^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Huo Su, Yang Dong	NDS 112, 1513 (2011)	29-Oct-2009

Others: 1970Sa19, 1973EL16, 1969FR22, 1974PE15, 1992Ma23.
Measured Eγ, Iγ (1969Fr22,1970Sa19,1973El14,1973El16,1992Gu03, 2000Ma82, and 2003Kr11); σ(E,Eγ,θ) (1974Pe15,1978Ch18); σ(E,Eγ) (1992Gu03); γ(θ) (1992Ma23), DSA (2003Kr11), IAR (1973Ah03).
See also 1988St03, 1988St14.

^{56}Fe Levels

E(level)†	Jπ#	$T_{1/2}$a	E(level)†	Jπ#	$T_{1/2}$a
0	0^+@		4698.6 *13*		
846.5 *8*	2^+@		4722.4 *13*		
2085.9 *9*	4^+@		4728.14‡ *18*	2^+	
2659.0 *9*	2^+@		4737.33 *4*	2^+	32 fs *+7−6*
2941.50‡ *3*			4784.12‡ *25*	$(1,2^+)$&	
2960.9 *8*	2^+@		4812.68 *10*	$4^+,5^+$	
3076.59 *3*	(3^-)@	37 fs *+12−8*	4847.9 *3*	(2^+)	
3120.11‡ *5*	(1^+)@		4866.52‡ *3*	$(1,2)^+$&	9.7‡ fs *20*
3123.2 *9*	4^+@		4869.4 *10*		
3369.84‡ *4*	2^+@		4878.28 *6*	2^+	35 fs *+10−7*
3388.55‡ *5*	6^+@		4882.8 *10*		
3445.9 *9*	3^+@		5023.49‡ *3*	$(1,2)^+$&	6‡ fs *3*
3448.41‡ *5*	1^+@		5026.9 *10*		
3600.21‡ *7*	$(1,2^+)$@		5033.02 *7*	$(4,5)^+$	10 fs *+3−2*
3605.69‡ *6*	2^+@		5038.49 *12*	4^+	78 fs *+36−22*
3610.21‡ *19*	0^+@		5055.87 *8*	$4^+,(3^+)$	66 fs *+63−25*
3744.13‡ *24*	2^+@		5131.66 *10*	$3^+,4^+,(2^+)$	73 fs *+28−17*
3755.57‡ *4*	6^+@		5149.54 *11*	2^+	
3759.6 *10*			5186.82 *10*	2^+@	
3829.77‡ *9*	2^+@		5194.80‡ *18*	$(1,2^+)$&	
3856.3 *9*	3^+		5232.57 *6*	$2^+,(3^+)$	8 fs *+6−5*
4049.2‡ *9*	3^+@		5235.89 *8*	4^+	104 fs *+55−28*
4085.93‡ *17*	$(1,2^+)$@		5256.9‡ *3*	2^+@	
4100.8 *9*	4^+@		5283.90 *20*		
4120.3 *9*	3^+@		5302.94 *6*	4^+	28 fs *+15−9*
4300.0 *4*	$\geq 2^+$		5307.81 *22*		
4368.13 *25*			5451.60 *8*	4^+	98 fs *+40−28*
4393.4 *11*	3^+@		5479.15 *11*	(4^+)	25 fs *+24−9*
4401.27 *5*	2^+	56 fs *+48−22*	5488.24 *10*	2,3,4	3 fs *2*
4460.4 *9*	4^+@		5503.46 *6*	$(2,3,4)^+$	5 fs *2*
4509.56 *8*	3^-	37 fs *+10−7*	5510.10 *24*		
4540.02‡ *4*	$1^+,2^+$@		5538.07‡ *18*	$(1,2^+)$&	
4554.77 *9*	4^+	94 fs *+43−24*	5562.38 *10*		
4608.56 *11*	2^+	47 fs *+33−18*	5573.51 *11*		
4610.82 *18*	4^+	27 fs *+45−15*	5590.06‡ *21*	$1^+,2^+,3^+$&	
4658.26 *5*	$2^+,3^+,4^+$	49 fs *+8−7*	5618.36 *10*	4^+	76 fs *+51−24*
4673.41 *19*			5623.86 *10*	$(4,5)^+$	19 fs *+14−10*
4683.04 *5*	$(2^+),3^+$	66 fs *+63−25*	5661.18 *17*		<14 fs
4692.32 *4*	4^+	33 fs *+10−7*	5670.33 *8*	$(2,3,4)^+$	16 fs *+8−6*

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

^{56}Fe Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[a]	Comments
5694.98 *13*	(2+)	85 fs *+42−33*	
5705.43 *7*	2+	3 fs *2*	
5774.00 *13*		12 fs *+9−6*	
5801.34 *18*			
5806.3 *4*			
5817.22 *17*			
5824.3? *8*			
5861.6 *4*			
5866.54 *18*	(4+)		
5871.26 *11*	(2,3,4)	12 fs *+27−10*	
5874.1 *5*			
5882.7 *8*			
5913.51 *12*	2+		
5914.53 *14*	(2,3,4)+	22 fs *+14−8*	
5921.4 *8*			
5936.17[‡] *10*	2+[&]		
5941.48 *19*			
5965.81 *20*			
5986.86[‡] *15*	1+,2+,3+		
6021.11 *10*			
6031.68 *20*			
6047.53 *13*			
6061.79 *6*	4+		
6072.5 *10*			
6102.21[‡] *15*	0+,1+,2+,3+[&]		
6110.6 *4*			
6131.24 *10*	2+	5 fs *+4−3*	
6146.35 *13*			
6250.78 *24*			
6312.75 *20*			
6327.6 *6*			
6386.99 *18*			
6434.8 *4*			
6437.08 *16*			
6439.50 *25*			
6442.91 *20*			
6446.92[‡] *20*	2+,3+	11 fs *+7−4*	Unknown decay Iγ=160 (1992Gu03).
6454.4 *3*			
6472.5 *5*			
6512.4 *4*			
6566.81 *25*			
6621.94 *23*			
6625.10[‡] *18*	0+,1+,2+,3+[&]		
6666.62 *15*			
6715.90 *21*			
6767.41 *21*			
6807.8 *5*			
6854.67 *20*			
6869.78 *17*			
6883.13 *16*			
6889.98 *22*			
6978.0 *4*			
6981.68[‡] *20*	0+,1+,2+,3+[&]		
7008.00 *25*			
7010.8 *4*	(>3−)		

