(HI,xnγ) 1992Ye01,1986Hu02

History

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

Other: 1990Ye03.

1992Ye01, 1990Ye03: ^{160}Gd(^{36}S,5nγ), E=162-172 MeV. Argonne superconducting linear accelerator. Detection using 12 Compton-suppressed Ge detectors, surrounding an array of 56 BGO elements. Measured Eγ, Iγ, γγ(θ), DSAM. CSM calculations.

1986Hu02: ^{184,186}W(^{13}C,xnγ), E=84-87 MeV, ^{170}Er(^{24,26}Mg,xnγ), E=120-130 MeV. Ge detector, NaI(Tl) anti_Compton arrangement. Measured Eγ, Iγ, γγ, γ(θ), Use multiplicity filter to reduce background.

^{191}Hg Levels

Level scheme, band structures, and proposed quasiparticle configurations from 1992Ye01, except where noted. The bands are labeled according to their configuration in CSM notation (1979Be36, 1986Hu02, 1992Ye01).

E(level)[†]	Jπ[‡]	Comments
128[#] 8	13/2+	Additional information 1. E(level): from Adopted Levels. Labeled as 0.0+x in the previous evaluation (2007Va21).
518.6[#] 3	17/2+	
663.4[@] 3	15/2+	
1147.4[#] 4	21/2+	
1299.9[@] 3	19/2+	
1766.0[e] 4	21/2−	
1897.6[#] 4	25/2+	
1932.7[e] 4	25/2−	
1989.9[c] 4	23/2−	
2192.9[c] 4	27/2−	
2251.7[e] 5	29/2−	
2559.7[&] 5	29/2+	
2673.1[c] 5	31/2−	
2717.0[#] 5	29/2+	
2723.0 5	(29/2−)	
2726.7[&] 5	33/2+	
2771.4[h] 6	(33/2−)	
2818.6[e] 5	33/2−	
3063.6[a] 5	(29/2+)	
3206.7[&] 6	37/2+	
3245.6 6	33/2+	
3295.2[a] 5	33/2+	
3350.3[c] 6	35/2−	
3381.0 5	(33/2−)	
3557.1[e] 6	37/2−	
3615.9[a] 6	37/2+	
3646.5[h] 7	(37/2−)	
3856.3 6	(35/2)	
3920.9[&] 6	41/2+	
4075.0 5	(37/2−)	
4085.3[d] 6	39/2−	
4097.1[c] 6	(39/2−)	
4116.8[a] 6	41/2+	

Continued on next page (footnotes at end of table)

(HI,xnγ) 1992Ye01,1986Hu02 (continued)

^{191}Hg Levels (continued)

E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]
4269.1[g] *6*	$41/2^-$	4984.0[i] *6*	$43/2^-$	5662.2[b] *6*	$49/2^+$	7064.6[i] *7*	$55/2^-$
4345.9[f] *6*	$41/2^-$	5023.1[j] *7*	$45/2^-$	5681.6[&] *7*	$49/2^+$	7205.6[a] *8*	$57/2^+$
4403.7[h] *8*	$(41/2^-)$	5031.7[j] *7*	45/2	5781.9[i] *7*	$49/2^-$	7355.1[i] *8*	$57/2^-$
4485.5[d] *6*	$43/2^-$	5085.9[f] *12*		5923.9[d] *8*	$51/2^-$	7655.9[i] *8*	59/2
4510.8[j] *6*	$41/2^-$	5134.6[d] *7*	$47/2^-$	5931.0[f] *12*		7798.9[d] *9*	
4620.2[b] *6*	$41/2^+$	5156.0[g] *7*	$45/2^-$	6153.6[g] *8*		7818.0[i] *8*	59/2
4658.0 *6*	(39/2)	5199.7[h] *8*	$(45/2^-)$	6213.4[i] *7*	$51/2^-$	7825.2 *9*	
4715.3[i] *6*	$41/2^-$	5256.4[j] *8*	47/2	6359.0[a] *8*	$53/2^+$	8115.5[i] *8*	61/2
4760.5[&] *6*	$45/2^+$	5270.6[i] *6*	$45/2^-$	6461.9[b] *7*	$53/2^+$	8479.9[i] *8*	(63/2)
4781.9[j] *7*	$43/2^-$	5424.2[i] *6*	$47/2^-$	6587.7[i] *7*	53/2	8797.0[i] *9*	
4795.6[a] *6*	$45/2^+$	5555.5[a] *7*	$49/2^+$	6648.9[&] *8*	$53/2^+$		
4979.1[b] *6*	$45/2^+$	5634.7[i] *6*	$47/2^-$	6806.4[d] *8*	$(55/2^-)$		

[†] From a least-squares adjustment to the Eγ. Level energies are based on the isomeric state at 128 keV *8*. For total uncertainty, propagate 8 keV in quadrature, except for 128 keV level.

[‡] From 1992Ye01, based on $13/2^+$ isomeric state, band structures, multipolarities of connecting transitions, and systematics of similar levels in neighboring Hg isotopes.

[#] Band(A): Band 1 (π,α)=(+,+1/2) Conf: (A) $\nu(i_{13/2})$, band based on the $13/2^+$ 0.0+x keV (128) state (1986Hu02,1992Ye01). Signature partner of Band 2.

[@] Band(B): Band 2 (π,α)=(+,−1/2) Conf: (B) $\nu(i_{13/2})$, band based on the $15/2^+$ 536+x keV state (1986Hu02,1992Ye01). Signature partner of Band 1.

[&] Band(C): Band 3 (π,α)=(+,+1/2) Conf: (ABC) $\nu(i^3_{13/2})$, band based on the $29/2^+$ 2432+x keV state (1986Hu02,1992Ye01).

[a] Band(D): Band 4 (π,α)=(+,+1/2) Conf: (ABCEF) $\nu(i^3_{13/2}\ p^2_{3/2})$, band based on the $29/2^+$ 2935+x keV state (1992Ye01).

[b] Band(E): Band 5 (π,α)=(+,+1/2) Conf: (ABCEF′) $\nu(i^3_{13/2}\ p_{3/2}\ h_{9/2})$, band based on the $41/2^+$ 4492+x keV state (1992Ye01).

[c] Band(F): Band 6 (π,α)=(-,−1/2) Conf: (ABE) $\nu(i^2_{13/2}\ p_{3/2})$, band based on the $23/2^-$ 1862+x keV state (1992Ye01). Signature partner of Band 8. This band was classified as ABF, $\pi\alpha$=(-,−1/2) in 1986Hu02.

[d] Band(G): Band 7 (π,α)=(-,−1/2) Conf: (ABCDE) $\nu(i^4_{13/2}\ p_{3/2})$, band based on the $39/2^-$ 3957+x keV state (1992Ye01). Signature partner of Band 9. This band was classified as ABCDF, $\pi\alpha$=(-,−1/2) in 1986Hu02.

[e] Band(H): Band 8 (π,α)=(−,+1/2) Conf: (ABF) $\nu(i^2_{13/2}\ p_{3/2})$, band based on the $21/2^-$ 1638+x keV state (1992Ye01). Signature partner of Band 6. This band was classified as ABE, $\pi\alpha$=(-,1/2) in 1986Hu02.

