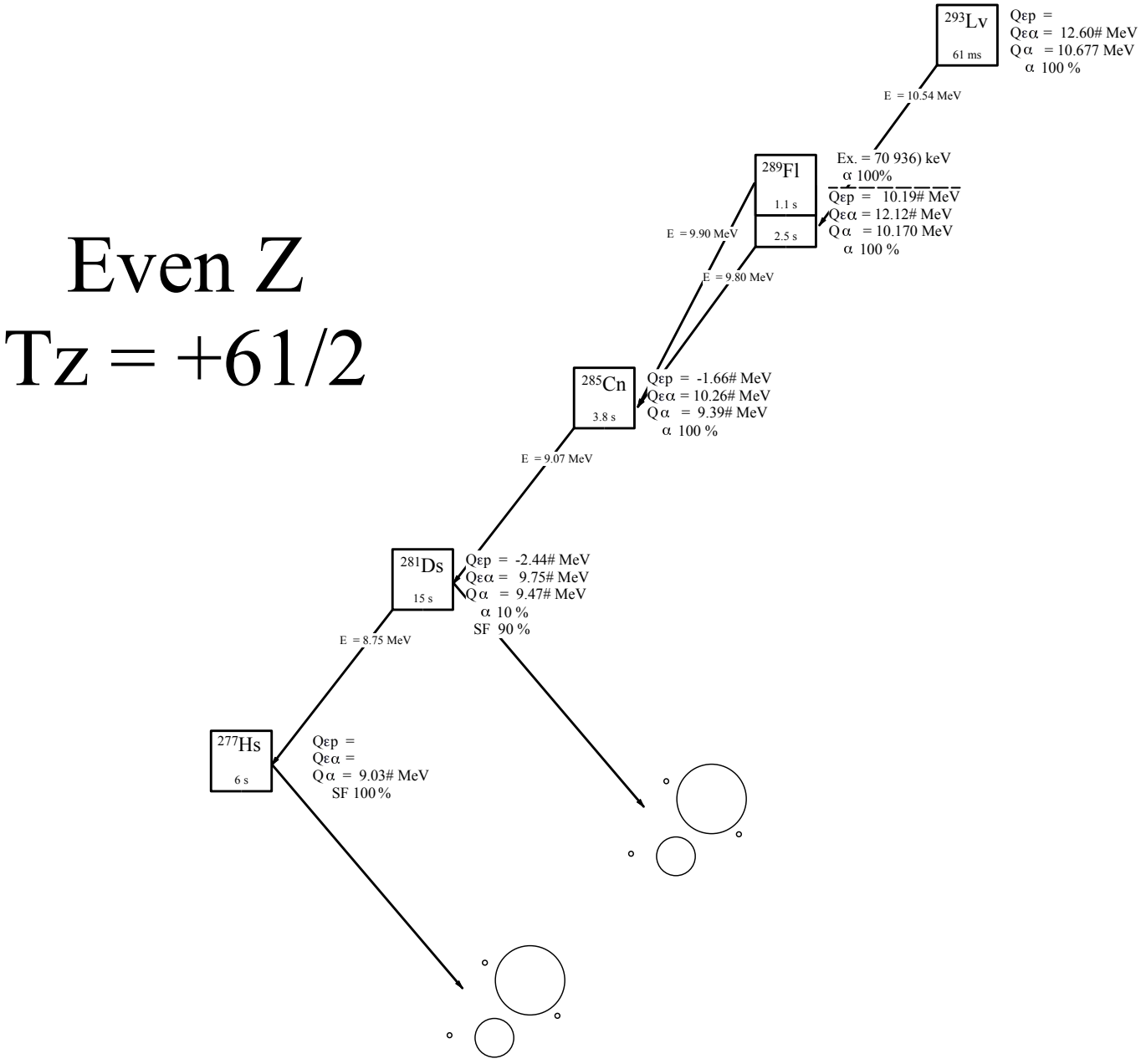

Fig. 1: Known experimental values for heavy particle emission of the even-Z T_z= +61/2 nuclei.