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

^{56}Fe Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[a]	Comments
7029.8 *4*	(>3⁻)		
7061.6[‡] *4*			
7071.37 *22*			
7167.27[‡] *24*	1[@]		
7178.1 *5*			
7198.5 *4*			
7211.1[‡] *3*	1[@]		
7219.2[‡] *3*	0⁺[@]		Unknown decay Iγ=43 (1992Gu03).
7254.19 *20*			
7285.8[‡] *4*			
7398.5 *4*			
7422.67[‡] *22*	(1,2⁺)[&]		Unknown decay Iγ=50 (1992Gu03).
7468.0[‡] *4*	1		Unknown decay Iγ=83 (1992Gu03).
7541.29 *23*			
7768.61 *19*			
7875.8 *3*			
7886.54[‡] *23*	(1,2⁺)[&]		
8138.2[‡] *3*			
8238.7[‡] *3*	1		
8248.0[‡] *3*	0⁺,1⁺,2⁺,3⁺[&]		Unknown decay Iγ=133 (1992Gu03).
8309.59[‡] *24*	(1,2⁺)[&]		
8329.65 *18*			
8447.87[‡] *23*	0⁺,1⁺,2⁺,3⁺[&]		Unknown decay Iγ=300 (1992Gu03).
8535.95[‡] *22*			
8758.47[‡] *19*	0⁺,1⁺,2⁺,3⁺		Unknown decay Iγ=627 (1992Gu03).
8909.9[‡] *3*	(1,2⁺)[&]		Unknown decay Iγ=10 (1992Gu03).
9557.62[‡] *21*	(1,2⁺)[&]		
S(p)+1344.0 *3*	3⁺		IAR of 3⁺ g.s. in ^{56}Mn. E(level): Others: EP=1345 (1973Ah03), EP=1349 (1970Sa19), EP=1350 (1969Fr22).
S(p)+1435.42[‡] *15*			
S(p)+1440.64[‡] *7*	1⁺	10 keV	E(level): Others: EP=1440.95 *20* (2000Ma82,2003Kr11), EP=1439 *4* (1970Sa19), EP=1439 (1973Ah03), EP=1441 (1969Fr22). IAR of 1⁺ 110 in ^{56}Mn. $T_{1/2}$: From 1973Ah03 .
S(p)+1445.72[‡] *8*	1⁺		IAR of 1⁺ 110 in ^{56}Mn. E(level): Other: EP=1443 *4* (1970Sa19,1992Ma23).
S(p)+1451.74[‡] *11*			
S(p)+1455.18[‡] *7*	1⁺		IAR of 1⁺ 110 in ^{56}Mn. E(level): Others: EP=1455.4 *3* (2000Ma82, 2003Kr11), EP=1454 *4* (1970SA19) .
S(p)+1460.04[‡] *10*			
S(p)+1480.66 *25*	3(⁻)		
S(p)+1483.44 *25*	3(⁻)		
S(p)+1486.8 *3*	3(⁻)		
S(p)+1507.2 *3*	3(⁻)		E(level): Other: EP=1508 (1992Ma23).
S(p)+1521.4 *3*	4⁺		IAR of 4⁺ 212 in ^{56}Mn.
S(p)+1524.10 *22*	4⁺		IAR of 4⁺ 212 in ^{56}Mn.
S(p)+1531.84 *20*	4⁺		E(level): Other: EP=1531 (1974Pe15). IAR of 4⁺ 212 in ^{56}Mn.

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

^{56}Fe Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[a]	Comments
S(p)+1535.86 *23*	2^+	9[d] keV	Γ_p=2.0 keV *2* (1973El14) E(level): Others: EP=1537 4 (1973El14), EP=1537 (1974Pe15,1970Sa19,1969Fr22), EP=1535 (1973Ah03). IAR of 2^+ 215 in ^{56}Mn.
S(p)+1679.04 *19*	3^+	17[c] keV	Γ_p=1.0 keV *2* (1976El09) E(level): Other: EP=1678 (1978Ch18,1976El09,1969Fr22). IAR of 3^+ 341 in ^{56}Mn.
S(p)+1687.24 *24*	3^+		E(level): Other: EP=1687 (1978Ch18,1969Fr22). IAR of 3^+ 341 in ^{56}Mn.
S(p)+1696.5 *5*	3^+		E(level): Other: EP=1695 (1978Ch18,1969Fr22). IAR of 3^+ 341 in ^{56}Mn (1978Ch18).
S(p)+1726.7 *3*	(5^+)		
S(p)+1734.0 *4*	(5^+)		
S(p)+1761.0 *6*	(4^+)		
S(p)+1773.17 *21*	3^+	11[b] keV	Γ_p=1.0 keV *1* (1973El16) E(level): Other: EP=1769 *4* (1973EL16). IAR of 3^+ 454 in ^{56}Mn.
S(p)+1796.07 *22*	(4^-)		
S(p)+1801.0 *3*	4^+		
S(p)+1806.62 *25*	3^+	11[b] keV	Γ_p=1.0 keV *1* (1973El16) E(level): Others: EP=1806 *4* (1973EL16), EP=1800 (1973Ah03). IAR of 3^+ 486 in ^{56}Mn.

[†] The bound levels from Eγ and level scheme by using least-squares fits, other bound levels from 2003Kr11; for resonance states, E(level)=S(p)+E(p), S(p)=10183.74 *17* (2003Au03), E(p) from 2003Kr11, except as noted.
[‡] From 1992Gu03.
[#] From reasonable assumption of the multipolarity of observed γ-transitions and application of corresponding selection rules, see 2003Ki11, except as noted.
[@] From Adopted Levels.
[&] From 1992Gu03, J^π assignments are based on γ to 0^+,2^+ levels.
[a] From 2003Kr11, DSA; except as noted.
[b] From 1973El16.
[c] From 1976El09.
[d] From 1973El14.

γ(^{56}Fe)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
462[#]	<1.05[#]	3120.11	(1^+)	2659.0	2^+
543.39 *6*	17 *6*	5235.89	4^+	4692.32	4^+
617.35 *8*	18 *7*	4737.33	2^+	4120.3	3^+
673.02 *8*	30 *8*	5131.66	3^+,4^+,(2^+)	4460.4	4^+
692.65 *14*		4812.68	4^+,5^+	4120.3	3^+
754.35 *18*	<21	4509.56	3^-	3755.57	6^+
756.2 *4*	<7	4610.82	4^+	3856.3	3^+
757.75 *6*	100	5055.87	4^+,(3^+)	4300.0	$\geq 2^+$
757.75 *4*	<28	5302.94	4^+		
777.14 *5*	23 *3*	5235.89	4^+	4460.4	4^+
781.20 *11*	35 *8*	4610.82	4^+	3829.77	2^+

