^{76}Ge(α,3nγ) 1997Jo02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	30-Sep-2020

1997Jo02: E(α)=40 MeV. Measured Eγ, Iγ, γγ(θ) (DCO) using eight-detector array. Comparison of band structures with those expected from particle-rotor model and cranked shell-model calculations.

Other: Honusek et al., Rossendorf Annual Report 1988, ZFK-667 (1989), p.27. Eα=40 MeV. Measured Eγ, Iγ, γγ-coin with a two-detector system. Many new levels proposed in this work have been verified by 1997Jo02 (this paper and the 1989 ZFK report are shared by one of the authors).

^{77}Se Levels

E(level)[‡]	Jπ[†]	$T_{1/2}$	Comments
0.0[&]	1/2⁻		
161.9223[d] 7	7/2⁺	17.36 s 5	%IT=100
175.3059[#c] 17	9/2⁺		
238.86[&] 13	3/2⁻		
249.76[a] 11	5/2⁻		
301.7[g] 3	5/2⁺		
439.21[&] 12	5/2⁻		
520.4[j] 2	3/2⁻		
580.80[b] 10	7/2⁻		
796.4[g] 3	7/2$^{(+)}$		
807.9[&] 2	7/2⁻		
824.0[j] 2	(5/2)⁻		
970.0[d] 2	(11/2⁺)		
978.19[a] 11	9/2⁻		
1024.12[c] 16	(13/2⁺)		
1126.61[e] 13	(11/2⁺)		
1172.2[&] 2	9/2⁻		
1282.5[j] 4	(7/2⁻)		
1351.28[b] 15	(11/2⁻)		
1616.2[&] 2	(11/2⁻)		
1620.8[g] 8	(11/2⁺)		
1721.9[f] 2	(13/2⁺)		
1886.3[a] 2	13/2⁻		
2055.4[d] 2	(15/2⁺)		
2091.8[&] 2	(13/2⁻)		
2103.3[c] 2	(17/2⁺)		
2240.2[e] 2	(15/2⁺)		
2263.6[b] 2	(15/2⁻)		
2580.1[g] 11	(15/2⁺)		
2610.8[&] 3	(15/2⁻)		
2789.6[f] 3	(17/2⁺)		
2818.0[h] 4	(15/2⁻)		
2864.1[a] 2	(17/2⁻)		
2869.2 4	(15/2⁻)		
2966.3 2	(17/2⁻)		
3014.3[i] 3	(17/2⁻)		
3071.6 2	(17/2⁻)		
3147.1[&] 4	(17/2⁻)		

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^{76}Ge(α,3nγ) 1997Jo02 (continued)

^{77}Se Levels (continued)

E(level)‡	Jπ†	E(level)‡	Jπ†	E(level)‡	Jπ†	E(level)‡	Jπ†
3201.2[h] 4	(17/2⁻)	3471.6 3	(19/2⁻)	4180.2[d] 3	(23/2⁺)	4846.5[h] 4	(25/2⁻)
3245.5[d] 2	(19/2⁺)	3641.8?[&] 2	(19/2⁻)	4301.3[i] 3	(23/2⁻)	4862.2 4	(25/2⁺)
3264.5[b] 2	(19/2⁻)	3764.4[@h] 2	(21/2⁻)	4320.7[h] 3	(23/2⁻)	5001.0[a] 21	(25/2⁻)
3333.7[c] 3	(21/2⁺)	3864.6 3	(21/2⁺)	4391.5[b] 2	(23/2⁻)	5258.8[d] 5	(27/2⁺)
3403.6[i] 2	(19/2⁻)	3880.0[a] 4	(21/2⁻)	4531.8 4	(23/2⁺)	5584[b] 3	(27/2⁻)
3409.6[e] 4	(19/2⁺)	3885.1[f] 4	(21/2⁺)	4625.8[c] 4	(25/2⁺)	5941.3[c] 15	(29/2⁺)
3439.4[h] 2	(19/2⁻)	3988.2 9	(21/2⁻)	4670.5[e] 7	(23/2⁺)	6654.9[d] 21	(31/2⁺)

† From the Adopted Levels for low-spins (J<11/2). For J≥11/2, assignments are based on γγ(θ) (DCO) data of 1997Jo02 and possible band associations. See Adopted Levels for detailed arguments.
‡ From least-squares fit to Eγ data, unless stated otherwise.
# From Adopted Levels. A 175.3053γ from this level, quoted by 1997Jo02, is incorrect.
@ The 3764 level is associated with either or both of the two 3-qp bands, one based on 2818, (15/2⁻) and the other on 3015, (17/2⁻).
& Band(A): ν1/2[301], ΔJ=1 g.s. band.
a Band(B): ν5/2[303] band,α=+1/2.
b Band(C): ν5/2[303] band,α=−1/2.
c Band(D): Yrast band,α=+1/2. Configuration=$\nu g_{9/2}$. Crossing occurs near 21/2⁺ leading to configuration=$\nu g_{9/2}\otimes\pi g_{9/2}^{+2}$ for the upbend (1997Jo02).
d Band(E): Yrast band,α=−1/2. Configuration=$\nu\ g_{9/2}$. Crossing occurs near 21/2⁺ leading to configuration=$\nu g_{9/2}\otimes\pi g_{9/2}^{+2}$ for the upbend (1997Jo02).
e Band(F): Band based on (11/2⁺) band,α=−1/2.
f Band(G): Band based on (13/2⁺) band,α=+1/2.
g Seq.(I): Sequence based on 5/2⁺. Possible configuration=ν5/2[422] as in ^{81}Sr (1997Jo02).
h Seq.(J): Sequence based on ΔJ=1, 3-qp (?). Possible configuration=$\pi[fp]\otimes\pi g_{9/2}\otimes\nu g_{9/2}$ (1997Jo02).
i Seq.(K): Sequence based on ΔJ=1, 3-qp (?). Possible configuration=$\pi[fp]\otimes\pi g_{9/2}\otimes\nu g_{9/2}$ (1997Jo02).
j Band(H): ν3/2[301] band (?).

γ(^{77}Se)

DCO ratios are for 90° and 145° geometry and correspond to a ΔJ=2 gated transition, unless otherwise stated.
DCO(Q) is for gate on ΔJ=2, quadrupole, and DCO(D) for gate on ΔJ=1, dipole transition.