[f] Band(I): Band 9 (π,α)=(−,+1/2) Conf: (ABCDF) $\nu(i^4_{13/2}\ p_{3/2})$, band based on the $41/2^-$ 4218+x keV state (1992Ye01). Signature partner of Band 7.

[g] Band(J): Band 10 (π,α)=(−,+1/2) Conf: (ABF′) $\nu(i^2_{13/2}\ h_{9/2})$, band based on the $41/2^-$ 4141+x keV state (1992Ye01).

[h] Band(K): Band 11 Terminating band, based on the $(33/2^-)$ 2643+x keV state (1992Ye01).

[i] Seq.(L): Group 12 Interpreted as a group of levels originating from single-particle-like excitations (1990Ye03), based on the $(29/2^-)$ 2595+x keV state (1992Ye01).

[j] Seq.(M): Group 13 Unspecified configuration, probably single-particle structure (1992Ye01). Group of levels based on the $41/2^-$ 4382+x keV state.

$\gamma(^{191}Hg)$

A_2, A_4 angular distribution coefficients are from 1986Hu02, except where noted, and DCO ratios are from 1992Ye01.

Continued on next page (footnotes at end of table)

(HI,xnγ) 1992Ye01,1986Hu02 (continued)

γ(^{191}Hg) (continued)

E_γ [†]	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	α [#]	Comments
(57.3)		4715.3	41/2⁻	4658.0	(39/2)			
147.2 3	1.5 7	5781.9	49/2⁻	5634.7	47/2⁻	M1	2.62 4	DCO=0.69 12 Mult.: DCO indicates D, intensity balance requires M1 (1992Ye01).
166.6 3	25 3	1932.7	25/2⁻	1766.0	21/2⁻	Q		DCO=1.14 4 A_2=+0.27 4; A_4=−0.05 5 I_γ: Other: 44 9 (1986Hu02: undivided intensity from superposition of γ lines of 166.6 and 166.9 keV).
166.9 3	14 4	2726.7	33/2⁺	2559.7	29/2⁺	Q		DCO=1.29 9 A_2=+0.27 4; A_4=−0.05 5 I_γ: Other: 44 3 (1986Hu02: undivided intensity from superposition of γ lines of 166.6 and 166.9 keV).
203.0 3	9.1 6	2192.9	27/2⁻	1989.9	23/2⁻	Q		DCO=1.22 11 A_2=+0.39 8; A_4=+0.03 11 I_γ: Other: 7 2 (1986Hu02).
210.5 3	1.7 4	5634.7	47/2⁻	5424.2	47/2⁻	D		DCO=0.79 24
224.0 3	1.4 2	1989.9	23/2⁻	1766.0	21/2⁻	D		DCO=0.82 13 I_γ: Other: 2.0 6 (1986Hu02).
231.6 3	1.3 4	3295.2	33/2⁺	3063.6	(29/2⁺)	(Q)		DCO=1.1 4
233.3 3	0.3 1	5256.4	47/2	5023.1	45/2⁻	D		DCO=0.52 13
241.2 3	0.2 1	5023.1	45/2⁻	4781.9	43/2⁻	D		DCO=0.65 12
249.8 3	0.3 1	5031.7	45/2	4781.9	43/2⁻	D		DCO=0.73 13
260.2 3	2.3 4	2192.9	27/2⁻	1932.7	25/2⁻	D	0.35 18	DCO=0.80 9 A_2=+0.55 10 I_γ: Other: 2.6 8 (1986Hu02).
268.7 3	9.7 19	4984.0	43/2⁻	4715.3	41/2⁻	M1	0.488 7	DCO=0.57 6 A_2=−0.37 4; A_4=−0.09 6 E_γ: Weighted average of 268.8 3 (1992Ye01), 268.5 3 (1986Hu02). I_γ: Other: 5 2 (1986Hu02). Mult.: γθ, DCO indicates D, intensity balance requires M1 (1992Ye01).
271.1 3	0.7 2	4781.9	43/2⁻	4510.8	41/2⁻	D		DCO=0.74 15
286.6 3	5.7 2	5270.6	45/2⁻	4984.0	43/2⁻	D		DCO=0.60 6 A_2=−0.09 17 E_γ,I_γ: Other: Eγ=286.5 3, Iγ=1.3 4 (1986Hu02).
290.5 3	3.9 2	7355.1	57/2⁻	7064.6	55/2⁻	M1	0.394 6	DCO=0.69 9 Mult.: DCO indicates D, intensity balance requires M1 (1992Ye01).
295.4 3	4.5 8	2192.9	27/2⁻	1897.6	25/2⁺	D		DCO=0.71 8 I_γ: Other: 1.8 6 (1986Hu02: complex line, intensity estimated from coincidence spectra).
300.8 3	3.2 7	7655.9	59/2	7355.1	57/2⁻	D		DCO=0.65 8
317.1 3	1.5 8	8797.0		8479.9	(63/2)			
319.0 3	40 4	2251.7	29/2⁻	1932.7	25/2⁻	Q		DCO=1.18 4 A_2=+0.40 4; A_4=−0.03 5 I_γ: Other: 24 6 (1986Hu02).
320.7 3	6.5 9	3615.9	37/2⁺	3295.2	33/2⁺	Q		DCO=1.29 16 A_2=+0.39 12; A_4=−0.18 16 I_γ: Other: 5 2 (1986Hu02).
358.9 3	4.8 10	4979.1	45/2⁺	4620.2	41/2⁺	Q		DCO=1.31 27
364.1 3	4.1 6	5634.7	47/2⁻	5270.6	45/2⁻			DCO=0.50 5
364.5 3	2.4 19	8479.9	(63/2)	8115.5	61/2	(Q)		A_2=+0.14 10 E_γ: Weighted average of 364.4 3 (1992Ye01)

Continued on next page (footnotes at end of table)

(HI,xnγ) 1992Ye01,1986Hu02 (continued)

γ(^{191}Hg) (continued)