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
790[#]	<0.7[#]	3448.41	1^+	2659.0	2^+
799.02 *5*	14 *5*	4554.77	4^+	3755.57	6^+
810.60 *8*	10 *6*	4554.77	4^+	3744.13	2^+
903[#]	7.9[#] *24*	5023.49	$(1,2)^+$	4120.3	3^+
936.58 *4*	25 *4*	4692.32	4^+	3755.57	6^+
936.58 *4*	16 *3*	5235.89	4^+	4300.0	$\geq 2^+$
942[#]	<2.4[#]	3600.21	$(1,2^+)$	2659.0	2^+
948[#]	14.2[#] *20*	3605.69	2^+	2659.0	2^+
948.6 *4*	3 *1*	4692.32	4^+	3744.13	2^+
952[#]	<1.5[#]	3610.21	0^+	2659.0	2^+
956[#]	46[#] *3*	4401.27	2^+	3445.9	3^+
977.29 *5*	<27	5705.43	2^+	4728.14	2^+
991.51 *3*	47[#] *13*	3076.59	(3^-)	2085.9	4^+
1005.1 *3*	18 *9*	5302.94	4^+	4300.0	$\geq 2^+$
1031[#]	<2.0[#]	4401.27	2^+	3369.84	2^+
1057.8 *3*		4812.68	$4^+,5^+$	3755.57	6^+
1082.83 *12*	23 *6*	5131.66	$3^+,4^+,(2^+)$	4049.2	3^+
1092[#]	<2.2[#]	4540.02	$1^+,2^+$	3448.41	1^+
1095[#]	<2.2[#]	4540.02	$1^+,2^+$	3445.9	3^+
1101.80 *6*	<20	5503.46	$(2,3,4)^+$	4401.27	2^+
1120.27 *4*	46 *11*	5488.24	2,3,4	4368.13	
1132.13 *16*	9 *2*	5232.57	$2^+,(3^+)$	4100.8	4^+
1135.68 *10*	34 *4*	5235.89	4^+	4100.8	4^+
1139.66 *10*	39 *17*	4509.56	3^-	3369.84	2^+
1151.84 *16*	57 *16*	5451.60	4^+	4300.0	$\geq 2^+$
1153.78 *25*	57 *16*	5451.60	4^+		
1165.74 *11*	16 *4*	4554.77	4^+	3388.55	6^+
1172[#]	58[#] *10*	3829.77	2^+	2659.0	2^+
1175		4300.0	$\geq 2^+$	3123.2	4^+
1183.39 *6*	29 *10*	5232.57	$2^+,(3^+)$	4049.2	3^+
1186.29 *25*	6 *2*	5235.89	4^+	4049.2	3^+
1213[#]	<3.3[#]	4658.26	$2^+,3^+,4^+$	3445.9	3^+
1222.38 *25*	15 *6*	5914.53	$(2,3,4)^+$	4692.32	4^+
1223.45 *5*	<12	5618.36	4^+	4393.4	3^+
1267[#]	1.0[#] *4*	4866.52	$(1,2)^+$	3600.21	$(1,2^+)$
1277.00 *10*	32 *8*	5033.02	$(4,5)^+$	3755.57	6^+
1288[#]	<3.3[#]	4658.26	$2^+,3^+,4^+$	3369.84	2^+
1293.73 *12*		5694.98	(2^+)	4401.27	2^+
1312.42 *8*	<30	5914.53	$(2,3,4)^+$		
1312.58 *4*	<48	4683.04	$(2^+),3^+$	3369.84	2^+
1326.2 *3*	34 *11*	5774.00			
1368.3 *3*		4812.68	$4^+,5^+$	3445.9	3^+
1368.41 *9*	<50	5488.24	2,3,4	4120.3	3^+
1386.3 *3*	28 *15*	4509.56	3^-	3123.2	4^+
1402.79 *17*	41 *20*	5451.60	4^+	4049.2	3^+
1402.79 *17*	25 *15*	5503.46	$(2,3,4)^+$	4100.8	4^+
1419[#]	16.0[#] *6*	4866.52	$(1,2)^+$	3448.41	1^+
1422[#]	1.8[#] *6*	4866.52	$(1,2)^+$	3445.9	3^+
1431.58 *5*	34 *8*	4554.77	4^+	3123.2	4^+
1441[#]	11.7[#] *23*	4401.27	2^+	2960.9	2^+
1447[#]	42[#] *6*	5986.86	$1^+,2^+,3^+$	4540.02	$1^+,2^+$

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
1455.5 *3*	<17	5914.53	$(2,3,4)^+$	4460.4	4^+
1480.4 *3*	5 *2*	5235.89	4^+	3755.57	6^+
1485.60 *5*	19 *8*	4608.56	2^+	3123.2	4^+
1497[#]	7.8[#] *4*	4866.52	$(1,2)^+$	3369.84	2^+
1508.31 *12*		6047.53		4540.02	$1^+,2^+$
1515[#]	<2.4[#]	3600.21	$(1,2^+)$	2085.9	4^+
1519.6 *4*	12 *9*	5914.53	$(2,3,4)^+$	4393.4	3^+
1521[#]	<1.4[#]	3605.69	2^+	2085.9	4^+
1523.26 *22*	54 *28*	5623.86	$(4,5)^+$	4100.8	4^+
1525[#]	<0.7[#]	3610.21	0^+	2085.9	4^+
1551.2 *3*		5871.26	(2,3,4)		
1559.53 *11*	24 *10*	4683.04	$(2^+),3^+$	3123.2	4^+
1569.42 *8*	16 *5*	4692.32	4^+	3123.2	4^+
1575[#]	63.5[#] *24*	5023.49	$(1,2)^+$	3448.41	1^+
1575.21 *6*	<15	5623.86	$(4,5)^+$	4049.2	3^+
1580[#]	100[#] *4*	4540.02	$1^+,2^+$	2960.9	2^+
1585[#]	23[#] *5*	5194.80	$(1,2^+)$	3610.21	0^+
1612.96 *18*	46 *25*	6061.79	4^+		
1615.91 *16*	24 *12*	5914.53	$(2,3,4)^+$	4300.0	$\geq 2^+$
1643.9 *5*	<17	5033.02	$(4,5)^+$	3388.55	6^+
1651.0 *4*	15 *8*	4610.82	4^+	2960.9	2^+
1653[#]	66[#] *3*	5023.49	$(1,2)^+$	3369.84	2^+
1664[#]	22[#] *6*	4784.12	$(1,2^+)$	3120.11	(1^+)
1667.07 *15*	10 *5*	4608.56	2^+	2941.50	
1667.07 *15*	<20	6061.79	4^+	4393.4	3^+
1686.41 *5*	100	5131.66	$3^+,4^+,(2^+)$	3445.9	3^+
1696.17 *16*	100	5451.60	4^+	3755.57	6^+
1698[#]	<5[#]	4658.26	$2^+,3^+,4^+$	2960.9	2^+
1747[#]	2.2[#] *6*	4866.52	$(1,2)^+$	3120.11	(1^+)
1783.4 *3*	6 *2*	5232.57	$2^+,(3^+)$	3448.41	1^+
1787.18 *11*	28 *3*	5232.57	$2^+,(3^+)$	3445.9	3^+
1790.44 *13*	17 *3*	5235.89	4^+	3445.9	3^+
1798.62 *13*		6854.67		5055.87	$4^+,(3^+)$
1811[#]	100.0[#] *4*	2659.0	2^+	846.5	2^+
1842.53 *13*	56 *24*	6061.79	4^+		
1847.49 *6*	33 *5*	5235.89	4^+	3388.55	6^+
1852.09 *4*	100	4509.56	3^-	2659.0	2^+
1863.83 *11*		6312.75			
1867.89 *25*	83 *27*	5623.86	$(4,5)^+$	3755.57	6^+
1882[#]	95[#] *4*	4540.02	$1^+,2^+$	2659.0	2^+
1897.8 *3*	11 *4*	4554.77	4^+	2659.0	2^+
1903[#]	<2.65[#]	5023.49	$(1,2)^+$	3120.11	(1^+)
1907[#]	54.9[#] *16*	4866.52	$(1,2)^+$	2960.9	2^+
1915.10 *18*		5038.49	4^+	3123.2	4^+
1915.10 *18*	40 *10*	5302.94	4^+	3388.55	6^+
1919.69 *6*		5307.81		3388.55	6^+
1949.9 *5*	9 *4*	4608.56	2^+	2659.0	2^+
1951[#]	43[#] *14*	7886.54	$(1,2^+)$	5936.17	2^+
1954.11 *16*	33 *8*	4610.82	4^+	2659.0	2^+
1972.8 *4*		5801.34		3829.77	2^+
2000[#]	<3.3[#]	4658.26	$2^+,3^+,4^+$	2659.0	2^+
2008.80 *11*	60 *7*	5131.66	$3^+,4^+,(2^+)$	3123.2	4^+

