Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

Q(β^-)=313.6 *11*; S(n)=5758.73 *11*; S(p)=8101 *5*; Q(α)=1083.9 *12* 2021Wa16

Other studies:

2015Ba20: Measured target-like fragment cumulative (CY) and independent (IY) yields for ^{136}Xe + ^{208}Pb at E(c.m.) = 450 MeV. σ(CY)=0.124 mb *25* and σ(IY)=0.080 mb *16*.

2020De09: Measured Fragment cumulative and independent yields for the reaction of ^{204}Hg + ^{208}Pb at E(lab) = 977 MeV. σ(CY)=0.594 mb *31* and σ(IY)=0.281 mb *28*.

See 1987Ta16 for calculated β^- decay half-life of fully ionized atoms.

^{191}Os Levels

Cross Reference (XREF) Flags

A	^{191}Os IT decay (13.10 h)	E	^{192}Os(p,pnγ)
B	^{191}Re β^- decay	F	^{192}Os(d,t),^{190}Os(d,p)
C	^{190}Os(n,γ) E=thermal	G	^{192}Os(^{3}He,α)
D	^{190}Os(n,γ) E=2 keV	H	^{192}Os(^{82}Se,^{83}Seγ),

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0[@]	9/2$^-$	14.99 d *2*	ABCDEF H	%β^-=100 μ=+0.96 *3* Q=+2.53 *16* J$^\pi$: L(d,p),(d,t)=5; spectroscopic factors in (d,p) and (d,t) are consistent with 9/2, 9/2[505]. Nilsson orbital assignment based also on energy systematics of this orbital in other odd-mass Os isotopes. T$_{1/2}$: From 2012Kr05 (129γ(t)). Other values: 15.4 d *1* (1967Ag07), 14.60 d *43* (1980Da24), 14.4 d *11* (1969Bi01), 14.6 d *3* (1958Na15, 1958Na45), 16.0 d *3* (1950Ch11), 16.1 d *2* (1948Sa18), 15.0 d (1948Ka08). Unweighted average of all value: 15.2 d *3*; Weighted average without 16.0 d *3* (1950Ch11) and 16.1 d *2* (1948Sa18) is 15.00 d *4* − χ^2=4.8 cf. χ^2_{crit}=2.4. μ: From 2019StZV,1996Oh03 − NMR-oriented nuc in ^{191}Os β-decay in Fe matrix. Q: From 2016St14,1979Er09 − static (low-temperature) nuclear orientation.
74.382[&] *3*	3/2$^-$	13.10 h *5*	ABCD F	%IT=100 No β^- decay observed (<5%) (1952Sw57). Other study: 1963Pl01. J$^\pi$: M3+E4 γ to 9/2$^-$ g.s., primary γ in (n,γ) from 1/2$^+$. In ^{189}Os, 3/2[512] orbital is the ground state. Spectroscopic factors in (d,p) and (d,t) are smaller than those predicted by the Nilsson model, but they follow the trend observed for this orbital in ^{189}Os. T$_{1/2}$: from 1975Ca03. Other values: 13.03 h *21* (1966Pl02), 13.0 h *5* (1963Pl01), 14 h *2* (1952Sw57).
84.457[a] *2*	(1/2)$^-$		BCDEF	J$^\pi$: 57.5γ M1+E2 from (3/2)$^-$; populated by a primary transition from 1/2$^+$ in (n,γ); Nilsson orbital assignment based on energy systematics of this orbital in other odd-mass Os isotopes and on band structure. Level not populated in (d,p) nor (d,t), consistent with 1/2, 1/2[510].
131.942[&] *3*	5/2$^-$		C EF	J$^\pi$: L=3 in (d,p) and (d,t), 47.5γ E2 to (1/2)$^-$. Spectroscopic factors in (d,p) and (d,t) follow the trend observed for the 3/2[512] orbital in ^{189}Os.
141.935[a] *2*	(3/2)$^-$		BCD F	J$^\pi$: L=1 in (d,p) and (d,t), 67.5γ M1+E2 to 3/2$^-$. Nilsson orbital assignment based on band structure. Spectroscopic factors in (d,p) and (d,t) follow the trend observed for this orbital in ^{189}Os. This state is expected to be mixed with the 3/2, 3/2[512] state by a Coriolis interaction.

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Adopted Levels, Gammas (continued)

^{191}Os Levels (continued)

E(level)[†]	Jπ	XREF	Comments
175.678[b] *1*	(11/2)$^+$	BC EF H	Jπ: 176γ E1 to 9/2$^-$; 177γ from (13/2)$^+$ 352.9; 349γ (E2) cross-over from 524.7 yrast state, which also feeds (13/2)$^+$ at 352.9.
262.72[‡] *24*		F	
272.754 *2*	5/2$^-$	BC EF	Jπ: 198.3γ M1+E2 to 3/2$^-$, 272.7γ E2 to 9/2$^-$.
307.60[‡] *2*		F	
314.266 *3*	(5/2)$^-$	C EF	Jπ: 239.8γ M1+E2 to 3/2$^-$, 229.8γ E2 to (1/2)$^-$.
326.299?[@] *22*	(13/2$^-$)	E	Jπ: 326γ (Q) to 9/2$^-$.
332.9[‡] *3*		F	
352.91[b] *4*	(13/2)$^+$	EFGH	Jπ: L=6 in (d,p) and (d,t). Nilsson orbital assignment based on energy systematics of this orbital in other odd-mass Os isotopes. Spectroscopic factors in (d,p) and (d,t) are consistent with 13/2, 11/2[615].
410.820 *2*	(7/2)$^+$	BC E H	Jπ: 138γ E1 to 5/2$^-$, 235γ E2 to (11/2)$^+$.
417.153 *2*	1/2$^-$,3/2$^-$	BCD F	Jπ: L=1 in (d,p) and (d,t).
433.590 *3*	(1/2,3/2)$^-$	C F	Jπ: 359.2γ M1+E2 to 3/2$^-$, 349.1γ M1 to (1/2)$^-$.
436.969 *3*	(1/2,3/2)$^-$	BCD	Jπ: 363γ M1+E2 to 3/2$^-$, 305γ (E2) to 5/2$^-$.
442[‡a]	(5/2)$^-$	F	Jπ: L=3 for 442 + 447 in (d,p) and (d,t). Energy consistent with that of 446.9 level. However, observed as a doublet in (d,p) and (d,t), with spectroscopic factors consistent with 5/2, 1/2[510]. The same state has been observed in ^{193}Os by 1979Wa04 and a spin of 5/2 was assigned on the basis of its decay to a J=1/2 level. Nilsson orbital assignment based also on band structure. This state is mixed by the Coriolis interaction with other N=5 orbitals.
446.929 *4*	7/2$^-$	C EF	Jπ: L=3 for 442 + 447 in (d,p) and (d,t), 446.9γ M1+E2 to 9/2$^-$, 314.9γ M1 to 5/2$^-$.
462.532[c] *3*	7/2$^-$	C EF	Jπ: 189.7γ M1+E2 to 5/2$^-$, 462.5γ M1+E2 to 9/2$^-$. Spectroscopic factors in (d,p) and (d,t) are consistent with 7/2, 7/2[503]. The predominant hole character indicated by the transfer cross sections further supports this assignment.
471.652 *4*	(5/2)$^-$	C F	Jπ: 397γ M1+E2 to 3/2$^-$, 387.2γ E2 to (1/2)$^-$.
487.612 *3*	(3/2)$^-$	BCD F	Jπ: 355.6γ M1(+E2) to 5/2$^-$, 403.1γ M1+E2 to (1/2)$^-$.
508.147 *3*	(3/2)$^-$	CD F	Jπ: 423.6γ M1 to (1/2)$^-$, 193.8γ M1 to (5/2)$^-$.
519.398 *6*	(7/2)$^+$	C EF	Jπ: 108.5γ M1 to (7/2)$^+$, 343.7γ (E2) to (11/2)$^+$.
524.76[b] *4*	(15/2)$^+$	E H	Jπ: 349.1γ Q to (11/2)$^+$, band member.
574.167 *5*	(5/2)$^-$	C F	Jπ: 499.7γ M1+E2 to 3/2$^-$, 489.7γ E2 to (1/2)$^-$.
588.58 *10*		E	
602.08 *4*		E H	
611.959 *2*	1/2$^-$,3/2$^-$	CD F	Jπ: L=1 in (d,p) and (d,t).
619.205 *5*	(5/2)$^-$	C F	Jπ: 544.8γ M1+E2 to 3/2$^-$, 304.9γ M1 to (5/2)$^-$.
630.716 *11*	(5/2)$^-$	C	Jπ: 316.4γ M1+E2 to (5/2)$^-$, 556.3γ M1+E2 to 3/2$^-$.
637.591 *14*		E H	285γ to (13/2)$^+$, possibly a different level from 637.618 (1/2,3/2)$^-$.
637.618 *3*	(1/2,3/2)$^-$	CD F	Jπ: 553γ M1(+E2) to (1/2)$^-$, 365γ E2(+M1) to 5/2$^-$; populated by (E1) primary γ ray from 1/2$^+$ capture state in ^{190}Os(n,γ) E=2 keV.
667.6[‡] *4*		F	
677.71[‡] *7*		F	Jπ: L=3 in (d,t), not populated in (d,p).
688.821 *5*	(5/2)$^-$	C F	Jπ: 241.8γ M1(+E2) to 7/2$^-$, 180.6γ M1+E2 to (3/2)$^-$.
693.1? *10*	(1/2$^+$,3/2$^+$)	D	Jπ: populated by (M1) primary γ ray from 1/2$^+$ ^{190}Os(n,γ) E=2 keV.
721.432 *3*	(3/2)$^-$	CD F	Jπ: 448.6γ M1+E2 to 5/2$^-$, 636.9γ M1+E2 to (1/2)$^-$.
722.34[b] *5*	(17/2)$^+$	E H	Jπ: 369γ to (13/2)$^+$, 198γ to (15/2)$^+$, band member.
748.344 *4*	(3/2)$^-$	CD F	Jπ: 434γ M1 to (5/2)$^-$, 663.8γ M1+E2 to (1/2)$^-$.
762.374 *9*	(3/2)	C F	Jπ: L=1 in (d,t),(d,p), (3/2$^+$,5/2$^+$,7/2$^+$) in (n,γ) E=thermal. 414γ M1+E2 from 1176.6 3/2$^+$,(5/2$^+$) is inconsistent with parity for L=1.
764.661 *3*	(3/2,5/2)$^+$	C E h	Jπ: 347.5γ E1 to 1/2$^-$,3/2$^-$, 353.8γ E2 to 7/2$^+$. Level observed in ^{192}Os(p,pnγ) and deep inelastic may be different; insufficient information on decay properties.
765.12 *10*		E h	

