

EXFOR News (March 2024)

New experimental data available from Nuclear Reaction Data Centres

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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) 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	α -value ($\sigma_{\text{capt}}/\sigma_{\text{fis}}$)	KE	Kinetic energy
AMP	Scattering length	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	η -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)

^a [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					
* $^{112}\text{Sn},x$	^{112}In	?	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058
* $^{112}\text{Sn},x$	^{112}Sb	?	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058
* $^{124}\text{Sn},x$	^{124}Sb	?	2GERGSI	1.2+11	1.2+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058

2 Helium 3

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha,e1$	^3He	DA	1USALRC	4.2+07	4.2+07	Jour	NP/A,143,121	70	J.S.Vincent+	C2818
α,p	^6Li	DAP	1USALRC	4.2+07	4.2+07	Jour	NP/A,143,121	70	J.S.Vincent+	C2818

2 Helium 4

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{20}\text{Ne},e1$	^4He	?	4KASATN	1.5+06	4.5+06	Jour	PPN,53,312	22	D.K.Nauruzbayev+	D8057
* $^{22}\text{Ne},e1$	^4He	?	4KASATN	1.8+06	5.1+06	Jour	PPN,53,312	22	D.K.Nauruzbayev+	D8057

3 Lithium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	^7Li	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
p,x	^7Be	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

3 Lithium 6

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,e1$	^6Li	DA	3RUMBUC	1.6+06	5.3+06	Jour	EPJ/A,59,47	23	A.C.Scafes+	D1049
* d,α	^4He	DAP	4RUSEPA	3.8+06	8.0+06	Jour	BAS,87,1174	23	L.N.Generalov+	F1488
* d,n	^7Be	DAP	3IRNNRT	7.9+05	2.0+06	Jour	NIM/B,535,96	23	H.T.Asilani+	D1044
* d,p	^7Li	DAP	3IRNNRT	7.9+05	2.0+06	Jour	NIM/B,535,96	23	H.T.Asilani+	D1044

3 Lithium 7

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,e1$	^7Li	DA	3RUMBUC	1.6+06	5.3+06	Jour	EPJ/A,59,47	23	A.C.Scafes+	D1049

*	<i>p,el</i>	⁷ Li	DA	4RUSEPA	5.0+06	1.0+07	Jour	BAS,87,1899	23	L.N.Generalov+	F1489
*	<i>p,el</i>	⁷ Li	DA	4RUSEPA	7.0+06	1.0+07	Jour	BAS,87,1907	23	L.N.Generalov+	F1492
*	<i>p,inel</i>	⁷ Li	DAP	3RUMBUC	1.6+06	5.3+06	Jour	EPJ/A,59,47	23	A.C.Scafes+	D1049
	<i>p,inel</i>	⁷ Li	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
*	<i>p,n</i>	⁷ Be	DAP	3RUMBUC	2.4+06	5.3+06	Jour	EPJ/A,59,47	23	A.C.Scafes+	D1049
*	<i>p,n</i>	⁷ Be	DAP	3SAFITH	3.0+07	6.6+07	Jour	NIM/B,513,21	22	P.Z.Ngcobo+	D1000
*	<i>p,x+n</i>	inclusive	TTD	3SAFITH	3.0+07	6.6+07	Jour	NIM/B,513,21	22	P.Z.Ngcobo+	D1000

4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
<i>n,2n</i>	⁸ Be	CS	3CPRAEP	1.4+07	1.4+07	Jour	CST,16,4	82	Ma Weiyi+	32841	
<i>n,el</i>	⁹ Be	CS	3CPRAEP	1.4+07	1.4+07	Jour	CST,16,4	82	Ma Weiyi+	32841	
<i>n,el</i>	⁹ Be	DA	3CPRAEP	1.4+07	1.4+07	Jour	CST,16,4	82	Ma Weiyi+	32841	
<i>n,inel</i>	⁹ Be	CSP	3CPRAEP	1.4+07	1.4+07	Jour	CST,16,4	82	Ma Weiyi+	32841	
<i>n,inel</i>	⁹ Be	DAP	3CPRAEP	1.4+07	1.4+07	Jour	CST,16,4	82	Ma Weiyi+	32841	
<i>p,α</i>	⁶ Li	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487	
<i>p,γ</i>	¹⁰ B	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487	
<i>p,x</i>	⁶ Li	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424	
*	<i>p,x</i>	⁷ Be	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	<i>p,x+n</i>	inclusive	TTD	3CZRUFJ	3.5+07	3.5+07	Jour	NIM/A,1053,168314	23	M.Majerle+	D1045
*	⁸ Li, ⁷ Li	¹⁰ Be	DAE	3BZLUSP	2.4+07	2.4+07	Jour	EPJ/A,59,48	23	O.C.B.Santos+	D1042
*	⁸ Li,el	⁹ Be	DA	3BZLUSP	2.4+07	2.4+07	Jour	EPJ/A,59,48	23	O.C.B.Santos+	D1042
*	⁸ Li,x	⁷ Li	DA	3BZLUSP	2.4+07	2.4+07	Jour	EPJ/A,59,48	23	O.C.B.Santos+	D1042

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,abs</i>		CS	3CPRAEP	2.5-02	2.5-02	Jour	CST,6,127	64	Yuan Hanrong+	32828
<i>p,x</i>	⁷ Be	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	¹⁰ B	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	¹¹ B	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
<i>p,α</i>	⁷ Be	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487	
<i>p,γ</i>	¹¹ C	CS	3CPRIMP	1.5+05	2.5+05	Jour	CST,3,701	61	Wu Meizhen+	S0259	
<i>p,inel</i>	¹⁰ B	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487	
<i>α,el</i>	¹⁰ B	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197	
<i>α,x+α</i>	inclusive	DAE	1USALRL	2.5+07	2.5+07	Jour	NP,88,177	66	L.B.Geesaman+	C2820	
*	¹⁵ N, ¹¹ C	¹⁴ C	DAP	3POLWWA	8.1+07	8.1+07	Jour	YFE,24,22	23	A.T.Rudchik+	D5203
*	¹⁵ N,el	¹⁰ B	DA	3POLWWA	8.1+07	8.1+07	Jour	YFE,23,153	22	A.T.Rudchik+	D5202
*	¹⁵ N,inel	¹⁰ B	DAP	3POLWWA	8.1+07	8.1+07	Jour	YFE,23,153	22	A.T.Rudchik+	D5202

5 Boron 11

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>d,el</i>	¹¹ B	DA	4KASKAZ	1.4+07	1.4+07	Jour	APP/BS,14,811	21	V.V.Dyachkov+	D8061
* <i>d,p</i>	¹² B	DAP	3IRNNRT	6.7+05	2.0+06	Jour	NIM/B,540,141	23	H.T.Aslani+	D1048
<i>α,p</i>	¹⁴ C	DAP	1USAINU	1.2+08	1.2+08	Jour	NP/A,468,43	87	P.R.Andrews+	C2813
<i>α,x+α</i>	inclusive	DAE	1USALRL	2.5+07	2.5+07	Jour	NP,88,177	66	L.B.Geesaman+	C2820
⁷ Li, <i>el</i>	¹¹ B	DA	3CPRAEP	9.8+06	2.8+07	Jour	CNPR,30,117	13	Yang Lei+	S0247

6 Carbon

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,abs</i>		CS	3CPRAEP	2.5-02	2.5-02	Jour	CST,10,146	76	Chen Ying+	32835
* <i>p,x</i>	⁷ Be	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* <i>p,x</i>	¹⁰ B	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁰ B	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹¹ B	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹¹ B	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹¹ C	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹¹ C	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
<i>p,x</i>	¹³ C	TTD	3HUNDEB	3.8+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	¹³ N	TTD	3HUNDEB	3.1+06	3.1+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	¹⁴ N	TTD	3HUNDEB	3.1+06	3.1+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
³¹ Cl, <i>abs</i>		CS	2GERGSI	3.0+10	3.0+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³² Cl, <i>abs</i>		CS	2GERGSI	3.1+10	3.1+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³³ Cl, <i>abs</i>		CS	2GERGSI	3.2+10	3.2+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁴ Cl, <i>abs</i>		CS	2GERGSI	3.2+10	3.2+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁵ Cl, <i>abs</i>		CS	2GERGSI	3.3+10	3.3+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁶ Cl, <i>abs</i>		CS	2GERGSI	3.4+10	3.4+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁷ Cl, <i>abs</i>		CS	2GERGSI	3.5+10	3.5+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³¹ Ar, <i>abs</i>		CS	2GERGSI	2.9+10	2.9+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³² Ar, <i>abs</i>		CS	2GERGSI	3.0+10	3.0+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³³ Ar, <i>abs</i>		CS	2GERGSI	3.1+10	3.1+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁴ Ar, <i>abs</i>		CS	2GERGSI	3.2+10	3.2+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁵ Ar, <i>abs</i>		CS	2GERGSI	3.3+10	3.3+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁶ Ar, <i>abs</i>		CS	2GERGSI	3.4+10	3.4+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁷ Ar, <i>abs</i>		CS	2GERGSI	3.5+10	3.5+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁸ Ar, <i>abs</i>		CS	2GERGSI	3.6+10	3.6+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
³⁹ Ar, <i>abs</i>		CS	2GERGSI	3.7+10	3.7+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
⁴⁰ Ar, <i>abs</i>		CS	2GERGSI	3.8+10	3.8+10	Jour	NP/A,709,60	02	A.Ozawa+	D8063
* ¹²⁴ Sn, <i>x</i>	¹²⁴ Sb	CS	2GERGSI	1.2+11	1.2+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,tot</i>		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
<i>p,γ</i>	¹³ N	CS	3CPRIMP	1.5+05	2.5+05	Jour	CST,3,701	61	Wu Meizhen+	S0259
* <i>p,γ</i>	¹³ N	CS	3HUNDEB	3.0+05	1.9+06	Jour	EPJ/A,59,59	23	Gy.Gyurky+	D4426
<i>p,γ</i>	¹³ N	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

	α,el	^{12}C	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	α,el	^{12}C	DA	1USALRC	4.1+07	4.1+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
*	α,γ	^{16}O	CSP	3INDVEC	3.0+05	3.0+05	Jour	IMP/E,30,2150039	21	A.K.Mondal+	D6400
	$\alpha,inel$	^{12}C	DAP	1USALRC	4.1+07	4.1+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
*	$^{13}\text{C},\alpha$	^{21}Ne	CS	3RUMBUC	3.2+06	5.3+06	Rept	AIP-1852,080011	17	I.Stefanescu+	D1051
*	$^{13}\text{C},n$	^{24}Mg	CS	3RUMBUC	3.2+06	5.3+06	Rept	AIP-1852,080011	17	I.Stefanescu+	D1051
*	$^{13}\text{C},p$	^{24}Na	CS	3RUMBUC	3.2+06	5.3+06	Rept	AIP-1852,080011	17	I.Stefanescu+	D1051
*	$^{20}\text{Ne},^{16}\text{O}$	^{16}O	DAP	3INDVEC	1.5+08	1.5+08	Jour	IMP/E,30,2150039	21	A.K.Mondal+	D6400
*	$^{26}\text{Mg},fus$		CS	2ITYLNS	8.1+06	1.6+07	Jour	PR/C,108,014602	23	A.M.Stefanini+	D8065
*	$^{112}\text{Sn},x$	^{112}In	CS	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058
*	$^{112}\text{Sn},x$	^{112}Sb	CS	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058

