Japan Charged-Particle Nuclear Reaction Data Group (JCPRG)

EXFOR : Recent Compilation List (Added in Dec 2005)

EXFOR is a world-wide database for experimental neutron induced, charged-particle induced and photonuclear reaction compiled by Nuclear Reaction Data Centres Network coordinated by IAEA Nuclear Data Section. This list gives newly compiled data to EXFOR. *List consists of tables titled by target nuclide*.

Source file of EXFOR is available at:
`http://www.jcprg.org/master/exfor.html`

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	TT	Partial thick target yield

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	non	Nonelastic	ths	Thermal scattering
el	Elastic	inel	Inelastic	sct	Scattering	tot	Total
f	Fission	incl	Inclusive	tcc	Total charge changing		

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	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,sct	^{1}H	DA	2JPNKTO	5.0+06	8.0+06	Jour	NP/A,246,(1),76	Jul 75	K.Imai+	E1517
^{6}He,el	^{1}H	DA	2FR GAN	1.5+08		Jour	PR/C,71,064311	05	L.Giot+	D0354
^{8}He,d	^{7}He	DA	2FR GAN	1.3+08		Jour	PL/B,619,82	05	F.Skaza+	D0359
^{8}He,el	^{1}H	DA	2FR GAN	1.3+08		Jour	PL/B,619,82	05	F.Skaza+	D0359
^{18}Ne,el	^{1}H	DA	2BLGLEU	7.5+05	1.4+06	Jour	PR/C,67,014308	03	C.Angulo+	D0347

1 Hydrogen 2

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,tot		CS	2JPNLEP	0.0+00		Jour	PR/C,41,(1),180	Jan 90	T.Kishida+	E1583

2 Helium 3

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p+d	^{2}H	D3A	2JPNOSA	6.0+07		Jour	NP/A,588,(2),510	Jun 95	T.Sekioka+	E1588

2 Helium 4

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{4}He	DA	2JPNOSA	1.2+08		Jour	PR/C,49,(3),1534	Mar 94	R.E.Warner+	E1591
α,^{3}He	^{5}He	DAE	2JPNOSA	1.2+08		Jour	PR/C,49,(3),1534	Mar 94	R.E.Warner+	E1591
α,^{3}He	^{5}He	DAP	2JPNOSA	1.2+08		Jour	PR/C,49,(3),1534	Mar 94	R.E.Warner+	E1591

2 Helium 6

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{4}He	DA	2FR GAN	2.5+07		Jour	PR/C,71,064311	05	L.Giot+	D0354

3 Lithium 6

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{6}He,el	^{6}Li	DA	2BLGLEU	1.8+07		Jour	NP/A,746,183	04	M.Milin+	A0714

3 Lithium 7

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{6}He,el	^{7}Li	DA	2BLGLEU	1.8+07		Jour	NP/A,746,183	04	M.Milin+	A0714

4 Berylium 7

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{8}B	CS	2JPNIPC	5.1+05	1.9+06	Jour	PRL,73,(20),2680	Nov 94	T.Motobayashi+	E1576

4 Berylium 9

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{9}Be	DA	2JPNOSA	5.5+07	7.5+07	Jour	NP/A,579,(1-2),13	Oct 94	L.J.Debever+	E1581
p,el	^{9}Be	POD	2JPNOSA	5.5+07	7.5+07	Jour	NP/A,579,(1-2),13	Oct 94	L.J.Debever+	E1581
p,inel	^{9}Be	DAP	2JPNOSA	5.5+07	7.5+07	Jour	NP/A,579,(1-2),13	Oct 94	L.J.Debever+	E1581
p,inel	^{9}Be	POD	2JPNOSA	5.5+07	7.5+07	Jour	NP/A,579,(1-2),13	Oct 94	L.J.Debever+	E1581
^{3}He,2α	^{4}He	D3A	2JPNTOH	4.0+06		Jour	NP/A,239,(2),233	Feb 75	J.Kasagi+	E1518

