EXFOR News (June 2018)

New experimental data available from Nuclear Reaction Data Centres

EXFOR [1] is a world-wide data library for experimental neutron, charged-particle and photon induced reaction data compiled by the International Network of the Nuclear Reaction Data Centres (NRDC)[a] 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 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 #
	α,el	^{1}H	DA	3HUNKFI	2.1+06	3.3+06	Jour	NIM/B,15,486	86	F.Paszti+	D4381
	α,el	^{1}H	DA	3HUNKFI	9.7+05	3.4+06	Jour	NIM/B,43,502	89	E.Szilagyi+	D4380

1 Hydrogen 2

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{1}H	DA	2UK GLS	1.3+08	2.3+08	Jour	NP,70,241	65	J.Garvey+	G0058
	α,el	^{2}H	DA	3HUNKFI	1.6+06	3.0+06	Jour	NIM/B,15,486	86	F.Paszti+	D4381

1 Hydrogen

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,x	^{18}F	TT	2GERHAM	4.0+07	4.0+07	Jour	ARI,28,781	77	J.Fitschen+	B0151

3 Lithium 6

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,x+n	inclusive	DAE	1USALAS	4.8+06	7.5+06	Jour	NP/A,107,139	68	J.C.Hopkins+	11153

3 Lithium 7

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,x+n	inclusive	DAE	1USALAS	4.8+06	7.5+06	Jour	NP/A,107,139	68	J.C.Hopkins+	11153

6 Carbon 12

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,el	^{12}C	CS	1USATEX	1.4+07	2.4+07	Jour	PR,174,(4),1147	68	F.Boreli+	14327
	n,inel	^{12}C	CSP	1USATEX	1.4+07	2.1+07	Jour	PR,174,(4),1147	68	F.Boreli+	14327
	n,non		CS	1USATEX	1.4+07	2.4+07	Jour	PR,174,(4),1147	68	F.Boreli+	14327
*	^{30}Si,fus		CS	2ITYPAD	9.6+06	2.3+07	Jour	PR/C,97,024610	18	G.Montagnoli+	D0899

12 Magnesium 26

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,2p	^{28}Mg	TT	2GERJUL	1.4+08	1.4+08	Jour	ARI,27,431	76	H.J.Probst+	B0174
*	α,inel	^{26}Mg	DAP	3SAFITH	2.0+08	2.0+08	Jour	PR/C,96,055802	17	P.Adsley+	D0903

13 Aluminium 27

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{7}Be	CS	3SAFITH	4.1+07	2.0+08	Jour	EPJ/CS,146,08011	17	F.Szelecsenyi+	D4384
	α,3p	^{28}Mg	TT	2GERJUL	1.4+08	1.4+08	Jour	ARI,27,431	76	H.J.Probst+	B0174

20 Calcium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{43}Sc	CS	3HUNDEB	6.1+06	1.8+07	Jour	JRN,316,119	18	M.Al-Abyad+	D4387
*	p,x	^{44}Sc	CS	3HUNDEB	6.1+06	1.8+07	Jour	JRN,316,119	18	M.Al-Abyad+	D4387
*	d,x	^{43}Sc	CS	3HUNDEB	6.7+06	9.8+06	Jour	JRN,316,119	18	M.Al-Abyad+	D4387
*	d,x	^{44}Sc	CS	3HUNDEB	6.7+06	9.8+06	Jour	JRN,316,119	18	M.Al-Abyad+	D4387
*	α,x	^{43}Sc	CS	3HUNDEB	5.7+06	1.9+07	Jour	JRN,316,119	18	M.Al-Abyad+	D4387

23 Vanadium 51

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,α	^{48}Sc	CS	3CPRLNZ	1.4+07	1.5+07	Jour	JLNZ,35,79	99	Hushangbin+	32756
	n,p	^{51}Ti	CS	3CPRLNZ	1.4+07	1.5+07	Jour	JLNZ,35,79	99	Hushangbin+	32756

26 Iron 54

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,α	^{51}Cr	CS	3CZRUJV	1.0+06	1.0+06	Jour	ANE,112,759	18	M.Kostal+	31785
*	n,p	^{54}Mn	CS	3CZRUJV	1.0+06	1.0+06	Jour	ANE,112,759	18	M.Kostal+	31785

28 Nickel

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,x	^{62}Zn	TT	3SAFNLP	1.8+07	3.2+07	Jour	ARI,28,808	77	R.D.Neirinckx	B0164