6 Carbon 13

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,γ	^{14}N	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

7 Nitrogen

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	^{12}C	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
p,x	^{14}N	TTD	3HUNDEB	3.8+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	n,el	RP	2ZZZCER	4.9+02	6.4+02	Jour	PR/C,107,064617	23	P.Torres-Sanchez+	23656	
*	n,p	^{14}C	CS	2ZZZCER	9.0-03	7.9+05	Jour	PR/C,107,064617	23	P.Torres-Sanchez+	23656
*	n,p	^{14}C	DA	2ZZZCER	4.9+05	4.9+05	Jour	PR/C,107,064617	23	P.Torres-Sanchez+	23656
	p,γ	^{15}O	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

7 Nitrogen 15

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,α	^{12}C	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

8 Oxygen

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	^{17}O	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
p,x	^{18}O	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

p,x ¹⁷F TTD 3HUNDEB 3.1+06 4.2+06 Jour [JRN,89,123](#) 85 A.Z.Kiss+ [D4424](#)

8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,el</i>	¹⁶ O	DA	4KASKAZ	6.0+05	1.0+06	Jour	CPH/C,41,014001	17	S.Dubovichenko+	D8062
<i>p,γ</i>	¹⁷ F	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
* <i>p,x</i>	¹² C	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹² C	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁴ N	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁴ N	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁵ N	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁵ N	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁵ O	CSP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁵ O	DAP	3SAFITH	3.0+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁶ O	CSP	3SAFITH	6.6+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
* <i>p,x</i>	¹⁶ O	DAP	3SAFITH	6.6+07	2.0+08	Jour	NP/A,1032,122622	23	Y.Rahma+	D1040
<i>α,el</i>	¹⁶ O	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

8 Oxygen 17

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,inel</i>	¹⁷ O	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

8 Oxygen 18

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,n</i>	¹⁸ F	DAP	3SAFITH	3.0+07	6.6+07	Jour	NIM/B,513,21	22	P.Z.Ngcobo+	D1000
* <i>p,x+n</i>	inclusive	TTD	3SAFITH	3.0+07	6.6+07	Jour	NIM/B,513,21	22	P.Z.Ngcobo+	D1000

9 Fluorine 19

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,α</i>	¹⁶ O	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
* <i>p,el</i>	¹⁹ F	DA	3RUMBUC	1.6+06	5.3+06	Jour	EPJ/A,59,47	23	A.C.Scafes+	D1049
* <i>p,inel</i>	¹⁹ F	DAP	3RUMBUC	1.6+06	5.3+06	Jour	EPJ/A,59,47	23	A.C.Scafes+	D1049
<i>p,inel</i>	¹⁹ F	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,x</i>	¹⁶ O	TTD	3HUNDEB	2.4+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	¹⁹ F	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
* <i>d,p</i>	²⁰ F	DAP	3IRNNRT	7.9+05	2.0+06	Jour	NIM/B,535,96	23	H.T.Aslani+	D1044

11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,α</i>	²⁰ Ne	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,γ</i>	²⁴ Mg	TTD	2SF HLS	1.0+06	1.7+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	²³ Na	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,x</i>	²³ Na	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>α,el</i>	²³ Na	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

12 Magnesium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	²⁴ Mg	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	²⁵ Mg	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	²⁶ Mg	TTD	3HUNDEB	3.8+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

12 Magnesium 24

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,p</i>	²⁴ Na	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
<i>p,γ</i>	²⁵ Al	TTD	2SF HLS	1.0+06	1.7+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	²⁴ Mg	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>α,el</i>	²⁴ Mg	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
<i>α,el</i>	²⁴ Mg	DA	1USALRC	4.2+07	4.2+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
<i>α,inel</i>	²⁴ Mg	DAP	1USALRC	4.2+07	4.2+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
<i>α,t</i>	²⁵ Al	DAP	1USAINU	8.1+07	8.1+07	Jour	PR/C,33,31	86	R.J.Peterson+	C2804

12 Magnesium 25

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	²⁶ Al	TTD	2SF HLS	1.0+06	1.7+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	²⁵ Mg	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>α,t</i>	²⁶ Al	DAP	1USAINU	8.1+07	8.1+07	Jour	PR/C,33,31	86	R.J.Peterson+	C2804

12 Magnesium 26

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	²⁷ Al	TTD	2SF HLS	1.0+06	1.7+06	Jour	JRC,62,293	81	A.Anttila+	O2487

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,α</i>	²⁴ Mg	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,γ</i>	²⁸ Si	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	²⁷ Al	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
* <i>p,x</i>	⁷ Be	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* <i>p,x</i>	²² Na	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* <i>p,x</i>	²⁴ Na	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
<i>p,x</i>	²⁴ Mg	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	²⁷ Al	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	²⁸ Si	TTD	3HUNDEB	3.8+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
* <i>d,α</i>	²⁵ Mg	DAP	3IRNNRT	1.4+06	1.9+06	Jour	SCR,11,18036	21	M.Salimi+	D1046
* <i>d,p</i>	²⁸ Al	DAP	3IRNNRT	1.4+06	1.9+06	Jour	SCR,11,18036	21	M.Salimi+	D1046
<i>α,el</i>	²⁷ Al	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
<i>α,x+α</i>	inclusive	DAE	1USALRL	2.0+07	2.8+07	Jour	PR/C,2,500	70	J.Benveniste+	C2822

14 Silicon

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	^{nat} Si	DA	3CPRLNZ	1.3+06	2.2+06	Jour	CNPR,19,39	02	Li Gong-Ping+	S0240
<i>p,x</i>	²⁸ Si	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	²⁹ Si	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁰ Si	TTD	3HUNDEB	2.4+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³¹ P	TTD	3HUNDEB	2.4+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>d,x</i>	²² Na	CS	4UKRIJD	1.9+07	4.6+07	Jour	UFZ,38,1773	93	O.N.Vysotsky+	A0618
<i>d,x</i>	²⁴ Na	CS	4UKRIJD	1.9+07	4.7+07	Jour	UFZ,38,1773	93	O.N.Vysotsky+	A0618

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	²⁹ P	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	²⁸ Si	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>α,el</i>	²⁸ Si	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
⁶ He,non		CS	3CPRIMP	1.2+08	2.2+08	Jour	CNPR,19,387	02	Chen Zhi-Qiang+	S0239

14 Silicon 29

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	³⁰ P	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	²⁹ Si	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>α,el</i>	²⁹ Si	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

14 Silicon 30

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	³¹ P	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

15 Phosphorus 31

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,α</i>	²⁸ Si	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,γ</i>	³² S	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	³¹ P	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,x</i>	²⁸ Si	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³¹ P	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³² S	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>α,el</i>	³¹ P	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

16 Sulphur

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	³² S	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³³ S	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³³ Cl	TTD	3HUNDEB	3.1+06	3.1+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁵ Cl	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

16 Sulphur 32

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,p</i>	³² P	?	4RUSFEI	1.0+03	1.0+03	Jour	SJA,17,821	64	I.I.Bondarenko+	40688
<i>p,γ</i>	³³ Cl	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>α,el</i>	³² S	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

16 Sulphur 33

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,inel</i>	³³ S	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

16 Sulphur 34

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	³⁵ Cl	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

17 Chlorine

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	³⁴ S	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁵ Cl	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁷ Cl	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁶ Ar	TTD	3HUNDEB	3.1+06	3.1+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁷ Ar	TTD	3HUNDEB	3.8+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	³⁸ Ar	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
α ,el	^{nat} Cl	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

17 Chlorine 35

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	³⁶ Ar	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	³⁵ Cl	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

17 Chlorine 37

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,α</i>	³⁴ S	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,γ</i>	³⁸ Ar	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
³ He, <i>2n</i>	³⁸ K	CS	1USABRK	7.3+06	2.0+07	Jour	JRC,19,159	74	D.M.Lee+	A0240
³ He, <i>2p</i>	³⁸ Cl	CS	1USABRK	8.1+06	2.0+07	Jour	JRC,19,159	74	D.M.Lee+	A0240

18 Argon 36

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α ,el	³⁶ Ar	DA	1USALRC	1.3+07	1.8+07	Jour	PR/C,2,1738	70	W.J.Wallace+	C2792

19 Potassium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	³⁸ Ar	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
<i>p,x</i>	⁴¹ Ca	TTD	3HUNDEB	3.8+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

19 Potassium 39

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	⁴⁰ Ca	TTD	2SF HLS	1.7+06	1.7+06	Jour	JRC,62,293	81	A.Anttila+	O2487
³ He,2α	³⁴ Cl	CS	1USABRK	1.5+07	2.0+07	Jour	JRC,19,159	74	D.M.Lee+	A0240

19 Potassium 41

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,α</i>	³⁸ Ar	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,γ</i>	⁴² Ca	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
<i>p,inel</i>	⁴¹ K	TTD	2SF HLS	2.4+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

20 Calcium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>p,x</i>	⁴² K	CS	3POLIFJ	2.9+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
*	<i>p,x</i>	⁴³ K	CS	3POLIFJ	2.2+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
	<i>p,x</i>	⁴² Ca	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
	<i>p,x</i>	⁴⁴ Ca	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
*	<i>p,x</i>	⁴⁷ Ca	CS	3POLIFJ	1.6+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
*	<i>p,x</i>	⁴⁴ Sc	CS	3POLIFJ	1.6+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
*	<i>p,x</i>	⁴⁶ Sc	CS	3POLIFJ	2.6+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
*	<i>p,x</i>	⁴⁷ Sc	CS	3POLIFJ	1.6+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
*	<i>p,x</i>	⁴⁸ Sc	CS	3POLIFJ	1.6+07	6.0+07	Jour	RPC,207,110821	23	A.A.Ahmed+	D1047
	<i>p,x</i>	⁴⁸ Sc	TTD	3HUNDEB	3.1+06	3.8+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424

20 Calcium 40

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>α,el</i>	⁴⁰ Ca	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

20 Calcium 43

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,inel</i>	⁴³ Ca	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487

20 Calcium 44

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

p,γ	⁴⁵ Sc	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
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21 Scandium 45