Eγ	Iγ†	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
13.38[#]		175.3059	9/2⁺	161.9223	7/2⁺		
88.0 2	43.3 10	249.76	5/2⁻	161.9223	7/2⁺	[a]	DCO(Q)=0.84 12 Iγ(88γ)/Iγ(250γ)=1.08 4 (1997Jo02) is high by a factor of ≈2 as compared to values from several other studies. Adopted ratio=0.475 15.
102.7 7	0.8 4	2966.3	(17/2⁻)	2864.1	(17/2⁻)		
139.7 4	6.0 20	301.7	5/2⁺	161.9223	7/2⁺	[@]	DCO(D)=1.05 20
141.6 2	1.2 6	580.80	7/2⁻	439.21	5/2⁻	[@]	DCO(Q)=0.58 10
161.9224[#] 8		161.9223	7/2⁺	0.0	1/2⁻	E3	Mult.: from the Adopted Gammas.
179.3 3	0.6 3	1351.28	(11/2⁻)	1172.2	9/2⁻	[a]	DCO(Q)=0.8 3
200.4 2	18.3 10	439.21	5/2⁻	238.86	3/2⁻	[@]	DCO(Q)=0.63 6; DCO(D)=0.92 8

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^{76}Ge(α,3nγ) 1997Jo02 (continued)

γ(^{77}Se) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
202.5 *4*	0.6 *3*	3403.6	(19/2⁻)	3201.2	(17/2⁻)		
236.4 *3*	1.2 *6*	4862.2	(25/2⁺)	4625.8	(25/2⁺)	*b*	DCO(Q)=1.5 *5*
238.4 *9*	1.5[‡] *10*	3439.4	(19/2⁻)	3201.2	(17/2⁻)		
238.8 *2*	33.0 *10*	238.86	3/2⁻	0.0	1/2⁻	*a*	DCO(Q)=0.84 *10*
249.7 *2*	40.0 *10*	249.76	5/2⁻	0.0	1/2⁻	&	DCO(Q)=0.95 *12*
292.7 *4*	2.1[‡] *15*	3764.4	(21/2⁻)	3471.6	(19/2⁻)		
293 *1*	0.8 *4*	3439.4	(19/2⁻)	3147.1	(17/2⁻)		
303.6 *3*	0.8 *4*	824.0	(5/2)⁻	520.4	3/2⁻		
315.6 *2*	1.1 *6*	4180.2	(23/2⁺)	3864.6	(21/2⁺)	@	DCO(Q)=0.49 *9*
324.9 *2*	2.7 *9*	3764.4	(21/2⁻)	3439.4	(19/2⁻)	@	DCO(Q)=0.53 *18*; DCO(D)=0.86 *14*
331.0 *2*	35.0 *10*	580.80	7/2⁻	249.76	5/2⁻	*a*	DCO=1.25 *8*
332.2 *5*	1.4[‡] *8*	3201.2	(17/2⁻)	2869.2	(15/2⁻)	@	DCO(Q)=0.53 *8*
341.8 *2*	3.8 *9*	580.80	7/2⁻	238.86	3/2⁻	&	DCO(Q)=1.06 *16*; DCO(D)=1.53 *16*
355.5 *4*	0.7 *4*	2966.3	(17/2⁻)	2610.8	(15/2⁻)		
360.8 *2*	2.8 *9*	3764.4	(21/2⁻)	3403.6	(19/2⁻)	@	DCO(Q)=0.49 *10*
364.2 *4*	3.6 *8*	1172.2	9/2⁻	807.9	7/2⁻	@	DCO(Q)=0.77 *18*; DCO(D)=1.14 *12*
368.6 *2*	9.5 *10*	807.9	7/2⁻	439.21	5/2⁻	@	DCO(Q)=0.70 *10*; DCO(D)=1.06 *8*
373.0 *3*	2.4 *8*	1351.28	(11/2⁻)	978.19	9/2⁻	*a*	DCO(Q)=1.22 *20*
377.3 *5*	0.8 *6*	2263.6	(15/2⁻)	1886.3	13/2⁻		
383.1 *5*	1.0 *6*	3201.2	(17/2⁻)	2818.0	(15/2⁻)	@	DCO(Q)=0.49 *12*
383.8 *8*	2.1 *6*	824.0	(5/2)⁻	439.21	5/2⁻	*b*	DCO(Q)=0.83 *20*
389.2 *2*	3.1 *7*	3403.6	(19/2⁻)	3014.3	(17/2⁻)	@	DCO(Q)=0.58 *10*
397.2 *2*	5.7 *9*	978.19	9/2⁻	580.80	7/2⁻	*a*	DCO(Q)=1.24 *18*
399.6[e] *6*	0.5 *3*	3471.6	(19/2⁻)	3071.6	(17/2⁻)		
405.4 *3*	3.8 *13*	580.80	7/2⁻	175.3059	9/2⁺	@	DCO(Q)=0.64 *9*
418.9 *2*	9.2 *13*	580.80	7/2⁻	161.9223	7/2⁺	*b*	DCO(Q)=1.07 *14*
425.3 *8*	0.8 *4*	3439.4	(19/2⁻)	3014.3	(17/2⁻)		
437.0 *6*	1.1 *5*	3403.6	(19/2⁻)	2966.3	(17/2⁻)		
439.1 *2*	26.4 *10*	439.21	5/2⁻	0.0	1/2⁻	&	DCO(Q)=0.99 *6*
443.9 *3*	1.5 *7*	1616.2	(11/2⁻)	1172.2	9/2⁻	*a*	DCO(Q)=0.77 *18*
445.3 *7*	0.6 *4*	4625.8	(25/2⁺)	4180.2	(23/2⁺)		
473.0 *5*	1.1 *6*	3439.4	(19/2⁻)	2966.3	(17/2⁻)		
474.8 *5*	0.5 *3*	1282.5	(7/2⁻)	807.9	7/2⁻		
475.2[e] *4*	0.6 *4*	2091.8	(13/2⁻)	1616.2	(11/2⁻)		
476.2 *4*	0.7 *4*	3880.0	(21/2⁻)	3403.6	(19/2⁻)		
494.7 *3*	6.5 *20*	796.4	7/2⁽⁺⁾	301.7	5/2⁺	@	DCO(D)=0.90 *16*
499.8 *2*	0.8 *4*	3764.4	(21/2⁻)	3264.5	(19/2⁻)	@	DCO(Q)=0.40 *12*
520.4 *3*	8.0 *25*	520.4	3/2⁻	0.0	1/2⁻		
525.9 *3*	1.2 *5*	4846.5	(25/2⁻)	4320.7	(23/2⁻)		
530.9 *2*	3.6 *11*	3864.6	(21/2⁺)	3333.7	(21/2⁺)	*b*	DCO(Q)=0.85 *15*; DCO(D)=1.7 *4*
535.3[e] *5*	0.8 *4*	1886.3	13/2⁻	1351.28	(11/2⁻)		
536.7 *2*	2.3 *5*	4301.3	(23/2⁻)	3764.4	(21/2⁻)	@	DCO(Q)=0.68 *14*
538.8 *8*	5.2 *9*	978.19	9/2⁻	439.21	5/2⁻		
539.6 *3*	2.2 *5*	3403.6	(19/2⁻)	2864.1	(17/2⁻)	@	DCO(Q)=0.60 *14*
543.4 *3*	1.3 *8*	1351.28	(11/2⁻)	807.9	7/2⁻	&	DCO(Q)=1.5 *3*
556.3 *3*	1.9 *5*	4320.7	(23/2⁻)	3764.4	(21/2⁻)		
569.1 *3*	8.1 *10*	807.9	7/2⁻	238.86	3/2⁻	&	DCO(Q)=1.02 *12*; DCO(D)=1.57 *12*
575.0 *8*	1.0 *5*	824.0	(5/2)⁻	249.76	5/2⁻		
575.0 *2*	1.5 *5*	3439.4	(19/2⁻)	2864.1	(17/2⁻)	@	DCO(Q)=0.37 *10*

