

EXFOR News (February 2017)

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 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						
	${}^6\text{He},t$	${}^4\text{He}$	DA	4RUSKUR	1.8+07	1.8+07	Conf	92ALMAAT,,301	92	D.V.Aleksandrov+	F1292
*	${}^8\text{He},d$	${}^7\text{He}$?	2JPNIPC	6.6+08	6.6+08	Jour	JP/CS,420,012076	13	J.L.Lou+	S0080
*	${}^8\text{He},t$	${}^6\text{He}$?	2JPNIPC	6.6+08	6.6+08	Jour	JP/CS,420,012076	13	J.L.Lou+	S0080
*	${}^{12}\text{C},x$	${}^6\text{He}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^6\text{He}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^6\text{Li}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^6\text{Li}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^7\text{Li}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^7\text{Li}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^7\text{Be}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^7\text{Be}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^9\text{Be}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^9\text{Be}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{10}\text{Be}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{10}\text{Be}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^8\text{B}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^8\text{B}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{10}\text{B}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{10}\text{B}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{11}\text{B}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{11}\text{B}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{10}\text{C}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{10}\text{C}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{11}\text{C}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{11}\text{C}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{12}\text{C}$	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x$	${}^{12}\text{C}$	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+\alpha$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+d$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+d$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+{}^3\text{He}$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+{}^3\text{He}$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+p$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+p$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+t$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	${}^{12}\text{C},x+t$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

1 Hydrogen 2

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$d,n+p$	${}^2\text{H}$?	1USALAS	6.8+06	1.1+07	Jour	NSE,67,190	78	M.Drosg	D0006
*	α,γ	${}^6\text{Li}$	CS	4RUSTPI	3.0+04	3.6+04	Jour	FCY/L,13,(2),304	16	Yu.B.Burkatovskaya+	F1286

1 Hydrogen 3

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,n+p$	^2H	?	1USALAS	1.1+07	1.5+07	Jour	NSE,67,190	78	M.Drosg	D0005

3 Lithium 7

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,d	^6He	DAP	2JPNYOK	1.4+07	1.4+07	Rept	R,JAERI-M-89-107	89	S.Shirato+	22150
n,t	^5He	DA	2JPNYOK	1.4+07	1.4+07	Rept	R,JAERI-M-89-107	89	S.Shirato+	22150
p,n	^7Be	MLT	3CPRBJG	1.9+06	2.0+06	Jour	MED,25,(7),1222	98	Yuweixiang+	S0174
$^7\text{Li},^6\text{He}$	^8Be	DAP	4RUSKUR	2.2+07	2.2+07	Jour	YF,47,(3),616	88	O.V.Bochkarev+	F1285

4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ,tot	CS	1USADKE	3.4+06	1.0+07	Rept	LA-14383	08	C.M.Frankle+	L0143	
*	γ,tot	CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216	
	α,n	^{12}C	CSP	1CANOTC	1.9+06	7.5+06	Jour	NIM,131,315	75	K.W.Geiger+	C1847
*	$^{12}\text{C},x+p$	inclusive	DAE	4RUSITE	3.6+09	2.4+10	Jour	YF,78,(5),403	15	B.M.Abramov+	F1276

6 Carbon

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	γ,tot	CS	1USADKE	3.4+06	1.0+07	Rept	LA-14383	08	C.M.Frankle+	L0143	
*	γ,tot	CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216	
*	n,el	$^{\text{nat}}\text{C}$	DA	4UKRIJD	2.0+03	1.3+05	Conf	2008AKERSL,,525	08	O.Gritzay+	32240
*	$^{12}\text{Be},\text{inel}$	$^{\text{nat}}\text{C}$	DAP	3CPRIMP	3.5+08	3.5+08	Jour	PRL,112,162501	14	Z.H.Yang+	S0098

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	p,γ	^{13}N	CS	1USACAL	2.5+04	6.8+05	Thes	VOGL	63	J.L.Vogl	C1672
	$^6\text{He},\alpha$	^{14}C	DAP	4RUSKUR	1.8+07	1.8+07	Conf	92ALMAAT,,301	92	D.V.Aleksandrov+	F1292
	$^6\text{Li},\text{el}$	^{12}C	DA	4ZZZDUB	6.3+07	6.3+07	Jour	IZV,69,(11),1578	05	V.A.Maslov+	F1289
	$^6\text{Li},\text{inel}$	^{12}C	DAP	4ZZZDUB	6.3+07	6.3+07	Jour	IZV,69,(11),1578	05	V.A.Maslov+	F1289
*	$^{12}\text{C},x$	^6He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^6He	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^6Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^6Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^6Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C},x$	^7Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^7Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

