^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 134,149 (2016)	15-Apr-2015

E=85 MeV. Measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma\gamma(\theta)$(DCO) using an array of nine Compton-suppressed HPGe detectors and one LEP detector. A second experiment was carried out with an array of 12 Compton-suppressed HPGe detectors.
All data are from 2001Sh41. Selected levels only were discussed by the authors in 1998Sh07.
Eγ,Iγ from 2001Sh41.

^{183}Os Levels

Band(K) Band based on 15/2$^-$ 1560. Possible configuration=ν9/2[624]π(1/2[541]+5/2[402]).

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]
0.0[@]	9/2$^+$	
96.42[&] *7*	11/2$^+$	
170.8[d] *3*	1/2$^-$	
219.20[@] *7*	13/2$^+$	
258.3[d] *3*	3/2$^-$	
273.07[d] *24*	5/2$^-$	
375.48[&] *8*	15/2$^+$	
392.49[b] *7*	7/2$^-$	<3 ns
487.0[d] *3*	7/2$^-$	
509.88[d] *22*	9/2$^-$	
512.50[c] *7*	7/2$^-$	<3 ns
541.52[@] *8*	17/2$^+$	
558.29[a] *8*	9/2$^-$	
646.33[c] *8*	(9/2$^-$)	
748.94[b] *7*	11/2$^-$	
763.97[&] *9*	19/2$^+$	
812.47[c] *8*	(11/2$^-$)	
848.2[d] *4*	(11/2$^-$)	
879.58[d] *20*	(13/2$^-$)	
951.33[@] *9*	21/2$^+$	
958.15[a] *8*	13/2$^-$	
1010.95[c] *9*	(13/2$^-$)	
1179.73[b] *8*	15/2$^-$	
1236.85[c] *9*	(15/2$^-$)	
1255.74[&] *9*	23/2$^+$	
1324.0[d] *4*	(15/2$^-$)	
1369.88[d] *17*	(17/2$^-$)	
1420.88[a] *9*	17/2$^-$	
1442.75[@] *10*	25/2$^+$	
1483.07[f] *9*	19/2$^+$	
1560.25 *9*	15/2$^-$	<3 ns
1583.52 *10*	17/2$^-$	
1661.91[b] *9*	19/2$^-$	
1665.03 *10*	19/2$^-$	
1690.52[e] *10*	21/2$^+$	

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^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

^{183}Os Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	Comments
1779.15 *9*	21/2$^-$		
1815.07 *10*	21/2$^+$		
1844.23[&] *10*	27/2$^+$		
1922.08[a] *14*	21/2$^-$		
1925.55[f] *10*	23/2$^+$		
1925.64 *9*	23/2$^-$		
2017.48[@] *11*	29/2$^+$		
2101.34 *11*	25/2$^-$		
2150.53[b] *19*	23/2$^-$		
2175.57[e] *10*	25/2$^+$		
2209.62[g] *10*	23/2$^+$	<3 ns	
2305.13 *11*	27/2$^-$		
2338.35 *10*	25/2$^+$		
2402.38[a] *17*	25/2$^-$		
2459.46[f] *10*	27/2$^+$		
2470.54[g] *13*	25/2$^+$		
2521.67[&] *12*	31/2$^+$		
2536.37 *12*	29/2$^-$		
2599.43[b] *20*	27/2$^-$		
2674.26[@] *13*	33/2$^+$		
2746.64[e] *11*	29/2$^+$		
2754.10[g] *13*	27/2$^+$		
2792.67 *13*	31/2$^-$		
2870.8[a] *4*	29/2$^-$		
3029.03[b] *19*	31/2$^-$		
3045.88[g] *14*	29/2$^+$		
3067.15 *12*	(29/2$^+$)		J$^{\pi}$: D+Q 1223γ to 27/2$^+$ 1844; 546γ to 31/2$^+$ 2522.
3074.93 *13*	33/2$^-$		
3077.32[f] *12*	31/2$^+$		
3094.25 *14*			
3278.44[&] *14*	35/2$^+$		
3340.3[a] *5*	33/2$^-$		
3363.30[e] *12*	33/2$^+$		
3377.45 *14*	35/2$^-$		
3383.37[j] *16*	(31/2$^-$)		
3404.36[@] *17*	37/2$^+$		
3419.53 *14*	(29/2$^+$,31/2)		J$^{\pi}$: (29/2$^+$,31/2$^+$) in table 1 and (29/2$^+$,31/2$^-$) in fig. 2 of 2001Sh41.
3430.57 *13*	(29/2,31/2$^+$)		J$^{\pi}$: (29/2$^+$,31/2$^+$) in table 1 and (29/2$^-$,31/2$^+$) in fig. 2 of 2001Sh41.
3505.42[b] *18*	35/2$^-$		
3707.40 *15*	37/2$^-$		
3764.62 *15*			
3765.88[f] *15*	(35/2$^+$)		
3785.50[h] *12*	33/2$^+$	<3 ns	
3876.3[a] *5*	37/2$^-$		
3884.29[h] *13*	35/2$^+$		
3986.55[j] *15*	35/2$^{(-)}$		
4031.14 *16*	39/2$^-$		
4075.54[b] *16*	39/2$^-$		
4088.43[&] *15*	39/2$^+$		

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^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

^{183}Os Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	Comments
4116.61[h] *13*	37/2$^+$		
4181.66[@] *19*	41/2$^+$		
4398.37[h] *14*	39/2$^+$		
4422.50 *18*	41/2$^-$		
4496.4[a] *5*	41/2$^-$		
4674.95[b] *17*	43/2$^-$		
4678.97[j] *15*	39/2$^{(-)}$		
4716.12[h] *14*	41/2$^+$		
4813.95 *17*	43/2$^-$		
4931.74[&] *18*	(43/2$^+$)		
4934.65 *15*	41/2$^{(+)}$		
4936.76[@] *22*	45/2$^+$		
5063.45[h] *15*	43/2$^+$		
5067.54 *15*	(43/2$^-$)	27 ns *3*	J$^{\pi}$: 43/2$^{(-)}$ in Figure 2 of 2001Sh41.
5167.43 *15*	(43/2$^+$)	24 ns *2*	J$^{\pi}$: 43/2$^+$ in Figure 2 of 2001Sh41.
5192.4 *5*	45/2$^-$		
5192.60[a] *21*	45/2$^-$		
5385.96[b] *20*	(47/2$^-$)		
5406.17[j] *25*	(43/2$^-$)		
5437.44[h] *18*	45/2$^+$		
5477.77[i] *17*	(45/2,47/2$^-$)		
5541.90 *17*			
5594.10 *17*			
5617.86 *20*	(47/2$^-$)		
5697.97[@] *24*	49/2$^+$		
5873.91[i] *18*	(47/2,49/2$^-$)		
5904.76 *17*			
5977.6 *11*	(49/2$^-$)		
6173.46[b] *22*	(51/2$^-$)		
6280.78[i] *18*	(49/2,51/2$^-$)		
6412.06 *20*			
6460.9 *4*	(51/2$^-$)		
6594.56 *18*			
6697.35[i] *19*	(51/2,53/2$^-$)		

[†] From least-squares fit to Eγ.
[‡] From Table 1 of 2001Sh41. Some of these assignments are given without parentheses in Figures 1 and 2 of 2001Sh41.
[#] From 2001Sh41.
[@] Band(A): ν 9/2[624] band, α=+1/2.
[&] Band(a): ν 9/2[624] band, α=−1/2.
[a] Band(B): ν 7/2[503] band, α=+1/2.
[b] Band(b): ν 7/2[503] band, α=−1/2.
[c] Band(C): ν 7/2[514] band.
[d] Band(D): ν 1/2[521] band.
[e] Band(E): Band based on 21/2$^+$, α=+1/2. $\nu i_{13/2}$ coupled to γ-vibrational band.
[f] Band(e): Band based on 19/2$^+$, α=−1/2. $\nu i_{13/2}$ coupled to γ-vibrational band.
[g] Band(F): Band based on 23/2$^+$.
[h] Band(G): Band based on 33/2$^+$.

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^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

^{183}Os Levels (continued)

[i] Band(H): Band based on (45/2,47/2$^-$).
[j] Band(I): γ cascade based on (31/2$^-$).

