EXFOR News (April 2014)

New experimental data available from Nuclear Reaction Data Centres

EXFOR is a world-wide data library for experimental neutron induced, charged-particle induced and photonuclear reaction data compiled by the International Network of the Nuclear Reaction Data Centres (NRDC)[a] coordinated by the IAEA Nuclear Data Section. Regularly updated retrieval database is available at NNDC, NEADB, IAEA-NDS, JAEA, JCPRG and CDFE. Please send an email to N.Otsuka (NRDC Coordinator n.otsuka@iaea.org) for inclusion to the EXFOR News distribution list or any question on EXFOR.

Quantity codes

ALF	α-value ($\sigma_{\rm capt}/\sigma_{\rm fis}$)	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	Fission neutron multiplicity $\bar{\nu}$
D3A	Triple differential $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2/\mathrm{d}E'$	NUD	Delayed fission neutron multiplicity $\bar{\nu}_d$
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	η-value $\bar{\nu}\sigma_{\rm fis}/(\sigma_{\rm capt}+\sigma_{\rm fis})$	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)

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

1 Hydrogen 1

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,π^-+p	^{2}He	DAP	2GERJUL	7.1+08	7.1+08	Jour	PR/C,88,014001	13	S.Dymov+	O2164
d,π^-+p	^{2}He	POD	2GERJUL	7.1+08	7.1+08	Jour	PR/C,88,014001	13	S.Dymov+	O2164
^{12}C,x	Many	CS	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{9}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{8}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+α	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+d	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+^{3}He	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+p	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+t	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{136}Xe,x	Many	?	2GERGSI	6.8+10	6.8+10	Jour	NP/A,899,116	13	L.Giot+	O2143
^{208}Pb,fis		CS	2GERGSI	1.0+11	1.0+11	Jour	PR/C,87,034601	13	K.-H.Schmidt+	O2141
^{238}U,fis		CS	2GERGSI	1.3+11	2.2+11	Jour	PR/C,87,034601	13	K.-H.Schmidt+	O2141

1 Hydrogen 2

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{2}H	POD	2NEDKVI	1.3+08	1.3+08	Jour	PL/B,725,282	13	A.R.-M.-Arani+	O2168
d,p	^{3}H	CS	2ITYLNS	7.5+04	8.2+05	Jour	PR/C,87,025805	13	R.G.Pizzone+	O2146
^{8}He,p		RP	2FR GAN	1.8+05	3.4+06	Jour	PR/C,88,034301	13	T.Alkalanee+	O2169
^{8}He,p	^{9}He	?	2FR GAN	1.2+08	1.2+08	Jour	PR/C,88,034301	13	T.Alkalanee+	O2169
^{14}O,el	^{2}H	?	2FR GAN	2.5+08	2.5+08	Jour	PRL,110,122503	13	F.Flavigny+	O2149
^{14}O,^{3}He	^{13}N	?	2FR GAN	2.5+08	2.5+08	Jour	PRL,110,122503	13	F.Flavigny+	O2149
^{14}O,t	^{13}O	?	2FR GAN	2.4+08	2.4+08	Jour	PRL,110,122503	13	F.Flavigny+	O2149
^{208}Pb,fis		CS	2GERGSI	1.0+11	1.0+11	Jour	PR/C,87,034601	13	K.-H.Schmidt+	O2141

2 Helium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,ths	^{nat}He	TSL	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198
n,tot		CS	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198

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	3HUNDEB	1.5+06	2.5+06	Jour	NP/A,908,1	13	C.Bordeanu+	D4289

3 Lithium 6

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,^{3}He	^{4}He	CS	2ITYLNS	1.5+04	6.0+05	Jour	AJ,768,65	13	L.Lamia+	O2147
^{3}He,d	^{7}Be	DAP	4KASKAZ	3.4+07	3.4+07	Jour	NP/A,909,20	13	N.Burtebayev+	D0712
^{3}He,el	^{6}Li	DA	4KASKAZ	3.4+07	3.4+07	Jour	NP/A,909,20	13	N.Burtebayev+	D0712
^{3}He,inel	^{6}Li	DAP	4KASKAZ	3.4+07	3.4+07	Jour	NP/A,909,20	13	N.Burtebayev+	D0712
^{18}O,el	^{6}Li	DA	3POLWWA	1.1+08	1.1+08	Jour	NP/A,922,71	14	A.T.Rudchik+	D5096
^{18}O,inel	^{6}Li	DAP	3POLWWA	1.1+08	1.1+08	Jour	NP/A,922,71	14	A.T.Rudchik+	D5096

