EXFOR News (March 2019)

New experimental data available from Nuclear Reaction Data Centres

EXFOR [1] is a world-wide data library for experimental neutron, charged-particle and photon induced reaction data compiled by the International Network of the Nuclear Reaction Data Centres (NRDC)[a] co-ordinated by the IAEA Nuclear Data Section. Regularly updated web retrieval databases are available at IAEA-NDS as well as NNDC, NEADB, 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 pubslished 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. Otuka, E. Dupont, V. Semkova et al., Nucl.Data.Sheets **120**(2014)272.

Quantity codes

ALF	α-value ($\sigma_{\rm capt}/\sigma_{\rm fis}$)	FY	Fission product yield
AMP	Length or amplitude	INT	Cross section integral over incident energy
CHG	Fragment charge	KE	Kinetic energy
CS	Cross section	KER	Kerma factor
CSN	Differential with respect to number of particles	MLT	Multiplicity
CSP	Partial cross section	NQ	Nuclear quantity
CST	Temperature dependent cross section	NU	Fission neutron multiplicity $\bar{\nu}$
D3A	Triple differential dΩ_1/dΩ_2/dE'	NUD	Delayed fission neutron multiplicity $\bar{\nu_d}$
D3E	Triple differential dΩ/dE'_1/dE'_2	NUF	Fragment neutrons
D4A	Quadruple diff. dΩ_1/dΩ_2/dE'_1/dE'_2	POL	Polarization
DA	Differential d/dΩ	POD	Differential polarization
DAA	Double differential dΩ_1/dΩ_2	PY	Product yield (other than fission)
DAE	Double differential dΩ/dE'	RI	Resonance integral
DAP	Partial differential d/dΩ	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 $\bar{\nu}\sigma_{\rm fis}/(\sigma_{\rm capt}+\sigma_{\rm fis})$	TTD	Differential thick target yield, d/dΩ
EVL	Evaluation	TTP	Partial thick target yield

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	sct	Scattering	tot	Total
el	Elastic	inel	Inelastic	tcx	Total charge changing		
fis	Fission	non	Nonelastic	ths	Thermal scattering		

Special codes in incident energy field

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

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

1 Hydrogen 1

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{17}Ne,2p+X	^{14}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,2p+X	^{15}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,p+X	^{14}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,p+X	^{15}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,x	^{14}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,x	^{15}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919

1 Hydrogen 2

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{2}H	POD	4UKRKFT	3.1+06	3.3+06	Jour	ZET,46,167	64	N.A.Skakun+	D5165

1 Hydrogen 3

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{3}H	POD	4UKRKFT	2.9+06	2.9+06	Jour	ZET,46,167	64	N.A.Skakun+	D5165
p,n	^{3}He	CS	1USAORL	1.8+06	4.9+06	Jour	PR,114,571	59	J.H.Gibbons+	T0010

2 Helium 3

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{3}He	POD	4UKRKFT	2.7+06	3.9+06	Jour	ZET,46,167	64	N.A.Skakun+	D5165
d,p	^{4}He	POD	4UKRKFT	1.9+06	1.9+06	Jour	ZET,44,475	63	A.K.Val'Ter+	D5159

4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{10}Be	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157
d,p	^{10}Be	POD	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157
α,el	^{9}Be	DA	1USAFSU	9.5+06	2.0+07	Jour	NP,65,318	65	R.B.Taylor+	C0753
α,t	^{10}B	DAP	1USAFSU	2.6+07	2.8+07	Jour	NP/A,222,173	74	K.W.Kemper+	C2335

5 Boron 10

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,p	^{11}B	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157
	d,p	^{11}B	POD	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157

6 Carbon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{nat}C	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148
*	^{17}Ne,2p+X	^{14}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,2p+X	^{15}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,2p+X	^{15}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,p+X	^{14}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,p+X	^{15}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,x	^{14}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,x	^{15}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{31}Mg,x	^{30}Mg	CS	2FR GAN	1.7+09	1.7+09	Jour	PL/B,779,124	18	B.Fernandez-Dominguez+	D0931
*	^{31}Mg,x	^{30}Mg	CSP	2FR GAN	1.7+09	1.7+09	Jour	PL/B,779,124	18	B.Fernandez-Dominguez+	D0931

6 Carbon 12

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,2n	^{11}C	CS	1USACHI	4.0+08	4.0+08	Jour	PR,95,649(SA2)	54	S.D.Warshaw+	14511
*	n,inel	^{12}C	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	PPN/L,13,504	16	V.M.Bystritsky+	41615
*	n,inel	^{12}C	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	PAN,81,588	18	D.N.Grozdanov+	41660
	p,el	^{12}C	DA	3AULAML	5.4+06	8.2+06	Jour	AUJ,14,196	61	V.R.Mckenna+	D0934
	p,γ	^{13}N	CS	4UKRKFT	3.1+05	3.6+05	Jour	ZET,32,251	57	A.S.Deineko+	D5145
	d,n	^{13}N	CS	4UKRKFT	3.4+05	3.4+05	Jour	ZET,32,251	57	A.S.Deineko+	D5145
	d,n	^{13}N	PY	4UKRKFT	3.3+05	3.7+05	Jour	ZET,32,251	57	A.S.Deineko+	D5145
	t,n	^{14}N	CS	4UKRKFT	6.5+02	2.0+03	Jour	ZET,40,1257	61	P.I.Vatset+	D5151
	t,n	^{14}N	DA	4UKRKFT	3.6+05	2.4+06	Jour	ZET,40,1257	61	P.I.Vatset+	D5151