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
2010.77 *25*	67 *25*	6131.24	2^+	4120.3	3^+
2026.6 *3*	27 *15*	5149.54	2^+	3123.2	4^+
2034.76 *2*	51 *13*	4692.32	4^+	2659.0	2^+
2035		4120.3	3^+	2085.9	4^+
2041#	0.8#	S(p)+1440.64	1^+		
2042.65 *6*	69 *18*	5488.24	2,3,4	3445.9	3^+
2055#	0.6#	S(p)+1455.18	1^+		
2058.2 *4*	<30	5503.46	$(2,3,4)^+$	3445.9	3^+
2058.2 *4*	<29	5914.53	$(2,3,4)^+$	3856.3	3^+
2063#	100# *4*	5023.49	$(1,2)^+$	2960.9	2^+
2063.25 *8*	96 *30*	5451.60	4^+	3388.55	6^+
2075#	23# *5*	5194.80	$(1,2^+)$	3120.11	(1^+)
2079.80 *3*	100	4737.33	2^+	2659.0	2^+
2080#	49# *3*	5936.17	2^+	3856.3	3^+
2127.34 *24*		5871.26	(2,3,4)	3744.13	2^+
2133.13 *13*	54 *16*	5503.46	$(2,3,4)^+$	3369.84	2^+
2142#	50# *10*	5590.06	$1^+,2^+,3^+$	3448.41	1^+
2145#	33# *10*	5590.06	$1^+,2^+,3^+$	3445.9	3^+
2168#	34# *5*	5538.07	$(1,2^+)$	3369.84	2^+
2173.89 *7*	<100	5618.36	4^+	3445.9	3^+
2180.12 *6*	27 *7*	5302.94	4^+	3123.2	4^+
2190.0 *4*		4847.9	(2^+)	2659.0	2^+
2209#	6# *1*	4866.52	$(1,2)^+$	2659.0	2^+
2220#	28# *8*	5590.06	$1^+,2^+,3^+$	3369.84	2^+
2229#	100# *13*	3076.59	(3^-)	846.5	2^+
2230.0 *3*	15 *10*	5618.36	4^+	3388.55	6^+
2253#	46# *5*	5194.80	$(1,2^+)$	2941.50	
2259.92 *11*	74 *20*	5705.43	2^+	3445.9	3^+
2273#	100.0# *7*	3120.11	(1^+)	846.5	2^+
2276.3 *3*	<12	5235.89	4^+	2960.9	2^+
2286.5 *4*		6386.99		4100.8	4^+
2305.6 *5*	25 *14*	6061.79	4^+	3755.57	6^+
2316#	<6.3#	4401.27	2^+	2085.9	4^+
2352.2 *3*		6472.5		4120.3	3^+
2359.8 *4*		5965.81		3605.69	2^+
2365#	<2.12#	5023.49	$(1,2)^+$	2659.0	2^+
2424.93 *15*	20 *8*	4509.56	3^-	2085.9	4^+
2447.5 *5*		5817.22		3369.84	2^+
2455#	7.5# *16*	4540.02	$1^+,2^+$	2085.9	4^+
2460.2 *3*	42 *16*	6061.79	4^+	3600.21	$(1,2^+)$
2469.71 *3*	100	4554.77	4^+	2085.9	4^+
2477.8 *6*		5866.54	(4^+)	3388.55	6^+
2496#	54# *6*	6102.21	$0^+,1^+,2^+,3^+$	3605.69	2^+
2500.52 *25*	36 *11*	5623.86	$(4,5)^+$	3123.2	4^+
2523.09 *12*	100	4608.56	2^+	2085.9	4^+
2525.75 *23*	77 *28*	4610.82	4^+	2085.9	4^+
2525.75 *23*	77 *28*	4683.04	$(2^+),3^+$		
2537#	64# *5*	5194.80	$(1,2^+)$	2659.0	2^+
2542#	100# *6*	5986.86	$1^+,2^+,3^+$	3445.9	3^+
2573#	100# *5*	4658.26	$2^+,3^+,4^+$	2085.9	4^+
2578.56 *9*	<25	5235.89	4^+	2659.0	2^+

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
2584.73 *25*	35 *15*	5705.43	2^+	3120.11	(1^+)
2599[#]		3445.9	3^+	846.5	2^+
2601[#]	33[#] *3*	3448.41	1^+	846.5	2^+
2607.22 *3*	100	4692.32	4^+	2085.9	4^+
2618[#]	22[#] *10*	6446.92	$2^+,3^+$	3829.77	2^+
2654[#]	100[#] *6*	6102.21	$0^+,1^+,2^+,3^+$	3448.41	1^+
2658[#]	3.0[#] *4*	2659.0	2^+	0	0^+
2658.19 *11*	27 *15*	5618.36	4^+	2960.9	2^+
2689[#]	0.6[#]	S(p)+1440.64	1^+		
2703[#]	0.5[#]	S(p)+1455.18	1^+		
2711.0 *4*	40 *12*	5670.33	$(2,3,4)^+$	2960.9	2^+
2744.88 *17*	60 *20*	5705.43	2^+	2960.9	2^+
2753[#]	20[#] *4*	3600.21	$(1,2^+)$	846.5	2^+
2759[#]	100[#] *5*	3605.69	2^+	846.5	2^+
2763[#]	100.0[#]	3610.21	0^+	846.5	2^+
2763.24 *19*		4847.9	(2^+)	2085.9	4^+
2782[#]	<0.78[#]	4866.52	$(1,2)^+$	2085.9	4^+
2792.65 *16*	<39	5914.53	$(2,3,4)^+$	3123.2	4^+
2793[#]	81[#] *12*	4878.28	2^+	2085.9	4^+
2794.13 *16*	<39	5914.53	$(2,3,4)^+$	3120.11	(1^+)
2841[#]	1.1[#]	S(p)+1440.64	1^+		
2842[#]	30[#] *10*	6446.92	$2^+,3^+$	3605.69	2^+
2845.95 *16*	57 *9*	5503.46	$(2,3,4)^+$	2659.0	2^+
2848[#]	59[#] *10*	6446.92	$2^+,3^+$	3600.21	$(1,2^+)$
2855[#]	1.7[#]	S(p)+1455.18	1^+		
2859.4 *4*		5801.34		2941.50	
2880[#]	71[#] *5*	5538.07	$(1,2^+)$	2659.0	2^+
2897[#]	100.0[#]	3744.13	2^+	846.5	2^+
2902.6 *5*		5861.6		2960.9	2^+
2932[#]	100[#] *10*	5590.06	$1^+,2^+,3^+$	2659.0	2^+
2947.86 *11*	100	5033.02	$(4,5)^+$	2085.9	4^+
2971.04 *16*	68 *22*	5055.87	$4^+,(3^+)$	2085.9	4^+
2983[#]	100[#] *10*	3829.77	2^+	846.5	2^+
3025[#]	100[#] *11*	6625.10	$0^+,1^+,2^+,3^+$	3600.21	$(1,2^+)$
3063[#]	0.7[#]	S(p)+1440.64	1^+		
3064.04 *8*	100	5149.54	2^+	2085.9	4^+
3077[#]	<0.2[#]	S(p)+1455.18	1^+		
3086.2 *4*		7768.61		4683.04	$(2^+),3^+$
3101.2 *13*		5186.82	2^+	2085.9	4^+
3101.22 *13*	<30	6061.79	4^+	2960.9	2^+
3116.2 *3*	100	5774.00		2659.0	2^+
3120[#]	4.82[#] *7*	3120.11	(1^+)	0	0^+
3147.7 *3*	16 *2*	5232.57	$2^+,(3^+)$	2085.9	4^+
3150.70 *9*	100	5235.89	4^+	2085.9	4^+
3151[#]	1.9[#]	S(p)+1440.64	1^+		
3165[#]	0.8[#]	S(p)+1455.18	1^+		
3171.0 *4*	43 *20*	6131.24	2^+	2960.9	2^+
3180[#]	47[#] *7*	6625.10	$0^+,1^+,2^+,3^+$	3445.9	3^+
3203		4049.2	3^+	846.5	2^+