γ(^{183}Os)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α[‡]	Comments
(20.9)		3785.50	33/2$^+$	3764.62				E_γ: from level-energy difference. Eγ=21 in table 1 of 2001Sh41.
(23.3)		1583.52	17/2$^-$	1560.25	15/2$^-$			E_γ: from level-energy difference; 23 in table 1 of 2001Sh41..
87.5 *1*		258.3	3/2$^-$	170.8	1/2$^-$			
96.3 *1*	94 *10*	96.42	11/2$^+$	0.0	9/2$^+$	D+Q		Mult.: DCO(1)=0.36 *3*; DCO(2)=0.48 *7*.
98.6 *1*	7 *1*	3884.29	35/2$^+$	3785.50	33/2$^+$	(M1)	5.86	α(exp)=6.0 *7* α(exp): from intensity balance.
102.3 *1*		273.07	5/2$^-$	170.8	1/2$^-$			
114.2 *1*	12 *1*	1779.15	21/2$^-$	1665.03	19/2$^-$	D+Q		Mult.: DCO(1)=0.23 *10*; DCO(2)=0.26 *11*.
117.3 *1*	19 *1*	1779.15	21/2$^-$	1661.91	19/2$^-$	D+Q		Mult.: DCO(1)=0.24 *10*; DCO(2)=0.29 *11*.
119.9 *1*	5 *1*	512.50	7/2$^-$	392.49	7/2$^-$			
122.7 *1*	391 *17*	219.20	13/2$^+$	96.42	11/2$^+$	D+Q		Mult.: DCO(1)=0.38 *3*; DCO(2)=0.43 *6*.
133.0 *1*	4 *1*	5067.54	(43/2$^-$)	4934.65	41/2$^{(+)}$	(E1)	0.188	Mult.: I(γ+ce)(133γ)/I(γ+ce)(256γ)≈1 only if mult is E2 for 256γ and E1 for 133γ.
133.9 *1*	6 *1*	646.33	(9/2$^-$)	512.50	7/2$^-$			
146.3 *1*	45 *2*	1925.64	23/2$^-$	1779.15	21/2$^-$	D		Mult.: DCO(1)=0.55 *7*; DCO(2)=0.55 *8*.
156.1 *1*	424 *18*	375.48	15/2$^+$	219.20	13/2$^+$	D+Q		Mult.: DCO(1)=0.37 *3*; DCO(2)=0.31 *4*.
165.7 *1*	197 *9*	558.29	9/2$^-$	392.49	7/2$^-$	D+Q		Mult.: DCO(1)=0.36 *3*; DCO(2)=0.34 *5*.
166.1 *1*	341 *15*	541.52	17/2$^+$	375.48	15/2$^+$	D+Q		Mult.: DCO(1)=0.39 *3*; DCO(2)=0.30 *4*.
166.2 *1*	11 *2*	812.47	(11/2$^-$)	646.33	(9/2$^-$)			
173.2 *1*	7 *1*	2017.48	29/2$^+$	1844.23	27/2$^+$			
175.6 *1*	42 *2*	2101.34	25/2$^-$	1925.64	23/2$^-$	D		Mult.: DCO(1)=0.77 *11*; DCO(2)=0.70 *10*.
186.8 *1*	50 *2*	1442.75	25/2$^+$	1255.74	23/2$^+$	(D+Q)		Mult.: DCO(1)=0.44 *4*; DCO(2)=0.24 *3*. Presumably for a doublet; see comment on 187γ from 951 level.
187.3 *1*	164 *7*	951.33	21/2$^+$	763.97	19/2$^+$	(D+Q)		Mult.: DCO(1)=0.44 *4*; DCO(2)=0.24 *3*. Presumably for a doublet since identical DCO(1) and DCO(2) values are reported for the 187.3γ and the 186.8γ.
190.5 *1*	163 *7*	748.94	11/2$^-$	558.29	9/2$^-$	D+Q		Mult.: DCO(1)=0.36 *3*; DCO(2)=0.36 *5*.
195.5 *1*	63 *3*	1779.15	21/2$^-$	1583.52	17/2$^-$	Q		Mult.: DCO(1)=1.1 *1*; DCO(2)=0.97 *14*.
198.5 *1*	9 *2*	1010.95	(13/2$^-$)	812.47	(11/2$^-$)			
203.7 *1*	37 *2*	2305.13	27/2$^-$	2101.34	25/2$^-$			Mult.: DCO(1)=1.1 *2*; DCO(2)=0.87 *12*. Interpreted by authors as ΔJ=1 transition.
209.2 *1*	65 *3*	958.15	13/2$^-$	748.94	11/2$^-$	D+Q		Mult.: DCO(1)=0.42 *4*; DCO(2)=0.26 *14*.
219.2 *1*	192 *9*	219.20	13/2$^+$	0.0	9/2$^+$	Q		Mult.: DCO(1)=0.96 *8*; DCO(2)=1.0 *1*.
221.5 *1*	61 *3*	1179.73	15/2$^-$	958.15	13/2$^-$	D+Q		Mult.: DCO(1)=0.31 *3*; DCO(2)=0.21 *3*.
222.4 *1*	256 *11*	763.97	19/2$^+$	541.52	17/2$^+$	D+Q		Mult.: DCO(1)=0.34 *3*; DCO(2)=0.28 *4*.
226.0 *1*	9 *1*	1236.85	(15/2$^-$)	1010.95	(13/2$^-$)			
228.7 *1*	51 *4*	487.0	7/2$^-$	258.3	3/2$^-$			
231.1 *2*	30 *1*	2536.37	29/2$^-$	2305.13	27/2$^-$			Mult.: DCO(1)=0.99 *14*; interpreted by authors as ΔJ=1 transition.
232.4 *1*	59 *3*	4116.61	37/2$^+$	3884.29	35/2$^+$	D		Mult.: DCO(1)=0.48 *7*; DCO(2)=0.42 *6*.
236.8 *1*	100 *5*	509.88	9/2$^-$	273.07	5/2$^-$			
240.9 *1*	13 *1*	1661.91	19/2$^-$	1420.88	17/2$^-$	D		Mult.: DCO(1)=0.38 *4*.
241.0 *1*	11 *1*	1420.88	17/2$^-$	1179.73	15/2$^-$	D+Q		Mult.: DCO(1)=0.38 *4*.
244.2 *1*	11 *1*	1665.03	19/2$^-$	1420.88	17/2$^-$	D		Mult.: DCO(1)=0.55 *5*.
253.9 *1*	15 *1*	646.33	(9/2$^-$)	392.49	7/2$^-$			
254.2 *1*	55 *3*	812.47	(11/2$^-$)	558.29	9/2$^-$			

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^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

$\gamma(^{183}Os)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α[‡]	Comments
255.8 *1*	15 *1*	4934.65	$41/2^{(+)}$	4678.97	$39/2^{(-)}$	[E1]	0.0360	
256.3 *1*	22 *1*	2792.67	$31/2^-$	2536.37	$29/2^-$			
260.6 *1*	112 *5*	1925.64	$23/2^-$	1665.03	$19/2^-$	Q		Mult.: DCO(1)=0.96 *8*; DCO(2)=1.0 *1*.
260.9 *1*	31 *1*	2470.54	$25/2^+$	2209.62	$23/2^+$			
262.0 *1*	20 *1*	1010.95	$(13/2^-)$	748.94	$11/2^-$			
263.8 *1*	135 *6*	1925.64	$23/2^-$	1661.91	$19/2^-$	Q		Mult.: DCO(1)=1.2 *1*; DCO(2)=1.1 *2*.
278.7 *1*	23 *1*	1236.85	$(15/2^-)$	958.15	$13/2^-$			
279.0 *1*	498 *21*	375.48	$15/2^+$	96.42	$11/2^+$	Q		Mult.: DCO(1)=1.0 *1*; DCO(2)=0.98 *14*.
281.8 *1*	58 *3*	4398.37	$39/2^+$	4116.61	$37/2^+$	D		Mult.: DCO(1)=0.46 *7*; DCO(2)=0.38 *5*.
282.3 *1*	20 *1*	3074.93	$33/2^-$	2792.67	$31/2^-$			Mult.: DCO(1)=0.92 *13*; interpreted by authors as $\Delta J=1$ transition.
283.7 *1*	18 *1*	2754.10	$27/2^+$	2470.54	$25/2^+$			
291.9 *1*	7 *1*	3045.88	$29/2^+$	2754.10	$27/2^+$			
296.3 *1*	35 *2*	1779.15	$21/2^-$	1483.07	$19/2^+$			
300.0 *1*	43 *2*	812.47	$(11/2^-)$	512.50	$7/2^-$			
302.5 *1*	16 *1*	3377.45	$35/2^-$	3074.93	$33/2^-$			
304.4 *1*	111 *5*	1255.74	$23/2^+$	951.33	$21/2^+$	D+Q		Mult.: DCO(1)=0.31 *4*.
310.7 *1*	34 *2*	5904.76		5594.10				
314.0 *1*	14 *1*	6594.56		6280.78	$(49/2,51/2^-)$			
317.6 *1*	78 *3*	4716.12	$41/2^+$	4398.37	$39/2^+$	D		Mult.: DCO(1)=0.44 *6*; DCO(2)=0.41 *6*.
322.3 *1*	302 *13*	2101.34	$25/2^-$	1779.15	$21/2^-$	Q		Mult.: DCO(1)=0.98 *8*; DCO(2)=0.97 *14*.
322.4 *1*	727 *31*	541.52	$17/2^+$	219.20	$13/2^+$	Q		Mult.: DCO(1)=1.0 *1*; DCO(2)=1.1 *2*.
330.2 *5*	9 *1*	3707.40	$37/2^-$	3377.45	$35/2^-$			
340.2 *1*	8 *1*	3094.25		2754.10	$27/2^+$			
347.4 *1*	16 *1*	5063.45	$43/2^+$	4716.12	$41/2^+$			
351.3 *1*	76 *3*	5067.54	$(43/2^-)$	4716.12	$41/2^+$	D		Mult.: DCO(1)=0.68 *10*; DCO(2)=0.75 *11*.
354.8 *1*	14 *2*	3785.50	$33/2^+$	3430.57	$(29/2,31/2^+)$			
356.5 *1*	112 *5*	748.94	$11/2^-$	392.49	$7/2^-$	Q		Mult.: DCO(1)=1.0 *1*; DCO(2)=1.1 *2*.
361.2 *1*	27 *1*	848.2	$(11/2^-)$	487.0	$7/2^-$			
364.7 *1*	28 *1*	1010.95	$(13/2^-)$	646.33	$(9/2^-)$			
365.6 *2*	11 *2*	3785.50	$33/2^+$	3419.53	$(29/2^+,31/2)$			
367.2 *1*	74 *3*	1179.73	$15/2^-$	812.47	$(11/2^-)$			
369.7 *1*	89 *4*	879.58	$(13/2^-)$	509.88	$9/2^-$			
374.0 *1*	3 *1*	5437.44	$45/2^+$	5063.45	$43/2^+$			
379.6 *1*	290 *12*	2305.13	$27/2^-$	1925.64	$23/2^-$	Q		Mult.: DCO(1)=0.92 *8*; DCO(2)=0.92 *13*.
388.7 *1*	755 *32*	763.97	$19/2^+$	375.48	$15/2^+$	Q		Mult.: DCO(1)=1.0 *1*; DCO(2)=1.0 *1*.
392.4 *1*	94 *10*	392.49	$7/2^-$	0.0	$9/2^+$	D		Mult.: DCO(1)=0.65 *5*; DCO(2)=0.69 *10*.
396.2 *1*	58 *3*	5873.91	$(47/2,49/2^-)$	5477.77	$(45/2,47/2^-)$			
399.9 *1*	120 *5*	958.15	$13/2^-$	558.29	$9/2^-$	Q		Mult.: DCO(1)=1.1 *1*; DCO(2)=1.1 *2*.
401.3 *1*	46 *2*	1844.23	$27/2^+$	1442.75	$25/2^+$			
407.1 *1*	28 *2*	6280.78	$(49/2,51/2^-)$	5873.91	$(47/2,49/2^-)$			
409.9 *1*	1000	951.33	$21/2^+$	541.52	$17/2^+$	Q		Mult.: DCO(1)=0.97 *8*; DCO(2)=1.0 *1*.
410.4 *1*	65 *5*	5477.77	$(45/2,47/2^-)$	5067.54	$(43/2^-)$			
416.7 *1*	12 *1*	6697.35	$(51/2,53/2^-)$	6280.78	$(49/2,51/2^-)$			
424.5 *1*	30 *1*	1236.85	$(15/2^-)$	812.47	$(11/2^-)$			
425.3 *1*	29 *1*	1661.91	$19/2^-$	1236.85	$(15/2^-)$			
426.7 *1*	87 *4*	5594.10		5167.43	$(43/2^+)$			

