

EXFOR News (March 2023)

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](#), [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 the NRDC Coordinator (n.otsuka@iaea.org) for inclusion in the EXFOR News distribution list as well as any question on EXFOR.

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

Quantity codes

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

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	sct	Scattering	tot	Total
el	Elastic	inel	Inelastic	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

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{40}\text{Ar,tcc}$		CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar,x}$	^{40}K	CS	2JPNIRS	4.2+08	5.0+08	Jour	CHP,77,1145	22	S.-H.Zheng+	E2737

1 Hydrogen 2

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,π^0+n	^1H	POD	4RUSSIB	3.0+08	6.0+08	Jour	PR/C,106,024003	22	B.I.Vasilishin+	M1040

1 Hydrogen

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{40}\text{Ar,tcc}$		CS	2JPNIRS	1.6+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar,x}$	Many	CS	2JPNIRS	1.6+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar,x}$	^{40}K	CS	2JPNIRS	4.1+08	5.0+08	Jour	CHP,77,1145	22	S.-H.Zheng+	E2737

2 Helium 4

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{12}\text{C},\gamma$	^{16}O	?	2JPNKYU	1.2+06	2.4+06	Jour	JRN,305,903	15	K.Sagara+	E2727

3 Lithium 6

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* d,p	^7Li	CSP	4RUSEPA	4.5+06	1.0+07	Jour	BAS,86,937	22	L.N.Generalov+	F1476
* d,p	^7Li	DAP	4RUSEPA	4.5+06	9.5+06	Jour	BAS,86,937	22	L.N.Generalov+	F1476
* $d,x+t$	inclusive	CS	4RUSEPA	2.3+06	1.2+07	Jour	BAS,85,574	21	L.N.Generalov+	F1475

3 Lithium 7

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,α	^4He	CS	4RUSSIB	6.0+05	2.0+06	Jour	NIM/B,525,55	22	S.Taskaev+	F1465
* p,α	^4He	DA	4RUSSIB	6.0+05	2.0+06	Jour	NIM/B,525,55	22	S.Taskaev+	F1465

4 Beryllium 9

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α, n	^{12}C	DE	1USACLA	5.2+06	5.2+06	Jour	NIM,60,253	68	R.L.Lehman	C2761
α, n	^{12}C	DE	1USAUSA	5.2+06	5.2+06	Jour	NIM,99,231	72	M.E.Anderson+	C2762
α, n	^{12}C	DE	1USACLA	5.4+06	5.4+06	Jour	NIM,60,253	68	R.L.Lehman	C2761
α, n	^{12}C	DE	1USAUSA	5.4+06	5.4+06	Rept	MLM-1874	72	M.E.Anderson	C2763
* $^{78}\text{Kr}, x$	Many	?	2JPNIPC	2.7+10	2.7+10	Jour	PR/C,104,064610	21	A.Kubiela+	E2730

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, ^6\text{Li}$	^8Be	DAP	1USAANL	4.6+07	4.6+07	Jour	PR/C,2,1612	70	B.Zeidman+	C2738
$\alpha, ^7\text{Li}$	^7Be	DAP	1USAANL	4.5+07	4.5+07	Jour	PL/B,30,175	69	H.T.Fortune+	C2737

6 Carbon 11

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{40}\text{Ar}, tcc$		CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar}, x$	Many	CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar}, x$	^{40}K	CS	2JPNIRS	4.3+08	5.0+08	Jour	CHP,77,1145	22	S.-H.Zheng+	E2737

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{42}\text{Ca}, tcc$		CS	2JPNIPC	1.2+10	1.2+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{43}\text{Ca}, tcc$		CS	2JPNIPC	1.2+10	1.2+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{44}\text{Ca}, tcc$		CS	2JPNIPC	1.2+10	1.2+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{45}\text{Ca}, tcc$		CS	2JPNIPC	1.4+10	1.4+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{46}\text{Ca}, tcc$		CS	2JPNIPC	1.3+10	1.3+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{47}\text{Ca}, tcc$		CS	2JPNIPC	1.3+10	1.3+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{48}\text{Ca}, tcc$		CS	2JPNIPC	1.4+10	1.4+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{49}\text{Ca}, tcc$		CS	2JPNIPC	1.4+10	1.4+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{50}\text{Ca}, tcc$		CS	2JPNIPC	1.4+10	1.4+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733
* $^{51}\text{Ca}, tcc$		CS	2JPNIPC	1.4+10	1.4+10	Jour	PR/C,106,014617	22	M.Tanaka+	E2733