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^{76}Ge(α,3nγ) 1997Jo02 (continued)

γ(^{77}Se) (continued)

E_γ	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	Comments
585.1 3	1.3 6	824.0	(5/2)$^-$	238.86	3/2$^-$		
595.3 3	3.0 9	1721.9	(13/2$^+$)	1126.61	(11/2$^+$)		
607.6 6	1.4 5	3471.6	(19/2$^-$)	2864.1	(17/2$^-$)	@	DCO(Q)=0.47 12
616.9 5	0.8 4	3764.4	(21/2$^-$)	3147.1	(17/2$^-$)		
619.0 4	0.9 5	3864.6	(21/2$^+$)	3245.5	(19/2$^+$)	@	DCO(D)=1.0 3
621.2 4	5.6 20	796.4	7/2$^{(+)}$	175.3059	9/2$^+$		
633.0 3	3.2 8	5258.8	(27/2$^+$)	4625.8	(25/2$^+$)	@	DCO(Q)=0.48 8
634.6 8	3.4 20	796.4	7/2$^{(+)}$	161.9223	7/2$^+$		
682.0[d] 3	4.1[‡] 8	4862.2	(25/2$^+$)	4180.2	(23/2$^+$)		
682[d] 2	1.0[‡] 7	5941.3	(29/2$^+$)	5258.8	(27/2$^+$)		
693.1 3	0.5 3	3764.4	(21/2$^-$)	3071.6	(17/2$^-$)		
697.8 2	2.3 9	1721.9	(13/2$^+$)	1024.12	(13/2$^+$)	b	DCO(Q)=0.78 18
702.6 2	1.1 4	2966.3	(17/2$^-$)	2263.6	(15/2$^-$)	@	DCO(Q)=0.58 14
728.5 2	33.9 9	978.19	9/2$^-$	249.76	5/2$^-$	&	DCO(Q)=1.14 15
733.1 3	16.5 12	1172.2	9/2$^-$	439.21	5/2$^-$	&	DCO(Q)=1.08 8; DCO(D)=1.58 12
740.4 4	1.3 7	2091.8	(13/2$^-$)	1351.28	(11/2$^-$)	a	DCO(Q)=0.92 16
751.9 3	14.3 13	1721.9	(13/2$^+$)	970.0	(11/2$^+$)	@	DCO(D)=1.17 14
770.5 2	29.0 11	1351.28	(11/2$^-$)	580.80	7/2$^-$	&	DCO(Q)=1.36 15
777.1 5	1.0 6	2869.2	(15/2$^-$)	2091.8	(13/2$^-$)		
794.7 3	20.0 13	970.0	(11/2$^+$)	175.3059	9/2$^+$	@	DCO(D)=1.04 14
802.9 2	4.3 12	978.19	9/2$^-$	175.3059	9/2$^+$		
808.0 8	1.5 10	3071.6	(17/2$^-$)	2263.6	(15/2$^-$)		
808.1 5	5.4 13	970.0	(11/2$^+$)	161.9223	7/2$^+$	&	DCO(D)=2.6 5
808.4 4	6.8 15	1616.2	(11/2$^-$)	807.9	7/2$^-$	&	DCO(Q)=0.97 14; DCO(D)=1.57 12
816.3 2	3.9 12	978.19	9/2$^-$	161.9223	7/2$^+$		
824.3 7	8.0 20	1620.8	(11/2$^+$)	796.4	7/2$^{(+)}$		
843.2 5	1.2 7	1282.5	(7/2$^-$)	439.21	5/2$^-$		
846.8 9	6[‡] 3	4180.2	(23/2$^+$)	3333.7	(21/2$^+$)		DCO(Q)=0.84 5 1997Jo02 assign ΔJ=1, dipole to 846.8γ. DCO for a doublet.
848.8 2	100	1024.12	(13/2$^+$)	175.3059	9/2$^+$	&	DCO(Q)=0.97 11
860.7 3	1.1 6	3471.6	(19/2$^-$)	2610.8	(15/2$^-$)		
874.8 5	2.4 7	2966.3	(17/2$^-$)	2091.8	(13/2$^-$)		
900.5 6	3.6 10	3764.4	(21/2$^-$)	2864.1	(17/2$^-$)		
908.1 2	25.2 12	1886.3	13/2$^-$	978.19	9/2$^-$	&	DCO(Q)=1.08 13
912.4 3	25.0 15	2263.6	(15/2$^-$)	1351.28	(11/2$^-$)	&	DCO(Q)=1.32 16
916.4 5	2.0 8	1886.3	13/2$^-$	970.0	(11/2$^+$)		
919.6 3	13.1 8	2091.8	(13/2$^-$)	1172.2	9/2$^-$	&	DCO(Q)=1.10 10
922.2 5	1.1 7	3014.3	(17/2$^-$)	2091.8	(13/2$^-$)		
934.8 3	1.3 6	4180.2	(23/2$^+$)	3245.5	(19/2$^+$)		
951.3 2	14 3	1126.61	(11/2$^+$)	175.3059	9/2$^+$	@	DCO(Q)=0.65 14
959.3 7	4.3 20	2580.1	(15/2$^+$)	1620.8	(11/2$^+$)		
964.7 2	10 3	1126.61	(11/2$^+$)	161.9223	7/2$^+$	&	DCO(Q)=0.99 24
973.8 8	0.5 3	3988.2	(21/2$^-$)	3014.3	(17/2$^-$)		
977.6 4	19.6 20	2864.1	(17/2$^-$)	1886.3	13/2$^-$	&	DCO(Q)=1.23 12
979.9 2	3.7 7	3071.6	(17/2$^-$)	2091.8	(13/2$^-$)	&	DCO(Q)=1.24 22
994.5 2	4.1 14	2610.8	(15/2$^-$)	1616.2	(11/2$^-$)	&	DCO(Q)=1.08 18
997.8[e] 7	0.5 3	4862.2	(25/2$^+$)	3864.6	(21/2$^+$)		
1001.0 3	10.1 10	3264.5	(19/2$^-$)	2263.6	(15/2$^-$)	&	DCO(Q)=0.99 8

