(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 110, 265 (2009)	15-Nov-2008

This data set includes data from the following reactions: ^{146}Nd(^{37}Cl,4nγ), ^{152}Sm(^{31}P,4nγ), ^{156}Gd(^{27}Al,4nγ).

1996Ji04: ^{156}Gd(^{27}Al,4nγ), E(^{27}Al)=134, 139, 144 MeV; spin spectrometer (17 Compton-suppressed Ge detectors and 52 NaI detectors); measured Eγ, Iγ, excit, $\gamma\gamma$ coin, directional correlation from oriented nuclei (DCO), $T_{1/2}$ from DSAM. Cranked shell model and particle-rotor model calculations.

1994Mu18: ^{146}Nd(^{37}Cl,4nγ), E=169 MeV; NORDBALL array (20 Compton-suppressed Ge detectors, 39 BaF_2 inner-ball detectors), 97.6% enriched ^{146}Nd target; measured $T_{1/2}$ using RDM. ^{152}Sm(^{31}P,4nγ), E=146 MeV; CAESAR array (7 Compton-suppressed Ge detectors), enriched targets; measured $T_{1/2}$ using DSAM, deduced Q(transition).

1991Dr02: ^{152}Sm(^{31}P,4nγ), E=146 MeV; measured Eγ, $\gamma\gamma$ and γ-K x ray coin. Deduced rotational structure, including $h_{9/2}$ band and $h_{11/2}$ band; three-band model calculations. Specific data not given. The 9/2[514] (i.e., π $h_{11/2}$) band was observed up to E≈6000, J=51/2 (from fig. 3 of 1991Dr02).

^{179}Ir Levels

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$[#]	Comments
0.[a]	(5/2)$^-$		Not observed in this reaction. J$^{\pi}$ from Adopted Levels.
0.+x[a]	9/2$^-$		E(level): for estimate of x, see general comment on level energies.
140.0+x[g] *6*	9/2$^-$		
186.5+x[e] *4*	5/2$^+$		
202.74+x[a] *16*	13/2$^-$	97 ps *21*	
264.0+x[h] *6*	11/2$^-$		
288.6+x[f] *4*	7/2$^+$		
414.5+x[e] *4*	9/2$^+$		
427.3+x[g] *6*	13/2$^-$		
432.57+x[b] *16*	11/2$^-$		
553.08+x[a] *21*	17/2$^-$	7.6 ps *7*	
563.3+x[f] *4*	11/2$^+$		
607.5+x[h] *6*	15/2$^-$		
731.7+x[e] *4*	13/2$^+$		
759.95+x[b] *19*	15/2$^-$		
804.58+x[j] *17*			
807.6+x[g] *6*	17/2$^-$		
903.6+x[i] *3*	15/2$^-$		
919.9+x[f] *4*	15/2$^+$		
1018.35+x[a] *24*	21/2$^-$	2.3 ps *3*	
1022.5+x[h] *5*	19/2$^-$		
1115.1+x[d] *3*	17/2$^+$		
1134.2+x[e] *3*	17/2$^+$		
1141.37+x[j] *19*			
1191.22+x[b] *22*	19/2$^-$		
1253.6+x[g] *5*	21/2$^-$		
1284.42+x[i] *25*	19/2$^-$		
1344.1+x[f] *4*	19/2$^+$		
1397.3+x[d] *3*	21/2$^+$	15.9 ps *21*	
1497.6+x[h] *5*	23/2$^-$		
1565.1+x[j] *3*			
1568.6+x[a] *3*	25/2$^-$	0.90 ps *7*	
1578.0+x[e] *4*	21/2$^+$		

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(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)

^{179}Ir Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	Comments
1697.68+x[b] *25*	23/2⁻		
1733.6+x[i] *3*	23/2⁻		
1756.3+x[g] *5*	25/2⁻		
1758.9+x[d] *4*	25/2⁺	4.4 ps *5*	
1825.0+x[f] *4*	23/2⁺		
2027.2+x[h] *5*	27/2⁻		
2067.7+x[j] *4*			
2086.1+x[e] *4*	25/2⁺		
2182.3+x[a] *4*	29/2⁻	0.55 ps *14*	
2192.9+x[d] *4*	29/2⁺	1.66 ps *7*	
2214.0+x[i] *3*	27/2⁻		
2290.7+x[b] *3*	27/2⁻		
2312.7+x[g] *5*	29/2⁻		
2365.0+x[f] *4*	27/2⁺		
2533.7+x[j] *4*			
2610.3+x[h] *5*	31/2⁻		
2690.4+x[d] *5*	33/2⁺	0.76 ps *14*	
2765.0+x[i] *4*	31/2⁻		
2845.3+x[a] *4*	33/2⁻	0.35 ps *7*	
2916.3+x[b] *4*	31/2⁻		
2921.0+x[g] *5*	33/2⁻		
2925.6+x[c] *5*	33/2⁻		
3245.5+x[h] *5*	35/2⁻		
3245.9+x[d] *5*	37/2⁺	0.42 ps *7*	
3371.6+x[i] *4*	(35/2⁻)		
3400.8+x[c] *5*	37/2⁻	1.2 ps *6*	
3563.9+x[a] *5*	37/2⁻		
3577.3+x[b] *6*	(35/2⁻)		
3581.3+x[g] *5*	37/2⁻		
3857.1+x[d] *6*	41/2⁺	0.35[@] ps *+22−14*	$T_{1/2}$: from DSAM (1996Ji04). Other: <0.55 ps (1994Mu18). Q(transition)=7.3 *+23−14* (1996Ji04).
3921.1+x[h] *5*	39/2⁻		
3986.0+x[c] *5*	41/2⁻		
4002.6+x?[i] *7*	(39/2⁻)		
4262.5+x[g] *5*	41/2⁻		
4285.3+x?[b] *8*	(39/2⁻)		
4317.6+x[a] *5*	41/2⁻		
4523.1+x[d] *6*	45/2⁺	0.20[@] ps *5*	$T_{1/2}$: from DSAM (1994Mu18). Other: 0.18 ps *+10−7* (1996Ji04). Q(transition)=8.2 *+22−15* (1996Ji04).
4600.2+x[h] *5*	43/2⁻		
4655.7+x[c] *6*	45/2⁻		
4928.5+x?[g] *7*	(45/2⁻)		
5113.6+x[a] *7*	45/2⁻		
5242.9+x[d] *6*	49/2⁺	0.187[@] ps *21*	$T_{1/2}$: from DSAM (1994Mu18). Other: 0.14 ps *+5−4* (1996Ji04). Q(transition)=7.8 *+14−11* (1996Ji04).
≈5300+x[&h]	(47/2⁻)[&]		
5397.7+x[c] *8*	(49/2⁻)		
≈5650+x[&g]	(49/2⁻)[&]		

