Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 134, 149 (2016)	15-Apr-2015

Q(β^-)=−556 *8*; S(n)=6190.81 *5*; S(p)=7222.9 *17*; Q(α)=1673.2 *19* 2012Wa38
For prediction of Q(α) and partial half-life for α decay, see 2012Sa18.
Interacting boson-fermion model calculation of E(level), B(E2) values and n stripping spectroscopic factors (2012Ab03).

^{183}W Levels

Cross Reference (XREF) Flags

A	^{183}Ta β^- decay	F	^{182}W(n,γ) E=thermal: $\gamma\gamma$ coin	K	^{183}W(γ,γ'): Mossbauer
B	^{183}W IT decay (5.30 s)	G	^{182}W(n,γ) E=4.1 eV	L	^{183}W(n,n$'\gamma$)
C	^{183}Re ε decay	H	^{182}W(n,γ) E=res	M	Coulomb excitation
D	^{176}Yb(^{14}C,α3nγ)	I	^{182}W(d,p), (pol d,p)	N	^{184}W(d,t)
E	^{182}W(n,γ) E=thermal	J	^{182}W(t,d)	O	^{184}W(^{3}He,α)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
0.0[&]	1/2$^-$[a]	≥6.7×10^{20} y	ABCDEFGHIJK MN	%α=? μ=+0.11778476 *9* μ: NMR (1989Ra17, 2011StZZ); from 1974Sa25, relative to ^{2}H. <r^2>$^{1/2}$(charge)=5.33 fm *15* (2004An14). J$^\pi$: J=1/2 from NMR; π from L(d,p)=1. $T_{1/2}$: from 2011Be39 following search for α decay to ^{179}Hf 375-keV level (90% confidence level). other: >1.1×10^{17} y from specific activity (1960Be13);≥1.0×10^{19} y (1995Ge17).
46.4838[b] *5*	3/2$^-$[a]	0.185 ns *4*	ABCDEFGHIJK MN	μ=−0.1 *1*; Q=1.8 *4* (2011StZZ) μ: from g=0.07 *7* from Mössbauer (1967Ag02) if J=3/2. Sign from 2011StZZ. Q: from Mössbauer (2011StZZ from 1967Ag02); relative to ^{182}W(100). J$^\pi$: M1+E2 46γ to 1/2$^-$ g.s.; L(d,p)=1. $T_{1/2}$: from (γ,γ'): Mössbauer. others: 219 ps *10*, 208 ps from Coulomb excitation.
99.0791[&] *9*	5/2$^-$[a]	726 ps *20*	ABCDEFG IJK MN	μ=+0.91 *4* Q=2.0 *3* μ: Mossbauer, recalculation (1989Ra17, 2011StZZ) using data from 1967Gi03 and 1968Pe06; relative to ^{183}W(g.s.). Q: 2011StZZ; from Q/Q(^{182}W, 2$^+$)=0.94 *4* Mössbauer (1967Ag02) and Q(^{182}W, 2$^+$)=−2.1 *4* (2011StZZ). J$^\pi$: E2 99γ to 1/2$^-$ g.s.; E2 210γ from 9/2$^-$ 309; L(d,p)=3. $T_{1/2}$: weighted average of 0.77 ns *4* (1970HaYD), 0.72 ns *7* (1967Ag02) from (γ,γ'): Mössbauer and 707 ps *35* from RDM, 716 ps *32* from B(E2) and adopted γ properties In Coulomb excitation. other data: 975 ps *40* (1971Bo42) and 0.57 ns *21* (1962Su14) In (γ,γ'): Mössbauer. The unweighted average of all data is 0.74 ns *5*.
207.0114[b] *14*	7/2$^-$[a]		ABCDE MN	μ=0.42 *21* μ: from thin-foil transient-field IMPAC (1992La02; rounded to 0.4 *2* In 2011StZZ). J$^\pi$: intraband M1+E2 108γ to 5/2$^-$ 99; E2 161γ to 3/2$^-$ 46.

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$	XREF	Comments
208.8069[c] *7*	3/2^{-}[d]	≈245 ps	A CDEFGHIJ MN	J$^{\pi}$: M1+E2 209γ to 1/2^{-} g.s.; M1+E2 110γ to 5/2^{-} 99. $T_{1/2}$: from Coulomb excitation.
291.7236[c] *14*	5/2^{-}[d]	60 ps *3*	A CDEFG IJ MN	J$^{\pi}$: M1 245γ to 3/2^{-} 46; M1+E2 85γ to 7/2^{-} 207. $T_{1/2}$: from Coulomb excitation.
308.9466[&] *20*	9/2^{-}[a]		A CDE I Mn	μ=1.53 *14* (1992La02,2011StZZ) XREF: I(309.2). g-factor=0.12 *6* (1992La02; thin-foil transient-field IMPAC). J$^{\pi}$: M1+E2 102γ to 7/2^{-} 207; L(d,p)=5.
309.492[f] *4*	11/2^{+}	5.30 s *8*	AB DE n	%IT=100 J$^{\pi}$: M2 102γ to 7/2^{-} 207. $T_{1/2}$: from IT decay.
412.0939[c] *17*	7/2^{-}[d]		A CDE G IJ MN	XREF: I(412.3). J$^{\pi}$: L=3 and asymmetry In (pol d,p).
453.0695[g] *17*	7/2^{-}[h]	18.5 ns *3*	A CDE G IJ L N	XREF: I(452.9). J$^{\pi}$: M1+E2 144γ to 9/2^{-} 308.9; M1+E2 161γ to 5/2^{-} 292; L=3 and asymmetry In (d,p). $T_{1/2}$: unweighted average of 18.4 ns *4* (1967Ma28), 18.0 ns *4* (1967Me01), and 19.5 ns *3* (1971Ho14) all from β^{-} decay and 18.2 ns *5* from ^{183}Re ε decay the weighted averge is 18.7 ns *4*. Others: 21.5 ns *20* from (^{14}C,α3nγ), 19 ns (1966Ho13) In ε decay.
475.05[b] *6*	11/2^{-}[a]		DE M	μ=1.1 *2* (1992La02,2011StZZ) μ: from thin-foil transient-field IMPAC (1992La02). J$^{\pi}$: M1+E2 166γ to 9/2^{-} 309; intraband 268γ to 7/2^{-} 207.
485.38[e] *5*	13/2^{+}		D I NO	XREF: I(486.1). J$^{\pi}$: asymmetry and L=6 In (pol d,p).
533? *3*			GH	reported In (n,γ) E=res but absent In (n,γ) E=thermal, so existence considered to be questionable.
551.24[c] *3*	9/2^{-}[d]		E I MN	μ=2.2 *9* (1992La02,2011StZZ) XREF: I(552.8). μ: from thin-foil transient-field IMPAC (1992La02). J$^{\pi}$: intraband 259γ to 5/2^{-} 292; D+Q 344γ to 7/2^{-} 207; L≥3 and asymmetry In (pol d,p); 3/2[512] band member.
557.5 *7*	(1/2,3/2,5/2^{-})		F	J$^{\pi}$: 557γ to 1/2^{-} g.s..
595.338[i] *7*	9/2^{-}[h]		A DE I L N	XREF: I(599.4). J$^{\pi}$: M1+E2 142γ to 7/2^{-} 453; L>3 and asymmetry In (pol d,p).
622.60[j] *5*	(9/2)$^{+}$		A DE L N	J$^{\pi}$: M1 313γ to 11/2^{+} 309.5; 1218γ from 5/2^{+} 1840.
631.11[&] *8*	13/2^{-}[a]	10.4[#] ps *+28−14*	D M	μ=2.6 *3* (1992La02,2011StZZ) μ: from thin-foil transient-field IMPAC (1992La02).
677.7 *7*	(1/2,3/2,5/2^{+})		F	469γ to 3/2^{-} 209; γ from 1/2^{+} In (n,γ) E=thermal: $\gamma\gamma$ coin.
687.63[f] *7*	(15/2^{+})		D I	XREF: I(689.4). J$^{\pi}$: intraband 202γ to 13/2^{+} 485; intraband 378γ to 11/2^{+} 309.5.
739.95[c] *5*	11/2^{-}[d]		E I MN	XREF: I(740.3)N(742). J$^{\pi}$: asymmetry and L=5 In (pol d,p).

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
766.30[g] *6*	11/2−[h]		DE	Jπ: 171γ to 9/2− 595; 313γ to 7/2− 453; 7/2[503] band member.
776.80[j] *12*	(11/2)+		DE L	Jπ: 467γ to 11/2+ 309; intraband 154γ to 9/2+ 622; band assignment.
777.0 *3*	(11/2−)		L	Jπ: possible 324γ to 7/2− 453. proposed As 11/2 7/2[503] state by 1997Pr02 In (n,n′γ), but 766 level is assigned As that state here and In (^{14}C,α3nγ).
804.9 *7*	(1/2,3/2,5/2+)		F	Jπ: 596γ to 3/2− 209; 5386γ from 1/2+ In (n,γ) E=thermal: γγ coin.
808.3 *7*	(1/2,3/2,5/2+)		F	Jπ: 599γ to 3/2− 209; 5382γ from 1/2+ In (n,γ) E=thermal: γγ coin.
816.5 *10*	(1/2,3/2,5/2+)		F	Jπ: 608γ to 3/2− 209; 5374γ from 1/2+ In (n,γ) E=thermal: γγ coin.
849.94[b] *9*	15/2−[a]		D M	Jπ: intraband D+Q 219γ to 13/2− 631; 375γ to 11/2− 475.
871.9 *10*	(1/2,3/2,5/2+)		FGH	Jπ: 5319γ from 1/2+ 6191 In (n,γ) E=thermal: γγ; 663γ to 3/2− 209.
899.7 *10*	(≤9/2−)		F	608γ to 5/2− 292.
903.503[k] *17*	(5/2−)		EFG MN	Jπ: 595γ to 9/2− 309; 904γ to 1/2− g.s..
909.4 *7*	(1/2,3/2,5/2+)		F I	XREF: I(913). Jπ: 701γ to 3/2− 209; primary γ from 1/2+ In (n,γ) E=thermal: γγ coin.
914.81[e] *7*	17/2+		D	
926.1[c] *5*	13/2−[d]		M	
934.661[l] *18*	1/2−		EFGHI L N	XREF: I(935.0). Jπ: L=1 and asymmetry In (pol d,p).
941.6 *7*	(≤7/2)		F	895γ to 3/2− 45.
949.9 *7*	(≤7/2)		F	903γ to 3/2− 45.
951.3 *7*	(≤7/2)		F	742γ to 3/2− 209.
956.30[j] *11*	(13/2)+		D I NO	XREF: I(964.2)N(960). Jπ: L=6 In (^{3}He,α) and (d,p); band assignment.
960	(1/2,3/2)		H	Jπ: primary γ from 1/2+ In (n,γ) E=res.
963.43 *11*	(11/2,13/2)		L	Jπ: 488γ to 11/2− 475; 332γ to 13/2− 631; authors′ suggested values In (n,n′γ).
965.13[i] *7*	13/2−[h]		D	
999.60[k] *7*	7/2−		E G I L N	Jπ: L=3 and asymmetry In (pol d,p).
1026.373[l] *12*	(3/2)−		EFGHI MN	XREF: I(1029). Jπ: L(d,p)=1; 615γ to 7/2− 412.
1053.269[l] *21*	(5/2)−		E G I MN	Jπ: 762γ to 7/2− 412 and 846γ to 7/2− 207; 1007γ to 3/2− 47; band assignment.
1061.99[&] *11*	17/2−[a]	3.0[#] ps *4*	D M	μ=2.6 *7* (1992La02,2011StZZ) μ: from thin-foil transient-field IMPAC (1992La02).
1069.42[m] *9*	7/2−		E I L N	Jπ: L=3 and asymmetry In (pol d,p).
1096.4 *7*	(≤9/2)		F	Jπ: 997γ to 5/2− 99.
1126.2[k] *8*	9/2−		I N	E(level): from (d,p), (pol d,p). Jπ: L≥5 In (d,p); band assignment.
1149.91[t] *5*	3/2−[@]		E I M	XREF: I(1149.8). Jπ: from L(d,p)=1, (pol d,p).
1156? *5*	(5/2,3/2)+		I N	E(level): from (d,p). Jπ: possibly an L=2 line (Jπ=5/2+ preferred) reported In (d,p), (pol d,p).
1168.74[f] *8*	19/2+		D	
1188.4? *7*	(≤7/2)		F	Jπ: 979γ to 3/2− 209.

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			reported only In (n,γ) E=thermal: γγ coin, so existence is shown As tentative.
1190.25[g] 7	15/2−[h]	D	
1214.31[m] 10	9/2−	E I L N	XREF: I(1217.2). Jπ: from (pol d,p). also, L(d,p)≥5; 923γ to 5/2− 292.
1223.40? 13		L	evaluator considers existence of this level to be highly uncertain; reported In (n,n′γ) alone, where the only γ deexciting it could be placed elsewhere. Jπ: possible 154γ to 7/2− 1069. Jπ=(9/2−) proposed In (n,n′γ).
1226.5 7	(≤5/2)	F	Jπ: 1226γ to 1/2− g.s..
1229.31[t] 6	(5/2)−	E I N	Jπ: L(d,p)=3. supported by 634γ to 9/2− 595, 1020γ to 3/2− 209. Band assignment.
1261.4[l] 5	(7/2−)	E N	Jπ: L(d,t)=(3); band assignment.
1272.2 7	(≤9/2)	F	Jπ: 980γ to 5/2− 292.
1275.19 5	(5/2+,7/2,9/2−)	E	Jπ: weak 372γ to (5/2−) 903; 653γ to (9/2)+ 623; 822γ to 7/2− 453.
1281[k] 6	(11/2−)	I N	
1291.67 7	(1/2−,3/2−)	E H M	Jπ: (E2) 1292γ to 1/2− g.s.; 1193γ to 5/2− 99; primary γ from 1/2+ resonance In (n,γ) E=res.
1309.409[u] 19	(3/2−)	EF	Jπ: weak 310γ to 7/2− 999; weak 375γ to 1/2− 935; primary γ from 1/2+ In (n,γ) E=thermal.
1309.9? 10	(≤5/2−)	M	Jπ: possible (E2) 1310γ to 1/2− g.s.. presumed to differ from 1309.4 level because the strong 1310γ reported In Coulomb excitation was absent In (n,γ) E=thermal: γγ coin and (n,γ) E=thermal studies.
1319.63[l] 3	(9/2−)	E N	XREF: N(1314). Jπ: 416γ to (5/2−) 903, 697γ to (9/2)+ 623, weak 725γ to 9/2− 595, and 1/2[521] band assignment from (d,t) imply Jπ=(9/2−). However, 5/2+ is proposed for a possible vibrational state by 2011Bo09 based on strong branching to 9/2[624] 623 level and absence of level In single-nucleon transfer reactions. No primary γ from 1/2+ is observed In (n,γ) E=thermal.
1327.67[b] 11	19/2−[a]	D	
1331.7? 10	(19/2−)	M	
1335.42 4	(3/2−)	E I n	XREF: n(1339). Jπ: 1336γ to 1/2− g.s.; 1128γ to 7/2− 207; member of L=(1+3) doublet In (d,p); primary γ from 1/2+ In (n,γ) E=thermal.
1337.8 8	(5/2−,7/2−)	E I n	XREF: n(1339). Jπ: 743γ to 9/2− 595; presumed L=(3) member of L=(1+3) doublet In (d,p).
1372.23 7	5/2−,7/2−	E L N	XREF: N(1375). Jπ: L(d,t)=3; 1163γ to 3/2− 209, 1063γ to 9/2− 309.
1376.41 12	(≥7/2)	E	Jπ: 754γ to (9/2)+ 623; 1067γ to 9/2− 309.
1386.3[w] 6	9/2−	I	Jπ: L(d,p)=5 and asymmetry In (pol d,p).
1397[m] 12	(11/2−)	N	Jπ: L(d,t)≥5; band assignment.
1403 3		E	
1412.9 7	(≤9/2)	F	Jπ: 1121γ to 5/2− 292.
1417.6 7	(≤5/2)	F	Jπ: 1417γ to 1/2− g.s..
1432.9 7	(≤5/2)	F	Jπ: 1433γ to 1/2− g.s..
1437.42 6	(1/2−,3/2−)	E G I N	XREF: I(1439.8)N(1441). Jπ: L(d,p)=(1); 1438γ to 1/2− g.s.; 1339γ to 5/2− 99.
1439.75[e] 8	(21/2+)	D	
1439.92[i] 8	17/2−[h]	D	Jπ: intraband 250γ to 15/2− 1190 and 475γ to 13/2− 965.
1463.18 8	(3/2,5/2)−	EF HI Mn	XREF: n(1468). Jπ: 1463γ to 1/2− g.s.; possible E2 1051γ to 7/2− 412 In Coulomb excitation.
1466.7[s] 5	(≥11/2)	D	Jπ: 779γ to (15/2+) 687; 981γ to 13/2+ 485.

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
1471.05[v] *4*	1/2⁻	EF HI n	XREF: n(1468). Jπ: L(d,p)=1; asymmetry favors 1/2 In (pol d,p). 1471γ to 1/2⁻ g.s..
1474.77 *23*	(3/2 to 9/2)	I L N	XREF: I(1476.1)N(1476). Jπ: 1063γ to 7/2⁻ 412; 1182γ to 5/2⁻ 292.
1485.45 *23*	(1/2⁻,3/2⁻)	E I MN	XREF: I(1483.7)N(1489). Jπ: L(d,p)=(1); 1485γ to 1/2⁻ g.s.; E=4605 primary γ from 1/2⁺ In (n,γ) E=thermal.
1502.1 *10*	(≤7/2)	F	Jπ: 1456γ to 3/2⁻ 46.
1510.4 *5*	(3/2⁻,5/2,7/2⁻)	i M	XREF: i(1514?). absence of a 1412γ from this level implies that it differs from the 1510.6 level. Jπ: 1098γ to 7/2⁻ 412; 1302γ to (3/2)⁻ 209. Level excited In Coulomb excitation, but expected 1510γ branch to 1/2⁻ g.s. has not been observed (although the 1510γ from 1556 level is reported As complex In (n,γ) E=thermal, and could be complex In Coulomb excitation also).
1510.64 *6*	(≤9/2)	E i	XREF: i(1514?). E(level): see comment on 1510.4 level. Jπ: 1412γ to 5/2⁻ 99.
1537.9 *6*	(1/2⁻,3/2,5/2⁻)	F	Jπ: 1246γ to 5/2⁻ 292; 1538γ to 1/2⁻ g.s..
1542.9 *5*	(≤9/2)	E G I	XREF: G(1545)I(1542.8). Jπ: 1251γ to 5/2⁻ 292.
1550 *4*	11/2⁺,13/2⁺	NO	XREF: N(1550). E(level): from (^{3}He,α). Jπ: L(^{3}He,α)=6.
1550.52[x] *11*	5/2⁻	E I L n	XREF: n(1550). Jπ: L(d,p)=3, asymmetry In (pol d,p). possible 5/2[503] bandhead proposed In (n,γ) E=thermal by 2011Bo09; J=5/2 member of 1/2[501] band, proposed In (n,n′γ) by 1997Pr02, was rejected by 2011Bo09 due to its large (d,p) strength. Compared with that observed In ^{181}Hf and ^{185}W for 5/2 *1*/2[501] states.
1556.22[v] *5*	(3/2⁻)	EF HI Mn	XREF: I(1556.7)n(1550). Jπ: L(d,p)=1,3 for 1551+1556 doublet and L=3 component already assigned to 1551 level; (E2) 1556γ to 1/2⁻ g.s.; 1144γ to 7/2⁻ 412. Band assignment adopted from 2011Bo09.
1569.85 *7*	(5/2⁻)	E N	XREF: N(1562). Jπ: 1570γ to 1/2⁻ g.s.; 1158γ to 7/2⁻ 412; L(d,t)≥3.
1577.8 *5*	9/2⁻,11/2⁻	I	Jπ: L(d,p)=5.
1586.38 *6*	(3/2⁻)	EF	Jπ: 1587γ to 1/2⁻ g.s.; 1380γ to 7/2⁻ 207; primary γ from 1/2⁺ In (n,γ) E=thermal.
1592 *6*	5/2⁻,7/2⁻	I N	Jπ: L(d,t)=3.
1595.29[&] *15*	21/2⁻[a]	D	
1601.6 *5*		I	
1612.04 *5*	(1/2⁻,3/2,5/2⁻)	EFG	Jπ: 1612γ to 1/2⁻ g.s.; 1513γ to 5/2⁻ 99.
1615.2 *10*	(≤9/2)	F	Jπ: 1324γ to 5/2⁻ 292.
1616.9 *10*	(≤9/2)	F	Jπ: 1518γ to 5/2⁻ 99.
1628.22 *5*	3/2⁻	EF I	XREF: I(1628.2). Jπ: from (pol p,d); supported by 1628γ to 1/2⁻ g.s.; 1529γ to 5/2⁻ 99; 1177γ to 7/2⁻ 453.
1629.85 *15*	(1/2⁻,3/2,5/2⁻)	E GH	Jπ: 695γ to 1/2⁻ 934; 1338γ to 5/2⁻ 292.
1633.32 *12*	(1/2⁻,3/2,5/2⁻)	EF	Jπ: 1634γ to 1/2⁻ g.s.; 1532γ to 5/2⁻ 99.
1650 *6*		i N	E(level): from (d,t). Jπ: possibly 1/2⁻,3/2⁻ from L(d,p)=1 for E≈1651 level.
1658.2 *7*	(≤9/2)	F i	Jπ: 1366γ to 5/2⁻ 292.
1660.59 *11*	(1/2⁻,3/2,5/2⁻)	EF i	XREF: i(1663). Jπ: 1562γ to 5/2⁻ 99; 1661γ to 1/2⁻ g.s..

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
1663.6[s] *3*	(≥11/2)		D	Jπ: 976γ to (15/2+) 687.
1663.64 *20*	(1/2−,3/2,5/2−)		EF i	XREF: i(1663). Jπ: 1372γ to 5/2− 292; 1663γ to 1/2− g.s..
1669.3 *10*	(≤9/2)		F H	Jπ: 1378γ to 5/2− 292.
1672.75 *4*	(3/2−,5/2−)		EFGH n	Jπ: 1466γ to 7/2− 207; 1673γ to 1/2− g.s..
1677.1 *7*	(1/2−,3/2−)		F I	Jπ: L(d,p)=(1); 1468γ to 3/2−.
1683.3 *7*	5/2−,7/2−		E I N	XREF: I(1680.3)N(1679). Jπ: L=3 In (d,p) and (d,t).
1686.33 *9*			E	Jπ: 1064γ to (9/2)+ 623 allows J=(5/2 to 13/2).
1691.2 *12*			I N	XREF: N(1692).
1698.2 *3*	(1/2,3/2,5/2+)		E	Jπ: primary γ from 1/2+ In (n,γ) E=thermal.
1711 *12*	11/2+,13/2+		I NO	Jπ: L(^{3}He,α)=6.
1713.61[g] *8*	19/2−[h]		D	
1716.6 *6*	(1/2+,3/2+,5/2+)		E I	Jπ: primary γ from 1/2+ In (n,γ) E=thermal; L(d,p)=(0,2).
1725.65 *12*	(1/2,3/2)		EF	Jπ: 1726γ to 1/2− g.s.; primary γ from 1/2+ In (n,γ) E=thermal.
1730.48 *4*	(3/2−)		EFGH	Jπ: 1731γ to 1/2− g.s.; weak 1278γ to 7/2− 453; primary γ from 1/2+ In (n,γ) E=thermal.
1734.73 *25*	(5/2+)		E I	XREF: I(1735.7). Jπ: L(d,p)=(2); 1528γ to 7/2− 207.
1737.2 *4*	(3/2)−		E I N	XREF: I(1735.7). Jπ: 1284γ to 7/2− 453; L(d,t)=1.
1746.11[q] *7*	(19/2−)	12.7 ns *20*	D	Jπ: stretched Q 556γ to (15/2−) 1190.3; 307γ to (21/2+) 1439.8. $T_{1/2}$: from (^{14}C,α3nγ).
1746.39[f] *9*	(23/2+)		D	Jπ: intraband gammas to (21/2+) and (19/2+).
1746.8 *7*	(1/2,3/2)		F	Jπ: 1747γ to 1/2− g.s.; primary γ from 1/2+ In (n,γ) E=thermal: γγ coin.
1763 *6*	5/2−,7/2−		N	Jπ: L(d,t)=3.
1785.58 *16*	5/2+		E I	XREF: I(1784.1). Jπ: L(d,p)=2; J=5/2 from asymmetry In (pol d,p).
1789.76 *15*	(1/2,3/2)		EF N	Jπ: 1790γ to 1/2− g.s.; primary γ from 1/2+ In (n,γ) E=thermal.
1793.8 *6*	5/2−,7/2−		I	Jπ: L(d,p)=3.
1802.1 *7*	(1/2,3/2)		HI	E(level): from (d,p). Jπ: fed by primary γ from 1/2+ resonance.
1811.11 *4*	(1/2)−		EFG I	XREF: I(1812.4). Jπ: L(d,p)=1; asymmetry In (pol d,p) favors J=1/2.
1813.9 *7*	(≤5/2)		F	Jπ: 1814γ to 1/2− g.s..
1821.5 *5*	1/2−,3/2−		I	Jπ: L(d,p)=1.
1822 *6*	5/2−,7/2−		N	Jπ: L(d,t)=3; possibly identical to the 1828 level.
1823.86 *4*	(3/2)−		EFG I	XREF: I(1823.3). Jπ: L(d,p)=1; possible 1412γ to 7/2− 412.
1828.1 *7*	(≤5/2)		F	Jπ: 1828γ to 1/2− g.s..
1833.81 *13*	(1/2−,3/2)		EF	Jπ: 1834γ to 1/2− g.s.; 1542γ to 5/2− 292; primary γ from 1/2+ In (n,γ) E=thermal.
1837.2 *4*	(1/2−,3/2)		E H	Jπ: 1837γ to 1/2− g.s.; 1545γ to 5/2− 292; primary γ from 1/2+ In (n,γ) E=thermal. Possibly the 1847 *11* tentative level for which L(d,p)=1; if so, Jπ=1/2−,3/2−.
1840.3 *3*	5/2+		E I	XREF: I(1840.8). other E: 1842.7 *4* from 2011Bo09 In (d,p). Jπ: 5/2+ from (pol d,p) and L(d,p)=2.
1846.7 *4*	(1/2−,3/2−)		E G	Jπ: L(d,p)=1 for E=1847 *11* tentative level whose energy overlaps that of the adopted 1837 level.
1866.50 *15*	(3/2−,5/2,7/2−)		E GH	Jπ: 1455γ to 7/2− 412; 1820γ to 3/2− 46.

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
1869.69 *10*	(1/2⁻,3/2)		EF	Jπ: 1870γ to 1/2⁻ g.s.; 967γ to (5/2⁻) 903; primary γ from 1/2⁺ In (n,γ) E=thermal.
1880.6[s] *4*	(≥13/2)		D	Jπ: 966γ to (17/2⁺) 914.
1886.15 *8*	(≤5/2)		F	Jπ: 1884γ to 1/2⁻ g.s.; 1838γ to 3/2⁻ 46.
1886.81 *4*	(1/2⁻,3/2)		EFGH	Jπ: 1887γ to 1/2⁻ g.s.; 1595γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
1893.82 *10*	(1/2⁻,3/2)		EF I	XREF: I(1892.1). Jπ: 1894γ to 1/2⁻ g.s.; 1602γ to 5/2⁻ 292; primary γ from 1/2⁺ in (n,γ) E=thermal.
1900.53[r] *10*	(19/2⁺)	<3.0 ns	D	$T_{1/2}$: from (^{14}C,α3nγ). Jπ: 154γ to (19/2⁻) 1746; 986γ to 17/2⁺ 915.
1900.84 *11*	(1/2⁻,3/2)		EF	Jπ: 1900γ to 1/2⁻ g.s.; 1801γ to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
1900.87[b] *15*	23/2⁻[a]		D	Jπ: intraband 573γ to 19/2⁻ 1328.
1907.6 *8*	(1/2⁺)		I	Jπ: L(d,p)=(0,2); J=1/2 favored In (pol d,p).
1915.39 *20*	(1/2⁻,3/2)		EFGH	XREF: G(1920.0). Jπ: 1916γ to 1/2⁻ g.s.; 1625γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
1932.1 *7*	(≤7/2)		F	Jπ: 1885γ to 3/2⁻ 46.
1944.31[t] *5*	3/2⁻		EFGH	Jπ: L(d,p)=1, J=3/2 from asymmetry In (pol d,p).
1952.5 *7*	1/2⁻,3/2⁻		F I	XREF: I(1944.5). Jπ: L(d,p)=1; 1952γ to 1/2⁻ g.s..
1964.72 *17*	(5/2)⁻		EF I N	XREF: I(1962.1)N(1967). Jπ: 1964γ to 1/2⁻ g.s.; 1552γ to 7/2⁻ 412; L(d,p)=3.
1971.6 *9*	1/2⁻,3/2⁻		I	Jπ: L(d,p)=1.
1975.80 *25*	(1/2⁺,3/2,7/2⁻)		E h	Jπ: 826γ to 3/2⁻ 1150, 701γ to (5/2⁺) 1275 suggest Jπ=(1/2⁺,3/2,5/2,7/2⁻).
1982.20[t] *9*	3/2⁻		E GhI	XREF: I(1981.0). Jπ: L(d,p)=1, J=3/2 from asymmetry In (pol d,p).
1989.70[q] *12*	(21/2⁻)		D	Jπ: intraband 243γ to (19/2⁻).
1990.56 *7*	(3/2⁻)		EF HI N	Jπ: 1990γ to 1/2⁻ g.s.; 991γ to 7/2⁻ 999; primary γ from 1/2⁺ In (n,γ) E=thermal.
2004.4 *10*	(≤7/2)		F	Jπ: 1796γ to 3/2⁻ 209.
2007.89[i] *10*	21/2⁻[h]		D	Jπ: 294γ to 19/2⁻ 1713; 568γ to 17/2⁻ 1440.
2009.7 *6*	(≤7/2)		I n	XREF: n(2016). Jπ: L(d,p)=2,3.
2022.7 *10*	(≤7/2)		F n	XREF: n(2016). Jπ: 1814γ to 3/2⁻ 209. L(d,t)=3,1 for E=2016 *6*.
2028.46 *7*	(1/2⁻,3/2)		EF	Jπ: 2029γ to 1/2⁻ g.s.; 1929γ to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
2043.39[e] *11*	25/2⁺		D	Jπ: intraband 297γ to (23/2⁺) 2043; 604γ to (21/2⁺) 1439.
2044.6 *7*	(3/2⁺)		F I	Jπ: L(d,p)=(0,2); 1946γ to 5/2⁻ 99.
2050.61[p] *13*	(23/2⁻)	<1.5 ns	D	304γ to (19/2⁻) 1746; 611γ to (21/2⁺) 1439; band assignment. $T_{1/2}$: from (^{14}C,α3nγ).
2057.7 *7*	(1/2,3/2)		F I	XREF: I(2050). Jπ: 2058γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2059.36 *12*	(3/2)⁻		EF I	XREF: I(2062.5). Jπ: L(d,p)=1; 1853γ to 7/2⁻ 207.
2091.5 *5*	1/2⁻,3/2⁻		E I	XREF: I(2091.0). Jπ: L(d,p)=1. supported by 2092γ to 1/2⁻ g.s., 1992γ to 5/2⁻ 99, primary γ from 1/2⁺ In (n,γ) E=thermal.
2095.5 *6*	(≤7/2)		F	Jπ: 1887γ to 3/2⁻ 209.
2099.28 *13*	(3/2⁻,5/2⁻)		EFGHI	XREF: I(2099.9). Jπ: 1686γ to 7/2⁻ 412; 2099γ to 1/2⁻ g.s..
2101.89 *14*	(23/2⁺)		D	Jπ: 112γ to (21/2⁻) 1989; very weak 355γ to (19/2⁻) 1746; D

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
				168γ from (25/2⁻) 2270.
2111.6 *7*	(≤7/2)		F	Jπ: 1903γ to 3/2⁻ 209.
2126.35[t] *7*	3/2⁻		EFGHI N	XREF: I(2127.4)N(2137). Jπ: L(d,p)=1; J=3/2 from asymmetry In (pol d,p). Supported by 2126γ to 1/2⁻ g.s.; 1058γ to 7/2⁻ 1069. note that branching from this level reported by 1973Ca02 In (n,γ) E=4.1 eV is vastly different from that adopted here from (n,γ) E=thermal; possibly level is complex there.
2130.2 *7*	(≤7/2)		F	Jπ: 1921γ to 3/2⁻ 209.
2152.9 *7*	(≤7/2)		F	Jπ: 1944γ to 3/2⁻ 209.
2154.20[r] *16*	(21/2⁺)		D	Jπ: 254γ to (19/2⁺) 1901; band assignment.
2157.48 *19*	(1/2⁻,3/2)		EF	Jπ: 2158γ to 1/2⁻ g.s.; 2059γ to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
2164.82 *6*	(3/2⁻)		EFG	Jπ: 2166γ to 1/2⁻ g.s.; 1712γ to 7/2⁻ 453; primary γ from 1/2⁺ In (n,γ) E=thermal.
2166.9 *10*	(≤7/2)		F	Jπ: 1958γ to 3/2⁻ 209.
2169.87 *8*	(3/2,5/2⁺)		E	Jπ: 895γ to (5/2⁺) 1275; 2072γ to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
2176.75 *6*	(3/2)		EFGH	XREF: G(2179.0). Jπ: 2177γ to 1/2⁻ g.s.; weak 858γ to 5/2⁺ 1320; weak 1886γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
2209.05 *9*	(1/2⁺)		EF I N	Jπ: L(d,p)=(0,2); asymmetry In (pol d,p) favors J=1/2.
2221.79[&] *18*	25/2⁻[a]		D	
2231.46 *17*	(1/2,3/2)		E	Jπ: 2231γ to 1/2⁻ g.s.; possible 2185γ to 3/2⁻ 45; primary γ from 1/2⁺ In (n,γ) E=thermal.
2233.1? *7*	(≤7/2)		F	presumed to differ from 2231 level because γ branching differs. Jπ: possible 1942γ to 5/2⁻ 292; possible 2184γ to 3/2⁻ 46.
2235.72 *11*	(3/2⁻)		EF	Jπ: 2236γ to 1/2⁻ g.s.; 1783γ to 7/2⁻ 453; primary γ from 1/2⁺ In (n,γ) E=thermal.
2239.1 *7*	(≤7/2)		F	Jπ: 2030γ to 3/2⁻ 209.
2248.08 *7*	(3/2,5/2⁻)		EF	Jπ: 2249γ to 1/2⁻ g.s.; 974γ to 5/2⁺ 1275; 1957γ to 5/2⁻ 292.
2253.37[q] *12*	(23/2⁻)		D	Jπ: intraband 263γ to 21/2⁻ 1989 and 507γ to (19/2⁻) 1746.
2257.6 *10*	(1/2,3/2,5/2⁺)		EF I	Jπ: 2211γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
2262.9 *7*	(≤7/2)		F	Jπ: 2053γ to 3/2⁻ 209.
2266.30 *16*	(1/2⁻,3/2)		EF	Jπ: 2266γ to 1/2⁻ g.s.; 1975γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
2269.69[n] *13*	(25/2⁻)	<3.0 ns	D	Jπ: 168γ to (23/2⁺) 2102; 219γ to (23/2⁻) 2050; band assignment. $T_{1/2}$: from (^{14}C,α3nγ).
2282.97 *6*	(3/2⁻)		EF I	Jπ: 2283γ to 1/2⁻ g.s.; 1831γ to 7/2⁻ 453; primary γ from 1/2⁺ In (n,γ) E=thermal.
2292.59 *11*	(≤5/2)		EF	Jπ: 2293γ to 1/2⁻ g.s..
2303.91 *5*	(3/2⁻)		EF I	Jπ: 2304γ to 1/2⁻ g.s.; 2097γ to 7/2⁻ 207; primary γ from 1/2⁺ In (n,γ) E=thermal.
2311.8 *7*	(1/2,3/2,5/2⁺)		F	Jπ: 2213γ to 5/2⁻ 99 implies J≤(9/2); primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
2314.98 *23*			E	
2324.67[g] *8*	23/2⁻[h]		D	
2325.6 *3*	(1/2⁻,3/2,5/2⁻)		EFGHI	XREF: G(2327.0)I(2330). Jπ: 2326γ to 1/2⁻ g.s.; 2035γ to 5/2⁻ 292.
2340.33[p] *15*	(25/2⁻)		D	Jπ: 290γ to (23/2⁻) 2050; band assignment.
2349.7 *4*			E	
2359.74 *23*	(1/2,3/2,5/2⁺)		EF	Jπ: 2313γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
2366.4 *6*	(1/2,3/2)		F	Jπ: 2366γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
2367.40 *20*	(1/2⁻,3/2)	E	Jπ: 2366γ to 1/2⁻ g.s.; 2268γ to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
2369.05 *6*	(1/2⁻,3/2)	EF	Jπ: 2369γ to 1/2⁻ g.s.; 2271 to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
2373.2 *10*	(1/2⁻,3/2,5/2⁺)	EF	Jπ: 2082γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
2384.09 *14*	(5/2⁻)	E	Jπ: 2383γ to 1/2⁻ g.s.; 1065γ to 9/2⁻ 1320.
2392.71 *5*	(1/2⁻,3/2)	EF	Jπ: 2393γ to 1/2⁻ g.s.; 2101γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
2413.25[f] *12*	(27/2⁺)	D	Jπ: 370γ to 25/2⁺ 2043; 667γ to 23/2⁺ 1746; band assignment.
2417.48 *7*	(≤5/2)	E I	XREF: I(2412). Jπ: 2418γ to 1/2⁻ g.s..
2418.1 *7*	(≤7/2)	F	Jπ: 2126γ to 5/2⁻ 292; 2209γ to 3/2⁻ 209.
2428.04 *10*	(≤7/2)	E	Jπ: 2136γ to 5/2⁻ 292; 2381γ to 3/2⁻ 46.
2429.79[r] *17*	(23/2⁺)	D	Jπ: 276γ to (21/2⁺) 2154; band assignment.
2431.1 *7*	(≤7/2)	F	Jπ: 2222γ to 3/2⁻ 209.
2433.2 *7*	(≤7/2)	F	Jπ: 2387γ to 3/2⁻ 47.
2433.63 *6*	(≤7/2)	E	Jπ: 1407γ to 3/2⁻ 1026.
2447.7 *7*	(≤7/2)	F	Jπ: 2401γ to 3/2⁻ 46.
2450.4 *7*	(≤7/2)	F	level appears to differ from 2450 level reported In (n,γ) E=thermal because the strongest (2404γ) branch placed here from this level is absent there. Jπ: 2404γ to 3/2⁻ 46.
2450.56 *6*	(≤7/2)	E	see comment on 2450.4 level. Jπ: 2404γ to 3/2⁻ 46.
2460.10 *22*	(1/2,3/2)	E	Jπ: possible 2460γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2475.0 *7*	(≤7/2)	F	Jπ: 2266γ to 3/2⁻ 209; primary γ from 1/2⁺ In (n,γ) E=thermal.
2481.46 *9*	(1/2⁻,3/2)	E	Jπ: 2482γ to 1/2⁻ g.s.; 2190γ to 5/2⁻ 292; primary γ from 1/2⁺ In (n,γ) E=thermal.
2485.60 *19*	(≤5/2)	E	Jπ: 2439γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
2492.98 *7*	(1/2⁻,3/2)	E	Jπ: 2493γ to 1/2⁻ g.s.; possible 2395γ to 5/2⁻ 99; primary γ from 1/2⁺ In (n,γ) E=thermal.
2493.9	(≤7/2)	F	presumed to differ from 2493 level In (n,γ) E=thermal because γ-deexcitation pattern differs. Jπ: 2285γ to 3/2⁻ 209.
2503.25 *8*	(≤5/2)	EF I	XREF: I(2500). Jπ: 2503γ to 1/2⁻ g.s.; 2211γ to 5/2⁻ 292.
2516.6 *4*	(≤7/2)	E	Jπ: possible 2308γ to 3/2⁻ 209.
2517.67 *9*	(≤5/2)	EF	Jπ: possible 2518γ to 1/2⁻ g.s..
2522.50 *5*	(≥3/2)	E	Jπ: possible 2423γ to 5/2⁻ 99; possible 2110γ to 7/2⁻ 412.
2523.04 *5*	(3/2⁻,5/2⁻)	EF	Jπ: 2523γ to 1/2⁻ g.s.; 1454γ to (7/2)⁻ 1069.
2530.1 *7*	(≤5/2)	F	Jπ: 2530γ to 1/2⁻ g.s..
2535.16 *6*	(1/2⁻,3/2,5/2⁺)	EF	Jπ: 1307γ to (5/2)⁻ 1229; primary γ from 1/2⁺ In (n,γ) E=thermal.
2536.15[q] *13*	(25/2⁻)	D	Jπ: 283γ to (23/2⁻) 2253; 547γ to (21/2⁻) 1989; band assignment.
2547.6 *7*	(≤7/2)	F	Jπ: 2501γ to 3/2⁻ 46. A possible primary 3643γ from 1/2⁺ In (n,γ) E=thermal renders J=7/2 unlikely.
2550.3 *7*	(≤5/2)	F	Jπ: 2341γ to 3/2⁻ 209; primary 3641γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
2552.8 *7*	(≤5/2)	F	Jπ: 2553γ to 1/2⁻ g.s..
2559.83[b] *14*	27/2⁻[a]	D	
2567.9 *7*	(≤5/2)	F	Jπ: 2568γ to 1/2⁻ g.s..
2574.0 *6*	(≤5/2)	F	Jπ: 2574γ to 1/2⁻ g.s.; 2365γ to 3/2⁻ 209.
2591.24[n] *15*	(27/2⁻)	D	Jπ: D 322γ to (25/2⁻) 2269; band assignment.
2593.39 *12*	(1/2,3/2)	EF	Jπ: 2593γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2597.8 *7*	(≤7/2)	F	Jπ: 2551γ to 3/2⁻ 46.
2608.53 *18*	(1/2,3/2)	E	Jπ: possible 2610γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2611.2 *3*	(3/2⁺,5/2⁺)	EF	Jπ: 1234γ to 7/2⁺ 1376; 2565γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ)

