Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 159, 1 (2019)	30-Aug-2019

Q(β^-)=−4.31×10^3 *3*; S(n)=9.28×10^3 *4*; S(p)=2.92×10^3 *4*; Q(α)=3.70×10^3 *4* 2017Wa10
Additional information 1.

^{177}Re Levels

Cross Reference (XREF) Flags

A (HI,xnγ)
B ^{177}Os ε decay

E(level)†	J$^\pi$‡#	T$_{1/2}$‡	XREF	Comments
0.0[e]	5/2$^-$	14 min *1*	AB	%ε+%β^+=100. J$^\pi$: Preferred strong $\varepsilon+\beta^+$ feeding to the 3/2$^-$, 5/2$^-$ and 7/2$^-$ levels of the ν1/2[521] (p$_{3/2}$) band in the daughter nucleus ^{177}W; J^π systematics; band assignment. T$_{1/2}$: From 196.9γ(t) following ^{177}Re ε decay (1970Go20). Others: 16 min (1968Be43) and 17 min (1957Ha04). configuration: π1/2[541] (h$_{9/2}$) Nilsson orbital (α=+1/2). The band is strongly Coriolis mixed. Based on the observed decoupled character of the band, alignment properties and configuration systematics.
0.0+x[l]	9/2$^-$	>100 ns	A	Additional information 2. E(level): An upper energy limit of about 40 keV is suggested (1986Wa32, 1983Ya08), since no transitions (photon and conversion electron) depopulating this level were observed in either in-beam or out-of-beam time region. J$^\pi$: J^π systematics; band assignment. T$_{1/2}$: No direct γ-ray decay from the bandhead has been observed. The value is a lower limit based on the applied $\gamma\gamma$ coincidence window in 1995Ba67. configuration: π9/2[514] (h$_{11/2}$) Nilsson orbital. The assignment is supported by the observed in-band properties, such as alignment and g$_K$-g$_R$ values, and systematics of similar structures in neighboring nuclei.
38.64[e] *16*	(1/2$^-$)		B	J$^\pi$: 38.6γ (E2) to the 5/2$^-$ level; band assignment.
63.50[e] *20*	9/2$^-$		A	J$^\pi$: 63.5γ E2 to the 5/2$^-$ level; band assignment.
84.70[&] *10*	5/2$^+$	50 μs *10*	AB	J$^\pi$: 84.7γ to 5/2$^-$; J^π systematics; band assignment. T$_{1/2}$: From 1972Le04 in (HI,xnγ). configuration: π5/2[402] (d$_{5/2}$) Nilsson orbital. The assignment is supported by the observed in-band properties, such as alignment and g$_K$-g$_R$ values, and systematics of similar structures in neighboring nuclei. The decrease of g$_K$-g$_R$ values as the spin increases implies a significant mixing with the 7/2[404] (g$_{7/2}$) band.
163.65+x[l] *8*	11/2$^-$		A	J$^\pi$: 163.72γ M1+E2 to the 9/2$^-$ level; band assignment.
195.73 *15*	(3/2$^-$)		B	J$^\pi$: 157.2γ to (1/2$^-$), 195.8γ to 5/2$^-$; J^π systematics.
207.42[&] *12*	7/2$^+$		AB	J$^\pi$: 122.87γ M1+E2 to the 5/2$^+$ level; band assignment.
248.10[e] *18*	13/2$^-$		A	J$^\pi$: 184.6γ E2 to the 9/2$^-$ level; band assignment.
355.98+x[l] *7*	13/2$^-$		A	J$^\pi$: 192.48γ M1+E2 to the 11/2$^-$ level, 355.87γ E2 to the 9/2$^-$ level; band assignment.
358.20[&] *12*	9/2$^+$	30.2 ps *+14−15*	A	J$^\pi$: 151.04γ M1+E2 to the 7/2$^+$ level, 273.45γ to the 5/2$^+$ level; band assignment.
361.00[@] *13*	7/2$^+$		A	J$^\pi$: 276.18γ M1(+E2) to the 5/2$^+$ level; configuration assignment; J^π systematics.

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Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)[†]	Jπ[‡#]	$T_{1/2}$[‡]	XREF	Comments
				configuration: π7/2[404] ($g_{7/2}$) Nilsson orbital. The assignment is supported by the observed in-band properties, such as alignment and g_K-g_R values, and systematics of similar structures in neighboring nuclei. The increase of g_K-g_R values as the spin increases implies a significant mixing with the 5/2[402] ($d_{5/2}$) band.
490.35[@] *14*	$9/2^+$		A	Jπ: 283.0γ M1(+E2) to the $7/2^+$ level; band assignment.
495.73 *15*	$(1/2^+)$		B	Jπ: 411.0γ to $5/2^+$, 457.0γ to $(1/2^-)$; J^π systematics; proposed configuration. configuration: π1/2[411] Nilsson configuration. Systematics in the region.
534.28[&] *13*	$11/2^+$		A	Jπ: 176.18γ M1+E2 to the $9/2^+$ level, 326.68γ E2 to the $7/2^+$ level; band assignment.
552.21[e] *16*	$17/2^-$	14.1 ps *6*	A	Jπ: 304.17γ E2 to the $13/2^-$ level; band assignment.
561.34[f] *25*	$11/2^-$		A	Jπ: 497.86γ to $9/2^-$; band assignment.
569.89+x[l] *8*	$15/2^-$	5.3 ps *+4–6*	A	Jπ: 213.87γ M1+E2 to the $13/2^-$ level, 406.13γ E2 to the $11/2^-$ level; band assignment.
642.73[@] *13*	$11/2^+$		A	Jπ: 284.78γ M1(+E2) to the $9/2^+$ level, 281.46γ [E2] to the $7/2^+$ level; band assignment.
727.71[&] *13*	$13/2^+$	8.5 ps *+6–19*	A	Jπ: 193.52γ M1+E2 to the $11/2^+$ level, 369.43γ E2 to the $9/2^+$ level; band assignment.
735.15 *24*	(1/2,3/2)		B	Jπ: 539.4γ to $(3/2^-)$, 696.6γ to $(1/2^-)$; direct feeding in ^{177}Os ε decay (J^π=1/2$^-$).
741.2 *5*	(1/2,3/2)		B	Jπ: 245.5γ to $(1/2^+)$; direct feeding in ^{177}Os ε decay (J^π=1/2$^-$).
771.96 *24*	(1/2,3/2)		B	Jπ: 576.2γ to $(3/2^-)$, 733.3γ to $(1/2^-)$; direct feeding in ^{177}Os ε decay (J^π=1/2$^-$).
805.14+x[l] *9*	$17/2^-$		A	Jπ: 235.37γ M1+E2 to the $15/2^-$ level; 449.08γ E2 to the $13/2^-$ level; band assignment.
815.41[@] *14*	$13/2^+$		A	Jπ: 280.83γ M1(+E2) to the $11/2^+$ level, 325.01γ to the $9/2^+$ level; band assignment.
880.64[f] *20*	$15/2^-$		A	Jπ: 319.32γ to $11/2^-$, 632.51γ to $13/2^-$; band assignment.
935.89[&] *14*	$15/2^+$		A	Jπ: 208.22γ M1+E2 to the $13/2^+$ level, 401.63γ E2 to the $11/2^+$ level; band assignment.
952.65 *22*	$(1/2^-,3/2)$		B	Jπ: 457.0γ to $(1/2^+)$, 952.4γ to $5/2^-$; direct feeding in ^{177}Os ε decay (J^π=1/2$^-$).
963.17+x[k] *10*	$(13/2^-)$		A	Jπ: 963.09γ to $9/2^-$; band assignment; J^π systematics. configuration: π9/2[514]⊗2^+ β or γ vibration.
965.58[e] *17*	$21/2^-$	3.19 ps *+42–21*	A	Jπ: 413.19γ E2 to the $17/2^-$ level; band assignment.
975.12[a] *22*	$(9/2^+)$		A	Jπ: Band assignment; J^π systematics.
1009.45[@] *14*	$15/2^+$		A	Jπ: 281.83γ M1(+E2) to the $13/2^+$ level, 366.6γ to the $11/2^+$ level; band assignment.
1037.2 *6*	(1/2,3/2)		B	Jπ: 841.5γ to $(3/2^-)$; direct feeding in ^{177}Os ε decay (J^π=1/2$^-$).
1052.88+x[l] *10*	$19/2^-$	1.66 ps *7*	A	Jπ: 247.76γ M1+E2 to the $17/2^-$ level; 482.99γ E2 to the $15/2^-$ level; band assignment.
1073.0 *11*	(1/2,3/2)		B	Jπ: 877.3γ to $(3/2^-)$; direct feeding in ^{177}Os ε decay (J^π=1/2$^-$).
1086.91[a] *19*	$13/2^+$		A	Jπ: 728.7γ to $9/2^+$; band assignment.
1151.01[&] *14*	$17/2^+$	4.6 ps *+10–6*	A	Jπ: 215.14γ M1+E2 to the $15/2^+$ level; 423.22γ E2 to the $13/2^+$ level; band assignment.
1197.33+x[k] *10*	$(15/2^-)$		A	Jπ: 234.16γ to $(13/2^-)$, 1033.75γ to $11/2^-$; band assignment.
1220.16[@] *14*	$17/2^+$		A	Jπ: 284.38γ M1(+E2) to the $15/2^+$ level, 404.54γ to the $13/2^+$ level; band assignment.
1223.12[c] *18*	$15/2^+$		A	Jπ: 975.02γ (E1) to the $13/2^-$ level; band assignment.
1232.3+x *4*			A	

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Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)†	Jπ‡#	$T_{1/2}$‡	XREF	Comments
1296.64[f] *19*	19/2⁻		A	Jπ: 415.96γ to 15/2⁻, 744.65γ M1(+E2) to 17/2⁻; band assignment.
1315.63+x[l] *11*	21/2⁻		A	Jπ: 262.71γ M1+E2 to the 19/2⁻ level; 510.48γ E2 to the 17/2⁻ level; band assignment.
1318.17[a] *16*	17/2⁺		A	Jπ: 231.26γ E2 to the 13/2⁺ level; 766.03γ (E1) to the 17/2⁻ level; band assignment.
1375.36[&] *14*	19/2⁺		A	Jπ: 224.36γ M1+E2 to the 17/2⁺ level; 439.41γ E2 to the 13/2⁺ level; band assignment.
1404.3 *5*	(1/2,3/2)		B	Jπ: 1208.6γ to (3/2⁻); direct feeding in ^{177}Os ε decay (J^π=1/2⁻).
1421.3 *4*	(1/2⁺,3/2)		B	Jπ: 1336.8γ to 5/2⁺; direct feeding in ^{177}Os ε decay (J^π=1/2⁻).
1442.28+x[n] *8*	15/2⁺	≤0.4 ns	A	Jπ: 872.37γ E1 to the 15/2⁻ level, 1086.4γ E1 to the (13/2⁻) level. configuration: K^π=15/2⁺: probable π^3(1/2[541],5/2[402],9/2[514]) or π9/2[514]⊗3⁻ (octupole phonon) configuration.
1446.95[@] *14*	19/2⁺		A	Jπ: 295.73γ M1(+E2) to the 17/2⁺ level, 437.48γ to the 15/2⁺ level; band assignment.
1461.09+x[k] *11*	(17/2⁻)		A	Jπ: 264.11γ to (15/2⁻), 497.87γ to (13/2⁻); band assignment.
1464.3 *5*	(1/2,3/2)		B	Jπ: 1268.6γ to (3/2⁻); direct feeding in ^{177}Os ε decay (J^π=1/2⁻).
1474.43[e] *18*	25/2⁻	0.69 ps *21*	A	Jπ: 508.91γ E2 to the 21/2⁻ level; band assignment.
1494.83[g] *24*	17/2⁻		A	Jπ: 1246.42γ to 13/2⁻; band assignment. configuration: At low spin it is associated with the $\pi1/2[541]\otimes\nu(i_{13/2})^2$ configuration; at high spin (after band mixing) it evolves to π1/2[541] (α=+1/2) configuration. The assignment is supported by the observed in-band properties. See 1995Ba67 for details.
1514.65[c] *17*	19/2⁺		A	Jπ: 291.54γ E2 to the 15/2⁺ level; 962.46γ E1 to the 17/2⁻ level; band assignment.
1567.11+x[o] *10*	17/2⁺		A	Jπ: 124.9γ M1+E2 to the 15/2⁺ level, 997.0γ E1 to the 15/2⁻ level; band assignment. configuration: K^π=17/2⁺: probable π^3(1/2[541],7/2[404],9/2[514]) or $\pi9/2[514]\otimes\nu^2$(1/2[521],7/2[633]) configuration. The assignment is supported by the observed in-band properties, such as alignment, g_K-g_R values, and systematics of similar structures in neighboring nuclei.
1582.43+x[l] *12*	23/2⁻	0.97 ps *+21−28*	A	Jπ: 266.71γ M1+E2 to the 21/2⁻ level, 529.61γ E2 to the 19/2⁻ level; band assignment.
1586.79+x[j] *12*	(17/2⁻)		A	Jπ: 389.35γ to (15/2⁻), 623.69γ to (13/2⁻); band assignment. configuration: K^π=15/2⁻: probable $\pi9/2[514]\otimes\nu^2$(1/2[521],5/2[512]) configuration.
1606.67[&] *15*	21/2⁺	<3.1 ps	A	Jπ: 231.26γ M1+E2 to the 19/2⁺ level, 455.62γ E2 to the 17/2⁺ level; band assignment.
1640.16[a] *15*	21/2⁺		A	Jπ: 264.88γ M1(+E2) to the 19/2⁺ level, 321.99γ E2 to the 17/2⁺ level; band assignment.
1676.11+x[o] *14*	19/2⁺		A	Jπ: 109.0γ M1+E2 to the 17/2⁺ level; band assignment.
1680.27[d] *18*	19/2⁺		A	Jπ: 1128.09γ (E1) to 17/2⁻; band assignment. configuration: Probable $\pi1/2[660]\otimes\nu(i_{13/2})^2$ configuration. The assignment is supported by the observed in-band properties.
1686.04[@] *15*	21/2⁺		A	Jπ: 310.32γ M1(+E2) to the 19/2⁺ level, 465.87γ to the 17/2⁺ level; band assignment.
1723.9+x? *4*	(19/2)		A	Jπ: From systematics. Assignment is tentative.
1744.0 *4*	(1/2⁻,3/2)		B	Jπ: 1743.9γ to 5/2⁻; direct feeding in ^{177}Os ε decay (J^π=1/2⁻).
1799.35[f] *19*	23/2⁻		A	Jπ: 502.88γ to 19/2⁻, 833.44γ to 21/2⁻; band assignment.
1806.68[b] *20*	(21/2⁺)		A	Jπ: 328.35γ from 25/2⁺; band assignment. configuration: Probable $\pi1/2[660]\otimes\nu(i_{13/2})^2$ configuration. The assignment is supported by the observed in-band properties. See

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Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)†	Jπ‡#	$T_{1/2}$‡	XREF	Comments
				1995Ba67 for details.
1817.67+x[o] *17*	21/2+		A	Jπ: 141.45γ M1+E2 to the 19/2+ level; band assignment.
1825.16+x[p] *17*	21/2+	≤0.5 ns	A	Jπ: 149.05γ M1 to the 19/2+ level; band assignment. configuration: $K^{\pi}=21/2^{+}$: configuration=$\pi 9/2[514]\otimes\nu^2(5/2[512],7/2[633])$. The assignment is supported by the observed in-band properties, such as alignment, g_K-g_R values, and systematics of similar structures in neighboring nuclei.
1829.42+x[j] *13*	(19/2−)		A	Jπ: 242.52γ to (17/2−); band assignment.
1848.00[&] *15*	23/2+		A	Jπ: 241.35γ to the 21/2+ level, 472.5γ E2 to the 19/2+ level; band assignment.
1851.01[g] *19*	21/2−		A	Jπ: 1298.82γ E2 to the 17/2− level; band assignment.
1859.45+x[l] *13*	25/2−		A	Jπ: 276.95γ M1+E2 to the 23/2− level, 543.85γ E2 to the 21/2− level; band assignment.
1885.83[c] *16*	23/2+		A	Jπ: 278.86γ to 21/2+, 510.77γ to 19/2+; band assignment.
1934.58[@] *15*	23/2+		A	Jπ: 248.24γ to 21/2+, 487.69γ to 19/2+; band assignment.
1952.9+x? *4*	(21/2)		A	Jπ: 229.00γ to (19/2). Assignment is tentative.
1959.86+x[q] *20*	23/2+	≤0.5 ns	A	Jπ: 134.7γ (M1) to the 21/2+ level; band assignment. configuration: $K^{\pi}=23/2^{+}$: configuration=$\pi 9/2[514]\otimes\nu^2(7/2[514],7/2[633])$. The assignment is supported by the observed in-band properties, such as alignment, g_K-g_R values, and systematics of similar structures in neighboring nuclei.
1965.04[d] *18*	23/2+		A	Jπ: 158.58γ to (21/2+), 284.79γ to 19/2+; band assignment.
1975.87+x[p] *20*	23/2+		A	Jπ: 150.7γ (M1+E2) to the 21/2+ level; band assignment.
1988.55+x[o] *19*	23/2+		A	Jπ: 170.82γ to 21/2+, 313.16γ to 19/2+; band assignment.
2021.15 *25*			A	
2031.74 *24*			A	
2039.93[a] *16*	25/2+		A	Jπ: 399.59γ E2 to the 21/2+ level; band assignment.
2040.45 *24*			A	
2048.44[i] *21*	(23/2)		A	Jπ: 1082.84γ D to (21/2).
2064.96[e] *20*	29/2−	<0.6 ps	A	Jπ: 590.45γ E2 to the 25/2− level; band assignment.
2069.43 *24*			A	
2074.49+x[j] *17*	(21/2−)		A	Jπ: 245.07γ to (19/2−); band assignment.
2080.55 *23*			A	
2092.29+x[q] *23*	25/2+		A	Jπ: 132.43γ M1+E2 to the 23/2+ level; band assignment.
2105.52[&] *16*	25/2+		A	Jπ: 498.9γ E2 to the 21/2+ level; band assignment.
2135.13[b] *17*	25/2+		A	Jπ: 495.17γ E2 to the 21/2+ level; band assignment.
2138.80+x[l] *14*	27/2−	<0.76 ps	A	Jπ: 279.35γ M1+E2 to the 25/2− level, 556.4γ E2 to the 23/2− level; band assignment.
2155.96+x[p] *22*	25/2+		A	Jπ: 180.19γ M1+E2 to the 23/2+ level; band assignment.
2179.9+x? *4*	(23/2)		A	Jπ: 227.08γ to (21/2).
2184.61+x[o] *20*	25/2+		A	Jπ: 196.10γ to 23/2+, 366.80γ to 21/2+; band assignment.
2191.74[@] *16*	25/2+		A	Jπ: 257.05γ to 23/2+, 505.84γ to 21/2+; band assignment.
2214.46 *23*			A	
2215.04[g] *19*	25/2−		A	Jπ: 1249.38γ (E2) to the 21/2− level; band assignment.
2252.6 *4*			A	
2273.64+x[q] *24*	27/2+		A	Jπ: 181.31γ M1+E2 to the 25/2+ level; band assignment.
2304.95[c] *16*	27/2+		A	Jπ: 419.18γ E2 to the 23/2+ level; band assignment.
2309.79[h] *20*			A	
2331.21+x[j] *20*	(23/2−)		A	Jπ: 256.43γ to (21/2−); band assignment.
2337.31[d] *17*	27/2+		A	Jπ: 202.2γ to the 25/2+ level, 372.36γ E2 to the 23/2+ level; band assignment.
2367.06+x[p] *22*	27/2+		A	Jπ: 211.33γ to 25/2+, 391.01γ to 23/2+; band assignment.
2374.90[f] *20*	27/2−		A	Jπ: 575.59γ to 23/2−, 900.64γ M1(+E2) to 25/2−; band assignment.
2381.21[&] *17*	(27/2+)		A	Jπ: 275.58γ to 25/2+, 533.17γ to 23/2+; band assignment.
2406.12+x[o] *21*	27/2+		A	Jπ: 221.50γ to 25/2+, 417.62γ to 23/2+; band assignment.

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Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
2407.9+x? *3*	(25/2)	A	Jπ: 228.00γ to (23/2), 455.0γ to (21/2).
2428.36+x[l] *14*	29/2⁻	A	Jπ: 289.45γ M1+E2 to the 27/2⁻ level, 568.87γ E2 to the 25/2⁻ level; band assignment.
2462.71[@] *17*	27/2⁺	A	Jπ: 270.95γ to 25/2⁺, 528.10γ to 23/2⁺; band assignment.
2489.65+x[q] *25*	29/2⁺	A	Jπ: 216.14γ to 27/2⁺, 397.07γ to 25/2⁺; band assignment.
2489.68[a] *17*	29/2⁺	A	Jπ: 449.6γ E2 to the 25/2⁺ level; band assignment.
2559.74 *24*	(27/2)	A	Jπ: 1085.31γ D to (25/2).
2564.25[i] *25*	(27/2)	A	Jπ: 515.79γ to (23/2), 1090.2γ D to 25/2⁻; band assignment.
2570.70[b] *17*	29/2⁺	A	Jπ: 435.73γ E2 to the 25/2⁺ level; band assignment.
2572.93[g] *19*	29/2⁻	A	Jπ: 357.82γ to the 25/2⁻ level; band assignment.
2578.47 *25*	(27/2)	A	Jπ: 1104.04γ to 25/2⁻.
2603.79+x[j] *21*	(25/2⁻)	A	Jπ: 272.24γ to (23/2⁻), 529.98γ to (21/2⁻); band assignment.
2604.62+x[p] *23*	29/2⁺	A	Jπ: 237.65γ to 27/2⁺, 448.41γ to 25/2⁺; band assignment.
2626.9+x? *3*	(27/2)	A	Jπ: 219.02γ to (25/2).
2643.03[&] *18*	(29/2⁺)	A	Jπ: 261.32γ to (27/2⁺), 537.64γ to 25/2⁺; band assignment.
2648.24+x[o] *22*	29/2⁺	A	Jπ: 242.09γ to 27/2⁺, 463.61γ to 25/2⁺; band assignment.
2720.73[e] *21*	33/2⁻	A	Jπ: 655.75γ E2 to the 29/2⁻ level; band assignment.
2722.64+x[l] *15*	31/2⁻	A	Jπ: 294.07γ (M1+E2) to the 29/2⁻ level, 583.98γ E2 to the 27/2⁻ level; band assignment.
2726.14 *24*		A	Jπ: 661.18γ to 29/2⁻.
2734.00+x[q] *25*	31/2⁺	A	Jπ: 244.38γ M1+E2 to the 29/2⁺ level, 460.32γ to the 27/2⁺ level; band assignment.
2748.82[@] *19*	29/2⁺	A	Jπ: 367.9γ to (27/2⁺), 557.11γ to 25/2⁺; band assignment.
2780.19[h] *21*		A	
2783.11[c] *18*	31/2⁺	A	Jπ: 478.19γ E2 to the 27/2⁺ level; band assignment.
2809.52[d] *18*	31/2⁺	A	Jπ: 504.65γ E2 to the 27/2⁺ level; band assignment.
2863.04+x[r] *25*	(29/2⁺)	A	Jπ: 770.97γ (E2) to 25/2⁺, 589.18γ to 27/2⁺; configuration assignment. configuration: K^{π}=(29/2⁺): probable configuration= π^3(5/2[402],7/2[404],9/2[514])⊗ν^2(1/2[521],7/2[633]). The assignment is supported by the observed in-band properties, such as alignment, g_K-g_R values, and systematics of similar structures in neighboring nuclei.
2864.96+x[p] *23*	31/2⁺	A	Jπ: 260.20γ to 29/2⁺, 497.96γ to 27/2⁺; band assignment.
2913.39+x[o] *23*	31/2⁺	A	Jπ: 265.14γ to 29/2⁺, 507.33γ to 27/2⁺; band assignment.
2942.41[&] *19*	(31/2⁺)	A	Jπ: 299.29γ to (29/2⁺), 561.28γ to (27/2⁺); band assignment.
2955.9 *3*	(31/2⁺)	A	Jπ: 574.66γ E2 to the (27/2⁺) level.
2990.24[a] *18*	33/2⁺	A	Jπ: 500.55γ E2 to the 29/2⁺ level; band assignment.
2993.14[g] *20*	33/2⁻	A	Jπ: 928.17γ E2 to the 29/2⁻ level; band assignment.
3001.45[f] *22*	31/2⁻	A	Jπ: 626.68γ to the 27/2⁻ level, 938.6γ M1(+E2) to the 29/2⁻ level; band assignment.
3002.7+x[q] *3*	33/2⁺	A	Jπ: 268.69γ M1+E2 to the 31/2⁺ level, 513.04γ to the 29/2⁺ level; band assignment.
3017.43+x[l] *16*	33/2⁻	A	Jπ: 294.8γ (M1+E2) to 31/2⁻, 589.14γ to 29/2⁻; band assignment.
3041.11[@] *19*	31/2⁺	A	Jπ: 292.34γ to 29/2⁺, 578.36γ to 27/2⁺; band assignment.
3057.43+x[m] *18*	33/2⁻	A	Jπ: 629.09γ E2 to the 29/2⁻ level; band assignment. configuration: π9/2[514]⊗0⁺, where a pair of protons occupies the π1/2[541] ($h_{9/2}$) orbital. See 1995Ba67 for details.
3080.5 *11*		A	
3085.8+x[r] *3*	(31/2⁺)	A	Jπ: 222.8γ to (29/2⁺); band assignment.
3094.43[b] *18*	33/2⁺	A	Jπ: 523.84γ E2 to the 29/2⁺ level; band assignment.
3123.8 *3*	(29/2,31/2)	A	Jπ: 1085.85γ D to 29/2⁻.
3144.87+x[p] *24*	33/2⁺	A	Jπ: 279.80γ to 31/2⁺, 540.36γ to 29/2⁺; band assignment.
3182.0 *11*		A	
3187.33[&] *20*	33/2⁺	A	Jπ: 244.96γ to 31/2⁺, 544.24γ to 29/2⁺; band assignment.
3198.15+x[o] *25*	33/2⁺	A	Jπ: 284.79γ to 31/2⁺, 549.7γ to 29/2⁺; band assignment.
3208.71 *21*	(33/2⁺)	A	Jπ: 565.68γ to (29/2⁺).
3251.90+x[l] *17*	35/2⁻	A	Jπ: 234.41γ M1+E2 to the 33/2⁻ level, 529.13γ to the 31/2⁻ level; band assignment.

