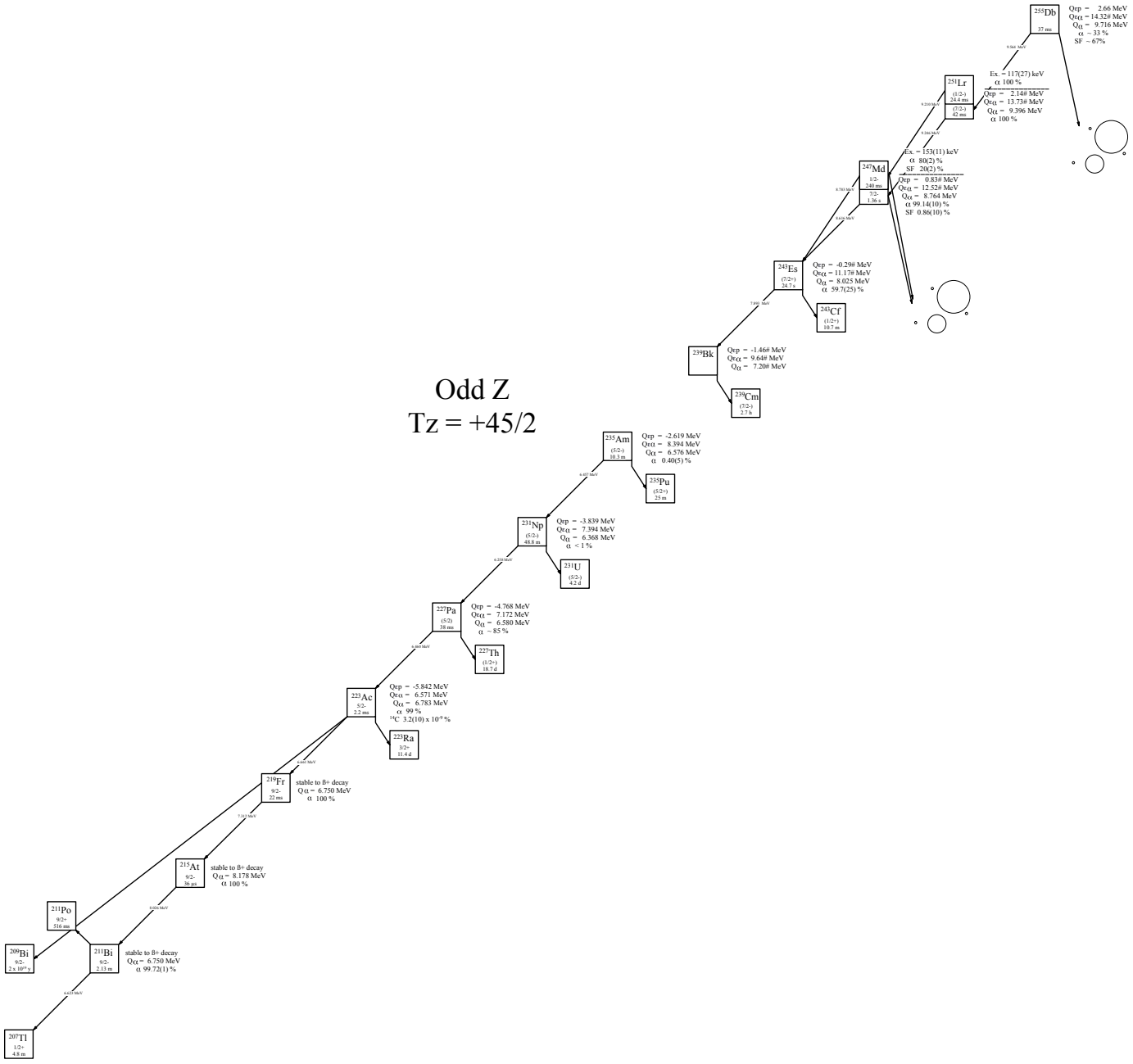

Fig. 1: Known experimental values for heavy particle emission of the odd-Z T_z= +45/2 nuclei.

Last updated 5/13/2024

Table 1
Observed and predicted β-delayed particle emission from the odd-Z, T_z = +45/2 nuclei. Unless otherwise stated, all Q-values are taken from [2021Wa16] or deduced from values therein.