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Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			E=thermal.
2612.7 *5*	(3/2⁻,5/2⁻)	EF	Jπ: possible 2612γ to 1/2⁻ g.s.; possible 1543γ to 7/2⁻ 1069.
2615.79 *21*	(≤7/2)	EF	Jπ: 2569γ to 3/2⁻ 46; possible 2617γ to 1/2⁻ g.s. renders J=7/2 unlikely.
2623.03 *8*	(≤5/2)	E	Jπ: 2625γ to 1/2⁻ g.s.; 2332γ to 5/2⁻ 292.
2629.17 *12*	(1/2,3/2)	E	Jπ: 1695γ to 1/2⁻ 935; primary γ from 1/2⁺ In (n,γ) E=thermal.
2649.42[p] *14*	(27/2⁻)	D	Jπ: 309γ to 25/2⁻ 2340; 599γ to (23/2⁻) 2050; band assignment.
2655.47[i] *14*	25/2⁻[h]	D	Jπ: 330γ to 25/2⁻ 2325; 648γ to 21/2⁻ 2008; band assignment.
2655.8 *10*	(≤7/2)	F	Jπ: 2609γ to 3/2⁻ 46.
2656.26 *13*	(≤5/2)	E	Jπ: 2656γ to 1/2⁻ g.s..
2668.4 *4*	(1/2,3/2)	EF	Jπ: 2668γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2687.77 *19*	(≤7/2)	EF	Jπ: 2479γ to 3/2⁻ 209.
2697.0 *4*	(1/2,3/2)	E	Jπ: 1762γ to 1/2⁻ 935; primary γ from 1/2⁺ In (n,γ) E=thermal.
2699.16 *8*	(1/2⁻,3/2,5/2⁻)	EF	Jπ: 2700γ to 1/2⁻ g.s.; 1796γ to (5/2⁻) 903.
2706.59[e] *14*	(29/2⁺)	D	
2708.11 *9*	(1/2,3/2)	EF	Jπ: 2708γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2715.51 *8*	(3/2⁻,5/2⁻)	EF	Jπ: 2716γ to 1/2⁻ g.s.; possible 2262γ to 7/2⁻ 453.
2722.74 *11*	(1/2⁻,3/2,5/2⁻)	E	Jπ: 2723γ to 1/2⁻ g.s.; possible 1819γ to 5/2⁻ 903.
2723.26[r] *13*	(25/2⁺)	D	Jπ: 294γ to (23/2⁺) 2430; 569γ to (21/2⁺) 2154.
2738.0 *10*	(≤7/2)	F	Jπ: 2692γ to 3/2⁻ 46.
2741.4 *3*	(1/2,3/2)	EF	Jπ: 2741γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=THERMAL..
2744.0 *7*	(≤7/2)	F	Jπ: 2535γ to 3/2⁻ 209.
2765.2 *7*	(≤7/2)	F	Jπ: 2719γ to 3/2⁻ 46.
2768.56 *22*	(≤7/2)	EF	Jπ: 1742γ to 3/2⁻ 1026. possible 2767γ to 1/2⁻ g.s. makes J=7/2 unlikely.
2770.0 *5*	(1/2,3/2)	EF	Jπ: 2770γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2772.9 *3*	(≤7/2)	E	Jπ: 1746γ to (3/2)⁻ 1026.
2782.32 *17*	(≤7/2)	F	Jπ: 2735γ to 3/2⁻ 46.
2783.33 *16*	(≤7/2)	EF	Jπ: 2575γ to 3/2⁻ 209.
2804.96 *8*	(1/2,3/2)	EF	Jπ: 2806γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2813.31 *7*	(≤7/2)	EF	Jπ: 1504γ to 3/2⁻ 1309. possible 1876γ to 1/2⁻ 935 makes J=7/2 unlikely.
2815.8? *3*	(1/2,3/2)	E	Jπ: 2816γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2817.3 *10*	(≤7/2)	F	Jπ: 2609γ to 3/2⁻ 209.
2832.85 *18*	(≤5/2)	EF	Jπ: 2833γ to 1/2⁻ g.s..
2833.91 *9*	(≤7/2)	F	Jπ: 2786γ to 3/2⁻ 46.
2837.73[q] *13*	(27/2⁻)	D	Jπ: 302γ to (25/2⁻) 2536; 584γ to (23/2⁻) 2253; band assignment.
2839.4 *7*	(≤7/2)	F	Jπ: 2630γ to 3/2⁻ 209.
2843.3 *7*	(≤5/2)	F	Jπ: 2843γ to 1/2⁻ g.s..
2846.41 *8*	(≤5/2)	EF	Jπ: 2847γ to 1/2⁻ g.s..
2856.0 *7*	(1/2,3/2,5/2⁺)	F	Jπ: 2647γ to 3/2⁻ 209; primary γ from 1/2⁺ In (n,γ) E=thermal.
2874.09 *25*	(≥25/2⁺)	D	Jπ: 168γ to (29/2⁺) 2706.
2881.2 *10*	(≤7/2)	F	Jπ: 2672γ to 3/2⁻ 209.
2884.11 *7*	(≤7/2)	E	Jπ: possible 2836γ to 3/2⁻ 46.
2898.7 *3*	(≤5/2)	E	Jπ: possible 2899γ to 1/2⁻ g.s..
2910.3 *7*	(1/2,3/2)	F	Jπ: 2910γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
2915.12? *23*	(1/2,3/2,5/2⁺)	EF	Jπ: possible 2869γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
2929.89[&] *21*	29/2⁻[a]	D	Jπ: 708γ to 25/2⁻ 2222; band assignment.
2932.56[n] *15*	(29/2⁻)	D	Jπ: 341γ to (27/2⁻) 2591; 663γ to (25/2⁻) 2269; band assignment.
2945.6 *7*	(≤7/2)	F	Jπ: 2899γ to 3/2⁻ 46.
2954.6 *7*	(≤5/2)	F	Jπ: 2954γ to 1/2⁻ g.s..
2966.7 *7*	(1/2,3/2)	F	Jπ: 2967γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
2977.78[p] *16*	(29/2⁻)	D	Jπ: 328γ to (27/2⁻) 2649; 637.7γ to 25/2⁻ 2340; band assignment.
2979.08 *7*	(1/2,3/2)	EF	Jπ: 2979γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
3010.9[g] *4*	27/2⁻[h]	D	Jπ: 686γ to 23/2⁻ 2325; band assignment.
3015.3? *7*		F	Jπ: tentative γ to 5/2⁻ 99 implies J≤(9/2). reported In (n,γ) E=thermal: γγ coin but not In (n,γ) E=thermal, so level and deexciting γ are indicated As uncertain here.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
3031.0 *7*	(≤7/2)		F	Jπ: 2984γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
3042.5 *7*	(≤5/2)		F	Jπ: 3042γ to 1/2⁻ g.s..
3054.5 *7*	(≤3/2)		F	Jπ: 3054γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ COIN..
3071.0 *7*	(1/2,3/2,5/2⁺)		F	Jπ: 3024γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
3078.7 *6*	(≤3/2)		F	Jπ: 3079γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
3083.9 *7*	(≤3/2)		F	Jπ: 3084γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
3096.5 *10*	(≤5/2)		F	Jπ: 3050γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
3097.57 *7*	(1/2,3/2,5/2⁺)		E	Jπ: 1485γ to J<5/2 *1612*; primary γ from 1/2⁺ In (n,γ) E=thermal.
3156.78[q] *14*	(29/2⁻)		D	Jπ: 319γ to (27/2⁻) 2837; 621γ to (25/2⁻) 2536; band assignment.
3161.25[f] *15*	(31/2⁺)		D	Jπ: 455γ to (29/2⁺) 2706; 748γ to (27/2⁺) 2413; band assignment.
3210.74 *12*	(1/2,3/2,5/2⁺)		E	Jπ: 3164γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
3290.34[b] *17*	31/2⁻[a]		D	
3292.48[n] *18*	(31/2⁻)		D	Jπ: 360γ to (29/2⁻) 2932; band assignment.
3349.37[o] *14*	(31/2⁻)	<0.5 ns	D	Jπ: D 417γ to 29/2(⁻) 2932; 700γ to (27/2⁻) 2649. $T_{1/2}$: from (^{14}C,α3nγ).
3423.79[e] *17*	33/2⁺		D	Jπ: 717γ to 29/2⁺ 2706; band assignment.
3534.2 *6*	(1/2,3/2)		F	Jπ: 3534γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
3664.45[o] *17*	(33/2⁻)		D	Jπ: intraband 315γ to (31/2⁻) 3349; 732γ to (29/2)⁻ 2932; band assignment.
3667.3? *5*	(1/2,3/2,5/2⁺)		E	Jπ: 3621γ to 3/2⁻ 46; primary γ from 1/2⁺ In (n,γ) E=thermal.
3687.1 *5*	(1/2,3/2)		F	Jπ: 3687γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
3706.39[&] *23*	33/2⁻[a]		D	Jπ: 777γ to 29/2⁻ 2930; band assignment.
3709.8 *7*	(1/2,3/2)		F	Jπ: 3710γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
3786.68 *17*			E	
3840.1 *7*	(1/2,3/2)		F	Jπ: 3840γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal: γγ coin.
3922.85? *22*	(1/2,3/2,5/2⁺)		E	Jπ: possible 3715γ to 3/2⁻ 209; primary γ from 1/2⁺ In (n,γ) E=thermal.
3980.9[f] *4*	(35/2⁺)		D	Jπ: 820γ to (31/2⁺) 3161; band assignment.
3993.90? *23*	(1/2,3/2,5/2⁺)		E	Jπ: 3994γ to 1/2⁻ g.s.; primary γ from 1/2⁺ In (n,γ) E=thermal.
3997.85[o] *20*	35/2(⁻)		D	Jπ: 333γ to (33/2⁻) 3664; band assignment.
4042.1[b] *3*	35/2⁻[a]		D	Jπ: 752γ to 31/2⁻ 3290; band assignment.
4196.8[e] *3*	37/2⁺		D	Jπ: 773γ to 33/2⁺ 3423; band assignment.
4390.25 *22*			D	Jπ: 392γ to 35/2(⁻) 3997; band assignment.
4441.15 *22*			D	Jπ: 443γ to 35/2(⁻) 3997; band assignment.
4539.45 *22*			D	Jπ: 542γ to 35/2(⁻) 3997; band assignment.
(6190.965 *14*)	1/2⁺		EF	E(level): from least-squares fit to Eγ. S(n)=6190.81 *5* from 2012Wa38. Jπ: S wave capture by 0⁺ ^{182}W target.

[†] From least-squares fit to Eγ, assigning 1 keV uncertainty to Eγ data for which authors gave No uncertainty and excluding tentatively-placed lines unless all transitions deexciting a given level are of that character. Note that 10 Eγ data differ from the least-squares prediction by At least 5σ and another 12 Eγ data differ by 3σ or 4σ. The reduced χ^2=1.9 for the fit exceeds χ^2(critical)=1.1.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{183}W Levels (continued)

‡ Values given without further justification are based on deduced band structure. Strong primary γ-rays from (n,γ) are presumed to be E1 or M1.
# From Doppler shift (1992La02) In (Ni,Ni′γ) from Coulomb excitation.
@ Assigned in Coulomb excitation.
& Band(A): 1/2[510], α=+1/2 band. Band parameters: E_0=−4, α=13.0, a=0.19 (J=1/2,3/2,5/2 levels).
a Definite J^π assigned to members of 1/2[510] band based on progression of level energies and independently-established J^π(g.s.)=1/2$^-$ and mult(46γ)=M1+E2 for J=3/2 to 1/2 transition.
b Band(a): 1/2[510], α=−1/2 band.
c Band(B): 3/2[512] band. Band parameters: E_0=183, α=17.0, (J=3/2,5/2,7/2 levels).
d Definite J^π assigned to members of 3/2[512] band based on progression of level energies and independently-established J^π(209)=3/2$^-$ and mult(85γ)=M1+E2 for J=5/2 to 3/2 transition.
e Band(C): 11/2[615], α=+1/2 band. Band parameters: E_0=234.3, α=13.8, B=−5.4 (J=13/2 through 37/2 levels).
f Band(c): 11/2[615], α=−1/2 band. Band parameters: E_0=233.3, α=13.7, B=−3.1 (J=11/2 through 35/2 levels).
g Band(d): 7/2[503], α=−1/2 band. Band parameters: E_0=398, α=15.9, B=−10.0 (J=13/2 through 17/2 levels).
h Definite J^π assigned to members of 7/2[503] band based on progression of level energies and independently-established J^π(453)=7/2$^-$ and mult(142γ)=M1+E2 for J=9/2 to 7/2 transition.
i Band(D): 7/2[503], α=+1/2 band.
j Band(E): 9/2[624] band. Band parameters: E_0=559, α=14.2, B=−8.1 (J=9/2,11/2,13/2 levels).
k Band(F): 5/2[512] band. Band parameters: E_0=868, α=14.0 (J=5/2,7/2,9/2).
l Band(G): 1/2[521] band. Band parameters: E_0=939, α=17.7, a=0.69.
m Band(H): 7/2[514] band. Band parameters: E_0=1011, α=16.4 (J=7/2,9/2,11/2 levels).
n Band(I): K^π=25/2$^{(-)}$ band. Possible configuration: π^2(9/2[514]+5/2[402])+ν 11/2[615].
o Band(J): K^π=(31/2$^-$) band. Possible configuration: π^2(7/2[404]+5/2[402])⊗ 19/2$^-$ level.
p Band(K): K^π=23/2$^-$ band. Possible configuration: ν^3(9/2[624]+3/2[512]+11/2[615]).
q Band(L): K^π=(19/2$^-$) band. Possible configuration: ν^3(9/2[624]−1/2[510]+11/2[615]) with 50% Coriolis-mixed K=21/2 component.
r Band(M): K^π=(19/2$^+$) band. Possible configuration: ν^3(1/2[510]+7/2[514]+11/2[615]).
s Band(N): band fragment. Feeds levels In 11/2[615] band.
t Band(O): 3/2[501] band fragments.
u Band(P): K^π=3/2−? $\beta\gamma$ vibration band.
v Band(Q): 1/2[501] band.
w Band(R): 9/2[505] band.
x Band(S): 5/2[503] band.

Adopted Levels, Gammas (continued)

γ(^{183}W)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	δ[‡a]	α[†]	Comments
46.4838	3/2$^-$	46.4838[c] *5*	100[c]	0.0	1/2$^-$	M1+E2	−0.084 *13*	8.4 *3*	B(M1)(W.u.)=0.125 *5*; B(E2)(W.u.)=179 *3* E_γ: from IT decay (5.30 s). 47.07 *10* from level energy difference In (^{14}C,α3nγ). B(E2)(W.u.): from measured B(E2).
99.0791	5/2$^-$	52.5952[c] *9*	82.0 *16*	46.4838	3/2$^-$	M1+E2	−0.127 *21*	6.2 *4*	B(M1)(W.u.)=0.0154 *14*; B(E2)(W.u.)=37 *13* other Eγ: 52.596 *1* from ε decay, 52.73 *10* from (n,n′γ), 52.52 *5* from (n,γ) E=thermal. I_γ: weighted average of 78 *8* from β$^-$ decay, 83.1 *26* from IT decay (5.30 s) and 81.5 *21* from ε decay. other Iγ: 100.0 *8* from (n,γ) E=thermal.
		99.0793[c] *17*	100.0 *14*	0.0	1/2$^-$	E2		4.05	B(E2)(W.u.)=119 *2* B(E2)(W.u.): from measured B(E2). other Eγ: 98.90 *5* from (n,γ) E=thermal. all other data are consistent with adopted value. I_γ: weighted average of 100 *7* from β$^-$ decay, 100.0 *26* from IT decay (5.30 s) and 100.0 *18* from ε decay. other: 90.5 *9* from (n,γ) E=thermal.
207.0114	7/2$^-$	107.9310[c] *18*	100.0 *10*	99.0791	5/2$^-$	M1+E2	−0.31 *5*	3.73	E_γ: In excellent agreement with 107.933 *2* from ε decay, 107.91 *3* from (n,n′γ) and 107.8 *1* from (^{14}C,α3nγ). other Eγ: 107.86 *2* from (n,γ) E=thermal, 107.8 *7* from (n,γ) E=4.1 eV. I_γ: weighted average of 100 *7* from β$^-$ decay, 100.0 *16* from IT decay (5.30 s), 100.0 *19* from ε decay, 100.0 *7* from (n,γ) E=thermal. δ: from ε decay. other δ: −0.09 *2* from Coulomb excitation.
		160.526[c] *3*	26.98 *24*	46.4838	3/2$^-$	E2		0.659	other Eγ: 160.532 *4* from ε decay, 160.63 *10* from (n,γ) E=thermal, 160.39 *4* from (n,n′γ), 161.0 *1* from (^{14}C,α3nγ). I_γ: weighted average of 27.5 *25* from (n,n′γ), 26.6 *7* from β$^-$ decay, 27.0 *3* from ε decay, 27.1 *5* from IT decay (5.30 s). others: 60 *12* from (^{14}C,α3nγ), 41.3 *18* from (n,γ) E=thermal, 25.6 *11* from Coulomb excitation.
208.8069	3/2$^-$	109.745 *27*	11.9 *4*	99.0791	5/2$^-$	M1+E2	+0.139 *22*	3.62 *6*	B(M1)(W.u.)≈0.0028; B(E2)(W.u.)≈1.9 E_γ: unweighted average of 109.8 *4* from (^{14}C,α3nγ), 109.81 *3* from (n,n′γ), 109.66 *4* from (n,γ) E=thermal, 109.726 *3* from β$^-$ decay, 109.731 *2* from ε decay. the weighted average is 109.730 *3*. I_γ: unweighted average of 12.3 *9* from (n,n′γ), 10.81 *19* from (n,γ) E=thermal, 12.2 *7* from β$^-$ decay, 12.42 *20* from ε decay.
		162.3231 *4*	100.0 *5*	46.4838	3/2$^-$	M1+E2	+0.41 *1*	1.115	B(M1)(W.u.)≈0.0063; B(E2)(W.u.)≈17 E_γ: weighted average of 162.3211 *27* from β$^-$ decay and 162.330 *5* from ε decay. other Eγ: 162.27 *3* from (n,n′γ), 162.27 *2* from (n,γ) E=thermal. 162.0 *1* from (^{14}C,α3nγ). I_γ: from ε decay.

$^{183}_{74}W_{109}$-13

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	δ[‡a]	α[†]	Comments
208.8069	3/2⁻	208.786 *22*	12.63 *12*	0.0	1/2⁻	M1+E2	−0.5 *1*	0.527 *23*	B(M1)(W.u.)≈0.00035; B(E2)(W.u.)≈0.83 E_γ: unweighted average of 208.72 *3* from (n,n′γ), 208.80 *2* from (n,γ) E=thermal, 208.810 *7* from β^- decay, 208.812 *2* from ε decay. The weighted average is 208.811 *3*. other Eγ: 209.4 *7* from (n,γ) E=4.1 eV, 209.8 *1* from (^{14}C,α3nγ). I_γ: unweighted average of 12.6 *12* from (n,n′γ), 12.31 *13* from (n,γ) E=thermal, 12.5 *5* from β^- decay, 12.74 *5* from ε decay. The weighted average is 12.68 *7*. Other Iγ: 13 *7* from from (n,γ) E=4.1 eV, 17 from Coulomb excitation.
291.7236	5/2⁻	82.918[c] *2*	11.0 *10*	208.8069	3/2⁻	M1+E2	+0.64 *3*	8.21	B(M1)(W.u.)=0.0096 *12*; B(E2)(W.u.)=2.4×10^2 *4* E_γ: agrees well with 83.0 *2* from (^{14}C,α3nγ), 82.80 *17* from (n,n′γ) and 82.919 *2* from ε decay. I_γ: unweighted average of 11.4 *12* from β^- decay, 9.2 *7* from ε decay and 12.5 *13* from (n,γ) E=thermal (the weighted average is 10.3 *10*). other Iγ: 26 *9* from (n,n′γ), 48 *10* from (^{14}C,α3nγ).
		84.711[c] *2*	33.0 *23*	207.0114	7/2⁻	M1+E2	+0.15 *1*	7.65	B(M1)(W.u.)=0.037 *4*; B(E2)(W.u.)=49 *8* Eγ agrees well with 84.1 *6* from (^{14}C,α3nγ) and 84.712 *2* from ε decay. I_γ: average of 35.3 *16* from β^- decay and 30.7 *16* from ε decay. others: 68 *25* from (n,n′γ), 28 *7* from (^{13}C,α3nγ), 46 *4* from (n,γ) E=thermal.
		192.643[c] *6*	8.92 *26*	99.0791	5/2⁻	M1+E2	+0.56 *5*	0.647 *16*	B(M1)(W.u.)=0.00067 *6*; B(E2)(W.u.)=2.3 *4* E_γ: agrees well with 192.63 *6* from (n,n′γ), 192.65 *7* from (n,γ) E=thermal, 192.646 *7* from ε decay, 192.9 *7* from (n,γ) E=4.1 eV. I_γ: unweighted average of 9.3 *20* from (n,n′γ), 8.7 *3* from (n,γ) E=thermal, 9.4 *3* from β^- decay, 8.28 *20* from ε decay; weighted average is 8.65 *26*. other Iγ: 11 *5* from (n,γ) E=4.1 eV.
		245.239 *4*	8.7 *6*	46.4838	3/2⁻	M1		0.380	B(M1)(W.u.)=0.00041 *4* E_γ: weighted average of 245.2 *5* from (n,γ) E=thermal, 245.235 *6* from β^- decay, 245.243 *6* from ε decay. other: 245.6 *7* from (n,γ) E=4.1 eV for doublet; presumed doublet (Eγ=245.1 *1*) In (^{14}C,α3nγ). I_γ: weighted average of 9.3 *22* from (n,γ) E=thermal, 9.7 *10* from β^- decay, 8.0 *8* from ε decay. other: 8.9 In Coulomb excitation, 68 *35* In (n,γ) E=4.1 eV.
		291.724[c] *5*	100.0 *3*	0.0	1/2⁻	E2		0.0924	B(E2)(W.u.)=13.8 *10* B(E2)(W.u.): from measured B(E2). other Eγ: 291.61 *3* from (n,n′γ), 291.71 *2* from (n,γ) E=thermal, 291.723 *7* from ε decay, 291.8 *7* from (n,γ) E=4.1 eV. Absent In (^{14}C,α3nγ). I_γ: from ε decay.

$^{183}_{74}W_{109}$-14

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	δ[‡a]	α[†]	Comments
308.9466	9/2$^-$	17.2 *2*	0.0143 *5*	291.7236	5/2$^-$	[E2]		1.64×10^4 *10*	E_γ: from level energy difference. I_γ: from statistical model calculations In (n,γ) E=thermal.
		101.934[c] *2*	7.1 *5*	207.0114	7/2$^-$	M1+E2	−0.21 *3*	4.46	I_γ: unweighted average of 7.1 *3* from β^- decay, 6.6 *6* from ε decay, 8.6 *8* and 6.2 *6* from Coulomb excitation (the weighted average is 7.0 *3*). Others: 21 *4* from (n,γ) E=thermal, 6.2 from (n,n′γ). δ: from Coulomb excitation.
		209.879 *12*	100.0 *24*	99.0791	5/2$^-$	E2		0.262	unweighted average of 209.867 *4* from β decay and 209.890 *7* from ε decay. other Eγ: 209.7 *1* from (^{14}C,α3nγ), 209.80 *3* from (n,n′γ), 209.86 *4* from (n,γ) E=thermal.
309.492	11/2$^+$	102.481[c] *3*	100[c]	207.0114	7/2$^-$	M2		39.2	B(M2)(W.u.)=4.00×10^{-7} *9* other Eγ; 102.10 *9* from (n,n′γ), presumably for a doublet.
412.0939	7/2$^-$	103.147[c] *5*	<1.3	308.9466	9/2$^-$	[M1,E2]		3.9 *5*	I_γ: from ε decay. other Iγ: 7.1 *28* from β^- decay, 14 *6* from (n,γ) E=thermal.
		120.373[c] *3*	3.06[c] *19*	291.7236	5/2$^-$	E2+M1	≈0.38	≈2.68	other Eγ: 120.05 *21* from (n,γ) E=thermal. other Iγ: 0.74 *13* from ε decay, 0.84 *17* from (n,γ) E=thermal. δ: from β^- decay.
		203.279 *7*	12.4 *28*	208.8069	3/2$^-$	E2		0.292	E_γ: weighted average of 203.22 *6* from (n,n′γ), 203.284 *8* from β^- decay, 203.269 *12* from ε decay, 203.28 *5* from (n,γ) E=thermal. Other Eγ: 203.1 *1* from (^{14}C,α3nγ). I_γ: unweighted average of 18.1 *5* from β^- decay, 9.6 *13* from ε decay, 6.04 *17* from (n,γ) E=thermal, 15.7 *23* from (n,n′γ). The weighted average is 7.4 *21*.
		205.067 *14*	33 *4*	207.0114	7/2$^-$	M1+E2	0.18 *6*	0.611 *12*	E_γ: unweighted average of 205.02 *3* from (n,n′γ), 205.085 *7* from β^- decay, 205.081 *9* from ε decay, 205.05 *2* from (n,γ) E=thermal. Other Eγ: 205.1 *7* from (n,γ) E=4.1 eV. I_γ: unweighted average of 30 *5* from ε decay, 41.8 *15* from β^- decay, 23 *11* from (n,γ) E=4.1 eV, 36 *3* from (n,n′γ) (the weighted average is 39.7 *23*). other Iγ: 13.01 *17* from (n,γ) E=thermal.
		313.021 *5*	100.0 *21*	99.0791	5/2$^-$	M1+E2	+0.225 *8*	0.190	E_γ,I_γ: from ε decay. other Eγ: 313.005 *30* from β^- decay. doublet In (n,n′γ) and (n,γ) E=thermal, and possibly In (n,γ) E=4.1 eV also. δ: from ε decay. Other δ: +0.23 *3* from Coulomb excitation.
		365.616 *9*	15 *3*	46.4838	3/2$^-$	E2		0.0480	E_γ: weighted average of 365.62 *10* from (n,n′γ), 365.644 *30* from β^- decay, 365.614 *9* from ε decay, 365.61 *5* from (n,γ) E=thermal, 365.5 *2* from (n,γ) E=4.1 eV.

$^{183}_{74}W_{109}$-15

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	δ[‡a]	α[†]	Comments
									I_γ: unweighted average of discrepant data: 19.3 *17* from ε decay, 22.9 *19* from β^- decay, 15.7 *34* from (n,n′γ), 7.99 *17* from (n,γ) E=thermal, 8.3 *17* from(n,γ) E=4.1 eV (the weighted average is 8.2 *9*).
453.0695	7/2$^-$	40.976[c] *1*	1.72[c] *15*	412.0939	7/2$^-$	M1		11.01	B(M1)(W.u.)=7.9×10^{-5} *9* other Iγ: 1.9 *7* from ε decay; 2.00 *22* from (n,γ) E=thermal.
		144.1217[c] *24*	9.54 *25*	308.9466	9/2$^-$	M1+E2	+0.07 *3*	1.670	B(M1)(W.u.)≈8.8×10^{-6}; B(E2)(W.u.)≈0.025 other Eγ: 143.8 *1* from (^{14}C,α3nγ), 144.12 *8* from (n,n′γ), 144.10 *15* from (n,γ) E=thermal, 144.135 *4* from ε decay and 143.0 *7* from (n,γ) E=4.1 eV. I_γ: weighted average of 9.0 *19* from (n,n′γ), 10.5 *9* from (n,γ) E=thermal, 9.4 *3* from β^- decay, 9.7 *6* from ε decay. other Iγ: 15.3 *12* from (^{14}C,α3nγ) and 29 *14* from (n,γ) E=4.1 eV.
		161.3439[c] *27*	45 *9*	291.7236	5/2$^-$	M1+E2	≈0.2	≈1.194	B(M1)(W.u.)≈3.3×10^{-5}; B(E2)(W.u.)≈0.021 other Eγ: 161.0 *1* from (^{14}C,α3nγ), 161.17 *5* from (n,n′γ), 161.342 *14* from ε decay. I_γ: unweighted average of 33.4 *13* from β^- decay, 27 *4* from ε decay, 56 *5* from (^{14}C,α3nγ), 64 *6* from (n,n′γ) (weighted average is 35 *5*).
		244.263[c] *4*	31.8 *5*	208.8069	3/2$^-$	E2		0.1603	B(E2)(W.u.)=0.048 *3* other Eγ: 245.1 *1* from (^{14}C,α3nγ) for multiplet, 244.26 *4* from (n,n′γ), 244.24 *13* from (n,γ) E=thermal, 244.266 *3* from ε decay; 245.6 *7* from (n,γ) E=4.1 eV for doublet. I_γ: weighted average of 34 *2* from (n,n′γ), 32.2 *18* from (n,γ) E=thermal, 32.2 *9* from β^- decay, 31.2 *7* from ε decay. Probable doublet In (^{14}C,α3nγ) and (n,γ) E=4.1 eV.
		246.059[c] *4*	100[c] *3*	207.0114	7/2$^-$	M1+E2	−0.069 *26*	0.375	B(M1)(W.u.)=2.11×10^{-5} *14*; B(E2)(W.u.)=0.0007 *6* other Eγ: 245.94 *3* from (n,n′γ), 246.04 *8* from (n,γ) E=thermal, 246.062 *2* from ε decay. 245.6 *7* from (n,γ) E=4.1 eV for doublet; 245.1 *1* from (^{14}C,α3nγ) for presumed doublet. I_γ: from ε decay and β^- decay.
		353.989[c] *6*	40.4 *9*	99.0791	5/2$^-$	M1+E2	−0.192 *18*	0.1373 *21*	B(M1)(W.u.)=2.78×10^{-6} *18*; B(E2)(W.u.)=0.00034 *7* other Eγ: 353.8 *1* from (^{14}C,α3nγ), 353.94 *3* from (n,n′γ), 354.00 *2* from (n,γ) E=thermal, 353.998 *5* from ε decay and 353.9 *2* from (n,γ) E=4.1 eV. I_γ: unweighted average of 39 *1* from (n,n′γ), 39.0 *4* from (n,γ) E=thermal, 42.6 *11* from β^- decay, 40.8 *7* from ε decay; other Iγ: 24 *12* from (n,γ) E=4.1 eV. And 30.7 *25* from (^{14}C,α3nγ) (weighted average = 39.7 *7*).

$^{183}_{74}W_{109}$-16

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	δ[‡a]	α[†]	Comments
453.0695	7/2⁻	406.599 *13*	5.0 *15*	46.4838	3/2⁻	(E2)		0.0358	B(E2)(W.u.)=0.00059 *18* E_γ: weighted average of 406.612 *23* from β^- decay, 406.593 *16* from ε decay and 406.65 *21* from (n,n′γ); other Eγ: 408.8 *1* from (^{14}C,α3nγ), 406.37 *10* from (n,γ) E=thermal, 406.4 *2* from (n,γ) E= 4.1 eV. I_γ: data are discrepant: 1.90 *8* from β^- decay, 2.5 *6* from ε decay, 6.8 *20* from (n,n′γ), 9.9 *4* from (n,γ) E=thermal and 3.8 *8* from (n,γ) E=4.1 eV; the unweighted average of these data is 5.0 *15* (cf. weighted average = 2.2 *8*). Eγ=408.8 *1*, Iγ=14.0 *14* from (^{14}C,α3nγ) suggests that γ May be complex there.
475.05	11/2⁻	166.1[g] *1*	59.5[g] *26*	308.9466	9/2⁻	(M1+E2)	−0.12 *2*	1.113	other Eγ (Iγ): 166.28 *3* (115 *12*) from (n,n′γ), 166.4 (76.3 *15*) from Coulomb excitation. Mult.,δ: from Coulomb excitation; D+Q intraband G.
		268.1[g] *1*	100[g] *5*	207.0114	7/2⁻	[E2]		0.1197	other Eγ: 268.18 *3* from (n,n′γ), 268.5 from Coulomb excitation, 268.0 *3* from (n,γ) E=thermal.
485.38	13/2⁺	175.89 *5*	100	309.492	11/2⁺				E_γ: from (n,γ) E=thermal. 175.7 *1* from (^{14}C,α3nγ).
551.24	9/2⁻	139.2		412.0939	7/2⁻				E_γ: from Coulomb excitation.
		259.48[f] *4*	100[f] *4*	291.7236	5/2⁻	[E2]		0.1325	other Eγ (Iγ): 259.51 *13* (100 *7*) from (n,γ) E=thermal, 259.4 (100) from Coulomb excitation.
		344.38 *21*	52 *7*	207.0114	7/2⁻	(M1+E2)	+0.37 *10*	0.140 *6*	E_γ,I_γ: from (n,γ) E=thermal. Other Eγ (Iγ): 344.16 *5* (52 *9*) from (n,n′γ), 344.1 (49 *3* from angular correlation; 57 from thick target yield) In Coulomb excitation. Mult.,δ: from Coulomb excitation; D+Q γ, Δπ from level scheme.
		452.18 *4*	58 *3*	99.0791	5/2⁻				Eγ (Iγ): weighted average of 452.18 *4* (57 *4*) from (n,n′γ) and 452.09 *20* (63 *7*) from (n,γ) E=thermal. Other: 452.0 (54 thick target yield; 68 *5* from angular correlation) In Coulomb excitation).
557.5	(1/2,3/2,5/2⁻)	557.4[e]	100[e]	0.0	1/2⁻				
595.338	9/2⁻	142.270[c] *6*	100[c] *9*	453.0695	7/2⁻	M1+E2	0.3 *1*	1.68 *5*	other Eγ: 142.22 *3* from (n,n′γ), 142.25 *9* from (n,γ) E=thermal, 142.0 *1* from (^{14}C,α3nγ).
		286.39 *5*	3.2 *12*	308.9466	9/2⁻				E_γ: from (n,γ) E=thermal. I_γ: average of 3.3 *17* from (n,γ) E=thermal and 3.1 *16* from β^- decay.
622.60	(9/2)⁺	313.19 *10*	100	309.492	11/2⁺	M1		0.195	E_γ: average of 313.28 *3* from β^- decay and 313.09 *3* from (n,n′γ). other Eγ: 314.7 *1* from (^{14}C,α3nγ).
631.11	13/2⁻	155.8[d]	12[d] *4*	475.05	11/2⁻				reported In Coulomb excitation only.
		322.06[g] *9*	100[g]	308.9466	9/2⁻	[E2]		0.0689	B(E2)(W.u.)=240 *+40−70* E_γ: weighted average of 321.86 *21* from (n,n′γ) and

$^{183}_{74}W_{109}$-17

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	δ[‡a]	α[†]	Comments
									322.1 *1* from (^{14}C,α3nγ). other: 322.2 from Coulomb excitation.
677.7	(1/2,3/2,5/2$^+$)	468.8[e]	100[e]	208.8069	3/2$^-$				
687.63	(15/2$^+$)	202.2[g] *1*	100[g] *3*	485.38	13/2$^+$				
		378.1[g] *1*	36.6[g] *14*	309.492	11/2$^+$				
739.95	11/2$^-$	188.6[dj]		551.24	9/2$^-$				reported In Coulomb excitation only.
		264.81[f] *12*	19[f] *4*	475.05	11/2$^-$				other Eγ (Iγ): 265.3 *8* (100 *41*) from (n,γ) E=thermal.
		327.77[fb] *9*	57[f] *14*	412.0939	7/2$^-$				other Eγ (Iγ): 327.8 from Coulomb excitation.
		431.05[f] *5*	100[f] *14*	308.9466	9/2$^-$				other Eγ (Iγ): 431.7 *3* ? (52 *4*) from (n,γ) E=thermal, 431.0 from Coulomb excitation.
		532.9[d]	[d]	207.0114	7/2$^-$				reported In Coulomb excitation only.
766.30	11/2$^-$	171.0[g] *1*	100[g] *4*	595.338	9/2$^-$				other Eγ: 171.6 *3* from (n,γ) E=thermal.
		313.0[g] *1*	30.6[g] *17*	453.0695	7/2$^-$				
776.80	(11/2)$^+$	154.1 *2*	≈67	622.60	(9/2)$^+$				E_γ: from (^{14}C,α3nγ). Other Eγ (Iγ): 153.98 *10* (124 *35*) from (n,n′γ) for doubly-placed γ; 153.8 *19* (≈67) from (n,γ) E=thermal. Placement from (^{14}C,α3nγ) and (n,n′γ).
		467.35 *14*	100 *50*	309.492	11/2$^+$				Eγ, Iγ, placement from (n,n′γ). Eγ=467.5 *9* In (n,γ) E=thermal with γ placed feeding the 9/2$^-$ 309 level; γ unobserved In (^{14}C,α3nγ).
777.0	(11/2$^-$)	323.96[j] *27*	100	453.0695	7/2$^-$				E_γ: from (n,n′γ). tentative placement from 1997Pr02; γ unplaced In 1993Pr07.
804.9	(1/2,3/2,5/2$^+$)	596.0[e]	100[e]	208.8069	3/2$^-$				
808.3	(1/2,3/2,5/2$^+$)	599.4[e]	100[e]	208.8069	3/2$^-$				
816.5	(1/2,3/2,5/2$^+$)	607.7[e]	100[e]	208.8069	3/2$^-$				
849.94	15/2$^-$	218.7[g] *1*	16.5[g] *9*	631.11	13/2$^-$	(M1+E2)	−0.25 *7*	0.503 *13*	other Eγ (Iγ); 219.4 (27 *3*) from Coulomb excitation. Mult.,δ: from Coulomb excitation; D+Q intraband G.
		375.0[g] *1*	100[g] *4*	475.05	11/2$^-$	[E2]		0.0447	other Eγ (Iγ); 375.2 (100) from Coulomb excitation.
871.9	(1/2,3/2,5/2$^+$)	663.1[e]	100[e]	208.8069	3/2$^-$				
899.7	(≤9/2$^-$)	608.0[e]	100[e]	291.7236	5/2$^-$				
903.503	(5/2$^-$)	451.9 *2*	1.7 *3*	453.0695	7/2$^-$				E_γ,I_γ: from (n,γ) E=4.1 eV. other Eγ (Iγ): ^{451,}I(451γ):I(857γ)=1.0≈:17 *3* from (n,γ) E=4.1 eV.
		491.3 *4*	2.1 *4*	412.0939	7/2$^-$				
		594.8 *12*	2.3 *10*	308.9466	9/2$^-$				
		611.75 *4*	28.7 *10*	291.7236	5/2$^-$				other Eγ (Iγ): 611.3 (70 *18*) from (n,γ) E=thermal: γγ coin, 611.98 *18* (20 *5*) from (n,n′γ).
		694.69 *2*	100.0 *8*	208.8069	3/2$^-$				other Eγ (Iγ): 694.2 (100 *21*) from (n,γ) E=thermal: γγ coin, 695.69 *18* (100 *20*) for doublet In (n,n′γ), 695.4 *2* (100 *21*) from (n,γ) E=4.1 eV; absent In Coulomb excitation.
		804.34 *18*	10.4 *10*	99.0791	5/2$^-$				other Eγ (Iγ): 804.4, I(804γ):I(857γ)=100:93 from Coulomb excitation.
		857.0 *11*	11 *6*	46.4838	3/2$^-$				other Eγ (Iγ): 857.6 *2* (16.5 *35*) from (n,γ) E=4.1

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Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J^{π}_i	E_{γ}[#]	I_{γ}[#@]	E_f	J^{π}_f	Mult.[&]	δ[‡a]	α[†]	Comments
									eV, 857.0 from Coulomb excitation.