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
3217.61 *10*	100	5302.94	4^+	2085.9	4^+
3239[#]	100[#] *8*	4085.93	$(1,2^+)$	846.5	2^+
3253		4100.8	4^+	846.5	2^+
3289[#]	<0.2[#]	S(p)+1440.64	1^+	8329.65	
3303[#]	1.0[#]	S(p)+1455.18	1^+		
3328[#]	100[#] *19*	6446.92	$2^+,3^+$	3120.11	(1^+)
3351[#]	0.5[#]	S(p)+1440.64	1^+		
3360[#]	0.2[#]	S(p)+1440.64	1^+		
3364[#]	3.4[#]	S(p)+1445.72	1^+		
3365[#]	0.7[#]	S(p)+1455.18	1^+		
3374[#]	0.8[#]	S(p)+1455.18	1^+		
3394.10 *19*		5479.15	(4^+)	2085.9	4^+
3401.2 *4*	100	5488.24	2,3,4	2085.9	4^+
3418.69 *11*	100	5503.46	$(2,3,4)^+$	2085.9	4^+
3448[#]	100[#] *3*	3448.41	1^+	0	0^+
3461[#]	0.8[#]	S(p)+1440.64	1^+		
3475[#]	0.4[#]	S(p)+1455.18	1^+		
3535.0 *5*	88 *30*	5618.36	4^+	2085.9	4^+
3539.14 *21*	100	5623.86	$(4,5)^+$	2085.9	4^+
3554[#]	100[#] *3*	4401.27	2^+	846.5	2^+
3585.25 *14*	100	5670.33	$(2,3,4)^+$	2085.9	4^+
3600[#]	100[#] *4*	3600.21	$(1,2^+)$	0	0^+
3606[#]	56[#] *5*	3605.69	2^+	0	0^+
3610[#]	<7.0[#]	3610.21	0^+	0	0^+
3619[#]	84[#] *23*	7219.2	0^+	3600.21	$(1,2^+)$
3619.6 *5*	100	5705.43	2^+	2085.9	4^+
3643.8 *4*		7254.19		3610.21	0^+
3662.67 *10*	98 *18*	4509.56	3^-	846.5	2^+
3665[#]	76[#] *11*	6625.10	$0^+,1^+,2^+,3^+$	2960.9	2^+
3693[#]	23.5[#] *19*	4540.02	$1^+,2^+$	846.5	2^+
3708.6 *5*	7 *3*	4554.77	4^+	846.5	2^+
3712[#]	0.8[#]	S(p)+1440.64	1^+		
3727[#]	0.4[#]	S(p)+1455.18	1^+		
3761.5 *4*	47 *7*	4608.56	2^+	846.5	2^+
3763.4 *4*	100	4610.82	4^+	846.5	2^+
3781.7 *6*		5866.54	(4^+)	2085.9	4^+
3786.4 *6*		5871.26	(2,3,4)	2085.9	4^+
3811[#]	67[#] *5*	4658.26	$2^+,3^+,4^+$	846.5	2^+
3829.64 *14*	100	5914.53	$(2,3,4)^+$	2085.9	4^+
3830[#]	35[#] *4*	3829.77	2^+	0	0^+
3836.21 *11*	100	4683.04	$(2^+),3^+$	846.5	2^+
3844.0 *4*	17 *3*	4692.32	4^+	846.5	2^+
3881[#]	100[#] *3*	4728.14	2^+	846.5	2^+
3889.6 *3*	27 *6*	4737.33	2^+	846.5	2^+
3935.3 *4*		7010.8	$(>3^-)$	3076.59	(3^-)
3937[#]	100[#] *9*	4784.12	$(1,2^+)$	846.5	2^+
3949.0 *6*		6889.98		2941.50	
3974[#]	91[#] *46*	8758.47	$0^+,1^+,2^+,3^+$	4784.12	$(1,2^+)$
3975.4 *3*	100	6061.79	4^+	2085.9	4^+

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
4020[#]	100.0[#] *23*	4866.52	$(1,2)^+$	846.5	2^+
4026.3 *5*		6110.6		2085.9	4^+
4031[#]	100[#] *16*	4878.28	2^+	846.5	2^+
4086[#]	33[#] *8*	4085.93	$(1,2^+)$	0	0^+
4131[#]	0.6[#]	S(p)+1440.64	1^+		
4135[#]	2.5[#]	S(p)+1445.72	1^+		
4145[#]	0.2[#]	S(p)+1455.18	1^+		
4176[#]	<0.6[#]	S(p)+1440.64	1^+		
4176[#]	7.1[#] *13*	5023.49	$(1,2)^+$	846.5	2^+
4188.2 *5*	42 *28*	5033.02	$(4,5)^+$	846.5	2^+
4190[#]	1.8[#]	S(p)+1455.18	1^+		
4284.6 *3*	39 *7*	5131.66	$3^+,4^+,(2^+)$	846.5	2^+
4313[#]	0.3[#]	S(p)+1440.64	1^+		
4324[#]	86[#] *19*	6981.68	$0^+,1^+,2^+,3^+$	2659.0	2^+
4327[#]	<0.8[#]	S(p)+1455.18	1^+		
4348[#]	100[#] *8*	5194.80	$(1,2^+)$	846.5	2^+
4361.7 *3*		6446.92	$2^+,3^+$	2085.9	4^+
4380[#]	1.0[#]	S(p)+1440.64	1^+		
4385.87 *9*	100	5232.57	$2^+,(3^+)$	846.5	2^+
4388[#]	0.6[#]	S(p)+1440.64	1^+		
4402[#]	0.4[#]	S(p)+1455.18	1^+		
4410[#]	100[#] *20*	5256.9	2^+	846.5	2^+
4432[#]	2.0[#]	S(p)+1440.64	1^+	7198.5	
4436[#]	2.9[#]	S(p)+1445.72	1^+	7198.5	
4446[#]	1.3[#]	S(p)+1455.18	1^+	7198.5	
4456.9 *8*	<40	5302.94	4^+	846.5	2^+
4527[#]	0.2[#]	S(p)+1440.64	1^+		
4540[#]	51.0[#] *25*	4540.02	$1^+,2^+$	0	0^+
4541[#]	2.5[#]	S(p)+1445.72	1^+		
4541[#]	0.6[#]	S(p)+1455.18	1^+		
4604.9 *4*	10 *6*	5451.60	4^+	846.5	2^+
4617[#]	<0.2[#]	S(p)+1440.64	1^+	7008.00	
4621[#]	2.2[#]	S(p)+1445.72	1^+	7008.00	
4631[#]	1.8[#]	S(p)+1455.18	1^+	7008.00	
4658[#]	<3.3[#]	4658.26	$2^+,3^+,4^+$	0	0^+
4691[#]	58[#] *5*	5538.07	$(1,2^+)$	846.5	2^+
4726.1 *4*		5573.51		846.5	2^+
4728[#]	11[#] *3*	4728.14	2^+	0	0^+
4736.3 *6*	40 *15*	4737.33	2^+	0	0^+
4743[#]	40[#] *10*	5590.06	$1^+,2^+,3^+$	846.5	2^+
4772.5 *4*	100	5618.36	4^+	846.5	2^+
4784[#]	96[#] *9*	4784.12	$(1,2^+)$	0	0^+
4822.9 *4*	48 *7*	5670.33	$(2,3,4)^+$	846.5	2^+
4857.4 *6*	88 *26*	5705.43	2^+	846.5	2^+
4867[#]	5[#] *1*	4866.52	$(1,2)^+$	0	0^+
4878[#]	57[#] *16*	4878.28	2^+	0	0^+
4923.8 *7*		7008.00		2085.9	4^+