*	$^{12}\text{C},x$	^7Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C},x$	^7Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^7Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^7Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C},x$	^9Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^9Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^8B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^8B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C},x$	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C},x$	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{12}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+\alpha$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C},x+d$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+d$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+^3\text{He}$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+^3\text{He}$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+p$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+p$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+t$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+t$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

6 Carbon 13

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{14}C	CSP	2JPNTIT	4.0+04	4.0+04	Jour	PR/C,41,458	Feb 90	S.Raman+	22170
$p,0$		RP	1USACAL			Thes	VOGL	63	J.L.Vogl	C1672
p,γ	^{14}N	CS	1USACAL	2.5+04	2.5+04	Thes	VOGL	63	J.L.Vogl	C1672
p,γ	^{14}N	CSP	1USACAL	9.2+04	6.8+05	Thes	VOGL	63	J.L.Vogl	C1672

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$p,0$		RP	1USACAL			Jour	PR,82,809	51	D.B.Duncan+	C1655
$p,0$		RP	1USAKAN			Jour	PR/C,15,569	77	H.M.Kuan+	C1657
$p,0$		RP	1USACAL			Thes	PIXLEY	57	R.E.Pixley	C1669
p,el		RP	1USACAL			Thes	PIXLEY	57	R.E.Pixley	C1669
p,el	^{14}N	DA	1USACAL	2.7+05	2.9+05	Thes	PIXLEY	57	R.E.Pixley	C1669
p,γ	^{15}O	CS	1USACAL	2.2+05	6.5+05	Thes	PIXLEY	57	R.E.Pixley	C1669

p,γ	^{15}O	CS	1USACAL	2.3+06	2.5+06	Jour	PR,82,809	51	D.B.Duncan+	C1655
p,γ	^{15}O	DAP	1USAKAN	3.2+06	3.5+06	Jour	PR/C,15,569	77	H.M.Kuan+	C1657
p,inel	^{14}N	DAP	1USAKAN	3.2+06	3.5+06	Jour	PR/C,15,569	77	H.M.Kuan+	C1657

7 Nitrogen 15

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^6\text{Li,e}$	^{15}N	DA	3CPRAEP	3.4+07	3.4+07	Jour	PR/C,89,012801	14	B.Guo+	S0095
* $^7\text{Li},^6\text{Li}$	^{16}N	DAP	3CPRAEP	4.4+07	4.4+07	Jour	PR/C,89,012801	14	B.Guo+	S0095
* $^7\text{Li,e}$	^{15}N	DA	3CPRAEP	4.4+07	4.4+07	Jour	PR/C,89,012801	14	B.Guo+	S0095

8 Oxygen

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{12}\text{C,x}$	^6He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^6He	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^6Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^6Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^9Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^9Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^8B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^8B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{11}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{11}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{12}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+\alpha$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+d$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+d$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+^3\text{He}$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+^3\text{He}$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+p$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+p$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+t$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}+t$	inclusive	DAE	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)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{18}\text{O,el}$	^{16}O	DA	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,94,024610	16	M.J.Ermamatov+	D0826
* $^{18}\text{O,incl}$	^{16}O	DAP	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,94,024610	16	M.J.Ermamatov+	D0826

8 Oxygen 18

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,α	^{15}N	CSP	4RUSKUR	9.2+05	1.0+06	Jour	JET,17,593	63	K.V.Karadzhev+	F1294
p,α	^{15}N	DAP	4RUSKUR	7.3+05	1.1+06	Jour	JET,17,593	63	K.V.Karadzhev+	F1294
p,α	^{15}N	?	4RUSKUR	8.1+05	1.1+06	Jour	JET,17,593	63	K.V.Karadzhev+	F1294

11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{22}Na	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatentkov	41614

12 Magnesium 26

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{23}Ne	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatentkov	41614

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{26}Al	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatentkov	41614
* n,p	^{27}Mg	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatentkov	41614
	^{27}Mg	CS	3INDPOO	1.5+07	1.5+07	Jour	PRM,37,425	91	G.R.Pansare+	33087
* p,α	^{24}Mg	DAP	4RUSMOS	7.4+06	7.4+06	Jour	IZV,80,(3),338	16	L.I.Galanina+	F1288
	^{24}Na	CS	4ZZZDUB	3.6+09	3.6+09	Prog	JINR-P1-87-932	87	Ts.Damdinsuren+	F1278
* $^{12}\text{C,x}$	^6He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^6He	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^6Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^6Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^7Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^9Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^9Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C,x}$	^{10}Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