28 Nickel 58

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{7}Li,el	^{58}Ni	DA	3MEXINI	1.2+07	1.4+07	Jour	JP/CS,876,012002	17	P.Amador-Valenzuela+	D0898

28 Nickel 64

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{18}O,^{16}O	^{66}Ni	DAP	2ITYLNS	8.4+07	8.4+07	Jour	PR/C,96,044612	17	B.Paes+	D0894

30 Zinc

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,x	^{61}Cu	CS	3CZRUJF	8.0+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{64}Cu	CS	3CZRUJF	8.0+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
	d,x	^{67}Cu	?	3SAFNLP	1.6+07	1.6+07	Jour	ARI,28,802	77	R.D.Neirinckx	B0161
*	d,x	^{63}Zn	CS	3CZRUJF	1.1+07	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{65}Zn	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{69}Zn	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{71}Zn	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{65}Ga	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{66}Ga	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{67}Ga	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900
*	d,x	^{68}Ga	CS	3CZRUJF	3.3+06	1.9+07	Jour	EPJ/CS,146,11034	17	E.Simeckova+	D0900

30 Zinc 66

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,2n	^{65}Zn	CS	3CPRLNZ	1.4+07	1.5+07	Jour	JLNZ,28,99	92	Kongxiangzhong+	32747

30 Zinc 67

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,p	^{67}Cu	CS	3CPRLNZ	1.4+07	1.5+07	Jour	JLNZ,28,99	92	Kongxiangzhong+	32747

33 Arsenic 75

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{74}As	CS	3CZRUJV	Fiss	1.0+06	Jour	ANE,100,(2),42	17	M.Kostal+	31771

39 Yttrium 89

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{88}Y	CS	3CZRUJV	1.0+06	1.0+06	Jour	RPC,141,22	17	M.Kostal+	31783
*	n,2n	^{88}Y	CS	3CZRUJV	1.0+06	1.0+06	Jour	ANE,112,759	18	M.Kostal+	31785
*	n,2n	^{88}Y	CS	3CZRUJV	Fiss		Jour	RPC,141,22	17	M.Kostal+	31783
*	n,2n	^{88}Y	CS	3CZRUJV	Fiss		Jour	ANE,112,759	18	M.Kostal+	31785

40 Zirconium 90

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{89}Zr	CS	3CZRUJV	Fiss	1.0+06	Jour	ARI,128,92	17	M.Kostal+	31782

40 Zirconium 94

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,γ	^{95}Zr	CS	3CZRUJV	1.0+06	1.0+06	Jour	ARI,128,92	17	M.Kostal+	31782

40 Zirconium 96

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,γ	^{97}Zr	CS	3CZRUJV	1.0+06	1.0+06	Jour	ARI,128,92	17	M.Kostal+	31782

42 Molybdenum

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,x	^{99}Mo	TT	3CZRUJV	1.2+07	1.3+07	Jour	JIN,39,2121	77	Z.Randa+	B0103
	d,x	^{101}Mo	TT	3CZRUJV	1.2+07	1.2+07	Jour	JIN,39,2121	77	Z.Randa+	B0103
	d,x	^{94}Tc	TT	3CZRUJV	1.2+07	1.2+07	Jour	JIN,38,2289	76	Z.Randa+	B0109
	d,x	^{95}Tc	TT	3CZRUJV	1.2+07	1.3+07	Jour	JIN,38,2289	76	Z.Randa+	B0109
	d,x	^{96}Tc	TT	3CZRUJV	1.2+07	1.3+07	Jour	JIN,38,2289	76	Z.Randa+	B0109
	d,x	^{97}Tc	TT	3CZRUJV	1.3+07	1.3+07	Jour	JIN,38,2289	76	Z.Randa+	B0109
	d,x	^{99}Tc	TT	3CZRUJV	1.2+07	1.2+07	Jour	JIN,38,2289	76	Z.Randa+	B0109
	d,x	^{101}Tc	TT	3CZRUJV	1.2+07	1.2+07	Jour	JIN,38,2289	76	Z.Randa+	B0109