6 Carbon 13

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α, n	^{16}O	DAP	1CANCRC	6.2+06	8.7+06	Jour	NP/A,273,464	76	A.B.Mcdonald+	C2730

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,α		RP	1USATEX			Jour	PR,169,842	68	P.N.Shrivastava+	C0179
p,α	^{11}C	DAP	1USATEX	6.0+06	9.0+06	Jour	PR,169,842	68	P.N.Shrivastava+	C0179
$p,^3\text{He}$	^{12}C	CSP	1USATEX	8.2+06	1.0+07	Jour	PR,169,842	68	P.N.Shrivastava+	C0179
p,inel	^{14}N	DAP	1USATEX	6.1+06	9.0+06	Jour	PR,169,842	68	P.N.Shrivastava+	C0179

8 Oxygen

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* t,x	^{18}F	TT	4RUSEPA	1.5+05	1.0+07	Jour	BAS,85,574	21	L.N.Generalov+	F1475

8 Oxygen 17

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* d,x	^{18}F	TT	4RUSEPA	2.2+06	1.1+07	Jour	BAS,85,574	21	L.N.Generalov+	F1475

9 Fluorine 19

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^6\text{Li},d$	^{23}Na	DAP	1USAPEN	1.6+07	1.6+07	Jour	PR/C,18,255	78	H.T.Fortune+	C0107

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,x+t$	inclusive	CS	4RUSITE	4.6+07	2.6+09	Jour	PAN,84,1697	21	Yu.E.Titareenko+	F1477
* $^{40}\text{Ar},\text{tcc}$		CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar},x$	Many	CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar},x$	^{40}K	CS	2JPNIRS	4.4+08	5.0+08	Jour	CHP,77,1145	22	S.-H.Zheng+	E2737

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,γ		RP	1CANTOR	3.7+05	2.9+06	Jour	NP/A,510,346	90	S.Graff+	C2709
p,γ	^{29}P	CSP	1CANTOR	6.0+05	2.9+06	Jour	NP/A,510,346	90	S.Graff+	C2709
p,γ	^{29}P	DAP	1CANTOR	1.1+06	2.1+06	Jour	NP/A,510,346	90	S.Graff+	C2709
p,tot		RP	1CANTOR	1.7+06	2.9+06	Jour	NP/A,510,346	90	S.Graff+	C2709
$\alpha,2\alpha$	^{24}Mg	DAA	1USATAM	1.3+08	1.3+08	Jour	PR/C,41,1417	90	Y.Toba+	C0097

$\alpha, 2\alpha$	^{24}Mg	?	IUSATAM	1.3+08	1.3+08	Jour	PR/C,41,1417	90	Y.Toba+	C0097
$\alpha, p+\alpha$	^{27}Al	?	IUSATAM	1.3+08	1.3+08	Jour	PR/C,41,1417	90	Y.Toba+	C0097

17 Chlorine 37

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α, d	^{39}Ar	DAP	IUSAANL	2.7+07	2.7+07	Jour	PR/C,16,2065	77	J.F.Tonn+	C2744

20 Calcium 42

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p, γ	^{43}Sc	CS	ICANMCM	6.6+05	5.4+06	Jour	JP/G,5,1261	79	C.W.Cheng+	C2722
α, n	^{45}Ti	CS	ICANMCM	5.2+06	1.1+07	Jour	JP/G,5,1261	79	C.W.Cheng+	C2722

20 Calcium 44

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p, n	^{44}Sc	CS	ICANMCM	4.5+06	7.6+06	Jour	JP/G,5,1261	79	C.W.Cheng+	C2722

20 Calcium 46

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α, d	^{48}Sc	DAP	IUSAANL	2.5+07	2.5+07	Jour	PR/C,5,814	72	A.Richter+	C2741

