^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16

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

Parent: ^{183}Ta: E=0.0; $J^\pi=7/2^+$; $T_{1/2}$=5.1 d *1*; Q(β^-)=1071.1 *17*; %β^- decay=100.0

Other references: 1955Mu19, 1962Se10, 1964Da15, 1965Al08, 1970Gr13, 1970Ne11, 1972Bb21.

Total energy release for this decay scheme is 1038 *30* cf. QxBR=1071.1 *17*.

^{183}W Levels

E(level)[†]	J^π[‡]	$T_{1/2}$	Comments
0.0	$1/2^-$		
46.4839 *8*	$3/2^-$		
99.0792 *10*	$5/2^-$		
207.0107 *15*	$7/2^-$		
208.8051 *17*	$3/2^-$		
291.7224 *17*	$5/2^-$		
308.9457 *20*	$9/2^-$		
309.492 *4*	$11/2^+$	5.30 s *8*	%IT=100 $T_{1/2}$: from Adopted Levels.
412.0928 *20*	$7/2^-$		
453.0685 *19*	$7/2^-$	18.6 ns *4*	$T_{1/2}$: unweighted average of 18.4 ns *4* (1967Ma28), 18.0 ns *4* (1967Me01), and 19.5 ns *3* (1971Ho14) (the weighted average of these data is 18.8 ns *5*).
595.339 *7*	$9/2^-$		
622.77 *3*	$(9/2)^+$		

[†] From least-squares fit to Eγ.
[‡] From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
470 *30*	622.77	6.2 *9*	7.67 *6*	av Eβ=132.18 *57* E(decay): from 1966Mo17.
(475.8 *17*)	595.339	0.94 *11*	8.47 *4*	av Eβ=141.38 *58*
615 *10*	453.0685	93 *6*	6.88 *4*	av Eβ=190.63 *61* E(decay): from 1966Mo17.
(659.0 *17*)	412.0928	0.5 *10*	9.2 *9*	av Eβ=205.27 *62*

[†] From intensity imbalance At level.
[‡] Absolute intensity per 100 decays.

^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16 (continued)

$\gamma(^{183}W)$

Iγ normalization: assuming %Iβ=100 for β feeding to levels at 453-, 595-, and 623-keV; this is consistent with non-observance of β′s to g.s. (ΔJ=3) (1955Mu19) and the intensity balances through the E≤412 levels. Iγ normalization=0.308 *24* based on Σ (I(γ+ce) to g.s.)=100.
Additional information 1.