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^{76}Ge(α,3nγ) 1997Jo02 (continued)

γ(^{77}Se) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
1016.1 *4*	3.8 *18*	3880.0	(21/2⁻)	2864.1	(17/2⁻)	[&]	DCO(Q)=1.09 *25*
1031[e] *2*	0.3 *2*	3641.8?	(19/2⁻)	2610.8	(15/2⁻)		
1031.3 *3*	6.5 *16*	2055.4	(15/2⁺)	1024.12	(13/2⁺)	[@]	DCO(Q)=0.28 *6*
1037.0 *2*	2.0 *5*	4301.3	(23/2⁻)	3264.5	(19/2⁻)	[&]	DCO(Q)=1.10 *24*
1055.3 *3*	2.4 *10*	3147.1	(17/2⁻)	2091.8	(13/2⁻)	[&]	DCO(Q)=0.92 *15*
1056.1 *3*	1.3 *5*	4320.7	(23/2⁻)	3264.5	(19/2⁻)	[&]	DCO(Q)=1.21 *24*
1067.7 *2*	3.0 *13*	2789.6	(17/2⁺)	1721.9	(13/2⁺)	[&]	DCO(D)=2.9 *5*
1078.8 *7*	1.0[‡] *6*	5258.8	(27/2⁺)	4180.2	(23/2⁺)		
1079.2[c] *2*	54.4 *20*	2103.3	(17/2⁺)	1024.12	(13/2⁺)		
1082.1 *9*	0.8 *4*	4846.5	(25/2⁻)	3764.4	(21/2⁻)		
1085.4 *3*	6.0 *16*	2055.4	(15/2⁺)	970.0	(11/2⁺)	[&]	DCO(Q)=1.15 *25*
1095.5 *4*	1.1 *6*	3885.1	(21/2⁺)	2789.6	(17/2⁺)		
1113.6 *2*	14.6 *10*	2240.2	(15/2⁺)	1126.61	(11/2⁺)	[&]	DCO(Q)=1.05 *20*
1121 *2*	1.6 *7*	5001.0	(25/2⁻)	3880.0	(21/2⁻)		
1127 *2*	2.5 *10*	4391.5	(23/2⁻)	3264.5	(19/2⁻)		
1128.1 *5*	9.9 *12*	3014.3	(17/2⁻)	1886.3	13/2⁻	[&]	DCO(Q)=1.20 *16*
1140.0 *5*	0.7 *3*	3403.6	(19/2⁻)	2263.6	(15/2⁻)		
1142.2 *2*	4.2 *6*	3245.5	(19/2⁺)	2103.3	(17/2⁺)	[@]	DCO(Q)=0.36 *6*
1169.4 *3*	7.5 *15*	3409.6	(19/2⁺)	2240.2	(15/2⁺)	[&]	DCO(Q)=1.00 *20*; DCO(D)=1.9 *3*
1185.6 *5*	0.7 *4*	3071.6	(17/2⁻)	1886.3	13/2⁻		
1190.1 *2*	3.9 *8*	3245.5	(19/2⁺)	2055.4	(15/2⁺)		
1192 *2*	0.4 *6*	5584	(27/2⁻)	4391.5	(23/2⁻)		
1198.1 *3*	0.8 *4*	4531.8	(23/2⁺)	3333.7	(21/2⁺)		
1201.6 *4*	2.2 *11*	2818.0	(15/2⁻)	1616.2	(11/2⁻)	[&]	DCO(Q)=1.1 *3*
1208.8 *8*	1.1 *6*	3471.6	(19/2⁻)	2263.6	(15/2⁻)		
1215.9 *5*	3.2 *12*	2240.2	(15/2⁺)	1024.12	(13/2⁺)	[@]	DCO(Q)=0.38 *10*
1230.3 *2*	30.0 *25*	3333.7	(21/2⁺)	2103.3	(17/2⁺)	[&]	DCO(Q)=1.07 *8*
1253.6[e] *5*	0.5 *3*	2869.2	(15/2⁻)	1616.2	(11/2⁻)		
1260.9 *6*	1.1 *5*	4670.5	(23/2⁺)	3409.6	(19/2⁺)		
1286.3[e] *4*	0.3 *2*	4531.8	(23/2⁺)	3245.5	(19/2⁺)		
1292.1 *3*	7 *3*	4625.8	(25/2⁺)	3333.7	(21/2⁺)	[&]	DCO(Q)=0.93 *14*
1316 *2*	2.1 *9*	5941.3	(29/2⁺)	4625.8	(25/2⁺)		
1336.1 *7*	1.2 *7*	3439.4	(19/2⁻)	2103.3	(17/2⁺)		
1396 *2*	2.1 *10*	6654.9	(31/2⁺)	5258.8	(27/2⁺)		
1466.8 *8*	0.4 *3*	2818.0	(15/2⁻)	1351.28	(11/2⁻)		
1528.5 *4*	1.0 *6*	4862.2	(25/2⁺)	3333.7	(21/2⁺)		
1781.7 *4*	1.3 *5*	3885.1	(21/2⁺)	2103.3	(17/2⁺)		

† From $\gamma\gamma$-coin matrix at E=40 MeV.