$^{183}_{74}W_{109}$-19

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	α[†]	Comments
903.503	(5/2$^-$)	903.7 *12*	3 *2*	0.0	1/2$^-$	[E2]	0.00554	B(E2)(W.u.)=0.35 *3* B(E2)(W.u.): from measured B(E2). other Eγ (Iγ): 903.0 (605 *33*) from (n,γ) E=thermal: γγ coin.
909.4	(1/2,3/2,5/2$^+$)	700.5[e]	100[e]	208.8069	3/2$^-$			
914.81	17/2$^+$	227.1[g] *1*	100[g] *3*	687.63	(15/2$^+$)			
		429.5[g] *1*	83.8[g] *28*	485.38	13/2$^+$			
926.1	13/2$^-$	186.3[d]		739.95	11/2$^-$			
		374.9[d]	100[d]	551.24	9/2$^-$	(E2)	0.0447	
		450.9[d]	22[d] *5*	475.05	11/2$^-$			
		617.3[d]	10[d] *2*	308.9466	9/2$^-$			
934.661	1/2$^-$	726	≈1	208.8069	3/2$^-$			
		835.2 *13*	2 *1*	99.0791	5/2$^-$			
		888.17 *2*	100.0 *4*	46.4838	3/2$^-$			other Eγ: 888.1 *2* (100 *19*) from (n,γ) E=4.1 eV, 887.5 (100 *8*) from (n,γ) E=thermal: γγ coin, 888.18 *11* (100 *10*) from (n,n′γ).
		935.3[j] *8*	0.96 *26*	0.0	1/2$^-$			
941.6	(≤7/2)	895.0[e]	100[e]	46.4838	3/2$^-$			
949.9	(≤7/2)	903.3[e]	100[e]	46.4838	3/2$^-$			
951.3	(≤7/2)	742.4[e]	100[e]	208.8069	3/2$^-$			
956.30	(13/2)$^+$	333.7[g] *1*	100[g]	622.60	(9/2)$^+$	[E2]	0.0622	
963.43	(11/2,13/2)	332.25[f] *17*	100[f] *30*	631.11	13/2$^-$			
		488.41[f] *12*	36[f] *9*	475.05	11/2$^-$			
965.13	13/2$^-$	198.6[g] *1*	100[g] *4*	766.30	11/2$^-$			
		370.0[g] *1*	59.6[g] *25*	595.338	9/2$^-$			
999.60	7/2$^-$	404.60[f] *18*	44[f] *13*	595.338	9/2$^-$			other Eγ (Iγ): 405 (12 *4*) from (n,γ) E=thermal.
		448	6 *3*	551.24	9/2$^-$			
		547	≈3.0	453.0695	7/2$^-$			
		587.43 *9*	46 *4*	412.0939	7/2$^-$			E_γ: Eγ (Iγ): weighted average of 587.29 *13* (47 *4*) from (n,γ) E=thermal and 587.49 *9* (42 *8*) from (n,n′γ).
		707.79 *19*	100 *9*	291.7236	5/2$^-$			other Eγ (Iγ): 707.85 *26* (100 *25*) from (n,n′γ).
1026.373	(3/2)$^-$	615	≈0.40	412.0939	7/2$^-$			
		734.6 *4*	0.56 *10*	291.7236	5/2$^-$			other Eγ (Iγ): 734.4 *2* (0.60 *12*) from (n,γ) E=4.1 eV.
		817.73 *10*	11.1 *6*	208.8069	3/2$^-$			other Eγ: 817.4 *2* (12.3 *25*) from (n,γ) E=4.1 eV, 817.1 (22.2 *16*) from (n,γ) E=thermal: γγ coin, 818.0 *5* (22 *5*) from (n,n′γ).
		927.29 *2*	16.32 *14*	99.0791	5/2$^-$			other Eγ: 927.2 *2* (15 *3*) from (n,γ) E=4.1 eV, 926.8 (7.2 *4*) from (n,γ) E=thermal: γγ coin, 927.8 *6* (13 *7*) from (n,n′γ).
		979.88 *2*	61.5 *3*	46.4838	3/2$^-$			other Eγ: 979.9 *2* (60 *12*) from (n,γ) E=4.1 eV, 979.4 (54.9 *19*) from (n,γ) E=thermal: γγ coin, 979.82 *15* (66 *13*) from (n,n′γ), 979.8 (45) from Coulomb excitation.
		1026.38 *2*	100.0 *4*	0.0	1/2$^-$	(E2)	0.00428	B(E2)(W.u.)=0.081 *16*

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Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	α[†]	Comments
								B(E2)(W.u.): from measured B(E2). other Eγ: 1026.4 *2* (100 *20*) from (n,γ) E=4.1 eV, 1025.9 (100.0 *20*) from (n,γ) E=thermal: γγ coin, 1026.19 *13* (100 *11*) from (n,n′γ), 1026.3 (100) from Coulomb excitation.
1053.269	(5/2)$^-$	641.4 *3*	8.9 *11*	412.0939	7/2$^-$			other Eγ (Iγ):≈640.2 (9.1 *18*) from (n,γ) E=4.1 eV, 640.8 for sole branch reported In Coulomb excitation.
		761.8 *4*	3.0 *11*	291.7236	5/2$^-$			
		846.26 *3*	100.0 *11*	207.0114	7/2$^-$			other Eγ (Iγ): 846.1 *2* (100 *20*) from (n,γ) E=4.1 eV.
		953.97[h] *18*	15[h] *3*	99.0791	5/2$^-$			other Eγ (Iγ): 953.6 *2* (12.1 *24*) from (n,γ) E=4.1 eV, 953.29 *16*, I(953γ):I(1006γ)=100 *25*:53 *18* from (n,n′γ).
		1006.89 *17*	13.7 *16*	46.4838	3/2$^-$			other Eγ: 1006.5 *9* from (n,n′γ).
		(1053.26 *3*)	[i]	0.0	1/2$^-$	(E2)	0.00406	B(E2)(W.u.)<0.1 B(E2)(W.u.): from measured B(E2). E_γ: from level-energy difference.
1061.99	17/2$^-$	430.9[g] *1*	100[g]	631.11	13/2$^-$	[E2]	0.0307	B(E2)(W.u.)=200 *30* other Eγ: 431.3 from Coulomb excitation.
1069.42	7/2$^-$	474.67[f] *15*	22[f] *7*	595.338	9/2$^-$			
		657.14 *14*	44 *11*	412.0939	7/2$^-$			other Eγ (Iγ): 656.65 *22* (32 *14*) from (n,n′γ), 657.4 *3* from from (n,γ) E=thermal.
		777.34[f] *15*	100[f] *22*	291.7236	5/2$^-$			other Eγ (Iγ): 777.7 *5* (100 *14*) from (n,γ) E=thermal.
1096.4	(≤9/2)	997.2[e]	100[e]	99.0791	5/2$^-$			
1149.91	3/2$^-$	697.04 *11*	100 *5*	453.0695	7/2$^-$			other Eγ (Iγ): 695.69 *18* (100 *20*) from (n,n′γ).
		738.9[j] *6*	2.0 *8*	412.0939	7/2$^-$			
		858.1 *5*	36 *9*	291.7236	5/2$^-$			other Eγ (Iγ): 858.1? 4 (12 *6*) from (n,n′γ).
		940.77[f] *15*	29[f] *6*	208.8069	3/2$^-$			other Eγ (Iγ): 941.09 *3* (66.9 *8*) from (n,γ) E=thermal, 942.8 (27) from Coulomb excitation.
		1050.4[j] *8*	2.7 *8*	99.0791	5/2$^-$			
		1103.50 *16*	12.4 *8*	46.4838	3/2$^-$			
		1149.94 *7*	31.3 *8*	0.0	1/2$^-$	(E2)	0.00342	B(E2)(W.u.)=0.08 *3* other Eγ (Iγ): 1149.7 *6* (12 *6*) from (n,n′γ), 1149.8 (100) from Coulomb excitation.
1168.74	19/2$^+$	253.6[g] *1*	75.5[g] *25*	914.81	17/2$^+$			
		481.1[g] *1*	100[g] *3*	687.63	(15/2$^+$)			
1188.4?	(≤7/2)	979.4[e]	100[e]	208.8069	3/2$^-$			
1190.25	15/2$^-$	224.9[g] *1*	96[g] *3*	965.13	13/2$^-$			
		424.0[g] *1*	100[g] *4*	766.30	11/2$^-$	Q		Mult.: from (^{14}C,α3nγ).
1214.31	9/2$^-$	802.18[f] *10*	100[f] *21*	412.0939	7/2$^-$			other Eγ (Iγ): 802.6 *6* (100 *27*) from (n,γ) E=thermal.
		923.2[f] *4*	28[f] *14*	291.7236	5/2$^-$			other Eγ (Iγ): 923.8? 11 (93 *40*) from (n,γ) E=thermal.
1223.40?		153.98[j] *10*	100	1069.42	7/2$^-$			E_γ,I_γ: from (n,n′γ) for γ with alternative placement.
1226.5	(≤5/2)	1226.4[e]	100[e]	0.0	1/2$^-$			
1229.31	(5/2)$^-$	633.95 *7*	57.4 *20*	595.338	9/2$^-$			

$^{183}_{74}W_{109}$-21

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	α[†]	Comments
1229.31	(5/2)$^-$	776.21 *21*	100 *5*	453.0695	7/2$^-$			
		817.36 *13*	39 *18*	412.0939	7/2$^-$			
		937.58 *18*	50 *3*	291.7236	5/2$^-$			
		1020.4 *4*	25 *5*	208.8069	3/2$^-$			
1261.4	(7/2$^-$)	849.8 *13*	70 *40*	412.0939	7/2$^-$			
		952.4 *5*	100 *40*	308.9466	9/2$^-$			
		969.2 *15*	95 *30*	291.7236	5/2$^-$			
1272.2	(≤9/2)	980.3[e]	100[e]	291.7236	5/2$^-$			
1275.19	(5/2$^+$,7/2,9/2$^-$)	371.6 *3*	4 *1*	903.503	(5/2$^-$)			
		652.59 *2*	12 *1*	622.60	(9/2)$^+$			
		822.12 *13*	100 *1*	453.0695	7/2$^-$			other Eγ: 821.8? 2 from (n,γ) E=4.1 eV.
		863.6 *4*	4 *1*	412.0939	7/2$^-$			
1291.67	(1/2$^-$,3/2$^-$)	142.0 *6*	≈9	1149.91	3/2$^-$			
		265.7 *4*	≈6	1026.373	(3/2)$^-$			
		388	≈2	903.503	(5/2$^-$)			
		1082.8 *3*	22.9 *23*	208.8069	3/2$^-$			
		1192.72 *9*	100 *8*	99.0791	5/2$^-$			
		1245.31 *22*	31.5 *19*	46.4838	3/2$^-$			
		1291.8 *3*	29.6 *23*	0.0	1/2$^-$	(E2)	0.00275	B(E2)(W.u.)=0.36 *5* other Iγ: 86 In Coulomb excitation.
1309.409	(3/2$^-$)	310	≈4	999.60	7/2$^-$			
		375	7 *4*	934.661	1/2$^-$			
		406	9 *4*	903.503	(5/2$^-$)			
		1017.71 *6*	46.5 *8*	291.7236	5/2$^-$			
		1100.60 *2*	100.0 *6*	208.8069	3/2$^-$			other Eγ (Iγ): 1099.9 (100 *15*) from (n,γ) E=thermal: γγ coin; possibly the Eγ=1100.4 *2* transition placed by 1973Ca02 from the 2127 level In (n,γ) E=4.1 eV; 1100.11 *13* (100 *18*) from (n,n′γ).
		1210.35 *21*	19.6 *11*	99.0791	5/2$^-$			other Eγ (Iγ): 1209.6 (6 *3*) from (n,γ) E=thermal: γγ coin.
		1262.9 *4*	22 *8*	46.4838	3/2$^-$			E_γ: from (n,n′γ). I_γ: from (n,γ) E=thermal: γγ. other Iγ: 48 *21* from (n,n′γ), 20 *9* from (n,γ) E=thermal, 19 from Coulomb excitation, 48 *21* from (n,n′γ).
1309.9?	(≤5/2$^-$)	1309.9[d j]	100[d]	0.0	1/2$^-$	(E2)	0.00268	B(E2)(W.u.)=0.62 *5* B(E2)(W.u.): from measured B(E2).
1319.63	(9/2$^-$)	320.02 *18*	15 *4*	999.60	7/2$^-$			
		416.08 *5*	80 *3*	903.503	(5/2$^-$)			I_γ: unweighted average of 83.5 *15* and 77 *3* In (n,γ) E=thermal.
		697.04 *5*	76 *14*	622.60	(9/2)$^+$			
		724.6 *6*	9 *3*	595.338	9/2$^-$			
		767.7 *3*	13 *3*	551.24	9/2$^-$			
		866.60 *4*	100.0 *23*	453.0695	7/2$^-$			
		907.5 *6*	15 *3*	412.0939	7/2$^-$			
1327.67	19/2$^-$	265.7[g] *1*	13.0[g] *7*	1061.99	17/2$^-$			
		477.7[g] *1*	100[g] *3*	849.94	15/2$^-$			

$^{183}_{74}W_{109}$-22

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	α[†]	Comments
1331.7?	(19/2$^-$)	481.8[dj]	100[d]	849.94	15/2$^-$			E_γ: tentative transiton from Coulomb excitation, placed on the basis of band systematics.
1335.42	(3/2$^-$)	400.73 *14*	10.9 *8*	934.661	1/2$^-$			
		923	5 *3*	412.0939	7/2$^-$			
		1043.73 *12*	21.8 *8*	291.7236	5/2$^-$			
		1128.39 *10*	51.6 *16*	207.0114	7/2$^-$			
		1236.34 *9*	43.2 *12*	99.0791	5/2$^-$			
		1288.96 *6*	100.0 *16*	46.4838	3/2$^-$			
		1335.8[j] *3*	13.3 *20*	0.0	1/2$^-$			
1337.8	(5/2$^-$,7/2$^-$)	742.5 *8*	100	595.338	9/2$^-$			
1372.23	5/2$^-$,7/2$^-$	960.06 *9*	90 *3*	412.0939	7/2$^-$			other Eγ=959.80 *18*, Iγ:I(1081γ)=100 *25*:48 *14* In (n,n′γ).
		1062.9 *8*	9 *3*	308.9466	9/2$^-$			
		1080.72 *19*	50 *3*	291.7236	5/2$^-$			
		1163.38 *17*	100 *4*	208.8069	3/2$^-$			
		1165.35 *20*	88 *4*	207.0114	7/2$^-$			
1376.41	(≥7/2)	753.5 *5*	27 *8*	622.60	(9/2)$^+$			
		781.02 *12*	100 *9*	595.338	9/2$^-$			
		1067.2 *8*	38 *16*	309.492	11/2$^+$			
1412.9	(≤9/2)	1121.0[e]	[e]	291.7236	5/2$^-$			
1417.6	(≤5/2)	1417.4[e]	100[e]	0.0	1/2$^-$			
1432.9	(≤5/2)	1386.4[e]	100[e] *22*	46.4838	3/2$^-$			
		1432.9[e]	50[e] *25*	0.0	1/2$^-$			
1437.42	(1/2$^-$,3/2$^-$)	1145.5[j] *6*	20 *4*	291.7236	5/2$^-$			
		1228.60[h] *13*	18[h] *4*	208.8069	3/2$^-$			other Eγ (Iγ): 1228.3 *5* (27.4 *22*) In (n,γ) E=thermal.
		1338.9[h] *2*	14[h] *3*	99.0791	5/2$^-$			other Eγ (Iγ): 1338.23 *23* (41 *3*) In (n,γ) E=thermal.
		1390.8[h] *2*	13[h] *7*	46.4838	3/2$^-$			other Eγ (Iγ): 1390.82 *22* (30.2 *17*) In (n,γ) E=thermal.
		1437.5[h] *2*	100[h] *20*	0.0	1/2$^-$			other Eγ (Iγ): 1437.52 *23* (100 *12*) In (n,γ) E=thermal, 1437.8 *4* (100 *32*) from (n,n′γ).
1439.75	(21/2$^+$)	271.0[g] *1*	50.6[g] *17*	1168.74	19/2$^+$			
		525.1[g] *1*	100[g] *3*	914.81	17/2$^+$			
1439.92	17/2$^-$	249.7[g] *1*	90[g] *3*	1190.25	15/2$^-$			
		475.0[g] *1*	100[g] *3*	965.13	13/2$^-$			
1463.18	(3/2,5/2)$^-$	1051.0[dj]	[d]	412.0939	7/2$^-$	E2	0.00408	measured B(E2)↑=0.0034 *4*. the sole branch seen In Coulomb excitation and γ is absent In other reaction studies, so placement shown As uncertain here. Mult.: E2 excitation In Coulomb excitation.
		1416.78 *10*	100 *12*	46.4838	3/2$^-$			other Eγ (Iγ): 1416.3 (100 *27*) from (n,γ) E=thermal: γγ coin.
		1463.4 *3*	80 *10*	0.0	1/2$^-$			other Eγ (Iγ): 1462.8 (137 *30*) from (n,γ) E=thermal: γγ coin.
1466.7	(≥11/2)	778.9[g] *8*	32[g] *16*	687.63	(15/2$^+$)			
		981.4[g] *5*	100[g] *26*	485.38	13/2$^+$			
1471.05	1/2$^-$	321.17 *12*	13.1 *7*	1149.91	3/2$^-$			

$^{183}_{74}W_{109}$-23

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	α[†]	Comments
1471.05	1/2⁻	1262.6[b] *3*	57 *5*	208.8069	3/2⁻			other Eγ (Iγ): 1262.9 *4* (64 *27*) from (n,n′γ), 1261.8 (48 *6*) from (n,γ) E=thermal: γγ coin.
		1424.61 *7*	100.0 *18*	46.4838	3/2⁻			other Eγ (Iγ): 1423.2? 3 (100 *27*) from (n,n′γ), 1424.1 (100 *6*) from (n,γ) E=thermal: γγ coin.
		1470.75 *9*	34 *4*	0.0	1/2⁻			other Eγ (Iγ): 1470.6 (27 *4*) from (n,γ) E=thermal: γγ coin.
1474.77	(3/2 to 9/2)	1022.0[f] *4*	36[f] *18*	453.0695	7/2⁻			
		1062.6[f] *3*	91[f] *27*	412.0939	7/2⁻			
		1182.3[f] *8*	100[f] *36*	291.7236	5/2⁻			
1485.45	(1/2⁻,3/2⁻)	581.5[d]	21[d]	903.503	(5/2⁻)			other Eγ (Iγ): 581.7 *5* (29 *6*) from (n,γ) E=thermal.
		1386.4 *3*	≈72	99.0791	5/2⁻			I(1386γ):I(582γ)=100 *11*:29 *6* In (n,γ) E=thermal.
		1438.5[d]	93[d]	46.4838	3/2⁻			absent In (n,γ) E=thermal.
		1485.0[d]	100[d]	0.0	1/2⁻			B(E2)(W.u.)=1.46 *16* measured B(E2)↑=0.018 *2* from Coulomb excitation. possibly the 1485.49γ placed from 3098 level In (n,γ) E=thermal.
1502.1	(≤7/2)	1455.6[e]	100[e]	46.4838	3/2⁻			
1510.4	(3/2⁻,5/2,7/2⁻)	1098.3[d]	100[d]	412.0939	7/2⁻			
		1301.6[d]	34[d]	208.8069	3/2⁻			
		(1510.4 *7*)	[i]	0.0	1/2⁻	(E2)	0.00210	B(E2)(W.u.)=0.45 *6*
1510.64	(≤9/2)	1411.56 *6*	100	99.0791	5/2⁻			
1537.9	(1/2⁻,3/2,5/2⁻)	1246.1[e]	100[e] *55*	291.7236	5/2⁻			
		1537.8[e]	95[e] *50*	0.0	1/2⁻			
1542.9	(≤9/2)	639.9 *8*	100 *25*	903.503	(5/2⁻)			
		1250.9 *6*	75 *13*	291.7236	5/2⁻			
1550.52	5/2⁻	1343.49 *21*	100 *15*	207.0114	7/2⁻			
		1504.04 *13*	28.8 *25*	46.4838	3/2⁻			other Eγ: 1504.0 *4* for the only branch seen In (n,n′γ) from 1551 level.
1556.22	(3/2⁻)	326.8 *6*	11 *3*	1229.31	(5/2)⁻			
		406.5 *3*	15 *2*	1149.91	3/2⁻			
		652.9		903.503	(5/2⁻)			E_γ: from Coulomb excitation.
		1144.3	9.5	412.0939	7/2⁻			E_γ,I_γ: from Coulomb excitation.
		1264.6 *4*	21.9 *20*	291.7236	5/2⁻			other Eγ (Iγ): 1264.0 (61 *11*) from (n,γ) E=thermal: γγ coin.
		1347.4 *3*	19 *4*	208.8069	3/2⁻			other Eγ (Iγ): 1346.9 (40 *13*) from (n,γ) E=thermal: γγ coin; 1347.6 (20) from Coulomb excitation.
		1457.2 *7*	27 *4*	99.0791	5/2⁻			other Eγ (Iγ): 1456.6 (14 *3*) from (n,γ) E=thermal: γγ coin.
		1510.2 *3*	100 *6*	46.4838	3/2⁻			B(E2)(W.u.)=0.45 *6* other Eγ (Iγ): 1510.7 *5* (100 *30*) from (n,n′γ), 1509.2 (100 *13*) from (n,γ) E=thermal: γγ coin. B(E2)(W.u.): from measured B(E2).
		1556.28 *9*	94 *6*	0.0	1/2⁻	(E2)	0.00201	B(E2)(W.u.)=1.62 *16* B(E2)(W.u.): from measured B(E2). other Eγ (Iγ): 1557.4 *5* (60 *30*) from (n,n′γ), 1555.7 (169 *15*) from (n,γ) E=thermal: γγ coin.

$^{183}_{74}W_{109}$-24

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
1569.85	(5/2$^-$)	420.2 *9*	7.0 *26*	1149.91	3/2$^-$	
		1158.1 *5*	6 *3*	412.0939	7/2$^-$	
		1361.06 *14*	15.2 *13*	208.8069	3/2$^-$	
		1363	≈10	207.0114	7/2$^-$	
		1523.37 *14*	80.4 *26*	46.4838	3/2$^-$	
		1569.80 *10*	100.0 *26*	0.0	1/2$^-$	
1586.38	(3/2$^-$)	560.08 *17*	46 *6*	1026.373	(3/2)$^-$	
		651.7 *6*	55 *10*	934.661	1/2$^-$	other Eγ (Iγ): 652.41 *11* (100 *12*) from (n,n′γ).
		683.07 *16*	31 *10*	903.503	(5/2$^-$)	
		1294.37 *9*	37 *10*	291.7236	5/2$^-$	
		1380.2 *13*	59 *17*	207.0114	7/2$^-$	
		1487.53 *23*	52 *11*	99.0791	5/2$^-$	
		1540	≈17	46.4838	3/2$^-$	
		1586.83 *12*	100 *3*	0.0	1/2$^-$	other Eγ (Iγ): 1586.3 (100 *26*) from (n,γ) E=thermal: γγ coin.
1595.29	21/2$^-$	533.3[g] *1*	100[g]	1061.99	17/2$^-$	
1612.04	(1/2$^-$,3/2,5/2$^-$)	709.4[j] *6*	3.7 *16*	903.503	(5/2$^-$)	May be partially a primary transition.
		1320.4[e j]	58[e] *16*	291.7236	5/2$^-$	
		1402.8 *3*	16 *3*	208.8069	3/2$^-$	
		1512.82 *21*	36 *3*	99.0791	5/2$^-$	
		1565.51 *11*	67 *3*	46.4838	3/2$^-$	other Eγ (Iγ): 1565.6 (33 *14*) from (n,γ) E=thermal: γγ coin, and 1565.9 *2* (49 *25*) from (n,γ) E=4.1 eV.
		1612.16 *7*	100 *3*	0.0	1/2$^-$	other Eγ (Iγ): 1612.1 (100 *14*) from (n,γ) E=thermal: γγ coin, and 1612.0 *2* (100 *51*) from (n,γ) E=4.1 eV.
1615.2	(≤9/2)	1323.5[e]	100[e]	291.7236	5/2$^-$	
1616.9	(≤9/2)	1517.8[e]	100[e]	99.0791	5/2$^-$	
1628.22	3/2$^-$	479.2 *5*	≈1	1149.91	3/2$^-$	
		556.0[j] *19*	≈1	1069.42	7/2$^-$	
		724.7 *12*	≈1	903.503	(5/2$^-$)	
		1176.5 *10*	≈2	453.0695	7/2$^-$	
		1528.68 *23*	30 *2*	99.0791	5/2$^-$	other Eγ (Iγ): 1528.9 (7.4 *10*) from (n,γ) E=thermal: γγ coin, 1528.6 *3* (87 *43*) from (n,n′γ).
		1581.4 *3*	33 *2*	46.4838	3/2$^-$	other Eγ (Iγ): 1581.5 (19.5 *24*) from (n,γ) E=thermal: γγ coin, 1580.6 *6* (80 *41*) from (n,n′γ).
		1628.35 *8*	100 *3*	0.0	1/2$^-$	other Eγ (Iγ): 1628.0 (100 *5*) from (n,γ) E=thermal: γγ coin, 1627.13 *22* (100 *30*) from (n,n′γ).
1629.85	(1/2$^-$,3/2,5/2$^-$)	695.4[h] *2*	100[h] *21*	934.661	1/2$^-$	
		1337.9[h] *2*	4.8[h] *10*	291.7236	5/2$^-$	
1633.32	(1/2$^-$,3/2,5/2$^-$)	1423.9 *4*	≈10	208.8069	3/2$^-$	
		1532 *1*	16 *10*	99.0791	5/2$^-$	
		1586.9 *7*	84 *14*	46.4838	3/2$^-$	
		1633.77 *23*	100 *7*	0.0	1/2$^-$	other Eγ (Iγ): 1632.7 (100 *18*) from (n,γ) E=thermal: γγ coin.
1658.2	(≤9/2)	1366.3[e]	100[e]	291.7236	5/2$^-$	

$^{183}_{74}W_{109}$-25

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
1660.59	(1/2$^-$,3/2,5/2$^-$)	1451.5[j] *7*	5 *3*	208.8069	3/2$^-$	
		1561.73[j] *16*	35 *3*	99.0791	5/2$^-$	
		1614 *1*		46.4838	3/2$^-$	
		1660.59 *11*	100 *16*	0.0	1/2$^-$	other Eγ (Iγ): 1659.5 (100 *27*) from (n,γ) E=thermal: γγ coin.
1663.6	(≥11/2)	976.0[g] *3*	100[g]	687.63	(15/2$^+$)	
1663.64	(1/2$^-$,3/2,5/2$^-$)	1371.6 *11*	9 *5*	291.7236	5/2$^-$	
		1455.2 *3*	26 *8*	208.8069	3/2$^-$	
		1617.7 *6*	100 *15*	46.4838	3/2$^-$	other Eγ (Iγ): 1615.4 (100 *24*) from (n,γ) E=thermal: γγ coin.
		1663.2 *3*	29 *13*	0.0	1/2$^-$	
1669.3	(≤9/2)	1377.6[e]	100[e]	291.7236	5/2$^-$	
1672.75	(3/2$^-$,5/2$^-$)	522.4 *5*	≈1	1149.91	3/2$^-$	
		769.36 *19*	4 *1*	903.503	(5/2$^-$)	
		1262.1 *12*	2 *1*	412.0939	7/2$^-$	
		1381.09 *12*	9 *1*	291.7236	5/2$^-$	other Eγ (Iγ): 1380.8 (18.1 *22*) from (n,γ) E=thermal: γγ coin.
		1464.13 *15*	11 *2*	208.8069	3/2$^-$	other Eγ (Iγ): 1463.7 (27.7 *26*) from (n,γ) E=thermal: γγ coin.
		1465.5 *4*	6 *1*	207.0114	7/2$^-$	
		1573.52 *11*	12 *1*	99.0791	5/2$^-$	other Eγ (Iγ): 1573.4 (8.1 *9*) from (n,γ) E=thermal: γγ coin, 1573.2 *3* (104 *30*) from (n,n′γ).
		1626.29 *8*	100 *3*	46.4838	3/2$^-$	other Eγ (Iγ): 1626.0 (100 *5*) from (n,γ) E=thermal: γγ coin, 1627.2 *2* (100 *18*) from (n,γ) E=4.1 eV, 1627.13 *22* (100 *30*) from (n,n′γ).
		1672.86 *11*	14 *1*	0.0	1/2$^-$	other Eγ (Iγ): 1672.5 (23.8 *26*) from (n,γ) E=thermal: γγ coin and 1673.1 *2* (11.4 *23*) from (n,γ) E=4.1 eV.
1677.1	(1/2$^-$,3/2$^-$)	1468.1[e]	100[e]	208.8069	3/2$^-$	
1683.3	5/2$^-$,7/2$^-$	1230.2 *7*	100	453.0695	7/2$^-$	
1686.33		1063.72 *7*	100	622.60	(9/2)$^+$	
1713.61	19/2$^-$	273.6[g] *1*	71[g] *4*	1439.92	17/2$^-$	
		523.4[g] *1*	100[g] *6*	1190.25	15/2$^-$	
1725.65	(1/2,3/2)	575.9 *3*	10 *2*	1149.91	3/2$^-$	
		1516.9 *8*	18 *2*	208.8069	3/2$^-$	other Eγ (Iγ): 1516.1 (148 *57*) from (n,γ) E=thermal: γγ coin.
		1725.77 *14*	100 *4*	0.0	1/2$^-$	other Eγ (Iγ): 1724.9 (100 *38*) from (n,γ) E=thermal: γγ coin.
1730.48	(3/2$^-$)	1277.8 *6*	6 *2*	453.0695	7/2$^-$	
		1438.9 *8*	16 *5*	291.7236	5/2$^-$	
		1521.8 *4*	17 *3*	208.8069	3/2$^-$	other Eγ (Iγ): 1521.2 (21 *8*) from (n,γ) E=thermal: γγ coin.
		1631.52 *13*	53 *6*	99.0791	5/2$^-$	other Eγ (Iγ): 1630.9 (18 *4*) from (n,γ) E=thermal: γγ coin.
		1684.11 *7*	100 *5*	46.4838	3/2$^-$	other Eγ (Iγ): 1683.5 (100 *8*) from (n,γ) E=thermal: γγ coin.
		1730.7 *3*	23 *4*	0.0	1/2$^-$	other Eγ (Iγ): 1730.0 (34 *6*) from (n,γ) E=thermal: γγ coin.
1734.73	(5/2$^+$)	459.2 *7*	17 *8*	1275.19	(5/2$^+$,7/2,9/2$^-$)	
		1112	≈9	622.60	(9/2)$^+$	
		1322.8 *3*	100 *20*	412.0939	7/2$^-$	
		1441.9 *9*	70 *30*	291.7236	5/2$^-$	
		1527.9 *8*	90 *30*	207.0114	7/2$^-$	
1737.2	(3/2)$^-$	1284.4 *4*	100	453.0695	7/2$^-$	
1746.11	(19/2$^-$)	306.5[g] *1*	55.1[g] *19*	1439.92	17/2$^-$	

$^{183}_{74}W_{109}$-26

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	Comments
1746.11	(19/2$^-$)	307.0[g] *1*	28.0[g] *13*	1439.75	(21/2$^+$)		other Iγ: 55.1 *19* from (^{14}C,α3nγ).
		555.6[g] *1*	71.0[g] *24*	1190.25	15/2$^-$	Q	Mult.: from DCO In (^{14}C,α3nγ).
		577.1[g] *1*	67.6[g] *24*	1168.74	19/2$^+$		
		830.9[g] *1*	100[g] *3*	914.81	17/2$^+$	D	Mult.: from DCO In (^{14}C,α3nγ).
1746.39	(23/2$^+$)	306.1[g] *1*	36.9[g] *14*	1439.75	(21/2$^+$)		
		577.6[gb] *1*	100[g] *4*	1168.74	19/2$^+$		
1746.8	(1/2,3/2)	1746.6[e]	100[e]	0.0	1/2$^-$		
1785.58	5/2$^+$	1332.3 *15*	≈15	453.0695	7/2$^-$		
		1372.6 *3*	100 *12*	412.0939	7/2$^-$		
		1492.7 *3*	45 *10*	291.7236	5/2$^-$		
		1575.8 *13*	39 *15*	208.8069	3/2$^-$		
1789.76	(1/2,3/2)	496.7[j] *5*	8 *2*	1291.67	(1/2$^-$,3/2$^-$)		
		1580.6 *5*	50 *20*	208.8069	3/2$^-$		other Eγ (Iγ): 1581.5 (123 *46*) In (n,γ) E=thermal: γγ coin.
		1743.60 *23*		46.4838	3/2$^-$		
		1789.5 *8*	100 *33*	0.0	1/2$^-$		other Eγ (Iγ): 1790.3 (100 *31*) In (n,γ) E=thermal: γγ coin.
1811.11	(1/2)$^-$	340	≈2	1471.05	1/2$^-$		
		661.5 *4*	5 *3*	1149.91	3/2$^-$		
		1519.2 *6*	17 *3*	291.7236	5/2$^-$		other Eγ (Iγ): 1519.7 (13 *4*) In (n,γ) E=thermal: γγ coin.
		1602.43 *7*	99 *4*	208.8069	3/2$^-$		other Eγ (Iγ): 1602.6 (100 *7*) In (n,γ) E=thermal: γγ coin, 1602.5 *2* (100 *20*) from (n,γ) E=4.1 eV.
		1711.7 *15*	5 *3*	99.0791	5/2$^-$		
		1764.59 *12*	100 *4*	46.4838	3/2$^-$		other Eγ (Iγ): 1764.9 (71 *5*) In (n,γ) E=thermal: γγ coin, 1764.7 *2* (87 *18*) from (n,γ) E=4.1 eV.
		1811.1 *5*	8 *2*	0.0	1/2$^-$		
1813.9	(≤5/2)	1813.7[e]	100[e]	0.0	1/2$^-$		
1823.86	(3/2)$^-$	1370.89 *15*	<17	453.0695	7/2$^-$		other Eγ (Iγ):≈1370.0 (9 *5*) from (n,γ) E=4.1 eV.
		1411.68 *14*	<26	412.0939	7/2$^-$		other Eγ (Iγ): 1411.4 *2* (47 *27*) from (n,γ) E=4.1 eV.
		1532	≈1	291.7236	5/2$^-$		other Eγ (Iγ): 1531.8 (4.4 *16*) In (n,γ) E=thermal: γγ coin.
		1615.06 *7*	100 *3*	208.8069	3/2$^-$		other Eγ (Iγ): 1614.7 (100 *4*) In (n,γ) E=thermal: γγ coin, 1614.3 *4* (100 *50*) In (n,n′γ), 1615.3 *2* (100 *20*) In (n,γ) E=4.1 eV.
		1777	2 *1*	46.4838	3/2$^-$		other Eγ (Iγ): 1777.0 (3.2 *13*) In (n,γ) E=thermal: γγ coin.
		1824.0 *4*	5 *1*	0.0	1/2$^-$		other Eγ (Iγ): 1823.5 (6.3 *12*) In (n,γ) E=thermal: γγ coin.
1828.1	(≤5/2)	1827.9[e]	100[e]	0.0	1/2$^-$		
1833.81	(1/2$^-$,3/2)	1542.08 *15*	70 *19*	291.7236	5/2$^-$		
		1625.1 *11*	100 *21*	208.8069	3/2$^-$		other Eγ (Iγ): 1626.5 (100 *30*) from (n,γ) E=thermal: γγ coin.
		1736	28 *22*	99.0791	5/2$^-$		
		1787.8 *12*	48 *10*	46.4838	3/2$^-$		other Eγ (Iγ): 1788.8 (49 *21*) from (n,γ) E=thermal: γγ coin.
		1834.2 *5*	27 *8*	0.0	1/2$^-$		other Eγ (Iγ): 1835.3 (42 *19*) from (n,γ) E=thermal: γγ coin.
1837.2	(1/2$^-$,3/2)	1545.0 *14*	57 *25*	291.7236	5/2$^-$		
		1628.5 *6*	100 *25*	208.8069	3/2$^-$		
		1837.1 *11*	72 *27*	0.0	1/2$^-$		
1840.3	5/2$^+$	1217.7 *3*	100	622.60	(9/2)$^+$		