E_γ †	I_γ †	E_i(level)	J^π_i	E_f	J^π_f	Mult.‡	Comments
							and 364.6 *3* (1986Hu02). I_γ: Other: 1.6 *5* (1986Hu02).
374.3 *3*	1.0 *3*	6587.7	53/2	6213.4	51/2⁻		DCO=0.27 *7*
390.5 *3*	100	518.6	17/2⁺	128	13/2⁺	Q	DCO=1.33 *11* A_2=+0.27 *4*; A_4=−0.12 *5*
400.2 *3*	5.6 *7*	4485.5	43/2⁻	4085.3	39/2⁻	Q	DCO=1.36 *7* A_2=+0.26 *19*; A_4=−0.01 *21* I_γ: Other: 5 *1* (1986Hu02).
409.2 *3*	3.9 *5*	3615.9	37/2⁺	3206.7	37/2⁺	(Q)	DCO=1.53 *11* I_γ: Other: 7 *2* (1986Hu02: complex line, intensity estimated from coincidence spectra).
431.5 *3*	2.5 *4*	6213.4	51/2⁻	5781.9	49/2⁻	D	DCO=0.51 *6*
440.2 *3*	2.3 *2*	5424.2	47/2⁻	4984.0	43/2⁻	Q	DCO=1.35 *19* E_γ,I_γ: Other: Eγ=440.3 *3* keV, Iγ=1.8 *5* (1986Hu02: complex line, intensity estimated from coincidence spectra).
459.6 *3*	2.2 *14*	8115.5	61/2	7655.9	59/2	D	DCO=0.77 *11*
462.9 *3*	1.8 *4*	7818.0	59/2	7355.1	57/2⁻	D	DCO=0.70 *16*
466.2 *3*	30.4 *18*	1766.0	21/2⁻	1299.9	19/2⁺	D	DCO=0.79 *5* A_2=−0.27 *6*; A_4=−0.03 *6* I_γ: Other: 24 *6* (1986Hu02). Mult.: Angular distribution coefficients indicate ΔJ=1 stretched dipole.
476.9 *3*	1.5 *4*	7064.6	55/2⁻	6587.7	53/2	D	DCO=0.68 *11*
480.1 *3*	14 *3*	3206.7	37/2⁺	2726.7	33/2⁺	Q	DCO=1.31 *4* A_2=+0.37 *3*; A_4=−0.04 *4* I_γ: Other: 26 *7* (1986Hu02: undivided intensity from superposition of γ lines of 480.1 and 480.2 keV).
480.2 *3*	17 *3*	2673.1	31/2⁻	2192.9	27/2⁻	Q	DCO=1.37 *2* A_2=+0.37 *3*; A_4=+0.04 *4* I_γ: Other: 26 *7* (1986Hu02: undivided intensity from superposition of γ lines of 480.1 and 480.2 keV).
500.9 *3*	9.8 *11*	4116.8	41/2⁺	3615.9	37/2⁺	Q	DCO=1.27 *15* A_2=+0.19 *12* I_γ: Other: 5 *2* (1986Hu02).
512.3 *3*	0.5 *1*	5023.1	45/2⁻	4510.8	41/2⁻	Q	DCO=1.6 *5*
519.7 *3*	5.6 *5*	2771.4	(33/2⁻)	2251.7	29/2⁻	Q	DCO=1.20 *13* A_2=+0.31 *8* E_γ: Weighted average of 519.9 *3* (1992Ye01) and 519.5 *3* (1986Hu02). I_γ: Iγ=6 *2* (1986Hu02: complex line, intensity estimated from coincidence spectra).
520.9 *3*	0.8 *2*	5031.7	45/2	4510.8	41/2⁻		
528.6 *3*	1.9 *8*	3245.6	33/2⁺	2717.0	29/2⁺	Q	DCO=1.39 *14*
535.5 *3*	5.8 *6*	663.4	15/2⁺	128	13/2⁺	D	DCO=0.68 *5* A_2=−0.63 *5*; A_4=+0.08 *7* E_γ: Other: 535.3 *3* (1986Hu02). I_γ: Other: Iγ=19 *5* (1986Hu02).
555.4 *3*	4.9 *3*	5270.6	45/2⁻	4715.3	41/2⁻	Q	DCO=1.6 *5*
566.9 *3*	29.2 *17*	2818.6	33/2⁻	2251.7	29/2⁻	Q	DCO=1.32 *4* A_2=+0.32 *15*; A_4=−0.10 *17* I_γ: Other: 14 *4* (1986Hu02).
568.4 *3*	8.0 *21*	3295.2	33/2⁺	2726.7	33/2⁺	Q	DCO=1.48 *11* I_γ: Other: 1986Hu02 – complex line, no intensity was determined.

Continued on next page (footnotes at end of table)

(HI,xnγ) 1992Ye01,1986Hu02 (continued)

γ(^{191}Hg) (continued)

$E_γ$ [†]	$I_γ$ [†]	E_i(level)	$J^π_i$	E_f	$J^π_f$	Mult. [‡]	Comments
578.2 *3*	3.0 *7*	3295.2	33/2+	2717.0	29/2+	Q	DCO=1.30 *15* $I_γ$: Other: 4 *1* (1986Hu02: complex line, intensity estimated from coincidence spectra).
578.7 *3*	3.1 *10*	6213.4	51/2−	5634.7	47/2−	Q	DCO=1.41 *14*
618.5 *3*	9.9 *11*	1766.0	21/2−	1147.4	21/2+		DCO=1.30 *25* A_2=+0.30 *5* $I_γ$: Other: 4 *1* (1986Hu02: complex line, intensity estimated from coincidence spectra). The multipolarity (probable E2) suggested both by DCO values from 1992Ye01, and by angular distribution coefficients from 1986Hu02 disagrees sharply with the Δπ=1 required by the assigned $J^π$ values of the levels proposed in both references for the placement of this γ ray.
628.7 *3*	57 *5*	1147.4	21/2+	518.6	17/2+	Q	DCO=1.34 *6* A_2=+0.36 *6*; A_4=−0.15 *9* $I_γ$: Other: 52 *3* (1986Hu02: complex line, intensity estimated from coincidence spectra), 1990Ye03 quote Iγ=59.6.
629.9 *3*	3.7 *8*	4715.3	41/2−	4085.3	39/2−	D+Q	DCO=1.0 *5*
636.6 *3*	9.6 *21*	1299.9	19/2+	663.4	15/2+	Q	DCO=1.16 *6* A_2=+0.29 *15*; A_4=−0.02 *22* $I_γ$: Other: 14 *4* (1986Hu02: complex line, intensity estimated from coincidence spectra).
640.3 *3*	3.3 *7*	4715.3	41/2−	4075.0	(37/2−)	Q	DCO=1.3 *5*
649.1 *3*	3.7 *5*	5134.6	47/2−	4485.5	43/2−	Q	DCO=1.43 *8*
650.7 *3*	3.2 *3*	5634.7	47/2−	4984.0	43/2−	Q	DCO=1.38 *17*
658.0 *3*	2.3 *9*	3381.0	(33/2−)	2723.0	(29/2−)		
661.9 *3*	1.8 *4*	8479.9	(63/2)	7818.0	59/2		
662.1 *3*	32 *6*	2559.7	29/2+	1897.6	25/2+	Q	DCO=1.32 *5* A_2=+0.31 *5*; A_4=−0.09 *7* $I_γ$: Other: 29 *7* (1986Hu02).
677.2 *3*	15 *6*	3350.3	35/2−	2673.1	31/2−	Q	DCO=1.31 *6* A_2=+0.36 *5*; A_4=−0.05 *6* $I_γ$: Other: 7 *2* (1986Hu02).
678.8 *3*	5.2 *8*	4795.6	45/2+	4116.8	41/2+	Q	DCO=1.31 *13* A_2=+0.34 *10*
x682.8 *4*	2.6 *8*						$E_γ$: Weighted average of 682.4 *3* (1986Hu02) and 683.1 *3* (1992Ye01).
683.1 *3*	6.8 *16*	5662.2	49/2+	4979.1	45/2+	Q	DCO=1.32 *16*
694.0 *3*	2.4 *5*	4075.0	(37/2−)	3381.0	(33/2−)		
712.0 *3*	2.5 *3*	4269.1	41/2−	3557.1	37/2−	Q	DCO=1.28 *19*
714.2 *3*	9.3 *13*	3920.9	41/2+	3206.7	37/2+	Q	DCO=1.31 *5* A_2=+0.31 *5* $I_γ$: Other: 5 *2* (1986Hu02).
735.0 *3*	9.2 *16*	4085.3	39/2−	3350.3	35/2−	Q	DCO=1.33 *6* A_2=+0.49 *11*; A_4=−0.17 *12* $I_γ$: Other: 3.7 *5* (1986Hu02: complex line, intensity estimated from coincidence spectra).
738.5 *3*	24.5 *22*	3557.1	37/2−	2818.6	33/2−	Q	DCO=1.32 *19* A_2=+0.38 *4*; A_4=−0.15 *5* $I_γ$: Other: 9.7 *3* (1986Hu02: complex line, intensity estimated from coincidence spectra).
740.0 *10*	4.0 *8*	5085.9		4345.9	41/2−		
746.8 *3*	5.4 *10*	4097.1	(39/2−)	3350.3	35/2−	(Q)	DCO=1.08 *14*