6 Carbon 13

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{13}C	DA	1USAORL	1.5+07	2.8+07	Jour	NP/A,168,307	71	W.R.Coker+	C2331
	α,t	^{14}N	DAP	1USAFSU	2.7+07	2.7+07	Jour	NP/A,222,173	74	K.W.Kemper+	C2335

6 Carbon 14

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,α	^{13}C	DAP	1USAORL	6.0+06	1.0+07	Jour	NP/A,168,307	71	W.R.Coker+	C2331

7 Nitrogen 14

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,p	^{15}N	DAP	3IRNNRT	5.8+05	2.0+06	Jour	NIM/B,431,25	18	A.Jokar+	D0912
*	d,p	^{15}N	MLT	3IRNNRT	6.0+05	2.0+06	Jour	NIM/B,431,25	18	A.Jokar+	D0912
	α,d	^{16}O	DAP	1USAMIN	3.0+07	3.0+07	Jour	NP/A,187,323	72	J.Lowe+	C2332
	α,el	^{14}N	DA	1USAMIN	3.0+07	3.0+07	Jour	NP/A,187,323	72	J.Lowe+	C2332

8 Oxygen 16

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,inel	^{16}O	DAP	4ZZZDUB	1.4+07	1.4+07	Jour	PAN,81,588	18	D.N.Grozdanov+	41660
*	^{18}O,^{17}O	^{17}O	DAP	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,98,054615	18	R.Linares+	D0920

8 Oxygen 24

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{9}Be,x	^{22}O	CS	1USAMSU	8.3+08	8.3+08	Jour	PR/C,98,024306	18	D.A.Divaratne+	C2354
*	^{9}Be,x	^{23}O	CS	1USAMSU	8.3+08	8.3+08	Jour	PR/C,98,024306	18	D.A.Divaratne+	C2354

9 Fluorine 19

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	t,x+n	inclusive	CS	4UKRKFT	1.1+06	2.1+06	Jour	ZET,40,1237	61	A.K.Val'Ter+	D5149
	t,x+n	inclusive	DA	4UKRKFT	7.4+05	2.4+06	Jour	ZET,40,1237	61	A.K.Val'Ter+	D5149

9 Fluorine 21

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,p	^{22}F	DAP	1USAANL	2.0+07	2.0+07	Jour	PR/C,98,014325	18	J.Chen+	C2353

10 Neon 20

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,inel	^{20}Ne	CSP	4UKRKFT	2.2+06	2.7+06	Jour	ZET,40,1253	61	P.V.Sorokin+	D5150
	p,inel	^{20}Ne	DAP	4UKRKFT	2.2+06	2.7+06	Jour	ZET,40,1253	61	P.V.Sorokin+	D5150

10 Neon 22

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,inel		RP	4UKRKFT	1.9+06	3.1+06	Jour	ZET,43,749	62	P.V.Sorokin+	D5171
	p,inel	^{22}Ne	DAP	4UKRKFT	1.9+06	3.2+06	Jour	ZET,43,749	62	P.V.Sorokin+	D5171

12 Magnesium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,x+p	inclusive	KER	1USALAS	8.6+06	7.4+07	Thes	Newhauser	95	W.D.Newhauser	14510

12 Magnesium 24

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,inel	^{24}Mg	DAP	4UKRIFU	6.8+06	1.4+07	Jour	ZET,38,693	60	O.F.Nemets+	D5147
	^{3}He,el	^{24}Mg	DA	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924
	^{3}He,inel	^{24}Mg	DAP	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924
*	α,el	^{24}Mg	DA	4KASKAZ	2.9+07	2.9+07	Jour	BAS,81,1174	17	V.V.Dyachkov+	D0917

13 Aluminium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	t,x+n	inclusive	?	4UKRKFT	7.4+05	2.4+06	Jour	ZET,40,1237	61	A.K.Val'Ter+	D5149

13 Aluminium 27

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{27}Al	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148
	t,x+n	inclusive	DA	4UKRKFT	1.2+06	2.3+06	Jour	ZET,40,1237	61	A.K.Val'Ter+	D5149

14 Silicon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,x+p	inclusive	KER	1USALAS	1.1+07	8.3+07	Thes	Newhauser	95	W.D.Newhauser	14510
	d,el	$^{\mathrm{nat}}$Si	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148

14 Silicon 28

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,inel	^{28}Si	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1013	62	Yu.V.Gofman+	D5156
	d,p	^{29}Si	POD	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157
	^{3}He,el	^{28}Si	DA	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924
	^{3}He,inel	^{28}Si	DAP	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924
*	^{18}O,^{16}O	^{30}Si	DAP	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,97,064611	18	E.N.Cardozo+	D0918
*	^{18}O,^{17}O	^{29}Si	DAP	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,98,054615	18	R.Linares+	D0920