$^{183}_{74}W_{109}$-27

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
1866.50	(3/2⁻,5/2,7/2⁻)	1454.8[h] *2*	100[h] *50*	412.0939	7/2⁻	
		1819.6[h] *2*	63[h] *33*	46.4838	3/2⁻	
1869.69	(1/2⁻,3/2)	559.2 *16*	5 *3*	1309.409	(3/2⁻)	
		967	6 *3*	903.503	(5/2⁻)	
		1660.7 *4*	23 *4*	208.8069	3/2⁻	
		1824	4 *2*	46.4838	3/2⁻	
		1869.75 *18*	100 *7*	0.0	1/2⁻	other Eγ: 1869.3 from (n,γ) E=thermal: γγ coin.
1880.6	(≥13/2)	965.8[g] *4*	100[g]	914.81	17/2⁺	
1886.15	(≤5/2)	1675.2[e]	100[e] *25*	208.8069	3/2⁻	
		1837.5[e]	56[e] *21*	46.4838	3/2⁻	
		1884.0[e]	100[e] *25*	0.0	1/2⁻	
1886.81	(1/2⁻,3/2)	567.1 *3*	6 *2*	1319.63	(9/2⁻)	
		983.6[j] *8*	3 *1*	903.503	(5/2⁻)	
		1595.09 *4*	100 *3*	291.7236	5/2⁻	other Eγ (Iγ): 1594.5 (100 *6*) from (n,γ) E=thermal: γγ coin.
		1677.2 *5*	11 *2*	208.8069	3/2⁻	other Eγ (Iγ): 1676.4 *2* (15 *3*) from (n,γ) E=4.1 eV.
		1786.6 *12*	6 *2*	99.0791	5/2⁻	
		1839.8 *4*	15 *2*	46.4838	3/2⁻	other Eγ (Iγ): 1838.7 *2* (100 *20*) from (n,γ) E=4.1 eV.
		1886.5 *7*	18 *2*	0.0	1/2⁻	other Eγ (Iγ): 1885.5 *2* (61 *12*) from (n,γ) E=4.1 eV; 1884.0 from (n,γ) E=thermal: γγ coin.
1893.82	(1/2⁻,3/2)	1602	≈10	291.7236	5/2⁻	
		1847.74 *14*	100 *8*	46.4838	3/2⁻	other Eγ (Iγ): 1847.3 (100 *19*) from (n,γ) E=thermal: γγ coin.
		1894.20 *24*	53 *8*	0.0	1/2⁻	
1900.53	(19/2⁺)	153.6[gb] *1*	34[g] *5*	1746.39	(23/2⁺)	
		986.3[gb] *1*	100[g] *9*	914.81	17/2⁺	
1900.84	(1/2⁻,3/2)	967.4[j] *8*	12 *6*	934.661	1/2⁻	
		996.3 *6*	8 *3*	903.503	(5/2⁻)	
		1609.4 *3*	≈6	291.7236	5/2⁻	
		1692.1 *3*	100 *12*	208.8069	3/2⁻	other Eγ (Iγ): 1691.7 (100 *24*) from (n,γ) E=thermal: γγ coin.
		1801.4 *8*	10 *7*	99.0791	5/2⁻	
		1854.16 *18*	36 *10*	46.4838	3/2⁻	other Eγ (Iγ): 1854.0 (42 *18*) from (n,γ) E=thermal: γγ coin.
		1900.2 *23*	12 *7*	0.0	1/2⁻	
1900.87	23/2⁻	573.2[g] *1*	100[g]	1327.67	19/2⁻	
1915.39	(1/2⁻,3/2)	623.3 *5*	23 *9*	1291.67	(1/2⁻,3/2⁻)	
		765.1 *11*	20 *10*	1149.91	3/2⁻	
		1624.6 *9*	60 *30*	291.7236	5/2⁻	
		1707.5 *9*	45 *20*	208.8069	3/2⁻	
		1816.2[j] *3*		99.0791	5/2⁻	
		1868.6 *9*	90 *30*	46.4838	3/2⁻	
		1915.7 *4*	100 *11*	0.0	1/2⁻	other Eγ: 1914.9 from (n,γ) E=thermal: γγ coin.
1932.1	(≤7/2)	1885.4[e]	100[e]	46.4838	3/2⁻	
1944.31	3/2⁻	388.3 *4*	2 *1*	1556.22	(3/2⁻)	
		473.8 *3*	4 *2*	1471.05	1/2⁻	

$^{183}_{74}W_{109}$-28

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
1944.31	3/2$^-$	716	≈1	1229.31	(5/2)$^-$	
		794.5 *3*	3 *1*	1149.91	3/2$^-$	
		918.3 *4*	3 *1*	1026.373	(3/2)$^-$	
		1652.9 *8*	5 *1*	291.7236	5/2$^-$	other Eγ (Iγ): 1652.2 (4.0 *14*) from (n,γ) E=thermal: γγ coin, 1653.0 *2* (29 *14*) from (n,γ) E=4.1 eV.
		1735.56 *7*	100 *2*	208.8069	3/2$^-$	other Eγ (Iγ): 1735.1 (100 *4*) from (n,γ) E=thermal: γγ coin, 1735.9 *2* (100 *19*) from (n,γ) E=4.1 eV.
		1844.2 *15*	2 *1*	99.0791	5/2$^-$	
		1897.88 *14*	21 *2*	46.4838	3/2$^-$	other Eγ (Iγ): 1897.4 (16.3 *15*) from (n,γ) E=thermal: γγ coin, 1898.3 *2* (24 *5*) from (n,γ) E=4.1 eV.
		1944.42 *24*	8 *2*	0.0	1/2$^-$	other Eγ (Iγ): 1943.9 (2.6 *13*) from (n,γ) E=thermal: γγ coin, 1945.6 *2* (14 *3*) from (n,γ) E=4.1 eV.
1952.5	1/2$^-$,3/2$^-$	1952.3[e]	100[e]	0.0	1/2$^-$	
1964.72	(5/2)$^-$	1062.4 *12*	10 *6*	903.503	(5/2$^-$)	
		1552.1 *5*	68 *15*	412.0939	7/2$^-$	
		1673.4 *20*	30 *20*	291.7236	5/2$^-$	
		1757.3 *16*	43 *18*	208.8069	3/2$^-$	
		1918.3 *4*	100 *8*	46.4838	3/2$^-$	
		1964.4 *5*	35 *10*	0.0	1/2$^-$	other Eγ (Iγ): 1964.1 (100 *57*) from (n,γ) E=thermal: γγ coin.
1975.80	(1/2$^+$,3/2,7/2$^-$)	700.6 *4*	51 *11*	1275.19	(5/2$^+$,7/2,9/2$^-$)	
		825.9 *3*	100 *37*	1149.91	3/2$^-$	
1982.20	3/2$^-$	832.9 *7*	15 *5*	1149.91	3/2$^-$	
		1690.6 *3*	100 *16*	291.7236	5/2$^-$	other Eγ (Iγ): 1691.6 *2* (100 *20*) In ^{182}W(n,γ) E=4.1 eV.
		1935.9 *4*	38 *5*	46.4838	3/2$^-$	
		1982.41 *23*	90 *16*	0.0	1/2$^-$	other Eγ (Iγ): 1984.0 *2* (96 *20*) In ^{182}W(n,γ) E=4.1 eV.
1989.70	(21/2$^-$)	243.0[g] *1*	100[g]	1746.39	(23/2$^+$)	
1990.56	(3/2$^-$)	553.3 *18*	12 *7*	1437.42	(1/2$^-$,3/2$^-$)	
		964.5 *16*	16 *9*	1026.373	(3/2)$^-$	
		990.9 *11*	39 *9*	999.60	7/2$^-$	
		1086.6 *5*	27 *11*	903.503	(5/2$^-$)	
		1698.93 *10*	100 *15*	291.7236	5/2$^-$	
		1782.4 *3*	58 *15*	208.8069	3/2$^-$	
		1784	≈16	207.0114	7/2$^-$	
		1891	≈13	99.0791	5/2$^-$	
		1944.6 *8*	96 *16*	46.4838	3/2$^-$	
		1990.16 *23*	54 *13*	0.0	1/2$^-$	other Iγ: 100 *44* from (n,γ) E=thermal: γγ coin.
2004.4	(≤7/2)	1795.6[e]	100[e]	208.8069	3/2$^-$	
2007.89	21/2$^-$	294.4[g] *1*	72[g] *5*	1713.61	19/2$^-$	
		568.0[g] *1*	100[g] *7*	1439.92	17/2$^-$	
2022.7	(≤7/2)	1813.9[e]	100[e]	208.8069	3/2$^-$	
2028.46	(1/2$^-$,3/2)	720.0 *11*	3 *2*	1309.409	(3/2$^-$)	
		1093.9 *3*	9 *3*	934.661	1/2$^-$	
		1737.1 *6*	46 *7*	291.7236	5/2$^-$	other Eγ (Iγ): 1736.6 (35 *10*) from (n,γ) E=thermal: γγ coin.

$^{183}_{74}W_{109}$-29

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
2028.46	(1/2$^-$,3/2)	1819.6 *6*	17 *4*	208.8069	3/2$^-$	other Eγ (Iγ): 1819.5 (17 *9*) from (n,γ) E=thermal: γγ coin.
		1929.0 *3*	19 *4*	99.0791	5/2$^-$	
		1982.2 *10*	43 *11*	46.4838	3/2$^-$	other Eγ (Iγ): 1981.8 (18 *8*) from (n,γ) E=thermal: γγ coin.
		2028.61 *21*	100 *6*	0.0	1/2$^-$	other Eγ (Iγ): 2028.3 (100 *13*) from (n,γ) E=thermal: γγ coin.
2043.39	25/2$^+$	296.9[g] *1*	22.6[g] *13*	1746.39	(23/2$^+$)	
		603.7[g] *1*	100[g] *3*	1439.75	(21/2$^+$)	
2044.6	(3/2$^+$)	1945.5[e]	79[e] *17*	99.0791	5/2$^-$	
		1998.1[e]	100[e] *46*	46.4838	3/2$^-$	
2050.61	(23/2$^-$)	304.3[g] *1*	100[g] *3*	1746.39	(23/2$^+$)	
		610.6[g] *17*	0.38[g] *27*	1439.75	(21/2$^+$)	
2057.7	(1/2,3/2)	2057.5[e]	100[e]	0.0	1/2$^-$	
2059.36	(3/2)$^-$	830.9[b] *9*	20 *7*	1229.31	(5/2)$^-$	
		1156.3 *6*	10 *6*	903.503	(5/2$^-$)	
		1767.5 *4*	26 *9*	291.7236	5/2$^-$	
		1850.6 *4*	100 *7*	208.8069	3/2$^-$	
		1852.6 *18*	17 *8*	207.0114	7/2$^-$	
		2012.8 *4*	82 *11*	46.4838	3/2$^-$	
		2059.9 *10*	50 *6*	0.0	1/2$^-$	
2091.5	1/2$^-$,3/2$^-$	1800	≈20	291.7236	5/2$^-$	
		1992.4 *17*	30 *20*	99.0791	5/2$^-$	
		2043.8 *12*	100 *30*	46.4838	3/2$^-$	
		2092.3[j] *4*	60 *30*	0.0	1/2$^-$	
2095.5	(≤7/2)	1886.6[e]	100[e] *24*	208.8069	3/2$^-$	
		2048.9[e]	51[e] *22*	46.4838	3/2$^-$	
2099.28	(3/2$^-$,5/2$^-$)	790.05 *21*	49 *5*	1309.409	(3/2$^-$)	
		1164.2 *15*	16 *11*	934.661	1/2$^-$	other Eγ (Iγ): 1164.9 *2* (150 *68*) from ^{182}W(n,γ) E=4.1 eV; possibly for a complex line.
		1686.3 *16*	18 *9*	412.0939	7/2$^-$	
		1807.7 *19*	25 *11*	291.7236	5/2$^-$	
		1890.77 *24*	100 *5*	208.8069	3/2$^-$	other Eγ (Iγ): 1889.9 *2* (100 *21*) from ^{182}W(n,γ) E=4.1 eV. 1890.1 (97 *38*) from (n,γ) E=thermal: γγ coin.
		2052.3 *16*	24 *10*	46.4838	3/2$^-$	
		2099.3 *13*	34 *16*	0.0	1/2$^-$	other Eγ (Iγ): 2099.1 *2* (88 *18*) from ^{182}W(n,γ) E=4.1 eV. 2098.9 (100 *31*) from (n,γ) E=thermal: γγ coin.
2101.89	(23/2$^+$)	112.1[g] *1*	100[g] *4*	1989.70	(21/2$^-$)	
		355.4[g] *10*	0.4[g] *10*	1746.39	(23/2$^+$)	
2111.6	(≤7/2)	1902.6[e]	100[e]	208.8069	3/2$^-$	
2126.35	3/2$^-$	978[j]	≈4	1149.91	3/2$^-$	
		1057.9 *12*	10 *3*	1069.42	7/2$^-$	
		1192.9 *16*	8 *3*	934.661	1/2$^-$	other Eγ (Iγ): 1192.3 *2* (120 *68*) In ^{182}W(n,γ) E=4.1 eV.
		1223.3 *3*	17 *4*	903.503	(5/2$^-$)	
		1674	≈4	453.0695	7/2$^-$	other Eγ (Iγ): 1673.1 *2* (44 *8*) In ^{182}W(n,γ) E=4.1 eV.

$^{183}_{74}W_{109}$-30

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
2126.35	3/2$^-$	1713.7 *6*	7 *3*	412.0939	7/2$^-$	
		1836	6 *3*	291.7236	5/2$^-$	
		1917.4 *12*	12 *3*	208.8069	3/2$^-$	other Eγ: 1917.1 from (n,γ) E=thermal: γγ coin. I_γ: weighted average of 10 *4* from (n,γ) E=thermal and 15 *6* from (n,γ) E=thermal: γγ coin.
		2027.6 *6*	4.4 *16*	99.0791	5/2$^-$	other Eγ (Iγ): 2026.8 (4.4 *16*) from (n,γ) E=thermal: γγ coin. I_γ: from (n,γ) E=thermal: γγ;≈4 from (n,γ) E=thermal.
		2080.0 *3*	100 *4*	46.4838	3/2$^-$	other Eγ (Iγ): 2080.8 *2* (100 *20*) In ^{182}W(n,γ) E=4.1 eV; 2079.4 (100 *8*) In (n,γ) E=thermal: γγ coin.
		2126.4 *3*	27 *4*	0.0	1/2$^-$	other Eγ (Iγ): 2126.5 *2* (46 *24*) In ^{182}W(n,γ) E=4.1 eV; 2125.9 (21 *4*) from (n,γ) E=thermal: γγ coin.
2130.2	(≤7/2)	1921.2[e]	100[e]	208.8069	3/2$^-$	
2152.9	(≤7/2)	1943.9[e]	100[e]	208.8069	3/2$^-$	
2154.20	(21/2$^+$)	253.8[g] *2*	100[g]	1900.53	(19/2$^+$)	
2157.48	(1/2$^-$,3/2)	1864.7 *19*	18 *12*	291.7236	5/2$^-$	
		1950.4 *14*	20 *12*	208.8069	3/2$^-$	
		2059.1 *16*	50 *21*	99.0791	5/2$^-$	other Eγ (Iγ): 2057.9 (100 *33*) In (n,γ) E=thermal: γγ for sole branch from this level seen In that study.
		2111.8 *16*	50 *21*	46.4838	3/2$^-$	
		2157.7 *4*	100 *22*	0.0	1/2$^-$	
2164.82	(3/2$^-$)	1138.4 *14*	6 *2*	1026.373	(3/2)$^-$	
		1163.4[h j] *2*	90[h] *46*	999.60	7/2$^-$	from ^{182}W(n,γ) E=4.1 eV only; probably misplaced.
		1230.6 *16*	5 *2*	934.661	1/2$^-$	
		1262	≈1.2	903.503	(5/2$^-$)	
		1711.9 *4*	12 *3*	453.0695	7/2$^-$	
		1752.9 *12*	6 *2*	412.0939	7/2$^-$	other Eγ (Iγ): 1753.2 *2* (44 *22*) from ^{182}W(n,γ) E=4.1 eV.
		1872.8 *6*	10.9 *16*	291.7236	5/2$^-$	other Eγ (Iγ): 1871.8 (16 *6*) In (n,γ) E=thermal: γγ.
		1956.2 *3*	30 *3*	208.8069	3/2$^-$	other Eγ (Iγ): 1954.7 (51 *6*) In (n,γ) E=thermal: γγ.
		2064.4[e]	3.7[e] *18*	99.0791	5/2$^-$	reported In (n,γ) E=thermal: γγ coin only.
		2118.34 *8*	100 *3*	46.4838	3/2$^-$	other Eγ (Iγ): 2117.0 (100 *8*) In (n,γ) E=thermal: γγ, 2119.2 *2* (100 *20*) from (n,γ) E=4.1 eV.
		2165.8 *7*	9 *3*	0.0	1/2$^-$	other Eγ (Iγ): 2170 *8* (22 *12*) from ^{182}W(n,γ) E=4.1 eV.
2166.9	(≤7/2)	1958.1[e]	100[e]	208.8069	3/2$^-$	
2169.87	(3/2,5/2$^+$)	850.1 *7*	62 *35*	1319.63	(9/2$^-$)	
		894.69 *6*	100 *12*	1275.19	(5/2$^+$,7/2,9/2$^-$)	
		1877	≈12	291.7236	5/2$^-$	
		2072	16 *8*	99.0791	5/2$^-$	
2176.75	(3/2)	606.8[j] *6*	3 *1*	1569.85	(5/2$^-$)	
		706.9 *13*	2 *1*	1471.05	1/2$^-$	
		713.4 *9*	3 *1*	1463.18	(3/2,5/2)$^-$	Eγ=713.4 *11*, Iγ=18 *7* In table 1 of 2011Bo09.
		841.8 *3*	13 *2*	1335.42	(3/2$^-$)	
		858.3 *15*	2 *1*	1319.63	(9/2$^-$)	
		885.56 *14*	14 *2*	1291.67	(1/2$^-$,3/2$^-$)	

$^{183}_{74}W_{109}$-31

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
2176.75	(3/2)	1150.5 *10*	3 *1*	1026.373	$(3/2)^-$	
		1243.3 *11*	4 *2*	934.661	$1/2^-$	Eγ=1243.3 *7*, Iγ=26 *5* In table 1 of 2011Bo09.
		1885.8 *12*	5 *2*	291.7236	$5/2^-$	
		1968.33 *21*	14 *2*	208.8069	$3/2^-$	other Eγ (Iγ): 1967.6 (29 *4*) In (n,γ) E=thermal: γγ.
		2079	≈1	99.0791	$5/2^-$	
		2129.60[b] *13*	35 *6*	46.4838	$3/2^-$	other Eγ (Iγ): 2129.9 (27 *3*) In (n,γ) E=thermal: γγ.
		2177.0 *5*	100 *3*	0.0	$1/2^-$	other Eγ (Iγ): 2176.4 (100 *5*) In (n,γ) E=thermal: γγ.
2209.05	$(1/2^+)$	933.6 *7*	7 *3*	1275.19	$(5/2^+,7/2,9/2^-)$	
		1182.6 *4*	28 *6*	1026.373	$(3/2)^-$	
		2000.6 *14*	≈10	208.8069	$3/2^-$	
		2162.8 *5*	100 *10*	46.4838	$3/2^-$	other Eγ: 2162.3 In (n,γ) E=thermal: γγ coin.
		2209.2 *3*	74 *11*	0.0	$1/2^-$	other Eγ (Iγ): 2208.8 (63 *14*) In (n,γ) E=thermal: γγ.
2221.79	$25/2^-$	626.5[g] *1*	100[g]	1595.29	$21/2^-$	
2231.46	(1/2,3/2)	286.6[j] *5*	11 *3*	1944.31	$3/2^-$	
		2022.3 *7*	100 *14*	208.8069	$3/2^-$	
		2184.6[j] *16*	27 *10*	46.4838	$3/2^-$	see comment on 2183.5γ.
		2231.1 *4*	21 *6*	0.0	$1/2^-$	
2233.1?	(≤7/2)	1941.6[e j]	100[e] *50*	291.7236	$5/2^-$	
		2183.5[e j]	[e]	46.4838	$3/2^-$	I_γ: 44 *14* for γ that May partially or totally deexcite the 2231 level In (n,γ) E=thermal: γγ coin.
2235.72	$(3/2^-)$	900.51 *24*	16 *6*	1335.42	$(3/2^-)$	
		1302.7[j] *5*	18 *7*	934.661	$1/2^-$	
		1783	≈8	453.0695	$7/2^-$	
		1944	13 *8*	291.7236	$5/2^-$	
		2028.1 *16*	35 *9*	208.8069	$3/2^-$	other Eγ (Iγ): 2026.5 (100 *21*) In (n,γ) E=thermal: γγ.
		2136.9 *5*	100 *8*	99.0791	$5/2^-$	other Eγ (Iγ): 2136.2 (33 *8*) In (n,γ) E=thermal: γγ. Eγ=2133.8 also reported In (n,γ) E=thermal; γγ coin.
		2236.2 *7*	83 *10*	0.0	$1/2^-$	other Eγ (Iγ): 2235.3 (85 *20*) In (n,γ) E=thermal: γγ.
2239.1	(≤7/2)	2030.1[e]	100[e]	208.8069	$3/2^-$	
2248.08	$(3/2,5/2^-)$	956.8 *7*	5 *3*	1291.67	$(1/2^-,3/2^-)$	
		974.2 *9*	10 *3*	1275.19	$(5/2^+,7/2,9/2^-)$	
		1957.3 *16*	13 *3*	291.7236	$5/2^-$	
		2039.2 *23*	7 *3*	208.8069	$3/2^-$	
		2201.71 *9*	100 *3*	46.4838	$3/2^-$	other Eγ: 2201.3 In (n,γ) E=thermal: γγ coin.
		2248.8 *12*	15 *3*	0.0	$1/2^-$	
2253.37	$(23/2^-)$	263.4[g] *1*	100[g] *3*	1989.70	$(21/2^-)$	
		507.2[g] *1*	27.7[g] *20*	1746.39	$(23/2^+)$	
2257.6	$(1/2,3/2,5/2^+)$	2211.1[e]	100[e]	46.4838	$3/2^-$	
2262.9	(≤7/2)	2053.9[e]	100[e]	208.8069	$3/2^-$	
2266.30	$(1/2^-,3/2)$	1975.3 *4*	32 *8*	291.7236	$5/2^-$	
		2056.6 *8*	14 *4*	208.8069	$3/2^-$	other Eγ (Iγ): 2057.0 (95 *32*) In (n,γ) E=thermal: γγ.
		2266.1 *3*	100 *14*	0.0	$1/2^-$	other Eγ (Iγ): 2265.8 (100 *30*) In (n,γ) E=thermal: γγ.

$^{183}_{74}W_{109}$-32

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	Comments
2269.69	(25/2$^-$)	167.7[g] *1*	44.0[g] *15*	2101.89	(23/2$^+$)	D	from DCO In (^{14}C,α3nγ).
		219.1[g] *1*	100[g] *3*	2050.61	(23/2$^-$)		Mult.: intensity balance In (^{14}C,α3nγ) rules out pure M1.
2282.97	(3/2$^-$)	812.5 *12*	7 *3*	1471.05	1/2$^-$		
		1133.3 *3*	24 *5*	1149.91	3/2$^-$		
		1257	≈5	1026.373	(3/2)$^-$		
		1348	≈5	934.661	1/2$^-$		
		1831	7 *4*	453.0695	7/2$^-$		
		1872	≈5	412.0939	7/2$^-$		
		1992.0 *16*	9 *3*	291.7236	5/2$^-$		
		2074.2 *4*	38 *13*	208.8069	3/2$^-$		other Eγ (Iγ): 2074.0 (78 *10*) In (n,γ) E=thermal: γγ.
		2183.3 *18*	6 *4*	99.0791	5/2$^-$		
		2236.46 *9*	100 *6*	46.4838	3/2$^-$		other Eγ (Iγ): 2235.3 (100 *11*) In (n,γ) E=thermal: γγ.
		2283.1 *16*	6 *4*	0.0	1/2$^-$		other Eγ (Iγ): 2282.8 (19 *9*) In (n,γ) E=thermal: γγ.
2292.59	(≤5/2)	2246.26 *23*	70 *13*	46.4838	3/2$^-$		other Eγ (Iγ): 2245.7 (92 *22*) In (n,γ) E=thermal: γγ.
		2292.9 *3*	100 *11*	0.0	1/2$^-$		other Eγ (Iγ): 2292.2 (100 *24*) In (n,γ) E=thermal: γγ.
2303.91	(3/2$^-$)	1154.5 *12*	7 *3*	1149.91	3/2$^-$		
		1370.2 *12*	10 *3*	934.661	1/2$^-$		
		2013.6 *13*	11 *3*	291.7236	5/2$^-$		other Eγ (Iγ): 2012.2 (24 *7*) In (n,γ) E=thermal: γγ.
		2097	≈5	207.0114	7/2$^-$		
		2203	≈5	99.0791	5/2$^-$		other Eγ (Iγ): 2204.8 (5.6 *26*) In (n,γ) E=thermal: γγ.
		2258.01 *21*	27 *5*	46.4838	3/2$^-$		other Eγ (Iγ): 2257.4 (47 *6*) In (n,γ) E=thermal: γγ.
		2304.18 *12*	100 *4*	0.0	1/2$^-$		other Eγ (Iγ): 2303.9 (100 *9*) In (n,γ) E=thermal: γγ.
2311.8	(1/2,3/2,5/2$^+$)	2212.5[e]	100[e]	99.0791	5/2$^-$		
2324.67	23/2$^-$	317.2[g] *2*	46[g] *5*	2007.89	21/2$^-$		
		610.9[g] *1*	100[g] *6*	1713.61	19/2$^-$		
2325.6	(1/2$^-$,3/2,5/2$^-$)	1015.9 *8*	16 *4*	1309.409	(3/2$^-$)		
		2034.5 *4*	18 *11*	291.7236	5/2$^-$		
		2278.5 *4*	23 *8*	46.4838	3/2$^-$		
		2325.9 *8*	100 *14*	0.0	1/2$^-$		other Eγ (Iγ): 2324.5 (100 *14*) In (n,γ) E=thermal: γγ.
2340.33	(25/2$^-$)	289.7[g] *1*	100[g]	2050.61	(23/2$^-$)		
2359.74	(1/2,3/2,5/2$^+$)	2313.1[e]	100[e]	46.4838	3/2$^-$		
2366.4	(1/2,3/2)	2156.9[e]	100[e] *40*	208.8069	3/2$^-$		
		2321.2[e]	60[e] *30*	46.4838	3/2$^-$		
		2365.9[e]	90[e] *30*	0.0	1/2$^-$		
2367.40	(1/2$^-$,3/2)	2077.3 *16*	39 *11*	291.7236	5/2$^-$		
		2158.6 *2*	≈20	208.8069	3/2$^-$		other Eγ (Iγ): 2157.6 (90 *34*) In (n,γ) E=thermal: γγ coin.
		2268 *2*	35 *11*	99.0791	5/2$^-$		
		2319.8[j] *6*	≈5	46.4838	3/2$^-$		
		2366 *2*	≈100	0.0	1/2$^-$		other Eγ (Iγ): 2366.4 (100 *32*) In (n,γ) E=thermal: γγ coin.
2369.05	(1/2$^-$,3/2)	2080[j] *2*	22 *11*	291.7236	5/2$^-$		possibly the 2081.5γ reported In (n,γ) E=thermal: γγ coin deexciting a 2373 level, so placement shown As uncertain here.
		2162.0 *6*	86 *13*	208.8069	3/2$^-$		other Eγ (Iγ): 2160.0 (100 *15*) In (n,γ) E=thermal: γγ coin.
		2271 *2*	22 *9*	99.0791	5/2$^-$		other Eγ (Iγ): 2269.7 (9 *5*) In (n,γ) E=thermal: γγ coin.

$^{183}_{74}W_{109}$-33

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
2369.05	(1/2$^-$,3/2)	2323.3 *11*	57 *11*	46.4838	3/2$^-$	other Eγ (Iγ): 2322.3 (63 *14*) In (n,γ) E=thermal: γγ coin.
		2369 *2*	≈100	0.0	1/2$^-$	
2373.2	(1/2$^-$,3/2,5/2$^+$)	2081.5[e]	100[e]	291.7236	5/2$^-$	
2384.09	(5/2$^-$)	1064.5 *12*	41 *9*	1319.63	(9/2$^-$)	
		1109.4 *3*	56 *8*	1275.19	(5/2$^+$,7/2,9/2$^-$)	
		2093.2 *18*	26 *7*	291.7236	5/2$^-$	
		2176.3 *12*	66 *10*	208.8069	3/2$^-$	
		2285.8 *8*	100 *10*	99.0791	5/2$^-$	
		2337.4 *7*	84 *10*	46.4838	3/2$^-$	this is the only branch reported In (n,γ) E=thermal: γγ coin where Eγ=2336.9.
		2383.2[j] *5*	87 *26*	0.0	1/2$^-$	
2392.71	(1/2$^-$,3/2)	2100.6 *7*	12 *3*	291.7236	5/2$^-$	
		2184.02 *8*	100.0 *25*	208.8069	3/2$^-$	other Eγ (Iγ): 2183.3 (100 *6*) In (n,γ) E=thermal: γγ coin.
		2346.2 *3*	26 *3*	46.4838	3/2$^-$	other Eγ (Iγ): 2345.6 (18 *10*) In (n,γ) E=thermal: γγ coin.
		2392.7 *4*	25 *5*	0.0	1/2$^-$	other Eγ (Iγ): 2392.1 (32 *5*) In (n,γ) E=thermal: γγ coin.
2413.25	(27/2$^+$)	369.8[g] *1*	20.2[g] *18*	2043.39	25/2$^+$	
		666.9[g] *1*	100[g] *5*	1746.39	(23/2$^+$)	
2417.48	(≤5/2)	1125.9 *6*	23 *5*	1291.67	(1/2$^-$,3/2$^-$)	
		2417.93 *20*	100 *10*	0.0	1/2$^-$	
2418.1	(≤7/2)	2126.4[e]	100[e] *26*	291.7236	5/2$^-$	
		2209.3[e]	79[e] *25*	208.8069	3/2$^-$	
2428.04	(≤7/2)	2136.4[e]	100[e] *20*	291.7236	5/2$^-$	absent In (n,γ) E=thermal.
		2380.6 *4*	69 *16*	46.4838	3/2$^-$	I_γ: for 2381.6γ In (n,γ) E=thermal: γγ coin.
2429.79	(23/2$^+$)	275.6[g] *1*	100[g]	2154.20	(21/2$^+$)	
2431.1	(≤7/2)	2222.1[e]	100[e]	208.8069	3/2$^-$	
2433.2	(≤7/2)	2224.4[e]	88[e] *42*	208.8069	3/2$^-$	
		2386.7[e]	100[e] *33*	46.4838	3/2$^-$	
2433.63	(≤7/2)	761.8 *11*	7.8 *28*	1672.75	(3/2$^-$,5/2$^-$)	
		1098.3[j] *8*	18 *4*	1335.42	(3/2$^-$)	
		1407.3 *3*	100 *32*	1026.373	(3/2)$^-$	
2447.7	(≤7/2)	2401.0[e]	100[e]	46.4838	3/2$^-$	
2450.4	(≤7/2)	2241.6[e]	59[e] *11*	208.8069	3/2$^-$	
		2403.9[e]	100[e] *12*	46.4838	3/2$^-$	
2450.56	(≤7/2)	1300.5 *4*	34 *6*	1149.91	3/2$^-$	
		2242.2 *4*	100 *18*	208.8069	3/2$^-$	
2460.10	(1/2,3/2)	2460.08[j] *22*	100	0.0	1/2$^-$	
2475.0	(≤7/2)	2266.0[e]	100[e]	208.8069	3/2$^-$	
2481.46	(1/2$^-$,3/2)	1545.3[j] *3*	91 *12*	934.661	1/2$^-$	
		2189.5 *6*	95 *37*	291.7236	5/2$^-$	
		2273.5 *5*	57 *17*	208.8069	3/2$^-$	
		2434.9[j] *3*	47 *10*	46.4838	3/2$^-$	
		2482.02 *15*	100 *7*	0.0	1/2$^-$	

$^{183}_{74}W_{109}$-34

Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
2485.60	(≤5/2)	2438.9 *3*	100	46.4838	3/2$^-$	
2492.98	(1/2$^-$,3/2)	2394.8[j] *9*	33 *13*	99.0791	5/2$^-$	
		2446.5 *4*	≈12	46.4838	3/2$^-$	other Eγ (Iγ): 2447.4 (55 *32*) from (n,γ) E=thermal: γγ coin May be a doublet deexciting both the 2493 and 2494 levels.
		2492.71 *10*	100 *5*	0.0	1/2$^-$	
2493.9	(≤7/2)	2285.1[e]	100[e] *34*	208.8069	3/2$^-$	
		2447.4[e]	55[e] *32*	46.4838	3/2$^-$	I_γ: May be an overestimate; see comment on 2446.5γ.
2503.25	(≤5/2)	1273.7 *10*	33 *8*	1229.31	(5/2)$^-$	absent In (n,γ) E=thermal: γγ coin.
		1350.5[j] *4*	15 *5*	1149.91	3/2$^-$	
		2211.3 *8*	26 *9*	291.7236	5/2$^-$	other Eγ (Iγ): 2211.1 (18 *8*) In (n,γ) E=thermal: γγ coin.
		2407.2[e j]	41[e] *14*	99.0791	5/2$^-$	
		2457.12 *19*	100 *4*	46.4838	3/2$^-$	other Eγ (Iγ): 2457.2 (100 *12*) In (n,γ) E=thermal: γγ coin.
		2502.5 *3*	29 *3*	0.0	1/2$^-$	other Eγ (Iγ): 2505.2? (62 *21*) In (n,γ) E=thermal: γγ coin.
2516.6	(≤7/2)	1366.5[j] *6*	47 *6*	1149.91	3/2$^-$	
		2307.8[j] *4*	100 *8*	208.8069	3/2$^-$	
2517.67	(≤5/2)	2471.3[j] *3*	64 *16*	46.4838	3/2$^-$	other Eγ(Iγ): 2470.8 (102 *26*) from (n,γ) E=thermal: γγ coin.
		2517.78[j] *16*	100 *10*	0.0	1/2$^-$	other Eγ(Iγ): 2517.3 (100 *21*) from (n,γ) E=thermal: γγ coin.
2522.50	(≥3/2)	1618.8[j] *7*	79 *18*	903.503	(5/2$^-$)	
		2110.1[j] *8*	100 *23*	412.0939	7/2$^-$	
		2423.2[j] *3*	97 *31*	99.0791	5/2$^-$	
2523.04	(3/2$^-$,5/2$^-$)	1085.66 *6*	46.0 *17*	1437.42	(1/2$^-$,3/2$^-$)	
		1187.5 *3*	22.4 *29*	1335.42	(3/2$^-$)	
		1231.7[j] *20*	12 *7*	1291.67	(1/2$^-$,3/2$^-$)	
		1293.7 *7*	41 *5*	1229.31	(5/2)$^-$	
		1454.2 *8*	27 *13*	1069.42	7/2$^-$	
		2314.3 *4*	10.9 *29*	208.8069	3/2$^-$	other Iγ: 25 *9* from (n,γ) E=thermal: γγ coin for 2313.7γ.
		2476.38 *15*	92.5 *29*	46.4838	3/2$^-$	other Iγ: 102 *12* from (n,γ) E=thermal: γγ coin for 2476.0γ.
		2523.00 *6*	100 *4*	0.0	1/2$^-$	other Iγ: 100 *10* from (n,γ) E=thermal: γγ coin for 2522.5γ.
2530.1	(≤5/2)	2529.9[e]	100[e]	0.0	1/2$^-$	
2535.16	(1/2$^-$,3/2,5/2$^+$)	1306.5 *5*	20 *6*	1229.31	(5/2)$^-$	
		2327.4[j] *3*	100 *16*	208.8069	3/2$^-$	other Eγ: 2326.1 from (n,γ) E=thermal: γγ coin.
		2488.42 *11*	95 *4*	46.4838	3/2$^-$	other Iγ: 69 *12* from (n,γ) E=thermal: γγ coin.
2536.15	(25/2$^-$)	282.8[g] *1*	100[g] *4*	2253.37	(23/2$^-$)	
		546.5[g] *1*	62[g] *3*	1989.70	(21/2$^-$)	
2547.6	(≤7/2)	2500.9[e]	100[e]	46.4838	3/2$^-$	
2550.3	(≤5/2)	2341.3[e]	100[e]	208.8069	3/2$^-$	
2552.8	(≤5/2)	2552.6[e]	100[e]	0.0	1/2$^-$	
2559.83	27/2$^-$	659.3[g] *1*	100[g]	1900.87	23/2$^-$	
2567.9	(≤5/2)	2567.7[e]	100[e]	0.0	1/2$^-$	
2574.0	(≤5/2)	2365.1[e]	72[e] *33*	208.8069	3/2$^-$	
		2573.9[e]	100[e] *26*	0.0	1/2$^-$	

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Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	Comments
2591.24	(27/2$^-$)	321.5[g] *1*	100[g]	2269.69	(25/2$^-$)	D	Mult.: from DCO In (^{14}C,α3nγ).
2593.39	(1/2,3/2)	2593.3 *4*	100	0.0	1/2$^-$		
2597.8	(≤7/2)	2551.1[e]	100[e]	46.4838	3/2$^-$		
2608.53	(1/2,3/2)	2609.51[j] *18*	100	0.0	1/2$^-$		
2611.2	(3/2$^+$,5/2$^+$)	1233.7 *5*	29 *4*	1376.41	(≥7/2)		γ absent In (n,γ) E=thermal:γγ coin.
		2402.6[e]	102[e] *25*	208.8069	3/2$^-$		
		2565.0 *3*	100 *8*	46.4838	3/2$^-$		
2612.7	(3/2$^-$,5/2$^-$)	1543.3[j] *7*	98 *44*	1069.42	7/2$^-$		
		1678.0 *5*	100 *13*	934.661	1/2$^-$		
		2612.4[e j]	[e]	0.0	1/2$^-$		this is the only branch reported In (n,γ) E=thermal: γγ coin so placement is shown here As uncertain.
2615.79	(≤7/2)	1589.8 *3*	72 *10*	1026.373	(3/2)$^-$		E_γ: absent In (n,γ) E=thermal: γγ coin.
		2406.8[e]	65[e] *20*	208.8069	3/2$^-$		γ reported In (n,γ) E=thermal: γγ coin only.
		2568.9 *3*	100 *11*	46.4838	3/2$^-$		
		2617.4[j] *4*	46 *11*	0.0	1/2$^-$		other Eγ (Iγ): 2621.0 (107 *40*) In (n,γ) E=thermal: γγ coin.
2623.03	(≤5/2)	2332.2 *6*	78 *12*	291.7236	5/2$^-$		
		2413.6 *3*	100 *12*	208.8069	3/2$^-$		
		2624.6[j] *4*	42 *8*	0.0	1/2$^-$		
2629.17	(1/2,3/2)	1694.6 *3*	100 *21*	934.661	1/2$^-$		
		2630.1[j] *3*	71 *9*	0.0	1/2$^-$		
2649.42	(27/2$^-$)	308.8[g] *1*	100[g] *4*	2340.33	(25/2$^-$)		
		598.9[g] *1*	35.2[g] *25*	2050.61	(23/2$^-$)		
2655.47	25/2$^-$	329.7[g] *6*	19[g] *7*	2324.67	23/2$^-$		
		647.6[g] *1*	100[g] *10*	2007.89	21/2$^-$		
2655.8	(≤7/2)	2609.3[e]	100[e]	46.4838	3/2$^-$		
2656.26	(≤5/2)	2656.18 *14*	100	0.0	1/2$^-$		
2668.4	(1/2,3/2)	2621.3[e]	79[e] *33*	46.4838	3/2$^-$		
		2667.8[e]	100[e] *36*	0.0	1/2$^-$		
2687.77	(≤7/2)	2479.3 *3*	100 *8*	208.8069	3/2$^-$		other Eγ (Iγ): 2481.6? (100 *40*) In (n,γ) E=thermal: γγ coin.
		2640.9[j] *3*	100 *10*	46.4838	3/2$^-$		other Eγ (Iγ): 2640.7 (43 *11*) In (n,γ) E=thermal: γγ coin.
2697.0	(1/2,3/2)	1762.3[j] *4*	100	934.661	1/2$^-$		
2699.16	(1/2$^-$,3/2,5/2$^-$)	1795.76 *10*	100 *4*	903.503	(5/2$^-$)		
		2652.9	≈12	46.4838	3/2$^-$		from (n,γ) E=thermal: γγ coin only. Iγ from I(2700γ)=19 *3* and I(2700γ):I(2653γ)=100 *27*:64 *24* In (n,γ) E=thermal: γγ coin.
		2700.3[j] *3*	19 *9*	0.0	1/2$^-$		other Eγ=2699.4 In (n,γ) E=thermal: γγ coin for principal branch from level.
2706.59	(29/2$^+$)	293.3[g] *3*	11.8[g] *16*	2413.25	(27/2$^+$)		
		663.2[g] *1*	100[g] *4*	2043.39	25/2$^+$		
2708.11	(1/2,3/2)	1478.5[j] *4*	112 *29*	1229.31	(5/2)$^-$		E_γ,I_γ: for possible doublet In (n,γ) E=thermal; γ absent In (n,γ) E=thermal: γγ coin, so placement shown As tentative here.
		2498.6[e]	84[e] *26*	208.8069	3/2$^-$		
		2662.0 *3*	98 *18*	46.4838	3/2$^-$		other Eγ (Iγ): 2660.9 (53 *16*) In (n,γ) E=thermal: γγ coin.