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Adopted Levels, Gammas (continued)

^{191}Os Levels (continued)

E(level)[†]	Jπ	XREF	Comments
789.30?[@] *11*	(17/2⁻)	E	Jπ: 463γ to (13/2⁻), band member.
794.658 *6*	(3/2)⁻	CD F	Jπ: 710.2γ M1+E2 to (1/2)⁻, 314.0γ M1 from (5/2)⁻ at 1108.7.
804.551 *20*	(5/2⁻,7/2⁻)	C F	Jπ: 804.4γ to 9/2⁻, 370.9γ to (1/2⁻,3/2⁻).
815.430 *6*	(3/2)⁻	CD	Jπ: 378.4γ M1+E2 to (3/2)⁻; populated by (E1) primary γ from 1/2⁺ capture state in (n,γ) E=2 keV; 302.6γ M1 from (5/2)⁻.
820.18[‡] *34*		F	
823.891 *4*	+	C F	Jπ: E2 γ to (7/2)⁺.
831[‡]		F	
850.14[‡] *20*		F	
903.8[‡] *3*		F	
939.74 *5*		E H	
949.2 *9*	(1/2⁺,3/2⁺)	D	Jπ: populated by (M1) primary γ ray from 1/2⁺ in (n,γ) E=2 keV.
959.016 *16*	(1/2,3/2)⁻	CD F	Jπ: populated by (E1) primary γ ray in ^{190}Os(n,γ) E=2 keV. 817.0γ E2 to (3/2)⁻ in (n,γ) E=th.
965[‡]		F	
974.541 *11*		C F	
981.1[b] *3*	(19/2⁺)	E H	Jπ: 456.3γ to (15/2)⁺, 259γ to (17/2)⁺, band memeber.
985.9[‡] *3*		F	
996[‡]		F	
1003.5[‡] *4*		F	
1077.802 *9*	(1/2,3/2)⁻	CD F	Jπ: 590γ M1+E2 to (3/2)⁻; populated by (E1) primary γ ray from 1/2⁺ capture state in (n,γ) E=2 keV.
1081		B H	
1083.58 *3*		CD F	
1092.740 *9*	(1/2,3/2)⁻	CD F	Jπ: 950γ M1(+E2) to (3/2)⁻; populated by (E1) primary γ ray from 1/2⁺ capture state in (n,γ) E=2 keV.
1108.729 *8*	(5/2)⁻	C F	Jπ: 600.5γ M1+E2 to (3/2)⁻, not populated in (n,γ) E=thermal, 2 keV from 1/2⁺ capture state.
1118.001 *19*	(5/2)⁻	BC F	Jπ: 302.6γ M1 to (3/2⁻); 655.4γ M1+E2 to 7/2⁻.
1143.544 *13*	(1/2⁻,3/2⁻)[#]	CD F	
1157 *5*	(13/2)⁺	G	Jπ: L=6 and spectroscopic factor in (^{3}He,α).
1166.9[‡] *3*		F	
1176.693 *5*	3/2⁺,(5/2⁺)	C	Jπ: 412.0γ M1+E2 to (3/2⁺,5/2⁺). 1/2⁺,3/2⁺,(5/2⁺) in (n,γ) E=Thermal.
1179.36[‡] *21*		F	
1188.3[‡] *9*		F	
1200[b]	(21/2)⁺	H	Jπ: 478γ to (17/2)⁺, 219γ to (19/2)⁺, band member.
1202.264 *10*	(1/2⁻,3/2)⁻	CD F	Jπ: 386.8γ M1 to (3/2)⁻; populated by primary γ ray from 1/2⁺ capture state in (n,γ) E=2 keV.
1227.86 *3*	(1/2⁻,3/2⁻)[#]	CD F	
1280.850 *9*	(5/2⁺)	C F	Jπ: 518.4γ M1+E2 to (3/2); 793.2γ to (3/2)⁻, 818γ to 7/2⁻.
1298.436 *19*	(1/2,3/2)⁻	BCD F	Jπ: 1156γ E2(+M1) to (3/2)⁻; populated by primary γ ray from 1/ capture state in (n,γ) E=2 keV.
1342		H	
1356.8 *7*	(1/2⁻,3/2⁻)[#]	D	
1376.2 *7*	(1/2⁻,3/2⁻)[#]	D	
1387.8 *2*	(1/2⁺,3/2⁺)	D	Jπ: populated by (M1) primary γ ray in ^{190}Os(n,γ) E=2 keV.
1405.0 *8*	(1/2⁻,3/2⁻)[#]	D	
1466.9 *9*	(1/2⁻,3/2⁻)[#]	D	
1501.6 *8*	(1/2⁻,3/2⁻)[#]	D	

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Adopted Levels, Gammas (continued)

^{191}Os Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
1530[b]	$(23/2)^+$		H	Jπ: 549γ to $(19/2)^+$, band member.
1531 *3*	$(1/2^-,3/2^-)$[#]		D	
1551.9 *9*	$(1/2^-,3/2^-)$[#]		D	
1570.3 *7*	$(1/2^-,3/2^-)$[#]		D	
1621.4 *10*	$(1/2^-,3/2^-)$[#]		D	
1630.3 *8*	$(1/2^-,3/2^-)$[#]		D	
1763.1 *11*	$(1/2^-,3/2^-)$[#]		D	
1772[b]	$(25/2)^+$		H	Jπ: 572γ to $(21/2)^+$, band member.
2187[b]	$(27/2)^+$		H	Jπ: 657γ to $(23/2)^+$, 415γ to $(25/2)^+$, band member.
2640	(29/2,31/2)	61 ns *4*	H	Jπ: 453γ to $(27/2)^+$ yrast level in ^{192}Os(^{82}Se,^{83}Seγ) and ^{198}Pt(^{136}Xe,^{143}Ba). $T_{1/2}$: From 2004Va03, time-delayed γγ coincidence in ^{198}Pt(^{136}Xe,^{143}Ba)^{191}Os E=850 MeV (see ^{192}Os(^{82}Se,^{83}Seγ) dataset).

[†] From least-squares fit to γ-ray energies, except where otherwise noted. Uncertainty of 305.020 *2* and 5.551 *1* γ transitions from 436.9 and 131.9 keV levels, respectively, were doubled and tripled for fitting. These were yielding more than 3σ deviation from the fitted values.
[‡] From (d,p),(d,t).
[#] Populated by (E1) primary γ ray from $1/2^+$ capture state in (n,γ), E=2 keV.
[@] Band(A): 9/2(505).
[&] Band(B): 3/2(512).
[a] Band(C): 1/2(510).
[b] Band(D): 11/2(615).
[c] Band(E): 7/2(503).

Adopted Levels, Gammas (continued)

γ(^{191}Os)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
74.382	3/2⁻	74.379 *9*	100	0.0	9/2⁻	M3+E4	0.077 *7*	1647 *25*	B(M3)(W.u.)=7.41×10^{-5} *22*; B(E4)(W.u.)=0.036 *4* Mult.,δ,α: From ^{191}Os (13.10 h) IT decay.
131.942	5/2⁻	47.486 *5*	≤27	84.457	(1/2)⁻	E2		126.4 *18*	α(L)=95.4 *13*; α(M)=24.31 *34* α(N)=5.81 *8*; α(O)=0.850 *12*; α(P)=0.000767 *11*
		57.551 *1*	100 *16*	74.382	3/2⁻	M1+E2	0.74 *10*	20.7 *28*	α(L)=15.7 *21*; α(M)=3.9 *6* α(N)=0.94 *13*; α(O)=0.142 *19*; α(P)=0.00189 *15*
141.935	(3/2)⁻	57.478 *1*	100 *26*	84.457	(1/2)⁻	M1+E2	0.077 *18*	5.18 *16*	α(L)=3.99 *12*; α(M)=0.923 *30* α(N)=0.225 *7*; α(O)=0.0385 *11*; α(P)=0.00271 *4*
		67.550 *2*	22 *7*	74.382	3/2⁻	M1+E2	0.19 *4*	3.76 *31*	α(L)=2.88 *23*; α(M)=0.68 *6* α(N)=0.165 *14*; α(O)=0.0275 *21*; α(P)=0.001650 *32*
175.678	(11/2)⁺	175.678 *1*	100	0.0	9/2⁻	E1		0.0922 *13*	α(K)=0.0759 *11*; α(L)=0.01258 *18*; α(M)=0.00288 *4* α(N)=0.000695 *10*; α(O)=0.0001147 *16*; α(P)=6.68×10^{-6} *9*
272.754	5/2⁻	198.381 *10*	1.1 *3*	74.382	3/2⁻	M1+E2	1.6 *4*	0.47 *6*	α(K)=0.31 *6*; α(L)=0.1216 *30*; α(M)=0.0300 *10* α(N)=0.00723 *24*; α(O)=0.001130 *23*; α(P)=3.3×10^{-5} *8*
		272.754 *2*	100 *12*	0.0	9/2⁻	E2		0.1219 *17*	α(K)=0.0755 *11*; α(L)=0.0352 *5*; α(M)=0.00876 *12* α(N)=0.002110 *30*; α(O)=0.000326 *5*; α(P)=7.46×10^{-6} *10*
314.266	(5/2)⁻	172.328 *3*	39 *5*	141.935	(3/2)⁻	M1+E2	1.04 *11*	0.86 *4*	α(K)=0.60 *4*; α(L)=0.197 *5*; α(M)=0.0480 *14* α(N)=0.01161 *33*; α(O)=0.00184 *4*; α(P)=6.7×10^{-5} *5*
		182.321 *3*	13 *3*	131.942	5/2⁻	M1+E2	1.4 *5*	0.65 *12*	α(K)=0.43 *14*; α(L)=0.166 *10*; α(M)=0.0410 *32* α(N)=0.0099 *7*; α(O)=0.00155 *8*; α(P)=4.6×10^{-5} *17*
		229.810 *3*	100 *14*	84.457	(1/2)⁻	E2		0.2095 *29*	α(K)=0.1180 *17*; α(L)=0.0693 *10*; α(M)=0.01738 *24* α(N)=0.00418 *6*; α(O)=0.000638 *9*; α(P)=1.132×10^{-5} *16*
		239.886 *2*	94 *12*	74.382	3/2⁻	M1+E2	0.99 *12*	0.331 *19*	α(K)=0.251 *19*; α(L)=0.0609 *9*; α(M)=0.01455 *20* α(N)=0.00353 *5*; α(O)=0.000575 *9*; α(P)=2.81×10^{-5} *23*
326.299?	(13/2⁻)	326.299[‡] *22*	100[‡]	0.0	9/2⁻	(Q)[‡]			
352.91	(13/2)⁺	177.161[‡] *46*	100[‡]	175.678	(11/2)⁺				
410.820	(7/2)⁺	138.068 *3*	17 *4*	272.754	5/2⁻	E1		0.1708 *24*	α(K)=0.1399 *20*; α(L)=0.02391 *33*; α(M)=0.00549 *8* α(N)=0.001320 *18*; α(O)=0.0002158 *30*; α(P)=1.191×10^{-5} *17*
		235.140 *4*	100 *12*	175.678	(11/2)⁺	E2		0.1945 *27*	α(K)=0.1111 *16*; α(L)=0.0632 *9*; α(M)=0.01583 *22* α(N)=0.00381 *5*; α(O)=0.000582 *8*; α(P)=1.070×10^{-5} *15*
		410.811 *13*	2.3 *4*	0.0	9/2⁻				
417.153	1/2⁻,3/2⁻	275.219 *1*	100 *12*	141.935	(3/2)⁻	M1		0.327 *5*	α(K)=0.271 *4*; α(L)=0.0433 *6*; α(M)=0.00993 *14* α(N)=0.002425 *34*; α(O)=0.000419 *6*; α(P)=3.13×10^{-5} *4*
		332.691 *3*	26 *4*	84.457	(1/2)⁻	M1		0.1956 *27*	α(K)=0.1621 *23*; α(L)=0.0258 *4*; α(M)=0.00591 *8* α(N)=0.001444 *20*; α(O)=0.0002495 *35*; α(P)=1.867×10^{-5} *26*

