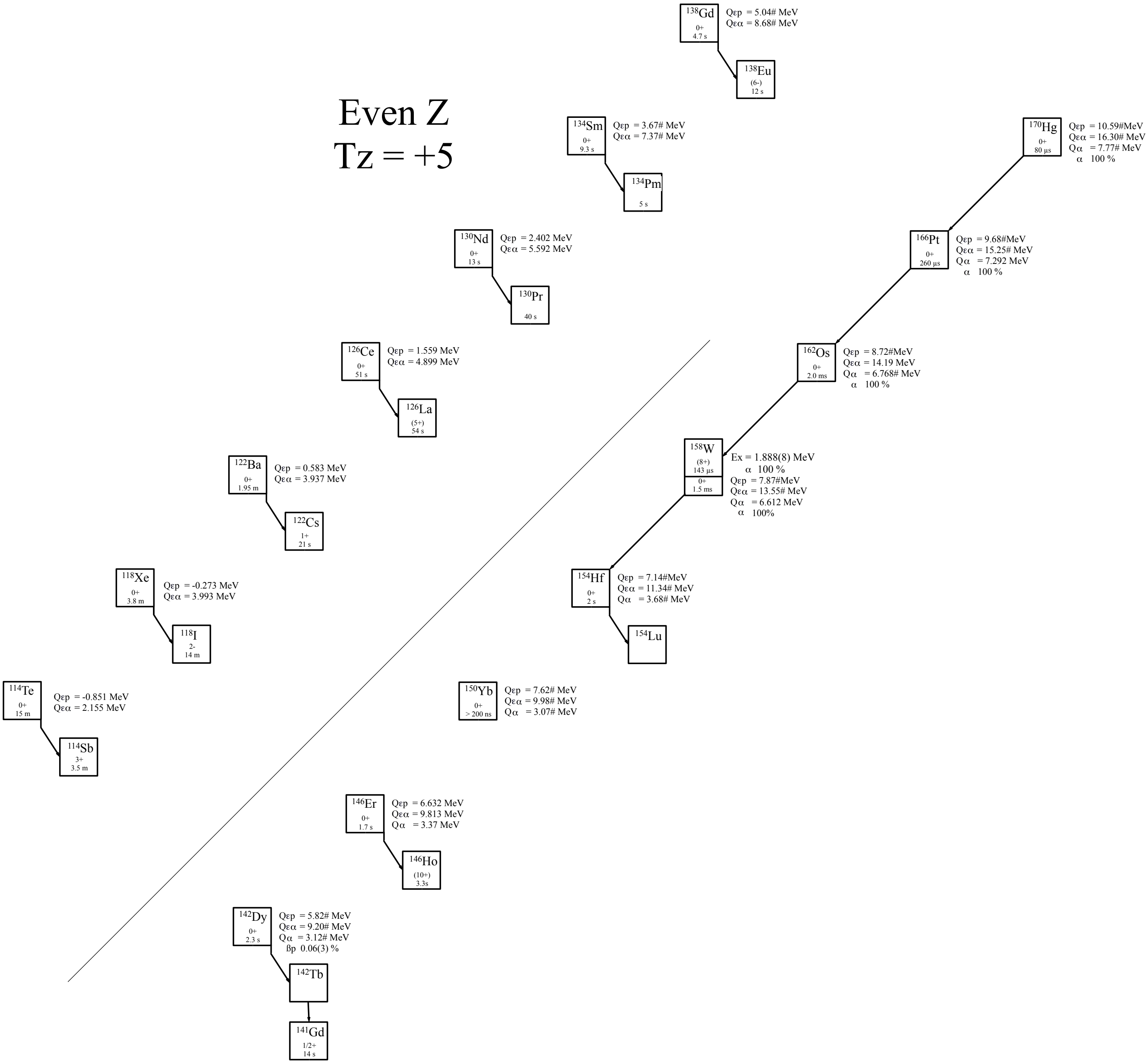

Fig. 1: Known experimental values for heavy particle emission of the even-Z T_z= +5 nuclei.

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Table 1
Observed and predicted β-delayed particle emission from the even-Z, T_z = +5 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	$Q_{\varepsilon p}$	$BR_{\beta p}$	$Q_{\varepsilon 2p}$	$Q_{\varepsilon\alpha}$	Experimental
^{114}Te		0^+	15.2(7) m	2.610(30)	-0.851(24)	——	-8.477(25)	2.155(27)	[**1976Wi11**]
^{118}Xe		0^+	3.8(9) m	2.892(22)	-0.273(17)	——	-5.835(12)	3.993(22)	[**1976Be61**]
^{122}Ba		0^+	1.95(15) m	3.540(40)	0.583(30)		-5.440(32)	3.937(34)	[**1978Bo32**]
^{126}Ce		0^+	51.0(4) s	4.150(90)	1.559(30)		-3.657(29)	4.899(44)	[**2002Ko02**]
^{130}Nd		0^+	13(3) s	4.580(70)	2.402(40)		-2.549(61)	5.952(95)	[**2000Xu08**]
^{134}Sm		0^+	9.3(8) s	5.39(20)#	3.67(20)#		-0.73(20)#	7.37(21)#	[**1990Ko25**]
^{138}Gd		0^+	4.7(9) s	6.09(20)#	5.04(20)#		0.93(21)#	8.68(21)#	[**1999Xi04**]
^{142}Dy		0^+	2.3(3) s	6.44(20)#	5.82(73)#	0.06(3) %	2.29(73)#	9.20(73)#	[**1991Fi03**, 1986Wi15]
^{146}Er		0^+	1.7(6) s	6.916(9)	6.632(9)		3.468(29)	9.813(70)	[**1993To05**]
^{150}Yb		0^+	$\geq$ 200 ns	7.66(36)#	7.62(30)#		4.58(31)#	9.98(30)#	[**2000So11**]
^{154}Hf		0^+	2(1) s	6.94(36)#	7.14(36)#		4.41(31)#	11.34(36)#	[**1981Ho10**]
^{158}W		0^+	1.5(2) ms	7.43(36)#	7.87(36)#		5.43(31)#	13.55(36)#	[**2000Ma95**]
^{158m}W	1.888(8)	(8^+)	143(19) μs	9.32(36)#	9.76(36)#		7.32(31)#	15.44(36)#	[**2000Ma95**]
^{162}Os		0^+	2.05(10) ms	7.95(36)#	8.72(36)#		6.75(31)#	14.19(36)#	[**2000Mu95**]
^{166}Pt		0^+	260^{+100}_{-60} μs	8.52(36)#	9.68(36)#		8.11(31)#	15.25(36)#	[**2019Hi06**]
^{170}Hg		0^+	80^{+40}_{-4} μs	9.12(36)#	10.59(36)#		9.504(31)#	16.30(36)#	[**2019Hi06**]

