EXFOR News (February 2025)

New experimental data available from Nuclear Reaction Data Centres

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

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

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

Quantity codes

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

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	sct	Scattering	tot	Total
el	Elastic	inel	Inelastic	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), 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 #
*	^{17}F,non		?	2JPNIRS	1.1+09	7.8+09	Jour	PR/C,110,014607	24	T.Moriguchi+	E2794
*	^{54}Ca,n+p	^{53}Ca	?	2JPNIPC	1.4+10	1.4+10	Jour	PL/B,855,138828	24	P.J.Li+	E2788
*	^{56}Ca,2p	^{55}K	?	2JPNIPC	1.4+10	1.4+10	Jour	PL/B,827,136953	22	T.Koiwai+	E2791
*	^{56}Ca,n+p	^{55}Ca	?	2JPNIPC	1.4+10	1.4+10	Jour	PL/B,855,138828	24	P.J.Li+	E2788
*	^{56}Ca,n+p	^{55}Ca	?	2JPNIPC	1.4+10	1.4+10	Jour	PL/B,827,136953	22	T.Koiwai+	E2791
*	^{58}Sc,2p	^{57}Ca	?	2JPNIPC	1.4+10	1.4+10	Jour	PL/B,827,136953	22	T.Koiwai+	E2791

2 Helium 4

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{10}C,el	^{4}He	?	2JPNIPC	2.8+06	8.5+06	Jour	PR/C,109,054302	24	N.R.Ma+	E2787

3 Lithium 6

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,d+α	^{4}He	?	1USASRE	7.0+08	7.0+08	Jour	NP/A,316,350	79	W.E.Dollhopf+	C2994

4 Berylium 9

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{238}U,fis	Many	?	2JPNIPC	8.2+10	8.2+10	Jour	PR/C,109,044313	24	Y.Shimizu+	E2783

5 Boron 10

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,2α	^{6}Li	?	1USASRE	7.0+08	7.0+08	Jour	NP/A,316,350	79	W.E.Dollhopf+	C2994

6 Carbon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,tot		CS	3CPRIHP	1.0+00	2.0+07	Jour	CNST,30,139	19	Xing-Yan Liu+	32807
	^{14}Be,abs		CS	2GERGSI	1.2+10	1.2+10	Rept	AIP-455,84	98	T.Suzuki+	D8087
	^{17}B,abs		CS	2GERGSI	1.5+10	1.5+10	Rept	AIP-455,84	98	T.Suzuki+	D8087
	^{19}B,abs		CS	2GERGSI	1.4+10	1.4+10	Rept	AIP-455,84	98	T.Suzuki+	D8087

	^{20}Na,abs		CS	2GERGSI	1.9+10	1.9+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{21}Na,abs		CS	2GERGSI	2.0+10	2.0+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{22}Na,abs		CS	2GERGSI	2.1+10	2.1+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{23}Na,abs		CS	2GERGSI	2.2+10	2.2+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{25}Na,abs		CS	2GERGSI	2.4+10	2.4+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{26}Na,abs		CS	2GERGSI	2.5+10	2.5+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{27}Na,abs		CS	2GERGSI	2.6+10	2.6+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{28}Na,abs		CS	2GERGSI	2.7+10	2.7+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{29}Na,abs		CS	2GERGSI	2.8+10	2.8+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{30}Na,abs		CS	2GERGSI	2.8+10	2.8+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{31}Na,abs		CS	2GERGSI	2.9+10	2.9+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086
	^{32}Na,abs		CS	2GERGSI	3.0+10	3.0+10	Jour	PRL,75,3241	95	T.Suzuki+	D8086

6 Carbon 12

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,α	^{9}Be	CSP	3CPRAEP	9.5+06	1.5+07	Jour	PL/B,842,137985	23	Jie Liu+	32901
*	n,n+2α	^{4}He	CS	3CPRAEP	1.0+07	1.5+07	Jour	PL/B,842,137985	23	Jie Liu+	32901
*	n,x+d	inclusive	DA	3CPRIHP	2.1+07	7.6+07	Jour	CNPR,41,371	24	Liu Longxiang+	32921
*	n,x+d	inclusive	?	3CPRIHP	2.5+07	5.2+07	Jour	CPH/C,45,064001	21	Zengqi Cui+	32853
	α,2α	^{8}Be	?	1USASRE	7.0+08	7.0+08	Jour	NP/A,316,350	79	W.E.Dollhopf+	C2994

8 Oxygen 16

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,2α	^{12}C	?	1USASRE	7.0+08	7.0+08	Jour	NP/A,316,350	79	W.E.Dollhopf+	C2994

11 Sodium 23

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,2α	^{19}F	?	1USASRE	7.0+08	7.0+08	Jour	NP/A,316,350	79	W.E.Dollhopf+	C2994

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	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{22}Na	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{24}Na	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784