4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{9}Be	DA	2ITYNAP	3.5+06	9.9+06	Jour	NIM/B,302,19	13	I.Lombardo+	O2137
^{238}U,x	^{192}Pt	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{195}Au	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{197}Au	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{201}Tl	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{202}Tl	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{203}Tl	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{204}Tl	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{202}Pb	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{203}Pb	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{204}Pb	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{205}Pb	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{206}Pb	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{207}Bi	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{208}Po	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{209}Po	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{210}Po	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{211}Po	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{211}At	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{212}At	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{213}At	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{213}Rn	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{214}Rn	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166
^{238}U,x	^{215}Rn	?	2GERGSI	2.4+11	2.4+11	Jour	PR/C,88,024611	13	M.Bowry+	O2166

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{11}C	DAP	1USASTF	2.8+06	1.4+07	Jour	NP/A,151,129	70	H.M.Kuan+	C0634

5 Boron 11

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{11}C	CS	2FR PAR	1.6+08	3.0+09	Jour	CR/B,263,833	66	M.L.Sklavenitis	O2133

6 Carbon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,x	Many	CS	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{9}Be,^{8}Be	^{13}C	DAP	2SWTETH	2.0+07	2.0+07	Jour	JP/G,5,565	79	L.Jarczyk+	O2157
^{12}C,x	^{6}He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{9}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{8}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+α	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+d	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+^{3}He	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+p	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+t	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{16}O,fus		CS	2FR GAN	1.0+07	1.2+07	Jour	JP/CS,420,012122	13	M.J.Rudolph+	O2145
^{16}O,fus		CS	1USAWMU	8.2+06	1.5+07	Jour	JP/CS,420,012122	13	M.J.Rudolph+	O2145
^{20}O,fus		CS	2FR GAN	7.3+06	1.5+07	Jour	JP/CS,420,012122	13	M.J.Rudolph+	O2145
^{238}U,fis	Many	FY	2FR GAN	1.5+09	1.5+09	Jour	PR/C,88,024605	13	M.Caamano+	O2160

6 Carbon 13

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{13}C	DA	2PRTLIS	7.9+05	2.4+06	Jour	NIM/B,316,81	13	N.P.Barradas+	O2167
^{9}Be,α	^{18}O	DAP	2GRCATH	7.8+06	1.6+07	Jour	JP/G,7,389	81	D.Pocanic+	O2155

6 Carbon 14

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{11}B,el	^{14}C	DA	3POLWWA	4.5+07	4.5+07	Jour	EPJ/A,50,4	14	S.Yu.Mezhevych+	D5094
^{11}B,inel	^{14}C	DAP	3POLWWA	4.5+07	4.5+07	Jour	EPJ/A,50,4	14	S.Yu.Mezhevych+	D5094

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,0		RP	1USASTF			Jour	NP/A,151,129	70	H.M.Kuan+	C0634
p,γ	^{15}O	DAP	1USASTF	2.2+06	1.8+07	Jour	NP/A,151,129	70	H.M.Kuan+	C0634
p,x	^{7}Be	CS	2FR PAR	5.0+07	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{13}N	CS	2FR PAR	5.0+07	5.0+07	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
t,p	^{16}N	DAP	2UK ALD	1.2+07	1.2+07	Jour	NP,88,(3),561	66	P.V.Hewka+	C2079

7 Nitrogen 15

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2FR PAR	1.6+08	1.6+08	Jour	CR/B,263,752	63	H.Gauvin	O2132
d,p	^{16}N	DAP	1USAPEN	1.2+07	1.2+07	Jour	NP,88,(3),561	66	P.V.Hewka+	C2079

8 Oxygen

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CS	1USACOR	8.0-01	8.0-01	Jour	PR,74,364	48	W.B.Jonesjr	11432
^{12}C,x	Many	CS	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{9}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{8}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

^{12}C,x	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+α	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+d	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+^{3}He	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+p	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+t	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,3p	^{14}C	CS	2FR PAR	4.7+07	2.7+09	Jour	CR,253,1202	61	M.A.Tamers+	O2131
p,x	^{7}Be	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{11}C	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{13}N	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134

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	1USADKE	1.8+06	3.2+06	Jour	AP,51,(3),461	69	D.L.Sellin+	C1918
p,x	^{7}Be	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{7}Be	CS	2FR PAR	1.6+08	1.6+08	Jour	CR/B,263,752	63	H.Gauvin	O2132
p,x	^{11}C	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{13}N	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{18}F	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134

9 Fluorine 19

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{7}Be	CS	2FR PAR	1.6+08	1.6+08	Jour	CR/B,263,752	63	H.Gauvin	O2132
p,x	^{11}C	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{18}F	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
^{3}He,t	^{19}Ne	DAP	2GERMUU	2.5+07	2.5+07	Jour	PRL,110,032502	13	A.M.Laird+	O2153

10 Neon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,ths	^{nat}Ne	TSL	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198
n,tot		CS	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198