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
4958.2 *4*		5806.3		846.5	2^+
4974[#]	0.4[#]	S(p)+1440.64	1^+		
4986.8 *4*		7071.37		2085.9	4^+
4988[#]	1.7[#]	S(p)+1455.18	1^+		
5023[#]	19.6[#] *21*	5023.49	$(1,2)^+$	0	0^+
5067	3	S(p)+1344.0	3^+	6454.4	
5068.0 *8*	67 *21*	5914.53	$(2,3,4)^+$	846.5	2^+
5089[#]	100[#] *3*	5936.17	2^+	846.5	2^+
5140[#]	67[#] *8*	5986.86	$1^+,2^+,3^+$	846.5	2^+
5152[#]	0.2[#]	S(p)+1440.64	1^+	6472.5	
5155[#]	5.8[#]	S(p)+1445.72	1^+	6472.5	
5158[#]	100[#] *46*	8758.47	$0^+,1^+,2^+,3^+$	3600.21	$(1,2^+)$
5166[#]	2.2[#]	S(p)+1455.18	1^+	6472.5	
5174.6 *5*		6021.11		846.5	2^+
5200.8 *8*		6047.53		846.5	2^+
5201	8.4	S(p)+1480.66	$3^{(-)}$		
5204	33.8	S(p)+1483.44	$3^{(-)}$		
5207	16.7	S(p)+1486.8	$3^{(-)}$		
5214.6 *8*	52 *25*	6061.79	4^+	846.5	2^+
5226	1.3	S(p)+1455.18	1^+		
5241	3.2	S(p)+1521.4	4^+		
5244	18.9	S(p)+1524.10	4^+		
5246[a]	9.0[a]	S(p)+1535.86	2^+	6472.5	
5251	10.8	S(p)+1480.66	$3^{(-)}$		
5252	10.9	S(p)+1531.84	4^+		
5255[#]	38[#] *8*	6102.21	$0^+,1^+,2^+,3^+$	846.5	2^+
5256	6.1	S(p)+1535.86	2^+		
5257[#]	100[#] *20*	5256.9	2^+	0	0^+
5277	2.6	S(p)+1507.2	$3^{(-)}$		
5284.61 *25*	100	6131.24	2^+	846.5	2^+
5291	11.2	S(p)+1521.4	4^+		
5294	29.7	S(p)+1524.10	4^+		
5302	10.9	S(p)+1531.84	4^+		
5320	10.8	S(p)+1480.66	$3^{(-)}$		
5323	9.1	S(p)+1483.44	$3^{(-)}$		
5348[#]	<0.2[#]	S(p)+1440.64	1^+		
5358	2	S(p)+1344.0	3^+		
5360	8.8	S(p)+1521.4	4^+		
5362[#]	0.5[#]	S(p)+1455.18	1^+		
5363	18.9	S(p)+1524.10	4^+		
5371	14.1	S(p)+1531.84	4^+		
5373	2	S(p)+1344.0	3^+		
5375	2.3	S(p)+1535.86	2^+		
5388[#]	91[#] *46*	8758.47	$0^+,1^+,2^+,3^+$	3369.84	2^+
5394[&]	5[&]	S(p)+1687.24	3^+	6472.5	
5396	3.9	S(p)+1679.04	3^+	6472.5	
5403[&]	8[&]	S(p)+1696.5	3^+	6472.5	
5404	10.4	S(p)+1687.24	3^+	6454.4	
5404[#]	64[#] *27*	6250.78		846.5	2^+
5413	15	S(p)+1696.5	3^+	6454.4	
5442	30	S(p)+1344.0	3^+		

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
5443	12.1	S(p)+1726.7	(5^+)	6472.5	
5450	16.8	S(p)+1734.0	(5^+)	6472.5	
5456	7	S(p)+1344.0	3^+	6072.5	
5463	15	S(p)+1696.5	3^+		
5477	17.4	S(p)+1761.0	(4^+)	6472.5	
5483	13	S(p)+1344.0	3^+	6047.53	
5492	7.2	S(p)+1480.66	$3^{(-)}$		
5493	6.7	S(p)+1726.7	(5^+)		
5495	2.6	S(p)+1483.44	$3^{(-)}$		
5497#	0.5#	S(p)+1440.64	1^+	6131.24	2^+
5510	23.4	S(p)+1483.44	$3^{(-)}$		
5511#	2.1#	S(p)+1455.18	1^+	6131.24	2^+
5512@	4.3@	S(p)+1806.62	3^+	6472.5	
5513	5.6	S(p)+1486.8	$3^{(-)}$		
5513&	5&	S(p)+1687.24	3^+		
5516	7.4	S(p)+1801.0	4^+	6472.5	
5522&	8&	S(p)+1696.5	3^+		
5532	15.2	S(p)+1521.4	4^+		
5533	1.3	S(p)+1507.2	$3^{(-)}$		
5535	45.9	S(p)+1524.10	4^+		
5537	2.1	S(p)+1440.64	1^+		
5538#	100# *8*	5538.07	$(1,2^+)$	0	0^+
5547	9.6	S(p)+1521.4	4^+		
5547	3.0	S(p)+1535.86	2^+		
5550	10.8	S(p)+1524.10	4^+		
5558	28.3	S(p)+1531.84	4^+		
5562	6.1	S(p)+1535.86	2^+		
5570	2	S(p)+1344.0	3^+		
5576	15.7	S(p)+1480.66	$3^{(-)}$		
5579	22.1	S(p)+1483.44	$3^{(-)}$		
5582	18.9	S(p)+1486.8	$3^{(-)}$		
5599.6 *4*		6446.92	$2^+,3^+$	846.5	2^+
5602	3.3	S(p)+1507.2	$3^{(-)}$		
5607.8 *5*		6454.4		846.5	2^+
5608	9.7	S(p)+1773.17	3^+		
5612	1.8	S(p)+1440.64	1^+		
5616	6.4	S(p)+1521.4	4^+		
5617	7.2	S(p)+1480.66	$3^{(-)}$	6047.53	
5619	12.2	S(p)+1524.10	4^+		
5620	15.6	S(p)+1483.44	$3^{(-)}$	6047.53	
5623	4.4	S(p)+1486.8	$3^{(-)}$	6047.53	
5626	2.7	S(p)+1455.18	1^+		
5627	12.6	S(p)+1531.84	4^+		
5630	8.8	S(p)+1521.4	4^+	6072.5	
5630	12.8	S(p)+1796.07	(4^-)		
5631	13.6	S(p)+1535.86	2^+		
5633	46	S(p)+1344.0	3^+		
5635	13.9	S(p)+1801.0	4^+		
5641	6	S(p)+1344.0	3^+	5882.7	
5641	6.5	S(p)+1531.84	4^+	6072.5	
5645	4.5	S(p)+1535.86	2^+	6072.5	
5651	9.6	S(p)+1480.66	$3^{(-)}$		
5654	10.4	S(p)+1483.44	$3^{(-)}$		
5657	5.6	S(p)+1486.8	$3^{(-)}$		
5660	8.1	S(p)+1524.10	4^+	6047.53	
5661.2 *6*		5661.18		0	0^+
5665	0.4	S(p)+1440.64	1^+		
5668	15.2	S(p)+1531.84	4^+	6047.53	
5672	0.8	S(p)+1535.86	2^+	6047.53	
5679	3.7	S(p)+1455.18	1^+		
5683.2 *5*		7768.61		2085.9	4^+
5684	0.4	S(p)+1440.64	1^+	5941.48	
5687	1	S(p)+1344.0	3^+		
5687	1.9	S(p)+1679.04	3^+		
5691	5.6	S(p)+1521.4	4^+		
5694	8.1	S(p)+1524.10	4^+		
5695	7.8	S(p)+1687.24	3^+		
5702	4.3	S(p)+1531.84	4^+		
5702	1.3	S(p)+1679.04	3^+		
5704	6.0	S(p)+1480.66	$3^{(-)}$	5965.81	
5707	6.5	S(p)+1483.44	$3^{(-)}$	5965.81	
5710	12.2	S(p)+1687.24	3^+		
5723	21.7	S(p)+1480.66	$3^{(-)}$	5941.48	
5726	64.9	S(p)+1483.44	$3^{(-)}$	5941.48	
5729	28.9	S(p)+1486.8	$3^{(-)}$	5941.48	
5741	15.1	S(p)+1734.0	(5^+)		
5742	1.3	S(p)+1455.18	1^+		
5744	1.6	S(p)+1521.4	4^+	5965.81	
5747	10.8	S(p)+1524.10	4^+	5965.81	
5749	2.3	S(p)+1507.2	$3^{(-)}$	5941.48	
5749	27.6	S(p)+1726.7	(5^+)		
5755	4.3	S(p)+1531.84	4^+	5965.81	
5759	2.3	S(p)+1535.86	2^+	5965.81	
5763	10.4	S(p)+1521.4	4^+	5941.48	
5766	9.5	S(p)+1524.10	4^+	5941.48	
5767	19.7	S(p)+1480.66	$3^{(-)}$		
5770	10.4	S(p)+1483.44	$3^{(-)}$		
5771&	11.0&	S(p)+1535.86	2^+		
5771	9.0	S(p)+1679.04	3^+		
5773	28.9	S(p)+1486.8	$3^{(-)}$		
5774	8.7	S(p)+1531.84	4^+	5941.48	
5775	9.6	S(p)+1480.66	$3^{(-)}$	5882.7	
5778	7.8	S(p)+1483.44	$3^{(-)}$	5882.7	
5778	17.4	S(p)+1535.86	2^+	5941.48	
5779	8.7	S(p)+1687.24	3^+		
5781	28.9	S(p)+1486.8	$3^{(-)}$	5882.7	
5785	6.5	S(p)+1679.04	3^+	6072.5	
5793	4.6	S(p)+1507.2	$3^{(-)}$		
5793	13.9	S(p)+1687.24	3^+	6072.5	
5802	8.8	S(p)+1696.5	3^+	6072.5	
5802	5.9	S(p)+1796.07	(4^-)		
5807	9.6	S(p)+1521.4	4^+		
5807	7.4	S(p)+1801.0	4^+		
5809	7	S(p)+1344.0	3^+		
5809[a]	24.3[a]	S(p)+1535.86	2^+	5913.51	2^+
5810	13.5	S(p)+1524.10	4^+		