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Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)†	Jπ‡#	$T_{1/2}$‡	XREF	Comments
3291.8+x[q] 3	35/2+		A	Jπ: 288.98γ to 33/2+, 557.77γ to 31/2+; band assignment.
3306.05[h] 24			A	
3316.3+x[r] 3	(33/2+)		A	Jπ: 230.44γ to (31/2+), 453.0γ to (29/2+); band assignment.
3327.53[c] 19	35/2+		A	Jπ: 337.22γ M1(+E2) to the 33/2+ level, 544.46γ E2 to the 31/2+ level; band assignment.
3343.88 22	(33/2+)		A	Jπ: 595.06γ to 29/2+.
3349.49[@] 22	(33/2+)		A	Jπ: 600.67γ to 29/2+; band assignment.
3355.97[d] 21	(35/2+)		A	Jπ: 546.5γ E2 to the (31/2+) level; band assignment.
3356.08+x[m] 21	35/2−		A	Jπ: 298.83γ M1+E2 to the 33/2− level, 633.5γ E2 to the 31/2− level; band assignment.
3398.77[e] 22	37/2−		A	Jπ: 678.12γ E2 to the 33/2− level; band assignment.
3439.9+x[p] 3	(35/2+)		A	Jπ: 574.90γ to 31/2+; band assignment.
3468.84[&] 21	35/2+		A	Jπ: 281.51γ to 33/2+, 526.43γ to 31/2+; band assignment.
3498.68+x[l] 17	37/2−		A	Jπ: 246.7γ M1+E2 to the 35/2− level, 481.5γ to the 33/2− level; band assignment.
3526.44[g] 21	37/2−		A	Jπ: 805.8γ E2 to the 33/2− level; band assignment.
3565.28[a] 20	37/2+		A	Jπ: 575.05γ E2 to the 33/2+ level; band assignment.
3572.5+x[r] 3	(35/2+)		A	Jπ: 256.29γ to (33/2+); band assignment.
3584.8[f] 3	(35/2−)		A	Jπ: 583.93γ to 31/2−; band assignment.
3599.4+x[q] 3	37/2+		A	Jπ: 307.57γ to 35/2+, 596.83γ to 33/2+; band assignment.
3660.58[b] 20	37/2+		A	Jπ: 566.13γ E2 to the 33/2+ level; band assignment.
3685.69+x[m] 20	37/2−		A	Jπ: 329.83γ to the 35/2− level, 627.7γ to the 33/2− level; band assignment.
3747.2+x[p] 3	(37/2+)		A	Jπ: 602.36γ to 33/2+; band assignment.
3766.74+x[l] 18	39/2−		A	Jπ: 268.15γ to 35/2−, 514.78γ to 33/2−; band assignment.
3848.4+x[r] 3	(37/2+)		A	Jπ: 275.81γ to (35/2+); band assignment.
3883.8[h] 3			A	
3903.8+x[s] 8	(37/2)		A	Jπ: 331.5γ to (35/2+); Jπ systematics. The proposed in 1995Ba67 configuration implies K^{π}=37/2−, thus 587.3γ to (33/2+) requires Mult=M2 and, hence, a longer lifetime associated with this level. configuration: K^{π}=(37/2−): π^3(1/2[541],7/2[404],9/2[514])⊗ν^4(1/2[521],5/2[512],7/2[514], 7/2[633]). The assignment is tentative.
3922.5+x[q] 3	39/2+		A	Jπ: 323.19γ to 37/2+, 630.67γ to 35/2+; band assignment.
3941.08[c] 22	39/2+		A	Jπ: 376.0γ M1(+E2) to the 37/2+ level, 613.55γ E2 to the 35/2+ level; band assignment.
3969.29[d] 24	39/2+		A	Jπ: 613.32γ E2 to the 35/2+ level; band assignment.
4017.79[e] 23	41/2−		A	Jπ: 619.1γ E2 to the 37/2− level; band assignment.
4024.82+x[m] 24	39/2−		A	Jπ: 668.75γ E2 to the 35/2− level; band assignment.
4063.64+x[l] 19	41/2−		A	Jπ: 296.94γ M1+E2 to the 39/2− level, 564.91γ to the 37/2− level; band assignment.
4066.6+x[p] 3	(39/2+)		A	Jπ: 626.74γ to (35/2+); band assignment.
4117.0 3			A	
4141.0+x[r] 4	(39/2+)		A	Jπ: 292.60γ to (37/2+); band assignment.
4163.1+x[s] 8	(39/2)		A	Jπ: 259.35γ to (37/2); band assignment.
4169.70[f] 25	(39/2−)		A	Jπ: 584.0γ to (35/2−); band assignment.
4213.62[a] 21	41/2+		A	Jπ: 648.36γ E2 to the 37/2+ level; band assignment.
4248.95[g] 23	(41/2−)		A	Jπ: 722.56γ to 37/2−; band assignment.
4258.8+x[q] 3	41/2+		A	Jπ: 336.60γ to 39/2+, 659.33γ to 37/2+; band assignment.
4267.45[b] 21	41/2+		A	Jπ: 606.86γ E2 to the 37/2+ level; band assignment.
4377.08+x[l] 19	43/2−		A	Jπ: 313.36γ to 41/2−, 610.35γ to 39/2−; band assignment.
4381.8+x[m] 3	41/2−		A	Jπ: 358.6γ to 39/2−, 696.02γ to 37/2−; band assignment.
4391.5+x[p] 3	(41/2+)		A	Jπ: 644.25γ to (37/2+); band assignment.
4449.0+x[r] 4	(41/2+)		A	Jπ: 307.97γ to (39/2+), 600.7γ to (37/2+); band assignment.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)[†]	J$^{\pi}$[‡#]	T$_{1/2}$[‡]	XREF	Comments
4457.9+x[t] 8	(41/2)	<1 ns	A	J$^{\pi}$: 294.79γ to (39/2); band assignment. configuration: K^{π}=(41/2$^+$): π^3(5/2[402],7/2[404],9/2[514])⊗ν^4(1/2[521],5/2[512],7/2[514], 7/2[633]). The assignment is tentative.
4522.7[h] 3			A	
4607.2+x[q] 3	43/2$^+$		A	J$^{\pi}$: 348.20γ to 41/2$^+$, 684.60γ to 39/2$^+$; band assignment.
4613.73[c] 25	43/2$^+$		A	J$^{\pi}$: 672.64γ E2 to the 39/2$^+$ level; band assignment.
4646.4[d] 3	(43/2$^+$)		A	J$^{\pi}$: 677.06γ to 39/2$^+$; band assignment.
4675.65[e] 25	45/2$^-$		A	J$^{\pi}$: 657.86γ E2 to the 41/2$^-$ level; band assignment.
4703.1 3			A	
4722.42+x[l] 20	45/2$^-$		A	J$^{\pi}$: 345.24γ to 43/2$^-$, 658.86γ to 41/2$^-$; band assignment.
4736.6+x[p] 4	(43/2$^+$)		A	J$^{\pi}$: 669.98γ to (39/2$^+$); band assignment.
4748.1+x[m] 3	(43/2$^-$)		A	J$^{\pi}$: 723.30γ to (39/2$^-$); band assignment.
4771.0+x[r] 4	(43/2$^+$)		A	J$^{\pi}$: 322.0γ to (41/2$^+$), 630.3γ to (39/2$^+$); band assignment.
4781.9+x[t] 8	(43/2)		A	J$^{\pi}$: 323.97γ to (41/2); band assignment.
4915.09[b] 22	45/2$^+$		A	J$^{\pi}$: 647.8γ E2 to the 41/2$^+$ level; band assignment.
4932.86[a] 22	45/2$^+$		A	J$^{\pi}$: 719.5γ E2 to the 41/2$^+$ level; band assignment.
4964.0+x[q] 3	45/2$^+$		A	J$^{\pi}$: 357.05γ to 43/2$^+$, 705.43γ to 41/2$^+$; band assignment.
5051.7[g] 3	(45/2$^-$)		A	J$^{\pi}$: 802.78γ to the (41/2$^-$); band assignment.
5071.70+x[l] 21	47/2$^-$		A	J$^{\pi}$: 349.32γ to 45/2$^-$, 694.63γ to 43/2$^-$; band assignment.
5073.3+x[p] 4	(45/2$^+$)		A	J$^{\pi}$: 681.79γ to the (41/2$^+$); band assignment.
5106.6+x[r] 4	(45/2$^+$)		A	J$^{\pi}$: 335.57γ to (43/2$^+$), 658.0γ to (41/2$^+$); band assignment.
5116.8+x[m] 11	(45/2$^-$)		A	J$^{\pi}$: 735.0γ to the 41/2$^-$; band assignment.
5120.5+x[t] 8	(45/2)		A	J$^{\pi}$: 338.59γ to (43/2), 662.6γ to (41/2); band assignment.
5332.4+x[q] 3	47/2$^+$		A	J$^{\pi}$: 368.91γ to 45/2$^+$, 724.63γ to 43/2$^+$; band assignment.
5341.1[c] 3	47/2$^+$		A	J$^{\pi}$: 727.42γ E2 to the 43/2$^+$ level; band assignment.
5375.7[d] 3	(47/2$^+$)		A	J$^{\pi}$: 729.36γ to (43/2$^+$); band assignment.
5400.8[e] 3	(49/2$^-$)		A	J$^{\pi}$: 725.20γ to 45/2$^-$; band assignment.
5457.0+x[r] 4	(47/2$^+$)		A	J$^{\pi}$: 350.34γ to (45/2$^+$), 686.2γ to (43/2$^+$); band assignment.
5460.96+x[l] 22	49/2$^-$		A	J$^{\pi}$: 389.0γ to 47/2$^-$, 738.48γ to 45/2$^-$; band assignment.
5472.1+x[t] 8	(47/2)		A	J$^{\pi}$: 351.64γ to (45/2); band assignment.
5523.6+x[m] 4	(47/2$^-$)		A	J$^{\pi}$: 775.5γ to the (43/2$^-$); band assignment.
5617.55[b] 25	(49/2$^+$)		A	J$^{\pi}$: 702.46γ to the 45/2$^+$; band assignment.
5703.7[a] 3	(49/2$^+$)		A	J$^{\pi}$: 770.85γ to the 45/2$^+$; band assignment.
5709.7+x[q] 4	(49/2$^+$)		A	J$^{\pi}$: 745.74γ to the 45/2$^+$; band assignment.
5819.6+x[r] 11	(49/2$^+$)		A	J$^{\pi}$: 362γ to (47/2$^+$), 713.0γ to (45/2$^+$); band assignment.
5835.7+x[t] 9	(49/2)		A	J$^{\pi}$: 363.6γ to (47/2); band assignment.
5835.74+x[l] 23	51/2$^-$		A	J$^{\pi}$: 374.75γ to 49/2$^-$, 764.13γ to 47/2$^-$; band assignment.
5890.2[g] 3	(49/2$^-$)		A	J$^{\pi}$: 838.52γ to the (45/2$^-$); band assignment.
6121.7[c] 4	(51/2$^+$)		A	J$^{\pi}$: 780.60γ to the 47/2$^+$; band assignment.
6138.4[d] 4	(51/2$^+$)		A	J$^{\pi}$: 762.64γ to the (47/2$^+$); band assignment.
6188.8[e] 3	(53/2$^-$)		A	J$^{\pi}$: 787.94g to the (49/2$^-$); band assignment.
6198.9+x[r] 11	(51/2$^+$)		A	J$^{\pi}$: 741.9γ to the (47/2$^+$); band assignment.
6210.9+x[t] 9	(51/2)		A	J$^{\pi}$: 375.12γ to (49/2); band assignment.
6260.07+x[l] 25	53/2$^-$		A	J$^{\pi}$: 423.9γ to 51/2$^-$, 799.03γ to 49/2$^-$; band assignment.
6367.8[b] 3	(53/2$^+$)		A	J$^{\pi}$: 750.24γ to the (49/2$^+$); band assignment.
6547.6[a] 4	(53/2$^+$)		A	J$^{\pi}$: 843.9γ to the (49/2$^+$); band assignment.
6598.1+x[t] 9	(53/2)		A	J$^{\pi}$: 387.24γ to (51/2); band assignment.
6646.5+x[l] 3	(55/2$^-$)		A	J$^{\pi}$: 386.28γ to 53/2$^-$, 811.04γ to 51/2$^-$; band assignment.
6756.5[g] 4	(53/2$^-$)		A	J$^{\pi}$: 866.21γ to the (49/2$^-$); band assignment.
6951.2[c] 5	(55/2$^+$)		A	J$^{\pi}$: 829.4γ to the (51/2$^+$); band assignment.

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Adopted Levels, Gammas (continued)

^{177}Re Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
7031.7[e] 4	(57/2⁻)	A	Jπ: 842.93γ to the (53/2⁻); band assignment.
7167.8[b] 4	(57/2⁺)	A	Jπ: 800.0γ to the (53/2⁺); band assignment.
7922.7[e] 4	(61/2⁻)	A	Jπ: 890.94γ to the (57/2⁻); band assignment.
8017.4[b] 6	(61/2⁺)	A	Jπ: 849.6γ to the (57/2⁺); band assignment.
8856.7[e] 11	(65/2⁻)	A	Jπ: 934.0γ to the (61/2⁻); band assignment.
8915.4[b] 7	(65/2⁺)	A	Jπ: 898.0γ to the (61/2⁺); band assignment.
9849.0[b] 10	(69/2⁺)	A	Jπ: 933.6γ to the (65/2⁺); band assignment.
10824.2[b] 11	(73/2⁺)	A	Jπ: 975.2γ to the (69/2⁺); band assignment.

[†] From a least-squares fit to the γ ray energies.
[‡] From (HI,xnγ), unless otherwise stated. The half-lives for the high-spin levels were measured using recoil-distance method (2002Ch43).
[#] Based on the deduced γ-ray transition multipolarities using the measured angular distributions and DCO ratios, total electron conversion coefficients, deduced from intensity balance consideration, the apparent band structures with both cascade (ΔJ=1) and crossover (ΔJ=2) transitions, level de-excitation pattern and preferable population of yrast states in (HI,xnγ) reactions.
[@] Band(a): $K^\pi=7/2^+$: $\pi7/2[404]$ ($g_{7/2}$) band.
[&] Band(b): $K^\pi=5/2^+$: $\pi5/2[402]$ ($d_{5/2}$) band.
[a] Band(c): Low-K band ($\alpha=+1/2$).
[b] Band(d): Low-K band ($\alpha=+1/2$). Probable $\pi1/2[660]\otimes\nu(i_{13/2})^2$ configuration.
[c] Band(e): Low-K band ($\alpha=-1/2$).
[d] Band(f): Low-K band ($\alpha=-1/2$). Probable $\pi1/2[660]\otimes\nu(i_{13/2})^2$ configuration.
[e] Band(g): $K^\pi=1/2^-$: $\pi1/2[541]$ ($h_{9/2}$) ($\alpha=+1/2$) band.
[f] Band(h): $K^\pi=1/2^-$: $\pi1/2[541]$ ($h_{9/2}$) ($\alpha=-1/2$) band.
[g] Band(i): Low-K band ($\alpha=+1/2$). At low spin it is associated with the $\pi1/2[541]\otimes\nu(i_{13/2})^2$ configuration; at high spin (after band mixing) it evolves to $\pi1/2[541]$ ($h_{9/2}$) ($\alpha=+1/2$) configuration.
[h] Band(j): Low-K band at 2310 keV.
[i] Band(k): Low-K band at 2049 keV.
[j] Band(B): $K^\pi=15/2^-$: probable $\pi9/2[514]\otimes\nu^2(1/2[521],5/2[512])$ configuration.
[k] Band(D): $K^\pi=(13/2^-)$: $\pi9/2[514]\otimes2^+$ (β or γ vibration).
[l] Band(G): $K^\pi=9/2^-$: $\pi9/2[514]$ ($h_{11/2}$) band.
[m] Band(I): $\pi9/2[514]\otimes0^+$, where a pair of protons occupies the $\pi1/2[541]$ ($h_{9/2}$) orbital.
[n] Band(A): $K^\pi=15/2^+$: probable $\pi^3(1/2[541],5/2[402],9/2[514])$ or $\pi9/2[514]\otimes3^-$ (octupole phonon) configuration.
[o] Band(C): $K^\pi=17/2^+$: probable $\pi^3(1/2[541],7/2[404],9/2[514])$ or $\pi9/2[514]\otimes\nu^2(1/2[521],7/2[633])$ configuration.
[p] Band(J): $K^\pi=21/2^+$: configuration=$\pi9/2[514]\otimes\nu^2(5/2[512],7/2[633])$.
[q] Band(F): $K^\pi=23/2^+$: configuration=$\pi9/2[514]\otimes\nu^2(7/2[514],7/2[633])$.
[r] Band(E): $K^\pi=(29/2^+)$: probable configuration= $\pi^3(5/2[402],7/2[404],9/2[514])\otimes\nu^2(1/2[521],7/2[633])$.
[s] Band(K): $K^\pi=(37/2)$: probable configuration= $\pi^3(1/2[541],7/2[404],9/2[514])\otimes\nu^4(1/2[521],5/2[512],7/2[514],\ 7/2[633])$. The assignment is tentative.
[t] Band(H): $K^\pi=(41/2)$: probable configuration= $\pi^3(5/2[402],7/2[404],9/2[514])\otimes\nu^4(1/2[521],5/2[512],7/2[514],\ 7/2[633])$. The assignment is tentative.

Adopted Levels, Gammas (continued)

$\gamma(^{177}Re)$

Mixing ratios values in the Comments section were deduced from the branching ratios and the rotational model, and by assuming pure K. The sign of δ was determined from $\gamma(\theta)$ and it is assumed that it does not change within a given band.

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
38.64	(1/2$^-$)	38.6[#] *3*	100[#]	0.0	5/2$^-$	(E2)		322 *14*	α(L)=244 *11*; α(M)=62 *3* α(N)=14.6 *6*; α(O)=2.05 *9*; α(P)=0.00154 *6* Mult.: α(exp)>19 from intensity balance considerations in ^{177}Os ε decay.
63.50	9/2$^-$	63.5 *10*	100	0.0	5/2$^-$	E2		28.4 *23*	α(L)=21.4 *18*; α(M)=5.4 *5* α(N)=1.29 *11*; α(O)=0.183 *15*; α(P)=0.000241 *12* Mult.: α(exp)=23 *7* from intensity balance considerations in (HI,xnγ) (1995Ba67).
84.70	5/2$^+$	84.7 *1*	100	0.0	5/2$^-$	[E1]		0.585	α(K)=0.472 *7*; α(L)=0.0873 *13*; α(M)=0.0201 *3* α(N)=0.00476 *7*; α(O)=0.000737 *11*; α(P)=3.54×10^{-5} *5* B(E1)(W.u.)=4.5×10^{-9} *9*
163.65+x	11/2$^-$	163.72 *10*	100	0.0+x	9/2$^-$	M1+E2	+0.21 *3*	1.244 *20*	α(K)=1.020 *18*; α(L)=0.172 *3*; α(M)=0.0397 *7* α(N)=0.00961 *16*; α(O)=0.001599 *25*; α(P)=0.0001108 *20* Mult.: DCO=0.72 *4* (1995Ba67); DCO=1.05 *11* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). A_2=0.08 *1*, A_4=−0.01 *2* (1986Wa32); A_2=0.097 *26*, A_4=−0.025 *27* (1972Le04).
195.73	(3/2$^-$)	157.2[#] *2*	32[#]	38.64	(1/2$^-$)	[M1+E2]		1.424 *21*	α(K)=1.180 *17*; α(L)=0.189 *3*; α(M)=0.0432 *7* α(N)=0.01047 *16*; α(O)=0.00176 *3*; α(P)=0.0001286 *19*
		195.8[#] *2*	100[#]	0.0	5/2$^-$	[M1+E2]		0.770	α(K)=0.638 *10*; α(L)=0.1017 *15*; α(M)=0.0232 *4* α(N)=0.00564 *8*; α(O)=0.000947 *14*; α(P)=6.93×10^{-5} *10*
207.42	7/2$^+$	122.87 *10*	100	84.70	5/2$^+$	M1+E2	+0.19 *9*	2.83 *6*	α(K)=2.31 *8*; α(L)=0.401 *23*; α(M)=0.093 *6* α(N)=0.0224 *15*; α(O)=0.00371 *19*; α(P)=0.000252 *9* Mult.: DCO=0.63 *4* (1995Ba67). A_2=0.01 *3*, A_4=0.03 *3* (1986Wa32); A_2=0.036 *61*, A_4=−0.056 *63* (1972Le04).
248.10	13/2$^-$	184.60 *10*	100	63.50	9/2$^-$	E2		0.420	α(K)=0.209 *3*; α(L)=0.1599 *23*; α(M)=0.0401 *6* α(N)=0.00957 *14*; α(O)=0.001394 *20*; α(P)=1.78×10^{-5} *3* Mult.: α(exp) deduced from intensity balance considerations is consistent with the proposed assignment (1995Ba67). A_2=0.27 *2*, A_4=−0.07 *2* (1986Wa32); A_2=0.352 *24*, A_4=−0.115 *26* (1972Le04).
355.98+x	13/2$^-$	192.48 *10*	100 *4*	163.65+x	11/2$^-$	M1+E2	+0.23 *4*	0.785 *14*	α(K)=0.645 *13*; α(L)=0.1081 *16*; α(M)=0.0248 *4* α(N)=0.00602 *10*; α(O)=0.001002 *15*; α(P)=6.99×10^{-5} *14* Mult.: DCO=0.69 *4* (1995Ba67); A_2=0.10 *2*, A_4=0.00 *2* (1986Wa32); A_2=0.099 *17*, A_4=−0.009 *19* (1972Le04). δ: Other: +0.21 *1*, assuming K=9/2.
		355.87 *10*	14.7 *9*	0.0+x	9/2$^-$	E2		0.0537	α(K)=0.0375 *6*; α(L)=0.01234 *18*; α(M)=0.00300 *5*

$^{177}_{75}Re_{102}$-9

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
									α(N)=0.000720 *11*; α(O)=0.0001098 *16*; α(P)=3.59×10^{-6} *5* Mult.: DCO=2.0 *9* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67).
358.20	9/2$^+$	151.04 *10*	100 *5*	207.42	7/2$^+$	M1+E2	+0.19 *5*	1.57 *3*	α(K)=1.29 *3*; α(L)=0.217 *5*; α(M)=0.0500 *12* α(N)=0.0121 *3*; α(O)=0.00202 *4*; α(P)=0.000140 *3* B(M1)(W.u.)=0.073 *4*; B(E2)(W.u.)=50 *30* Mult.: DCO=0.69 *4* (1995Ba67). A_2=0.03 *2*, A_4=0.03 *2* (1986Wa32); A_2=0.031 *29*, A_4=−0.005 *29* (1972Le04). δ: Other: +0.18 *1* assuming K=5/2.
		273.45 *10*	19.8 *16*	84.70	5/2$^+$	[E2]		0.1166	α(K)=0.0739 *11*; α(L)=0.0325 *5*; α(M)=0.00803 *12* α(N)=0.00192 *3*; α(O)=0.000287 *4*; α(P)=6.78×10^{-6} *10* B(E2)(W.u.)=14.7 *16*
361.00	7/2$^+$	276.18 *11*	100	84.70	5/2$^+$	M1(+E2)		0.298	α(K)=0.248 *4*; α(L)=0.0392 *6*; α(M)=0.00894 *13* α(N)=0.00217 *3*; α(O)=0.000365 *6*; α(P)=2.68×10^{-5} *4* Mult.: DCO=0.63 *19* (1995Ba67).
490.35	9/2$^+$	129.5 *3*	8 *3*	361.00	7/2$^+$	[M1+E2]		2.47	α(K)=2.04 *4*; α(L)=0.328 *5*; α(M)=0.0750 *12* α(N)=0.0182 *3*; α(O)=0.00305 *5*; α(P)=0.000223 *4*
		283.00 *11*	100 *32*	207.42	7/2$^+$	M1(+E2)		0.279	α(K)=0.232 *4*; α(L)=0.0366 *6*; α(M)=0.00836 *12* α(N)=0.00203 *3*; α(O)=0.000341 *5*; α(P)=2.50×10^{-5} *4* Mult.: DCO=0.62 *7* (1995Ba67).
495.73	(1/2$^+$)	300.2[#] *2*	100[#]	195.73	(3/2$^-$)	[E1]		0.0236	α(K)=0.0197 *3*; α(L)=0.00306 *5*; α(M)=0.000696 *10* α(N)=0.0001673 *24*; α(O)=2.73×10^{-5} *4*; α(P)=1.737×10^{-6} *25*
		411.0[#] *2*	56[#]	84.70	5/2$^+$	[E2]		0.0362	α(K)=0.0263 *4*; α(L)=0.00755 *11*; α(M)=0.00182 *3* α(N)=0.000437 *7*; α(O)=6.76×10^{-5} *10*; α(P)=2.56×10^{-6} *4*
		457.0[#] *2*	73[#]	38.64	(1/2$^-$)	[E1]		0.00897	α(K)=0.00751 *11*; α(L)=0.001132 *16*; α(M)=0.000257 *4* α(N)=6.18×10^{-5} *9*; α(O)=1.021×10^{-5} *15*; α(P)=6.87×10^{-7} *10*
534.28	11/2$^+$	176.18 *10*	100 *4*	358.20	9/2$^+$	M1+E2	+0.11 *5*	1.027 *16*	α(K)=0.849 *15*; α(L)=0.1375 *21*; α(M)=0.0315 *5* α(N)=0.00763 *12*; α(O)=0.001279 *19*; α(P)=9.23×10^{-5} *17* Mult.: DCO=0.71 *4* (1995Ba67). A_2=−0.06 *3*, A_4=0.00 *4* (1986Wa32); A_2=0.106 *53*, A_4=−0.159 *58* (1972Le04). δ: Other: 0.16 *1* assuming K=5/2.
		326.68 *10*	41.0 *21*	207.42	7/2$^+$	E2		0.0686	α(K)=0.0466 *7*; α(L)=0.01674 *24*; α(M)=0.00409 *6* α(N)=0.000980 *14*; α(O)=0.0001486 *21*; α(P)=4.40×10^{-6} *7* Mult.: DCO=0.95 *6* (1995Ba67). A_2=0.24 *4*, A_4=−0.07 *4* (1986Wa32).
552.21	17/2$^-$	304.17 *10*	100	248.10	13/2$^-$	E2		0.0846	α(K)=0.0560 *8*; α(L)=0.0217 *3*; α(M)=0.00534 *8* α(N)=0.001278 *18*; α(O)=0.000193 *3*; α(P)=5.23×10^{-6} *8* B(E2)(W.u.)=241 *11* Mult.: DCO=1.04 *4* (1995Ba67); A_2=0.29 *4*, A_4=−0.08 *4* (1986Wa32); A_2=0.367 *29*, A_4=−0.124 *34* (1972Le04).
561.34	11/2$^-$	497.86 *23*	100	63.50	9/2$^-$	[M1]		0.0619	α(K)=0.0515 *8*; α(L)=0.00802 *12*; α(M)=0.00183 *3* α(N)=0.000443 *7*; α(O)=7.46×10^{-5} *11*; α(P)=5.51×10^{-6} *8*

$^{177}_{75}Re_{102}$-10

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
569.89+x	15/2$^-$	213.87 *10*	100 *4*	355.98+x	13/2$^-$	M1+E2		0.602	α(K)=0.499 *7*; α(L)=0.0795 *12*; α(M)=0.0182 *3* α(N)=0.00440 *7*; α(O)=0.000740 *11*; α(P)=5.42×10^{-5} *8* Mult.: DCO=0.67 *4* (1995Ba67); A_2=0.038 *40*, A_4=0.060 *42* (1972Le04). δ: +0.21 *1* assuming K=9/2.
		406.13 *10*	32.9 *14*	163.65+x	11/2$^-$	E2		0.0374	α(K)=0.0271 *4*; α(L)=0.00786 *11*; α(M)=0.00190 *3* α(N)=0.000455 *7*; α(O)=7.03×10^{-5} *10*; α(P)=2.63×10^{-6} *4* B(E2)(W.u.)=28 *+4−3* Mult.: DCO=0.98 *10* (1995Ba67); A_2=0.25 *2*, A_4=−0.05 *2* (1986Wa32).
642.73	11/2$^+$	152.59 *14*	24 *4*	490.35	9/2$^+$	[M1+E2]		1.549	α(K)=1.284 *19*; α(L)=0.205 *3*; α(M)=0.0470 *7* α(N)=0.01139 *17*; α(O)=0.00191 *3*; α(P)=0.0001399 *20* δ: +0.83 *17* assuming K=7/2.
		281.46 *15*	43 *7*	361.00	7/2$^+$	[E2]		0.1068	α(K)=0.0685 *10*; α(L)=0.0291 *5*; α(M)=0.00718 *11* α(N)=0.001716 *25*; α(O)=0.000257 *4*; α(P)=6.32×10^{-6} *9*
		284.78 *11*	100 *12*	358.20	9/2$^+$	M1(+E2)		0.274	α(K)=0.228 *4*; α(L)=0.0360 *5*; α(M)=0.00822 *12* α(N)=0.00199 *3*; α(O)=0.000335 *5*; α(P)=2.46×10^{-5} *4* Mult.: DCO=0.62 *7* (1995Ba67).
		435.6 *10*	35 *10*	207.42	7/2$^+$	[E2]		0.0311	α(K)=0.0229 *4*; α(L)=0.00625 *10*; α(M)=0.001502 *24* α(N)=0.000361 *6*; α(O)=5.60×10^{-5} *9*; α(P)=2.24×10^{-6} *4*
727.71	13/2$^+$	193.52 *10*	100 *4*	534.28	11/2$^+$	M1+E2	+0.23 *4*	0.773 *14*	α(K)=0.635 *13*; α(L)=0.1064 *16*; α(M)=0.0245 *4* α(N)=0.00592 *9*; α(O)=0.000987 *15*; α(P)=6.88×10^{-5} *14* B(M1)(W.u.)=0.138 *+32−13*; B(E2)(W.u.)=9.E+1 *+4−3* Mult.: DCO=0.64 *4* (1995Ba67). A_2=0.10 *2*, A_4=0.00 *4* (1986Wa32); A_2=0.099 *17*, A_4=−0.009 *19* (1972Le04). Iγ contaminated with 192.5γ. δ: Other: +0.15 *1*, assuming K=5/2.
		369.43 *10*	65 *3*	358.20	9/2$^+$	E2		0.0484	α(K)=0.0342 *5*; α(L)=0.01083 *16*; α(M)=0.00263 *4* α(N)=0.000631 *9*; α(O)=9.66×10^{-5} *14*; α(P)=3.29×10^{-6} *5* B(E2)(W.u.)=43 *+10−4* Mult.: DCO=0.99 *7* (1995Ba67).
735.15	(1/2,3/2)	539.4[#] *2*	100[#]	195.73	(3/2$^-$)				
		696.6[#] *6*	≈44[#]	38.64	(1/2$^-$)				
741.2	(1/2,3/2)	245.5[#] *4*	100[#]	495.73	(1/2$^+$)				
771.96	(1/2,3/2)	576.2[#] *3*	52[#]	195.73	(3/2$^-$)				
		733.3[#] *3*	100[#]	38.64	(1/2$^-$)				
805.14+x	17/2$^-$	235.37 *10*	100 *3*	569.89+x	15/2$^-$	M1+E2	+0.21 *5*	0.450 *9*	α(K)=0.372 *8*; α(L)=0.0608 *9*; α(M)=0.01393 *20* α(N)=0.00338 *5*; α(O)=0.000565 *8*; α(P)=4.02×10^{-5} *9* Mult.: DCO=0.65 *4* (1995Ba67); A_2=0.09 *3*, A_4=0.01 *1* (1986Wa32); A_2=0.052 *41*, A_4=0.002 *44* (1972Le04). δ: Other: +0.19 *1*, assuming K=9/2.
		449.08 *10*	48.4 *19*	355.98+x	13/2$^-$	E2		0.0287	α(K)=0.0213 *3*; α(L)=0.00566 *8*; α(M)=0.001360 *19*

$^{177}_{75}Re_{102}$-11

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
									α(N)=0.000327 *5*; α(O)=5.08×10^{-5} *8*; α(P)=2.09×10^{-6} *3* Mult.: A_2=0.24 *2*, A_4=−0.045 *20* (1986Wa32).
815.41	13/2$^+$	173.11 *12*	48 *5*	642.73	11/2$^+$	[M1+E2]		1.086	α(K)=0.900 *13*; α(L)=0.1438 *21*; α(M)=0.0329 *5* α(N)=0.00797 *12*; α(O)=0.001339 *19*; α(P)=9.79×10^{-5} *14* δ: +0.49 *5* assuming K=7/2.
		280.83 *12*	79 *9*	534.28	11/2$^+$	M1(+E2)		0.285	α(K)=0.237 *4*; α(L)=0.0374 *6*; α(M)=0.00854 *12* α(N)=0.00207 *3*; α(O)=0.000348 *5*; α(P)=2.56×10^{-5} *4* Mult.: DCO=0.42 *8* (1995Ba67).
		325.01 *11*	100 *10*	490.35	9/2$^+$	[E2]		0.0696	α(K)=0.0472 *7*; α(L)=0.01705 *24*; α(M)=0.00417 *6* α(N)=0.000999 *14*; α(O)=0.0001513 *22*; α(P)=4.46×10^{-6} *7*
		457.3 *10*	41 *10*	358.20	9/2$^+$	[E2]		0.0274 *5*	α(K)=0.0204 *3*; α(L)=0.00535 *9*; α(M)=0.001282 *21* α(N)=0.000308 *5*; α(O)=4.80×10^{-5} *8*; α(P)=2.00×10^{-6} *3*
880.64	15/2$^-$	319.32 *23*	20 *6*	561.34	11/2$^-$	[E2]		0.0733	α(K)=0.0494 *7*; α(L)=0.0182 *3*; α(M)=0.00445 *7* α(N)=0.001066 *16*; α(O)=0.0001613 *23*; α(P)=4.65×10^{-6} *7*
		632.51 *14*	100 *20*	248.10	13/2$^-$	[M1]		0.0333	α(K)=0.0278 *4*; α(L)=0.00428 *6*; α(M)=0.000975 *14* α(N)=0.000236 *4*; α(O)=3.98×10^{-5} *6*; α(P)=2.95×10^{-6} *5*
935.89	15/2$^+$	208.22 *10*	94 *3*	727.71	13/2$^+$	M1+E2	+0.27 *12*	0.62 *3*	α(K)=0.51 *3*; α(L)=0.0864 *14*; α(M)=0.0199 *4* α(N)=0.00481 *10*; α(O)=0.000801 *12*; α(P)=5.5×10^{-5} *3* Mult.: DCO=0.70 *4* (1995Ba67). A_2=0.17 *7*, A_4=−0.05 *7* (1986Wa32). δ: Other: +0.15 *1*, assuming K=5/2.
		401.63 *10*	100 *4*	534.28	11/2$^+$	E2		0.0385	α(K)=0.0278 *4*; α(L)=0.00815 *12*; α(M)=0.00197 *3* α(N)=0.000473 *7*; α(O)=7.29×10^{-5} *11*; α(P)=2.70×10^{-6} *4* Mult.: A_2=0.21 *4*, A_4=−0.08 *4* (1986Wa32).
952.65	(1/2$^-$,3/2)	457.0[#] *2*	100[#]	495.73	(1/2$^+$)				
		756[#a] *1*	≈17[#]	195.73	(3/2$^-$)				
		913.2[#] *10*	≈11[#]	38.64	(1/2$^-$)				
		952.4[#] *5*	86[#]	0.0	5/2$^-$				
963.17+x	(13/2$^-$)	963.09 *13*	100	0.0+x	9/2$^-$	[E2]		0.00510	α(K)=0.00417 *6*; α(L)=0.000721 *10*; α(M)=0.0001664 *24* α(N)=4.02×10^{-5} *6*; α(O)=6.59×10^{-6} *10*; α(P)=4.18×10^{-7} *6*
965.58	21/2$^-$	413.19 *10*	100	552.21	17/2$^-$	E2		0.0357	α(K)=0.0260 *4*; α(L)=0.00742 *11*; α(M)=0.00179 *3* α(N)=0.000430 *6*; α(O)=6.64×10^{-5} *10*; α(P)=2.53×10^{-6} *4* B(E2)(W.u.)=241 *+16−32* Mult.: A_2=0.28 *3*, A_4=−0.08 *3* (1986Wa32); A_2=0.233 *47*, A_4=−0.048 *51* (1972Le04).
1009.45	15/2$^+$	194.63 *13*	42 *5*	815.41	13/2$^+$	[M1+E2]		0.782	α(K)=0.649 *10*; α(L)=0.1034 *15*; α(M)=0.0236 *4* α(N)=0.00573 *8*; α(O)=0.000963 *14*; α(P)=7.05×10^{-5} *10*
		281.83 *11*	76 *7*	727.71	13/2$^+$	M1(+E2)		0.282	α(K)=0.234 *4*; α(L)=0.0371 *6*; α(M)=0.00846 *12* α(N)=0.00205 *3*; α(O)=0.000345 *5*; α(P)=2.53×10^{-5} *4* Mult.: DCO=0.42 *8* (1995Ba67). δ: +0.40 *3*, assuming K=7/2.
		366.60 *11*	100 *8*	642.73	11/2$^+$	[E2]		0.0494	α(K)=0.0348 *5*; α(L)=0.01112 *16*; α(M)=0.00270 *4* α(N)=0.000648 *9*; α(O)=9.91×10^{-5} *14*; α(P)=3.35×10^{-6} *5*