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Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
2708.11	(1/2,3/2)	2708.2 *3*	100 *22*	0.0	1/2$^-$	other Eγ (Iγ): 2707.4 (100 *21*) In (n,γ) E=thermal: γγ coin.
2715.51	(3/2$^-$,5/2$^-$)	2262.3[j] *4*	11 *6*	453.0695	7/2$^-$	absent In (n,γ) E=thermal: γγ coin.
		2669.01 *22*	100 *7*	46.4838	3/2$^-$	other Eγ (Iγ): 2669.0 (100 *38*) In (n,γ) E=thermal: γγ coin.
		2715.53 *16*	93 *5*	0.0	1/2$^-$	other Eγ (Iγ): 2715.5 (210 *45*) In (n,γ) E=thermal: γγ coin.
2722.74	(1/2$^-$,3/2,5/2$^-$)	1818.88[j] *20*	100 *6*	903.503	(5/2$^-$)	
		2676.25 *11*	86 *6*	46.4838	3/2$^-$	
		2722.5 *5*	10 *5*	0.0	1/2$^-$	
2723.26	(25/2$^+$)	293.5[g] *2*	65[g] *13*	2429.79	(23/2$^+$)	
		569.3[g] *3*	100[g] *18*	2154.20	(21/2$^+$)	
2738.0	(≤7/2)	2691.5[e]	100[e]	46.4838	3/2$^-$	
2741.4	(1/2,3/2)	2695.2[e]	39[e] *20*	46.4838	3/2$^-$	
		2741.3 *3*	100 *23*	0.0	1/2$^-$	
2744.0	(≤7/2)	2535.0[e]	100[e]	208.8069	3/2$^-$	
2765.2	(≤7/2)	2718.5[e]	100[e]	46.4838	3/2$^-$	
2768.56	(≤7/2)	1742.4 *3*	100 *7*	1026.373	(3/2)$^-$	
		2767.2[j] *3*	59 *6*	0.0	1/2$^-$	Eγ=2769.5 from (n,γ) E=thermal: γγ coin May be for doublet.
2770.0	(1/2,3/2)	2560.7[e]	100[e] *19*	208.8069	3/2$^-$	
		2723.0[e]	56[e] *14*	46.4838	3/2$^-$	
		2769.5[e j]	≤54[e]	0.0	1/2$^-$	I_γ: 39 *15* from (n,γ) E=thermal: γγ coin for possible doublet.
2772.9	(≤7/2)	1746.1 *4*	100	1026.373	(3/2)$^-$	
2782.32	(≤7/2)	2735.1[e]	100[e]	46.4838	3/2$^-$	
2783.33	(≤7/2)	2574.50 *16*	100	208.8069	3/2$^-$	other Eγ: 2574.1 from (n,γ) E=thermal: γγ coin.
2804.96	(1/2,3/2)	2758.48 *9*	100 *5*	46.4838	3/2$^-$	other Eγ: 2758.1 from (n,γ) E=thermal: γγ coin.
		2805.5[j] *3*	41 *6*	0.0	1/2$^-$	other Eγ: 2804.7? from (n,γ) E=thermal: γγ; placement from 1989Bo30, γ absent In 2005Su29, so placement considered UNCERTAIN..
2813.31	(≤7/2)	1504.06 *7*	100.0 *25*	1309.409	(3/2$^-$)	
		1876.2[j] *6*	11.0 *20*	934.661	1/2$^-$	
		2764.4 *3*	10.0 *20*	46.4838	3/2$^-$	other Eγ: 2766.0 for sole branch reported In (n,γ) E=thermal: γγ coin. Eγ fits placement poorly.
2815.8?	(1/2,3/2)	2815.8[j] *3*	100	0.0	1/2$^-$	
2817.3	(≤7/2)	2608.5[e]	100[e]	208.8069	3/2$^-$	
2832.85	(≤5/2)	2832.75 *18*	100	0.0	1/2$^-$	other Eγ: 2834.8 from (n,γ) E=thermal: γγ coin.
2833.91	(≤7/2)	2786.3[e]	100[e]	46.4838	3/2$^-$	
2837.73	(27/2$^-$)	301.5[g] *1*	100[g] *5*	2536.15	(25/2$^-$)	
		584.3[g] *1*	81[g] *5*	2253.37	(23/2$^-$)	
2839.4	(≤7/2)	2630.4[e]	100[e]	208.8069	3/2$^-$	
2843.3	(≤5/2)	2843.1[e]	100[e]	0.0	1/2$^-$	
2846.41	(≤5/2)	2847.4[e]	100[e]	0.0	1/2$^-$	
2856.0	(1/2,3/2,5/2$^+$)	2647.0[e]	100[e]	208.8069	3/2$^-$	
2874.09	(≥25/2$^+$)	167.5[g] *2*	100[g]	2706.59	(29/2$^+$)	
2881.2	(≤7/2)	2672.4[e]	100[e]	208.8069	3/2$^-$	

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Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	Comments
2884.11	(≤7/2)	2836.35[j] *23*	100	46.4838	3/2$^-$		
2898.7	(≤5/2)	2898.7[j] *3*	100	0.0	1/2$^-$		
2910.3	(1/2,3/2)	2910.1[e]	100[e]	0.0	1/2$^-$		
2915.12?	(1/2,3/2,5/2$^+$)	2868.63[j] *23*	100	46.4838	3/2$^-$		other Eγ: 2867.9 from (n,γ) E=thermal: γγ coin.
2929.89	29/2$^-$	708.1[g] *1*	100[g]	2221.79	25/2$^-$		
2932.56	(29/2$^-$)	341.3[g] *1*	100[g] *3*	2591.24	(27/2$^-$)		
		662.8[g] *2*	5.9[g] *7*	2269.69	(25/2$^-$)		
2945.6	(≤7/2)	2898.9[e]	100[e]	46.4838	3/2$^-$		
2954.6	(≤5/2)	2954.4[e]	100[e]	0.0	1/2$^-$		
2966.7	(1/2,3/2)	2966.5[e]	100[e]	0.0	1/2$^-$		
2977.78	(29/2$^-$)	328.1[g] *1*	100[g] *5*	2649.42	(27/2$^-$)		
		637.7[g] *1*	42[g] *4*	2340.33	(25/2$^-$)		
2979.08	(1/2,3/2)	2932.7[e]	58[e] *16*	46.4838	3/2$^-$		
		2979.2[e]	100[e] *16*	0.0	1/2$^-$		
3010.9	27/2$^-$	686.2[g] *4*	100[g]	2324.67	23/2$^-$		
3015.3?		2916.0[e j]	100[e]	99.0791	5/2$^-$		
3031.0	(≤7/2)	2984.3[e]	100[e]	46.4838	3/2$^-$		possibly the Eγ=2982.5 to 2985.0 primary γ reported by 1989Bo30.
3042.5	(≤5/2)	3042.3[e]	100[e]	0.0	1/2$^-$		
3054.5	(≤3/2)	3054.3[e]	100[e]	0.0	1/2$^-$		
3071.0	(1/2,3/2,5/2$^+$)	3024.3[e]	100[e]	46.4838	3/2$^-$		
3078.7	(≤3/2)	3032.1[e]	90[e] *35*	46.4838	3/2$^-$		
		3078.6[e]	100[e] *39*	0.0	1/2$^-$		
3083.9	(≤3/2)	3083.7[e]	100[e]	0.0	1/2$^-$		
3096.5	(≤5/2)	3050.0[e]	100[e]	46.4838	3/2$^-$		
3097.57	(1/2,3/2,5/2$^+$)	1485.49 *12*	100	1612.04	(1/2$^-$,3/2,5/2$^-$)		
3156.78	(29/2$^-$)	318.9[g] *1*	93[g] *4*	2837.73	(27/2$^-$)		
		620.8[g] *1*	100[g] *4*	2536.15	(25/2$^-$)		
3161.25	(31/2$^+$)	454.7[g] *3*	19[g] *4*	2706.59	(29/2$^+$)		
		748.0[g] *1*	100[g] *7*	2413.25	(27/2$^+$)		
3210.74	(1/2,3/2,5/2$^+$)	1364.0 *3*	21 *2*	1846.7	(1/2$^-$,3/2$^-$)		
		3164.11 *16*	100 *4*	46.4838	3/2$^-$		
3290.34	31/2$^-$	730.5[g] *1*	100[g]	2559.83	27/2$^-$		
3292.48	(31/2$^-$)	359.9[g] *1*	100[g]	2932.56	(29/2$^-$)		
3349.37	(31/2$^-$)	192.6[g] *1*	32.9[g] *12*	3156.78	(29/2$^-$)		
		416.8[g] *1*	100[g] *3*	2932.56	(29/2$^-$)	D	Mult.: from DCO In (^{14}C,α3nγ).
		700.2[g] *2*	5.9[g] *7*	2649.42	(27/2$^-$)		
		758.1[g] *1*	17.1[g] *10*	2591.24	(27/2$^-$)		
3423.79	33/2$^+$	717.2[g] *1*	100[g]	2706.59	(29/2$^+$)		
3534.2	(1/2,3/2)	3325.3[e]	56[e] *21*	208.8069	3/2$^-$		
		3534.1[e]	100[e] *18*	0.0	1/2$^-$		
3664.45	(33/2$^-$)	315.1[g] *1*	100[g] *3*	3349.37	(31/2$^-$)		

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Adopted Levels, Gammas (continued)

γ(^{183}W) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
3664.45	(33/2$^-$)	371.6[g] *4*	2.5[g] *6*	3292.48	(31/2$^-$)	
		731.7[g] *17*	2.9[g] *7*	2932.56	(29/2$^-$)	
3667.3?	(1/2,3/2,5/2$^+$)	3620.8[j] *5*	100	46.4838	3/2$^-$	
3687.1	(1/2,3/2)	3478.2[e]	34[e] *39*	208.8069	3/2$^-$	
		3640.5[e]	71[e] *32*	46.4838	3/2$^-$	
		3687.0[e]	100[e] *34*	0.0	1/2$^-$	
3706.39	33/2$^-$	776.5[g] *1*	100[g]	2929.89	29/2$^-$	
3709.8	(1/2,3/2)	3501.0[e]	100[e] *44*	208.8069	3/2$^-$	
		3709.8[e]	74[e] *38*	0.0	1/2$^-$	
3840.1	(1/2,3/2)	3793.6[e]	71[e] *31*	46.4838	3/2$^-$	
		3840.1[e]	100[e] *27*	0.0	1/2$^-$	
3922.85?	(1/2,3/2,5/2$^+$)	3714.5[j] *3*	100	208.8069	3/2$^-$	
3980.9	(35/2$^+$)	819.6[g] *3*	100[g]	3161.25	(31/2$^+$)	
3993.90?	(1/2,3/2,5/2$^+$)	3993.85[j] *23*	100	0.0	1/2$^-$	
3997.85	35/2$^{(-)}$	333.4[g] *1*	100[g]	3664.45	(33/2$^-$)	
4042.1	35/2$^-$	751.8[g] *2*	100[g]	3290.34	31/2$^-$	
4196.8	37/2$^+$	773.0[g] *2*	100[g]	3423.79	33/2$^+$	
4390.25		392.4[g] *1*	100[g]	3997.85	35/2$^{(-)}$	
4441.15		443.3[g] *1*	100[g]	3997.85	35/2$^{(-)}$	
4539.45		541.6[g] *1*	100[g]	3997.85	35/2$^{(-)}$	
(6190.965)	1/2$^+$	2196.68[j] *22*	0.56 *4*	3993.90?	(1/2,3/2,5/2$^+$)	
		2268.6 *3*	0.55 *5*	3922.85?	(1/2,3/2,5/2$^+$)	multiplet In (n,γ) E=thermal; other placement unknown.
		2350.5[e]		3840.1	(1/2,3/2)	
		2404.29[j] *17*	1.78 *8*	3786.68		multiplet In (n,γ) E=thermal; other placement unknown.
		2503.6[e]		3687.1	(1/2,3/2)	
		2656.5[e]		3534.2	(1/2,3/2)	
		2980.08 *16*	1.02 *6*	3210.74	(1/2,3/2,5/2$^+$)	
		3093.35 *8*	2.04 *5*	3097.57	(1/2,3/2,5/2$^+$)	other Eγ: 3094.1 from (n,γ) E=thermal: γγ coin.
		3106.9[e]		3083.9	(≤3/2)	
		3112.0[e]		3078.7	(≤3/2)	
		3119.8[e]		3071.0	(1/2,3/2,5/2$^+$)	
		3136.3[e]		3054.5	(≤3/2)	
		3148.3[e]		3042.5	(≤5/2)	
		3159.8[e]		3031.0	(≤7/2)	
		3175.5[e]		3015.3?		
		3211.86 *6*	2.42 *5*	2979.08	(1/2,3/2)	
		3224.1[e]		2966.7	(1/2,3/2)	other Eγ: 3211.32 *13* (1993Pr09) In (n,γ) E=thermal; 3211.4 from (n,γ) E=thermal: γγ coin.
		3236.2[e]		2954.6	(≤5/2)	
		3245.2[e]		2945.6	(≤7/2)	
		3276.2[e]		2915.12?	(1/2,3/2,5/2$^+$)	

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Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
(6190.965)	$1/2^+$	3280.5[e]		2910.3	(1/2,3/2)	
		3306.71 *7*	1.03 *4*	2884.11	(≤7/2)	other Eγ: 3309.4 from (n,γ) E=thermal: γγ coin.
		3334.8[e]		2856.0	(1/2,3/2,5/2$^+$)	
		3344.53 *7*	2.01 *9*	2846.41	(≤5/2)	other Eγ: 3343.2 from (n,γ) E=thermal: γγ coin.
		3347.5[e]		2843.3	(≤5/2)	
		3351.4[e]		2839.4	(≤7/2)	
		3355.8[e]		2832.85	(≤5/2)	
		3357.01 *9*	1.72 *13*	2833.91	(≤7/2)	other Eγ: 3357.8 from (n,γ) E=thermal: γγ coin.
		3375.11[j] *19*	1.19 *19*	2815.8?	(1/2,3/2)	other Eγ: 3373.3 from (n,γ) E=thermal: γγ coin.
		3379.3 *5*	0.48 *11*	2813.31	(≤7/2)	other Eγ: 3378.1 from (n,γ) E=thermal: γγ coin.
		3386.05 *16*	0.40 *3*	2804.96	(1/2,3/2)	
		3408.59 *17*	1.91 *17*	2782.32	(≤7/2)	other Eγ: 3407.7 and 3409.0 from (n,γ) E=thermal; γγ coin.
		3417.6 *4*	0.50 *6*	2772.9	(≤7/2)	other Eγ: 3418.4 *3* (1993Pr09) In (n,γ) E=thermal.
		3420.5 *6*	0.68 *24*	2770.0	(1/2,3/2)	other Eγ: 3421.1 from (n,γ) E=thermal: γγ coin possibly for doublet.
		3422.6 *3*	1.58 *27*	2768.56	(≤7/2)	other Eγ: 3422.42 *19* (1993Pr09) In (n,γ) E=thermal; 3421.1 from (n,γ) E=thermal: γγ coin, possibly for doublet.
		3425.6[e]		2765.2	(≤7/2)	
		3446.8[e]		2744.0	(≤7/2)	
		3448.94[j] *16*	0.79 *4*	2741.4	(1/2,3/2)	
		3467.74 *14*	1.40 *5*	2722.74	(1/2$^-$,3/2,5/2$^-$)	other Eγ: 3468.06 *17* (1993Pr09) In (n,γ) E=thermal.
		3475.43 *9*	1.89 *5*	2715.51	(3/2$^-$,5/2$^-$)	other Eγ: 3475.03 *13* (1993Pr09) also In (n,γ) E=thermal, and 3475.1 from (n,γ) E=thermal; γγ coin.
		3482.87 *10*	1.65 *5*	2708.11	(1/2,3/2)	other Eγ: 3483.2 from (n,γ) E=thermal; γγ coin.
		3491.96 *13*	1.61 *7*	2699.16	(1/2$^-$,3/2,5/2$^-$)	other Eγ: 3491.2 from (n,γ) E=thermal; γγ coin.
		3503.37 *23*	1.01 *12*	2687.77	(≤7/2)	complex line. Other Eγ: 3503.18 *9* (1993Pr09) In (n,γ) E=thermal.
		3522.3 *5*	0.57 *13*	2668.4	(1/2,3/2)	
		3534.4 *3*	0.62 *14*	2656.26	(≤5/2)	E_γ: for complex line. Other Eγ: 3535.04 *27* (1993Pr09) In (n,γ) E=thermal. And 3534.8 from (n,γ) E=thermal; γγ coin. I_γ: after correction for escape-peak contamination.
		3561.78 *13*	1.04 *9*	2629.17	(1/2,3/2)	
		3567.87 *8*	1.61 *5*	2623.03	(≤5/2)	
		3575.0[e]		2615.79	(≤7/2)	other Eγ (Iγ): 3575.56 *9* (1.60 *5*) from (n,γ) E=thermal: γγ coin.
		3578.2[e]		2612.7	(3/2$^-$,5/2$^-$)	Eγ=3579.15 *7*, Iγ=1.75 *5* for complex line that probably feeds both the 2611 and 2613 levels In (n,γ) E=thermal.
		3583.13[j] *14*	0.59 *4*	2608.53	(1/2,3/2)	
		3593.0[e]		2597.8	(≤7/2)	
		3597.53 *12*	0.78 *4*	2593.39	(1/2,3/2)	
		3616.7[e]		2574.0	(≤5/2)	
		3622.9[e]		2567.9	(≤5/2)	
		3638.0[e]		2552.8	(≤5/2)	
		3640.5[e]		2550.3	(≤5/2)	
		3643.2[e]		2547.6	(≤7/2)	

$^{183}_{74}W_{109}$-40

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
(6190.965)	1/2+	3655.71 *6*	2.11 *4*	2535.16	(1/2−,3/2,5/2+)	
		3660.7[e]		2530.1	(≤5/2)	
		3668.42 *4*	3.90 *5*	2522.50	(≥3/2)	other Eγ: 3668.1 from (n,γ) E=thermal: γγ coin.
		3673.34 *11*	1.10 *4*	2517.67	(≤5/2)	
		3687.68 *8*	2.39 *8*	2503.25	(≤5/2)	other Eγ: 3688.11 *16* (1993Pr09) In (n,γ) E=thermal; 3686.9 from (n,γ) E=thermal: γγ coin.
		3697.78 *8*	0.88 *4*	2492.98	(1/2−,3/2)	other Eγ: 3696.7 from (n,γ) E=thermal: γγ coin.
		3705.19 *24*	0.39 *4*	2485.60	(≤5/2)	other Eγ: 3706.8 *5* (1993Pr09) In (n,γ) E=thermal.
		3709.76 *10*	1.29 *5*	2481.46	(1/2−,3/2)	other Eγ: 3710.8 *5* (1993Pr09) In (n,γ) E=thermal.
		3715.8[e]		2475.0	(≤7/2)	
		3731.3[j] *3*	0.54 *13*	2460.10	(1/2,3/2)	uncertain assignment to ^{183}W.
		3740.37 *6*	2.50 *9*	2450.56	(≤7/2)	
		3743.1[e]		2447.7	(≤7/2)	
		3757.30 *6*	1.33 *3*	2433.63	(≤7/2)	
		3759.7[e]		2431.1	(≤7/2)	
		3762.83 *10*	1.09 *6*	2428.04	(≤7/2)	other Eγ: 3762.5 from (n,γ) E=thermal: γγ coin.
		3773.50 *7*	1.20 *3*	2417.48	(≤5/2)	other Eγ: 3772.5 from (n,γ) E=thermal: γγ coin.
		3798.29 *6*	3.02 *9*	2392.71	(1/2−,3/2)	other Eγ: 3798.5 from (n,γ) E=thermal: γγ coin.
		3807.03 *16*	1.57 *7*	2384.09	(5/2−)	other Eγ: 3807.43 *13* (1993Pr09) In (n,γ) E=thermal; 3772.8 from (n,γ) E=thermal: γγ coin.
		3818.4[j] *4*	0.22 *4*	2373.2	(1/2−,3/2,5/2+)	
		3821.89 *5*	2.18 *4*	2369.05	(1/2−,3/2)	complex line In (n,γ) E=thermal.
		3824.2[e]		2367.40	(1/2−,3/2)	
		3831.18 *23*	0.40 *4*	2359.74	(1/2,3/2,5/2+)	
		3841.2 *4*	0.17 *4*	2349.7		
		3866.24 *9*	2.08 *8*	2325.6	(1/2−,3/2,5/2−)	other Eγ: 3867.87 *25* (1993Pr09) In (n,γ) E=thermal.
		3875.94 *23*	0.33 *7*	2314.98		
		3879.0[e]		2311.8	(1/2,3/2,5/2+)	
		3887.09 *5*	2.68 *4*	2303.91	(3/2−)	other Eγ: 3886.7 from (n,γ) E=thermal: γγ coin.
		3898.45 *13*	1.01 *4*	2292.59	(≤5/2)	
		3907.98 *8*	2.30 *4*	2282.97	(3/2−)	
		3924.67 *22*	0.23 *2*	2266.30	(1/2−,3/2)	
		3927.9[e]		2262.9	(≤7/2)	
		3931.3[j] *4*	0.11 *3*	2257.6	(1/2,3/2,5/2+)	other Eγ: 3933.0 from (n,γ) E=thermal: γγ coin.
		3943.04 *10*	1.65 *5*	2248.08	(3/2,5/2−)	other Eγ: 3942.8 from (n,γ) E=thermal: γγ coin.
		3951.7[e]		2239.1	(≤7/2)	
		3955.30 *12*	1.42 *4*	2235.72	(3/2−)	other Eγ: 3955.76 *17* (1993Pr09) In (n,γ) E=thermal.
		3959.35 *19*	0.35 *3*	2231.46	(1/2,3/2)	other Eγ: 3960.6 from (n,γ) E=thermal: γγ coin.
		3981.89 *10*	1.28 *5*	2209.05	(1/2+)	
		4014.19 *7*	6.44 *13*	2176.75	(3/2)	Mult.: strength In (n,γ) E=thermal favors E1.
		4021.5 *4*	0.47 *4*	2169.87	(3/2,5/2+)	other Eγ: 4023.7 from (n,γ) E=thermal: γγ coin.
		4026.16 *9*	3.32 *4*	2164.82	(3/2−)	other Eγ: 4027.1 from (n,γ) E=thermal: γγ coin.
		4033.56 *22*	0.53 *4*	2157.48	(1/2−,3/2)	other Eγ: 4034.0 *4* (1993Pr09) In (n,γ) E=thermal.
		4037.9[e]		2152.9	(≤7/2)	

$^{183}_{74}W_{109}$-41

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Comments
(6190.965)	$1/2^+$	4060.6[e]		2130.2	(≤7/2)	
		4064.61 *7*	2.83 *6*	2126.35	$3/2^-$	
		4079.2[e]		2111.6	(≤7/2)	
		4092.07 *22*	1.37 *12*	2099.28	$(3/2^-,5/2^-)$	
		4095.2[e]		2095.5	(≤7/2)	
		4099.1 *7*	0.18 *3*	2091.5	$1/2^-,3/2^-$	
		4131.60 *14*	1.11 *4*	2059.36	$(3/2)^-$	
		4133.1[e]		2057.7	(1/2,3/2)	
		4162.47 *7*	2.30 *5*	2028.46	$(1/2^-,3/2)$	
		4200.50 *12*	0.90 *4*	1990.56	$(3/2^-)$	
		4208.79 *10*	0.36 *4*	1982.20	$3/2^-$	
		4216.8[j] *3*	0.22 *4*	1975.80	$(1/2^+,3/2,7/2^-)$	
		4226.12 *23*	0.37 *4*	1964.72	$(5/2)^-$	other Eγ: 4226.5 from (n,γ) E=thermal: γγ coin.
		4238.3[e]		1952.5	$1/2^-,3/2^-$	
		4246.72 *6*	8.30 *6*	1944.31	$3/2^-$	Mult.: strength In (n,γ) E=thermal favors E1.
		4258.7[e]		1932.1	(≤7/2)	
		4275.7 *3*	0.25 *3*	1915.39	$(1/2^-,3/2)$	
		4289.95 *16*	0.85 *4*	1900.84	$(1/2^-,3/2)$	
		4297.64 *14*	0.73 *4*	1893.82	$(1/2^-,3/2)$	other Eγ: 4296.8 In (n,γ) E=thermal: γγ coin.
		4304.72 *8*	4.21 *6*	1886.15	(≤5/2)	
		4321.26 *12*	1.04 *3*	1869.69	$(1/2^-,3/2)$	
		4345.4[j] *13*	0.06 *3*	1846.7	$(1/2^-,3/2^-)$	
		4353.8 *5*	0.25 *5*	1837.2	$(1/2^-,3/2)$	
		4357.4 *3*	0.43 *5*	1833.81	$(1/2^-,3/2)$	
		4362.7[e]		1828.1	(≤5/2)	
		4367.06 *5*	4.73 *5*	1823.86	$(3/2)^-$	
		4376.9[e]		1813.9	(≤5/2)	
		4379.87 *5*	3.48 *4*	1811.11	$(1/2)^-$	other Eγ: 4379.2 from (n,γ) E=thermal: γγ coin.
		4401.35 *21*	0.41 *3*	1789.76	(1/2,3/2)	other Eγ: 4402.8 *5* (1993Pr09) In (n,γ) E=thermal; 4400.3 from (n,γ) E=thermal: γγ coin.
		4406.33 *24*	0.33 *3*	1785.58	$5/2^+$	
		4444.0[e]		1746.8	(1/2,3/2)	
		4454.6 *7*	0.41 *7*	1737.2	$(3/2)^-$	
		4460.52 *5*	2.39 *4*	1730.48	$(3/2^-)$	
		4465.76 *24*	0.27 *3*	1725.65	(1/2,3/2)	other Eγ: 4467.2 *6* (1993Pr09) In (n,γ) E=thermal.
		4474.3 *6*	0.13 *3*	1716.6	$(1/2^+,3/2^+,5/2^+)$	
		4492.7 *3*	0.16 *2*	1698.2	$(1/2,3/2,5/2^+)$	
		4513.7[e]		1677.1	$(1/2^-,3/2^-)$	
		4518.18 *4*	7.94 *7*	1672.75	$(3/2^-,5/2^-)$	Mult.: strength In (n,γ) E=thermal favors E1.
		4528.0 *12*	≈0.44	1663.64	$(1/2^-,3/2,5/2^-)$	
		4530.8 *10*	≈0.27	1660.59	$(1/2^-,3/2,5/2^-)$	
		4532.6[e]		1658.2	(≤9/2)	
		4557.65 *15*	0.74 *4*	1633.32	$(1/2^-,3/2,5/2^-)$	

$^{183}_{74}W_{109}$-42

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#@]	E_f	J_f^π	Mult.[&]	Comments
(6190.965)	$1/2^+$	4562.72 *5*	5.72 *5*	1628.22	$3/2^-$		
		4579.09 *12*	0.83 *4*	1612.04	$(1/2^-,3/2,5/2^-)$		E_γ: 4578.5 from (n,γ) E=thermal: $\gamma\gamma$ coin.
		4604.67 *11*	0.80 *3*	1586.38	$(3/2^-)$		
		4620.9 *3*	0.23 *4*	1569.85	$(5/2^-)$		
		4634.73 *6*	2.86 *4*	1556.22	$(3/2^-)$		
		4652.8[e]		1537.9	$(1/2^-,3/2,5/2^-)$		
		4705.3 *4*	0.10 *4*	1485.45	$(1/2^-,3/2^-)$		
		4719.78 *5*	3.61 *4*	1471.05	$1/2^-$		
		4727.94 *14*	0.57 *4*	1463.18	$(3/2,5/2)^-$		
		4753.1 *12*	0.27 *12*	1437.42	$(1/2^-,3/2^-)$		othr Eγ: 4757.7 from (n,γ) E=thermal: $\gamma\gamma$ coin.
		4773.2[e]		1417.6	$(\leq 5/2)$		
		4777.9[e]		1412.9	$(\leq 9/2)$		
		4818.1 *5*	0.10 *3*	1372.23	$5/2^-,7/2^-$		
		4855.4 *4*	0.13 *3*	1335.42	$(3/2^-)$		
		4881.36 *7*	1.04 *4*	1309.409	$(3/2^-)$		E_γ: 4881.9 from (n,γ) E=thermal: $\gamma\gamma$ coin.
		4899.2[j] *9*	≈0.08	1291.67	$(1/2^-,3/2^-)$		
		4918.6[e]		1272.2	$(\leq 9/2)$		
		4964.2[e]		1226.5	$(\leq 5/2)$		
		5002.4[e]		1188.4?	$(\leq 7/2)$		
		5040.9 *3*	0.16 *3*	1149.91	$3/2^-$		
		5094.3[e]		1096.4	$(\leq 9/2)$		
		5164.62 *9*	36.3 *29*	1026.373	$(3/2)^-$		Mult.: strength In (n,γ) E=thermal favors E1.
		5239.4[e]		951.3	$(\leq 7/2)$		
		5240.8[e]		949.9	$(\leq 7/2)$		
		5249.1[e]		941.6	$(\leq 7/2)$		
		5256.19 *4*	2.38 *4*	934.661	$1/2^-$		other Eγ: 5256.6 from (n,γ) E=thermal: $\gamma\gamma$ coin.
		5281.3[e]		909.4	$(1/2,3/2,5/2^+)$		
		5382.4[e]		808.3	$(1/2,3/2,5/2^+)$		
		5385.8[e]		804.9	$(1/2,3/2,5/2^+)$		
		5513.0[e]		677.7	$(1/2,3/2,5/2^+)$		
		5633.2[e]		557.5	$(1/2,3/2,5/2^-)$		
		5981.70 *22*	0.59 *4*	208.8069	$3/2^-$		
		6091.2 *3*	0.23 *3*	99.0791	$5/2^-$		
		6144.15 *4*	36.9 *8*	46.4838	$3/2^-$	D	other Eγ: 6144.28 *6* from (n,γ) E=thermal: $\gamma\gamma$ coin. Mult.: from (pol n,γ).
		6190.60 *4*	100.0 *22*	0.0	$1/2^-$	D	other Eγ: 6190.78 *6* from (n,γ) E=thermal: $\gamma\gamma$ coin; 6193 *3* from (n,γ) E=4.1 eV. Mult.: from (pol n,γ); strength In (n,γ) E=thermal favors E1.

[†] Additional information 1.

$^{183}_{74}W_{109}$-43

Adopted Levels, Gammas (continued)

$\gamma(^{183}W)$ (continued)

‡ If No value is given, it has been assumed that δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other mixed multipolarities.
# From (n,γ) E=thermal, except As noted.
@ Branching from (n,γ) E=thermal, except As noted.
& From β^- decay, except As noted.
a From ε decay, except As noted.
b Eγ deviates from least-squares prediction by At least 5σ.
c From ^{183}Ta β^- decay.
d From Coulomb excitation; uncertainty unstated by authors.
e From (n,γ) E=thermal: $\gamma\gamma$ coin.
f From (n,n$'\gamma$).
g From (^{14}C,α3nγ).
h From (n,γ) E=4.1 eV.
i Transition unobserved. Branching negligible relative to other transitions from the same parent level. Existence inferred from Coulomb excitation.
j Placement of transition in the level scheme is uncertain.

$^{183}_{74}W_{109}$-44

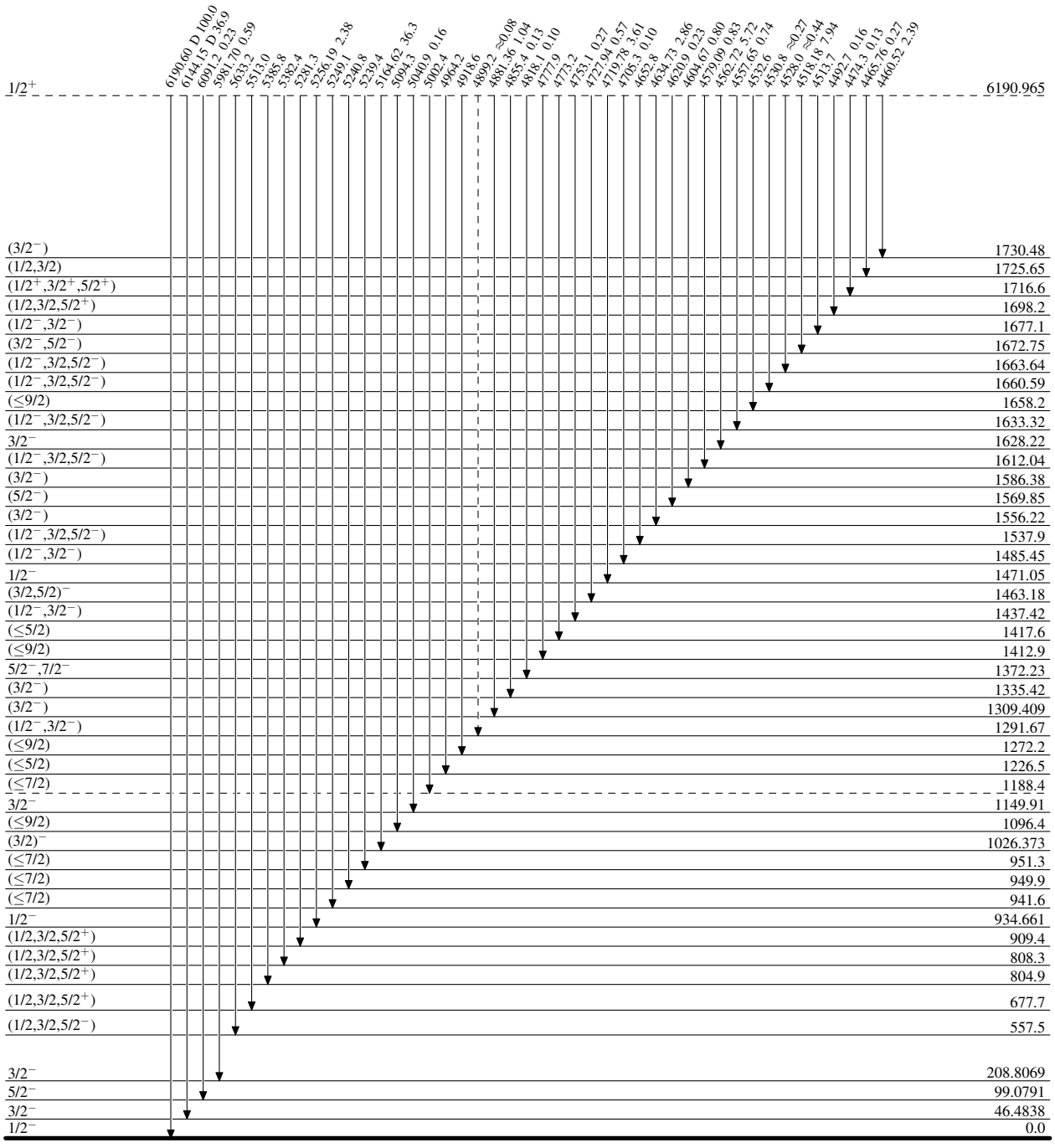
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

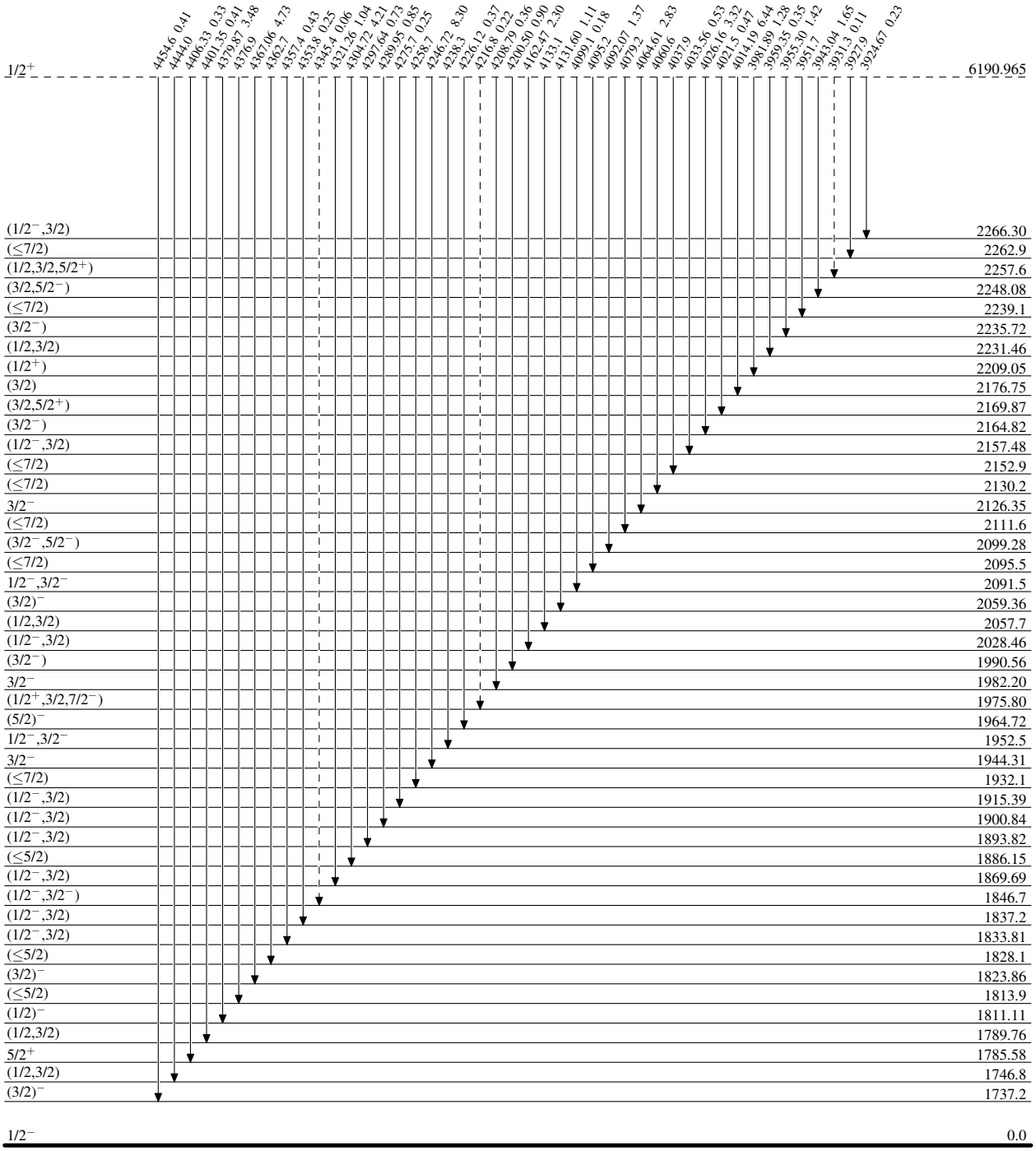
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