Continued on next page (footnotes at end of table)

(HI,xnγ) 1992Ye01,1986Hu02 (continued)

γ(^{191}Hg) (continued)

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
750.2 *3*	36.2 *23*	1897.6	25/2+	1147.4	21/2+	Q	DCO=1.31 *13* A_2=+0.34 *4*; A_4=−0.07 *6* I_γ: Other: 42 *8* (1986Hu02).
757.2 *3*	1.8 *2*	4403.7	(41/2−)	3646.5	(37/2−)	Q	DCO=1.39 *14*
759.9 *3*	2.9 *5*	5555.5	49/2+	4795.6	45/2+	Q	DCO=1.4 *4*
760.4 *3*	1.1 *6*	8115.5	61/2	7355.1	57/2−		
781.3 *3*	11.7 *18*	1299.9	19/2+	518.6	17/2+	D+Q	DCO=0.72 *7* A_2=−0.90 *9*; A_4=+0.31 *1* I_γ: Other: 12 *4* (1986Hu02). Mult.: Angular distribution coefficients favor ΔJ=1, D+Q.
788.8 *3*	8.6 *9*	4345.9	41/2−	3557.1	37/2−	Q	DCO=1.30 *12* Other: Eγ=787 keV, Iγ=4 *1* (1986Hu02: complex line, intensity estimated from coincidence spectra).
789.2 *3*	2.4 *3*	5923.9	51/2−	5134.6	47/2−	Q	DCO=1.4 *4*
790.3 *3*	1.4 *10*	2723.0	(29/2−)	1932.7	25/2−		
796.0 *3*	0.7 *1*	5199.7	(45/2−)	4403.7	(41/2−)	Q	DCO=1.35 *23*
799.7 *3*	4.7 *14*	6461.9	53/2+	5662.2	49/2+	Q	DCO=1.36 *8* A_2=+0.42 *14* E_γ,I_γ: Other: Eγ=799.8 *3* keV, Iγ=0.7 *2* (1986Hu02: complex line, intensity estimated from coincidence spectra).
801.7 *3*	0.8 *2*	4658.0	(39/2)	3856.3	(35/2)		
803.5 *3*	2.0 *4*	6359.0	53/2+	5555.5	49/2+	Q	DCO=1.3 *3*
805.8 *3*	1.5 *7*	6587.7	53/2	5781.9	49/2−	Q	DCO=1.2 *3*
819.5 *3*	5.6 *12*	2717.0	29/2+	1897.6	25/2+	Q	DCO=1.36 *12* A_2=+0.33 *6*; A_4=−0.06 *7* I_γ: Other: 5 *2* (1986Hu02).
824.0 *3*	1.8 *7*	8479.9	(63/2)	7655.9	59/2	Q	DCO=1.7 *7*
839.6 *3*	4.5 *15*	4760.5	45/2+	3920.9	41/2+	Q	DCO=1.39 *9* A_2=+0.38 *14* I_γ: Other: 3.0 *1* (1986Hu02: complex line, intensity estimated from coincidence spectra).
842.5 *3*	11.6 *18*	1989.9	23/2−	1147.4	21/2+	D	DCO=0.74 *8* I_γ: Other: 8 *3* (1986Hu02: complex line, intensity estimated from coincidence spectra).
845.1 *3*	1.7 *3*	5931.0		5085.9			
846.6 *3*	0.9 *2*	7205.6	57/2+	6359.0	53/2+	Q	DCO=1.4 *5* E_γ: Other: 846.9 keV (1986Hu02), complex line, no intensity was determined.
851.2 *3*	5.1 *3*	7064.6	55/2−	6213.4	51/2−	Q	DCO=1.4 *3*
862.3 *3*	1.2 *2*	4979.1	45/2+	4116.8	41/2+	Q	DCO=1.5 *4*
866.6 *3*	1.4 *3*	5662.2	49/2+	4795.6	45/2+		
875.1 *4*	3.8 *3*	3646.5	(37/2−)	2771.4	(33/2−)	Q	DCO=1.29 *22* E_γ: Weighted average of 875.2 *4* (1992Ye01), 874.6 *5* (1986Hu02). I_γ: Other: 2.3 *8* (1986Hu02).
882.5 *3*	1.5 *2*	6806.4	(55/2−)	5923.9	51/2−	Q	DCO=1.5 *4*
886.9 *3*	1.2 *2*	5156.0	45/2−	4269.1	41/2−	Q	DCO=1.3 *4*
901.7 *3*	1.3 *2*	5662.2	49/2+	4760.5	45/2+	(Q)	DCO=2.0 *10*
921.1 *3*	1.1 *2*	5681.6	49/2+	4760.5	45/2+	Q	DCO=1.26 *10*
953.7 *3*	1.8 *4*	4510.8	41/2−	3557.1	37/2−	Q	DCO=1.3 *3*
967.3 *3*	0.5 *1*	6648.9	53/2+	5681.6	49/2+	Q	DCO=1.4 *3*
992.5 *3*	0.6 *1*	7798.9		6806.4	(55/2−)	D+Q	DCO=1.0 *4*
997.6 *3*	0.4 *1*	6153.6		5156.0	45/2−	(Q)	DCO=2.1 *12*
1004.3 *3*	0.8 *2*	4620.2	41/2+	3615.9	37/2+		

Continued on next page (footnotes at end of table)

(HI,xnγ) 1992Ye01,1986Hu02 (continued)

γ(^{191}Hg) (continued)

Eγ†	Iγ†	E_i(level)	J^π_i	E_f	J^π_f	Mult.‡	Comments
1018.8 *3*	0.6 *1*	7825.2		6806.4	(55/2⁻)	Q	DCO=1.2 *6*
1037.7 *3*	0.2 *1*	3856.3	(35/2)	2818.6	33/2⁻		
1100.9 *3*	1.5 *4*	4658.0	(39/2)	3557.1	37/2⁻	D	DCO=0.60 *7*
1129.3 *3*	0.5 *4*	3381.0	(33/2⁻)	2251.7	29/2⁻		
1158.2 *3*	4.1 *3*	4715.3	41/2⁻	3557.1	37/2⁻	Q	DCO=1.27 *24*
1166.0 *3*	0.4 *2*	3063.6	(29/2⁺)	1897.6	25/2⁺		
1256.4 *3*	1.0 *8*	4075.0	(37/2⁻)	2818.6	33/2⁻	(Q)	DCO=1.6 *10*
1413.5 *3*	1.3 *3*	4620.2	41/2⁺	3206.7	37/2⁺	Q	DCO=1.3 *3*

† γ-ray energies and intensities from 1992Ye01, except where noted otherwise. Energy uncertainties are estimated as ΔEγ≈0.3 keV (1992Ye01). 1986Hu02 note that the Eγ uncertainty of 0.2 to 0.3 depending on Iγ (Evaluator assign 0.2 for Iγ>100, otherwise 0.3) and ΔIγ 5-30% (Evaluator assign in six bins for Iγ=100, 80, 64, 48, 32, 16 as %ΔIγ 30, 25, 20, 15, 10, and 5, respectively).