$^{191}_{76}Os_{115}$-5

Adopted Levels, Gammas (continued)

γ(^{191}Os) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	δ†	α@	Comments
417.153	1/2⁻,3/2⁻	342.769 *4*	31 *4*	74.382	3/2⁻	E2(+M1)	2.4 *+14−6*	0.080 *10*	α(K)=0.058 *9*; α(L)=0.0164 *8*; α(M)=0.00396 *16* α(N)=0.00096 *4*; α(O)=0.000154 *8*; α(P)=6.2×10^{-6} *11*
433.590	(1/2,3/2)⁻	291.654 *2*	62 *9*	141.935	(3/2)⁻	M1		0.279 *4*	α(K)=0.2314 *32*; α(L)=0.0370 *5*; α(M)=0.00847 *12* α(N)=0.002068 *29*; α(O)=0.000357 *5*; α(P)=2.67×10^{-5} *4*
		349.135 *2*	100 *14*	84.457	(1/2)⁻	M1		0.1718 *24*	α(K)=0.1424 *20*; α(L)=0.02265 *32*; α(M)=0.00519 *7* α(N)=0.001267 *18*; α(O)=0.0002189 *31*; α(P)=1.639×10^{-5} *23*
		359.210 *3*	44 *6*	74.382	3/2⁻	M1+E2	2.0 *+7−4*	0.075 *9*	α(K)=0.056 *8*; α(L)=0.0144 *7*; α(M)=0.00346 *14* α(N)=0.00084 *4*; α(O)=0.000136 *7*; α(P)=6.1×10^{-6} *9*
436.969	(1/2,3/2)⁻	295.034 *3*	73 *10*	141.935	(3/2)⁻	M1		0.271 *4*	α(K)=0.2242 *31*; α(L)=0.0358 *5*; α(M)=0.00821 *11* α(N)=0.002004 *28*; α(O)=0.000346 *5*; α(P)=2.59×10^{-5} *4*
		305.020 *2*	54 *11*	131.942	5/2⁻	(E2)		0.0870 *12*	α(K)=0.0566 *8*; α(L)=0.02307 *32*; α(M)=0.00570 *8* α(N)=0.001375 *19*; α(O)=0.0002138 *30*; α(P)=5.70×10^{-6} *8*
		352.512 *5*	100 *14*	84.457	(1/2)⁻	M1+E2	1.7 *+6−4*	0.086 *13*	α(K)=0.065 *11*; α(L)=0.0158 *10*; α(M)=0.00379 *20* α(N)=0.00092 *5*; α(O)=0.000149 *10*; α(P)=7.1×10^{-6} *14*
		362.588 *2*	76 *11*	74.382	3/2⁻	M1+E2	1.0 *3*	0.104 *18*	α(K)=0.083 *16*; α(L)=0.0164 *14*; α(M)=0.00385 *29* α(N)=0.00094 *7*; α(O)=0.000156 *14*; α(P)=9.3×10^{-6} *19*
446.929	7/2⁻	314.988 *3*	100 *13*	131.942	5/2⁻	M1		0.2266 *32*	α(K)=0.1878 *26*; α(L)=0.0300 *4*; α(M)=0.00686 *10* α(N)=0.001676 *23*; α(O)=0.000290 *4*; α(P)=2.166×10^{-5} *30*
		446.935 *24*	25 *4*	0.0	9/2⁻	M1+E2	1.2 *+7−4*	0.054 *12*	α(K)=0.043 *10*; α(L)=0.0084 *11*; α(M)=0.00197 *24* α(N)=0.00048 *6*; α(O)=8.0×10^{-5} *11*; α(P)=4.8×10^{-6} *12*
462.532	7/2⁻	189.776 *3*	42 *11*	272.754	5/2⁻	M1+E2	0.9 *3*	0.68 *9*	α(K)=0.50 *10*; α(L)=0.136 *6*; α(M)=0.0327 *20* α(N)=0.0079 *5*; α(O)=0.00128 *4*; α(P)=5.7×10^{-5} *13*
		320.594 *14*	42 *8*	141.935	(3/2)⁻	E2		0.0751 *11*	α(K)=0.0499 *7*; α(L)=0.01920 *27*; α(M)=0.00473 *7* α(N)=0.001142 *16*; α(O)=0.0001782 *25*; α(P)=5.06×10^{-6} *7*
		330.577 *18*	39 *5*	131.942	5/2⁻	M1+E2	1.1 *+5−3*	0.128 *22*	α(K)=0.100 *20*; α(L)=0.0213 *16*; α(M)=0.00504 *31* α(N)=0.00122 *8*; α(O)=0.000202 *16*; α(P)=1.12×10^{-5} *25*
		462.536 *5*	100 *13*	0.0	9/2⁻	M1+E2	0.7 *4*	0.064 *13*	α(K)=0.052 *12*; α(L)=0.0090 *13*; α(M)=0.00207 *27* α(N)=0.00051 *7*; α(O)=8.6×10^{-5} *13*; α(P)=5.9×10^{-6} *14*
471.652	(5/2)⁻	157.385 *10*	4.8 *19*	314.266	(5/2)⁻	M1		1.545 *22*	α(K)=1.277 *18*; α(L)=0.2065 *29*; α(M)=0.0474 *7* α(N)=0.01157 *16*; α(O)=0.001997 *28*; α(P)=0.0001487 *21*
		329.713 *8*	47 *6*	141.935	(3/2)⁻	M1+E2	0.53 *28*	0.172 *23*	α(K)=0.140 *21*; α(L)=0.0245 *16*; α(M)=0.00567 *33* α(N)=0.00138 *8*; α(O)=0.000235 *17*; α(P)=1.60×10^{-5} *26*
		339.706 *4*	100 *13*	131.942	5/2⁻	M1+E2	0.7 *3*	0.145 *23*	α(K)=0.117 *21*; α(L)=0.0215 *17*; α(M)=0.00501 *34* α(N)=0.00122 *9*; α(O)=0.000206 *18*; α(P)=1.33×10^{-5} *25*
		387.200 *7*	21 *3*	84.457	(1/2)⁻	E2		0.0442 *6*	α(K)=0.0312 *4*; α(L)=0.00987 *14*; α(M)=0.002405 *34* α(N)=0.000581 *8*; α(O)=9.21×10^{-5} *13*; α(P)=3.24×10^{-6} *5*
		397.273 *5*	69 *8*	74.382	3/2⁻	M1+E2	≈3	≈0.0493	α(K)≈0.0365; α(L)≈0.00974; α(M)≈0.002347 α(N)≈0.000568; α(O)≈9.15×10^{-5}; α(P)≈3.91×10^{-6}

$^{191}_{76}Os_{115}$-6

Adopted Levels, Gammas (continued)