$^{177}_{75}Re_{102}$-12

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
1009.45	15/2$^+$	475.2 *10*	34 *6*	534.28	11/2$^+$	[E2]		0.0248	α(K)=0.0186 *3*; α(L)=0.00474 *8*; α(M)=0.001134 *18* α(N)=0.000273 *5*; α(O)=4.26×10^{-5} *7*; α(P)=1.84×10^{-6} *3*
1037.2	(1/2,3/2)	841.5[#] *5*	100[#]	195.73	(3/2$^-$)				
1052.88+x	19/2$^-$	247.76 *10*	100 *4*	805.14+x	17/2$^-$	M1+E2	+0.49 *11*	0.354 *18*	α(K)=0.287 *18*; α(L)=0.0518 *9*; α(M)=0.01202 *17* α(N)=0.00291 *5*; α(O)=0.000478 *9*; α(P)=3.08×10^{-5} *20* B(M1)(W.u.)=0.34 *4*; B(E2)(W.u.)=5.8×10^2 *22* Mult.: DCO=0.74 *4* (1995Ba67); A_2=0.41 *5*, A_4=−0.02 *6* (1986Wa32); δ: Other: +0.19 *1*, assuming K=9/2.
		482.99 *10*	71 *3*	569.89+x	15/2$^-$	E2		0.0238	α(K)=0.0180 *3*; α(L)=0.00451 *7*; α(M)=0.001078 *16* α(N)=0.000259 *4*; α(O)=4.05×10^{-5} *6*; α(P)=1.772×10^{-6} *25* B(E2)(W.u.)=75 *5* Mult.: A_2=0.28 *4*, A_4=−0.08 *4* (1986Wa32).
1073.0	(1/2,3/2)	877.3[#] *10*	100[#]	195.73	(3/2$^-$)				
1086.91	13/2$^+$	111.79 *12*	100	975.12	(9/2$^+$)	[E2]		2.65	α(K)=0.690 *10*; α(L)=1.480 *22*; α(M)=0.376 *6* α(N)=0.0894 *14*; α(O)=0.01277 *19*; α(P)=5.96×10^{-5} *9*
		728.7 *10*	≈93	358.20	9/2$^+$	[E2]		0.00914	α(K)=0.00730 *11*; α(L)=0.001416 *21*; α(M)=0.000331 *5* α(N)=7.98×10^{-5} *12*; α(O)=1.288×10^{-5} *19*; α(P)=7.32×10^{-7} *11*
1151.01	17/2$^+$	215.14 *10*	57.1 *24*	935.89	15/2$^+$	M1+E2	+0.18 *5*	0.582 *11*	α(K)=0.480 *10*; α(L)=0.0784 *11*; α(M)=0.0180 *3* α(N)=0.00435 *7*; α(O)=0.000728 *11*; α(P)=5.20×10^{-5} *11* B(M1)(W.u.)=0.137 *+20−31*; B(E2)(W.u.)=42 *+24−25* Mult.: DCO=0.72 *15* (1995Ba67). A_2=0.02 *2*, A_4=0.04 *2* (1986Wa32). δ: Other: +0.16 *1*, assuming K=5/2.
		423.22 *10*	100 *4*	727.71	13/2$^+$	E2		0.0335	α(K)=0.0245 *4*; α(L)=0.00686 *10*; α(M)=0.001653 *24* α(N)=0.000397 *6*; α(O)=6.14×10^{-5} *9*; α(P)=2.39×10^{-6} *4* B(E2)(W.u.)=79 *+11−18* Mult.: A_2=0.21 *3*, A_4=−0.11 *4* (1986Wa32).
1197.33+x	(15/2$^-$)	234.16 *17*	42 *17*	963.17+x	(13/2$^-$)	[M1+E2]		0.469	α(K)=0.389 *6*; α(L)=0.0618 *9*; α(M)=0.01411 *20* α(N)=0.00342 *5*; α(O)=0.000575 *9*; α(P)=4.22×10^{-5} *6*
		841.56 *17*	92 *38*	355.98+x	13/2$^-$	[M1]		0.01609	α(K)=0.01343 *19*; α(L)=0.00205 *3*; α(M)=0.000467 *7* α(N)=0.0001132 *16*; α(O)=1.91×10^{-5} *3*; α(P)=1.421×10^{-6} *20*
		1033.75 *16*	100 *38*	163.65+x	11/2$^-$	[E2]		0.00443	α(K)=0.00363 *5*; α(L)=0.000614 *9*; α(M)=0.0001414 *20* α(N)=3.42×10^{-5} *5*; α(O)=5.62×10^{-6} *8*; α(P)=3.64×10^{-7} *6*
1220.16	17/2$^+$	211.10 *11*	40 *3*	1009.45	15/2$^+$	[M1+E2]		0.624	α(K)=0.518 *8*; α(L)=0.0824 *12*; α(M)=0.0188 *3*

$^{177}_{75}Re_{102}$-13

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
									α(N)=0.00457 *7*; α(O)=0.000767 *11*; α(P)=5.62×10^{-5} *8* δ: +0.32 *2*, assuming K=7/2.
1220.16	17/2$^+$	284.38 *11*	47 *4*	935.89	15/2$^+$	M1(+E2)		0.275	α(K)=0.229 *4*; α(L)=0.0361 *5*; α(M)=0.00825 *12* α(N)=0.00200 *3*; α(O)=0.000337 *5*; α(P)=2.47×10^{-5} *4* Mult.: DCO=0.62 *7* (1995Ba67).
		404.54 *10*	100 *6*	815.41	13/2$^+$	[E2]		0.0378	α(K)=0.0273 *4*; α(L)=0.00796 *12*; α(M)=0.00192 *3* α(N)=0.000461 *7*; α(O)=7.12×10^{-5} *10*; α(P)=2.66×10^{-6} *4*
		492.4 *10*	18 *4*	727.71	13/2$^+$	[E2]		0.0227	α(K)=0.0172 *3*; α(L)=0.00425 *7*; α(M)=0.001014 *16* α(N)=0.000244 *4*; α(O)=3.82×10^{-5} *6*; α(P)=1.697×10^{-6} *25*
1223.12	15/2$^+$	975.02 *12*	100	248.10	13/2$^-$	(E1)		0.00195	α(K)=0.001649 *23*; α(L)=0.000236 *4*; α(M)=5.32×10^{-5} *8* α(N)=1.286×10^{-5} *18*; α(O)=2.15×10^{-6} *3*; α(P)=1.558×10^{-7} *22* Mult.: DCO=0.71 *12* (1995Ba67).
1232.3+x		662.4 *3*	100	569.89+x	15/2$^-$				
1296.64	19/2$^-$	415.96 *16*	63 *10*	880.64	15/2$^-$	[E2]		0.0351	α(K)=0.0256 *4*; α(L)=0.00726 *11*; α(M)=0.001751 *25* α(N)=0.000420 *6*; α(O)=6.50×10^{-5} *10*; α(P)=2.49×10^{-6} *4*
		744.65 *13*	100 *13*	552.21	17/2$^-$	M1(+E2)		0.0219	α(K)=0.0183 *3*; α(L)=0.00281 *4*; α(M)=0.000639 *9* α(N)=0.0001550 *22*; α(O)=2.61×10^{-5} *4*; α(P)=1.94×10^{-6} *3* Mult.: DCO=0.44 *6* (1995Ba67).
1315.63+x	21/2$^-$	262.71 *10*	97 *3*	1052.88+x	19/2$^-$	M1+E2	+0.19 *7*	0.334 *8*	α(K)=0.277 *7*; α(L)=0.0447 *7*; α(M)=0.01023 *15* α(N)=0.00248 *4*; α(O)=0.000416 *7*; α(P)=2.99×10^{-5} *8* Mult.: DCO=0.67 *4* (1995Ba67); A_2=0.07 *6*, A_4=0.03 *6* (1986Wa32). δ: Other: +0.20 *1*, assuming K=9/2.
		510.48 *10*	100 *4*	805.14+x	17/2$^-$	E2		0.0208	α(K)=0.01581 *23*; α(L)=0.00381 *6*; α(M)=0.000907 *13* α(N)=0.000218 *3*; α(O)=3.43×10^{-5} *5*; α(P)=1.566×10^{-6} *22* Mult.: DCO=0.93 *6* (1995Ba67).
1318.17	17/2$^+$	231.26 *10*	78 *10*	1086.91	13/2$^+$	E2		0.198	α(K)=0.1151 *17*; α(L)=0.0629 *9*; α(M)=0.01565 *22* α(N)=0.00374 *6*; α(O)=0.000552 *8*; α(P)=1.023×10^{-5} *15* Mult.: DCO=1.03 *11* (1995Ba67).
		502.58 *16*	42 *6*	815.41	13/2$^+$	[E2]		0.0216	α(K)=0.01638 *23*; α(L)=0.00399 *6*; α(M)=0.000952 *14* α(N)=0.000229 *4*; α(O)=3.59×10^{-5} *5*; α(P)=1.622×10^{-6} *23*
		766.03 *11*	100 *10*	552.21	17/2$^-$	(E1)		0.00308	α(K)=0.00260 *4*; α(L)=0.000377 *6*; α(M)=8.52×10^{-5} *12* α(N)=2.06×10^{-5} *3*; α(O)=3.43×10^{-6} *5*; α(P)=2.43×10^{-7} *4* Mult.: DCO=1.21 *13* (1995Ba67), consistent with a J to J dipole transition.
1375.36	19/2$^+$	224.36 *10*	35.4 *15*	1151.01	17/2$^+$	M1+E2	+0.4 *4*	0.48 *8*	α(K)=0.39 *8*; α(L)=0.0698 *11*; α(M)=0.0161 *6* α(N)=0.00390 *11*; α(O)=0.000644 *11*; α(P)=4.2×10^{-5} *10* Mult.: DCO=0.73 *8* (1995Ba67). A_2=0.32 *16*, A_4=0.02 *18* (1986Wa32). δ: Other: +0.18 *1*, assuming K=5/2.
		439.41 *10*	100 *4*	935.89	15/2$^+$	E2		0.0304	α(K)=0.0224 *4*; α(L)=0.00607 *9*; α(M)=0.001460 *21* α(N)=0.000350 *5*; α(O)=5.45×10^{-5} *8*; α(P)=2.20×10^{-6} *3* Mult.: DCO=1.00 *6* (1995Ba67).

$^{177}_{75}Re_{102}$-14

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
1404.3	(1/2,3/2)	1208.6[#] *5*	100[#]	195.73	(3/2$^-$)			
1421.3	(1/2$^+$,3/2)	649.2[#] *4*	85[#]	771.96	(1/2,3/2)			
		686[#] *1*	100[#]	735.15	(1/2,3/2)			
		1336.8[#] *6*	90[#]	84.70	5/2$^+$			
1442.28+x	15/2$^+$	478.90 *20*	5.8 *10*	963.17+x	(13/2$^-$)	[E1]	0.00810	B(E1)(W.u.)>1.4×10^{-7} α(K)=0.00679 *10*; α(L)=0.001019 *15*; α(M)=0.000231 *4* α(N)=5.56×10^{-5} *8*; α(O)=9.19×10^{-6} *13*; α(P)=6.22×10^{-7} *9*
		637.06 *12*	27 *3*	805.14+x	17/2$^-$	[E1]	0.00445	B(E1)(W.u.)>2.8×10^{-7} α(K)=0.00374 *6*; α(L)=0.000550 *8*; α(M)=0.0001243 *18* α(N)=3.00×10^{-5} *5*; α(O)=4.98×10^{-6} *7*; α(P)=3.48×10^{-7} *5*
		872.37 *11*	60 *5*	569.89+x	15/2$^-$	E1	0.00240	B(E1)(W.u.)>2.4×10^{-7} α(K)=0.00203 *3*; α(L)=0.000292 *4*; α(M)=6.59×10^{-5} *10* α(N)=1.591×10^{-5} *23*; α(O)=2.66×10^{-6} *4*; α(P)=1.91×10^{-7} *3* Mult.: DCO=1.11 *32* (1995Ba67); A_2=0.29 *4*, A_4=−0.05 *4* (1986Wa32).
		1086.40 *10*	100 *7*	355.98+x	13/2$^-$	E1	1.60×10^{-3}	B(E1)(W.u.)>2.1×10^{-7} α(K)=0.001355 *19*; α(L)=0.000193 *3*; α(M)=4.35×10^{-5} *6* α(N)=1.050×10^{-5} *15*; α(O)=1.760×10^{-6} *25*; α(P)=1.284×10^{-7} *18* Mult.: DCO=0.53 *24* (1995Ba67); A_2=−0.43 *9*, A_4=0.17 *9* (1986Wa32);
		1442.57 *18*	7 *2*	0.0+x	9/2$^-$	[E3]	0.00473	B(E3)(W.u.)>4.4 α(K)=0.00381 *6*; α(L)=0.000692 *10*; α(M)=0.0001607 *23* α(N)=3.89×10^{-5} *6*; α(O)=6.39×10^{-6} *9*; α(P)=4.08×10^{-7} *6*; α(IPF)=2.10×10^{-5} *3*
1446.95	19/2$^+$	227.16 *11*	41 *4*	1220.16	17/2$^+$	[M1+E2]	0.510	α(K)=0.423 *6*; α(L)=0.0672 *10*; α(M)=0.01535 *22* α(N)=0.00372 *6*; α(O)=0.000626 *9*; α(P)=4.58×10^{-5} *7* δ: +0.26 *1*, assuming K=7/2.
		295.73 *12*	21 *3*	1151.01	17/2$^+$	M1(+E2)	0.248	α(K)=0.206 *3*; α(L)=0.0325 *5*; α(M)=0.00741 *11* α(N)=0.00180 *3*; α(O)=0.000302 *5*; α(P)=2.22×10^{-5} *4* Mult.: DCO=0.50 *19* (1995Ba67).
		437.48 *10*	100.0 *6*	1009.45	15/2$^+$	[E2]	0.0307	α(K)=0.0227 *4*; α(L)=0.00616 *9*; α(M)=0.001481 *21* α(N)=0.000356 *5*; α(O)=5.52×10^{-5} *8*; α(P)=2.22×10^{-6} *4*
		511.1 *10*	21 *5*	935.89	15/2$^+$	[E2]	0.0207	α(K)=0.01576 *24*; α(L)=0.00379 *6*; α(M)=0.000904 *14* α(N)=0.000217 *4*; α(O)=3.42×10^{-5} *6*; α(P)=1.562×10^{-6} *23*
1461.09+x	(17/2$^-$)	264.11 *16*	52 *12*	1197.33+x	(15/2$^-$)	[M1+E2]	0.337	α(K)=0.280 *4*; α(L)=0.0443 *7*; α(M)=0.01011 *15* α(N)=0.00245 *4*; α(O)=0.000412 *6*; α(P)=3.03×10^{-5} *5*
		497.87 *24*	<8	963.17+x	(13/2$^-$)	[E2]	0.0221	α(K)=0.01674 *24*; α(L)=0.00411 *6*; α(M)=0.000980 *14* α(N)=0.000236 *4*; α(O)=3.70×10^{-5} *6*; α(P)=1.656×10^{-6} *24*
		891.11 *17*	92 *24*	569.89+x	15/2$^-$	[M1]	0.01393	α(K)=0.01163 *17*; α(L)=0.001775 *25*; α(M)=0.000404 *6*

$^{177}_{75}Re_{102}$-15

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
								α(N)=9.78×10^{-5} *14*; α(O)=1.650×10^{-5} *24*; α(P)=1.229×10^{-6} *18*
1461.09+x	(17/2$^-$)	1105.07 *16*	100 *24*	355.98+x	13/2$^-$	[E2]	0.00388	α(K)=0.00320 *5*; α(L)=0.000530 *8*; α(M)=0.0001217 *17* α(N)=2.94×10^{-5} *5*; α(O)=4.85×10^{-6} *7*; α(P)=3.20×10^{-7} *5*; α(IPF)=2.38×10^{-7} *4*
1464.3	(1/2,3/2)	1268.6[#] *4*	100[#]	195.73	(3/2$^-$)			
1474.43	25/2$^-$	508.91 *10*	100	965.58	21/2$^-$	E2	0.0209	α(K)=0.01592 *23*; α(L)=0.00384 *6*; α(M)=0.000916 *13* α(N)=0.000220 *3*; α(O)=3.46×10^{-5} *5*; α(P)=1.577×10^{-6} *22* B(E2)(W.u.)=4.0×10^{2} *13* Mult.: DCO=1.10 *5* (1995Ba67).
1494.83	17/2$^-$	1246.42 *25*	100	248.10	13/2$^-$			
1514.65	19/2$^+$	291.54 *11*	100 *12*	1223.12	15/2$^+$	E2	0.0960	α(K)=0.0625 *9*; α(L)=0.0255 *4*; α(M)=0.00627 *9* α(N)=0.001500 *22*; α(O)=0.000225 *4*; α(P)=5.80×10^{-6} *9* Mult.: DCO=1.37 *26* (1995Ba67).
		962.46 *14*	95 *12*	552.21	17/2$^-$	E1	0.00200	α(K)=0.001689 *24*; α(L)=0.000242 *4*; α(M)=5.46×10^{-5} *8* α(N)=1.318×10^{-5} *19*; α(O)=2.21×10^{-6} *3*; α(P)=1.595×10^{-7} *23* Mult.: DCO=0.55 *13* (1995Ba67).
1567.11+x	17/2$^+$	124.90 *10*	99 *6*	1442.28+x	15/2$^+$	M1+E2	2.74	α(K)=2.27 *4*; α(L)=0.364 *6*; α(M)=0.0831 *12* α(N)=0.0202 *3*; α(O)=0.00339 *5*; α(P)=0.000247 *4* Mult.: DCO=0.83 *51* (1995Ba67); DCO=1.02 *15* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp)=2.10 *14* from intensity balance considerations (1995Ba67).
		762.10 *11*	100 *7*	805.14+x	17/2$^-$	[E1]	0.00311	α(K)=0.00262 *4*; α(L)=0.000381 *6*; α(M)=8.61×10^{-5} *12* α(N)=2.08×10^{-5} *3*; α(O)=3.46×10^{-6} *5*; α(P)=2.46×10^{-7} *4*
		997.00 *11*	97 *7*	569.89+x	15/2$^-$	E1	0.00188	α(K)=0.001583 *23*; α(L)=0.000226 *4*; α(M)=5.10×10^{-5} *8* α(N)=1.233×10^{-5} *18*; α(O)=2.06×10^{-6} *3*; α(P)=1.496×10^{-7} *21* Mult.: DCO=0.64 *36* (1995Ba67).
1582.43+x	23/2$^-$	266.71 *10*	95 *3*	1315.63+x	21/2$^-$	M1+E2	0.328	α(K)=0.272 *4*; α(L)=0.0431 *6*; α(M)=0.00984 *14* α(N)=0.00239 *4*; α(O)=0.000401 *6*; α(P)=2.95×10^{-5} *5* Mult.: DCO=0.56 *6* (1995Ba67); A_2=−0.06 *6*, A_4=0.15 *5* (1986Wa32); δ: +0.17 *1*, assuming K=9/2.
		529.61 *10*	100 *4*	1052.88+x	19/2$^-$	E2	0.0190	α(K)=0.01454 *21*; α(L)=0.00341 *5*; α(M)=0.000811 *12* α(N)=0.000195 *3*; α(O)=3.08×10^{-5} *5*; α(P)=1.444×10^{-6} *21* B(E2)(W.u.)=104 *+31−23* Mult.: DCO=1.04 *7* (1995Ba67); A_2=0.24 *2*, A_4=−0.12 *2* (1986Wa32).
1586.79+x	(17/2$^-$)	389.35 *17*	94 *25*	1197.33+x	(15/2$^-$)	[M1]	0.1183	α(K)=0.0983 *14*; α(L)=0.01542 *22*; α(M)=0.00352 *5* α(N)=0.000853 *12*; α(O)=0.0001435 *21*; α(P)=1.057×10^{-5} *15*
		623.69 *21*	81 *25*	963.17+x	(13/2$^-$)	[E2]	0.01292	α(K)=0.01014 *15*; α(L)=0.00214 *3*; α(M)=0.000504 *7* α(N)=0.0001214 *17*; α(O)=1.94×10^{-5} *3*; α(P)=1.014×10^{-6} *15*
		1016.75 *21*	100 *25*	569.89+x	15/2$^-$	[M1]	0.01000	α(K)=0.00836 *12*; α(L)=0.001271 *18*; α(M)=0.000289 *4* α(N)=7.00×10^{-5} *10*; α(O)=1.181×10^{-5} *17*; α(P)=8.81×10^{-7} *13*
		1230.5 *3*	69 *25*	355.98+x	13/2$^-$	[E2]	0.00316	α(K)=0.00261 *4*; α(L)=0.000421 *6*; α(M)=9.63×10^{-5} *14*

$^{177}_{75}Re_{102}$-16

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
									α(N)=2.33×10^{-5} *4*; α(O)=3.86×10^{-6} *6*; α(P)=2.61×10^{-7} *4*; α(IPF)=7.66×10^{-6} *12*
1606.67	21/2$^+$	231.26 *11*	34.0 *17*	1375.36	19/2$^+$	M1+E2	+0.23 *5*	0.471 *10*	α(K)=0.388 *9*; α(L)=0.0639 *9*; α(M)=0.01466 *21* α(N)=0.00355 *5*; α(O)=0.000593 *9*; α(P)=4.20×10^{-5} *10* B(M1)(W.u.)>0.12; B(E2)(W.u.)>30 Mult.: A_2=0.33 *8*, A_4=−0.45 *9* (1986Wa32). δ: Other: δ=+0.16 *1*, assuming K=5/2.
		455.62 *10*	100 *4*	1151.01	17/2$^+$	E2		0.0276	α(K)=0.0206 *3*; α(L)=0.00541 *8*; α(M)=0.001298 *19* α(N)=0.000312 *5*; α(O)=4.86×10^{-5} *7*; α(P)=2.02×10^{-6} *3* B(E2)(W.u.)>1.0×10^2 Mult.: DCO=0.94 *6* (1995Ba67). A_2=0.36 *10*, A_4=−0.15 *10* (1986Wa32).
1640.16	21/2$^+$	264.88 *10*	47.5 *25*	1375.36	19/2$^+$	M1(+E2)		0.334	α(K)=0.277 *4*; α(L)=0.0439 *7*; α(M)=0.01003 *14* α(N)=0.00243 *4*; α(O)=0.000409 *6*; α(P)=3.00×10^{-5} *5* Mult.: DCO=0.72 *8* (1995Ba67).
		321.99 *10*	100 *5*	1318.17	17/2$^+$	E2		0.0715	α(K)=0.0484 *7*; α(L)=0.01764 *25*; α(M)=0.00432 *6* α(N)=0.001034 *15*; α(O)=0.0001565 *22*; α(P)=4.56×10^{-6} *7* Mult.: DCO=0.91 *7* (1995Ba67).
		419.86 *12*	33 *3*	1220.16	17/2$^+$	[E2]		0.0342	α(K)=0.0250 *4*; α(L)=0.00704 *10*; α(M)=0.001697 *24* α(N)=0.000407 *6*; α(O)=6.30×10^{-5} *9*; α(P)=2.44×10^{-6} *4*
		489.26 *10*	95 *5*	1151.01	17/2$^+$	E2		0.0231	α(K)=0.01743 *25*; α(L)=0.00433 *6*; α(M)=0.001035 *15* α(N)=0.000249 *4*; α(O)=3.90×10^{-5} *6*; α(P)=1.722×10^{-6} *25* Mult.: DCO=1.15 *11* (1995Ba67). A_2=0.35 *6*, A_4=−0.21 *7* (1986Wa32).
		674.42 *13*	26.6 *25*	965.58	21/2$^-$	[E1]		0.00396	α(K)=0.00333 *5*; α(L)=0.000488 *7*; α(M)=0.0001104 *16* α(N)=2.66×10^{-5} *4*; α(O)=4.43×10^{-6} *7*; α(P)=3.11×10^{-7} *5*
1676.11+x	19/2$^+$	109.00 *10*	100	1567.11+x	17/2$^+$	M1+E2		4.04	α(K)=3.34 *5*; α(L)=0.538 *8*; α(M)=0.1229 *18* α(N)=0.0298 *5*; α(O)=0.00501 *8*; α(P)=0.000366 *6* Mult.: DCO=1.02 *19* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp) deduced from intensity balance considerations is consistent with the proposed assignment (1995Ba67).
1680.27	19/2$^+$	1128.09 *13*	100	552.21	17/2$^-$	(E1)		1.50×10^{-3}	α(K)=0.001267 *18*; α(L)=0.000180 *3*; α(M)=4.06×10^{-5} *6*

$^{177}_{75}Re_{102}$-17

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
								α(N)=9.80×10^{-6} *14*; α(O)=1.643×10^{-6} *23*; α(P)=1.201×10^{-7} *17*; α(IPF)=2.99×10^{-6} *5*
								Mult.: DCO=0.49 *10* (1995Ba67).
1686.04	21/2$^+$	239.22 *11*	32 *3*	1446.95	19/2$^+$	[M1+E2]	0.442	α(K)=0.367 *6*; α(L)=0.0582 *9*; α(M)=0.01329 *19* α(N)=0.00322 *5*; α(O)=0.000542 *8*; α(P)=3.97×10^{-5} *6*
		310.32 *14*	11.8 *25*	1375.36	19/2$^+$	M1(+E2)	0.217	α(K)=0.180 *3*; α(L)=0.0285 *4*; α(M)=0.00650 *10* α(N)=0.001576 *23*; α(O)=0.000265 *4*; α(P)=1.95×10^{-5} *3*
								Mult.: DCO=0.19 *25* (1995Ba67).
		465.87 *10*	100 *6*	1220.16	17/2$^+$	[E2]	0.0261	α(K)=0.0195 *3*; α(L)=0.00504 *7*; α(M)=0.001208 *17* α(N)=0.000290 *4*; α(O)=4.53×10^{-5} *7*; α(P)=1.92×10^{-6} *3*
1744.0	(1/2$^-$,3/2)	280.1[#a] *5*	24[#]	1464.3	(1/2,3/2)			
		339.7[#] *6*	29[#]	1404.3	(1/2,3/2)			
		791.4[#] *4*	100[#]	952.65	(1/2$^-$,3/2)			
		1743.9[#] *6*	95[#]	0.0	5/2$^-$			
1799.35	23/2$^-$	502.88 *12*	100 *11*	1296.64	19/2$^-$	[E2]	0.0216	α(K)=0.01636 *23*; α(L)=0.00398 *6*; α(M)=0.000950 *14* α(N)=0.000228 *4*; α(O)=3.59×10^{-5} *5*; α(P)=1.619×10^{-6} *23*
		833.44 *19*	63 *10*	965.58	21/2$^-$	[M1]	0.01649	α(K)=0.01376 *20*; α(L)=0.00211 *3*; α(M)=0.000479 *7* α(N)=0.0001161 *17*; α(O)=1.96×10^{-5} *3*; α(P)=1.456×10^{-6} *21*
1817.67+x	21/2$^+$	141.45 *10*	100	1676.11+x	19/2$^+$	M1+E2	1.92	α(K)=1.591 *23*; α(L)=0.255 *4*; α(M)=0.0583 *9* α(N)=0.01413 *20*; α(O)=0.00237 *4*; α(P)=0.0001735 *25* Mult.: DCO=1.08 *13* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp) deduced from intensity balance considerations is consistent with the proposed assignment (1995Ba67).
		250.5[a]		1567.11+x	17/2$^+$	[E2]	0.1533	α(K)=0.0931 *13*; α(L)=0.0457 *7*; α(M)=0.01134 *16* α(N)=0.00271 *4*; α(O)=0.000402 *6*; α(P)=8.41×10^{-6} *12*
1825.16+x	21/2$^+$	149.05 *10*	100	1676.11+x	19/2$^+$	M1	1.656	α(K)=1.372 *20*; α(L)=0.220 *4*; α(M)=0.0502 *7* α(N)=0.01217 *18*; α(O)=0.00205 *3*; α(P)=0.0001495 *22* B(M1)(W.u.)>0.0050 Mult.: DCO=0.98 *24* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp) deduced from intensity balance considerations is consistent with the proposed assignment (1995Ba67).
1829.42+x	(19/2$^-$)	242.52 *11*	85 *9*	1586.79+x	(17/2$^-$)	[M1+E2]	0.426	α(K)=0.353 *5*; α(L)=0.0560 *8*; α(M)=0.01280 *18* α(N)=0.00310 *5*; α(O)=0.000522 *8*; α(P)=3.83×10^{-5} *6*
		368.44 *11*	100 *10*	1461.09+x	(17/2$^-$)	[M1]	0.1370	α(K)=0.1139 *16*; α(L)=0.0179 *3*; α(M)=0.00408 *6* α(N)=0.000990 *14*; α(O)=0.0001665 *24*; α(P)=1.225×10^{-5} *18*
1848.00	23/2$^+$	241.35 *11*	20.6 *14*	1606.67	21/2$^+$	[M1+E2]	0.431	α(K)=0.358 *5*; α(L)=0.0568 *8*; α(M)=0.01297 *19* α(N)=0.00315 *5*; α(O)=0.000529 *8*; α(P)=3.88×10^{-5} *6* δ: +0.19 *1*, assuming K=5/2.
		472.50 *10*	100 *4*	1375.36	19/2$^+$	E2	0.0252	α(K)=0.0189 *3*; α(L)=0.00483 *7*; α(M)=0.001155 *17* α(N)=0.000277 *4*; α(O)=4.34×10^{-5} *6*; α(P)=1.86×10^{-6} *3*