*	$^{12}\text{C},x$	^8B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^8B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{10}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{11}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x$	^{12}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
	$^{12}\text{C},x$	^{24}Na	CS	4ZZZDUB	4.4+10	4.4+10	Prog	JINR-P1-87-932	87	Ts.Damdinsuren+	F1278
*	$^{12}\text{C},x+\alpha$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+d$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+d$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+^3\text{He}$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+^3\text{He}$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+p$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+p$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+t$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C},x+t$	inclusive	DAE	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)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^6\text{Li},x+\alpha$	inclusive	DAE	1USAWAU	3.6+07	3.6+07	Jour	PRM,35,(5),439	90	S.Kailas+	C1811
$^6\text{Li},x+d$	inclusive	DAE	1USAWAU	3.6+07	3.6+07	Jour	PRM,35,(5),439	90	S.Kailas+	C1811
$^6\text{Li},x+p$	inclusive	DAE	1USAWAU	3.6+07	3.6+07	Jour	PRM,35,(5),439	90	S.Kailas+	C1811

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,el	^{28}Si	DA	2UK GLS	1.0+06	2.8+06	Jour	NP/A,299,(1),99	Apr 78	S.J.Hall+	21729
* n,p	^{28}Al	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

14 Silicon 29

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2p$	^{28}Mg	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

14 Silicon 30

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{27}Mg	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
n,α	^{27}Mg	CS	3INDPOO	1.5+07	1.5+07	Jour	PRM,37,425	91	G.R.Pansare+	33087

16 Sulphur 32

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,el	^{32}S	DA	2UK GLS	8.0+05	3.3+06	Jour	NP/A,299,(1),99	Apr 78	S.J.Hall+	21729
n,γ	^{33}S	CSP	2SWDUPP	3.2+06	1.5+07	Jour	NP/A,279,445	Apr 77	A.Lindholm+	20831

19 Potassium 39

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{38}K	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
p,n	^{39}Ca	CS	1USAFSU	7.5+06	1.1+07	Jour	PR/C,2,213	70	K.W.Kemper+	C1077

19 Potassium 41

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{38}Cl	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{41}Ar	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

21 Scandium 45

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,γ	^{46}Sc	CS	3KORPUE	2.5-02	2.5-02	Jour	NIM/B,362,9	15	V.D.Nguyen+	30837
* n,γ	^{46}Sc	RI	3KORPUE		5.5-01	Jour	NIM/B,362,9	15	V.D.Nguyen+	30837

22 Titanium 45

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{12}\text{C},x$	^6He	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C},x$	^6He	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C},x$	^6Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C},x$	^6Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C},x$	^6Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
* $^{12}\text{C},x$	^7Li	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
* $^{12}\text{C},x$	^7Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

*	$^{12}\text{C,x}$	^7Li	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C,x}$	^7Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^7Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^7Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C,x}$	^9Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^9Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{10}Be	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{10}Be	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^8B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^8B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{10}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{10}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{10}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C,x}$	^{11}B	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{11}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{11}B	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C,x}$	^{10}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{10}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{11}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{11}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{12}C	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}$	^{12}C	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+\alpha$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+\alpha$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,89,064615	14	J.Dudouet+	O2218
*	$^{12}\text{C,x}+d$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+d$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+^3\text{He}$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+^3\text{He}$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+p$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+p$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+t$	inclusive	DA	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170
*	$^{12}\text{C,x}+t$	inclusive	DAE	2FR GAN	1.1+09	1.1+09	Jour	PR/C,88,024606	13	J.Dudouet+	O2170

23 Vanadium 50

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	n,α	^{47}Sc	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	$n,n+\alpha$	^{46}Sc	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

23 Vanadium 51

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
	$\gamma,2n$	^{49}V	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
	γ,n	^{50}V	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
	$\gamma,x+n$	inclusive	CS	4RUSMOS	1.1+07	2.4+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
	$\gamma,x+n$	inclusive	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
*	n,α	^{48}Sc	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	$n,n+\alpha$	^{47}Sc	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

24 Chromium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,x	^{44}Ti	CS	4RUSITE	7.0+07	2.6+09	Jour	NIM/A,821,136	16	Yu.E.Titarenko+	F1287

24 Chromium 52

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{50}Cr	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
γ,n	^{51}Cr	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
$\gamma,x+n$	inclusive	CS	4RUSMOS	1.2+07	2.5+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
$\gamma,x+n$	inclusive	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
n,p	^{52}V	CS	3INDPOO	1.5+07	1.5+07	Jour	PRM,37,425	91	G.R.Pansare+	33087

24 Chromium 53

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{53}V	CS	3INDPOO	1.5+07	1.5+07	Jour	PRM,37,425	91	G.R.Pansare+	33087

24 Chromium 54

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{54}V	CS	3INDPOO	1.5+07	1.5+07	Jour	PRM,37,425	91	G.R.Pansare+	33087