21 Scandium 45

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α, d	^{47}Ti	DAP	IUSAANL	2.5+07	2.5+07	Jour	PR/C,13,1874	76	G.Hardie+	C2743

23 Vanadium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α, x	^{46}Sc	CS	2JPNIPC	4.4+07	5.0+07	Jour	ARI,184,110204	22	D.Gantumur+	E2728
*	α, x	^{47}Sc	CS	2JPNIPC	2.6+07	5.0+07	Jour	ARI,184,110204	22	D.Gantumur+	E2728
*	α, x	^{48}V	CS	2JPNIPC	4.4+07	5.0+07	Jour	ARI,184,110204	22	D.Gantumur+	E2728
*	α, x	^{51}Cr	CS	2JPNIPC	3.0+07	5.0+07	Jour	ARI,184,110204	22	D.Gantumur+	E2728
*	α, x	^{52}Mn	CS	2JPNIPC	1.5+07	5.0+07	Jour	ARI,184,110204	22	D.Gantumur+	E2728
*	α, x	^{54}Mn	CS	2JPNIPC	6.5+06	5.0+07	Jour	ARI,184,110204	22	D.Gantumur+	E2728

24 Chromium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* d,x	^{48}V	CS	2JPNIPC	6.2+06	2.3+07	Jour	NIM/B,530,23	22	H.Huang+	E2735
* d,x	^{51}Cr	CS	2JPNIPC	2.6+06	2.3+07	Jour	NIM/B,530,23	22	H.Huang+	E2735
* d,x	^{52}Mn	CS	2JPNIPC	8.7+06	2.3+07	Jour	NIM/B,530,23	22	H.Huang+	E2735
* d,x	^{54}Mn	CS	2JPNIPC	2.6+06	1.1+07	Jour	NIM/B,530,23	22	H.Huang+	E2735

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* p,x	Many	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,527,17	22	H.Takeshita+	E2731
* $p,x+t$	inclusive	CS	4RUSITE	4.6+07	2.6+09	Jour	PAN,84,1697	21	Yu.E.Titarenko+	F1477

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^{40}\text{Ar,tcc}$		CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar,x}$	Many	CS	2JPNIRS	1.7+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
* $^{40}\text{Ar,x}$	^{40}K	CS	2JPNIRS	4.3+08	5.0+08	Jour	CHP,77,1145	22	S.-H.Zheng+	E2737

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
d,inel	^{63}Cu	DAP	1USAANL	1.4+07	1.4+07	Jour	PR/C,2,1733	70	J.C.Legg+	C2739
$^3\text{He},\text{inel}$	^{63}Cu	DAP	1USAANL	2.1+07	2.1+07	Jour	PR/C,2,1733	70	J.C.Legg+	C2739
α,inel	^{63}Cu	DAP	1USAANL	2.1+07	2.1+07	Jour	PR/C,2,1733	70	J.C.Legg+	C2739

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
d,inel	^{65}Cu	DAP	1USAANL	1.4+07	1.4+07	Jour	PR/C,2,1733	70	J.C.Legg+	C2739

30 Zinc 67

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,inel	^{67}Zn	DAP	1USAANL	2.1+07	2.1+07	Jour	PR/C,2,1733	70	J.C.Legg+	C2739

40 Zirconium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>p,x</i>	Many	CS	2JPNJAE	4.0+08	3.0+09	Jour	NIM/B,527,17	22	H.Takeshita+	E2731

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,incl</i>	⁹⁰ Zr	DAP	1USAPTN	2.4+07	2.4+07	Jour	NP/A,232,22	74	F.E.Cecil+	C2721

42 Molybdenum 95

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,tot</i>		CS	1USARPI	1.0+03	1.0+05	Jour	PR/C,92,024601	15	R.Bahran+	14421

42 Molybdenum 96

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,0</i>		RP	1USARPI			Conf	2017QUEBEC.,426	17	J.M.Brown+	14783
* <i>n,tot</i>		CS	1USARPI	7.5+01	2.5+05	Conf	2017QUEBEC.,426	17	J.M.Brown+	14783