13 Aluminium 27

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,tot		CS	3CPRIHP	1.0+00	2.0+07	Jour	EPJ/A,57,232	21	Xingyan Liu+	32852
	α,x	Many	DAE	1USASRE	7.2+08	7.2+08	Jour	PR/C,19,1408	79	T.C.Schweizer+	C2995
	α,x+p	inclusive	DAE	1USASRE	7.2+08	7.2+08	Jour	PRL,40,1433	78	R.R.Doering+	C2993
	^{14}N,x+α	inclusive	DA	2FR GRE	1.0+08	1.0+08	Jour	PRL,47,639	81	R.Billerey+	D8073
	^{14}N,x+p	inclusive	DA	2FR GRE	1.0+08	1.0+08	Jour	PRL,47,639	81	R.Billerey+	D8073

14 Silicon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,el	^{nat}Si	CS	1USAKTY	8.0+05	8.0+06	Jour	NP/A,1024,122474	22	A.P.D.Ramirez+	14792
*	n,el	^{nat}Si	DA	1USAKTY	8.0+05	8.0+06	Jour	NP/A,1024,122474	22	A.P.D.Ramirez+	14792
*	n,inel	^{nat}Si	CS	1USAKTY	3.0+06	8.0+06	Jour	NP/A,1024,122474	22	A.P.D.Ramirez+	14792
*	n,inel	^{nat}Si	DA	1USAKTY	3.0+06	8.0+06	Jour	NP/A,1024,122474	22	A.P.D.Ramirez+	14792
*	n,inel	^{nat}Si	DAP	1USAKTY	2.0+03	4.0+03	Jour	NP/A,1024,122474	22	A.P.D.Ramirez+	14792
*	p,x	^{7}Be	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{22}Na	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{24}Na	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{28}Mg	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784

16 Sulphur 32

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,inel	^{32}S	DAP	1USATAM	9.7+07	9.7+07	Jour	PRL,34,748	75	J.M.Moss+	C3005

17 Chlorine 35

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,α	^{32}P	CS	1USALAS	2.0+06	1.2+07	Jour	PR/C,110,024609	24	K.Hanselman+	14840
*	n,α	^{32}P	CSP	1USALAS	2.8+06	1.2+07	Jour	PR/C,110,024609	24	K.Hanselman+	14840
*	n,p	^{35}S	CS	1USALAS	3.1+05	7.1+06	Jour	PR/C,110,024609	24	K.Hanselman+	14840
*	n,p	^{35}S	CSP	1USABRK	2.0+06	3.5+06	Jour	PR/C,110,034612	24	T.S.Nagel+	14842
*	n,p	^{35}S	CSP	1USALAS	3.1+05	7.1+06	Jour	PR/C,110,024609	24	K.Hanselman+	14840
*	n,p	^{35}S	CSP	1USABRK	3.9+06	7.5+06	Jour	PR/C,110,034612	24	T.S.Nagel+	14842
*	n,p	^{35}S	CSP	1USALAS	5.2+05	9.4+06	Jour	PR/C,110,024609	24	K.Hanselman+	14840

18 Argon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,tot		CS	1USALAS	2.0+04	7.0+04	Jour	PR/C,108,L011601	23	S.Andringa+	14824

18 Argon 36

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,inel	^{36}Ar	DAP	1USATAM	9.7+07	9.7+07	Jour	PRL,34,748	75	J.M.Moss+	C3005

18 Argon 40

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,inel	^{40}Ar	DAP	1USATAM	9.7+07	9.7+07	Jour	PRL,34,748	75	J.M.Moss+	C3005

20 Calcium 40

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{40}Ca	DA	1USATAM	7.9+07	7.9+07	Jour	PR/C,12,778	75	G.M.Lerner+	C2999
	α,inel	^{40}Ca	DAP	1USATAM	1.2+08	1.2+08	Jour	PRL,32,551	74	L.L.Rutledgejr+	C3003
	α,inel	^{40}Ca	DAP	1USATAM	9.7+07	9.7+07	Jour	PRL,34,748	75	J.M.Moss+	C3005

20 Calcium 48

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{48}Ca	DA	1USATAM	7.9+07	7.9+07	Jour	PR/C,12,778	75	G.M.Lerner+	C2999

22 Titanium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,x	^{46}Sc	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,193,110636	23	X.Tang+	32893
*	n,x	^{47}Sc	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,193,110636	23	X.Tang+	32893
*	^{7}Li,x	^{46}Sc	CS	2JPNIPC	7.0+06	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{46}Sc	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{47}Sc	CS	2JPNIPC	7.0+06	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{47}Sc	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{48}Sc	CS	2JPNIPC	7.0+06	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{48}Sc	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{48}V	CS	2JPNIPC	7.0+06	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{48}V	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{48}Cr	CS	2JPNIPC	5.0+07	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{49}Cr	CS	2JPNIPC	3.0+07	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{51}Cr	CS	2JPNIPC	7.0+06	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{51}Cr	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{52}Mn	CS	2JPNIPC	7.0+06	7.1+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{52}Mn	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798