γ(^{191}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
487.612	(3/2)$^-$	345.674 *2*	56 *8*	141.935	(3/2)$^-$	M1+E2	0.8 *3*	0.131 *22*	α(K)=0.105 *20*; α(L)=0.0199 *17*; α(M)=0.00465 *34* α(N)=0.00113 *8*; α(O)=0.000190 *17*; α(P)=1.19×10^{-5} *24*
		355.670 *2*	55 *7*	131.942	5/2$^-$	M1+E2	0.5 *4*	0.142 *27*	α(K)=0.116 *24*; α(L)=0.0199 *21*; α(M)=0.0046 *4* α(N)=0.00112 *11*; α(O)=0.000191 *21*; α(P)=1.33×10^{-5} *29*
		403.157 *2*	100 *10*	84.457	(1/2)$^-$	M1+E2	1.03 *14*	0.077 *6*	α(K)=0.062 *5*; α(L)=0.0119 *5*; α(M)=0.00279 *11* α(N)=0.000677 *27*; α(O)=0.000113 *5*; α(P)=6.9×10^{-6} *6*
		413.228 *6*	83 *13*	74.382	3/2$^-$	M1		0.1096 *15*	α(K)=0.0909 *13*; α(L)=0.01439 *20*; α(M)=0.00329 *5* α(N)=0.000804 *11*; α(O)=0.0001390 *19*; α(P)=1.043×10^{-5} *15*
508.147	(3/2)$^-$	193.879 *2*	17.5 *22*	314.266	(5/2)$^-$	M1		0.860 *12*	α(K)=0.712 *10*; α(L)=0.1147 *16*; α(M)=0.0263 *4* α(N)=0.00642 *9*; α(O)=0.001109 *16*; α(P)=8.27×10^{-5} *12*
		366.210 *1*	100 *14*	141.935	(3/2)$^-$	M1+E2	0.49 *16*	0.132 *10*	α(K)=0.108 *9*; α(L)=0.0184 *9*; α(M)=0.00424 *18* α(N)=0.00103 *4*; α(O)=0.000177 *9*; α(P)=1.23×10^{-5} *11*
		376.208 *9*	6.4 *14*	131.942	5/2$^-$	M1+E2	0.8 *+4−3*	0.104 *19*	α(K)=0.084 *17*; α(L)=0.0155 *15*; α(M)=0.00362 *32* α(N)=0.00088 *8*; α(O)=0.000149 *16*; α(P)=9.5×10^{-6} *20*
		423.693 *2*	34 *4*	84.457	(1/2)$^-$	M1		0.1025 *14*	α(K)=0.0851 *12*; α(L)=0.01346 *19*; α(M)=0.00308 *4* α(N)=0.000752 *11*; α(O)=0.0001300 *18*; α(P)=9.76×10^{-6} *14*
		433.768 *3*	16.3 *19*	74.382	3/2$^-$	M1+E2	1.2 *3*	0.059 *9*	α(K)=0.047 *8*; α(L)=0.0092 *8*; α(M)=0.00215 *18* α(N)=0.00052 *4*; α(O)=8.7×10^{-5} *8*; α(P)=5.2×10^{-6} *10*
519.398	(7/2)$^+$	108.573 *18*	53 *16*	410.820	(7/2)$^+$	M1		4.44 *6*	α(K)=3.67 *5*; α(L)=0.597 *8*; α(M)=0.1370 *19* α(N)=0.0334 *5*; α(O)=0.00577 *8*; α(P)=0.000429 *6*
		343.712 *9*	100 *16*	175.678	(11/2)$^+$	(E2)		0.0615 *9*	α(K)=0.0419 *6*; α(L)=0.01494 *21*; α(M)=0.00367 *5* α(N)=0.000885 *12*; α(O)=0.0001389 *19*; α(P)=4.29×10^{-6} *6* Mult.: E2 or (E1) from conversion-electron data. Level scheme requires E2.
524.76	(15/2)$^+$	171.7[‡] *1*		352.91	(13/2)$^+$				
		349.127[‡] *41*	100[‡] *5*	175.678	(11/2)$^+$	Q[‡]			
574.167	(5/2)$^-$	432.242 *12*	21 *4*	141.935	(3/2)$^-$	M1+E2	0.9 *4*	0.068 *16*	α(K)=0.055 *14*; α(L)=0.0101 *15*; α(M)=0.00235 *31* α(N)=0.00057 *8*; α(O)=9.7×10^{-5} *15*; α(P)=6.2×10^{-6} *17*
		442.226 *6*	38 *5*	131.942	5/2$^-$	M1+E2	0.47 *32*	0.081 *12*	α(K)=0.066 *11*; α(L)=0.0110 *12*; α(M)=0.00253 *25* α(N)=0.00062 *6*; α(O)=0.000106 *12*; α(P)=7.6×10^{-6} *13*
		489.706 *13*	17 *3*	84.457	(1/2)$^-$	E2		0.02399 *34*	α(K)=0.01796 *25*; α(L)=0.00461 *6*; α(M)=0.001108 *16* α(N)=0.000268 *4*; α(O)=4.33×10^{-5} *6*; α(P)=1.903×10^{-6} *27*
		499.778 *6*	100 *11*	74.382	3/2$^-$	M1+E2	0.7 *2*	0.052 *6*	α(K)=0.043 *5*; α(L)=0.0072 *6*; α(M)=0.00167 *12* α(N)=0.000408 *31*; α(O)=7.0×10^{-5} *6*; α(P)=4.8×10^{-6} *6*
588.58		412.9[‡] *1*	100[‡]	175.678	(11/2)$^+$				
602.08		191.261[‡] *35*	100[‡]	410.820	(7/2)$^+$				

$^{191}_{76}Os_{115}$-7

Adopted Levels, Gammas (continued)

γ(^{191}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
611.959	1/2⁻,3/2⁻	178.373 *3*	1.6 *4*	433.590	(1/2,3/2)⁻	M1		1.086 *15*	α(K)=0.898 *13*; α(L)=0.1449 *20*; α(M)=0.0333 *5* α(N)=0.00812 *11*; α(O)=0.001402 *20*; α(P)=0.0001045 *15*
		194.808 *3*	3.7 *5*	417.153	1/2⁻,3/2⁻	M1+E2	0.80 *16*	0.66 *5*	α(K)=0.50 *5*; α(L)=0.1225 *29*; α(M)=0.0293 *10* α(N)=0.00711 *22*; α(O)=0.001158 *23*; α(P)=5.6×10^{-5} *6*
		339.206 *2*	7.2 *9*	272.754	5/2⁻	E2		0.0639 *9*	α(K)=0.0433 *6*; α(L)=0.01566 *22*; α(M)=0.00385 *5* α(N)=0.000929 *13*; α(O)=0.0001456 *20*; α(P)=4.42×10^{-6} *6*
		470.028 *14*	1.2 *2*	141.935	(3/2)⁻	M1+E2	0.6 *4*	0.064 *12*	α(K)=0.053 *11*; α(L)=0.0089 *12*; α(M)=0.00205 *25* α(N)=0.00050 *6*; α(O)=8.6×10^{-5} *12*; α(P)=6.0×10^{-6} *13*
		480.034 *17*	1.1 *2*	131.942	5/2⁻				
		527.498 *2*	100 *10*	84.457	(1/2)⁻	M1+E2	0.5 *2*	0.050 *5*	α(K)=0.041 *4*; α(L)=0.0068 *5*; α(M)=0.00155 *11* α(N)=0.000379 *27*; α(O)=6.5×10^{-5} *5*; α(P)=4.7×10^{-6} *5*
		537.574 *5*	39 *4*	74.382	3/2⁻	M1+E2	0.7 *3*	0.043 *7*	α(K)=0.035 *6*; α(L)=0.0060 *7*; α(M)=0.00137 *15* α(N)=0.00033 *4*; α(O)=5.7×10^{-5} *7*; α(P)=4.0×10^{-6} *7*
619.205	(5/2)⁻	304.951 *18*	59 *22*	314.266	(5/2)⁻	M1		0.2474 *35*	α(K)=0.2050 *29*; α(L)=0.0327 *5*; α(M)=0.00750 *10* α(N)=0.001830 *26*; α(O)=0.000316 *4*; α(P)=2.365×10^{-5} *33*
		477.266 *11*	49 *6*	141.935	(3/2)⁻	M1+E2	0.70 *30*	0.059 *9*	α(K)=0.048 *8*; α(L)=0.0082 *9*; α(M)=0.00190 *20* α(N)=0.00046 *5*; α(O)=7.9×10^{-5} *9*; α(P)=5.4×10^{-6} *10*
		487.271 *18*	18 *3*	131.942	5/2⁻	M1+E2	0.8 *4*	0.053 *12*	α(K)=0.043 *10*; α(L)=0.0075 *12*; α(M)=0.00173 *25* α(N)=0.00042 *6*; α(O)=7.2×10^{-5} *12*; α(P)=4.9×10^{-6} *12*
		544.821 *5*	100 *12*	74.382	3/2⁻	M1+E2	0.9 *3*	0.038 *6*	α(K)=0.031 *5*; α(L)=0.0053 *7*; α(M)=0.00123 *14* α(N)=0.000300 *35*; α(O)=5.1×10^{-5} *6*; α(P)=3.4×10^{-6} *6*
630.716	(5/2)⁻	316.452 *11*	100 *13*	314.266	(5/2)⁻	M1+E2	1.0 *2*	0.151 *16*	α(K)=0.119 *15*; α(L)=0.0249 *11*; α(M)=0.00587 *21* α(N)=0.00143 *5*; α(O)=0.000236 *11*; α(P)=1.33×10^{-5} *18*
		556.32 *3*	70 *9*	74.382	3/2⁻	M1+E2	0.7 *3*	0.039 *6*	α(K)=0.032 *5*; α(L)=0.0054 *7*; α(M)=0.00125 *14* α(N)=0.000305 *35*; α(O)=5.2×10^{-5} *6*; α(P)=3.7×10^{-6} *6*
637.591		284.6[‡] *1*		352.91	(13/2)⁺				
		364.9[‡] *1*		272.754	5/2⁻				
637.618	(1/2,3/2)⁻	204.037 *5*	14 *4*	433.590	(1/2,3/2)⁻	M1+E2	0.39 *27*	0.69 *8*	α(K)=0.56 *8*; α(L)=0.1012 *27*; α(M)=0.0235 *10* α(N)=0.00573 *23*; α(O)=0.000971 *19*; α(P)=6.4×10^{-5} *10*
		220.467 *7*	22 *3*	417.153	1/2⁻,3/2⁻	M1+E2	0.7 *3*	0.48 *7*	α(K)=0.38 *7*; α(L)=0.0807 *12*; α(M)=0.0191 *5* α(N)=0.00464 *11*; α(O)=0.000768 *11*; α(P)=4.3×10^{-5} *9*
		364.864 *3*	100 *14*	272.754	5/2⁻	E2(+M1)	3.2 *2*	0.0610 *14*	α(K)=0.0442 *12*; α(L)=0.01282 *20*; α(M)=0.00311 *5* α(N)=0.000752 *11*; α(O)=0.0001200 *19*; α(P)=4.69×10^{-6} *14*
		495.679 *3*	74 *10*	141.935	(3/2)⁻	M1		0.0678 *9*	α(K)=0.0564 *8*; α(L)=0.00887 *12*; α(M)=0.002028 *28* α(N)=0.000495 *7*; α(O)=8.57×10^{-5} *12*; α(P)=6.44×10^{-6} *9*
		553.158 *10*	17.4 *17*	84.457	(1/2)⁻	M1		0.0510 *7*	α(K)=0.0424 *6*; α(L)=0.00664 *9*; α(M)=0.001518 *21* α(N)=0.000371 *5*; α(O)=6.41×10^{-5} *9*; α(P)=4.83×10^{-6} *7*

