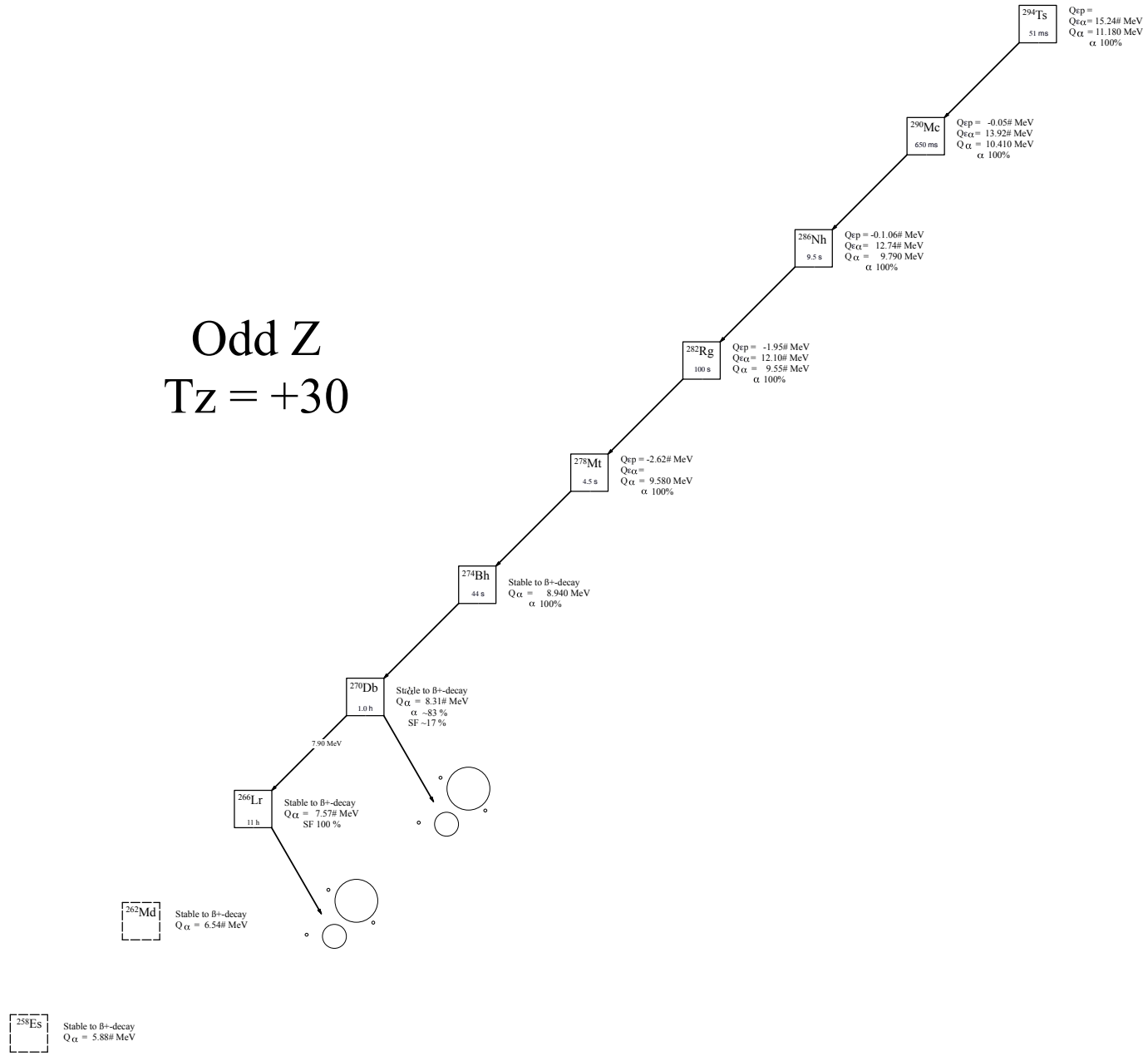

Fig. 1: Known experimental values for heavy particle emission of the odd-Z T_z= +30 nuclei.

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Table 1
Observed and predicted β-delayed particle emission from the odd-Z, T_z = +30 nuclei. Unless otherwise stated, all Q-values are taken from [2021Wa16] or deduced from values therein.