Nuclide	Ex.	J^π	$T_{1/2}$	Q_ε	$Q_{\varepsilon p}$	$Q_{\varepsilon\alpha}$	Experimental
^{211}Bi(AcC)*		$9/2^-$	2.13(2) m	-1.366(5)	——	——	[**1965Nu03**]
^{215}At		$9/2^-$	36.3(9) μs	-0.715(7)	——	——	[**2024Ba08**]
^{219}Fr		$9/2^-$	22(2) ms**	-0.212(7)	——	——	[**2018Sa45, 1951Me10**]
^{223}Ac		$(5/2^-)$	2.2(1) m	0.592(7)	-5.842(10)	6.571(7)	[**1987Mi10**]
^{227}Pa		(5/2)	38.3(3) m	1.026(7)	-4.768(8)	7.172(8)	[**1951Me10**]
^{231}Np		$(5/2^-)$	48.8(2) m	1.820(50)	-3.839(51)	7.394(51)	[**1973We08**]
^{235}Am		$(5/2^-)$	10.3(6) m	2.440(60)	-2.619(53)	8.394(53)	[**2004As12, 2004Sa05**]
^{239}Bk				3.10(26)#	-1.46(22)#	9.64(21)#	
^{243}Es		$(7/2^+)$	24.7(8) s***	3.76(28)#	-0.29(25)#	11.17(26)#	[**2019Br06, 2010An08, 2004HeZZ, 1973Es02**]
^{247}Md		$7/2^-$	1.26(8) s[@]	4.26(28)#	0.83(23)#	12.52(28)#	[**2022He04, 2010An08**]
^{247m}Md	0.153(11)	$1/2^-$	240(20) ms[@@]	4.41(30)#	0.98(25)#	12.67(30)#	[**2022He04, 2010An08**]
^{251}Lr		$(7/2^-)$	42^{+42}_{-14} ms	4.98(27)#	2.14(22)#	13.73(27)#	[**2022Hu21**]
^{251m}Lr	0.117(27)	$(1/2^-)$	$24.4^{+7.0}_{-4.5}$ ms	5.10(27)#	2.25(22)#	13.85(27)#	[**2022Hu21**]
^{255}Db			37^{+51}_{-14} ms	5.27(34)#	2.66(30)#	14.32(34)#	[**2005LeZN**]

* 0.28(10)% β^- emitter.
** Weighted average of 28(3) ms [2018Sa45] and 20(2) ms [1951Me10].
*** Weighted average of 24(3) s [2019Br06], 21(2) s [2010An08], 26(1) s [2004HeZZ] and 21(2) ms [1973Es02].
[@] Weighted average of 1.20(12) s [2022He04] and 1.3(1) s [2010An08].
[@@] Weighted average of 230(30) ms [2022He04] and 250(40) s [2010An08].

Table 2
Particle separation, Q-values, and measured values for direct particle emission of the odd-Z, T_z = +45/2 nuclei. Unless otherwise stated, all S and Q-values are taken from [2021Wa16] or deduced from values therein.