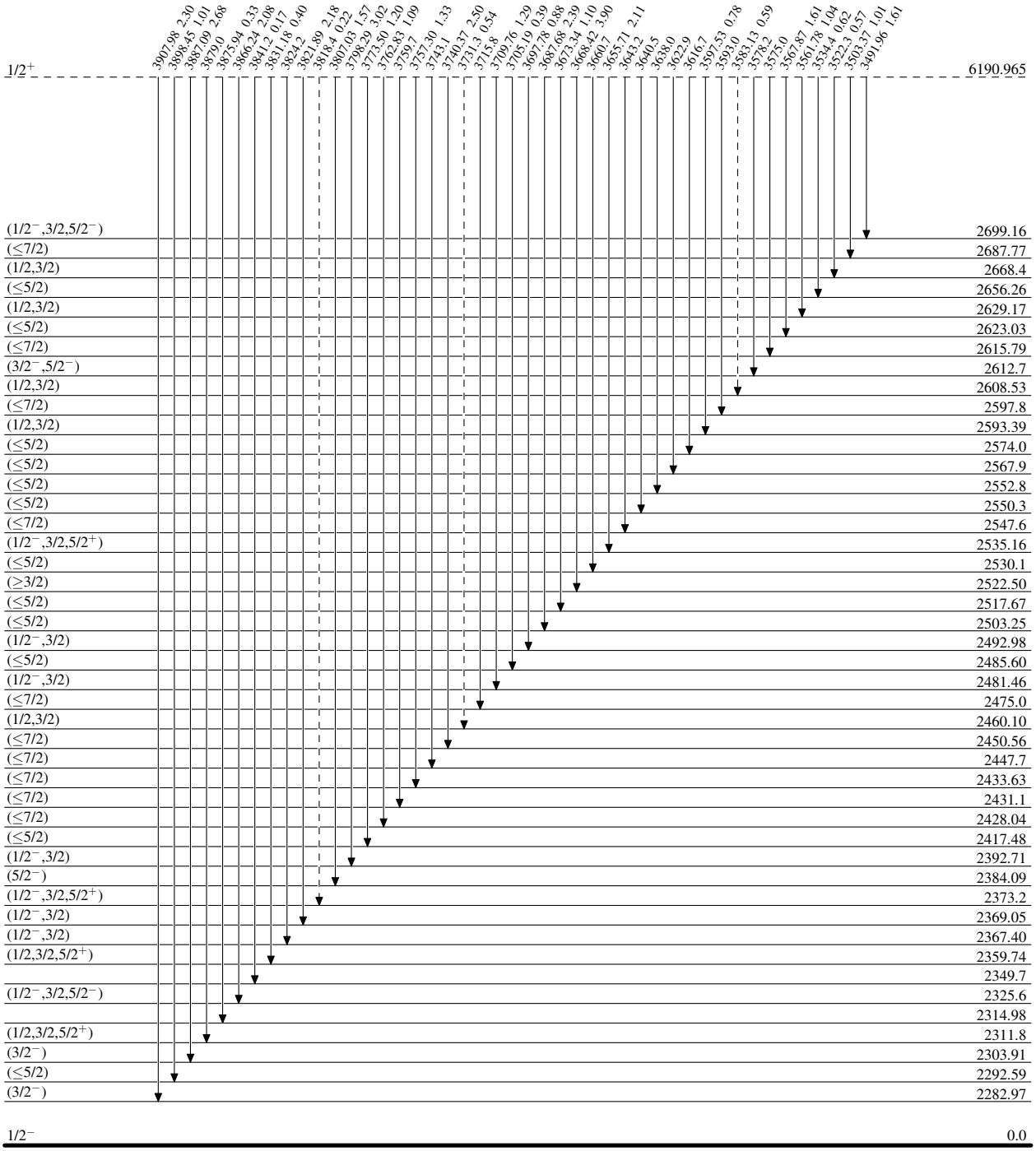
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{183}_{74}W_{109}$

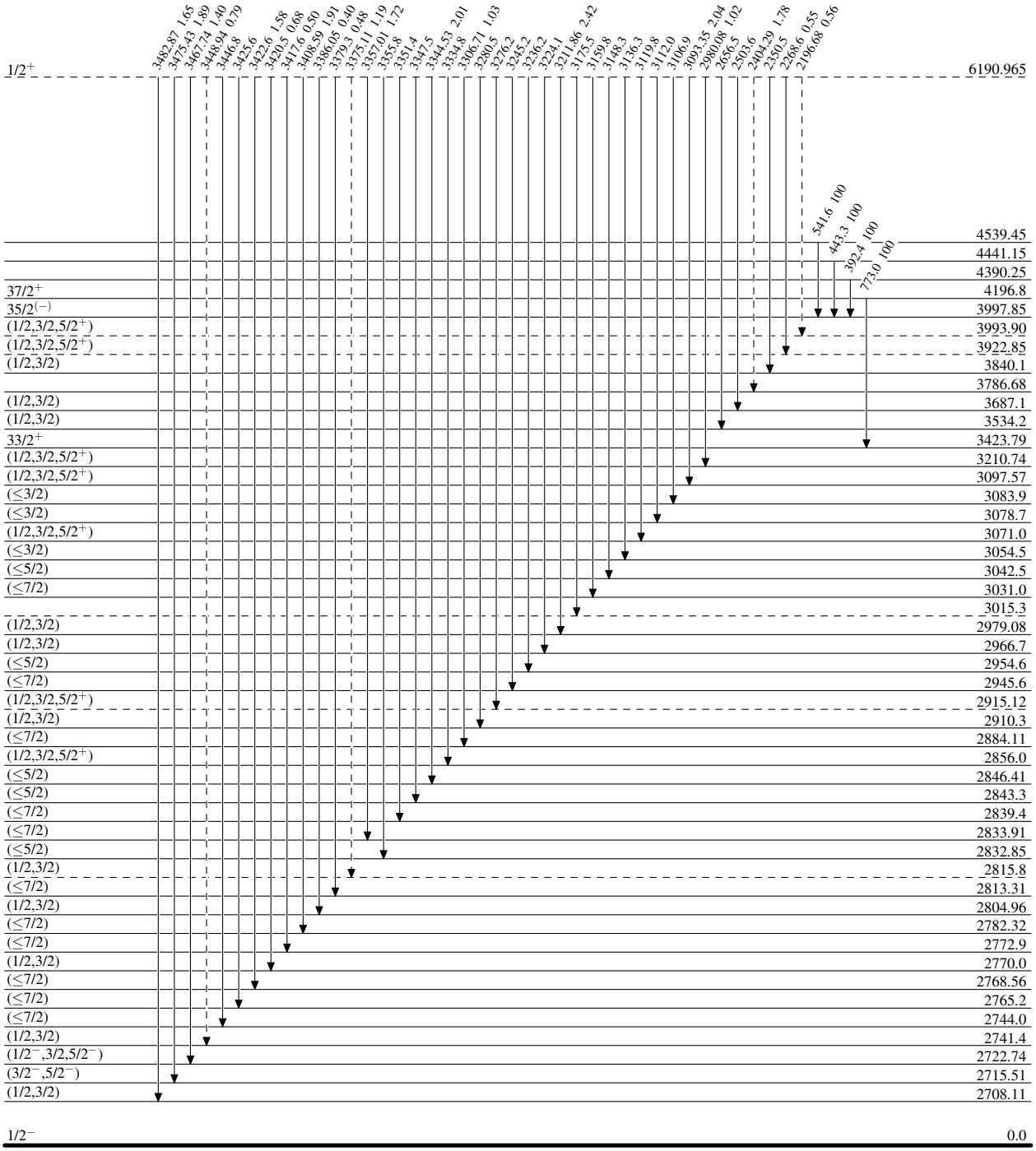
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

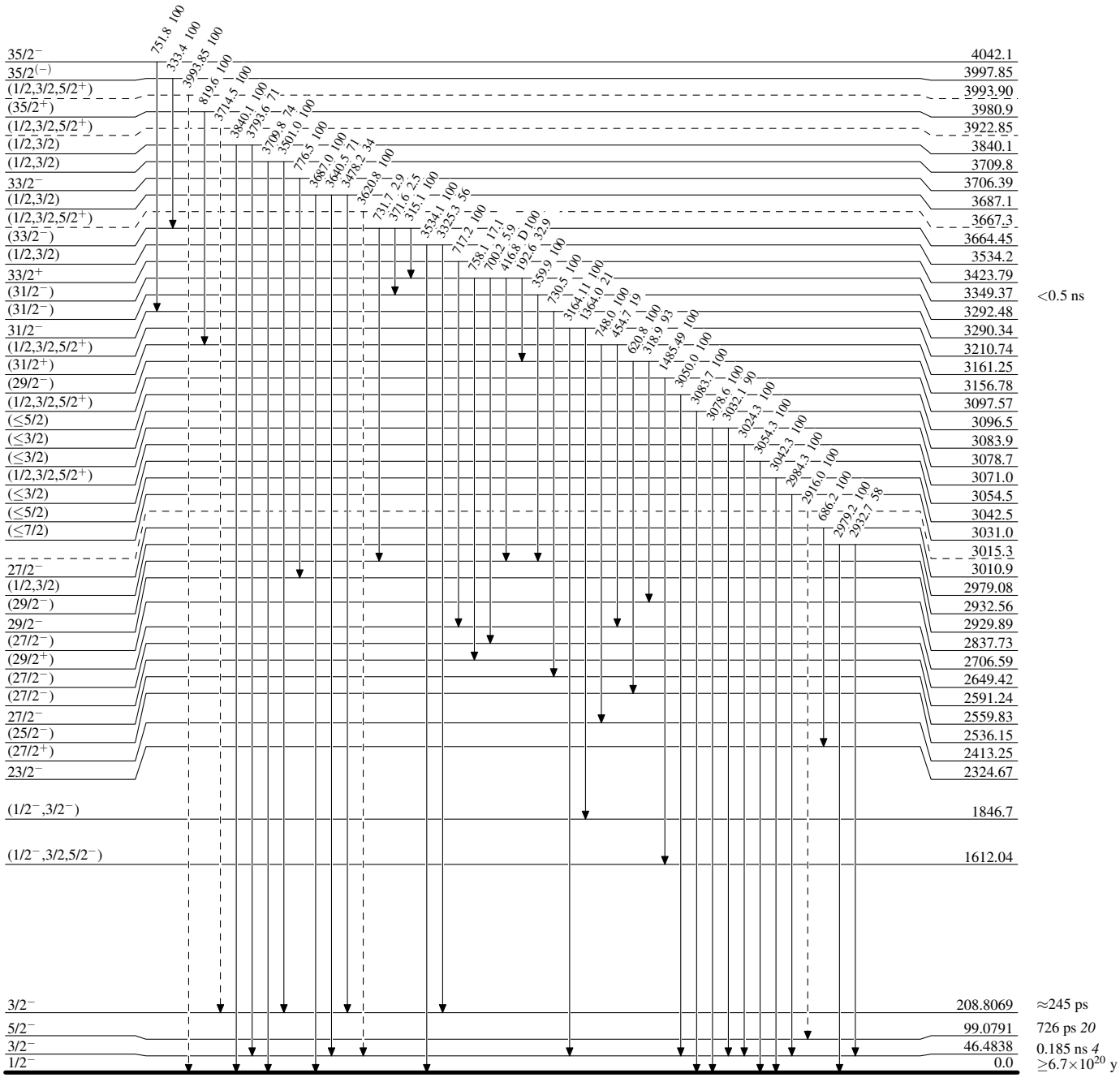
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

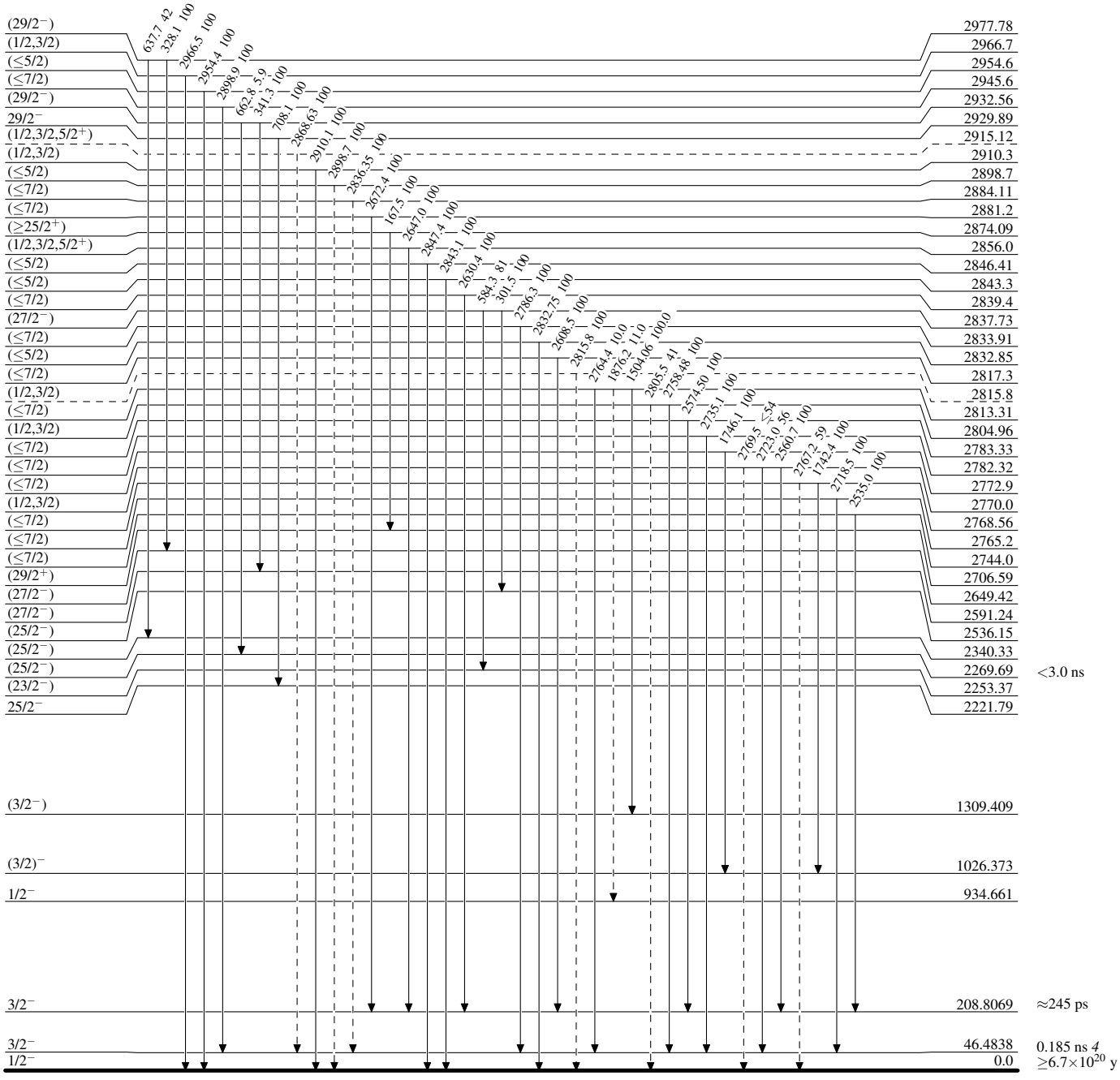
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

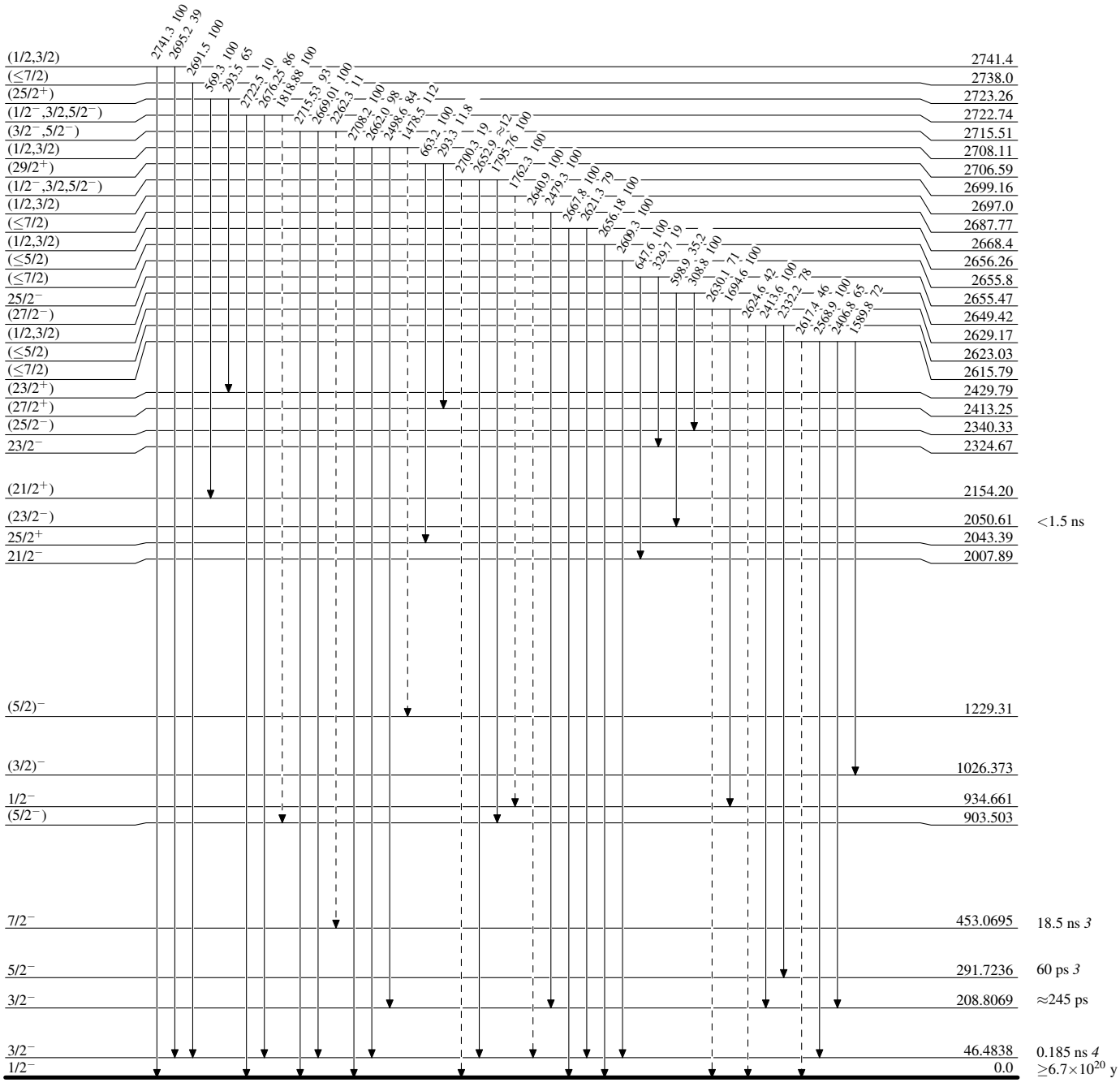
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{183}_{74}W_{109}$

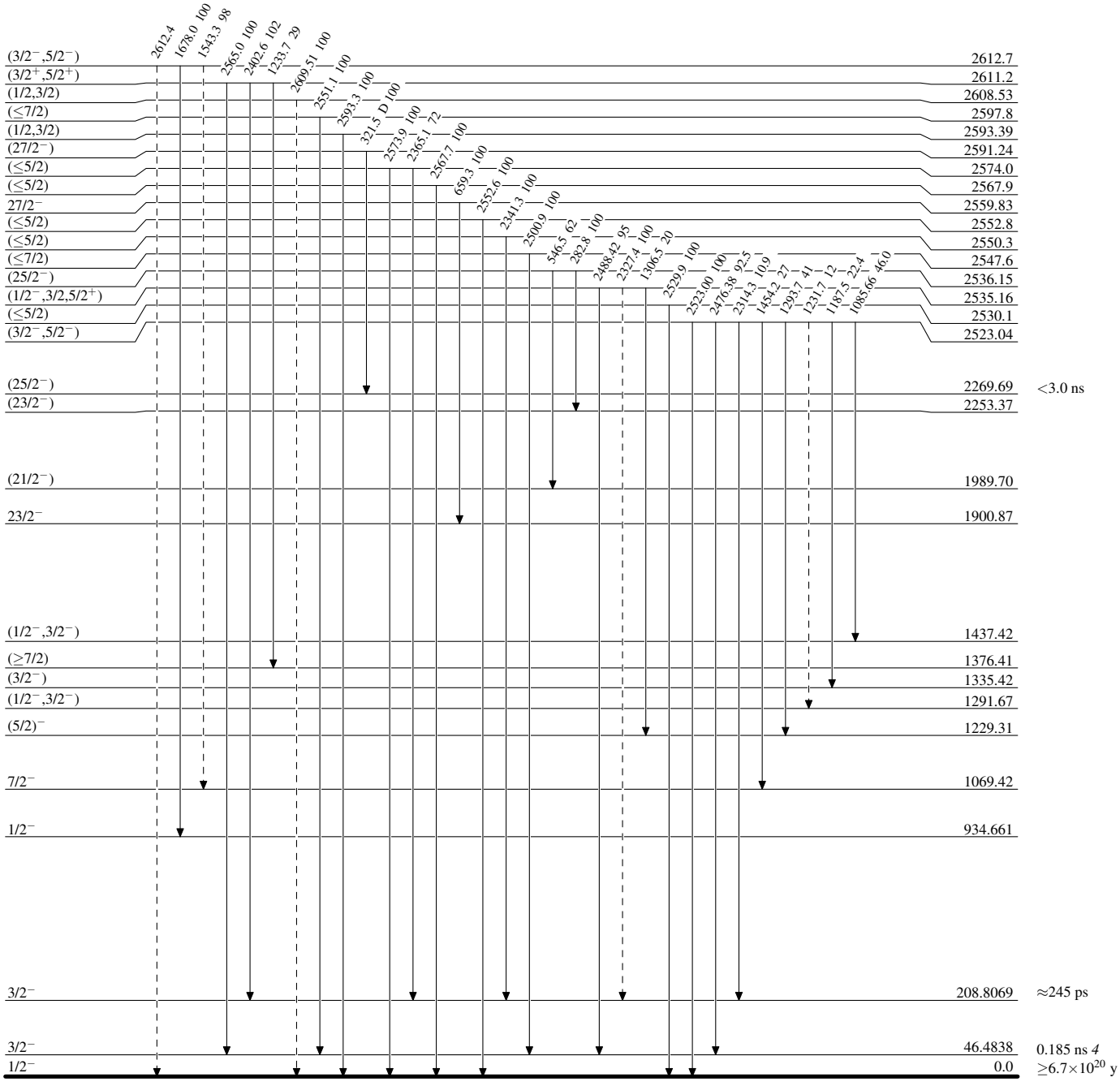
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{183}_{74}W_{109}$

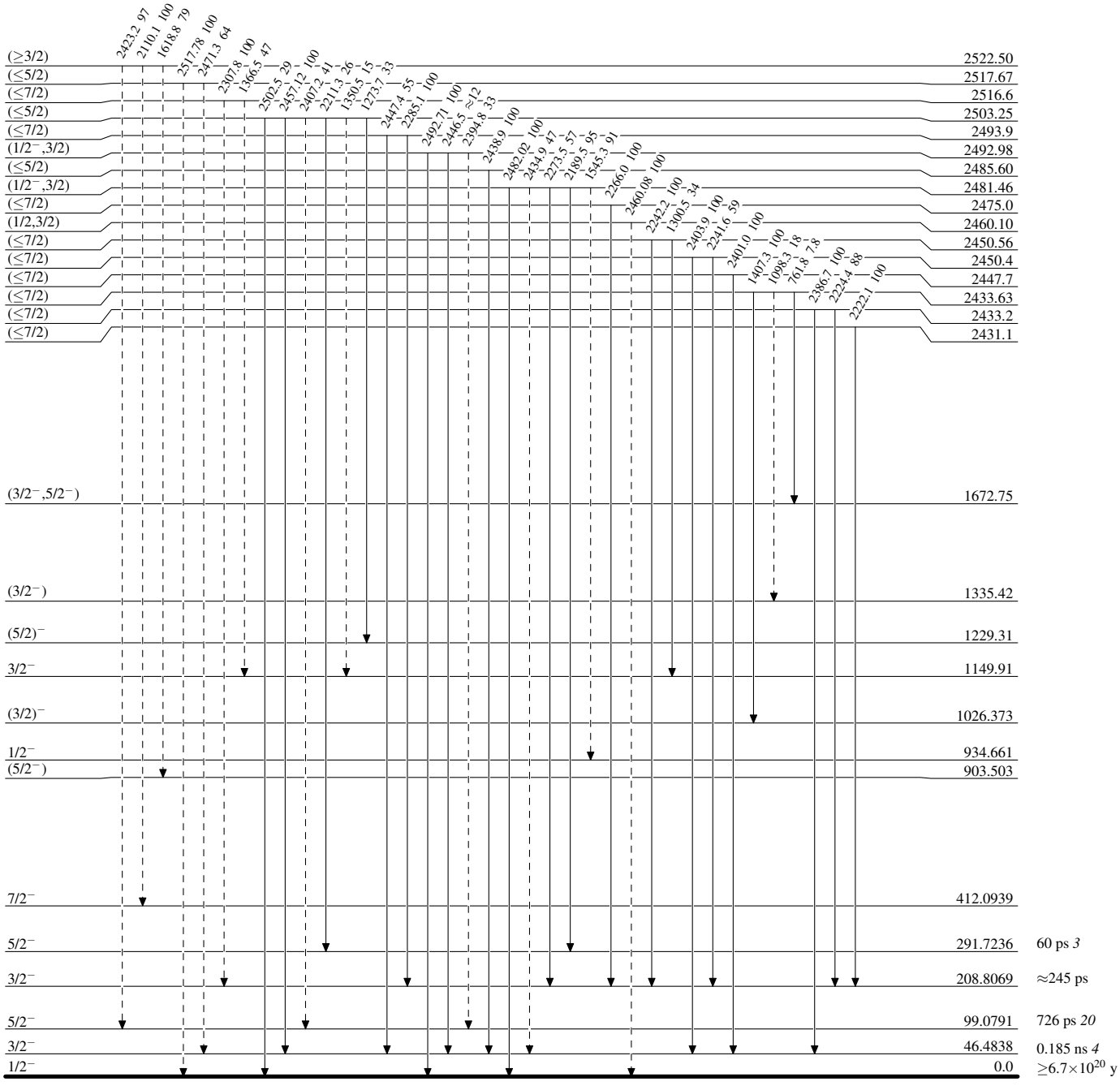
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



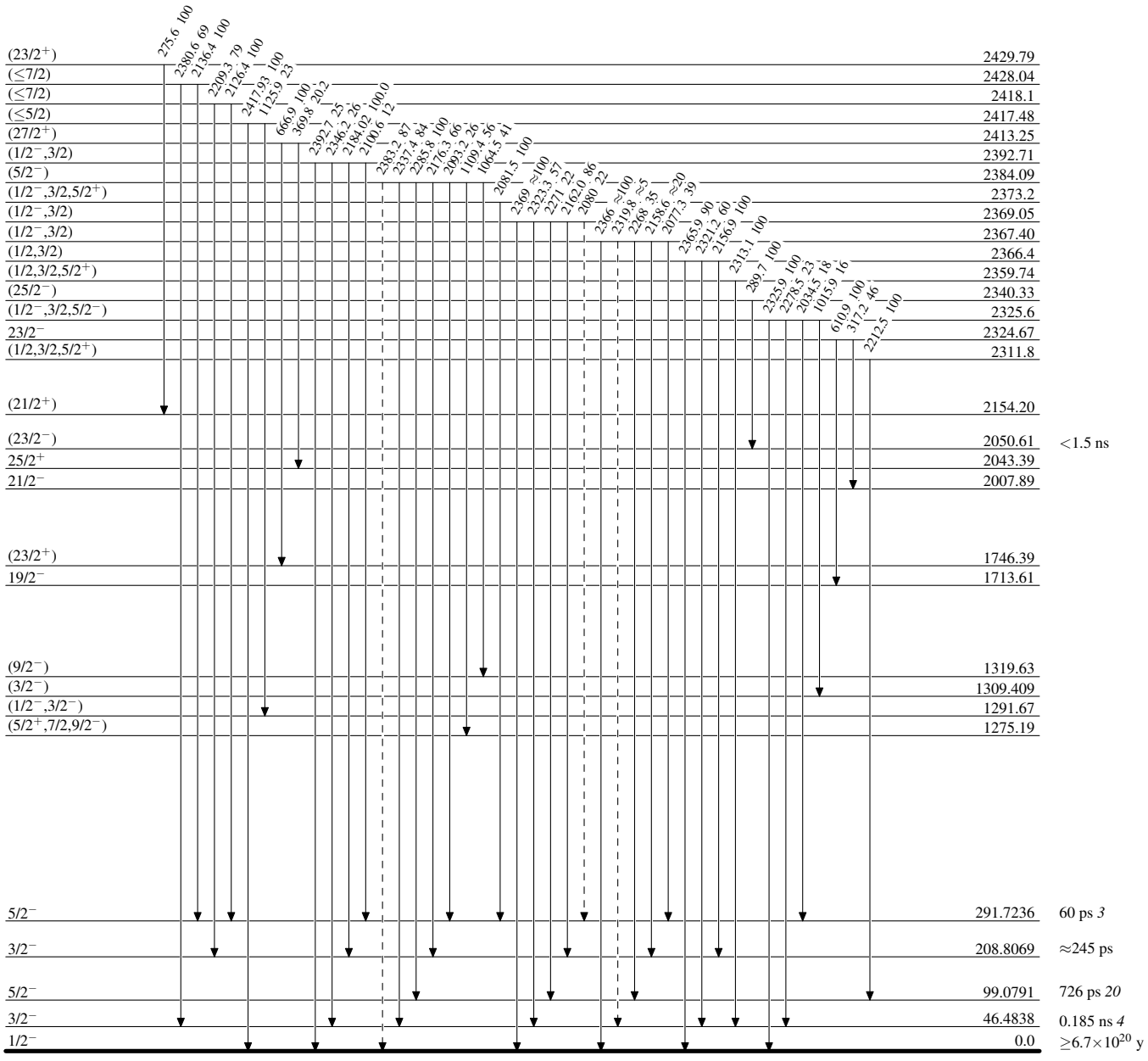
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

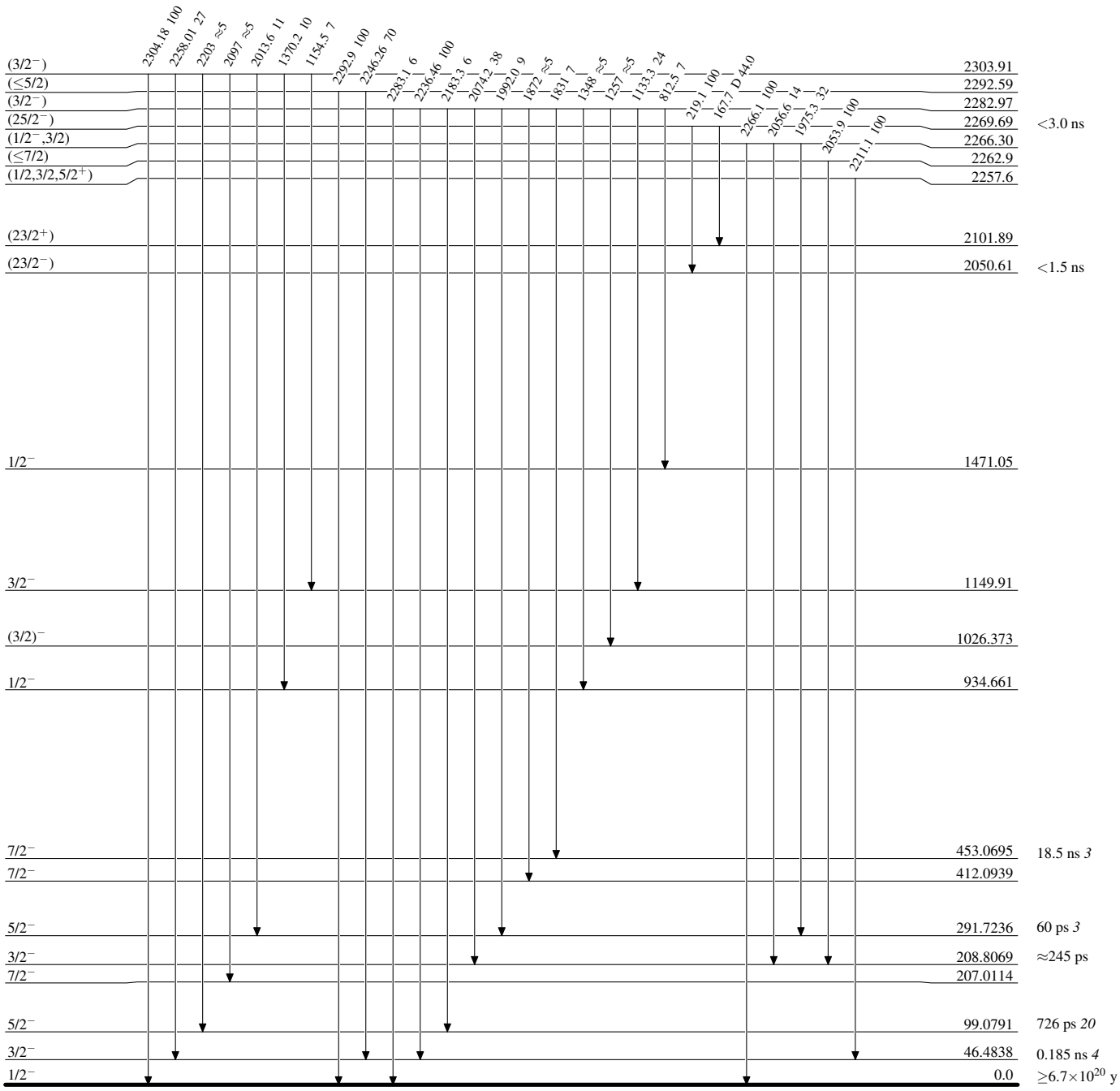


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{183}_{74}W_{109}$

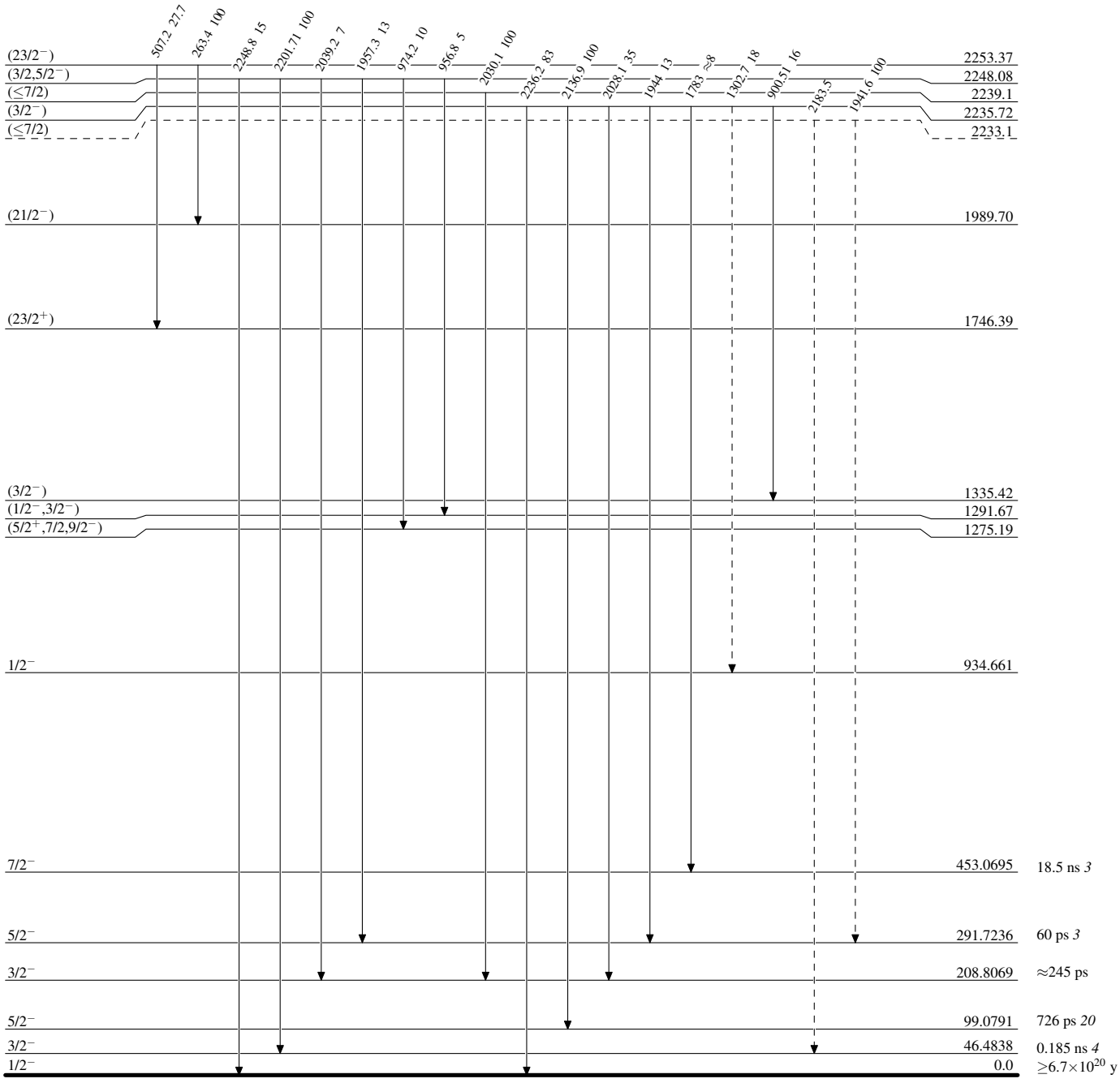
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

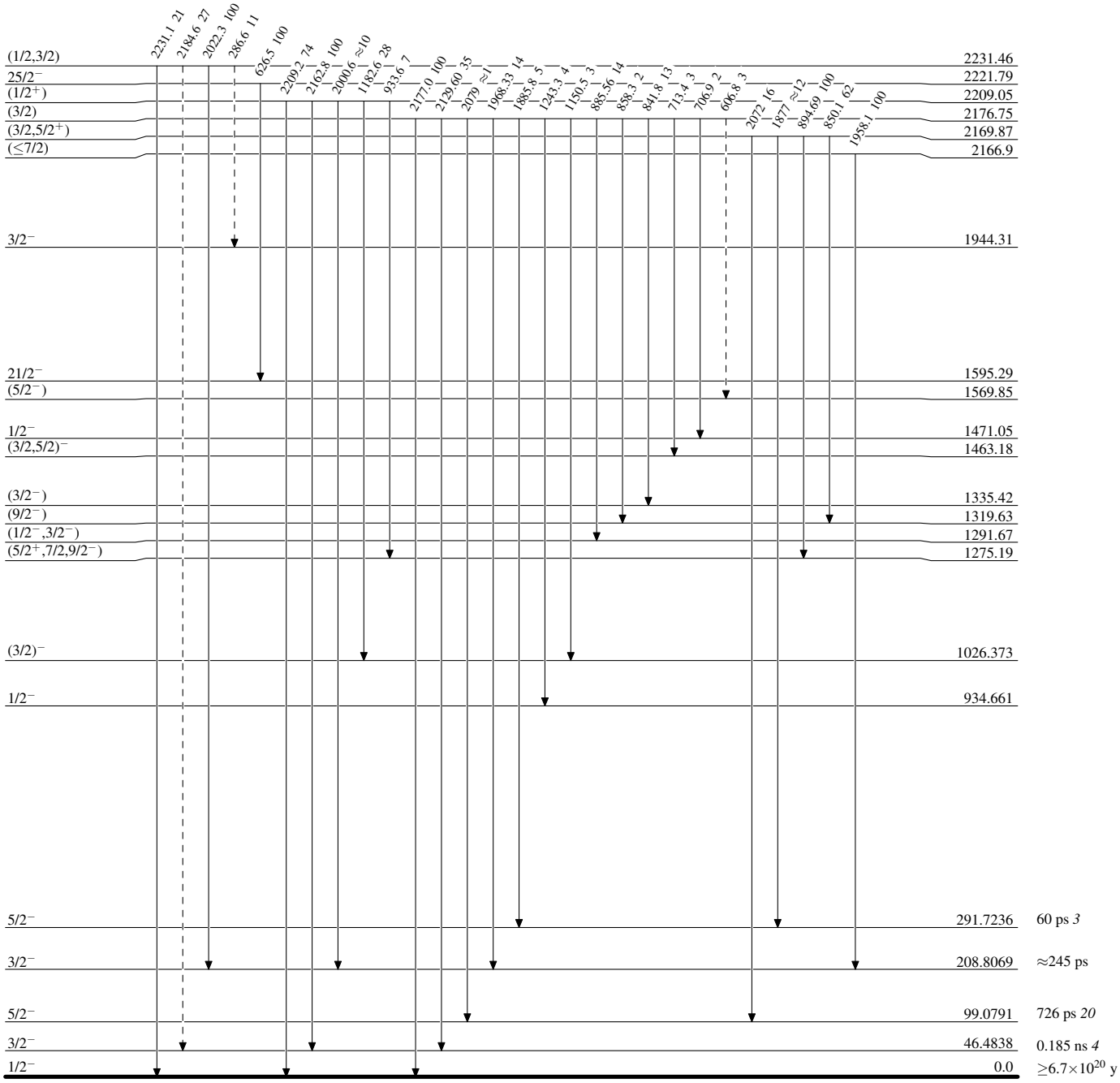
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