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^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

$\gamma(^{183}Os)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
429.7 *3*	58 *3*	3029.03	31/2$^-$	2599.43	27/2$^-$	Q	Mult.: DCO(1)=0.99 *8*; DCO(2)=1.0 *1*.
430.8 *1*	293 *13*	1179.73	15/2$^-$	748.94	11/2$^-$	Q	Mult.: DCO(1)=0.99 *8*; DCO(2)=1.0 *1*.
435.1 *1*	273 *12*	2536.37	29/2$^-$	2101.34	25/2$^-$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=1.0 *1*.
441.9 *1*	7 *1*	1925.55	23/2$^+$	1483.07	19/2$^+$		E_γ: poor fit. Level-energy difference=442.5.
448.9 *1*	81 *4*	2599.43	27/2$^-$	2150.53	23/2$^-$	Q	Mult.: DCO(1)=0.93 *8*; DCO(2)=1.1 *2*.
451.3 *1*	42 *2*	5167.43	(43/2$^+$)	4716.12	41/2$^+$	D+Q	Mult.: DCO(1)=0.47 *7*; DCO(2)=0.34 *10*.
461.9 *1*	81 *4*	558.29	9/2$^-$	96.42	11/2$^+$		
462.8 *1*	95 *4*	1420.88	17/2$^-$	958.15	13/2$^-$	Q	Mult.: DCO(1)=0.93 *13*; DCO(2)=1.1 *2*.
468.4 *3*	51 *2*	2870.8	29/2$^-$	2402.38	25/2$^-$	Q	Mult.: DCO(1)=1.1 *2*; DCO(2)=1.0 *2*.
469.5 *3*	39 *2*	3340.3	33/2$^-$	2870.8	29/2$^-$	Q	Mult.: DCO(1)=1.1 *2*; DCO(2)=1.0 *2*.
474.2 *1*	15 *1*	5541.90		5067.54	(43/2$^-$)		
475.8 *1*	12 *1*	1324.0	(15/2$^-$)	848.2	(11/2$^-$)		
476.4 *1*	38 *2*	3505.42	35/2$^-$	3029.03	31/2$^-$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=1.1 *2*.
480.3 *1*	77 *3*	2402.38	25/2$^-$	1922.08	21/2$^-$	Q	Mult.: DCO(1)=1.2 *2*; DCO(2)=1.1 *2*.
482.2 *1*	237 *10*	1661.91	19/2$^-$	1179.73	15/2$^-$	Q	Mult.: DCO(1)=0.96 *8*; DCO(2)=0.96 *14*.
485.2 *1*	23 *1*	2175.57	25/2$^+$	1690.52	21/2$^+$		
485.3 *5*	40 *2*	2150.53	23/2$^-$	1665.03	19/2$^-$	Q	Mult.: DCO(1)=0.98 *8*; DCO(2)=0.93 *13*.
485.4 *5*	236 *10*	1665.03	19/2$^-$	1179.73	15/2$^-$	Q	Mult.: DCO(1)=0.97 *7*; DCO(2)=1.1 *2*.
487.6 *1*	252 *11*	2792.67	31/2$^-$	2305.13	27/2$^-$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=0.99 *14*.
488.7 *2*	52 *2*	2150.53	23/2$^-$	1661.91	19/2$^-$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=0.94 *13*.
490.3 *1*	64 *3*	1369.88	(17/2$^-$)	879.58	(13/2$^-$)		
491.4 *1*	824 *35*	1442.75	25/2$^+$	951.33	21/2$^+$	Q	Mult.: DCO(1)=0.97 *8*; DCO(2)=0.96 *14*.
491.9 *1*	578 *25*	1255.74	23/2$^+$	763.97	19/2$^+$	Q	Mult.: DCO(1)=0.99 *8*; DCO(2)=1.0 *1*.
501.2 *1*	75 *3*	1922.08	21/2$^-$	1420.88	17/2$^-$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=0.96 *14*.
507.3 *1*	21 *1*	6412.06		5904.76			
512.7 *1*	17 *3*	512.50	7/2$^-$	0.0	9/2$^+$		
513.8 *1*	12 *1*	4398.37	39/2$^+$	3884.29	35/2$^+$		
523.3 *1*	35 *2*	1779.15	21/2$^-$	1255.74	23/2$^+$		
523.3 *1*	13 *1*	2338.35	25/2$^+$	1815.07	21/2$^+$		
526.0 *3*	11 *1*	4031.14	39/2$^-$	3505.42	35/2$^-$	Q	Mult.: DCO(1)=1.1 *2*; DCO(2)=0.95 *14*.
529.8 *1*	35 *2*	748.94	11/2$^-$	219.20	13/2$^+$		
533.7 *1*	23 *1*	2459.46	27/2$^+$	1925.55	23/2$^+$		
536.0 *1*	28 *1*	3876.3	37/2$^-$	3340.3	33/2$^-$	Q	Mult.: DCO(1)=0.96 *8*; DCO(2)=0.83 *11*.
538.6 *1*	196 *8*	3074.93	33/2$^-$	2536.37	29/2$^-$	Q	Mult.: DCO(1)=0.97 *8*; DCO(2)=0.98 *14*.
544.5 *1*	7 *1*	2754.10	27/2$^+$	2209.62	23/2$^+$		
545.8 *1*	2 *1*	3067.15	(29/2$^+$)	2521.67	31/2$^+$		E_γ: Level-energy difference=545.5.
552.2 *1*	20 *1*	1922.08	21/2$^-$	1369.88	(17/2$^-$)		
570.1 *1*	15 *1*	4075.54	39/2$^-$	3505.42	35/2$^-$	Q	Mult.: DCO(1)=1.1 *2*; DCO(2)=0.91 *13*.
571.2 *1*	35 *2*	2746.64	29/2$^+$	2175.57	25/2$^+$		
574.7 *1*	504 *22*	2017.48	29/2$^+$	1442.75	25/2$^+$	Q	Mult.: DCO(1)=0.98 *8*; DCO(2)=0.97 *14*.
575.2 *1*	10 *1*	3045.88	29/2$^+$	2470.54	25/2$^+$		
584.8 *1*	155 *7*	3377.45	35/2$^-$	2792.67	31/2$^-$	(Q)	Mult.: DCO(1)=0.98 *14*; DCO(2)=0.83 *12*.
588.5 *1*	334 *14*	1844.23	27/2$^+$	1255.74	23/2$^+$	Q	Mult.: DCO(1)=0.98 *8*; DCO(2)=1.1 *2*.
599.3 *1*	14 *2*	4674.95	43/2$^-$	4075.54	39/2$^-$		
599.6 *1*	62 *3*	4716.12	41/2$^+$	4116.61	37/2$^+$		
602.1 *1*	15 *3*	1560.25	15/2$^-$	958.15	13/2$^-$		
603.2 *3*	22 *1*	3986.55	35/2$^{(-)}$	3383.37	(31/2$^-$)		
615.3 *5*	≈7	2459.46	27/2$^+$	1844.23	27/2$^+$		
616.8 *1*	25 *1*	3363.30	33/2$^+$	2746.64	29/2$^+$		
617.8 *1*	31 *1*	3077.32	31/2$^+$	2459.46	27/2$^+$		
620.1 *1*	20 *1*	4496.4	41/2$^-$	3876.3	37/2$^-$	Q	Mult.: DCO(1)=0.89 *13*; DCO(2)=1.1 *2*.
623.7 *1*	9 *1*	3094.25		2470.54	25/2$^+$		
632.5 *1*	131 *6*	3707.40	37/2$^-$	3074.93	33/2$^-$	Q	Mult.: DCO(1)=0.91 *8*; DCO(2)=0.91 *13*.
643.9 *1*	33 *2*	4674.95	43/2$^-$	4031.14	39/2$^-$	Q	Mult.: DCO(1)=0.93 *14*.
653.7 *1*	63 *3*	4031.14	39/2$^-$	3377.45	35/2$^-$	Q	Mult.: DCO(1)=1.1 *1*; DCO(2)=0.93 *13*.

