Nuclear Reaction Data Center (JCPRG)

EXFOR : Recent Compilation (Added in July 2007)

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Retrieval service is available at:
`http://www.jcprg.org/exfor/`

Quantity code

ALF	Alpha	FY	Fission product yield
AMP	Length or amplitude	INT	Cross section integral over incident energy
CHG	Fragment charge	KE	Kinetic energy
CS	Cross section	KER	Kerma factor
CSN	Differential with respect to number of particles	MLT	Multiplicity
CSP	Partial cross section	NQ	Nuclear quantity
CST	Temperature dependent cross section	NU	Nu
D3A	Triple differential $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2/\mathrm{d}E'$	NUD	Nu delayed
D3E	Triple differential $\mathrm{d}\Omega/\mathrm{d}E'_1/\mathrm{d}E'_2$	NUF	Fragment neutrons
D4A	Quadruple diff. $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2/\mathrm{d}E'_1/\mathrm{d}E'_2$	POL	Polarization
DA	Differential $\mathrm{d}/\mathrm{d}\Omega$	POD	Differential polarization
DAA	Double differential $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2$	PY	Product yield (other than fission)
DAE	Double differential $\mathrm{d}\Omega/\mathrm{d}E'$	RI	Resonance integral
DAP	Partial differential $\mathrm{d}/\mathrm{d}\Omega$	RP	Resonance parameter
DAT	Temperature-dependent Legendre coefficient	RR	Reaction rate
DE	Differential $\mathrm{d}/\mathrm{d}E'$	SIF	Self indication
DEP	Energy spectrum for specific group	SPC	Gamma spectrum
DP	Diff. by linear momentum of outgoing part.	TSL	Thermal scattering
DT	Diff. by 4-momentum transfer squared	TT	Thick target yield
ETA	Eta	TTD	Differential thick target yield, $\mathrm{d}/\mathrm{d}\Omega$
EVL	Evaluation	TTP	Partial thick target yield

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	sct	Scattering	tot	Total
el	Elastic	inel	Inelastic	tcx	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)

1 Hydrogen 1

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,η+p	^{1}H	CS	2GERJUL	2.5+09	2.5+09	Jour	EPJ/A,20,345	04	A.Khoukaz+	O0793
p,η+p	^{1}H	DA	2GERJUL	2.5+09	2.5+09	Jour	EPJ/A,20,345	04	A.Khoukaz+	O0793
d,el	^{1}H	DA	1USAAUI	9.9+06	9.9+06	Jour	PR,78,656	50	F.A.Rodgers+	C1539
d,el	^{1}H	POD	2JPNIPC	1.4+08	2.7+08	Jour	NIM/A,572,(2),745	Mar 07	K.Suda+	E2008
^{3}He,el	^{1}H	DA	1USATNL	9.9+05	4.0+06	Jour	PR/C,74,034001	06	B.M.Fisher+	C1467
^{3}He,el	^{1}H	POD	1USATNL	1.6+06	4.1+06	Jour	PR/C,74,034001	06	B.M.Fisher+	C1467
α,el	^{1}H	DA	1USALAS	5.6+06	6.0+09	Prog	LA-UR-98-4867,1	98	X.M.He+	C1518
α,p	^{4}He	?	1USASC	1.0+07	1.2+07	Jour	NIM/B,161,211	00	J.F.Browning+	C1534
^{11}Li,abs		CS	1USABRK	8.8+09	8.8+09	Jour	PL/B,287,(4),307	Aug 92	I.Tanihata+	E2012
^{11}B,x	Many	CS	1USAUNH	3.6+09	6.2+09	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{17}B,abs		CS	2JPNIPC	7.3+08	7.3+08	Jour	PL/B,608,(3-4),206	Feb 05	R.Kanungo+	E2018
^{17}B,x	^{15}B	CS	2JPNIPC	7.3+08	7.3+08	Jour	PL/B,608,(3-4),206	Feb 05	R.Kanungo+	E2018
^{17}B,x	^{15}B	CSP	2JPNIPC	7.3+08	7.3+08	Jour	PL/B,608,(3-4),206	Feb 05	R.Kanungo+	E2018
^{11}C,el	^{1}H	DA	1USALBL	1.6+06	7.6+06	Jour	PR/C,74,024306	06	K.Perajarvi+	C1506
^{12}C,x	Many	CS	1USAUNH	8.3+09	1.9+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{14}N,x	Many	CS	1USAUNH	6.2+09	7.2+09	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{16}O,x	Many	CS	1USAUNH	7.9+09	2.5+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{20}Ne,x	Many	CS	1USAUNH	9.4+09	2.1+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{23}Na,x	Many	CS	1USAUNH	1.1+10	1.1+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{24}Mg,x	Many	CS	1USAUNH	7.4+09	3.5+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{27}Al,x	Many	CS	1USAUNH	1.6+10	1.6+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{28}Si,tcc		CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{28}Si,x	Many	CS	1USAUNH	1.4+10	3.6+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{28}Si,x	Many	CS	2JPNIRS	7.4+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{32}S,x	Many	CS	1USAUNH	2.1+10	3.7+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{40}Ca,x	Many	CS	1USAUNH	2.7+10	2.7+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{56}Fe,x	Many	CS	1USAUNH	1.8+10	9.0+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546

1 Hydrogen 2

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
γ,n	^{1}H	POD	4RUSSIB	1.0+07	6.0+08	Jour	PRL,98,182303	07	I.A.Rachek+	M0709
p,el	^{2}H	DA	1USAWIS	2.0+06	2.0+06	Jour	PRL,82,4591	99	M.K.Smith+	C1549
p,el	^{2}H	POD	1USAINU	1.4+08	2.0+08	Jour	PR/C,74,064003	06	B.V.Przewoski+	C1524
p,el	^{2}H	POD	1USAWIS	2.0+06	2.0+06	Jour	PRL,82,4591	99	M.K.Smith+	C1549
p,el	^{2}H	?	1USAINU	1.4+08	2.0+08	Jour	PR/C,74,064003	06	B.V.Przewoski+	C1524
p,γ	^{3}He	DA	2SWDUPP	9.8+07	1.8+08	Jour	NP/A,641,389	98	R.Johansson+	O0798
p,n	^{2}He	DA	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,n	^{2}He	DAE	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,n	^{2}He	POD	1USAINU	1.4+08	1.6+08	Jour	PR/C,35,344	87	H.Sakai+	C1547
p,x	^{3}He	DA	2SWDUPP	9.8+07	1.8+08	Jour	NP/A,641,389	98	R.Johansson+	O0798
d,γ	^{4}He	DA	1USAWIS	1.0+07	1.0+07	Jour	PR/C,34,2043	86	S.Mellema+	C1550
d,γ	^{4}He	POD	1USAWIS	1.0+07	1.0+07	Jour	PR/C,34,2043	86	S.Mellema+	C1550
d,n	^{3}He	CS	1USACSM	2.4+04	4.0+04	Jour	NP/A,688,527	01	M.A.Hofstee+	C1511
d,n	^{3}He	DA	2GERTUB	7.0+03	5.5+04	Jour	EPJ/AS,27,187	06	A.Huke+	O1431
d,n	^{3}He	?	2GERTUB	7.0+03	5.5+04	Jour	EPJ/AS,27,187	06	A.Huke+	O1431
d,p	^{3}H	DA	2GERTUB	7.0+03	5.5+04	Jour	EPJ/AS,27,187	06	A.Huke+	O1431

d,p	^{3}H	PY	2GERTUB	7.1+03	5.0+04	Jour	NIM/B,193,183	02	K.Czerski+	F0814
^{3}He,p	^{4}He	DA	1CANCRC	7.5+05	7.5+05	Jour	NIM,168,611	80	J.A.Davies+	C1537
α,d	^{4}He	?	1USASC	1.0+07	1.2+07	Jour	NIM/B,161,211	00	J.F.Browning+	C1534
α,n	^{5}Li	DAE	2BLGPCL	1.0+08	1.0+08	Jour	NIM,148,363	78	M.Bosman+	F0816
^{6}Li,α	^{4}He	POD	1USAWIS	2.1+07	2.1+07	Jour	PR/C,34,401	86	J.P.Soderstrum+	C1551
^{11}Li,abs		CS	1USABRK	8.8+09	8.8+09	Jour	PL/B,287,(4),307	Aug 92	I.Tanihata+	E2012
^{11}Li,x	^{9}Li	?	1USABRK			Jour	PL/B,287,(4),307	Aug 92	I.Tanihata+	E2012
^{7}Be,p	^{8}Be	CS	2BLGLVN	1.3+05	1.2+06	Jour	AJ,630,105	05	C.Angulo+	O1425
^{22}O,p	^{23}O	CSP	2JPNIPC	7.5+08	7.5+08	Jour	PRL,98,(10),102502	Mar 07	Z.Elekes+	E2020
^{22}O,p	^{23}O	DAP	2JPNIPC	7.5+08	7.5+08	Jour	PRL,98,(10),102502	Mar 07	Z.Elekes+	E2020
^{238}U,x	Many	CS	2GERGSI	2.4+11	2.4+11	Jour	PR/C,74,044612	06	E.Casarejos+	O1441

2 Helium 3

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,γ	^{7}Be	CS	2ITYLGS	1.3+05	1.7+05	Jour	PRL,97,122502	06	D.Bemmerer+	O1399