14 Silicon 29

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,el	^{29}Si	DA	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924

14 Silicon 30

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,el	^{30}Si	DA	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924
	^{3}He,inel	^{30}Si	DAP	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924

15 Phosphorus 31

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,el	^{31}P	DA	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924

16 Sulphur 32

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,el	^{32}S	DA	3RUMBUC	5.7+06	6.3+06	Jour	JET,15,993	62	H.Hulubei+	D0922
	p,inel	^{32}S	CSP	3RUMBUC	5.7+06	6.3+06	Jour	JET,15,993	62	H.Hulubei+	D0922
	p,inel	^{32}S	DAP	3RUMBUC	5.7+06	6.3+06	Jour	JET,15,993	62	H.Hulubei+	D0922
*	d,p	^{33}S	MLT	3IRNNRT	1.3+06	2.0+06	Jour	APP/B,48,1399	17	O.Kakuee+	D0916
	^{3}He,el	^{32}S	DA	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924
	^{3}He,inel	^{32}S	DAP	4KASKAZ	6.0+07	6.0+07	Jour	IZK,,(6),28	98	K.B.Basybekov+	D0924

19 Potassium 41

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,d	^{43}Ca	DAP	1USAMSU	4.0+07	4.0+07	Jour	NP/A,292,205	77	H.Nann+	C2337

20 Calcium 40

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,p	^{41}Ca	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157
d,p	^{41}Ca	POD	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157

22 Titanium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,el	^{nat}Ti	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148

22 Titanium 48

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,inel	^{48}Ti	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1013	62	Yu.V.Gofman+	D5156
α,el	^{48}Ti	DA	4KASKAZ	5.0+07	5.0+07	Jour	IZK,,(6),50	02	K.A.Kuterbekov+	D0926
α,inel	^{48}Ti	DAP	4KASKAZ	5.0+07	5.0+07	Jour	IZK,,(6),50	02	K.A.Kuterbekov+	D0926

22 Titanium 50

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
α,el	^{50}Ti	DA	4KASKAZ	4.0+07	5.0+07	Jour	IZK,,(6),50	02	K.A.Kuterbekov+	D0926
α,inel	^{50}Ti	DAP	4KASKAZ	4.0+07	5.0+07	Jour	IZK,,(6),50	02	K.A.Kuterbekov+	D0926

24 Chromium 50

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,inel	^{50}Cr	DAP	4UKRIFU	6.9+06	6.9+06	Jour	ZET,44,148	63	V.S.Prokopenko+	D5158
d,el	^{50}Cr	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163
d,p	^{51}Cr	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1129	63	M.V.Pasechnik+	D5160

24 Chromium 52

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,el	^{52}Cr	DA	4UKRIFU	5.4+06	5.4+06	Jour	ZET,38,285	60	A.P.Klyucharev+	D5146
p,inel	^{52}Cr	DAP	4UKRIFU	6.9+06	6.9+06	Jour	ZET,44,148	63	V.S.Prokopenko+	D5158
d,el	^{52}Cr	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163

d,p	^{53}Cr	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1129	63	M.V.Pasechnik+	D5160

24 Chromium 53

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{53}Cr	DA	4UKRIFU	5.4+06	5.4+06	Jour	ZET,38,285	60	A.P.Klyucharev+	D5146
d,el	^{53}Cr	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163
d,p	^{54}Cr	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1129	63	M.V.Pasechnik+	D5160

24 Chromium 54

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{54}Cr	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163
d,inel	^{54}Cr	DAP	4UKRIFU	6.9+06	6.9+06	Jour	ZET,44,148	63	V.S.Prokopenko+	D5158
d,p	^{55}Cr	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1129	63	M.V.Pasechnik+	D5160

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x+p	inclusive	KER	1USALAS	8.6+06	7.3+07	Thes	Newhauser	95	W.D.Newhauser	14510
d,el	^{nat}Fe	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,inel	^{56}Fe	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1013	62	Yu.V.Gofman+	D5156

27 Cobalt 59

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{56}Fe	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
*	^{3}He,x+α	inclusive	CSP	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+α	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+α	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+d	inclusive	CSP	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+d	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+d	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+p	inclusive	CSP	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+p	inclusive	DAE	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911
*	^{3}He,x+p	inclusive	DE	4KASKAZ	5.0+07	5.0+07	Jour	APP/B,49,693	18	T.K.Zholdybayev+	D0911