12 Magnesium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2SWDUPP	2.3+07	1.6+09	Jour	NIM/B,129,153	97	R.Michel+	O0276
p,x	^{7}Be	CS	2FR PAR	5.0+07	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{10}Be	CS	2SWDUPP	4.1+07	1.6+09	Jour	NIM/B,129,153	97	R.Michel+	O0276
p,x	^{11}C	CS	2FR PAR	5.0+07	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{18}F	CS	2FR PAR	5.0+07	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{22}Na	CS	2FR PAR	5.0+07	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{22}Na	CS	2SWDUPP	8.2+06	1.6+09	Jour	NIM/B,129,153	97	R.Michel+	O0276
p,x	^{24}Na	CS	2SWDUPP	8.3+06	1.6+08	Jour	NIM/B,129,153	97	R.Michel+	O0276
p,x+^{3}He	inclusive	CS	1USALAS	8.0+08	2.6+09	Jour	NIM/B,103,183	95	R.Michel+	O0277

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2FR PAR	1.6+08	1.6+08	Jour	CR,259,1406	64	M.Ligonniere+	O2128
p,x	^{7}Be	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{11}C	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{13}N	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{18}F	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{22}Na	CS	2FR PAR	1.6+08	1.6+08	Jour	CR,253,2919	61	M.Nguyen-Long-Den	O2129
p,x+α	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+α	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	CS	1USALAS	8.0+08	2.6+09	Jour	NIM/B,103,183	95	R.Michel+	O0277
p,x+^{3}He	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+p	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+t	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
^{12}C,x	Many	CS	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{9}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{8}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+α	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+d	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+^{3}He	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+p	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+t	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

14 Silicon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{11}C	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{13}N	CS	2FR PAR	1.5+08	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{18}F	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{22}Na	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{24}Na	CS	2FR PAR	5.0+07	1.5+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x+^{3}He	inclusive	CS	1USALAS	8.0+08	2.6+09	Jour	NIM/B,103,183	95	R.Michel+	O0277

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{28}Si	CSP	2ZZZGEL	3.7+05	1.8+07	Jour	PR/C,88,034604	13	A.Negret+	23173
n,p	^{28}Al	CSP	2ZZZGEL	3.7+05	1.7+07	Jour	PR/C,88,034604	13	A.Negret+	23173
^{8}B,x+α	inclusive	CS	2ITYPAD	2.0+07	3.5+07	Jour	PR/C,87,014619	13	A.Pakou+	O2152

17 Chlorine

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{22}Na	CS	2FR PAR	1.0+08	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134
p,x	^{34}Cl	CS	2FR PAR	5.0+07	1.0+08	Jour	CR/B,273,1054	71	R.Bimbot+	O2134

18 Argon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,ths	^{nat}Ar	TSL	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198
n,tot		CS	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198

20 Calcium 40

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,γ		RP	2GERZFK	4.5+06	4.5+06	Jour	PR/C,88,025803	13	K.Schmidt+	O2161
α,γ	^{44}Ti	DAP	2GERZFK	4.5+06	4.5+06	Jour	PR/C,88,025803	13	K.Schmidt+	O2161

20 Calcium 44

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{44}Sc	CS	2ZZZISP	5.5+06	1.8+07	Jour	RCA,101,333	13	S.Krajewski+	O2136
p,n	^{44}Sc	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

20 Calcium 48

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	1USAORL			Jour	PR/C,32,1114	85	J.A.Harvey+	12955

22 Titanium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,x	Many	CS	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{6}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{7}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{9}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{8}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+α	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+d	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+^{3}He	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+p	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
^{12}C,x+t	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

22 Titanium 46

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{46}Ti	DA	2UK HAR	7.0+06	1.0+07	Jour	JP/G,6,369	80	D.L.Watson+	O2159
d,p	^{47}Ti	DAP	2UK HAR	7.0+06	1.0+07	Jour	JP/G,6,369	80	D.L.Watson+	O2159
^{7}Li,el	^{46}Ti	DA	2UK LVP	1.7+07	1.7+07	Jour	JP/G,5,1751	79	T.P.Morrison+	O2156
^{7}Li,inel	^{46}Ti	DAP	2UK LVP	1.7+07	1.7+07	Jour	JP/G,5,1751	79	T.P.Morrison+	O2156

22 Titanium 48

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{7}Li,el	^{48}Ti	DA	2UK LVP	1.7+07	1.7+07	Jour	JP/G,5,1751	79	T.P.Morrison+	O2156
^{7}Li,inel	^{48}Ti	DAP	2UK LVP	1.7+07	1.7+07	Jour	JP/G,5,1751	79	T.P.Morrison+	O2156

23 Vanadium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2FR PAR	1.6+08	1.6+08	Jour	CR,259,1406	64	M.Ligonniere+	O2128

24 Chromium 52

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{52}Mn	CS	2SWTETH	5.6+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+^{3}He	inclusive	CS	1USALAS	8.0+08	2.6+09	Jour	NIM/B,103,183	95	R.Michel+	O0277