2 Helium 4

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,n	^{3}He	CS	2SWDLND	2.5+07	6.8+07	Jour	PR/C,75,014007	07	B.Nilson+	M0708
γ,n	^{3}He	DA	2SWDLND	2.5+07	6.8+07	Jour	PR/C,75,014007	07	B.Nilson+	M0708
n,el	^{4}He	POD	1USATNL	1.4+07	1.7+07	Conf	75ZURICH,,534	75	P.W.Lisowski+	14123
d,n	^{5}Li	DAE	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
^{8}Li,n	^{11}B	CS	2ITYLNS	1.2+06	1.2+06	Jour	NIM/A,565,406	06	C.Agodi+	O1455
^{11}B,x	Many	CS	1USAUNH	6.2+09	6.2+09	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{12}C,x	Many	CS	1USAUNH	1.9+10	1.9+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{14}N,x	Many	CS	1USAUNH	7.2+09	7.2+09	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{16}O,x	Many	CS	1USAUNH	7.9+09	2.5+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{27}Al,x	Many	CS	1USAUNH	1.6+10	1.6+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{56}Fe,x	Many	CS	1USAUNH	2.4+10	8.5+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546

3 Lithium 6

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{6}Be	DA	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,n	^{6}Be	DAE	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
d,α	^{4}He	DA	1USAWIS		7.0+06	Jour	PR/C,34,401	86	J.P.Soderstrum+	C1551
d,α	^{4}He	POD	1USAWIS		7.0+06	Jour	PR/C,34,401	86	J.P.Soderstrum+	C1551
d,α	^{4}He	POD	2JPNTSU	9.0+04	9.0+04	Jour	PR/C,74,(6),064606	Dec 06	M.Yamaguchi+	E2006
d,n	^{7}Be	CS	1USACSM	9.7+04	9.7+04	Jour	NP/A,688,527	01	M.A.Hofstee+	C1511
d,p	^{7}Li	POD	2JPNTSU	9.0+04	9.0+04	Jour	PR/C,74,(6),064606	Dec 06	M.Yamaguchi+	E2006
d,p	^{7}Li	?	2JPNTSU	9.0+04	9.0+04	Jour	PR/C,74,(6),064606	Dec 06	M.Yamaguchi+	E2006
α,n	^{9}B	DAE	2BLGPCL	1.0+08	1.0+08	Jour	NIM,148,363	78	M.Bosman+	F0816

3 Lithium 7

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,el	^{7}Li	DA	2SPNAUT	3.0+06	7.2+06	Jour	NIM/B,249,95	06	A.Caciolli+	O1409
p,inel	^{7}Li	DAP	2SPNAUT	3.0+06	5.7+06	Jour	NIM/B,249,98	06	A.Caciolli+	O1408
p,n	^{7}Be	DA	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,n	^{7}Be	DAE	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,n	^{7}Be	DAP	2SPNAUT	3.0+06	5.5+06	Jour	NIM/B,249,98	06	A.Caciolli+	O1408
d,n	^{8}Be	CS	1USACSM	5.0+04	1.0+05	Jour	NP/A,688,527	01	M.A.Hofstee+	C1511
d,n	^{8}Be	POD	1USATNL	8.0+04	1.6+05	Jour	PR/C,74,064611	06	A.Sabourov+	C1529
d,n	^{8}Be	?	1USATNL	8.0+04	1.6+05	Jour	PR/C,74,064611	06	A.Sabourov+	C1529
α,n	^{10}B	DAE	2BLGPCL	1.0+08	1.0+08	Jour	NIM,148,363	78	M.Bosman+	F0816
^{6}Li,el	^{7}Li	DA	1USAFSU	4.2+07	4.2+07	Jour	PL/B,640,13	06	O.A.Momotyuk+	C1464
^{6}Li,el	^{7}Li	POD	1USAFSU	4.2+07	4.2+07	Jour	PL/B,640,13	06	O.A.Momotyuk+	C1464
^{7}Li,el	^{7}Li	DA	1USAFSU	4.2+07	4.2+07	Jour	PL/B,640,13	06	O.A.Momotyuk+	C1464
^{7}Li,el	^{7}Li	POD	1USAFSU	4.2+07	4.2+07	Jour	PL/B,640,13	06	O.A.Momotyuk+	C1464

4 Berylium 9

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,n	^{9}B	DA	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,n	^{9}B	DAE	2BLGPCL	5.0+07	5.0+07	Jour	NIM,148,363	78	M.Bosman+	F0816
p,x	Many	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{3}He	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{6}He	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{6}Li	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{7}Li	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{7}Be	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+α	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+d	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+p	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+t	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
d,n	^{10}B	CSP	1USACSM	1.1+05	1.1+05	Jour	NP/A,688,527	01	M.A.Hofstee+	C1511
^{3}He,abs		CS	1USABRK	2.4+09	2.4+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
α,abs		CS	1USABRK	3.2+09	3.2+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
α,n	^{12}C	DAE	2BLGPCL	1.0+08	1.0+08	Jour	NIM,148,363	78	M.Bosman+	F0816
^{6}He,abs		CS	1USABRK	4.7+09	4.7+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{8}He,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{6}Li,abs		CS	1USABRK	4.7+09	4.7+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{7}Li,abs		CS	1USABRK	5.5+09	5.5+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{8}Li,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Li,abs		CS	1USABRK	7.1+09	7.1+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{11}Li,abs		CS	1USABRK	4.4+09	4.4+09	Jour	PL/B,287,(4),307	Aug 92	I.Tanihata+	E2012
^{7}Be,abs		CS	1USABRK	5.5+09	5.5+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Be,abs		CS	1USABRK	7.1+09	7.1+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{10}Be,abs		CS	1USABRK	7.9+09	7.9+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{11}Be,abs		CS	1USABRK	8.7+09	8.7+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{12}Be,abs		CS	1USABRK	9.5+09	9.5+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{8}B,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{12}B,abs		CS	1USABRK	9.5+09	9.5+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{13}B,abs		CS	1USABRK	1.0+10	1.0+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{14}B,abs		CS	1USABRK	1.1+10	1.1+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{15}B,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262

^{15}B,abs		CS	1USABRK	1.2+10	1.2+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{9}C,abs		CS	1USABRK	6.6+09	6.6+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{10}C,abs		CS	1USABRK	7.3+09	7.3+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{11}C,abs		CS	1USABRK	8.1+09	8.1+09	Jour	NP/A,583,807	Feb 95	A.Ozawa+	E2014
^{15}C,abs		CS	1USABRK	1.1+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{12}N,abs		CS	1USABRK	8.8+09	8.8+09	Jour	NP/A,583,807	Feb 95	A.Ozawa+	E2014
^{13}N,abs		CS	1USABRK	9.5+09	9.5+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{17}N,abs		CS	1USABRK	1.3+10	1.3+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{13}O,abs		CS	1USABRK	9.2+09	9.2+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{14}O,abs		CS	1USABRK	1.0+10	1.0+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{15}O,abs		CS	1USABRK	1.1+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{17}F,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{17}Ne,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{28}Mg,x	^{26}Ne	CS	1USAMSU	2.5+09	2.5+09	Jour	NP/A,746,173	04	D.Bazin+	C1526
^{30}Mg,x	^{28}Ne	CS	1USAMSU	2.7+09	2.7+09	Jour	NP/A,746,173	04	D.Bazin+	C1526
^{34}Si,x	^{32}Mg	CS	1USAMSU	3.0+09	3.0+09	Jour	NP/A,746,173	04	D.Bazin+	C1526

5 Boron

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
α,el	^{nat}B	DA	1USALAS	5.6+06	6.0+09	Prog	LA-UR-98-4867,1	98	X.M.He+	C1518

5 Boron 8

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{8}B	DA	1USANOT	5.5+05	3.1+06	Jour	PR/C,75,014603	07	G.V.Rogachev+	C1528

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,n	^{11}C	CS	1USACSM	1.1+05	1.1+05	Jour	NP/A,688,527	01	M.A.Hofstee+	C1511

5 Boron 11

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,n	^{12}C	CS	1USACSM	1.1+05	1.1+05	Jour	NP/A,688,527	01	M.A.Hofstee+	C1511