*	^{7}Li,x	^{54}Mn	CS	2JPNIPC	7.0+06	4.6+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798
*	^{7}Li,x	^{54}Mn	TT	2JPNIPC	2.2+07	7.2+07	Jour	NIM/B,559,165579	25	M.Aikawa+	E2798

22 Titanium 48

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,p	^{48}Sc	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,193,110636	23	X.Tang+	32893

22 Titanium 50

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,α	^{47}Ca	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,193,110636	23	X.Tang+	32893

24 Chromium 62

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	0,β^-	^{62}Mn	NUD	1USAMSU	Decay		Jour	PR/C,110,024321	24	W.-J.Ong+	14841

25 Manganese 64

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	0,β^-	^{64}Fe	NUD	1USAMSU	Decay		Jour	PR/C,110,024321	24	W.-J.Ong+	14841

26 Iron

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	p,x	^{24}Na	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{28}Mg	CS	2JPNJAE	1.3+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{43}K	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{44}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{46}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}V	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{51}Cr	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{52}Mn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{54}Mn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{52}Fe	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{56}Co	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784

26 Iron 65

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	$0,\beta^-$	^{65}Fe	NUD	1USAMSU	Decay		Jour	PR/C,110,024321	24	W.-J.Ong+	14841

28 Nickel

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,x	^{56}Co	CS	3INDVEC	2.8+07	3.8+07	Jour	EPJ/A,60,24	24	N.Singh+	D6467
*	α,x	^{57}Co	CS	3INDVEC	1.9+07	3.8+07	Jour	EPJ/A,60,24	24	N.Singh+	D6467
*	α,x	^{58}Co	CS	3INDVEC	2.8+07	3.8+07	Jour	EPJ/A,60,24	24	N.Singh+	D6467
*	α,x	^{65}Zn	CS	3INDVEC	1.9+07	3.8+07	Jour	EPJ/A,60,24	24	N.Singh+	D6467

28 Nickel 64

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,p	^{67}Cu	CS	3INDVEC	1.9+07	3.8+07	Jour	EPJ/A,60,24	24	N.Singh+	D6467

29 Copper

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{7}Be	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{22}Na	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{24}Na	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{28}Mg	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{42}K	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{43}K	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{43}Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{44}Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{46}Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{47}Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}Sc	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}V	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}Cr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{51}Cr	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{52}Mn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{54}Mn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{56}Mn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{52}Fe	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{59}Fe	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{55}Co	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{56}Co	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{57}Co	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{58}Co	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{57}Ni	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{61}Cu	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784

*	p,x	^{64}Cu	CS	2JPNJAE	8.0+08	8.0+08	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{62}Zn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{65}Zn	CS	2JPNJAE	8.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784

29 Copper 65

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,α	^{62}Co	CS	3CPRNPC	1.4+07	1.5+07	Jour	RPC,197,110192	22	Xianlin Yang+	32872
*	n,n+α	^{61}Co	CS	3CPRNPC	1.4+07	1.5+07	Jour	RPC,197,110192	22	Xianlin Yang+	32872
*	n,p	^{65}Ni	CS	3CPRNPC	1.4+07	1.5+07	Jour	RPC,197,110192	22	Xianlin Yang+	32872

30 Zinc

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,x	^{67}Cu	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,191,110557	23	B.Liu+	32884
*	p,x	^{7}Be	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{22}Na	CS	2JPNJAE	1.3+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{24}Na	CS	2JPNJAE	1.3+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{28}Mg	CS	2JPNJAE	1.3+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{41}Ar	CS	2JPNJAE	3.0+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{42}K	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{43}K	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{43}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{44}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{46}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{47}Sc	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}Sc	CS	2JPNJAE	1.3+09	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}V	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{48}Cr	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{51}Cr	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{52}Mn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{54}Mn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{56}Mn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{52}Fe	CS	2JPNJAE	1.3+09	2.2+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{59}Fe	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{55}Co	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{56}Co	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{57}Co	CS	2JPNIPC	2.0+07	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793
*	p,x	^{57}Co	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{58}Co	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{57}Ni	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{61}Cu	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{61}Cu	CS	2JPNIPC	4.6+06	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793
*	p,x	^{64}Cu	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{62}Zn	CS	2JPNIPC	2.0+07	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793
*	p,x	^{62}Zn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{65}Zn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{65}Zn	CS	2JPNIPC	8.9+06	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793
*	p,x	^{69}Zn	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{69}Zn	CS	2JPNIPC	7.7+06	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793
*	p,x	^{66}Ga	CS	2JPNIPC	4.6+06	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793

*	p,x	^{67}Ga	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,549,165299	24	K.Sugihara+	E2784
*	p,x	^{67}Ga	CS	2JPNIPC	4.6+06	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793
*	p,x	^{68}Ga	CS	2JPNIPC	4.6+06	3.0+07	Jour	RPC,226,112272	25	M.U.Khandaker+	E2793

30 Zinc 64

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,p	^{64}Cu	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,191,110557	23	B.Liu+	32884

