EXFOR News (August 2021)

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, 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 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 ($\sigma_{\rm capt}/\sigma_{\rm fis}$)	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 = $\bar{\nu}\sigma_{\rm fis}/(\sigma_{\rm capt}+\sigma_{\rm fis})$	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	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 #
*	^{94}Sr,el	^{1}H	?	1CANTMF	5.2+08	5.2+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422
*	^{95}Sr,el	^{1}H	?	1CANTMF	5.2+08	5.2+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422
*	^{96}Sr,el	^{1}H	?	1CANTMF	5.3+08	5.3+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422

1 Hydrogen 2

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{94}Sr,el	^{2}H	?	1CANTMF	5.2+08	5.2+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422
*	^{94}Sr,p	^{95}Sr	?	1CANTMF	5.2+08	5.2+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422
*	^{95}Sr,el	^{2}H	?	1CANTMF	5.2+08	5.2+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422
*	^{96}Sr,el	^{2}H	?	1CANTMF	5.3+08	5.3+08	Jour	PR/C,100,054321	19	S.Cruz+	C2422

1 Hydrogen

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,ths	Organic compound	?	2UK NIN		9.9+02	Jour	JAC,52,1233	19	S.C.Capelli+	23771
*	n,ths	Polyethylene	?	2UK NIN	2.5-03	9.9+02	Jour	JAC,52,1233	19	S.C.Capelli+	23771
*	n,tot		CS	2UK NIN	9.7-03	1.0+01	Jour	EPJ/CS,239,14001	20	J.I.Marquezdamian+	23772
*	n,tot		CST	2UK NIN	9.7-03	1.0+01	Jour	EPJ/CS,239,14001	20	J.I.Marquezdamian+	23772

2 Helium 4

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{4}He	DA	1USABRK	5.3+07	1.2+08	Jour	PR,137,B315	65	P.Darriulat+	C2587
	α,inel	^{4}He	DAE	1USAORL	6.4+07	6.4+07	Jour	PR,178,1584	69	E.E.Gross+	C2588
	α,inel	^{4}He	DAP	1USAORL	6.4+07	6.4+07	Jour	PR,178,1584	69	E.E.Gross+	C2588
	α,non		CS	1USABRK	5.3+07	1.2+08	Jour	PR,137,B315	65	P.Darriulat+	C2587

3 Lithium 7

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,x+n	inclusive	CS	1USAWIS	2.7+05	1.1+06	Rept	CF-638	43	D.L.Benedict+	C2589

4 Berylium 9

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,α	^{6}Li	DAP	1USAJHU	5.0+05	1.0+06	Jour	PR,82,75	51	J.A.Neuendorffer+	F0313
	p,d	^{8}Be	DAP	1USAJHU	5.0+05	1.0+06	Jour	PR,82,75	51	J.A.Neuendorffer+	F0313
	p,d	^{8}Be	POD	1USANOT	1.5+07	1.5+07	Jour	NP/A,266,29	76	S.E.Darden+	F0191
	p,γ	^{10}B	DAP	1USASTF	2.8+05	1.1+06	Jour	PR,115,1227	59	W.E.Meyerhof+	F0122
	d,el	^{9}Be	POD	1USANOT	1.5+07	1.5+07	Jour	NP/A,266,29	76	S.E.Darden+	F0191
	d,inel	^{9}Be	POD	1USANOT	1.5+07	1.5+07	Jour	NP/A,266,29	76	S.E.Darden+	F0191
	d,p	^{10}Be	POD	1USANOT	1.5+07	1.5+07	Jour	NP/A,266,29	76	S.E.Darden+	F0191
	d,t	^{8}Be	POD	1USANOT	1.5+07	1.5+07	Jour	NP/A,266,29	76	S.E.Darden+	F0191
	$t,^{6}$He	^{6}Li	POD	1USALAS	1.7+07	1.7+07	Jour	NP/A,319,61	79	E.R.Flynn+	F0321
*	^{15}O,p+X	^{13}N	CSP	1USAMSU	7.8+08	7.8+08	Jour	PR/C,100,064305	19	R.J.Charity+	C2437

5 Boron 10

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,α	^{8}Be	DAP	1USAKAN	9.8+05	1.8+06	Jour	NP,44,22	63	K.H.Purser+	F0215
	d,p	^{11}B	DAP	1USACAL	9.0+05	3.0+06	Jour	PR,103,1408	56	J.B.Marion+	F0246
*	α,n	^{13}N	CSP	1USANOT	1.6+06	4.9+06	Jour	PR/C,100,034601	19	Q.Liu+	C2440
*	α,n	^{13}N	DAP	1USANOT	1.6+06	4.9+06	Jour	PR/C,100,034601	19	Q.Liu+	C2440

5 Boron 11

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,d	^{12}C	?	4RUSMOS	2.2+07	2.2+07	Jour	IZV,52,996	88	A.V.Ignatenko+	F1148