6 Carbon

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

γ,x	^{7}Be	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,x	^{11}C	CS	4RUSITE	9.5+07	2.0+08	Jour	ARI,44,1173	93	V.Kostjuchenko+	O1459
^{3}He,abs		CS	1USABRK	2.4+09	2.4+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
α,abs		CS	1USABRK	3.2+09	3.2+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
α,el	^{nat}C	DA	1USALAS	5.6+06	6.0+09	Prog	LA-UR-98-4867,1	98	X.M.He+	C1518
^{6}He,abs		CS	1USABRK	4.7+09	4.7+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{6}He,x	Many	CS	1USABRK	4.7+09	4.7+09	Jour	PRL,60,(25),2599	Jun 88	T.Kobayashi+	E1256
^{8}He,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{8}He,x	Many	CS	1USABRK	6.3+09	6.3+09	Jour	PRL,60,(25),2599	Jun 88	T.Kobayashi+	E1256
^{8}He,x	^{6}He	?	1USABRK	6.3+09	6.3+09	Jour	PRL,60,(25),2599	Jun 88	T.Kobayashi+	E1256
^{6}Li,abs		CS	1USABRK	4.7+09	4.7+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{7}Li,abs		CS	1USABRK	5.5+09	5.5+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{8}Li,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Li,abs		CS	1USABRK	7.1+09	7.1+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{11}Li,abs		CS	1USABRK	4.4+09	4.4+09	Jour	PL/B,287,(4),307	Aug 92	I.Tanihata+	E2012
^{11}Li,abs		CS	1USABRK	8.7+09	8.7+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{11}Li,abs		CS	1USABRK	8.7+09	8.7+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{11}Li,x	Many	CS	1USABRK	8.7+09	8.7+09	Jour	PRL,60,(25),2599	Jun 88	T.Kobayashi+	E1256
^{11}Li,x	^{9}Li	?	1USABRK			Jour	PL/B,287,(4),307	Aug 92	I.Tanihata+	E2012
^{11}Li,x	^{9}Li	?	1USABRK	8.7+09	8.7+09	Jour	PRL,60,(25),2599	Jun 88	T.Kobayashi+	E1256
^{7}Be,abs		CS	1USABRK	5.5+09	5.5+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Be,abs		CS	1USABRK	7.1+09	7.1+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{10}Be,abs		CS	1USABRK	7.9+09	7.9+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{11}Be,abs		CS	1USABRK	8.7+09	8.7+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{12}Be,abs		CS	1USABRK	9.5+09	9.5+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{14}Be,abs		CS	1USABRK	1.1+10	1.1+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{8}B,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{8}B,abs		CS	1USABRK	6.3+09	6.3+09	Jour	NP/A,609,(1),74	Nov 96	M.M.Obuti+	E2016
^{12}B,abs		CS	1USABRK	9.5+09	9.5+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{13}B,abs		CS	1USABRK	1.0+10	1.0+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{14}B,abs		CS	1USABRK	1.1+10	1.1+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{15}B,abs		CS	1USABRK	1.1+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{15}B,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{9}C,abs		CS	1USABRK	6.1+09	6.5+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{10}C,abs		CS	1USABRK	7.2+09	7.2+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{11}C,abs		CS	1USABRK	7.7+09	8.0+09	Jour	NP/A,583,807	Feb 95	A.Ozawa+	E2014
^{15}C,abs		CS	1USABRK	1.1+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{19}C,inel	^{nat}C	CS	2JPNIPC	1.3+09	1.3+09	Jour	PRL,83,(6),1112	Aug 99	T.Nakamura+	E2017
^{19}C,inel	^{nat}C	DE	2JPNIPC	1.3+09	1.3+09	Jour	PRL,83,(6),1112	Aug 99	T.Nakamura+	E2017
^{12}N,abs		CS	1USABRK	8.0+09	8.6+09	Jour	NP/A,583,807	Feb 95	A.Ozawa+	E2014
^{13}N,abs		CS	1USABRK	8.8+09	9.5+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{17}N,abs		CS	1USABRK	1.2+10	1.3+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{13}O,abs		CS	1USABRK	8.4+09	9.1+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{14}O,abs		CS	1USABRK	9.1+09	9.9+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{15}O,abs		CS	1USABRK	1.0+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{17}F,abs		CS	1USABRK	1.1+10	1.2+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{17}Ne,abs		CS	1USABRK	1.1+10	1.2+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{28}Si,tcc		CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{28}Si,x	Many	CS	2JPNIRS	7.4+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010

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

n,el	^{12}C	POD	1USATNL	2.2+06	3.6+06	Rept	TUNL-36	96	R.T.Braun+	14124
n,γ	^{13}C	CS	1USAORL	Maxwl		Jour	AJ,357,649	90	R.L.Macklin	14127
p,el	^{12}C	DA	2SPNAUT	3.0+06	7.2+06	Jour	NIM/B,249,95	06	A.Caciolli+	O1409
p,el	^{12}C	DA	4RUSMOS	7.5+06	7.5+06	Jour	IZV,70,1645	06	V.M.Lebedev+	F0747
p,γ	^{13}N	TT	3INDIND	4.2+05	1.1+06	Jour	NIM/B,240,704	05	S.Kumar+	F0817
p,inel	^{12}C	DAP	1USALRL	2.7+07	2.7+07	Jour	PR/C,21,1153	80	R.H.Howell+	C1514
p,inel	^{12}C	DAP	4RUSMOS	7.5+06	7.5+06	Jour	IZV,70,1645	06	V.M.Lebedev+	F0747
p,inel	^{12}C	POD	2JPNOSA	3.9+08	3.9+08	Jour	PL/B,459,(1-3),61	Jul 99	A.Tamii+	E1807
p,inel	^{12}C	?	4RUSMOS	7.5+06	7.5+06	Jour	IZV,70,1645	06	V.M.Lebedev+	F0747
p,n+p	^{11}C	CS	1USAHRV	5.1+07	1.6+08	Jour	NP,78,476	66	D.F.Measday	C1538
p,x	Many	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{3}He	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+α	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+d	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+p	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+t	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
d,el	^{12}C	DA	4RUSMOS	1.3+07	1.5+07	Jour	YF,70,297	07	L.I.Galanina+	F0839
d,inel	^{12}C	DAP	4RUSMOS	1.4+07	1.5+07	Jour	YF,70,297	07	L.I.Galanina+	F0839
d,inel	^{12}C	?	4RUSMOS	1.5+07	1.5+07	Jour	YF,70,297	07	L.I.Galanina+	F0839
d,n	^{13}N	DAP	3BZLUSP	1.1+07	1.3+07	Jour	NP/A,414,67	84	H.R.Schelin+	F0806
d,n	^{13}N	DAP	3AULCBR	3.7+06	1.2+07	Jour	NP/A,179,101	72	J.R.Davis+	F0803
d,n	^{13}N	DAP	3BZLUSP	7.0+06	1.3+07	Jour	NP/A,414,67	84	H.R.Schelin+	F0806
d,p	^{13}C	DA	1CANUWO	7.4+05	1.2+06	Jour	NIM/B,61,1	91	W.N.Lennard+	C1515
d,p	^{13}C	DA	4RUSLEB	8.2+05	1.5+06	Jour	KSF,7,29	86	I.Ya.Barrit+	F0840
d,p	^{13}C	DA	1CANCRC	9.7+05	9.7+05	Jour	NIM,168,611	80	J.A.Davies+	C1537
t,^{3}He	^{12}B	DAP	1USAMSU	3.4+08	3.4+08	Jour	PR/C,74,034333	06	A.L.Cole+	C1466
α,el	^{12}C	DA	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
^{7}Li,^{7}Be	^{12}B	DAP	4RUSKUR	8.2+07	8.2+07	Jour	NP/A,773,187	06	S.B.Sakuta+	O1439
^{8}Li,tcc		CS	2FR SAC	6.5+08	6.5+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{9}Li,tcc		CS	2FR SAC	7.3+08	7.3+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{11}Li,tcc		CS	2FR SAC	9.5+08	9.5+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{11}B,x	Many	CS	1USAUNH	3.6+09	6.2+09	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{12}C,α	^{20}Ne	CS	3MEXINI	4.4+06	6.5+06	Jour	PR/C,73,064601	06	E.F.Aguilera+	O1433
^{12}C,α	^{20}Ne	CSP	3MEXIFM	2.2+06	6.0+06	Jour	NP/A,779,318	06	L.Barron-Palos+	O1457
^{12}C,el	^{12}C	DA	2GERMPH	5.2+06	3.7+07	Jour	NP/A,239,172	75	H.Emling+	F0820
^{12}C,inel	^{12}C	DAP	2GERMPH	9.6+06	3.8+07	Jour	NP/A,239,172	75	H.Emling+	F0820
^{12}C,n	^{23}Mg	CSP	3MEXIFM	3.7+06	6.0+06	Jour	NP/A,779,318	06	L.Barron-Palos+	O1457
^{12}C,p	^{23}Na	CSP	3MEXIFM	2.2+06	6.0+06	Jour	NP/A,779,318	06	L.Barron-Palos+	O1457
^{12}C,x	Many	CS	1USAUNH	8.3+09	1.9+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{14}N,x	Many	CS	1USAUNH	6.2+09	7.2+09	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{16}O,x	Many	CS	1USAUNH	7.9+09	2.5+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{24}F,x	^{20}O	?	1USAMSU	1.1+09	1.1+09	Jour	NP/A,746,536	04	M.Thoennessen+	C1527
^{24}F,x	^{23}O	CSP	1USAMSU	1.1+09	1.1+09	Jour	NP/A,746,536	04	M.Thoennessen+	C1527
^{20}Ne,x	Many	CS	1USAUNH	9.4+09	2.1+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{23}Na,x	Many	CS	1USAUNH	1.1+10	1.1+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{24}Mg,x	Many	CS	1USAUNH	7.4+09	3.5+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{27}Al,x	Many	CS	1USAUNH	1.6+10	1.6+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{28}Si,x	Many	CS	1USAUNH	1.4+10	3.6+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{32}S,x	Many	CS	1USAUNH	2.1+10	3.7+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{36}Ar,2n	^{46}Cr	CSP	1USAANL	1.0+08	1.0+08	Jour	PR/C,75,014307	07	P.E.Garrett+	C1545
^{36}Ar,2n	^{46}Cr	DAP	1USAANL	1.0+08	1.0+08	Jour	PR/C,75,014307	07	P.E.Garrett+	C1545
^{40}Ar,x	Many	CS	1USAUNH	2.1+10	3.2+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{40}Ca,x	Many	CS	1USAUNH	2.7+10	2.7+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546
^{56}Fe,x	Many	CS	1USAUNH	1.8+10	9.0+10	Jour	PR/C,41,533	90	W.R.Webber+	C1546

6 Carbon 13

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,n	^{14}N	DAP	2GERBER	6.5+06	6.5+06	Jour	NP/A,251,257	75	J.Bommer+	F0805
^{6}Li,^{6}He	^{13}N	DAP	4RUSKUR	9.3+07	9.3+07	Jour	NP/A,501,336	89	A.S.Demyanova+	O1440
^{6}Li,el	^{13}C	DA	4RUSKUR	9.3+07	9.3+07	Jour	NP/A,501,336	89	A.S.Demyanova+	O1440