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,γ	⁴⁶ Ti	TTD	2SF HLS	1.0+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
p,inel	⁴⁵ Sc	TTD	2SF HLS	1.7+06	2.4+06	Jour	JRC,62,293	81	A.Anttila+	O2487
* p,x	⁷ Be	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	²² Na	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	²⁴ Na	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	²⁸ Mg	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	⁴¹ Ar	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	⁴² K	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	⁴³ K	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	⁴³ Sc	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
* p,x	⁴⁴ Sc	CS	2JPNJAE	2.2+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
p,x	⁴⁵ Sc	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
p,x	⁴⁶ Ti	TTD	3HUNDEB	3.1+06	4.2+06	Jour	JRN,89,123	85	A.Z.Kiss+	D4424
α,el	⁴⁵ Sc	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
α,t	⁴⁶ Ti	DAP	1USALRC	4.1+07	4.1+07	Jour	PR,182,1121	69	J.R.Priest+	C2817
$\alpha,x+n$	inclusive	DAE	1USALRL	1.3+07	2.1+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824

22 Titanium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,x	⁴⁷ Sc	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
* p,x	⁷ Be	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	²² Na	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	²⁴ Na	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	²⁸ Mg	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴¹ Ar	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴² K	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴³ K	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁷ Ca	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴³ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁴ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁶ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁷ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁸ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁸ V	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769

22 Titanium 46

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	⁴⁶ Sc	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
α,el	⁴⁶ Ti	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
α,inel	⁴⁶ Ti	DAP	4UKRIJD	2.7+07	2.7+07	Jour	SNP,19,486	74	V.V.Alekseev+	D5200

22 Titanium 47

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

α,el	^{47}Ti	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
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22 Titanium 48

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

*	n,p	^{48}Sc	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
	$p,x+n$	inclusive	DAE	1USALRL	1.0+07	1.5+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824
	α,el	^{48}Ti	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	$\alpha,inel$	^{48}Ti	DAP	4UKRIJD	2.7+07	2.7+07	Jour	SNP,19,486	74	V.V.Alekseev+	D5200
	α,n	^{51}Cr	DAE	1USALRL	1.1+07	2.3+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823

22 Titanium 49

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

$p,x+n$	inclusive	DAE	1USALRL	9.6+06	1.4+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824
α,el	^{49}Ti	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

22 Titanium 50

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

α,el	^{50}Ti	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
$\alpha,inel$	^{50}Ti	DAP	4UKRIJD	2.7+07	2.7+07	Jour	SNP,19,486	74	V.V.Alekseev+	D5200

23 Vanadium

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

*	p,x	^7Be	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{22}Na	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{24}Na	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{28}Mg	CS	2JPNJAE	3.0+09	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{38}S	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{41}Ar	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{42}K	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{43}K	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{47}Ca	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{43}Sc	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	p,x	^{44}Sc	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768

*	<i>p,x</i>	⁴⁶ Sc	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	<i>p,x</i>	⁴⁷ Sc	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	<i>p,x</i>	⁴⁸ Sc	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	<i>p,x</i>	⁴⁸ V	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	<i>p,x</i>	⁴⁸ Cr	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768
*	<i>p,x</i>	⁵¹ Cr	CS	2JPNJAE	4.0+08	3.0+09	Rept	JAEA-R-2021-014,1	21	K.Nakano+	E2768

23 Vanadium 51

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,α</i>	⁴⁸ Sc	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
	<i>p,n</i>	⁵¹ Cr	DAE	1USALRL	7.8+06	1.5+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823
	<i>α,el</i>	⁵¹ V	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	<i>α,x+n</i>	inclusive	DAE	1USALRL	1.2+07	2.0+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824
*	⁹ Be,el	⁵¹ V	DA	3INDTAT	2.5+07	2.7+07	Jour	PR/C,106,024602	22	H.Kumawat+	D6437
*	⁹ Be,x	Many	DA	3INDTAT	2.5+07	2.7+07	Jour	PR/C,106,024602	22	H.Kumawat+	D6437
*	⁹ Be,x+α	inclusive	DA	3INDTAT	2.5+07	2.7+07	Jour	PR/C,106,024602	22	H.Kumawat+	D6437
*	⁹ Be,x+α	inclusive	DAE	3INDTAT	2.5+07	2.7+07	Jour	PR/C,106,024602	22	H.Kumawat+	D6437

24 Chromium 50

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
	<i>d,inel</i>	⁵⁰ Cr	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	<i>α,el</i>	⁵⁰ Cr	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	<i>α,inel</i>	⁵⁰ Cr	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	<i>α,inel</i>	⁵⁰ Cr	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199

24 Chromium 52

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
	<i>d,inel</i>	⁵² Cr	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	<i>α,el</i>	⁵² Cr	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	<i>α,inel</i>	⁵² Cr	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,45,(11),124	81	V.S.Bulkin+	D5201
	<i>α,non</i>		CS	4UKRIJD	2.7+07	2.7+07	Jour	BAS,45,(11),124	81	V.S.Bulkin+	D5201
	<i>α,x+n</i>	inclusive	DAE	1USALRL	1.3+07	2.0+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824

24 Chromium 54

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
	<i>α,el</i>	⁵⁴ Cr	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	<i>α,inel</i>	⁵⁴ Cr	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,45,(11),124	81	V.S.Bulkin+	D5201
	<i>α,non</i>		CS	4UKRIJD	2.7+07	2.7+07	Jour	BAS,45,(11),124	81	V.S.Bulkin+	D5201

25 Manganese 55

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{54}Mn	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
$p,x+n$	inclusive	DAE	1USALRL	8.0+06	1.5+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,x	^7Be	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{22}Na	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{41}Ar	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{42}K	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{47}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{48}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{48}Cr	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{56}Mn	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771
* p,x	^{55}Co	CS	2JPNJAE	4.0+08	3.0+09	Jour	JPS/CP,33,011047	21	H.Matsuda+	E2771

26 Iron 54

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,el	^{54}Fe	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{56}Mn	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
$d,inel$	^{56}Fe	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
* $d,x+\alpha$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
* $d,x+d$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
* $d,x+^3\text{He}$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
* $d,x+p$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
α,el	^{56}Fe	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
$\alpha,inel$	^{56}Fe	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
α,n	^{59}Ni	DAE	1USALRL	1.2+07	2.3+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823
α,n	^{59}Ni	DAP	1USALRL	1.2+07	1.6+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823
$\alpha,x+\alpha$	inclusive	DAE	1USALRL	2.1+07	2.1+07	Jour	PR,174,1357	68	J.Benveniste+	C2821
$\alpha,x+p$	inclusive	DAE	1USALRL	2.1+07	2.1+07	Jour	PR,174,1357	68	J.Benveniste+	C2821

26 Iron 58

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,x+n$	inclusive	DAE	1USALRL	9.6+06	1.4+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824
$\alpha,e1$	^{58}Fe	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
$\alpha,x+n$	inclusive	DAE	1USALRL	1.3+07	2.0+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824

27 Cobalt 59

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,x+n$	inclusive	CS	2JPNJSR	1.1+07	4.0+07	Jour	NDS,163,109	20	T.Kawano+	K2683
*	$n,2n$	^{58}Co	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
*	$n,2n$	^{58}Co	CS	3KORKRM	1.5+07	3.7+07	Jour	CPH/C,45,044004	21	M.Zaman+	30855
*	$n,3n$	^{57}Co	CS	3KORKRM	2.6+07	3.7+07	Jour	CPH/C,45,044004	21	M.Zaman+	30855
*	$n,4n$	^{56}Co	CS	3KORKRM	3.7+07	3.7+07	Jour	CPH/C,45,044004	21	M.Zaman+	30855
*	n,α	^{56}Mn	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
*	n,p	^{59}Fe	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
*	n,p	^{59}Fe	CS	3KORKRM	1.5+07	3.7+07	Jour	CPH/C,45,044004	21	M.Zaman+	30855
*	n,x	^{54}Mn	CS	3KORKRM	2.6+07	3.7+07	Jour	CPH/C,45,044004	21	M.Zaman+	30855
*	n,x	^{56}Mn	CS	3KORKRM	1.5+07	3.7+07	Jour	CPH/C,45,044004	21	M.Zaman+	30855
	p,n	^{59}Ni	DAE	1USALRL	7.8+06	1.5+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823
	p,n	^{59}Ni	DAP	1USALRL	7.8+06	1.5+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823
	$p,x+\alpha$	inclusive	DAE	1USALRL	1.6+07	1.6+07	Jour	PR,174,1357	68	J.Benveniste+	C2821
*	$p,x+\alpha$	inclusive	DAE	4KASKAZ	2.2+07	2.2+07	Jour	APP/B,16,2A-13	23	G.A.Ussabayeva+	D8056
	$p,x+n$	inclusive	DAE	1USALRL	1.5+07	1.5+07	Jour	PR/C,3,645	71	S.M.Grimes+	C2823
	$p,x+p$	inclusive	DAE	1USALRL	1.6+07	1.6+07	Jour	PR,174,1357	68	J.Benveniste+	C2821
*	$p,x+p$	inclusive	DAE	4KASKAZ	2.2+07	2.2+07	Jour	APP/B,16,2A-13	23	G.A.Ussabayeva+	D8056
*	$d,x+\alpha$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	$d,x+d$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	$d,x+^3\text{He}$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	$d,x+p$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
	$\alpha,e1$	^{59}Co	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	α,t	^{60}Ni	DAP	1USAINU	8.1+07	8.1+07	Jour	PR/C,35,495	87	R.J.Peterson+	C2814
	$\alpha,x+n$	inclusive	DAE	1USALRL	1.3+07	2.0+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824
	$^{16}\text{O},e1$	^{59}Co	DA	2GERMPH	8.2+07	8.2+07	Jour	KPS,18,44	85	K.S.Sim+	D1039

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	^{51}Cr	CS	4RUSFVE	3.6+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351
p,x	^{52}Mn	CS	4RUSFVE	3.6+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351
p,x	^{56}Co	CS	4RUSFVE	3.0+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351
p,x	^{57}Co	CS	4RUSFVE	1.1+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351
p,x	^{56}Ni	CS	4RUSFVE	3.6+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351
p,x	^{57}Ni	CS	4RUSFVE	2.2+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351
p,x	^{60}Cu	CS	4RUSFVE	3.6+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	n,p	^{58}Co	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
*	n,x	^{57}Co	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
	p,x	Many	CS	1USAINU	8.0+07	1.6+08	Jour	PRL,38,950	77	M.Sadler+	D6056
	$d,i,inel$	^{58}Ni	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	α,e	^{58}Ni	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	α,e	^{58}Ni	DA	1USALRC	4.2+07	4.2+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
	$\alpha,i,inel$	^{58}Ni	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
*	$\alpha,i,inel$	^{58}Ni	DAE	3SAFITH	2.0+08	2.0+08	Jour	PR/C,107,034312	23	A.Bahini+	D1043
	$\alpha,i,inel$	^{58}Ni	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,39,(1),105	75	V.V.Alekseev+	D5198
	$\alpha,i,inel$	^{58}Ni	DAP	1USALRC	4.2+07	4.2+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
	α,t	^{59}Cu	DAP	1USAINU	8.1+07	8.1+07	Jour	PR/C,35,495	87	R.J.Peterson+	C2814