$^{191}_{76}Os_{115}$-8

Adopted Levels, Gammas (continued)

γ(^{191}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
688.821	(5/2)$^-$	180.675 *11*	63 *22*	508.147	(3/2)$^-$	M1+E2	1.2 *+13−5*	0.71 *16*	α(K)=0.49 *18*; α(L)=0.169 *14*; α(M)=0.041 *4* α(N)=0.00998 *99*; α(O)=0.00157 *10*; α(P)=5.3×10^{-5} *22*
		241.893 *5*	100 *15*	446.929	7/2$^-$	M1+E2	0.55 *+28−31*	0.40 *5*	α(K)=0.32 *5*; α(L)=0.0606 *13*; α(M)=0.01417 *20* α(N)=0.00345 *5*; α(O)=0.000580 *16*; α(P)=3.7×10^{-5} *6*
		546.871 *13*	78 *22*	141.935	(3/2)$^-$	M1+E2	1.2 *+10−5*	0.032 *9*	α(K)=0.026 *8*; α(L)=0.0048 *9*; α(M)=0.00111 *20* α(N)=0.00027 *5*; α(O)=4.5×10^{-5} *9*; α(P)=2.9×10^{-6} *9*
		556.857 *21*	70 *15*	131.942	5/2$^-$				
		604.41 *3*	48 *19*	84.457	(1/2)$^-$				
		614.436 *11*	81 *11*	74.382	3/2$^-$	M1+E2	0.6 *3*	0.032 *5*	α(K)=0.027 *4*; α(L)=0.0043 *5*; α(M)=0.00100 *11* α(N)=0.000243 *27*; α(O)=4.2×10^{-5} *5*; α(P)=3.0×10^{-6} *5*
721.432	(3/2)$^-$	284.468 *10*	16 *2*	436.969	(1/2,3/2)$^-$	M1		0.299 *4*	α(K)=0.2476 *35*; α(L)=0.0396 *6*; α(M)=0.00907 *13* α(N)=0.002215 *31*; α(O)=0.000383 *5*; α(P)=2.86×10^{-5} *4*
		287.846 *16*	17 *2*	433.590	(1/2,3/2)$^-$	M1		0.289 *4*	α(K)=0.2398 *34*; α(L)=0.0383 *5*; α(M)=0.00878 *12* α(N)=0.002144 *30*; α(O)=0.000370 *5*; α(P)=2.77×10^{-5} *4*
		304.279 *3*	75 *10*	417.153	1/2$^-$,3/2$^-$	M1		0.2489 *35*	α(K)=0.2063 *29*; α(L)=0.0329 *5*; α(M)=0.00754 *11* α(N)=0.001841 *26*; α(O)=0.000318 *4*; α(P)=2.380×10^{-5} *33*
		448.670 *10*	23 *4*	272.754	5/2$^-$	M1+E2	1.3 *+6−4*	0.052 *11*	α(K)=0.041 *9*; α(L)=0.0081 *10*; α(M)=0.00190 *21* α(N)=0.00046 *5*; α(O)=7.7×10^{-5} *10*; α(P)=4.6×10^{-6} *11*
		579.494 *5*	53 *8*	141.935	(3/2)$^-$	M1+E2	0.7 *4*	0.036 *7*	α(K)=0.029 *6*; α(L)=0.0049 *8*; α(M)=0.00112 *17* α(N)=0.00027 *4*; α(O)=4.7×10^{-5} *7*; α(P)=3.3×10^{-6} *7*
		589.39 *6*	12 *2*	131.942	5/2$^-$				
		636.974 *4*	100 *13*	84.457	(1/2)$^-$	M1+E2	1.1 *3*	0.023 *4*	α(K)=0.0188 *31*; α(L)=0.0033 *4*; α(M)=0.00075 *9* α(N)=0.000184 *21*; α(O)=3.1×10^{-5} *4*; α(P)=2.1×10^{-6} *4*
		647.051 *17*	25 *4*	74.382	3/2$^-$	M1+E2	1.0 *3*	0.023 *4*	α(K)=0.0190 *32*; α(L)=0.0032 *4*; α(M)=0.00075 *9* α(N)=0.000182 *22*; α(O)=3.1×10^{-5} *4*; α(P)=2.1×10^{-6} *4*
722.34	(17/2)$^+$	197.7[‡] *1*		524.76	(15/2)$^+$				E_γ: A comparable 198.056 keV *6* γ unplaced in (n,γ) E=thermal.
		369.41[‡] *4*	100[‡] *5*	352.91	(13/2)$^+$				
748.344	(3/2)$^-$	240.194 *4*	26 *4*	508.147	(3/2)$^-$	M1		0.475 *7*	α(K)=0.393 *6*; α(L)=0.0631 *9*; α(M)=0.01447 *20* α(N)=0.00353 *5*; α(O)=0.000610 *9*; α(P)=4.55×10^{-5} *6*
		311.375 *26*	8.0 *14*	436.969	(1/2,3/2)$^-$	M1		0.2338 *33*	α(K)=0.1938 *27*; α(L)=0.0309 *4*; α(M)=0.00708 *10* α(N)=0.001729 *24*; α(O)=0.000299 *4*; α(P)=2.235×10^{-5} *31*
		314.750 *17*	8.0 *22*	433.590	(1/2,3/2)$^-$	M1		0.2271 *32*	α(K)=0.1882 *26*; α(L)=0.0300 *4*; α(M)=0.00688 *10* α(N)=0.001679 *24*; α(O)=0.000290 *4*; α(P)=2.170×10^{-5} *30*
		331.191 *8*	15.9 *22*	417.153	1/2$^-$,3/2$^-$	M1(+E2)	0.47 *+24−30*	0.175 *20*	α(K)=0.143 *18*; α(L)=0.0245 *14*; α(M)=0.00566 *29*

$^{191}_{76}Os_{115}$-9

Adopted Levels, Gammas (continued)

γ(^{191}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
									α(N)=0.00138 *7*; α(O)=0.000236 *15*; α(P)=1.63×10^{-5} *22*
748.344	(3/2)$^-$	434.086 *5*	25 *4*	314.266	(5/2)$^-$	M1		0.0962 *13*	α(K)=0.0798 *11*; α(L)=0.01261 *18*; α(M)=0.00289 *4* α(N)=0.000705 *10*; α(O)=0.0001219 *17*; α(P)=9.15×10^{-6} *13*
		475.58 *7*	12.3 *14*	272.754	5/2$^-$				
		663.883 *4*	100 *15*	84.457	(1/2)$^-$	M1+E2	1.4 *+9−4*	0.019 *4*	α(K)=0.0150 *31*; α(L)=0.0027 *4*; α(M)=0.00062 *9* α(N)=0.000151 *22*; α(O)=2.6×10^{-5} *4*; α(P)=1.7×10^{-6} *4*
		673.94 *3*	28 *4*	74.382	3/2$^-$				
764.661	(3/2,5/2)$^+$	347.512 *4*	11.0 *15*	417.153	1/2$^-$,3/2$^-$	E1		0.01729 *24*	α(K)=0.01439 *20*; α(L)=0.002238 *31*; α(M)=0.000511 *7* α(N)=0.0001236 *17*; α(O)=2.085×10^{-5} *29*; α(P)=1.371×10^{-6} *19*
		353.841 *1*	100 *16*	410.820	(7/2)$^+$	E2		0.0567 *8*	α(K)=0.0390 *5*; α(L)=0.01348 *19*; α(M)=0.00330 *5* α(N)=0.000797 *11*; α(O)=0.0001254 *18*; α(P)=4.00×10^{-6} *6*
		622.699 *21*	3.6 *8*	141.935	(3/2)$^-$				
765.12		354.3[‡] *1*	100[‡]	410.820	(7/2)$^+$				
789.30?	(17/2$^-$)	463.0[‡a] *1*	100[‡]	326.299?	(13/2$^-$)				
794.658	(3/2)$^-$	652.728 *7*	52 *8*	141.935	(3/2)$^-$	M1+E2	1.0 *4*	0.023 *5*	α(K)=0.019 *4*; α(L)=0.0032 *5*; α(M)=0.00073 *12* α(N)=0.000178 *29*; α(O)=3.0×10^{-5} *5*; α(P)=2.1×10^{-6} *5*
		662.67[&] *7*	14[&] *3*	131.942	5/2$^-$				
		710.202 *17*	38 *5*	84.457	(1/2)$^-$	M1+E2	0.65 *+37−34*	0.022 *4*	α(K)=0.0180 *30*; α(L)=0.0029 *4*; α(M)=0.00067 *9* α(N)=0.000163 *22*; α(O)=2.8×10^{-5} *4*; α(P)=2.0×10^{-6} *4*
		720.276 *11*	100 *16*	74.382	3/2$^-$	E2(+M1)	2.6 *3*	0.0119 *5*	α(K)=0.0095 *4*; α(L)=0.00178 *6*; α(M)=0.000417 *13* α(N)=0.0001013 *33*; α(O)=1.70×10^{-5} *6*; α(P)=1.04×10^{-6} *5*
804.551	(5/2$^-$,7/2$^-$)	370.981 *23*	52 *11*	433.590	(1/2,3/2)$^-$				
		662.67[&] *7*	44[&] *11*	141.935	(3/2)$^-$				
		804.47 *4*	100 *15*	0.0	9/2$^-$				
815.430	(3/2)$^-$	307.275 *8*	81 *10*	508.147	(3/2)$^-$	M1+E2	1.3 *3*	0.144 *20*	α(K)=0.110 *19*; α(L)=0.0260 *13*; α(M)=0.00621 *25* α(N)=0.00151 *6*; α(O)=0.000246 *13*; α(P)=1.21×10^{-5} *23*
		327.833 *10*	90 *14*	487.612	(3/2)$^-$	M1		0.2035 *28*	α(K)=0.1687 *24*; α(L)=0.0269 *4*; α(M)=0.00615 *9*

$^{191}_{76}Os_{115}$-10

Adopted Levels, Gammas (continued)