E_γ[‡]	I_γ[#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[&]	α[†]	Comments
40.976 *1*	1.72 *15*	453.0685	7/2−	412.0928	7/2−	M1		11.01	α(L)=8.52 *12*; α(M)=1.94 *3* α(N)=0.467 *7*; α(O)=0.0761 *11*; α(P)=0.00540 *8* E_γ: from 1965Gr16. I_γ: weighted average of 1.76 *18* (1964Da15), 1.6 *3* (1965Ed01). Mult.: L1:L3=11.5:0.8 (1955Mu19); L1:L3=10:0.32 (1965Al08).
46.4838 *8*	19.2 *24*	46.4839	3/2−	0.0	1/2−	M1+E2	−0.084 *13*	8.4 *3*	α(L)=6.46 *22*; α(M)=1.49 *6* α(N)=0.357 *13*; α(O)=0.0572 *18*; α(P)=0.00370 *6* relative Eγ: 46.48384 *16* (1975Bo05). Other Eγ: 46.484 *2* (1970Ne11). I_γ: unweighted average of 21.5 *15* (1964Da15), 16.8 *10* (1965Ed01). Mult.: L1:L2:L3=100:12.8:4.8 (1972Bb21); L1:L2:L3=87:12.7:6.0 (1965Al08); L1:L2:L3=7.4:1.05:0.5, α(M1)exp=1.5, α(N1)exp=0.45 (1955Mu19). %Iγ=5.9 *4* assuming adopted decay scheme normalization.
52.5952 *9*	19.4 *21*	99.0792	5/2−	46.4839	3/2−	M1+E2	−0.127 *21*	6.2 *4*	α(L)=4.8 *3*; α(M)=1.11 *7* α(N)=0.267 *16*; α(O)=0.0422 *21*; α(P)=0.00256 *4* relative Eγ: 52.59515 *12* (1975Bo05). Other Eγ: 52.599 *3* (1970Ne11). I_γ: unweighted average of 21.5 *12* (1964Da15), 17.3 *11* (1965Ed01). Mult.: L1:L2:L3=100:15.7:9.6 (1972Bb21); L1:L2:L3=60:10.7:6.9 (1965Al08); L1:L2:L3=3.8:0.9:0.55, α(M1)exp=0.9, α(N1)exp=0.25 (1955Mu19); L1:L2:L3=2.3:28:25 (1965Al08).
82.918 *2*	1.61 *17*	291.7224	5/2−	208.8051	3/2−	M1+E2	+0.64 *3*	8.21	α(K)=5.10 *13*; α(L)=2.37 *10*; α(M)=0.580 *24* α(N)=0.138 *6*; α(O)=0.0199 *8*; α(P)=0.000518 *14* E_γ: from 1965Gr16. I_γ: unweighted average of 1.44 *8* (1964Da15), 1.78 *13* (1965Ed01). Mult.: L1:L2=80:100 (1972Bb21); α(L1)exp=1.4 (1955Mu19); L1:L2=0.94:1.1 (1965Al08).
84.711 *2*	4.98 *23*	291.7224	5/2−	207.0107	7/2−	M1+E2	+0.15 *1*	7.65	α(K)=6.22 *9*; α(L)=1.102 *20*; α(M)=0.254 *5* α(N)=0.0610 *12*; α(O)=0.00977 *17*; α(P)=0.000633 *9* E_γ: from 1965Gr16. I_γ: weighted average of 5.1 *4* (1964Da15), 4.9 *3* (1965Ed01). Mult.: L1:L2:L3=100:21:15 (1972Bb21); α(L1)exp=1.1, α(M1)exp=0.2 (1955Mu19). L1:L2=4.1:0.75 (1965Al08).
99.0793 *17*	24.9 *18*	99.0792	5/2−	0.0	1/2−	E2		4.05	α(K)=0.893 *13*; α(L)=2.39 *4*; α(M)=0.605 *9* α(N)=0.1425 *20*; α(O)=0.0195 *3*; α(P)=7.25×10^{-5} *11*

$^{183}_{74}W_{109}$-2

^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16 (continued)