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{nat}Ni	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{55}Co	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
p,α	^{55}Co	DAP	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
p,el	^{58}Ni	POD	4UKRIFU	6.9+06	6.9+06	Jour	ZET,47,1581	64	V.I.Chirko	D5168
d,el	^{58}Ni	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,657	62	Yu.V.Gofman+	D5155
d,el	^{58}Ni	DA	4UKRKFT	4.2+06	4.2+06	Jour	ZET,44,1184	63	V.Ya.Golovnya+	D5161
d,inel	^{58}Ni	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,653	62	Yu.V.Gofman+	D5154
d,p	^{59}Ni	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157
d,p	^{59}Ni	POD	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{57}Co	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
p,el	^{60}Ni	POD	4UKRIFU	6.9+06	6.9+06	Jour	ZET,47,1581	64	V.I.Chirko	D5168
d,el	^{60}Ni	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,657	62	Yu.V.Gofman+	D5155
d,el	^{60}Ni	DA	4UKRKFT	4.2+06	4.2+06	Jour	ZET,44,1184	63	V.Ya.Golovnya+	D5161
d,inel	^{60}Ni	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,653	62	Yu.V.Gofman+	D5154
d,p	^{61}Ni	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,777	62	M.V.Pasechnik+	D5172
d,p	^{61}Ni	POD	4UKRIFU	1.4+07	1.4+07	Jour	ZET,43,1575	62	M.V.Pasechnik+	D5157

28 Nickel 61

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{58}Co	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{59}Co	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
p,el	^{62}Ni	POD	4UKRIFU	6.9+06	6.9+06	Jour	ZET,47,1581	64	V.I.Chirko	D5168
d,el	^{62}Ni	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,657	62	Yu.V.Gofman+	D5155
d,el	^{62}Ni	DA	4UKRKFT	3.4+06	4.2+06	Jour	ZET,45,1727	63	V.Ya.Golovnya+	D5164
d,el	^{62}Ni	DA	4UKRKFT	4.2+06	4.2+06	Jour	ZET,44,1184	63	V.Ya.Golovnya+	D5161

	d,inel	^{62}Ni	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,653	62	Yu.V.Gofman+	D5154

28 Nickel 64

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{61}Co	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	p,α	^{61}Co	DAP	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	p,el	^{64}Ni	POD	4UKRIFU	6.9+06	6.9+06	Jour	ZET,47,1581	64	V.I.Chirko	D5168
	d,el	^{64}Ni	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,657	62	Yu.V.Gofman+	D5155
	d,el	^{64}Ni	DA	4UKRKFT	3.4+06	4.2+06	Jour	ZET,45,1727	63	V.Ya.Golovnya+	D5164
	d,el	^{64}Ni	DA	4UKRKFT	4.2+06	4.2+06	Jour	ZET,44,1184	63	V.Ya.Golovnya+	D5161
	d,el	^{64}Ni	DA	4UKRIFU	6.8+06	6.8+06	Jour	ZET,41,71	61	A.K.Val'Ter+	D5153
	d,inel	^{64}Ni	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,653	62	Yu.V.Gofman+	D5154
*	^{18}O,^{17}O	^{65}Ni	DAP	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,98,054615	18	R.Linares+	D0920

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{46}Sc	CS	2JPNIRS	1.0+08	2.0+08	Jour	RCA,91,689	03	H.Yashima+	E1829
p,x	^{51}Cr	CS	2JPNIRS	6.3+07	2.0+08	Jour	RCA,91,689	03	H.Yashima+	E1829
p,x	^{57}Co	CS	2JPNIRS	4.8+07	2.0+08	Jour	RCA,91,689	03	H.Yashima+	E1829
p,x	^{61}Cu	CS	2JPNIRS	2.7+07	2.0+08	Jour	RCA,91,689	03	H.Yashima+	E1829
d,el	^{nat}Cu	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169
α,x	^{22}Na	CS	2JPNIRS	4.0+08	8.1+08	Jour	RCA,91,689	03	H.Yashima+	E1829
α,x	^{24}Na	CS	2JPNIRS	4.0+08	8.1+08	Jour	RCA,91,689	03	H.Yashima+	E1829
α,x	^{38}Cl	CS	2JPNIRS	3.0+08	8.1+08	Jour	RCA,91,689	03	H.Yashima+	E1829
^{12}C,x	^{22}Na	CS	2JPNIRS	6.4+08	2.2+09	Jour	RCA,91,689	03	H.Yashima+	E1829
^{12}C,x	^{24}Na	CS	2JPNIRS	6.4+08	2.2+09	Jour	RCA,91,689	03	H.Yashima+	E1829
^{12}C,x	^{38}Cl	CS	2JPNIRS	6.4+08	2.2+09	Jour	RCA,91,689	03	H.Yashima+	E1829
^{20}Ne,x	^{22}Na	CS	2JPNIRS	1.1+09	3.0+09	Jour	RCA,91,689	03	H.Yashima+	E1829
^{20}Ne,x	^{24}Na	CS	2JPNIRS	1.1+09	3.0+09	Jour	RCA,91,689	03	H.Yashima+	E1829
^{20}Ne,x	^{38}Cl	CS	2JPNIRS	1.1+09	3.0+09	Jour	RCA,91,689	03	H.Yashima+	E1829
^{20}Ne,x	^{46}Sc	CS	2JPNIRS	1.1+09	3.0+09	Jour	RCA,91,689	03	H.Yashima+	E1829

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{60}Ni	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
d,p	^{64}Cu	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{62}Ni	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162

d,p	^{66}Cu	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

30 Zinc

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,el	^{nat}Zn	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,α	^{61}Cu	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
d,el	^{64}Zn	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163

30 Zinc 66

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,α	^{63}Cu	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162