6 Carbon 14

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{14}N	CSP	1USAMSU	3.5+07	3.5+07	Jour	PR/C,29,764	84	T.N.Taddeucci+	C1523
p,n	^{14}N	DAP	1USAMSU	2.6+07	4.5+07	Jour	PR/C,29,764	84	T.N.Taddeucci+	C1523
p,n	^{14}N	DAP	1USAMSU	3.5+07	3.5+07	Jour	PR/C,20,1627	79	R.R.Doering+	C1522
d,n	^{15}N	DAP	2GERBER	6.5+06	6.5+06	Jour	NP/A,251,246	75	J.Bommer+	F0804
d,n	^{15}N	DAP	2GERBER	6.5+06	6.5+06	Jour	NP/A,251,257	75	J.Bommer+	F0805
^{6}Li,^{6}He	^{14}N	DAP	4RUSKUR	9.3+07	9.3+07	Jour	NP/A,501,336	89	A.S.Demyanova+	O1440
^{6}Li,el	^{14}C	DA	4RUSKUR	9.3+07	9.3+07	Jour	NP/A,501,336	89	A.S.Demyanova+	O1440

7 Nitrogen

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,t		CS	1USAWIS	1.5+05	1.5+06	Jour	PR,84,775	51	C.H.Johnson+	14122

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{11}C	DAP	1USAORL	5.0+06	5.6+06	Jour	PR,179,1047	69	M.L.West+	C1513
p,el	^{14}N	DA	1USAORL	3.7+06	5.7+06	Jour	PR,179,1047	69	M.L.West+	C1513
p,γ	^{15}O	CS	2ITYLGS			Jour	NP/A,779,297	06	D.Bemmerer+	O1458
p,γ	^{15}O	CSP	2ITYLGS	2.1+05	2.5+06	Jour	NP/A,719,94	03	A.Formicola+	F0810
p,γ	^{15}O	PY	2ITYLGS	2.7+05	4.1+05	Jour	NP/A,719,94	03	A.Formicola+	F0810
p,γ	^{15}O	SPC	2ITYLGS	2.6+05	2.7+05	Jour	NP/A,719,94	03	A.Formicola+	F0810
p,inel	^{14}N	CSP	1USAMSU	3.7+07	3.7+07	Jour	PR/C,29,764	84	T.N.Taddeucci+	C1523
p,inel	^{14}N	DAP	1USAORL	3.7+06	5.7+06	Jour	PR,179,1047	69	M.L.West+	C1513
p,n	^{14}O	CSP	1USAMSU	3.5+07	3.5+07	Jour	PR/C,29,764	84	T.N.Taddeucci+	C1523
p,n	^{14}O	DAP	1USAMSU	3.5+07	3.5+07	Jour	PR/C,29,764	84	T.N.Taddeucci+	C1523
α,el	^{14}N	DA	1USALAS	5.6+06	6.0+09	Prog	LA-UR-98-4867,1	98	X.M.He+	C1518
α,el	^{14}N	DA	1USACAL	9.1+06	9.6+06	Jour	NIM/B,71,324	92	Y.Qui+	C1535

8 Oxygen

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

γ,x	^{7}Be	CS	2JPNTOK	2.5+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{7}Be	CS	2JPNKEK	3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK	3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK	3.8+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025

8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{17}O	DAP	4RUSFEI	7.3+05	1.0+06	Jour	YK,3,31	88	V.A.Karabash+	F0838
d,p	^{17}O	DAP	1CANUWO	7.4+05	1.2+06	Jour	NIM/B,61,1	91	W.N.Lennard+	C1515
d,p	^{17}O	DAP	1CANCRC	9.7+05	9.7+05	Jour	NIM,168,611	80	J.A.Davies+	C1537
^{3}He,α	^{15}O	DAP	1CANUWO	2.4+06	2.4+06	Jour	NIM/B,43,187	89	W.N.Lennard+	C1532
^{3}He,p	^{18}F	DAP	1CANUWO	2.4+06	2.4+06	Jour	NIM/B,43,187	89	W.N.Lennard+	C1532
α,el	^{16}O	DA	1USALAS	5.6+06	6.0+09	Prog	LA-UR-98-4867,1	98	X.M.He+	C1518
^{7}Li,el	^{16}O	DA	1USAFSU	4.2+07	4.2+07	Jour	PR/C,75,024612	07	A.T.Rudchik+	C1540
^{7}Li,el	^{16}O	POD	1USAFSU	4.2+07	4.2+07	Jour	PR/C,75,024612	07	A.T.Rudchik+	C1540
^{16}O,el	^{16}O	DA	1USAORL	3.5+07	8.8+07	Jour	PL/B,51,341	74	M.L.Halbert+	C1531

8 Oxygen 18

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{18}O	DA	2FR SAT	2.4+07	2.4+07	Jour	PR/C,10,1645	74	J.L.Escudie+	F0819
p,el	^{18}O	DA	2FR GAN	4.3+07	4.3+07	Jour	PL/B,490,45	00	E.Khan+	F0818
p,el	^{18}O	POD	2FR SAT	2.4+07	2.4+07	Jour	PR/C,10,1645	74	J.L.Escudie+	F0819
p,inel	^{18}O	DAP	2FR SAT	2.4+07	2.4+07	Jour	PR/C,10,1645	74	J.L.Escudie+	F0819
p,inel	^{18}O	DAP	2FR GAN	4.3+07	4.3+07	Jour	PL/B,490,45	00	E.Khan+	F0818
p,inel	^{18}O	POD	2FR SAT	2.4+07	2.4+07	Jour	PR/C,10,1645	74	J.L.Escudie+	F0819

8 Oxygen 20

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{20}O	DA	2FR GAN	4.3+07	4.3+07	Jour	PL/B,490,45	00	E.Khan+	F0818
p,inel	^{20}O	DAP	2FR GAN	4.3+07	4.3+07	Jour	PL/B,490,45	00	E.Khan+	F0818

9 Fluorine 19

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{16}O	CS	2GERMPH	1.2+07	1.8+07	Jour	NP/A,275,269	77	A.Stabler+	F0794
p,α	^{16}O	DA	2GERMPH	1.2+07	1.8+07	Jour	NP/A,275,269	77	A.Stabler+	F0794
p,α	^{16}O	DAP	1CANCRC	1.3+06	2.7+06	Jour	CJP,35,155	57	R.L.Clarke+	C0181
p,α	^{16}O	DAP	2GERMPH	1.4+07	1.8+07	Jour	NP/A,275,269	77	A.Stabler+	F0794
p,α	^{16}O	DAP	2SPNAUT	3.0+06	5.1+06	Jour	NIM/B,249,98	06	A.Caciolli+	O1408
p,α	^{16}O	DAP	1CANCRC	7.9+05	2.7+06	Jour	CJP,35,155	57	R.L.Clarke+	C0181
p,el	^{19}F	DA	2SPNAUT	3.0+06	7.2+06	Jour	NIM/B,249,95	06	A.Caciolli+	O1409

p,^{3}He	^{17}O	DAP	1CANMNA	4.2+07	4.2+07	Jour	NP/A,218,441	74	J.M.Nelson+	F0791
p,inel	^{19}F	DAP	2SPNAUT	3.0+06	5.7+06	Jour	NIM/B,249,98	06	A.Caciolli+	O1408
p,t	^{17}F	DAP	1CANMNA	4.2+07	4.2+07	Jour	NP/A,218,441	74	J.M.Nelson+	F0791
α,t	^{20}Ne	DAP	4RUSMOS	2.4+07	3.0+07	Jour	YF,58,208	95	A.V.Ignatenko+	F0750
α,t	^{20}Ne	?	4RUSMOS	3.0+07	3.0+07	Jour	YF,58,208	95	A.V.Ignatenko+	F0750

11 Sodium 21

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,0		RP	1CANTMF			Jour	NP/A,752,510	05	A.A.Chen+	C1525
p,el		RP	1CANTMF	8.3+05	1.3+06	Jour	PR/C,65,042801	02	C.Ruiz+	C1542

11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,0		RP	1USADKE			Jour	PR/C,36,920	87	J.R.Vanhoy+	C1536

12 Magnesium 24

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{24}Mg,el	^{24}Mg	DA	2GERMPH	2.3+07	6.6+07	Jour	NP/A,239,172	75	H.Emling+	F0820
^{24}Mg,inel	^{24}Mg	DAP	2GERMPH	2.5+07	3.3+07	Jour	NP/A,239,172	75	H.Emling+	F0820

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{7}Be	CS	2JPNTOK		2.8+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{10}Be	CS	2JPNTOK		5.0+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{22}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,γ	^{28}Si	TT	3INDIND	4.1+05	9.8+05	Jour	NIM/B,240,704	05	S.Kumar+	F0817
p,x	Many	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	Many	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{3}He	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{6}Li	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{7}Li	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x	^{7}Be	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{22}Na	CS	3SAFITH	2.5+07	9.9+07	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x+α	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+d	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+p	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007
p,x+t	inclusive	DAE	2JPNOSA	3.9+08	3.9+08	Jour	NIM/A,571,(3),743	Feb 07	Y.Uozumi+	E2007