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

E_γ [‡]	I_γ [#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [&]	α [†]	Comments
									relative Eγ: 99.07932 *9* (1975Bo05). I_γ: unweighted average of 26.6 *15* (1964Da15), 23.1 *14* (1965Ed01). Mult.: α(K)exp=1.4, L2:L3=1.55:1.45, α(M3)exp=0.7, α(L23)exp=0.2 (1955Mu19); L1:L2:L3=8.2:100:89 (1972Bb21).
101.934 *2*	1.21 *5*	308.9457	9/2$^-$	207.0107	7/2$^-$	M1+E2	−0.21 *3*	4.46	α(K)=3.61 *7*; α(L)=0.657 *21*; α(M)=0.152 *6* α(N)=0.0365 *13*; α(O)=0.00581 *17*; α(P)=0.000364 *7* E_γ: from 1965Gr16. I_γ: weighted average of 1.22 *7* (1964Da15), 1.3 *1* (1965Ed01), 1.12 *9* (1965Gr16). Mult.: α(K)exp=5.4, L2:L3=1.55:1.45 (1955Mu19).
102.481 *3*	0.57 *7*	309.492	11/2$^+$	207.0107	7/2$^-$	M2		39.2	α(K)=27.3 *4*; α(L)=8.97 *13*; α(M)=2.22 *4* α(N)=0.540 *8*; α(O)=0.0855 *12*; α(P)=0.00514 *8* E_γ: from 1965Gr16. I_γ: unweighted average of 0.51 *3* (1964Da15), 0.71 *8* (1965Ed01), 0.48 *4* (1965Gr16). Mult.: K:L1:L3=13.0 *2*:2.8 *2*:0.6 *1* (1972Bb21); α(K)exp=^{35}; K:L1=35:6.0 (1955Mu19); L1:L3=4.4:1.1 (1965Al08). δ(M2,E3)=0.000 *18* from subshell ratios from 1972Bb21.
103.147 *5*	0.57 *22*	412.0928	7/2$^-$	308.9457	9/2$^-$	[M1,E2]		3.9 *5*	α(K)=2.2 *14*; α(L)=1.3 *7*; α(M)=0.32 *19* α(N)=0.07 *5*; α(O)=0.011 *6*; α(P)=0.00022 *15* E_γ: from 1965Gr16. I_γ: unweighted average of 0.35 *2* (1964Da15), 1.02 *11* (1965Ed01), 0.35 *4* (1965Gr16).
107.9310 *18*	41 *3*	207.0107	7/2$^-$	99.0792	5/2$^-$	M1+E2	−0.31 *5*	3.73	α(K)=2.95 *8*; α(L)=0.60 *4*; α(M)=0.140 *9* α(N)=0.0336 *19*; α(O)=0.00526 *25*; α(P)=0.000297 *9* relative Eγ: 107.93096 *11* (1975Bo05). I_γ: unweighted average of 44.1 *22* (1964Da15), 37.2 *22* (1965Ed01). Mult.: L1:L2=100:20.1 (1972Bb21); α(K)exp=3.8, K:L1=3.8:0.6, α(M1)exp=0.15, α(N1)exp=0.04 (1955Mu19); L1:L2:L3=16.3:3.4:1.2 (1965Al08).
109.726 *3*	2.23 *13*	208.8051	3/2$^-$	99.0792	5/2$^-$	M1+E2	+0.139 *22*	3.62 *6*	α(K)=2.98 *5*; α(L)=0.499 *10*; α(M)=0.1145 *24* α(N)=0.0275 *6*; α(O)=0.00445 *8*; α(P)=0.000301 *5* E_γ: from 1965Gr16. I_γ: weighted average of 2.36 *12* (1964Da15), 2.10 *12* (1965Ed01). L1:L2=1.3:0.17 (1965Al08).
120.373 *3*	0.245 *15*	412.0928	7/2$^-$	291.7224	5/2$^-$	M1+E2	≈0.38	≈2.68	α(K)≈2.10; α(L)≈0.445; α(M)≈0.1043 α(N)≈0.0250; α(O)≈0.00388; α(P)≈0.000210 E_γ: from 1965Gr16.