30 Zinc 67

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,α	^{64}Cu	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162

30 Zinc 68

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,α	^{65}Cu	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
d,el	^{68}Zn	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163

30 Zinc 70

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
d,el	^{70}Zn	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,44,1765	63	A.K.Val'Ter+	D5163

33 Arsenic 75

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,2n	^{73}As	INT	4RUSMOS		2.6+07	Jour	PR/C,99,024608	19	V.Varlamov+	M0976
*	γ,n	^{74}As	CS	4RUSMOS	1.1+07	2.6+07	Jour	PR/C,99,024608	19	V.Varlamov+	M0976
*	γ,n	^{74}As	INT	4RUSMOS		2.6+07	Jour	PR/C,99,024608	19	V.Varlamov+	M0976
*	γ,x+n	inclusive	CS	4RUSMOS	1.1+07	2.6+07	Jour	PR/C,99,024608	19	V.Varlamov+	M0976
*	γ,x+n	inclusive	INT	4RUSMOS		2.6+07	Jour	PR/C,99,024608	19	V.Varlamov+	M0976
	d,2n	^{75}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,77,717(2)	50	H.H.Hopkinsjr	C2355
	d,2n	^{75}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,73,1406	48	H.H.Hopkinsjr+	C2356
	d,4n	^{73}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,77,717(2)	50	H.H.Hopkinsjr	C2355
	d,4n	^{73}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,73,1406	48	H.H.Hopkinsjr+	C2356
	d,5n	^{72}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,77,717(2)	50	H.H.Hopkinsjr	C2355
	d,5n	^{72}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,73,1406	48	H.H.Hopkinsjr+	C2356
	d,7n	^{70}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,77,717(2)	50	H.H.Hopkinsjr	C2355
	d,7n	^{70}Se	?	1USABRK	1.9+08	1.9+08	Jour	PR,73,1406	48	H.H.Hopkinsjr+	C2356
	d,x	Many	?	1USABRK	1.9+08	1.9+08	Jour	PR,77,717(2)	50	H.H.Hopkinsjr	C2355
	d,x	Many	?	1USABRK	1.9+08	1.9+08	Jour	PR,73,1406	48	H.H.Hopkinsjr+	C2356

34 Selenium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,p		DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

34 Selenium 76

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,2n	^{74}Se	CS	4RUSMOS	2.0+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,2n	^{74}Se	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,n	^{75}Se	CS	4RUSMOS	1.1+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,n	^{75}Se	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,x+n	inclusive	CS	4RUSMOS	1.1+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,x+n	inclusive	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973

34 Selenium 78

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,2n	^{76}Se	CS	4RUSMOS	2.0+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,2n	^{76}Se	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,n	^{77}Se	CS	4RUSMOS	1.0+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,n	^{77}Se	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,x+n	inclusive	CS	4RUSMOS	1.0+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,x+n	inclusive	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
	n,el	^{78}Se	CS	4RUSJIA	3.3+05	3.3+05	Jour	KSF,,(8),15	85	R.M.Musaelyan+	40979

34 Selenium 82

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,2n	^{80}Se	CS	4RUSMOS	2.0+07	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,2n	^{80}Se	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,n	^{81}Se	CS	4RUSMOS	9.1+06	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,n	^{81}Se	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,x+n	inclusive	CS	4RUSMOS	9.1+06	2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973
*	γ,x+n	inclusive	INT	4RUSMOS		2.6+07	Jour	YF,82,16	19	V.V.Varlamov+	M0973

40 Zirconium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{83}Rb	CS	3KORKAE	5.5+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{85}Sr	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{86}Y	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{87}Y	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{88}Y	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{86}Zr	CS	3KORKAE	5.2+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{88}Zr	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{89}Zr	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{95}Zr	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{90}Nb	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{92}Nb	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
*	p,x	^{95}Nb	CS	3KORKAE	3.6+07	6.7+07	Jour	NIM/B,436,179	18	S.C.Yang+	D7024
	d,el	$^{\mathrm{nat}}$Zr	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{90}Zr	DA	4UKRKFT	5.4+06	5.4+06	Jour	ZET,41,32	61	V.Ya.Golovnya+	D5152
d,el	^{90}Zr	DA	4UKRIFU	6.8+06	6.8+06	Jour	ZET,41,71	61	A.K.Val'Ter+	D5153
α,el	^{90}Zr	DA	1USAMIT	3.1+07	3.1+07	Jour	NP/A,117,241	68	E.J.Martens+	C2336
α,inel	^{90}Zr	DAP	1USAMIT	3.1+07	3.1+07	Jour	NP/A,117,241	68	E.J.Martens+	C2336

40 Zirconium 91

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{91}Zr	DA	4UKRKFT	5.4+06	5.4+06	Jour	ZET,41,32	61	V.Ya.Golovnya+	D5152
d,el	^{91}Zr	DA	4UKRIFU	6.8+06	6.8+06	Jour	ZET,41,71	61	A.K.Val'Ter+	D5153

40 Zirconium 92

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{92}Zr	DA	4UKRIFU	6.8+06	6.8+06	Jour	ZET,41,71	61	A.K.Val'Ter+	D5153