26 Iron 55

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{52}Cr	CS	1USAORL	2.5-02	2.5-02	Jour	FED,88,2860	13	H.Liu+	14376

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{56}Fe	CSP	2ZZZGEL	4.0+06	6.0+06	Jour	PR/C,88,027601	13	A.Negret+	23073

27 Cobalt 59

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,3n	^{57}Ni	CS	2BLGVUB	1.6+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,4n	^{56}Ni	CS	2BLGVUB	6.0+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,x	^{51}Cr	CS	2BLGVUB	6.0+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293

p,x	^{52}Mn	CS	2BLGVUB	6.0+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,x	^{54}Mn	CS	2BLGVUB	2.7+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,x	^{55}Co	CS	2BLGVUB	6.0+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,x	^{56}Co	CS	2BLGVUB	2.7+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,x	^{57}Co	CS	2BLGVUB	1.5+07	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
p,x	^{58}Co	CS	2BLGVUB	9.9+06	7.0+07	Jour	JRN,298,853	13	F.Ditroi+	D4293
d,x	^{51}Cr	CS	2GERKFK	4.3+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{54}Mn	CS	2GERKFK	3.4+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{56}Mn	CS	2GERKFK	1.1+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{59}Fe	CS	2GERKFK	1.5+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{56}Co	CS	2GERKFK	3.7+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{57}Co	CS	2GERKFK	2.0+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{58}Co	CS	2GERKFK	1.0+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{60}Co	CS	2GERKFK	1.0+07	4.9+07	Rept	KFK-1171	70	R.Bilabel	O2124
d,x	^{57}Ni	CS	2GERKFK	3.1+07	5.2+07	Rept	KFK-1171	70	R.Bilabel	O2124

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,x+^{3}He	inclusive	CS	1USALAS	6.0+08	2.6+09	Jour	NIM/B,103,183	95	R.Michel+	O0277
d,x	^{51}Cr	CS	2JPNTOH	3.3+07	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{52}Mn	CS	2JPNTOH	1.5+07	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{54}Mn	CS	2JPNTOH	2.3+07	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{55}Co	CS	2JPNTOH	3.2+06	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{56}Co	CS	2JPNTOH	3.2+06	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{57}Co	CS	2JPNTOH	3.2+06	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{58}Co	CS	2JPNTOH	3.2+06	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{58}Co	TT	2JPNTOH			Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{56}Ni	CS	2JPNTOH	2.9+07	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{57}Ni	CS	2JPNTOH	3.2+06	4.0+07	Jour	ARI,82,87	13	N.Amjed+	D4288
d,x	^{57}Ni	TT	2JPNTOH	2.1+07	2.1+07	Jour	ARI,82,87	13	N.Amjed+	D4288

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,x+α	inclusive	DAE	1USAMRY	9.0+07	1.0+08	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+α	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DAE	1USAMRY	9.0+07	1.0+08	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DAE	1USAMRY	9.0+07	1.0+08	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DAE	1USAMRY	1.0+08	1.0+08	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DAE	1USAINU	1.0+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+p	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DAE	1USAMRY	1.0+08	1.0+08	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+t	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
^{7}Li,el	^{58}Ni	DA	2UK LVP	1.9+07	1.9+07	Jour	JP/G,5,1751	79	T.P.Morrison+	O2156
^{7}Li,inel	^{58}Ni	DAP	2UK LVP	1.9+07	1.9+07	Jour	JP/G,5,1751	79	T.P.Morrison+	O2156

^{7}Be,el	^{58}Ni	DA	2ITYPAD	2.3+07	2.3+07	Jour	JP/CS,420,012077	13	M.Mazzocco+	O2142
^{7}Be,non		CS	2ITYPAD	2.3+07	2.3+07	Jour	JP/CS,420,012077	13	M.Mazzocco+	O2142
^{12}C,^{10}Be	^{60}Zn	DAP	1USAMSU	7.7+07	7.7+07	Jour	NP/A,313,(3),385	79	D.J.Weber+	C2082
^{12}C,^{9}Be	^{61}Zn	DAP	1USAMSU	7.7+07	7.7+07	Jour	NP/A,313,(3),385	79	D.J.Weber+	C2082

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+α	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+d	inclusive	DAE	1USAINU	1.0+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+^{3}He	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+p	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+t	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,^{3}He	^{62}Ni	DAP	1USAORL	3.4+07	3.4+07	Jour	NP/A,113,(1),176	68	J.C.Hiebert+	C2081

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,^{3}He	^{64}Ni	DAP	1USAORL	3.4+07	3.4+07	Jour	NP/A,113,(1),176	68	J.C.Hiebert+	C2081