‡ Multipolarities from DCO ratios, A_2 and A_4 coefficients. Additional support for some transitions is provided by Iγ balances. For the experimental setup in 1992Ye01, a DCO≈1.3 indicates a Q character, while a DCO≈0.7 indicates a D transition. For the assignment of multipolarities the following assumptions were adopted by 1992Ye01: a) an E2 character for stretched quadrupole (ΔJ=2) transitions; b) either M1 or E1 character, for dipole transitions; c) mixed transitions are of type M1/E2.

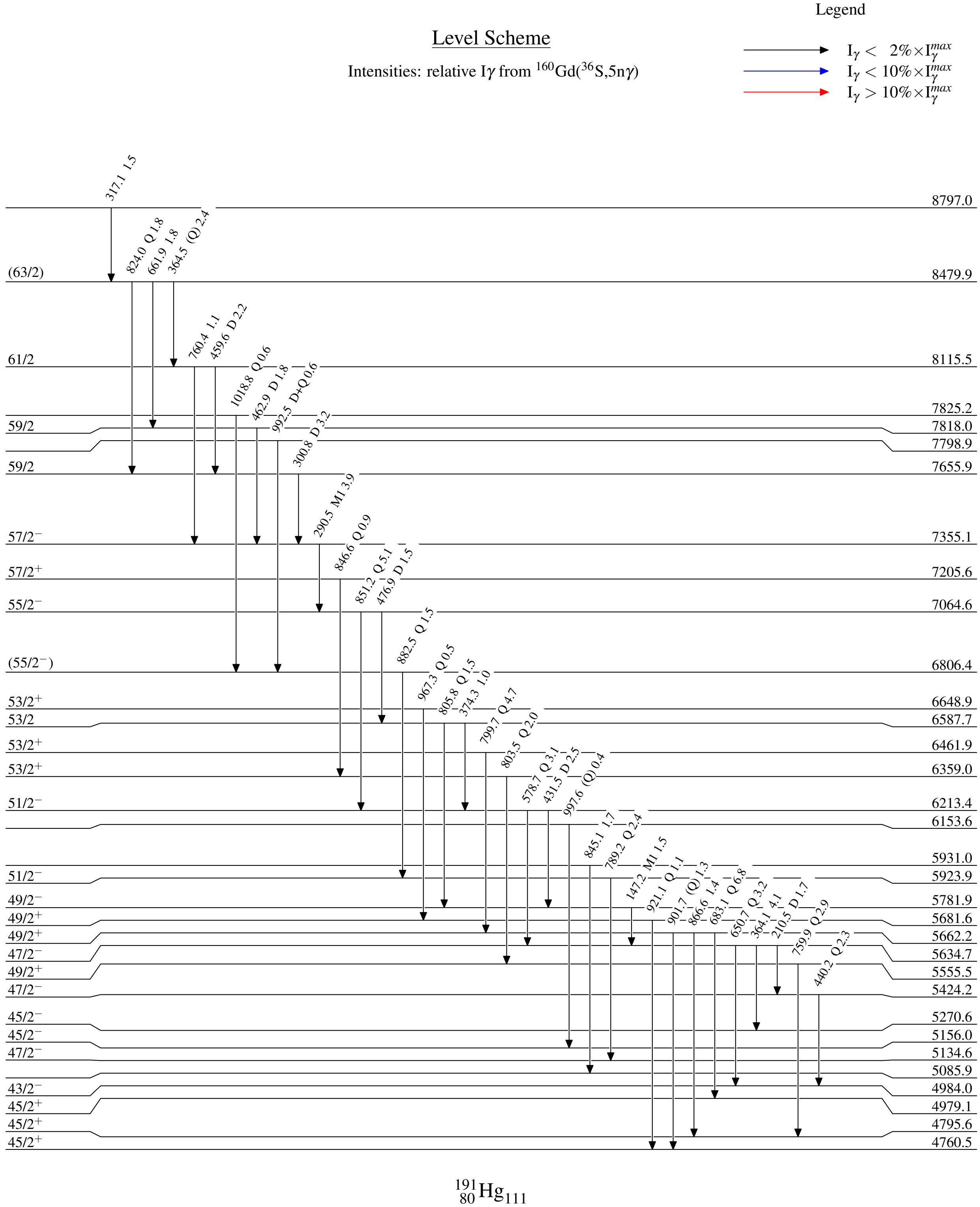
Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^{x} γ ray not placed in level scheme.

(HI,xnγ) 1992Ye01,1986Hu02

Level Scheme

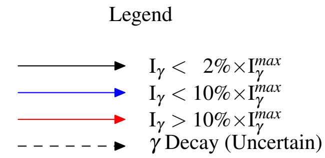
Intensities: relative Iγ from $^{160}Gd(^{36}S,5n\gamma)$