Nuclide	S_p	Q_α	BR_α	BR_{SF}	$BR_{cluster}$	type	Experimental
^{211}Bi(AcC)	4.420(5)	6.750(1)	99.72(1)%*				[**1971Gr17, 1967Da10, 1965Nu03, 1962Gi04, 1961Ry02**, 1970Mu21, 1966Go13, 1965Va10, 1964Co01, 1964Co22, 1963Uh01, 1962Wa18, 1961Br32, 1961Kn02, 1960Ry01, 1960Wa14, 1957Pi31, 1954Br07, 1949Me54, 1948Gh01, 1934Le01, 1933Ro03, 1931Cu01]
^{215}At	4.076(7)	8.178(4)	100%				[**1973BoXL, 1973BoXW, 1966Gr07**, 2024Ba08, 2018Sa45, 1982Bo04, 1951Me10, 1949Me54, 1948Gh01, 1944Ka01, 1944Ka02]
^{219}Fr	3.889(7)	7.449(2)	100%				[**1968Ba73**, 2018Sa45, 1993Li07, 1973BoXL, 1973BoXW, 1970Bo13, 1966Gr07, 1951Me10, 1949Me54, 1948Gh01]
^{223}Ac	3.784(8)	6.783(1)	99%		$3.2(10) \times 10^{-9}$	^{14}C**	[**2010GuZZ, 1991Li19, 1987Mi10, 1969LeZW, 1951Me10**, 1990Li33, 1990LiZY, 1968Ba73, 1964Su04, 1963Su03, 1963Su10, 1962Su09, 1958Hi78, 1949Me54, 1948Gh01]
^{227}Pa	3.656(8)	6.580(2)	$\approx$ 85%				[**1990Sh15, 1963Su09, 1963Su10, 1951Me10**, 1989Ah05, 1958Hi78, 1949Me54, 1948Gh01]
^{231}Np	3.280(51)	6.368(51)	$<$ 1%				[**1973Ja06, 1950Ma14**, 1973We08, 1971WeZP]
^{235}Am	3.014(53)	6.576(13)	0.40(5)%				[**2004As12, 2004Sa05**, 2000SaZO]
^{239}Bk	2.49(21)#	7.20(20)#	$<$1%	$<$1%			[**2010An08**]
^{243}Es	1.93(21)#	8.025(10)***	59.7(25)%	$<$1%			[**2010An08, 2006An13**, 2019Br06, 2004HeZZ, 1994HoZW, 1989Ha27, 1989HaZG, 1976GhZU, 1973Es02, 1971EsZZ]
^{247}Md	1.54(21)#	8.764(10)	99.14(10)%	0.86(10)%			[**2022He04, 2010An08**, 2006An13, 2005He27, 2004HeZZ, 2003HeZY, 1994HoZW, 1981Mu12]
^{247m}Md	1.39(24)#	8.914(15)	80(2)%	20(2)%			[**2022He04, 2010An08**, 2006An13]
^{251}Lr	1.03(28)#	9.396(13)[@]	100%				[**2022Hu21**, 2005LeZN]
^{251m}Lr	0.91(28)#	9.513(30)	100%				[**2022Hu21**]
^{255}Db	0.900(40)#	9.716(27)[@@]	$\approx$33%	$\approx$67%			[**2005LeZN**]

* Weighted average from BR_β of 0.27(1)% [1965Nu03] and 0.29(1)% [1962Gi04].
** [2010GuZZ].

Table 3
direct α emission from ^{211}Bi, J^{π} = 9/2$^-$, $T_{1/2}$ = 2.13(2) m*, BR_{α} = 99.72(1)%**.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)$^{@}$	I_{α}(abs)	J^{π}_{f}	$E_{daughter}$(^{207}Tl)$^{@@@}$	coincident γ-rays$^{@@@}$	R_0 (fm)	HF
6.3995(7)	6.2782(7)***	19.66(6)%	16.38(4)%	3/2$^+$	0.3511(1)	0.3511(1)	1.485(11)	43^{+11}_{-9}
6.7509(6)	6.6229(6)$^{@@}$	100%	83.34(4)%	1/2$^+$	0.0	——	1.485(11)	190^{+50}_{-40}

* [1965Nu03].
** Weighted average from BR_{β} of 0.27(1)% [1965Nu03] and 0.29(1)% [1962Gi04].
*** From 6.2772(7) MeV [61Ry02] modified to 6.2782(7) MeV in [1991Ry01].
$^{@}$ [1967Da10].
$^{@@}$ From 6.6231(6) MeV [71Gr17] modified to 6.6229(6) MeV in [1991Ry01].
$^{@@@}$ [2011Ko04].

Table 4
direct α emission from ^{215}At, J^{π} = 9/2$^-$, $T_{1/2}$ = 36.3(9) μs*, BR_{α} = 100%.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)	I_{α}(abs)	$J^{\pi}_{f}{}^{@@}$	$E_{daughter}$(^{211}Bi)$^{@@}$	coincident γ-rays$^{@@}$	R_0 (fm)	HF
7.771(10)	7.626(10)**	5(2)%$^{@}$	4.8(20)%	7/2$^-$	0.4049	0.4049	1.5527(30)	$1.7^{+1.3}_{-0.5}$
8.173(4)	8.026(4)***	100%	95.2(20)%	9/2$^-$	0.0	——	1.5527(30)	1.24(9)

* [2024Ba08].
** Energy raised by 26 keV by the evaluator. [1966Gr07] lists the two peaks as E_{α}(lab) = 7.600(10) and 8.000(10) MeV. A difference of 407.5 keV in the center of mass frame. The first excited state of ^{211}Bi is known to be 404.9 keV [2013Si17] based on several different reaction studies.
*** [1973BoXL, 1973BoXW].
$^{@}$ [1966Gr07].
$^{@@}$ [2013Si17].

