

EXFOR News (December 2018)

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 coordinated by the [IAEA Nuclear Data Section](#). Regularly updated web retrieval databases are available at [IAEA-NDS](#) as well as [NNDC](#), [NEADB](#), [JAEA](#), [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 published in past 10 years are flagged by asterisks (*). Please send an email to N.Otsuka (NRDC Coordinator n.otsuka@iaea.org) for inclusion in the EXFOR News distribution list as well as any question on EXFOR.

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

Quantity codes

ALF	α -value ($\sigma_{\text{capt}}/\sigma_{\text{fis}}$)	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 $d\Omega_1/d\Omega_2/dE'$	NUD	Delayed fission neutron multiplicity $\bar{\nu}_d$
D3E	Triple differential $d\Omega/dE'_1/dE'_2$	NUF	Fragment neutrons
D4A	Quadruple diff. $d\Omega_1/d\Omega_2/dE'_1/dE'_2$	POL	Polarization
DA	Differential $d/d\Omega$	POD	Differential polarization
DAA	Double differential $d\Omega_1/d\Omega_2$	PY	Product yield (other than fission)
DAE	Double differential $d\Omega/dE'$	RI	Resonance integral
DAP	Partial differential $d/d\Omega$	RP	Resonance parameter
DAT	Temperature-dependent Legendre coefficient	RR	Reaction rate
DE	Differential d/dE'	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 $\bar{\nu}\sigma_{\text{fis}}/(\sigma_{\text{capt}} + \sigma_{\text{fis}})$	TTD	Differential thick target yield, $d/d\Omega$
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	tex	Total charge changing		
fis	Fission	non	Nonelastic	ths	Thermal scattering		

Special codes in incident energy field

Fast	Fast reactor spectrum average	Maxw	Maxwellian spectrum average
Fiss	Fission spectrum average	Spont	Spontaneous (for fission)

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

1 Hydrogen 1

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* α,el	^1H	?	2JPNIPC	8.0+08	8.0+08	Jour	PTEP,2018,(5),053D01	18	S.Chebotaryov+	E2580
* $^6\text{He},el$	^1H	?	2JPNIPC	1.2+09	1.2+09	Jour	PTEP,2018,(5),053D01	18	S.Chebotaryov+	E2580

1 Hydrogen 2

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,n	^1H	DA	2SWDLND	4.5+07	7.8+07	Jour	VAT/I.,(3/115),132	18	G.Brudvik+	G4062
* γ,n	^1H	DA	2SWDLND	4.5+07	7.8+07	Jour	VAT/I.,(3/97),49	15	D.Burdeinyi+	G4064
* γ,n	^1H	POD	2SWDLND	4.7+07	4.9+07	Jour	VAT/I.,(3/115),132	18	G.Brudvik+	G4062

3 Lithium 7

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,n	^7Be	CS	3CZRUFJ	1.9+07	3.7+07	Jour	NP/A,953,139	16	M.Majerle+	D0910
* p,n	^7Be	PY	3CZRUFJ	2.0+07	3.7+07	Jour	NP/A,953,139	16	M.Majerle+	D0910
* $^{15}\text{N},^8\text{Be}$	^{14}C	DAP	3POLWWA	8.1+07	8.1+07	Jour	NP/A,971,138	18	A.T.Rudchik+	D5139

4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,el	^9Be	DA	3CPRAEP	8.2+06	8.2+06	Jour	CNPR,28,366	11	Zhangyaling+	32723
* $n,inel$	^9Be	DAP	3CPRAEP	8.2+06	8.2+06	Jour	CNPR,28,366	11	Zhangyaling+	32723
* $n,x+n$	inclusive	DAE	3CPRAEP	8.2+06	8.2+06	Jour	CNPR,28,366	11	Zhangyaling+	32723

5 Boron 11

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* α,el	^{11}B	DA	4KASKAZ	2.9+07	2.9+07	Jour	JP/CS,940,012034	17	N.Burtebayev+	D0906
* $\alpha,inel$	^{11}B	DAP	4KASKAZ	2.9+07	2.9+07	Jour	JP/CS,940,012034	17	N.Burtebayev+	D0906