25 Manganese 55

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{54}Mn	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{52}V	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

26 Iron 54

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{54}Mn	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{56}Mn	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* p,x	^{44}Ti	CS	4RUSITE	1.0+08	2.6+09	Jour	NIM/A,821,136	16	Yu.E.Titarenko+	F1287
$\alpha,x+\alpha$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$\alpha,x+d$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$\alpha,x+p$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$\alpha,x+t$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827

26 Iron 57

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{57}Mn	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

27 Cobalt 59

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{57}Co	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
γ,n	^{58}Co	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
$\gamma,x+n$	inclusive	CS	4RUSMOS	1.0+07	2.9+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
$\gamma,x+n$	inclusive	INT	4RUSMOS		3.0+07	Jour	IZV,33,1736	69	B.I.Goryachev+	M0093
* $n,2n$	^{58}Co	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{56}Mn	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{59}Fe	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
p,π^++p	^{59}Fe	CS	4ZZZDUB	1.2+08	6.6+08	Jour	RAK,15,106	73	L.N.Nikityuk+	F1281

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,x+\gamma$	inclusive	DE	4UKRKGU	1.4+07	1.4+07	Jour	YFE,17,(2),122	16	I.M.Kadenko+	32241
* p,x	^{44}Ti	CS	4RUSITE	1.0+08	2.6+09	Jour	NIM/A,821,136	16	Yu.E.Titarenko+	F1287

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{57}Ni	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{58}Co	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	^{57}Co	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
$^{16}\text{O},\text{inel}$	^{58}Ni	DAP	1USAFSU	3.6+07	4.8+07	Jour	PR/C,15,2052	77	L.Westjr+	C1661
* $^{17}\text{O},^{16}\text{O}$	^{59}Ni	DAP	2ITYPAD	4.0+07	5.0+07	Jour	PR/C,94,024622	16	E.Strano+	D0825
* $^{17}\text{O},\text{el}$	^{58}Ni	DA	2ITYPAD	4.0+07	5.0+07	Jour	PR/C,94,024622	16	E.Strano+	D0825
* $^{17}\text{O},\text{inel}$	^{58}Ni	DAP	2ITYPAD	4.2+07	5.0+07	Jour	PR/C,94,024622	16	E.Strano+	D0825

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{60}Co	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
$\alpha,x+\alpha$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$\alpha,x+d$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$\alpha,x+p$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$\alpha,x+t$	inclusive	DAE	4KASKAZ	3.5+07	4.9+07	Jour	BAS,44,(11),178	80	N.T.Burtebaev+	D0827
$^{16}\text{O,inel}$	^{60}Ni	DAP	1USAFSU	4.2+07	4.8+07	Jour	PR/C,15,2052	77	L.Westjr+	C1661

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^{16}\text{O,inel}$	^{62}Ni	DAP	1USAFSU	4.2+07	4.8+07	Jour	PR/C,15,2052	77	L.Westjr+	C1661

28 Nickel 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^{16}\text{O,inel}$	^{64}Ni	DAP	1USAFSU	4.2+07	4.8+07	Jour	PR/C,15,2052	77	L.Westjr+	C1661

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,tot		CS	1USADKE	3.4+06	1.2+07	Rept	LA-14383	08	C.M.Frankle+	L0143
* γ,tot		CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{60}Co	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{64}Cu	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{65}Ni	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
p,π^++p	^{65}Ni	CS	4ZZZDUB	1.0+08	4.4+08	Prog	JINR-6-84-682	84	V.M.Maltsev+	F1282

p,x ⁵⁷Ni CS 4ZZZDUB 1.0+08 4.4+08 Prog JINR-6-84-682 84 V.M.Maltsev+ [F1282](#)

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,2n</i>	⁶³ Zn	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
<i>p,el</i>	⁶⁴ Zn	DA	4RUSMOS	5.8+06	7.6+06	Jour	IZV,54,(5),991	90	E.A.Romanovskii+	F1293

30 Zinc 66

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	⁶⁶ Zn	DA	4RUSMOS	5.8+06	7.6+06	Jour	IZV,54,(5),991	90	E.A.Romanovskii+	F1293

30 Zinc 68

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,p</i>	⁶⁸ Cu	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
<i>p,el</i>	⁶⁸ Zn	DA	4RUSMOS	5.8+06	7.6+06	Jour	IZV,54,(5),991	90	E.A.Romanovskii+	F1293

32 Germanium 74

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,p</i>	⁷⁴ Ga	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

33 Arsenic 75

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,2n</i>	⁷⁴ As	CS	3CZRUFJ		1.0+07	Jour	ANE,100,(2),42	17	M.Kostal+	31771

