,458,57</a>	19	S.Manenti+	<a href="#">O2453</a>
*	$d,2n$	$^{89}\text{Zr}$	CS	2JPNIPC	6.6+06	2.3+07	Jour	<a href="#">NIM/B,472,59</a>	20	M.Sakaguchi+	<a href="#">E2653</a>
*	$d,3n$	$^{88}\text{Zr}$	CS	2FR NTE	1.5+07	3.2+07	Jour	<a href="#">NIM/B,458,57</a>	19	S.Manenti+	<a href="#">O2453</a>
*	$d,3n$	$^{88}\text{Zr}$	CS	2JPNIPC	1.7+07	2.3+07	Jour	<a href="#">NIM/B,472,59</a>	20	M.Sakaguchi+	<a href="#">E2653</a>
*	$d,p$	$^{90}\text{Y}$	CS	2JPNIPC	2.5+06	2.3+07	Jour	<a href="#">NIM/B,472,59</a>	20	M.Sakaguchi+	<a href="#">E2653</a>
*	$d,x$	$^{87}\text{Sr}$	CS	2JPNIPC	6.6+06	2.3+07	Jour	<a href="#">NIM/B,472,59</a>	20	M.Sakaguchi+	<a href="#">E2653</a>
*	$d,x$	$^{88}\text{Y}$	CS	2FR NTE	9.6+06	3.2+07	Jour	<a href="#">NIM/B,458,57</a>	19	S.Manenti+	<a href="#">O2453</a>
*	$d,x$	$^{88}\text{Y}$	CS	2JPNIPC	9.9+06	2.3+07	Jour	<a href="#">NIM/B,472,59</a>	20	M.Sakaguchi+	<a href="#">E2653</a>

**41 Niobium 93**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	$^{92}\text{Nb}$	CS	3CZRCTI	1.0+06	1.0+06	Jour	<a href="#">ARI,154,108855</a>	19	N.Burianova+	<a href="#">31822</a>

**42 Molybdenum 92**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	$^{93}\text{Tc}$	CS	2GERBOC	1.9+06	6.1+06	Jour	<a href="#">EPJ/A,55,67</a>	19	V.Foteinou+	<a href="#">O2448</a>

**42 Molybdenum 94**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	$^{95}\text{Tc}$	CS	2GERBOC	3.0+06	6.1+06	Jour	<a href="#">EPJ/A,55,67</a>	19	V.Foteinou+	<a href="#">O2448</a>

**42 Molybdenum 96**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	$^{97}\text{Tc}$	CS	2GERBOC	2.2+06	5.9+06	Jour	<a href="#">EPJ/A,55,67</a>	19	V.Foteinou+	<a href="#">O2448</a>

**42 Molybdenum 97**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	$^{98}\text{Tc}$	CS	2GERBOC	3.0+06	4.9+06	Jour	<a href="#">EPJ/A,55,67</a>	19	V.Foteinou+	<a href="#">O2448</a>

**42 Molybdenum 98**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	$^{99}\text{Tc}$	CS	2GERBOC	2.0+06	4.9+06	Jour	<a href="#">EPJ/A,55,67</a>	19	V.Foteinou+	<a href="#">O2448</a>

**42 Molybdenum 100**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	$^{101}\text{Tc}$	CS	2GERBOC	4.0+06	5.1+06	Jour	<a href="#">EPJ/A,55,67</a>	19	V.Foteinou+	<a href="#">O2448</a>

**45 Rhodium 103**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,x+\alpha$	inclusive	DAE	4KASKAZ	3.0+07	3.0+07	Jour	<a href="#">APP/B,51,783</a>	20	Y.Mukhamejanov+	<a href="#">D8020</a>
* $p,x+\alpha$	inclusive	DE	4KASKAZ	3.0+07	3.0+07	Jour	<a href="#">APP/B,51,783</a>	20	Y.Mukhamejanov+	<a href="#">D8020</a>
* $p,x+p$	inclusive	DAE	4KASKAZ	3.0+07	3.0+07	Jour	<a href="#">APP/B,51,783</a>	20	Y.Mukhamejanov+	<a href="#">D8020</a>
* $p,x+p$	inclusive	DE	4KASKAZ	3.0+07	3.0+07	Jour	<a href="#">APP/B,51,783</a>	20	Y.Mukhamejanov+	<a href="#">D8020</a>

**47 Silver**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\alpha,x$	<sup>105</sup> Ag	CS	3KORKRM	2.8+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>105</sup> Ag	TT	3KORKRM	2.8+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>106</sup> Ag	CS	3KORKRM	1.9+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>106</sup> Ag	TT	3KORKRM	1.9+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>110</sup> Ag	CS	3KORKRM	3.4+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>110</sup> Ag	TT	3KORKRM	3.4+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>111</sup> Ag	CS	3KORKRM	3.2+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>111</sup> Ag	TT	3KORKRM	3.2+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>109</sup> Cd	CS	3KORKRM	1.9+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>109</sup> Cd	TT	3KORKRM	1.9+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>111</sup> Cd	CS	3KORKRM	1.9+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>111</sup> Cd	TT	3KORKRM	1.9+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>108</sup> In	CS	3KORKRM	2.8+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>108</sup> In	TT	3KORKRM	2.8+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>109</sup> In	CS	3KORKRM	1.6+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>109</sup> In	TT	3KORKRM	1.6+07	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>110</sup> In	CS	3KORKRM	9.2+06	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>110</sup> In	TT	3KORKRM	9.2+06	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>111</sup> In	CS	3KORKRM	2.4+06	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>
* $\alpha,x$	<sup>111</sup> In	TT	3KORKRM	2.4+06	4.4+07	Jour	<a href="#">JRN,311,1971</a>	17	M.Shahid+	<a href="#">D7027</a>

**48 Cadmium 112**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,\gamma$	<sup>113</sup> In	CS	2GRCATH	2.8+06	3.4+06	Jour	<a href="#">PR/C,99,065807</a>	19	A.Psaltis+	<a href="#">O2459</a>

**48 Cadmium 116**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,n$	<sup>116</sup> In	DAE	2JPNOSA	3.0+08	3.0+08	Jour	<a href="#">PR/C,85,061301</a>	12	M.Sasano+	<a href="#">E2379</a>

**50 Tin 112**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <sup>7</sup> Li,el	<sup>112</sup> Sn	DA	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>7</sup> Li,inel	<sup>112</sup> Sn	DAP	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>12</sup> C,el	<sup>112</sup> Sn	DA	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>
* <sup>12</sup> C,inel	<sup>112</sup> Sn	DAP	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>

**50 Tin 116**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <sup>3</sup> He,t	<sup>116</sup> Sb	DAP	2JPNIPC	4.2+08	4.2+08	Jour	<a href="#">EPJ/A,56,51</a>	20	C.A.Douma+	<a href="#">E2658</a>
* <sup>7</sup> Li,el	<sup>116</sup> Sn	DA	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>7</sup> Li,inel	<sup>116</sup> Sn	DAP	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>12</sup> C,el	<sup>116</sup> Sn	DA	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>
* <sup>12</sup> C,inel	<sup>116</sup> Sn	DAP	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>

**50 Tin 118**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <sup>7</sup> Li,el	<sup>118</sup> Sn	DA	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>7</sup> Li,inel	<sup>118</sup> Sn	DAP	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>12</sup> C,el	<sup>118</sup> Sn	DA	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>
* <sup>12</sup> C,inel	<sup>118</sup> Sn	DAP	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>

**50 Tin 120**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <sup>7</sup> Li,el	<sup>120</sup> Sn	DA	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>7</sup> Li,inel	<sup>120</sup> Sn	DAP	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>12</sup> C,el	<sup>120</sup> Sn	DA	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>
* <sup>12</sup> C,inel	<sup>120</sup> Sn	DAP	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>

**50 Tin 122**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <sup>3</sup> He,t	<sup>122</sup> Sb	DAP	2JPNIPC	4.2+08	4.2+08	Jour	<a href="#">EPJ/A,56,51</a>	20	C.A.Douma+	<a href="#">E2658</a>
* <sup>7</sup> Li,el	<sup>122</sup> Sn	DA	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>7</sup> Li,inel	<sup>122</sup> Sn	DAP	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* <sup>12</sup> C,el	<sup>122</sup> Sn	DA	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>
* <sup>12</sup> C,inel	<sup>122</sup> Sn	DAP	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>