30 Zinc 66

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{65}Zn	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,191,110557	23	B.Liu+	32884

30 Zinc 70

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{69}Zn	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,191,110557	23	B.Liu+	32884

33 Arsenic 75

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,2p	^{75}Ge	CS	2GERKFK	2.0+07	5.1+07	Jour	JIN,34,1773	72	H.F.Roehm+	R0046
d,4n	^{73}Se	CS	2GERKFK	2.7+07	5.1+07	Jour	JIN,34,1773	72	H.F.Roehm+	R0046
d,5n	^{72}Se	CS	2GERKFK	4.0+07	4.9+07	Jour	JIN,34,1773	72	H.F.Roehm+	R0046
d,p	^{76}As	CS	2GERKFK	1.9+07	5.1+07	Jour	JIN,34,1773	72	H.F.Roehm+	R0046
d,x	^{73}As	CS	2GERKFK	3.3+07	4.9+07	Jour	JIN,34,1773	72	H.F.Roehm+	R0046
d,x	^{74}As	CS	2GERKFK	1.4+07	4.9+07	Jour	JIN,34,1773	72	H.F.Roehm+	R0046

34 Selenium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{40}Ar,el	^{nat}Se	DA	2FR PAR	9.6+07	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+α	inclusive	CS	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+α	inclusive	DAE	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+α	inclusive	DAP	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+d	inclusive	CS	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+d	inclusive	DAE	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+p	inclusive	CS	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+p	inclusive	DAE	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
^{40}Ar,x+p	inclusive	DAP	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069

	^{40}Ar,x+t	inclusive	CS	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+t	inclusive	DAE	2FR PAR	1.3+08	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069

34 Selenium 77

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{40}Ar,x+α	inclusive	CS	2FR PAR	9.6+07	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+α	inclusive	DA	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+α	inclusive	DAE	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+α	inclusive	DAP	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+d	inclusive	CS	2FR PAR	9.6+07	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+d	inclusive	DA	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+p	inclusive	CS	2FR PAR	9.6+07	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+p	inclusive	DA	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+p	inclusive	DAE	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+p	inclusive	DAP	2FR PAR	9.6+07	9.6+07	Jour	PR/C,9,1113	74	J.Galin+	D8069
	^{40}Ar,x+t	inclusive	CS	2FR PAR	9.6+07	1.3+08	Jour	PR/C,9,1113	74	J.Galin+	D8069

35 Bromine 79

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{78}Br	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,47,034001	23	Long He+	32900
*	n,α	^{76}As	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,47,034001	23	Long He+	32900

35 Bromine 81

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{80}Br	CS	3CPRNPC	1.4+07	1.5+07	Jour	RPC,206,110759	23	Junhua Luo+	32898
*	n,α	^{78}As	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,47,034001	23	Long He+	32900
*	n,p	^{81}Se	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,47,034001	23	Long He+	32900

36 Krypton 78

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{77}Kr	CS	3CPRNPC	1.3+07	1.5+07	Jour	NP/A,1030,122569	23	Jun Zeng+	32892

38 Strontium 86

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,2n	^{86}Y	CS	1USABRK	1.0+07	3.7+07	Jour	EPJ/A,60,128	24	Md.Shuzauddin+	C3004
*	d,3n	^{85}Y	CS	1USABRK	2.2+07	3.7+07	Jour	EPJ/A,60,128	24	Md.Shuzauddin+	C3004

*	d,n	^{87}Y	CS	1USABRK	6.2+06	3.7+07	Jour	EPJ/A,60,128	24	Md.Shuzauddin+	C3004

40 Zirconium 90

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	α,inel	^{90}Zr	DAP	1USATAM	9.6+07	9.6+07	Jour	PL/B,53,51	74	J.M.Moss+	C3002

40 Zirconium 91

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,γ	^{92}Zr	CS	3CPRIHP	Maxwl	2.3+05	Jour	PR/C,110,025802	24	L.Gan+	32922

41 Niobium 93

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	^{9}Be,2n	^{100}Rh	CS	3INDTAT	2.1+07	3.8+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,3n	^{99}Rh	CS	3INDTAT	2.1+07	4.6+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,4n	^{98}Rh	CS	3INDTAT	3.2+07	4.6+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,fus		CS	3INDTAT	1.9+07	3.2+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,x	^{95}Tc	CS	3INDTAT	3.2+07	4.6+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,x	^{96}Tc	CS	3INDTAT	2.1+07	4.6+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,x	^{99}Tc	CS	3INDTAT	3.6+07	4.6+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{9}Be,x	^{97}Ru	CS	3INDTAT	3.8+07	4.6+07	Jour	EPJ/A,60,64	24	H.Sharma+	D6469
*	^{20}Ne,x	^{98}Rh	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{100}Rh	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{101}Pd	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{103}Ag	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{104}Cd	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{105}Cd	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{105}In	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{107}In	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{108}In	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{109}In	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{108}Sn	CS	3INDVEC	9.2+07	1.4+08	Jour	JP/G,51,015101	24	S.Ali+	D6465
*	^{20}Ne,x	^{109}Sn	CS	3INDVEC	9.2+07	1.2+08	Jour	JP/G,51,015101	24	S.Ali+	D6465