^{3}He,abs		CS	1USABRK	2.4+09	2.4+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
α,abs		CS	1USABRK	3.2+09	3.2+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{6}He,abs		CS	1USABRK	4.7+09	4.7+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{8}He,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PL/B,160,(6),380	Oct 85	I.Tanihata+	E2011
^{6}Li,abs		CS	1USABRK	4.7+09	4.7+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{7}Li,abs		CS	1USABRK	5.5+09	5.5+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{8}Li,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Li,abs		CS	1USABRK	7.1+09	7.1+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Li,tcc		CS	2FR SAC	7.3+08	7.3+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{7}Be,abs		CS	1USABRK	5.5+09	5.5+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{9}Be,abs		CS	1USABRK	7.1+09	7.1+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{10}Be,abs		CS	1USABRK	7.9+09	7.9+09	Jour	PRL,55,(24),2676	Dec 85	I.Tanihata+	E1174
^{11}Be,abs		CS	1USABRK	8.7+09	8.7+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{12}Be,abs		CS	1USABRK	9.5+09	9.5+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{8}B,abs		CS	1USABRK	6.3+09	6.3+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{12}B,abs		CS	1USABRK	9.5+09	9.5+09	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{13}B,abs		CS	1USABRK	1.0+10	1.0+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{14}B,abs		CS	1USABRK	1.1+10	1.1+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{15}B,abs		CS	1USABRK	1.1+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{15}B,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,206,(4),592	Jun 88	I.Tanihata+	E1262
^{9}C,abs		CS	1USABRK	6.5+09	6.5+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{10}C,abs		CS	1USABRK	7.1+09	7.1+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{11}C,abs		CS	1USABRK	8.0+09	8.0+09	Jour	NP/A,583,807	Feb 95	A.Ozawa+	E2014
^{12}C,x	Many	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{9}Be	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{15}C,abs		CS	1USABRK	1.1+10	1.1+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{12}N,abs		CS	1USABRK	8.5+09	8.5+09	Jour	NP/A,583,807	Feb 95	A.Ozawa+	E2014
^{13}N,abs		CS	1USABRK	9.4+09	9.4+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{17}N,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{13}O,abs		CS	1USABRK	9.0+09	9.0+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{14}O,abs		CS	1USABRK	9.8+09	9.8+09	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{15}O,abs		CS	1USABRK	1.0+10	1.0+10	Jour	NP/A,608,(1),63	Oct 96	A.Ozawa+	E2015
^{17}F,abs		CS	1USABRK	1.2+10	1.2+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{17}Ne,abs		CS	1USABRK	1.1+10	1.1+10	Jour	PL/B,334,(1-2),18	Aug 94	A.Ozawa+	E2013
^{28}Si,tcc		CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{28}Si,x	Many	CS	2JPNIRS	7.5+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010

14 Silicon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,x+d	inclusive	DAE	2BLGLVN	2.6+07	6.3+07	Jour	NP/A,773,24	06	Ch.Dufauquez+	O1417
p,x+p	inclusive	DAE	2BLGLVN	2.6+07	6.3+07	Jour	NP/A,773,24	06	Ch.Dufauquez+	O1417
p,x+t	inclusive	DAE	2BLGLVN	2.6+07	6.3+07	Jour	NP/A,773,24	06	Ch.Dufauquez+	O1417

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{29}P	TT	3INDIND	4.3+05	1.1+06	Jour	NIM/B,240,704	05	S.Kumar+	F0817

p,n	^{28}P	DAP	2JPNOSA	2.0+08	2.0+08	Jour	PL/B,645,(5-6),402	Feb 07	T.Wakasa+	E2009
^{16}O,inel	^{28}Si	DAP	1USABRK	4.0+07	4.6+07	Jour	RBF,34,885	04	G.V.Marti+	C1543
^{28}Si,el	^{28}Si	DA	2GERMPH	2.9+07	3.6+07	Jour	NP/A,239,172	75	H.Emling+	F0820
^{28}Si,inel	^{28}Si	DAP	2GERMPH	3.3+07	3.6+07	Jour	NP/A,239,172	75	H.Emling+	F0820

14 Silicon 30

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{28}Mg	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

16 Sulphur

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

16 Sulphur 32

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,p	^{34}Cl	CSP	2GERGOE	4.0+06	1.2+07	Jour	JRN/L,153,273	91	N.Runyon+	O1385

17 Chlorine

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNTOK		3.2+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{7}Be	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		6.0+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{22}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

19 Potassium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{24}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

19 Potassium 41

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,n	^{44}Sc	CS	4RUSMOS	1.5+07	2.6+07	Jour	BAS,63,825	99	T.V.Chuvilskaya+	F0835

20 Calcium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{22}Na	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

20 Calcium 40

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,α	^{38}K	CSP	1USAYAL	4.5+06	4.5+06	Jour	PR/C,75,014309	07	F.M.Prados-Estevez+	C1544
d,p	^{41}Ca	POD	1USAWIS	4.0+06	4.0+06	Jour	PR/C,28,1837	83	R.R.Cadmusjr.+	C1554

21 Scandium 45

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{45}Ti	TT	1USAWAS	1.4+07	1.4+07	Jour	NMB,32,117	05	A.L.Vavere+	C1533

22 Titanium 46

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{46}Ti	DA	1USATAM	2.4+08	2.4+08	Jour	PR/C,74,044308	06	Y.Tokimoto+	C1507
α,inel	^{46}Ti	DAP	1USATAM	2.4+08	2.4+08	Jour	PR/C,74,044308	06	Y.Tokimoto+	C1507

22 Titanium 48

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{48}Ti	DA	1USATAM	2.4+08	2.4+08	Jour	PR/C,74,044308	06	Y.Tokimoto+	C1507
α,inel	^{48}Ti	DAP	1USATAM	2.4+08	2.4+08	Jour	PR/C,74,044308	06	Y.Tokimoto+	C1507

23 Vanadium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{22}Na	CS	2JPNKEK		8.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		6.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,el	^{nat}V	DA	3CPRLNZ	1.4+06	2.6+06	Jour	JRN,266,149	05	X.Zhang+	O1299

23 Vanadium 51

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,x	Many	CS	2ZZZCER	2.6+08	9.1+08	Jour	ZP/A,315,355	84	I.R.Haldorsen+	O1350
^{12}C,x	Many	CS	2ZZZCER	1.0+09	1.0+09	Jour	ZP/A,315,355	84	I.R.Haldorsen+	O1350

24 Chromium 52

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x+n	inclusive	CS	4RUSSGU	1.0+07	2.5+07	Conf	2001SARAT,,155	01	S.N.Belyaev+	M0705

25 Manganese 55

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{22}Na	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		3.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+α	inclusive	CSP	4KASKAZ	3.0+07	3.0+07	Jour	PR/C,72,054604	05	A.Duisebayev+	O1307
p,x+α	inclusive	DAE	4KASKAZ	3.0+07	3.0+07	Jour	PR/C,72,054604	05	A.Duisebayev+	O1307

p,x+α	inclusive	DE	4KASKAZ	3.0+07	3.0+07	Jour	PR/C,72,054604	05	A.Duisebayev+	O1307
p,x+p	inclusive	CSP	4KASKAZ	3.0+07	3.0+07	Jour	PR/C,72,054604	05	A.Duisebayev+	O1307
p,x+p	inclusive	DAE	4KASKAZ	3.0+07	3.0+07	Jour	PR/C,72,054604	05	A.Duisebayev+	O1307
p,x+p	inclusive	DE	4KASKAZ	3.0+07	3.0+07	Jour	PR/C,72,054604	05	A.Duisebayev+	O1307
α,n	^{59}Ni	DA	3CHPAEP	1.2+07	1.6+07	Jour	IZV,64,414	00	B.V.Zhuravlev	F0730
α,n	^{59}Ni	DE	3CHPAEP	1.6+07	1.8+07	Jour	IZV,64,414	00	B.V.Zhuravlev	F0730
α,n	^{59}Ni	DE	4RUSFEI	2.7+07	2.7+07	Jour	IZV,64,414	00	B.V.Zhuravlev	F0730

27 Cobalt 59

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
γ,x	^{7}Be	CS	2JPNTOK		3.2+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{7}Be	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		4.8+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		8.0+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{22}Na	CS	2JPNKEK		8.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		6.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,x	Many	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{38}Cl	CS	4RUSITE	2.6+09	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{44}Sc	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{46}Sc	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{58}Co	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	Many	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{38}Cl	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{44}Sc	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{46}Sc	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{58}Co	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
γ,x	^{24}Na	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,x	^{55}Co	CS	3SARSAR	5.5+06	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503
p,x	^{57}Co	CS	3SARSAR	8.5+06	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503
p,x	^{58}Co	CS	3SARSAR	1.9+07	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503
p,x	^{56}Ni	CS	3SARSAR	1.8+07	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503
p,x	^{57}Ni	CS	3SARSAR	1.3+07	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503
p,x	^{60}Cu	CS	3SARSAR	6.6+06	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503
p,x	^{61}Cu	CS	3SARSAR	5.5+06	2.7+07	Jour	ARI,65,104	07	F.S.Alsaleh+	O1503

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
t,^{3}He	^{58}Co	DAP	1USAMSU	3.4+08	3.4+08	Jour	PR/C,74,034333	06	A.L.Cole+	C1466
α,el	^{58}Ni	DA	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{58}Ni	DAE	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899

α,inel	^{58}Ni	DAP	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
γ,abs		CS	4RUSMOS	1.2+07	3.0+07	Jour	IZV,67,656	03	V.V.Varlamov+	M0656
^{3}He,p	^{62}Cu	DAP	2UK BIR	3.3+07	3.3+07	Jour	NP/A,517,82	90	H.M.Sengupta+	F0743

28 Nickel 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
^{86}Kr,x	Many	CS	1USATAM	2.2+09	2.2+09	Jour	PR/C,75,011601	07	G.A.Souliotis+	C1519