**50 Tin 124**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* ${}^7\text{Li,el}$	${}^{124}\text{Sn}$	DA	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* ${}^7\text{Li,inel}$	${}^{124}\text{Sn}$	DAP	3INDTRM	2.8+07	2.8+07	Jour	<a href="#">PR/C,99,034609</a>	19	A.Kundu+	<a href="#">D6356</a>
* ${}^{12}\text{C,el}$	${}^{124}\text{Sn}$	DA	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>
* ${}^{12}\text{C,inel}$	${}^{124}\text{Sn}$	DAP	3INDTRM	6.0+07	6.0+07	Jour	<a href="#">PR/C,100,024614</a>	19	A.Kundu+	<a href="#">D6358</a>

**52 Tellurium**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,x$	${}^{121}\text{I}$	CS	3EGYCAI	1.3+07	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
* $p,x$	${}^{123}\text{I}$	CS	3EGYCAI	5.8+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
* $p,x$	${}^{124}\text{I}$	CS	3EGYCAI	5.8+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
* $p,x$	${}^{126}\text{I}$	CS	3EGYCAI	3.7+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
* $p,x$	${}^{128}\text{I}$	CS	3EGYCAI	2.1+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
* $p,x$	${}^{130}\text{I}$	CS	3EGYCAI	2.1+06	1.3+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>
* $d,x$	${}^{123}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>
* $d,x$	${}^{124}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>
* $d,x$	${}^{125}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>
* $d,x$	${}^{126}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>
* $d,x$	${}^{128}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>

**52 Tellurium 122**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $d,3n$	${}^{121}\text{I}$	CS	2BLGVUB	1.8+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>

**52 Tellurium 128**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,n$	${}^{128}\text{I}$	CS	3EGYCAI	6.1+06	1.4+07	Jour	<a href="#">NP/A,999,121790</a>	20	A.Azzam+	<a href="#">D0978</a>

**52 Tellurium 130**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $d,2n$	${}^{130}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>
* $d,n$	${}^{131}\text{I}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>
* $d,p$	${}^{131}\text{Te}$	CS	2BLGVUB	1.4+07	2.1+07	Jour	<a href="#">NIM/B,466,20</a>	20	A.Hermanne+	<a href="#">D4403</a>

**54 Xenon 136**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\alpha, {}^3\text{He}$	${}^{137}\text{Xe}$	DAP	2JPNOSA	1.0+08	1.0+08	Jour	<a href="#">PR/C,96,024310</a>	17	R.Talwar+	<a href="#">E2552</a>

**56 Barium 138**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* ${}^{48}\text{Ti}, \text{fus}$		CS	3INDNSD	1.4+08	1.7+08	Jour	<a href="#">PR/C,100,044611</a>	19	K.K.Rajesh+	<a href="#">D6373</a>

**62 Samarium 144**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* ${}^{40}\text{Ca}, 5n$	${}^{179}\text{Pb}$	CS	2GERGSI	2.3+08	2.3+08	Jour	<a href="#">JP/G,37,035102</a>	10	A.N.Andreyev+	<a href="#">D8018</a>

**64 Gadolinium 160**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $d, \alpha$	${}^{158}\text{Eu}$	DAP	2GERMUN	1.8+07	1.8+07	Jour	<a href="#">PR/C,100,014327</a>	19	D.Bucurescu+	<a href="#">O2461</a>

**67 Holmium 165**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\alpha, 2n$	${}^{167}\text{Tm}$	CS	2JPNIPC	1.8+07	5.0+07	Jour	<a href="#">NIM/B,469,42</a>	20	A.R.Usman+	<a href="#">E2650</a>
* $\alpha, 3n$	${}^{166}\text{Tm}$	CS	2JPNIPC	2.6+07	5.0+07	Jour	<a href="#">NIM/B,469,42</a>	20	A.R.Usman+	<a href="#">E2650</a>
* $\alpha, 4n$	${}^{165}\text{Tm}$	CS	2JPNIPC	3.5+07	5.0+07	Jour	<a href="#">NIM/B,469,42</a>	20	A.R.Usman+	<a href="#">E2650</a>
* $\alpha, n$	${}^{168}\text{Tm}$	CS	2JPNIPC	1.3+07	5.0+07	Jour	<a href="#">NIM/B,469,42</a>	20	A.R.Usman+	<a href="#">E2650</a>
* ${}^{20}\text{Ne}, 3n$	${}^{182}\text{Ir}$	CS	3INDVEC	9.0+07	1.1+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{173}\text{Hf}$	CS	3INDVEC	1.2+08	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{173}\text{Ta}$	CS	3INDVEC	1.1+08	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{174}\text{Ta}$	CS	3INDVEC	9.8+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{175}\text{Ta}$	CS	3INDVEC	9.8+07	1.2+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{176}\text{W}$	CS	3INDVEC	9.0+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{177}\text{W}$	CS	3INDVEC	9.0+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{177}\text{Re}$	CS	3INDVEC	9.0+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{178}\text{Re}$	CS	3INDVEC	9.0+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{179}\text{Re}$	CS	3INDVEC	9.0+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{181}\text{Re}$	CS	3INDVEC	9.0+07	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{179}\text{Os}$	CS	3INDVEC	1.1+08	1.4+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{181}\text{Os}$	CS	3INDVEC	9.0+07	1.2+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>
* ${}^{20}\text{Ne}, x$	${}^{182}\text{Os}$	CS	3INDVEC	9.0+07	1.1+08	Jour	<a href="#">PR/C,100,064607</a>	19	S.Ali+	<a href="#">D6375</a>

68 Erbium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$d,x$	$^{171}\text{Er}$	CS	2JPNIPC	4.6+06	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>
*	$d,x$	$^{163}\text{Tm}$	CS	2JPNIPC	1.7+07	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>
*	$d,x$	$^{165}\text{Tm}$	CS	2JPNIPC	4.6+06	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>
*	$d,x$	$^{166}\text{Tm}$	CS	2JPNIPC	4.6+06	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>
*	$d,x$	$^{167}\text{Tm}$	CS	2JPNIPC	4.6+06	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>
*	$d,x$	$^{168}\text{Tm}$	CS	2JPNIPC	4.6+06	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>
*	$d,x$	$^{170}\text{Tm}$	CS	2JPNIPC	4.6+06	2.3+07	Jour	<a href="#">NIM/B,470,1</a>	20	M.U.Khandaker+	<a href="#">E2652</a>

69 Thulium 169

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$p,n$	$^{169}\text{Yb}$	CS	3HUNDEB	5.3+06	1.8+07	Jour	<a href="#">NIM/B,471,13</a>	20	M.Saito+	<a href="#">E2654</a>
*	$p,x$	$^{167}\text{Tm}$	CS	3HUNDEB	1.6+07	1.8+07	Jour	<a href="#">NIM/B,471,13</a>	20	M.Saito+	<a href="#">E2654</a>
*	$p,x$	$^{168}\text{Tm}$	CS	3HUNDEB	1.2+07	1.8+07	Jour	<a href="#">NIM/B,471,13</a>	20	M.Saito+	<a href="#">E2654</a>

71 Lutetium 175

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,2n$	$^{174}\text{Lu}$	CS	3CPRNPC			Jour	<a href="#">ARI,132,61</a>	18	Zhengwei Zhang+	<a href="#">32773</a>
*	$n,\alpha$	$^{172}\text{Tm}$	CS	3CPRNPC	1.4+07	1.5+07	Jour	<a href="#">ARI,132,61</a>	18	Zhengwei Zhang+	<a href="#">32773</a>
*	$n,p$	$^{175}\text{Yb}$	CS	3CPRNPC	1.4+07	1.5+07	Jour	<a href="#">ARI,132,61</a>	18	Zhengwei Zhang+	<a href="#">32773</a>