6 Carbon 12

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,γ	^{13}N	CS	1USACAL	1.9+05	4.4+05	Jour	NP,21,652	60	D.F.Hebbard+	F0475
	p,inel	^{12}C	DAA	4RUSMOS	7.5+06	7.5+06	Jour	IZV,70,1645	06	V.M.Lebedev+	F0747
	p,inel	^{12}C	?	4RUSMOS	7.5+06	7.5+06	Jour	IZV,70,1645	06	V.M.Lebedev+	F0747
	d,inel	^{12}C	?	4RUSMOS	1.5+07	1.5+07	Jour	YF,70,297	07	L.I.Galanina+	F0839
*	$t,^{3}$He	^{12}B	DAP	1USAMSU	3.4+08	3.4+08	Jour	PR/C,100,045805	19	R.Titus+	C2411
	^{3}He,el	^{12}C	DA	2GERBER	9.5+06	1.2+07	Jour	NP/A,157,593	70	W.Bohne+	F0281

6 Carbon 13

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,γ	^{14}N	CSP	1USACAL	1.5+05	4.4+05	Jour	NP,21,652	60	D.F.Hebbard+	F0475
	^{3}He,α	^{12}C	DAA	4RUSMOS	2.3+07	2.3+07	Jour	IZV,46,897	82	G.S.Gurevich+	F0894
	^{3}He,α	^{12}C	?	4RUSMOS	2.3+07	2.3+07	Jour	IZV,46,897	82	G.S.Gurevich+	F0894

7 Nitrogen 14

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,α	^{12}C	CSP	2GERMPH	1.2+07	1.2+07	Jour	NP,76,79	66	R.Jahr+	F0197
*	$t,^{3}$He	^{14}C	DAP	1USAMSU	3.4+08	3.4+08	Jour	PR/C,100,045805	19	R.Titus+	C2411

8 Oxygen 17

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,γ		RP	1CANTMF	6.3+05	1.1+06	Jour	PL/B,798,134894	19	M.P.Taggart+	C2420
*	α,γ	^{21}Ne	CS	1CANTMF	6.2+05	1.5+06	Jour	PL/B,798,134894	19	M.P.Taggart+	C2420

9 Fluorine 19

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,t	^{20}Ne	?	4RUSMOS	3.0+07	3.0+07	Jour	YF,58,208	95	A.V.Ignatenko+	F0750

10 Neon 22

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,γ		RP	1CANTMF	1.5+05	1.2+06	Jour	PR/C,102,035801	20	M.Williams+	C2582
*	p,γ	^{23}Na	CS	1CANTMF	2.8+05	5.1+05	Jour	PR/C,102,035801	20	M.Williams+	C2582
*	p,γ	^{23}Na	RR	1CANTMF			Jour	PR/C,102,035801	20	M.Williams+	C2582

12 Magnesium 22

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,p	^{25}Al	CS	1USAMSU	3.2+06	1.1+07	Jour	PRL,125,202701	20	J.S.Randhawa+	C2584

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	DAA	4RUSMOS	7.4+06	7.4+06	Jour	IZV,79,556	15	L.I.Galanina+	F1310
	d,α	^{22}Na	CSP	2GERMPH	1.2+07	1.2+07	Jour	NP,76,79	66	R.Jahr+	F0197
*	d,inel	^{24}Mg	?	4RUSMOS	1.5+07	1.5+07	Jour	IZV,78,580	14	L.I.Galanina+	F1228

12 Magnesium 25

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,α	^{23}Na	CSP	2GERMPH	1.2+07	1.2+07	Jour	NP,76,79	66	R.Jahr+	F0197

13 Aluminium 27

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{27}Al	DA	1USADAV	8.7+06	1.0+07	Jour	NP/A,98,241	67	F.P.Brady+	F0198

14 Silicon 28

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,α	^{26}Al	CSP	2GERMPH	1.2+07	1.2+07	Jour	NP,76,79	66	R.Jahr+	F0197

15 Phosphorus 31

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	d,α	^{29}Si	CSP	2GERMPH	1.2+07	1.2+07	Jour	NP,76,79	66	R.Jahr+	F0197

16 Sulphur 32

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,d	^{31}S	DAP	1USAYAL	3.4+07	3.4+07	Jour	PR/C,102,045806	20	K.Setoodehnia+	C2586
	d,α	^{30}P	CSP	2GERMPH	1.2+07	1.2+07	Jour	NP,76,79	66	R.Jahr+	F0197
	α,p	^{35}Cl	?	2UK LVP	1.5+07	1.5+07	Jour	JP/A,7,1977	74	P.R.G.Lornie+	F0686

20 Calcium 40

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{40}Ca	DA	1USADAV	8.7+06	1.0+07	Jour	NP/A,98,241	67	F.P.Brady+	F0198

28 Nickel

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,el	^{nat}Ni	DA	1USADAV	8.6+06	1.0+07	Jour	NP/A,98,241	67	F.P.Brady+	F0198

30 Zinc 67

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,α		RP	4ZZZDUB	2.2+02	3.8+03	Jour	YF,41,837	85	Yu.M.Gledenov+	40894