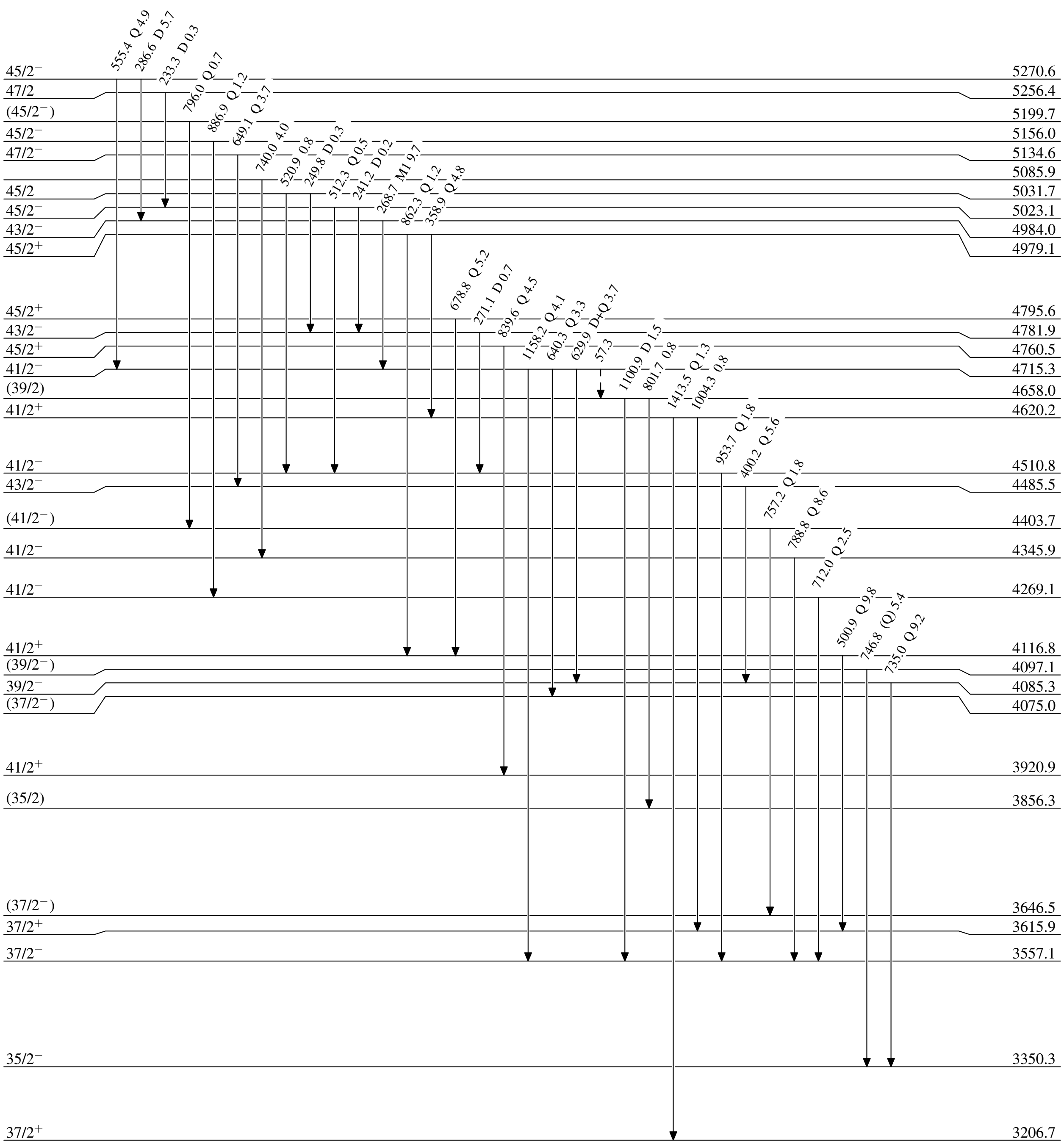


(HI,xnγ) 1992Ye01,1986Hu02

Level Scheme (continued)

Intensities: relative Iγ from ^{160}Gd(^{36}S,5nγ)



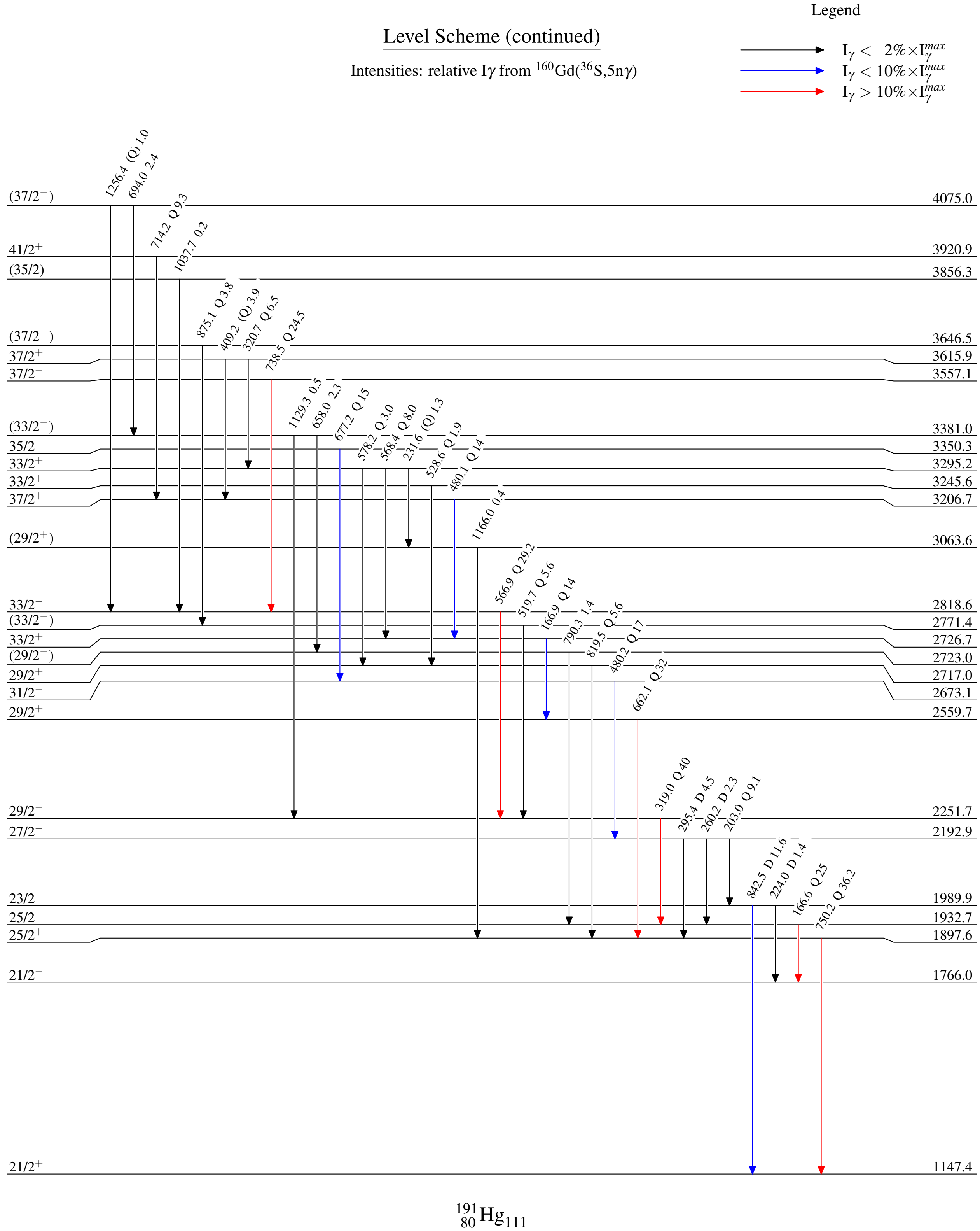


$^{191}_{80}Hg_{111}$

(HI,xnγ) 1992Ye01,1986Hu02

Level Scheme (continued)