42 Molybdenum 97

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
³ He, <i>d</i>	⁹⁸ Tc	DAP	1CANMCM	2.4+07	2.4+07	Jour	PR/C,13,1117	76	D.J.Martin+	C2735

42 Molybdenum 98

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* <i>n,tot</i>		CS	1USARPI	1.0+01	5.3+04	Jour	ANE,122,23	18	K.E.Remley+	14676

42 Molybdenum 100

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

*	<i>n,tot</i>	CS	IUSARPI	1.0+01	2.6+04	Jour	ANE,122,23	18	K.E.Remley+	14676
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43 Technetium 99

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,0</i>		RP	4RUSKUR	2.0+01	4.9+02	Prog	INDC(CCP)-49/L,14	75	Yu.V.Adamchuk+	40245

45 Rhodium 103

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,x</i>	¹⁰¹ Rh	CS	IUSADAV	1.6+07	6.8+07	Jour	ARI,35,743	84	M.C.Lagunas-Solar+	C0188

50 Tin

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	⁷ Li,x	¹¹⁶ Sb	CS	2JPNJAE	3.1+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹¹⁷ Sb	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹¹⁸ Sb	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²⁰ Sb	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²² Sb	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹¹⁶ Te	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹¹⁷ Te	CS	2JPNJAE	3.8+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹¹⁹ Te	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²¹ Te	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²³ Te	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹¹⁹ I	CS	2JPNJAE	3.1+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²⁰ I	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²¹ I	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²³ I	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²⁴ I	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662
*	⁷ Li,x	¹²⁶ I	CS	2JPNJAE	2.4+07	5.9+07	Jour	JRN,314,1947	17	I.Nishinaka+	E2662

56 Barium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α,x	¹³¹ Ba	CS	4RUSKUR	3.8+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹³³ Ba	CS	4RUSKUR	4.1+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹³⁵ Ba	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹³⁵ La	CS	4RUSKUR	4.4+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹³⁵ La	TT	4RUSKUR	4.4+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹⁴⁰ La	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹⁴⁰ La	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹³² Ce	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α,x	¹³² Ce	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473

*	α, X	^{133}Ce	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{133}Ce	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{134}Ce	CS	4RUSKUR	3.8+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{135}Ce	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{135}Ce	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{137}Ce	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{137}Ce	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{139}Ce	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, X	^{139}Ce	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473

56 Barium 136

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\alpha, 3n$	^{137}Ce	CS	1USAANL	2.7+07	4.4+07	Jour	PR/C,2,595	70	D.M.Montgomery+	C2740

56 Barium 137

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He}, 3n$	^{137}Ce	CS	1USAANL	1.4+07	3.3+07	Jour	PR/C,2,595	70	D.M.Montgomery+	C2740

56 Barium 138

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α, n	^{141}Ce	CS	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473
*	α, n	^{141}Ce	TT	4RUSKUR	2.2+07	5.9+07	Jour	NIM/B,535,47	23	I.A.Khomenko+	F1473

57 Lanthanum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α, X	^{139}Ce	CS	2JPNIPC	3.2+07	5.0+07	Jour	NIM/B,530,18	22	S.Ebata+	E2734
*	α, X	^{141}Ce	CS	2JPNIPC	3.5+06	5.0+07	Jour	NIM/B,530,18	22	S.Ebata+	E2734
*	α, X	^{138}Pr	CS	2JPNIPC	4.1+07	5.0+07	Jour	NIM/B,530,18	22	S.Ebata+	E2734
*	α, X	^{139}Pr	CS	2JPNIPC	3.6+07	5.0+07	Jour	NIM/B,530,18	22	S.Ebata+	E2734
*	α, X	^{142}Pr	CS	2JPNIPC	1.3+07	5.0+07	Jour	NIM/B,530,18	22	S.Ebata+	E2734

59 Praesodymium 141

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α, n	^{144}Pm	CSP	1CANMCM	1.6+07	1.6+07	Jour	NP/A,237,285	75	M.R.Macphail+	C2733