‡ Estimated intensity due to the presence of a strong doublet.

From Adopted Gammas.

@ Interpreted as ΔJ=1 (1997Jo02) from R(DCO), mult=D(+Q).

& Interpreted as ΔJ=2 (1997Jo02), Q (most likely E2) from R(DCO). The assignment is, however, not unique since R(DCO) is also consistent with ΔJ=1, D+Q and ΔJ=0, dipole.

a Interpreted as ΔJ=1 (1997Jo02) from R(DCO), mult=D+Q. This assignment is however, not unique, since R(DCO) is close to unity, that expected for ΔJ=2, Q transitions.

b Interpreted as ΔJ=0 (1997Jo02) from R(DCO), mult=D(+Q). However, the assignment is not unique since R(DCO) is also

Continued on next page (footnotes at end of table)

^{76}Ge(α,3nγ) 1997Jo02 (continued)

γ(^{77}Se) (continued)

consistent with ΔJ=2, Q and ΔJ=1, D+Q.

[c] For 1079.2γ+1078.8γ: R(DCO)=1.01 *6* (ΔJ=2 gated), 2.3 *3* (ΔJ=1 gated); ΔJ=2 assigned (1997Jo02) to both transitions.

[d] For 682.0γ+682γ: R(DCO)=0.55 *10*; ΔJ=1 assigned (1997Jo02) to both transitions.

[e] Placement of transition in the level scheme is uncertain.

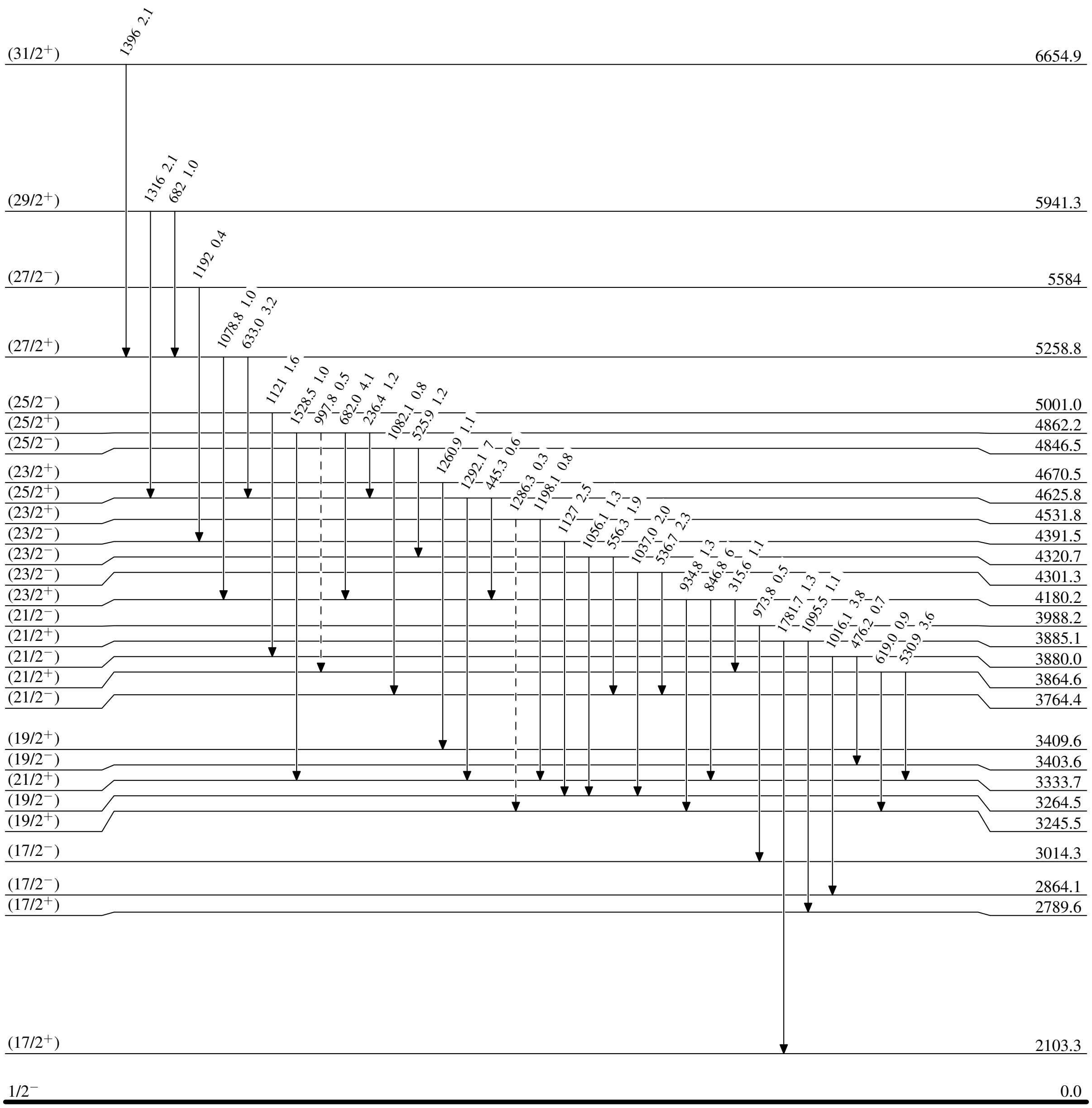
^{76}Ge(α,3nγ) 1997Jo02

Level Scheme

Intensities: Relative I_γ

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)