$^{183}_{74}W_{109}$-3

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

E_γ [‡]	I_γ [#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [&]	α [†]	Comments
142.270 *6*	1.28 *12*	595.339	9/2$^-$	453.0685	7/2$^-$	M1+E2	0.3 *1*	1.68 *5*	I_γ: weighted average of 0.23 *2* (1964Da15), 0.26 *2* (1965Ed01). Mult.,δ: from α(K)exp=2.1 (1955Mu19). α(K)=1.36 *6*; α(L)=0.248 *14*; α(M)=0.057 *4* α(N)=0.0137 *9*; α(O)=0.00219 *10*; α(P)=0.000136 *7* E_γ: from 1965Gr16.
144.1217 *24*	9.4 *3*	453.0685	7/2$^-$	308.9457	9/2$^-$	M1+E2	+0.07 *3*	1.670	I_γ: unweighted average of 1.40 *6* (1964Da15), 1.03 *6* (1965Ed01), 1.4 *1* (1965Gr16). Mult.: α(L1)exp=0.35 (1955Mu19); L1:L2=0.19:0.034 (1965Al08). α(K)=1.384 *20*; α(L)=0.221 *4*; α(M)=0.0504 *8* α(N)=0.01214 *19*; α(O)=0.00198 *3*; α(P)=0.0001395 *21* relative Eγ: 144.12172 *28* (1975Bo05).
160.5260 *27*	10.9 *3*	207.0107	7/2$^-$	46.4839	3/2$^-$	E2		0.659	I_γ: weighted average of 9.5 *4* (1964Da15), 9.3 *6* (1965Ed01). Mult.: α(K)exp=1.65, K:L1=1.65:0.30, α(M1)exp=0.10 *1* (1955Mu19). L1:L2=1.85:0.18 (1965Al08). α(K)=0.302 *5*; α(L)=0.271 *4*; α(M)=0.0678 *10* α(N)=0.01601 *23*; α(O)=0.00223 *4*; α(P)=2.30×10^{-5} *4* relative Eγ: 160.5260 *5* (1975Bo05).
161.3439 *27*	33.4 *13*	453.0685	7/2$^-$	291.7224	5/2$^-$	M1+E2	≈0.2	≈1.194	I_γ: weighted average of 11.1 *4* (1964Da15), 10.7 *5* (1965Ed01). Mult.: L1:L2:L3=20.2:100:74.2 (1972Bb21); α(K)exp=0.4 (1955Mu19); L1:L2:L3=0.35:1.35:0.96 (1965Al08). α(K)≈0.982; α(L)≈0.1638; α(M)≈0.0375 α(N)≈0.00903; α(O)≈0.001458; α(P)≈9.87×10^{-5} relative Eγ: 161.34391 *7* (1975Bo05).
162.3211 *27*	18.3 *7*	208.8051	3/2$^-$	46.4839	3/2$^-$	M1+E2	+0.41 *1*	1.115	I_γ: weighted average of 34.6 *14* (1964Da15), 32.0 *15* (1965Ed01). Mult.: L1:L2=100:15.4 (1972Bb21); α(K)exp=1.15 (1955Mu19); L1:L2=4.30:0.50 (1965Al08). α(K)=0.892 *14*; α(L)=0.1716 *25*; α(M)=0.0399 *6* α(N)=0.00957 *14*; α(O)=0.001509 *22*; α(P)=8.89×10^{-5} *14* relative Eγ: 162.32112 *27* (1975Bo05).
192.643 *6*	1.33 *4*	291.7224	5/2$^-$	99.0792	5/2$^-$	M1+E2	+0.56 *5*	0.647 *16*	I_γ: weighted average of 18.9 *8* (1964Da15), 17.6 *8* (1965Ed01). Mult.: L1:L2=100:20.2 (1972Bb21); α(K)exp=1.10 (1955Mu19); L1:L2:L3=1.8:0.37:0.20 (1965Al08). α(K)=0.512 *16*; α(L)=0.1034 *17*; α(M)=0.0242 *5* α(N)=0.00579 *11*; α(O)=0.000906 *14*; α(P)=5.06×10^{-5} *17* E_γ: from 1965Gr16.
203.284 *8*	1.45 *4*	412.0928	7/2$^-$	208.8051	3/2$^-$	E2		0.292	I_γ: weighted average of 1.35 *4* (1964Da15), 1.25 *8* (1965Ed01). Mult.: α(K)exp=0.65 (1955Mu19); L1:L2:L3=0.06:0.02:0.01 (1965Al08). α(K)=0.1615 *23*; α(L)=0.0991 *14*; α(M)=0.0246 *4* α(N)=0.00583 *9*; α(O)=0.000822 *12*; α(P)=1.283×10^{-5} *18* E_γ: from 1965Gr16.
205.085 *7*	3.34 *12*	412.0928	7/2$^-$	207.0107	7/2$^-$	M1+E2	0.18 *6*	0.611 *12*	I_γ: weighted average of 1.47 *5* (1964Da15), 1.40 *9* (1965Ed01). Mult.: α(K)exp=0.65 (1955Mu19); L1:L2=0.026:0.056 (1965Al08). α(K)=0.505 *11*; α(L)=0.0819 *12*; α(M)=0.0187 *3*

$^{183}_{74}W_{109}$-4

^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16 (continued)