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,t	^{63}Zn	DAP	2GERLMU	2.2+07	2.2+07	Jour	PR/C,87,064306	13	K.G.Leach+	O2154
d,t	^{63}Zn	POD	2GERLMU	2.2+07	2.2+07	Jour	PR/C,87,064306	13	K.G.Leach+	O2154

34 Selenium 80

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{80}Br	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

35 Bromine 79

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

p,n	^{79}Kr	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

36 Krypton

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
n,ths	^{nat}Kr	TSL	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198
n,tot		CS	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198

36 Krypton 80

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
α,n	^{83}Sr	DAP	2UK LVP	1.4+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,n	^{83}Sr	POL	2UK LVP	1.4+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,n	^{83}Sr	SPC	2UK LVP	1.4+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158

36 Krypton 82

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
α,2n	^{84}Sr	DAP	2UK LVP	1.8+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,2n	^{84}Sr	POL	2UK LVP	1.8+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,2n	^{84}Sr	SPC	2UK LVP	1.8+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,n	^{85}Sr	DAP	2UK LVP	1.4+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,n	^{85}Sr	POL	2UK LVP	1.4+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158
α,n	^{85}Sr	SPC	2UK LVP	1.4+07	1.8+07	Jour	JP/G,6,1415	80	L.P.Ekstroem+	O2158

37 Rubidium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,x	^{82}Sr	TT	2GERJUL	9.7+06	6.5+07	Jour	ARI,65,247	07	S.M.Qaim+	O2135
p,x	^{85}Sr	CS	2GERJUL	2.4+07	4.5+07	Jour	ARI,65,247	07	S.M.Qaim+	O2135
p,x	^{85}Sr	TT	2GERJUL	9.7+06	6.5+07	Jour	ARI,65,247	07	S.M.Qaim+	O2135

37 Rubidium 85

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,n	^{85}Sr	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

38 Strontium 87

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{87}Y	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

39 Yttrium 89

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{90}Zr	CS	2GERBOC	1.6+06	4.7+06	Jour	PR/C,87,025806	13	S.Harissopulos+	O2150
p,n	^{89}Zr	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+α	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+α	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137

42 Molybdenum 94

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,inel	^{94}Mo	DAP	2NEDKVI	1.4+08	1.4+08	Jour	NP/A,906,94	13	V.Derya+	O2138

42 Molybdenum 95

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{95}Tc	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

44 Ruthenium 100

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,n	^{103}Pd	CS	3PAKGCL	1.0+07	2.5+07	Jour	ARI,67,1842	09	M.Hussain+	D0729

44 Ruthenium 101

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,2n	^{103}Pd	CS	3PAKGCL	1.5+07	2.4+07	Jour	ARI,67,1842	09	M.Hussain+	D0729

44 Ruthenium 102

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,2n	^{103}Pd	CS	3PAKGCL	1.2+07	3.4+07	Jour	ARI,67,1842	09	M.Hussain+	D0729

44 Ruthenium 104

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{104}Rh	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

45 Rhodium 103

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{103}Pd	CS	3PAKGCL	3.0+06	4.0+07	Jour	ARI,67,1842	09	M.Hussain+	D0729
d,2n	^{103}Pd	CS	3PAKGCL	4.0+06	2.2+07	Jour	ARI,67,1842	09	M.Hussain+	D0729

46 Palladium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{78}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{80}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{81}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{82}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{83}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{84}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{85}Kr	CS	2FR PAR	1.0+09	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{86}Kr	CS	2FR PAR	1.0+09	1.0+09	Jour	JPR,45,981	84	B.Lavielle+	O2126

46 Palladium 110

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{110}Ag	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{78}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{80}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{81}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{82}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{83}Kr	CS	2FR PAR	1.5+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{84}Kr	CS	2FR PAR	6.0+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{85}Kr	CS	2FR PAR	6.0+08	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{86}Kr	CS	2FR PAR	2.4+10	2.4+10	Jour	JPR,45,981	84	B.Lavielle+	O2126
p,x	^{103}Pd	CS	3PAKGCL	1.5+07	9.4+07	Jour	ARI,67,1842	09	M.Hussain+	D0729
p,x	^{103}Ag	CS	3PAKGCL	4.4+07	6.6+07	Jour	ARI,67,1842	09	M.Hussain+	D0729

48 Cadmium 105

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,0		NQ	2NOROSL	Spont		Jour	PR/C,87,014319	13	A.C.Larsen+	O2148

48 Cadmium 106

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,0		NQ	2NOROSL	Spont		Jour	PR/C,87,014319	13	A.C.Larsen+	O2148

48 Cadmium 111

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,0		NQ	2NOROSL	Spont		Jour	PR/C,87,014319	13	A.C.Larsen+	O2148

48 Cadmium 112

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,0		NQ	2NOROSL	Spont		Jour	PR/C,87,014319	13	A.C.Larsen+	O2148

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	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

49 Indium 113

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{113}In	DA	3HUNDEB	1.6+07	1.9+07	Jour	PR/C,88,045804	13	G.G.Kiss+	D4297