Table 5
direct α emission from ^{219}Fr, J^{π} = 9/2$^-$, $T_{1/2}$ = 22(2) ms*, BR_{α} = 100%.

E_{α}(c.m.)	E_{α}(lab)**	I_{α}(rel)**	I_{α}(abs)	J^{π}_{f}***	$E_{daughter}$(^{215}At)***	coincident γ-rays	R_0 (fm)	HF
6.9295(20)	6.8029(20)	0.26%	0.25%	(13/2)$^-$	0.5170	0.517	1.5573(32)	6.6
6.9736(25)	6.8462(25)	0.05%	0.05%	(7/2$^-$)	0.4723	0.1699, 0.3026, 0.4722	1.5573(32)	48
7.0860(30)	6.9566(30)	0.02%	≈0.02%	(13/2$^+$)	0.363		1.5573(32)	≈ 300
7.0969(20)	6.9673(20)	0.62%	0.6%	(5/2)$^-$	0.3520	0.3520	1.5573(32)	11
7.2786(20)	7.1457(20)	0.21%	0.2%	(7/2)$^-$	0.1699	0.1699	1.5573(32)	140
7.4482(20)	7.3122(20)	100.00%	96.8%	9/2$^-$	0.0	——	1.5573(32)	1.08(31)

* Weighted average of 28(3) ms [2018Sa45] and 20(2) ms [1951Me10].
** [1968Ba73].
*** [1993Li07].

Table 6
direct α emission from ^{223}Ac, J^{π} = (5/2$^-$), $T_{1/2}$ = 2.2(1) m*, BR_{α} = 99%.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)	I_{α}(abs)	J_f^{π}	$E_{daughter}$(^{219}Fr)	coincident γ-rays	R_0 (fm)	HF
6.000(15)	5.892(15)	0.02%	0.01%	(9/2)$^+$)	0.779	0.0728, 0.1717, 0.5188	1.5439(23)	15
6.076(15)	5.967(15)	0.07%	0.03%	(5/2$^+$)	0.706	0.1717, 0.5188	1.5439(23)	10.8
6.133(15)	6.023(15)	0.02%	0.01%	11/2$^-$	0.650		1.5439(23)	59
6.194(15)	6.083(15)	0.07%	0.03	9/2$^-$	0.589	0.0357, 0.0412, 0.424, 0.0569, 0.0783, 0.0824, 0.0836, 0.0927, 0.0986, 0.1194, 0.3152, 0.5067	1.5439(23)	37
6.247(15)	6.135(15)	0.22%	0.1%	7/2$^-$	0.5338	0.5188	1.5439(23)	20
6.252(15)	6.140(15)	0.07%	0.03%	(11/2$^+$)	0.530	0.530	1.5439(23)	69
6.276(15)	6.163(15)	0.11%	0.05%	(9/2$^+$)	0.5066	0.0357, 0.0412, 0.424, 0.0569, 0.0783, 0.0836, 0.0927, 0.0986, 0.1194, 0.3152, 0.5067	1.5439(23)	
6.291(15)	6.178(15)	2%	1%	5/2$^-$	0.4903	0.0357, 0.0412, 0.424, 0.0569, 0.0783, 0.0836, 0.0927, 0.0986, 0.1194, 0.2160, 0.2791, 0.2991, 0.3152, 0.4342, 0.4752, 0.5067, 0.5188	1.5439(23)	53
6.319(15)	6.206(15)	0.07%	0.03%	(9/2)	0.4622	0.46221.5439(23)	1.5439(23)	140
6.337(15)	6.223(15)	0.02%	0.01%		0.445		1.5439(23)	490
6.350(15)	6.236(15)	0.22%	0.1%	(9/2)	0.4321	0.1264, 0.2160, 0.2161	1.5439(23)	56
6.396(15)	6.281(15)	0.07%	0.03%	(5/2$^+$)	0.3843	0.2857	1.5439(23)	300
6.408(15)	6.293(15)	1.11%	0.5%	(7/2$^+$)	0.3724	0.0357, 0.0412, 0.424, 0.0783, 0.0836, 0.0986, 0.1194, 0.231, 0.2740, 0.3574, 0.3724	1.5439(23)	20
6.442(15)	6.326(15)	0.67%	0.3%	(5/2$^+$)	0.3403	0.0357, 0.0412, 0.424, 0.0986, 0.1194, 0.1248, 0.2057, 0.2417, 0.2842, 0.3253	1.5439(23)	46
6.448(15)	6.332(15)	0.31%	0.14%	(11/2$^-$)	0.336	0.0357, 0.0412, 0.424, 0.0644, 0.0783, 0.0836, 0.0986, 0.1194, 0.1346, 0.2692, 0.2544, 0.336	1.5439(23)	103
6.458(15)	6.342(15)	0.11%	0.05%		0.325		1.5439(23)	320
6.476(15)	6.360(15)	0.44%	0.2%	(9/2$^-$)	0.3056	0.0836, 0.0985, 0.0897, 0.1194, 0.2070, 0.2160, 0.3055	1.5439(23)	97
6.514(15)	6.397(15)	0.29%	0.13%	7/2$^-$	0.2692	0.0357, 0.0412, 0.424, 0.0783, 0.0836, 0.0986, 0.1194, 0.1346, 0.2692, 0.2544	1.5439(23)	210
6.567(15)	6.449(15)	0.4%	0.2%	11/2$^+$	0.216	0.216	1.5439(23)	230
6.573(15)	6.455(15)	0.2%	0.1%	3/2$^+$	0.2104	0.1954	1.5439(23)	490
6.591(15)	6.473(15)	6.7%	3%	7/2$^+$	0.1913	0.0357, 0.0412, 0.424, 0.0569, 0.0783, 0.0836, 0.0927, 0.0986, 0.1194, 0.1763, 0.1913	1.5439(23)	19
6.642(15)	6.523(15)	1.3%	0.6%	(1/2)$^-$	0.1398	0.1248	1.5439(23)	160
6.647(15)	6.528(15)	6.7%	3%	5/2$^-$	0.1344	0.0357, 0.0412, 0.424, 0.0783, 0.0836, 0.0986, 0.1194	1.5439(23)	33
6.683(15)	6.563(15)	31%	14%	7/2$^-$	0.0986	0.0412, 0.424, 0.0836	1.5439(23)	9.9
6.727(15)	6.606(15)	<2%	<1%	3/2$^+$	0.0562	0.0412	1.5439(23)	>210
6.767(15)	6.646(15)	100%	45%	5/2$^-$	0.015		1.5439(23)	6.6
6.783(15)	6.661(15)	71%	32%	9/2$^-$	0.0	——	1.5439(23)	11

* [1987Mi10].
** [1951Mi10].
*** Deduced from α energies, 8.072(10) MeV in [2021Wa16].
@ Deduced from α energies, 9.47(29)# MeV in [2021Wa16].
@@ Deduced from α energies, 9.34(20)# MeV in [2021Wa16].