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(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)

^{179}Ir Levels (continued)

E(level)[†]	Jπ[‡]
≈6000+x[&h]	(51/2⁻)[&]
6012.9+x[d] *8*	53/2⁺
6200.7+x?[c] *9*	(53/2⁻)
6829.9+x?[d] *10*	(57/2⁺)

[†] The 5/2⁻ member of the decoupled 1/2[541] g.s. band (the g.s. in neighboring Ir isotopes) was not observed in the (^{27}Al,4nγ) reaction, so the energies obtained from a least-squares fit to Eγ are given here relative to the excitation "x" of the lowest band member observed in the (HI,xnγ) reactions (i.e., 9/2⁻). The 1/2[541] band has a large decoupling parameter, and "x" is expected to be only several tens of keV, analogous to other Ir isotopes, where the 5/2⁻ to 9/2⁻ energy separations are ≈49, 44, 25 (1996Ji04) and 16 (1977An02) keV for α=175, 177, 181 and 183, respectively. The evaluator, consequently, estimates x=35 keV *10*, assuming a smooth progression As N increases. For the 1/2[541] α=+1/2 band, band parameters vary widely depending on which levels are included In the fit.

[‡] Authors′ values (1996Ji04) based on DCO data, deduced band structure and systematics of neighboring nuclei. Band assignments are supported by B(M1)/B(E2) ratios inferred by authors from cascade to crossover transition branching ratios and by observed alignment and band crossing frequencies.

[#] From RDM in ^{146}Nd(^{37}Cl,4nγ) (1994Mu18), except as noted.

[@] Both 1994Mu18 and 1996Ji04 corrected their DSA measurements for sidefeeding.

[&] Approximate energy read by the evaluator from fig. 3 of 1991Dr02 for Jπ indicated. Jπ values are based on band assignment.

[a] Band(A): 1/2[541] (π $h_{9/2}$), α=+1/2 band. Decoupled characteristics of band imply low K. favored signature, strongly populated. assignment fits energy signature-splitting systematics of known (π $h_{9/2}$) bands In Ir and Au well (1996Ji04).

[b] Band(a): 1/2[541] (π $h_{9/2}$), α=−1/2 band. Unfavored signature band, weakly populated.

[c] Band(B): π=−, α=+1/2 band. Yrast sequence for Jπ≥37/2⁻.

[d] Band(C): 1/2[660] (π $i_{13/2}$), α=+1/2 band. For this band, only the favored signature states are observed, suggesting a low-K structure with large signature splitting. Second-strongest sequence observed by 1996Ji04. π=− unlikely based on minimal interaction with π=− bands; available π=+ orbitals are 1/2[660] and 5/2[402].

[e] Band(D): 5/2[402], α=+1/2 band. π $d_{5/2}$ band; strongly-coupled band, suggesting high K. Band has same π As 1/2[660] band based on crossing pattern for transitions between the two bands. 5/2[402] band expected At low energy; assignment supported by intraband cascade and crossover transition B(M1)/B(E2) ratios.

[f] Band(d): 5/2[402], α=−1/2 band. See comment on signature partner band.

[g] Band(E): 9/2[514], α=+1/2 band. π $h_{11/2}$ band; strongly populated. No signature splitting, supporting high-K assignment. Configuration assignment supported by intraband cascade and crossover transition B(M1)/B(E2) ratios.

[h] Band(e): 9/2[514], α=−1/2, band. See comment on signature partner band.

[i] Band(F): 1/2[530], α=−1/2 band. Decoupled band. Strikingly similar structure to that known for a low-lying (π $f_{7/2}$) band in ^{185}Au.

[j] Band(G): collective band. Only one signature observed. 1996Ji04 tentatively suggest a 3/2[532], (π $h_{9/2}$) prolate band or, alternatively, an oblate band with a high-K (π $h_{9/2}$) orbital coupled to an oblate shape.

γ(^{179}Ir)

Eγ[†]	Iγ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	Comments
102.1 *2*	12.2 *2*	288.6+x	7/2⁺	186.5+x	5/2⁺	D+Q	DCO=0.36 *3*.
124.1 *2*	25.5 *3*	264.0+x	11/2⁻	140.0+x	9/2⁻	D+Q	DCO=0.52 *4*.
125.9 *2*	22.7 *2*	414.5+x	9/2⁺	288.6+x	7/2⁺	D+Q	DCO=0.45 *2*.
140.0[c] *2*	<3	140.0+x	9/2⁻	0.+x	9/2⁻		
148.8 *2*	37.7 *4*	563.3+x	11/2⁺	414.5+x	9/2⁺	D+Q	DCO=0.64 *3*.
163.4 *2*	48.7 *5*	427.3+x	13/2⁻	264.0+x	11/2⁻	D+Q	DCO=0.62 *3*.
168.3 *2*	36.3 *4*	731.7+x	13/2⁺	563.3+x	11/2⁺	D+Q	DCO=0.62 *3*.