$^{77}_{34}Se_{43}$

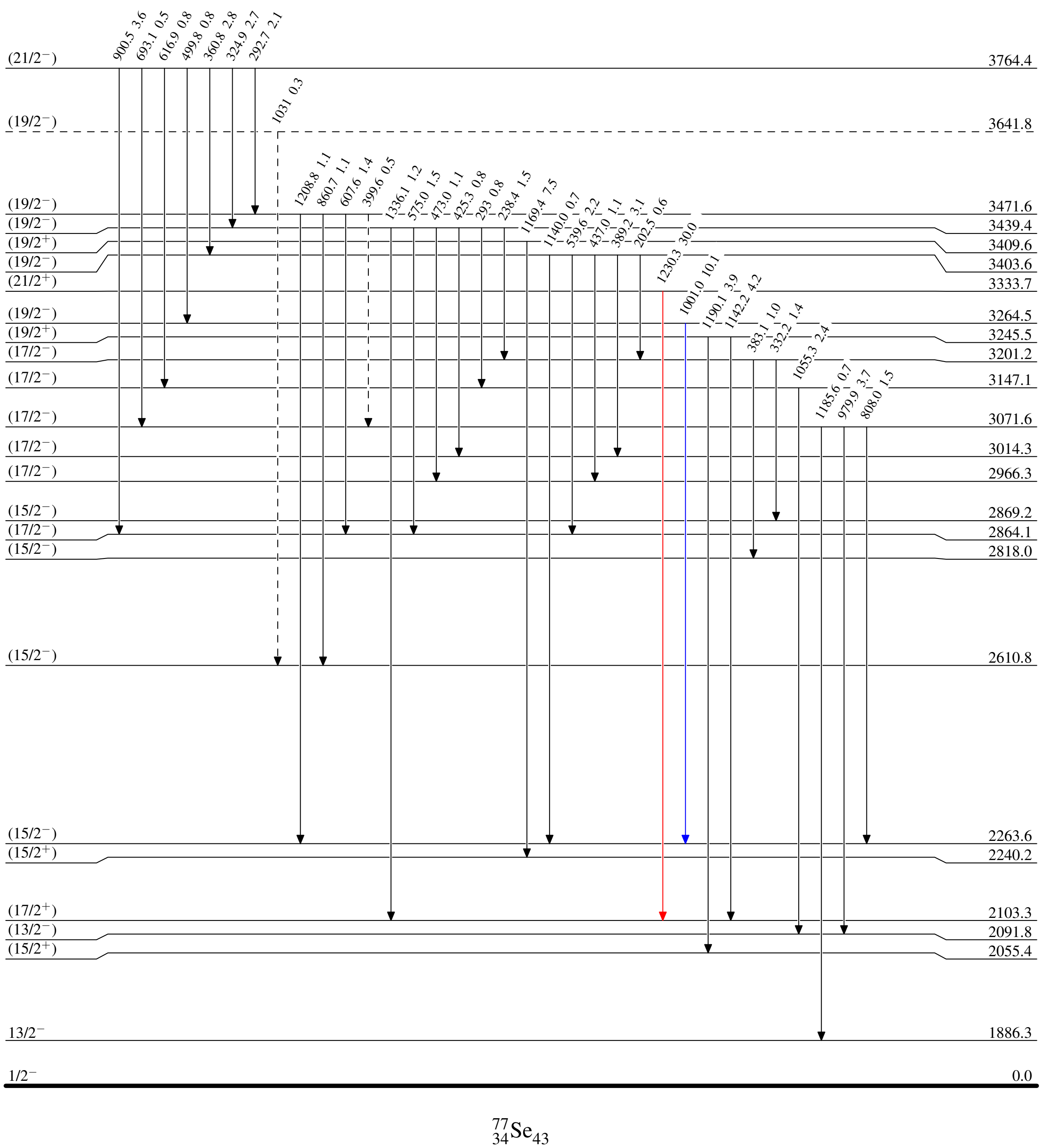
^{76}Ge(α,3nγ) 1997Jo02

Level Scheme (continued)

Intensities: Relative I_γ

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)



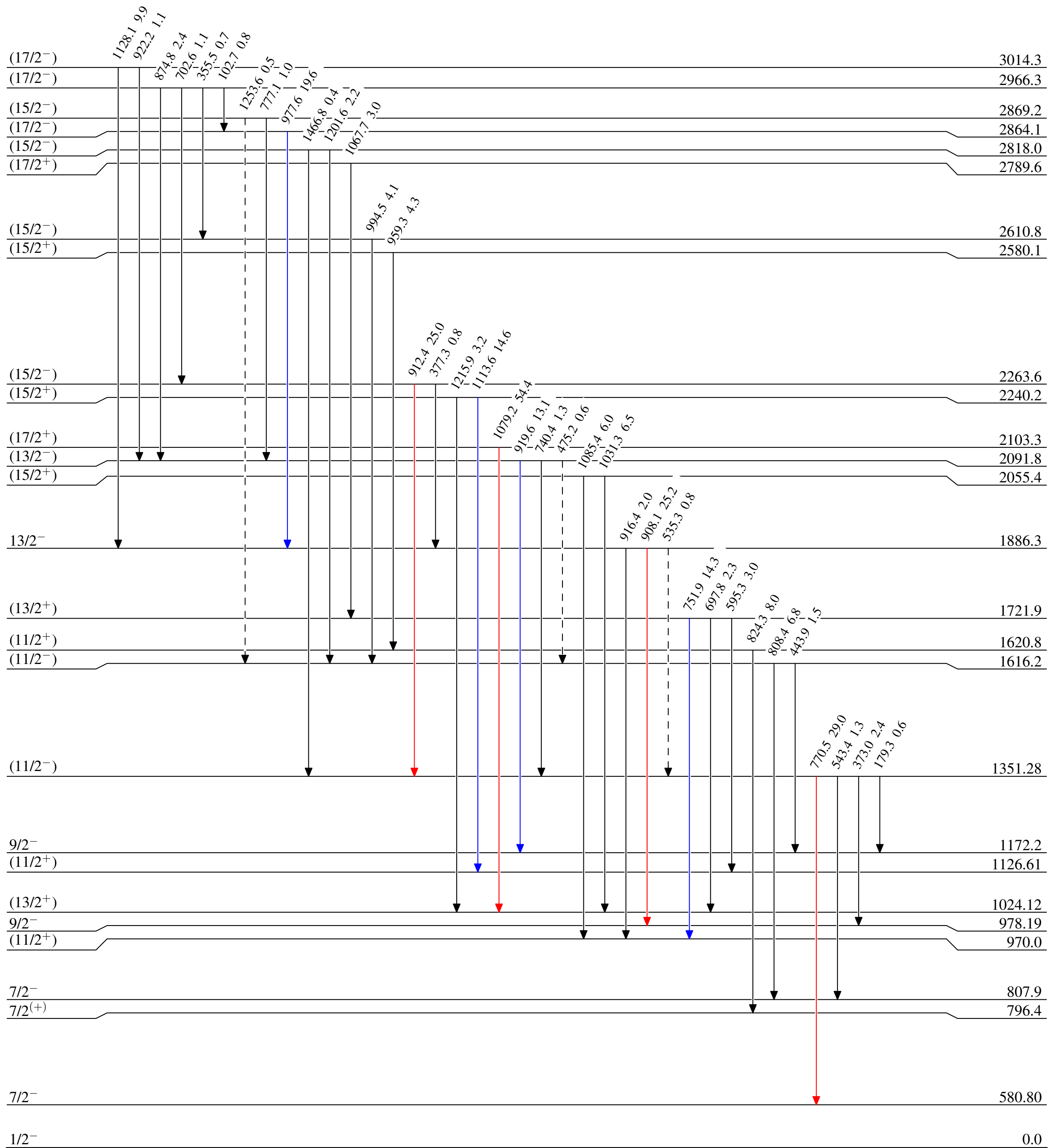
^{76}Ge(α,3nγ) 1997Jo02

Level Scheme (continued)