6 Carbon

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{133}\text{Sn},x$	Many	CS	2JPNIPC	2.2+10	2.2+10	Jour	PRL,118,202502	17	V.Vaquero+	E2557

* $^{134}\text{Sn},x$ Many CS 2JPNIPC 2.2+10 2.2+10 Jour [PRL,118,202502](#) 17 V.Vaquero+ [E2557](#)

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ,p	^{11}B	DAP	2SWDLND	3.7+07	7.4+07	Jour	VAT/L,(3/97),49	15	D.Burdeinyi+	G4064
*	$^7\text{Li},t$	^{16}O	DAP	3INDNSD	2.0+07	2.0+07	Jour	JP/G,44,015102	17	S.Adhikari+	D6301
*	$^{32}\text{S},x$	Many	CS	3INDTRM	2.0+08	2.2+08	Jour	PR/C,95,064603	17	Ratneshpandey+	D6308
*	$^{32}\text{S},x$	Many	DA	3INDTRM	2.0+08	2.2+08	Jour	PR/C,95,064603	17	Ratneshpandey+	D6308

8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,n+^3\text{He}+\alpha$	^8Be	CS	4UKRKFT	3.8+07	1.5+08	Jour	UFZ,63,3	18	S.N.Afanasyev	G4061
*	$\gamma,n+^3\text{He}+\alpha$	^8Be	DAP	4UKRKFT	3.5+07	1.2+08	Jour	UFZ,63,3	18	S.N.Afanasyev	G4061

10 Neon 20

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α,el	^{20}Ne	DA	4KASKAZ	4.9+07	4.9+07	Jour	IMP/E,27,1850042	18	N.Burtebayev+	D0907
*	α,inel	^{20}Ne	DAP	4KASKAZ	4.9+07	4.9+07	Jour	IMP/E,27,1850042	18	N.Burtebayev+	D0907

12 Magnesium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	n,inel	$^{\text{nat}}\text{Mg}$	SPC	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,179	57	I.F.Barchuk+	32247

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	n,inel	^{27}Al	SPC	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,179	57	I.F.Barchuk+	32247
	p,el	^{27}Al	DA	4UKRIFU	6.8+06	6.8+06	Conf	57MOSCOW,,301	57	V.A.Kovtun+	D5140
*	p,x	^7Be	CS	2JPNJAE	4.0+08	3.0+09	Conf	2017QUEBEC,,396	17	S.Meigo+	E2581
*	p,x	^{22}Na	CS	2JPNJAE	4.0+08	3.0+09	Conf	2017QUEBEC,,396	17	S.Meigo+	E2581
*	p,x	^{24}Na	CS	2JPNJAE	4.0+08	3.0+09	Conf	2017QUEBEC,,396	17	S.Meigo+	E2581
*	$^{16}\text{O},\text{el}$	^{27}Al	DA	2ITYLNS	1.0+08	1.0+08	Jour	PL/B,710,426	12	D.Pereira+	D0908
*	$^{16}\text{O},\text{inel}$	^{27}Al	DAP	2ITYLNS	1.0+08	1.0+08	Jour	PL/B,710,426	12	D.Pereira+	D0908

14 Silicon 30

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,γ</i>	³¹ P	CS	4UKRKFT	6.1+05	1.0+06	Conf	57MOSCOW,,294	57	Yu.T.Antufiev+	D5142
<i>p,γ</i>	³¹ P	DAP	4UKRKFT	5.0+05	9.8+05	Conf	57MOSCOW,,294	57	Yu.T.Antufiev+	D5142
* <i>³⁰Si,fus</i>		CS	2ITYPAD	2.4+07	4.5+07	Jour	PR/C,97,044613	18	G.Colucci+	D0904

20 Calcium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,x+γ</i>	inclusive	PY	3INDIND	3.0+06	4.2+06	Jour	JRN,314,1803	17	Y.Sunitha+	D6302