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
γ,x	^{7}Be	CS	2JPNTOH		2.0+08	Jour	NIM/B,223-224,807	Aug 04	H.Matsumura+	K2024
γ,x	^{7}Be	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{7}Be	CS	2JPNTOK		4.0+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{10}Be	CS	2JPNTOH		2.0+08	Jour	NIM/B,223-224,807	Aug 04	H.Matsumura+	K2024
γ,x	^{10}Be	CS	2JPNTOK		3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		5.0+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{22}Na	CS	2JPNKEK		8.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{39}Cl	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{43}Sc	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{44}Sc	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{46}Sc	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{47}Sc	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{48}Sc	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{59}Fe	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
p,x	Many	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{44}Sc	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{46}Sc	CS	4RUSITE	2.6+09	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{58}Co	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{60}Co	CS	4RUSITE	2.0+08	2.6+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
p,x	^{62}Zn	CS	3SAFITH	6.6+07	9.9+07	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{65}Zn	CS	3SAFITH	6.1+07	9.9+07	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
^{9}Li,tcc		CS	2FR SAC	7.3+08	7.3+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{12}C,x	Many	CS	2JPNIPC	1.6+09	1.6+09	Jour	NP/A,578,(3-4),621	Oct 94	Y.K.Kim+	E2019
^{12}C,x	Many	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{38}Cl	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{44}Sc	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{46}Sc	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{58}Co	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342
^{12}C,x	^{60}Co	CS	4RUSITE	2.4+09	2.4+09	Conf	2003SDIEGO,,59	03	Yu.E.Titarenko+	O1342

^{28}Si,tcc		CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{28}Si,x	Many	CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{63}Cu	DA	1USAWIS	9.0+06	1.2+07	Jour	NP/A,349,445	80	J.A.Bieszk+	C1552
d,el	^{63}Cu	POD	1USAWIS	9.0+06	1.2+07	Jour	NP/A,349,445	80	J.A.Bieszk+	C1552
d,^{3}He	^{62}Ni	DA	1USAWIS	9.0+06	1.2+07	Jour	NP/A,349,445	80	J.A.Bieszk+	C1552
d,^{3}He	^{62}Ni	POD	1USAWIS	9.0+06	1.2+07	Jour	NP/A,349,445	80	J.A.Bieszk+	C1552
α,γ	^{67}Ga	MLT	1USABRK	7.0+06	7.0+06	Jour	PR/C,75,015802	07	M.S.Basunia+	C1516

30 Zinc

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{67}Cu	CS	2SWTPSI	1.2+07	6.6+07	Jour	JLCR/S,44,809	01	R.Schwarzbach+	O1369
p,x	^{65}Zn	CS	2SWTPSI	1.1+07	6.7+07	Jour	JLCR/S,44,809	01	R.Schwarzbach+	O1369

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{64}Zn	DA	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753
α,γ	^{68}Ge	MLT	1USABRK	7.0+06	1.4+07	Jour	PR/C,75,015802	07	M.S.Basunia+	C1516
α,inel	^{64}Zn	DAP	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753

30 Zinc 66

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{66}Zn	DA	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753
α,inel	^{66}Zn	DAP	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753

30 Zinc 68

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,2p	^{67}Cu	CS	2SWTPSI	4.5+07	6.7+07	Jour	JLCR/S,44,809	01	R.Schwarzbach+	O1369
p,x	^{65}Zn	CS	2SWTPSI	4.5+07	6.6+07	Jour	JLCR/S,44,809	01	R.Schwarzbach+	O1369
α,el	^{68}Zn	DA	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753
α,inel	^{68}Zn	DAP	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753

30 Zinc 70

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{67}Cu	CS	2SWTPSI	1.2+07	4.0+07	Jour	JLCR/S,44,809	01	R.Schwarzbach+	O1369
p,x	^{65}Zn	CS	2SWTPSI	1.2+07	4.0+07	Jour	JLCR/S,44,809	01	R.Schwarzbach+	O1369
α,el	^{70}Zn	DA	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753
α,inel	^{70}Zn	DAP	2UK BIR	2.5+07	2.5+07	Jour	NP/A,490,245	88	F.Ballester+	F0753
^{9}Li,fus		CS	1CANTMF	9.7+06	1.8+07	Jour	PR/C,74,064609	06	W.Loveland+	C1520

37 Rubidium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{77}Br	CS	3SAFITH	6.2+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{80}Br	CS	3SAFITH	5.9+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{79}Kr	CS	3SAFITH	3.6+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{79}Rb	CS	3SAFITH	6.7+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{81}Rb	CS	3SAFITH	4.2+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{82}Rb	CS	3SAFITH	3.6+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{83}Rb	CS	3SAFITH	1.8+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{84}Rb	CS	3SAFITH	8.3+06	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{86}Rb	CS	3SAFITH	1.5+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{80}Sr	CS	3SAFITH	7.1+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{81}Sr	CS	3SAFITH	5.5+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{82}Sr	CS	3SAFITH	3.3+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{83}Sr	CS	3SAFITH	2.6+07	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424
p,x	^{85}Sr	CS	3SAFITH	8.3+06	1.0+08	Jour	ARI,64,915	06	E.Z.Buthelezi+	O1424

39 Yttrium 89

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNTOK		3.2+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{7}Be	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		6.0+08	Jour	RCA,80,(4),181	98	S.Shibata+	K2025
γ,x	^{22}Na	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		9.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{39}Cl	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{44}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{46}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{47}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{48}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{59}Fe	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{56}Co	CS	2JPNKEK		9.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{57}Co	CS	2JPNKEK		9.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{58}Co	CS	2JPNKEK		9.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{60}Co	CS	2JPNKEK		9.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x+n	inclusive	CS	4RUSSGU	1.0+07	2.5+07	Conf	99SARAT,,97	99	S.N.Belyaev+	M0706

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{90}Zr	DA	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{90}Zr	DAE	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{90}Zr	DAP	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899

40 Zirconium 91

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,t	^{90}Zr	POD	1USAWIS	5.0+06	5.0+06	Jour	PR/C,26,257	82	S.Sen+	C1553

41 Niobium 93

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	1USARPI			Jour	NSE,154,294	06	N.J.Drindak+	14112
^{3}He,2n	^{94}Tc	CS	3BZLIEN	1.4+07	3.5+07	Jour	JIN,43,2611	81	L.T.Auler+	O1338
^{3}He,3n	^{93}Tc	CS	3BZLIEN	1.6+07	3.5+07	Jour	JIN,43,2611	81	L.T.Auler+	O1338

42 Molybdenum 96

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{96}Mo	DAP	1USAKTY	2.8+06	4.0+06	Jour	PR/C,75,034318	07	S.R.Lesher+	14131

42 Molybdenum 100

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,4n	^{100}Ru	DAP	2NEDKVI	4.5+07	4.5+07	Jour	NP/A,270,141	76	M.J.A.Devoigt+	F0802

44 Ruthenium 100

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,inel	^{100}Ru	DAP	2NEDKVI	1.0+08	1.0+08	Jour	NP/A,270,141	76	M.J.A.Devoigt+	F0802

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNTOH		2.0+08	Jour	NIM/B,223-224,807	Aug 04	H.Matsumura+	K2024
γ,x	^{7}Be	CS	2JPNKEK		2.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOH		2.0+08	Jour	NIM/B,223-224,807	Aug 04	H.Matsumura+	K2024
γ,x	^{10}Be	CS	2JPNTOK		3.2+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		9.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		3.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		7.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{44}Sc	CS	2JPNKEK		6.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{46}Sc	CS	2JPNKEK		7.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{47}Sc	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{48}Sc	CS	2JPNKEK		6.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{59}Fe	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{56}Co	CS	2JPNKEK		1.1+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{57}Co	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{58}Co	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{60}Co	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

47 Silver 107

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,el	^{107}Ag	CS	1USAANL	1.5+06	4.0+06	Jour	NP/A,332,297	79	A.Smith+	10876
n,inel	^{107}Ag	CSP	1USAANL	1.5+06	3.4+06	Jour	NP/A,332,297	79	A.Smith+	10876

47 Silver 109

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,2n	^{111}In	CS	4RUSMOS	2.3+07	2.9+07	Jour	BAS,63,825	99	T.V.Chuvilskaya+	F0835
α,n	^{112}In	CS	4RUSMOS	1.5+07	1.5+07	Jour	BAS,63,825	99	T.V.Chuvilskaya+	F0835

48 Cadmium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{114}In	CS	3EGYCAI	7.4+06	1.3+07	Jour	ARI,64,1655	06	S.A.Said+	O1502

48 Cadmium 111

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{111}Cd	CS	1USAMIT	7.2+05	7.2+05	Jour	PR,89,1232	53	A.E.Francis+	14126

48 Cadmium 114

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{114}In	CS	3EGYCAI	8.4+06	1.7+07	Jour	ARI,64,1655	06	S.A.Said+	O1502

49 Indium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		7.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{44}Sc	CS	2JPNKEK		9.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{46}Sc	CS	2JPNKEK		9.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{47}Sc	CS	2JPNKEK		9.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{48}Sc	CS	2JPNKEK		9.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

49 Indium 115

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,n	^{114}In	CS	4ZZZDUB		2.5+07	Jour	IZV,66,396	02	A.G.Belov+	M0704
γ,x+n	inclusive	CS	4RUSSGU	9.1+06	2.4+07	Conf	99SARAT,,97	99	S.N.Belyaev+	M0706

50 Tin

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{9}Li,tcc		CS	2FR SAC	7.3+08	7.3+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{11}Li,tcc		CS	2FR SAC	9.5+08	9.5+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{28}Si,tcc		CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{28}Si,x	Many	CS	2JPNIRS	7.8+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010

50 Tin 116

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{116}Sn	DA	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{116}Sn	DAE	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{116}Sn	DAP	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899

50 Tin 117

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,p	^{116}In	CS	4ZZZDUB		2.5+07	Jour	IZV,66,396	02	A.G.Belov+	M0704