$^{177}_{75}Re_{102}$-18

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
									Mult.: DCO=1.12 *6* (1995Ba67). A_2=0.32 *4*, A_4=−0.16 *4* (1986Wa32).
1851.01	21/2$^-$	355.95 *22*	35 *9*	1494.83	17/2$^-$	[E2]		0.0537	α(K)=0.0375 *6*; α(L)=0.01233 *18*; α(M)=0.00300 *5* α(N)=0.000719 *11*; α(O)=0.0001098 *16*; α(P)=3.59×10^{-6} *5*
		1298.82 *17*	100 *21*	552.21	17/2$^-$	E2		0.00286	α(K)=0.00236 *4*; α(L)=0.000375 *6*; α(M)=8.58×10^{-5} *12* α(N)=2.07×10^{-5} *3*; α(O)=3.44×10^{-6} *5*; α(P)=2.36×10^{-7} *4*; α(IPF)=1.709×10^{-5} *24*
1859.45+x	25/2$^-$	276.95 *10*	77 *3*	1582.43+x	23/2$^-$	M1+E2	+0.19 *11*	0.290 *10*	Mult.: DCO=1.4 *4* (1995Ba67). α(K)=0.240 *9*; α(L)=0.0386 *7*; α(M)=0.00883 *14* α(N)=0.00214 *4*; α(O)=0.000359 *7*; α(P)=2.59×10^{-5} *11*
		543.85 *10*	100 *4*	1315.63+x	21/2$^-$	E2		0.01781	Mult.: DCO=0.73 *6* (1995Ba67); A_2=0.04 *6*, A_4=−0.01 *7* (1986Wa32); δ: Other: +0.17 *1*, assuming K=7/2. α(K)=0.01370 *20*; α(L)=0.00316 *5*; α(M)=0.000749 *11* α(N)=0.000180 *3*; α(O)=2.85×10^{-5} *4*; α(P)=1.362×10^{-6} *19*
1885.83	23/2$^+$	278.86 *12*	29 *4*	1606.67	21/2$^+$	[M1]		0.290	Mult.: DCO=1.02 *7* (1995Ba67); A_2=0.29 *3*, A_4=−0.04 *3* (1986Wa32). α(K)=0.241 *4*; α(L)=0.0381 *6*; α(M)=0.00871 *13* α(N)=0.00211 *3*; α(O)=0.000355 *5*; α(P)=2.61×10^{-5} *4*
		371.19 *11*	80 *5*	1514.65	19/2$^+$	[E2]		0.0477	α(K)=0.0338 *5*; α(L)=0.01066 *15*; α(M)=0.00259 *4* α(N)=0.000620 *9*; α(O)=9.50×10^{-5} *14*; α(P)=3.25×10^{-6} *5*
		510.77 *11*	100 *8*	1375.36	19/2$^+$	[E2]		0.0207	α(K)=0.01579 *23*; α(L)=0.00380 *6*; α(M)=0.000906 *13* α(N)=0.000218 *3*; α(O)=3.43×10^{-5} *5*; α(P)=1.564×10^{-6} *22*
1934.58	23/2$^+$	248.24 *12*	39 *4*	1686.04	21/2$^+$	[M1+E2]		0.399	α(K)=0.331 *5*; α(L)=0.0525 *8*; α(M)=0.01200 *17* α(N)=0.00291 *4*; α(O)=0.000489 *7*; α(P)=3.59×10^{-5} *5*
		327.97 *12*	38 *4*	1606.67	21/2$^+$	[M1]		0.187	α(K)=0.1555 *22*; α(L)=0.0245 *4*; α(M)=0.00559 *8* α(N)=0.001356 *19*; α(O)=0.000228 *4*; α(P)=1.677×10^{-5} *24*
		487.69 *11*	100 *7*	1446.95	19/2$^+$	[E2]		0.0233	α(K)=0.01755 *25*; α(L)=0.00437 *7*; α(M)=0.001045 *15* α(N)=0.000251 *4*; α(O)=3.94×10^{-5} *6*; α(P)=1.734×10^{-6} *25*
1952.9+x?	(21/2)	229.00 *12*	100	1723.9+x?	(19/2)				
1959.86+x	23/2$^+$	134.70 *11*	40 *3*	1825.16+x	21/2$^+$	(M1)		2.21	α(K)=1.83 *3*; α(L)=0.293 *5*; α(M)=0.0670 *10* α(N)=0.01624 *23*; α(O)=0.00273 *4*; α(P)=0.000199 *3* B(M1)(W.u.)>0.0017 Mult.: DCO=0.8 *5* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp) deduced from intensity balance considerations is consistent with the proposed assignment (1995Ba67).
		142.5 *10*	100 *3*	1817.67+x	21/2$^+$	(M1)		1.88 *5*	α(K)=1.56 *4*; α(L)=0.250 *7*; α(M)=0.0570 *14* α(N)=0.0138 *4*; α(O)=0.00232 *6*; α(P)=0.000170 *5* B(M1)(W.u.)>0.0036 Mult.: DCO=1.08 *13* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp) deduced from

$^{177}_{75}Re_{102}$-19

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
								intensity balance considerations is consistent with the proposed assignment (1995Ba67).
1965.04	23/2$^+$	158.58 *22*	49 *13*	1806.68	(21/2$^+$)	[M1]	1.390	α(K)=1.151 *17*; α(L)=0.184 *3*; α(M)=0.0421 *7* α(N)=0.01021 *15*; α(O)=0.001715 *25*; α(P)=0.0001254 *19*
		284.79 *11*	100 *19*	1680.27	19/2$^+$	[E2]	0.1030	α(K)=0.0664 *10*; α(L)=0.0278 *4*; α(M)=0.00686 *10* α(N)=0.001640 *23*; α(O)=0.000246 *4*; α(P)=6.14×10^{-6} *9*
1975.87+x	23/2$^+$	150.70 *10*	100 *8*	1825.16+x	21/2$^+$	(M1+E2)	1.605	α(K)=1.330 *19*; α(L)=0.213 *3*; α(M)=0.0487 *7* α(N)=0.01180 *17*; α(O)=0.00198 *3*; α(P)=0.0001449 *21* Mult.: DCO=2.5 *5* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67). α(exp) deduced from intensity balance considerations is consistent with the proposed assignment (1995Ba67).
		158.4 *10*	<29	1817.67+x	21/2$^+$	[M1]	1.39 *4*	α(K)=1.16 *3*; α(L)=0.185 *5*; α(M)=0.0422 *10* α(N)=0.01024 *24*; α(O)=0.00172 *4*; α(P)=0.000126 *3*
1988.55+x	23/2$^+$	170.82 *10*	100 *6*	1817.67+x	21/2$^+$	[M1+E2]	1.127	α(K)=0.934 *14*; α(L)=0.1493 *21*; α(M)=0.0341 *5* α(N)=0.00827 *12*; α(O)=0.001390 *20*; α(P)=0.0001017 *15*
		313.16 *25*	<28	1676.11+x	19/2$^+$	[E2]	0.0776	α(K)=0.0519 *8*; α(L)=0.0195 *3*; α(M)=0.00479 *7* α(N)=0.001146 *17*; α(O)=0.0001731 *25*; α(P)=4.88×10^{-6} *7*
2021.15		546.72 *17*	100	1474.43	25/2$^-$			
2031.74		1066.16 *17*	100	965.58	21/2$^-$	D		Mult.: DCO=0.25 *12* (1995Ba67).
2039.93	25/2$^+$	399.59 *10*	100 *4*	1640.16	21/2$^+$	E2	0.0390	α(K)=0.0282 *4*; α(L)=0.00829 *12*; α(M)=0.00201 *3* α(N)=0.000481 *7*; α(O)=7.41×10^{-5} *11*; α(P)=2.73×10^{-6} *4* Mult.: DCO=0.95 *10* (1995Ba67). A_2=0.21 *4*, A_4=−0.08 *4* (1986Wa32).
		433.29 *10*	30.8 *14*	1606.67	21/2$^+$	E2	0.0315	α(K)=0.0232 *4*; α(L)=0.00635 *9*; α(M)=0.001529 *22* α(N)=0.000367 *6*; α(O)=5.69×10^{-5} *8*; α(P)=2.27×10^{-6} *4* Mult.: DCO=0.91 *9* (1995Ba67).
2040.45		566.02 *16*	100	1474.43	25/2$^-$			
2048.44	(23/2)	1082.84 *13*	100	965.58	21/2$^-$	D		Mult.: DCO=0.47 *16* (1995Ba67).
2064.96	29/2$^-$	590.45 *10*	100	1474.43	25/2$^-$	E2	0.01467	α(K)=0.01142 *16*; α(L)=0.00249 *4*; α(M)=0.000589 *9* α(N)=0.0001417 *20*; α(O)=2.26×10^{-5} *4*; α(P)=1.140×10^{-6} *16* B(E2)(W.u.)>2.2×10^2 Mult.: DCO=1.13 *5* (1995Ba67); A_2=0.19 *2*, A_4=−0.09 *7* (1986Wa32); A_2=0.353 *59*, A_4=−0.039 *63* (1972Le04).
2069.43		595.00 *15*	100	1474.43	25/2$^-$			
2074.49+x	(21/2$^-$)	245.07 *11*	100	1829.42+x	(19/2$^-$)	[M1+E2]	0.414	α(K)=0.343 *5*; α(L)=0.0544 *8*; α(M)=0.01243 *18* α(N)=0.00302 *5*; α(O)=0.000507 *8*; α(P)=3.72×10^{-5} *6*
2080.55		606.12 *13*	100	1474.43	25/2$^-$			
2092.29+x	25/2$^+$	116.3 *10*	<7	1975.87+x	23/2$^+$	[M1]	3.35 *10*	α(K)=2.78 *8*; α(L)=0.446 *13*; α(M)=0.102 *3* α(N)=0.0247 *8*; α(O)=0.00416 *12*; α(P)=0.000304 *9*
		132.43 *10*	100 *5*	1959.86+x	23/2$^+$	M1+E2	2.32	α(K)=1.92 *3*; α(L)=0.308 *5*; α(M)=0.0703 *10* α(N)=0.01705 *25*; α(O)=0.00286 *4*; α(P)=0.000209 *3* Mult.: DCO=0.92 *19* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67).
2105.52	25/2$^+$	257.50 *12*	16.7 *16*	1848.00	23/2$^+$	[M1+E2]	0.361	α(K)=0.300 *5*; α(L)=0.0475 *7*; α(M)=0.01084 *16*

$^{177}_{75}Re_{102}$-20

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
									α(N)=0.00263 *4*; α(O)=0.000442 *7*; α(P)=3.24×10^{-5} *5* δ: +0.20 *1*, assuming K=5/2.
2105.52	25/2$^+$	498.90 *10*	100 *5*	1606.67	21/2$^+$	E2		0.0220	α(K)=0.01666 *24*; α(L)=0.00408 *6*; α(M)=0.000974 *14* α(N)=0.000234 *4*; α(O)=3.68×10^{-5} *6*; α(P)=1.648×10^{-6} *23* Mult.: A$_2$=0.25 *3*, A$_4$=−0.12 *3* (1986Wa32).
2135.13	25/2$^+$	170.2 *10*	16 *3*	1965.04	23/2$^+$	[M1]		1.139 *25*	α(K)=0.944 *21*; α(L)=0.151 *4*; α(M)=0.0345 *8* α(N)=0.00836 *19*; α(O)=0.00140 *3*; α(P)=0.0001027 *23*
		328.35 *15*	52 *10*	1806.68	(21/2$^+$)	[E2]		0.0676	α(K)=0.0460 *7*; α(L)=0.01643 *24*; α(M)=0.00402 *6* α(N)=0.000962 *14*; α(O)=0.0001459 *21*; α(P)=4.35×10^{-6} *7*
		495.17 *11*	100 *10*	1640.16	21/2$^+$	E2		0.0224	α(K)=0.01695 *24*; α(L)=0.00418 *6*; α(M)=0.000997 *14* α(N)=0.000240 *4*; α(O)=3.76×10^{-5} *6*; α(P)=1.676×10^{-6} *24* Mult.: DCO=0.92 *28* (1995Ba67).
2138.80+x	27/2$^-$	279.35 *10*	69 *3*	1859.45+x	25/2$^-$	M1+E2	+0.19 *7*	0.283 *7*	α(K)=0.234 *6*; α(L)=0.0377 *6*; α(M)=0.00862 *13* α(N)=0.00209 *3*; α(O)=0.000350 *6*; α(P)=2.53×10^{-5} *7* B(M1)(W.u.)>0.45; B(E2)(W.u.)>27 Mult.: DCO=0.75 *6* (1995Ba67); A$_2$=0.09 *6*, A$_4$=−0.01 *7* (1986Wa32). δ: Other: +0.16 *1*, assuming K=9/2.
		556.40 *10*	100 *4*	1582.43+x	23/2$^-$	E2		0.01687	α(K)=0.01302 *19*; α(L)=0.00295 *5*; α(M)=0.000700 *10* α(N)=0.0001684 *24*; α(O)=2.67×10^{-5} *4*; α(P)=1.296×10^{-6} *19* B(E2)(W.u.)>1.2×10^2 Mult.: DCO=0.95 *8* (1995Ba67); A$_2$=0.24 *11*, A$_4$=−0.11 *12* (1986Wa32).
2155.96+x	25/2$^+$	180.19 *10*	100 *7*	1975.87+x	23/2$^+$	M1+E2		0.971	α(K)=0.804 *12*; α(L)=0.1284 *18*; α(M)=0.0293 *5* α(N)=0.00712 *10*; α(O)=0.001196 *17*; α(P)=8.75×10^{-5} *13* Mult.: DCO=1.15 *16* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67).
		196.0 *10*	<41	1959.86+x	23/2$^+$	[M1]		0.767 *16*	α(K)=0.636 *13*; α(L)=0.1014 *21*; α(M)=0.0232 *5* α(N)=0.00562 *12*; α(O)=0.000944 *19*; α(P)=6.91×10^{-5} *14*
2179.9+x?	(23/2)	227.08 *14*	100	1952.9+x?	(21/2)				
2184.61+x	25/2$^+$	196.10 *10*	100 *6*	1988.55+x	23/2$^+$	[M1+E2]		0.766	α(K)=0.635 *9*; α(L)=0.1013 *15*; α(M)=0.0231 *4* α(N)=0.00561 *8*; α(O)=0.000943 *14*; α(P)=6.90×10^{-5} *10*
		366.80 *17*	27 *6*	1817.67+x	21/2$^+$	[E2]		0.0493	α(K)=0.0348 *5*; α(L)=0.01110 *16*; α(M)=0.00270 *4* α(N)=0.000647 *10*; α(O)=9.90×10^{-5} *14*; α(P)=3.34×10^{-6} *5*
2191.74	25/2$^+$	257.05 *11*	41 *4*	1934.58	23/2$^+$	[M1+E2]		0.363	α(K)=0.301 *5*; α(L)=0.0477 *7*; α(M)=0.01090 *16* α(N)=0.00264 *4*; α(O)=0.000444 *7*; α(P)=3.26×10^{-5} *5*
		343.9 *10*	11.3 *24*	1848.00	23/2$^+$	[M1]		0.165 *3*	α(K)=0.1369 *22*; α(L)=0.0215 *4*; α(M)=0.00492 *8* α(N)=0.001192 *20*; α(O)=0.000201 *4*; α(P)=1.475×10^{-5} *24*
		505.84 *11*	100 *7*	1686.04	21/2$^+$	[E2]		0.0212	α(K)=0.01614 *23*; α(L)=0.00391 *6*; α(M)=0.000933 *13* α(N)=0.000224 *4*; α(O)=3.53×10^{-5} *5*; α(P)=1.598×10^{-6} *23*
2214.46		740.03 *14*	100	1474.43	25/2$^-$				
2215.04	25/2$^-$	363.97 *14*	66 *11*	1851.01	21/2$^-$	[E2]		0.0504	α(K)=0.0355 *5*; α(L)=0.01141 *16*; α(M)=0.00277 *4* α(N)=0.000665 *10*; α(O)=0.0001016 *15*; α(P)=3.40×10^{-6} *5*

$^{177}_{75}Re_{102}$-21

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
2215.04	25/2$^-$	1249.38 *14*	100 *13*	965.58	21/2$^-$	(E2)	0.00307	α(K)=0.00253 *4*; α(L)=0.000407 *6*; α(M)=9.32×10^{-5} *13* α(N)=2.25×10^{-5} *4*; α(O)=3.73×10^{-6} *6*; α(P)=2.54×10^{-7} *4*; α(IPF)=9.97×10^{-6} *14* Mult.: DCO=0.83 *11* (1995Ba67).
2252.6		778.2 *3*	100	1474.43	25/2$^-$			
2273.64+x	27/2$^+$	117.2 *10*	<8	2155.96+x	25/2$^+$	[M1]	3.28 *10*	α(K)=2.72 *8*; α(L)=0.436 *13*; α(M)=0.100 *3* α(N)=0.0242 *7*; α(O)=0.00406 *12*; α(P)=0.000297 *9*
		181.31 *10*	100 *4*	2092.29+x	25/2$^+$	M1+E2	0.954	α(K)=0.791 *12*; α(L)=0.1262 *18*; α(M)=0.0288 *4* α(N)=0.00699 *10*; α(O)=0.001175 *17*; α(P)=8.60×10^{-5} *13* Mult.: DCO=1.15 *16* is obtained by gating on the dipole (E1, ΔJ=1) 1086.4 keV γ ray (1995Ba67).
2304.95	27/2$^+$	419.18 *10*	100 *6*	1885.83	23/2$^+$	E2	0.0344	α(K)=0.0251 *4*; α(L)=0.00708 *10*; α(M)=0.001706 *24* α(N)=0.000409 *6*; α(O)=6.34×10^{-5} *9*; α(P)=2.45×10^{-6} *4* Mult.: DCO=0.98 *10* (1995Ba67).
		456.98 *11*	72 *5*	1848.00	23/2$^+$	E2	0.0274	α(K)=0.0204 *3*; α(L)=0.00536 *8*; α(M)=0.001285 *18* α(N)=0.000309 *5*; α(O)=4.81×10^{-5} *7*; α(P)=2.01×10^{-6} *3* Mult.: DCO=0.86 *12* (1995Ba67).
2309.79		458.72 *21*	28 *7*	1851.01	21/2$^-$			
		835.51 *13*	100 *12*	1474.43	25/2$^-$			
2331.21+x	(23/2$^-$)	256.43 *11*	100	2074.49+x	(21/2$^-$)	[M1+E2]	0.365	α(K)=0.303 *5*; α(L)=0.0480 *7*; α(M)=0.01097 *16* α(N)=0.00266 *4*; α(O)=0.000447 *7*; α(P)=3.28×10^{-5} *5*
2337.31	27/2$^+$	202.2 *10*	21 *5*	2135.13	25/2$^+$	[M1]	0.704 *14*	α(K)=0.583 *12*; α(L)=0.0929 *19*; α(M)=0.0212 *5* α(N)=0.00515 *11*; α(O)=0.000866 *18*; α(P)=6.34×10^{-5} *13*
		372.36 *12*	100 *12*	1965.04	23/2$^+$	E2	0.0473	α(K)=0.0335 *5*; α(L)=0.01054 *15*; α(M)=0.00256 *4* α(N)=0.000613 *9*; α(O)=9.40×10^{-5} *14*; α(P)=3.23×10^{-6} *5* Mult.: DCO=0.93 *13* (1995Ba67).
		489.14 *12*	90 *10*	1848.00	23/2$^+$	E2	0.0231	α(K)=0.01743 *25*; α(L)=0.00434 *6*; α(M)=0.001036 *15* α(N)=0.000249 *4*; α(O)=3.90×10^{-5} *6*; α(P)=1.723×10^{-6} *25* Mult.: DCO=1.20 *10* (1995Ba67).
2367.06+x	27/2$^+$	211.33 *10*	100 *7*	2155.96+x	25/2$^+$	[M1+E2]	0.622	α(K)=0.516 *8*; α(L)=0.0822 *12*; α(M)=0.0188 *3* α(N)=0.00455 *7*; α(O)=0.000765 *11*; α(P)=5.60×10^{-5} *8* δ: 0.50 *5*, assuming K=21/2.
		391.01 *13*	51 *7*	1975.87+x	23/2$^+$	[E2]	0.0414	α(K)=0.0297 *5*; α(L)=0.00892 *13*; α(M)=0.00216 *3* α(N)=0.000518 *8*; α(O)=7.97×10^{-5} *12*; α(P)=2.88×10^{-6} *4*
2374.90	27/2$^-$	575.59 *12*	100 *10*	1799.35	23/2$^-$	[E2]	0.01557	α(K)=0.01208 *17*; α(L)=0.00268 *4*; α(M)=0.000634 *9* α(N)=0.0001525 *22*; α(O)=2.42×10^{-5} *4*; α(P)=1.204×10^{-6} *17*
		900.64 *14*	57 *7*	1474.43	25/2$^-$	M1(+E2)	0.01356	α(K)=0.01132 *16*; α(L)=0.001728 *25*; α(M)=0.000393 *6* α(N)=9.52×10^{-5} *14*; α(O)=1.605×10^{-5} *23*; α(P)=1.196×10^{-6} *17* Mult.: DCO=0.13 *6* (1995Ba67).
2381.21	(27/2$^+$)	275.58 *11*	35 *3*	2105.52	25/2$^+$	[M1+E2]	0.300	α(K)=0.249 *4*; α(L)=0.0394 *6*; α(M)=0.00900 *13* α(N)=0.00218 *3*; α(O)=0.000367 *6*; α(P)=2.69×10^{-5} *4* δ: +0.13 *1*, assuming K=5/2.

$^{177}_{75}Re_{102}$-22

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[†]	δ[‡&]	α[@]	Comments
2381.21	(27/2$^+$)	533.17 *10*	100 *5*	1848.00	23/2$^+$	[E2]		0.0187	α(K)=0.01432 *20*; α(L)=0.00334 *5*; α(M)=0.000795 *12* α(N)=0.000191 *3*; α(O)=3.02×10^{-5} *5*; α(P)=1.423×10^{-6} *20*
2406.12+x	27/2$^+$	221.50 *11*	100 *10*	2184.61+x	25/2$^+$	[M1+E2]		0.546	α(K)=0.453 *7*; α(L)=0.0721 *11*; α(M)=0.01646 *24* α(N)=0.00399 *6*; α(O)=0.000671 *10*; α(P)=4.92×10^{-5} *7* δ: 0.22 *3*, assuming K=17/2.
		417.62 *19*	36 *7*	1988.55+x	23/2$^+$	[E2]		0.0347	α(K)=0.0253 *4*; α(L)=0.00716 *10*; α(M)=0.001728 *25* α(N)=0.000415 *6*; α(O)=6.41×10^{-5} *9*; α(P)=2.47×10^{-6} *4*
2407.9+x?	(25/2)	228.00 *17*	100 *15*	2179.9+x?	(23/2)				
		455.0 *11*	<25	1952.9+x?	(21/2)				
2428.36+x	29/2$^-$	289.45 *10*	54.9 *23*	2138.80+x	27/2$^-$	M1+E2	+0.16 *9*	0.258 *7*	α(K)=0.214 *6*; α(L)=0.0342 *6*; α(M)=0.00783 *12* α(N)=0.00190 *3*; α(O)=0.000318 *6*; α(P)=2.31×10^{-5} *7* Mult.: DCO=0.76 *8* (1995Ba67); A_2=0.02 *7*, A_4=0.03 *7* (1986Wa32). δ: Other: +0.17 *1*, assuming K=9/2.
		568.87 *10*	100 *4*	1859.45+x	25/2$^-$	E2		0.01600	α(K)=0.01239 *18*; α(L)=0.00277 *4*; α(M)=0.000656 *10* α(N)=0.0001578 *23*; α(O)=2.50×10^{-5} *4*; α(P)=1.235×10^{-6} *18* Mult.: DCO=1.02 *6* (1995Ba67); A_2=0.31 *8*, A_4=−0.07 *9* (1986Wa32).
2462.71	27/2$^+$	270.95 *15*	19 *4*	2191.74	25/2$^+$	[M1+E2]		0.314	α(K)=0.261 *4*; α(L)=0.0413 *6*; α(M)=0.00943 *14* α(N)=0.00229 *4*; α(O)=0.000384 *6*; α(P)=2.82×10^{-5} *4* δ: +0.24 *2*, assuming K=7/2.
		357.2 *10*	11 *4*	2105.52	25/2$^+$	[M1]		0.1489 *24*	α(K)=0.1237 *20*; α(L)=0.0194 *3*; α(M)=0.00444 *7* α(N)=0.001076 *18*; α(O)=0.000181 *3*; α(P)=1.332×10^{-5} *22*
		528.10 *11*	100 *7*	1934.58	23/2$^+$	[E2]		0.0191	α(K)=0.01464 *21*; α(L)=0.00344 *5*; α(M)=0.000818 *12* α(N)=0.000197 *3*; α(O)=3.10×10^{-5} *5*; α(P)=1.453×10^{-6} *21*
2489.65+x	29/2$^+$	216.14 *10*	100 *4*	2273.64+x	27/2$^+$	[M1+E2]		0.585	α(K)=0.485 *7*; α(L)=0.0772 *11*; α(M)=0.01763 *25* α(N)=0.00427 *6*; α(O)=0.000718 *11*; α(P)=5.26×10^{-5} *8* δ: 0.21 *2*, assuming K=23/2.
		397.07 *17*	9.5 *16*	2092.29+x	25/2$^+$	[E2]		0.0397	α(K)=0.0286 *4*; α(L)=0.00847 *12*; α(M)=0.00205 *3* α(N)=0.000491 *7*; α(O)=7.57×10^{-5} *11*; α(P)=2.77×10^{-6} *4*
2489.68	29/2$^+$	449.60 *10*	100	2039.93	25/2$^+$	E2		0.0286	α(K)=0.0212 *3*; α(L)=0.00564 *8*; α(M)=0.001355 *19* α(N)=0.000325 *5*; α(O)=5.06×10^{-5} *7*; α(P)=2.08×10^{-6} *3* Mult.: DCO=1.18 *20* (1995Ba67). A_2=0.24 *2*, A_4=−0.045 *20* (1986Wa32).
2559.74	(27/2)	1085.31 *16*	100	1474.43	25/2$^-$	D			Mult.: DCO=0.59 *10* (1995Ba67).
2564.25	(27/2)	515.79 *15*	100 *17*	2048.44	(23/2)	[E2]		0.0203	α(K)=0.01544 *22*; α(L)=0.00369 *6*; α(M)=0.000879 *13* α(N)=0.000211 *3*; α(O)=3.33×10^{-5} *5*; α(P)=1.531×10^{-6} *22*
		1090.2 *6*	28 *17*	1474.43	25/2$^-$	D			Mult.: DCO=0.24 *17* (1995Ba67).
2570.70	29/2$^+$	435.73 *11*	63 *5*	2135.13	25/2$^+$	E2		0.0310	α(K)=0.0229 *4*; α(L)=0.00624 *9*; α(M)=0.001501 *21* α(N)=0.000360 *5*; α(O)=5.59×10^{-5} *8*; α(P)=2.24×10^{-6} *4* Mult.: DCO=0.97 *11* (1995Ba67).
		530.75 *11*	100 *7*	2039.93	25/2$^+$	E2		0.0189	α(K)=0.01447 *21*; α(L)=0.00339 *5*; α(M)=0.000806 *12*

$^{177}_{75}Re_{102}$-23

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
								α(N)=0.000194 *3*; α(O)=3.06×10^{-5} *5*; α(P)=1.437×10^{-6} *21* Mult.: DCO=0.99 *8* (1995Ba67).
2572.93	29/2$^-$	357.82 *11*	100 *10*	2215.04	25/2$^-$	[E2]	0.0529	α(K)=0.0370 *6*; α(L)=0.01210 *17*; α(M)=0.00295 *5* α(N)=0.000706 *10*; α(O)=0.0001078 *16*; α(P)=3.54×10^{-6} *5*
		1098.43 *13*	98 *10*	1474.43	25/2$^-$	E2	0.00393	α(K)=0.00323 *5*; α(L)=0.000537 *8*; α(M)=0.0001234 *18* α(N)=2.98×10^{-5} *5*; α(O)=4.92×10^{-6} *7*; α(P)=3.24×10^{-7} *5* Mult.: DCO=1.16 *18* (1995Ba67).
2578.47	(27/2)	1104.04 *17*	100	1474.43	25/2$^-$			
2603.79+x	(25/2$^-$)	272.24 *12*	100 *11*	2331.21+x	(23/2$^-$)	[M1+E2]	0.310	α(K)=0.257 *4*; α(L)=0.0407 *6*; α(M)=0.00930 *13* α(N)=0.00226 *4*; α(O)=0.000379 *6*; α(P)=2.78×10^{-5} *4* δ: 0.28 *3*, assuming K=15/2.
		529.98 *17*	76 *16*	2074.49+x	(21/2$^-$)	[E2]	0.0190	α(K)=0.01452 *21*; α(L)=0.00340 *5*; α(M)=0.000809 *12* α(N)=0.000195 *3*; α(O)=3.07×10^{-5} *5*; α(P)=1.442×10^{-6} *21*
2604.62+x	29/2$^+$	237.65 *11*	100 *12*	2367.06+x	27/2$^+$	[M1+E2]	0.450	α(K)=0.373 *6*; α(L)=0.0593 *9*; α(M)=0.01354 *19* α(N)=0.00328 *5*; α(O)=0.000552 *8*; α(P)=4.05×10^{-5} *6* δ: 0.53 *5*, assuming K=21/2.
		448.41 *14*	94 *15*	2155.96+x	25/2$^+$	[E2]	0.0288	α(K)=0.0214 *3*; α(L)=0.00569 *8*; α(M)=0.001366 *20* α(N)=0.000328 *5*; α(O)=5.11×10^{-5} *8*; α(P)=2.10×10^{-6} *3*
2626.9+x?	(27/2)	219.02 *11*	100	2407.9+x?	(25/2)			
2643.03	(29/2$^+$)	261.32 *16*	13.1 *23*	2381.21	(27/2$^+$)	[M1+E2]	0.347	α(K)=0.288 *4*; α(L)=0.0456 *7*; α(M)=0.01041 *15* α(N)=0.00253 *4*; α(O)=0.000425 *6*; α(P)=3.11×10^{-5} *5* δ: +0.17 *1*, assuming K=5/2.
		537.64 *10*	100 *5*	2105.52	25/2$^+$	[E2]	0.0183	α(K)=0.01406 *20*; α(L)=0.00326 *5*; α(M)=0.000775 *11* α(N)=0.000186 *3*; α(O)=2.95×10^{-5} *5*; α(P)=1.397×10^{-6} *20*
2648.24+x	29/2$^+$	242.09 *11*	100 *9*	2406.12+x	27/2$^+$	[M1+E2]	0.428	α(K)=0.355 *5*; α(L)=0.0563 *8*; α(M)=0.01286 *18* α(N)=0.00312 *5*; α(O)=0.000524 *8*; α(P)=3.84×10^{-5} *6* δ: 0.21 *2*, assuming K=17/2.
		463.61 *17*	43 *9*	2184.61+x	25/2$^+$	[E2]	0.0264	α(K)=0.0198 *3*; α(L)=0.00512 *8*; α(M)=0.001227 *18* α(N)=0.000295 *5*; α(O)=4.60×10^{-5} *7*; α(P)=1.94×10^{-6} *3*
2720.73	33/2$^-$	655.75 *10*	100	2064.96	29/2$^-$	E2	0.01154	α(K)=0.00911 *13*; α(L)=0.00187 *3*; α(M)=0.000439 *7* α(N)=0.0001057 *15*; α(O)=1.695×10^{-5} *24*; α(P)=9.12×10^{-7} *13* Mult.: A_2=0.25 *3*, A_4=−0.07 *3* (1986Wa32).
2722.64+x	31/2$^-$	294.07 *10*	51 *3*	2428.36+x	29/2$^-$	(M1+E2)	0.251	α(K)=0.209 *3*; α(L)=0.0330 *5*; α(M)=0.00753 *11* α(N)=0.00183 *3*; α(O)=0.000307 *5*; α(P)=2.25×10^{-5} *4* Mult.: A_2=−0.09 *5*, A_4=0.05 *7* (1986Wa32). δ: +0.16 *1*, assuming K=9/2.
		583.98 *10*	100 *4*	2138.80+x	27/2$^-$	E2	0.01505	α(K)=0.01170 *17*; α(L)=0.00257 *4*; α(M)=0.000608 *9* α(N)=0.0001463 *21*; α(O)=2.33×10^{-5} *4*; α(P)=1.167×10^{-6} *17* Mult.: DCO=1.17 *15* (1995Ba67); A_2=0.25 *3*, A_4=−0.01 *3* (1986Wa32).
2726.14		661.18 *14*	100	2064.96	29/2$^-$			
2734.00+x	31/2$^+$	244.38 *10*	100 *4*	2489.65+x	29/2$^+$	M1+E2	0.417	α(K)=0.346 *5*; α(L)=0.0549 *8*; α(M)=0.01253 *18* α(N)=0.00304 *5*; α(O)=0.000511 *8*; α(P)=3.75×10^{-5} *6*