Intensities: Relative I_γ

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)



$^{77}_{34}Se_{43}$

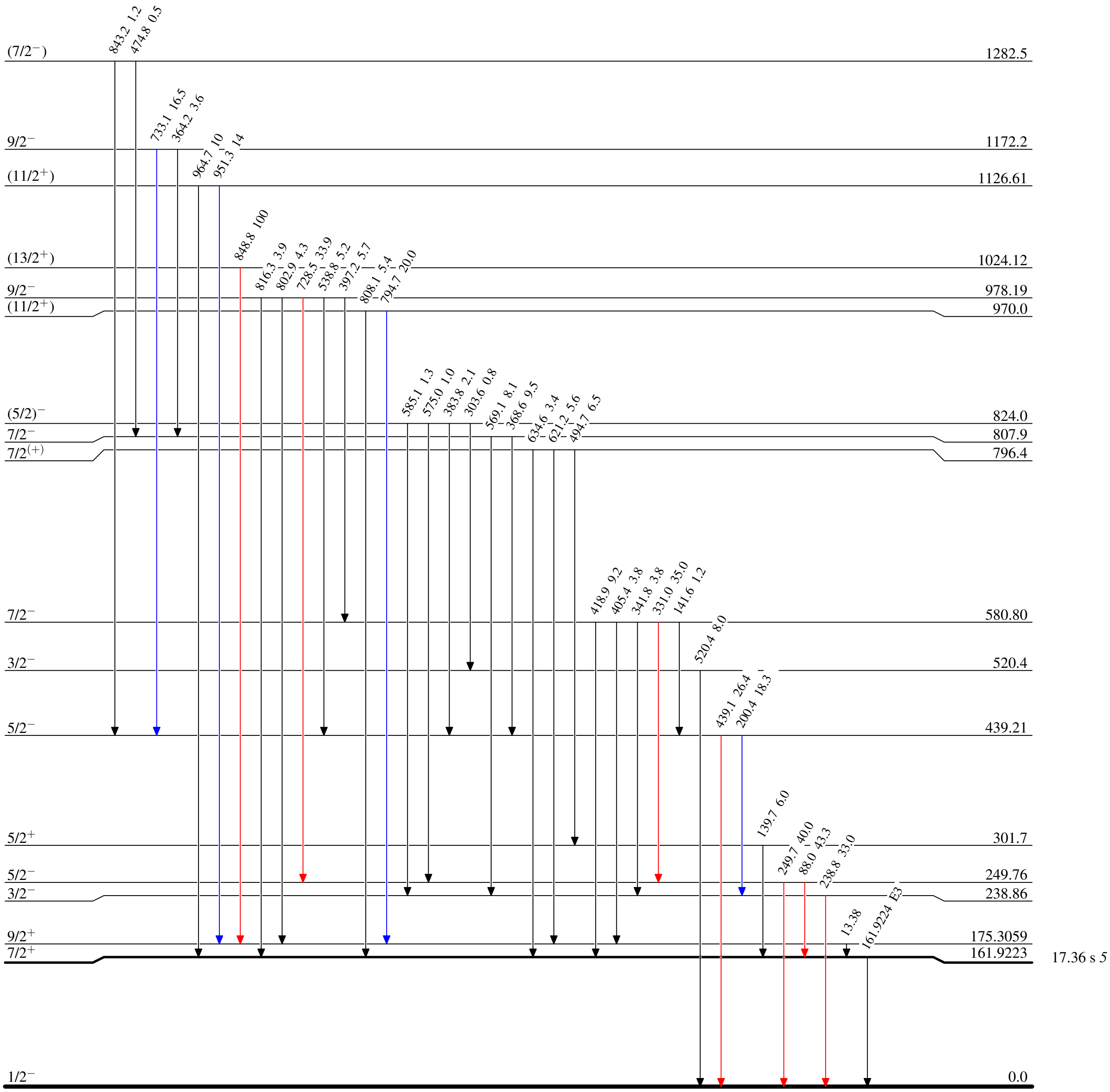
^{76}Ge(α,3nγ) 1997Jo02

Level Scheme (continued)