6 Carbon 12

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{12}N	POD	2JPNOSA	5.0+07	8.0+07	Jour	NP/A,579,(1-2),45	Oct 94	H.Sakai+	E1579
d,el	^{12}C	DA	2JPNOSA	5.3+07		Jour	PL/B,314,(3-4),279	Sep 93	S.Ishida+	E1553
d,^{2}He	^{12}B	POD	2JPNOSA	5.6+07	7.0+07	Jour	JP/GL,14,(6),137	Jun 88	T.Motobayashi+	E1578
d,inel	^{12}C	DAP	2JPNOSA	5.3+07		Jour	PL/B,314,(3-4),279	Sep 93	S.Ishida+	E1553
d,inel	^{12}C	POD	2JPNOSA	5.3+07		Jour	PL/B,314,(3-4),279	Sep 93	S.Ishida+	E1553
d,n+p	^{12}C	D3A	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
d,n+p	^{12}C	DAA	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
d,tot		CS	2JPNLEP	0.0+00		Jour	PR/C,45,(6),2926	Jun 92	T.Kishida+	E1567
^{3}He,el	^{12}C	DA	2JPNIPC	2.4+07	4.0+07	Jour	JPJ,34,(1),5	Jan 73	T.Fujisawa+	E1536
^{3}He,el	^{12}C	DA	2JPNOSA	4.5+08		Jour	NP/A,589,(3),425	Jul 95	T.Yamagata+	E1594
^{3}He,inel	^{12}C	DAP	2JPNIPC	2.4+07	4.0+07	Jour	JPJ,34,(1),5	Jan 73	T.Fujisawa+	E1536
α,el	^{12}C	DA	3CPRFUD	5.0+06	9.0+06	Jour	ASI,43,1569	Oct 94	Shenhao+	D0353
^{6}He,2n+α	^{12}C	CSP	2GERGSI	1.4+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{6}He,2n+α	^{12}C	?	2GERGSI	1.4+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{6}He,^{8}Be	^{10}Be	DAP	2BLGLEU	1.8+07		Jour	PR/C,70,044603	04	M.Milin+	A0720
^{6}He,inel	^{12}C	CSP	2GERGSI	1.4+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{6}He,inel	^{12}C	DAP	2GERGSI	1.4+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{6}He,n+^{5}He	^{12}C	CSP	2GERGSI	1.4+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{8}He,2n+^{6}He	^{12}C	CSP	2GERGSI	1.8+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{8}He,2n+^{6}He	^{12}C	?	2GERGSI	1.8+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{8}He,inel	^{12}C	CSP	2GERGSI	1.8+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{8}He,inel	^{12}C	DAP	2GERGSI	1.8+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312
^{8}He,n+^{7}He	^{12}C	CSP	2GERGSI	1.8+09		Jour	NP/A,679,462	01	K.Markenroth+	D0312

^{11}Be,inel	^{12}C	DE	2JPNIPC	7.9+08		Jour	PL/B,331,(3-4),296	Jul 94	T.Nakamura+	E1573
^{12}C,non		CS	3CPRIMP	4.0+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{13}C,non		CS	3CPRIMP	3.5+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{14}C,non		CS	3CPRIMP	3.1+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{13}N,non		CS	3CPRIMP	4.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{14}N,non		CS	3CPRIMP	4.3+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{15}N,non		CS	3CPRIMP	3.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{16}N,non		CS	3CPRIMP	3.4+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{17}N,non		CS	3CPRIMP	3.0+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{15}O,non		CS	3CPRIMP	5.2+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{16}O,inel	^{12}C	DAP	2JPNJAE	2.9+07	3.4+07	Jour	PR/C,49,(6),3305	Jun 94	Y.Sugiyama+	E1520
^{16}O,non		CS	3CPRIMP	4.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{17}O,non		CS	3CPRIMP	4.1+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{18}O,non		CS	3CPRIMP	3.8+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{19}O,non		CS	3CPRIMP	3.6+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{17}F,non		CS	3CPRIMP	5.5+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{18}F,non		CS	3CPRIMP	5.0+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{19}F,non		CS	3CPRIMP	4.5+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{20}F,non		CS	3CPRIMP	4.2+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{21}F,non		CS	3CPRIMP	3.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{19}Ne,non		CS	3CPRIMP	6.2+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{20}Ne,non		CS	3CPRIMP	5.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{21}Ne,non		CS	3CPRIMP	5.2+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{22}Ne,non		CS	3CPRIMP	4.6+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{21}Na,non		CS	3CPRIMP	6.5+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{22}Na,non		CS	3CPRIMP	6.1+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{23}Na,non		CS	3CPRIMP	5.5+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{24}Na,non		CS	3CPRIMP	4.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{22}Mg,non		CS	3CPRIMP	7.3+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{23}Mg,non		CS	3CPRIMP	6.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{24}Mg,non		CS	3CPRIMP	6.4+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{25}Mg,non		CS	3CPRIMP	5.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{26}Mg,non		CS	3CPRIMP	5.2+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{23}Al,non		CS	3CPRIMP	8.3+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{24}Al,non		CS	3CPRIMP	7.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{25}Al,non		CS	3CPRIMP	6.8+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{26}Al,non		CS	3CPRIMP	6.4+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{27}Al,non		CS	3CPRIMP	5.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{28}Al,non		CS	3CPRIMP	5.3+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{26}Si,non		CS	3CPRIMP	7.9+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{27}Si,non		CS	3CPRIMP	7.2+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{28}Si,non		CS	3CPRIMP	6.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{29}Si,non		CS	3CPRIMP	6.1+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{27}P,non		CS	3CPRIMP	8.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{28}P,non		CS	3CPRIMP	8.0+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715
^{29}S,non		CS	3CPRIMP	8.7+08		Jour	NP/A,707,303	02	H.Y.Zhang+	A0715