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(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)

γ(^{179}Ir) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[b]	Comments
180.1 2	45.8 6	607.5+x	15/2−	427.3+x	13/2−	D+Q		DCO=0.68 4.
188.2 2	35.1 4	919.9+x	15/2+	731.7+x	13/2+	D+Q		DCO=0.63 4.
195.1 2	18.1 2	1115.1+x	17/2+	919.9+x	15/2+	D+Q		DCO=0.64 3.
200.1 2	45.3 5	807.6+x	17/2−	607.5+x	15/2−	D+Q		DCO=0.63 5.
202.7 2	95.2 9	202.74+x	13/2−	0.+x	9/2−	(E2)[&a]	0.330	DCO=0.86 2.
206.1 2	1.2[@] 2	1397.3+x	21/2+	1191.22+x	19/2−	D		DCO=0.68 18. Authors assign mult=E1 based on DCO and band structure.
210.1 2	6.4[@] 6	1344.1+x	19/2+	1134.2+x	17/2+			
214.4 2	18.4[@] 11	1134.2+x	17/2+	919.9+x	15/2+			DCO=1.1 3; authors assign mult=D+Q.
214.8 2	47.8 5	1022.5+x	19/2−	807.6+x	17/2−	D+Q		DCO=0.73 4.
228.0 2	9.3 2	414.5+x	9/2+	186.5+x	5/2+	Q		DCO=1.03 19.
228.9 2	7.3[@] 7	1344.1+x	19/2+	1115.1+x	17/2+			
231.1 2	40.8 4	1253.6+x	21/2−	1022.5+x	19/2−			DCO=0.80 6; authors assign mult=D+Q.
234.0 2	8.0 1	1578.0+x	21/2+	1344.1+x	19/2+	(D+Q)[&]		DCO=0.76 12.
244.0 2	38.4[@] 13	1497.6+x	23/2−	1253.6+x	21/2−	D+Q		DCO=0.77 5.
246.9 2	7.8[@] 9	1825.0+x	23/2+	1578.0+x	21/2+	D+Q		DCO=0.69 15.
258.6 2	28.2 3	1756.3+x	25/2−	1497.6+x	23/2−			DCO=0.86 5; authors deduce mult=D+Q.
261.0 2	5.1 7	2086.1+x	25/2+	1825.0+x	23/2+	(D+Q)[&]		DCO=0.7 4.
263.0 2	29.5 3	1397.3+x	21/2+	1134.2+x	17/2+	E2[a]	0.1416	DCO=0.98 3.
270.9 2	18.6 2	2027.2+x	27/2−	1756.3+x	25/2−	D+Q		DCO=0.62 5.
274.7 2	14.6 2	563.3+x	11/2+	288.6+x	7/2+	Q		DCO=0.95 8.
278.9 2	6.3[@] 8	2365.0+x	27/2+	2086.1+x	25/2+	(D+Q)[&]		DCO=0.75 12.
282.3 2	44.5 4	1397.3+x	21/2+	1115.1+x	17/2+	E2[a]	0.1139	DCO=0.94 2.
285.5 2	19.6 2	2312.7+x	29/2−	2027.2+x	27/2−			DCO=1.00 15; authors deduce mult=D+Q.
287.3 2	7.6 2	427.3+x	13/2−	140.0+x	9/2−	(Q)[&]		DCO=1.3 3.
297.6 2	16.9 4	2610.3+x	31/2−	2312.7+x	29/2−	D+Q		DCO=0.64 10.
310.6 2	8.2[@] 6	2921.0+x	33/2−	2610.3+x	31/2−	(D+Q)[&]		DCO=0.79 14.
315.1 2	9.9[@] 7	2925.6+x	33/2−	2610.3+x	31/2−	D+Q		DCO=0.73 17.
317.1 2	43.7 4	731.7+x	13/2+	414.5+x	9/2+	Q		DCO=1.00 6.
324.6 2	5.3[@] 6	3245.5+x	35/2−	2921.0+x	33/2−	(D+Q)[&]		DCO=0.74 26.
327.4 2	<3	759.95+x	15/2−	432.57+x	11/2−			
335.9 2	6.5[@] 6	3581.3+x	37/2−	3245.5+x	35/2−			
336.8 2	<5	1141.37+x		804.58+x				DCO=1.8 3. 1996Ji04 note that this γ appears to have No Q component, even though the 424γ-503γ-466γ cascade which precedes it consists of Q transitions.
337.6 2	5.0[@] 6	4600.2+x	43/2−	4262.5+x	41/2−			
339.7 2	5.3[@] 6	3921.1+x	39/2−	3581.3+x	37/2−			
341.4 2	5.0[@] 6	4262.5+x	41/2−	3921.1+x	39/2−			
343.5 2	18.3 2	607.5+x	15/2−	264.0+x	11/2−	Q		DCO=1.15 12.
350.3 2	100.0 10	553.08+x	17/2−	202.74+x	13/2−	E2[a]	0.0605	DCO=1.08 3.
356.6 2	43.3 7	919.9+x	15/2+	563.3+x	11/2+	Q		DCO=1.11 6.
361.6 2	91.9 9	1758.9+x	25/2+	1397.3+x	21/2+	E2[a]	0.0554	DCO=1.06 3.
378.9 2	3.9[@] 3	1397.3+x	21/2+	1018.35+x	21/2−	D		DCO=1.5 3. Authors assign mult=E1 based on DCO and band structure.
380.3 2	28.1[@] 7	807.6+x	17/2−	427.3+x	13/2−	Q		DCO=1.00 10.
380.8 2	3.3[@] 4	1284.42+x	19/2−	903.6+x	15/2−	(Q)[&]		DCO=1.4 3.
383.4 2	44.3 5	1115.1+x	17/2+	731.7+x	13/2+	Q		DCO=1.01 5.
402.6 2	21.3 3	1134.2+x	17/2+	731.7+x	13/2+	Q		DCO=1.13 8.

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(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)