60 Neodymium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* α, x	^{145}Sm	CS	2JPNIPC	1.6+07	2.3+07	Jour	ARI,187,110345	22	M.Aikawa+	E2729
* α, x	^{153}Sm	CS	2JPNIPC	1.3+07	2.3+07	Jour	ARI,187,110345	22	M.Aikawa+	E2729

60 Neodymium 143

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He}, d$	^{144}Pm	DAP	1CANMCM	2.7+07	2.7+07	Jour	NP/A,237,285	75	M.R.Macphail+	C2733
α, t	^{144}Pm	DAP	1CANMCM	2.7+07	2.7+07	Jour	NP/A,237,285	75	M.R.Macphail+	C2733

60 Neodymium 144

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p, n	^{144}Pm	CSP	1CANMCM	1.0+07	1.0+07	Jour	NP/A,237,285	75	M.R.Macphail+	C2733

60 Neodymium 148

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He}, d$	^{149}Pm	DAP	1CANMCM	2.4+07	2.4+07	Jour	NP/A,266,390	76	O.Straume+	C2734

62 Samarium 150

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He}, d$	^{151}Eu	DAP	1CANMCM	2.4+07	2.4+07	Jour	NP/A,266,390	76	O.Straume+	C2734
α, t	^{151}Eu	DAP	1CANMCM	2.7+07	2.7+07	Jour	NP/A,266,390	76	O.Straume+	C2734

64 Gadolinium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* d, x	^{153}Gd	CS	2JPNIPC	1.2+07	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{159}Gd	CS	2JPNIPC	3.3+06	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{153}Tb	CS	2JPNIPC	1.6+07	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{154}Tb	CS	2JPNIPC	8.4+06	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{155}Tb	CS	2JPNIPC	6.2+06	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{156}Tb	CS	2JPNIPC	8.4+06	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{160}Tb	CS	2JPNIPC	6.2+06	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739
* d, x	^{161}Tb	CS	2JPNIPC	6.2+06	2.3+07	Jour	NIM/B,536,30	23	D.Ichinkhorloo+	E2739

*	α, X	^{159}Gd	CS	4RUSKUR	2.0+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{153}Tb	CS	4RUSKUR	2.3+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{154}Tb	CS	4RUSKUR	3.0+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{155}Tb	CS	4RUSKUR	2.0+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{155}Tb	TT	4RUSKUR	5.0+07	6.0+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{156}Tb	CS	4RUSKUR	2.3+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{155}Dy	CS	4RUSKUR	2.0+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472
*	α, X	^{157}Dy	CS	4RUSKUR	2.0+07	5.9+07	Jour	NMB,106-107,52	22	A.N.Moiseeva+	F1472

64 Gadolinium 152

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He}, d$	^{153}Tb	DAP	1CANMCM	2.4+07	2.4+07	Jour	NP/A,266,390	76	O.Straume+	C2734
α, t	^{153}Tb	DAP	1CANMCM	2.7+07	2.7+07	Jour	NP/A,266,390	76	O.Straume+	C2734

66 Dysprosium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	α, X	^{157}Dy	CS	4RUSKUR	2.0+07	5.3+07	Jour	NIM/B,522,21	22	E.S.Kormazeva+	F1467
*	α, X	^{162}Ho	CS	4RUSKUR	3.5+07	5.3+07	Jour	NIM/B,522,21	22	E.S.Kormazeva+	F1467
*	α, X	^{160}Er	CS	4RUSKUR	2.5+07	5.3+07	Jour	NIM/B,522,21	22	E.S.Kormazeva+	F1467
*	α, X	^{160}Er	TT	4RUSKUR	2.5+07	5.3+07	Jour	NIM/B,522,21	22	E.S.Kormazeva+	F1467
*	α, X	^{161}Er	CS	4RUSKUR	2.0+07	5.3+07	Jour	NIM/B,522,21	22	E.S.Kormazeva+	F1467
*	α, X	^{161}Er	TT	4RUSKUR	2.5+07	5.3+07	Jour	NIM/B,522,21	22	E.S.Kormazeva+	F1467