34 Selenium 74

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,2n</i>	⁷³ Se	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* <i>n,p</i>	⁷⁴ As	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

34 Selenium 76

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁷⁵ Se	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	⁷⁶ As	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

34 Selenium 77

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	⁷⁷ As	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

34 Selenium 78

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	⁷⁵ Ge	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	⁷⁸ As	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

34 Selenium 80

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma,0$		RP	2GERZFK			Jour	PR/C,94,044304	16	A.Makinaga+	G0039
* γ,sct	⁸⁰ Se	CS	2GERZFK	6.2+06	1.0+07	Jour	PR/C,94,044304	16	A.Makinaga+	G0039
* $n,2n$	⁷⁹ Se	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	⁷⁷ Ge	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	⁸⁰ As	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

34 Selenium 82

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁸¹ Se	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

36 Krypton 80

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	⁸¹ Kr	CS	4ZZZDUB	2.5-02	2.5-02	Jour	YF,35,(5),1092	82	V.V.Kuzminov+	41612

38 Strontium 88

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{87}Sr	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{85}Kr	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

39 Yttrium 89

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{88}Y	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{86}Rb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

40 Zirconium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,x	^{89}Zr	CS	2GERZFK		1.6+07	Jour	EPJ/A,52,47	16	H.Naik+	G3121
* γ,x	^{89}Zr	CS	3KORPUE		7.0+07	Jour	EPJ/A,52,47	16	H.Naik+	G3121

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{89}Zr	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{87}Sr	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{90}Y	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	^{89}Y	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

40 Zirconium 92

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	^{92}Y	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

40 Zirconium 94

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{91}Sr	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

40 Zirconium 96

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁹⁵ Zr	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

41 Niobium 93

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	⁹⁰ Y	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* p,x	⁴⁴ Ti	CS	4RUSITE	1.2+09	2.6+09	Jour	NIM/A,821,136	16	Yu.E.Titarenko+	F1287

42 Molybdenum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,x	⁹⁷ Nb	CS	2GERZFK		1.6+07	Jour	EPJ/A,52,47	16	H.Naik+	G3121
* γ,x	⁹¹ Mo	CS	3KORPUE		6.0+07	Jour	EPJ/A,52,47	16	H.Naik+	G3121
* n,x	⁹⁵ Nb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	⁹⁶ Nb	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	⁹⁷ Nb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

42 Molybdenum 92

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁹¹ Mo	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	⁸⁹ Zr	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	⁹² Nb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	⁹¹ Nb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

42 Molybdenum 94

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁹³ Mo	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

42 Molybdenum 98

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	⁹⁵ Zr	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	⁹⁸ Nb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

42 Molybdenum 100

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	⁹⁹ Mo	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	⁹⁷ Zr	CS	4RUSRI	1.4+07	1.4+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
n,p	¹⁰⁰ Nb	CS	2ITYNAP	1.4+07	1.4+07	Jour	NP/A,103,616	Nov 67	P.Cuzzocrea+	21141

43 Technetium 99

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2p$	⁹⁸ Nb	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	⁹⁶ Nb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $n,n+\alpha$	⁹⁵ Nb	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	⁹⁹ Mo	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

45 Rhodium 103

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,x+n$	inclusive	CS	1CANSAS	9.2+06	2.4+07	Jour	CJP,37,1344	59	R.W.Parsons	M0923
* $n,2n$	¹⁰² Rh	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $n,n+\alpha$	⁹⁹ Tc	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁰³ Ru	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

46 Palladium 102

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁰¹ Pd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	¹⁰¹ Rh	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

46 Palladium 105

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹⁰⁵ Rh	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

46 Palladium 106

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁰³ Ru	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁰⁶ Rh	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

46 Palladium 108

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{105}Ru	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

46 Palladium 110

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{109}Pd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

47 Silver 107

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{106}Ag	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

47 Silver 109

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{108}Ag	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 106

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{105}Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{106}Ag	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	^{105}Ag	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 108

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{107}Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 110

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁰⁹ Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹¹⁰ Ag	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 111

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹¹¹ Ag	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 112

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹¹¹ Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹⁰⁹ Pd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹¹² Ag	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 113

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹¹³ Ag	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 114

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,sct	¹¹⁴ Cd	CS	2GERZFK	4.0+06	9.1+06	Jour	PR/C.93.014301	16	R.Massarczyk+	G0052
* n,α	¹¹¹ Pd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

48 Cadmium 116

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹¹⁵ Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

49 Indium 113

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

*	<i>n,inel</i>	¹¹³ In	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
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49 Indium 115

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,2n</i>	¹¹⁴ In	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,α</i>	¹¹² Ag	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,inel</i>	¹¹⁵ In	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,p</i>	¹¹⁵ Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