23 Vanadium 50

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>α,2n</i>	⁵² Mn	CS	3HUNDEB	1.5+07	2.0+07	Jour	PRM,90,41	18	B.M.Ali+	D4390

23 Vanadium 51

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>α,n</i>	⁵⁴ Mn	CS	3HUNDEB	4.9+06	2.0+07	Jour	PRM,90,41	18	B.M.Ali+	D4390

24 Chromium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>d,x</i>	⁴⁸ V	CS	3CZRUFJ	3.9+06	1.9+07	Jour	PR/C,98,034606	18	E.Simeckova+	D0915
* <i>d,x</i>	⁵¹ Cr	CS	3CZRUFJ	3.9+06	1.9+07	Jour	PR/C,98,034606	18	E.Simeckova+	D0915
* <i>d,x</i>	⁵¹ Mn	CS	3CZRUFJ	3.9+06	8.5+06	Jour	PR/C,98,034606	18	E.Simeckova+	D0915
* <i>d,x</i>	⁵² Mn	CS	3CZRUFJ	8.3+06	1.9+07	Jour	PR/C,98,034606	18	E.Simeckova+	D0915
* <i>d,x</i>	⁵⁴ Mn	CS	3CZRUFJ	3.9+06	1.9+07	Jour	PR/C,98,034606	18	E.Simeckova+	D0915

24 Chromium 52

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	⁵² Cr	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141
<i>p,inel</i>	⁵² Cr	CSP	4UKRKFT	2.8+06	3.4+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143

24 Chromium 53

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	⁵³ Cr	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141
<i>p,n</i>	⁵³ Mn	CSP	4UKRKFT	2.6+06	2.6+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143
<i>p,x+γ</i>	inclusive	CSP	4UKRKFT	1.6+06	3.2+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143

25 Manganese 55

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,n</i>	⁵⁵ Fe	CSP	4UKRKFT	2.0+06	2.8+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143
<i>p,x+γ</i>	inclusive	CSP	4UKRKFT	1.8+06	3.4+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	^{nat} Fe	DA	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,190	57	I.A.Tostkii	32246
<i>n,inel</i>	^{nat} Fe	SPC	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,179	57	I.F.Barchuk+	32247

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	⁵⁸ Ni	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	⁶⁰ Ni	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141
* <i>¹⁶O,el</i>	⁶⁰ Ni	DA	2ITYLNS	2.6+08	2.6+08	Jour	PR/C,97,054608	18	V.A.B.Zagatto+	D0905
* <i>¹⁶O,inel</i>	⁶⁰ Ni	DAP	2ITYLNS	2.6+08	2.6+08	Jour	PR/C,97,054608	18	V.A.B.Zagatto+	D0905

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	⁶² Ni	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,el	^{nat} Cu	DA	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,190	57	I.A.Tostkii	32246
<i>n</i> ,inel	^{nat} Cu	SPC	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,179	57	I.F.Barchuk+	32247
<i>p</i> ,el	^{nat} Cu	DA	4UKRIFU	6.8+06	6.8+06	Conf	57MOSCOW,,301	57	V.A.Kovtun+	D5140
* ³⁶ S, <i>x+n</i>	inclusive	PY	2FR GAN	4.3+08	4.3+08	Jour	NIM/A,896,152	18	N.D.Trinh+	D0909

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p</i> ,el	⁶³ Cu	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141
<i>p</i> ,inel	⁶³ Cu	CSP	4UKRKFT	1.6+06	3.5+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143
<i>p</i> , <i>x+γ</i>	inclusive	CSP	4UKRKFT	2.4+06	3.4+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p</i> ,el	⁶⁵ Cu	DA	4UKRIFU	6.8+06	6.8+06	Jour	JEL,11,(5),1025	60	A.K.Val'Ter+	D5141
<i>p</i> , <i>γ</i>	⁶⁶ Zn	CSP	4UKRKFT	1.8+06	3.2+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143
<i>p</i> , <i>n</i>	⁶⁵ Zn	CSP	4UKRKFT	2.2+06	3.2+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143
<i>p</i> , <i>x+γ</i>	inclusive	CSP	4UKRKFT	2.0+06	3.2+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143