γ(^{179}Ir) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[b]	Comments
413[c]		1697.68+x	23/2⁻	1284.42+x	19/2⁻			γ shown in fig. 1 but absent from table 1 in 1996Ji04.
415.0 *2*	33.6 *4*	1022.5+x	19/2⁻	607.5+x	15/2⁻	Q		DCO=1.09 *9*.
423.7 *2*	6.1[@] *7*	1565.1+x		1141.37+x		Q		DCO=1.15 *10*.
424.1 *2*	24.1[@] *13*	1344.1+x	19/2⁺	919.9+x	15/2⁺	Q		DCO=0.93.
431.3 *2*		1191.22+x	19/2⁻	759.95+x	15/2⁻			Iγ=8.1 *10* from γγ coin for 431.3γ+432.6γ doublet.
432.6 *2*		432.57+x	11/2⁻	0.+x	9/2⁻			Iγ=8.1 *10* from γγ coin for 431.3γ+432.6γ doublet.
434.0 *2*	83.6 *9*	2192.9+x	29/2⁺	1758.9+x	25/2⁺	E2[a]	0.0339	DCO=1.10 *4*.
443.8 *2*	11.9[@] *2*	1578.0+x	21/2⁺	1134.2+x	17/2⁺	Q		DCO=1.05 *19*.
446.0 *2*	48.6 *5*	1253.6+x	21/2⁻	807.6+x	17/2⁻	Q		DCO=1.06 *9*.
449.2 *2*	11.1 *2*	1733.6+x	23/2⁻	1284.42+x	19/2⁻	Q		DCO=1.05 *10*.
463.0 *2*	15.1[@] *14*	1578.0+x	21/2⁺	1115.1+x	17/2⁺	Q		DCO=0.98 *16*.
465.3 *2*	91.7 *9*	1018.35+x	21/2⁻	553.08+x	17/2⁻	E2[a]	0.0284	DCO=1.10 *2*.
466.0 *2*	4.0[@] *8*	2533.7+x		2067.7+x		Q		DCO=1.03 *17*.
475.1 *2*	54[@] *4*	1497.6+x	23/2⁻	1022.5+x	19/2⁻	Q		DCO=0.95 *7*.
475.2 *2*	13.6[@] *11*	3400.8+x	37/2⁻	2925.6+x	33/2⁻	E2[a]	0.0269	DCO=1.1 *3*.
479.9 *2*	17.5[@] *12*	3400.8+x	37/2⁻	2921.0+x	33/2⁻	(Q)[&]		DCO=1.3 *3*.
480.4 *2*	5.7[@] *6*	2214.0+x	27/2⁻	1733.6+x	23/2⁻	Q		DCO=1.06 *11*.
480.9 *2*	26.5 *26*	1825.0+x	23/2⁺	1344.1+x	19/2⁺	Q		DCO=1.08 *10*.
497.5 *2*	78.6 *8*	2690.4+x	33/2⁺	2192.9+x	29/2⁺	E2[a]	0.0240	DCO=0.98 *4*.
502.6 *2*	8.0[@] *9*	2067.7+x		1565.1+x		Q		DCO=1.03 *10*.
502.7 *2*	57[@] *5*	1756.3+x	25/2⁻	1253.6+x	21/2⁻	Q		DCO=0.94 *8*.
506.4 *2*	7.3[@] *7*	1697.68+x	23/2⁻	1191.22+x	19/2⁻	Q		DCO=1.08 *11*.
508.2 *2*	16.7[@] *18*	2086.1+x	25/2⁺	1578.0+x	21/2⁺	(Q)[&]		DCO=1.4 *3*.
516.3 *2*	8.3[@] *11*	2214.0+x	27/2⁻	1697.68+x	23/2⁻	Q		DCO=1.15 *20*.
529.6 *2*	55.2 *10*	2027.2+x	27/2⁻	1497.6+x	23/2⁻	Q		DCO=0.95 *7*.
539.9 *2*	19.7 *4*	2365.0+x	27/2⁺	1825.0+x	23/2⁺			DCO=0.78 *13*; authors deduce mult=Q.
550.2 *2*	80.2 *8*	1568.6+x	25/2⁻	1018.35+x	21/2⁻	E2[a]	0.0189	DCO=0.90 *2*.
551.0 *2*	6.9[@] *11*	2765.0+x	31/2⁻	2214.0+x	27/2⁻	Q		DCO=0.99 *16*.
555.5 *2*	61.7[@] *16*	3245.9+x	37/2⁺	2690.4+x	33/2⁺	E2[a]	0.0184	DCO=0.92 *3*.
555.6 *2*	12.6[@] *7*	3400.8+x	37/2⁻	2845.3+x	33/2⁻	Q		DCO=1.00 *9*.
556.4 *2*	50[@] *3*	2312.7+x	29/2⁻	1756.3+x	25/2⁻	(Q)[&]		DCO=0.88 *6*.
556.9 *2*	5.4[@] *8*	2290.7+x	27/2⁻	1733.6+x	23/2⁻			
557.2 *2*	<5	759.95+x	15/2⁻	202.74+x	13/2⁻			
583.2 *2*	40.1 *5*	2610.3+x	31/2⁻	2027.2+x	27/2⁻	Q		DCO=1.04 *17*.
585.2 *2*	23.7[@] *19*	3986.0+x	41/2⁻	3400.8+x	37/2⁻	Q		DCO=1.03 *16*.
593.1 *2*	9.3[@] *5*	2290.7+x	27/2⁻	1697.68+x	23/2⁻	Q		DCO=1.06 *13*.
602.0[c] *5*	<5	804.58+x		202.74+x	13/2⁻			DCO=1.0 *4*.
606.6 *2*	3.2[@] *6*	3371.6+x	(35/2⁻)	2765.0+x	31/2⁻	(Q)[&]		DCO=1.24 *16*.
608.3 *2*	33.2 *22*	2921.0+x	33/2⁻	2312.7+x	29/2⁻	Q		DCO=0.94 *15*.
611.2 *2*	42.6 *6*	3857.1+x	41/2⁺	3245.9+x	37/2⁺	E2[a]	0.01477	DCO=0.94 *4*.
612.9 *2*	19.3[@] *21*	2925.6+x	33/2⁻	2312.7+x	29/2⁻	Q		DCO=0.92 *10*.
613.7 *2*	53.1[@] *13*	2182.3+x	29/2⁻	1568.6+x	25/2⁻	E2[a]	0.01464	DCO=0.92 *4*.
625.6 *2*	8.7[@] *8*	2916.3+x	31/2⁻	2290.7+x	27/2⁻	Q		DCO=1.02 *13*.
631.0[c] *5*	<4	4002.6+x?	(39/2⁻)	3371.6+x	(35/2⁻)	Q		DCO=1.04 *20*.
635.3 *2*	23.0[@] *17*	3245.5+x	35/2⁻	2610.3+x	31/2⁻	(Q)[&]		DCO=0.87 *12*.
638.1 *2*	10.1[@] *6*	1191.22+x	19/2⁻	553.08+x	17/2⁻	D+Q		DCO=0.40 *6*.