50 Tin 112

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,2n</i>	¹¹¹ Sn	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,x</i>	¹¹¹ In	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

50 Tin 114

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,2n</i>	¹¹³ Sn	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

50 Tin 116

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,p</i>	¹¹⁶ In	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
	<i>α,n</i>	¹¹⁹ Te	CS	4RUSSUL	1.3+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291
	<i>α,x</i>	¹¹⁸ Sb	CS	4RUSSUL	2.1+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291

50 Tin 117

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
					Min	Max					
*	<i>n,p</i>	¹¹⁷ In	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
	<i>α,2n</i>	¹¹⁹ Te	CS	4RUSSUL	1.8+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291
	<i>α,p</i>	¹²⁰ Sb	CS	4RUSSUL	1.9+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291

50 Tin 118

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹¹⁷ Sn	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹¹⁵ Cd	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
α,n	¹²¹ Te	CS	4RUSSUL	1.4+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291
α,x	¹²⁰ Sb	CS	4RUSSUL	2.2+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291

50 Tin 120

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹¹⁹ Sn	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹¹⁷ Cd	CS	4RUSRI	1.3+07	1.4+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
α,n	¹²³ Te	CS	4RUSSUL	1.4+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291
α,x	¹²² Sb	CS	4RUSSUL	2.2+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291

50 Tin 124

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹²³ Sn	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
$\alpha,n+\alpha$	¹²³ Sn	CS	4RUSSUL	2.2+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291
α,p	¹²⁷ Sb	CS	4RUSSUL	1.9+07	2.4+07	Conf	92ALMAAT,,288	92	A.E.Antropov+	F1291

52 Tellurium 120

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹¹⁹ Te	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

52 Tellurium 122

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹²¹ Te	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹²² Sb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

52 Tellurium 124

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹²³ Te	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

52 Tellurium 126

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{125}Te	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

52 Tellurium 128

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{127}Te	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{128}Sb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

52 Tellurium 130

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{129}Te	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

56 Barium 138

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{137}Ba	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{135}Xe	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{138}Cs	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	^{137}Cs	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

57 Lanthanum 139

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,γ	^{140}La	CS	3CPRNPC	1.4+07	1.5+07	Jour	IPC,86,79	13	Luojunhua+	32713

58 Cerium 136

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{135}Ce	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

58 Cerium 138

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{137}Ce	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

58 Cerium 140

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{139}Ce	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{140}La	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $^{17}\text{O},el$	^{140}Ce	DA	2ITYPAD	3.4+08	3.4+08	Jour	PR/C,93,044330	16	M.Krzysiek+	D0823
* $^{17}\text{O},inel$	^{140}Ce	DAP	2ITYPAD	3.4+08	3.4+08	Jour	PR/C,93,044330	16	M.Krzysiek+	D0823

58 Cerium 142

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{141}Ce	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

63 Europium 151

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{150}Eu	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $n,3n$	^{149}Eu	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{148}Pm	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

63 Europium 153

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{152}Eu	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{150}Pm	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

68 Erbium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	Many	CS	4RUSSUL	1.0+09	1.0+09	Jour	GEK,2,261	85	D.V.Min+	F1290

68 Erbium 162

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,n	¹⁶¹ Er	CS	2GRCGRC		1.4+07	Jour	NP/A,957,259	17	E.Vagena+	G0053

69 Thulium 169

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,x	Many	CS	4RUSSUL	1.0+09	1.0+09	Jour	GEK,2,261	85	D.V.Min+	F1290

70 Ytterbium 168

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁶⁷ Yb	CS	3CPRNPC	1.4+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727

70 Ytterbium 170

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁶⁹ Yb	CS	3CPRNPC	1.4+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727

70 Ytterbium 172

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹⁷² Tm	CS	3CPRNPC	1.4+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727

70 Ytterbium 173

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹⁷³ Tm	CS	3CPRNPC	1.4+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727

70 Ytterbium 174

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹⁷⁴ Tm	CS	3CPRNPC	1.5+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727

70 Ytterbium 176

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{175}Yb	CS	3CPRNPC	1.4+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727
* n,p	^{176}Tm	CS	3CPRNPC	1.4+07	1.5+07	Jour	ANE,57,41	13	Junhualuo+	32727

72 Hafnium 177

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
d,p	^{178}Hf	DAP	1USAFSU	1.2+07	1.2+07	Jour	PRM,41,(2),151	93	R.K.Sheline+	C1807

72 Hafnium 178

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$d,inel$	^{178}Hf	DAP	1USAFSU	1.2+07	1.2+07	Jour	PRM,41,(2),151	93	R.K.Sheline+	C1807