Table 7
direct α emission from ^{227}Pa*, J^{π} = (5/2), $T_{1/2}$ =38.3(3) m**, BR_{α} = ≈ 85%**.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)	I_{α}(abs)	J^{π}_f*	$E_{daughter}$(^{223}Ac)*	coincident γ-rays*	R_0 (fm)	HF*
(6.391)***		$(9/2)^-$	≈0.8%	≈0.31%	0.185	0.0205, 0.0211, 0.0223, 0.0384, 0.0424, 0.0455, 0.0466, 0.0543, 0.0595, 0.0605, 0.0646, 0.0749, 0.0800, 0.0891, 0.1100, 0.1307	1.5306(28)	52
6.407(3)	6.294(3)@	$9/2^+$	≈1.1%	0.47%	0.1677	0.0223, 0.0424, 0.0455, 0.0483, 0.0575, 0.0605, 0.0646, 0.0770, 0.1100, 0.1251	1.5306(28)	40
6.434(3)	6.321(3)@	$(11/2^-)$	≈0.8%	≈0.31%	0.1414	0.0507, 0.0424, 0.0483	1.5306(28)	79
6.445(3)	6.331(3)@	$(7/2^+)$	≈1.4%	0.65%	0.1307	0.0205, 0.0211, 0.0384, 0.0466, 0.0595, 0.0800, 0.0891, 0.1307	1.5306(28)	50
6.465(3)@@	6.351(3)@	$(5/2^+)$	≈5.5%	≈2.8%	0.1102	0.0211, 0.0384, 0.0466, 0.0595, 0.0891	1.5306(28)	≈14
		$7/2^+$	≈9.4%	≈3.8%	0.1100	0.0223, 0.0424, 0.0455, 0.0605, 0.0646, 0.1100	1.5306(28)	≈9
6.485(3)@@	6.371(3)@	$9/2^-$	≈3.3%	≈1.4%	0.0907	0.0424, 0.0483	1.5306(28)	≈30
		$7/2^-$	≈2.1%	≈0.85%	0.891	0.0384, 0.0466, 0.0891	1.5306(28)	≈50
		$(3/2^+)$	≈1.0%	≈0.43%	0.0889	0.0889	1.5306(28)	≈100
6.511(3)	6.396(3)@	$5/2^+$	≈18.8%	≈7.7%	0.0646	0.0223, 0.424, 0.0605, 0.0646	1.5306(28)	7.0
6.525(3)	6.410(3)@	$5/2^-$	≈30%	≈12%	0.0507	0.0507	1.5306(28)	5.1
6.533(3)	6.418(3)@	$7/2^-$	≈23%	≈9.4%	0.0424	0.424	1.5306(28)	7.1
(6.580)***		$3/2^-$	≈11.5%	≈4.7%@@@	0.0041		1.5306(28)	21@@@
6.576(3)	6.460(3)@	$5/2^-$	100%	≈41%	0.0	——	1.5306(28)	2.5

* HF, Level energies and coincident γ's are taken from [1990Sh05]. I_{α}(rel) values are deduced by the evaluator from the HF values. Note that the vaues are very close to those of [1963Su10].

** [1951Me10].

*** Not observed as a individual resolved peak. Deduced by [1990Sh15] from α-γ coincidences.

@ [1963Su10].

@@ Likely an unresolved multiplet.

@@@ Deduced from [1990Sh05] by setting I_{α}(tot) =100%.

Table 8
direct α emission from ^{231}Np, J^{π} = (5/2), $T_{1/2}$ = 48.8(2) m*, BR_{α} = <1%**.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(abs)	J^{π}_f	$E_{daughter}$(^{227}Pa)	coincident γ-rays	R_0 (fm)	HF
6.368(8)	6.258(8)***	<1%**	(5/2)	0.0	——	1.510(25)	>1.5

* [1973We08].

** [1950Ma14].

*** [1973Ja06].

Table 9
direct α emission from ^{235}Am*, J^{π} = $(5/2^-)$, $T_{1/2}$ = 10.3(6) m, BR_{α} = 0.40(5)%.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(abs)	J^{π}_f	$E_{daughter}$(^{231}Np)	coincident γ-rays	R_0 (fm)	HF
6.569(14)	6.457(14)	0.40(5)%	$(5/2^-)$	0.0	——	1.518(17)	$1.1^{+0.6}_{-0.4}$

* All values from [2004As12, 2004Sa05].

Table 10
direct α emission from ^{243}Es*, J^{π} = $(7/2^+)$, $T_{1/2}$ = 10.3(6) m, BR_{α} = 59.7(25)%.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)	I_{α}(abs)	J^{π}_f	$E_{daughter}$(^{239}Bk)	coincident γ-rays	R_0 (fm)	HF
7.875(20)	7.745(20)	5.4(16)%	x2.5(3)%		0.150(22)	1.502(31)	500	
7.981(20)	7.850(20)	20.5(30)%	x9.7(15)%		0.044(22)	1.502(31)	290	
8.025(10)	7.893(10)	100(5)%	x47.4(24)%		0.0	——	1.502(31)	90

* All values from [2010An08], except where noted.