Continued on next page (footnotes at end of table)

^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

$\gamma(^{183}Os)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
656.8 *1*	285 *12*	2674.26	33/2$^+$	2017.48	29/2$^+$	Q	Mult.: DCO(1)=0.98 *8*; DCO(2)=1.1 *2*.
665.0 *1*	10 *1*	5063.45	43/2$^+$	4398.37	39/2$^+$		
669.5 *5*	8 *1*	1925.55	23/2$^+$	1255.74	23/2$^+$		
669.9 *1*	21 *1*	1925.64	23/2$^-$	1255.74	23/2$^+$		
670.4 *1*	15 *1*	3764.62		3094.25			
677.6 *1*	206 *9*	2521.67	31/2$^+$	1844.23	27/2$^+$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=1.1 *2*.
689.0 *5*	4 *1*	3363.30	33/2$^+$	2674.26	33/2$^+$		
689.0 *3*	12 *1*	3765.88	(35/2$^+$)	3077.32	31/2$^+$		
692.5 *1*	7 *1*	4678.97	39/2$^{(-)}$	3986.55	35/2$^{(-)}$		
696.0 *1*	5 *1*	5192.4	45/2$^-$	4496.4	41/2$^-$	Q	Mult.: DCO(1)=0.96 *14*.
698.1 *1*	19 *3*	4075.54	39/2$^-$	3377.45	35/2$^-$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=0.92 *13*.
711.0 *1*	17 *1*	5385.96	(47/2$^-$)	4674.95	43/2$^-$		
715.1 *1*	55 *2*	4422.50	41/2$^-$	3707.40	37/2$^-$	Q	Mult.: DCO(1)=0.94 *13*; DCO(2)=0.95 *13*.
718.7 *1*	15 *1*	3764.62		3045.88	29/2$^+$		
718.8 *1*	6 *2*	3785.50	33/2$^+$	3067.15	(29/2$^+$)		E_γ: Poor fit. Level-energy difference=718.35.
718.9 *5*	11 *1*	1483.07	19/2$^+$	763.97	19/2$^+$		
720.6 *1*	16 *1*	6594.56		5873.91	(47/2,49/2$^-$)		
721.3 *3*	5 *1*	5437.44	45/2$^+$	4716.12	41/2$^+$		
727.2 *2*	≈2	5406.17	(43/2$^-$)	4678.97	39/2$^{(-)}$		
728.9 *5*	3 *1*	2746.64	29/2$^+$	2017.48	29/2$^+$		
730.1 *1*	141 *6*	3404.36	37/2$^+$	2674.26	33/2$^+$	Q	Mult.: DCO(1)=0.98 *14*; DCO(2)=0.95 *13*.
732.2 *5*	21 *1*	2175.57	25/2$^+$	1442.75	25/2$^+$		
737.3 *1*	11 *1*	5904.76		5167.43	(43/2$^+$)		
738.5 *1*	22 *1*	4813.95	43/2$^-$	4075.54	39/2$^-$	Q	Mult.: DCO(1)=0.91 *13*.
738.7 *5*	13 *1*	1690.52	21/2$^+$	951.33	21/2$^+$		
755.1 *1*	30 *1*	4936.76	45/2$^+$	4181.66	41/2$^+$	Q	Mult.: DCO(1)=0.96 *14*; DCO(2)=1.1 *2*.
756.8 *1*	121 *5*	3278.44	35/2$^+$	2521.67	31/2$^+$	Q	Mult.: DCO(1)=1.0 *1*; DCO(2)=0.99 *14*.
761.2 *1*	11 *1*	5697.97	49/2$^+$	4936.76	45/2$^+$	Q	Mult.: DCO(1)=1.1 *2*.
770.1 *1*	8 *1*	5192.60	45/2$^-$	4422.50	41/2$^-$	(Q)	Mult.: DCO(1)=0.89 *13*.
777.3 *1*	61 *3*	4181.66	41/2$^+$	3404.36	37/2$^+$	Q	Mult.: DCO(1)=0.90 *13*; DCO(2)=0.95 *14*.
782.7 *1*	11 *1*	4813.95	43/2$^-$	4031.14	39/2$^-$		
785 *1*	11 *1*	5977.6	(49/2$^-$)	5192.60	45/2$^-$		
787.5 *1*	5 *1*	6173.46	(51/2$^-$)	5385.96	(47/2$^-$)		
803.1 *1*	8 *1*	6280.78	(49/2,51/2$^-$)	5477.77	(45/2,47/2$^-$)		
803.9 *1*	13 *1*	5617.86	(47/2$^-$)	4813.95	43/2$^-$		
810.0 *1*	46 *2*	4088.43	39/2$^+$	3278.44	35/2$^+$	Q	Mult.: DCO(1)=0.99 *8*.
819.6 *2*	11 *1*	1583.52	17/2$^-$	763.97	19/2$^+$		
823.3 *1*	5 *1*	6697.35	(51/2,53/2$^-$)	5873.91	(47/2,49/2$^-$)		
827.8 *1*	48 *2*	1779.15	21/2$^-$	951.33	21/2$^+$		Mult.: DCO(1)=0.96 *8*; interpreted by authors as ΔJ=0 transition.
841.4 *1*	18 *1*	3363.30	33/2$^+$	2521.67	31/2$^+$		
843.0 *3*	13 *1*	6460.9	(51/2$^-$)	5617.86	(47/2$^-$)		
843.3 *1*	15 *1*	4931.74	(43/2$^+$)	4088.43	39/2$^+$		
847.0 *1*	32 *1*	3383.37	(31/2$^-$)	2536.37	29/2$^-$		
863.7 *1*	10 *1*	1815.07	21/2$^+$	951.33	21/2$^+$		
895.6 *1*	44 *2*	2338.35	25/2$^+$	1442.75	25/2$^+$		
898.1 *3*	15 *1*	1661.91	19/2$^-$	763.97	19/2$^+$		
902.4 *1*	6 *1*	2746.64	29/2$^+$	1844.23	27/2$^+$		
911.7 *1*	12 *1*	3986.55	35/2$^{(-)}$	3074.93	33/2$^-$	D	Mult.: DCO(1)=0.50 *7*.
920.0 *1*	25 *1*	2175.57	25/2$^+$	1255.74	23/2$^+$	D+Q	Mult.: DCO(1)=0.23 *1*.
926.7 *1*	24 *1*	1690.52	21/2$^+$	763.97	19/2$^+$	D+Q	Mult.: DCO(1)=0.34 *2*.
941.3 *1*	37 *2*	1483.07	19/2$^+$	541.52	17/2$^+$	D+Q	Mult.: DCO(1)=0.47 *2*; DCO(2)=0.56 *8*.
954.1 *1*	17 *1*	2209.62	23/2$^+$	1255.74	23/2$^+$		Mult.: DCO(1)=1.1 *1*; interpreted by authors as ΔJ=0 transition.
971.6 *1*	16 *1*	4678.97	39/2$^{(-)}$	3707.40	37/2$^-$	D	Mult.: DCO(1)=0.47 *7*.

Continued on next page (footnotes at end of table)

^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)