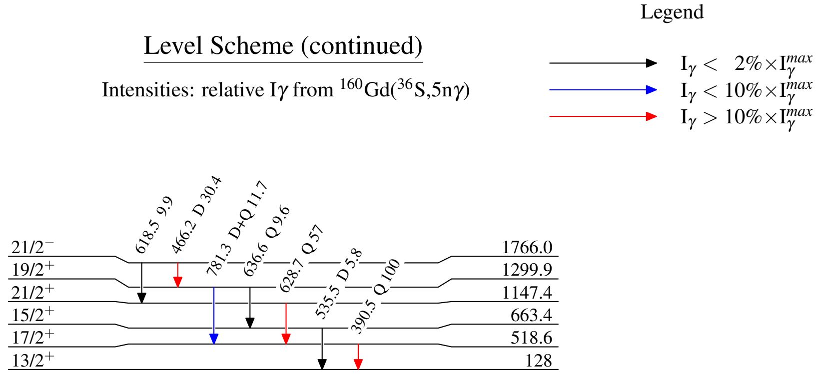
Intensities: relative Iγ from $^{160}Gd(^{36}S,5n\gamma)$



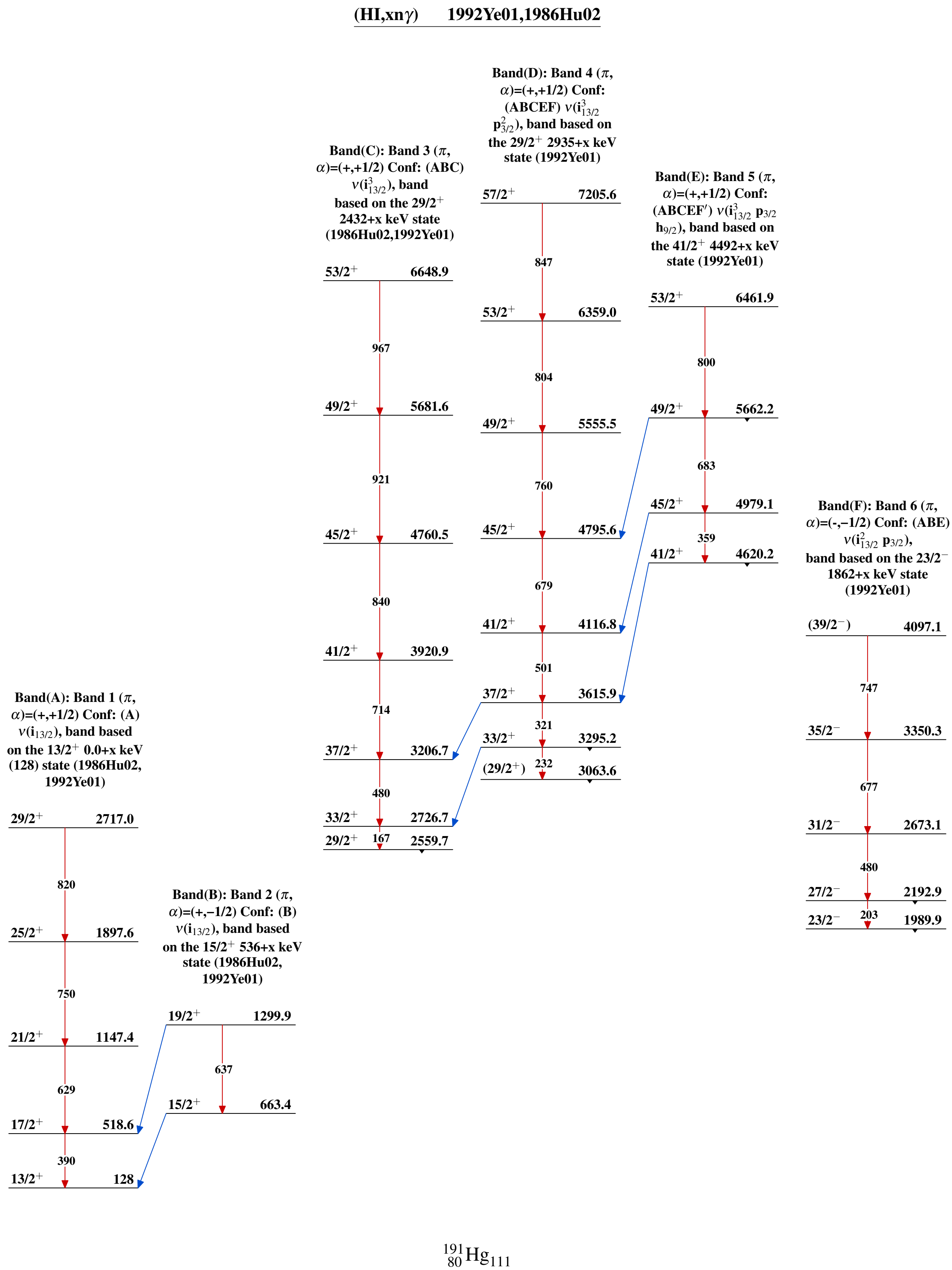
(HI,xnγ) 1992Ye01,1986Hu02

Level Scheme (continued)

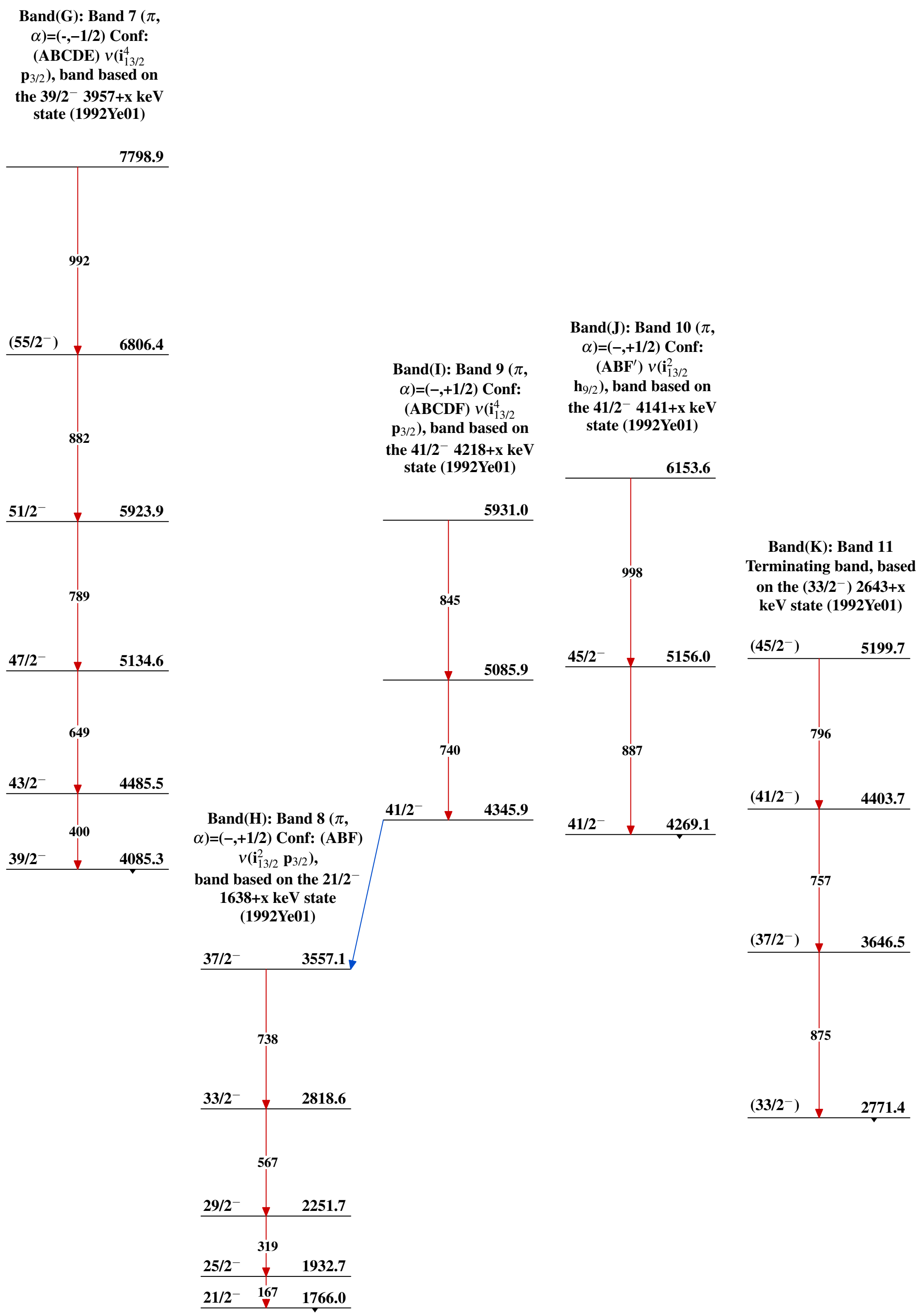
Intensities: relative Iγ from ^{160}Gd(^{36}S,5nγ)