72 Hafnium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,\text{tot}$		CS	4UKRIJD	1.1+03	2.6+03	Jour	<a href="#">YFE,18,287</a>	17	O.O.Gritzay+	<a href="#">32245</a>
*	$\alpha,x$	$^{173}\text{Hf}$	CS	2JPNIPC	3.8+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{175}\text{Hf}$	CS	2JPNIPC	1.3+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{179}\text{Hf}$	CS	2JPNIPC	2.2+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{180}\text{Hf}$	CS	2JPNIPC	2.6+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{181}\text{Hf}$	CS	2JPNIPC	1.8+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{175}\text{Ta}$	CS	2JPNIPC	3.3+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{176}\text{Ta}$	CS	2JPNIPC	2.2+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{177}\text{Ta}$	CS	2JPNIPC	2.9+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{178}\text{Ta}$	CS	2JPNIPC	2.2+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{180}\text{Ta}$	CS	2JPNIPC	2.6+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{182}\text{Ta}$	CS	2JPNIPC	1.8+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{183}\text{Ta}$	CS	2JPNIPC	1.8+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{176}\text{W}$	CS	2JPNIPC	2.2+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{177}\text{W}$	CS	2JPNIPC	1.8+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>
*	$\alpha,x$	$^{178}\text{W}$	CS	2JPNIPC	2.2+07	5.0+07	Jour	<a href="#">NIM/B,459,50</a>	19	S.Takacs+	<a href="#">D4402</a>

73 Tantalum 181

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha$ ,fis	Many	CS	1USAWAU	4.1+07	4.1+07	Jour	<a href="#">JIN,34,3303</a>	72	R.D.Kiebertz+	<a href="#">C2482</a>
$\alpha$ ,fis		CS	1USAWWS	4.1+07	6.5+07	Jour	<a href="#">JIN,34,3303</a>	72	R.D.Kiebertz+	<a href="#">C2482</a>
$\alpha$ ,fis	Many	CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,34,3303</a>	72	R.D.Kiebertz+	<a href="#">C2482</a>
$\alpha$ ,fis	Many	FY	1USAORL	7.7+07	7.7+07	Jour	<a href="#">PR/C,5,528</a>	72	F.Plasil+	<a href="#">C2483</a>
$\alpha$ ,fis		KE	1USAORL	7.7+07	7.7+07	Jour	<a href="#">PR/C,5,528</a>	72	F.Plasil+	<a href="#">C2483</a>
* $^{48}\text{Ca},3n$	$^{226}\text{Np}$	CS	2GERGSI	2.1+08	2.2+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{48}\text{Ca},4n$	$^{225}\text{Np}$	CS	2GERGSI	2.2+08	2.2+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{48}\text{Ca},x$	$^{222}\text{Pa}$	CS	2GERGSI	2.1+08	2.3+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{48}\text{Ca},x$	$^{223}\text{Pa}$	CS	2GERGSI	2.1+08	2.3+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{48}\text{Ca},x$	$^{225}\text{U}$	CS	2GERGSI	2.1+08	2.2+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>

74 Tungsten

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{11}\text{B},x$	$^{190}\text{Au}$	CS	3INDTRM	4.8+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{11}\text{B},x$	$^{191}\text{Au}$	CS	3INDTRM	4.2+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{11}\text{B},x$	$^{192}\text{Au}$	CS	3INDTRM	4.8+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{11}\text{B},x$	$^{193}\text{Au}$	CS	3INDTRM	5.2+07	5.7+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{48}\text{Ca},x$	$^{228}\text{Pu}$	CS	2GERGSI	2.2+08	2.2+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{48}\text{Ca},x$	$^{229}\text{Pu}$	CS	2GERGSI	2.2+08	2.2+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{48}\text{Ca},x$	$^{230}\text{Pu}$	CS	2GERGSI	2.2+08	2.2+08	Jour	<a href="#">NP/A,987,337</a>	19	A.K.Mistry+	<a href="#">D8010</a>
* $^{11}\text{B},x$	$^{190}\text{Au}$	TT	3INDTRM	4.8+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{11}\text{B},x$	$^{191}\text{Au}$	TT	3INDTRM	4.8+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{11}\text{B},x$	$^{192}\text{Au}$	TT	3INDTRM	4.8+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>
* $^{11}\text{B},x$	$^{193}\text{Au}$	TT	3INDTRM	5.2+07	6.3+07	Jour	<a href="#">EPJ/A,55,168</a>	19	D.Choudhury+	<a href="#">D6372</a>

75 Rhenium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha$ ,x	$^{187}\text{Ir}$	CS	3INDVEC	1.8+07	4.6+07	Jour	<a href="#">CJP,82,227</a>	04	N.L.Singh+	<a href="#">D6297</a>
$\alpha$ ,x	$^{188}\text{Ir}$	CS	3INDVEC	1.8+07	4.6+07	Jour	<a href="#">CJP,82,227</a>	04	N.L.Singh+	<a href="#">D6297</a>

75 Rhenium 185

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha$ ,3n	$^{186}\text{Ir}$	CS	3INDVEC	3.2+07	4.6+07	Jour	<a href="#">CJP,82,227</a>	04	N.L.Singh+	<a href="#">D6297</a>
$\alpha$ ,fis	Many	CS	1USAWAU	3.5+07	3.5+07	Jour	<a href="#">JIN,30,1161</a>	68	E.F.Neuzil+	<a href="#">C2476</a>
$\alpha$ ,fis		CS	1USAWAU	3.5+07	4.1+07	Jour	<a href="#">JIN,30,1161</a>	68	E.F.Neuzil+	<a href="#">C2476</a>
$\alpha$ ,fis	Many	CS	1USAWAU	4.1+07	4.1+07	Jour	<a href="#">JIN,30,1161</a>	68	E.F.Neuzil+	<a href="#">C2476</a>



**75 Rhenium 187**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, 2n$	$^{189}\text{Ir}$	CS	3INDVEC	1.8+07	4.6+07	Jour	<a href="#">CJP,82,227</a>	04	N.L.Singh+	<a href="#">D6297</a>
$\alpha, \text{fis}$	Many	CS	1USAWAU	3.5+07	3.5+07	Jour	<a href="#">JIN,30,1161</a>	68	E.F.Neuzil+	<a href="#">C2476</a>
$\alpha, \text{fis}$		CS	1USAWAU	3.5+07	4.1+07	Jour	<a href="#">JIN,30,1161</a>	68	E.F.Neuzil+	<a href="#">C2476</a>
$\alpha, \text{fis}$	Many	CS	1USAWAU	4.1+07	4.1+07	Jour	<a href="#">JIN,30,1161</a>	68	E.F.Neuzil+	<a href="#">C2476</a>
$\alpha, n$	$^{190}\text{Ir}$	CS	3INDVEC	1.8+07	4.6+07	Jour	<a href="#">CJP,82,227</a>	04	N.L.Singh+	<a href="#">D6297</a>

**78 Platinum 194**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, \text{fis}$	Many	CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,31,1575</a>	69	E.F.Neuzil+	<a href="#">C2477</a>
$\alpha, \text{fis}$		CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,31,1575</a>	69	E.F.Neuzil+	<a href="#">C2477</a>

**78 Platinum 195**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, \text{fis}$		CS	1USAWAU	3.4+07	3.4+07	Jour	<a href="#">JIN,35,3651</a>	73	R.M.Williams+	<a href="#">C2451</a>
$\alpha, \text{fis}$	Many	CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,31,1575</a>	69	E.F.Neuzil+	<a href="#">C2477</a>
$\alpha, \text{fis}$		CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,31,1575</a>	69	E.F.Neuzil+	<a href="#">C2477</a>

**78 Platinum 196**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, \text{fis}$	Many	CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,31,1575</a>	69	E.F.Neuzil+	<a href="#">C2477</a>
$\alpha, \text{fis}$		CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,31,1575</a>	69	E.F.Neuzil+	<a href="#">C2477</a>