6 Carbon 13

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,n	^{13}N	POD	2JPNOSA	5.0+07	8.0+07	Jour	NP/A,579,(1-2),45	Oct 94	H.Sakai+	E1579

8 Oxygen 18

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,0		RP	1USANOT	0.0+00		Jour	PR/C,69,024602	04	V.Z.Goldberg+	D0352
α,el	^{18}O	DA	2SF JYV	2.6+06	1.5+07	Jour	PR/C,69,024602	04	V.Z.Goldberg+	D0352

10 Neon 18

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{18}Ne	DA	2BLGLEU	2.3+06	6.9+06	Jour	PR/C,69,024602	04	V.Z.Goldberg+	D0352

10 Neon 20

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,^{6}He	^{17}Ne	DAP	2JPNTOK	7.0+07		Jour	ZP/A,353,(2),117	Jun 95	V.Guimaraes+	E1599

13 Aluminium 27

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,tot		CS	2JPNLEP	0.0+00		Jour	PR/C,45,(6),2926	Jun 92	T.Kishida+	E1567

14 Silicon 28

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{28}Si	DA	2SWDUPP	1.8+08		Jour	NP/A,101,481	67	O.Sundberg+	D0192
p,inel	^{28}Si	DAE	2SWDUPP	1.8+08		Jour	NP/A,101,481	67	O.Sundberg+	D0192
p,inel	^{28}Si	DAP	2SWDUPP	1.8+08		Jour	NP/A,101,481	67	O.Sundberg+	D0192
^{3}He,el	^{28}Si	DA	2JPNOSA	4.5+08		Jour	NP/A,589,(3),425	Jul 95	T.Yamagata+	E1594
^{7}Li,α	incl	CS	2GRCATH	9.0+06	1.3+07	Conf	2004SANTA,,740	04	A.Pakou+	D0355
^{7}Li,α	incl	DA	2GRCATH	9.0+06	1.3+07	Conf	2004SANTA,,740	04	A.Pakou+	D0355
^{7}Li,n+α	^{30}P	CS	2GRCATH	9.0+06	1.3+07	Conf	2004SANTA,,740	04	A.Pakou+	D0355
^{7}Li,n+α	^{30}P	DA	2GRCATH	9.0+06	1.3+07	Conf	2004SANTA,,740	04	A.Pakou+	D0355

20 Calcium 40

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{40}Sc	POD	2JPNOSA	8.0+07		Jour	NP/A,579,(1-2),45	Oct 94	H.Sakai+	E1579
d,n+p	^{40}Ca	D3A	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
d,n+p	^{40}Ca	DAA	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
α,el	^{40}Ca	DA	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317

α,inel	^{40}Ca	DAP	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317

20 Calcium 42

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{42}Ca	DA	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317
α,inel	^{42}Ca	DAP	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317

20 Calcium 44

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{44}Ca	DA	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317
α,inel	^{44}Ca	DAP	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317

20 Calcium 48

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{48}Ca	DA	2FR SAT	1.4+09		Jour	NP/A,280,365	77	G.D.Alkhazov+	D0317

23 Vanadium 51

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,x	^{44}Sc	CS	1USAINU	1.1+08	6.4+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{48}Sc	CS	1USAINU	1.1+08	6.4+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{48}V	CS	1USAINU	1.1+08	5.2+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{48}Cr	CS	1USAINU	1.1+08	9.1+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{51}Cr	CS	1USAINU	1.1+08	4.6+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336

27 Cobalt 59

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{59}Co	DA	2JPNKYU	6.5+06		Jour	JPJ,38,(4),936	Apr 75	S.Uehara	E1540
d,p	^{60}Co	DAP	2JPNKYU	6.5+06		Jour	JPJ,38,(4),936	Apr 75	S.Uehara	E1540