30 Zinc

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,el	^{nat} Zn	DA	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,190	57	I.A.Tostkii	32246
* <i>α</i> , <i>x</i>	⁶⁶ Ga	CS	2JPNIPC	2.0+07	5.1+07	Jour	NIM/B,427,91	18	M.Aikawa+	E2578
* <i>α</i> , <i>x</i>	⁶⁷ Ga	CS	2JPNIPC	9.0+06	5.1+07	Jour	NIM/B,427,91	18	M.Aikawa+	E2578
* <i>α</i> , <i>x</i>	⁶⁸ Ge	CS	2JPNIPC	9.0+06	5.1+07	Jour	NIM/B,427,91	18	M.Aikawa+	E2578
* <i>α</i> , <i>x</i>	⁶⁹ Ge	CS	2JPNIPC	9.0+06	5.1+07	Jour	NIM/B,427,91	18	M.Aikawa+	E2578

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p</i> , <i>x+γ</i>	inclusive	CSP	4UKRKFT	2.2+06	3.3+06	Conf	57MOSCOW,,279	57	A.K.Val'Ter+	D5143

30 Zinc 66

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

*	n,α	^{63}Ni	CS	3CPRBJG	4.0+06	6.0+06	Jour	EPJ/CS,146,11033	17	Yu.Gledenov+	32755
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31 Gallium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	n,inel	$^{\text{nat}}\text{Ga}$	DAP	3CPRAEP	1.5+07	1.5+07	Jour	NP/A,936,17	15	R.Han+	32742
*	$n,x+n$	inclusive	DAE	3CPRAEP	1.5+07	1.5+07	Jour	NP/A,936,17	15	R.Han+	32742

32 Germanium 76

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,2n$	^{75}Ge	CS	3CPRNPC			Jour	EPJ/A,54,67	18	Junhualuo+	32777

34 Selenium 80

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$^9\text{Be},\text{el}$	^{80}Se	DA	3ARGCNE	1.7+07	3.3+07	Jour	NP/A,979,87	18	F.Gollan+	D0914

38 Strontium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	p,x	^{86}Y	CS	3HUNDEB	6.0+06	1.8+07	Jour	ARI,140,272	18	A.Elbinawi+	D4389
*	p,x	^{87}Y	CS	3HUNDEB	4.5+06	1.8+07	Jour	ARI,140,272	18	A.Elbinawi+	D4389
*	p,x	^{88}Y	CS	3HUNDEB	4.5+06	1.8+07	Jour	ARI,140,272	18	A.Elbinawi+	D4389

39 Yttrium 89

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,2n$	^{88}Y	CS	3CZRUIJF	1.7+07	3.4+07	Jour	NSE,191,150	18	P.Chudoba+	31787
*	$n,3n$	^{87}Y	CS	3CZRUIJF	2.4+07	3.4+07	Jour	NSE,191,150	18	P.Chudoba+	31787

45 Rhodium 103

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,2n$	^{101}Rh	CS	3KORPUE		6.0+07	Jour	EPJ/A,52,194	16	Md.S.Rahman+	G3131
*	$\gamma,3n$	^{100}Rh	CS	3KORPUE		6.0+07	Jour	EPJ/A,52,194	16	Md.S.Rahman+	G3131
*	$\gamma,4n$	^{99}Rh	CS	3KORPUE		6.0+07	Jour	EPJ/A,52,194	16	Md.S.Rahman+	G3131
*	γ,n	^{102}Rh	CS	3KORPUE		6.0+07	Jour	EPJ/A,52,194	16	Md.S.Rahman+	G3131