**79 Gold 197**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$p, n$	$^{197}\text{Hg}$	CS	3CZRUF	6.4+06	3.5+07	Jour	<a href="#">NIM/B,458,118</a>	19	J.Cervenak+	<a href="#">D0967</a>
*	$p, x+p$	inclusive	DAE	2JPNIRS	4.0+07	7.0+07	Jour	<a href="#">NIM/A,953,163158</a>	20	Y.Yamaguchi+	<a href="#">E2651</a>
*	$d, 2n$	$^{197}\text{Hg}$	CS	3CZRUF	8.3+06	2.0+07	Jour	<a href="#">NIM/B,461,105</a>	19	O.Lebedev+	<a href="#">D0968</a>
	$d, \text{fis}$		CS	1USAWAU	2.1+07	2.1+07	Jour	<a href="#">JIN,35,3651</a>	73	R.M.Williams+	<a href="#">C2451</a>
	$\alpha, \text{fis}$		CS	1USABRK	2.5+07	1.2+08	Jour	<a href="#">PR,134,B952</a>	64	D.S.Burnett+	<a href="#">C2466</a>
	$\alpha, \text{fis}$		CS	1USAWAU	2.7+07	4.1+07	Jour	<a href="#">JIN,27,3</a>	65	E.F.Neuzil	<a href="#">C2473</a>
	$\alpha, \text{fis}$		DA	1USAMRY	1.4+08	1.4+08	Jour	<a href="#">PR/C,10,2416</a>	74	V.E.Violajr+	<a href="#">C2488</a>
	$\alpha, \text{fis}$	Many	FY	1USAWAU	2.7+07	4.1+07	Jour	<a href="#">JIN,27,3</a>	65	E.F.Neuzil	<a href="#">C2473</a>
	$\alpha, \text{fis}$	$^{28}\text{Mg}$	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	<a href="#">C2479</a>
	$\alpha, \text{fis}$	$^{47}\text{Ca}$	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	<a href="#">C2479</a>
	$\alpha, \text{fis}$	$^{89}\text{Sr}$	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	<a href="#">C2479</a>

*	<sup>9</sup> Be,el	<sup>197</sup> Au	DA	3ARGCNE	3.4+07	4.8+07	Jour	NP/A,1000,121789	20	F.Gollan+	D0982
*	<sup>9</sup> Be,inel	<sup>197</sup> Au	DAP	3ARGCNE	3.4+07	4.8+07	Jour	NP/A,1000,121789	20	F.Gollan+	D0982
*	<sup>10</sup> B, <sub>3n</sub>	<sup>204</sup> Po	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B, <sub>4n</sub>	<sup>203</sup> Po	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B, <sup>11</sup> B	<sup>196</sup> Au	DAP	3BZLUSP	3.8+07	4.6+07	Jour	<a href="#">PR/C,101,044604</a>	20	L.R.Gasques+	D0981
*	<sup>10</sup> B, <sub>5n</sub>	<sup>202</sup> Po	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,inel	<sup>197</sup> Au	DAP	3BZLUSP	4.6+07	4.6+07	Jour	<a href="#">PR/C,101,044604</a>	20	L.R.Gasques+	D0981
*	<sup>10</sup> B,sct	<sup>197</sup> Au	DAP	3BZLUSP	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044604</a>	20	L.R.Gasques+	D0981
*	<sup>10</sup> B,x	<sup>9</sup> Be	DA	3BZLUSP	4.2+07	4.4+07	Jour	<a href="#">PR/C,101,044604</a>	20	L.R.Gasques+	D0981
*	<sup>10</sup> B,x	<sup>196</sup> Au	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,x	<sup>198</sup> Au	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,x	<sup>199</sup> Pb	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,x	<sup>200</sup> Pb	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,x	<sup>201</sup> Pb	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,x	<sup>203</sup> Bi	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979
*	<sup>10</sup> B,x	<sup>204</sup> Bi	CS	3ARGCNE	3.8+07	6.1+07	Jour	<a href="#">PR/C,101,044601</a>	20	M.Aversa+	D0979

**81                      Thallium                      203**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha$ ,fis		CS	1USAWWS	3.1+07	6.5+07	Jour	<a href="#">JIN,36,3643</a>	74	R.D.Kiebertz+	<a href="#">C2487</a>
$\alpha$ ,fis	Many	FY	1USAWAU	3.1+07	4.2+07	Jour	<a href="#">JIN,36,3643</a>	74	R.D.Kiebertz+	<a href="#">C2487</a>
$\alpha$ ,fis	Many	FY	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,36,3643</a>	74	R.D.Kiebertz+	<a href="#">C2487</a>

**81                      Thallium                      205**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha$ ,fis		CS	1USAWWS	3.1+07	6.5+07	Jour	<a href="#">JIN,36,3643</a>	74	R.D.Kiebertz+	<a href="#">C2487</a>
$\alpha$ ,fis	Many	FY	1USAWAU	3.1+07	4.2+07	Jour	<a href="#">JIN,36,3643</a>	74	R.D.Kiebertz+	<a href="#">C2487</a>
$\alpha$ ,fis	Many	FY	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,36,3643</a>	74	R.D.Kiebertz+	<a href="#">C2487</a>

**82                      Lead                      207**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha$ ,fis		CS	1USAWAU			Jour	<a href="#">JIN,28,1519</a>	66	E.F.Neuzil	<a href="#">C2467</a>
$\alpha$ ,fis	Many	CS	1USAWAU			Jour	<a href="#">JIN,28,1519</a>	66	E.F.Neuzil	<a href="#">C2467</a>
$\alpha$ ,fis		CS	1USAWAU	3.3+07	4.1+07	Jour	<a href="#">JIN,35,3651</a>	73	R.M.Williams+	<a href="#">C2451</a>
$\alpha$ ,fis	Many	CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,30,1151</a>	68	E.F.Neuzil+	<a href="#">C2475</a>
$\alpha$ ,fis		CS	1USABRK	6.5+07	6.5+07	Jour	<a href="#">JIN,30,1151</a>	68	E.F.Neuzil+	<a href="#">C2475</a>
$\alpha$ ,fis	<sup>83</sup> Y	CS	1USAWAU			Jour	<a href="#">JIN,28,1519</a>	66	E.F.Neuzil	<a href="#">C2467</a>

**83                      Bismuth                      209**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					

	<i>d</i> ,fis		CS	1USAWAU	1.8+07	1.8+07	Jour	<a href="#">JIN,35,3651</a>	73	R.M.Williams+	<a href="#">C2451</a>
	<i>d</i> ,fis		CS	1USABRK	2.6+07	2.6+07	Jour	<a href="#">JIN,35,3651</a>	73	R.M.Williams+	<a href="#">C2451</a>
	$\alpha$ ,fis		DA	1USAMRY	1.4+08	1.4+08	Jour	<a href="#">PR/C,10,2416</a>	74	V.E.Violajr+	<a href="#">C2488</a>
	$\alpha$ ,fis	Many	FY	1USAORL	7.7+07	7.7+07	Jour	<a href="#">PR/C,5,528</a>	72	F.Plasil+	<a href="#">C2483</a>
	$\alpha$ ,fis		KE	1USAORL	7.7+07	7.7+07	Jour	<a href="#">PR/C,5,528</a>	72	F.Plasil+	<a href="#">C2483</a>
	$\alpha$ ,fis	<sup>28</sup> Mg	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	<a href="#">C2479</a>
	$\alpha$ ,fis	<sup>47</sup> Ca	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	<a href="#">C2479</a>
	$\alpha$ ,fis	<sup>89</sup> Sr	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	<a href="#">C2479</a>
*	$\alpha$ , <i>x+n</i>	inclusive		2JPNIPC	2.9+07	2.9+07	Jour	<a href="#">NIM/B,470,15</a>	20	K.Sugihara+	<a href="#">E2657</a>
*	$\alpha$ , <i>x+n</i>	inclusive	PY	2JPNIPC	2.9+07	2.9+07	Jour	<a href="#">NIM/B,470,15</a>	20	K.Sugihara+	<a href="#">E2657</a>

**85                      Astatine                      205**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**85                      Astatine                      206**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**86                      Radon                      204**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**86                      Radon                      205**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**86                      Radon                      206**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**86                      Radon                      207**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**86                      Radon                      208**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**86                      Radon                      209**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87                      Francium                      206**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87                      Francium                      207**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87                      Francium                      208**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87                      Francium                      209**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87 Francium 210**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87 Francium 211**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87 Francium 212**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87 Francium 217**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**87 Francium 218**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 209**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 210**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 211**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 212**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 213**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 214**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 215**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 216**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					