γ(^{183}Os) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
974.6 *1*	37 *2*	1925.55	$23/2^+$	951.33	$21/2^+$	D+Q	E_γ: Level-energy difference=974.3. Mult.: DCO(1)=0.44 *12*; DCO(2)=0.33 *10*.
1015.0 *1*	22 *1*	1779.15	$21/2^-$	763.97	$19/2^+$	D	Mult.: DCO(1)=0.63 *5*.
1016.7 *1*	25 *1*	2459.46	$27/2^+$	1442.75	$25/2^+$		
1042.3 *1*	48 *2*	1583.52	$17/2^-$	541.52	$17/2^+$		E_γ: Level-energy difference=1042.0. Mult.: DCO(1)≈0.8; interpreted by authors as ΔJ=0 transition..
1049.9 *1*	8 *1*	3067.15	$(29/2^+)$	2017.48	$29/2^+$		
1051.1 *1*	31 *2*	1815.07	$21/2^+$	763.97	$19/2^+$		
1052.5 *1*	11 *1*	6594.56		5541.90			
1059.9 *1*	16 *1*	3077.32	$31/2^+$	2017.48	$29/2^+$	D+Q	Mult.: DCO(1)=0.39 *2*.
1079.0 *1*	8 *1*	5167.43	$(43/2^+)$	4088.43	$39/2^+$		Mult.: DCO(1)=0.89 *13*.
1082.6 *1*	16 *1*	2338.35	$25/2^+$	1255.74	$23/2^+$	D+Q	Mult.: DCO(1)=0.45 *3*.
1091.6 *1*	4	3765.88	$(35/2^+)$	2674.26	$33/2^+$		I_γ: uncertainty of 0 in 2001Sh41 seems to be a misprint; it should presumably be 1 as for other transitions of comparable intensity.
1107.5 *1*	27 *1*	1483.07	$19/2^+$	375.48	$15/2^+$	Q	Mult.: DCO(1)=0.92 *6*.
1111	≈2	3785.50	$33/2^+$	2674.26	$33/2^+$		
1120.4 *5*	≈2	4398.37	$39/2^+$	3278.44	$35/2^+$	Q	Mult.: DCO(1)=1.0 *2*.
1149.0 *1*	24 *1*	1690.52	$21/2^+$	541.52	$17/2^+$	Q	Mult.: DCO(1)=0.99 *5*.
1161.8 *1*	17 *1*	1925.55	$23/2^+$	763.97	$19/2^+$	Q	Mult.: DCO(1)=0.91 *5*.
1184.8 *1*	17 *1*	1560.25	$15/2^-$	375.48	$15/2^+$	(D)	Mult.: DCO(1)=1.0 *2*; interpreted as D, ΔJ=0 transition.
1203.8 *1*	12 *1*	2459.46	$27/2^+$	1255.74	$23/2^+$		Mult.: DCO(1)=0.85 *5*.
1207.6 *1*	13 *1*	1583.52	$17/2^-$	375.48	$15/2^+$		E_γ: Poor fit. Level-energy difference=1209.5.
1222.8 *1*	7 *1*	3067.15	$(29/2^+)$	1844.23	$27/2^+$	D+Q	Mult.: DCO(1)=0.27 *3*.
1224.1 *1*	42 *2*	2175.57	$25/2^+$	951.33	$21/2^+$	Q	Mult.: DCO(1)=0.94 *3*.
1233.2 *2*	4 *1*	3077.32	$31/2^+$	1844.23	$27/2^+$		
1243.8 *4*	≈1	3765.88	$(35/2^+)$	2521.67	$31/2^+$		
1258.2 *1*	15 *1*	2209.62	$23/2^+$	951.33	$21/2^+$	D+Q	Mult.: DCO(1)=0.38 *2*.
1263.9 *1*	6 *1*	3785.50	$33/2^+$	2521.67	$31/2^+$		
1273.6 *1*	12 *1*	1815.07	$21/2^+$	541.52	$17/2^+$		
1303.9 *1*	20 *1*	2746.64	$29/2^+$	1442.75	$25/2^+$	Q	Mult.: DCO(1)=0.93 *4*.
1341.0 *1*	≈1	1560.25	$15/2^-$	219.20	$13/2^+$		
1345.9 *1*	21 *1*	3363.30	$33/2^+$	2017.48	$29/2^+$		
1387.0 *1*	17 *1*	2338.35	$25/2^+$	951.33	$21/2^+$	Q	Mult.: DCO(1)=1.4 *4*.
1442.4 *1*	4 *1*	4116.61	$37/2^+$	2674.26	$33/2^+$		
1445.5 *1*	26 *1*	2209.62	$23/2^+$	763.97	$19/2^+$	(Q)	Mult.: DCO(1)=1.2 *3*.
1575.2 *1*	≈2	3419.53	$(29/2^+,31/2)$	1844.23	$27/2^+$		
1586.2 *1*	3 *1*	3430.57	$(29/2,31/2^+)$	1844.23	$27/2^+$		
1767.5 *1*	6 *1*	3785.50	$33/2^+$	2017.48	$29/2^+$	Q	E_γ: Poor fit. Level-energy difference=1768.0. Mult.: DCO(1)=0.98 *15*.

[†] Based on measurements of DCO ratios, where θ=37° (or 143°) and 79° (or 101°) for DCO(1) (TSUKUBA data) and θ=32° (or 148°) and 90° for DCO(2) (from JAERI data). Expected ratios are ≈1 for Q, ΔJ=2 (or D, ΔJ=0) transitions and ≈0.6 for D, ΔJ=1 transitions; the gating transitions were Q, ΔJ=2.

[‡] 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.