Continued on next page (footnotes at end of table)

(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)

γ(^{179}Ir) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[b]	Comments
645.0 5	4.6[@] 7	2214.0+x	27/2⁻	1568.6+x	25/2⁻			
655.7 2	7.3 11	3581.3+x	37/2⁻	2925.6+x	33/2⁻	(Q)[&]		DCO=1.3 4.
660.3 2	11.7[@] 20	3581.3+x	37/2⁻	2921.0+x	33/2⁻	(Q)[&]		DCO=1.2 4.
661.0 5	5.0[@] 14	3577.3+x	(35/2⁻)	2916.3+x	31/2⁻			
663.0 2	30.5 4	2845.3+x	33/2⁻	2182.3+x	29/2⁻	E2[a]	0.01230	DCO=0.90 5.
666.0 2	21.0 5	4523.1+x	45/2⁺	3857.1+x	41/2⁺	(E2)[a]	0.01218	DCO=0.79 15; authors assign mult=Q.
666.0[c] 5	<7	4928.5+x?	(45/2⁻)	4262.5+x	41/2⁻			
669.7 2	14.9 5	4655.7+x	45/2⁻	3986.0+x	41/2⁻	(Q)[&]		DCO=1.16 26.
675.6 2	13.3 4	3921.1+x	39/2⁻	3245.5+x	35/2⁻	Q		DCO=1.18 19.
679.2 2	8.9[@] 11	4600.2+x	43/2⁻	3921.1+x	39/2⁻	(Q)[&]		DCO=0.9 4.
679.5 2	9.9[@] 11	1697.68+x	23/2⁻	1018.35+x	21/2⁻	D+Q		DCO=0.23 10.
681.2 2	7.8[@] 11	4262.5+x	41/2⁻	3581.3+x	37/2⁻	(Q)[&]		DCO=0.9 3.
701.0 5	2.9[@] 5	903.6+x	15/2⁻	202.74+x	13/2⁻			
708.0[c] 5	<5	4285.3+x?	(39/2⁻)	3577.3+x	(35/2⁻)			
715.0 5	<5	1733.6+x	23/2⁻	1018.35+x	21/2⁻			
718.6 2	15.3[@] 6	3563.9+x	37/2⁻	2845.3+x	33/2⁻	Q		DCO=1.19 12.
719.8 2	13.0[@] 14	5242.9+x	49/2⁺	4523.1+x	45/2⁺	(E2)[&a]	0.01028	DCO=0.87 13.
722.0[c] 5	<5	2290.7+x	27/2⁻	1568.6+x	25/2⁻			
731.3 2	8.7 3	1284.42+x	19/2⁻	553.08+x	17/2⁻	D+Q		DCO=0.44 14.
739.0[c] 5	<4	2921.0+x	33/2⁻	2182.3+x	29/2⁻			
742.0 5		5397.7+x	(49/2⁻)	4655.7+x	45/2⁻			Iγ=7.4 3, DCO=1.2 4 for 742.0γ+743.0γ doublet.
743.0 5		2925.6+x	33/2⁻	2182.3+x	29/2⁻			Iγ=7.4 3, DCO=1.2 4 for 742.0γ+743.0γ doublet.
753.7 2	7.6 3	4317.6+x	41/2⁻	3563.9+x	37/2⁻	Q		DCO=0.92 15.
770.0 5	8.1 3	6012.9+x	53/2⁺	5242.9+x	49/2⁺			DCO=0.84 24; authors assign mult=Q.
796.0 5	4.3 5	5113.6+x	45/2⁻	4317.6+x	41/2⁻			
803.0[c] 5	<5	6200.7+x?	(53/2⁻)	5397.7+x	(49/2⁻)			
804.6 2	<5	804.58+x		0.+x	9/2⁻			
817.0[c] 5	<5	6829.9+x?	(57/2⁺)	6012.9+x	53/2⁺			
938.6 2	7.7 2	1141.37+x		202.74+x	13/2⁻			
1012.0 5	3.0 3	1565.1+x		553.08+x	17/2⁻			

† From 1996Ji04.

‡ From total projection γ spectrum for (^{27}Al,4nγ) at E=134 MeV, relative to I(350.3γ)=100 (1996Ji04).

\# Evaluator's assignments based on measured DCO data (θ=24° and 63°, stretched Q transition in one gate) from 1996Ji04, except As noted. DCO=1.0 is expected for stretched Q (or D, ΔJ=0) transitions, DCO≈0.6 for ΔJ=1 transitions. 1996Ji04 assign multipolarity for many more transitions, including some that are doublets or for which No DCO data were obtained. they propose Δπ=yes for only the 206.1γ and 378.9γ.

@ From gated spectra (1996Ji04).

& Definite mult assignment in 1996Ji04, but evaluator shows it as tentative because of large uncertainty in DCO or because of deviation of DCO from 1.00 for a transition which 1996Ji04 designate as E2.

a Q or (Q) from DCO ratio; not M2 from RUL.