$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 217**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 218**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 219**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ .fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**88 Radium 226**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p$ .fis		CS	1USAWAU	1.3+07	1.7+07	Jour	<a href="#">PR/C,4,977</a>	71	D.G.Perry+	<a href="#">C2463</a>
$p$ .fis		DA	1USAWAU	1.2+07	1.6+07	Jour	<a href="#">PR/C,4,977</a>	71	D.G.Perry+	<a href="#">C2463</a>
$p$ .fis	Many	FY	1USAWAU	1.3+07	1.6+07	Jour	<a href="#">PR/C,4,977</a>	71	D.G.Perry+	<a href="#">C2463</a>
$d$ .fis		CS	1USAWAU	1.6+07	1.9+07	Jour	<a href="#">PR/C,4,977</a>	71	D.G.Perry+	<a href="#">C2463</a>
$d$ .fis		DA	1USAWAU	1.6+07	1.9+07	Jour	<a href="#">PR/C,4,977</a>	71	D.G.Perry+	<a href="#">C2463</a>
$d$ .fis	Many	FY	1USAWAU	1.6+07	1.9+07	Jour	<a href="#">PR/C,4,977</a>	71	D.G.Perry+	<a href="#">C2463</a>

**89 Actinium 212**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ .fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 213**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 214**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 215**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 216**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 217**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 218**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>



**89 Actinium 219**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	CHG	2GERGSI	1.7+07	1.7+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 220**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	CHG	2GERGSI	1.6+07	1.6+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 221**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 222**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 223**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	CHG	2GERGSI	1.7+07	1.7+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 224**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 225**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**89 Actinium 227**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.6+07	1.6+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>

**90 Thorium 217**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 218**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 219**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 220**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 221**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
*	$\gamma$ ,fis	Many	CHG	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
*	$\gamma$ ,fis	Many	FY	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
*	$\gamma$ ,fis	Many	NU	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PRL,124,202502</a>	20	A.Chatillon+	<a href="#">G0076</a>

**90 Thorium 222**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
*	$\gamma$ ,fis	Many	CHG	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
*	$\gamma$ ,fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
*	$\gamma$ ,fis	Many	NU	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PRL,124,202502</a>	20	A.Chatillon+	<a href="#">G0076</a>

**90 Thorium 223**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
*	$\gamma$ ,fis	Many	CHG	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 224**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 225**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
*	$\gamma$ ,fis	Many	CHG	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
*	$\gamma$ ,fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

\*  $\gamma$ ,fis Many NU 2GERGSI 1.4+07 1.4+07 Jour [PRL,124,202502](#) 20 A.Chatillon+ [G0076](#)

**90 Thorium 226**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
* $\gamma$ ,fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	NU	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PRL,124,202502</a>	20	A.Chatillon+	<a href="#">G0076</a>

**90 Thorium 227**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 228**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**90 Thorium 229**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
* $\gamma$ ,fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	NU	2GERGSI	1.4+07	1.4+07	Jour	<a href="#">PRL,124,202502</a>	20	A.Chatillon+	<a href="#">G0076</a>
* $n$ ,fis	Many	FY	3INDTRM	2.5-02	2.5-02	Jour	<a href="#">EPJ/A,56,82</a>	20	H.Naik+	<a href="#">33139</a>
* $n$ ,fis	Many	MAS	3INDTRM	2.5-02	2.5-02	Jour	<a href="#">EPJ/A,56,82</a>	20	H.Naik+	<a href="#">33139</a>

**90 Thorium 230**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					

*	$\gamma$ ,fis	Many	CHG	2GERGSI	1.5+07	1.5+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
*	$\gamma$ ,fis	Many	FY	2GERGSI	1.5+07	1.5+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
*	$\gamma$ ,fis	Many	NU	2GERGSI	1.5+07	1.5+07	Jour	<a href="#">PRL,124,202502</a>	20	A.Chatillon+	<a href="#">G0076</a>

**90 Thorium 232**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma$ ,fis	Many	FY	2GERZFK		1.6+07	Jour	<a href="#">EPJA,51,150</a>	15	H.Naik+	<a href="#">G0051</a>
*	$\gamma$ ,fis	Many	FY	3KORPUE		2.5+09	Jour	<a href="#">PR/C,97,014614</a>	18	H.Naik+	<a href="#">G3128</a>
*	$\gamma$ ,fis	Many	FY	3KORPUE		7.0+07	Jour	<a href="#">PR/C,85,024623</a>	12	H.Naik+	<a href="#">G3106</a>
	$n$ ,fis	Many	FY	2FR GRE	1.5+07	1.5+07	Conf	71CANT,,13	71	J.Blachot+	<a href="#">23566</a>
	$n$ ,fis	Many	FY	4RUSFEI	1.8+06	2.2+06	Jour	PAN,60,1787	97	A.A.Goverdovsky+	<a href="#">41688</a>
	$n$ ,fis	Many	KE	4RUSFEI	1.2+06	7.9+06	Jour	PAN,60,1787	97	A.A.Goverdovsky+	<a href="#">41688</a>
	$n$ ,fis	Many	?	2SWTWUR	Fiss		Conf	65SALZBURG,1,415	65	A.Wyittenbach+	<a href="#">23547</a>
*	$p$ ,fis	Many	FY	3INDTRM	2.0+07	4.5+07	Jour	<a href="#">EPJA,49,133</a>	13	H.Naik+	<a href="#">D7009</a>
	$\alpha$ ,fis	Many	CS	1USAANL	2.3+07	4.1+07	Jour	<a href="#">PR/C,4,1361</a>	71	T.C.Roginski+	<a href="#">C2478</a>
	$\alpha$ ,fis	Many	FY	1USAUCX			Jour	<a href="#">PR,172,1160</a>	68	J.A.Mchugh+	<a href="#">C2469</a>
	$\alpha$ ,fis	Many	FY	1USAANL	2.3+07	4.1+07	Jour	<a href="#">PR/C,4,1361</a>	71	T.C.Roginski+	<a href="#">C2478</a>
	$\alpha$ ,fis	Many	?	1USAUCX			Jour	<a href="#">PR,172,1160</a>	68	J.A.Mchugh+	<a href="#">C2469</a>
	$\alpha$ ,fis	$^{85}\text{Kr}$	FY	1USABRK			Jour	<a href="#">JIN,30,673</a>	68	J.A.Mchugh+	<a href="#">C2474</a>

**91 Protactinium 224**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**91 Protactinium 225**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**91 Protactinium 226**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
	$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

91 Protactinium 227

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

91 Protactinium 228

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
* $\gamma$ ,fis	Many	FY	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	NU	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PRL,124,202502</a>	20	A.Chatillon+	<a href="#">G0076</a>

91 Protactinium 229

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
* $\gamma$ ,fis	Many	CHG	2GERGSI	1.3+07	1.3+07	Jour	<a href="#">PR/C,99,054628</a>	19	A.Chatillon+	<a href="#">G0074</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

91 Protactinium 230

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

91 Protactinium 231

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$n$ ,fis	Many	FY	2GERMUN	Fast		Jour	<a href="#">RCA,13,181</a>	70	J.Kemmer+	<a href="#">23570</a>

**91 Protactinium 232**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**92 Uranium**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$n$ ,fis	Many	FY	2UK HAR	1.0+00	1.0+00	Jour	<a href="#">ZN/A,11,946</a>	56	G.Herrmann+	<a href="#">23556</a>
$n$ ,fis	Many	?	2DENCOP	1.0+06	1.0+06	Jour	<a href="#">PR,76,279</a>	49	J.Koch+	<a href="#">23572</a>
$n$ ,fis	$^{89}\text{Sr}$	?	2UK HAR	1.0+00	1.0+00	Jour	<a href="#">ZN/A,11,946</a>	56	G.Herrmann+	<a href="#">23556</a>

**92 Uranium 230**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**92 Uranium 231**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

**92 Uranium 232**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$n$ ,fis	Many	FY	2GERMUN	2.5-02	2.5-02	Jour	<a href="#">RCA,15,113</a>	71	J.Kemmer+	<a href="#">23571</a>
$n$ ,fis		MAS	2GERMUN	2.5-02	2.5-02	Jour	<a href="#">RCA,15,113</a>	71	J.Kemmer+	<a href="#">23571</a>
$n$ ,fis		NU	2GERMUN	2.5-02	2.5-02	Jour	<a href="#">RCA,15,113</a>	71	J.Kemmer+	<a href="#">23571</a>