$^{170}Er(^{18}O,5n\gamma)$ 2001Sh41,1998Sh07

Level Scheme

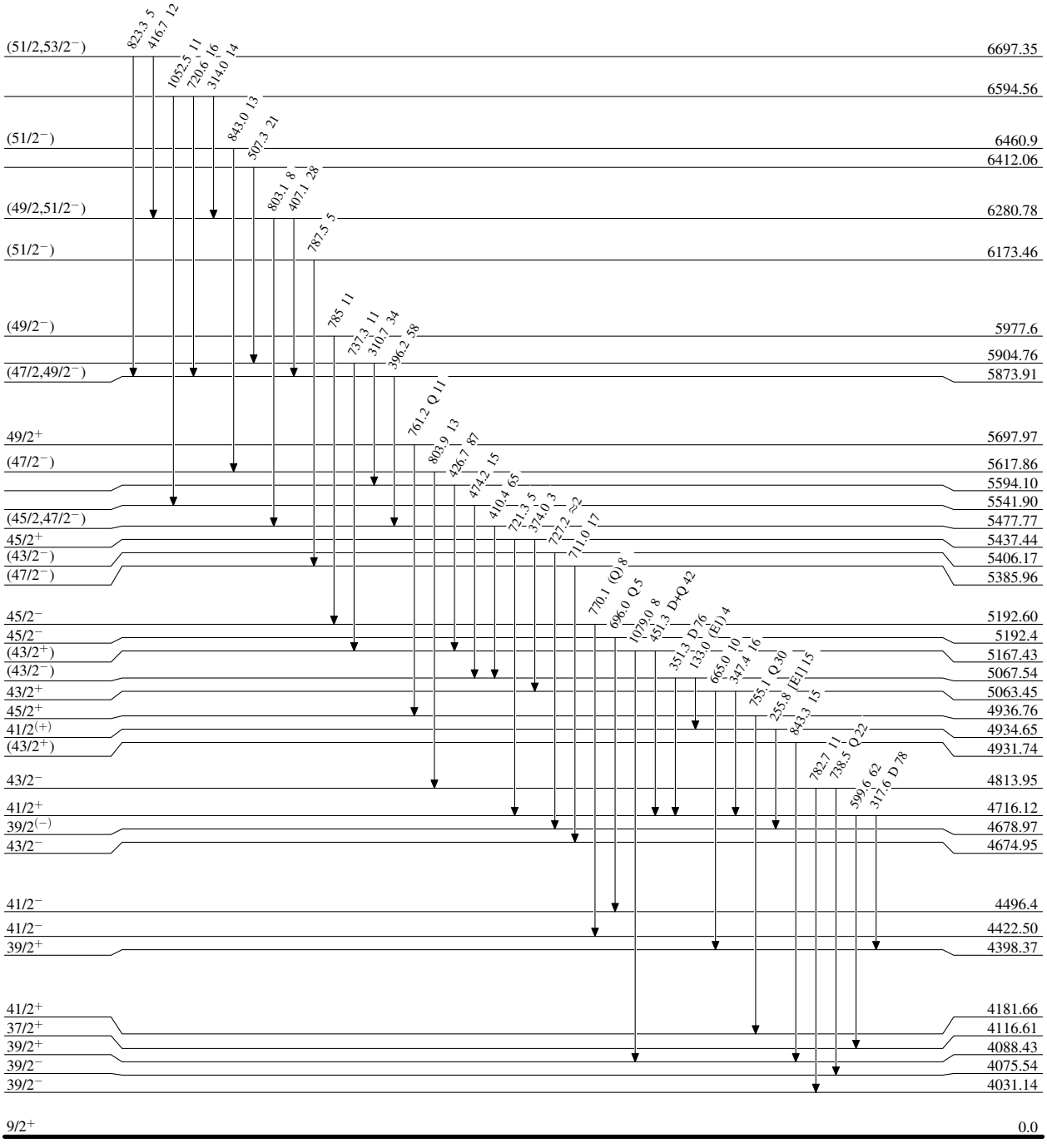
Intensities: Relative I_γ

Legend

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

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

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



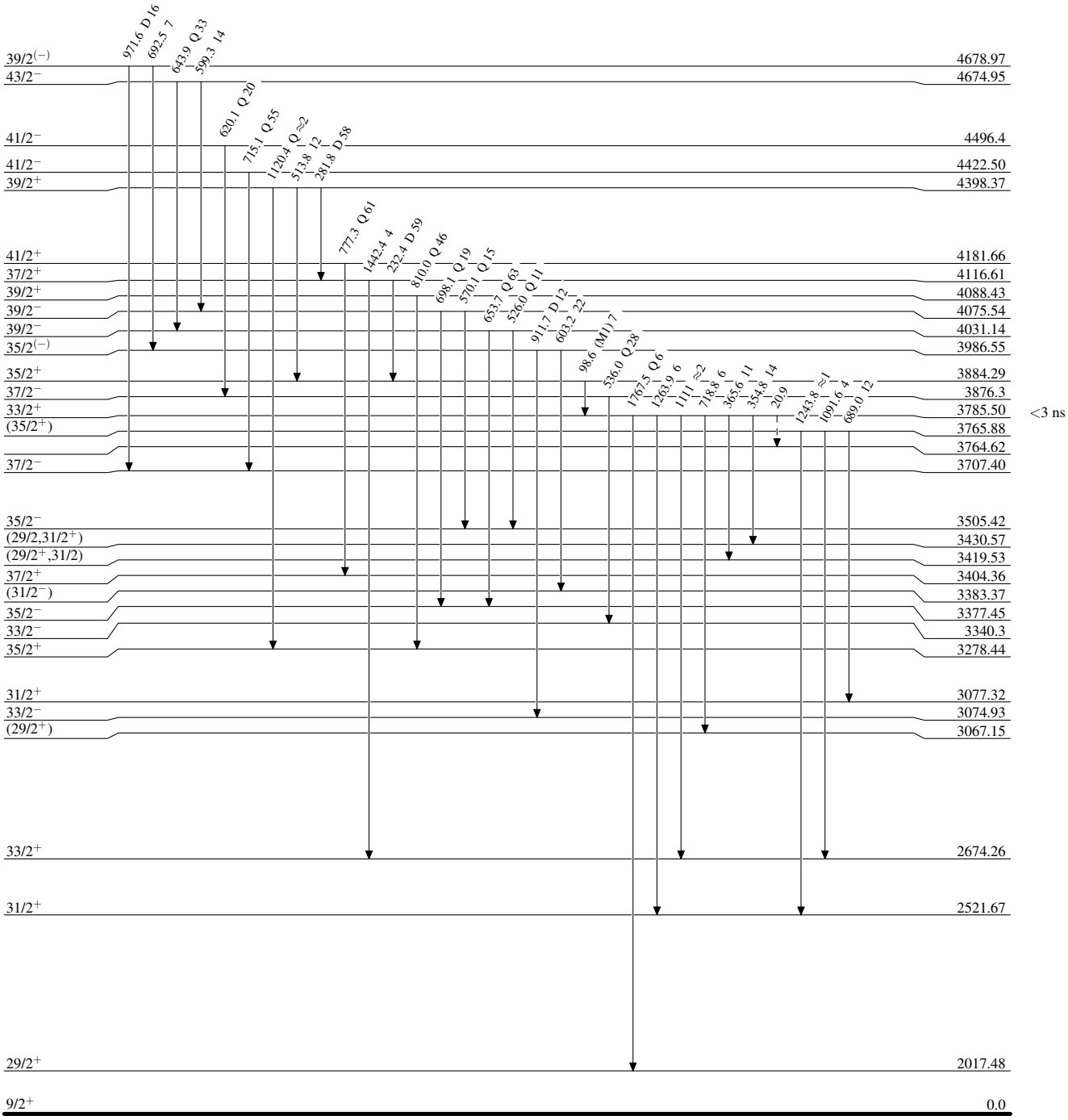
$^{183}_{76}Os_{107}$

^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07

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)



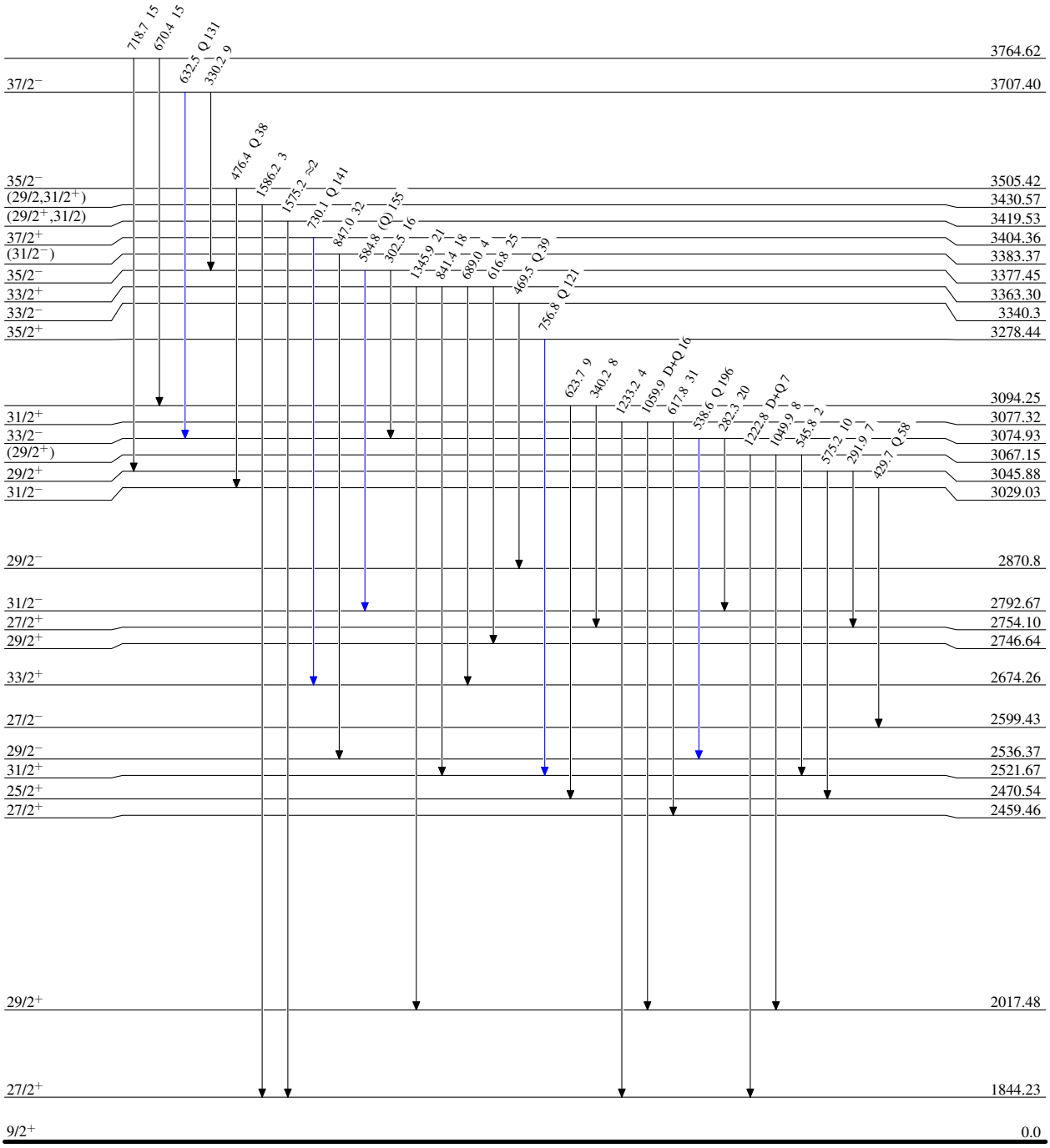
$^{183}_{76}Os_{107}$

$^{170}Er(^{18}O,5n\gamma)$ 2001Sh41,1998Sh07

Level Scheme (continued)

Intensities: Relative I_γ

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



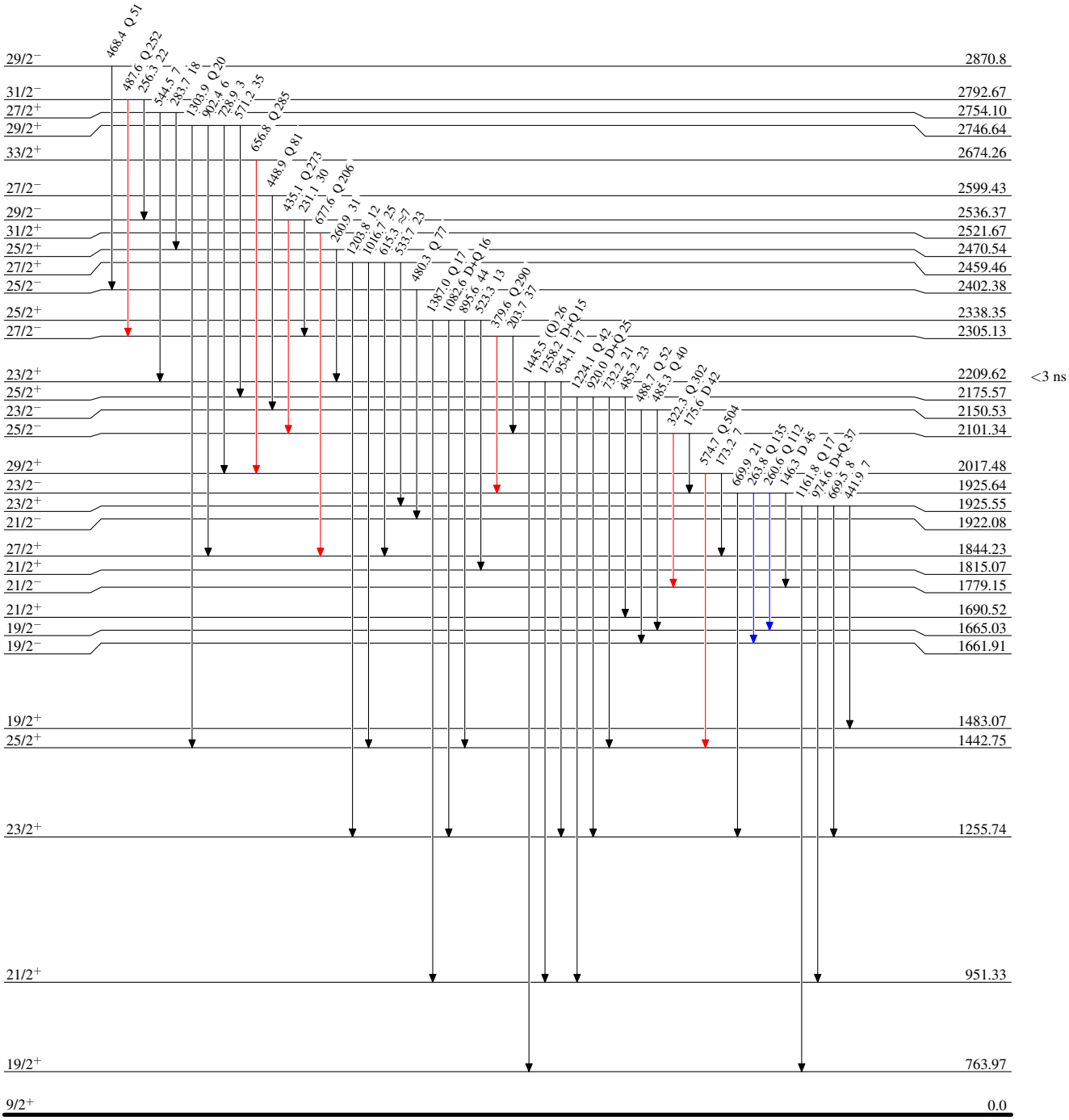
$^{183}_{76}Os_{107}$

$^{170}Er(^{18}O,5n\gamma)$ 2001Sh41,1998Sh07

Level Scheme (continued)

