Target isotope: $^{51}_{23}$V $I^{\pi}_{\circ} = 7/2^-$ *Abundance:* 99.750(2) % $S_{\rm p} = 10504.3(11)$ keV

$^{52}_{24}$Cr(p)

$E_{\circ}$ [keV]	J^{π}	Γ [keV]	$S_{\rm p\gamma}$ [eV]	$E_{\rm cm}$ [keV]	Part. out	$E^*_{\rm analog}$ [keV]	E^* [keV]	Ref.			
739(2)			0.03(1)				11225	74Ro44			
755(2)							11241	74Ro44			
760(2)							11247	74Ro44			
766(2)			0.05(2)	751		0	11256	74Ro44	66Te01	72Ah08	73Fa12
773(2)			0.06(1)	759			11263	74Ro44		73Fa12	
784(2)			0.13(3)	769		23	11273	66Te01	72Ah08	73Fa12	
800(2)			0.06(2)	785			11289	74Ro44	73Fa12		
815(2)							11300	74Ro44			
828(2)							11313	74Ro44			
851(2)							11335	74Ro44			
895(2)							11378	74Ro44			
901(2)							11384	74Ro44			
912(2)*			0.58(10)	894		146	11399	74Ro44	66Te01	72Ah08	
1174(2)			0.84(24)				11651	74Ro44			
1210(2)*	2^+	4	3.01(78)	1187		431	11691	74Ro44	66Te01	72Ah08	65Ma0A
1232(2)			0.56(16)				11708	74Ro44			
1244(2)			1.18(34)				11720	74Ro44			
1265(2)			1.52(43)				11741	74Ro44			
1558(6)*	3^+	8		1528		768	12032	66Te01	72Ah08		
1565(6)*	3^+			1535		787	12039	66Te01	72Ah08		
1629(6)*	4^+	8		1598		839	12102	66Te01	72Ah08		
2203(6)				2161		1410	12665	66Te01	72Ah08		
2273(6)				2229		1486	12734	66Te01	72Ah08		
2335(10)*	4^+	14		2290	n,p’	1550	12794	66Te01	72Ah08	69Co0A	
2515(10)				2467	$n_{\circ}$,p’	1733	12971	66Te01	72Ah08	69Co0A	
2545(10)	3^+			2496	$n_{\circ}$,p’	1752	13000	66Te01	72Ah08	69Co0A	
2580(10)	3^+			2530	$n_{\circ}$,p’	1786	13035	66Te01	72Ah08	69Co0A	
2617(10)				2567	$n_{\circ}$,p’	1827	13071	72Ah08		69Co0A	
2875(10)	2^+,3^+			2820	$n_{\circ}$,n_3,p’	2084	13324	72Ah08		69Co0A	
2945(6)				2888			13393	72Ah08			
2985(10)	$\langle 2^+,3^+\rangle$	5		2928	n	$\langle 2152\rangle$	13432	72Ah08			
3085(10)	2^+,3^+			3026	$n_{\circ}$,n_3,n_4,p’	2292	13530	72Ah08		69Co0A	

Additional data on this isotope can be found in [80Zy01, 71Ah02, 71Fa0A, 69Co0A, 66Te0A, 61An06, 50St64].

* In the measured γ-spectra from these proton resonances [71De25, 64Ma47] no transitions to the ground state and to 0^+_1 state at 2650 keV were found.

Fine structure of IAR of the ^{51}V(p,γ) reaction at $E_{\circ}$=2330 keV was observed in [66Te01].

Alpha capture to the giant dipole resonance of ^{42}Ca was studied in [76Fo04] in the energy range of $E_{\circ}$=7–12 MeV corresponding to E^*=16–20 MeV a great number of strong resonances was found. Similar structures which are different in outgoing γ-channels (γ_o, γ_1) were found in compound nuclei ^{42}Ca and ^{44}Ca as well.