50 Tin 112

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{112}Sn	DA	2NEDFUL	2.1+07	2.1+07	Jour	NP/A,333,116	80	P.J.Blankert+	O2125
p,inel	^{112}Sn	DAP	2NEDFUL	2.1+07	2.5+07	Jour	NP/A,333,116	80	P.J.Blankert+	O2125

51 Antimony 121

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{122}Te	CS	2GERBOC	2.4+06	3.4+06	Jour	PR/C,87,025806	13	S.Harissopulos+	O2150
p,n	^{121}Te	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

51 Antimony 123

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{124}Te	CS	2GERBOC	2.4+06	3.4+06	Jour	PR/C,87,025806	13	S.Harissopulos+	O2150

53 Iodine 127

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{127}Xe	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127

54 Xenon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,ths	^{nat}Xe	TSL	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198
n,tot		CS	2FR ILL	1.0-07	1.0-07	Jour	ZEP,97,(12),777	13	A.P.Serebrov+	23198

54 Xenon 124

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 126

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 128

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 129

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL		9.6+00	Jour	NP/A,870-871,131	11	G.Noguere+	23211
n,el		RP	2ZZZGEL	1.8+03	9.6+00	Jour	NP/A,870-871,131	11	G.Noguere+	23211
n,γ		RP	2ZZZGEL		4.1+03	Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 130

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 131

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL		1.4+01	Jour	NP/A,870-871,131	11	G.Noguere+	23211
n,el		RP	2ZZZGEL	1.1+03	1.4+01	Jour	NP/A,870-871,131	11	G.Noguere+	23211
n,γ		RP	2ZZZGEL		3.9+03	Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 132

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

n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 134

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

54 Xenon 136

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZGEL			Jour	NP/A,870-871,131	11	G.Noguere+	23211

55 Caesium 133

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{134}Cs	CS	2TUKGZU	2.5-02	2.5-02	Jour	ANE,63,199	14	M.Karadag+	23202
n,γ	^{134}Cs	RI	2TUKGZU		5.5-01	Jour	ANE,63,199	14	M.Karadag+	23202

58 Cerium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,x	^{140}La	CS	2BLGLVN	9.2+06	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{135}Ce	CS	2BLGLVN	2.0+07	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{137}Ce	CS	2BLGLVN	9.2+06	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{139}Ce	CS	2BLGLVN	1.6+06	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{141}Ce	CS	2BLGLVN	1.6+06	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{143}Ce	CS	2BLGLVN	7.8+06	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{137}Pr	CS	2BLGLVN	4.3+07	4.9+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{138}Pr	CS	2BLGLVN	1.0+07	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{139}Pr	CS	2BLGLVN	1.6+07	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295
d,x	^{142}Pr	CS	2BLGLVN	6.2+06	5.0+07	Jour	NIM/B,316,22	13	F.Tarkanyi+	D4295

58 Cerium 140

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{140}Ce	DA	2ITYPAD	1.8+07	3.7+07	Priv	GUAZZONI	94	P.Guazzoni+	O1953

59 Praseodymium 141

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,el	^{141}Pr	DA	2ITYPAD	1.8+07	3.7+07	Priv	GUAZZONI	94	P.Guazzoni+	O1953

60 Neodymium 148

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{149}Nd	CS	2TUKGZU	2.5-02	2.5-02	Jour	ANE,63,199	14	M.Karadag+	23202
n,γ	^{149}Nd	RI	2TUKGZU		5.5-01	Jour	ANE,63,199	14	M.Karadag+	23202

62 Samarium 144

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{141}Nd	CS	2TUKCNA	1.4+07	1.5+07	Jour	NSE,174,202	13	I.A.Reyhancan+	23201

64 Gadolinium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,x	^{156}Eu	CS	2BLGLVN	2.0+07	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{151}Gd	CS	2BLGLVN	4.4+07	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{153}Gd	CS	2BLGLVN	2.2+07	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{159}Gd	CS	2BLGLVN	5.4+06	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{151}Tb	CS	2BLGLVN	1.7+07	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{152}Tb	CS	2BLGLVN	1.3+07	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{153}Tb	CS	2BLGLVN	1.7+07	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{154}Tb	CS	2BLGLVN	5.4+06	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{155}Tb	CS	2BLGLVN	5.4+06	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{156}Tb	CS	2BLGLVN	5.4+06	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292

64 Gadolinium 158

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{159}Gd	CS	2TUKGZU	2.5-02	2.5-02	Jour	ANE,63,199	14	M.Karadag+	23202
n,γ	^{159}Gd	RI	2TUKGZU		5.5-01	Jour	ANE,63,199	14	M.Karadag+	23202