52 Tellurium 124

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{124}I	TT	1USAWIS	1.1+07	1.1+07	Jour	ARI,65,407	07	J.A.Nye+	C1517

53 Iodine 127

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x+n	inclusive	CS	4RUSSGU	9.1+06	2.4+07	Conf	99SARAT,,97	99	S.N.Belyaev+	M0706

56 Barium 132

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{132}Ba	DA	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829
α,inel	^{132}Ba	DAP	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829

56 Barium 134

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{134}Ba	DA	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829
α,inel	^{134}Ba	DAP	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829

56 Barium 136

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{136}Ba	DA	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829
α,inel	^{136}Ba	DAP	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829

56 Barium 138

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{138}Ba	DA	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829

α,inel	^{138}Ba	DAP	3AULCBR	2.0+07	2.0+07	Jour	NP/A,442,289	85	S.M.Burnett+	F0829

59 Praesodymium 141

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		4.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

62 Samarium 144

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{144}Sm	DA	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899

62 Samarium 147

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,t	^{146}Sm	POD	1USAWIS	6.5+06	6.5+06	Jour	PR/C,26,257	82	S.Sen+	C1553

64 Gadolinium 160

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{158}Gd	DAP	2GERLMU	2.7+07	2.7+07	Jour	PR/C,66,051305	02	S.R.Lesher+	O1322

65 Terbium 159

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		5.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		5.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{39}Cl	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{59}Fe	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
^{7}Li,fus		CS	3INDTRM	2.7+07	4.1+07	Jour	PL/B,636,91	06	A.Mukherjee+	O1348
^{7}Li,x	^{160}Dy	CS	3INDTRM	2.1+07	4.1+07	Jour	PL/B,636,91	06	A.Mukherjee+	O1348
^{10}B,fus		CS	3INDTRM	3.7+07	6.8+07	Jour	PL/B,636,91	06	A.Mukherjee+	O1348
^{10}B,x	^{161}Er	CS	3INDTRM	5.6+07	6.7+07	Jour	PL/B,636,91	06	A.Mukherjee+	O1348
^{10}B,x	^{162}Er	CS	3INDTRM	4.3+07	6.7+07	Jour	PL/B,636,91	06	A.Mukherjee+	O1348
^{11}B,fus		CS	3INDTRM	3.6+07	6.5+07	Jour	PL/B,636,91	06	A.Mukherjee+	O1348

67 Holmium 165

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{39}Cl	CS	2JPNKEK		6.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{44}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{46}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{47}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{48}Sc	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{59}Fe	CS	2JPNKEK		8.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{57}Co	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{58}Co	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{60}Co	CS	2JPNKEK		1.0+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023

69 Thulium 169

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{170}Tm	CS	1USALAS	2.0+03	1.2+08	Jour	NSTS,2,(1),614	02	J.B.Wilhelmy+	14128

69 Thulium 171

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{172}Tm	CS	1USALAS	1.5+01	1.1+08	Jour	NSTS,2,(1),614	02	J.B.Wilhelmy+	14128

72 Hafnium 179

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,d	^{180}Ta	DAP	2GERMPH	3.6+07	3.6+07	Jour	PR/C,27,98	82	E.Warde+	F0812
α,t	^{180}Ta	DAP	2FR GRE	6.2+07	6.2+07	Jour	PR/C,27,98	82	E.Warde+	F0812

72 Hafnium 180

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,d	^{181}Ta	DAP	2GERMPH	3.6+07	3.6+07	Jour	PR/C,27,98	82	E.Warde+	F0812
α,t	^{181}Ta	DAP	2FR GRE	6.2+07	6.2+07	Jour	PR/C,27,98	82	E.Warde+	F0812

73 Tantalum 181

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x+n	inclusive	CS	4RUSSGU	7.4+06	2.5+07	Conf	2001SARAT,,81	01	S.N.Belyaev+	M0707
p,d	^{180}Ta	DAP	2FR STR	1.9+07	1.9+07	Jour	PR/C,27,98	82	E.Warde+	F0812

74 Tungsten

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	2SWDUPP	4.4+07	1.7+08	Rept	ISINN-13,309	06	V.P.Eismont+	O1501

74 Tungsten 182

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	2SWDUPP	4.4+07	1.7+08	Rept	ISINN-13,309	06	V.P.Eismont+	O1501
d,p	^{183}W	DAE	2GERMUN	2.6+07	2.6+07	Jour	NP/A,614,183	97	P.Prokofjevs+	O1500

74 Tungsten 183

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	2SWDUPP	4.4+07	1.7+08	Rept	ISINN-13,309	06	V.P.Eismont+	O1501

74 Tungsten 184

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	2SWDUPP	4.4+07	1.7+08	Rept	ISINN-13,309	06	V.P.Eismont+	O1501

74 Tungsten 186

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	2SWDUPP	4.4+07	1.7+08	Rept	ISINN-13,309	06	V.P.Eismont+	O1501

77 Irirdium 193

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,n	^{196}Au	CS	4RUSMOS	2.0+07	2.7+07	Jour	BAS,63,825	99	T.V.Chuvilskaya+	F0835

79 Gold 194

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{6}He,fus		CS	4ZZZDUB	1.5+07	5.8+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,2n	^{195}Au	INT	4RUSMOS		6.8+07	Rept	MSU-INP-2007-2/823	07	I.V.Makarenko+	M0710
γ,3n	^{194}Au	INT	4RUSMOS		6.8+07	Rept	MSU-INP-2007-2/823	07	I.V.Makarenko+	M0710
γ,4n	^{193}Au	INT	4RUSMOS		6.8+07	Rept	MSU-INP-2007-2/823	07	I.V.Makarenko+	M0710
γ,5n	^{192}Au	INT	4RUSMOS		6.8+07	Rept	MSU-INP-2007-2/823	07	I.V.Makarenko+	M0710
γ,6n	^{191}Au	INT	4RUSMOS		6.8+07	Rept	MSU-INP-2007-2/823	07	I.V.Makarenko+	M0710
γ,fis	^{42}K	CS	2JPNKEK		5.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{43}K	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{56}Mn	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{59}Fe	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{65}Ni	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{66}Ni	CS	2JPNKEK		4.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{69}Zn	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{71}Zn	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{72}Zn	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{72}Ga	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{73}Ga	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{71}As	CS	2JPNKEK		5.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{72}As	CS	2JPNKEK		5.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{74}As	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{76}As	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{75}Se	CS	2JPNKEK		6.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{77}Br	CS	2JPNKEK		6.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{82}Br	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{81}Rb	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{82}Rb	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{83}Rb	CS	2JPNKEK		4.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{84}Rb	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{86}Rb	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{83}Sr	CS	2JPNKEK		6.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{87}Sr	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{91}Sr	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{92}Sr	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{87}Y	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{88}Y	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{90}Y	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{88}Zr	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{89}Zr	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{95}Zr	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{97}Zr	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{92}Nb	CS	2JPNKEK		5.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{95}Nb	CS	2JPNKEK		3.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{96}Nb	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{97}Nb	CS	2JPNKEK		4.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021

γ,fis	^{98}Nb	CS	2JPNKEK		5.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{99}Mo	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{96}Tc	CS	2JPNKEK		4.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{97}Ru	CS	2JPNKEK		7.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{103}Ru	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{105}Ru	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{105}Rh	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{103}Ag	CS	2JPNKEK		4.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{104}Ag	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{105}Ag	CS	2JPNKEK		4.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{106}Ag	CS	2JPNKEK		4.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{110}Ag	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{112}Ag	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{113}Ag	CS	2JPNKEK		3.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{126}Ba	CS	2JPNKEK		7.0+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{128}Ba	CS	2JPNKEK		4.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{129}Ba	CS	2JPNKEK		4.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,fis	^{131}Ba	CS	2JPNKEK		4.5+08	Jour	JNRS,1,(2),53	Dec 00	H.Haba+	K2021
γ,n	^{196}Au	INT	4RUSMOS		6.8+07	Rept	MSU-INP-2007-2/823	07	I.V.Makarenko+	M0710
γ,x	^{7}Be	CS	2JPNTOH		2.0+08	Jour	NIM/B,223-224,807	Aug 04	H.Matsumura+	K2024
γ,x	^{7}Be	CS	2JPNKEK		5.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{10}Be	CS	2JPNTOH		2.0+08	Jour	NIM/B,223-224,807	Aug 04	H.Matsumura+	K2024
γ,x	^{10}Be	CS	2JPNTOK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{22}Na	CS	2JPNKEK		9.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{24}Na	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{28}Mg	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{44}Sc	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{46}Sc	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{47}Sc	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{48}Sc	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{59}Fe	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{56}Co	CS	2JPNKEK		1.1+09	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{57}Co	CS	2JPNKEK		5.5+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{58}Co	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
γ,x	^{60}Co	CS	2JPNKEK		4.0+08	Jour	RCA,88,(6),313	Jun 00	H.Matsumura+	K2023
α,2n	^{199}Tl	CS	1USABRK	1.8+07	2.4+07	Jour	PR/C,75,015802	07	M.S.Basunia+	C1516
α,γ	^{201}Tl	CS	1USABRK	1.8+07	2.4+07	Jour	PR/C,75,015802	07	M.S.Basunia+	C1516
α,n	^{200}Tl	CS	1USABRK	1.3+07	2.4+07	Jour	PR/C,75,015802	07	M.S.Basunia+	C1516
^{6}He,2n	^{201}Tl	CS	4ZZZDUB	1.2+07	2.8+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,3n	^{200}Tl	CS	4ZZZDUB	1.5+07	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,4n	^{199}Tl	CS	4ZZZDUB	2.1+07	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,5n	^{198}Tl	CS	4ZZZDUB	3.1+07	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,6n	^{197}Tl	CS	4ZZZDUB	4.0+07	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,7n	^{196}Tl	CS	4ZZZDUB	5.7+07	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,x	^{194}Au	CS	4ZZZDUB	4.8+07	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,x	^{196}Au	CS	4ZZZDUB	6.8+06	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837
^{6}He,x	^{198}Au	CS	4ZZZDUB	6.8+06	6.0+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837