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$d,i,inel$	^{60}Ni	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
*	$d,x+\alpha$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	$d,x+^3\text{He}$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
	α,e	^{60}Ni	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	$\alpha,i,inel$	^{60}Ni	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	$\alpha,i,inel$	^{60}Ni	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,39,(1),105	75	V.V.Alekseev+	D5198
	$\alpha,x+n$	inclusive	DAE	1USALRL	1.4+07	2.0+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	p,x	Many	CS	1USAINU	1.4+08	1.4+08	Jour	PRL,38,950	77	M.Sadler+	D6056
	d,e	^{62}Ni	DA	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	$d,i,inel$	^{62}Ni	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	$d,i,inel$	^{62}Ni	DAP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
	α,e	^{62}Ni	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	$\alpha,i,inel$	^{62}Ni	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,39,(1),105	75	V.V.Alekseev+	D5198

28 Nickel 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	α,e	^{64}Ni	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
	$\alpha,i,inel$	^{64}Ni	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,39,(1),105	75	V.V.Alekseev+	D5198

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
<i>n,tot</i>		CS	3CPRAEP	2.8+06	1.5+07	Jour	CST,6,554	64	Shen Ji-an+	32825	
<i>p,x</i>	⁵⁹ Fe	CS	4RUSFVE	5.9+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
<i>p,x</i>	⁵⁶ Co	CS	4RUSFVE	5.0+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
<i>p,x</i>	⁵⁷ Co	CS	4RUSFVE	5.0+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
<i>p,x</i>	⁶⁰ Cu	CS	4RUSFVE	5.0+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
<i>p,x</i>	⁶¹ Cu	CS	4RUSFVE	2.2+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
<i>p,x</i>	⁶² Zn	CS	4RUSFVE	1.1+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
<i>p,x</i>	⁶³ Zn	CS	4RUSFVE	1.1+07	9.8+07	Jour	SJA,62,478	87	V.N.Aleksandrov+	A0351	
*	<i>d,x+d</i>	inclusive	CSP	4KASKAZ	1.4+07	1.4+07	Jour	APP/B,16,2A-10	23	T.K.Zholdybayev+	D8055
*	<i>d,x+d</i>	inclusive	DAE	4KASKAZ	1.4+07	1.4+07	Jour	APP/B,16,2A-10	23	T.K.Zholdybayev+	D8055
*	¹¹² Sn,x	¹¹² In	CS	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058
*	¹¹² Sn,x	¹¹² Sb	CS	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x+n</i>	inclusive	DAE	1USALRL	1.0+07	1.5+07	Jour	PR/C,10,2373	74	S.M.Grimes+	C2824
<i>α,el</i>	⁶³ Cu	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>α,el</i>	⁶⁵ Cu	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>d,inel</i>	⁶⁴ Zn	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
<i>α,el</i>	⁶⁴ Zn	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
<i>α,inel</i>	⁶⁴ Zn	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199

30 Zinc 65

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>α,inel</i>	⁶⁵ Zn	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199

30 Zinc 66

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,el	^{66}Zn	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

30 Zinc 67

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,el	^{67}Zn	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

30 Zinc 68

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,2n$	^{67}Ga	CS	2BLGBRU	1.2+07	4.0+07	Conf	91JUELIC.,616	91	A.Hermanne+	A0494
$p,3n$	^{66}Ga	CS	2BLGBRU	2.4+07	4.0+07	Conf	91JUELIC.,616	91	A.Hermanne+	A0494
p,n	^{68}Ga	CS	2BLGVUB	5.1+06	3.0+07	Priv	Hermanne	97	A.Hermanne	D4093

30 Zinc 70

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$d,inel$	^{70}Zn	CSP	4UKRIJD	1.4+07	1.4+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
α,el	^{70}Zn	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
$\alpha,inel$	^{70}Zn	CSP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199
$\alpha,inel$	^{70}Zn	DAP	4UKRIJD	2.7+07	2.7+07	Jour	BAS,32,1597	69	V.V.Alekseev+	D5199

32 Germanium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,el	^{nat}Ge	?	1USALAS	3.8+06	8.4+06	Jour	NIM/B,51,311	90	M.Bozoian+	C2816

32 Germanium 70

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	$n,0$	RP	2ZZZCER		2.5+01	Jour	PR/C,100,045804	19	A.Gawlik+	23454
*	n,γ	RP	2ZZZCER		2.5+01	Jour	PR/C,100,045804	19	A.Gawlik+	23454
*	n,γ	^{71}Ge	CS	Maxw1	3.0+05	Jour	PR/C,100,045804	19	A.Gawlik+	23454

32 Germanium 73

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,0$		RP	2ZZZCER		8.0+03	Jour	PL/B,790,458	19	C.Lederer-Woods+	23451
* n,γ		RP	2ZZZCER		1.4+04	Jour	PL/B,790,458	19	C.Lederer-Woods+	23451
* n,γ	^{74}Ge	CS	2ZZZCER	Maxw1	3.0+05	Jour	PL/B,790,458	19	C.Lederer-Woods+	23451

34 Selenium 76

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He},3n$	^{76}Kr	CS	2GERJUL	2.2+07	3.5+07	Jour	ARI,33,13	82	Heyoufeng+	A0154
$^3\text{He},x$	^{75}Br	CS	2GERJUL	2.7+07	3.5+07	Jour	ARI,33,13	82	Heyoufeng+	A0154
$^3\text{He},x$	^{76}Br	CS	2GERJUL	2.2+07	3.5+07	Jour	ARI,33,13	82	Heyoufeng+	A0154

34 Selenium 77

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,0$		RP	2ZZZCER			Jour	PR/C,107,065805	23	N.V.Sosnin+	23655
* n,el		RP	2ZZZCER	2.0+04	2.0+05	Jour	PR/C,107,065805	23	N.V.Sosnin+	23655
* n,γ	^{78}Se	CS	2ZZZCER	Maxw1	2.0+05	Jour	PR/C,107,065805	23	N.V.Sosnin+	23655
$^3\text{He},3n$	^{77}Kr	CS	2GERJUL	1.8+07	3.6+07	Jour	ARI,33,13	82	Heyoufeng+	A0154
$^3\text{He},4n$	^{76}Kr	CS	2GERJUL	2.7+07	3.6+07	Jour	ARI,33,13	82	Heyoufeng+	A0154
$^3\text{He},x$	^{76}Br	CS	2GERJUL	2.8+07	3.5+07	Jour	ARI,33,13	82	Heyoufeng+	A0154
$^3\text{He},x$	^{77}Br	CS	2GERJUL	1.5+07	3.5+07	Jour	ARI,33,13	82	Heyoufeng+	A0154

37 Rubidium 85

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	^{84}Rb	CS	4RUSRGU		7.0+07	Jour	AE/T,75,584	93	I.V.Bodrov+	M0529

38 Strontium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,x	^{87}Sr	CS	3BANSAV	1.5+06	1.5+06	Jour	RCA,111,665	23	M.S.Uddin+	31862

38 Strontium 84

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{84}Rb	CS	3BANSAV	1.5+06	1.5+06	Jour	RCA,111,665	23	M.S.Uddin+	31862

38 Strontium 86

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{86}Rb	CS	3BANSAV	1.5+06	1.5+06	Jour	RCA,111,665	23	M.S.Uddin+	31862

39 Yttrium 89

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma,x+n$	inclusive	CS	2JPNJSR	1.2+07	3.9+07	Jour	NDS,163,109	20	T.Kawano+	K2683
* $n,2n$	^{88}Y	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
	α,el	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,x+n$	inclusive	CS	4RUSMOS	1.2+07	2.8+07	Jour	SNP,14,16	72	B.S.Ishkhanov+	M0658
* $n,2n$	^{89}Zr	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
* n,α	^{87}Sr	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814
* n,p	^{90}Y	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814
* $\alpha,inel$	^{90}Zr	DAE	3SAFITH	2.0+08	2.0+08	Jour	PR/C,107,034312	23	A.Bahini+	D1043

40 Zirconium 91

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	Many	CS	4RUSLIN	1.0+09	1.0+09	Jour	BAS,42,(11),151	78	B.N.Belyaev+	A0041

40 Zirconium 92

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{92}Y	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814

40 Zirconium 94

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{91}Sr	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814
* n,p	^{94}Y	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814
* n,x	^{93}Y	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814
p,x	Many	CS	4RUSLIN	1.0+09	1.0+09	Jour	BAS,42,(11),151	78	B.N.Belyaev+	A0041

40 Zirconium 96

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁹⁵ Zr	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814
* n,γ	⁹⁷ Zr	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,44,124001	20	Yong Li+	32814

41 Niobium 93

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁹² Nb	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
* p,x	⁷ Be	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	²² Na	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	²⁴ Na	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	²⁸ Mg	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴² K	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴³ K	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁶ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁷ Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁴⁸ V	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵¹ Cr	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵² Mn	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵⁴ Mn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵⁹ Fe	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵⁶ Co	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵⁸ Co	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁵⁷ Ni	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁶⁵ Zn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁶⁹ Zn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁶⁶ Ga	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁶⁹ Ge	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷¹ As	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷² As	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷³ As	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁴ As	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷² Se	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁵ Se	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁵ Br	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁶ Br	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁷ Br	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁶ Kr	CS	2JPNJAE	8.0+08	8.0+08	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁷⁹ Kr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸¹ Rb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸² Rb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸³ Rb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸⁴ Rb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸⁶ Rb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸³ Sr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸⁵ Sr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸⁵ Y	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
* p,x	⁸⁶ Y	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769

*	<i>p,x</i>	⁸⁷ Y	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁹⁰ Y	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁸⁶ Zr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁸⁸ Zr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁸⁹ Zr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁹⁰ Nb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁹¹ Nb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁹² Nb	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁹⁰ Mo	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	<i>p,x</i>	⁹³ Mo	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,545,165153	23	K.Sugihara+	E2769
*	¹² C,x+α	inclusive	DA	3INDTAT	6.5+07	6.5+07	Jour	PR/C,105,024611	22	H.Kumawat+	D6420
*	¹² C,x+α	inclusive	DAE	3INDTAT	6.5+07	6.5+07	Jour	PR/C,105,024611	22	H.Kumawat+	D6420
*	¹³ C,x	¹² C	DA	3INDTAT	6.5+07	6.5+07	Jour	PR/C,105,024611	22	H.Kumawat+	D6420
*	¹³ C,x+α	inclusive	DA	3INDTAT	6.5+07	6.5+07	Jour	PR/C,105,024611	22	H.Kumawat+	D6420
*	¹³ C,x+α	inclusive	DAE	3INDTAT	6.5+07	6.5+07	Jour	PR/C,105,024611	22	H.Kumawat+	D6420