67 Holmium 165

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
$^3\text{He}, d$	^{166}Er	DAP	1USAANL	3.6+07	3.6+07	Jour	PR/C,9,360	74	K.Katori+	C2742	
*	$\alpha, 2n$	^{167}Tm	CS	4RUSKUR	2.7+07	5.9+07	Jour	JRN,331,4259	22	E.S.Kormazeva+	F1469
*	$\alpha, 2n$	^{167}Tm	TT	4RUSKUR	2.5+07	3.5+07	Jour	JRN,331,4259	22	E.S.Kormazeva+	F1469
*	$\alpha, 3n$	^{166}Tm	CS	4RUSKUR	3.1+07	5.9+07	Jour	JRN,331,4259	22	E.S.Kormazeva+	F1469
*	$\alpha, 4n$	^{165}Tm	CS	4RUSKUR	3.4+07	5.9+07	Jour	JRN,331,4259	22	E.S.Kormazeva+	F1469
*	$\alpha, 6n$	^{163}Tm	CS	4RUSKUR	5.6+07	5.9+07	Jour	JRN,331,4259	22	E.S.Kormazeva+	F1469
*	α, n	^{168}Tm	CS	4RUSKUR	2.7+07	5.9+07	Jour	JRN,331,4259	22	E.S.Kormazeva+	F1469
	α, t	^{166}Er	DAP	1USAANL	4.6+07	4.6+07	Jour	PR/C,9,360	74	K.Katori+	C2742

68 Erbium 167

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He}, d$	^{168}Tm	DAP	1CANMCM	2.4+07	2.4+07	Jour	NP/A,201,486	73	Z.Preibisz+	C2732
α, t	^{168}Tm	DAP	1CANMCM	2.5+07	2.5+07	Jour	NP/A,201,486	73	Z.Preibisz+	C2732

69 Thulium 169

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
d,t	^{168}Tm	DAP	ICANMCM	1.2+07	1.2+07	Jour	NP/A,201,486	73	Z.Preibisz+	C2732
$^3\text{He},\alpha$	^{168}Tm	DAP	ICANMCM	2.4+07	2.4+07	Jour	NP/A,201,486	73	Z.Preibisz+	C2732

72 Hafnium 179

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,p	^{178}Lu	CS	4RUSRUS		2.0+07	Jour	BAS,86,1083	22	V.A.Zheltonozhsky+	M1039

72 Hafnium 180

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* γ,p	^{179}Lu	CS	4RUSRUS		2.0+07	Jour	BAS,86,1083	22	V.A.Zheltonozhsky+	M1039

74 Tungsten

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $p,x+t$	inclusive	CS	4RUSITE	4.6+07	2.6+09	Jour	PAN,84,1697	21	Yu.E.Titarenko+	F1477

74 Tungsten 186

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
* $^3\text{He},2p$	^{187}W	CS	4RUSKUR	1.3+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},4n$	^{185}Os	CS	4RUSKUR	1.9+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},6n$	^{183}Os	CS	4RUSKUR	3.8+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},p$	^{188}Re	CS	4RUSKUR	1.3+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},x$	^{183}Re	CS	4RUSKUR	3.8+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},x$	^{184}Re	CS	4RUSKUR	3.1+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},x$	^{186}Re	CS	4RUSKUR	1.3+07	4.4+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* $^3\text{He},x$	^{186}Re	TT	4RUSKUR	1.5+07	4.5+07	Jour	ARI,170,109609	21	A.N.Moiseeva+	F1470
* α,p	^{189}Re	CS	4RUSKUR	2.4+07	6.2+07	Jour	AE/T,130,36	21	R.A.Aliev+	F1474
* α,x	^{186}Re	CS	4RUSKUR	3.5+07	6.2+07	Jour	AE/T,130,36	21	R.A.Aliev+	F1474
* α,x	^{188}Re	CS	4RUSKUR	2.4+07	6.2+07	Jour	AE/T,130,36	21	R.A.Aliev+	F1474

76 Osmium 188

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

α ,inel	¹⁸⁸ Os	DAP	ICANMCM	2.4+07	2.4+07	Jour	PL/B,78,48	78	D.G.Burke+	C2736
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76 Osmium 190