28 Nickel 58

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{58}Ni	DA	2NEDKVI	1.7+08		Jour	PL/B,612,165	05	F.Hofmann+	D0350

p,el	^{58}Ni	POD	2NEDKVI	1.7+08		Jour	PL/B,612,165	05	F.Hofmann+	D0350
p,inel	^{58}Ni	DAE	2NEDKVI	1.7+08		Jour	PL/B,612,165	05	F.Hofmann+	D0350
p,inel	^{58}Ni	DAP	2NEDKVI	1.7+08		Jour	PL/B,612,165	05	F.Hofmann+	D0350
p,inel	^{58}Ni	POD	2NEDKVI	1.7+08		Jour	PL/B,612,165	05	F.Hofmann+	D0350
d,p	^{59}Ni	DAP	2JPNOSA	5.6+07		Jour	NP/A,576,(3),387	Sep 94	O.Iwamoto+	E1586
d,p	^{59}Ni	POD	2JPNOSA	5.6+07		Jour	NP/A,576,(3),387	Sep 94	O.Iwamoto+	E1586
^{3}He,el	^{58}Ni	DA	2JPNOSA	4.5+08		Jour	NP/A,589,(3),425	Jul 95	T.Yamagata+	E1594

30 Zinc

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,x	^{52}Mn	CS	3HUNDEB	5.5+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{54}Mn	CS	3HUNDEB	5.5+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{55}Co	CS	3HUNDEB	5.0+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{56}Co	CS	3HUNDEB	3.3+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{57}Co	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{58}Co	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{60}Co	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{57}Ni	CS	3HUNDEB	5.5+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{64}Cu	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{62}Zn	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{65}Zn	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{69}Zn	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{66}Ga	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149
p,x	^{67}Ga	CS	3HUNDEB	2.6+07	6.7+07	Jour	ARI,62,73	05	F.Tarkanyi+	D4149

32 Germanium 70

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
^{6}Li,el	^{70}Ge	DA	3BZLUSP	2.8+07		Jour	PR/C,71,024303	05	M.D.L.Barbosa+	D0279
^{6}Li,inel	^{70}Ge	DAP	3BZLUSP	2.8+07		Jour	PR/C,71,024303	05	M.D.L.Barbosa+	D0279

32 Germanium 72

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,p	^{73}Ge	DAP	2JPNKYU	6.0+06		Jour	NP/A,203,(1),97	Mar 73	N.Kato	E1541
^{6}Li,el	^{72}Ge	DA	3BZLUSP	2.8+07		Jour	PR/C,71,024303	05	M.D.L.Barbosa+	D0279
^{6}Li,inel	^{72}Ge	DAP	3BZLUSP	2.8+07		Jour	PR/C,71,024303	05	M.D.L.Barbosa+	D0279

32 Germanium 74

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,el	^{74}Ge	DA	2JPNKYU	6.0+06		Jour	NP/A,203,(1),97	Mar 73	N.Kato	E1541
d,p	^{75}Ge	DAP	2JPNKYU	6.0+06		Jour	NP/A,203,(1),97	Mar 73	N.Kato	E1541

^{6}Li,el	^{74}Ge	DA	3BZLUSP	2.8+07		Jour	PR/C,71,024303	05	M.D.L.Barbosa+	D0279
^{6}Li,el	^{74}Ge	DAP	3BZLUSP	2.8+07		Jour	PR/C,71,024303	05	M.D.L.Barbosa+	D0279

32 Germanium 76

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{77}Ge	DAP	2JPNKYU	6.0+06		Jour	NP/A,203,(1),97	Mar 73	N.Kato	E1541

36 Krypton 78

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,α	^{76}Br	CS	2GERJUL	4.8+06	1.3+07	Jour	RCA,92,203	04	B.Scholten+	A0710
d,n	^{79}Rb	CS	2GERJUL	4.8+06	1.3+07	Jour	RCA,92,203	04	B.Scholten+	A0710
d,n+α	^{75}Br	CS	2GERJUL	1.1+07	1.3+07	Jour	RCA,92,203	04	B.Scholten+	A0710
d,n+α	^{75}Br	CS	2GERJUL	4.8+06	1.3+07	Jour	RCA,92,203	04	B.Sholten+	D4152
d,p	^{79}Kr	CS	2GERJUL	4.8+06	1.3+07	Jour	RCA,92,203	04	B.Sholten+	D4152
d,x	^{79}Kr	CS	2GERJUL	6.0+06	1.3+07	Jour	RCA,92,203	04	B.Scholten+	A0710

38 Strontium 88

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,^{11}B	^{89}Y	DAP	3INDTRM	8.8+07		Jour	IJP/A,70,139	96	B.J.Roy+	A0734
^{12}C,el	^{88}Sr	DA	3INDTRM	8.8+07		Jour	IJP/A,70,139	96	B.J.Roy+	A0734

39 Yttrium 89

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,4n	^{97}Rh	CS	3INDTRM	5.2+07	6.3+07	Jour	PRM,64,221	05	B.S.Tomar+	A0727
^{16}O,x	^{99}Rh	CS	3INDTRM	5.8+07	9.3+07	Jour	PRM,64,221	05	B.S.Tomar+	A0727