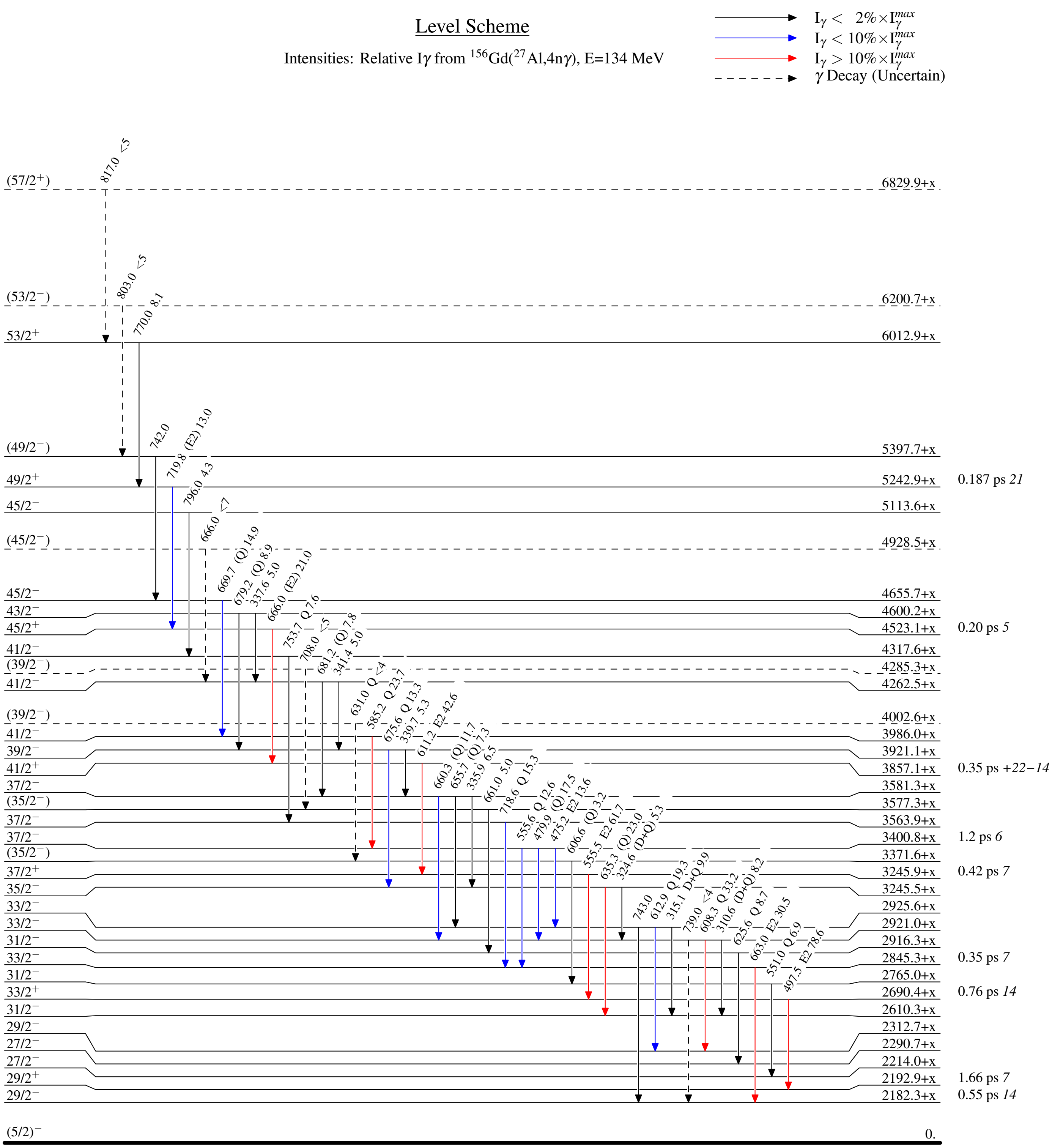
b Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

c Placement of transition in the level scheme is uncertain.

(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02

Level Scheme

Intensities: Relative Iγ from $^{156}Gd(^{27}Al,4n\gamma)$, E=134 MeV

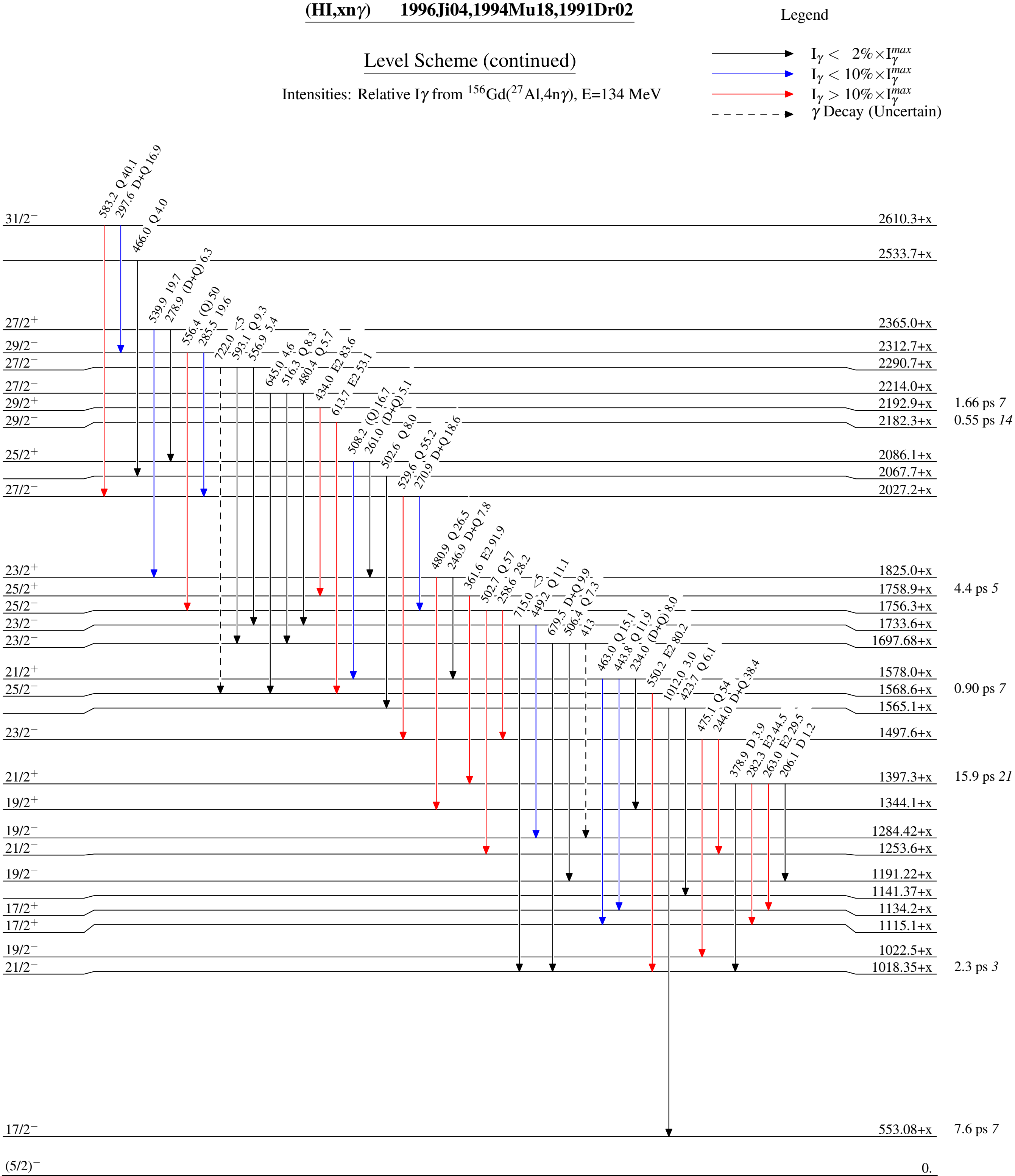


$^{179}_{77}Ir_{102}$

(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02

Level Scheme (continued)