Table 11
direct α emission from ^{247}Md, J^{π} = 7/2$^-$, $T_{1/2}$ = 1.26(8) s*, BR_{α} = 99.14(10)%**.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)***	I_{α}(abs)	J_f^{π}**	$E_{daughter}$(^{243}Es)**	coincident γ-rays**	R_0 (fm)	HF
8.474(10)	8.337(10)$^{@}$	6.5(11)%***	6(1)%		0.304	0.2940	1.511(22)	9^{+7}_{-4}
8.509(13)	8.371(13)**			(7/2$^-$)	0.2714	0.2714		
8.549(7)	8.411(7)$^{@@}$	100%	92(1)%***	(5/2$^-$)	0.230	0.1381, 0.1640	1.511(22)	$1.0^{+0.7}_{-0.4}$
8.560(10)	8.421(10)**			(7/2$^-$)	0.219	0.1571, 0.2096, 0.2190		
8.758(20)	8.616(20)**	2.2(11)%	2(1)%***	(7/2$^+$)	0.0	——	1.511(22)	240^{+310}_{-140}

* Weighted average of 1.20(12) s [2022He04] and 1.3(1) s [2010An08].
** [2022He04]. No Intensities were reported in this work.
*** [2010An08].
$^{@}$ Weighted average of 8.334(11) MeV [2022He04] and 8.345(20) MeV [2010An08].
$^{@@}$ Weighted average of 8.406(10) MeV [2022He04] and 8.416(10) MeV [2010An08].
Note that there seems to be considerable disagreement in both isomers between [2022He04] and [2010An08], with different α transitions reported.

Table 12
direct α emission from ^{247m}Md, Ex. = 153(11) keV, J^{π} = 1/2$^-$, $T_{1/2}$ = 240(20) ms*, BR_{α} = 99.14(10)%**.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(rel)***	I_{α}(abs)	J_f^{π}**	$E_{daughter}$(^{243}Es)**	coincident γ-rays**	R_0 (fm)	HF
8.540(5)	8.402(5)**				0.391			
8.590(11)	8.451(11)**			(3/2$^-$)	0.3421	0.3421		
8.803(20)	8.660(20)***	20(6)%***	14(5)%		0.125		1.511(22)	9^{+8}_{-5}
8.864	8.720**			(1/2$^-$)	0.068			
8.928(40)	8.783(40)***	100%***	66(8)%	(3/2$^-$)	0.0	——	1.511(22)	$4.3^{+3.2}_{-2.1}$

* Weighted average of 230(30) s [2022He04] and 250(40) s [2010An08].
** [2022He04]. No Intensities were reported in this work.
*** [2010An08].
$^{@}$ Weighted average of 8.334(11) MeV [2022He04] and 8.345(20) MeV [2010An08].
$^{@@}$ Weighted average of 8.406(10) MeV [2022He04] and 8.416(10) MeV [2010An08].
Note that there seems to be considerable disagreement in both isomers between [2022He04] and [2010An08], with different α transitions reported.

Table 13
direct α emission from ^{251}Lr*, J^{π} = (7/2$^-$), $T_{1/2} = 42^{+42}_{-14}$ ms, BR_{α} = 100%.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(abs)	J_f^{π}	$E_{daughter}$(^{247}Md)	coincident γ-rays	R_0 (fm)	HF
9.396(19)	9.246(19)	100%	(7/2$^-$)	0.0	——	1.486(28)	$1.3^{+1.9}_{-0.8}$

* All values taken from [2022Hu21].

Table 14
direct α emission from ^{251m}Lr*, Ex = 117(27), J^{π} = (1/2$^-$), $T_{1/2} = 24.4^{+7.0}_{-4.5}$ ms, BR_{α} = 100%.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(abs)	J_f^{π}	$E_{daughter}$(^{247}Md)	coincident γ-rays	R_0 (fm)	HF
9.359(19)	9.210(19)	100%	(1/2$^-$)	0.153(11)		1.486(28)	$0.6^{+0.6}_{-0.3}$

* All values taken from [2022Hu21].

Table 15
direct α emission from ^{255}Db*, $T_{1/2} = 37^{+51}_{-14}$ ms, BR_{α} = ≈33%**.

E_{α}(c.m.)	E_{α}(lab)	I_{α}(abs)	J_f^{π}	$E_{daughter}$(^{251}Lr)	coincident γ-rays	R_0 (fm)	HF
9.716(27)	9.564(27)	≈33%**	(7/2$^-$)	0.0	——	1.472(45)	≈ 5

* All values taken from [2022Hu21].
** Based on 3 events observed (2 SF and 1 α) [2022Hu21].

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