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α ,inel	¹⁹⁰ Os	DAP	ICANMCM	2.4+07	2.4+07	Jour	PL/B,78,48	78	D.G.Burke+	C2736

76 Osmium 192

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α ,inel	¹⁹² Os	DAP	ICANMCM	2.4+07	2.4+07	Jour	PL/B,78,48	78	D.G.Burke+	C2736

78 Platinum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #	
				Min	Max						
*	<i>p,x</i>	¹⁹⁰ Ir	CS	2JPNIPC	2.2+07	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹² Ir	CS	2JPNIPC	1.3+07	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹¹ Pt	CS	2JPNIPC	1.4+07	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹¹ Au	CS	2JPNIPC	1.4+07	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹² Au	CS	2JPNIPC	1.9+07	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹³ Au	CS	2JPNIPC	1.2+07	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹⁴ Au	CS	2JPNIPC	6.9+06	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹⁵ Au	CS	2JPNIPC	6.9+06	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹⁶ Au	CS	2JPNIPC	4.8+06	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738
*	<i>p,x</i>	¹⁹⁸ Au	CS	2JPNIPC	4.8+06	3.0+07	Jour	ARI,192,110621	23	D.Gantumur+	E2738

82 Lead

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
*	⁴⁰ Ar,tcc	CS	2JPNIRS	1.8+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
*	⁴⁰ Ar,x	Many	2JPNIRS	1.8+10	2.0+10	Jour	NP/A,1025,122493	22	S.-H.Zheng+	E2736
*	⁴⁰ Ar,x	⁴⁰ K	2JPNIRS	4.4+08	5.0+08	Jour	CHP,77,1145	22	S.-H.Zheng+	E2737

82 Lead 208

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,tot</i>		CS	4RUSKUR	1.5+06	2.0+06	Rept	INDC(CCP)-169,(1),200	83	V.M.Morozov+	41754

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	<i>n</i> ,fis	?	4RUSFEI	1.5+06	3.0+06	Jour	SJA,71,827	91	B.I.Fursov+	41111
*	<i>p</i> ,x	¹⁰³ Ru	4RUSKUR	3.2+07	3.2+07	Jour	PAN,85,217	22	A.A.Smirnov+	F1468
*	<i>d</i> ,x	¹⁰³ Ru	4RUSKUR	2.8+07	2.8+07	Jour	PAN,85,217	22	A.A.Smirnov+	F1468
*	³ He,x	¹⁰³ Ru	4RUSKUR	6.5+07	6.5+07	Jour	PAN,85,217	22	A.A.Smirnov+	F1468
*	³ He,x	²³⁰ Pa	4RUSKUR	4.0+07	5.7+07	Jour	PAN,85,12	22	M.N.German+	F1466
*	³ He,x	²³² Pa	4RUSKUR	4.0+07	5.7+07	Jour	PAN,85,12	22	M.N.German+	F1466
*	³ He,x	²³³ Pa	4RUSKUR	4.0+07	5.7+07	Jour	PAN,85,12	22	M.N.German+	F1466
*	α ,x	¹⁰³ Ru	4RUSKUR	5.5+07	5.5+07	Jour	PAN,85,217	22	A.A.Smirnov+	F1468

92 Uranium 234

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	<i>n</i> ,fis	?	4RUSFEI	1.0+06	3.0+06	Jour	SJA,71,827	91	B.I.Fursov+	41111

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	<i>n</i> ,tot	CS	4RUSKUR	1.5+06	2.0+06	Rept	INDC(CCP)-213,11	83	V.M.Morozov+	41753

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	<i>n</i> ,tot	CS	4RUSKUR	1.5+06	2.0+06	Rept	INDC(CCP)-213,11	83	V.M.Morozov+	41753

94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	<i>n</i> ,fis	¹³⁵ Xe	4RUSFEI	3.0+06	3.0+06	Jour	SJA,65,765	88	A.N.Gudkov+	41025

98 Californium 250

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
	α , <i>t</i>	²⁵¹ Es	IUSAANL	2.8+07	2.8+07	Jour	PR/C,17,2163	78	I.Ahmad+	C2745