**92 Uranium 233**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	<a href="#">NP/A,665,221</a>	00	K.-H.Schmidt+	<a href="#">G0075</a>

<i>n</i> ,fis	Many	FY	2AUSSGA		5.0-01	Jour	NUK,7,169	65	L.Balcarczyk+	23574
<i>n</i> ,fis	Many	FY	2UK HAR	2.5-02	2.5-02	Jour	JIN,24,221	62	I.F.Croall+	23564
<i>n</i> ,fis	Many	FY	2AUSSGA	Maxwl		Jour	NUK,7,169	65	L.Balcarczyk+	23574
<i>n</i> ,fis	<sup>106</sup> Rh	FY	2UK HAR	2.5-02	2.5-02	Rept	AERE-R-3879	61	I.F.Croall	23563
<i>d</i> ,fis	Many	FY	1CANMCG	1.8+07	4.4+07	Jour	CJP,59,255	81	N.Mobed+	C2447
$\alpha$ ,fis		CS	1USAROC	1.5+07	2.7+07	Jour	NP/A,224,503	74	H.Freiesleben+	C2486
$\alpha$ ,fis	Many	FY	1USAORL	7.7+07	7.7+07	Jour	PR/C,5,528	72	F.Plasil+	C2483
$\alpha$ ,fis		KE	1USAORL	7.7+07	7.7+07	Jour	PR/C,5,528	72	F.Plasil+	C2483

## 92 Uranium 234

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma$ ,fis	Many	CHG	2GERGSI	1.1+07	1.1+07	Jour	NP/A,665,221	00	K.-H.Schmidt+	G0075
$\gamma$ ,fis	Many	KE	2GERGSI	1.1+07	1.1+07	Jour	NP/A,665,221	00	K.-H.Schmidt+	G0075
$\gamma$ ,fis		KE	2GERGSI	1.1+07	1.1+07	Jour	NP/A,665,221	00	K.-H.Schmidt+	G0075

## 92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis	Many	CHG	2GERKFK	2.5-02	2.5-02	Jour	RCA,5,234	66	A.V.Baeckmann+	23546
<i>n</i> ,fis	Many	CHG	2GERMUN	2.5-02	2.5-02	Jour	ZP,231,59	70	E.Konecny+	23551
<i>n</i> ,fis	Many	CHG	2GERMUN	2.5-02	2.5-02	Jour	NP/A,196,401	72	H.Guenther+	23558
<i>n</i> ,fis	Many	FY	2AUSSGA		5.0-01	Jour	NUK,7,169	65	L.Balcarczyk+	23574
<i>n</i> ,fis	Many	FY	2UK HAR	1.0-01	1.0-01	Jour	PM,44,900	53	J.G.Cuninghame	23568
<i>n</i> ,fis	Many	FY	2UK ALD	1.5+07	1.5+07	Rept	AWRE-O-58/61	61	D.G.Vallis+	23549
<i>n</i> ,fis	Many	FY	1USAUI	2.5-02	2.5-02	Jour	PR,188,1909	69	E.M.Bohn+	14613
<i>n</i> ,fis	Many	FY	2GERKFK	2.5-02	2.5-02	Jour	RCA,5,234	66	A.V.Baeckmann+	23546
<i>n</i> ,fis	Many	FY	2JPNJAE	2.5-02	2.5-02	Jour	RRL,3,1	70	E.Ohyoshi+	23552
<i>n</i> ,fis	Many	FY	2GERMUN	2.5-02	2.5-02	Jour	RCA,7,105	67	F.Wunderlich	23555
<i>n</i> ,fis	Many	FY	2GERMUN	2.5-02	2.5-02	Jour	NP/A,196,401	72	H.Guenther+	23558
<i>n</i> ,fis	Many	FY	2UK HAR	2.5-02	2.5-02	Jour	JIN,24,221	62	I.F.Croall+	23564
<i>n</i> ,fis	Many	FY	2FR GRE	2.5-02	2.5-02	Conf	69VIENNA,,803	69	J.Blachot+	23565
<i>n</i> ,fis	Many	FY	2AUSSGA	Maxwl		Jour	NUK,7,169	65	L.Balcarczyk+	23574
<i>n</i> ,fis	Many	KE	2FR ILL	2.5-02	2.5-02	Conf	89LENING,,223	89	A.Sicre+	23545
<i>n</i> ,fis	Many	KE	2GERMUN	2.5-02	2.5-02	Jour	ZP,231,59	70	E.Konecny+	23551
<i>n</i> ,fis		KE	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis	Many	KE	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis		KE	1USAANL	2.5-02	6.0+06	Jour	PR,177,1817	69	J.W.Meadows	14595
<i>n</i> ,fis	Many	MAS	2GERMUN	2.5-02	2.5-02	Jour	NP/A,196,401	72	H.Guenther+	23558
<i>n</i> ,fis		MAS	1USAANL	2.5-02	6.0+06	Jour	PR,177,1817	69	J.W.Meadows	14595
<i>n</i> ,fis	Many	?	2FR ILL	2.5-02	2.5-02	Conf	89LENING,,223	89	A.Sicre+	23545
<i>n</i> ,fis	Many	?	2SWDUPP	2.5-02	2.5-02	Jour	JIN,24,117	62	E.Hagebo+	23550
<i>n</i> ,fis	Many	?	2GERMNZ	2.5-02	2.5-02	Jour	JIN,31,1873	69	H.-O.Denschlag	23561
<i>n</i> ,fis	Many	?	2GERTHD	2.5-02	2.5-02	Jour	RCA,9,27	68	K.Bachmann	23573
<i>n</i> ,fis	Many	?	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis	<sup>4</sup> He	FY	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis	<sup>4</sup> He	KE	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis	<sup>4</sup> He	?	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis	<sup>10</sup> Be	KE	4RUSLIN	2.5-02	2.5-02	Jour	YF,32,1186	80	V.T.Grachev+	41690
<i>n</i> ,fis	<sup>77</sup> Ge	FY	2NORKJL	2.5-02	2.5-02	Jour	JIN,11,173	59	A.Kjelberg+	23543
<i>n</i> ,fis	<sup>78</sup> As	FY	2NORKJL	2.5-02	2.5-02	Jour	JIN,11,173	59	A.Kjelberg+	23543