42 Molybdenum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ,x	⁹¹ Nb	CS	4RUSRUS		5.5+07	Jour	BAS,87,1112	23	P.D.Remizov+	M1046
*	γ,x	⁹⁵ Nb	CS	4RUSRUS		5.5+07	Jour	BAS,87,1112	23	P.D.Remizov+	M1046
*	γ,x	⁹⁶ Nb	CS	4RUSRUS		5.5+07	Jour	BAS,87,1112	23	P.D.Remizov+	M1046
*	γ,x	⁹⁷ Nb	CS	4RUSRUS		5.5+07	Jour	BAS,87,1112	23	P.D.Remizov+	M1046

42 Molybdenum 92

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	⁷ Li,eI	⁹² Mo	DA	3INDNSD	1.5+07	3.5+07	Jour	EPJ/A,58,40	22	C.Joshi+	D6423

42 Molybdenum 100

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,2n</i>	⁹⁹ Mo	CS	3KORKRM	2.2+07	2.6+07	Jour	JRN,316,561	18	A.Gopalakrishna+	30851
*	⁷ Li,eI	¹⁰⁰ Mo	DA	3INDNSD	1.5+07	3.5+07	Jour	EPJ/A,58,40	22	C.Joshi+	D6423

45 Rhodium 103

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,x+n$	inclusive	CS	2JPNJSR	9.4+06	4.2+07	Jour	NDS,163,109	20	T.Kawano+	K2683

46 Palladium 107

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,0</i>		RP	4RUSNIR			Rept	INDC(CCP)-169,(2),159	80	V.A.Anufriev+	41769
<i>n,γ</i>	¹⁰⁸ Pd	RI	4RUSNIR	1.0-02	1.2+02	Rept	INDC(CCP)-169,(2),159	80	V.A.Anufriev+	41769

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	<i>n,tot</i>	CS	3KORPUE	1.1-02	9.8+00	Jour	KPS,72,17	18	S.G.Shin+	30852
	<i>α,x</i>	Many	1USAINU	2.0+08	2.0+08	Jour	PR/C,56,1918	97	J.Zhang+	C2815
	<i>α,x</i>	Many	1USAINU	2.0+08	2.0+08	Jour	PR/C,56,1918	97	J.Zhang+	C2815

47 Silver 109

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	¹⁶ O,el	DA	2GERMPH	8.2+07	8.2+07	Jour	KPS,18,44	85	K.S.Sim+	D1039

48 Cadmium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>p,x</i>	¹⁰⁵ Ag	CS	3KORKRM	1.4+07	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹⁰⁶ Ag	CS	3KORKRM	2.0+07	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹¹⁰ Ag	CS	3KORKRM	1.7+07	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹¹¹ Ag	CS	3KORKRM	9.9+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹⁰⁷ Cd	CS	3KORKRM	1.4+07	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹⁰⁹ Cd	CS	3KORKRM	1.4+07	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹¹⁵ Cd	CS	3KORKRM	2.5+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹⁰⁹ In	CS	3KORKRM	1.4+07	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹¹⁰ In	CS	3KORKRM	5.0+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
	<i>p,x</i>	¹¹⁰ In	CS	3SAFNAC	8.0+06	9.8+07	Jour	ARI,41,1201	90	F.M.Nortier+	A0500
*	<i>p,x</i>	¹¹¹ In	CS	3KORKRM	2.5+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
	<i>p,x</i>	¹¹¹ In	CS	3SAFNAC	4.1+06	9.8+07	Jour	ARI,41,1201	90	F.M.Nortier+	A0500
*	<i>p,x</i>	¹¹³ In	CS	3KORKRM	2.5+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
*	<i>p,x</i>	¹¹⁴ In	CS	3KORKRM	2.5+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
	<i>p,x</i>	¹¹⁴ In	CS	3SAFNAC	4.1+06	9.8+07	Jour	ARI,41,1201	90	F.M.Nortier+	A0500
*	<i>p,x</i>	¹¹⁵ In	CS	3KORKRM	2.5+06	4.3+07	Jour	NIM/B,521,22	22	M.Shahid+	D7043
	<i>α,el</i>	^{nat} Cd	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197

48 Cadmium 116

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	⁴⁸ Ca,fus	CS	2ITYPAD	1.0+08	1.3+08	Jour	EPJ/A,59,26	23	M.Delfabbro+	D8066

* ^{48}Ca ,fus DA 2ITYPAD 1.6+08 1.6+08 Jour [EPJ/A,59,26](#) 23 M.Delfabbro+ [D8066](#)

49 Indium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	^{110}Sn	CS	3SAFNAC	3.4+07	9.8+07	Jour	ARI,41,1201	90	F.M.Nortier+	A0500
p,x	^{111}Sn	CS	3SAFNAC	2.5+07	9.8+07	Jour	ARI,41,1201	90	F.M.Nortier+	A0500
p,x	^{113}Sn	CS	3SAFNAC	5.8+06	9.8+07	Jour	ARI,41,1201	90	F.M.Nortier+	A0500

50 Tin 114

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,2n$	^{113}Sb	CS	4ARMJER	1.7+07	1.7+07	Jour	EPJ/A,59,161	23	G.H.Hovhannisyanyan+	F1490
* p,α	^{111}In	CS	4ARMJER	8.5+06	1.7+07	Jour	EPJ/A,59,161	23	G.H.Hovhannisyanyan+	F1490
* p,x	^{113}Sn	CS	4ARMJER	1.2+07	1.7+07	Jour	EPJ/A,59,161	23	G.H.Hovhannisyanyan+	F1490

50 Tin 116

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $d,x+d$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
* $d,x+p$	inclusive	DAE	4KASKAZ	2.5+07	2.5+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064

50 Tin 118

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,x+n$	inclusive	DE	4RUSFEI	6.9+06	1.1+07	Prog	INDC(NDS)-0554	09	B.V.Zhuravlev	D0526
* ^{48}Ca ,fus		CS	2ITYPAD	1.1+08	1.3+08	Jour	EPJ/A,59,26	23	M.Delfabbro+	D8066
* ^{48}Ca ,fus		DA	2ITYPAD	1.6+08	1.6+08	Jour	EPJ/A,59,26	23	M.Delfabbro+	D8066
* ^{206}Pb ,x	Many	CS	2ITYPAD	1.2+09	1.2+09	Jour	PR/C,107,014619	23	J.Diklic+	D8060
* ^{206}Pb ,x	Many	DA	2ITYPAD	1.2+09	1.2+09	Jour	PR/C,107,014619	23	J.Diklic+	D8060
* ^{206}Pb ,x	Many	DAP	2ITYPAD	1.2+09	1.2+09	Jour	PR/C,107,014619	23	J.Diklic+	D8060
* ^{206}Pb ,x	^{118}Sn	DAP	2ITYPAD	1.2+09	1.2+09	Jour	PR/C,107,014619	23	J.Diklic+	D8060

50 Tin 120

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,α	^{117}In	CS	4ARMJER	9.5+06	1.7+07	Jour	EPJ/A,59,161	23	G.H.Hovhannisyanyan+	F1490
* p,n	^{120}Sb	CS	4ARMJER	7.3+06	1.7+07	Jour	EPJ/A,59,161	23	G.H.Hovhannisyanyan+	F1490
	^{120}Sn	DA	1USALRC	4.2+07	4.2+07	Jour	PR/C,4,1159	71	N.Baron+	C2819
* α ,inel	^{120}Sn	DAE	3SAFITH	2.0+08	2.0+08	Jour	PR/C,107,034312	23	A.Bahini+	D1043
	^{120}Sn	DAP	1USALRC	4.2+07	4.2+07	Jour	PR/C,4,1159	71	N.Baron+	C2819

50 Tin 124

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* ${}^6\text{Li}, {}^7\text{Li}$	${}^{123}\text{Sn}$	DAP	3BZLUSP	1.8+07	2.2+07	Jour	PR/C,108,044602	23	J.K.L.Chaves+	D1052
* ${}^6\text{Li}, \text{el}$	${}^{124}\text{Sn}$	DA	3BZLUSP	1.8+07	2.2+07	Jour	PR/C,108,044602	23	J.K.L.Chaves+	D1052
* ${}^6\text{Li}, \text{inel}$	${}^{124}\text{Sn}$	DAP	3BZLUSP	1.8+07	2.2+07	Jour	PR/C,108,044602	23	J.K.L.Chaves+	D1052
* ${}^7\text{Li}, {}^6\text{Li}$	${}^{125}\text{Sn}$	DAP	3BZLUSP	1.8+07	2.1+07	Jour	PR/C,108,044602	23	J.K.L.Chaves+	D1052
* ${}^7\text{Li}, \text{inel}$	${}^{124}\text{Sn}$	DAP	3BZLUSP	1.8+07	2.1+07	Jour	PR/C,108,044602	23	J.K.L.Chaves+	D1052
* ${}^7\text{Li}, \text{sct}$	${}^{124}\text{Sn}$	DAP	3BZLUSP	1.8+07	2.1+07	Jour	PR/C,108,044602	23	J.K.L.Chaves+	D1052

52 Tellurium 120

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* ${}^{48}\text{Ca}, \text{fus}$		CS	2ITYPAD	1.1+08	1.3+08	Jour	EPJ/A,59,26	23	M.Delfabbro+	D8066
* ${}^{48}\text{Ca}, \text{fus}$		DA	2ITYPAD	1.6+08	1.6+08	Jour	EPJ/A,59,26	23	M.Delfabbro+	D8066

52 Tellurium 123

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p, 2n$	${}^{122}\text{I}$	CS	2GERJUL	1.3+07	2.0+07	Jour	ARI,40,127	89	B.Scholten+	A0473

52 Tellurium 130

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n, γ	${}^{131}\text{Te}$	CSP	3CZRUVJ	Maxwl		Jour	CZJ/B,34,520	84	J.Honzatko+	30794

53 Iodine 127

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p, 3n$	${}^{125}\text{Xe}$	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062
$p, 6n$	${}^{122}\text{Xe}$	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062

54 Xenon 131

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n, 0$		RP	2JPNJAE			Jour	PR/C,107,054602	23	T.Okudaira+	23609

55 Cesium 133

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	¹²² Xe	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062
<i>p,x</i>	¹²⁵ Xe	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062

56 Barium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	¹²² Xe	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062
<i>p,x</i>	¹²⁵ Xe	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062

56 Barium 132

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,2n</i>	¹³¹ Ba	CS	3CPRLNZ	1.4+07	1.4+07	Jour	CTNP,11,65	94	Yuan Junqian+	32845
<i>n,p</i>	¹³² Cs	CS	3CPRLNZ	1.4+07	1.4+07	Jour	CTNP,11,65	94	Yuan Junqian+	32845

56 Barium 134

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,2n</i>	¹³³ Ba	CS	3CPRLNZ	1.4+07	1.4+07	Jour	CTNP,11,65	94	Yuan Junqian+	32845
<i>n,p</i>	¹³⁴ Cs	CS	3CPRLNZ	1.4+07	1.4+07	Jour	CTNP,11,65	94	Yuan Junqian+	32845