64 Gadolinium 160

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,2n	^{160}Tb	CS	2BLGLVN	5.4+06	4.9+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292

d,x	^{160}Tb	CS	2BLGLVN	5.4+06	4.9+07	Jour	JRN,298,1385	13	F.Tarkanyi+	D4294
d,x	^{161}Tb	CS	2BLGLVN	5.4+06	4.6+07	Jour	ARI,83,25	14	F.Tarkanyi+	D4292
d,x	^{161}Tb	CS	2BLGLVN	5.4+06	4.6+07	Jour	JRN,298,1385	13	F.Tarkanyi+	D4294

65 Terbium 159

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,2n	^{159}Dy	CS	2BLGLVN	3.3+06	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296
d,4n	^{157}Dy	CS	2BLGLVN	3.3+06	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296
d,6n	^{155}Dy	CS	2BLGLVN	4.0+07	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296
d,p	^{160}Tb	CS	2BLGLVN	3.3+06	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296
d,x	^{153}Gd	CS	2BLGLVN	3.8+07	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296
d,x	^{155}Tb	CS	2BLGLVN	3.8+07	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296
d,x	^{156}Tb	CS	2BLGLVN	3.3+06	4.9+07	Jour	NIM/B,316,183	13	F.Tarkanyi+	D4296

66 Dysprosium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,x	^{155}Tb	CS	2BLGVUB	1.5+07	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{156}Tb	CS	2BLGVUB	2.2+07	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{160}Tb	CS	2BLGVUB	8.2+06	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{161}Tb	CS	2BLGVUB	4.3+06	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{155}Dy	CS	2BLGVUB	1.7+07	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{157}Dy	CS	2BLGVUB	1.5+07	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{159}Dy	CS	2BLGVUB	1.2+07	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{159}Ho	CS	2BLGVUB	1.2+07	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{161}Ho	CS	2BLGVUB	4.3+06	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
p,x	^{162}Ho	CS	2BLGVUB	4.3+06	3.5+07	Jour	ANE,62,375	13	F.Tarkanyi+	D4290
d,x	^{155}Tb	CS	2BLGLVN	2.4+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{156}Tb	CS	2BLGLVN	2.7+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{160}Tb	CS	2BLGLVN	1.1+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{161}Tb	CS	2BLGLVN	3.3+06	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{155}Dy	CS	2BLGLVN	2.4+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{157}Dy	CS	2BLGLVN	1.1+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{159}Dy	CS	2BLGLVN	3.3+06	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{165}Dy	CS	2BLGLVN	1.1+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{161}Ho	CS	2BLGLVN	1.1+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291
d,x	^{162}Ho	CS	2BLGLVN	1.1+07	4.9+07	Jour	ARI,83,18	14	F.Tarkanyi+	D4291

73 Tantalum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
n,tot		CS	2GERZFK	2.0+05	1.0+07	Jour	EPJ/A,49,137	13	R.Hannaske+	23199

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{182}Ta	CS	2SPNSEU	Maxwl		Jour	NIM/A,727,1	13	J.Praena+	23200
p,x	^{7}Be	CS	2FR PAR	1.6+08	1.6+08	Jour	CR,259,1406	64	M.Ligonniere+	O2128

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,n	^{186}Re	CS	3PAKGCL	5.0+06	7.0+07	Jour	RCA,98,385	10	M.Hussain+	D0730
d,2n	^{186}Re	CS	3PAKGCL	6.0+06	5.0+07	Jour	RCA,98,385	10	M.Hussain+	D0730

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis	^{7}Be	CS	2FR SAT	7.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{46}Sc	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{51}Cr	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{59}Fe	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{58}Co	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{60}Co	CS	2FR SAT	7.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{57}Ni	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{65}Zn	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{75}Se	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{84}Rb	CS	2FR SAT	3.3+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{86}Rb	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{85}Sr	CS	2FR SAT	3.3+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{87}Y	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{88}Y	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,fis	^{95}Nb	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{106}Ag	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{119}Te	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{121}Te	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{125}Xe	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{127}Xe	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{129}Cs	CS	2FR SAT	7.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{132}Cs	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{131}Ba	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{135}Ce	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{137}Ce	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{139}Ce	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{145}Eu	CS	2FR SAT	3.3+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{147}Eu	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{148}Eu	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{146}Gd	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{147}Gd	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{149}Gd	CS	2FR SAT	5.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{151}Tb	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{152}Tb	CS	2FR SAT	3.3+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139

p,x	^{153}Tb	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{155}Tb	CS	2FR SAT	2.6+09	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{156}Tb	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{166}Tm	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{169}Yb	CS	2FR SAT	2.5+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{169}Lu	CS	2FR SAT	1.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{170}Lu	CS	2FR SAT	1.6+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{171}Lu	CS	2FR SAT	1.4+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{173}Hf	CS	2FR SAT	1.2+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{175}Hf	CS	2FR SAT	1.2+08	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{183}Ta	CS	2FR SAT	8.2+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{181}Re	CS	2FR SAT	8.2+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{182}Re	CS	2FR SAT	8.2+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{183}Re	CS	2FR SAT	7.8+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{184}Re	CS	2FR SAT	7.8+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{186}Re	CS	2FR SAT	8.2+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{182}Os	CS	2FR SAT	8.2+07	7.6+08	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{183}Os	CS	2FR SAT	8.2+07	7.6+08	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139
p,x	^{185}Os	CS	2FR SAT	7.8+07	2.6+09	Jour	NIM/B,298,19	13	S.A.M.Issa+	O2139