γ(^{191}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
									α(N)=0.001503 *21*; α(O)=0.000260 *4*; α(P)=1.943×10^{-5} *27*
815.430	(3/2)$^-$	378.47 *4*	71 *14*	436.969	(1/2,3/2)$^-$	M1+E2	1.3 *+8−4*	0.081 *17*	α(K)=0.063 *15*; α(L)=0.0135 *14*; α(M)=0.00319 *30* α(N)=0.00077 *7*; α(O)=0.000128 *14*; α(P)=7.1×10^{-6} *18*
		542.706 *17*	100 *14*	272.754	5/2$^-$				
		683.49 *3*	90 *19*	131.942	5/2$^-$				
823.891	+	304.488 *7*	38 *5*	519.398	(7/2)$^+$	E2		0.0874 *12*	α(K)=0.0569 *8*; α(L)=0.02322 *33*; α(M)=0.00574 *8* α(N)=0.001384 *19*; α(O)=0.0002152 *30*; α(P)=5.72×10^{-6} *8*
		413.070 *3*	100 *11*	410.820	(7/2)$^+$	E2		0.0371 *5*	α(K)=0.0267 *4*; α(L)=0.00794 *11*; α(M)=0.001928 *27* α(N)=0.000466 *7*; α(O)=7.42×10^{-5} *10*; α(P)=2.79×10^{-6} *4*
939.74		302.148[‡] *39*	100[‡]	637.591					E_γ: A comparable 301.837 keV *5* γ unplaced in (n,γ) E=thermal.
959.016	(1/2,3/2)$^-$	644.77 *3*	18 *4*	314.266	(5/2)$^-$				
		817.076 *23*	100 *11*	141.935	(3/2)$^-$				Mult.: E2 in (n,γ) E=thermal.
		874.54 *3*	90 *10*	84.457	(1/2)$^-$	M1+E2	1.2 *8*	0.010 *4*	α(K)=0.008 *4*; α(L)=0.0014 *5*; α(M)=3.2×10^{-4} *11* α(N)=7.8×10^{-5} *27*; α(O)=1.3×10^{-5} *5*; α(P)=9.E−7 *4*
974.541		150.637 *11*	69 *25*	823.891	+				
		563.789 *25*	100 *13*	410.820	(7/2)$^+$				
981.1	(19/2$^+$)	259[#]		722.34	(17/2)$^+$				
		456.3[‡] *3*	100[‡]	524.76	(15/2)$^+$				
1077.802	(1/2,3/2)$^-$	590.190 *8*	60 *10*	487.612	(3/2)$^-$	M1+E2	1.1 *2*	0.0279 *28*	α(K)=0.0227 *24*; α(L)=0.00399 *30*; α(M)=0.00093 *7* α(N)=0.000225 *16*; α(O)=3.82×10^{-5} *29*; α(P)=2.54×10^{-6} *28*
		993.28 *6*	100 *17*	84.457	(1/2)$^-$				
		1003.45 *5*	100 *12*	74.382	3/2$^-$				
1081		359[#]	100[#]	722.34	(17/2)$^+$				
1092.740	(1/2,3/2)$^-$	480.781 *9*	31 *3*	611.959	1/2$^-$,3/2$^-$	M1+E2	0.7 *3*	0.058 *9*	α(K)=0.047 *8*; α(L)=0.0081 *9*; α(M)=0.00186 *20* α(N)=0.00045 *5*; α(O)=7.7×10^{-5} *9*; α(P)=5.3×10^{-6} *10*
		950.79 *3*	100 *12*	141.935	(3/2)$^-$	M1(+E2)	0.7 *4*	0.0104 *18*	α(K)=0.0086 *15*; α(L)=0.00136 *21*; α(M)=0.00031 *5* α(N)=7.6×10^{-5} *12*; α(O)=1.31×10^{-5} *21*; α(P)=9.6×10^{-7} *18*
1108.729	(5/2)$^-$	314.082 *12*	52 *10*	794.658	(3/2)$^-$	M1		0.2284 *32*	α(K)=0.1893 *27*; α(L)=0.0302 *4*; α(M)=0.00692 *10* α(N)=0.001689 *24*; α(O)=0.000292 *4*; α(P)=2.183×10^{-5} *31*
		600.576 *8*	100 *13*	508.147	(3/2)$^-$	M1+E2	1.8 *+10−5*	0.021 *4*	α(K)=0.0168 *31*; α(L)=0.0032 *4*; α(M)=0.00075 *9* α(N)=0.000182 *21*; α(O)=3.0×10^{-5} *4*; α(P)=1.9×10^{-6} *4*

$^{191}_{76}Os_{115}$-11

Adopted Levels, Gammas (continued)

$\gamma(^{191}Os)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†]	α[@]	Comments
1118.001	$(5/2)^-$	302.67 *4*	41 *7*	815.430	$(3/2)^-$	M1		0.2525 *35*	α(K)=0.2092 *29*; α(L)=0.0334 *5*; α(M)=0.00765 *11* α(N)=0.001868 *26*; α(O)=0.000323 *5*; α(P)=2.414×10^{-5} *34*
		655.441 *21*	100 *21*	462.532	$7/2^-$	M1+E2	0.9 *+6−4*	0.024 *5*	α(K)=0.019 *4*; α(L)=0.0032 *6*; α(M)=0.00075 *13* α(N)=0.000183 *31*; α(O)=3.1×10^{-5} *6*; α(P)=2.2×10^{-6} *5*
1143.544	$(1/2^-,3/2^-)$	531.580 *16*	45 *10*	611.959	$1/2^-,3/2^-$				
		726.397 *20*	100 *19*	417.153	$1/2^-,3/2^-$				
1176.693	$3/2^+,(5/2^+)$	412.033 *4*	100 *14*	764.661	$(3/2,5/2)^+$	M1+E2	2.2 *+23−7*	0.050 *10*	α(K)=0.038 *9*; α(L)=0.0091 *9*; α(M)=0.00218 *19* α(N)=0.00053 *5*; α(O)=8.6×10^{-5} *9*; α(P)=4.1×10^{-6} *11*
		414.310 *9*	69 *9*	762.374	(3/2)	M1+E2	1.4 *+8−4*	0.061 *12*	α(K)=0.048 *11*; α(L)=0.0100 *11*; α(M)=0.00237 *23* α(N)=0.00058 *6*; α(O)=9.5×10^{-5} *11*; α(P)=5.3×10^{-6} *13*
		428.340 *19*	51 *9*	748.344	$(3/2)^-$				
		539.101 *13*	80 *11*	637.618	$(1/2,3/2)^-$				
		668.52 *4*	60 *9*	508.147	$(3/2)^-$				
1200	$(21/2)^+$	219[#a]		981.1	$(19/2^+)$				
		478[#]		722.34	$(17/2)^+$				
1202.264	$(1/2^-,3/2)^-$	386.847 *12*	42 *6*	815.430	$(3/2)^-$	M1		0.1306 *18*	α(K)=0.1083 *15*; α(L)=0.01717 *24*; α(M)=0.00393 *6* α(N)=0.000960 *13*; α(O)=0.0001660 *23*; α(P)=1.244×10^{-5} *17*
		453.88 *3*	25 *6*	748.344	$(3/2)^-$				
		564.65 *3*	42 *6*	637.618	$(1/2,3/2)^-$				
		694.09 *4*	58 *17*	508.147	$(3/2)^-$				
		768.664 *20*	64 *14*	433.590	$(1/2,3/2)^-$				
		785.102 *25*	100 *14*	417.153	$1/2^-,3/2^-$				
1280.850	$(5/2^+)$	486.215 *23*	32 *7*	794.658	$(3/2)^-$				
		518.481 *7*	77 *14*	762.374	(3/2)	M1+E2	1.5 *+6−4*	0.033 *6*	α(K)=0.026 *5*; α(L)=0.0051 *6*; α(M)=0.00120 *13* α(N)=0.000291 *31*; α(O)=4.9×10^{-5} *6*; α(P)=2.9×10^{-6} *6*
		706.649 *17*	100 *14*	574.167	$(5/2)^-$				
		793.29 *13*	55 *9*	487.612	$(3/2)^-$				
		818.28 *3*	89 *11*	462.532	$7/2^-$				
1298.436	$(1/2,3/2)^-$	826.77 *5*	15 *5*	471.652	$(5/2)^-$				
		881.31 *3*	36 *4*	417.153	$1/2^-,3/2^-$				
		1156.46 *3*	100 *12*	141.935	$(3/2)^-$	E2(+M1)		0.0058 *20*	α(K)=0.0048 *17*; α(L)=7.5×10^{-4} *24*; α(M)=1.7×10^{-4} *5* α(N)=4.2×10^{-5} *13*; α(O)=7.2×10^{-6} *24*; α(P)=5.3×10^{-7} *20*; α(IPF)=1.8×10^{-6} *4*
		1214.01 *5*	83 *15*	84.457	$(1/2)^-$				

$^{191}_{76}Os_{115}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{191}Os)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
1342		402[#]	100[#]	939.74		2187	$(27/2)^+$	415[#]		1772	$(25/2)^+$
1530	$(23/2)^+$	330[#a]		1200	$(21/2)^+$			657[#]		1530	$(23/2)^+$
		549[#]	100[#]	981.1	$(19/2^+)$	2640	(29/2,31/2)	453[#]	100[#]	2187	$(27/2)^+$
1772	$(25/2)^+$	572[#]	100[#]	1200	$(21/2)^+$						

† From Os(n,γ) E=thermal, unless otherwise specified; mult and δ are from measured conversion coefficients and subshell ratios.
‡ From (p,pnγ).
# From (^{82}Se,^{83}Seγ).
@ Additional information 1.
& Multiply placed with intensity suitably divided.
a Placement of transition in the level scheme is uncertain.