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
5817	3.9	S(p)+1796.07	(4^-)		
5818	13.0	S(p)+1531.84	4^+		
5818	10.3	S(p)+1726.7	(5^+)		
5820	0.9	S(p)+1687.24	3^+	6047.53	
5821	16.9	S(p)+1480.66	$3^{(-)}$		
5822	11.4	S(p)+1535.86	2^+		
5822	1.9	S(p)+1801.0	4^+		
5824	33.8	S(p)+1483.44	$3^{(-)}$		
5827	20	S(p)+1486.8	$3^{(-)}$		
5829	6.2	S(p)+1696.5	3^+	6047.53	
5846	7.7	S(p)+1679.04	3^+	6021.11	
5854	6.1	S(p)+1687.24	3^+	6021.11	
5859	6.9	S(p)+1726.7	(5^+)	6047.53	
5860	7	S(p)+1344.0	3^+	5670.33	$(2,3,4)^+$
5864	10.7	S(p)+1773.17	3^+		
5886	17	S(p)+1344.0	3^+		
5886[@]	4.6[@]	S(p)+1806.62	3^+	6102.21	$0^+,1^+,2^+,3^+$
5891	10.2	S(p)+1801.0	4^+		
5893	8.6	S(p)+1726.7	(5^+)	6021.11	
5894	0.4	S(p)+1440.64	1^+		
5897	4.0	S(p)+1806.62	3^+		
5899	5.8	S(p)+1679.04	3^+	5965.81	
5907	8.7	S(p)+1687.24	3^+	5965.81	
5916	20	S(p)+1696.5	3^+	5965.81	
5918	4.5	S(p)+1679.04	3^+	5941.48	
5919[&]	4[&]	S(p)+1687.24	3^+		
5926	10.4	S(p)+1687.24	3^+	5941.48	
5929	0.4	S(p)+1440.64	1^+	5694.98	(2^+)
5930	10	S(p)+1344.0	3^+		
5933	20.5	S(p)+1480.66	$3^{(-)}$		
5939	7.8	S(p)+1486.8	$3^{(-)}$		
5942	1	S(p)+1344.0	3^+	5590.06	$1^+,2^+,3^+$
5943	1.0	S(p)+1455.18	1^+	5694.98	(2^+)
5949	5.6	S(p)+1486.8	$3^{(-)}$		
5953	18.3	S(p)+1734.0	(5^+)	5965.81	
5959	1.7	S(p)+1507.2	$3^{(-)}$		
5962	14.2	S(p)+1679.04	3^+		
5966[&]	13[&]	S(p)+1696.5	3^+	5913.51	2^+
5969	1.3	S(p)+1507.2	$3^{(-)}$		
5970	1.9	S(p)+1679.04	3^+		
5970	24.3	S(p)+1687.24	3^+		
5971	11.7	S(p)+1483.44	$3^{(-)}$	5694.98	(2^+)
5973	13.6	S(p)+1521.4	4^+		
5974	8.9	S(p)+1486.8	$3^{(-)}$	5694.98	(2^+)
5975	0.4	S(p)+1440.64	1^+		
5976	20.3	S(p)+1524.10	4^+		
5978	7.8	S(p)+1687.24	3^+		
5979	23.8	S(p)+1696.5	3^+		
5981	0.4	S(p)+1440.64	1^+		
5983	3.2	S(p)+1521.4	4^+		
5984	60.9	S(p)+1531.84	4^+		
5987	10	S(p)+1696.5	3^+		
5994	2.0	S(p)+1507.2	$3^{(-)}$	5694.98	(2^+)
5998	1.5	S(p)+1535.86	2^+		