$^{191}_{80}Hg_{111}$


(HI,xnγ) 1992Ye01,1986Hu02
Band(A): Band 1 (π, α)=(+,+1/2) Conf: (A) ν(i13/2), band based on the 13/2+ 0.0+x keV (128) state (1986Hu02, 1992Ye01)
Band(B): Band 2 (π, α)=(+,−1/2) Conf: (B) ν(i13/2), band based on the 15/2+ 536+x keV state (1986Hu02, 1992Ye01)
Band(C): Band 3 (π, α)=(+,+1/2) Conf: (ABC) ν(i313/2), band based on the 29/2+ 2432+x keV state (1986Hu02,1992Ye01)
Band(D): Band 4 (π, α)=(+,+1/2) Conf: (ABCEF) ν(i313/2 p23/2), band based on the 29/2+ 2935+x keV state (1992Ye01)
Band(E): Band 5 (π, α)=(+,+1/2) Conf: (ABCEF′) ν(i313/2 p3/2 h9/2), band based on the 41/2+ 4492+x keV state (1992Ye01)
Band(F): Band 6 (π, α)=(-,−1/2) Conf: (ABE) ν(i213/2 p3/2), band based on the 23/2− 1862+x keV state (1992Ye01)
29/2+ 2717.0
820
25/2+ 1897.6
750
21/2+ 1147.4
629
17/2+ 518.6
390
13/2+ 128
19/2+ 1299.9
637
15/2+ 663.4
53/2+ 6648.9
967
49/2+ 5681.6
921
45/2+ 4760.5
840
41/2+ 3920.9
714
37/2+ 3206.7
480
33/2+ 2726.7
167
29/2+ 2559.7
57/2+ 7205.6
847
53/2+ 6359.0
804
49/2+ 5555.5
760
45/2+ 4795.6
679
41/2+ 4116.8
501
37/2+ 3615.9
321
33/2+ 3295.2
232
(29/2+) 3063.6
53/2+ 6461.9
800
49/2+ 5662.2
683
45/2+ 4979.1
359
41/2+ 4620.2
(39/2−) 4097.1
747
35/2− 3350.3
677
31/2− 2673.1
480
27/2− 2192.9
203
23/2− 1989.9
$^{191}_{80}Hg_{111}$

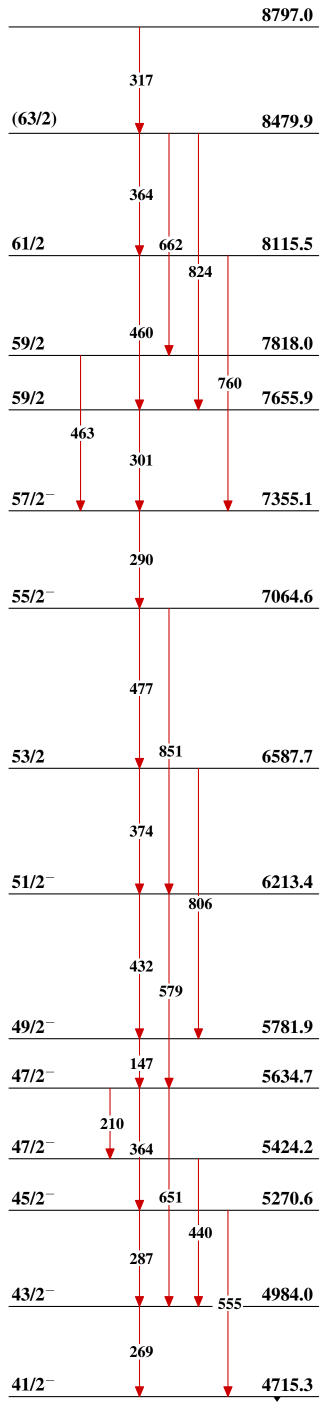
(HI,xnγ) 1992Ye01,1986Hu02 (continued)



$^{191}_{80}Hg_{111}$

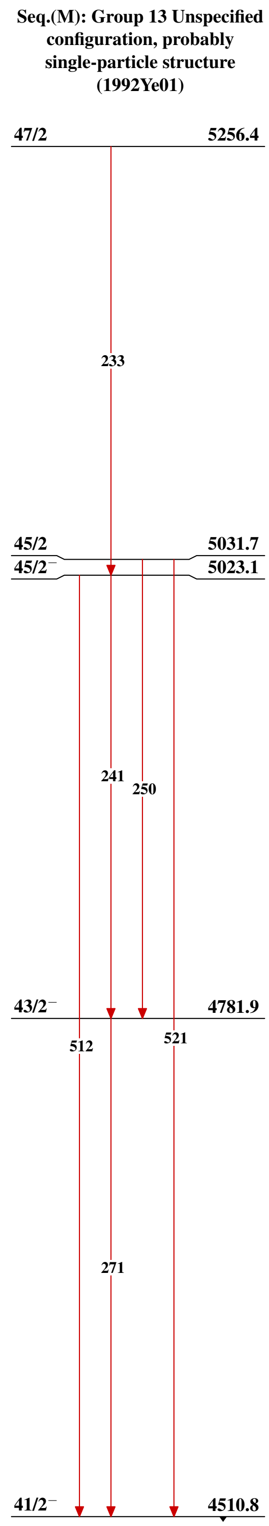
(HI,xnγ) 1992Ye01,1986Hu02 (continued)

Seq.(L): Group 12 Interpreted as a group of levels originating from single-particle-like excitations (1990Ye03), based on the (29/2⁻) 2595+x keV state (1992Ye01)



$^{191}_{80}Hg_{111}$

(HI,xnγ) 1992Ye01,1986Hu02 (continued)



$^{191}_{80}Hg_{111}$