40 Zirconium 90

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,n+p	^{90}Zr	D3A	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
d,n+p	^{90}Zr	DAA	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
^{3}He,el	^{90}Zr	DA	2JPNOSA	4.5+08		Jour	NP/A,589,(3),425	Jul 95	T.Yamagata+	E1594

41 Niobium 93

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,2n	^{95}Tc	CS	3INDVEC	1.1+08	1.7+07	Jour	PR/C,72,014609	05	S.Mukherjee+	D0360
α,x	^{86}Y	CS	1USAINU	1.1+08	7.1+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{86}Zr	CS	1USAINU	1.1+08	9.6+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{88}Zr	CS	1USAINU	1.1+08	5.2+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{89}Zr	CS	1USAINU	1.1+08	5.7+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
α,x	^{90}Nb	CS	1USAINU	1.1+08	4.6+07	Jour	IJP/A,70,155	96	S.K.Singh+	D0336
^{12}C,x	^{99}Rh	CS	3INDTRM	4.7+07	7.8+07	Jour	PRM,64,221	05	B.S.Tomar+	A0727
^{19}F,fus		CS	3INDTRM	9.5+07		Jour	PR/C,58,3478	98	B.S.Tomar+	A0732
^{19}F,x	Many	CS	3INDTRM	9.5+07		Jour	PR/C,58,3478	98	B.S.Tomar+	A0732

42 Molybdenum 92

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,d	^{91}Mo	DAP	2JPNOSA	6.5+07		Jour	NP/A,564,(2),227	Nov 93	K.Hisamochi+	E1523
p,d	^{91}Mo	POD	2JPNOSA	6.5+07		Jour	NP/A,564,(2),227	Nov 93	K.Hisamochi+	E1523

46 Palladium

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{103}Ag	CS	2BLGVUB	1.5+07	3.7+07	Jour	RCA,92,215	04	A.Hermanne+	A0711
p,x	^{103}Ag	CS	2BLGVUB	1.5+07	3.7+07	Jour	RCA,92,203	04	A.Hermanne+	D4153
d,x	^{103}Ag	CS	2BLGVUB	4.6+06	2.0+07	Jour	RCA,92,215	04	A.Hermanne+	A0711
d,x	^{103}Ag	CS	2BLGVUB	4.6+06	2.0+07	Jour	RCA,92,203	04	A.Hermanne+	D4153

49 Indium 115

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,d	^{114}In	DAE	2JPNTOK	5.2+07		Jour	JPJ,35,(6),1579	Dec 73	T.Ishimatsu+	E1546

52 Tellurium 126

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{127}Te	DAP	2GERMUN	2.0+07		Jour	NP/A,756,249	05	J.Honzatko+	D0330
d,p	^{127}Te	POD	2GERMUN	2.0+07		Jour	NP/A,756,249	05	J.Honzatko+	D0330

56 Barium 130

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,t	^{129}Ba	DAP	2GERMUN	2.5+07		Jour	NP/A,630,643	98	D.Bucurescu+	D0179
d,t	^{129}Ba	POD	2GERMUN	2.5+07		Jour	NP/A,630,643	98	D.Bucurescu+	D0179

63 Europium 151

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{152}Eu	DAP	1USAFSU	1.2+07		Jour	ZP/A,286,341	78	T.Vonegidy+	D0321

63 Europium 153

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,d	^{152}Eu	DAP	2GERLMU	1.2+07		Jour	ZP/A,286,341	78	T.Vonegidy+	D0321
d,t	^{152}Eu	DAP	1USAFSU	1.2+07		Jour	ZP/A,286,341	78	T.Vonegidy+	D0321

67 Holmium 165

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{166}Ho	DAP	2GERMUN	1.7+07		Jour	PR/C,61,044305	00	P.Prokofjevs+	D0299

68 Erbium 167

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,^{3}He	^{166}Ho	DAP	2GERMUN	2.7+07		Jour	PR/C,61,044305	00	P.Prokofjevs+	D0299

69 Thulium 168

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,α	incl	DA	3INDTRM	8.4+07		Jour	EPJ/A,14,371	02	S.Sodaye+	A0703
^{12}C,α	incl	DAE	3INDTRM	8.4+07		Jour	EPJ/A,14,371	02	S.Sodaye+	A0703
^{12}C,el	^{168}Tm	DA	3INDTRM	8.4+07		Jour	EPJ/A,14,371	02	S.Sodaye+	A0703
^{12}C,x	Many	DA	3INDTRM	8.4+07		Jour	EPJ/A,14,371	02	S.Sodaye+	A0703
^{12}C,x	Many	DAE	3INDTRM	8.4+07		Jour	EPJ/A,14,371	02	S.Sodaye+	A0703