Intensities: Relative I_γ

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



$^{183}_{76}Os_{107}$

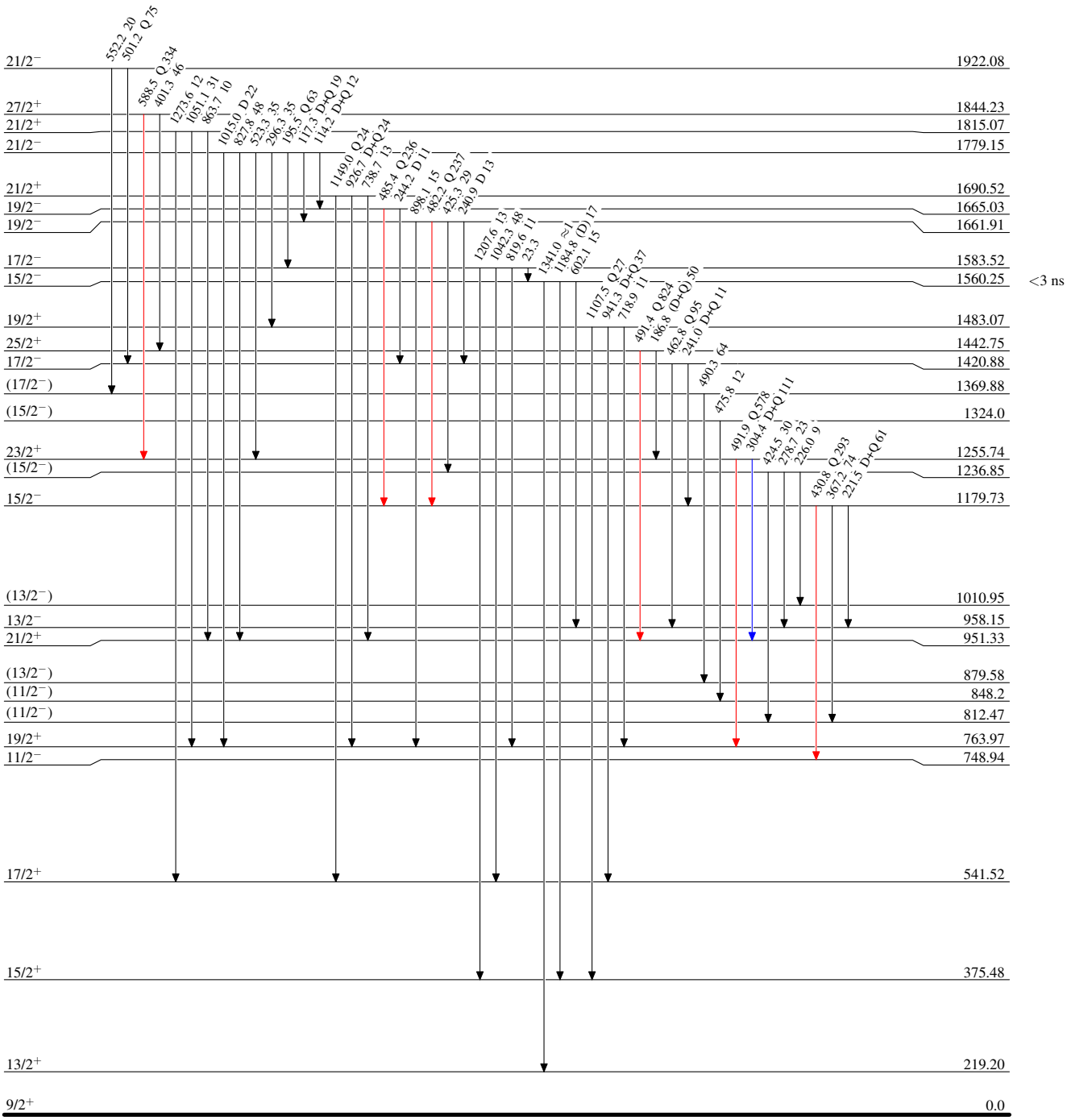
$^{170}Er(^{18}O,5n\gamma)$ **2001Sh41,1998Sh07**

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)

Level Scheme (continued)

Intensities: Relative I_γ



$^{183}_{76}Os_{107}$

$^{170}Er(^{18}O,5n\gamma)$ 2001Sh41,1998Sh07

Level Scheme (continued)