34 Selenium 76

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,γ	^{80}Kr	CS	1CANTMF	5.4+06	5.7+06	Jour	PL/B,807,135575	20	J.Fallis+	C2580

36 Krypton 86

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	t,^{3}He	^{86}Br	DAE	1USAMSU	3.4+08	3.4+08	Jour	PR/C,100,045805	19	R.Titus+	C2411
*	t,^{3}He	^{86}Br	DAP	1USAMSU	3.4+08	3.4+08	Jour	PR/C,100,045805	19	R.Titus+	C2411

38 Strontium 88

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	t,^{3}He	^{88}Rb	DAE	1USAMSU	3.4+08	3.4+08	Jour	PR/C,100,032801	19	J.C.Zamora+	C2412
*	t,^{3}He	^{88}Rb	DAP	1USAMSU	3.4+08	3.4+08	Jour	PR/C,100,032801	19	J.C.Zamora+	C2412

40 Zirconium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,ths	Zirconium hydride	?	1USAGGA	5.7-02	5.4-01	Rept	GA-4490	64	W.L.Whittemore	14174

41 Niobium 93

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	t,^{3}He	^{93}Zr	DAE	1USAMSU	3.4+08	3.4+08	Jour	PR/C,101,014308	20	B.Gao+	C2439

42 Molybdenum 98

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	1USARPI		5.3+04	Jour	ANE,122,23	18	K.E.Remley+	14676
*	n,tot		CS	1USARPI	4.4+04	4.6+04	Jour	ANE,122,23	18	K.E.Remley+	14676

42 Molybdenum 100

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	1USARPI		2.6+04	Jour	ANE,122,23	18	K.E.Remley+	14676
*	n,tot		CS	1USARPI	2.2+04	2.4+04	Jour	ANE,122,23	18	K.E.Remley+	14676

43 Technetium 99

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	PR/C,102,015807	20	G.Noguere+	23730
*	n,tot		CS	2ZZZGEL	1.5+02	1.6+05	Jour	PR/C,102,015807	20	G.Noguere+	23730

64 Gadolinium 155

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720
*	n,γ	^{156}Gd	RI	2ZZZGEL	5.0+02	5.0-01	Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720

64 Gadolinium 156

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720

64 Gadolinium 157

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720
*	n,γ	^{158}Gd	RI	2ZZZGEL	5.0+02	5.0-01	Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720

64 Gadolinium 158

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720

64 Gadolinium 160

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	EPJ/A,56,30	20	Y.-U.Kye+	23720

71 Lutetium 175

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZGEL			Jour	PR/C,100,065806	19	G.Noguere+	23728

92 Uranium 235

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis	γ	FY	2FR PAR	1.7+06	1.7+06	Jour	EPJ/A,56,236	20	A.Oberstedt+	23775
	n,fis	Many	FY	1USALAS	2.5-02	2.5-02	Jour	PR,99,730	55	A.C.Wahl	13388
*	n,fis	Many	FY	2ZZZGEL	2.5-02	2.5-02	Jour	PR/C,102,064610	20	A.Al-Adili+	23764
*	n,fis		FY	2ZZZGEL	2.5-02	2.5-02	Jour	PR/C,102,064610	20	A.Al-Adili+	23764
*	n,fis	γ	KE	2FR PAR	1.7+06	1.7+06	Jour	EPJ/A,56,236	20	A.Oberstedt+	23775
*	n,fis		NU	2ZZZGEL	2.5-02	2.5-02	Jour	PR/C,102,064610	20	A.Al-Adili+	23764
*	n,fis	Many	?	2ZZZGEL	2.5-02	2.5-02	Jour	PR/C,102,064610	20	A.Al-Adili+	23764
	n,fis	^{121}Cd	FY	1USANRD	2.5-02	2.5-02	Jour	PR,139,B304	65	H.V.Weiss	13082

92 Uranium 236

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	1USARPI			Jour	PNE,86,11	16	D.P.Barry+	14674
*	n,γ	^{237}U	RI	1USARPI	5.0-01	2.0+07	Jour	PNE,86,11	16	D.P.Barry+	14674
*	n,tot		CS	1USARPI	5.2+00	5.7+00	Jour	PNE,86,11	16	D.P.Barry+	14674

94 Plutonium 239

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis		CS	2FR PAR	3.0+04	5.9+06	Jour	PRL,125,122502	20	R.Perezsanchez+	23769
*	n,fis	γ	FY	2FR PAR	1.8+06	1.8+06	Jour	EPJ/A,56,98	20	L.Qi+	23724
*	n,fis	γ	KE	2FR PAR	1.8+06	1.8+06	Jour	EPJ/A,56,98	20	L.Qi+	23724

*	n,γ	^{240}Pu	CS	2FR PAR	2.5+04	3.5+06	Jour	PRL,125,122502	20	R.Perezsanchez+	23769

98 Californium 252

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
0,fis	Many	FY	1USAORL	Spont		Jour	JIN,33,2271	71	D.E.Troutner+	13293