69 Thulium 169

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{169}Yb	CS	2GERJUL	4.8+06	4.5+07	Jour	ARI,63,235	05	I.Spahn+	D4148

73 Tantalum 181

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,3n	^{190}Au	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,4n	^{189}Au	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,5n	^{188}Au	CS	3INDTRM	6.4+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,fus		CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,x	^{182}Re	CS	3INDTRM	7.2+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,x	^{183}Re	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,x	^{184}Re	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,x	^{185}Ir	CS	3INDTRM	7.2+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,x	^{186}Ir	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{12}C,x	^{187}Ir	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,3n	^{191}Au	CS	3INDTRM	6.1+07	7.7+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,4n	^{190}Au	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,5n	^{189}Au	CS	3INDTRM	6.4+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,fus		CS	3INDTRM	6.1+07	8.0+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,x	^{183}Re	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,x	^{184}Re	CS	3INDTRM	6.1+07	8.0+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,x	^{186}Ir	CS	3INDTRM	7.2+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,x	^{187}Ir	CS	3INDTRM	6.4+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708
^{13}C,x	^{188}Ir	CS	3INDTRM	6.1+07	7.9+07	Jour	JP/G,29,1011	03	K.Surendrababu+	A0708

74 Tungsten

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	Many	CS	4RUSITE	2.6+09		Rept	LA-UR-00-3597,	00	Yu.E.Titarenko+	A0721

77 Irirdium 193

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{194}Ir	DAP	2GERMUN	2.2+07		Jour	FIZ/B,7,15	98	M.Balodis+	D0335

78 Platinum

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,x	^{192}Ir	CS	3HUNDEB	1.1+07	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150
d,x	^{195}Pt	CS	3HUNDEB	5.5+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150

d,x	^{197}Pt	CS	3HUNDEB	5.5+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150
d,x	^{192}Au	CS	3HUNDEB	8.2+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150
d,x	^{193}Au	CS	3HUNDEB	6.9+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150
d,x	^{194}Au	CS	3HUNDEB	5.5+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150
d,x	^{195}Au	CS	3HUNDEB	6.9+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150
d,x	^{196}Au	CS	3HUNDEB	6.9+06	2.0+07	Jour	NIM/B,226,490	04	F.Tarkanyi+	D4150

78 Platinum 194

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
^{12}C,3n	^{203}Po	CS	3INDTRM	5.2+07	6.9+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,4n	^{202}Po	CS	3INDTRM	5.4+07	6.9+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,5n	^{201}Po	CS	3INDTRM	6.6+07	6.9+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,el	^{194}Pt	DA	3INDTRM	7.4+07		Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,fus		CS	3INDTRM	5.6+07	7.3+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730

78 Platinum 198

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,n	^{198}Au	CS	2BLGVUB	6.0+06	3.7+07	Jour	RCA,92,223	04	F.Tarkanyi+	A0709
p,n	^{198}Au	CS	2BLGVUB	6.0+06	3.7+07	Jour	RCA,92,223	04	F.Tarkanyi+	D4154
p,n	^{198}Au	TT	2BLGVUB	1.5+07	1.6+07	Jour	RCA,92,223	04	F.Tarkanyi+	D4154
d,2n	^{198}Au	CS	2BLGVUB	5.5+06	2.0+07	Jour	RCA,92,223	04	F.Tarkanyi+	A0709
d,2n	^{198}Au	CS	2BLGVUB	5.5+06	2.0+07	Jour	RCA,92,223	04	F.Tarkanyi+	D4154
d,2n	^{198}Au	CS	2BLGVUB	8.2+06	2.0+07	Jour	RCA,92,223	04	F.Tarkanyi+	A0709
d,x	^{199}Au	CS	2BLGVUB	5.5+06	2.0+07	Jour	RCA,92,223	04	F.Tarkanyi+	A0709
d,x	^{199}Au	CS	2BLGVUB	5.5+06	2.0+07	Jour	RCA,92,223	04	F.Tarkanyi+	D4154
^{12}C,3n	^{207}Po	CS	3INDTRM	5.2+07	6.3+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,4n	^{206}Po	CS	3INDTRM	5.6+07	6.6+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,5n	^{205}Po	CS	3INDTRM	6.1+07	6.9+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,6n	^{204}Po	CS	3INDTRM	6.6+07	6.9+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,el	^{198}Pt	DA	3INDTRM	7.4+07		Jour	PR/C,63,054602	01	A.Shrivastava+	A0730
^{12}C,fus		CS	3INDTRM	5.6+07	7.3+07	Jour	PR/C,63,054602	01	A.Shrivastava+	A0730