$^{191}_{76}Os_{115}$-13

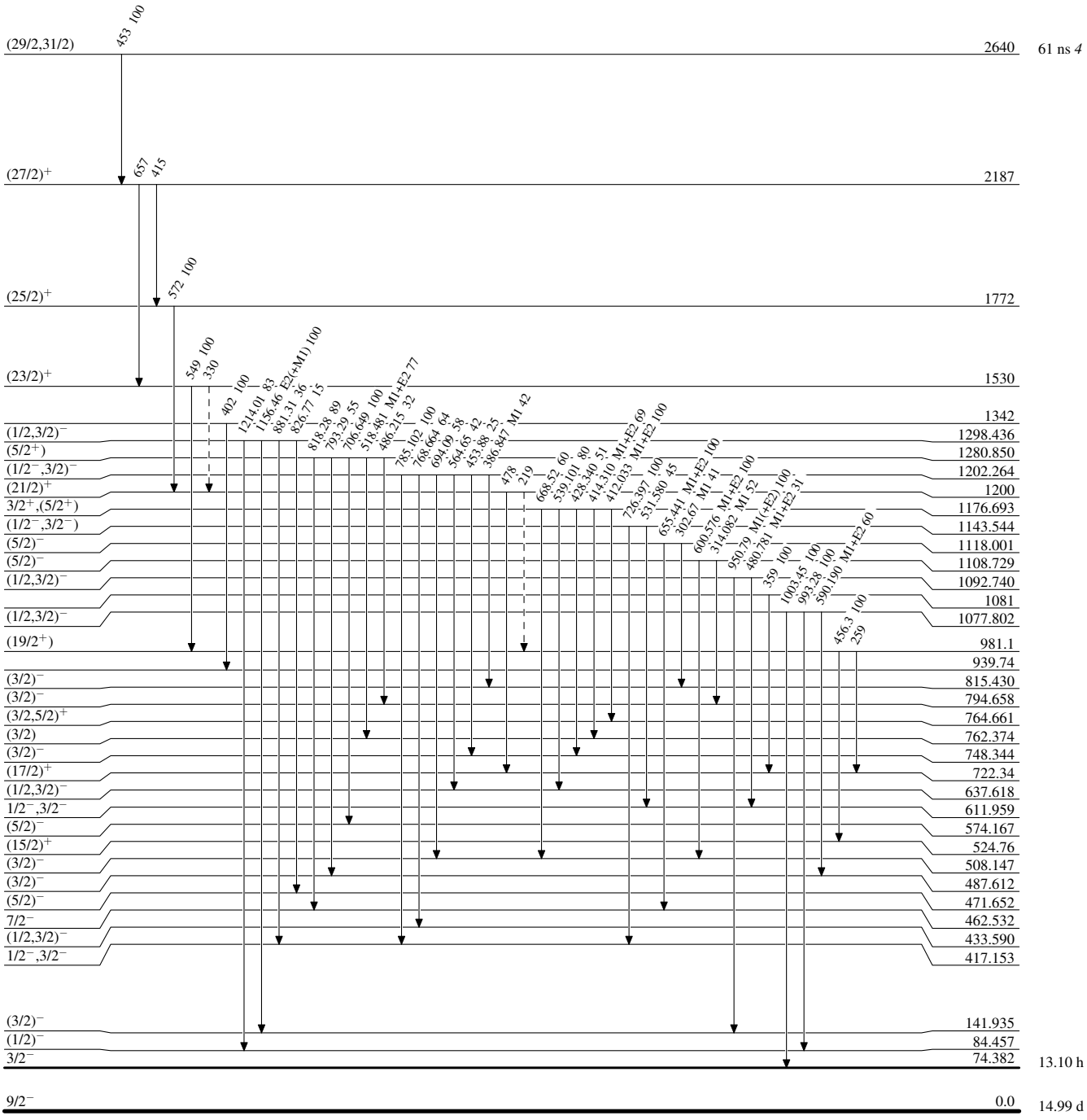
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{191}_{76}Os_{115}$

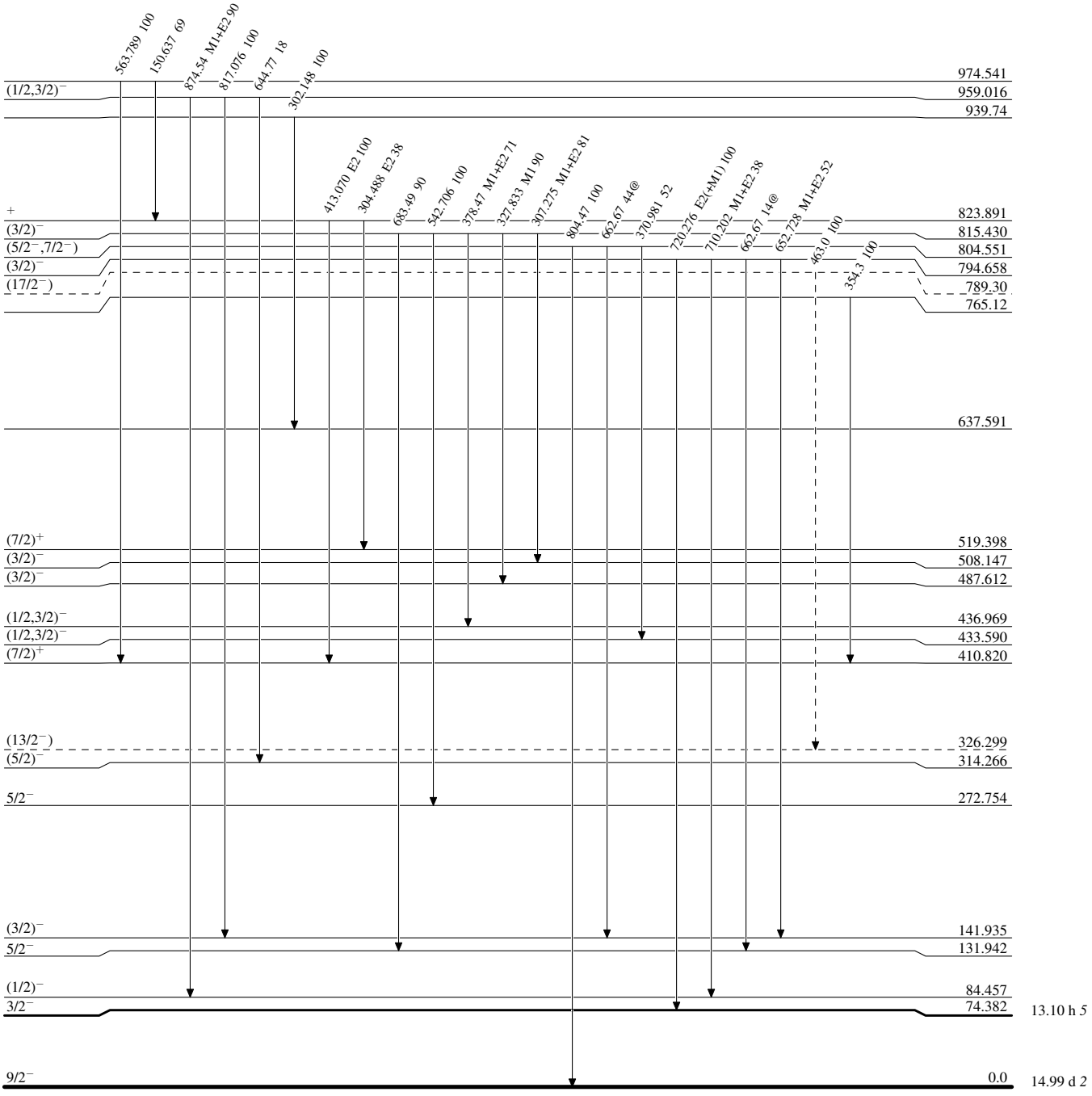
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

γ Decay (Uncertain)