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CS	2GERZFK	1.1+05	1.0+07	Jour	EPJ/A,49,137	13	R.Hannaske+	23199
p,n	^{197}Hg	CS	2SWTETH	6.7+06	6.7+06	Jour	HPA,25,599	52	F.Boehm+	O2127
p,n	^{197}Hg	CS	3INDVEC	8.4+06	2.0+07	Jour	IMP/E,21,1250059	12	B.Satheesh+	D6204
p,x	^{7}Be	CS	2FR PAR	1.6+08	5.5+08	Jour	CR,259,1406	64	M.Ligonniere+	O2128

80 Mercury 200

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{198}Hg	DAP	2GERMUU	2.5+07	2.5+07	Jour	PR/C,87,024318	13	C.Bernards+	O2140

80 Mercury 202

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{200}Hg	DAP	2GERMUN	2.5+07	2.5+07	Jour	PR/C,87,064321	13	C.Bernards+	O2163

80 Mercury 204

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{202}Hg	DAP	2GERMUN	2.5+07	2.5+07	Jour	PR/C,87,064321	13	C.Bernards+	O2163

82 Lead 206

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{206}Pb	CSP	2ZZZGEL	5.2+06	5.2+06	Jour	PR/C,88,027601	13	A.Negret+	23073
^{6}He,el	^{206}Pb	DA	2BLGLVN	1.8+07	1.8+07	Jour	PR/C,87,064603	13	L.Standylo+	O2151
^{6}He,x+α	inclusive	DA	2BLGLVN	1.8+07	1.8+07	Jour	PR/C,87,064603	13	L.Standylo+	O2151

82 Lead 208

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+p	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149
p,x+t	inclusive	DAE	1USAINU	1.6+08	1.6+08	Jour	PR/C,26,2424	82	R.E.Segel+	O0149

83 Bismuth 209

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+α	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+α	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+d	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+^{3}He	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+p	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DAE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137
p,x+t	inclusive	DE	1USAMRY	9.0+07	9.0+07	Jour	PR/C,19,698	79	J.R.Wu+	O0137

90 Thorium 230

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,t	^{228}Th	DAP	2GERLMU	2.5+07	2.5+07	Jour	PR/C,88,014310	13	A.I.Levon+	O2162
^{3}He,3n	^{230}U	CS	2ZZZISP	1.9+07	3.5+07	Jour	PR/C,87,064602	13	A.Morgenstern+	O2144
^{3}He,3n	^{230}U	TT	2ZZZISP	3.5+07	3.5+07	Jour	PR/C,87,064602	13	A.Morgenstern+	O2144

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,fis		CS	1USAFSU	6.0+06	1.2+07	Jour	PR,131,2149	63	G.R.Choppin+	P0028

92 **Uranium** 235

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis		DA	2UK HAR		2.0+03	Jour	NP/A,167,225	May 71	N.J.Pattenden+	23212
n,fis	Many	KE	2UK ALD	2.5-02	2.5-02	Rept	AWRE-O-43/67	Jun 67	E.E.Maslin+	21095
n,fis	Many	NUF	2UK ALD	2.5-02	2.5-02	Rept	AWRE-O-43/67	Jun 67	E.E.Maslin+	21095
n,fis		?	2UK HAR			Jour	NP/A,167,225	May 71	N.J.Pattenden+	23212
n,fis		?	2UK ALD	2.5-02	2.5-02	Rept	AWRE-O-43/67	Jun 67	E.E.Maslin+	21095

92 **Uranium** 238

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,3n	^{236}Np	CS	2FR PAR	3.2+07	1.5+08	Jour	CR,253,2221	61	M.Lefort	O2130
p,fis		CS	1USAFSU	2.9+06	1.2+07	Jour	PR,131,2149	63	G.R.Choppin+	P0028

98 **Californium** 252

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,fis		FY	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	Many	FY	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis		KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	^{nat}G	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	Many	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	^{nat}G	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	Many	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	^{nat}G	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	Many	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis		NU	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	Many	NU	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis		NUF	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	Many	?	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	^{4}He	KE	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	^{4}He	NU	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213
0,fis	^{4}He	?	2FR SAC	Spont		Jour	PR/C,7,(1),373	73	G.K.Mehta+	23213