Intensities: Relative Iγ from $^{156}Gd(^{27}Al,4n\gamma)$, E=134 MeV



$^{179}_{77}Ir_{102}$

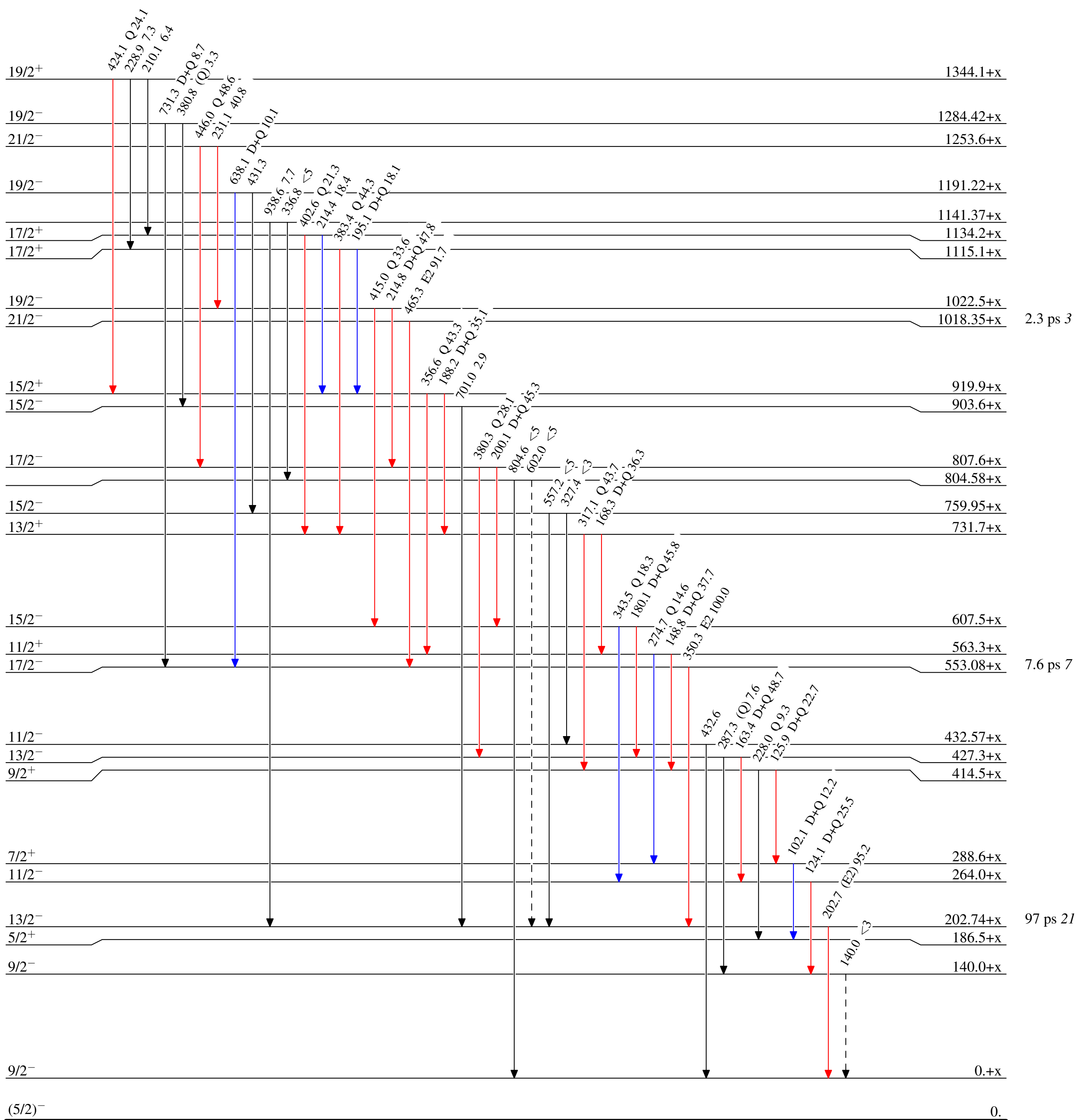
(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02

Level Scheme (continued)

Intensities: Relative Iγ from $^{156}Gd(^{27}Al,4n\gamma)$, E=134 MeV

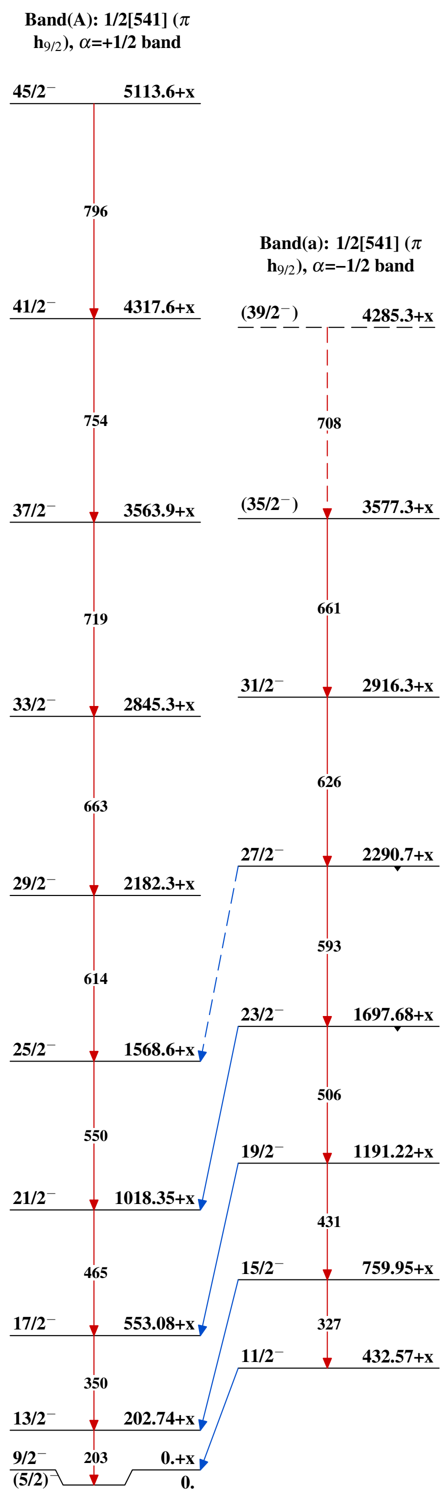
Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