<i>n</i> ,fis	<sup>81</sup> Se	?	2UK ALD	1.5+07	1.5+07	Rept	AWRE-O-58/61	61	D.G.Vallis+	23549
<i>n</i> ,fis	<sup>82</sup> Br	FY	2UK ALD	1.5+07	1.5+07	Rept	AWRE-O-58/61	61	D.G.Vallis+	23549
<i>n</i> ,fis	<sup>84</sup> Br	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,587	51	C.R.Dillard+	14599
<i>n</i> ,fis	<sup>92</sup> Sr	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,660	51	E.J.Hoagland+	14610
<i>n</i> ,fis	<sup>94</sup> Y	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,692	51	C.R.Dillard+	14597
<i>n</i> ,fis	<sup>95</sup> Zr	FY	1USAORL	2.5-02	2.5-02	Book	RCS,3,1507	51	D.E.Waters+	14593
<i>n</i> ,fis	<sup>97</sup> Zr	?	2UK HAR	Maxwl	1.2+05	Jour	NP,27,154	61	J.G.Cuninghame+	23569
<i>n</i> ,fis	<sup>99</sup> Nb	FY	2FR GRE	2.5-02	2.5-02	Conf	69VIENNA,,803	69	J.Blachot+	23565
<i>n</i> ,fis	<sup>99</sup> Mo	FY	2UK ALD	1.5+07	1.5+07	Rept	AWRE-O-58/61	61	D.G.Vallis+	23549
<i>n</i> ,fis	<sup>99</sup> Mo	FY	2SWTWUR	2.5-02	2.5-02	Jour	RCA,8,112	67	H.R.Vongunten+	23562
<i>n</i> ,fis	<sup>99</sup> Mo	?	2UK HAR	1.2+05	1.4+07	Jour	NP,27,154	61	J.G.Cuninghame+	23569
<i>n</i> ,fis	<sup>99</sup> Mo	?	2UK ALD	6.5+04	6.5+04	Jour	NP,27,154	61	J.G.Cuninghame+	23569
<i>n</i> ,fis	<sup>99</sup> Mo	?	2UK HAR	Maxwl		Jour	NP,27,154	61	J.G.Cuninghame+	23569
<i>n</i> ,fis	<sup>111</sup> Ag	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,877	51	E.P.Steinberg+	14614
<i>n</i> ,fis	<sup>127</sup> Sb	FY	2SWDUPP	2.5-02	2.5-02	Jour	JIN,25,615	63	E.Hagebo	23548
<i>n</i> ,fis	<sup>129</sup> Sb	FY	2SWDUPP	2.5-02	2.5-02	Jour	JIN,25,615	63	E.Hagebo	23548
<i>n</i> ,fis	<sup>129</sup> Sb	?	2SWDUPP	2.5-02	2.5-02	Jour	JIN,25,615	63	E.Hagebo	23548
<i>n</i> ,fis	<sup>132</sup> Te	FY	1USAANL	2.5-02	2.5-02	Book	RCS,3,1334	51	D.W.Engelkemeir+	14594
<i>n</i> ,fis	<sup>134</sup> I	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,982	51	S.Katcoff+	14609
<i>n</i> ,fis	<sup>135</sup> I	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,1005	51	S.Katcoff+	14615
<i>n</i> ,fis	<sup>135</sup> I	FY	2GERMNZ	2.5-02	2.5-02	Jour	JIN,31,1873	69	H.-O.Denschlag	23561
<i>n</i> ,fis	<sup>137</sup> Cs	?	2UK HAR	1.0+06	1.0+06	Jour	JIN,1,248	55	F.Brown	23553
<i>n</i> ,fis	<sup>139</sup> Ba	FY	2SWTWUR	2.5-02	2.5-02	Jour	RCA,8,112	67	H.R.Vongunten+	23562
<i>n</i> ,fis	<sup>140</sup> Ba	FY	1USAANL	2.5-02	2.5-02	Book	RCS,3,1334	51	D.W.Engelkemeir+	14594
<i>n</i> ,fis	<sup>143</sup> La	?	1USAANL	2.5-02	2.5-02	Book	RCS,2,1191	51	R.P.Schuman	14608
<i>n</i> ,fis	<sup>143</sup> Ce	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,1167	51	S.Katcoff+	14616
<i>d</i> ,0		RP	1USASTB			Jour	PRL,35,1141	75	P.D.Goldstone+	C2450
<i>d</i> , <i>p</i> +fis		DAE	1USASTB	1.3+07	1.7+07	Jour	PRL,35,1141	75	P.D.Goldstone+	C2450
$\alpha$ ,3 <i>n</i>	<sup>236</sup> Pu	?	1USALAS	2.5+07	2.8+07	Jour	PR/C,6,1087	72	G.R.Bethune+	C2481
$\alpha$ ,fis		CS	1USALAS	2.4+07	2.8+07	Jour	PR/C,6,1087	72	G.R.Bethune+	C2481
$\alpha$ ,fis	Many	FY	1USAUCX	2.8+07	4.4+07	Jour	PR,172,1160	68	J.A.Mchugh+	C2469
$\alpha$ ,fis	Many	?	1USAUCX			Jour	PR,172,1160	68	J.A.Mchugh+	C2469
$\alpha$ ,fis	<sup>85</sup> Kr	FY	1USABRK			Jour	JIN,30,673	68	J.A.Mchugh+	C2474
$\alpha$ ,x	<sup>236</sup> Np	?	1USALAS	2.6+07	2.8+07	Jour	PR/C,6,1087	72	G.R.Bethune+	C2481
$\alpha$ ,x	<sup>236</sup> Pu	?	1USALAS	2.4+07	2.8+07	Jour	PR/C,6,1087	72	G.R.Bethune+	C2481

**92 Uranium 236**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		DA	4RUSFEI	1.0+06	1.0+06	Jour	PAN,56,1642	93	A.A.Goverdovsky+	41687
<i>n</i> ,fis	Many	FY	4RUSFEI	1.0+06	1.0+06	Jour	PAN,56,1642	93	A.A.Goverdovsky+	41687
<i>n</i> ,fis	Many	KE	4RUSFEI	1.0+06	1.0+06	Jour	PAN,56,1642	93	A.A.Goverdovsky+	41687
<i>n</i> ,fis	<sup>127</sup> Sn	FY	2NORKJL	2.5-02	2.5-02	Jour	JIN,30,890	68	A.C.Pappas+	23542

**92 Uranium 238**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma$ ,fis	Many	CHG	2GERGSI	1.2+07	1.2+07	Jour	PR/C,95,054603	17	E.Pellereau+	G0077
*	$\gamma$ ,fis	Many	FY	2GERGSI	1.2+07	1.2+07	Jour	PR/C,95,054603	17	E.Pellereau+	G0077
	0,fis	Many	FY	2GERMNZ	Spont		Jour	RCA,6,76	66	H.Menke+	23559
<i>n</i> ,fis	Many	FY	2UK HAR	1.4+07	1.4+07	Jour	JIN,5,1	57	J.G.Cuninghame	23567	

	<i>n</i> ,fis	Many	FY	2FR GRE	1.5+07	1.5+07	Conf	71CANT,,13	71	J.Blachot+	23566
	<i>n</i> ,fis		KE	1USAANL	1.5+06	5.6+06	Jour	<a href="#">PR,177,1817</a>	69	J.W.Meadows	14595
	<i>n</i> ,fis		MAS	1USAANL	1.5+06	5.6+06	Jour	<a href="#">PR,177,1817</a>	69	J.W.Meadows	14595
*	<i>n</i> ,fis		?	3CPRIHP	1.0+06	2.0+07	Jour	<a href="#">ANE,140,107301</a>	20	Jie Wen+	32798
	<i>p</i> ,fis	Many	FY	1USAFSU	1.1+07	1.1+07	Jour	<a href="#">JIN,34,439</a>	72	G.R.Choppin+	C2465
	<i>d</i> ,fis	Many	CS	1USAFSU	1.4+07	1.7+07	Jour	<a href="#">JIN,38,975</a>	76	A.T.Kandil	C2449
	<i>d</i> ,fis	Many	FY	1USAFSU	1.1+07	1.1+07	Jour	<a href="#">JIN,34,439</a>	72	G.R.Choppin+	C2465
	$\alpha$ ,3 <i>n</i>	<sup>239</sup> Pu	CS	1USAANL	3.1+07	3.1+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	C2484
	$\alpha$ ,3 <i>n</i>	<sup>239</sup> Pu	?	1USAANL	3.1+07	3.1+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	C2484
	$\alpha$ ,fis		CS	1USAROC	1.5+07	2.7+07	Jour	<a href="#">NP/A,224,503</a>	74	H.Freiesleben+	C2486
	$\alpha$ ,fis		DA	1USAMRY	1.4+08	1.4+08	Jour	<a href="#">PR/C,10,2416</a>	74	V.E.Violajr+	C2488
	$\alpha$ ,fis		KE	1USANRL	6.4+07	6.4+07	Jour	<a href="#">NP/A,174,321</a>	71	V.E.Violajr+	C2480
	$\alpha$ ,fis		?	1USANRL	6.4+07	6.4+07	Jour	<a href="#">NP/A,174,321</a>	71	V.E.Violajr+	C2480
	$\alpha$ ,fus		CS	1USAMRY	6.3+07	1.4+08	Jour	<a href="#">PR/C,10,2416</a>	74	V.E.Violajr+	C2488
	$\alpha$ ,sct	<sup>238</sup> U	DAP	1USAROC	2.3+07	2.7+07	Jour	<a href="#">NP/A,224,503</a>	74	H.Freiesleben+	C2486
	<sup>6</sup> Li,fis		CS	1USAROC	2.5+07	3.8+07	Jour	<a href="#">NP/A,224,503</a>	74	H.Freiesleben+	C2486