*	$^3\text{He}, 2n$	^{104}Ag	CS	3HUNDEB	1.2+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391
*	$^3\text{He}, n$	^{105}Ag	CS	3HUNDEB	1.2+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391
*	$^3\text{He}, x$	^{100}Rh	CS	3HUNDEB	1.8+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391
*	$^3\text{He}, x$	^{101}Rh	CS	3HUNDEB	1.2+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391
*	$^3\text{He}, x$	^{102}Rh	CS	3HUNDEB	1.2+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391
*	$^3\text{He}, x$	^{103}Pd	CS	3HUNDEB	1.6+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391

46 Palladium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	d, x	^{103}Ag	CS	2JPNIPC	5.8+06	2.4+07	Jour	NIM/B,426,13	18	N.Ukon+	E2575
*	d, x	^{104}Ag	CS	2JPNIPC	5.8+06	2.4+07	Jour	NIM/B,426,13	18	N.Ukon+	E2575
*	d, x	^{105}Ag	CS	2JPNIPC	5.8+06	2.4+07	Jour	NIM/B,426,13	18	N.Ukon+	E2575
*	d, x	^{106}Ag	CS	2JPNIPC	5.8+06	2.4+07	Jour	NIM/B,426,13	18	N.Ukon+	E2575
*	d, x	^{110}Ag	CS	2JPNIPC	5.8+06	2.4+07	Jour	NIM/B,426,13	18	N.Ukon+	E2575
*	d, x	^{111}Ag	CS	2JPNIPC	5.8+06	2.4+07	Jour	NIM/B,426,13	18	N.Ukon+	E2575

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α, x	^{105}Ag	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{106}Ag	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{110}Ag	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{111}Ag	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{109}Cd	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{108}In	CS	2JPNIPC	4.2+07	4.2+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{109}In	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{110}In	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392
*	α, x	^{111}In	CS	2JPNIPC	4.2+07	4.9+07	Jour	NIM/B,436,119	18	F.Ditroi+	D4392

48 Cadmium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	n, el	$^{\text{nat}}\text{Cd}$	DA	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,190	57	I.A.Tostkii	32246

49 Indium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α, x	^{113}Sn	CS	2JPNIPC	4.0+07	5.0+07	Jour	NIM/B,426,18	18	M.Aikawa+	E2574
*	α, x	^{116}Sb	CS	2JPNIPC	2.9+07	5.0+07	Jour	NIM/B,426,18	18	M.Aikawa+	E2574

49 Indium 113

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ, n	¹¹² In	CS	4UKRUZH		2.5+07	Jour	VAT/L.,(3/115),155	18	V.I.Zhaba+	G4063
* $n, 2n$	¹¹² In	CS	3CPRNPC			Jour	NSE,188,198	17	Junhualuo+	32775

49 Indium 115

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n, 2n$	¹¹⁴ In	CS	3CPRNPC			Jour	NSE,188,198	17	Junhualuo+	32775
* $\alpha, 2n$	¹¹⁷ Sb	CS	2JPNIPC	1.8+07	5.0+07	Jour	NIM/B,426,18	18	M.Aikawa+	E2574
* α, el	¹¹⁵ In	DA	3HUNDEB	1.6+07	1.9+07	Jour	JP/CS,665,012035	16	G.G.Kiss+	D4342
* α, γ	¹¹⁹ Sb	CS	3HUNDEB	8.8+06	1.6+07	Jour	PR/C,97,055803	18	G.G.Kiss+	D4385
* α, γ	¹¹⁹ Sb	CS	3HUNDEB	8.8+06	1.6+07	Jour	PR/C,97,055803	18	G.G.Kiss+	D4394
* α, n	¹¹⁸ Sb	CS	3HUNDEB	1.1+07	1.6+07	Jour	PR/C,97,055803	18	G.G.Kiss+	D4385
* α, n	¹¹⁸ Sb	CS	3HUNDEB	1.1+07	1.6+07	Jour	PR/C,97,055803	18	G.G.Kiss+	D4394
* α, n	¹¹⁸ Sb	CS	2JPNIPC	1.8+07	5.0+07	Jour	NIM/B,426,18	18	M.Aikawa+	E2574
* α, n	¹¹⁸ Sb	CS	3HUNDEB	8.8+06	1.6+07	Jour	PR/C,97,055803	18	G.G.Kiss+	D4385
* α, n	¹¹⁸ Sb	CS	3HUNDEB	8.8+06	1.6+07	Jour	PR/C,97,055803	18	G.G.Kiss+	D4394
* α, x	¹¹⁷ Sn	CS	2JPNIPC	1.8+07	5.0+07	Jour	NIM/B,426,18	18	M.Aikawa+	E2574