40 Zirconium 96

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{96}Zr	DA	4UKRIFU	6.8+06	6.8+06	Jour	ZET,41,71	61	A.K.Val'Ter+	D5153

41 Niobium 93

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{93}Nb	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148
	d,p	^{94}Nb	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

42 Molybdenum 92

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{92}Mo	DA	1USAMIT	3.1+07	3.1+07	Jour	NP/A,117,241	68	E.J.Martens+	C2336
	α,inel	^{92}Mo	DAP	1USAMIT	3.1+07	3.1+07	Jour	NP/A,117,241	68	E.J.Martens+	C2336

45 Rhodium 103

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{3}He,3n	^{103}Ag	CS	3HUNDEB	1.6+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391
*	^{3}He,x	^{101}Rh	CS	3HUNDEB	1.4+07	2.6+07	Jour	EPJ/P,133,9	18	B.M.Ali+	D4391

46 Palladium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{99}Rh	CS	3KORKRM	3.0+07	4.3+07	Jour	NIM/B,429,1	18	T.H.Nguyen+	D7023
*	p,x	^{101}Rh	CS	3KORKRM	8.4+06	4.3+07	Jour	NIM/B,429,1	18	T.H.Nguyen+	D7023
*	p,x	^{102}Rh	CS	3KORKRM	2.1+07	4.3+07	Jour	NIM/B,429,1	18	T.H.Nguyen+	D7023

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{nat}Ag	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169

48 Cadmium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{nat}Cd	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148

48 Cadmium 111

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{112}Cd	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

48 Cadmium 116

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,p	^{117}Cd	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

50 Tin

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
d,el	^{nat}Sn	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169

50 Tin 112

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{109}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162

50 Tin 116

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,α	^{113}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
d,inel	^{116}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,46,1898	64	O.F.Nemets+	D5166
d,p	^{117}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

50 Tin 117

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{114}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	d,p	^{118}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

50 Tin 118

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{115}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	d,inel	^{118}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,46,1898	64	O.F.Nemets+	D5166
	d,p	^{119}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

50 Tin 119

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{116}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	d,p	^{120}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170

50 Tin 120

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{117}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	d,inel	^{120}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,46,1898	64	O.F.Nemets+	D5166
	d,p	^{121}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170
*	^{7}Li,^{6}He	^{121}Sb	DAP	3INDTRM	2.8+07	3.0+07	Jour	PR/C,95,034615	17	A.Kundu+	D6306
*	^{7}Li,^{6}Li	^{121}Sn	DAP	3INDTRM	2.8+07	3.0+07	Jour	PR/C,95,034615	17	A.Kundu+	D6306
*	^{7}Li,el	^{120}Sn	DA	3INDTRM	2.8+07	3.0+07	Jour	PR/C,95,034615	17	A.Kundu+	D6306
*	^{7}Li,inel	^{120}Sn	DAP	3INDTRM	2.8+07	3.0+07	Jour	PR/C,95,034615	17	A.Kundu+	D6306

50 Tin 122

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,inel	^{122}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,46,1898	64	O.F.Nemets+	D5166

50 Tin 124

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

	p,α	^{121}In	DA	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	d,inel	^{124}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,46,1898	64	O.F.Nemets+	D5166
	d,p	^{125}Sn	DAP	4UKRIFU	1.4+07	1.4+07	Jour	ZET,42,1481	62	O.F.Nemets+	D5170
*	^{40}Ca,fis		CS	3AULCBR	1.3+08	1.4+08	Jour	PR/C,98,044603	18	C.S.Palshetkar+	D0921
*	^{40}Ca,fis		DA	3AULCBR	1.3+08	1.4+08	Jour	PR/C,98,044603	18	C.S.Palshetkar+	D0921

56 Barium 136

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{28}Si,fis		CS	3AULCBR	1.1+08	1.3+08	Jour	PR/C,98,044603	18	C.S.Palshetkar+	D0921
*	^{28}Si,fis		DA	3AULCBR	1.1+08	1.3+08	Jour	PR/C,98,044603	18	C.S.Palshetkar+	D0921

60 Neodymium 142

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{48}Ti,fus		CS	3INDNSD	1.4+08	2.0+08	Jour	PR/C,96,034613	17	Priyasharma+	D6320

60 Neodymium 150

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,d	^{151}Pm	DAP	1CANMCM	2.4+07	2.4+07	Jour	NP/A,193,271	72	D.G.Burke+	C2333
	α,t	^{151}Pm	DAP	1CANMCM	2.5+07	2.5+07	Jour	NP/A,193,271	72	D.G.Burke+	C2333
*	^{48}Ti,fus		CS	3INDNSD	1.4+08	2.0+08	Jour	PR/C,96,034613	17	Priyasharma+	D6320

62 Samarium 144

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{48}Ti,fus		CS	3INDNSD	1.4+08	2.0+08	Jour	PR/C,96,034613	17	Priyasharma+	D6320

62 Samarium 148

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{16}O,fis		CS	3AULCBR	7.4+07	9.9+07	Jour	PR/C,98,044603	18	C.S.Palshetkar+	D0921
*	^{16}O,fis		DA	3AULCBR	7.4+07	9.9+07	Jour	PR/C,98,044603	18	C.S.Palshetkar+	D0921