56 Barium 136

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,p</i>	¹³⁶ Cs	CS	3CPRLNZ	1.4+07	1.4+07	Jour	CTNP,11,65	94	Yuan Junqian+	32845

57 Lanthanum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	¹²² Xe	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062
<i>p,x</i>	¹²⁵ Xe	CS	4ZZZDUB	6.6+08	6.6+08	Jour	ARI,31,163	80	M.Adilbish+	A0062

57 Lanthanum 139

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma, x+n$	inclusive	CS	2JPNJSR	8.8+06	4.1+07	Jour	NDS,163,109	20	T.Kawano+	K2683
* $n,0$		RP	2JPNJAE			Jour	PR/C,97,034622	18	T.Okudaira+	23608

59 Praesodymium 141

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\alpha, 2n$	¹⁴³ Pm	CS	4RUSKUR	2.0+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* $\alpha, 2n$	¹⁴³ Pm	TT	4RUSKUR	2.0+07	5.2+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* $\alpha, 4n$	¹⁴¹ Pm	CS	4RUSKUR	5.0+07	5.4+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* $\alpha, 4n$	¹⁴¹ Pm	TT	4RUSKUR	5.0+07	5.4+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, n	¹⁴⁴ Pm	CS	4RUSKUR	2.0+07	5.2+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, n	¹⁴⁴ Pm	TT	4RUSKUR	2.0+07	5.2+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹³⁹ Ce	CS	4RUSKUR	3.7+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹³⁹ Ce	TT	4RUSKUR	3.7+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹³⁸ Pr	CS	4RUSKUR	4.5+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹³⁸ Pr	TT	4RUSKUR	4.5+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹⁴⁰ Nd	CS	4RUSKUR	5.4+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹⁴⁰ Nd	TT	4RUSKUR	5.4+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹⁴¹ Nd	CS	4RUSKUR	4.4+07	6.0+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478
* α, x	¹⁴¹ Nd	TT	4RUSKUR	4.4+07	5.8+07	Jour	NSE,197,1293	23	E.S.Kormazeva+	F1478

60 Neodymium 142

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{48}\text{Ca}, 5n$	¹⁸⁵ Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{48}\text{Ca}, 6n$	¹⁸⁴ Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{48}\text{Ca}, 7n$	¹⁸³ Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487

60 Neodymium 144

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{40}\text{Ca}, 2n$	¹⁸² Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{40}\text{Ca}, 3n$	¹⁸¹ Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{40}\text{Ca}, 4n$	¹⁸⁰ Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{40}\text{Ca}, 5n$	¹⁷⁹ Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487

60 Neodymium 146

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^{16}\text{O}, \text{el}$	¹⁴⁶ Nd	DA	2GERMPH	8.2+07	8.2+07	Jour	KPS,18,44	85	K.S.Sim+	D1039

62 Samarium 144

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* α, el	^{144}Sm	DA	3HUNDEB	1.6+07	2.0+07	Jour	PR/C,106,015802	22	G.G.Kiss+	D4425
* α, n	^{147}Gd	CS	3HUNDEB	1.3+07	1.9+07	Jour	PR/C,107,025803	23	Gy.Gyurky+	D4427
* $^{40}\text{Ar}, 2n$	^{182}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{40}\text{Ar}, 3n$	^{181}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{40}\text{Ar}, 4n$	^{180}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{40}\text{Ar}, 5n$	^{179}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487

62 Samarium 148

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{36}\text{Ar}, 2n$	^{182}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{36}\text{Ar}, 3n$	^{181}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{36}\text{Ar}, 4n$	^{180}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
* $^{36}\text{Ar}, 5n$	^{179}Hg	CS	4ZZZDUB			Jour	BAS,86,883	22	E.V.Chernysheva+	F1487

62 Samarium 154

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{16}\text{O}, el$	^{154}Sm	DA	3INDTRM	8.5+07	1.3+08	Jour	PR/C,105,044611	22	B.J.Roy+	D6429
* $^{16}\text{O}, x$	Many	CS	3INDTRM	8.5+07	1.3+08	Jour	PR/C,105,044611	22	B.J.Roy+	D6429
* $^{16}\text{O}, x$	Many	DA	3INDTRM	8.5+07	1.3+08	Jour	PR/C,105,044611	22	B.J.Roy+	D6429

63 Europium 151

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n, tot		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
* $^3\text{He}, 2n$	^{152}Tb	CS	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 2n$	^{152}Tb	TT	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 3n$	^{151}Tb	CS	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 3n$	^{151}Tb	TT	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 4n$	^{150}Tb	CS	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 4n$	^{150}Tb	TT	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 5n$	^{149}Tb	CS	4RUSKUR	1.2+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
* $^3\text{He}, 5n$	^{149}Tb	TT	4RUSKUR	3.0+07	7.0+07	Jour	SCR,10,508	20	A.N.Moiseeva+	F1471
α, γ	^{155}Tb	CS	3HUNDEB	1.4+07	1.6+07	Jour	JP/G,37,115201	10	Gy.Gyurky+	D4241
α, n	^{154}Tb	CS	3HUNDEB	1.1+07	1.7+07	Jour	JP/G,37,115201	10	Gy.Gyurky+	D4241

63 Europium 153

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,tot</i>		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729

64 Gadolinium 155

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,γ</i>	¹⁵⁶ Gd	CS	2JPNJAE	3.5-03	1.0-01	Jour	NST,60,678	23	A.Kimura+	23607
* <i>n,tot</i>		CS	2JPNJAE	4.5-03	1.0+00	Jour	NST,60,678	23	A.Kimura+	23607

64 Gadolinium 157

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,γ</i>	¹⁵⁸ Gd	CS	2JPNJAE	3.5-03	1.0+00	Jour	NST,60,678	23	A.Kimura+	23607
* <i>n,tot</i>		CS	2JPNJAE	4.5-03	1.0+00	Jour	NST,60,678	23	A.Kimura+	23607

65 Terbium 159

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>γ,x+n</i>	inclusive	CS	2JPNJSR	8.2+06	4.2+07	Jour	NDS,163,109	20	T.Kawano+	K2683

67 Holmium 165

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>γ,x+n</i>	inclusive	CS	2JPNJSR	8.3+06	4.3+07	Jour	NDS,163,109	20	T.Kawano+	K2683
<i>n,el</i>	¹⁶⁵ Ho	AMP	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
<i>n,tot</i>		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729

68 Erbium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,γ</i>		CS	3CPRIHP	1.0+00	1.0+02	Jour	PR/C,104,054302	21	X.X.Li+	32861

68 Erbium 162

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

*	$n,0$	RP	3CPRIHP			Jour	PR/C,106,065804	22	X.X.Li+	32810
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68 Erbium 164

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

*	$n,0$	RP	3CPRIHP			Jour	PR/C,104,054302	21	X.X.Li+	32861
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68 Erbium 166

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

*	$n,0$	RP	3CPRIHP			Jour	PR/C,104,054302	21	X.X.Li+	32861
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	n,tot	CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
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*	$^{40}\text{Ar},3n$	^{203}Rn	CS	4ZZZDUB		Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
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*	$^{40}\text{Ar},4n$	^{202}Rn	CS	4ZZZDUB		Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
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*	$^{40}\text{Ar},5n$	^{201}Rn	CS	4ZZZDUB		Jour	BAS,86,883	22	E.V.Chernysheva+	F1487
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68 Erbium 167

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

*	$n,0$	RP	3CPRIHP			Jour	PR/C,104,054302	21	X.X.Li+	32861
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	n,tot	CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
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68 Erbium 168

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

*	$n,0$	RP	3CPRIHP			Jour	PR/C,104,054302	21	X.X.Li+	32861
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	n,tot	CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
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68 Erbium 170

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

*	$n,0$	RP	3CPRIHP			Jour	PR/C,104,054302	21	X.X.Li+	32861
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	n,tot	CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
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69 Thulium 169

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

*	$\gamma,x+n$	inclusive	CS	2JPNJSR	8.3+06	3.9+07	Jour	NDS,163,109	20	T.Kawano+	K2683
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* $n,2n$ ^{168}Tm CS 3CZRCZR 1.4+07 1.4+07 Jour [ANE,191,109904](#) 23 M.Kostal+ 31858

72 Hafnium 180

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{181}Hf	?	3CPRNPC	Fast		Jour	CST,31,54	97	Huang Ruijiang+	32844

73 Tantalum 181

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma,x+n$	inclusive	CS	2JPNJSR	1.1+07	4.1+07	Jour	NDS,163,109	20	T.Kawano+	K2683

74 Tungsten

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,x	Many	CS	4ARMJER	5.7+06	1.7+07	Jour	NIM/B,537,88	23	R.V.Avetisyan+	F1482
* d,x	^{184}Ta	CS	3CZRUJF	7.1+06	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{187}W	CS	3CZRUJF	7.0+06	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{179}Re	CS	3CZRUJF	1.7+07	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{181}Re	CS	3CZRUJF	1.2+07	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{182}Re	CS	3CZRUJF	6.9+06	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{183}Re	CS	3CZRUJF	7.1+06	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{184}Re	CS	3CZRUJF	7.1+06	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050
* d,x	^{186}Re	CS	3CZRUJF	7.0+06	2.0+07	Jour	EPJ/CS,146,11049	17	E.Simeckova+	D1050

74 Tungsten 186

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,γ	^{187}W	CS	3VN DAL	Maxwl		Jour	ANE,194,110131	23	T.T.Tuanh+	31864
* n,γ	^{187}W	RI	3VN DAL	5.5-01	5.5-01	Jour	ANE,194,110131	23	T.T.Tuanh+	31864

75 Rhenium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ		CS	4RUSFEI	6.0+05	6.0+05	Jour	SJA,19,905	65	Yu.Ya.Stavisskii+	40691

78 Platinum 198

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{52}\text{Cr},\text{sct}$	^{198}Pt	DA	3AULCBR	2.1+08	2.2+08	Jour	PR/C,107,054601	23	T.Tanaka+	D1021

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,n	^{196}Au	CS	3CPRAEP	9.2+06	9.2+06	Jour	EPJ/CS,239,01014	20	Chuangye He+	G0090
* $\gamma,x+n$	inclusive	CS	2JPNJSR	1.1+07	3.9+07	Jour	NDS,163,109	20	T.Kawano+	K2683
* $n,2n$	^{196}Au	CS	3CZRCZR	1.4+07	1.4+07	Jour	ANE,191,109904	23	M.Kostal+	31858
* $n,2n$	^{196}Au	CS	3KORKRM	1.4+07	3.0+07	Jour	EPJ/A,55,181	19	W.Y.Jang+	30854
* n,γ		RP	3CPRIHP	4.9+00	1.0+03	Jour	CNST,32,101	21	Xin-Rong Hu+	32856
* n,γ	^{198}Au	CS	2JPNJAE	4.5+04	1.3+05	Jour	NST,59,647	22	G.Rovira+	23603
* n,γ	^{198}Au	?	3CPRNPC	Fast		Jour	CST,31,54	97	Huang Ruiliang+	32844
n,tot		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
α,el	^{197}Au	DA	4UKRIJD	2.7+07	2.7+07	Rept	KIYAI-85-14	85	V.V.Alekseev+	D5197
α,x	Many	CS	1USAINU	2.0+08	2.0+08	Jour	PR/C,56,1918	97	J.Zhang+	C2815
α,x	Many	DA	1USAINU	2.0+08	2.0+08	Jour	PR/C,56,1918	97	J.Zhang+	C2815