Table 2
Particle emission from the even-Z, T_z = +5 nuclei. Unless otherwise stated, all Q-values and separation energies are taken from [2021Wa16] or deduced from values therein.

Nuclide	S_p	BR_p	S_{2p}	Q_α	BR_α	Experimental
^{114}Te	4.762(30)	——	7.813(24)	1.527(28)		
^{118}Xe	4.929(28)	——	7.393(26)	1.386(27)		
^{122}Ba	4.796(31)	——	7.014(308)	1.045(30)		
^{126}Ce	4.350(38)	——	6.309(31)	1.363(40)		
^{130}Nd	4.112(41)	——	5.640(40)	1.799(40)		
^{134}Sm	3.26(20)#	——	4.53(20)#	2.80(20)#		
^{138}Gd	2.80(20)#	——	3.43(20)#	3.29(28)#		
^{142}Dy	2.87(74)#	——	2.92(73)#	3.12(76)#		
^{146}Er	2.49(10)	——	2.330(10)	3.37(73)		
^{150}Yb	2.18(36)#	——	1.93(30)#	3.07(30)#		
^{154}Hf	1.64(34)#	——	1.04(34)#	3.68(42)#		
^{158}W	1.39(34)#	——	0.45(34)#	6.612(3)	100 %	[**2000Ma95**, 2005Se11, 1996Pa01, 1989Ho12]
^{158m}W	-0.50(34)#		-1.44(34)#	8.503(8)	100 %	[**2000Ma95**, 2005Se11, 2017Jo09, 1996Pa01, 1989Ho12]
^{162}Os	0.95(34)#	——	-0.25(34)#	6.768(3)	100 %	[**2000Mu95**, 2004Jo12, 1996Bi07, 1989Ho1]
^{166}Pt	0.48(34)#	——	-1.06(34)#	7.292(7)	100 %	[**2019Hi06**, 1996Bi07]
^{170}Hg	0.09(42)#		-1.85(34)#	7.773(30)*	100 %	[**2019Hi06**]

* From [2019Hi06], 7.77(31)# in [2021Wa16].

Table 3
direct α emission from ^{158}W*, $J^\pi = 0^+$, $T_{1/2}$= 1.5(2) ms, BR_α = 100 %.

E_α(c.m.)	E_α(lab)	I_p(absb)	J^π_f	$E_{daughter}$(^{154}Hf)	coincident γ-rays	R_0 (fm)	HF
6.612(3)	6.445(3)	100%	0^+	0.0	——	1.557(10)	1.0

* All values from [2000Ma95].

Table 4
direct α emission from ^{158m}W*, Ex = 1.888(8) MeV, $J^\pi = 0^+$, $T_{1/2}$= 143(19) μs, BR_α = 100 %.

E_α(c.m.)	E_α(lab)	I_p(absb)	J^π_f	$E_{daughter}$(^{154}Hf)	coincident γ-rays	R_0 (fm)	HF
8.501(7)	8.286(7)	100%	0^+	0.0	——	1.557(10)	1.0

* All values from [2000Ma95].

Table 5
direct α emission from ^{162}Os*, J^{π} = 0^{+}, $T_{1/2}$= 2.05(10) ms, BR_{α} = 100 %.

E_{α}(c.m.)	E_{α}(lab)	I_p(absb)	J^{π}_f	$E_{daughter}$(^{158}W)	coincident γ-rays	R_0 (fm)	HF
6.767(3)	6.600(3)	100%	0^{+}	0.0	—–	1.561(3)	1.0

* All values from [2000Ma95].

Table 6
direct α emission from ^{166}Pt*, J^{π} = 0^{+}, $T_{1/2}$= 260^{+100}_{-60} μs, BR_{α} = 100 %.

E_{α}(c.m.)	E_{α}(lab)	I_p(absb)	J^{π}_f	$E_{daughter}$(^{162}Os)	coincident γ-rays	R_0 (fm)	HF
7.294(8)	7.118(8)	100%	0^{+}	0.0	—–	1.555(26)	1.0

* All values from [2019Hi06].

Table 7
direct α emission from ^{170}Hg*, J^{π} = 0^{+}, $T_{1/2}$=80^{+40}_{-4} μs, BR_{α} = 100 %.

E_{α}(c.m.)	E_{α}(lab)	I_p(absb)	J^{π}_f	$E_{daughter}$(^{168}Pt)	coincident γ-rays	R_0 (fm)	HF
7.773(30)	7.590(30)	100%	0^{+}	0.0	—–	1.532(38)	1.0

* All values from [2019Hi06].

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