50 Tin

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n, el	^{nat} Sn	DA	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW.,190	57	I.A.Tostkii	32246
$n, inel$	^{nat} Sn	SPC	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW.,179	57	I.F.Barchuk+	32247

50 Tin 112

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^3\text{He}, x+\alpha$	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+\alpha$	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+d$	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+d$	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+^3\text{He}$	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+^3\text{He}$	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+p$	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+p$	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+t$	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892
* $^3\text{He}, x+t$	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	BAS,81,1170	17	A.Duisebayev+	D0892

50 Tin 120

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{10}\text{B}, ^{11}\text{B}$	^{119}Sn	DAP	3BZLUSP	3.2+07	3.5+07	Jour	PR/C,98,024621	18	M.A.G.Alvarez+	D0913
* $^{10}\text{B}, \text{el}$	^{120}Sn	DA	3BZLUSP	3.2+07	3.5+07	Jour	PR/C,98,024621	18	M.A.G.Alvarez+	D0913
* $^{10}\text{B}, \text{incl}$	^{120}Sn	DAP	3BZLUSP	3.2+07	3.5+07	Jour	PR/C,98,024621	18	M.A.G.Alvarez+	D0913

50 Tin 122

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $d, x + ^3\text{He}$	inclusive	DAE	2JPNIPC	5.0+08	5.0+08	Jour	PRL,120,152505	18	T.Nishi+	E2576

51 Antimony

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n, el	$^{\text{nat}}\text{Sb}$	DA	4UKRIFU	2.8+06	2.8+06	Conf	57MOSCOW,,190	57	I.A.Tostkii	32246

51 Antimony 121

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, 2n$	^{123}I	CS	3INDVEC	2.2+07	5.5+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294
$\alpha, 4n$	^{121}I	CS	3INDVEC	3.7+07	5.5+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294
* α, γ	^{125}I	CS	3HUNDEB	9.7+06	1.4+07	Jour	PR/C,97,045803	18	Z.Korkulu+	D4393
α, n	^{124}I	CS	3INDVEC	2.2+07	3.4+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294
* α, n	^{124}I	CS	3HUNDEB	9.7+06	1.5+07	Jour	PR/C,97,045803	18	Z.Korkulu+	D4393
α, x	^{121}Te	CS	3INDVEC	3.7+07	5.5+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294

51 Antimony 123

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, 3n$	^{124}I	CS	3INDVEC	2.7+07	5.5+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294
$\alpha, 4n$	^{123}I	CS	3INDVEC	3.7+07	5.5+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294
* α, n	^{126}I	CS	3HUNDEB	1.2+07	1.5+07	Jour	PR/C,97,045803	18	Z.Korkulu+	D4393
α, n	^{126}I	CS	3INDVEC	2.2+07	2.7+07	Jour	IMP/E,3,239	94	M.K.Bhardwaj+	D6294

56 Barium 132

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n, 2n$	^{131}Ba	CS	3CPNPC			Jour	RCA,105,779	17	Junhualuo+	32769

56 Barium 134

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$n,2n$	¹³³ Ba	CS	3CPRNPC			Jour	RCA,105,779	17	Junhualuo+	32769

58 Cerium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ,x	¹³³ Ce	CS	3KORPUE		6.5+07	Jour	NIM/B,349,141	15	H.J.Kim+	G3129
*	γ,x	¹³⁷ Ce	CS	3KORPUE		6.5+07	Jour	NIM/B,349,141	15	H.J.Kim+	G3129