81 Thallium 203

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,3n$	^{201}Pb	CS	2BLGBRU	1.9+07	4.2+07	Conf	91JUELIC,,616	91	A.Hermanne+	A0494
$p,4n$	^{200}Pb	CS	2BLGBRU	2.9+07	4.2+07	Conf	91JUELIC,,616	91	A.Hermanne+	A0494

81 Thallium 205

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,3n$	^{203}Pb	CS	2BLGBRU	1.7+07	4.0+07	Conf	91JUELIC,,616	91	A.Hermanne+	A0494
$p,4n$	^{202}Pb	CS	2BLGBRU	2.9+07	4.0+07	Conf	91JUELIC,,616	91	A.Hermanne+	A0494
$p,5n$	^{201}Pb	CS	2BLGBRU	3.8+07	4.2+07	Conf	91JUELIC,,616	91	A.Hermanne+	A0494

82 Lead

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$n,2n$		CS	3CPRAEP	1.4+07	1.4+07	Jour	CST,11,335	77	Ruan Jinghui+	32837
n,non		CS	3CPRAEP	1.4+07	1.4+07	Jour	CST,11,335	77	Ruan Jinghui+	32837
n,non		CS	3CPRAEP	1.5+06	1.5+06	Jour	CST,7,108	65	Ruan Jinghui+	32833
n,tot		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
n,tot		CS	3CPRAEP	2.8+06	1.5+07	Jour	CST,6,554	64	Shen Ji-an+	32825
* p,x	^7Be	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
* p,x	^{22}Na	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770

*	<i>p,x</i>	⁸⁵ Sr	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹²⁷ Xe	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹³⁹ Ce	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹⁶⁹ Yb	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹⁸³ Re	CS	2JPNJAE	2.2+09	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x+n</i>	inclusive	DAE	2JPNKTO	1.0+08	1.0+08	Jour	NIM/B,544,165107	23	H.Iwamoto+	E2758
*	¹¹² Sn, _x	¹¹² In	CS	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058
*	¹¹² Sn, _x	¹¹² Sb	CS	2GERGSI	1.1+11	1.1+11	Jour	PR/C,106,014618	22	J.L.Rodriguez-Sanchez+	D8058

82 Lead 204

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	⁴⁸ Ca, _{2n}	²⁵⁰ No	CS	4ZZZDUB	2.1+08	2.4+08	Jour	EPJ/A,58,52	22	M.S.Tezezbayeva+	F1493
*	⁴⁸ Ca, _{3n}	²⁴⁹ No	CS	4ZZZDUB	2.2+08	2.4+08	Jour	EPJ/A,58,52	22	M.S.Tezezbayeva+	F1493
*	⁴⁸ Ca, _n	²⁵¹ No	CS	4ZZZDUB	2.1+08	2.4+08	Jour	EPJ/A,58,52	22	M.S.Tezezbayeva+	F1493

82 Lead 208

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	α ,inel	²⁰⁸ Pb	DAE	3SAFITH	2.0+08	2.0+08	Jour	PR/C,107,034312	23	A.Bahini+	D1043
*	α ,x+ α	inclusive	DAE	4KASKAZ	4.9+07	4.9+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	α ,x+d	inclusive	DAE	4KASKAZ	4.9+07	4.9+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	α ,x+ ³ He	inclusive	DAE	4KASKAZ	4.9+07	4.9+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	α ,x+p	inclusive	DAE	4KASKAZ	4.9+07	4.9+07	Priv	ZHOLDYBAYEV	Jun 23	N.T.Burtebaev+	D8064
*	⁵⁸ Fe,fis	Many	CS	3AULCBR	2.5+08	2.5+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041

83 Bismuth 209

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>p,x</i>	⁷ Be	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	²² Na	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	⁸⁵ Sr	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹²⁷ Xe	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹³⁹ Ce	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹⁶⁹ Yb	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x</i>	¹⁸³ Re	CS	2JPNJAE	4.0+08	3.0+09	Jour	EPJ/CS,239,06004	20	H.Matsuda+	E2770
*	<i>p,x+n</i>	inclusive	DAE	2JPNKTO	9.8+07	9.8+07	Jour	NIM/B,544,165107	23	H.Iwamoto+	E2758

90 Thorium

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>p,x</i>	²³⁰ Pa	TT	4RUSKUR	3.2+07	3.2+07	Jour	AE/T,132,34	22	A.A.Smironov+	F1480
*	<i>d,x</i>	²³⁰ Pa	TT	4RUSKUR	2.8+07	2.8+07	Jour	AE/T,132,34	22	A.A.Smironov+	F1480
*	<i>d,x</i>	²³² Pa	TT	4RUSKUR	2.8+07	2.8+07	Jour	AE/T,132,34	22	A.A.Smironov+	F1480

*	<i>d,x</i>	²³³ Pa	TT	4RUSKUR	2.8+07	2.8+07	Jour	AE/T,132,34	22	A.A.Smirnov+	F1480
*	³ He,x	²³⁰ Pa	TT	4RUSKUR	6.5+07	6.5+07	Jour	AE/T,132,34	22	A.A.Smirnov+	F1480
*	³ He,x	²³² Pa	TT	4RUSKUR	6.5+07	6.5+07	Jour	AE/T,132,34	22	A.A.Smirnov+	F1480
*	³ He,x	²³³ Pa	TT	4RUSKUR	6.5+07	6.5+07	Jour	AE/T,132,34	22	A.A.Smirnov+	F1480
*	³ He,x	²³⁰ U	TT	4RUSKUR	6.5+07	6.5+07	Jour	AE/T,132,294	22	A.A.Smirnov+	F1491
*	α,x	²³² Pa	TT	4RUSKUR	5.5+07	5.5+07	Jour	AE/T,132,34	22	A.A.Smirnov+	F1480
*	α,x	²³³ Pa	TT	4RUSKUR	5.5+07	5.5+07	Jour	AE/T,132,34	22	A.A.Smirnov+	F1480
*	α,x	²³⁰ U	TT	4RUSKUR	5.5+07	5.5+07	Jour	AE/T,132,294	22	A.A.Smirnov+	F1491

90 Thorium 229

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,fis</i>	Many	FY	3INDTRM	1.9+06		Jour	NSE,197,1265	23	H.Naik+	33189
*	<i>n,fis</i>		MAS	3INDTRM	1.9+06		Jour	NSE,197,1265	23	H.Naik+	33189

90 Thorium 230

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,fis</i>		?	2ZZZCER	6.6+05	4.0+08	Jour	PR/C,108,014616	23	V.Michalopoulou+	23657

90 Thorium 232

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,fis</i>	Many	FY	3KORKRM			Jour	PR/C,100,014606	19	H.Naik+	30853
*	<i>n,fis</i>		MAS	3KORKRM	7.5+06	1.8+07	Jour	PR/C,100,014606	19	H.Naik+	30853
	<i>n,fis</i>		NU	3CPRAEP	Fiss		Jour	CST,6,1	64	Wang Yusheng+	32832
*	<i>n,fis</i>		?	2ZZZCER	1.0+06	1.0+09	Jour	PR/C,107,044616	23	D.Tarrio+	23654
*	<i>n,fis</i>		?	3CPRIHP	1.0+06	2.1+08	Jour	CNST,34,115	23	Zhizhou Ren+	32889
*	<i>n,fis</i>		?	3CPRIHP	1.0+06	3.0+08	Jour	PL/B,839,137832	23	Yonghao Chen+	32887
	<i>n,fis</i>		?	3CPRAEP	Fiss		Jour	CST,6,1	64	Wang Yusheng+	32832
*	³ He,x	Many	CS	4RUSKUR	3.9+07	5.5+07	Jour	PAN,85,1449	22	A.A.Smirnov+	F1481
*	³ He,x	¹¹⁵ Cd	CS	4RUSKUR	3.9+07	5.5+07	Jour	PAN,85,1449	22	A.A.Smirnov+	F1481
*	³ He,x	¹²⁴ Sb	CS	4RUSKUR	3.9+07	5.5+07	Jour	PAN,85,1449	22	A.A.Smirnov+	F1481
*	³ He,x	¹²⁶ Sb	CS	4RUSKUR	3.9+07	5.5+07	Jour	PAN,85,1449	22	A.A.Smirnov+	F1481
*	$\alpha,6n$	²³⁰ U	CS	4RUSKUR	5.6+07	6.2+07	Jour	PAN,85,515	22	M.N.German+	F1479
*	α,x	²³⁰ Pa	CS	4RUSKUR	5.6+07	6.2+07	Jour	PAN,85,515	22	M.N.German+	F1479
*	α,x	²³² Pa	CS	4RUSKUR	3.7+07	6.2+07	Jour	PAN,85,515	22	M.N.German+	F1479
*	α,x	²³³ Pa	CS	4RUSKUR	3.0+07	6.2+07	Jour	PAN,85,515	22	M.N.German+	F1479
*	⁷ Li,x	²³² Pa	CS	2JPNIPC	2.4+07	4.2+07	Jour	RCA,111,589	23	K.Teranishi+	E2760
*	⁷ Li,x	²³³ Pa	CS	2JPNIPC	2.4+07	4.2+07	Jour	RCA,111,589	23	K.Teranishi+	E2760
*	⁷ Li,x	²³⁴ Pa	CS	2JPNIPC	2.4+07	4.2+07	Jour	RCA,111,589	23	K.Teranishi+	E2760
*	⁴⁸ Ca, _{4n}	²⁷⁶ Ds	CS	4ZZZDUB	2.3+08	2.5+08	Jour	PR/C,108,024611	23	Yu.Ts.Oganessian+	F1486

92 Uranium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,tot</i>		CS	3CPRAEP	2.8+06	1.5+07	Jour	CST,6,554	64	Shen Ji-an+	32825