72 Hafnium 179

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
d,t	^{178}Hf	DAP	1USAFSU	1.2+07	1.2+07	Jour	PRM,41,(2),151	93	R.K.Sheline+	C1807

73 Tantalum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,tot		CS	1USADKE	3.4+06	1.0+07	Rept	LA-14383	08	C.M.Frankle+	L0143
* γ,tot		CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216
p,x	Many	CS	4RUSSUL	1.0+09	1.0+09	Jour	GEK,2,261	85	D.V.Min+	F1290

73 Tantalum 181

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{180}Ta	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{178}Lu	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	^{181}Hf	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	^{180}Hf	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

74 Tungsten

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ ,tot		CS	1USADKE	3.5+06	1.2+07	Rept	LA-14383	08	C.M.Frankle+	L0143
* γ ,tot		CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216
p,x	Many	CS	4RUSSUL	1.0+09	1.0+09	Jour	GEK,2,261	85	D.V.Min+	F1290

74 Tungsten 180

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁷⁹ W	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

74 Tungsten 182

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁷⁹ Hf	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $n,n+\alpha$	¹⁷⁸ Hf	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁸² Ta	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

74 Tungsten 183

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁸⁰ Hf	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁸³ Ta	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

74 Tungsten 184

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁸¹ Hf	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁸⁴ Ta	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

74 Tungsten 186

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁸⁵ W	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹⁸³ Hf	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $n,n+\alpha$	¹⁸² Hf	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁸⁶ Ta	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,x	¹⁸⁵ Ta	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* ⁹ Be,x	¹⁸⁷ W	CS	3CPRAEP	4.4+07	4.4+07	Jour	PR/C,87,024604	13	Y.D.Fang+	S0084

*	⁹ Be,x	¹⁸⁸ Os	CS	3CPRAEP	4.1+07	5.3+07	Jour	PR/C,87,024604	13	Y.D.Fang+	S0084
*	⁹ Be,x	¹⁹⁰ Pt	CS	3CPRAEP	4.1+07	5.3+07	Jour	PR/C,87,024604	13	Y.D.Fang+	S0084
*	⁹ Be,x	¹⁹¹ Pt	CS	3CPRAEP	4.1+07	5.3+07	Jour	PR/C,87,024604	13	Y.D.Fang+	S0084

75 Rhenium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	Many	CS	4RUSSUL	1.0+09	1.0+09	Jour	GEK,2,261	85	D.V.Min+	F1290

75 Rhenium 185

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,2n</i>	¹⁸⁴ Re	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,α</i>	¹⁸² Ta	CS	4RUSRI	1.4+07	1.4+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

75 Rhenium 187

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,2n</i>	¹⁸⁶ Re	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,α</i>	¹⁸⁴ Ta	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
*	<i>n,p</i>	¹⁸⁷ W	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

76 Osmium 186

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,p</i>	¹⁸⁶ Re	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

76 Osmium 188

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,p</i>	¹⁸⁸ Re	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

76 Osmium 189

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>n,p</i>	¹⁸⁹ Re	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

76 Osmium 190

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁸⁷ W	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁹⁰ Re	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

77 Iridium 191

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁹⁰ Ir	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹⁸⁸ Re	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁹¹ Os	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

77 Iridium 193

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁹² Ir	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹⁹⁰ Re	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁹³ Os	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

78 Platinum 192

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	¹⁹¹ Pt	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

78 Platinum 194

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁹¹ Os	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁹⁴ Ir	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

78 Platinum 195

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,p	¹⁹⁵ Ir	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

78 Platinum 196

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	¹⁹³ Os	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁹⁶ Ir	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $\gamma,2n$	¹⁹⁵ Au	CS	3KORPUE		7.0+07	Jour	NP/A,948,28	16	H.Naik+	G3122
* $\gamma,3n$	¹⁹⁴ Au	CS	3KORPUE		7.0+07	Jour	NP/A,948,28	16	H.Naik+	G3122
* $\gamma,4n$	¹⁹³ Au	CS	3KORPUE		7.0+07	Jour	NP/A,948,28	16	H.Naik+	G3122
* $\gamma,5n$	¹⁹² Au	CS	3KORPUE		7.0+07	Jour	NP/A,948,28	16	H.Naik+	G3122
* $\gamma,6n$	¹⁹¹ Au	CS	3KORPUE		7.0+07	Jour	NP/A,948,28	16	H.Naik+	G3122
* γ,n	¹⁹⁶ Au	CS	3KORPUE		7.0+07	Jour	NP/A,948,28	16	H.Naik+	G3122
* $n,2n$	¹⁹⁶ Au	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	¹⁹⁴ Ir	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	¹⁹⁷ Pt	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
¹⁴ N,fis		CS	4ZZZDUB	7.4+08	7.4+08	Jour	NP/A,712,207	02	C.-M.Herbach+	F1284