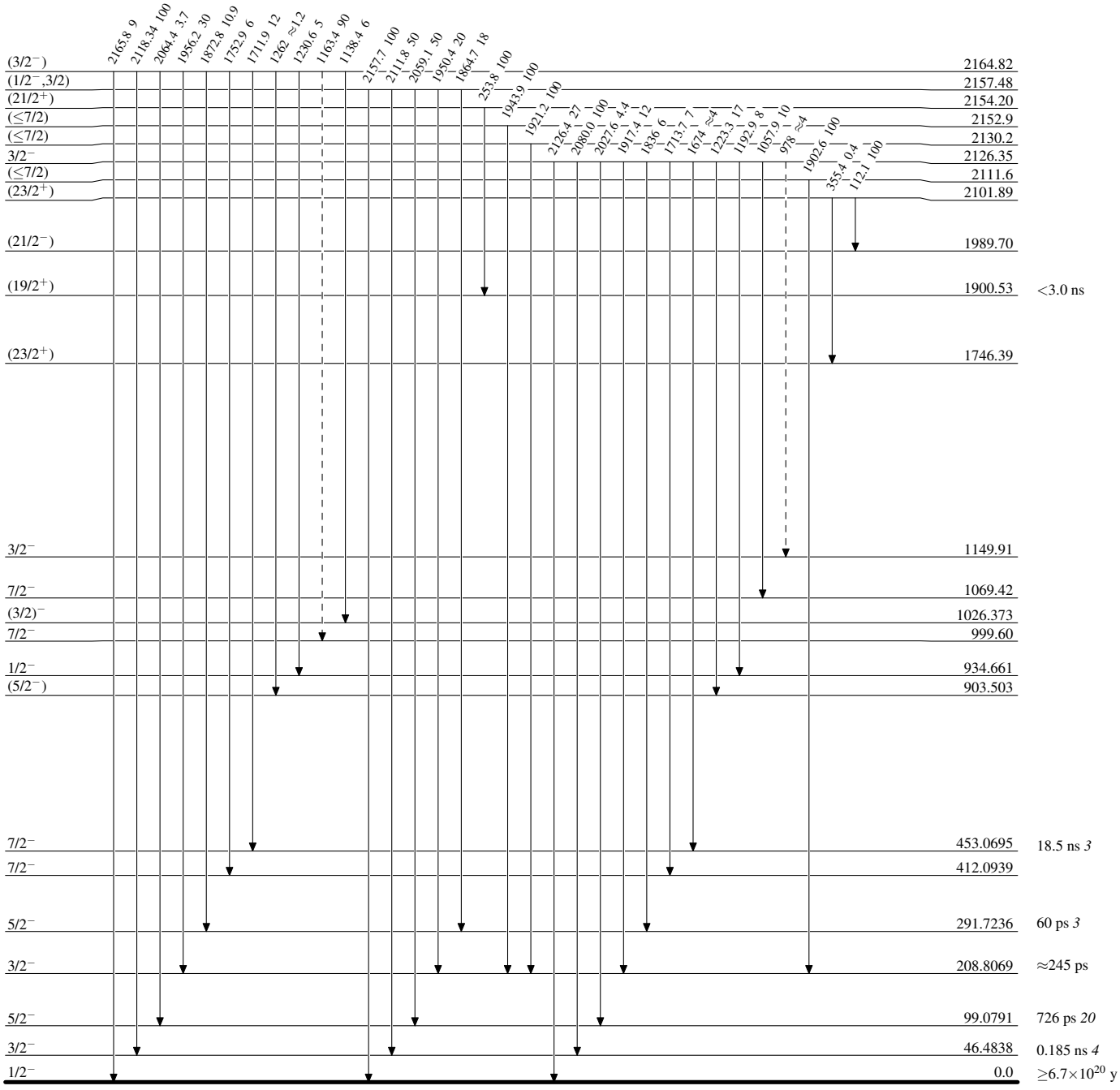
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{183}_{74}W_{109}$

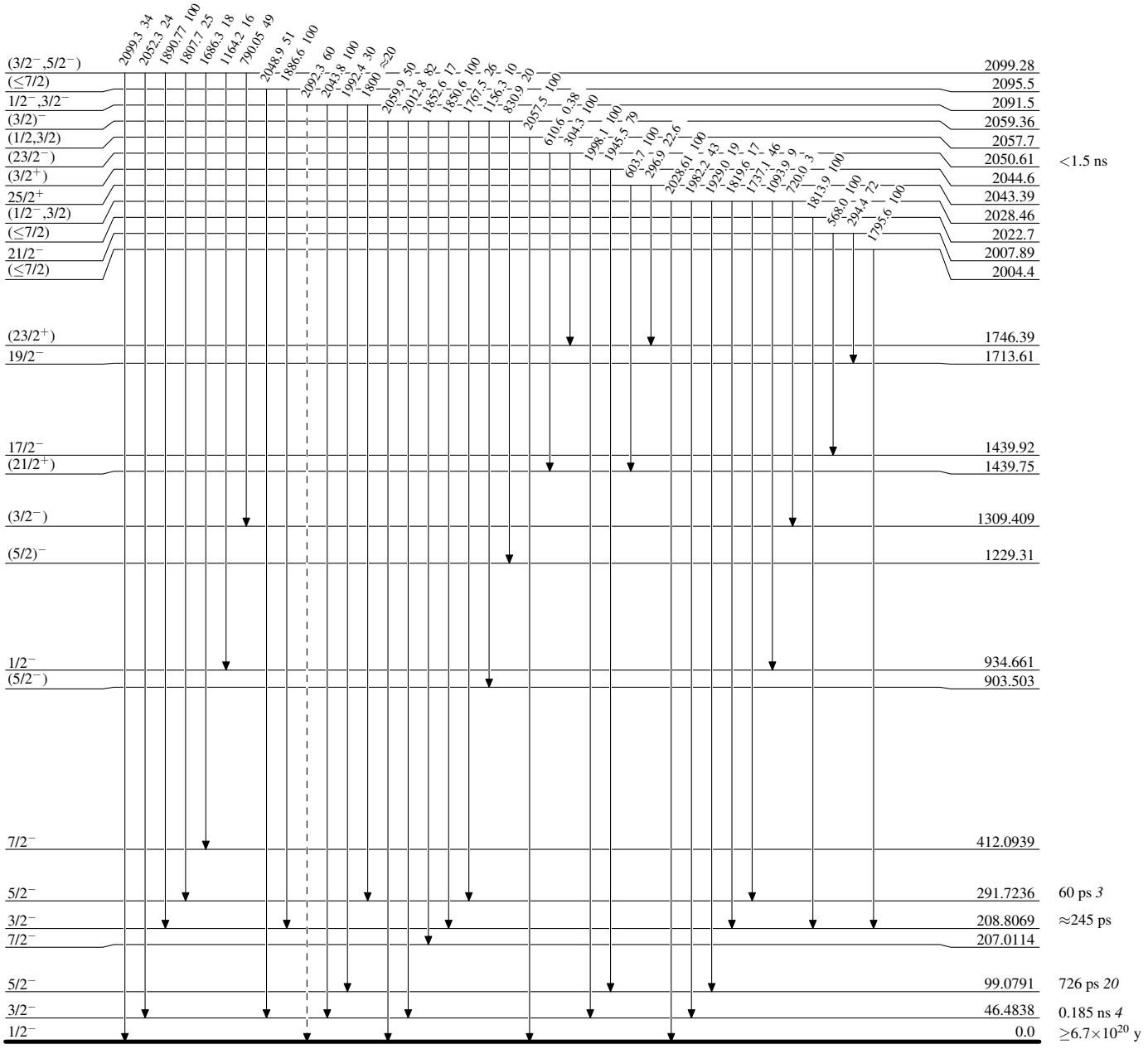
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

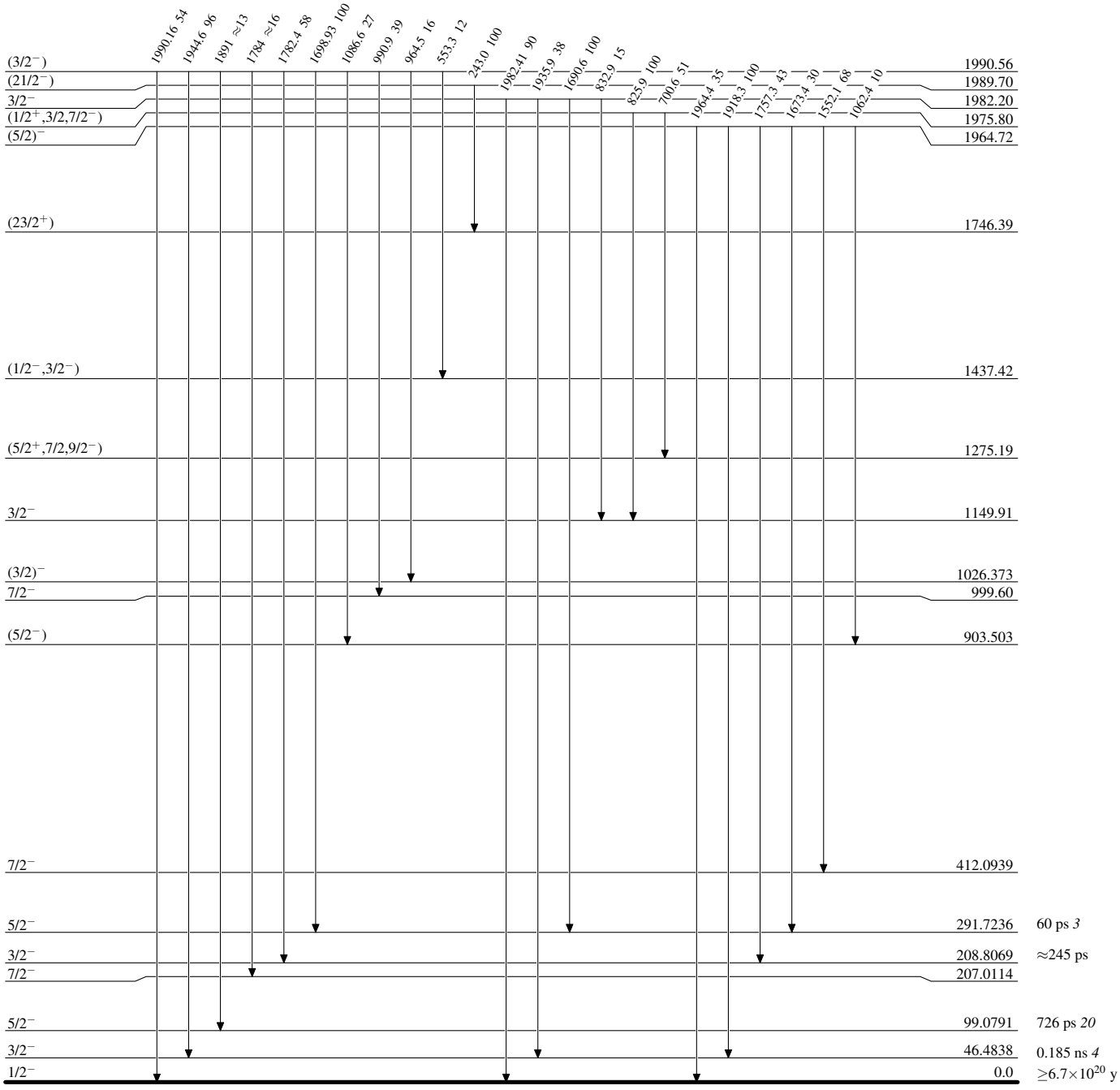


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{183}_{74}W_{109}$

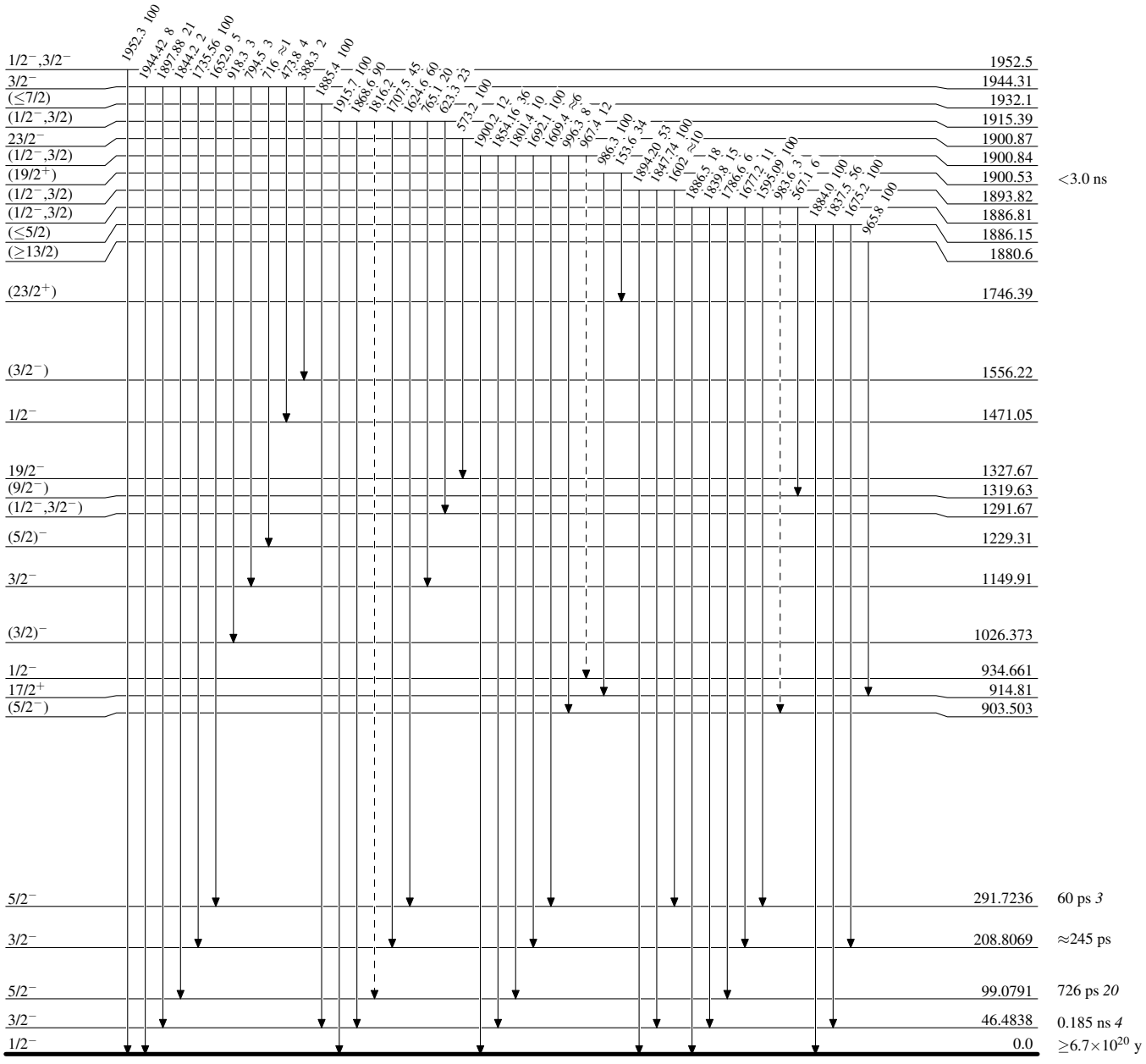
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

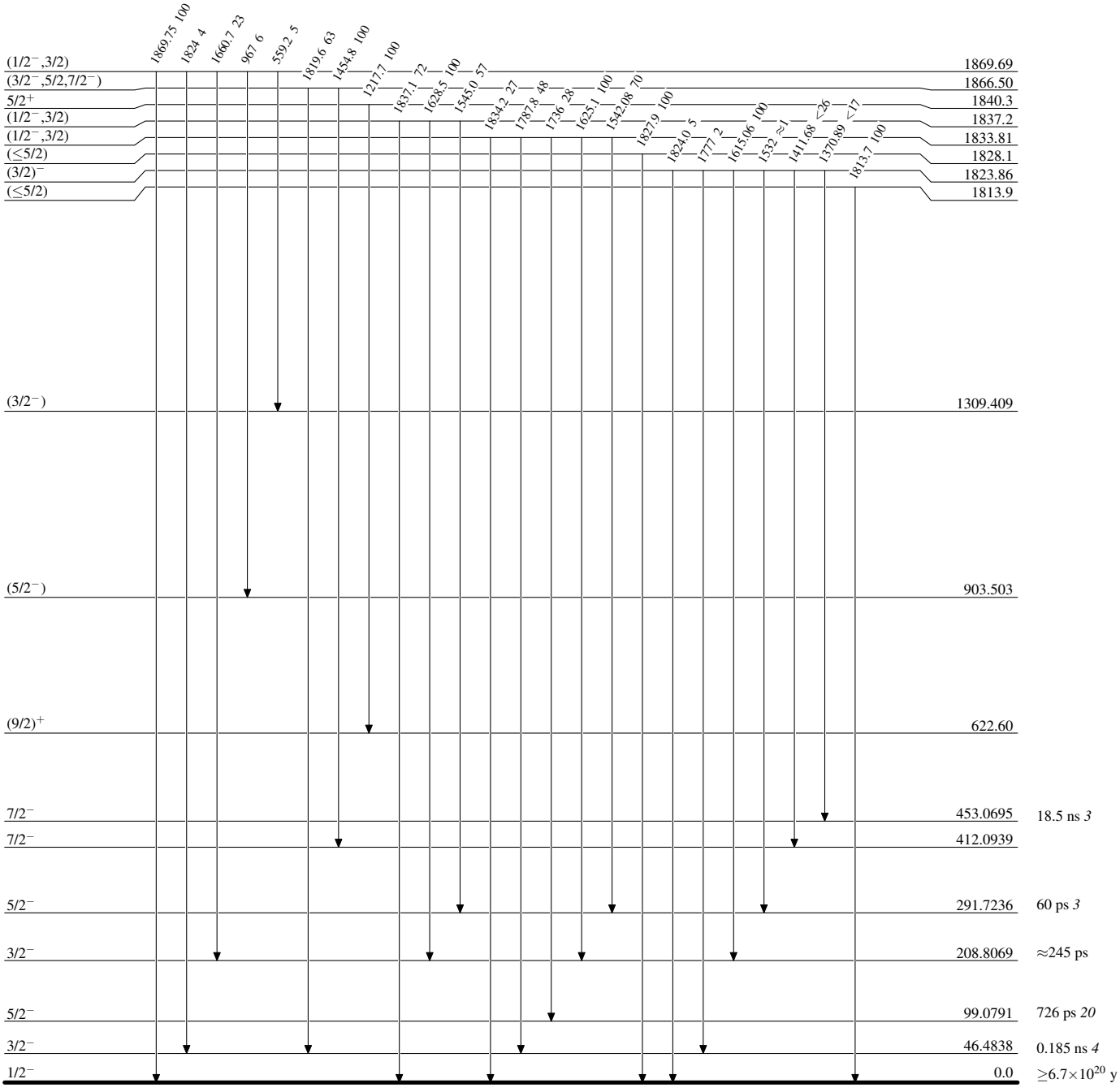


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{183}_{74}W_{109}$

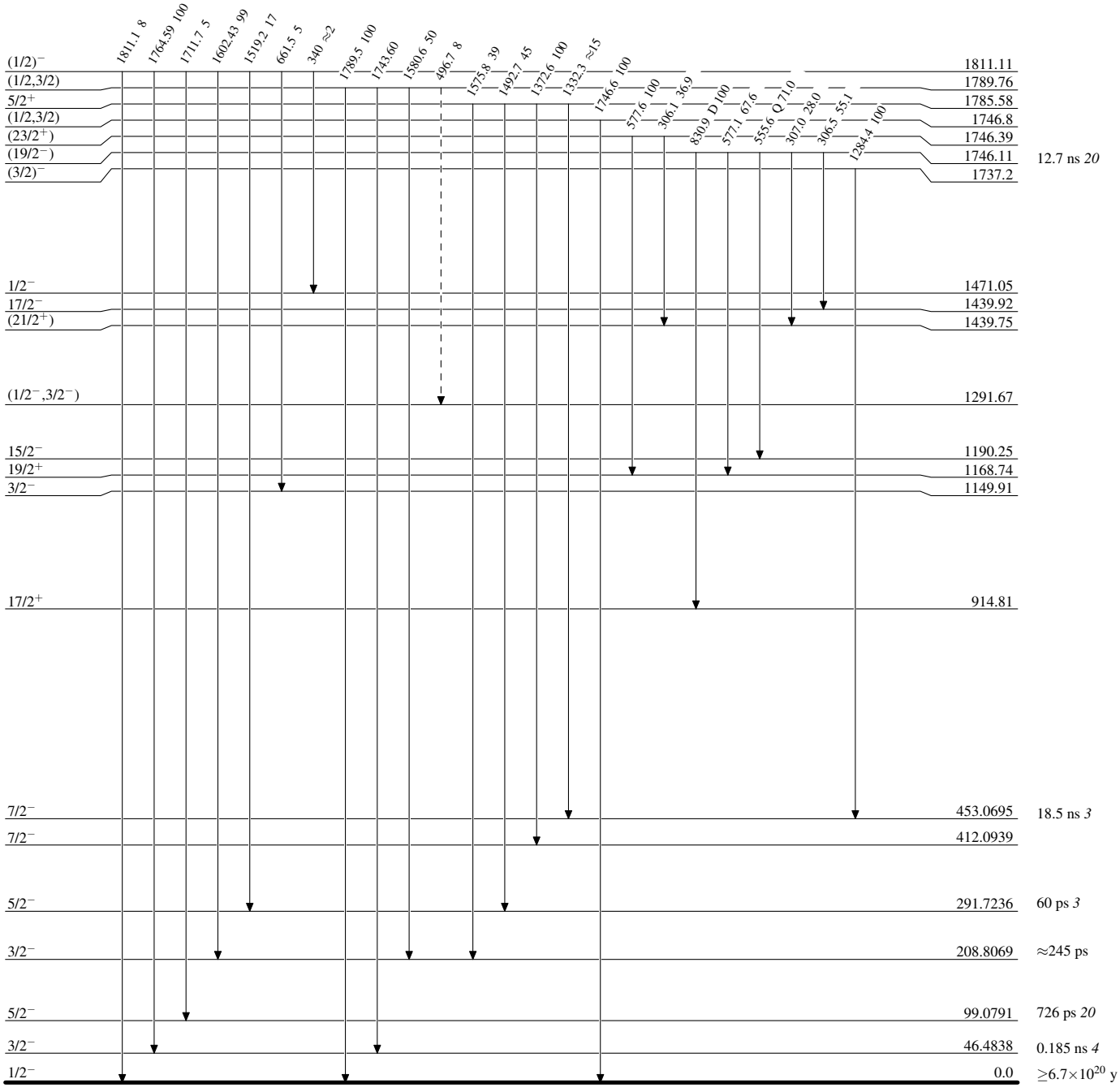
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

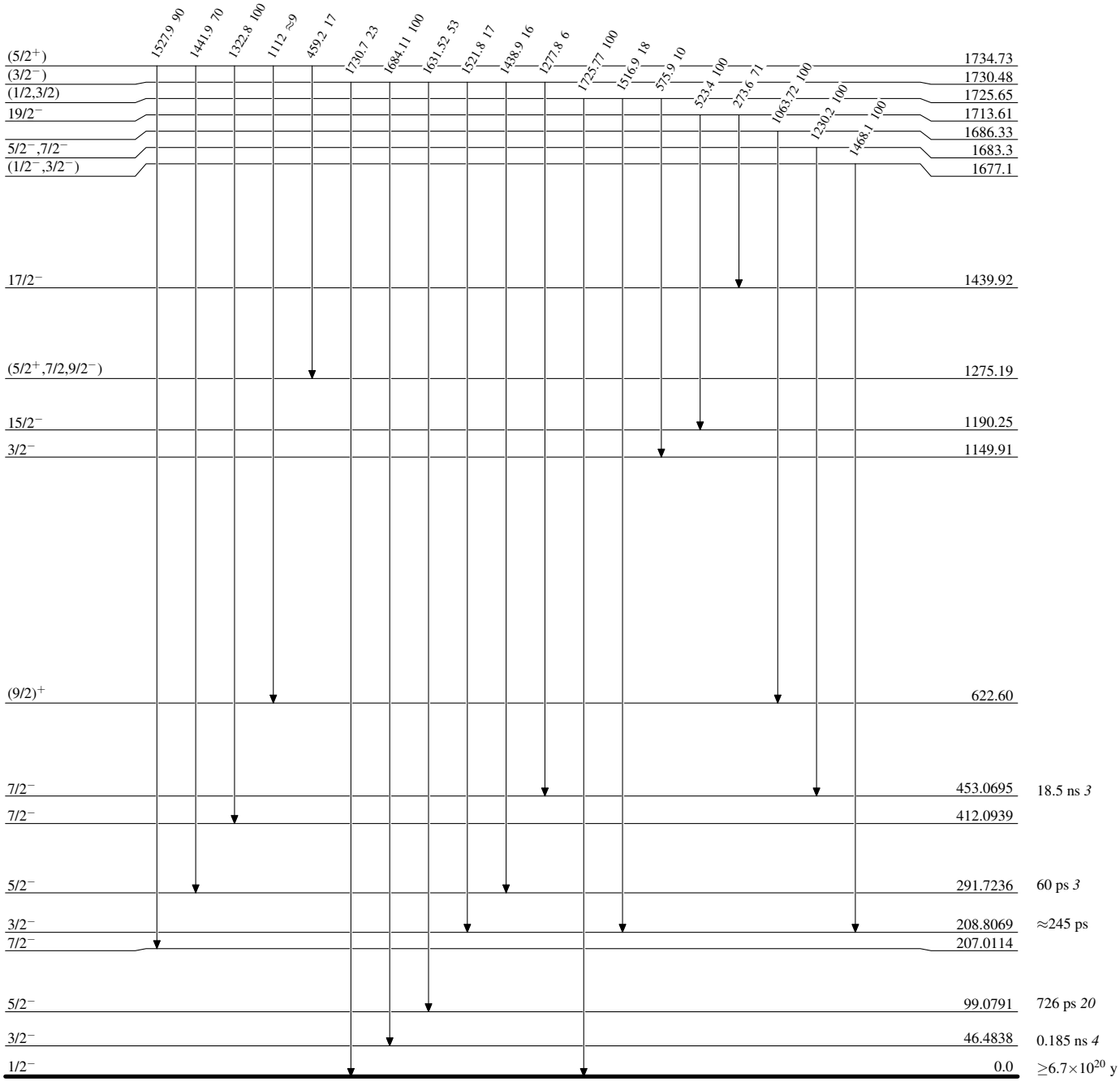


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{183}_{74}W_{109}$

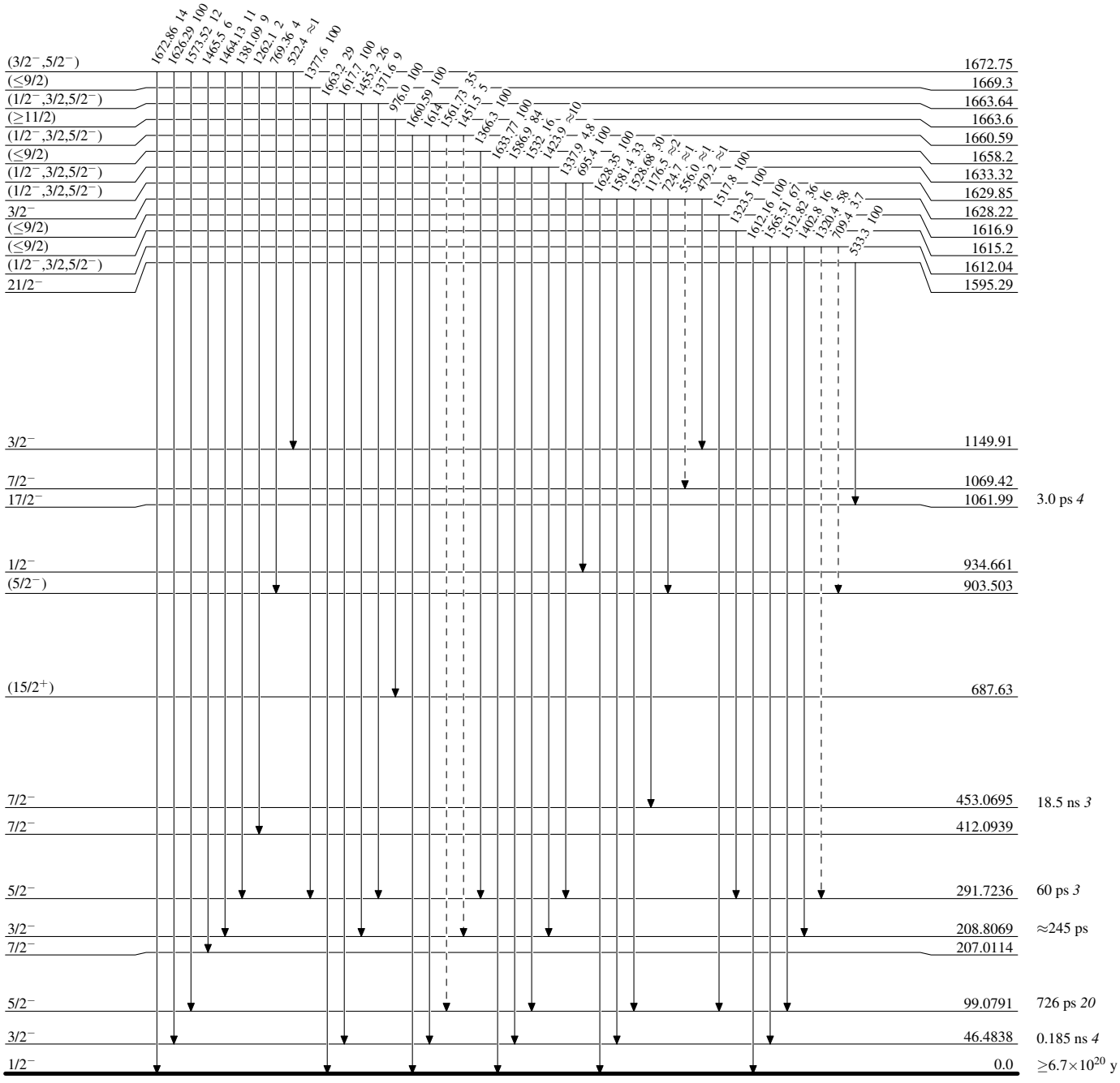
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{183}_{74}W_{109}$

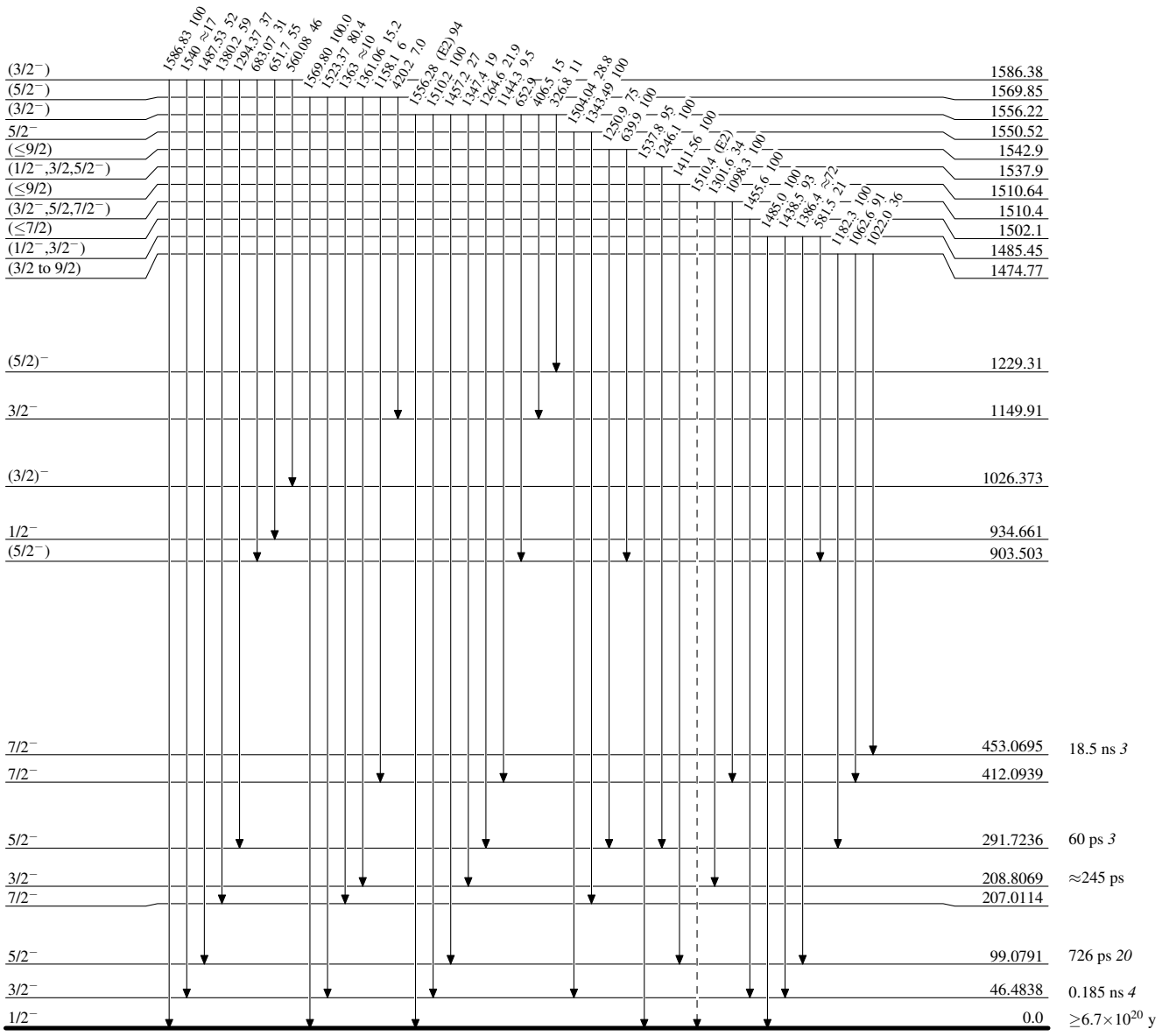
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

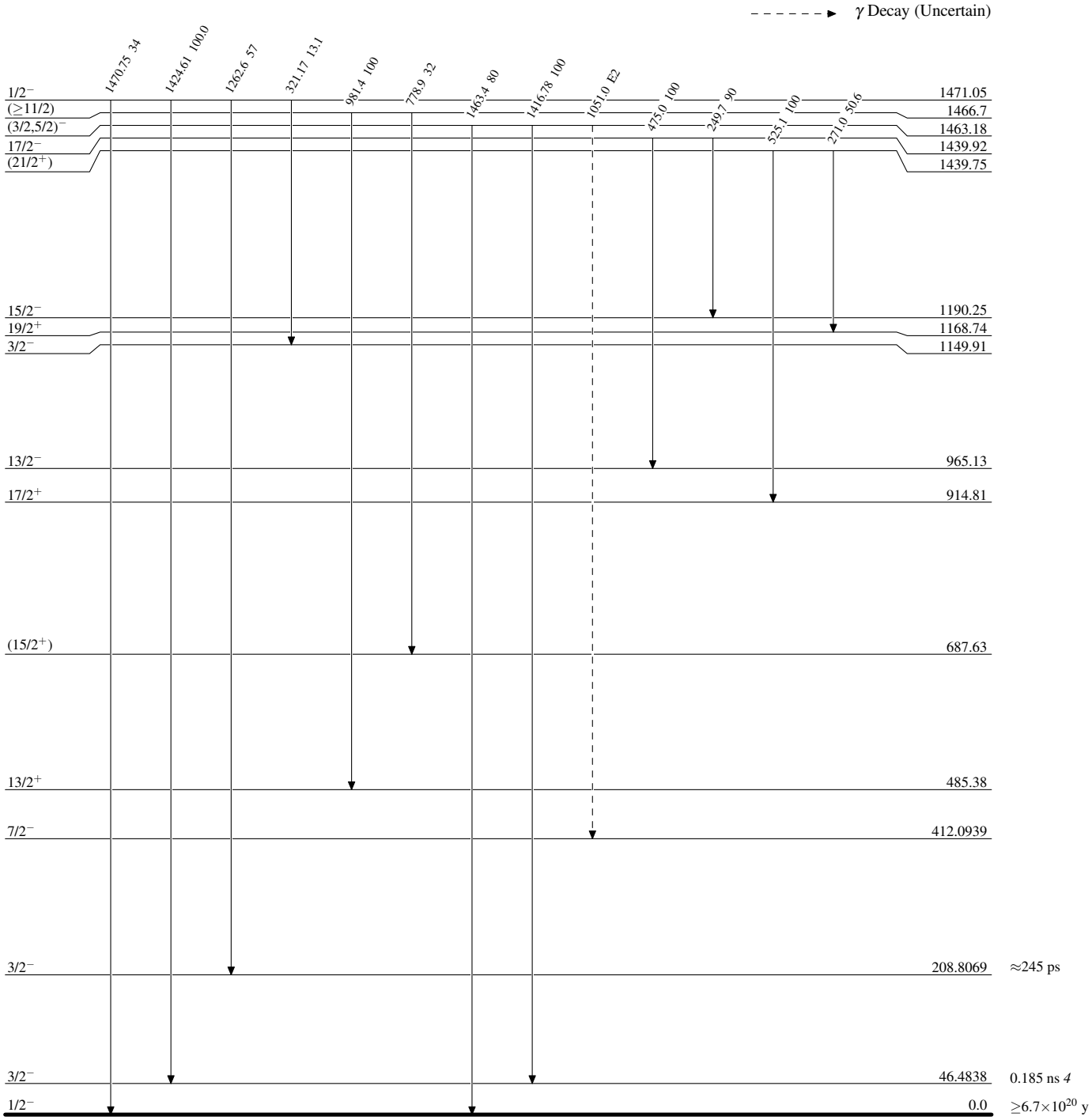


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{183}_{74}W_{109}$

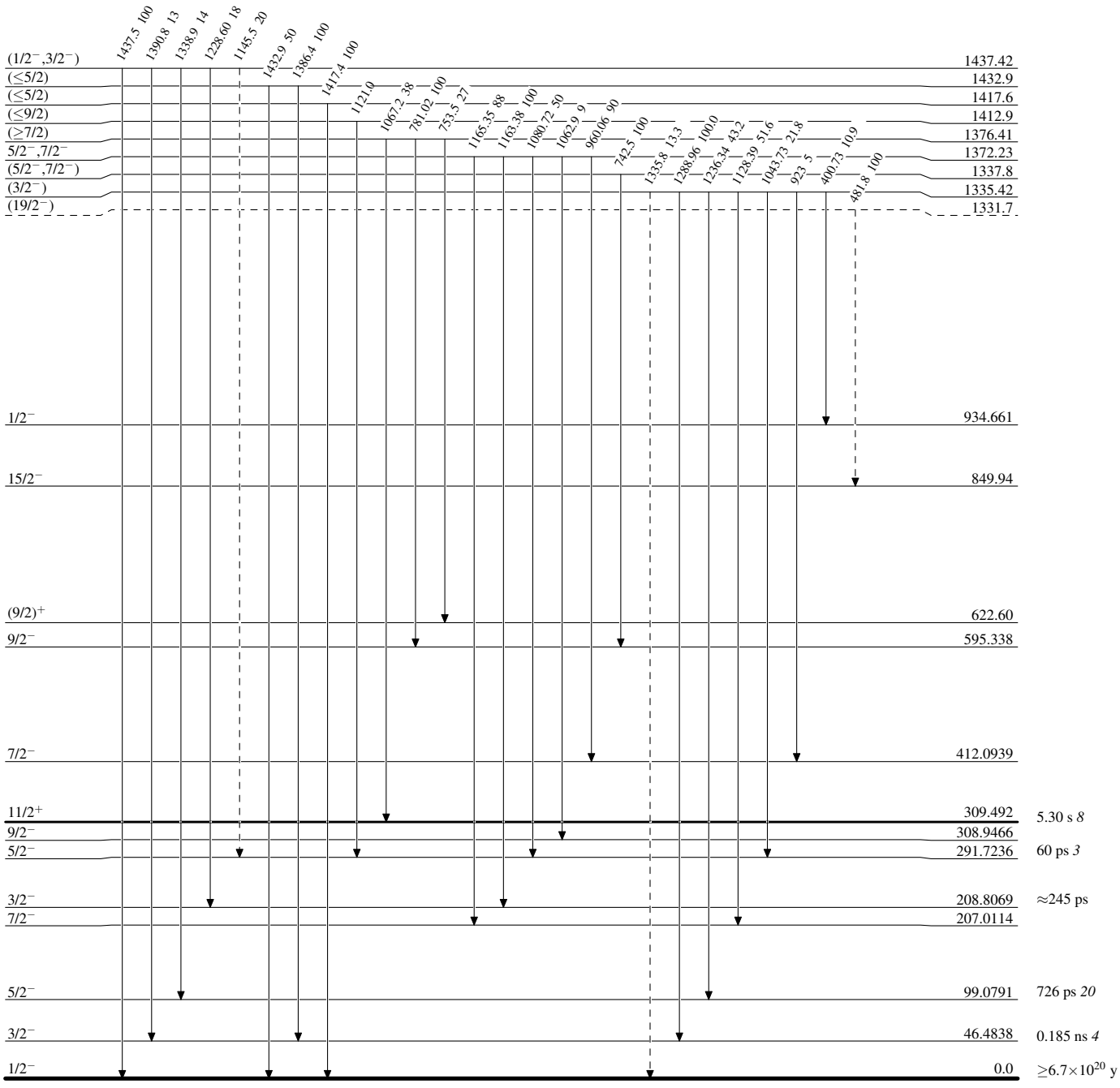
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