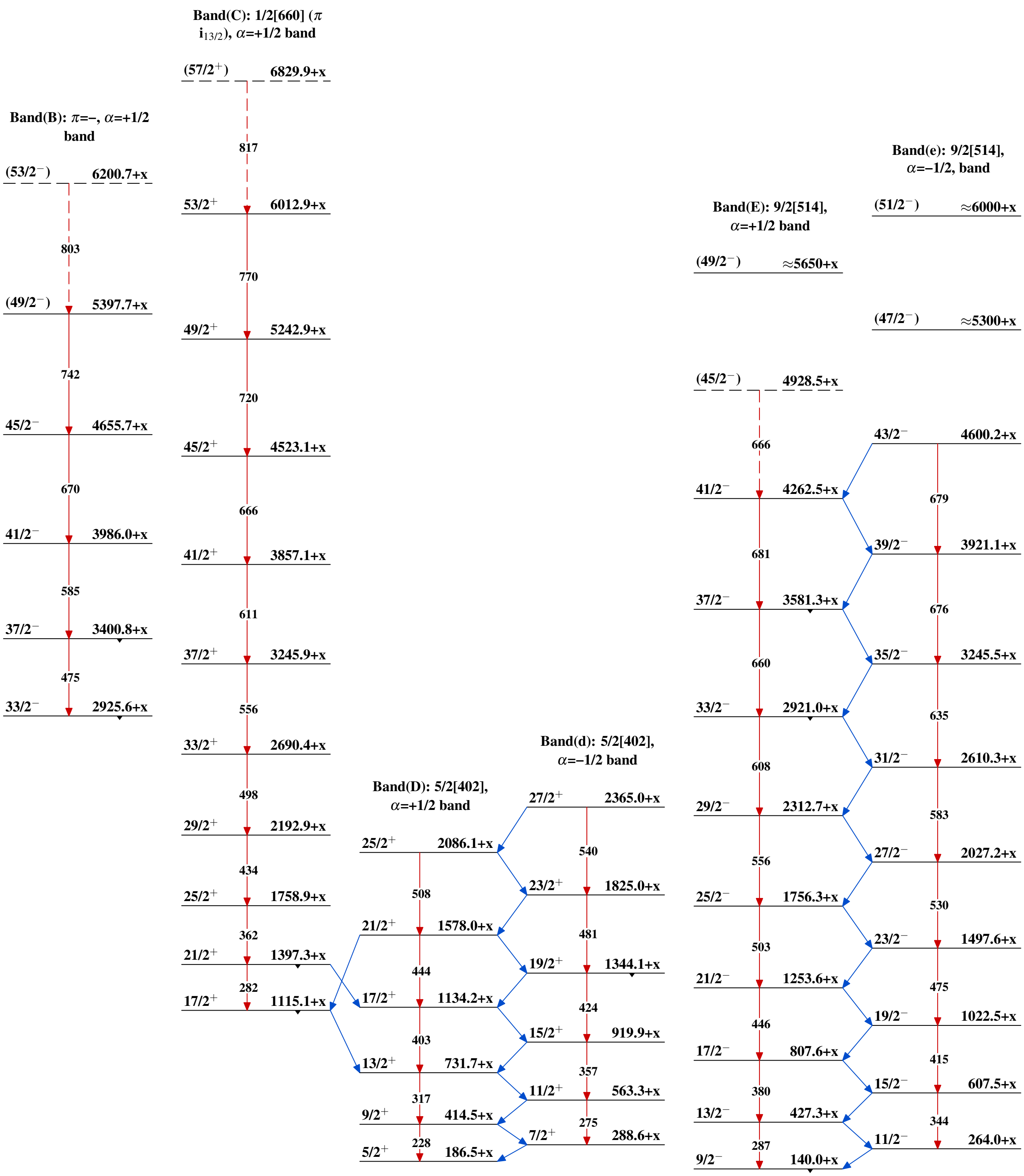
$^{179}_{77}Ir_{102}$

(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02



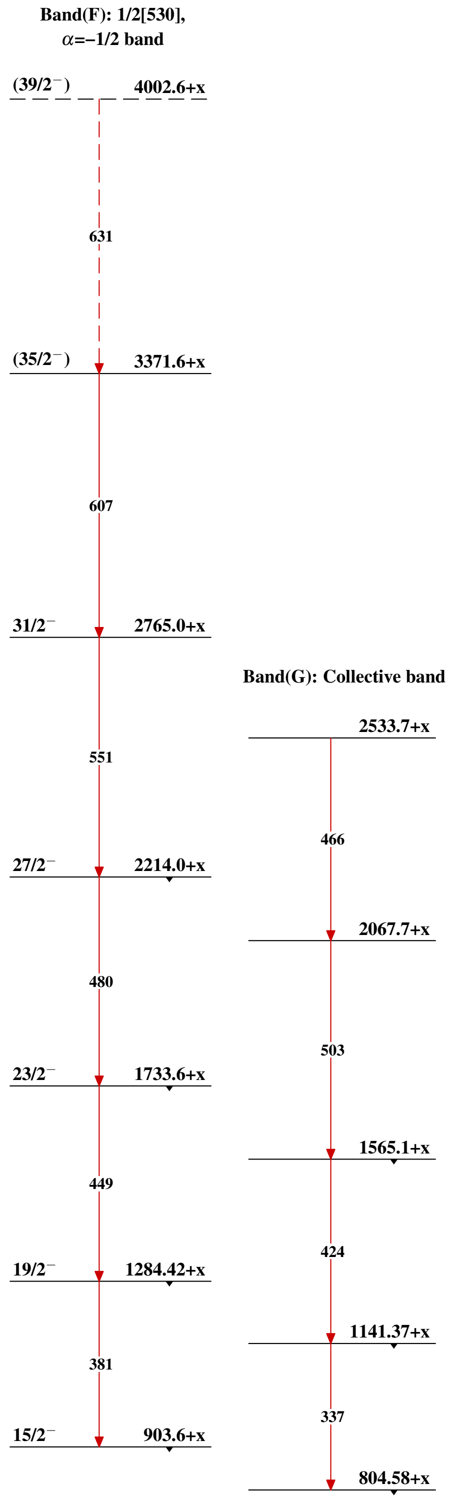
$^{179}_{77}Ir_{102}$

(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)



$^{179}_{77}Ir_{102}$

(HI,xnγ) 1996Ji04,1994Mu18,1991Dr02 (continued)



$^{179}_{77}Ir_{102}$