81 Thallium 205

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	²⁰² Au	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,p	²⁰⁵ Hg	CS	4RUSRI	1.4+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

82 Lead

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,tot		CS	1USADKE	3.4+06	1.0+07	Rept	LA-14383	08	C.M.Frankle+	L0143
* γ,tot		CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216
* $^8\text{B},\text{el}$	^{nat} Pb	DA	3CPRIMP	1.7+08	1.7+08	Jour	PR/C,87,044613	13	Y.Y.Yang+	S0085

82 Lead 204

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	²⁰³ Pb	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

82 Lead 206

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,α	^{203}Hg	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

82 Lead 208

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^7\text{Be,el}$	^{208}Pb	DA	3CPRIMP	1.2+08	1.2+08	Jour	JP/CS,420,012075	13	J.S.Wang+	S0079
* $^7\text{Be,non}$		CS	3CPRIMP	1.2+08	1.2+08	Jour	JP/CS,420,012075	13	J.S.Wang+	S0079
* $^8\text{B,el}$	^{208}Pb	DA	3CPRIMP	1.6+08	1.6+08	Jour	JP/CS,420,012075	13	J.S.Wang+	S0079
* $^8\text{B,non}$		CS	3CPRIMP	1.6+08	1.6+08	Jour	JP/CS,420,012075	13	J.S.Wang+	S0079
* $^{28}\text{Si,fis}$		CS	3CPRAEP	1.3+08	1.4+08	Jour	YF,78,1047	15	A.A.Ogloblin+	F1280

83 Bismuth 209

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{208}Bi	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* $n,3n$	^{207}Bi	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* n,α	^{206}Tl	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $n,2n$	^{231}Th	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
	Many	FY	2SWTWUR	Fiss		Jour	NSE,79,167	Oct 81	H.N.Erten+	21723
	$^{14}\text{N,fis}$	CS	4ZZZDUB	7.4+08	7.4+08	Jour	NP/A,712,207	02	C.-M.Herbach+	F1284

92 Uranium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,tot		CS	1USADKE	3.4+06	1.0+07	Rept	LA-14383	08	C.M.Frankle+	L0143
* γ,tot		CS	1USALAS	8.5+05	3.5+06	Rept	LA-14384	08	C.M.Frankle+	L0216

92 Uranium 233

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* n,fis		KE	4RUSLIN	3.6-02	3.6-02	Priv	VOROBIEV	Feb 16	A.S.Vorobyev+	41611
* n,fis		NU	4RUSLIN	3.6-02	3.6-02	Priv	VOROBIEV	Feb 16	A.S.Vorobyev+	41611
* n,fis		?	4RUSLIN	3.6-02	3.6-02	Priv	VOROBIEV	Feb 16	A.S.Vorobyev+	41611

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	2BLGMOL	2.5+04	2.5+04	Jour	JNE/AB,15,165	Dec 61	A.J.Deruytter	20189
<i>n</i> ,tot		CS	2UK HAR	2.5-02	2.5-02	Jour	JNE,1,92	Aug 54	P.A.Egelstaff	21179

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n</i> ,2 <i>n</i>	²³⁷ U	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* <i>n</i> ,fis		NUF	3CPRAEP	2.8+06	2.8+06	Jour	ANE,94,576	16	Weipingwen+	32728

94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	2UK ALD	2.5-02	2.5-02	Conf	66PARIS,2,29	Oct 66	P.H.White+	21494
* <i>n</i> ,fis		NU	4RUSLIN	3.6-02	3.6-02	Priv	VOROBIEV	Feb 16	A.S.Vorobyev+	41611
* <i>n</i> ,fis		?	4RUSLIN	3.6-02	3.6-02	Priv	VOROBIEV	Feb 16	A.S.Vorobyev+	41611

94 Plutonium 241

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	2UK ALD	2.5-02	2.5-02	Conf	66PARIS,2,29	Oct 66	P.H.White+	21494

95 Americium 241

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n</i> ,2 <i>n</i>	²⁴⁰ Am	CS	4RUSRI	1.3+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* <i>n</i> ,3 <i>n</i>	²³⁹ Am	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614
* <i>n</i> , α	²³⁸ Np	CS	4RUSRI	1.5+07	1.5+07	Rept	INDC(CCP)-0460	16	A.A.Filatenkov	41614

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Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* 0,fis		NU	4ZZZDUB	Spont		Jour	PPN/L,13,480	16	A.I.Svirikhin+	41613