$^{177}_{75}Re_{102}$-24

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
								Mult.: DCO=0.80 *17* (1995Ba67). δ: 0.29 *1*, assuming K=23/2.
2734.00+x	31/2$^+$	460.32 *11*	29.3 *24*	2273.64+x	27/2$^+$	[E2]	0.0269	α(K)=0.0201 *3*; α(L)=0.00524 *8*; α(M)=0.001255 *18* α(N)=0.000302 *5*; α(O)=4.70×10^{-5} *7*; α(P)=1.98×10^{-6} *3*
2748.82	29/2$^+$	367.9 *10*	29 *3*	2381.21	(27/2$^+$)	[M1+E2]	0.1376 *22*	α(K)=0.1143 *18*; α(L)=0.0180 *3*; α(M)=0.00410 *7* α(N)=0.000994 *16*; α(O)=0.000167 *3*; α(P)=1.230×10^{-5} *20*
		557.11 *11*	100 *7*	2191.74	25/2$^+$	[E2]	0.01682	α(K)=0.01298 *19*; α(L)=0.00294 *5*; α(M)=0.000697 *10* α(N)=0.0001678 *24*; α(O)=2.66×10^{-5} *4*; α(P)=1.293×10^{-6} *19*
2780.19		470.49 *11*	100 *7*	2309.79				
		715.08 *14*	86 *9*	2064.96	29/2$^-$			
2783.11	31/2$^+$	478.19 *10*	100	2304.95	27/2$^+$	E2	0.0244	α(K)=0.0184 *3*; α(L)=0.00465 *7*; α(M)=0.001112 *16* α(N)=0.000267 *4*; α(O)=4.18×10^{-5} *6*; α(P)=1.81×10^{-6} *3* Mult.: DCO=1.02 *6* (1995Ba67).
2809.52	31/2$^+$	320.0 *10*	11.0 *22*	2489.68	29/2$^+$	[M1]	0.200 *4*	α(K)=0.166 *3*; α(L)=0.0262 *5*; α(M)=0.00598 *10* α(N)=0.001450 *24*; α(O)=0.000244 *4*; α(P)=1.79×10^{-5} *3*
		472.14 *11*	100 *8*	2337.31	27/2$^+$	[E2]	0.0252	α(K)=0.0189 *3*; α(L)=0.00484 *7*; α(M)=0.001158 *17* α(N)=0.000278 *4*; α(O)=4.35×10^{-5} *6*; α(P)=1.87×10^{-6} *3*
		504.65 *12*	51 *4*	2304.95	27/2$^+$	E2	0.0214	α(K)=0.01623 *23*; α(L)=0.00394 *6*; α(M)=0.000940 *14* α(N)=0.000226 *4*; α(O)=3.55×10^{-5} *5*; α(P)=1.607×10^{-6} *23* Mult.: DCO=0.78 *30* (1995Ba67).
2863.04+x	(29/2$^+$)	236.09 *11*	47 *6*	2626.9+x?	(27/2)			
		455.1 *10*	<16	2407.9+x?	(25/2)			
		589.18 *12*	90 *13*	2273.64+x	27/2$^+$	[M1+E2]	0.0400	α(K)=0.0333 *5*; α(L)=0.00515 *8*; α(M)=0.001174 *17* α(N)=0.000285 *4*; α(O)=4.79×10^{-5} *7*; α(P)=3.55×10^{-6} *5*
		770.97 *12*	100 *13*	2092.29+x	25/2$^+$	(E2)	0.00809	α(K)=0.00650 *9*; α(L)=0.001228 *18*; α(M)=0.000286 *4* α(N)=6.90×10^{-5} *10*; α(O)=1.118×10^{-5} *16*; α(P)=6.52×10^{-7} *10* Mult.: DCO≈1.5 is obtained by gating on the K^π=(29/2$^+$) in-band ΔJ=1 transitions (1995Ba67).
2864.96+x	31/2$^+$	260.20 *11*	40 *6*	2604.62+x	29/2$^+$	[M1+E2]	0.351	α(K)=0.291 *4*; α(L)=0.0461 *7*; α(M)=0.01054 *15* α(N)=0.00256 *4*; α(O)=0.000430 *6*; α(P)=3.15×10^{-5} *5* δ: 0.80 *11*, assuming K=21/2.
		497.96 *11*	100 *10*	2367.06+x	27/2$^+$	[E2]	0.0221	α(K)=0.01673 *24*; α(L)=0.00410 *6*; α(M)=0.000980 *14* α(N)=0.000235 *4*; α(O)=3.70×10^{-5} *6*; α(P)=1.655×10^{-6} *24*
2913.39+x	31/2$^+$	265.14 *11*	100 *10*	2648.24+x	29/2$^+$	[M1+E2]	0.333	α(K)=0.277 *4*; α(L)=0.0438 *7*; α(M)=0.01000 *14* α(N)=0.00243 *4*; α(O)=0.000408 *6*; α(P)=2.99×10^{-5} *5* δ: 0.24 *2*, assuming K=17/2.
		507.33 *15*	74 *14*	2406.12+x	27/2$^+$	[E2]	0.0211	α(K)=0.01603 *23*; α(L)=0.00388 *6*; α(M)=0.000925 *13* α(N)=0.000222 *4*; α(O)=3.50×10^{-5} *5*; α(P)=1.588×10^{-6} *23*
2942.41	(31/2$^+$)	299.29 *16*	19 *4*	2643.03	(29/2$^+$)	[M1+E2]	0.240	α(K)=0.199 *3*; α(L)=0.0314 *5*; α(M)=0.00718 *10* α(N)=0.001740 *25*; α(O)=0.000293 *5*; α(P)=2.15×10^{-5} *3* δ: +0.16 *1*, assuming K=5/2.
		561.28 *11*	100 *8*	2381.21	(27/2$^+$)	[E2]	0.01652	α(K)=0.01277 *18*; α(L)=0.00288 *4*; α(M)=0.000682 *10* α(N)=0.0001642 *23*; α(O)=2.60×10^{-5} *4*; α(P)=1.272×10^{-6} *18*

$^{177}_{75}Re_{102}$-25

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
2955.9	(31/2$^+$)	574.66 *21*	100	2381.21	(27/2$^+$)	E2	0.01563	α(K)=0.01212 *17*; α(L)=0.00269 *4*; α(M)=0.000637 *9* α(N)=0.0001533 *22*; α(O)=2.43×10^{-5} *4*; α(P)=1.208×10^{-6} *17* Mult.: DCO=0.86 *11* (1995Ba67).
2990.24	33/2$^+$	500.55 *10*	100	2489.68	29/2$^+$	E2	0.0218	α(K)=0.01653 *24*; α(L)=0.00404 *6*; α(M)=0.000964 *14* α(N)=0.000232 *4*; α(O)=3.64×10^{-5} *5*; α(P)=1.636×10^{-6} *23* Mult.: DCO=1.01 *6* (1995Ba67). A_2=0.25 *3*, A_4=−0.12 *3* (1986Wa32).
2993.14	33/2$^-$	420.07 *11*	98 *7*	2572.93	29/2$^-$	[E2]	0.0342	α(K)=0.0250 *4*; α(L)=0.00703 *10*; α(M)=0.001694 *24* α(N)=0.000407 *6*; α(O)=6.29×10^{-5} *9*; α(P)=2.43×10^{-6} *4*
		928.17 *12*	100 *9*	2064.96	29/2$^-$	E2	0.00550	α(K)=0.00448 *7*; α(L)=0.000785 *11*; α(M)=0.000181 *3* α(N)=4.38×10^{-5} *7*; α(O)=7.17×10^{-6} *10*; α(P)=4.50×10^{-7} *7* Mult.: DCO=0.96 *16* (1995Ba67).
3001.45	31/2$^-$	626.68 *11*	100 *9*	2374.90	27/2$^-$	[E2]	0.01278	α(K)=0.01003 *14*; α(L)=0.00211 *3*; α(M)=0.000497 *7* α(N)=0.0001198 *17*; α(O)=1.91×10^{-5} *3*; α(P)=1.003×10^{-6} *14*
		938.6 *10*	11 *5*	2064.96	29/2$^-$	M1(+E2)	0.01222	α(K)=0.01021 *15*; α(L)=0.001556 *23*; α(M)=0.000354 *5* α(N)=8.57×10^{-5} *13*; α(O)=1.446×10^{-5} *21*; α(P)=1.078×10^{-6} *16* Mult.: DCO=0.45 *13* (1995Ba67).
3002.7+x	33/2$^+$	268.69 *10*	100 *5*	2734.00+x	31/2$^+$	M1+E2	0.321	α(K)=0.267 *4*; α(L)=0.0422 *6*; α(M)=0.00965 *14* α(N)=0.00234 *4*; α(O)=0.000393 *6*; α(P)=2.89×10^{-5} *4* Mult.: DCO=0.92 *14* (1995Ba67). δ: 0.43 *2*, assuming K=23/2.
		513.04 *11*	90 *6*	2489.65+x	29/2$^+$	[E2]	0.0205	α(K)=0.01563 *22*; α(L)=0.00375 *6*; α(M)=0.000893 *13* α(N)=0.000215 *3*; α(O)=3.38×10^{-5} *5*; α(P)=1.549×10^{-6} *22*
3017.43+x	33/2$^-$	294.80 *10*	66 *3*	2722.64+x	31/2$^-$	(M1+E2)	0.250	α(K)=0.207 *3*; α(L)=0.0328 *5*; α(M)=0.00748 *11* α(N)=0.00181 *3*; α(O)=0.000305 *5*; α(P)=2.24×10^{-5} *4* Mult.: A_2=−0.09 *5*, A_4=0.05 *7* (1986Wa32). δ: +0.13 *1*, assuming K=9/2.
		589.14 *10*	100 *4*	2428.36+x	29/2$^-$	[E2]	0.01474	α(K)=0.01148 *16*; α(L)=0.00251 *4*; α(M)=0.000593 *9* α(N)=0.0001426 *20*; α(O)=2.27×10^{-5} *4*; α(P)=1.145×10^{-6} *16*
3041.11	31/2$^+$	292.34 *12*	47 *7*	2748.82	29/2$^+$	[M1+E2]	0.255	α(K)=0.212 *3*; α(L)=0.0335 *5*; α(M)=0.00765 *11* α(N)=0.00186 *3*; α(O)=0.000312 *5*; α(P)=2.29×10^{-5} *4* δ: +0.13 *1*, assuming K=7/2.
		578.36 *11*	100 *10*	2462.71	27/2$^+$	[E2]	0.01539	α(K)=0.01195 *17*; α(L)=0.00264 *4*; α(M)=0.000625 *9* α(N)=0.0001504 *21*; α(O)=2.39×10^{-5} *4*; α(P)=1.192×10^{-6} *17*
3057.43+x	33/2$^-$	629.09 *11*	100	2428.36+x	29/2$^-$	E2	0.01267	α(K)=0.00995 *14*; α(L)=0.00209 *3*; α(M)=0.000492 *7* α(N)=0.0001185 *17*; α(O)=1.89×10^{-5} *3*; α(P)=9.95×10^{-7} *14* Mult.: DCO=1.13 *12* (1995Ba67).
3080.5		1015.5 *10*	100	2064.96	29/2$^-$			
3085.8+x	(31/2$^+$)	222.80 *10*	100	2863.04+x	(29/2$^+$)	[M1+E2]	0.538	α(K)=0.446 *7*; α(L)=0.0709 *10*; α(M)=0.01620 *23* α(N)=0.00393 *6*; α(O)=0.000660 *10*; α(P)=4.84×10^{-5} *7*
3094.43	33/2$^+$	523.84 *10*	100 *5*	2570.70	29/2$^+$	E2	0.0195	α(K)=0.01491 *21*; α(L)=0.00352 *5*; α(M)=0.000839 *12* α(N)=0.000202 *3*; α(O)=3.18×10^{-5} *5*; α(P)=1.479×10^{-6} *21* Mult.: DCO=1.12 *12* (1995Ba67).

$^{177}_{75}Re_{102}$-26

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. †	α @	Comments
3094.43	33/2$^+$	604.53 *13*	21.8 *24*	2489.68	29/2$^+$	[E2]	0.01389	α(K)=0.01085 *16*; α(L)=0.00233 *4*; α(M)=0.000551 *8* α(N)=0.0001325 *19*; α(O)=2.11×10^{-5} *3*; α(P)=1.083×10^{-6} *16*
3123.8	(29/2,31/2)	1058.85 *19*	100	2064.96	29/2$^-$	D		Mult.: DCO=0.22 *17* (1995Ba67).
3144.87+x	33/2$^+$	279.80 *12*	66 *7*	2864.96+x	31/2$^+$	[M1+E2]	0.288	α(K)=0.239 *4*; α(L)=0.0378 *6*; α(M)=0.00863 *13* α(N)=0.00209 *3*; α(O)=0.000352 *5*; α(P)=2.58×10^{-5} *4* δ: 0.46 *4*, assuming K=21/2.
		540.36 *12*	100 *11*	2604.62+x	29/2$^+$	[E2]	0.0181	α(K)=0.01390 *20*; α(L)=0.00322 *5*; α(M)=0.000764 *11* α(N)=0.000184 *3*; α(O)=2.90×10^{-5} *4*; α(P)=1.382×10^{-6} *20*
3182.0		1217.0 *10*	100	1965.04	23/2$^+$			
3187.33	33/2$^+$	244.96 *14*	56 *8*	2942.41	(31/2$^+$)	[M1+E2]	0.414	α(K)=0.343 *5*; α(L)=0.0545 *8*; α(M)=0.01245 *18* α(N)=0.00302 *5*; α(O)=0.000508 *8*; α(P)=3.72×10^{-5} *6* δ: +0.06 *1*, assuming K=5/2.
		544.24 *14*	100 *14*	2643.03	(29/2$^+$)	[E2]	0.01778	α(K)=0.01368 *20*; α(L)=0.00315 *5*; α(M)=0.000748 *11* α(N)=0.000180 *3*; α(O)=2.84×10^{-5} *4*; α(P)=1.360×10^{-6} *19*
3198.15+x	33/2$^+$	284.79 *12*	100 *11*	2913.39+x	31/2$^+$	[M1+E2]	0.274	α(K)=0.228 *4*; α(L)=0.0360 *5*; α(M)=0.00822 *12* α(N)=0.00199 *3*; α(O)=0.000335 *5*; α(P)=2.46×10^{-5} *4* δ: 0.15 *3*, assuming K=17/2.
		549.7 *3*	41 *15*	2648.24+x	29/2$^+$	[E2]	0.01736	α(K)=0.01338 *19*; α(L)=0.00306 *5*; α(M)=0.000726 *11* α(N)=0.0001745 *25*; α(O)=2.76×10^{-5} *4*; α(P)=1.331×10^{-6} *19*
3208.71	(33/2$^+$)	565.68 *12*	100	2643.03	(29/2$^+$)	[E2]	0.01622	α(K)=0.01255 *18*; α(L)=0.00282 *4*; α(M)=0.000667 *10* α(N)=0.0001604 *23*; α(O)=2.54×10^{-5} *4*; α(P)=1.250×10^{-6} *18*
3251.90+x	35/2$^-$	194.7 *10*	31.3 *15*	3057.43+x	33/2$^-$	M1+E2	0.782 *16*	α(K)=0.648 *13*; α(L)=0.1033 *21*; α(M)=0.0236 *5* α(N)=0.00573 *12*; α(O)=0.000962 *20*; α(P)=7.04×10^{-5} *15* Mult.: DCO=0.64 *14* (1995Ba67).
		234.41 *10*	100 *5*	3017.43+x	33/2$^-$	M1+E2	0.467	α(K)=0.388 *6*; α(L)=0.0616 *9*; α(M)=0.01407 *20* α(N)=0.00341 *5*; α(O)=0.000573 *8*; α(P)=4.20×10^{-5} *6* Mult.: DCO=0.57 *11* (1995Ba67). δ: +0.05 *1*, assuming K=9/2.
		529.13 *12*	43 *5*	2722.64+x	31/2$^-$	[E2]	0.0190	α(K)=0.01457 *21*; α(L)=0.00342 *5*; α(M)=0.000813 *12* α(N)=0.000196 *3*; α(O)=3.09×10^{-5} *5*; α(P)=1.447×10^{-6} *21*
3291.8+x	35/2$^+$	288.98 *10*	95 *5*	3002.7+x	33/2$^+$	[M1+E2]	0.264	α(K)=0.219 *3*; α(L)=0.0346 *5*; α(M)=0.00790 *11* α(N)=0.00192 *3*; α(O)=0.000322 *5*; α(P)=2.36×10^{-5} *4* δ: 0.40 *2*, assuming K=23/2.
		557.77 *11*	100 *6*	2734.00+x	31/2$^+$	[E2]	0.01677	α(K)=0.01295 *19*; α(L)=0.00293 *5*; α(M)=0.000695 *10* α(N)=0.0001672 *24*; α(O)=2.65×10^{-5} *4*; α(P)=1.289×10^{-6} *18*
3306.05		525.86 *12*	100	2780.19		[E2]	0.0193	α(K)=0.01478 *21*; α(L)=0.00348 *5*; α(M)=0.000829 *12* α(N)=0.000199 *3*; α(O)=3.14×10^{-5} *5*; α(P)=1.467×10^{-6} *21*
3316.3+x	(33/2$^+$)	230.44 *10*	100 *6*	3085.8+x	(31/2$^+$)	[M1+E2]	0.490	α(K)=0.406 *6*; α(L)=0.0646 *9*; α(M)=0.01475 *21* α(N)=0.00358 *5*; α(O)=0.000601 *9*; α(P)=4.41×10^{-5} *7*
		453.0 *4*	<6	2863.04+x	(29/2$^+$)	[E2]	0.0281	α(K)=0.0209 *3*; α(L)=0.00551 *8*; α(M)=0.001322 *19* α(N)=0.000317 *5*; α(O)=4.95×10^{-5} *7*; α(P)=2.05×10^{-6} *3*
3327.53	35/2$^+$	337.22 *14*	20 *3*	2990.24	33/2$^+$	M1(+E2)	0.1737	α(K)=0.1443 *21*; α(L)=0.0227 *4*; α(M)=0.00518 *8*

$^{177}_{75}Re_{102}$-27

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
								α(N)=0.001257 *18*; α(O)=0.000211 *3*; α(P)=1.555×10^{-5} *22* Mult.: DCO=0.47 *12* (1995Ba67).
3327.53	35/2$^+$	544.46 *11*	100 *7*	2783.11	31/2$^+$	E2	0.01777	α(K)=0.01367 *20*; α(L)=0.00315 *5*; α(M)=0.000747 *11* α(N)=0.000180 *3*; α(O)=2.84×10^{-5} *4*; α(P)=1.359×10^{-6} *19* Mult.: DCO=1.03 *9* (1995Ba67).
3343.88	(33/2$^+$)	595.06 *12*	100	2748.82	29/2$^+$	[E2]	0.01440	α(K)=0.01123 *16*; α(L)=0.00244 *4*; α(M)=0.000576 *8* α(N)=0.0001386 *20*; α(O)=2.21×10^{-5} *3*; α(P)=1.121×10^{-6} *16*
3349.49	(33/2$^+$)	600.67 *11*	100	2748.82	29/2$^+$	[E2]	0.01409	α(K)=0.01100 *16*; α(L)=0.00238 *4*; α(M)=0.000561 *8* α(N)=0.0001350 *19*; α(O)=2.15×10^{-5} *3*; α(P)=1.098×10^{-6} *16*
3355.97	(35/2$^+$)	546.45 *11*	100	2809.52	31/2$^+$	E2	0.01761	α(K)=0.01355 *19*; α(L)=0.00311 *5*; α(M)=0.000739 *11* α(N)=0.0001776 *25*; α(O)=2.81×10^{-5} *4*; α(P)=1.348×10^{-6} *19* Mult.: DCO=1.05 *8* (1995Ba67).
3356.08+x	35/2$^-$	298.83 *16*	21 *4*	3057.43+x	33/2$^-$	M1+E2	0.241	α(K)=0.200 *3*; α(L)=0.0316 *5*; α(M)=0.00721 *11* α(N)=0.001747 *25*; α(O)=0.000294 *5*; α(P)=2.16×10^{-5} *3* Mult.: DCO=0.92 *33* (1995Ba67).
		338.9 *10*	29 *3*	3017.43+x	33/2$^-$	[M1+E2]	0.171 *3*	α(K)=0.1424 *23*; α(L)=0.0224 *4*; α(M)=0.00512 *9* α(N)=0.001241 *20*; α(O)=0.000209 *4*; α(P)=1.535×10^{-5} *25*
		633.5 *10*	100 *4*	2722.64+x	31/2$^-$	E2	0.01247	α(K)=0.00980 *15*; α(L)=0.00205 *3*; α(M)=0.000483 *7* α(N)=0.0001162 *17*; α(O)=1.86×10^{-5} *3*; α(P)=9.81×10^{-7} *15* Mult.: DCO=0.93 *9* (1995Ba67).
3398.77	37/2$^-$	678.12 *10*	100	2720.73	33/2$^-$	E2	0.01070	α(K)=0.00848 *12*; α(L)=0.001708 *24*; α(M)=0.000401 *6* α(N)=9.65×10^{-5} *14*; α(O)=1.551×10^{-5} *22*; α(P)=8.50×10^{-7} *12* Mult.: A_2=0.33 *4*, A_4=−0.19 *5* (1986Wa32).
3439.9+x	(35/2$^+$)	574.90 *12*	100	2864.96+x	31/2$^+$	[E2]	0.01561	α(K)=0.01211 *17*; α(L)=0.00269 *4*; α(M)=0.000636 *9* α(N)=0.0001531 *22*; α(O)=2.43×10^{-5} *4*; α(P)=1.207×10^{-6} *17*
3468.84	35/2$^+$	281.51 *12*	68 *12*	3187.33	33/2$^+$	[M1+E2]	0.283	α(K)=0.235 *4*; α(L)=0.0372 *6*; α(M)=0.00849 *12* α(N)=0.00206 *3*; α(O)=0.000346 *5*; α(P)=2.54×10^{-5} *4* δ: +0.07 *1*, assuming K=5/2.
		526.43 *14*	100 *16*	2942.41	(31/2$^+$)	E2	0.0193	α(K)=0.01474 *21*; α(L)=0.00347 *5*; α(M)=0.000826 *12* α(N)=0.000199 *3*; α(O)=3.13×10^{-5} *5*; α(P)=1.463×10^{-6} *21* Mult.: DCO=0.83 *13* (1995Ba67).
3498.68+x	37/2$^-$	246.67 *10*	100 *4*	3251.90+x	35/2$^-$	M1+E2	0.406	α(K)=0.337 *5*; α(L)=0.0535 *8*; α(M)=0.01221 *18* α(N)=0.00296 *5*; α(O)=0.000498 *7*; α(P)=3.65×10^{-5} *6* Mult.: DCO=0.46 *7* (1995Ba67); δ: +0.05 *1*, assuming K=9/2.
		481.47 *12*	27.1 *22*	3017.43+x	33/2$^-$	[E2]	0.0240	α(K)=0.0181 *3*; α(L)=0.00455 *7*; α(M)=0.001088 *16* α(N)=0.000261 *4*; α(O)=4.09×10^{-5} *6*; α(P)=1.78×10^{-6} *3*
3526.44	37/2$^-$	533.14 *12*	39 *3*	2993.14	33/2$^-$	[E2]	0.0187	α(K)=0.01433 *20*; α(L)=0.00335 *5*; α(M)=0.000795 *12* α(N)=0.000191 *3*; α(O)=3.02×10^{-5} *5*; α(P)=1.423×10^{-6} *20*
		805.80 *11*	100 *6*	2720.73	33/2$^-$	E2	0.00737	α(K)=0.00594 *9*; α(L)=0.001100 *16*; α(M)=0.000256 *4* α(N)=6.17×10^{-5} *9*; α(O)=1.003×10^{-5} *14*; α(P)=5.96×10^{-7} *9* Mult.: DCO=1.26 *8* (1995Ba67).

$^{177}_{75}Re_{102}$-28

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
3565.28	37/2$^+$	575.05 *10*	100	2990.24	33/2$^+$	E2	0.01560	α(K)=0.01210 *17*; α(L)=0.00269 *4*; α(M)=0.000636 *9* α(N)=0.0001530 *22*; α(O)=2.43×10^{-5} *4*; α(P)=1.207×10^{-6} *17*
3572.5+x	(35/2$^+$)	256.29 *10*	100	3316.3+x	(33/2$^+$)	[M1+E2]	0.366	α(K)=0.303 *5*; α(L)=0.0481 *7*; α(M)=0.01099 *16* α(N)=0.00266 *4*; α(O)=0.000448 *7*; α(P)=3.29×10^{-5} *5*
3584.8	(35/2$^-$)	583.93 *20*	100 *36*	3001.45	31/2$^-$	[E2]	0.01505	α(K)=0.01170 *17*; α(L)=0.00257 *4*; α(M)=0.000608 *9* α(N)=0.0001463 *21*; α(O)=2.33×10^{-5} *4*; α(P)=1.167×10^{-6} *17*
		862.6 *3*	81 *23*	2720.73	33/2$^-$	[M1]	0.01511	α(K)=0.01262 *18*; α(L)=0.00193 *3*; α(M)=0.000438 *7* α(N)=0.0001063 *15*; α(O)=1.79×10^{-5} *3*; α(P)=1.335×10^{-6} *19*
3599.4+x	37/2$^+$	307.57 *11*	80 *5*	3291.8+x	35/2$^+$	[M1+E2]	0.223	α(K)=0.185 *3*; α(L)=0.0292 *4*; α(M)=0.00666 *10* α(N)=0.001615 *23*; α(O)=0.000272 *4*; α(P)=2.00×10^{-5} *3* δ: 0.38 *2*, assuming K=23/2.
		596.83 *11*	100 *7*	3002.7+x	33/2$^+$	[E2]	0.01430	α(K)=0.01115 *16*; α(L)=0.00242 *4*; α(M)=0.000571 *8* α(N)=0.0001375 *20*; α(O)=2.19×10^{-5} *3*; α(P)=1.114×10^{-6} *16*
3660.58	37/2$^+$	566.13 *10*	100	3094.43	33/2$^+$	E2	0.01619	α(K)=0.01253 *18*; α(L)=0.00281 *4*; α(M)=0.000665 *10* α(N)=0.0001601 *23*; α(O)=2.54×10^{-5} *4*; α(P)=1.248×10^{-6} *18* Mult.: DCO=0.91 *6* (1995Ba67).
3685.69+x	37/2$^-$	329.83 *20*	55 *10*	3356.08+x	35/2$^-$	[M1+E2]	0.184	α(K)=0.1532 *22*; α(L)=0.0241 *4*; α(M)=0.00551 *8* α(N)=0.001335 *19*; α(O)=0.000225 *4*; α(P)=1.651×10^{-5} *24* δ: 0.10 *2*, assuming K=9/2.
		627.7 *3*	52 *13*	3057.43+x	33/2$^-$	[E2]	0.01274	α(K)=0.01000 *14*; α(L)=0.00210 *3*; α(M)=0.000495 *7* α(N)=0.0001192 *17*; α(O)=1.91×10^{-5} *3*; α(P)=1.000×10^{-6} *14*
		668.23 *15*	100 *16*	3017.43+x	33/2$^-$	[E2]	0.01106	α(K)=0.00875 *13*; α(L)=0.001776 *25*; α(M)=0.000417 *6* α(N)=0.0001004 *14*; α(O)=1.612×10^{-5} *23*; α(P)=8.76×10^{-7} *13*
3747.2+x	(37/2$^+$)	602.36 *12*	100	3144.87+x	33/2$^+$	[E2]	0.01400	α(K)=0.01093 *16*; α(L)=0.00236 *4*; α(M)=0.000556 *8* α(N)=0.0001339 *19*; α(O)=2.13×10^{-5} *3*; α(P)=1.092×10^{-6} *16*
3766.74+x	39/2$^-$	268.15 *10*	100 *4*	3498.68+x	37/2$^-$	[M1+E2]	0.323	α(K)=0.268 *4*; α(L)=0.0425 *6*; α(M)=0.00970 *14* α(N)=0.00235 *4*; α(O)=0.000395 *6*; α(P)=2.90×10^{-5} *4* δ: +0.08 *1*, assuming K=9/2.
		514.78 *10*	71 *4*	3251.90+x	35/2$^-$	[E2]	0.0204	α(K)=0.01551 *22*; α(L)=0.00371 *6*; α(M)=0.000884 *13* α(N)=0.000213 *3*; α(O)=3.35×10^{-5} *5*; α(P)=1.538×10^{-6} *22*
3848.4+x	(37/2$^+$)	275.81 *10*	100	3572.5+x	(35/2$^+$)	[M1+E2]	0.299	α(K)=0.248 *4*; α(L)=0.0393 *6*; α(M)=0.00898 *13* α(N)=0.00218 *3*; α(O)=0.000366 *6*; α(P)=2.69×10^{-5} *4*
3883.8		577.78 *12*	100	3306.05		[E2]	0.01543	α(K)=0.01198 *17*; α(L)=0.00265 *4*; α(M)=0.000627 *9* α(N)=0.0001509 *22*; α(O)=2.40×10^{-5} *4*; α(P)=1.194×10^{-6} *17*
3903.8+x	(37/2)	331.5 *10*	100 *19*	3572.5+x	(35/2$^+$)			
		587.3 *10*	98 *19*	3316.3+x	(33/2$^+$)			
3922.5+x	39/2$^+$	323.19 *12*	43 *4*	3599.4+x	37/2$^+$	[M1+E2]	0.195	α(K)=0.1618 *23*; α(L)=0.0255 *4*; α(M)=0.00582 *9* α(N)=0.001411 *20*; α(O)=0.000237 *4*; α(P)=1.745×10^{-5} *25* δ: 0.49 *4*, assuming K=23/2.
		630.67 *11*	100 *7*	3291.8+x	35/2$^+$	[E2]	0.01260	α(K)=0.00990 *14*; α(L)=0.00208 *3*; α(M)=0.000489 *7* α(N)=0.0001177 *17*; α(O)=1.88×10^{-5} *3*; α(P)=9.90×10^{-7} *14*
3941.08	39/2$^+$	376.0 *10*	12 *3*	3565.28	37/2$^+$	M1(+E2)	0.1298 *21*	α(K)=0.1079 *17*; α(L)=0.0169 *3*; α(M)=0.00386 *6*

$^{177}_{75}Re_{102}$-29

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
								α(N)=0.000937 *15*; α(O)=0.0001576 *25*; α(P)=1.160×10^{-5} *19* Mult.: DCO=0.53 *22* (1995Ba67).
3941.08	39/2$^+$	613.55 *11*	100 *8*	3327.53	35/2$^+$	E2	0.01342	α(K)=0.01050 *15*; α(L)=0.00224 *4*; α(M)=0.000528 *8* α(N)=0.0001271 *18*; α(O)=2.03×10^{-5} *3*; α(P)=1.050×10^{-6} *15* Mult.: DCO=1.4 *2* (1995Ba67).
3969.29	39/2$^+$	613.32 *11*	100	3355.97	(35/2$^+$)	E2	0.01343	α(K)=0.01051 *15*; α(L)=0.00224 *4*; α(M)=0.000528 *8* α(N)=0.0001272 *18*; α(O)=2.03×10^{-5} *3*; α(P)=1.051×10^{-6} *15* Mult.: DCO=1.21 *11* (1995Ba67).
4017.79	41/2$^-$	491.19 *13*	10.0 *11*	3526.44	37/2$^-$	[E2]	0.0229	α(K)=0.01727 *25*; α(L)=0.00428 *6*; α(M)=0.001022 *15* α(N)=0.000246 *4*; α(O)=3.85×10^{-5} *6*; α(P)=1.707×10^{-6} *24*
		619.10 *10*	100 *4*	3398.77	37/2$^-$	E2	0.01314	α(K)=0.01030 *15*; α(L)=0.00218 *3*; α(M)=0.000515 *8* α(N)=0.0001239 *18*; α(O)=1.98×10^{-5} *3*; α(P)=1.030×10^{-6} *15* Mult.: DCO=1.17 *6* (1995Ba67); A_2=0.44 *16*, A_4=−0.05 *18* (1986Wa32).
4024.82+x	39/2$^-$	668.75 *11*	100	3356.08+x	35/2$^-$	E2	0.01104	α(K)=0.00873 *13*; α(L)=0.001772 *25*; α(M)=0.000416 *6* α(N)=0.0001002 *14*; α(O)=1.609×10^{-5} *23*; α(P)=8.75×10^{-7} *13* Mult.: DCO=0.86 *13* (1995Ba67).
4063.64+x	41/2$^-$	296.94 *10*	100 *5*	3766.74+x	39/2$^-$	M1+E2	0.245	α(K)=0.203 *3*; α(L)=0.0321 *5*; α(M)=0.00733 *11* α(N)=0.001778 *25*; α(O)=0.000299 *5*; α(P)=2.20×10^{-5} *3* Mult.: DCO=0.84 *16* (1995Ba67). δ: +0.08 *1*, assuming K=9/2.
		564.91 *11*	77 *5*	3498.68+x	37/2$^-$	[E2]	0.01627	α(K)=0.01259 *18*; α(L)=0.00283 *4*; α(M)=0.000670 *10* α(N)=0.0001611 *23*; α(O)=2.55×10^{-5} *4*; α(P)=1.254×10^{-6} *18*
4066.6+x	(39/2$^+$)	626.74 *13*	100	3439.9+x	(35/2$^+$)	[E2]	0.01278	α(K)=0.01003 *14*; α(L)=0.00211 *3*; α(M)=0.000497 *7* α(N)=0.0001198 *17*; α(O)=1.91×10^{-5} *3*; α(P)=1.003×10^{-6} *14*
4117.0		718.22 *19*	100	3398.77	37/2$^-$			Mult.: DCO=1.17 *6* (1995Ba67), consistent with ΔJ=2, E2 or ΔJ=0, E2+M1 transition.
4141.0+x	(39/2$^+$)	292.60 *10*	100	3848.4+x	(37/2$^+$)	[M1+E2]	0.255	α(K)=0.212 *3*; α(L)=0.0334 *5*; α(M)=0.00763 *11* α(N)=0.00185 *3*; α(O)=0.000311 *5*; α(P)=2.29×10^{-5} *4*
4163.1+x	(39/2)	259.35 *11*	100	3903.8+x	(37/2)			
4169.70	(39/2$^-$)	584.0 *5*	100 *41*	3584.8	(35/2$^-$)	[E2]	0.01505	α(K)=0.01170 *17*; α(L)=0.00257 *4*; α(M)=0.000608 *9* α(N)=0.0001463 *21*; α(O)=2.33×10^{-5} *4*; α(P)=1.167×10^{-6} *17*
		770.97 *12*	82 *24*	3398.77	37/2$^-$	[M1]	0.0201	α(K)=0.01676 *24*; α(L)=0.00257 *4*; α(M)=0.000585 *9* α(N)=0.0001418 *20*; α(O)=2.39×10^{-5} *4*; α(P)=1.776×10^{-6} *25*
4213.62	41/2$^+$	648.36 *10*	100	3565.28	37/2$^+$	E2	0.01183	α(K)=0.00933 *13*; α(L)=0.00193 *3*; α(M)=0.000453 *7* α(N)=0.0001090 *16*; α(O)=1.747×10^{-5} *25*; α(P)=9.34×10^{-7} *13* Mult.: DCO=1.09 *9* (1995Ba67).
4248.95	(41/2$^-$)	722.56 *11*	100 *8*	3526.44	37/2$^-$	[E2]	0.00931	α(K)=0.00743 *11*; α(L)=0.001447 *21*; α(M)=0.000338 *5* α(N)=8.16×10^{-5} *12*; α(O)=1.316×10^{-5} *19*; α(P)=7.45×10^{-7} *11*
		850.10 *12*	65 *5*	3398.77	37/2$^-$	[E2]	0.00659	α(K)=0.00533 *8*; α(L)=0.000966 *14*; α(M)=0.000224 *4* α(N)=5.41×10^{-5} *8*; α(O)=8.82×10^{-6} *13*; α(P)=5.35×10^{-7} *8*
4258.8+x	41/2$^+$	336.60 *12*	48 *5*	3922.5+x	39/2$^+$	[M1+E2]	0.1746	α(K)=0.1450 *21*; α(L)=0.0228 *4*; α(M)=0.00521 *8* α(N)=0.001264 *18*; α(O)=0.000213 *3*; α(P)=1.563×10^{-5} *22* δ: 0.41 *3*, assuming K=23/2.