62 Samarium 152

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	t,α	^{151}Pm	DAP	1USALAS	1.5+07	1.5+07	Jour	NP/A,193,271	72	D.G.Burke+	C2333

64 Gadolinium 160

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,2n	^{158}Gd	CS	4RUSMOS	1.4+07	3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,2n	^{158}Gd	CS	4RUSMOS	1.9+07	2.6+07	Jour	PR/C,99,024608	19	V.Varlamov+	M0976
*	γ,2n	^{158}Gd	INT	4RUSMOS		3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,3n	^{157}Gd	CS	4RUSMOS	2.2+07	3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,3n	^{157}Gd	INT	4RUSMOS		3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,n	^{159}Gd	CS	4RUSMOS	7.9+06	3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,n	^{159}Gd	INT	4RUSMOS		3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,x+n	inclusive	CS	4RUSMOS	7.9+06	3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975
*	γ,x+n	inclusive	INT	4RUSMOS		3.0+07	Jour	MPM,1,1910202	19	V.V.Varlamov+	M0975

65 Terbium 159

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{13}C,3n	^{169}Lu	CS	3INDNSD	5.2+07	8.3+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,4n	^{168}Lu	CS	3INDNSD	5.2+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,5n	^{167}Lu	CS	3INDNSD	5.9+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{160}Ho	CS	3INDNSD	7.8+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{161}Ho	CS	3INDNSD	6.8+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{162}Ho	CS	3INDNSD	7.2+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{163}Tm	CS	3INDNSD	7.8+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{165}Tm	CS	3INDNSD	5.7+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{166}Tm	CS	3INDNSD	5.3+07	8.5+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323
*	^{13}C,x	^{167}Yb	CS	3INDNSD	6.3+07	8.8+07	Jour	PR/C,96,044614	17	Abhishekyadav+	D6323

69 Thulium 169

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{14}N,4n	^{179}Os	CS	3INDNSD	6.5+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325
*	^{14}N,x	^{174}W	CS	3INDNSD	7.4+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325
*	^{14}N,x	^{175}W	CS	3INDNSD	7.0+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325
*	^{14}N,x	^{176}W	CS	3INDNSD	6.5+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325
*	^{14}N,x	^{177}W	CS	3INDNSD	6.8+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325
*	^{14}N,x	^{178}Re	CS	3INDNSD	7.2+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325
*	^{14}N,x	^{179}Re	CS	3INDNSD	6.6+07	8.2+07	Jour	PR/C,96,054614	17	R.Kumar+	D6325

70 Ytterbium 176

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	^{28}Si,4n	^{200}Po	CS	3INDNSD	1.4+08	1.5+08	Jour	PR/C,95,024604	17	K.Sudarshan+	D6317
*	^{28}Si,5n	^{199}Po	CS	3INDNSD	1.4+08	1.5+08	Jour	PR/C,95,024604	17	K.Sudarshan+	D6317
*	^{28}Si,6n	^{198}Po	CS	3INDNSD	1.4+08	1.5+08	Jour	PR/C,95,024604	17	K.Sudarshan+	D6317
*	^{28}Si,fus		CS	3INDNSD	1.3+08	1.7+08	Jour	PR/C,95,024604	17	K.Sudarshan+	D6317
*	^{28}Si,x	^{199}Bi	CS	3INDNSD	1.4+08	1.4+08	Jour	PR/C,95,024604	17	K.Sudarshan+	D6317
*	^{28}Si,x	^{200}Bi	CS	3INDNSD	1.4+08	1.5+08	Jour	PR/C,95,024604	17	K.Sudarshan+	D6317

71 Lutetium 175

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	^{12}C,3n	^{184}Ir	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,4n	^{183}Ir	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,5n	^{182}Ir	CS	3INDNSD	6.6+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{176}Ta	CS	3INDNSD	7.0+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{177}Ta	CS	3INDNSD	6.6+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{178}Ta	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{178}Re	CS	3INDNSD	6.6+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{179}Re	CS	3INDNSD	6.6+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{181}Re	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{183}Re	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{181}Os	CS	3INDNSD	7.7+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{182}Os	CS	3INDNSD	6.6+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{12}C,x	^{183}Os	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,3n	^{185}Ir	CS	3INDNSD	5.8+07	8.4+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,4n	^{184}Ir	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,5n	^{183}Ir	CS	3INDNSD	6.3+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,6n	^{182}Ir	CS	3INDNSD	7.1+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{176}Ta	CS	3INDNSD	7.1+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{177}Ta	CS	3INDNSD	6.7+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{178}Ta	CS	3INDNSD	6.3+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{179}Re	CS	3INDNSD	7.1+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{181}Re	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{183}Re	CS	3INDNSD	5.8+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{182}Os	CS	3INDNSD	7.6+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303
*	^{13}C,x	^{183}Os	CS	3INDNSD	6.3+07	8.7+07	Jour	NP/A,960,53	17	Harishkumar+	D6303