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

E_γ[‡]	I_γ[#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[&]	α[†]	Comments
									α(N)=0.00450 *7*; α(O)=0.000730 *11*; α(P)=5.07×10^{-5} *12* E_γ: from 1965Gr16. I_γ: weighted average of 3.4 *1* (1964Da15), 3.1 *2* (1965Ed01). Mult.: α(K)exp=0.6, K:L1=0.6:0.13 (1955Mu19); L1:L3=0.20:0.006 (1965Al08).
208.810 *7*	2.28 *9*	208.8051	3/2$^-$	0.0	1/2$^-$	M1+E2	−0.5 *1*	0.527 *23*	α(K)=0.423 *23*; α(L)=0.0797 *14*; α(M)=0.0185 *4* α(N)=0.00444 *9*; α(O)=0.000702 *11*; α(P)=4.19×10^{-5} *25* E_γ: from 1965Gr16. I_γ: weighted average of 2.28 *9* (1964Da15), 2.3 *4* (1965Ed01). Mult.: α(K)exp=0.7 (1955Mu19); L1:L2:L3=0.14:0.03:0.02 (1965Al08).
209.867 *4*	17.0 *5*	308.9457	9/2$^-$	99.0792	5/2$^-$	E2		0.262	α(K)=0.1482 *21*; α(L)=0.0868 *13*; α(M)=0.0216 *3* α(N)=0.00510 *8*; α(O)=0.000722 *11*; α(P)=1.185×10^{-5} *17* relative Eγ: 209.8669 *4* (1975Bo05). I_γ: weighted average of 17.2 *5* (1964Da15), 16.0 *10* (1965Ed01). Mult.: α(K)exp=0.22, K:L2:L3=0.22:0.065:0.03 (1955Mu19); L1:L2:L3=0.25:0.56:0.39 (1965Al08).
244.263 *4*	32.2 *9*	453.0685	7/2$^-$	208.8051	3/2$^-$	E2		0.1603	α(K)=0.0985 *14*; α(L)=0.0470 *7*; α(M)=0.01160 *17* α(N)=0.00275 *4*; α(O)=0.000393 *6*; α(P)=8.12×10^{-6} *12* I_γ: weighted average of 32.0 *10* (1964Da15), 32.9 *20* (1965Ed01). relative Eγ: 344.2630 *5* (1975Bo05). Mult.: α(K)exp=0.15 (1955Mu19); L1:L2=0.38:0.79 (1965Al08).
245.235 *6*	1.37 *14*	291.7224	5/2$^-$	46.4839	3/2$^-$	M1		0.380	α(K)=0.316 *5*; α(L)=0.0496 *7*; α(M)=0.01127 *16* α(N)=0.00272 *4*; α(O)=0.000443 *7*; α(P)=3.16×10^{-5} *5* E_γ: from 1965Gr16. I_γ: unweighted average of 1.23 *8* (1964Da15), 1.50 *7* (1964Da15).
246.059 *4*	100 *3*	453.0685	7/2$^-$	207.0107	7/2$^-$	M1+E2	−0.069 *26*	0.375	α(K)=0.312 *5*; α(L)=0.0491 *7*; α(M)=0.01117 *16* α(N)=0.00269 *4*; α(O)=0.000439 *7*; α(P)=3.12×10^{-5} *5* relative Eγ: 246.05851 *21* (1975Bo05). I_γ: from 1964Da15; 100 from (1965Ed01). Mult.: α(L1)exp=0.07 (14955mu19); L1:L2:L3=4.3:0.34:0.041 (1965Al08).
286.4	0.04 *2*	595.339	9/2$^-$	308.9457	9/2$^-$				E_γ,I_γ: from 1965Al08 only.
291.724 *5*	14.1 *4*	291.7224	5/2$^-$	0.0	1/2$^-$	E2		0.0924	α(K)=0.0613 *9*; α(L)=0.0237 *4*; α(M)=0.00580 *9* α(N)=0.001376 *20*; α(O)=0.000200 *3*; α(P)=5.23×10^{-6} *8* relative Eγ: 291.7236 *7* (1975Bo05). I_γ: weighted average of 14.1 *4* (1964Da15), 14.5 *9* (1965Ed01). Mult.: α(K)exp=0.07, α(L2)exp=0.023 (1955Mu19); L1:L2:L3=0.09:0.13:0.02 (1965Al08).
313.005 *30*	8.0[a] *25*	412.0928	7/2$^-$	99.0792	5/2$^-$	M1+E2[b]	+0.225 *8*	0.190	α(K)=0.1573 *23*; α(L)=0.0250 *4*; α(M)=0.00571 *8*

$^{183}_{74}W_{109}$-5

^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16 (continued)