42 Molybdenum

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	γ,x	^{93}Mo	CS	4UKRKFT		9.3+07	Jour	VAT/I,,(3/151),15	24	I.S.Timchenko+	G4109

45 Rhodium 103

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,el	^{103}Rh	CS	4UKRIJD	1.3+05	1.3+05	Jour	UFZ,39,276	94	L.L.Litvinskiy+	32252
	n,el	^{103}Rh	DA	4UKRIJD	1.3+05	1.3+05	Jour	UFZ,39,276	94	L.L.Litvinskiy+	32252
	n,inel	^{103}Rh	CS	4UKRIJD	1.3+05	1.3+05	Jour	UFZ,39,276	94	L.L.Litvinskiy+	32252
	n,inel	^{103}Rh	DA	4UKRIJD	1.3+05	1.3+05	Jour	UFZ,39,276	94	L.L.Litvinskiy+	32252
	n,tot		CS	4UKRIJD	1.3+05	1.3+05	Jour	UFZ,39,276	94	L.L.Litvinskiy+	32252
	^{14}N,el	^{103}Rh	DA	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+α	inclusive	DA	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+α	inclusive	DAE	2FR PAR	1.1+08	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+α	inclusive	DAP	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+d	inclusive	DA	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+d	inclusive	DAE	2FR PAR	1.1+08	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+p	inclusive	DA	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+p	inclusive	DAE	2FR PAR	1.1+08	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+p	inclusive	DAP	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+t	inclusive	DA	2FR PAR	7.1+07	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070
	^{14}N,x+t	inclusive	DAE	2FR PAR	1.1+08	1.1+08	Jour	PR/C,9,1126	74	J.Galin+	D8070

47 Silver

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,x	Many	DAE	1USASRE	7.2+08	7.2+08	Jour	PR/C,19,1408	79	T.C.Schweizer+	C2995
	^{16}O,tcc		CS	2ZZZCER	3.2+12	3.2+12	Jour	ZP/A,344,73	92	G.Singh+	D8082
	^{28}Si,tcc		CS	1USABNL	4.1+11	4.1+11	Jour	ZP/A,344,73	92	G.Singh+	D8082
	^{40}Ar,x	Many	DA	2FR GAN	2.4+09	2.4+09	Jour	NP/A,500,372	89	J.C.Steckmeyer+	D8077

47 Silver 107

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	3CPRIHP			Jour	CPH/B,31,038204	22	Xin-Xiang Li+	32913
*	n,γ	^{108}Ag	CS	3CPRIHP	1.0+00	1.0+05	Jour	CPH/B,31,038204	22	Xin-Xiang Li+	32913

47 Silver 109

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	3CPRIHP			Jour	CPH/B,31,038204	22	Xin-Xiang Li+	32913

50 Tin

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,x	^{117}Sn	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,184,110209	22	B.Liu+	32867

50 Tin 112

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,x	^{111}In	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,184,110209	22	B.Liu+	32867

50 Tin 114

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{113}Sn	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,184,110209	22	B.Liu+	32867

50 Tin 116

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{116}Sn	DA	1USASTF	1.1+07	1.7+07	Jour	PR/C,11,198	75	S.L.Tabor+	C2996
	^{16}O,el	^{116}Sn	DA	1USASTF	5.0+07	6.0+07	Jour	PR/C,11,198	75	S.L.Tabor+	C2996

50 Tin 118

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,n	^{117}Sn	CS	4UKRKFT		1.4+07	Jour	VAT/I,,(5/153),12	24	Ye.Skakun+	G4110

50 Tin 120

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{120}Sn	DA	1USASTF	1.1+07	1.7+07	Jour	PR/C,11,198	75	S.L.Tabor+	C2996

50 Tin 124

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,n	^{123}Sn	CS	4UKRKFT		1.4+07	Jour	VAT/I,,(5/153),12	24	Ye.Skakun+	G4110
*	n,2n	^{123}Sn	CS	3CPRNPC	1.4+07	1.4+07	Jour	ARI,184,110209	22	B.Liu+	32867
	α,el	^{124}Sn	DA	1USASTF	1.1+07	1.7+07	Jour	PR/C,11,198	75	S.L.Tabor+	C2996

52 Tellurium 120

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,n	^{123}Xe	CS	3HUNDEB	1.1+07	1.6+07	Jour	PR/C,109,065806	24	Zs.Matyus+	D4433

52 Tellurium 122

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,n	^{125}Xe	CS	3HUNDEB	9.6+06	1.6+07	Jour	PR/C,109,065806	24	Zs.Matyus+	D4433

52 Tellurium 124

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,n	^{127}Xe	CS	3HUNDEB	9.6+06	1.6+07	Jour	PR/C,109,065806	24	Zs.Matyus+	D4433