79 Gold 197

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
^{18}O,4n	^{211}Fr	?	2ITYPAD	7.5+07	1.0+08	Jour	PR/C,71,014609	05	L.Corradi+	A0728
^{18}O,6n	^{209}Fr	?	2ITYPAD	9.5+07	1.3+08	Jour	PR/C,71,014609	05	L.Corradi+	A0728
^{18}O,8n	^{207}Fr	CS	2ITYPAD	1.2+08	1.3+08	Jour	PR/C,71,014609	05	L.Corradi+	A0728
^{19}F,f		CS	3INDTRM	9.1+07	1.1+08	Jour	PR/C,71,044616	05	R.Tripathi+	D0333
^{19}F,f		DA	3INDTRM	9.1+07	1.1+08	Jour	PR/C,71,044616	05	R.Tripathi+	D0333

82 Lead

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{11}Be,inel	^{nat}Pb	DE	2JPNIPC	7.9+08		Jour	PL/B,331,(3-4),296	Jul 94	T.Nakamura+	E1573
^{16}O,x	Many	CS	3CPRIMP	6.0+08		Jour	PR/C,70,024603	04	Zhangli+	A0717

82 Lead 208

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,n+p	^{208}Pb	D3A	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
d,n+p	^{208}Pb	DAA	2JPNOSA	5.6+07		Jour	PL/B,325,(3-4),308	Apr 94	H.Okamura+	E1557
^{3}He,el	^{208}Pb	DA	2JPNOSA	4.5+08		Jour	NP/A,589,(3),425	Jul 95	T.Yamagata+	E1594
^{6}He,2n+α	^{208}Pb	CSP	2GERGSI	1.4+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{6}He,2n+α	^{208}Pb	?	2GERGSI	1.4+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{6}He,inel	^{208}Pb	CSP	2GERGSI	1.4+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{6}He,inel	^{208}Pb	DAP	2GERGSI	1.4+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{6}He,n+^{5}He	^{208}Pb	CSP	2GERGSI	1.4+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{8}He,2n+^{6}He	^{208}Pb	CSP	2GERGSI	1.8+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{8}He,inel	^{208}Pb	CSP	2GERGSI	1.8+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{8}He,inel	^{208}Pb	DAP	2GERGSI	1.8+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{8}He,inel	^{208}Pb	?	2GERGSI	1.8+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{8}He,n+^{7}He	^{208}Pb	CSP	2GERGSI	1.8+09		Jour	NP/A,700,3	02	M.Meister+	D0172
^{9}Be,2n	^{215}Rn	CS	3AULCBR	3.4+07	4.1+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,3n	^{214}Rn	CS	3AULCBR	3.4+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,4n	^{213}Rn	CS	3AULCBR	3.9+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,5n	^{212}Rn	CS	3AULCBR	4.4+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,el	^{208}Pb	DA	3AULCBR	3.8+07	7.5+07	Jour	PR/C,69,044612	04	R.J.Woolliscroft+	A0712
^{9}Be,f		CS	3AULCBR	3.4+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,fus		CS	3AULCBR	3.4+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,x	^{210}Po	CS	3AULCBR	3.9+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,x	^{211}Po	CS	3AULCBR	3.4+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{9}Be,x	^{212}Po	CS	3AULCBR	3.4+07	4.9+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{8}B,inel	^{208}Pb	DE	2JPNIPC	3.7+08		Jour	PRL,73,(20),2680	Nov 94	T.Motobayashi+	E1576
^{12}C,3n	^{217}Ra	CS	2JPNIPC	6.5+07	8.0+07	Jour	NP/A,217,(2),253	Dec 73	T.Nomura+	E1522
^{12}C,4n	^{216}Ra	CS	2JPNIPC	6.5+07	9.0+07	Jour	NP/A,217,(2),253	Dec 73	T.Nomura+	E1522
^{12}C,5n	^{215}Ra	CS	2JPNIPC	8.0+07	9.0+07	Jour	NP/A,217,(2),253	Dec 73	T.Nomura+	E1522
^{14}N,5n	^{217}Ac	CS	2JPNIPC	7.7+07	9.0+07	Jour	NP/A,217,(2),253	Dec 73	T.Nomura+	E1522

82 Lead 210

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{11}B,3n	^{218}Fr	CSP	2FR STR	5.2+07	6.2+07	Jour	JP/G,14,1191	88	M.Aiche+	A0701
^{11}B,4n	^{217}Fr	CSP	2FR STR	5.2+07	6.8+07	Jour	JP/G,14,1191	88	M.Aiche+	A0701