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

E_γ[‡]	I_γ[#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[&]	α[†]	Comments
									α(N)=0.001374 *20*; α(O)=0.000224 *4*; α(P)=1.567×10^{-5} *23* E_γ: from 1965Gr16. I_γ: weighted average of 27.1 *8* (1964Da15) and 27.4 *17* (1965Ed01) for doublet is 27.2 *7*. Mult.: α(K)exp=0.22, α(L1)exp=0.035 (1955Mu19); L1:L2:L3=0.58:0.05:0.006 (1965Al08).
313.276 *30*	19.2[a] *24*	622.77	(9/2)$^+$	309.492	11/2$^+$	M1[b]		0.195	α(K)=0.1623 *23*; α(L)=0.0253 *4*; α(M)=0.00576 *8* α(N)=0.001387 *20*; α(O)=0.000227 *4*; α(P)=1.620×10^{-5} *23* E_γ: from 1965Gr16. I_γ: the weighted average of 27.1 *8* (1964Da15) and 27.4 *17* (1965Ed01) for the doublet is 27.2 *7*.
353.989 *6*	42.6 *11*	453.0685	7/2$^-$	99.0792	5/2$^-$	M1+E2	−0.192 *18*	0.1373 *21*	α(K)=0.1141 *17*; α(L)=0.0180 *3*; α(M)=0.00409 *6* α(N)=0.000984 *14*; α(O)=0.0001604 *23*; α(P)=1.135×10^{-5} *17* relative Eγ: 353.9887 *3* (1975Bo05). I_γ: weighted average of 43.2 *13* (1964Da15), 40.5 *24* (1965Ed01). Mult.: α(K)exp=0.14, α(L1)exp=0.025 (1955Mu19). L1:L2:L3=0.59:0.05:<0.006 (1965Al08).
365.644 *30*	1.83 *15*	412.0928	7/2$^-$	46.4839	3/2$^-$	E2		0.0480	α(K)=0.0342 *5*; α(L)=0.01050 *15*; α(M)=0.00253 *4* α(N)=0.000603 *9*; α(O)=8.92×10^{-5} *13*; α(P)=3.03×10^{-6} *5* E_γ: from 1965Gr16. I_γ: unweighted average of 1.97 *9* (1964Da15), 1.68 *10* (1965Ed01).
406.612 *23*	1.90 *8*	453.0685	7/2$^-$	46.4839	3/2$^-$	(E2)		0.0358	α(K)=0.0263 *4*; α(L)=0.00732 *11*; α(M)=0.001758 *25* α(N)=0.000418 *6*; α(O)=6.25×10^{-5} *9*; α(P)=2.35×10^{-6} *4* E_γ: from 1965Gr16. I_γ: weighted average of 1.91 *12* (1964Da15), 1.90 *11* (1965Ed01).

[†] Additional information 2.

[‡] Curved crystal spectrometer data from 1975Bo05, except As noted; Eγ=411.794 *7* from ^{198}Au decay used As reference (cf. current value of 411.80205 *17*), and absolute uncertainties are dominated by that of the reference line. these data are consistent with those from 1962Se10 (9 lines, uncertainties 1-10 eV), 1965Gr16 (31 lines, uncertainties 1-30 eV) and 1970Gr13 (10 recommended Eγ, uncertainties 1-8 eV, W(Kα_1 x ray) reference, data primarily from 1965Gr16), and have superior relative uncertainties (0.07-6 eV).

[#] From 1965Ed01, 1964Da15, except As noted. Note that the intensities of Schult and Graber quoted in 1965Ed01 appear to be systematically high for low energy γ-rays so were not included in averages.

[@] From ce measurements by 1955Mu19, 1965Al08, 1972Bb21, except as noted.

[&] From Adopted Gammas, except As noted.

[a] Total intensity of 313.0+313.3 keV γ is 27.2 *7* relative to I(246γ)=100. In the absence of a ΔJ=2, Δπ=No β^- branch to the 11/2$^+$ 309 level,

$^{183}_{74}W_{109}$-6

^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16 (continued)

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

Ti(313.3γ)=Ti(102.5γ), so Iγ(313.3)=19.2 *24*; this leaves Iγ=8.0 *25* for the 313.0γ.

[b] From 1965Al08, L1:L2:L3=58:5:0.6 for 313.0γ+313.3γ. Also, I(ce(K))(313.3)/I(ce(K))(313.0)=1.08 *4* (1972Bb21),≈1 (1966Mo17). If both transitions are M1(+E2) this yields δ=0.08. The small admixture cannot be apportioned between the individual transitions and is neglected here.

[c] For absolute intensity per 100 decays, multiply by 0.272 *15*.

$^{183}_{74}W_{109}$-7

^{183}Ta β^- decay 1975Bo05,1965Ed01,1965Gr16

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays