

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 158, 1 (2019)	16-May-2019

Q(β^-)=-7096 10; S(n)=12657 7; S(p)=3068 8; Q(α)=-2960 30 2017Wa10
 S(2n)=23288 9, S(2p)=10332 8 (2017Wa10).
 1970Mu02: ⁷³Br produced and identified in ⁵⁹Co(¹⁶O,2n), E=64 MeV reaction, measured half-life of ⁷³Br decay, E γ , I γ .
 Mass measurements: 2011He10, 2001To06, 2001Ha66, 2001Br44, 1991Sh19.
 Additional information 1.

⁷³Br Levels

Cross Reference (XREF) Flags

- A ⁷³Kr ϵ decay (27.3 s)
- B ⁴⁰Ca(⁴⁰Ca, α 3p γ)

E(level) [†]	J π @	T _{1/2}	XREF	Comments
0.0	1/2 ⁻	3.4 min 2	AB	% ϵ +% β^+ =100 J π : spin from absence of anisotropy measured for 16 γ rays in ⁷³ Se from ⁷³ Br decay in low-temperature nuclear orientation measurements of 1992Gr20 (also 1988Gr26). Parity from allowed β decay (log ft=5.7) to 3/2 ⁻ . T _{1/2} : weighted average of 3.4 min 2 (1987He21), 3.6 min 4 (1974Ro11) and 3.3 min 3 (1970Mu02). Strong absorption radius r ₀ =1.036 fm 18; rms matter radius <r ² > ^{1/2} =4.04 fm 14, deduced from measured reaction σ_R in Si(⁷³ Br,X),E \approx 50-60 MeV/nucleon and Glauber model analysis (2004Li29,2005Le43).
26.92 ^c 9	(5/2) ⁻		AB	J π : 259.0 γ Δ J=0, (E1) from (5/2) ⁺ ; 213.5 γ E2(+M1) from π =-.
178.07 ^b 13	3/2 ⁻	0.35 \ddagger ns 15	AB	J π : 177.9 γ M1+E2 (Δ J=1) to 1/2 ⁻ .
240.48 14	(3/2,5/2) ⁻	35.0 ns 14	AB	μ =1.97 13 (1987He27,2014StZZ) μ : from g factor=1.3 by TDPAD (1987He27), assuming J=3/2. J π : 62.4 γ M1 to 3/2 ⁻ ; 45.6 γ D from (5/2) ⁺ . T _{1/2} : γ (t) with respect to the beam in ⁴⁰ Ca(³⁶ Ar,3p γ) (1987He27).
286.11 ^a 16	(5/2) ⁺	<0.49 \ddagger ps	AB	J π : 108.0 γ E1 to 3/2 ⁻ ; band assignment in analogy to a similar band in ⁷⁵ Br in (⁴⁰ Ca, α 3p γ).
419.06 24	(1/2 ⁻ ,3/2,5/2)		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 391.9 γ to (5/2) ⁻ .
423.40 23	(1/2,3/2,5/2) ⁻		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 423.4 γ to 1/2 ⁻ .
473.4 3	(1/2 ⁻ ,3/2,5/2) ⁻		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 473.6 γ to 1/2 ⁻ and 446.4 γ to (5/2) ⁻ .
473.61 ^a 19	(9/2) ⁺	1.11 \ddagger ns 21	B	J π : 187.5 γ Δ J=2, E2 to (5/2) ⁺ ; band assignment.
481.38 14	(5/2) ⁻		AB	J π : 454.5 γ Δ J=0, D to (5/2) ⁻ ; 303.4 γ to 3/2 ⁻ .
635.26 21	(1/2 ⁻ ,3/2,5/2) ⁻		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 635.1 γ to 1/2 ⁻ and 608.5 γ to (5/2) ⁻ .
681.25 ^b 17	7/2 ⁻	15.2 \ddagger ps 21	AB	J π : 503.1 γ Δ J=2, E2 to 3/2 ⁻ .
713.3 3	(1/2 ⁻ ,3/2,5/2) ⁻		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 713.4 γ to 1/2 ⁻ and 686.1 γ to (5/2) ⁻ .
943.21 ^c 13	(9/2) ⁻	2.77 \ddagger ps 14	B	J π : 916.3 γ to (5/2) ⁻ , 461.8 γ Δ J=2, E2 to (5/2) ⁻ ; band assignment.
1056.72 ^a 21	(13/2) ⁺	3.33 \ddagger ps 28	B	J π : 583.1 γ Δ J=2, E2 to (9/2) ⁺ ; band assignment.
1137.56 21	(1/2 ⁻ ,3/2,5/2)		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 1110.6 γ to (5/2) ⁻ .
1255.15 ^b 20	11/2 ⁻	2.98 \ddagger ps 21	B	J π : 573.9 γ E2 to 7/2 ⁻ ; band assignment.
1473.0 4	(1/2 ⁻ ,3/2,5/2)		A	J π : direct ϵ feeding from (3/2) ⁻ parent; 1445.7 γ to (5/2) ⁻ .
1542.4 4	(1/2,3/2,5/2)		A	J π : direct ϵ feeding from (3/2) ⁻ parent.

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Adopted Levels, Gammas (continued) ^{73}Br Levels (continued)

E(level) [†]	J ^π @	T _{1/2}	XREF	Comments
1662.21 ^c 16	(13/2 ⁻)	0.97 [‡] ps 14	B	J ^π : 719.0γ E2 to (9/2 ⁻); band assignment.
1861.1 ^a 3	(17/2 ⁺)	1.04 ps 21	B	J ^π : 804.4γ E2 to (13/2) ⁺ ; band assignment. T _{1/2} : average of 1.5 4 (RDM), 0.97 21 (DSAM), and 0.9 2 (DSAM) (1987He27).
1989.66 ^b 22	15/2 ⁻	0.90 [‡] ps 17	B	J ^π : 734.5γ E2 to 11/2 ⁻ ; band assignment.
2154.0 4	(1/2 ⁻ ,3/2,5/2)		A	J ^π : direct ε feeding from (3/2) ⁻ parent; 2126.9γ to (5/2) ⁻ .
2261.6 5	(1/2,3/2,5/2 ⁻)		A	J ^π : direct ε feeding from (3/2) ⁻ parent; 2263.0γ to 1/2 ⁻ .
2512.42 ^c 19	(17/2 ⁻)	0.69 ps 17	B	J ^π : 850.2γ to (13/2 ⁻); band assignment. T _{1/2} : average of 0.67 17 (RDM) and 0.73 17 (DSAM) (1987He27).
2555.0 5	(1/2 ⁻ ,3/2,5/2)		A	J ^π : direct ε feeding from (3/2) ⁻ parent; 2527.9γ to (5/2) ⁻ .
2856.3 ^a 4	(21/2 ⁺)	0.43 ps 6	B	J ^π : 995.2γ E2 to (17/2) ⁺ ; band assignment. T _{1/2} : average of 0.41 6 (DSAM) and 0.45 6 (DSAM) (1987He27).
2874.26 ^b 25	(19/2 ⁻)	0.59 [#] ps 7	B	J ^π : 884.6γ to 15/2 ⁻ ; band assignment.
3017.4 4	(1/2,3/2,5/2) ⁻		A	J ^π : log ft=5.5 from (3/2) ⁻ parent.
3252.2 8	(1/2 ⁻ ,3/2,5/2)		A	J ^π : direct ε feeding from (3/2) ⁻ parent; 2779.8γ to (5/2) ⁻ .
3285.1 8	(1/2,3/2,5/2)		A	J ^π : direct ε feeding from (3/2) ⁻ parent.
3462.3 6	(1/2 ⁻ ,3/2,5/2)		A	J ^π : direct ε feeding from (3/2) ⁻ parent; 3434.9γ to (5/2) ⁻ .
3464.9 ^c 4	(21/2 ⁻)	0.38 [#] ps 7	B	J ^π : 884.6γ to (17/2 ⁻); band assignment.
3469.2 8	(1/2,3/2,5/2)		A	J ^π : direct ε feeding from (3/2) ⁻ parent.
3910.0 ^b 4	(23/2 ⁻)	0.26 [#] ps 5	B	J ^π : 1035.7γ to (19/2 ⁻); band assignment.
3967.3 11			B	
4019.3 ^a 14	(25/2 ⁺)	0.14 [#] ps 5	B	J ^π : 1165γ to (21/2) ⁺ ; band assignment.
4066.9 ^d 10	(25/2 ⁺)		B	J ^π : 1210γ Q to (21/2) ⁺ .
4280&	&		A	
4330&	&		A	
4380&	&		A	
4430&	&		A	
4460&	&		A	
4500&	&		A	
4530&	&		A	
4536.9 ^c 7	(25/2 ⁻)	0.28 ps 6	B	J ^π : 1072.0γ to (21/2 ⁻); band assignment.
4600&	&		A	
4640&	&		A	
4670&	&		A	
4710&	&		A	
4740&	&		A	
4780&	&		A	
4830&	&		A	
4890&	&		A	
4960&	&		A	
5040&	&		A	
5090&	&		A	
5091.0 ^b 11	(27/2 ⁻)	0.12 ps 5	B	J ^π : 1181γ to (23/2 ⁻); band assignment.
5170&	&		A	
5230&	&		A	
5270&	&		A	
5310&	&		A	
5333.6 ^a 15	(29/2 ⁺)	0.11 ps 5	B	J ^π : 1315γ to (25/2 ⁺); band assignment.

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Adopted Levels, Gammas (continued) ^{73}Br Levels (continued)

E(level) [†]	J ^π @	XREF	Comments
5340&	&	A	
5390&	&	A	
5450&	&	A	
5500&	&	A	
5560&	&	A	
5610&	&	A	
5640.4 ^d 13	(29/2 ⁺)	B	J ^π : 1573γ to (25/2 ⁺); band assignment.
5650&	&	A	
5700&	&	A	
5750&	&	A	
5752.9 ^c 12	(29/2 ⁻)	B	J ^π : 1216γ to (25/2 ⁻); band assignment.
5790&	&	A	
5830&	&	A	
5890&	&	A	
5960&	&	A	
6060&	&	A	
6140&	&	A	
6190&	&	A	
6240&	&	A	
6290&	&	A	
6380&	&	A	
6403.0 ^b 23	(31/2 ⁻)	B	J ^π : 1312γ to (27/2 ⁻); band assignment.
6480&	&	A	
6799.7 ^a 18	(33/2 ⁺)	B	J ^π : 1466γ (29/2 ⁺); band assignment.
7100.0 ^c 16	(33/2 ⁻)	B	J ^π : 1347γ (29/2 ⁻); band assignment.
7249.0 ^d 15	(33/2 ⁺)	B	J ^π : 1608γ and 1916γ to (29/2 ⁺); band assignment.
7874.0 ^b 25	(35/2 ⁻)	B	J ^π : band assignment.
8450.7 ^a 21	(37/2 ⁺)	B	J ^π : band assignment.
8563.0 ^c 19	(37/2 ⁻)	B	J ^π : band assignment.
9006.1 ^d 18	(37/2 ⁺)	B	J ^π : band assignment.
9511 ^b 3	(39/2 ⁻)	B	J ^π : band assignment.
9621 ^e 3	(39/2 ⁻)	B	J ^π : band assignment.
10156.0 ^c 21	(41/2 ⁻)	B	J ^π : band assignment.
10275.7 ^a 23	(41/2 ⁺)	B	J ^π : band assignment.
10792.1 ^d 21	(41/2 ⁺)	B	J ^π : band assignment.
11291 ^b 3	(43/2 ⁻)	B	J ^π : band assignment.
11583 ^e 3	(43/2 ⁻)	B	J ^π : band assignment.
11958.0 ^c 24	(45/2 ⁻)	B	J ^π : band assignment.
12234.7 ^a 25	(45/2 ⁺)	B	J ^π : band assignment.
12667.1 ^d 23	(45/2 ⁺)	B	J ^π : band assignment.
13286 ^b 3	(47/2 ⁻)	B	J ^π : band assignment.
13999 ^e 3	(47/2 ⁻)	B	J ^π : band assignment.
14019 ^c 3	(49/2 ⁻)	B	J ^π : band assignment.
14335 ^a 3	(49/2 ⁺)	B	J ^π : band assignment.
15532 ^b 4	(51/2 ⁻)	B	J ^π : band assignment.
16373 ^c 3	(53/2 ⁻)	B	J ^π : band assignment.
16631 ^a 3	(53/2 ⁺)	B	J ^π : band assignment.

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Adopted Levels, Gammas (continued) ^{73}Br Levels (continued)

E(level) [†]	J ^π [@]	XREF	Comments
16659 3	(53/2 ⁺)	B	J ^π : band assignment.
18116 ^b 4	(55/2 ⁻)	B	J ^π : band assignment.
18317 4	(55/2 ⁻)	B	J ^π : band assignment.
19094 ^c 3	(57/2 ⁻)	B	J ^π : band assignment.
19110 3	(57/2 ⁻)	B	J ^π : band assignment.
19162 ^a 3	(57/2 ⁺)	B	J ^π : band assignment.
20679 ^b 4	(59/2 ⁻)	B	J ^π : band assignment.
21971 ^a 3	(61/2 ⁺)	B	J ^π : band assignment.
22272 ^c 3	(61/2 ⁻)	B	J ^π : band assignment.
23702 ^b 4	(63/2 ⁻)	B	J ^π : band assignment.
25178 ^a 4	(65/2 ⁺)	B	J ^π : band assignment.
25968 ^c 3	(65/2 ⁻)	B	J ^π : band assignment.

[†] From a least-squares fit to the E_γ data, assuming ΔE_γ=2 keV when not given.

[‡] From recoil-distance Doppler shift method (RDM) in ($^{40}\text{Ca},\alpha 3p\gamma$) (1987He27).

From DSAM in ($^{40}\text{Ca},\alpha 3p\gamma$) (1987He27).

@ From ($^{40}\text{Ca},\alpha 3p\gamma$), based on $\gamma(\theta)$ for selected transitions and band assignment, except as noted otherwise.

& The level decays by protons to ^{72}Se ; no γ decays are known. $\varepsilon+\beta^+$ feeding and associated log *ft* value from 3/2⁻ limits spin to 1/2, 3/2, 5/2. log *ft* further suggests negative parity for levels above 5350.

^a Band(A): Band Based on (5/2⁺), $\alpha=+1/2$. Proposed configuration= $\pi[(\text{pf})^4 g_{9/2}^3] \otimes \nu[(\text{pf})^6 g_{9/2}^4]$ (2000PI08), where p and f are p_{3/2} and f_{5/2} orbitals, respectively.

^b Band(B): Band based on 3/2⁻, $\alpha=-1/2$. Proposed configuration= $\pi[(\text{pf})^5 g_{9/2}^2] \otimes \nu[(\text{pf})^6 g_{9/2}^4]$ (2000PI08), where p and f are p_{3/2} and f_{5/2} orbitals, respectively. Based on theoretical calculations, 2000PI08 propose that this band, with 63/2⁻ for the highest level, has reached termination.

^c Band(b): Band based on (5/2⁻), $\alpha=+1/2$. Proposed configuration= $\pi[(\text{pf})^5 g_{9/2}^2] \otimes \nu[(\text{pf})^6 g_{9/2}^4]$ (2000PI08), where p and f are p_{3/2} and f_{5/2} orbitals, respectively.

^d Band(C): Band Based on (25/2⁺), $\alpha=+1/2$.

^e Band(D): Side band based on (39/2⁻).

Adopted Levels, Gammas (continued)

$\gamma(^{73}\text{Br})$									
$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	δ	$\alpha^@$	Comments
26.92	(5/2) ⁻	26.9 [±] 1	100	0.0	1/2 ⁻	[E2]		100.5 20	
178.07	3/2 ⁻	151.2 [±] 3 177.9 3	23 3 100.0 6	26.92 0.0	(5/2) ⁻ 1/2 ⁻	[M1+E2] M1+E2	0.39 12	0.11 8 0.035 6	Additional information 2. B(M1)(W.u.)=0.008 +7-3; B(E2)(W.u.)=50 +100-30 Additional information 3. Mult., δ : from $\alpha_K(\text{exp})$ and $\gamma(\theta)$ ($\Delta J=1$) in (⁴⁰ Ca, α 3p γ).
240.48	(3/2,5/2) ⁻	62.4 1 213.5 2	100 23 91 7	178.07 26.92	3/2 ⁻ (5/2) ⁻	M1 E2		0.427 19 0.0536 9	B(M1)(W.u.)=0.00108 19 Additional information 4. B(E2)(W.u.)=0.77 12 Additional information 5. Mult.: there could be a M1 component based on $\alpha_K(\text{exp})$ in (⁴⁰ Ca, α 3p γ).
286.11	(5/2) ⁺	45.6 1 108.0 6 259.0 [±] 4	100 22 34 13 21.6 [±] 20	240.48 178.07 26.92	(3/2,5/2) ⁻ 3/2 ⁻ (5/2) ⁻	(E1) E1 (E1)		0.854 14 0.0673 15	Additional information 6. Mult.: dipole from $\alpha(K)\text{exp}$ in (⁴⁰ Ca, α 3p γ); M1 excluded by $\Delta\pi$ determined from other evidence. Additional information 7. I_γ : other: 89 7 in (⁴⁰ Ca, α 3p γ). Additional information 8. Mult.: evaluators treat multipolarity assignment from in-beam γ -ray data as tentative, due to sharp disagreement in γ -branching ratio for this γ ray in ε decay and in-beam γ -ray study. $\Delta J=0$ from $\gamma(\theta)$ in (⁴⁰ Ca, α 3p γ).
419.06	(1/2 ⁻ ,3/2,5/2)	286.8 4 241.0 3 391.9 4	33 4 100 11 52 6	0.0 178.07 26.92	1/2 ⁻ 3/2 ⁻ (5/2) ⁻	[M2]		0.0334	E_γ : γ from ⁷³ Kr ε decay only.
423.40	(1/2,3/2,5/2 ⁻)	183.1 6 396.4 4 423.4 3	25 15 100 11 89 10	240.48 26.92 0.0	(3/2,5/2) ⁻ (5/2) ⁻ 1/2 ⁻				
473.4	(1/2 ⁻ ,3/2,5/2 ⁻)	446.4 7 473.4 3	27 3 100 12	26.92 0.0	(5/2) ⁻ 1/2 ⁻				
473.61	(9/2) ⁺	187.5 1	100	286.11	(5/2) ⁺	E2		0.0859	B(E2)(W.u.)=112 +27-18
481.38	(5/2 ⁻)	303.4 3 454.5 2	54 [±] 7 100 [±] 18	178.07 26.92	3/2 ⁻ (5/2) ⁻	D			Additional information 9. Additional information 10. Mult.: $\Delta J=0$ from $\gamma(\text{DCO})$ in (⁴⁰ Ca, α 3p γ).
635.26	(1/2 ⁻ ,3/2,5/2 ⁻)	457.2 5 608.5 4 635.1 3	89 20 22.3 25 100 12	178.07 26.92 0.0	3/2 ⁻ (5/2) ⁻ 1/2 ⁻				
681.25	7/2 ⁻	503.1 2	100 14	178.07	3/2 ⁻	E2			B(E2)(W.u.)=45 +11-9 Additional information 11. Mult.: Q from $\gamma(\theta)$ in (⁴⁰ Ca, α 3p γ); M2 ruled out by RUL.

Adopted Levels, Gammas (continued)

 $\gamma(^{73}\text{Br})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.#	Comments
681.25	7/2 ⁻	654.4 2	43 6	26.92	(5/2) ⁻	[M1+E2]	Additional information 12. I _γ : from (⁴⁰ Ca,α3pγ), where the level is strongly populated. Other: I _γ =13 3 in ε decay seems discrepant.
713.3	(1/2 ⁻ ,3/2,5/2 ⁻)	686.1 4	100 11	26.92	(5/2) ⁻		
		713.4 4	9.8 16	0.0	1/2 ⁻		
943.21	(9/2 ⁻)	461.8 1		481.38	(5/2 ⁻)	E2	
		916.3 1	100 19	26.92	(5/2) ⁻	[E2]	B(E2)(W.u.)=17.5 9 B(E2)(W.u.) with the assumption of small branching ratio of 461.8γ. B(E2)(W.u.)=139 12 Mult.: Q from γ(θ) in (⁴⁰ Ca,α3pγ); M2 ruled out by RUL.
1056.72	(13/2) ⁺	583.1 1	100	473.61	(9/2) ⁺	E2	
1137.56	(1/2 ⁻ ,3/2,5/2)	656.2 5	22 5	481.38	(5/2 ⁻)		
		718.3 4	28 3	419.06	(1/2 ⁻ ,3/2,5/2)		
		959.6 3	100 11	178.07	3/2 ⁻		
		1110.6 3	53 6	26.92	(5/2) ⁻		
1255.15	11/2 ⁻	573.9 1	100	681.25	7/2 ⁻	E2	B(E2)(W.u.)=168 12
1473.0	(1/2 ⁻ ,3/2,5/2)	1295.2 5	59 9	178.07	3/2 ⁻		
		1445.7 6	100 13	26.92	(5/2) ⁻		
1542.4	(1/2,3/2,5/2)	907.0 4	100 12	635.26	(1/2 ⁻ ,3/2,5/2 ⁻)		
		1364.4 4	94 12	178.07	3/2 ⁻		
1662.21	(13/2 ⁻)	719.0 1	100	943.21	(9/2 ⁻)	E2	B(E2)(W.u.)=168 +29-21
1861.1	(17/2) ⁺	804.4 2	100	1056.72	(13/2) ⁺	E2	B(E2)(W.u.)=89 +23-15
1989.66	15/2 ⁻	734.5 1	100	1255.15	11/2 ⁻	E2	B(E2)(W.u.)=160 +38-26
2154.0	(1/2 ⁻ ,3/2,5/2)	1672.9 7	100 11	481.38	(5/2 ⁻)		
		1975.7 6	94 11	178.07	3/2 ⁻		
		2126.9 6	89 11	26.92	(5/2) ⁻		
2261.6	(1/2,3/2,5/2 ⁻)	2083.1 6	100 10	178.07	3/2 ⁻		
		2262.0 7	20 3	0.0	1/2 ⁻		
2512.42	(17/2 ⁻)	850.2 1	100	1662.21	(13/2 ⁻)	[E2]	B(E2)(W.u.)=102 +33-20
2555.0	(1/2 ⁻ ,3/2,5/2)	2073.8 6	100 10	481.38	(5/2 ⁻)		
		2527.9 6	48 5	26.92	(5/2) ⁻		
2856.3	(21/2) ⁺	995.2 2	100	1861.1	(17/2) ⁺	E2	B(E2)(W.u.)=74 +12-9
2874.26	(19/2 ⁻)	884.6 1	100	1989.66	15/2 ⁻	[E2]	B(E2)(W.u.)=98 +13-11
3017.4	(1/2,3/2,5/2) ⁻	2303.7 6	40 4	713.3	(1/2 ⁻ ,3/2,5/2 ⁻)		
		2537.0 6	52 6	481.38	(5/2 ⁻)		
		2838.6 6	100 12	178.07	3/2 ⁻		
3252.2	(1/2 ⁻ ,3/2,5/2)	2770.8 7	100	481.38	(5/2 ⁻)		
3285.1	(1/2,3/2,5/2)	3107.0 7	100	178.07	3/2 ⁻		
3462.3	(1/2 ⁻ ,3/2,5/2)	3284.4 7	100 15	178.07	3/2 ⁻		
		3434.9 8	54 8	26.92	(5/2) ⁻		
3464.9	(21/2 ⁻)	952.5 3	100	2512.42	(17/2 ⁻)	[E2]	B(E2)(W.u.)=105 +24-17
3469.2	(1/2,3/2,5/2)	3291.0 7	100	178.07	3/2 ⁻		
3910.0	(23/2 ⁻)	1035.7 3	100	2874.26	(19/2 ⁻)	[E2]	B(E2)(W.u.)=101 +24-16
3967.3		1111		2856.3	(21/2) ⁺		

Adopted Levels, Gammas (continued)

$\gamma(^{73}\text{Br})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	Comments
4019.3	(25/2 ⁺)	1165 2	100	2856.3	(21/2) ⁺	[E2]	B(E2)(W.u.)=100 +60-30
4066.9	(25/2 ⁺)	1210		2856.3	(21/2) ⁺	Q	
4536.9	(25/2 ⁻)	1072.0 5	100	3464.9	(21/2) ⁻	[E2]	B(E2)(W.u.)=79 +22-14
5091.0	(27/2 ⁻)	1181 1	100	3910.0	(23/2) ⁻	[E2]	B(E2)(W.u.)=110 +80-30
5333.6	(29/2 ⁺)	1315	100	4019.3	(25/2 ⁺)	[E2]	B(E2)(W.u.)=72 +61-23
5640.4	(29/2 ⁺)	1573		4066.9	(25/2 ⁺)		
		1621		4019.3	(25/2 ⁺)		
5752.9	(29/2 ⁻)	1216	100	4536.9	(25/2 ⁻)		
6403.0	(31/2 ⁻)	1312 2	100	5091.0	(27/2 ⁻)		
6799.7	(33/2 ⁺)	1466	100	5333.6	(29/2 ⁺)		
7100.0	(33/2 ⁻)	1347	100	5752.9	(29/2 ⁻)		
7249.0	(33/2 ⁺)	1608		5640.4	(29/2 ⁺)		
		1916		5333.6	(29/2 ⁺)		
7874.0	(35/2 ⁻)	1471	100	6403.0	(31/2 ⁻)	Q	
8450.7	(37/2 ⁺)	1651	100	6799.7	(33/2 ⁺)	Q	
8563.0	(37/2 ⁻)	1463	100	7100.0	(33/2 ⁻)		
9006.1	(37/2 ⁺)	1757		7249.0	(33/2 ⁺)		
9511	(39/2 ⁻)	1637	100	7874.0	(35/2 ⁻)	Q	
9621	(39/2 ⁻)	1747		7874.0	(35/2 ⁻)		
10156.0	(41/2 ⁻)	1593	100	8563.0	(37/2 ⁻)	Q	
10275.7	(41/2 ⁺)	1825	100	8450.7	(37/2 ⁺)		
10792.1	(41/2 ⁺)	1786		9006.1	(37/2 ⁺)		
11291	(43/2 ⁻)	1780	100	9511	(39/2 ⁻)	Q	
11583	(43/2 ⁻)	1962		9621	(39/2 ⁻)		
11958.0	(45/2 ⁻)	1802	100	10156.0	(41/2 ⁻)		
12234.7	(45/2 ⁺)	1959		10275.7	(41/2 ⁺)		
12667.1	(45/2 ⁺)	1875		10792.1	(41/2 ⁺)		
13286	(47/2 ⁻)	1995		11291	(43/2 ⁻)		
13999	(47/2 ⁻)	2416		11583	(43/2 ⁻)		
14019	(49/2 ⁻)	2061		11958.0	(45/2 ⁻)		
14335	(49/2 ⁺)	2100		12234.7	(45/2 ⁺)		
15532	(51/2 ⁻)	2246		13286	(47/2 ⁻)		
16373	(53/2 ⁻)	2354		14019	(49/2 ⁻)		
16631	(53/2 ⁺)	2296		14335	(49/2 ⁺)		
16659	(53/2 ⁺)	2324		14335	(49/2 ⁺)		
18116	(55/2 ⁻)	2584		15532	(51/2 ⁻)		
18317	(55/2 ⁻)	2785		15532	(51/2 ⁻)		
19094	(57/2 ⁻)	2721		16373	(53/2 ⁻)		
19110	(57/2 ⁻)	2737		16373	(53/2 ⁻)		
19162	(57/2 ⁺)	2503		16659	(53/2 ⁺)		
		2532		16631	(53/2 ⁺)		
20679	(59/2 ⁻)	2362		18317	(55/2 ⁻)		
		2563		18116	(55/2 ⁻)		

Adopted Levels, Gammas (continued)

$\gamma(^{73}\text{Br})$ (continued)

<u>E_i(level)</u>	<u>J^{π}_i</u>	<u>E_{γ}[†]</u>	<u>E_f</u>	<u>J^{π}_f</u>
21971	(61/2 ⁺)	2809	19162	(57/2 ⁺)
22272	(61/2 ⁻)	3162	19110	(57/2 ⁻)
		3178	19094	(57/2 ⁻)
23702	(63/2 ⁻)	3023	20679	(59/2 ⁻)
25178	(65/2 ⁺)	3207	21971	(61/2 ⁺)
25968	(65/2 ⁻)	3696	22272	(61/2 ⁻)

† Weighted averages taken when values of comparable precision are available in both the datasets, otherwise the values are from ⁷³Kr ϵ decay or ⁴⁰Ca(⁴⁰Ca, α 3 γ).

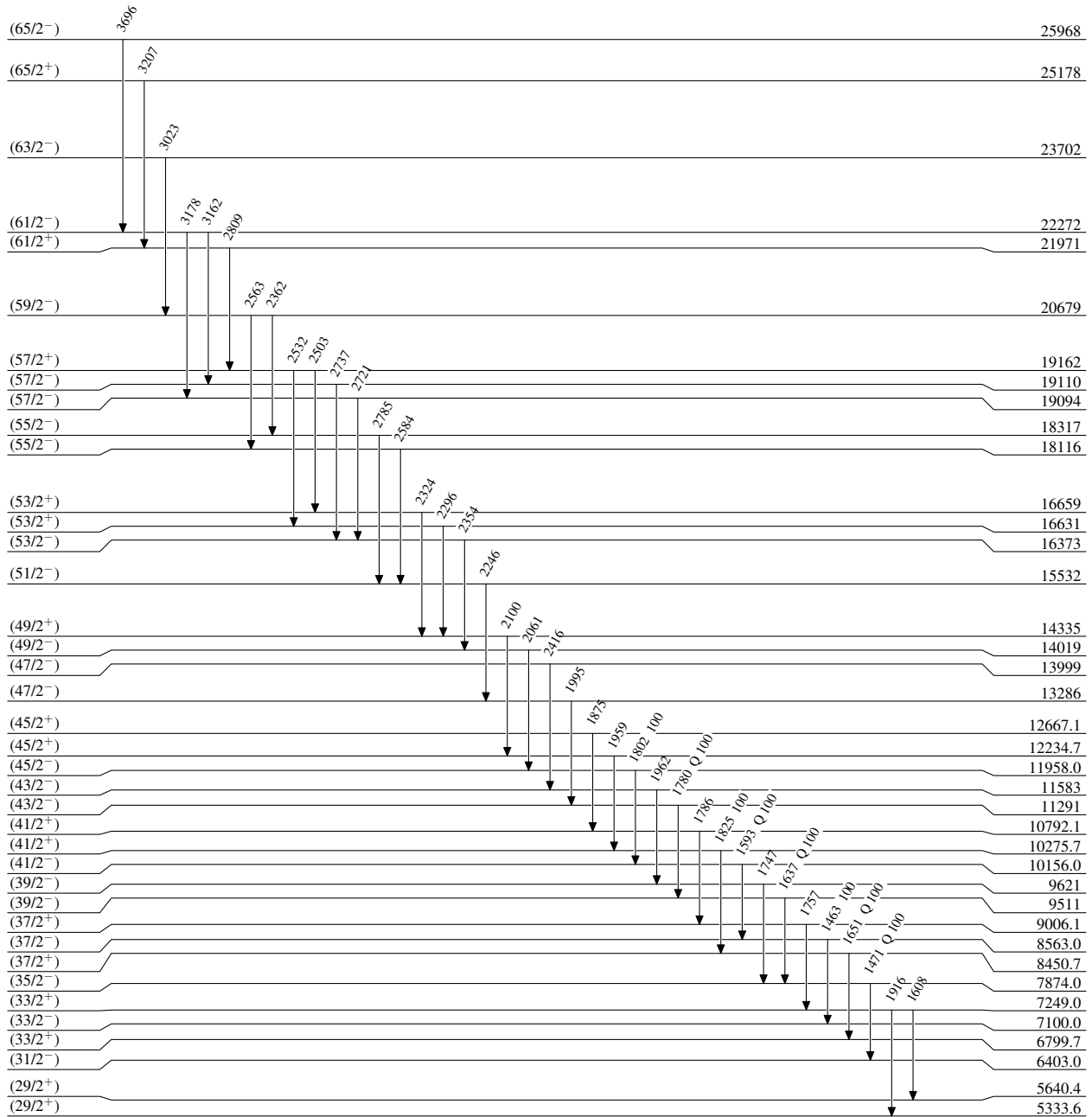
‡ From ⁷³Kr ϵ decay.

From $\gamma(\theta)$ and/or $\alpha(\text{K})\text{exp}$ in (⁴⁰Ca, α 3 γ), combined with RUL.

@ 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.

Adopted Levels, Gammas**Level Scheme**

Intensities: Relative photon branching from each level



0.11 ps 5

 $1/2^-$

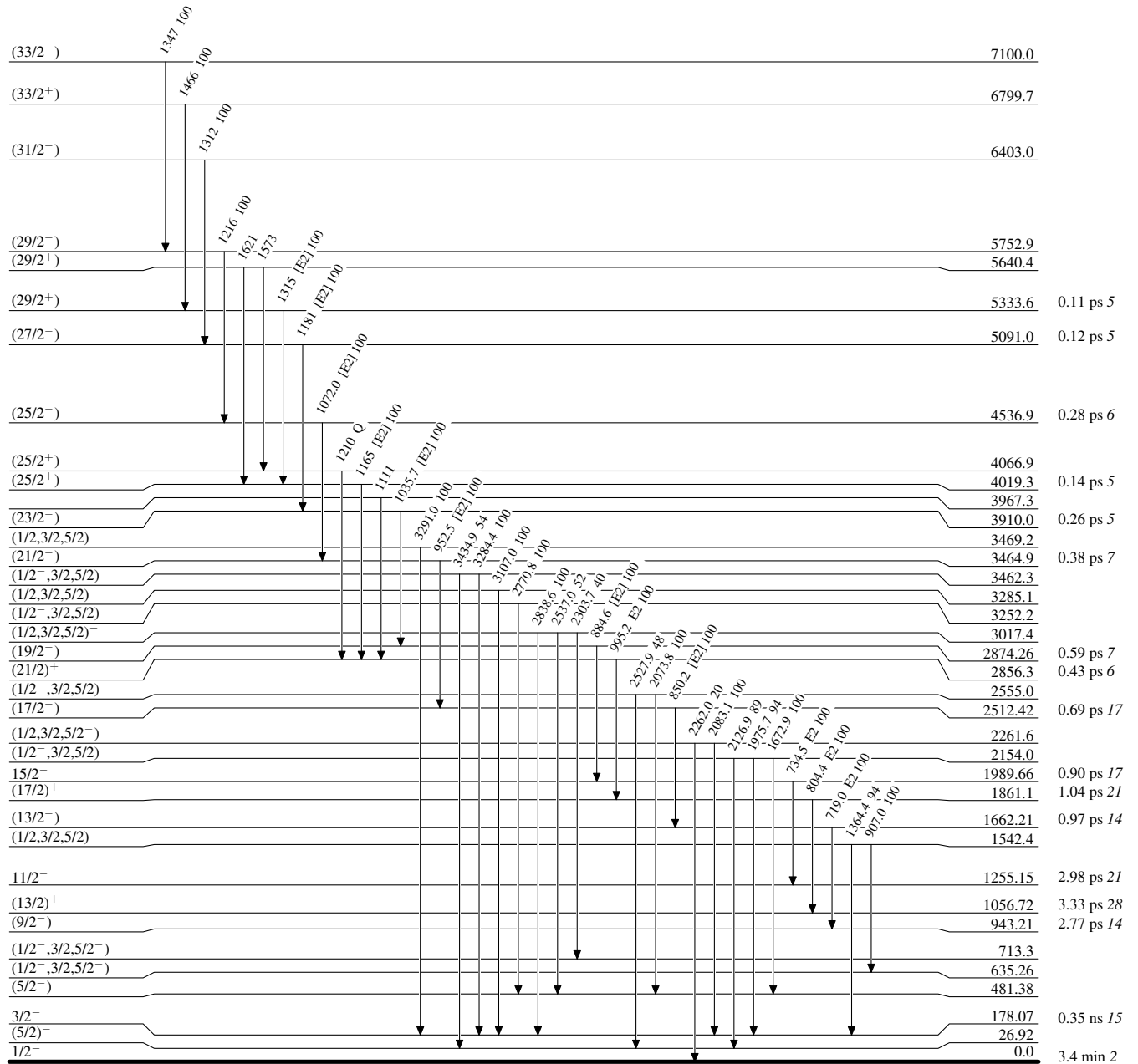
0.0

3.4 min 2

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

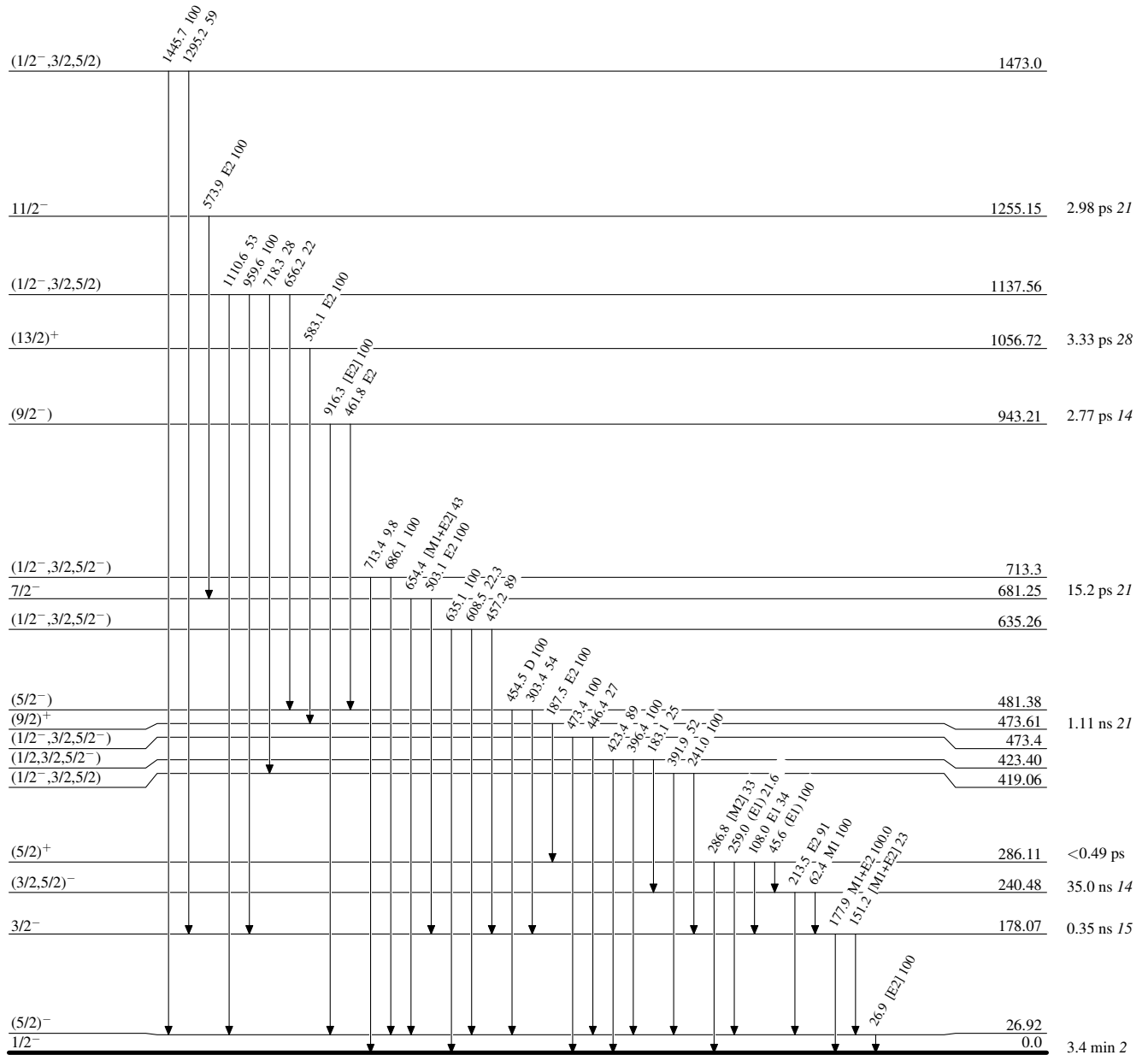


$^{73}_{35}\text{Br}_{38}$

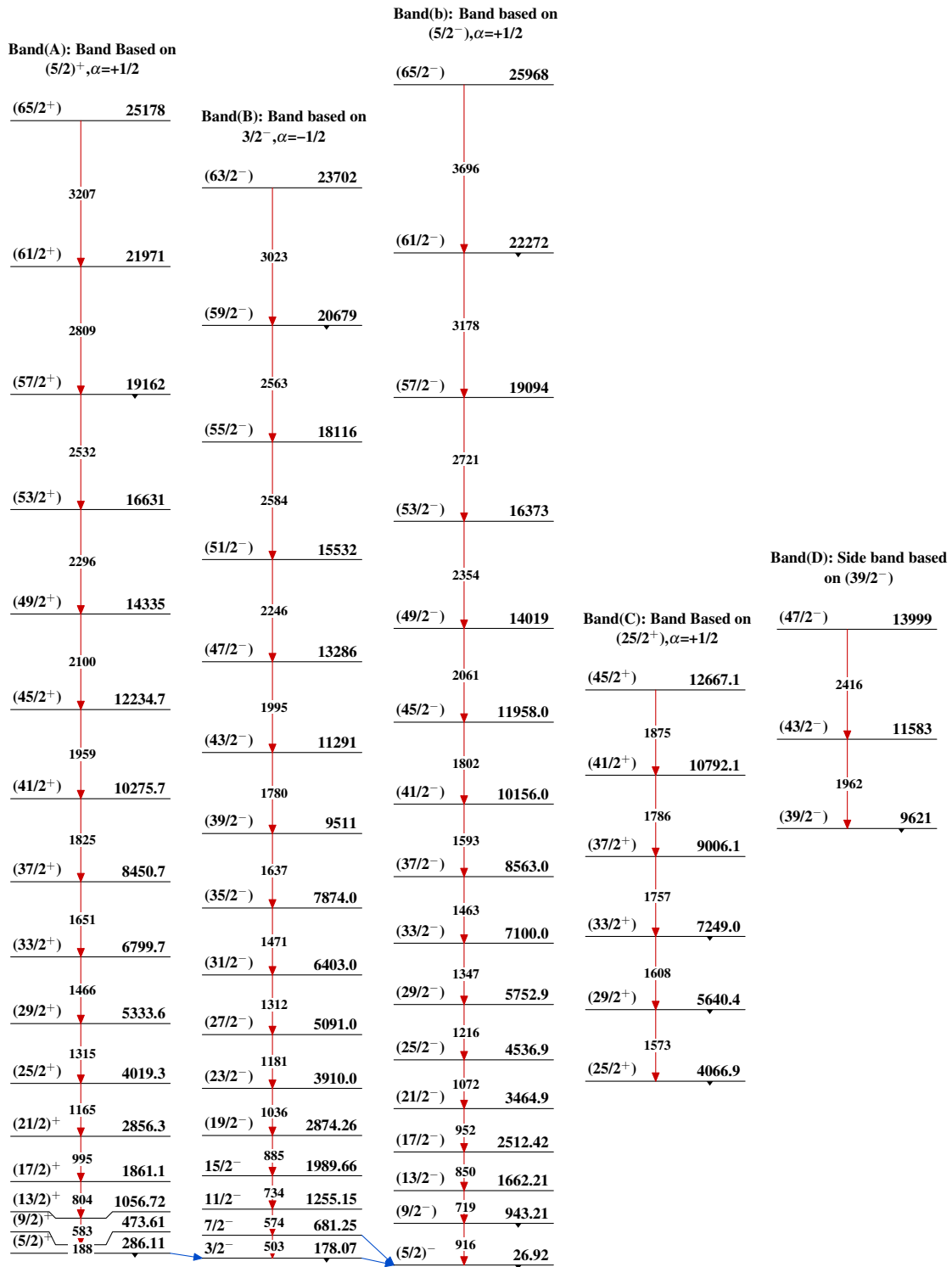
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



⁷³Br₃₈

Adopted Levels, Gammas $^{73}_{35}\text{Br}_{38}$