Nuclide	J^π	$T_{1/2}$	Q_ε	Q_{β^-}	$Q_{\beta^- \alpha}$	Experimental
^{258}Es				2.280(45)#	9.14(40)#	
^{262}Md				1.57(58))#	9.00(49)#	
^{266}Lr		11^{+21}_{-5} h		1.53(68)#	10.96(58)#	[**2019Ko04, 2014Ko04**]
^{270}Db		$1.0^{+1.9}_{-0.4}$ h		0.97(74)#	10.02(71)#	[**2019Ko04, 2014Ko04**]
^{274}Bh		44^{+34}_{-13} s		0.36(74)#	11.83(69)#	[**2017Og01**]
				$Q_{\varepsilon p}$	$Q_{\varepsilon \alpha}$	
^{278}Mt		$4.5^{+3.5}_{-1.3}$ s	2.55(65)#	-2.62(83)#		[**2017Og01**]
^{282}Rg		100^{+70}_{-30} s	2.95(66)#	-1.95(84)#	12.10(66)#	[**2017Og01**]
^{286}Nh		$9.5^{+6.3}_{-2.7}$ s	3.51(92)#	-1.06(84)#	12.74(66)#	[**2017Og01**]
^{290}Mc		650^{+490}_{-200} ms	4.06(92)#	-0.05(78)#	13.92(92)#	[**2017Og01**]
^{294}Ts		51^{+38}_{-16} ms			15.241(918)	[**2017Og01**]

Table 2
Particle separation, Q-values, and measured values for direct particle emission of the odd-Z, T_z = +30 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}	Experimental
^{258}Es		5.88(50)#			
^{262}Md		6.54(20)#			
^{266}Lr		7.57(30)#		100%	[**2019Ko04, 2014Ko04**]
^{270}Db		8.31(20)#	$\approx$ 83%	$\approx$ 17%	[**2019Ko04, 2014Ko04**, 2017Og01, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]
^{274}Bh	3.45(70)#	8.940(60)	100%*		[**2017Og01**, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]
^{278}Mt	2.90(73)#	9.580(30)	100%*		[**2017Og01**, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]
^{282}Rg	2.42(77)#	9.55(10)#	100%*		[**2017Og01**, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]
^{286}Nh	2.42(78)#	9.790(50)	100%*		[**2017Og01**, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]
^{290}Mc	1.8(10)#	10.410(40)	100%*		[**2017Og01**, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]
^{294}Ts	1.46(79)#	11.180(40)	100%*		[**2017Og01**, 2013Og01, 2013Og04, 2012Og06, 2012OgZZ, 2010Og01, 2010Og04]

* Only α-decay has been observed.

Table 3
direct α emission from ^{270}Db*, $T_{1/2} = 1.0^{+1.9}_{-0.4}$ h, BR_α = $\approx$ 83%.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{266}Lr)	coincident γ-rays (keV)	HF
8.02(3)	7.90(3)	$\approx$ 83%.				

* All values from [2014Kh04, 2019Kh04].

Table 4
direct α emission from ^{274}Bh*, $T_{1/2} = 44^{+34}_{-13}$ s, BR_α = 100%.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{270}Db)	coincident γ-rays (keV)	HF
8.86-8.97	8.73-8.84	100%				

* All values from [2017Og01], based on all available measurements.

Table 5
direct α emission from ^{278}Mt*, $T_{1/2} = 4.5^{+3.5}_{-1.3}$ s, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{274}Bh)	coincident γ-rays (keV)	HF
9.52-9.69	9.38-9.55	100%				

* All values from [2017Og01], based on all available measurements.

Table 6
direct α emission from ^{282}Rg*, $T_{1/2} = 100^{+70}_{-30}$ s, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{278}Mt)	coincident γ-rays (keV)	HF
8.99-9.18	8.86-9.05	100%				

* All values from [2017Og01], based on all available measurements.

Table 7
direct α emission from ^{286}Nh*, $T_{1/2} = 9.5^{+6.3}_{-2.7}$ s, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{282}Rg)	coincident γ-rays (keV)	HF
9.75-9.89	9.61-9.75	100%				

* All values from [2017Og01], based on all available measurements.

Table 8
direct α emission from ^{290}Mc*, $T_{1/2} = 650^{+490}_{-200}$ ms, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{286}Nh)	coincident γ-rays (keV)	HF
9.92-10.45	9.78-10.31	100%				

* All values from [2017Og01], based on all available measurements.

Table 9
direct α emission from ^{294}Ts*, $T_{1/2} = 51^{+38}_{-16}$ ms, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{290}Mc)	coincident γ-rays (keV)	HF
10.96-11.22	10.81-11.07	100%				

* All values from [2017Og01], based on all available measurements.

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