### 93 Neptunium 237

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n</i> ,fis		DA	4RUSLIN	3.5+05	3.0+08	Jour	<a href="#">JEL,110,242</a>	19	A.S.Vorobyev+	41686
	<i>d</i> ,2 <i>n</i>	<sup>237</sup> Pu	CS	1USANDL	8.5+06	1.4+07	Jour	<a href="#">NP/A,175,433</a>	71	J.K.Temperley+	C2464
	<i>d</i> ,2 <i>n</i>	<sup>237</sup> Pu	?	1USANDL	8.5+06	1.5+07	Jour	<a href="#">NP/A,175,433</a>	71	J.K.Temperley+	C2464
	$\alpha$ ,fis	Many	CS	1USAANL	4.0+07	4.0+07	Jour	<a href="#">PR,152,1088</a>	66	N.A.Wogman+	C2468

### 94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	<i>n</i> ,fis	Many	CHG	2GERKFK	2.5-02	2.5-02	Jour	<a href="#">RCA,5,234</a>	66	A.V.Baeckmann+	23546
	<i>n</i> ,fis	Many	CHG	2GERMUN	2.5-02	2.5-02	Jour	<a href="#">NP/A,196,401</a>	72	H.Guenther+	23558
	<i>n</i> ,fis	Many	FY	1USAORL	2.5-02	2.5-02	Jour	<a href="#">PR,133,B1500</a>	64	F.J.Walter+	14612
	<i>n</i> ,fis	Many	FY	2GERKFK	2.5-02	2.5-02	Jour	<a href="#">RCA,5,234</a>	66	A.V.Baeckmann+	23546
	<i>n</i> ,fis	Many	FY	2GERMUN	2.5-02	2.5-02	Jour	<a href="#">NP/A,196,401</a>	72	H.Guenther+	23558
	<i>n</i> ,fis	Many	KE	2ITYPAV	2.5-02	2.5-02	Conf	69VIENNA,,891	69	F.Cavallari+	23554
	<i>n</i> ,fis	Many	MAS	2GERMUN	2.5-02	2.5-02	Jour	<a href="#">NP/A,196,401</a>	72	H.Guenther+	23558
	<i>n</i> ,fis	Many	?	2ITYPAV	2.5-02	2.5-02	Conf	69VIENNA,,891	69	F.Cavallari+	23554
	<i>n</i> ,fis	<sup>106</sup> Rh	FY	2UK HAR	2.5-02	2.5-02	Rept	AERE-R-3879	61	I.F.Croall	23563
	$\alpha$ ,fis	Many	CS	1USAORL			Jour	<a href="#">PR/C,4,1357</a>	71	D.L.Uhl+	C2479
	$\alpha$ ,fis	Many	CS	1USAANL	3.2+07	3.2+07	Jour	<a href="#">PR,152,1088</a>	66	N.A.Wogman+	C2468

### 94 Plutonium 241

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	<i>n</i> ,fis	Many	FY	1USAORL	2.5-02	2.5-02	Jour	<a href="#">PR,133,B1500</a>	64	F.J.Walter+	14612

**94 Plutonium 242**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha,3n$	<sup>243</sup> Cm	CS	1USAANL	3.2+07	3.2+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,3n$	<sup>243</sup> Cm	?	1USAANL	3.2+07	3.2+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,x$	<sup>242</sup> Am	CS	1USAANL	4.6+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,x$	<sup>243</sup> Am	CS	1USAANL	3.7+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,x$	<sup>244</sup> Am	CS	1USAANL	3.2+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>

**94 Plutonium 244**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$d,3n$	<sup>243</sup> Am	CS	1USAANL	1.5+07	1.5+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$d,3n$	<sup>243</sup> Am	?	1USAANL	1.5+07	1.5+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,3n$	<sup>245</sup> Cm	CS	1USAANL	3.0+07	3.0+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,3n$	<sup>245</sup> Cm	?	1USAANL	3.0+07	3.0+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,x$	<sup>245</sup> Am	CS	1USAANL	3.2+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,x$	<sup>246</sup> Am	CS	1USAANL	3.2+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>

**95 Americium 232**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis		KE	1USABRK	Spont		Jour	<a href="#">PR/C,42,1480</a>	90	H.L.Hall+	<a href="#">14631</a>

**95 Americium 241**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$d,p+fis$	Many	FY	1USALAS	1.5+07	1.5+07	Jour	<a href="#">PR/C,13,189</a>	76	J.Weber+	<a href="#">C2448</a>
$d,p+fis$	Many	KE	1USALAS	1.5+07	1.5+07	Jour	<a href="#">PR/C,13,189</a>	76	J.Weber+	<a href="#">C2448</a>
$d,p+fis$		KE	1USALAS	1.5+07	1.5+07	Jour	<a href="#">PR/C,13,189</a>	76	J.Weber+	<a href="#">C2448</a>
$\alpha,3n$	<sup>242</sup> Bk	CS	1USAANL	2.8+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,3n$	<sup>242</sup> Bk	?	1USAANL	3.5+07	3.8+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,n+\alpha$	<sup>240</sup> Am	CS	1USAANL	4.6+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>

**95 Americium 243**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha,3n$	<sup>244</sup> Bk	CS	1USAANL	3.0+07	3.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,3n$	<sup>244</sup> Bk	?	1USAANL	3.4+07	3.4+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>
$\alpha,n+\alpha$	<sup>242</sup> Am	CS	1USAANL	4.6+07	4.6+07	Jour	<a href="#">PL/B,38,405</a>	72	K.L.Wolf+	<a href="#">C2484</a>

**96 Curium 248**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis	Many	FY	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		KE	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		MAS	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>

**98 Californium 250**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis	Many	FY	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		KE	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		MAS	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>

**98 Californium 252**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis		DE	4RUSFEI	Spont		Jour	YF,25,723	77	V.M.Piksaykin+	<a href="#">41689</a>
0,fis	Many	FY	2TUKANK	Spont		Jour	<a href="#">JIN,37,2247</a>	75	H.Goektuerk+	<a href="#">23557</a>
0,fis		FY	2TUKANK	Spont		Jour	<a href="#">JIN,40,183</a>	78	H.N.Erten+	<a href="#">23560</a>
0,fis	Many	KE	2GERZFK	Spont		Jour	<a href="#">ZP/A,341,481</a>	92	A.Schubert+	<a href="#">23544</a>
0,fis		MFQ	4RUSFEI	Spont		Jour	YF,25,723	77	V.M.Piksaykin+	<a href="#">41689</a>
0,fis		NU	4RUSFEI	Spont		Jour	YF,25,723	77	V.M.Piksaykin+	<a href="#">41689</a>
0,fis	Many	NU	4RUSFEI	Spont		Jour	YF,25,723	77	V.M.Piksaykin+	<a href="#">41689</a>
0,fis		?	2TUKANK	Spont		Jour	<a href="#">JIN,40,183</a>	78	H.N.Erten+	<a href="#">23560</a>
0,fis	Many	?	4RUSFEI	Spont		Jour	YF,25,723	77	V.M.Piksaykin+	<a href="#">41689</a>
0,fis		<sup>1</sup> H	FY	2GERZFK	Spont		Jour	<a href="#">ZP/A,341,481</a>	92	A.Schubert+
0,fis	<sup>1</sup> H	?	2GERZFK	Spont		Jour	<a href="#">ZP/A,341,481</a>	92	A.Schubert+	<a href="#">23544</a>
0,fis	<sup>3</sup> H	?	2GERZFK	Spont		Jour	<a href="#">ZP/A,341,481</a>	92	A.Schubert+	<a href="#">23544</a>
0,fis	<sup>4</sup> He	FY	2GERZFK	Spont		Jour	<a href="#">ZP/A,341,481</a>	92	A.Schubert+	<a href="#">23544</a>
0,fis	<sup>134</sup> I	FY	2TUKANK	Spont		Jour	<a href="#">JIN,40,183</a>	78	H.N.Erten+	<a href="#">23560</a>

**98 Californium 254**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis	Many	FY	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		KE	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		MAS	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>

**99 Einsteinium 253**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis	Many	FY	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>

0,fis	KE	1USAUCX	Spont	Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis	MAS	1USAUCX	Spont	Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>

**100          Fermium          254**

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,fis	Many	FY	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		KE	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>
0,fis		MAS	1USAUCX	Spont		Jour	<a href="#">PR,131,2617</a>	63	R.Brandt+	<a href="#">14577</a>