Intensities: Relative I_γ

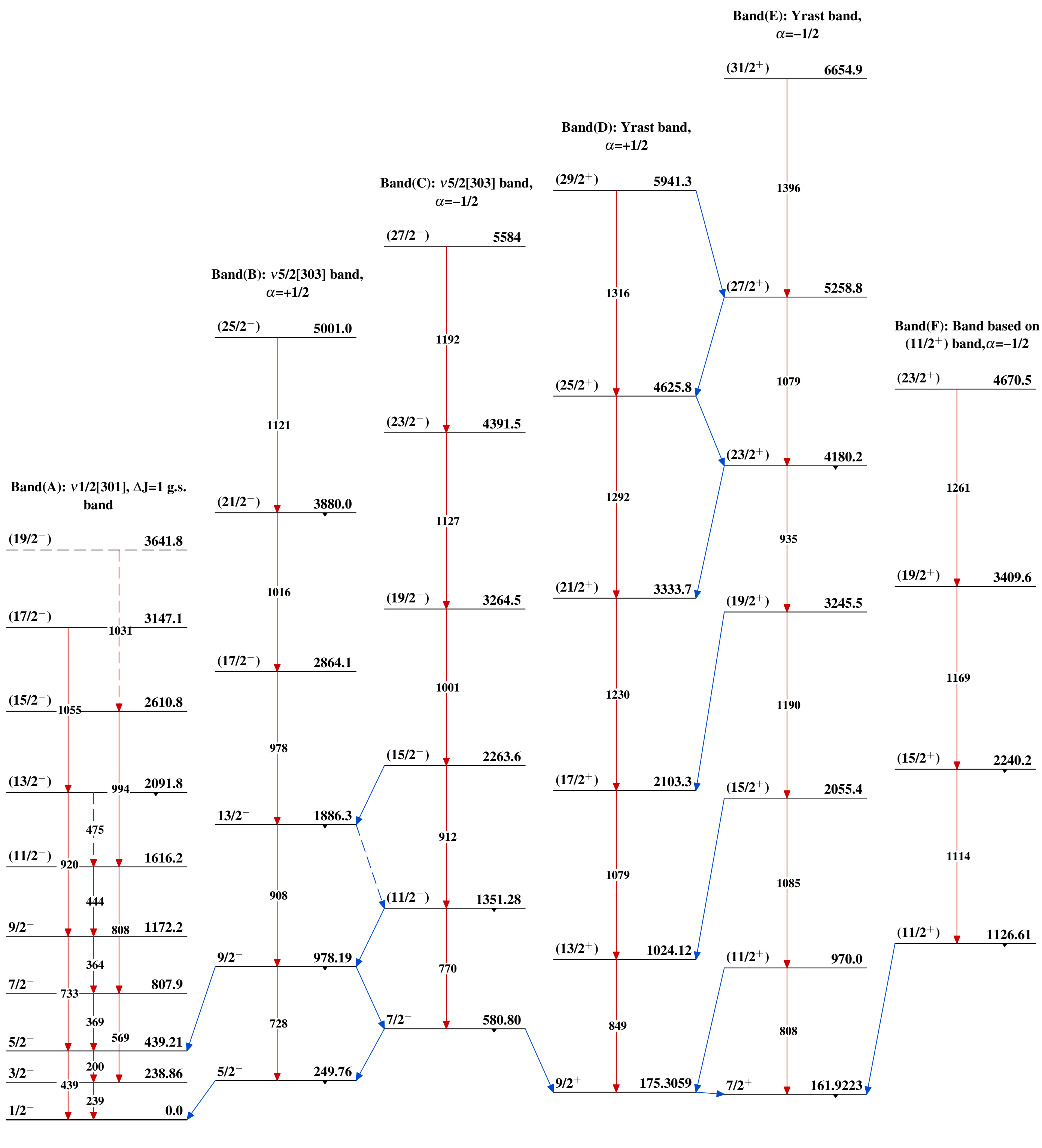
Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



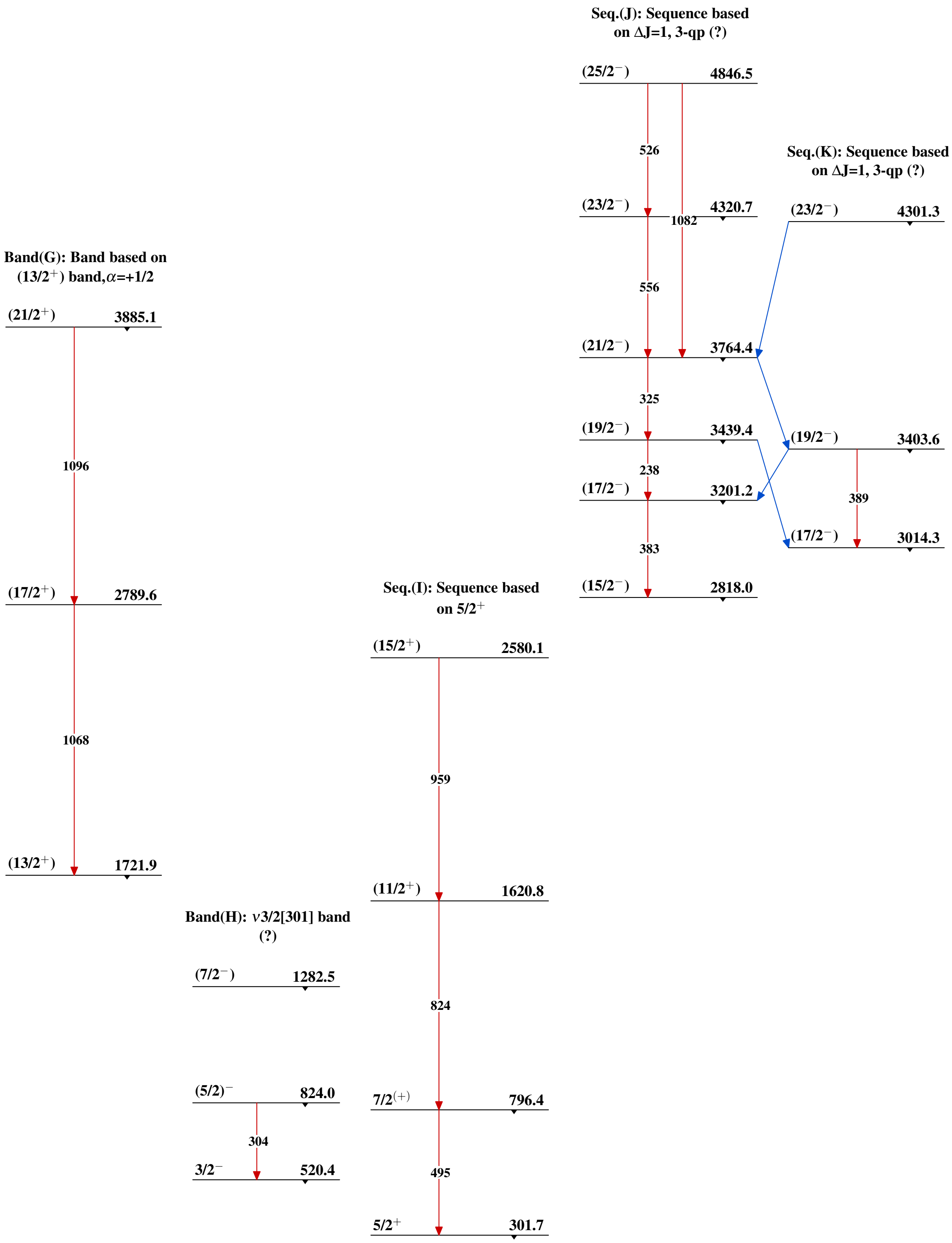
$^{77}_{34}Se_{43}$

^{76}Ge(α,3nγ) 1997Jo02



$^{77}_{34}Se_{43}$

^{76}Ge(α,3nγ) 1997Jo02 (continued)



$^{77}_{34}Se_{43}$