92 Uranium 233

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,abs</i>		ALF	1USALAS	7.0-01	2.5+05	Jour	PR/C,108,014608	23	E.Leal-Cidoncha+	14819
* <i>n,fis</i>	Many	CHG	3INDTRM	2.5-02	2.5-02	Jour	ARI,197,110804	23	H.Naik+	33190
* <i>n,fis</i>		CS	2ZZZCER	6.6-01	1.0+04	Jour	PR/C,107,044616	23	D.Tarrio+	23654
<i>n,fis</i>		DA	3AULAU	5.0+04	1.8+06	Jour	JP/G,7,549	81	A.R.Del.Musgrove+	31863
* <i>n,fis</i>	Many	FY	3INDTRM	2.5-02	2.5-02	Jour	NSE,197,1133	23	H.Naik+	33187
* <i>n,fis</i>	Many	FY	3INDTRM	2.5-02	2.5-02	Jour	ARI,197,110804	23	H.Naik+	33190
* <i>n,fis</i>		MAS	3INDTRM	2.5-02	2.5-02	Jour	NSE,197,1133	23	H.Naik+	33187
<i>n,fis</i>		NU	3AULAU	Maxw1		Rept	AAEC/E-172	67	J.W.Boldeman+	30046
<i>n,fis</i>		?	4RUSFEI	1.0+03	1.0+03	Jour	SJA,17,821	64	I.I.Bondarenko+	40688
* <i>n,fis</i>		?	2ZZZCER	1.0+04	1.0+09	Jour	PR/C,107,044616	23	D.Tarrio+	23654

92 Uranium 234

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ .fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091
* γ .fis	Many	NU	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ .fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091
* γ .fis	Many	NU	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091
* <i>n,fis</i>	Many	CHG	3INDTRM	2.5-02	2.5-02	Jour	ARI,197,110804	23	H.Naik+	33190
<i>n,fis</i>		CS	3CPRAEP	2.5-02	2.5-02	Jour	CST,6,349	64	Ye Chuntang+	32827
* <i>n,fis</i>		DA	4RUSLIN	1.9+05	4.9+08	Jour	PR/C,108,014621	23	A.S.Vorobyev+	41757
<i>n,fis</i>		DA	3AULAU	5.0+04	1.8+06	Jour	JP/G,7,549	81	A.R.Del.Musgrove+	31863
<i>n,fis</i>	Many	FY	3CPRCPR	2.5-02	2.5-02	Jour	CST,3,106	61	Li Guanhua	32824
* <i>n,fis</i>	Many	FY	3CPRAEP	2.5-02	2.5-02	Jour	NIM/A,1041,167319	22	Chao Liu+	32888
* <i>n,fis</i>	Many	FY	3INDTRM	2.5-02	2.5-02	Jour	NSE,197,485	23	H.Naik+	33186
* <i>n,fis</i>	Many	FY	3INDTRM	2.5-02	2.5-02	Jour	ARI,197,110804	23	H.Naik+	33190
* <i>n,fis</i>		MAS	3INDTRM	2.5-02	2.5-02	Jour	NSE,197,485	23	H.Naik+	33186
<i>n,fis</i>		NU	3CPRAEP	2.5-02	2.5-02	Jour	CST,3,585	61	Huang Shengnian+	32820
<i>n,fis</i>		NU	3CPRAEP	Fiss		Jour	CST,6,1	64	Wang Yusheng+	32832
<i>n,fis</i>		NU	3AULAU	Maxw1		Rept	AAEC/E-172	67	J.W.Boldeman+	30046
<i>n,fis</i>		?	3CPRAEP	Fiss		Jour	CST,6,1	64	Wang Yusheng+	32832
<i>n,fis</i>	¹¹³ Ag	FY	1USAANL	2.5-02	2.5-02	Rept	ANL-4010,59	47	A.Turkevich	14804
<i>n,fis</i>	¹¹⁵ Ag	FY	1USAANL	2.5-02	2.5-02	Rept	ANL-4010,59	47	A.Turkevich	14804
<i>n,non</i>		CS	4RUSKUR	8.1+06	8.1+06	Jour	JNE/AB,20,818	66	Yu.G.Degtyarev	40694

92 Uranium 236

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n, fis		CS	4RUSLIN	1.7+05	5.1+08	Jour	PR/C,108,014621	23	A.S.Vorobyev+	41757
* n, fis		DA	4RUSLIN	6.9+05	3.1+08	Jour	PR/C,108,014621	23	A.S.Vorobyev+	41757
* n, fis		?	4RUSLIN	1.7+05	5.1+08	Jour	PR/C,108,014621	23	A.S.Vorobyev+	41757

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ, fis	Many	?	4UKRIEP		1.8+07	Jour	VAT/I.,(5/145),26	23	E.V.Oleynikov+	G4102
n, fis		NU	3CPRAEP	Fiss		Jour	CST,3,199	61	Liang Qichang+	32822
n, fis		?	4RUSFEI	1.0+03	1.0+03	Jour	SJA,17,821	64	I.I.Bondarenko+	40688
* n, fis		?	2ZZZCER	7.9+05	3.2+07	Jour	PR/C,108,014616	23	V.Michalopoulou+	23657
n, fis		?	3CPRAEP	Fiss		Jour	CST,3,199	61	Liang Qichang+	32822
n, non		CS	4RUSKUR	8.1+06	1.8+07	Jour	JNE/AB,20,818	66	Yu.G.Degtyarev	40694
n, tot		CS	4UKRIJD	2.0+03	2.0+03	Rept	INDC(CCP)-155,32	80	V.P.Vertebnij+	40729
* $^{48}\text{Ca}, 3n$	^{283}Cn	CS	4ZZZDUB	2.3+08	2.3+08	Jour	PR/C,106,024612	22	Yu.Ts.Oganessian+	F1483
* $^{50}\text{Ti}, \text{fis}$		CS	3AULCBR	2.1+08	2.4+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041
* $^{50}\text{Ti}, \text{fis}$	Many	CS	3AULCBR	2.2+08	2.2+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041

93 Neptunium 237

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ, fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091
$n, 0$		RP	2ZZZCER			Jour	PR/C,85,044616	12	C.Guerrero+	23069
* n, γ	^{238}Np	CS	2JPNKTO	2.5-02	2.5-02	Jour	NST,56,493	19	S.Nakamura+	23535
* n, γ	^{238}Np	CS	2JPNKTO	2.5-02	2.5-02	Jour	NST,59,1388	22	S.Nakamura+	23604
* n, γ	^{238}Np	RI	2JPNKTO		1.3-01	Jour	NST,56,493	19	S.Nakamura+	23535

93 Neptunium 238

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ, fis	Many	FY	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091
* γ, fis	Many	NU	2GERGSI	1.4+07	1.4+07	Jour	PR/C,104,044602	21	J.-F.Martin+	G0091

94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n, fis	Many	CHG	3INDTRM	2.5-02	2.5-02	Jour	ARI,197,110804	23	H.Naik+	33190

*	<i>n</i> ,fis	Many	FY	3INDTRM	2.5-02	2.5-02	Jour	ARI,197,110804	23	H.Naik+	33190
	<i>n</i> ,fis		NU	3AULAU	Maxwl		Rept	AAEC/E-172	67	J.W.Boldeman+	30046
	<i>n</i> ,fis		?	3CPRAEP	2.5-02	2.5-02	Jour	CST,2,1	60	China Instituteof Atomic Energy	32819
	<i>n</i> ,fis	<i>n</i>	KE	3CPRAEP	Maxwl		Jour	CST,6,368	64	Hu Xuanwen+	32826
	<i>n</i> , γ	²⁴⁰ Pu	CS	1USALAS	3.0+04	1.0+06	Jour	NSE,12,169	62	J.C.Hopkins+	12331

94 Plutonium 240

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	0,fis	NU	3CPRAEP	Spont		Jour	CST,9,285	75	China Institute Of Atomic Energy	32834

94 Plutonium 241

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	<i>n</i> ,fis	NU	3AULAU	Maxwl		Rept	AAEC/E-172	67	J.W.Boldeman+	30046

94 Plutonium 242

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	⁴⁸ Ca, <i>3n</i>	²⁸⁷ Fl	CS	4ZZZDUB	2.4+08	2.5+08	Jour	PR/C,106,024612	22	Yu.Ts.Oganessian+	F1483
*	⁴⁸ Ca, <i>4n</i>	²⁸⁶ Fl	CS	4ZZZDUB	2.4+08	2.5+08	Jour	PR/C,106,024612	22	Yu.Ts.Oganessian+	F1483

94 Plutonium 244

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	⁵⁰ Ti,fis	CS	3AULCBR	2.1+08	2.4+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041
*	⁵⁰ Ti,fis	Many	3AULCBR	2.3+08	2.3+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041

95 Americium 241

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	<i>n</i> ,fis	?	3CPRAEP	1.5+07	1.5+07	Jour	CST,14,98	80	Li Ze+	32840	
*	<i>n</i> , γ	²⁴² Am	CS	2JPNJAE	2.4+04	1.3+05	Jour	NST,60,489	23	G.Rovira+	23606

95 Americium 243

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	⁴⁸ Ca, <i>2n</i>	²⁸⁹ Mc	CS	4ZZZDUB	2.4+08	2.4+08	Jour	PR/C,106,L031301	22	Yu.Ts.Oganessian+	F1484

*	$^{48}\text{Ca}, 2n$	^{289}Mc	CS	4ZZZDUB	2.4+08	2.4+08	Jour	PR/C,106,064306	22	Yu.Ts.Oganessian+	F1485
*	$^{48}\text{Ca}, 3n$	^{288}Mc	CS	4ZZZDUB	2.4+08	2.4+08	Jour	PR/C,106,L031301	22	Yu.Ts.Oganessian+	F1484
*	$^{48}\text{Ca}, 3n$	^{288}Mc	CS	4ZZZDUB	2.4+08	2.5+08	Jour	PR/C,106,064306	22	Yu.Ts.Oganessian+	F1485
*	$^{48}\text{Ca}, 4n$	^{287}Mc	CS	4ZZZDUB	2.4+08	2.6+08	Jour	PR/C,106,064306	22	Yu.Ts.Oganessian+	F1485
*	$^{48}\text{Ca}, 5n$	^{286}Mc	CS	4ZZZDUB	2.6+08	2.6+08	Jour	PR/C,106,064306	22	Yu.Ts.Oganessian+	F1485

96 Curium 245

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	n, fis	Many	FY	3INDTRM	1.9+06		Jour	EPJ/A,56,227	20	H.Naik+	33188
*	n, fis		MAS	3INDTRM	1.9+06		Jour	EPJ/A,56,227	20	H.Naik+	33188

96 Curium 248

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	$^{50}\text{Ti}, \text{fis}$		CS	3AULCBB	2.1+08	2.4+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041
*	$^{50}\text{Ti}, \text{fis}$	Many	CS	3AULCBB	2.3+08	2.3+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041

98 Californium 249

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	$^{50}\text{Ti}, \text{fis}$		CS	3AULCBB	2.2+08	2.4+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041
*	$^{50}\text{Ti}, \text{fis}$	Many	CS	3AULCBB	2.4+08	2.4+08	Jour	PL/B,837,137641	23	D.Y.Jeung+	D1041

98 Californium 252

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
	$0, \text{fis}$		NU	3AULAUA	Spont		Rept	AAEC/E-172	67	J.W.Boldeman+	30046