74 Tungsten 182

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	n,ths	^{182}W	AMP	4ZZZDUB	3.4-02	3.4-02	Jour	SNP,10,189	70	Yu.A.Aleksandrov+	41659

74 Tungsten 183

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,ths	^{183}W	AMP	4ZZZDUB	3.4-02	3.4-02	Jour	SNP,10,189	70	Yu.A.Aleksandrov+	41659

74 Tungsten 184

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,ths	^{184}W	AMP	4ZZZDUB	3.4-02	3.4-02	Jour	SNP,10,189	70	Yu.A.Aleksandrov+	41659

74 Tungsten 186

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,ths	^{186}W	AMP	4ZZZDUB	3.4-02	3.4-02	Jour	SNP,10,189	70	Yu.A.Aleksandrov+	41659
	n,ths	^{186}W	TSL	4ZZZDUB	6.2-02	6.2-02	Jour	SNP,10,189	70	Yu.A.Aleksandrov+	41659

78 Platinum

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α		DAP	4UKRKFT	2.0+07	2.0+07	Jour	ZET,44,1753	63	A.P.Klyucharev+	D5162
	d,el	^{nat}Pt	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169

78 Platinum 194

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{16}O,fis	^{4}He	FY	3INDNSD	9.8+07	9.8+07	Jour	PR/C,96,054605	17	K.Kapoor+	D6324

79 Gold 197

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{197}Au	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169

81 Thallium 205

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,6n	^{202}Bi	CS	4KASKAZ	4.4+07	5.7+07	Jour	IZK,,(2),28	93	A.I.Kozin+	D0928
	^{3}He,7n	^{201}Bi	CS	4KASKAZ	5.1+07	5.7+07	Jour	IZK,,(2),28	93	A.I.Kozin+	D0928

	^{3}He,8n	^{200}Bi	CS	4KASKAZ	5.9+07	5.9+07	Jour	IZK,,(2),28	93	A.I.Kozin+	D0928
	^{3}He,x	^{201}Tl	TT	4KASKAZ	3.0+07	6.0+07	Jour	IZK,,(2),28	93	A.I.Kozin+	D0928

82 Lead

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis		DA	4RUSLIN	4.5+07	2.1+08	Jour	JEL,107,521	18	A.S.Vorobyev+	41658
	d,el	^{nat}Pb	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,39,1489	60	Yu.V.Gofman+	D5169
*	^{17}Ne,2p+X	^{14}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,2p+X	^{15}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,2p+X	^{15}O	?	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,p+X	^{14}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,p+X	^{15}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,x	^{14}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919
*	^{17}Ne,x	^{15}O	CS	2GERGSI	8.5+09	8.5+09	Jour	PR/C,97,034612	18	F.Wamers+	D0919

82 Lead 206

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,fis		CS	3INDVEC			Jour	PR/C,96,064609	17	A.Sen+	D6315
*	α,fis	Many	FY	3INDVEC			Jour	PR/C,96,064609	17	A.Sen+	D6315

83 Bismuth 209

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{209}Bi	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148
*	α,fis	Many	FY	3INDVEC			Jour	PR/C,96,064609	17	A.Sen+	D6315

90 Thorium 232

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,fis	Many	FY	4KASKAZ	4.5+07	4.5+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930
	α,fis	Many	KE	4KASKAZ	4.5+07	4.5+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930

92 Uranium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,el	^{nat}U	DA	4UKRIFU	1.4+07	1.4+07	Jour	ZET,40,477	61	Yu.V.Gofman+	D5148

92 Uranium 233

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,fis	Many	FY	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930
	p,fis	Many	KE	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930

92 Uranium 235

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,fis	Many	FY	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930
	p,fis	Many	KE	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930

92 Uranium 236

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,fis	Many	FY	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930
	p,fis	Many	KE	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930

92 Uranium 238

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,fis	Many	FY	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930
	p,fis	Many	KE	4KASKAZ	1.8+07	3.0+07	Jour	IZK,,(6),40	86	M.G.Itkis+	D0930

94 Plutonium 239

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,fis		CS	4ZZZDUB	1.0+02	3.0+04	Jour	SJA,30,446	71	M.A.Kurov+	40025
*	n,fis		DA	4RUSLIN	5.2+05	3.2+08	Jour	JEL,107,521	18	A.S.Vorobyev+	41658
*	n,fis		KE	4RUSLIN	2.5-02	2.5-02	Jour	JET,127,659	18	A.S.Vorobyev+	41661
*	n,fis		NUD	4RUSLIN	2.5-02	2.5-02	Jour	JET,127,659	18	A.S.Vorobyev+	41661
*	n,fis		NUF	4RUSLIN	2.5-02	2.5-02	Jour	JET,127,659	18	A.S.Vorobyev+	41661

98 Californium 252

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,fis		NUD	4RUSLIN	Spont		Jour	JET,125,619	17	A.S.Vorobyev+	41618
	0,fis		NUF	4RUSRI	Spont		Conf	73KIEV,4,138	73	M.V.Blinov+	40418
	0,fis	n	KE	4RUSRI	Spont		Conf	73KIEV,4,138	73	M.V.Blinov+	40418