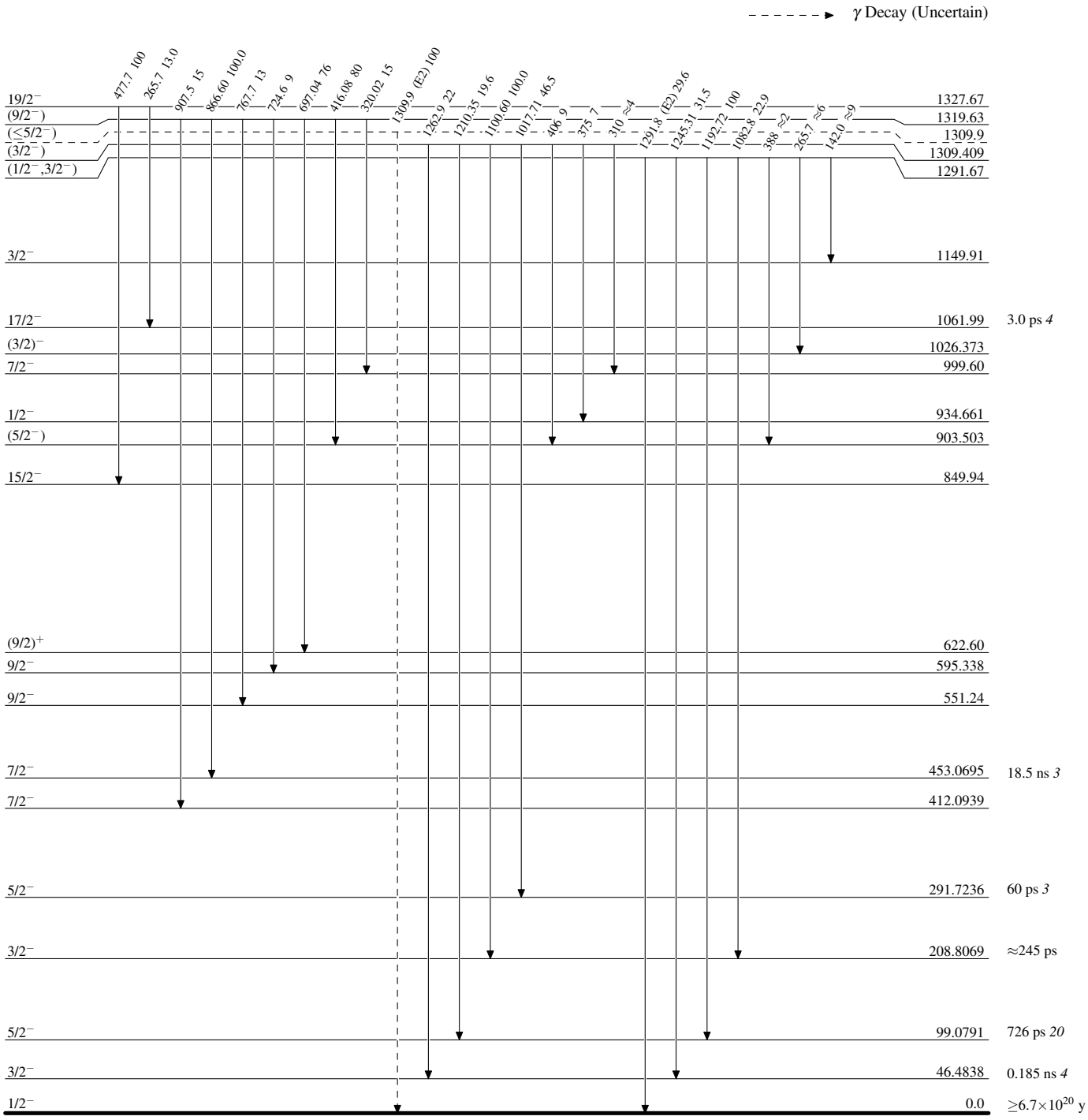
$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

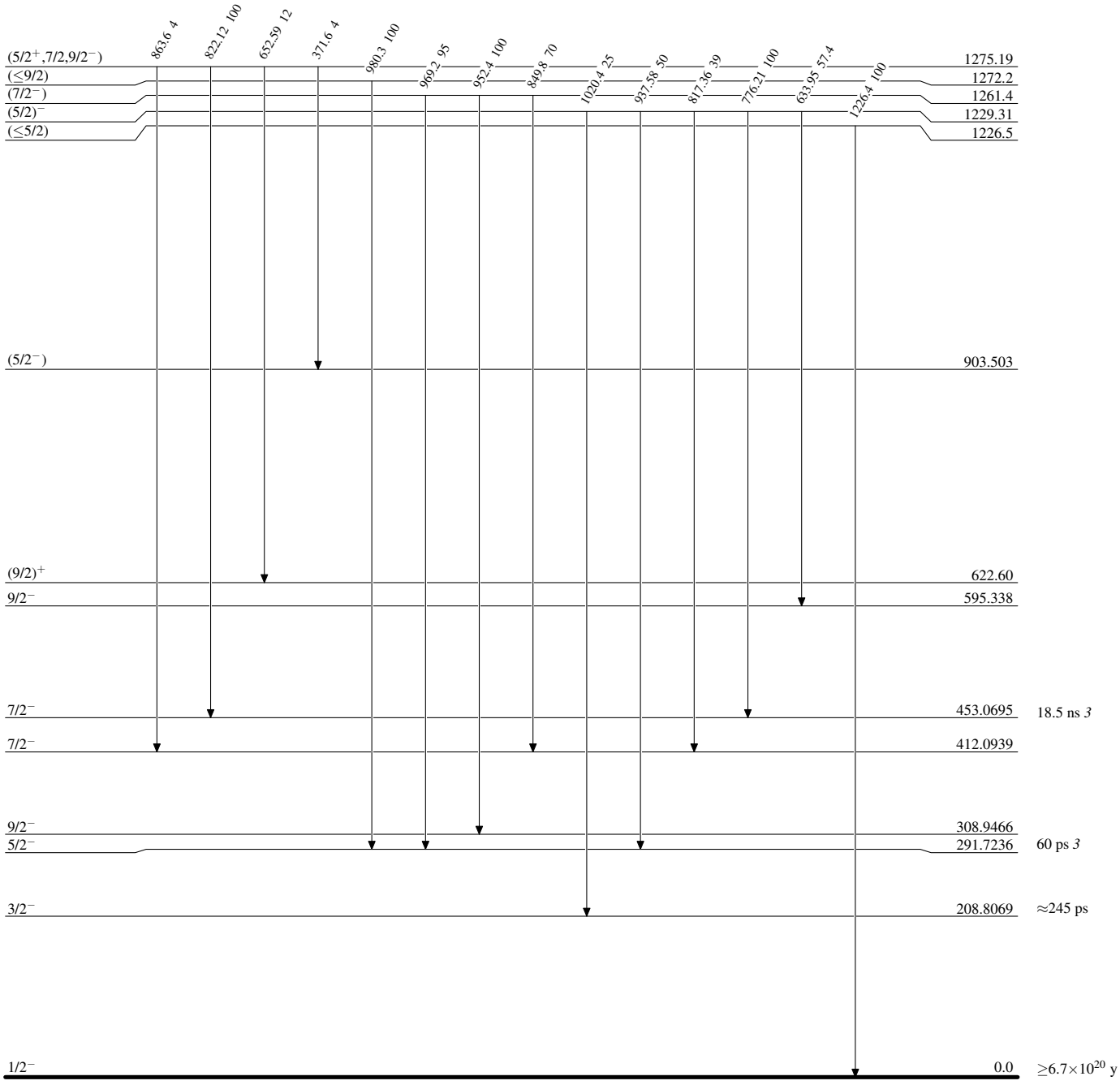


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{183}_{74}W_{109}$

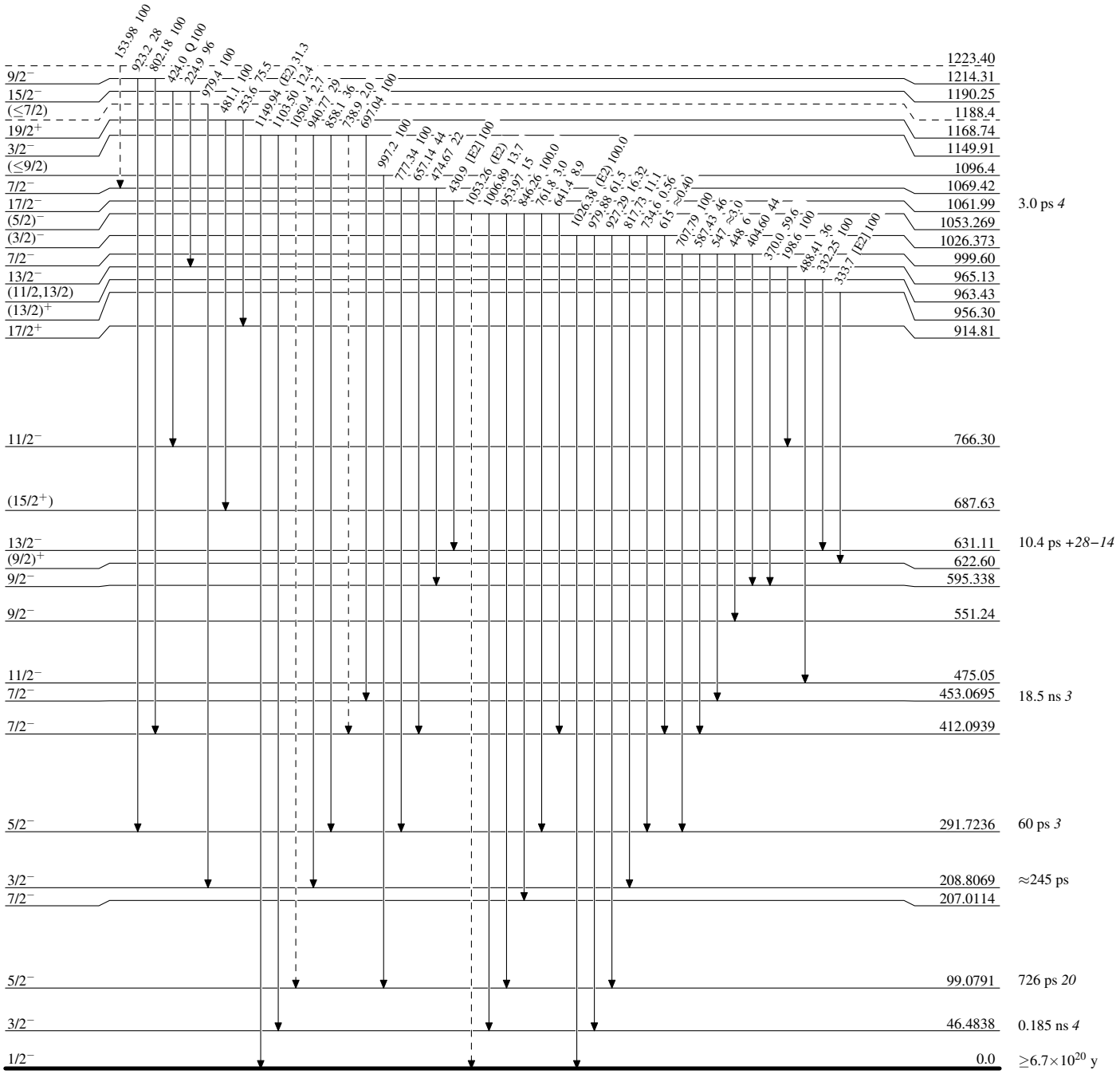
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

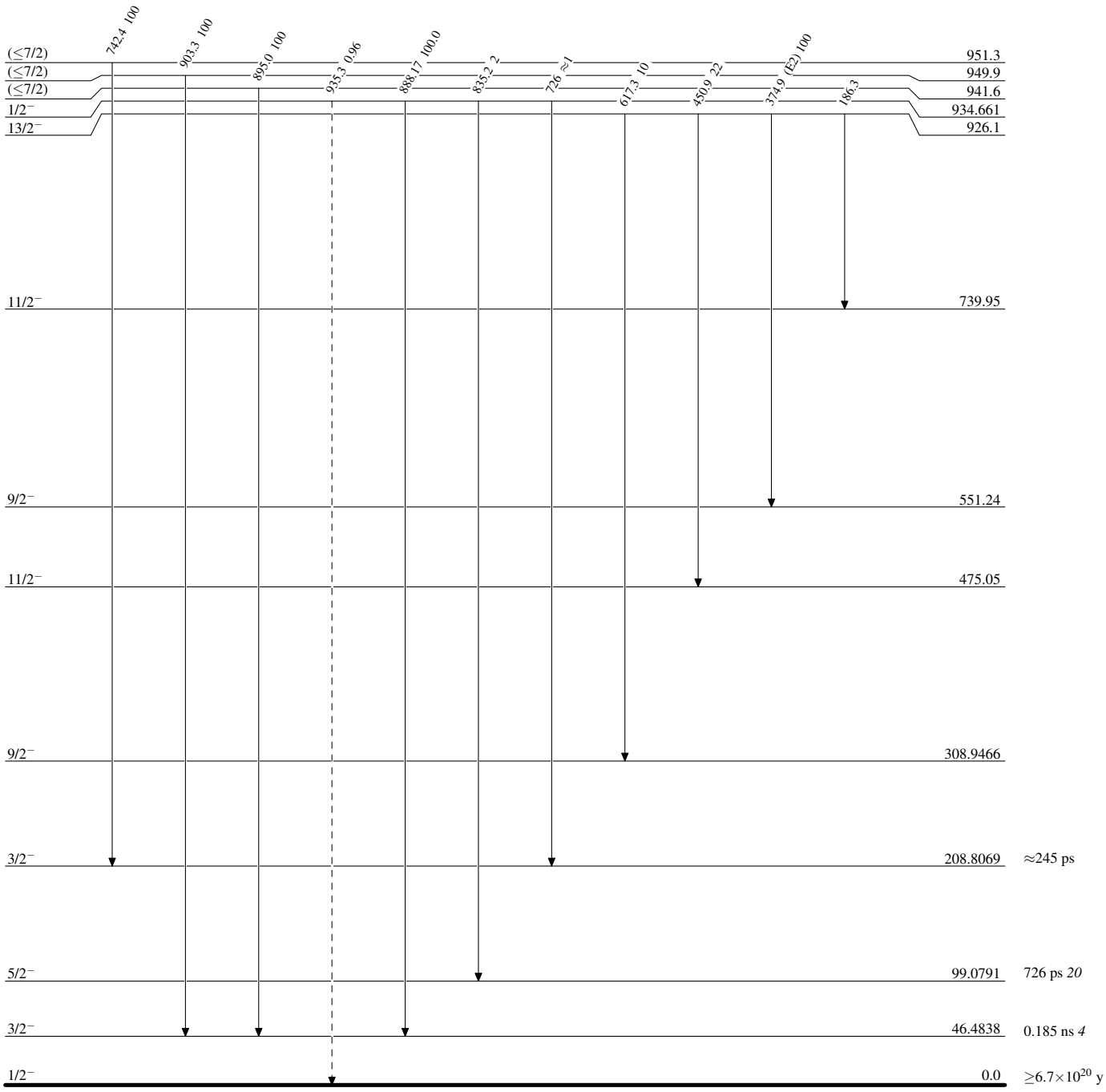
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{183}_{74}W_{109}$

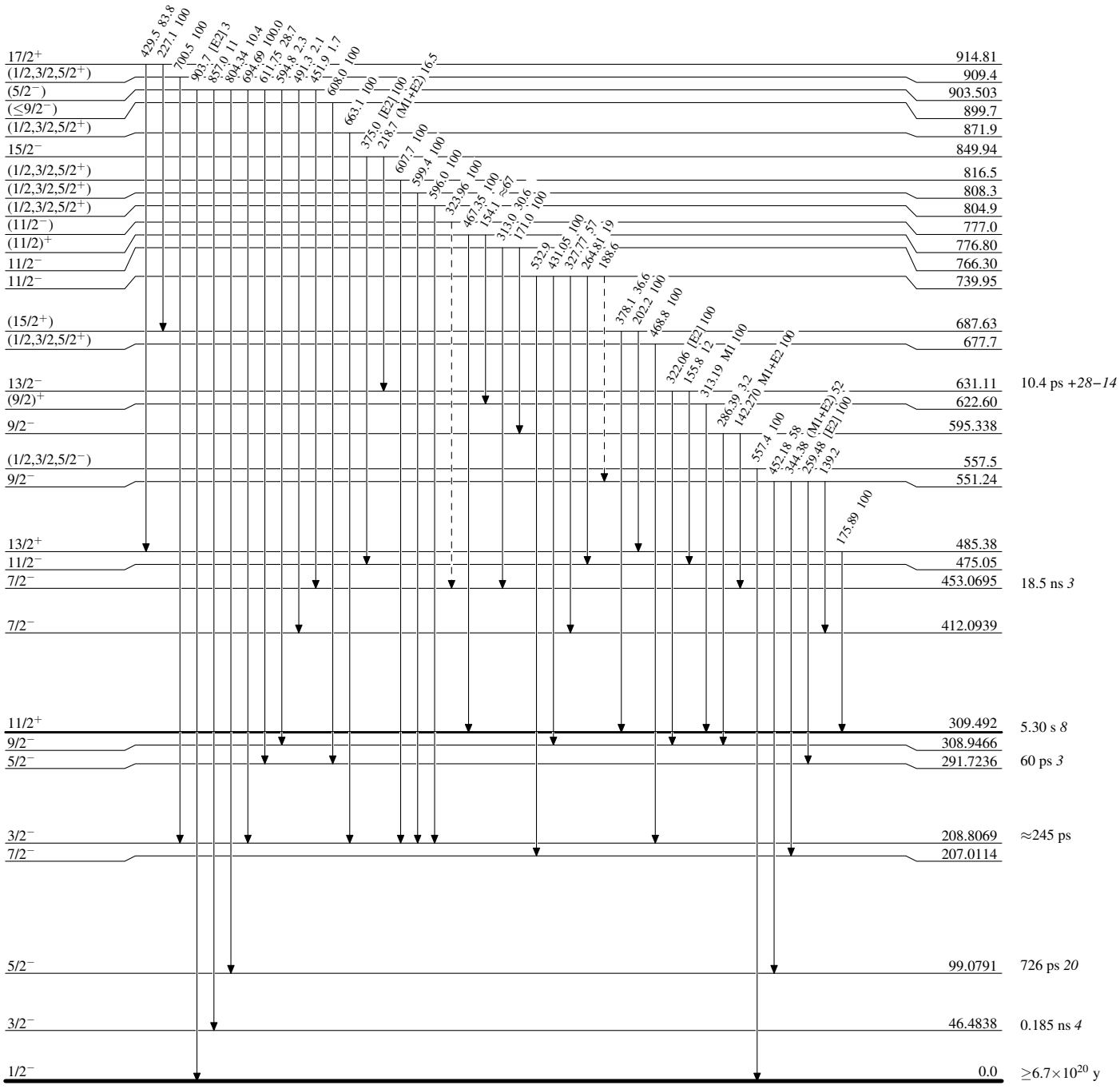
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

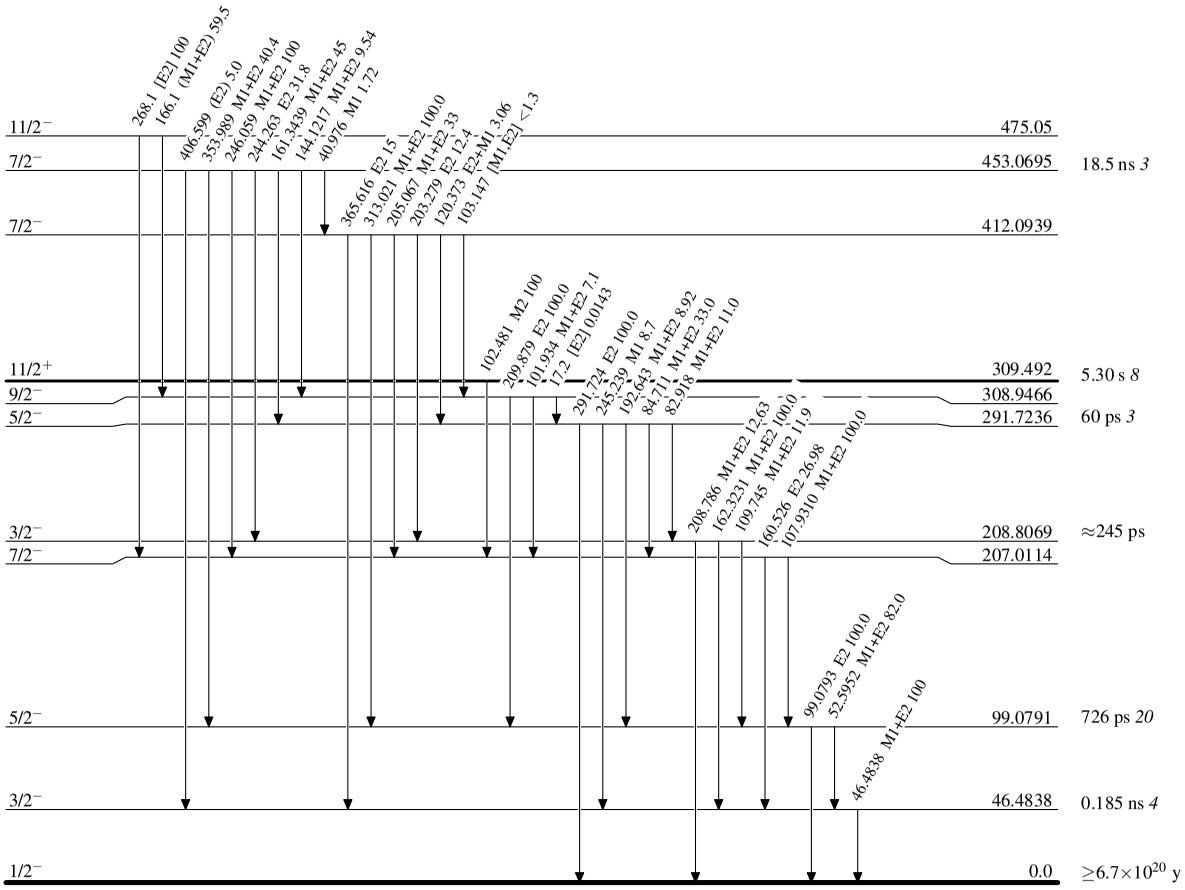


$^{183}_{74}W_{109}$

Adopted Levels, Gammas

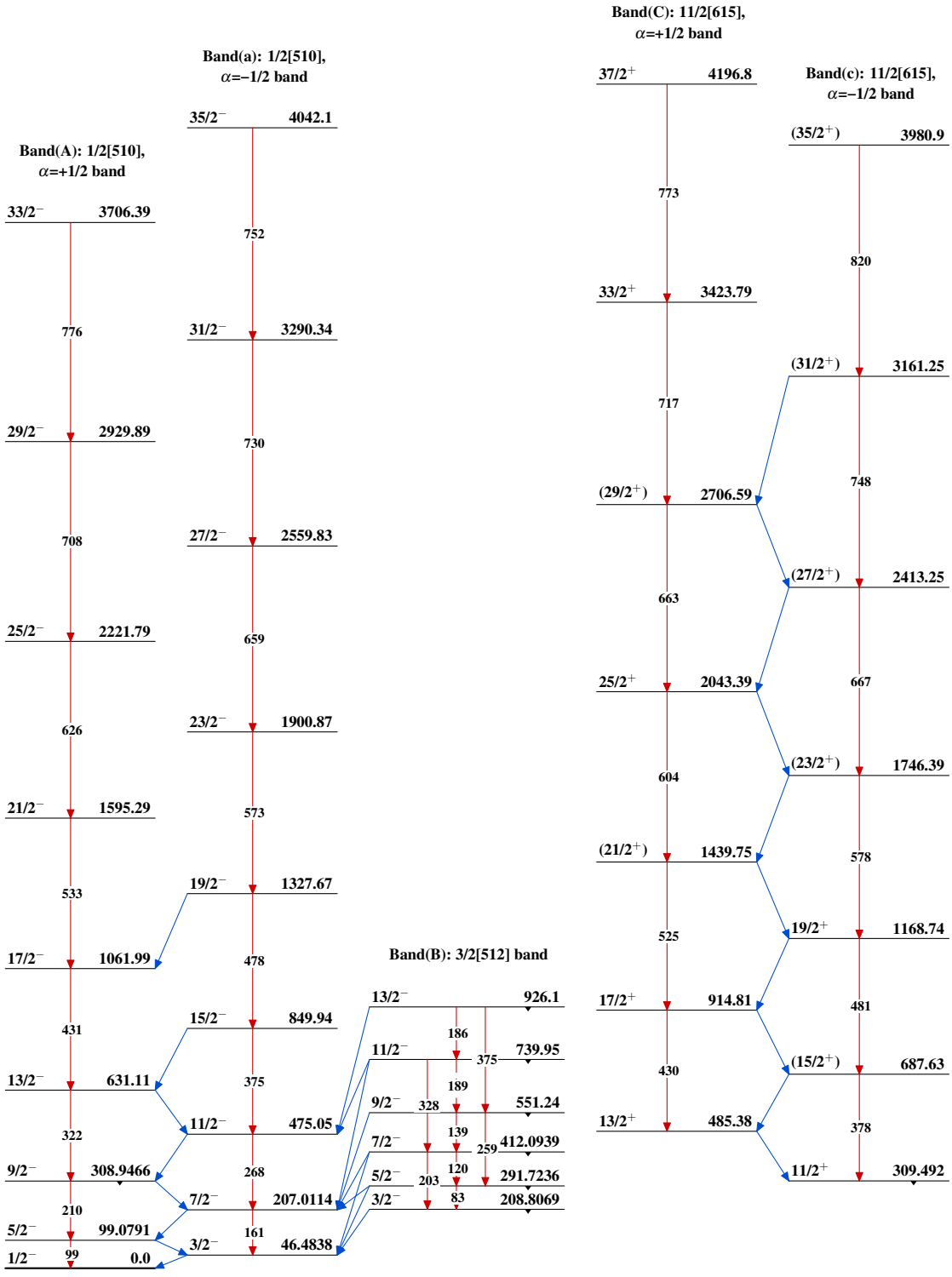
Level Scheme (continued)

Intensities: Relative photon branching from each level



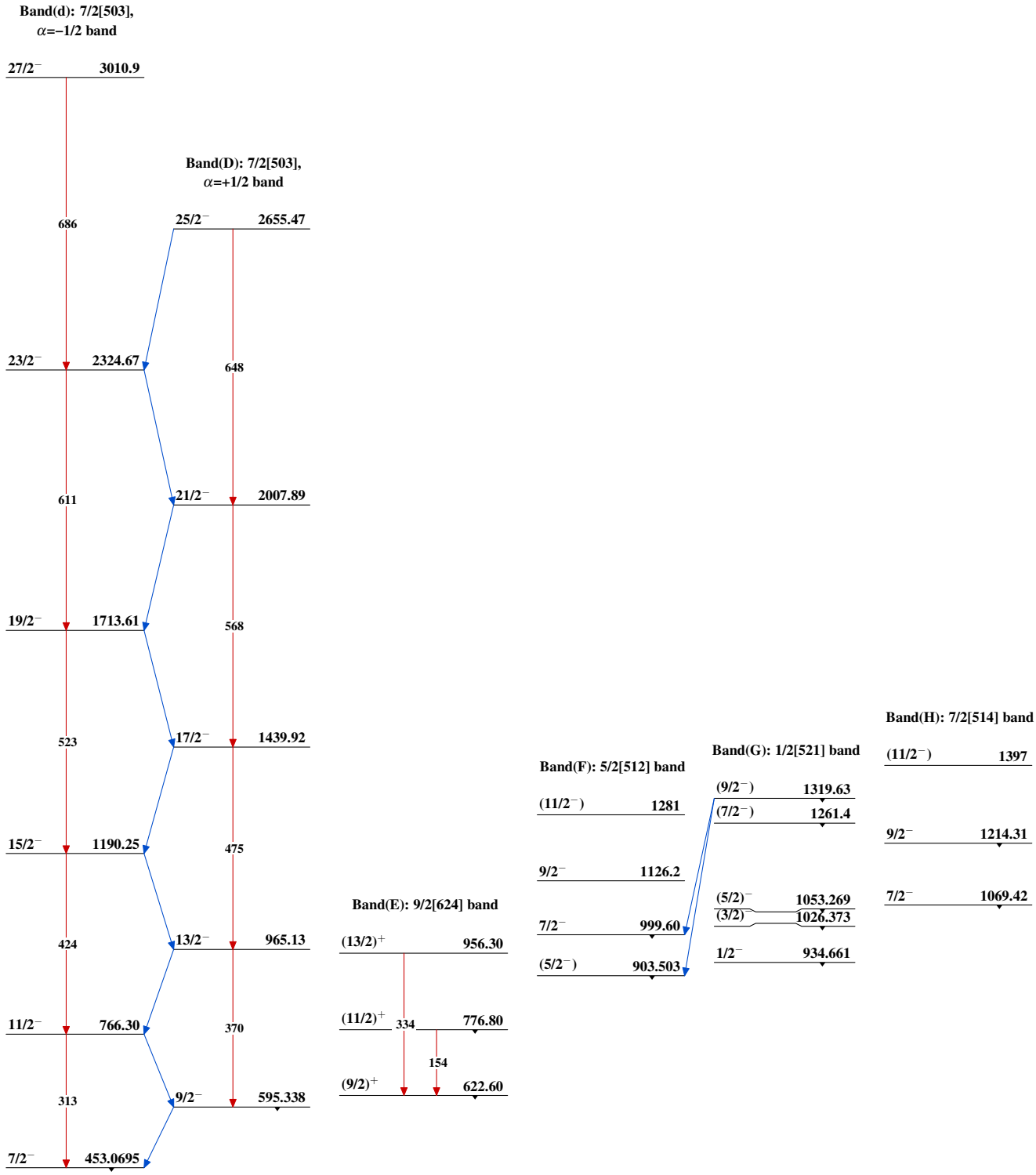
$^{183}_{74}W_{109}$

Adopted Levels, Gammas

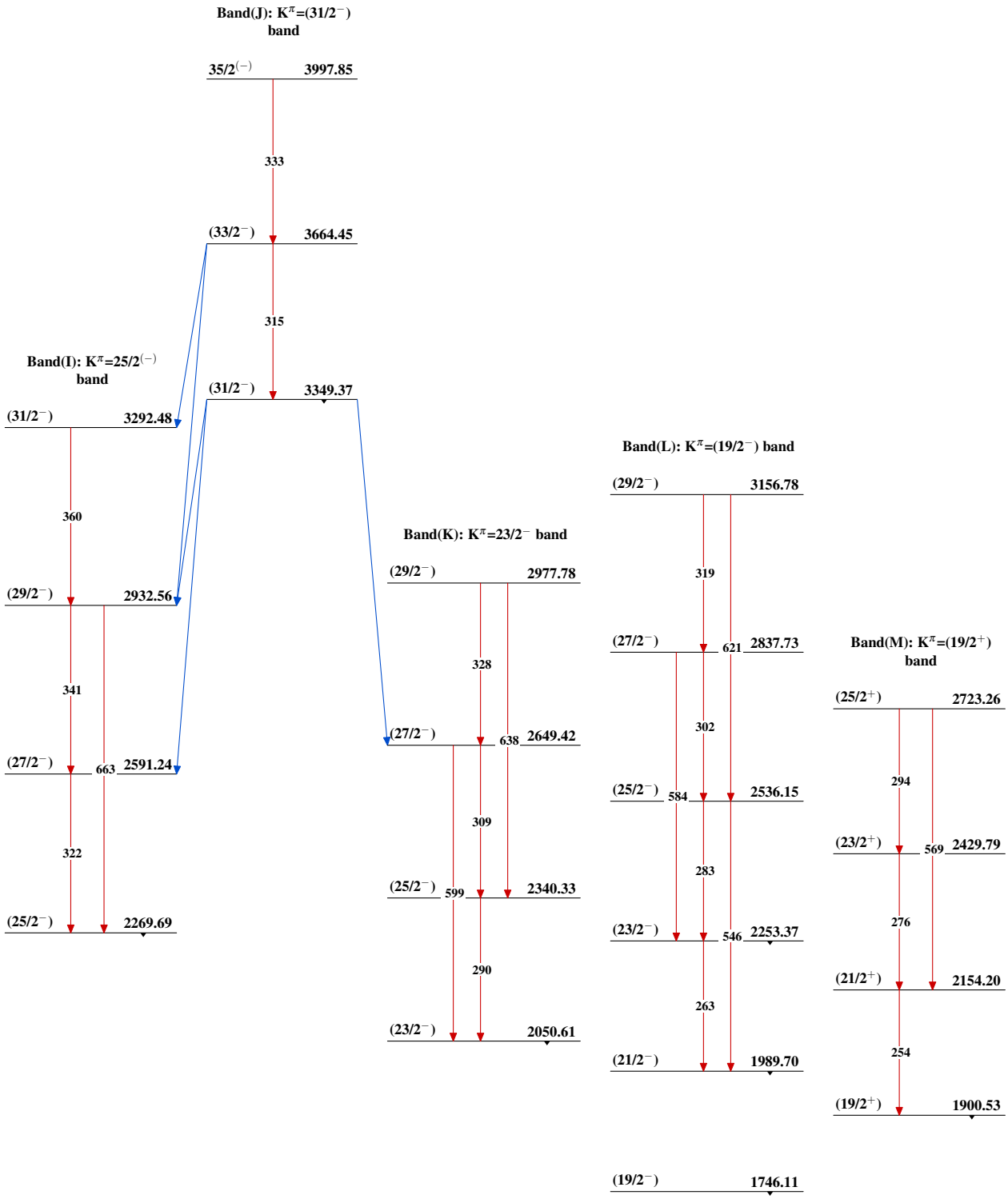


$^{183}_{74}W_{109}$

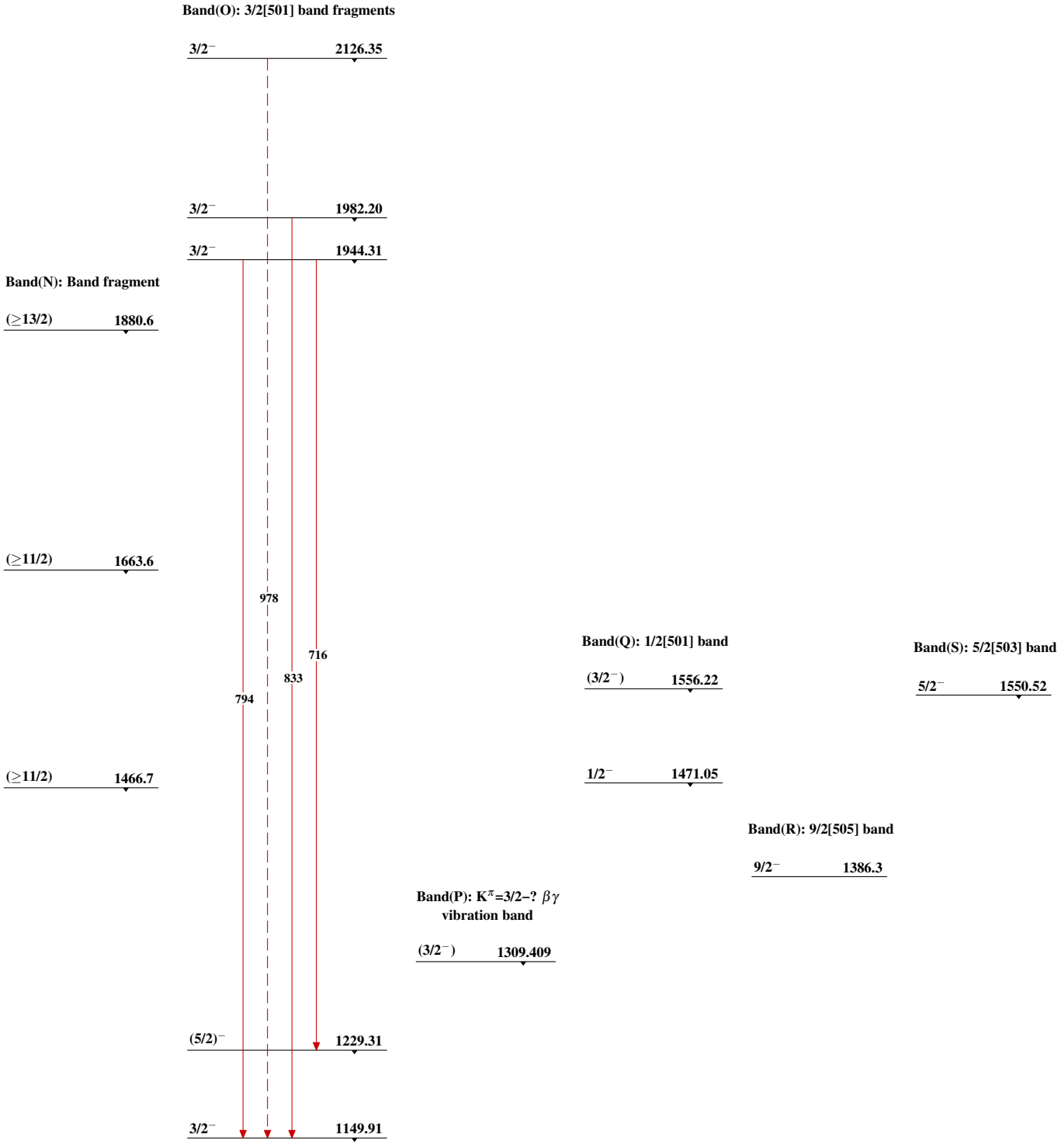
Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)



$^{183}_{74}W_{109}$