$^{177}_{75}Re_{102}$-30

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
4258.8+x	41/2$^+$	659.33 *11*	100 *9*	3599.4+x	37/2$^+$	[E2]	0.01140	α(K)=0.00900 *13*; α(L)=0.00184 *3*; α(M)=0.000432 *6* α(N)=0.0001041 *15*; α(O)=1.671×10^{-5} *24*; α(P)=9.01×10^{-7} *13*
4267.45	41/2$^+$	606.86 *10*	100	3660.58	37/2$^+$	E2	0.01376	α(K)=0.01076 *15*; α(L)=0.00231 *4*; α(M)=0.000545 *8* α(N)=0.0001311 *19*; α(O)=2.09×10^{-5} *3*; α(P)=1.075×10^{-6} *15* Mult.: DCO=1.00 *8* (1995Ba67).
4377.08+x	43/2$^-$	313.36 *10*	100 *5*	4063.64+x	41/2$^-$	[M1+E2]	0.212	α(K)=0.1758 *25*; α(L)=0.0277 *4*; α(M)=0.00633 *9* α(N)=0.001535 *22*; α(O)=0.000258 *4*; α(P)=1.90×10^{-5} *3* δ: +0.08 *1*, assuming K=9/2.
		610.35 *11*	85 *5*	3766.74+x	39/2$^-$	[E2]	0.01358	α(K)=0.01062 *15*; α(L)=0.00227 *4*; α(M)=0.000536 *8* α(N)=0.0001290 *18*; α(O)=2.06×10^{-5} *3*; α(P)=1.062×10^{-6} *15*
4381.8+x	41/2$^-$	358.6 *10*	11 *8*	4024.82+x	39/2$^-$	[M1+E2]	0.1473 *24*	α(K)=0.1224 *20*; α(L)=0.0192 *3*; α(M)=0.00439 *7* α(N)=0.001065 *17*; α(O)=0.000179 *3*; α(P)=1.318×10^{-5} *21* δ: 0.26 *9*, assuming K=9/2.
		696.02 *18*	100 *14*	3685.69+x	37/2$^-$	[E2]	0.01010	α(K)=0.00803 *12*; α(L)=0.001595 *23*; α(M)=0.000374 *6* α(N)=9.00×10^{-5} *13*; α(O)=1.449×10^{-5} *21*; α(P)=8.05×10^{-7} *12*
4391.5+x	(41/2$^+$)	644.25 *13*	100	3747.2+x	(37/2$^+$)	[E2]	0.01201	α(K)=0.00946 *14*; α(L)=0.00196 *3*; α(M)=0.000461 *7* α(N)=0.0001110 *16*; α(O)=1.777×10^{-5} *25*; α(P)=9.46×10^{-7} *14*
4449.0+x	(41/2$^+$)	307.97 *11*	100 *8*	4141.0+x	(39/2$^+$)	[M1+E2]	0.222	α(K)=0.184 *3*; α(L)=0.0291 *4*; α(M)=0.00664 *10* α(N)=0.001609 *23*; α(O)=0.000271 *4*; α(P)=1.99×10^{-5} *3* δ: 0.18 *3*, assuming K=29/2.
		600.7 *3*	19 *8*	3848.4+x	(37/2$^+$)	[E2]	0.01409	α(K)=0.01100 *16*; α(L)=0.00237 *4*; α(M)=0.000561 *8* α(N)=0.0001349 *19*; α(O)=2.15×10^{-5} *3*; α(P)=1.098×10^{-6} *16*
4457.9+x	(41/2)	294.79 *12*	100	4163.1+x	(39/2)			
		554.2[a]		3903.8+x	(37/2)			
4522.7		638.90 *14*	100	3883.8		[E2]	0.01223	α(K)=0.00963 *14*; α(L)=0.00200 *3*; α(M)=0.000471 *7* α(N)=0.0001135 *16*; α(O)=1.82×10^{-5} *3*; α(P)=9.63×10^{-7} *14*
4607.2+x	43/2$^+$	348.20 *15*	25 *6*	4258.8+x	41/2$^+$	[M1+E2]	0.1594	α(K)=0.1324 *19*; α(L)=0.0208 *3*; α(M)=0.00475 *7* α(N)=0.001153 *17*; α(O)=0.000194 *3*; α(P)=1.426×10^{-5} *20* δ: 0.55 *7*, assuming K=23/2.
		684.60 *11*	100 *9*	3922.5+x	39/2$^+$	[E2]	0.01048	α(K)=0.00831 *12*; α(L)=0.001666 *24*; α(M)=0.000390 *6* α(N)=9.41×10^{-5} *14*; α(O)=1.513×10^{-5} *22*; α(P)=8.33×10^{-7} *12*
4613.73	43/2$^+$	672.64 *11*	100	3941.08	39/2$^+$	E2	0.01090	α(K)=0.00863 *12*; α(L)=0.001745 *25*; α(M)=0.000409 *6* α(N)=9.86×10^{-5} *14*; α(O)=1.585×10^{-5} *23*; α(P)=8.64×10^{-7} *13* Mult.: DCO=1.01 *16* (1995Ba67).
4646.4	(43/2$^+$)	677.06 *12*	100	3969.29	39/2$^+$	[E2]	0.01074	α(K)=0.00851 *12*; α(L)=0.001715 *24*; α(M)=0.000402 *6* α(N)=9.69×10^{-5} *14*; α(O)=1.558×10^{-5} *22*; α(P)=8.53×10^{-7} *12*
4675.65	45/2$^-$	657.86 *10*	100	4017.79	41/2$^-$	E2	0.01145	α(K)=0.00904 *13*; α(L)=0.00185 *3*; α(M)=0.000435 *6* α(N)=0.0001048 *15*; α(O)=1.681×10^{-5} *24*; α(P)=9.06×10^{-7} *13* Mult.: DCO=1.15 *5* (1995Ba67); A_2=0.25 *3*, A_4=−0.07 *3* (1986Wa32).
4703.1		685.28 *16*	100	4017.79	41/2$^-$			
4722.42+x	45/2$^-$	345.24 *11*	89 *6*	4377.08+x	43/2$^-$	[M1+E2]	0.1631	α(K)=0.1355 *19*; α(L)=0.0213 *3*; α(M)=0.00486 *7* α(N)=0.001180 *17*; α(O)=0.000198 *3*; α(P)=1.460×10^{-5} *21* δ: +0.09 *1*, assuming K=9/2.

$^{177}_{75}Re_{102}$-31

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α@	Comments
4722.42+x	45/2$^-$	658.86 *11*	100 *8*	4063.64+x	41/2$^-$	[E2]	0.01141	α(K)=0.00901 *13*; α(L)=0.00184 *3*; α(M)=0.000433 *6* α(N)=0.0001043 *15*; α(O)=1.674×10^{-5} *24*; α(P)=9.03×10^{-7} *13*
4736.6+x	(43/2$^+$)	669.98 *13*	100	4066.6+x	(39/2$^+$)	[E2]	0.01099	α(K)=0.00870 *13*; α(L)=0.001763 *25*; α(M)=0.000414 *6* α(N)=9.97×10^{-5} *14*; α(O)=1.601×10^{-5} *23*; α(P)=8.72×10^{-7} *13*
4748.1+x	(43/2$^-$)	723.30 *14*	100	4024.82+x	39/2$^-$	[E2]	0.00929	α(K)=0.00741 *11*; α(L)=0.001443 *21*; α(M)=0.000337 *5* α(N)=8.13×10^{-5} *12*; α(O)=1.313×10^{-5} *19*; α(P)=7.43×10^{-7} *11*
4771.0+x	(43/2$^+$)	322.00 *11*	100 *9*	4449.0+x	(41/2$^+$)	[M1+E2]	0.197	α(K)=0.1634 *23*; α(L)=0.0258 *4*; α(M)=0.00588 *9* α(N)=0.001425 *20*; α(O)=0.000240 *4*; α(P)=1.762×10^{-5} *25* δ: 0.19 *3*, assuming K=29/2.
		630.3 *3*	27 *9*	4141.0+x	(39/2$^+$)	[E2]	0.01262	α(K)=0.00991 *14*; α(L)=0.00208 *3*; α(M)=0.000489 *7* α(N)=0.0001179 *17*; α(O)=1.88×10^{-5} *3*; α(P)=9.91×10^{-7} *14*
4781.9+x	(43/2)	323.97 *12*	100	4457.9+x	(41/2)			
4915.09	45/2$^+$	647.83 *11*	100 *9*	4267.45	41/2$^+$	E2	0.01186	α(K)=0.00934 *13*; α(L)=0.00193 *3*; α(M)=0.000454 *7* α(N)=0.0001093 *16*; α(O)=1.751×10^{-5} *25*; α(P)=9.35×10^{-7} *13* Mult.: DCO=0.89 *10* (1995Ba67).
		701.10 *15*	47 *5*	4213.62	41/2$^+$	[E2]	0.00994	α(K)=0.00791 *11*; α(L)=0.001565 *22*; α(M)=0.000366 *6* α(N)=8.83×10^{-5} *13*; α(O)=1.422×10^{-5} *20*; α(P)=7.93×10^{-7} *12*
4932.86	45/2$^+$	665.05 *14*	46 *8*	4267.45	41/2$^+$	[E2]	0.01118	α(K)=0.00884 *13*; α(L)=0.00180 *3*; α(M)=0.000422 *6* α(N)=0.0001017 *15*; α(O)=1.633×10^{-5} *23*; α(P)=8.85×10^{-7} *13*
		719.49 *12*	100 *8*	4213.62	41/2$^+$	E2	0.00939	α(K)=0.00749 *11*; α(L)=0.001463 *21*; α(M)=0.000342 *5* α(N)=8.25×10^{-5} *12*; α(O)=1.331×10^{-5} *19*; α(P)=7.51×10^{-7} *11* Mult.: DCO=1.16 *18* (1995Ba67).
4964.0+x	45/2$^+$	357.05 *14*	39 *7*	4607.2+x	43/2$^+$	[M1+E2]	0.1490	α(K)=0.1239 *18*; α(L)=0.0195 *3*; α(M)=0.00444 *7* α(N)=0.001077 *16*; α(O)=0.000181 *3*; α(P)=1.333×10^{-5} *19* δ: 0.38 *3*, assuming K=23/2.
		705.43 *12*	100 *10*	4258.8+x	41/2$^+$	[E2]	0.00981	α(K)=0.00781 *11*; α(L)=0.001540 *22*; α(M)=0.000360 *5* α(N)=8.69×10^{-5} *13*; α(O)=1.400×10^{-5} *20*; α(P)=7.83×10^{-7} *11*
5051.7	(45/2$^-$)	802.78 *12*	100	4248.95	(41/2$^-$)	[E2]	0.00743	α(K)=0.00598 *9*; α(L)=0.001111 *16*; α(M)=0.000258 *4* α(N)=6.23×10^{-5} *9*; α(O)=1.012×10^{-5} *15*; α(P)=6.01×10^{-7} *9*
5071.70+x	47/2$^-$	349.32 *11*	52 *5*	4722.42+x	45/2$^-$	[M1+E2]	0.1580	α(K)=0.1313 *19*; α(L)=0.0207 *3*; α(M)=0.00471 *7* α(N)=0.001143 *16*; α(O)=0.000192 *3*; α(P)=1.414×10^{-5} *20* δ: +0.10 *1*, assuming K=9/2.
		694.63 *11*	100 *7*	4377.08+x	43/2$^-$	[E2]	0.01015	α(K)=0.00806 *12*; α(L)=0.001603 *23*; α(M)=0.000376 *6* α(N)=9.05×10^{-5} *13*; α(O)=1.457×10^{-5} *21*; α(P)=8.08×10^{-7} *12*
5073.3+x	(45/2$^+$)	681.79 *15*	100	4391.5+x	(41/2$^+$)	[E2]	0.01057	α(K)=0.00838 *12*; α(L)=0.001684 *24*; α(M)=0.000395 *6* α(N)=9.51×10^{-5} *14*; α(O)=1.529×10^{-5} *22*; α(P)=8.40×10^{-7} *12*
5106.6+x	(45/2$^+$)	335.57 *12*	100 *9*	4771.0+x	(43/2$^+$)	[M1+E2]	0.1760	α(K)=0.1462 *21*; α(L)=0.0230 *4*; α(M)=0.00525 *8* α(N)=0.001274 *18*; α(O)=0.000214 *3*; α(P)=1.576×10^{-5} *23* δ: δ<0.16, assuming K=29/2.
		658.0 *10*	<22	4449.0+x	(41/2$^+$)	[E2]	0.01145	α(K)=0.00904 *13*; α(L)=0.00185 *3*; α(M)=0.000435 *7* α(N)=0.0001047 *16*; α(O)=1.680×10^{-5} *25*; α(P)=9.05×10^{-7} *13*

$^{177}_{75}Re_{102}$-32

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
5116.8+x	(45/2$^-$)	735.0 *10*	100	4381.8+x	41/2$^-$	[E2]	0.00897	α(K)=0.00717 *11*; α(L)=0.001385 *20*; α(M)=0.000324 *5* α(N)=7.80×10^{-5} *12*; α(O)=1.261×10^{-5} *19*; α(P)=7.19×10^{-7} *11*
5120.5+x	(45/2)	338.59 *14*	100	4781.9+x	(43/2)			
		662.6[a]		4457.9+x	(41/2)			
5332.4+x	47/2$^+$	368.91 *12*	62 *10*	4964.0+x	45/2$^+$	[M1+E2]	0.1366	α(K)=0.1135 *16*; α(L)=0.0178 *3*; α(M)=0.00407 *6* α(N)=0.000986 *14*; α(O)=0.0001659 *24*; α(P)=1.221×10^{-5} *18*
		724.63 *14*	100 *14*	4607.2+x	43/2$^+$	[E2]	0.00925	α(K)=0.00738 *11*; α(L)=0.001437 *21*; α(M)=0.000336 *5* α(N)=8.09×10^{-5} *12*; α(O)=1.307×10^{-5} *19*; α(P)=7.40×10^{-7} *11*
5341.1	47/2$^+$	727.42 *13*	100	4613.73	43/2$^+$	E2	0.00917	α(K)=0.00732 *11*; α(L)=0.001423 *20*; α(M)=0.000332 *5* α(N)=8.01×10^{-5} *12*; α(O)=1.294×10^{-5} *19*; α(P)=7.35×10^{-7} *11* Mult.: DCO=1.08 *27* (1995Ba67).
5375.7	(47/2$^+$)	729.36 *13*	100	4646.4	(43/2$^+$)	[E2]	0.00912	α(K)=0.00728 *11*; α(L)=0.001413 *20*; α(M)=0.000330 *5* α(N)=7.96×10^{-5} *12*; α(O)=1.285×10^{-5} *18*; α(P)=7.31×10^{-7} *11*
5400.8	(49/2$^-$)	725.20 *11*	100	4675.65	45/2$^-$	[E2]	0.00923	α(K)=0.00737 *11*; α(L)=0.001434 *20*; α(M)=0.000335 *5* α(N)=8.08×10^{-5} *12*; α(O)=1.304×10^{-5} *19*; α(P)=7.39×10^{-7} *11*
5457.0+x	(47/2$^+$)	350.34 *14*	100 *20*	5106.6+x	(45/2$^+$)	[M1+E2]	0.1568	α(K)=0.1303 *19*; α(L)=0.0205 *3*; α(M)=0.00468 *7* α(N)=0.001134 *16*; α(O)=0.000191 *3*; α(P)=1.403×10^{-5} *20* δ: 0.26 *6*, assuming K=29/2.
		686.2 *3*	70 *30*	4771.0+x	(43/2$^+$)	[E2]	0.01042	α(K)=0.00827 *12*; α(L)=0.001655 *24*; α(M)=0.000388 *6* α(N)=9.35×10^{-5} *14*; α(O)=1.504×10^{-5} *22*; α(P)=8.29×10^{-7} *12*
5460.96+x	49/2$^-$	389.0 *10*		5071.70+x	47/2$^-$	[M1+E2]	0.1186 *19*	α(K)=0.0986 *16*; α(L)=0.01546 *25*; α(M)=0.00353 *6* α(N)=0.000855 *14*; α(O)=0.0001439 *23*; α(P)=1.060×10^{-5} *17*
		738.48 *12*	100	4722.42+x	45/2$^-$	[E2]	0.00888	α(K)=0.00710 *10*; α(L)=0.001369 *20*; α(M)=0.000320 *5* α(N)=7.71×10^{-5} *11*; α(O)=1.246×10^{-5} *18*; α(P)=7.12×10^{-7} *10*
5472.1+x	(47/2)	351.64 *13*	100	5120.5+x	(45/2)			
		690.2[a]		4781.9+x	(43/2)			
5523.6+x	(47/2$^-$)	775.50 *17*	100	4748.1+x	(43/2$^-$)	[E2]	0.00799	α(K)=0.00642 *9*; α(L)=0.001210 *17*; α(M)=0.000282 *4* α(N)=6.80×10^{-5} *10*; α(O)=1.102×10^{-5} *16*; α(P)=6.44×10^{-7} *9*
5617.55	(49/2$^+$)	702.46 *12*	100	4915.09	45/2$^+$	[E2]	0.00990	α(K)=0.00788 *11*; α(L)=0.001557 *22*; α(M)=0.000364 *6* α(N)=8.78×10^{-5} *13*; α(O)=1.415×10^{-5} *20*; α(P)=7.90×10^{-7} *11*
5703.7	(49/2$^+$)	770.85 *14*	100	4932.86	45/2$^+$	[E2]	0.00809	α(K)=0.00650 *10*; α(L)=0.001228 *18*; α(M)=0.000286 *4* α(N)=6.90×10^{-5} *10*; α(O)=1.119×10^{-5} *16*; α(P)=6.52×10^{-7} *10*
5709.7+x	(49/2$^+$)	745.74 *17*	100	4964.0+x	45/2$^+$	[E2]	0.00869	α(K)=0.00696 *10*; α(L)=0.001335 *19*; α(M)=0.000312 *5* α(N)=7.51×10^{-5} *11*; α(O)=1.215×10^{-5} *17*; α(P)=6.98×10^{-7} *10*
5819.6+x	(49/2$^+$)	362 *3*	80 *40*	5457.0+x	(47/2$^+$)	[M1+E2]	0.144 *4*	α(K)=0.119 *4*; α(L)=0.0188 *5*; α(M)=0.00428 *12* α(N)=0.00104 *3*; α(O)=0.000175 *5*; α(P)=1.28×10^{-5} *4* δ: δ<0.34, assuming K=29/2.
		713.0 *10*	<100	5106.6+x	(45/2$^+$)	[E2]	0.00958	α(K)=0.00763 *11*; α(L)=0.001498 *22*; α(M)=0.000350 *5* α(N)=8.45×10^{-5} *13*; α(O)=1.362×10^{-5} *20*; α(P)=7.66×10^{-7} *11*
5835.7+x	(49/2)	363.60 *18*	100	5472.1+x	(47/2)			
		715.2[a]		5120.5+x	(45/2)			
5835.74+x	51/2$^-$	374.75 *12*	58 *8*	5460.96+x	49/2$^-$	[M1+E2]	0.1310	α(K)=0.1089 *16*; α(L)=0.01709 *24*; α(M)=0.00390 *6*

$^{177}_{75}Re_{102}$-33

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
								α(N)=0.000945 *14*; α(O)=0.0001590 *23*; α(P)=1.171×10^{-5} *17* δ: +0.08 *1*, assuming K=9/2.
5835.74+x	51/2$^-$	764.13 *14*	100 *13*	5071.70+x	47/2$^-$	[E2]	0.00825	α(K)=0.00662 *10*; α(L)=0.001255 *18*; α(M)=0.000293 *5* α(N)=7.06×10^{-5} *10*; α(O)=1.143×10^{-5} *16*; α(P)=6.64×10^{-7} *10*
5890.2	(49/2$^-$)	838.52 *12*	100	5051.7	(45/2$^-$)	[E2]	0.00678	α(K)=0.00548 *8*; α(L)=0.000999 *14*; α(M)=0.000232 *4* α(N)=5.59×10^{-5} *8*; α(O)=9.11×10^{-6} *13*; α(P)=5.50×10^{-7} *8*
6121.7	(51/2$^+$)	780.60 *16*	100	5341.1	47/2$^+$	[E2]	0.00788	α(K)=0.00633 *9*; α(L)=0.001190 *17*; α(M)=0.000277 *4* α(N)=6.69×10^{-5} *10*; α(O)=1.084×10^{-5} *16*; α(P)=6.36×10^{-7} *9*
6138.4	(51/2$^+$)	762.64 *18*	100	5375.7	(47/2$^+$)	[E2]	0.00828	α(K)=0.00664 *10*; α(L)=0.001262 *18*; α(M)=0.000294 *5* α(N)=7.09×10^{-5} *10*; α(O)=1.149×10^{-5} *16*; α(P)=6.67×10^{-7} *10*
6188.8	(53/2$^-$)	787.94 *11*	100	5400.8	(49/2$^-$)	[E2]	0.00773	α(K)=0.00621 *9*; α(L)=0.001163 *17*; α(M)=0.000271 *4* α(N)=6.53×10^{-5} *10*; α(O)=1.060×10^{-5} *15*; α(P)=6.24×10^{-7} *9*
6198.9+x	(51/2$^+$)	741.9 *10*	100	5457.0+x	(47/2$^+$)	[E2]	0.00879	α(K)=0.00703 *10*; α(L)=0.001353 *20*; α(M)=0.000316 *5* α(N)=7.61×10^{-5} *11*; α(O)=1.231×10^{-5} *18*; α(P)=7.05×10^{-7} *10*
6210.9+x	(51/2)	375.12 *14*	100	5835.7+x	(49/2)			
		738.7[a]		5472.1+x	(47/2)			
6260.07+x	53/2$^-$	423.9 *3*	27 *11*	5835.74+x	51/2$^-$	[M1+E2]	0.0944	α(K)=0.0785 *11*; α(L)=0.01228 *18*; α(M)=0.00280 *4* α(N)=0.000679 *10*; α(O)=0.0001143 *17*; α(P)=8.43×10^{-6} *12* δ: +0.14 *3*, assuming K=9/2.
		799.03 *16*	100 *13*	5460.96+x	49/2$^-$	[E2]	0.00750	α(K)=0.00604 *9*; α(L)=0.001123 *16*; α(M)=0.000261 *4* α(N)=6.30×10^{-5} *9*; α(O)=1.024×10^{-5} *15*; α(P)=6.06×10^{-7} *9*
6367.8	(53/2$^+$)	750.24 *15*	100	5617.55	(49/2$^+$)	[E2]	0.00858	α(K)=0.00687 *10*; α(L)=0.001315 *19*; α(M)=0.000307 *5* α(N)=7.40×10^{-5} *11*; α(O)=1.197×10^{-5} *17*; α(P)=6.89×10^{-7} *10*
6547.6	(53/2$^+$)	843.9 *3*	100	5703.7	(49/2$^+$)	[E2]	0.00669	α(K)=0.00541 *8*; α(L)=0.000983 *14*; α(M)=0.000228 *4* α(N)=5.51×10^{-5} *8*; α(O)=8.97×10^{-6} *13*; α(P)=5.43×10^{-7} *8*
6598.1+x	(53/2)	387.24 *19*	100	6210.9+x	(51/2)			
		762.3[a]		5835.74+x	51/2$^-$			
6646.5+x	(55/2$^-$)	386.28 *15*	77 *13*	6260.07+x	53/2$^-$	[M1+E2]	0.1208	α(K)=0.1004 *14*; α(L)=0.01575 *23*; α(M)=0.00359 *5* α(N)=0.000871 *13*; α(O)=0.0001466 *21*; α(P)=1.080×10^{-5} *16* δ: +0.06 *1*, assuming K=9/2.
		811.04 *18*	100 *18*	5835.74+x	51/2$^-$	[E2]	0.00727	α(K)=0.00586 *9*; α(L)=0.001083 *16*; α(M)=0.000252 *4* α(N)=6.07×10^{-5} *9*; α(O)=9.87×10^{-6} *14*; α(P)=5.88×10^{-7} *9*
6756.5	(53/2$^-$)	866.21 *18*	100	5890.2	(49/2$^-$)	[E2]	0.00633	α(K)=0.00514 *8*; α(L)=0.000924 *13*; α(M)=0.000214 *3* α(N)=5.17×10^{-5} *8*; α(O)=8.43×10^{-6} *12*; α(P)=5.16×10^{-7} *8*
6951.2	(55/2$^+$)	829.4 *3*	100	6121.7	(51/2$^+$)	[E2]	0.00693	α(K)=0.00560 *8*; α(L)=0.001026 *15*; α(M)=0.000238 *4* α(N)=5.75×10^{-5} *8*; α(O)=9.35×10^{-6} *14*; α(P)=5.62×10^{-7} *8*
7031.7	(57/2$^-$)	842.93 *12*	100	6188.8	(53/2$^-$)	[E2]	0.00670	α(K)=0.00542 *8*; α(L)=0.000986 *14*; α(M)=0.000229 *4* α(N)=5.52×10^{-5} *8*; α(O)=9.00×10^{-6} *13*; α(P)=5.44×10^{-7} *8*
7167.8	(57/2$^+$)	800.00 *20*	100	6367.8	(53/2$^+$)	[E2]	0.00748	α(K)=0.00603 *9*; α(L)=0.001120 *16*; α(M)=0.000261 *4* α(N)=6.29×10^{-5} *9*; α(O)=1.021×10^{-5} *15*; α(P)=6.05×10^{-7} *9*
7922.7	(61/2$^-$)	890.94 *19*	100	7031.7	(57/2$^-$)	[E2]	0.00598	α(K)=0.00486 *7*; α(L)=0.000864 *13*; α(M)=0.000200 *3* α(N)=4.83×10^{-5} *7*; α(O)=7.89×10^{-6} *11*; α(P)=4.88×10^{-7} *7*

$^{177}_{75}Re_{102}$-34

Adopted Levels, Gammas (continued)

γ(^{177}Re) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[@]	Comments
8017.4	(61/2$^+$)	849.6 *4*	100	7167.8	(57/2$^+$)	[E2]	0.00659	α(K)=0.00534 *8*; α(L)=0.000968 *14*; α(M)=0.000224 *4* α(N)=5.42×10^{-5} *8*; α(O)=8.83×10^{-6} *13*; α(P)=5.36×10^{-7} *8*
8856.7	(65/2$^-$)	934.0 *10*	100	7922.7	(61/2$^-$)	[E2]	0.00543	α(K)=0.00442 *7*; α(L)=0.000774 *11*; α(M)=0.000179 *3* α(N)=4.32×10^{-5} *7*; α(O)=7.07×10^{-6} *10*; α(P)=4.44×10^{-7} *7*
8915.4	(65/2$^+$)	898.0 *3*	100	8017.4	(61/2$^+$)	[E2]	0.00588	α(K)=0.00478 *7*; α(L)=0.000848 *12*; α(M)=0.000196 *3* α(N)=4.74×10^{-5} *7*; α(O)=7.75×10^{-6} *11*; α(P)=4.80×10^{-7} *7*
9849.0	(69/2$^+$)	933.6 *7*	100	8915.4	(65/2$^+$)	[E2]	0.00543	α(K)=0.00443 *7*; α(L)=0.000775 *11*; α(M)=0.000179 *3* α(N)=4.32×10^{-5} *6*; α(O)=7.08×10^{-6} *10*; α(P)=4.44×10^{-7} *7*
10824.2	(73/2$^+$)	975.2 *4*	100	9849.0	(69/2$^+$)	[E2]	0.00497	α(K)=0.00407 *6*; α(L)=0.000701 *10*; α(M)=0.0001617 *23* α(N)=3.90×10^{-5} *6*; α(O)=6.41×10^{-6} *9*; α(P)=4.08×10^{-7} *6*

† From 1995Ba67 in (HI,xnγ), unless otherwise stated.
‡ From 1986Wa32 (HI,xnγ), unless otherwise stated.
# From 1976Be62 in ^{177}Os ε decay.
@ Additional information 3.
& If No value given it was assumed δ=0.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
a Placement of transition in the level scheme is uncertain.