83 Bismuth 209

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{6}Li,2n	^{213}Rn	CS	3AULCBR	2.5+07	3.2+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,3n	^{212}Rn	CS	3AULCBR	2.5+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,4n	^{211}Rn	CS	3AULCBR	3.1+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,5n	^{210}Rn	CS	3AULCBR	3.9+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,f		CS	3AULCBR	2.6+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,fus		CS	3AULCBR	2.5+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,x	^{210}Po	CS	3AULCBR	2.9+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,x	^{211}Po	CS	3AULCBR	3.9+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,x	^{212}Po	CS	3AULCBR	3.1+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,x	^{211}At	CS	3AULCBR	2.8+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,x	^{212}At	CS	3AULCBR	2.7+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{6}Li,x	^{213}At	CS	3AULCBR	2.7+07	4.7+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,2n	^{214}Rn	CS	3AULCBR	2.5+07	3.2+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,3n	^{213}Rn	CS	3AULCBR	2.5+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,4n	^{212}Rn	CS	3AULCBR	3.0+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,5n	^{211}Rn	CS	3AULCBR	3.9+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,6n	^{210}Rn	CS	3AULCBR	5.0+07		Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,f		CS	3AULCBR	2.7+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,fus		CS	3AULCBR	2.5+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{211}Bi	CS	3AULCBR	2.8+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{210}Po	CS	3AULCBR	2.9+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{211}Po	CS	3AULCBR	2.5+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{212}Po	CS	3AULCBR	3.1+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{211}At	CS	3AULCBR	3.5+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{212}At	CS	3AULCBR	2.8+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{7}Li,x	^{213}At	CS	3AULCBR	2.8+07	5.0+07	Jour	PR/C,70,024606	04	M.Dasgupta+	A0719
^{14}N,5n	^{218}Th	CS	2JPNIPC	7.8+07	9.0+07	Jour	NP/A,217,(2),253	Dec 73	T.Nomura+	E1522
^{19}F,f		CS	3INDTRM	8.8+07	1.3+08	Jour	EPJ/A,7,59	00	A.M.Samant+	A0706
^{19}F,f		DA	3INDTRM	8.8+07	1.3+08	Jour	EPJ/A,7,59	00	A.M.Samant+	A0706
^{19}F,fus		CS	3INDTRM	9.3+07		Jour	EPJ/A,7,59	00	A.M.Samant+	A0706

90 Thorium 232

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{230}Th	CSP	2JPNTOK	5.2+07		Jour	JPJ,36,(2),336	Feb 74	E.Takekoshi+	E1542
p,t	^{230}Th	DAP	2JPNTOK	5.2+07		Jour	JPJ,36,(2),336	Feb 74	E.Takekoshi+	E1542
p,t	^{230}Th	?	2JPNTOK	5.2+07		Jour	JPJ,36,(2),336	Feb 74	E.Takekoshi+	E1542
^{10}B,f		CS	3INDTRM	4.8+07	6.5+07	Jour	PR/C,62,031601	00	B.K.Nayak+	A0704
^{10}B,f		DA	3INDTRM	5.2+07	6.8+07	Jour	PR/C,62,031601	00	B.K.Nayak+	A0704
^{10}B,f		DA	3INDTRM	6.0+07	7.2+07	Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739
^{11}B,f		CS	3INDTRM	4.8+07	6.5+07	Jour	PR/C,62,031601	00	B.K.Nayak+	A0704
^{11}B,f		DA	3INDTRM	5.2+07	6.8+07	Jour	PR/C,62,031601	00	B.K.Nayak+	A0704
^{12}C,f		DA	3INDTRM	6.8+07	8.4+07	Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739
^{16}O,f		CS	3INDTRM	9.2+07	1.0+08	Jour	RCA,62,173	93	A.Goswami+	A0729
^{16}O,f		DA	3INDTRM	8.8+07	9.2+07	Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739
^{16}O,f	Many	CS	3INDTRM	9.2+07	1.0+08	Jour	RCA,62,173	93	A.Goswami+	A0729

92 Uranium 238

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{236}U	CSP	2JPNTOK	5.2+07		Jour	JPJ,36,(2),336	Feb 74	E.Takekoshi+	E1542
p,t	^{236}U	DAP	2JPNTOK	5.2+07		Jour	JPJ,36,(2),336	Feb 74	E.Takekoshi+	E1542
p,t	^{236}U	?	2JPNTOK	5.2+07		Jour	JPJ,36,(2),336	Feb 74	E.Takekoshi+	E1542

93 Neptunium 237

Reaction	Product	Quantity	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{10}B,f		DA	3INDTRM	5.6+07	6.8+07	Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739
^{12}C,f		DA	3INDTRM	7.2+07	8.1+07	Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739
^{16}O,f		DA	3INDTRM	9.0+07	9.4+07	Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739
^{19}F,f		DA	3INDTRM	1.1+08		Jour	PRL,65,25	90	V.S.Ramamurthy+	A0739