81 Thallium 203

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,2n	^{201}Tl	CS	4RUSMOS		5.0+07	Jour	IZV,71,346	07	Zh.A.Asanov+	M0711
γ,3n	^{200}Tl	CS	4RUSMOS		5.0+07	Jour	IZV,71,346	07	Zh.A.Asanov+	M0711
γ,4n	^{199}Tl	CS	4RUSMOS		5.0+07	Jour	IZV,71,346	07	Zh.A.Asanov+	M0711

γ,n	^{202}Tl	CS	4RUSMOS		5.0+07	Jour	IZV,71,346	07	Zh.A.Asanov+	M0711

82 Lead

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447
^{8}Li,tcc		CS	2FR SAC	6.5+08	6.5+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{9}Li,tcc		CS	2FR SAC	7.3+08	7.3+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{11}Li,tcc		CS	2FR SAC	9.5+08	9.5+08	Jour	ZP/A,343,375	92	B.Blank+	O1334
^{11}Li,x	Many	CS	1USABRK	8.7+09	8.7+09	Jour	PRL,60,(25),2599	Jun 88	T.Kobayashi+	E1256
^{19}C,inel	^{nat}Pb	CS	2JPNIPC	1.3+09	1.3+09	Jour	PRL,83,(6),1112	Aug 99	T.Nakamura+	E2017
^{19}C,inel	^{nat}Pb	DAP	2JPNIPC	1.3+09	1.3+09	Jour	PRL,83,(6),1112	Aug 99	T.Nakamura+	E2017
^{19}C,inel	^{nat}Pb	DE	2JPNIPC	1.3+09	1.3+09	Jour	PRL,83,(6),1112	Aug 99	T.Nakamura+	E2017
^{28}Si,tcc		CS	2JPNIRS	7.6+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010
^{28}Si,x	Many	CS	2JPNIRS	7.7+09	3.2+10	Jour	NP/A,784,(1-4),341	Mar 07	C.Zeitlin+	E2010

82 Lead 206

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
^{6}He,2n	^{210}Po	CS	4ZZZDUB	1.0+07	2.6+07	Jour	EPJ/A,31,185	07	Yu.E.Penionzhkevich+	F0837

82 Lead 208

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,el	^{208}Pb	DA	1USAWIS	1.2+07	1.2+07	Jour	NP/A,210,70	73	S.E.Vigdor+	C1530
d,el	^{208}Pb	POD	1USAWIS	1.2+07	1.2+07	Jour	NP/A,210,70	73	S.E.Vigdor+	C1530
d,p	^{209}Pb	DAP	1USAWIS	1.2+07	1.2+07	Jour	NP/A,210,70	73	S.E.Vigdor+	C1530
d,p	^{209}Pb	POD	1USAWIS	1.2+07	1.2+07	Jour	NP/A,210,70	73	S.E.Vigdor+	C1530
d,t	^{207}Pb	DAP	1USAWIS	1.2+07	1.2+07	Jour	NP/A,210,70	73	S.E.Vigdor+	C1530
d,t	^{207}Pb	POD	1USAWIS	1.2+07	1.2+07	Jour	NP/A,210,70	73	S.E.Vigdor+	C1530
α,el	^{208}Pb	DA	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{208}Pb	DAE	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
α,inel	^{208}Pb	DAP	2JPNOSA	3.9+08	3.9+08	Jour	PR/C,69,(5),051301	May 04	M.Uchida+	E1899
^{6}He,el	^{208}Pb	DA	4ZZZDUB	5.5+07	5.5+07	Jour	ZP/A,341,315	92	N.K.Skobelev+	O1376
^{9}Li,el	^{208}Pb	DA	4ZZZDUB	8.2+07	8.2+07	Jour	ZP/A,341,315	92	N.K.Skobelev+	O1376
^{86}Kr,x	Many	CS	1USATAM	2.2+09	2.2+09	Jour	PR/C,75,011601	07	G.A.Souliotis+	C1519

83 Bismuth 209

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
γ,fis	^{56}Mn	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{59}Fe	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{65}Ni	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{69}Zn	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022

γ,fis	^{71}Zn	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{72}Zn	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{72}Ga	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{73}Ga	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{71}As	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{72}As	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{74}As	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{76}As	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{75}Br	CS	2JPNKEK		7.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{77}Br	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{82}Br	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{83}Br	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{83}Rb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{84}Rb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{86}Rb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{83}Sr	CS	2JPNKEK		7.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{87}Sr	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{91}Sr	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{92}Sr	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{85}Y	CS	2JPNKEK		7.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{86}Y	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{87}Y	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{88}Y	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{90}Y	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{93}Y	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{88}Zr	CS	2JPNKEK		6.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{89}Zr	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{95}Zr	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{97}Zr	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{92}Nb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{95}Nb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{96}Nb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{97}Nb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{98}Nb	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{99}Mo	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{96}Tc	CS	2JPNKEK		7.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{97}Ru	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{103}Ru	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{105}Ru	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{105}Rh	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{103}Ag	CS	2JPNKEK		7.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{104}Ag	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{105}Ag	CS	2JPNKEK		6.0+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{106}Ag	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{110}Ag	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{112}Ag	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{113}Ag	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{111}Cd	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{111}In	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{124}I	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{126}I	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{126}Ba	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{129}Ba	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{131}Ba	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{133}Ba	CS	2JPNKEK		4.5+08	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
γ,fis	^{135}Ba	CS	2JPNKEK		1.0+09	Jour	RCA,90,(7),371	Jul 02	H.Haba+	K2022
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447

p,x	^{194}Hg	CS	1USACOL	3.8+08	3.8+08	Jour	PR,115,1053	59	E.T.Hunter+	C0364
α,fis		CS	4ZZZDUB	5.7+07	6.5+07	Jour	ZP/A,351,129	95	A.S.Fomichev+	O1365
^{6}He,fis		CS	4ZZZDUB	3.1+07	7.0+07	Jour	ZP/A,351,129	95	A.S.Fomichev+	O1365
^{6}He,n+^{5}He	^{209}Bi	DA	1USANOT	2.2+07	2.2+07	Jour	PR/C,75,031302	07	J.J.Kolata+	C1541
^{6}He,n+α	^{210}Bi	DA	1USANOT	2.2+07	2.2+07	Jour	PR/C,75,031302	07	J.J.Kolata+	C1541
^{6}He,n+α	^{210}Bi	DAP	1USANOT	2.2+07	2.2+07	Jour	PR/C,75,031302	07	J.J.Kolata+	C1541

84 Polonium 210

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,t	^{211}At	DAP	1USAPTN	4.0+07	4.0+07	Thes	GROLEAU	80	R.Groleau	C1548

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{232}Th	DA	1USALRL	2.7+07	2.7+07	Jour	PR/C,28,1934	Nov 83	L.F.Hansen+	T0112
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447
d,2n	^{232}Pa	CS	2GERBON	8.2+06	8.0+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830
d,4n	^{230}Pa	CS	2GERBON	1.8+07	8.0+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830
d,6n	^{228}Pa	CS	2GERBON	3.8+07	8.0+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830
d,n	^{233}Pa	?	2GERBON	8.1+06	8.0+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830
^{6}Li,2n+α	^{232}Pa	CS	2GERMPH	3.1+07	4.8+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830
^{6}Li,4n+α	^{230}Pa	CS	2GERMPH	3.4+07	4.8+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830
^{6}Li,n+α	^{233}Pa	?	2GERMPH	3.1+07	4.8+07	Jour	NP/A,448,365	86	J.Ramarao+	F0830

92 Uranium 233

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{238}U	DA	1USALRL	2.7+07	2.7+07	Jour	PR/C,28,1934	Nov 83	L.F.Hansen+	T0112
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447
^{3}He,d	^{239}Np	DAP	1USAROC	2.8+07	2.8+07	Jour	PR/C,11,529	75	T.V.Egidy+	C1521

α,t	^{239}Np	DAP	1USAROC	2.8+07	2.8+07	Jour	PR/C,11,529	75	T.V.Egidy+	C1521
^{30}Si,4n	^{264}Sg	CSP	1USALBL	5.2+06	6.0+06	Jour	PR/C,74,044611	06	K.E.Gregorich+	C1512
^{30}Si,5n	^{263}Sg	CSP	1USALBL	5.2+06	6.0+06	Jour	PR/C,74,044611	06	K.E.Gregorich+	C1512
^{30}Si,6n	^{262}Sg	CSP	1USALBL	5.2+06	6.0+06	Jour	PR/C,74,044611	06	K.E.Gregorich+	C1512

93 Neptunium 237

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis		?	1USALAS	1.0+05	2.0+08	Jour	PR/C,75,034610	07	F.Tovesson+	14130
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447

94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{238}Pu	CS	1USALAS	6.5+06	1.9+07	Jour	NSTS,2,(1),620	02	J.A.Becker+	14129
p,fis		CS	4RUSLIN	2.1+08	1.0+09	Jour	PR/C,74,034605	06	A.A.Kotov+	O1447

94 Plutonium 240

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,el	^{240}Pu	DA	1USAANL	4.0+05	1.2+06	Jour	NSE,47,19	Jan 72	A.B.Smith+	10179