$^{177}_{75}Re_{102}$-35

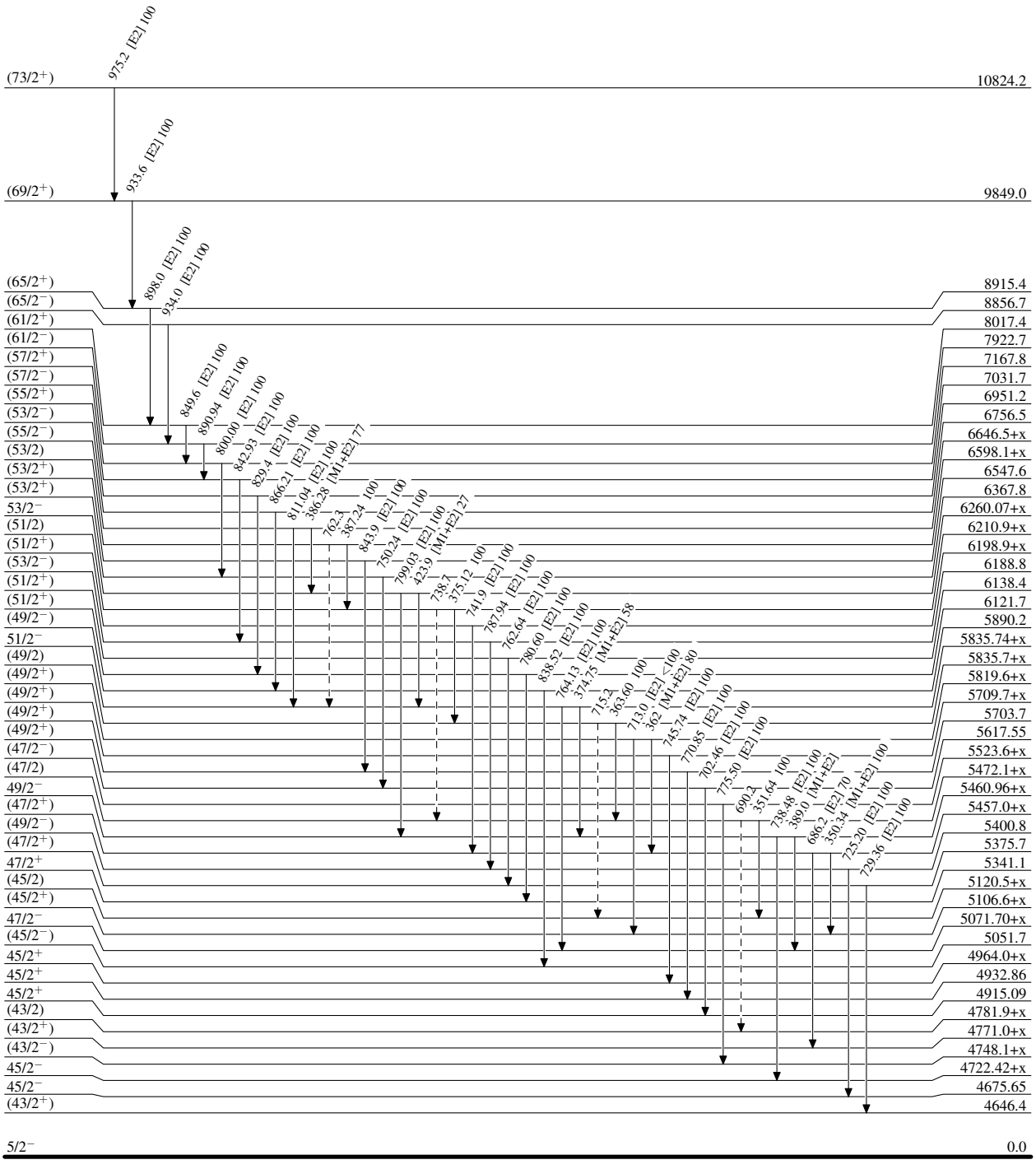
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{177}_{75}Re_{102}$

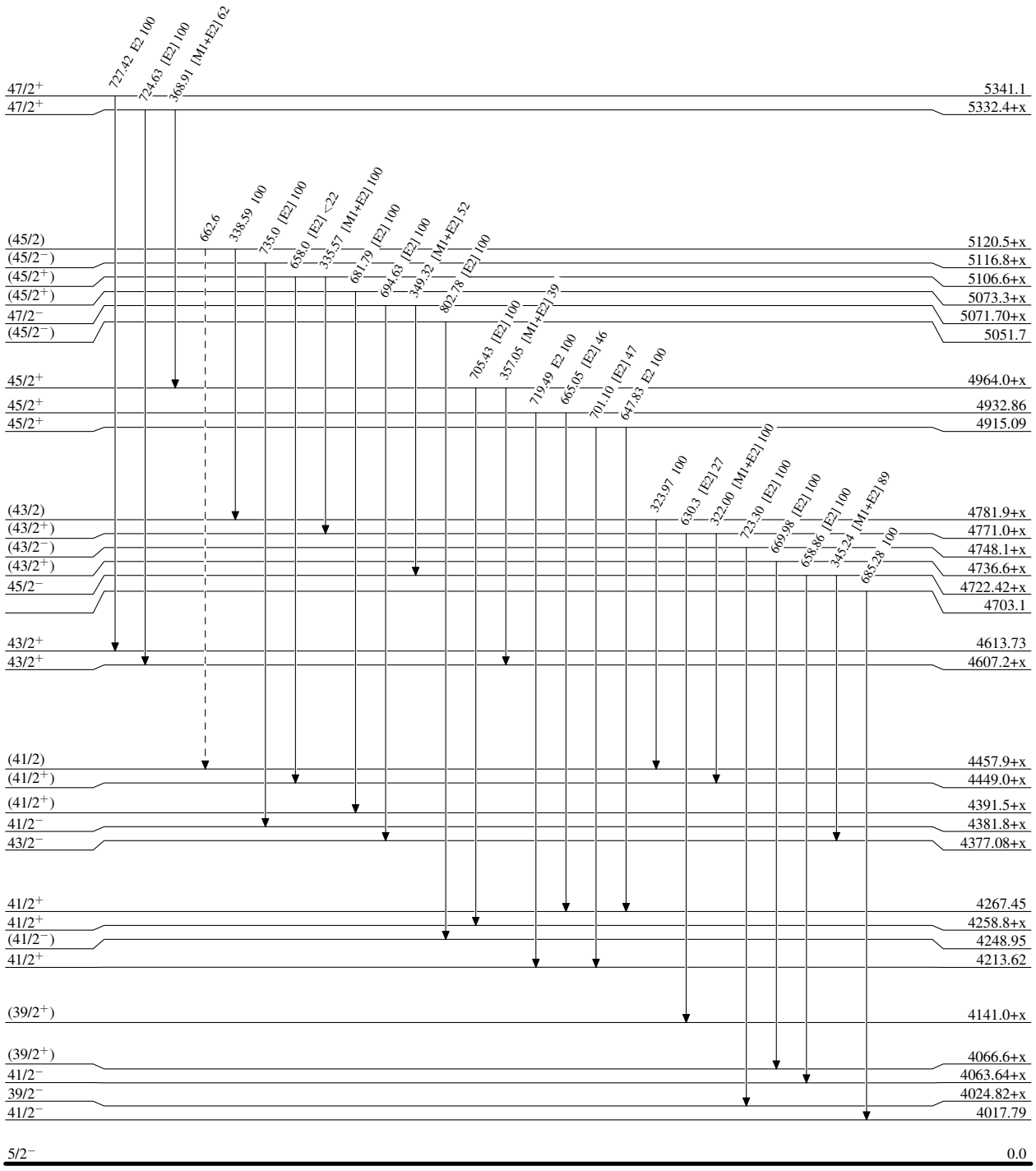
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{177}_{75}Re_{102}$

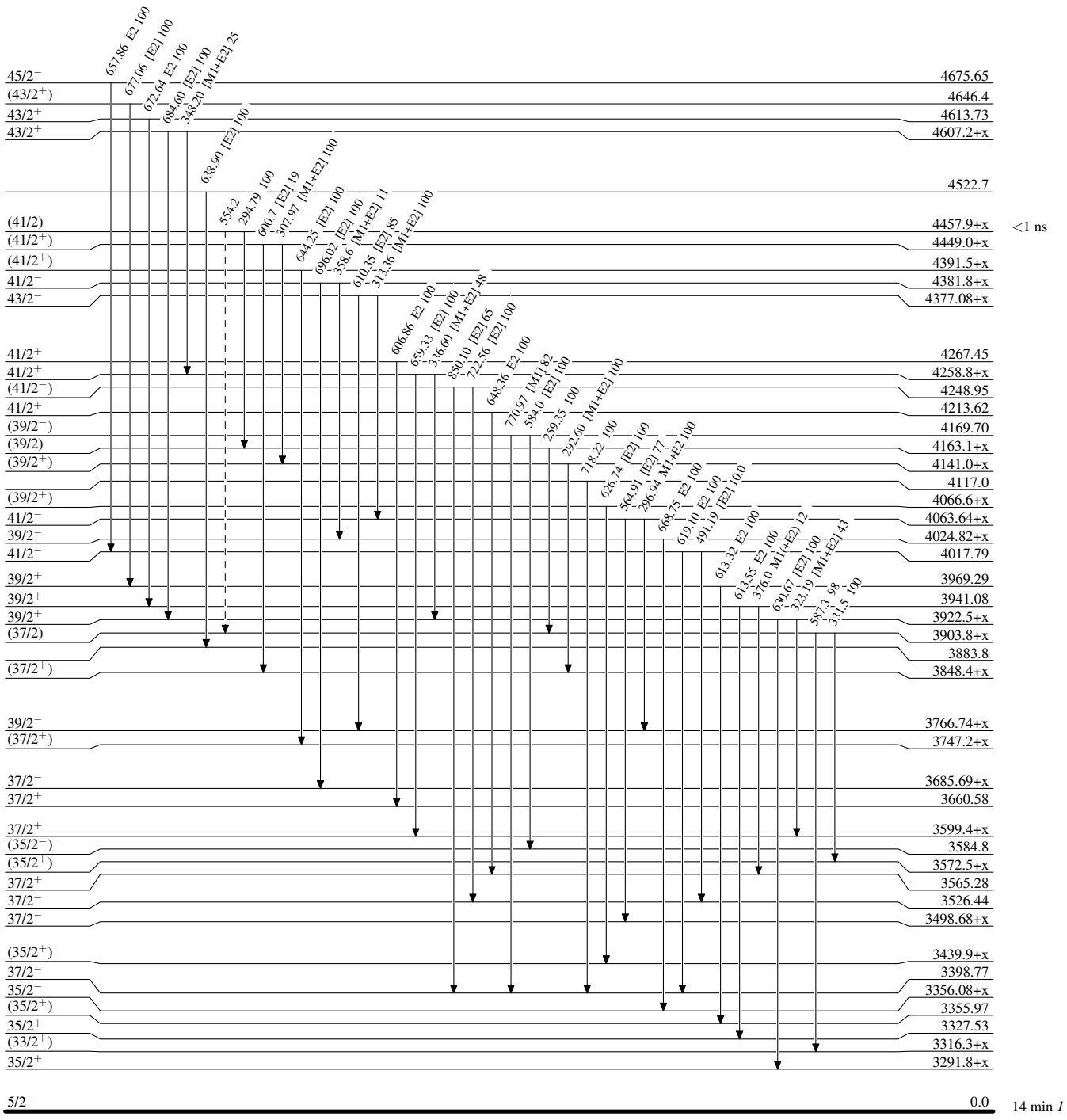
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

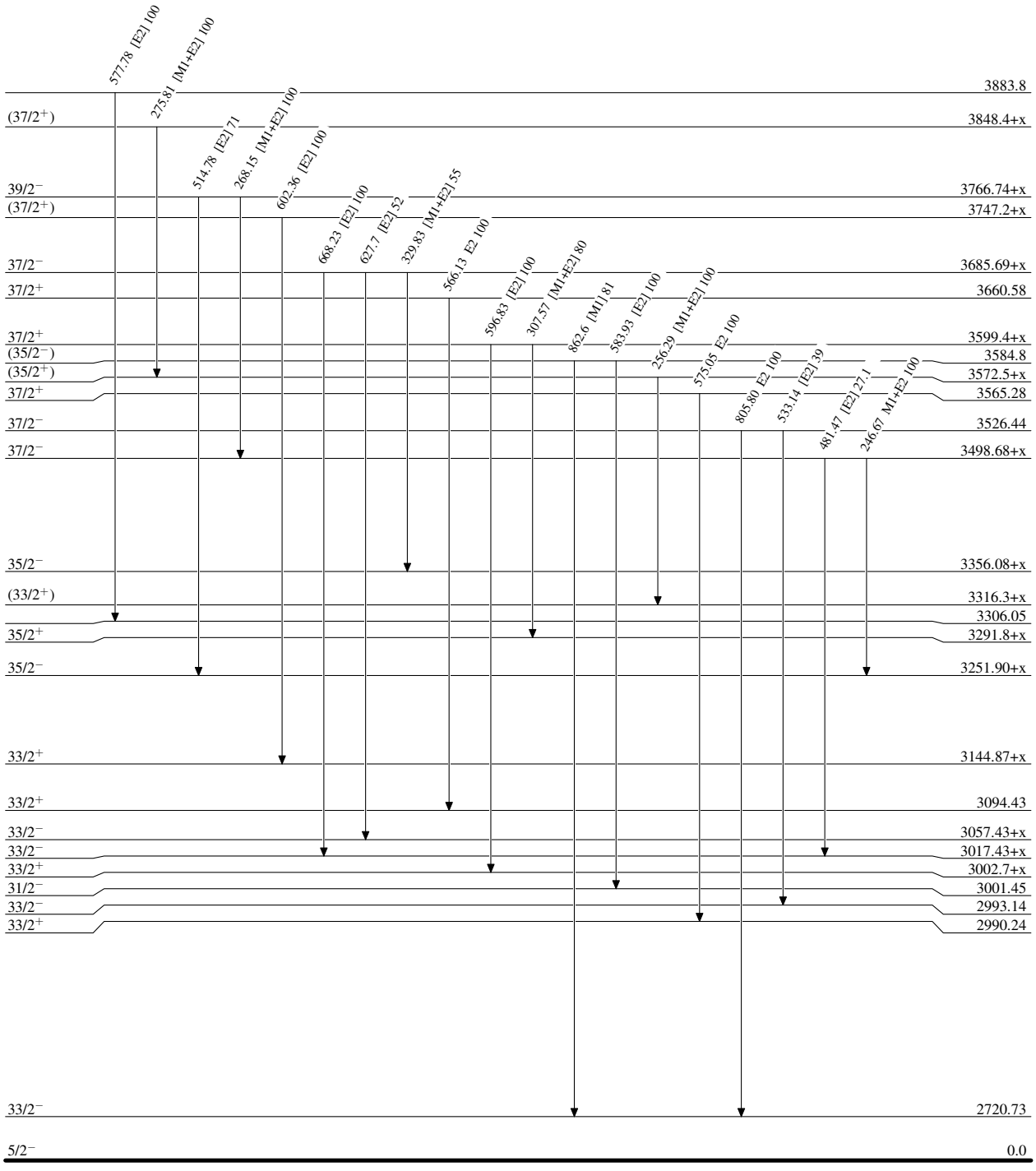


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

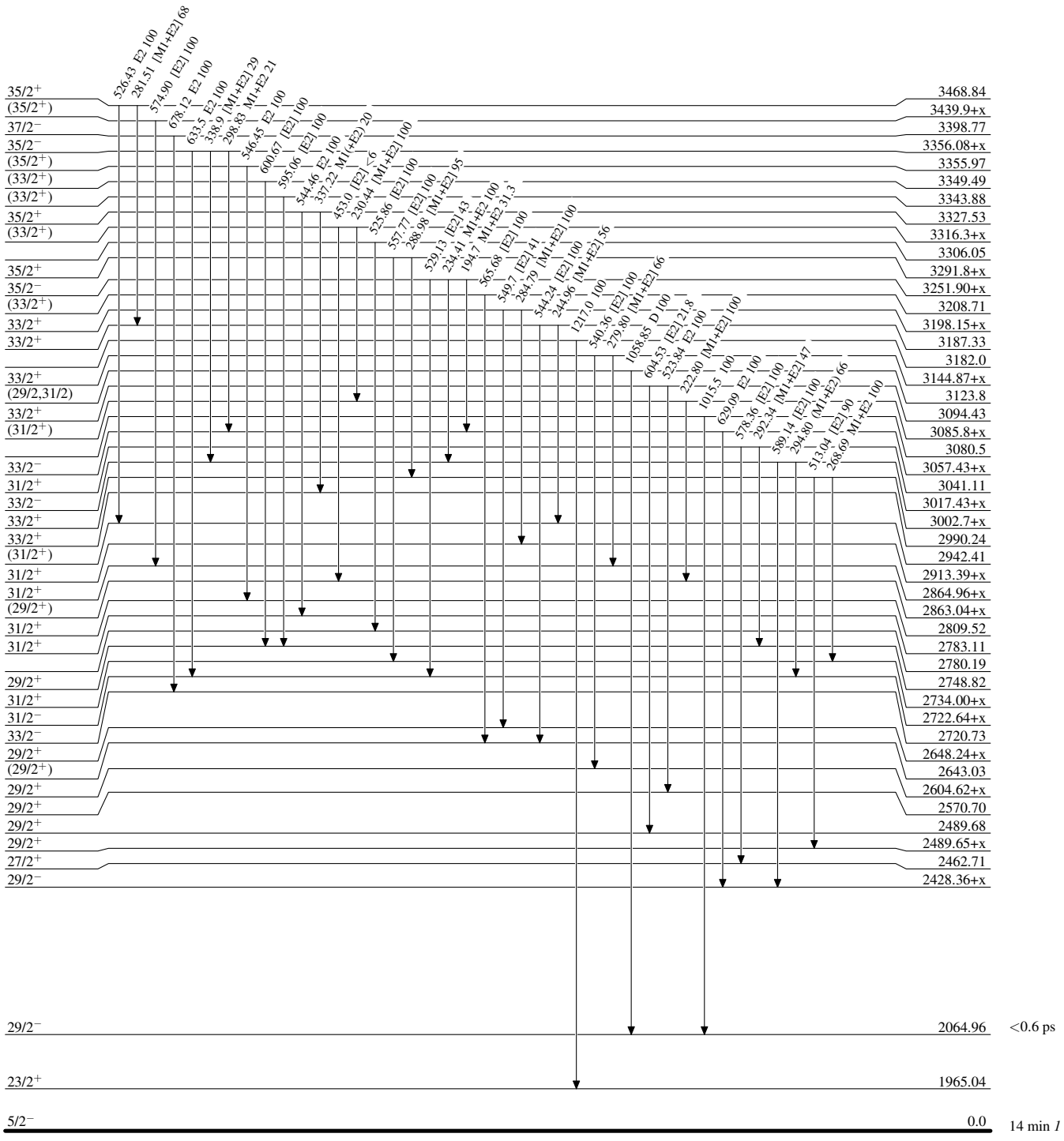


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

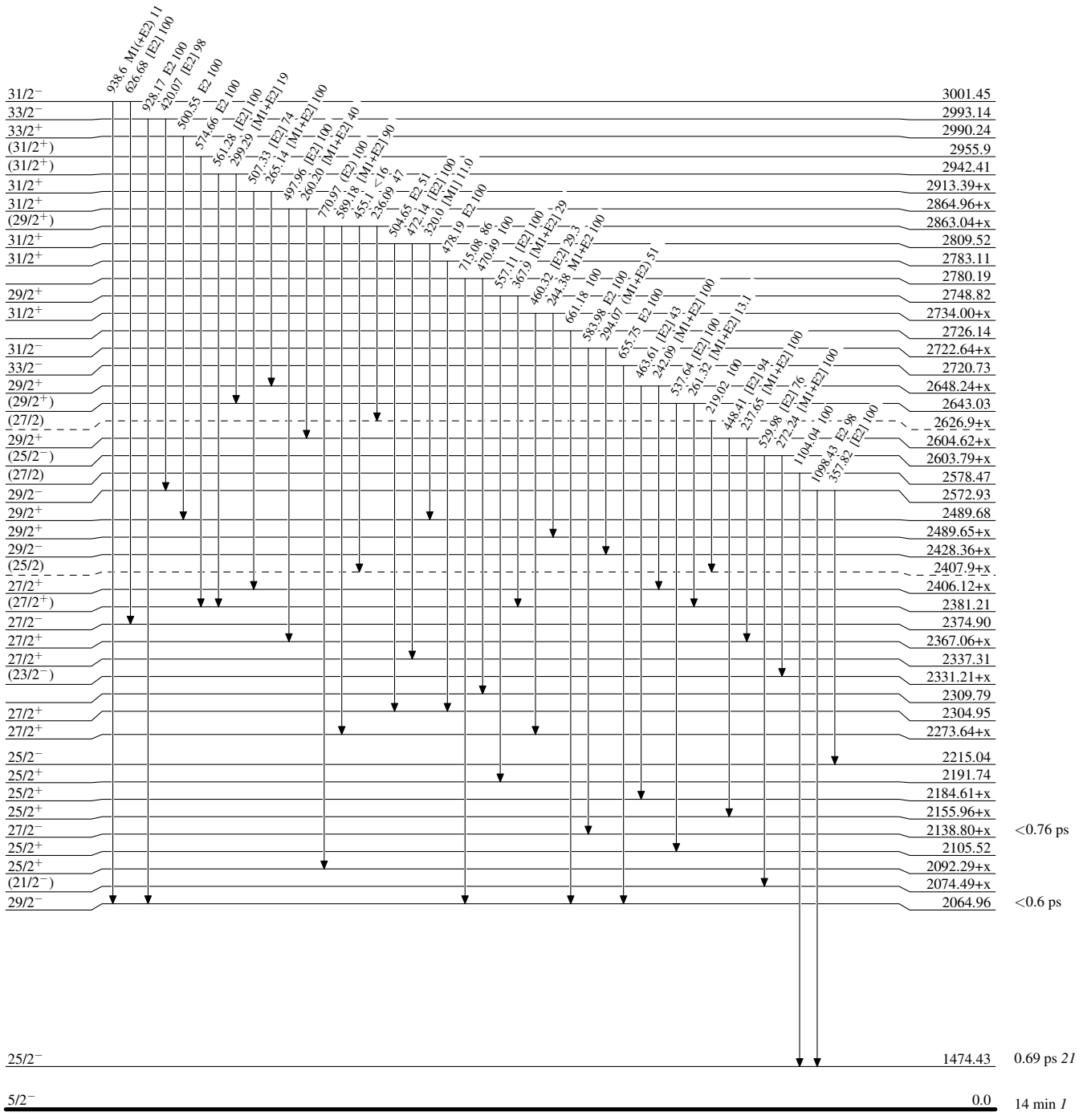


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

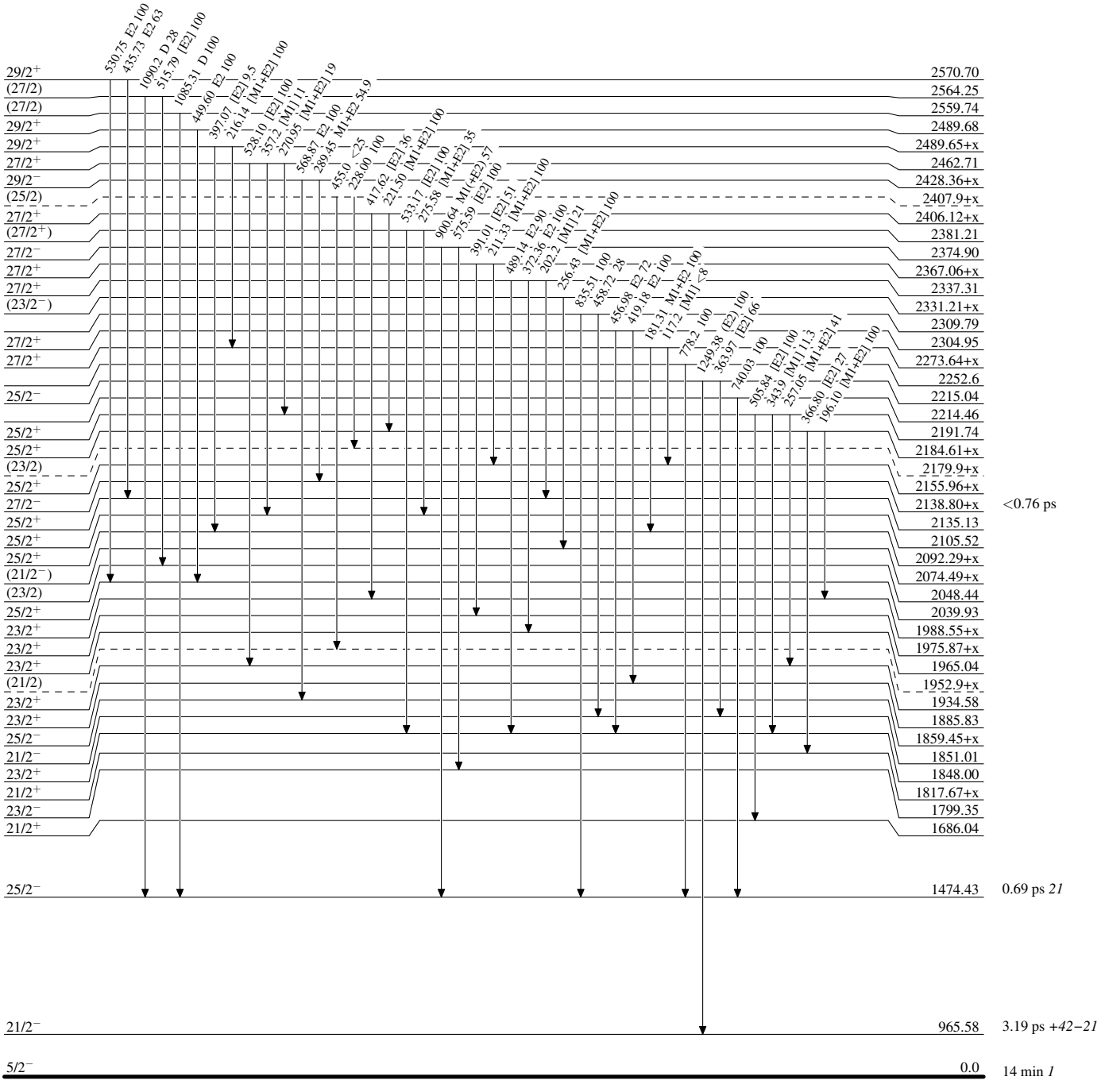


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

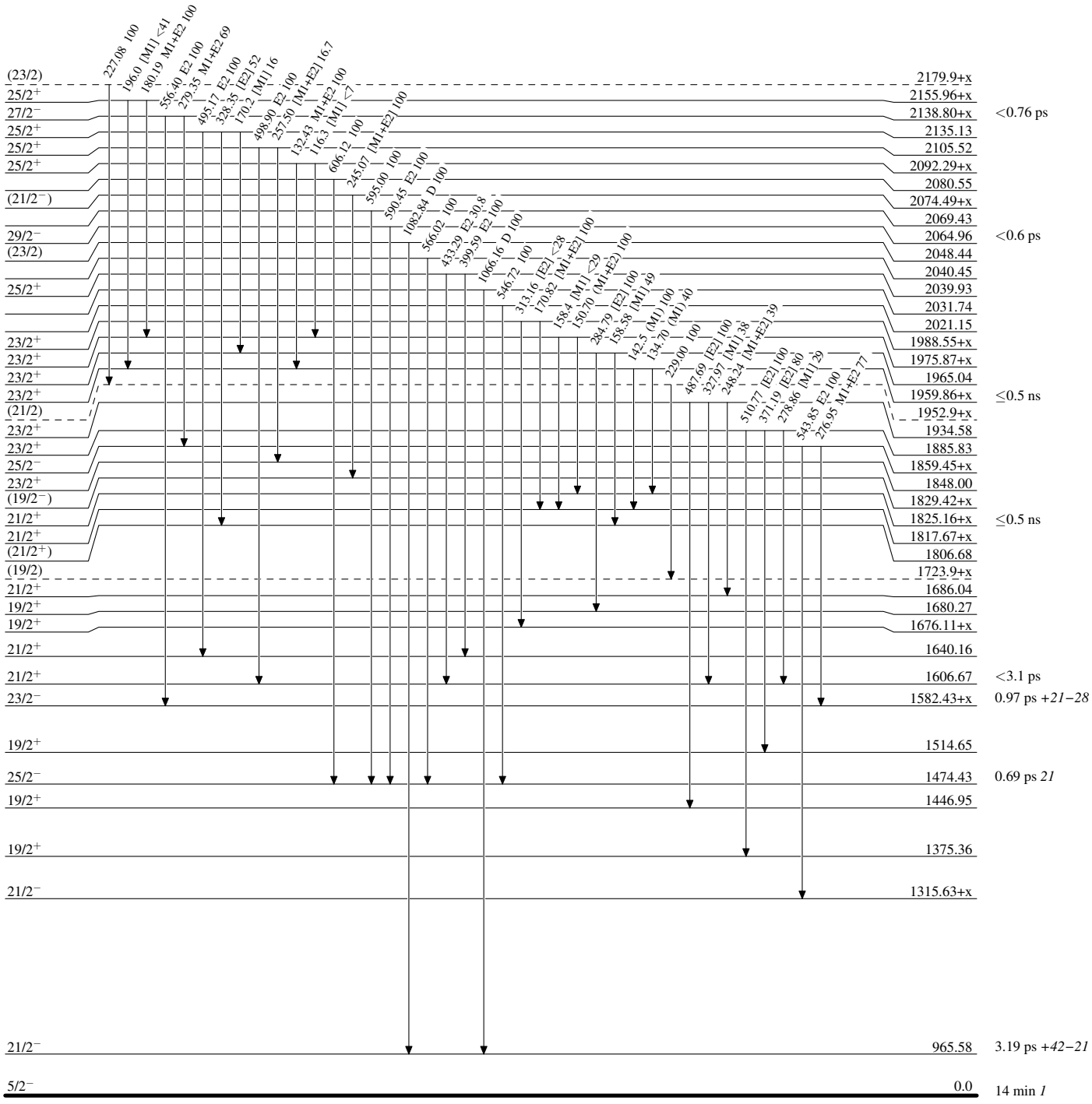


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{177}_{75}Re_{102}$

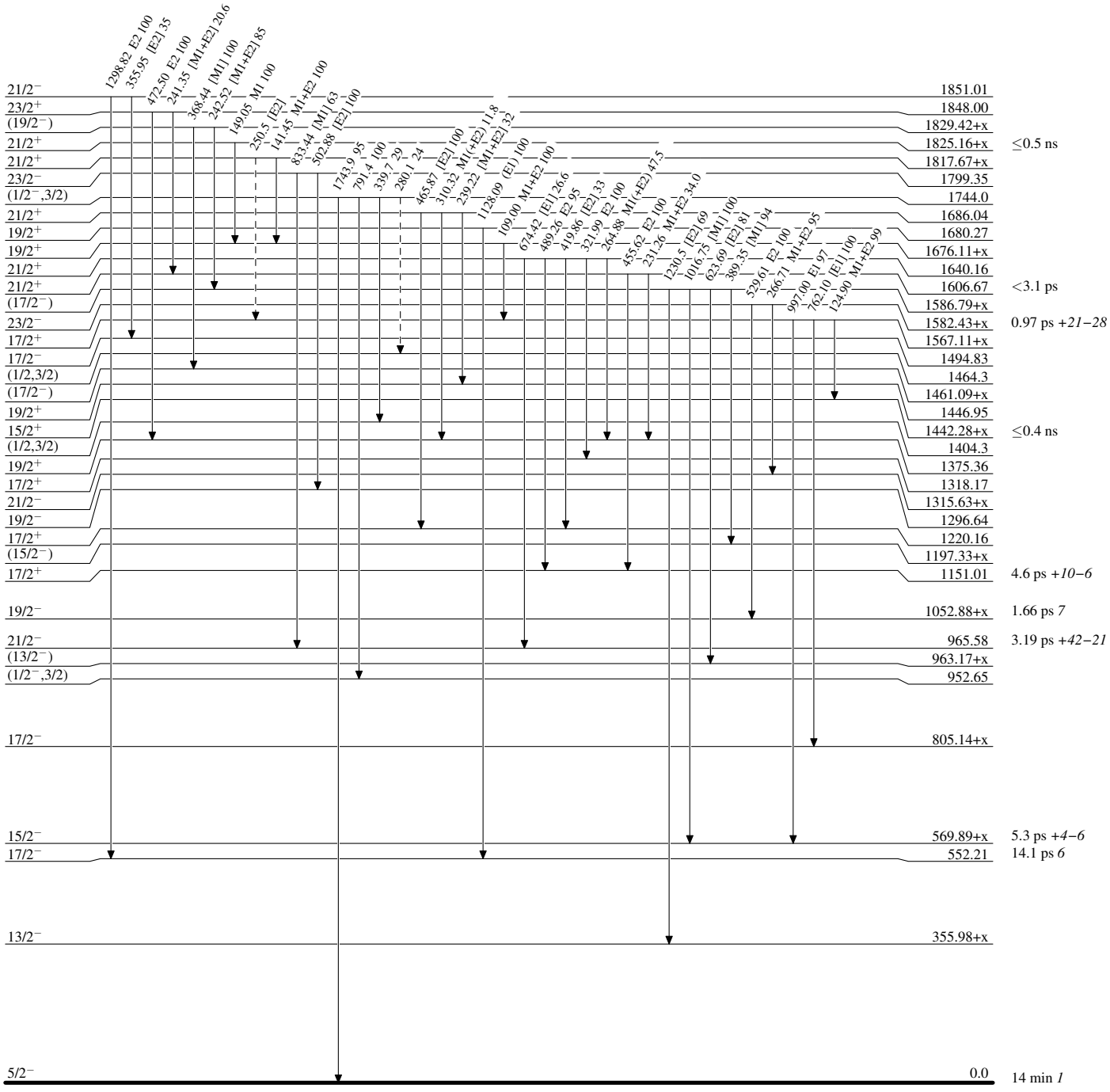
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