58 Cerium 140

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,2n$	¹³⁸ Ce	CS	4RUSMOS	1.7+07	2.6+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	$\gamma,2n$	¹³⁸ Ce	INT	4RUSMOS		2.6+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	γ,n	¹³⁹ Ce	CS	4RUSMOS	9.4+06	2.6+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	γ,n	¹³⁹ Ce	INT	4RUSMOS		2.6+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	$\gamma,x+n$	inclusive	CS	4RUSMOS	9.4+06	2.6+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972

58 Cerium 142

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,2n$	¹⁴⁰ Ce	CS	4RUSMOS	1.3+07	2.3+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	$\gamma,2n$	¹⁴⁰ Ce	INT	4RUSMOS		2.2+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	γ,n	¹⁴¹ Ce	CS	4RUSMOS	7.8+06	2.3+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	γ,n	¹⁴¹ Ce	INT	4RUSMOS		2.2+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972
*	$\gamma,x+n$	inclusive	CS	4RUSMOS	7.8+06	2.3+07	Conf	2017ALMATY,,26	17	V.V.Varlamov+	M0972

62 Samarium 152

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	n,γ	¹⁵³ Sm	CS	3KORPUE	2.5-02	2.5-02	Jour	RPC,139,109	17	V.D.Nguyen+	30843
*	n,γ	¹⁵³ Sm	RI	3KORPUE		5.5-01	Jour	RPC,139,109	17	V.D.Nguyen+	30843

63 Europium 153

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

*	$\gamma,2n$	¹⁵¹ Eu	CS	4RUSMOS	1.4+07	2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,2n$	¹⁵¹ Eu	INT	4RUSMOS		2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,3n$	¹⁵⁰ Eu	CS	4RUSMOS	2.3+07	2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,3n$	¹⁵⁰ Eu	INT	4RUSMOS		2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	γ,n	¹⁵² Eu	CS	4RUSMOS	8.8+06	2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	γ,n	¹⁵² Eu	INT	4RUSMOS		2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,x+n$	inclusive	CS	4RUSMOS	8.8+06	2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,x+n$	inclusive	INT	4RUSMOS		2.9+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974

65 Terbium 159

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α ,fis		CS	3INDVEC	4.8+07	5.8+07	Jour	PR/C,48,87	93	R.H.Iyer+	D6295

67 Holmium 165

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	$\gamma,2n$	¹⁶³ Ho	CS	4RUSMOS	1.4+07	2.7+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,2n$	¹⁶³ Ho	INT	4RUSMOS		2.8+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,3n$	¹⁶² Ho	CS	4RUSMOS	2.3+07	2.7+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,3n$	¹⁶² Ho	INT	4RUSMOS		2.8+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	γ,n	¹⁶⁴ Ho	CS	4RUSMOS	7.3+06	2.7+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	γ,n	¹⁶⁴ Ho	INT	4RUSMOS		2.8+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,x+n$	inclusive	CS	4RUSMOS	7.3+06	2.7+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
*	$\gamma,x+n$	inclusive	INT	4RUSMOS		2.8+07	Conf	2018VORNZH,,97	18	V.V.Varlamov+	M0974
	α ,fis		CS	3INDVEC	4.0+07	7.0+07	Jour	PR/C,44,2644	91	R.H.Iyer+	D6293

68 Erbium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α ,fis		CS	3INDVEC	3.4+07	6.5+07	Jour	PR/C,44,2644	91	R.H.Iyer+	D6293

70 Ytterbium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α ,fis		CS	3INDVEC	4.0+07	6.5+07	Jour	PR/C,48,87	93	R.H.Iyer+	D6295

72 Hafnium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	p,x	¹⁶⁹ Yb	CS	2BLGLVN	5.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388