52 Tellurium 130

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,inel	^{130}Te	CSP	1USAKTY	1.9+06	3.4+06	Jour	PR/C,105,024329	22	S.F.Hicks+	14748
*	n,inel	^{130}Te	DAP	1USAKTY	2.2+06	3.3+06	Jour	PR/C,105,024329	22	S.F.Hicks+	14748
*	α,n	^{133}Xe	CS	3HUNDEB	9.6+06	1.6+07	Jour	PR/C,109,065806	24	Zs.Matyus+	D4433

54 Xenon 124

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{123}Xe	CS	3CPRNPC	1.3+07	1.5+07	Jour	NP/A,1030,122569	23	Jun Zeng+	32892
*	n,2n	^{123}Xe	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871

54 Xenon 126

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{125}Xe	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871

54 Xenon 128

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{127}Xe	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871

54 Xenon 130

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{129}Xe	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871
*	n,p	^{130}I	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871

54 Xenon 131

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,p	^{131}I	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871

54 Xenon 132

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{131}Xe	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871
*	n,p	^{132}I	CS	3CPRNPC	1.4+07	1.4+07	Jour	CPH/C,46,044001	22	Junhua Luo+	32871

54 Xenon 134

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{133}Xe	CS	3CPRNPC	1.4+07	1.5+07	Jour	CNST,34,4	23	Jun-Hua Luo+	32895

56 Barium 138

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,el	^{138}Ba	DA	1USATAM	2.9+07	2.9+07	Jour	PR/C,6,1795	72	J.H.Barker+	C3001
	p,inel	^{138}Ba	DAP	1USATAM	2.9+07	2.9+07	Jour	PR/C,6,1795	72	J.H.Barker+	C3001

58 Cerium 142

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{30}Si,fus		CS	3INDNSD	8.7+07	1.1+08	Jour	NP/A,1042,122791	24	A.Kaur+	D6461

60 Neodymium 142

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{142}Nd	DA	1USASTF	1.2+07	1.9+07	Jour	PR/C,14,514	76	S.L.Tabor+	C2997

60 Neodymium 146

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{146}Nd	DA	1USASTF	1.2+07	1.9+07	Jour	PR/C,14,514	76	S.L.Tabor+	C2997
*	^{18}O,3n	^{161}Er	CS	3INDNSD	6.9+07	8.3+07	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,5n	^{159}Er	CS	3INDNSD	7.4+07	1.0+08	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,6n	^{158}Er	CS	3INDNSD	7.8+07	1.0+08	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,x	^{155}Tb	CS	3INDNSD	8.3+07	1.0+08	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,x	^{155}Dy	CS	3INDNSD	8.3+07	1.0+08	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,x	^{157}Dy	CS	3INDNSD	6.9+07	1.0+08	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,x	^{159}Ho	CS	3INDNSD	7.8+07	1.0+08	Jour	EPJ/A,60,72	24	N.Sharma+	D6468
*	^{18}O,x	^{161}Ho	CS	3INDNSD	6.9+07	7.8+07	Jour	EPJ/A,60,72	24	N.Sharma+	D6468

60 Neodymium 150

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{150}Nd	DA	1USASTF	1.2+07	1.9+07	Jour	PR/C,14,514	76	S.L.Tabor+	C2997

62 Samarium 144

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,el	^{144}Sm	DA	1USATAM	2.9+07	2.9+07	Jour	PR/C,4,2256	71	J.H.Barker+	C3000
	p,inel	^{144}Sm	DAP	1USATAM	2.9+07	2.9+07	Jour	PR/C,4,2256	71	J.H.Barker+	C3000
	α,el	^{144}Sm	DA	1USATAM	4.9+07	4.9+07	Jour	PR/C,4,2256	71	J.H.Barker+	C3000
	α,inel	^{144}Sm	DAP	1USATAM	4.9+07	4.9+07	Jour	PR/C,4,2256	71	J.H.Barker+	C3000

65 Terbium 159

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	3CPRIHP			Jour	PR/C,107,045809	23	S.Zhang+	32899
*	n,γ	^{160}Tb	CS	3CPRIHP	Maxwl	9.0+05	Jour	PR/C,107,045809	23	S.Zhang+	32899

71 Lutetium 175

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

*	n,x	^{174}Lu	CS	3HUNDEB	5.5+06	6.0+06	Jour	PL/B,859,139100	24	Ihorkadenko+	32253

73 Tantalum

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	α,x	Many	DAE	1USASRE	7.2+08	7.2+08	Jour	PR/C,19,1408	79	T.C.Schweizer+	C2995
	α,x+α	inclusive	DAE	1USASRE	7.2+08	7.2+08	Jour	PRL,40,1433	78	R.R.Doering+	C2993
	α,x+d	inclusive	DAE	1USASRE	7.2+08	7.2+08	Jour	PRL,40,1433	78	R.R.Doering+	C2993
	α,x+^{3}He	inclusive	DAE	1USASRE	7.2+08	7.2+08	Jour	PRL,40,1433	78	R.R.Doering+	C2993
	α,x+p	inclusive	DAE	1USASRE	7.2+08	7.2+08	Jour	PRL,40,1433	78	R.R.Doering+	C2993
	α,x+t	inclusive	DAE	1USASRE	7.2+08	7.2+08	Jour	PRL,40,1433	78	R.R.Doering+	C2993