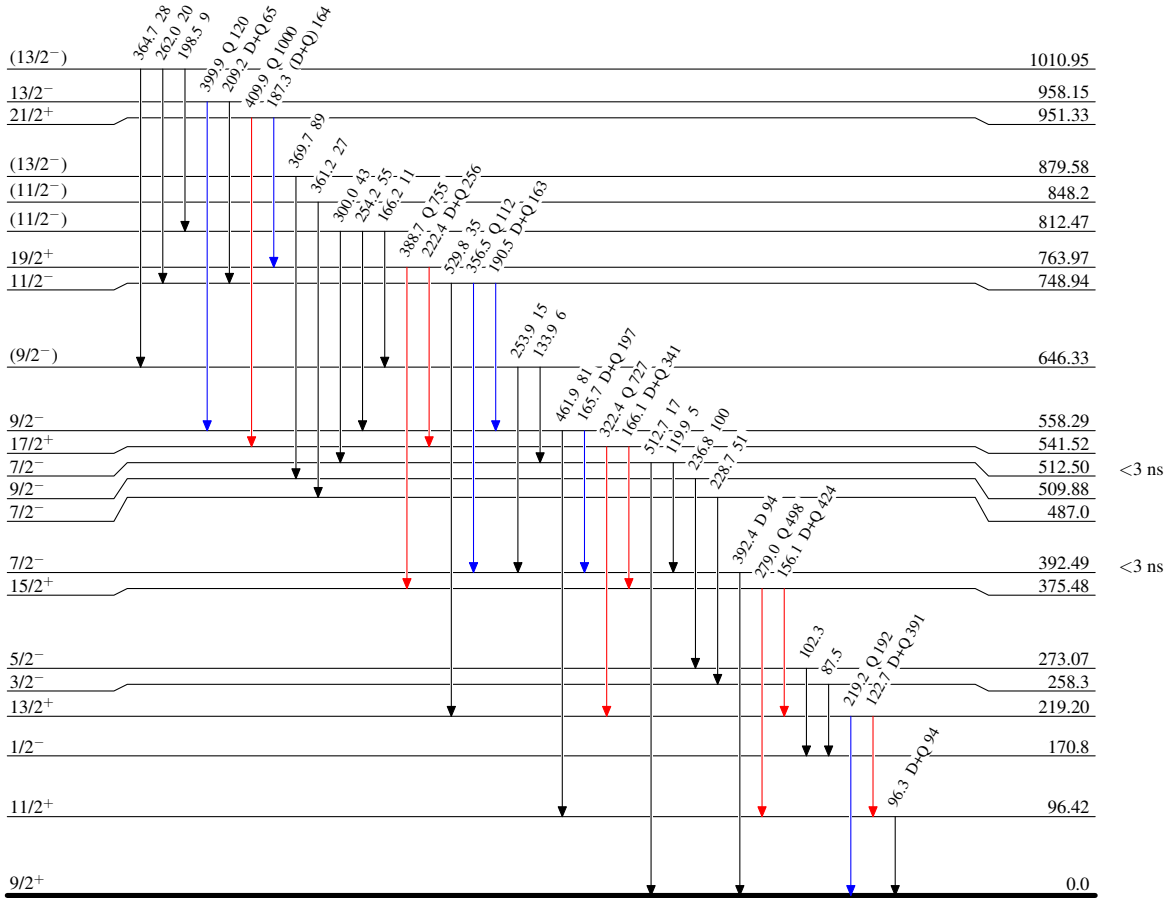
Intensities: Relative I_γ

Legend

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

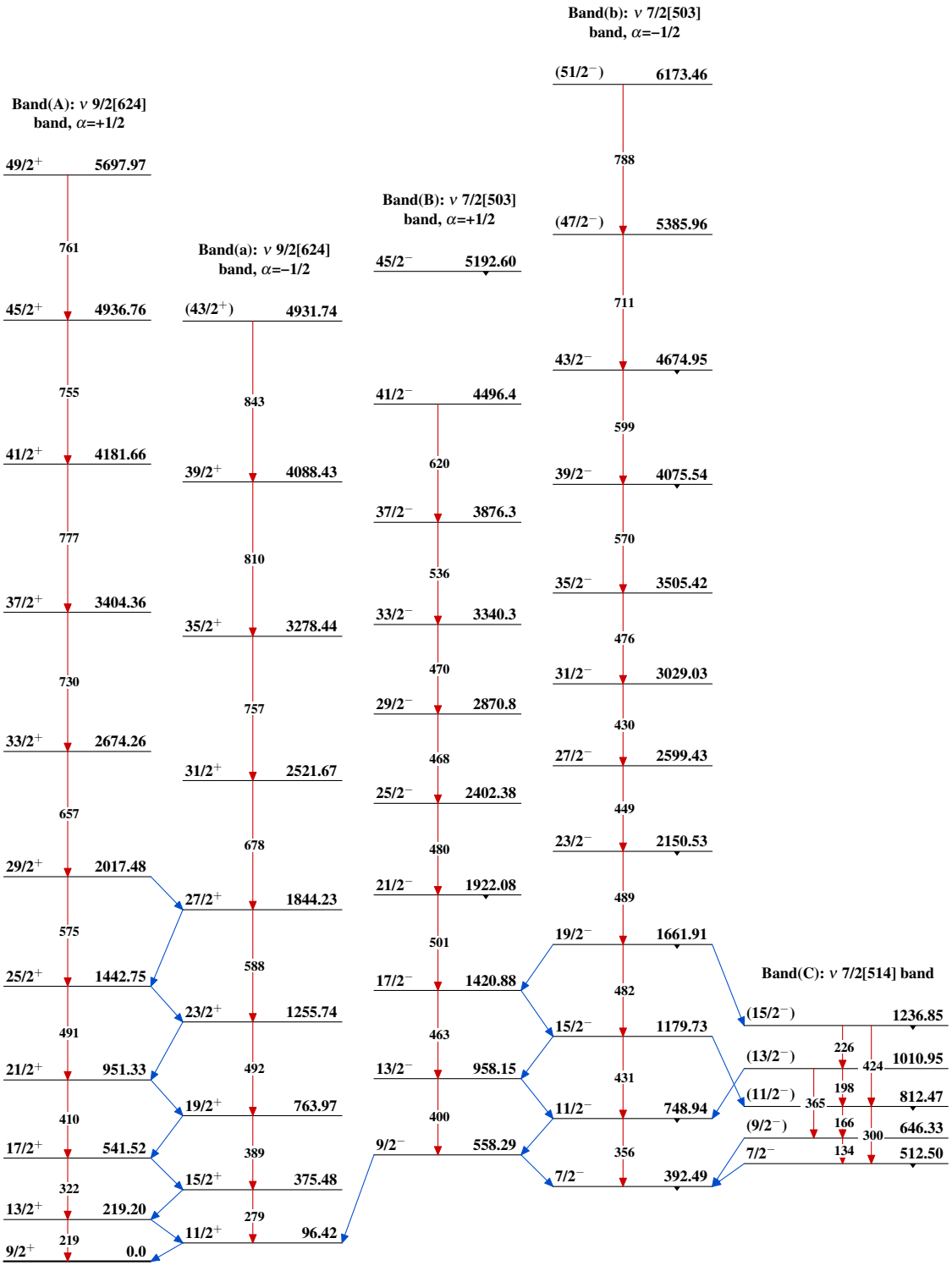
$I_\gamma < 10\% \times I_\gamma^{max}$

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



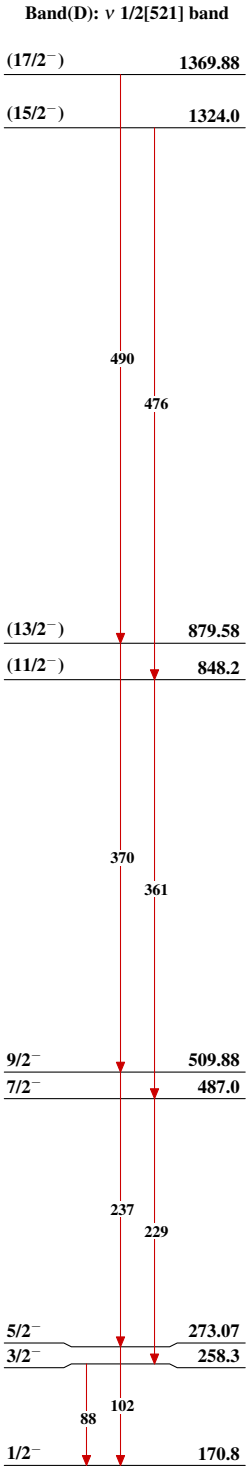
$^{183}_{76}Os_{107}$

$^{170}Er(^{18}O,5n\gamma)$ 2001Sh41,1998Sh07



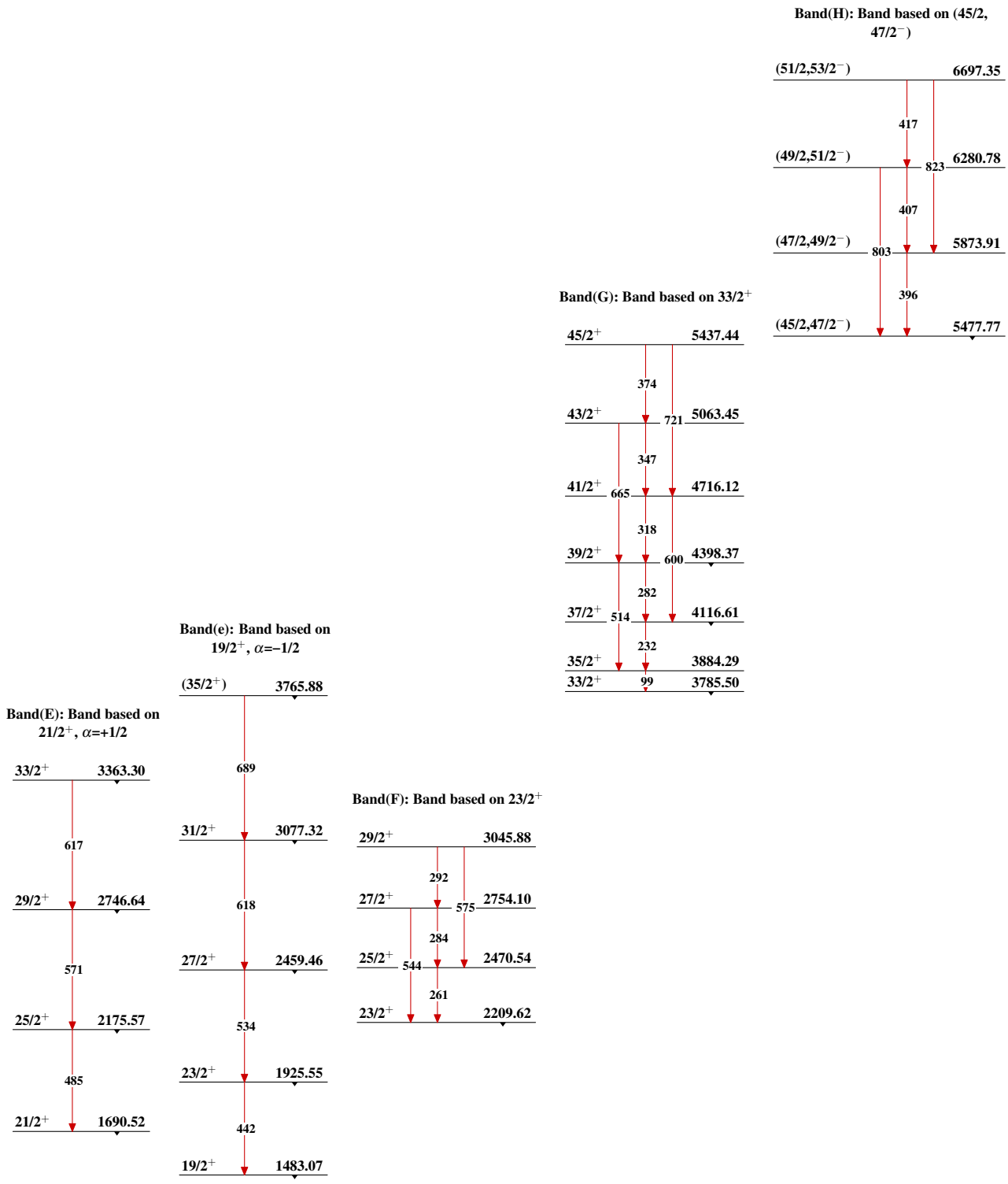
$^{183}_{76}Os_{107}$

^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)



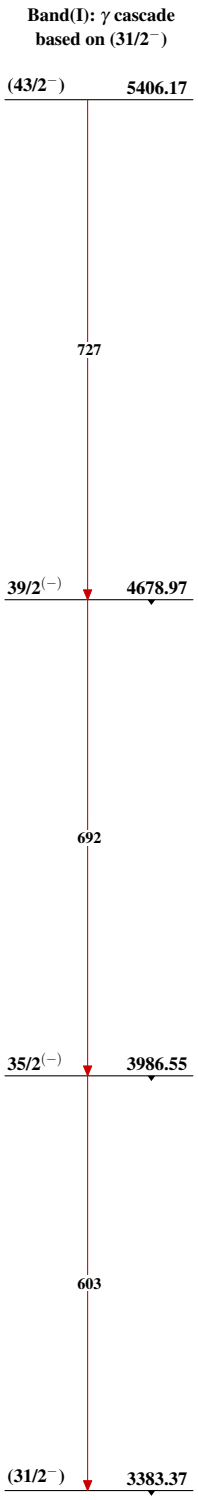
$^{183}_{76}Os_{107}$

$^{170}Er(^{18}O,5n\gamma)$ 2001Sh41,1998Sh07 (continued)



$^{183}_{76}Os_{107}$

^{170}Er(^{18}O,5nγ) 2001Sh41,1998Sh07 (continued)



$^{183}_{76}Os_{107}$