42 Molybdenum 97

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

	n,p	^{97}Nb	CS	3CPRLNZ	1.3+07	1.5+07	Jour	JLNZ,28,170	92	Kongxiangzhong+	32749

46 Palladium

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	γ,x	^{99}Rh	CS	3KORPUE		7.0+07	Jour	ARI,128,148	17	V.D.Nguyen+	G3127
*	γ,x	^{101}Rh	CS	3KORPUE		7.0+07	Jour	ARI,128,148	17	V.D.Nguyen+	G3127
*	γ,x	^{102}Rh	CS	3KORPUE		7.0+07	Jour	ARI,128,148	17	V.D.Nguyen+	G3127

48 Cadmium 116

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	α,3n	^{117}Sn	CS	3INDVEC	4.0+07	5.0+07	Jour	PR/C,42,2737	90	M.B.Chatterjee+	D6291
	α,4n	^{116}Sn	CS	3INDVEC	4.0+07	5.0+07	Jour	PR/C,42,2737	90	M.B.Chatterjee+	D6291
	α,5n	^{115}Sn	CS	3INDVEC	4.0+07	5.0+07	Jour	PR/C,42,2737	90	M.B.Chatterjee+	D6291

49 Indium 113

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	p,inel	^{113}In	CS	3INDTRM	8.6+06	1.8+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292
*	p,n	^{113}Sn	CS	3INDTRM	8.6+06	1.8+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292

49 Indium 115

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	p,3n	^{113}Sn	CS	3INDTRM	2.2+07	2.2+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292
*	p,inel	^{115}In	CS	3INDTRM	8.6+06	2.2+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292
*	p,n+α	^{111}Cd	CS	3INDTRM	1.3+07	2.2+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292
*	p,x	^{113}In	CS	3INDTRM	2.2+07	2.2+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292
*	p,x	^{114}In	CS	3INDTRM	1.3+07	2.2+07	Jour	NP/A,974,9	18	P.T.Muhammedshan+	D6292

50 Tin 120

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	^{9}Be,el	^{120}Sn	DA	3ARGCNE	2.6+07	5.0+07	Jour	PR/C,97,044609	18	A.Arazi+	D0902
*	^{9}Be,inel	^{120}Sn	DAP	3ARGCNE	3.1+07	5.0+07	Jour	PR/C,97,044609	18	A.Arazi+	D0902
*	^{10}B,^{11}B	^{119}Sn	DAP	3BZLUSP	3.8+07	3.8+07	Jour	PR/C,97,034629	18	L.R.Gasques+	D0901
*	^{10}B,el	^{120}Sn	DA	3BZLUSP	3.8+07	3.8+07	Jour	PR/C,97,034629	18	L.R.Gasques+	D0901
*	^{10}B,inel	^{120}Sn	DAP	3BZLUSP	3.8+07	3.8+07	Jour	PR/C,97,034629	18	L.R.Gasques+	D0901

60 Neodymium 144

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x+p	inclusive	DAE	3SAFITH	2.0+08	2.0+08	Jour	PL/B,776,133	18	L.M.Donaldson+	D0860

60 Neodymium 146

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x+p	inclusive	DAE	3SAFITH	2.0+08	2.0+08	Jour	PL/B,776,133	18	L.M.Donaldson+	D0860

60 Neodymium 148

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x+p	inclusive	DAE	3SAFITH	2.0+08	2.0+08	Jour	PL/B,776,133	18	L.M.Donaldson+	D0860

60 Neodymium 150

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x+p	inclusive	DAE	3SAFITH	2.0+08	2.0+08	Jour	PL/B,776,133	18	L.M.Donaldson+	D0860

62 Samarium 152

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x+p	inclusive	DAE	3SAFITH	2.0+08	2.0+08	Jour	PL/B,776,133	18	L.M.Donaldson+	D0860

68 Erbium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,x	^{161}Er	CS	2BLGLVN	4.0+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{171}Er	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{163}Tm	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{165}Tm	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{166}Tm	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{167}Tm	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{168}Tm	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382
*	d,x	^{170}Tm	CS	2BLGLVN	3.2+07	5.0+07	Jour	ARI,135,67	18	F.Tarkanyi+	D4382

73 Tantalum 181

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,γ	^{182}Ta	CS	3CZRUJV	1.0+06	1.0+06	Jour	ANE,112,759	18	M.Kostal+	31785

77 Iridium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,x	^{189}Ir	CS	2JPNIPC	3.3+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{190}Ir	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{192}Ir	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{194}Ir	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{191}Pt	CS	2JPNIPC	3.3+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{195}Pt	CS	2JPNIPC	2.8+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{191}Au	CS	2JPNIPC	3.7+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{192}Au	CS	2JPNIPC	2.3+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{193}Au	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{194}Au	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{195}Au	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383
*	α,x	^{196}Au	CS	2JPNIPC	1.6+07	4.9+07	Jour	ARI,136,133	18	S.Takacs+	D4383