74 Tungsten 182

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,2n	^{181}W	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874
*	n,p	^{182}Ta	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874

74 Tungsten 183

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,α	^{180}Hf	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874

74 Tungsten 184

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,α	^{181}Hf	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874
*	n,p	^{184}Ta	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874

74 Tungsten 186

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,α	^{183}Hf	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874
*	n,x	^{185}Ta	CS	3CPRNPC	1.4+07	1.5+07	Jour	CPH/C,46,054003	22	Yong Li+	32874

75 Rhenium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,x	^{183}Re	CS	2JPNIPC	3.6+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{184}Re	CS	2JPNIPC	1.6+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{185}Os	CS	2JPNIPC	3.6+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{184}Ir	CS	2JPNIPC	4.8+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{185}Ir	CS	2JPNIPC	3.8+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{186}Ir	CS	2JPNIPC	2.7+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{187}Ir	CS	2JPNIPC	2.0+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{188}Ir	CS	2JPNIPC	1.6+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{189}Ir	CS	2JPNIPC	1.6+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792
*	α,x	^{190}Ir	CS	2JPNIPC	1.1+07	5.0+07	Jour	ARI,213,111486	24	D.Gantumur+	E2792

75 Rhenium 185

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,2p	^{186}Re	CS	1USAANL	2.5+07	3.1+07	Jour	NP/A,119,131	68	N.E.Scott+	R0053

77 Iridium 193

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,inel	^{193}Ir	CS	1USATNL	6.0+06	6.0+06	Jour	ARI,195,110742	23	A.M.Marenco+	14812

78 Platinum

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,x	^{195}Pt	CS	2JPNIPC	5.7+06	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{194}Au	CS	2JPNIPC	2.8+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{195}Au	CS	2JPNIPC	2.6+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{196}Au	CS	2JPNIPC	2.4+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{198}Au	CS	2JPNIPC	2.2+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{199}Au	CS	2JPNIPC	2.2+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{200}Au	CS	2JPNIPC	2.8+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{192}Hg	CS	2JPNIPC	2.6+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{195}Hg	CS	2JPNIPC	2.0+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{197}Hg	CS	2JPNIPC	1.7+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789
*	α,x	^{199}Hg	CS	2JPNIPC	1.7+07	2.8+07	Jour	EPJ/A,60,195	24	N.Otuka+	E2789

79 Gold 197

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	3CPRIHP			Jour	ASI,73,072801	24	Luo Hao-Tian+	32920

*	n,γ	^{198}Au	CS	3CPRIHP	2.9-01	3.2+03	Jour	ASI,73,072801	24	Luo Hao-Tian+	32920
	d,6n	^{193}Hg	CS	2GERJUL	4.6+07	8.6+07	Jour	NP/A,209,333	73	P.Jahn+	R0050
	d,7n	^{192}Hg	CS	2GERJUL	5.5+07	8.6+07	Jour	NP/A,209,333	73	P.Jahn+	R0050
	d,8n	^{191}Hg	CS	2GERJUL	6.8+07	8.6+07	Jour	NP/A,209,333	73	P.Jahn+	R0050
	d,9n	^{190}Hg	CS	2GERJUL	8.0+07	8.6+07	Jour	NP/A,209,333	73	P.Jahn+	R0050
	d,x	^{192}Au	CS	2GERJUL	6.4+07	8.6+07	Jour	NP/A,209,333	73	P.Jahn+	R0050
	d,x	^{194}Au	CS	2GERJUL	4.2+07	8.6+07	Jour	NP/A,209,333	73	P.Jahn+	R0050
	d,x	^{196}Au	CS	2GERJUL	3.3+07	8.0+07	Jour	NP/A,209,333	73	P.Jahn+	R0050

81 Thallium 205

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	^{7}Li,x	^{206}Pb	CS	3INDTAT	2.5+07	4.0+07	Jour	PR/C,109,014610	24	V.V.Parkar+	D6463
*	^{7}Li,x	^{207}Pb	CS	3INDTAT	2.5+07	4.0+07	Jour	PR/C,109,014610	24	V.V.Parkar+	D6463
*	^{7}Li,x	^{207}Bi	CS	3INDTAT	2.9+07	4.0+07	Jour	PR/C,109,014610	24	V.V.Parkar+	D6463
*	^{7}Li,x	^{208}Bi	CS	3INDTAT	2.5+07	4.0+07	Jour	PR/C,109,014610	24	V.V.Parkar+	D6463