*	<i>p,x</i>	¹⁶⁹ Lu	CS	2BLGLVN	5.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁰ Lu	CS	2BLGLVN	5.7+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷¹ Lu	CS	2BLGLVN	4.0+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷² Lu	CS	2BLGLVN	5.4+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷³ Lu	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁷ Lu	CS	2BLGLVN	4.0+07	6.4+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁹ Lu	CS	2BLGLVN	6.2+07	6.4+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷¹ Hf	CS	2BLGLVN	5.6+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷² Hf	CS	2BLGLVN	4.7+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷³ Hf	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁵ Hf	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁹ Hf	CS	2BLGLVN	4.1+07	6.3+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁸⁰ Hf	CS	2BLGLVN	3.8+07	6.4+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷³ Ta	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁵ Ta	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁶ Ta	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁷ Ta	CS	2BLGLVN	3.8+07	6.5+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁷⁸ Ta	CS	2BLGLVN	3.8+07	6.4+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388
*	<i>p,x</i>	¹⁸⁰ Ta	CS	2BLGLVN	3.8+07	4.1+07	Jour	NIM/B,427,20	18	F.Tarkanyi+	D4388

78 Platinum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ,x	¹⁹⁰ Ir	CS	3KORPUE		6.5+07	Jour	NIM/B,351,35	15	Y.U.Kye+	G3130
*	γ,x	¹⁹⁷ Pt	CS	3KORPUE		6.5+07	Jour	NIM/B,351,35	15	Y.U.Kye+	G3130

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,2n</i>	¹⁹⁶ Au	CS	3CZRUFJ	1.7+07	3.4+07	Jour	NSE,191,150	18	P.Chudoba+	31787
*	<i>n,4n</i>	¹⁹⁴ Au	CS	3CZRUFJ	3.0+07	3.4+07	Jour	NSE,191,150	18	P.Chudoba+	31787

83 Bismuth 209

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	<i>p,el</i>	²⁰⁹ Bi	DA	4UKRIFU	6.8+06	6.8+06	Conf	57MOSCOW,,301	57	V.A.Kovtun+	D5140
	α ,fis		CS	4ZZZDUB			Jour	EPJ/A,13,123	02	Yu.E.Penionzhkevich+	F0770

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ ,fis	Many	FY	3KORPUE		2.5+09	Jour	PR/C,97,014614	18	H.Naik+	G3128
*	γ ,fis		FY	3KORPUE		2.5+09	Jour	PR/C,97,014614	18	H.Naik+	G3128
*	γ ,fis	Many	FY	2GERTHD		9.5+06	Jour	PR/C,96,044301	17	A.Goeok+	G0059

*	γ ,fis		FY	2GERTHD	9.5+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059	
*	γ ,fis		KE	2GERTHD	9.5+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059	
*	γ ,fis	Many	KE	2GERTHD	9.5+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059	
*	γ ,fis		NU	3KORPUE	2.5+09	Jour	PR/C,97,014614	18	H.Naik+	G3128	
*	γ ,fis		?	2GERTHD	9.5+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059	
*	n ,fis	Many	FY	3CPRAEP	1.5+07	1.5+07	Jour	CST,47,901	13	Liushilong+	32719

92 Uranium 234

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	γ ,fis	Many	FY	2GERTHD	9.0+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059
*	γ ,fis		FY	2GERTHD	9.0+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059
*	γ ,fis		KE	2GERTHD	9.0+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059
*	γ ,fis	Many	KE	2GERTHD	9.0+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059
*	γ ,fis		?	2GERTHD	9.0+06	Jour	PR/C,96,044301	17	A.Goeoek+	G0059

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	α ,fis		CS	3INDTRM	3.0+06	2.7+07	Jour	PR/C,40,R1854	89	N.N.Ajitanand+	D6289

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	γ ,fis	⁹⁵ Nb	CS	4UKRIEP	1.2+07	Jour	YFE,19,(1),5	18	I.M.Vishnevskiy+	G4060
*	γ ,fis	¹³³ Xe	CS	4UKRIEP	1.2+07	Jour	YFE,19,(1),5	18	I.M.Vishnevskiy+	G4060
*	γ ,fis	¹³⁵ Xe	CS	4UKRIEP	1.2+07	Jour	YFE,19,(1),5	18	I.M.Vishnevskiy+	G4060