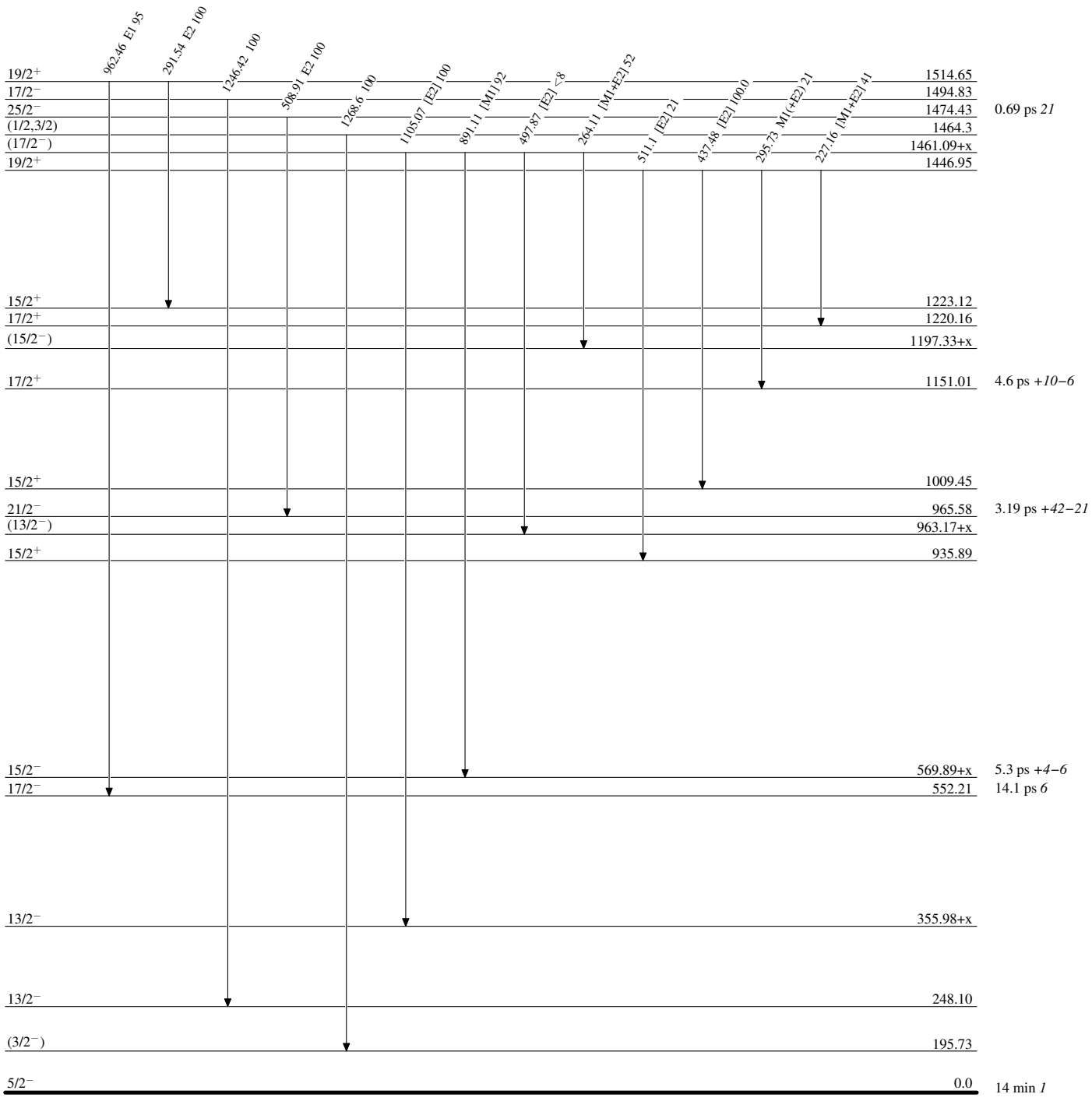


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

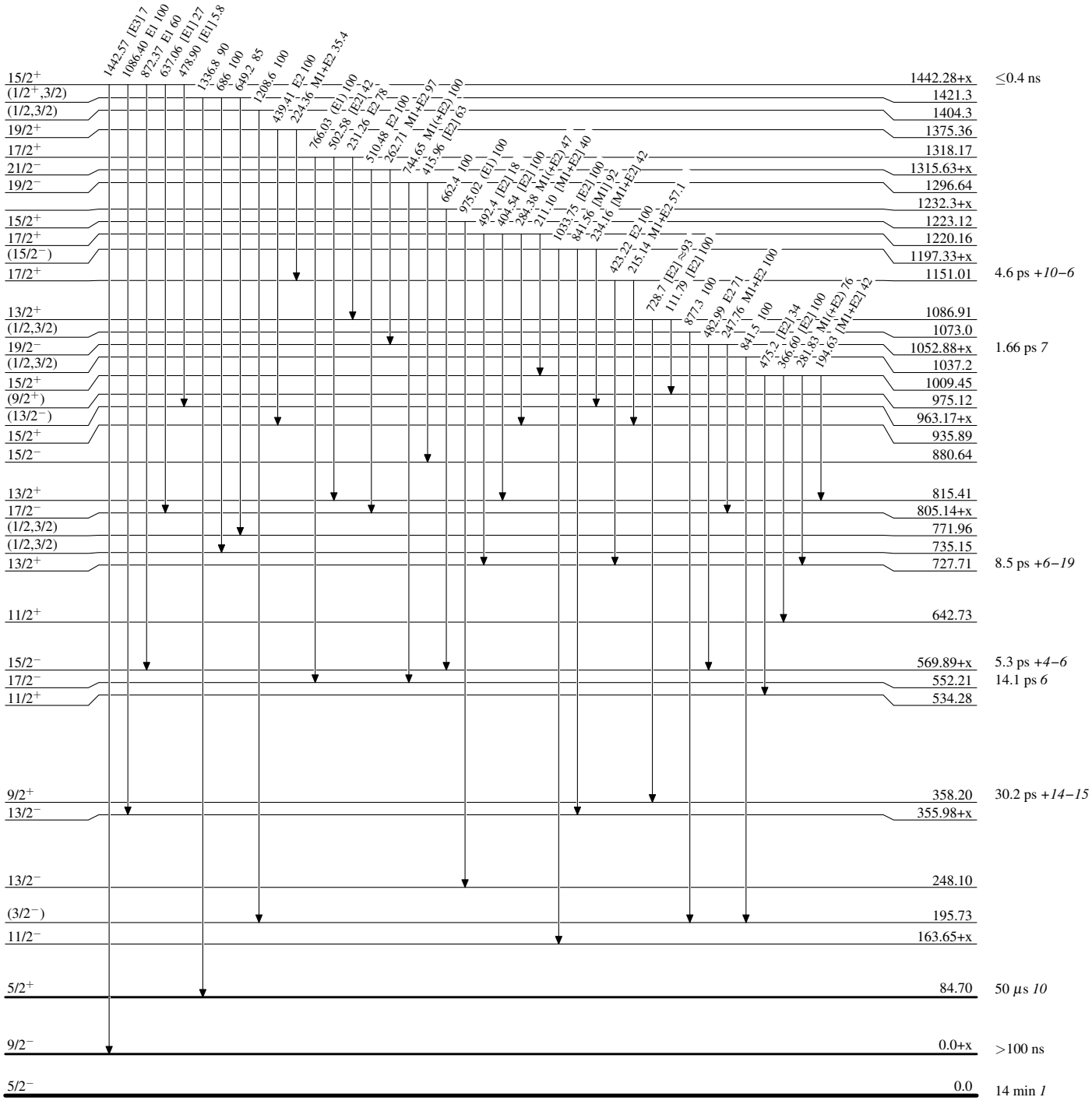


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{177}_{75}Re_{102}$

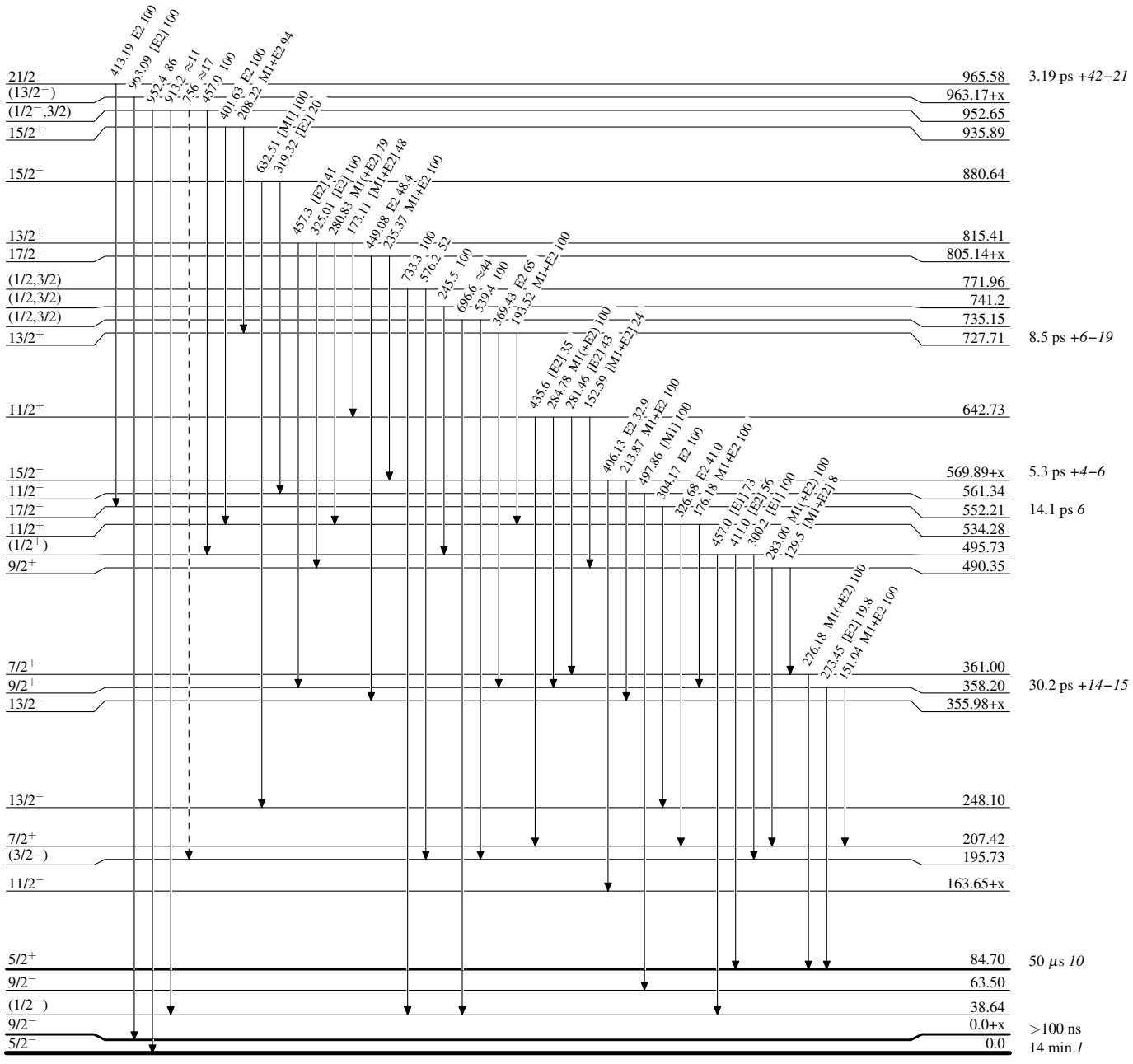
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

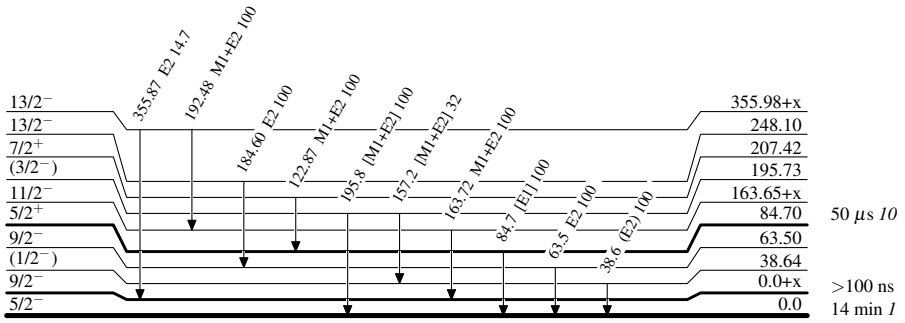


$^{177}_{75}Re_{102}$

Adopted Levels, Gammas

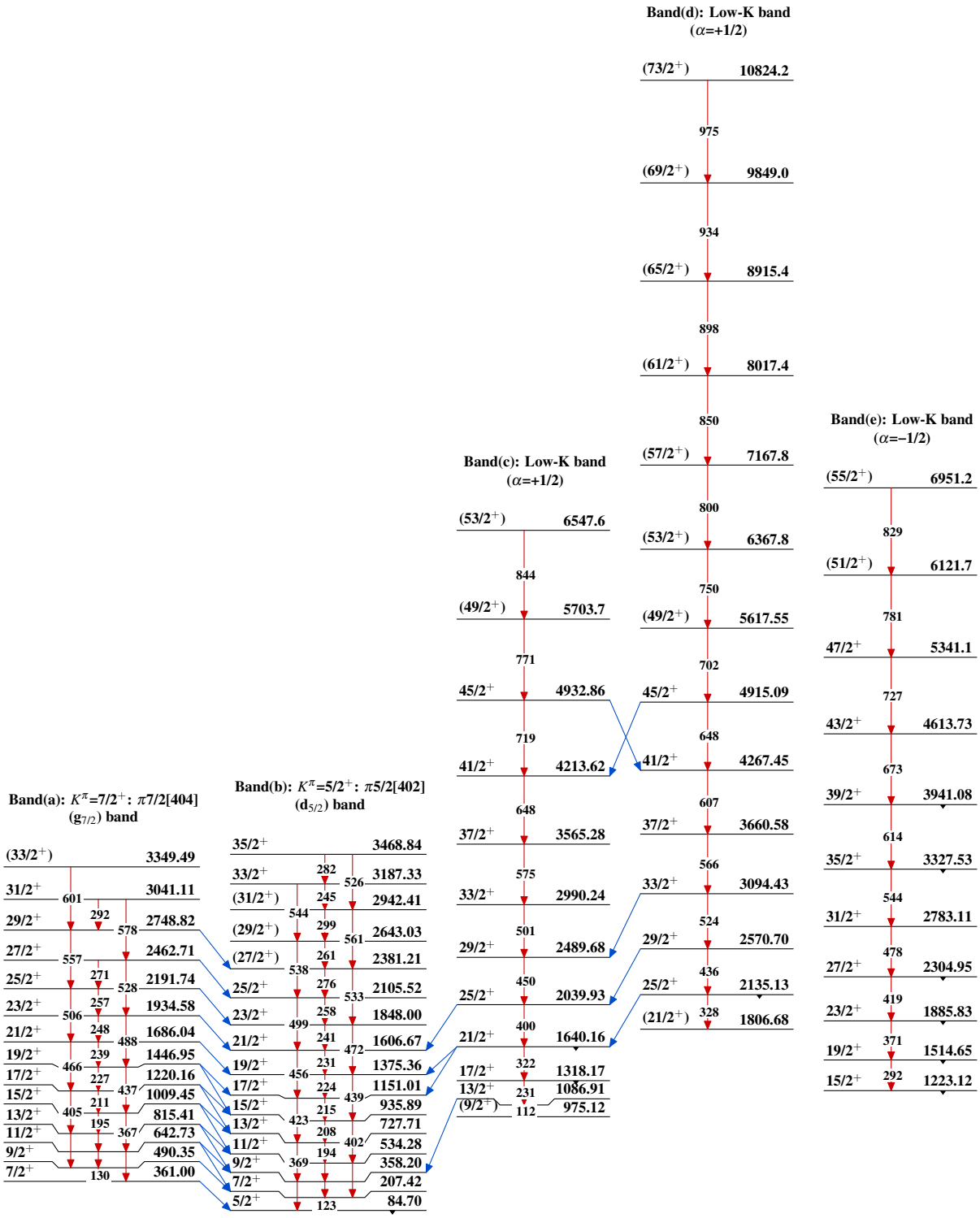
Level Scheme (continued)

Intensities: Relative photon branching from each level



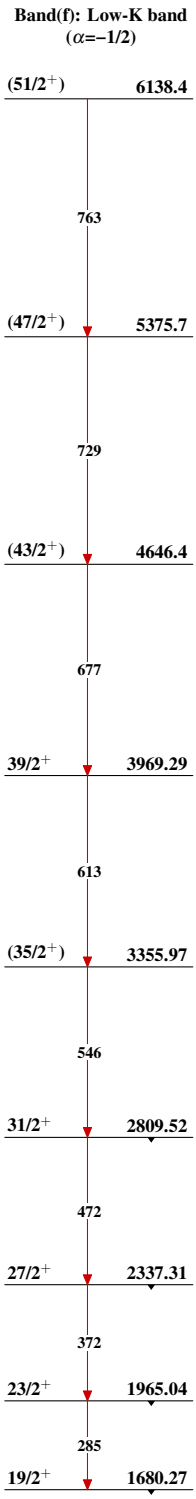
$^{177}_{75}Re_{102}$

Adopted Levels, Gammas



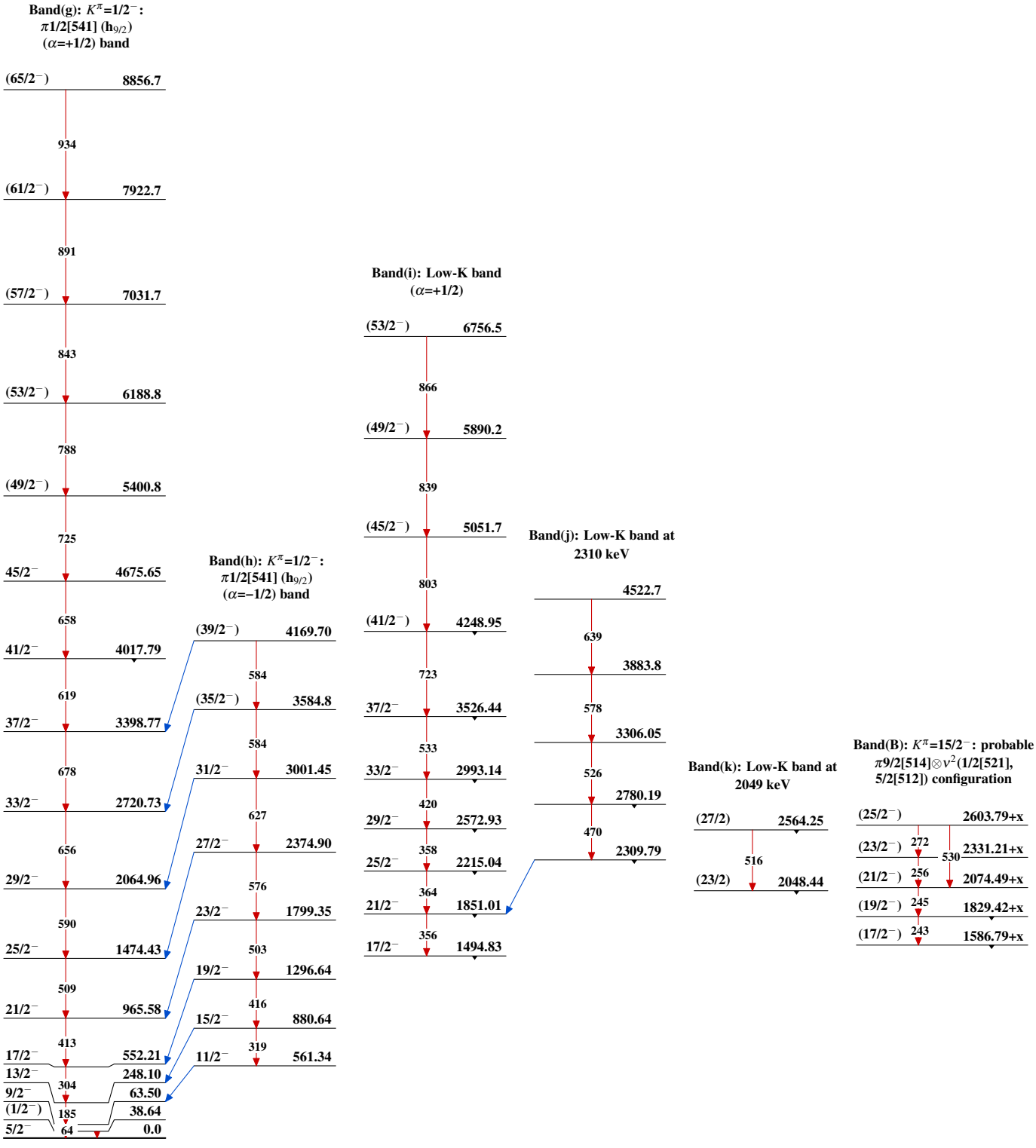
$^{177}_{75}Re_{102}$

Adopted Levels, Gammas (continued)



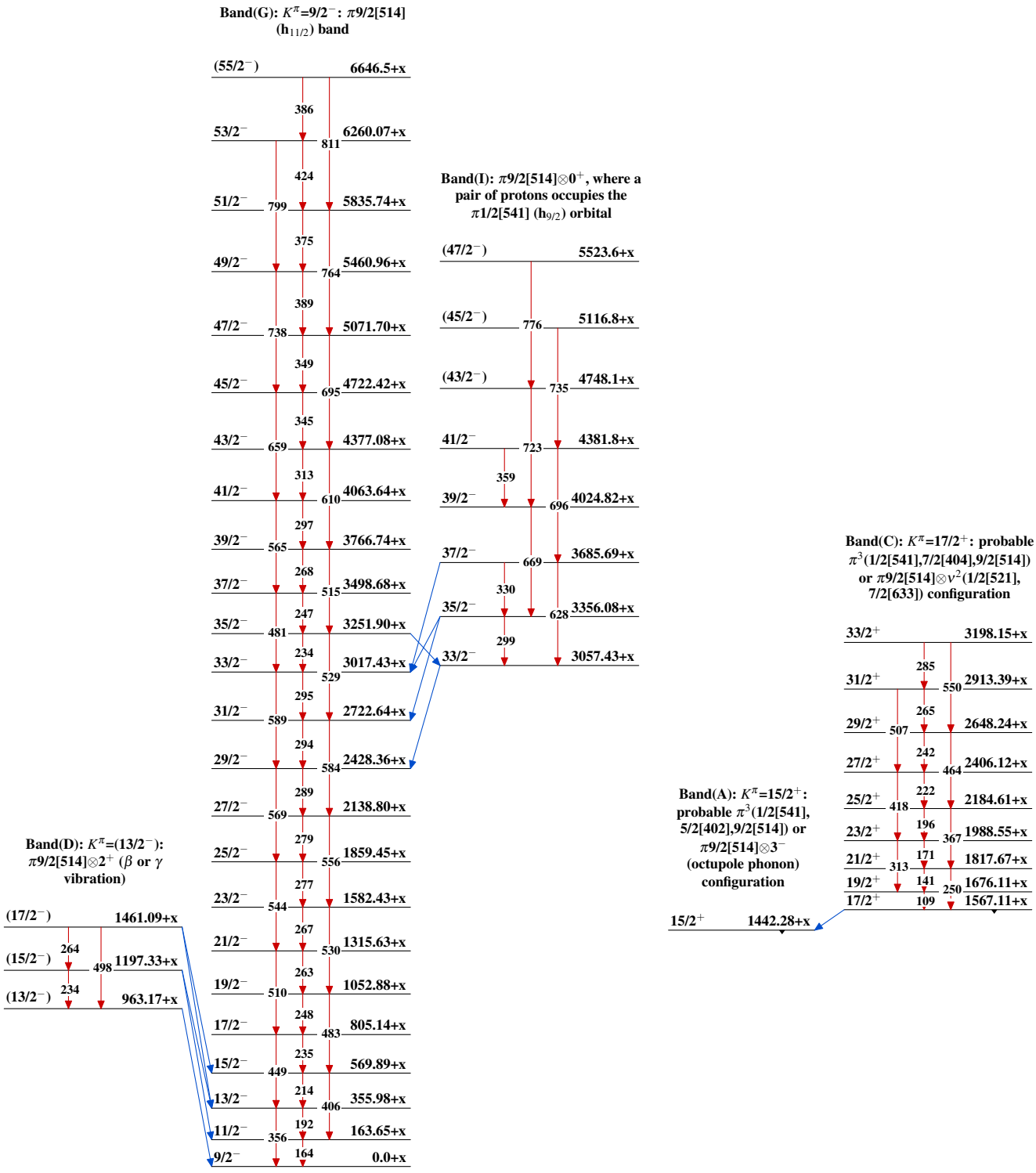
$^{177}_{75}Re_{102}$

Adopted Levels, Gammas (continued)



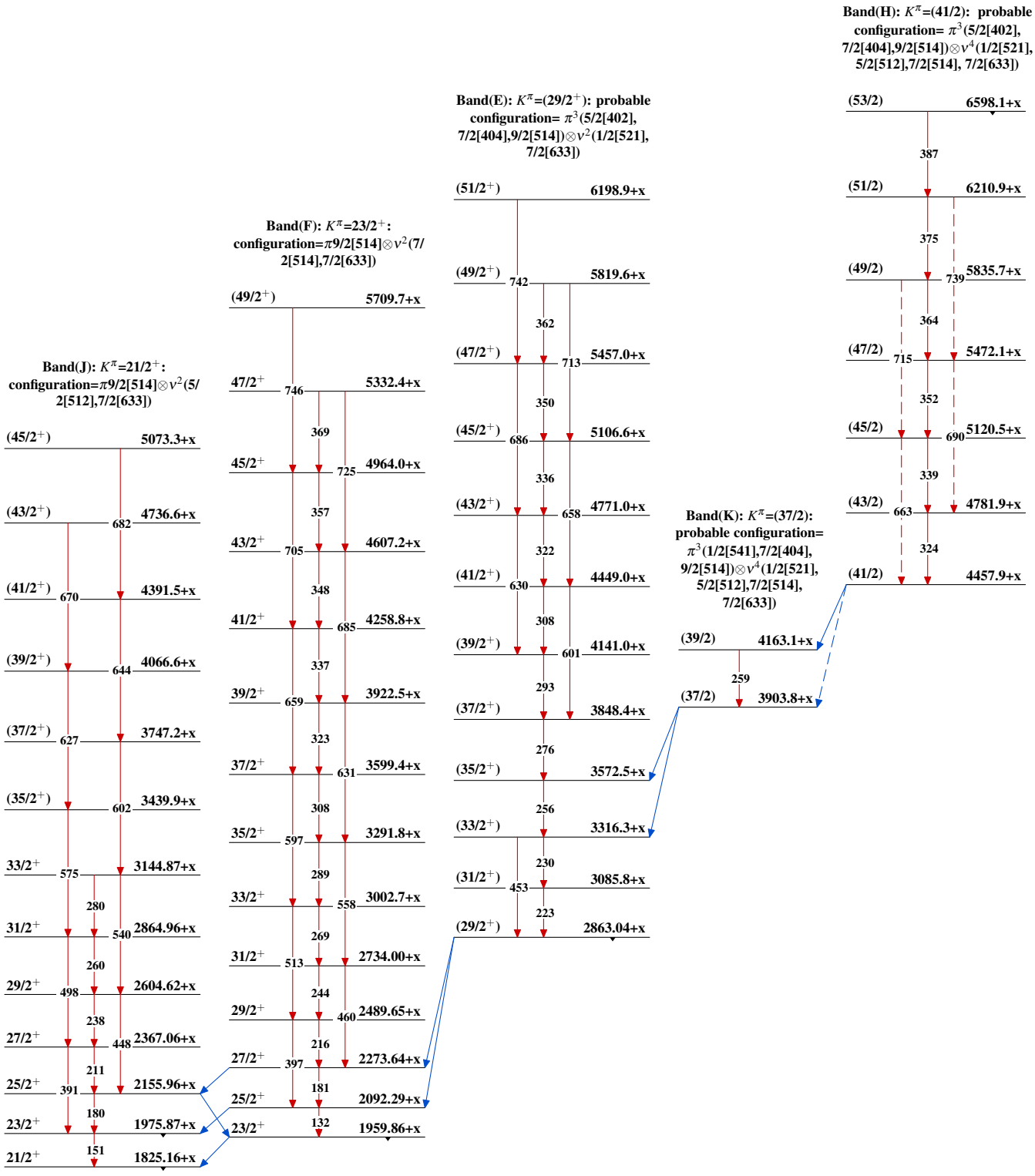
$^{177}_{75}Re_{102}$

Adopted Levels, Gammas (continued)



$^{177}_{75}Re_{102}$

Adopted Levels, Gammas (continued)



$^{177}_{75}Re_{102}$