82 Lead 208

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	^{15}C,el	^{208}Pb	DA	2ZZZCER	6.5+07	6.5+07	Jour	PL/B,855,138770	24	V.G.Tavora+	D8102
*	^{17}Ne,el	^{208}Pb	DA	2FR GAN	1.4+08	1.4+08	Jour	PL/B,843,138007	23	J.D.Ovejas+	D8103
*	^{17}Ne,x	^{15}O	DA	2FR GAN	1.4+08	1.4+08	Jour	PL/B,843,138007	23	J.D.Ovejas+	D8103

90 Thorium 232

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,fis		?	3CPRBJG	5.0+06	5.0+06	Jour	NIM/A,1058,168912	24	Haofan Bai+	32919
*	n,γ	^{233}Th	CS	3CPRIHP	9.7+03	1.9+05	Jour	EPJ/A,59,224	23	Jincheng Wang+	32918
*	p,x	^{228}Pa	CS	2JPNIPC	2.9+07	3.0+07	Jour	JRN,333,1479	24	Y.Shigekawa+	E2790
*	p,x	^{229}Pa	CS	2JPNIPC	2.9+07	3.0+07	Jour	JRN,333,1479	24	Y.Shigekawa+	E2790
*	p,x	^{230}Pa	CS	2JPNIPC	2.9+07	3.0+07	Jour	JRN,333,1479	24	Y.Shigekawa+	E2790
*	p,x	^{232}Pa	CS	2JPNIPC	2.9+07	3.0+07	Jour	JRN,333,1479	24	Y.Shigekawa+	E2790
*	p,x	^{233}Pa	CS	2JPNIPC	2.9+07	3.0+07	Jour	JRN,333,1479	24	Y.Shigekawa+	E2790

92 Uranium 235

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,fis		CS	3CPRIHP	1.0+07	6.6+07	Jour	EPJ/CS,284,01013	23	Yonghao Chen+	32915
*	n,fis	Many	FY	3CPRAEP	2.8+06	2.8+06	Jour	ARI,200,110907	23	Yujie Ge+	32910
	n,fis	Many	?	1USAINL	Fast		Rept	ICP-1058	74	W.J.Maeck+	14845
	n,fis	^{83}Br	FY	1USAANL	2.5-02	2.5-02	Book	RCS,2,591	51	S.Katcoff+	14598
	n,fis	^{135}I	FY	1USAORL	2.5-02	2.5-02	Book	RCS,2,992	51	L.E.Glendenin+	14626

92 Uranium 238

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis		CS	3CPRIHP	1.0+07	6.6+07	Jour	EPJ/CS,284,01013	23	Yonghao Chen+	32915
*	n,fis	Many	FY	1USATNL	4.6+06	4.6+06	Jour	PR/C,107,054608	23	A.P.D.Ramirez+	14822
*	n,γ	^{239}U	CS	3CPRSIU	3.6+06	6.1+06	Jour	CPH/C,47,024002	23	Chun Wen+	32896

93 Neptunium 237

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis		CS	4RUSLIN	1.5+05	4.3+08	Jour	JEL,120,373	24	A.S.Vorobyev+	41776
*	n,fis		?	4RUSLIN	1.1+05	4.3+08	Jour	JEL,120,373	24	A.S.Vorobyev+	41776
	α,x	Many	CS	1USATAM	3.2+07	6.9+07	Jour	PL/B,30,463	69	J.B.Natowitz+	C2998

94 Plutonium 239

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis	Many	FY	3CPRAEP	Maxwl		Jour	CST,56,798	22	Liu Chao+	32879
*	n,fis		NU	1USALAS	9.7+05	7.0+08	Jour	PL/B,835,137513	22	P.Marini+	14799
*	n,fis		?	3CPRIHP	4.4+03	1.0+08	Jour	PR/C,107,024606	23	Yijia Qiu+	32894
*	n,fis	^{85}Kr	FY	1USALAS	Fiss		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{87}Kr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{88}Kr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{89}Rb	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{91}Sr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{92}Sr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{93}Y	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{95}Zr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{97}Zr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{99}Mo	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{103}Ru	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{105}Ru	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{105}Rh	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{127}Sn	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{128}Sn	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{127}Sb	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{129}Sb	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{130}Sb	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{131}Sb	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{131}Te	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{132}Te	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{133}Te	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{134}Te	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{131}I	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{133}I	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{135}I	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{138}Cs	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834

*	n,fis	^{139}Ba	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{140}Ba	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{141}Ba	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{141}La	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{142}La	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{143}Ce	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{146}Pr	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{149}Nd	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834
*	n,fis	^{151}Pm	FY	1USALAS	Fast		Jour	NDS,193,153	24	A.S.Tamashiro+	14834

96 Curium 242

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	0,fis	Many	FY	1USAANL	Spont		Jour	JIN,6,181	58	J.G.Cuninghame	14844

98 Californium 252

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	0,fis	Many	FY	1USALAS	Spont		Jour	NIM/A,1037,166853	22	P.Gastis+	14790
*	0,fis	Many	NU	1USAMHG	Spont		Jour	PR/C,109,054617	24	S.Marin+	14838