The role of ^{45}V(p,γ) reaction and levels of ^{46}Cr in ^{44}Ti production in core-collapsed supernovae is discussed in [03Ho0A].

Application of ^{51}V(p,γ)^{52}Cr cross section measurements for estimation of competition effects in proton-induced reactions is discussed in [80Zy01].

Branching ratios and partial radiative widths [71De25]. Part 1. $^{52}_{24}\mathbf{Cr}(\mathrm{p})$

E^*	J^π	$E_\circ$	Br.	Γ_{γ_i}	Br.	Γ_{γ_i}	Br.	Γ_{γ_i}	Γ_{γ_i}	Br.	Γ_{γ_i}	Ref.	
[keV]		[keV]	[%]	[meV]	[%]	[meV]	[%]	[meV]	[meV]	[%]	[meV]		
E^*			0.0	1434		2370		2768	2965		3162		
J^π_f			0^+	2^+		4^+		4^+	2^+		2^+		
1434.090(14)	2^+		100										
2369.629(18)	4^+												
2646.9(10)	0^+												
11247*		766										66Te01	72Ah08
11256(2)													
11262(2)	3^+												
11273(2)	$\langle 5^+ \rangle$	784										66Te01	72Ah08
11289(3)													
11399(3)	4^+	912					58(6)					74Ro44	
11402(9)	1^+												
11656(3)	1,2												
11691(3)	2^+	1210		230	50(4)	54	12(2)			8(2)	30	74Ro44	66Te01
11713(3)													
11725(3)													
11745(3)													
11765(3)													
11837(3)													
12033(6)	$\langle 8 \rangle^-$	1558		85		160		200	13			66Te01	72Ah08
12039(5)	3^+	1565		230		350		95				66Te01	72Ah08
12101(5)	4^+	1629		26		150		40	13		$\langle 10 \rangle$	66Te01	72Ah08
12665(6)	3^+	2203										66Te01	72Ah08
12734(6)	$\langle 7^+ \rangle$	2273										66Te01	72Ah08
12793(6)	4^+	2335		7		120		15	15			66Te01	72Ah08
12977(6)	X^-	2521										66Te01	72Ah08
12994(6)	$[3^+]$	2538										66Te01	72Ah08
13038(6)	$[3^+]$	2583										66Te01	72Ah08
13051*		2597										72Ah08	
13319	$[2^+,3^+]$	2875										72Ah08	
13393	6^-	2945										72Ah08	
13419	0^+	2972										72Ah08	
15482(7)	8^-												
13530*	$[2^+,3^+]$	3085										72Ah08	

Additional data on this isotope can be found in [85FeZX, 80Zy01, 73Fa12, 71Ah02, 71Fa0A, 69Co0A, 66Te0A, 65Br0A, 65Ma0A, 64Ma47].

* Not included in [02Nu0A].

For resonance at $E_\circ$=1210 keV branching ratios in [%] are from [74Ro44] and Γ_{γ_i} from [71De25].

Branching ratios and partial radiative widths [71De25]. Part 2. $^{52}_{24}\mathbf{Cr}(\mathrm{p})$

E^*	Γ_{γ_i}	Br.	Γ_{γ_i}	Br.	Γ_{γ_i}	Br.	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Br.	Γ_{γ_i}	Br.	Br.	Br.
[keV]	[meV]	[%]	[meV]	[%]	[meV]	[%]	[meV]	[meV]	[meV]	[meV]	[meV]	[meV]	[%]	[meV]	[%]	[%]	[%]
E^*	3415		3472		3619		3772	3947	4016	4040	4630	4743		4837	5054	5446	5563
J^π_f	4^+				5^+			2^+									
11399(3)		7(3)				13(3)											22(5)
11691(3)				9	10		10	10	10			24	6(2)		4(2)	11(3)	
12033(6)	140		80					20	8	12	80			24			
12101(5)	53		26		26			30	40	42	62	10		10			
12793(6)	40		30		70			20			40	15		15			