Last updated 5/25/25

Table 1
Observed and predicted β-delayed particle emission from the even-Z, T_z = +61/2 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
^{277}Hs			6^{+15}_{-2} s*	0.28(75)#			[**2023Co04, 2011Ga19**]
^{281}Ds			15^{+3}_{-2} s**	0.87(78)#	-2.44(78)#	9.75(78)#	[**2023Co04, 2004Og12**]
^{285}Cn			36^{+8}_{-5} s***	1.36(79)#	-1.66(71)#	10.26(79)#	[**2023Co04, 2004Og12**]
^{289}Fl			$2.5^{+0.8}_{-0.5}$ s	1.92(72)#	-0.75(87)#	11.31(79)#	[**2023Co04**]
^{289m}Fl	0.070(36)		$1.1^{+1.1}_{-0.4}$ s	1.99(81)#	-0.05(94)#	11.38(87)#	[**2023Co04**]
^{293}Lv			61^{+57}_{-20} ms			12.60(72)#	[**2004Og12**]

* Weighted average of 18^{+25}_{-7} ms [2023Co04] and 3^{+15}_{-2} ms [2011Ga19].
** Weighted average of 19^{+4}_{-3} ms [2023Co04] and $11.1^{+5.0}_{-2.7}$ ms [2004Og12].
*** Weighted average of 42^{+10}_{-7} s [2023Co04] and 29^{+13}_{-7} ms [2004Og12].

Table 2
Particle separation, Q-values, and measured values for direct particle emission of the even-Z, T_z = +61/2nuclei. 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
^{277}Hs	4.86(75)#	9.03(20)#		100%	[**2023Co04, 2011Ga19**, 2012Ho12]
^{281}Ds	4.53(78)#	9.47(21)#	10%	90%	[**2023Co04, 2011Ga19, 2004Og12**, 2017Ka66, 2014MoZU, 2014Ya33, 2012Ho12, 2010Du06, 2010DuZY, 2007Og05, 2005Og02, 2005OgZZ, 2004Og12, 2004Og07, 2004OgZZ, 2000Og01]
^{285}Cn	4.17(71)#	9.39(12)#	100%		[**2023Co04, 2011Ga19, 2004Og12**, 2017Ka66, 2014MoZU, 2014Ya33, 2012Ho12, 2010Du06, 2010DuZY, 2007Og05, 2005Og02, 2005OgZZ, 2004Og12, 2004Og07, 2004OgZZ, 2002Og09, 2001Og01, 2000Og01]
^{289}Fl	3.79(87)#	9.954(65)#	100%		[**2023Co04, 2011Ga19, 2004Og12**, 2017Ka66, 2014MoZU, 2014Ya33, 2012Ho12, 2010Du06, 2010DuZY, 2007Og05, 2005Og02, 2005OgZZ, 2004Og12, 2004Og07, 2004OgZZ, 2002Og09, 2001Og01, 2000Og01]
^{289m}Fl	3.72(94)#	10.024(74)#	100%		[**2023Co04**]
^{293}Lv	3.32(87)#	10.677(64)	100%		[**2004Og12**, 2017Ka66, 2014MoZU, 2014Ya33, 2012Ho12, 2010Du06, 2010DuZY, 2007Og05, 2005Og02, 2005OgZZ, 2004Og12, 2004Og07, 2004OgZZ, 2002Og09, 2001Og01, 2000Og01]

Table 3
direct α emission from ^{281}Ds*, $T_{1/2} = 15^{+3}_{-2}$ s**, BR_α = 10%.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{277}Hs)	coincident γ-rays (keV)	HF
8.88(2)	8.75(2)	10%		0.090		

* All values from [2023Co04], except where noted.
** Weighted average of 18^{+25}_{-7} ms [2023Co04] and 3^{+15}_{-2} ms [2011Ga19].

Table 4
direct α emission from ^{285}Cn*, $T_{1/2} = 36^{+8}_{-5}$ s**, BR_α = 100%.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{281}Ds)	coincident γ-rays (keV)	HF
9.20(2)	9.07(2)	100%		0.124		

* All values from [2023Co04], except where noted.
** Weighted average of 42^{+10}_{-7} s [2023Co04] and 29^{+13}_{-7} ms [2004Og12].

Table 5
direct α emission from ^{289}Fl*, $T_{1/2} = 2.5^{+0.8}_{-0.5}$ s, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{285}Cn)	coincident γ-rays (keV)	HF
9.94(2)	9.80(2)	100%		0.030		

* All values from [2023Co04].

Table 6
direct α emission from ^{289m}Fl*, Ex. = 70(36) keV, $T_{1/2} = 1.1^{+1.1}_{-0.4}$ s, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{285}Cn)	coincident γ-rays (keV)	HF
10.04(3)	9.90(3)	100%		0.0		

* All values from [2023Co04].

Table 7
direct α emission from ^{293}Lv*, $T_{1/2} = 61^{+57}_{-20}$ ms, $BR_\alpha = 100\%$.

E_α(c.m.)	E_α(lab)	I_α(abs)	J^π_f	$E_{daughter}$(^{285}Cn)	coincident γ-rays (keV)	HF
10.69(6)	10.54(6)	100%				

* All values from [2004Og12].

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