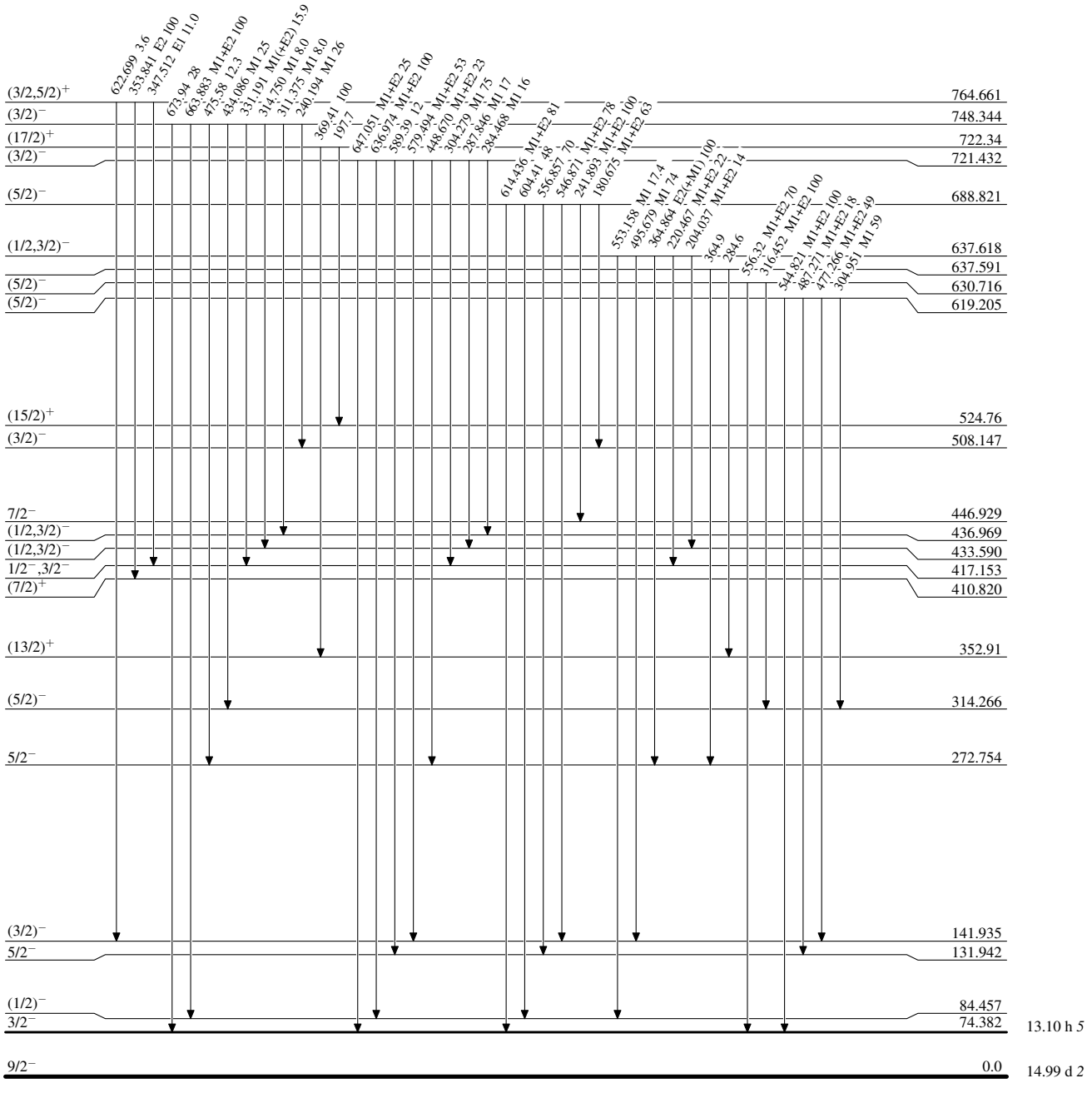


$^{191}_{76}Os_{115}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

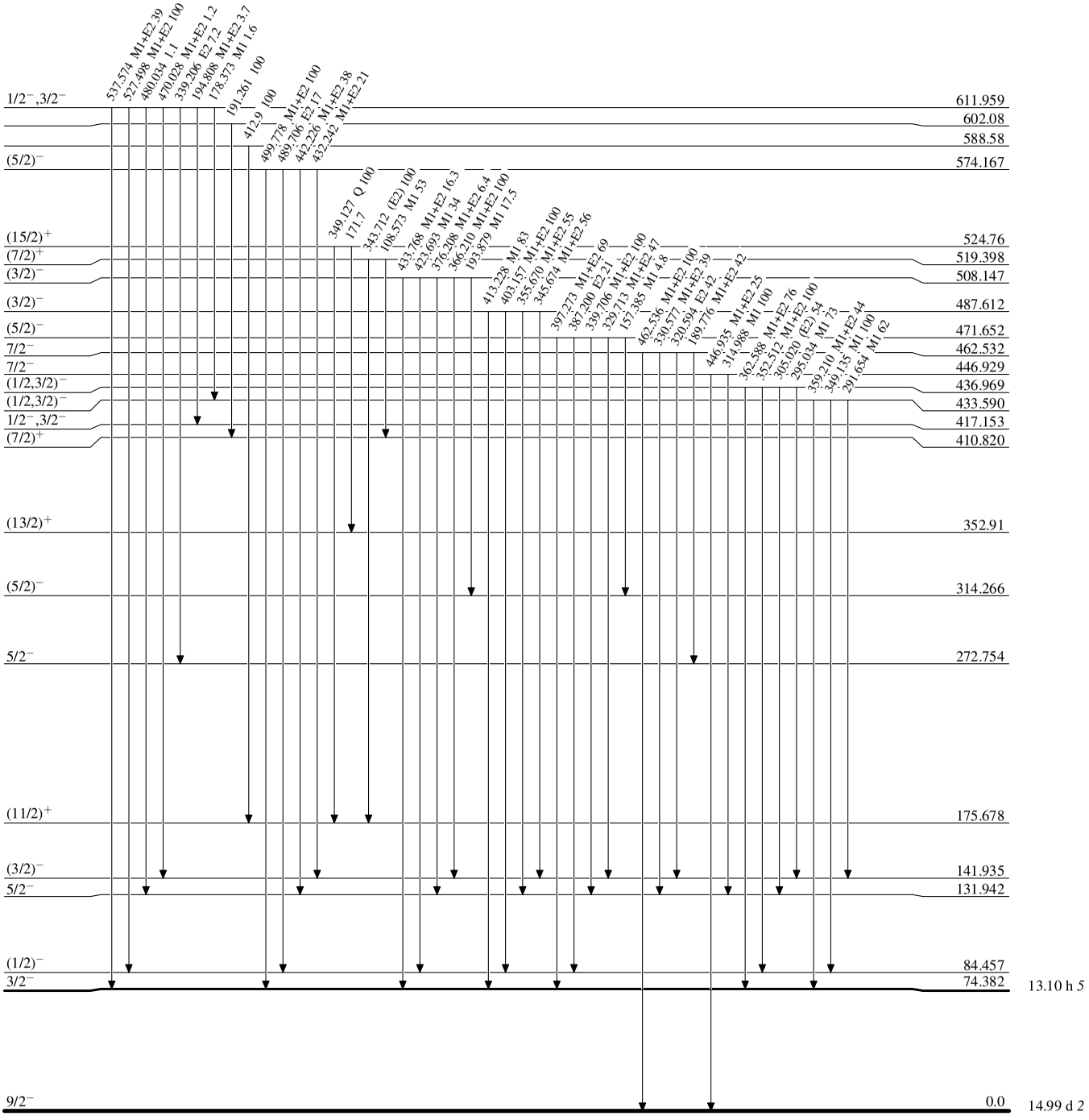


$^{191}_{76}Os_{115}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

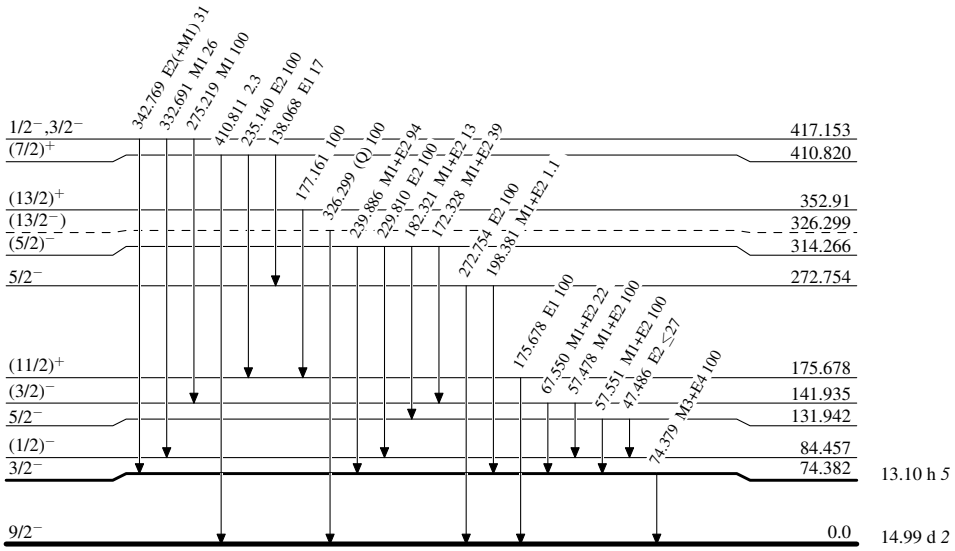


$^{191}_{76}Os_{115}$

Adopted Levels, Gammas

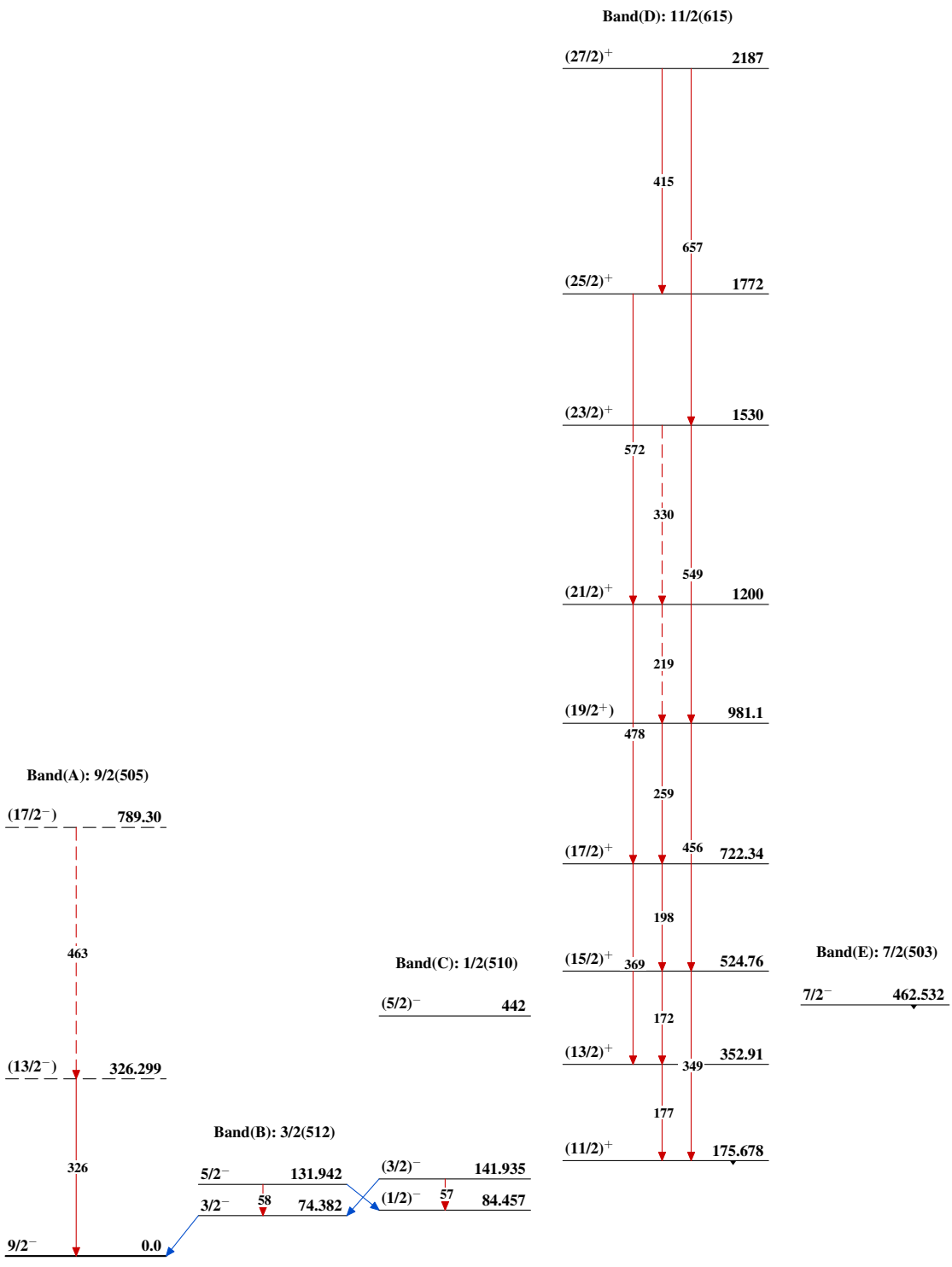
Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{191}_{76}Os_{115}$

Adopted Levels, Gammas



$^{191}_{76}Os_{115}$