77 Iridium 191

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,γ	^{195}Au	CS	3HUNDEB	1.4+07	1.5+07	Jour	PL/B,776,396	18	T.Szucs+	D4386
*	α,γ	^{195}Au	PY	3HUNDEB	1.3+07	1.6+07	Jour	PL/B,776,396	18	T.Szucs+	D4386
*	α,n	^{194}Au	CS	3HUNDEB	1.4+07	1.6+07	Jour	PL/B,776,396	18	T.Szucs+	D4386
*	α,n	^{194}Au	PY	3HUNDEB	1.3+07	1.7+07	Jour	PL/B,776,396	18	T.Szucs+	D4386

77 Iridium 193

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,n	^{196}Au	CS	3HUNDEB	1.4+07	1.6+07	Jour	PL/B,776,396	18	T.Szucs+	D4386
*	α,n	^{196}Au	PY	3HUNDEB	1.3+07	1.7+07	Jour	PL/B,776,396	18	T.Szucs+	D4386

79 Gold 197

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,3n	^{198}Tl	CS	3INDVEC	3.9+07	4.9+07	Jour	PR/C,45,1171	92	N.Chakravarty+	D6290
	α,x	^{196}Au	CS	3INDVEC	3.5+07	4.9+07	Jour	PR/C,45,1171	92	N.Chakravarty+	D6290
	α,x	^{198}Au	CS	3INDVEC	3.5+07	4.9+07	Jour	PR/C,45,1171	92	N.Chakravarty+	D6290
	α,x	^{197}Hg	CS	3INDVEC	3.5+07	4.9+07	Jour	PR/C,45,1171	92	N.Chakravarty+	D6290

82 Lead

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{18}C,x	^{17}C	CS	2GERGSI	7.6+09	7.6+09	Jour	PR/C,95,014613	17	M.Heine+	D0838
*	^{18}C,x	^{17}C	CSP	2GERGSI	7.6+09	7.6+09	Jour	PR/C,95,014613	17	M.Heine+	D0838

92 Uranium 235

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,fis	Many	CHG	1USASTF	2.5-02	2.5-02	Jour	PR,144,984	Apr 66	P.O.Strom+	13073
	n,fis	Many	FY	1USASTF	2.5-02	2.5-02	Jour	PR,144,984	Apr 66	P.O.Strom+	13073
	n,fis	Many	FY	1USASTF	2.5-02	2.5-02	Jour	AC,35,(11),1712	63	A.E.Greendale+	14304
	n,fis	Many	?	1USASTF	2.5-02	2.5-02	Jour	PR,144,984	Apr 66	P.O.Strom+	13073
*	n,fis		?	4RUSFEI	2.9+00	2.9+00	Jour	ANE,102,408	17	V.M.Piksaykin+	41650
	n,fis	^{37}Ar	FY	1USABNL	2.5-02	2.5-02	Jour	PR,142,716	66	R.W.Stoenner+	14495
	n,fis	^{39}Ar	FY	1USABNL	2.5-02	2.5-02	Jour	PR,142,716	66	R.W.Stoenner+	14495
	n,fis	^{41}Ar	FY	1USABNL	2.5-02	2.5-02	Jour	PR,142,716	66	R.W.Stoenner+	14495
	n,fis	^{42}Ar	FY	1USABNL	2.5-02	2.5-02	Jour	PR,142,716	66	R.W.Stoenner+	14495
	n,fis	^{56}Co	FY	1USABNL	2.5-02	2.5-02	Jour	PR,142,716	66	R.W.Stoenner+	14495
	n,fis	^{136}Cs	FY	1USAORL	2.5-02	2.5-02	Book	RCS,2,1092(159)	51	L.E.Glendenin	13400

92 Uranium 238

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis		?	1USALAS	5.0+05	3.2+07	Jour	PR/C,97,034618	18	R.J.Casperson+	14498

93 Neptunium 237

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,fis	Many	FY	4RUSFEI	Fiss		Rept	INDC(CCP)-213,48	83	A.N.Gudkov+	40677
*	n,fis		?	4RUSFEI	1.4+07	1.8+07	Jour	EPJ/CS,146,04059	17	D.E.Gremyachkin+	41651