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
6001	4	S(p)+1344.0	3^+		
6003[#]	4.2[#]	S(p)+1435.42		5618.36	4^+
6008	8	S(p)+1521.4	4^+	5694.98	(2^+)
6008[&]	4[&]	S(p)+1679.04	3^+		
6009[#]	2.3[#]	S(p)+1440.64	1^+	5618.36	4^+
6009	8.6	S(p)+1726.7	(5^+)		
6011	14.9	S(p)+1524.10	4^+	5694.98	(2^+)
6011	6.8	S(p)+1773.17	3^+	5941.48	
6014	8.4	S(p)+1480.66	$3^{(-)}$		
6016	25	S(p)+1344.0	3^+	5510.10	
6016	3.9	S(p)+1679.04	3^+		
6016[&]	8[&]	S(p)+1687.24	3^+		
6016	22.6	S(p)+1734.0	(5^+)		
6017	100	S(p)+1483.44	$3^{(-)}$		
6017	25.9	S(p)+1726.7	(5^+)		
6019	19.6	S(p)+1531.84	4^+	5694.98	(2^+)
6020	12	S(p)+1480.66	$3^{(-)}$		
6020	50	S(p)+1486.8	$3^{(-)}$		
6023	3.8	S(p)+1535.86	2^+	5694.98	(2^+)
6026	1.4	S(p)+1440.64	1^+		
6026	6.7	S(p)+1486.8	$3^{(-)}$		
6037[@]	4.1[@]	S(p)+1806.62	3^+		
6038	24.1	S(p)+1801.0	4^+	5941.48	
6040	8.6	S(p)+1507.2	$3^{(-)}$		
6043	24.6	S(p)+1761.0	(4^+)		
6043[@]	48.6[@]	S(p)+1773.17	3^+	5913.51	2^+
6044	4.6	S(p)+1806.62	3^+	5941.48	
6046	5.0	S(p)+1507.2	$3^{(-)}$		
6052	6	S(p)+1344.0	3^+	5479.15	(4^+)
6054	13.6	S(p)+1521.4	4^+		
6055	12.6	S(p)+1773.17	3^+		
6057	13.5	S(p)+1524.10	4^+		
6060	20	S(p)+1521.4	4^+		
6061	5.6	S(p)+1440.64	1^+	5562.38	
6063	60.8	S(p)+1524.10	4^+		
6069	12.1	S(p)+1535.86	2^+		
6074[#]	<0.5[#]	S(p)+1455.18	1^+	5562.38	
6075	6.1	S(p)+1535.86	2^+		
6076	16.9	S(p)+1480.66	$3^{(-)}$	5590.06	$1^+,2^+,3^+$
6082	15.6	S(p)+1486.8	$3^{(-)}$	5590.06	$1^+,2^+,3^+$
6082	5.6	S(p)+1801.0	4^+		
6088	0.5	S(p)+1806.62	3^+		
6096	0.7	S(p)+1440.64	1^+		
6097	20.3	S(p)+1761.0	(4^+)		
6100	9.6	S(p)+1480.66	$3^{(-)}$	5562.38	
6107	6.8	S(p)+1524.10	4^+		
6110	1.7	S(p)+1455.18	1^+		
6111	0.7	S(p)+1440.64	1^+	5510.10	
6116	19.2	S(p)+1521.4	4^+	5590.06	$1^+,2^+,3^+$
6119	24.3	S(p)+1524.10	4^+	5590.06	$1^+,2^+,3^+$
6131	6.1	S(p)+1535.86	2^+	5590.06	$1^+,2^+,3^+$
6135	16.9	S(p)+1480.66	$3^{(-)}$		
6135[#]	100[#] *19*	6981.68	$0^+,1^+,2^+,3^+$	846.5	2^+

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
6136	13.6	S(p)+1687.24	3^+		
6136	5.6	S(p)+1801.0	4^+		
6138	39.0	S(p)+1483.44	$3^{(-)}$		
6138	5.8	S(p)+1679.04	3^+		
6141	21.1	S(p)+1486.8	$3^{(-)}$		
6146	20.9	S(p)+1687.24	3^+		
6147	0.4	S(p)+1440.64	1^+	5479.15	(4^+)
6150	9.6	S(p)+1480.66	$3^{(-)}$	5510.10	
6153	13.0	S(p)+1483.44	$3^{(-)}$	5510.10	
6155	0.8	S(p)+1535.86	2^+	5562.38	
6155	8.8	S(p)+1696.5	3^+		
6156	8.9	S(p)+1486.8	$3^{(-)}$	5510.10	
6161	1.0	S(p)+1455.18	1^+	5479.15	(4^+)
6161	4.0	S(p)+1507.2	$3^{(-)}$		
6163	5.8	S(p)+1679.04	3^+	5694.98	(2^+)
6171	7.0	S(p)+1687.24	3^+	5694.98	(2^+)
6175	20	S(p)+1521.4	4^+		
6175	27.6	S(p)+1726.7	(5^+)		
6178	18.9	S(p)+1524.10	4^+		
6182	26.9	S(p)+1734.0	(5^+)		
6186	22.9	S(p)+1480.66	$3^{(-)}$	5479.15	(4^+)
6189	16.9	S(p)+1483.44	$3^{(-)}$	5479.15	(4^+)
6190	16.7	S(p)+1535.86	2^+		
6192	12.2	S(p)+1486.8	$3^{(-)}$	5479.15	(4^+)
6192	9.7	S(p)+1734.0	(5^+)		
6193	14.9	S(p)+1524.10	4^+	5510.10	
6201	49	S(p)+1344.0	3^+		
6201	13.0	S(p)+1531.84	4^+	5510.10	
6209	8.4	S(p)+1679.04	3^+		
6215	7.1	S(p)+1679.04	3^+		
6217	3.5	S(p)+1687.24	3^+		
6221	15.5	S(p)+1773.17	3^+		
6223	1.7	S(p)+1687.24	3^+		
6226	10.4	S(p)+1521.4	4^+	5479.15	(4^+)
6229	27.0	S(p)+1524.10	4^+	5479.15	(4^+)
6231	5.8	S(p)+1773.17	3^+		
6237	6.5	S(p)+1531.84	4^+	5479.15	(4^+)
6241	4.5	S(p)+1535.86	2^+	5479.15	(4^+)
6243	4.9	S(p)+1796.07	(4^-)		
6248	9.3	S(p)+1801.0	4^+		
6251#	100# *27*	6250.78		0	0^+
6254	13.2	S(p)+1806.62	3^+		
6258	10.2	S(p)+1801.0	4^+		
6259	13.5	S(p)+1679.04	3^+		
6267	2.6	S(p)+1687.24	3^+		
6269	17.2	S(p)+1734.0	(5^+)		
6271	1.9	S(p)+1679.04	3^+	5590.06	$1^+,2^+,3^+$
6279	1.7	S(p)+1687.24	3^+	5590.06	$1^+,2^+,3^+$
6283	8.3	S(p)+1801.0	4^+	5705.43	2^+
6302	3.9	S(p)+1773.17	3^+		
6308	6.8	S(p)+1773.17	3^+		
6320#	54# *12*	7167.27	1	846.5	2^+
6329	2.8	S(p)+1801.0	4^+	5661.18	
6330	7.7	S(p)+1679.04	3^+	5538.07	$(1,2^+)$

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
6330	7.8	S(p)+1796.07	(4^-)		
6335	19.3	S(p)+1480.66	$3^{(-)}$		
6335	8.3	S(p)+1801.0	4^+		
6335	1.9	S(p)+1806.62	3^+	5661.18	
6338	5.2	S(p)+1483.44	$3^{(-)}$		
6341	1.9	S(p)+1806.62	3^+		
6342[#]	0.8[#]	S(p)+1440.64	1^+	5283.90	
6345	11.6	S(p)+1679.04	3^+		
6352[@]	20.6[@]	S(p)+1773.17	3^+		
6353	15.7	S(p)+1687.24	3^+		
6354	13.3	S(p)+1480.66	$3^{(-)}$	5307.81	
6357	31.2	S(p)+1483.44	$3^{(-)}$	5307.81	
6360	15.6	S(p)+1486.8	$3^{(-)}$	5307.81	
6361[#]	≈12.0[#]	S(p)+1460.04		5283.90	
6361	6.6	S(p)+1507.2	$3^{(-)}$		
6362	7.5	S(p)+1696.5	3^+		
6364[#]	100[#]	7211.1	1	846.5	2^+
6366	1.8	S(p)+1440.64	1^+	5256.9	2^+
6371	46	S(p)+1344.0	3^+		
6372[#]	100[#] *23*	7219.2	0^+	846.5	2^+
6375	8.8	S(p)+1521.4	4^+		
6377	2.7	S(p)+1455.18	1^+	5256.9	2^+
6377	12.1	S(p)+1726.7	(5^+)	5538.07	$(1,2^+)$
6378	9.5	S(p)+1524.10	4^+		
6380	1.7	S(p)+1507.2	$3^{(-)}$	5307.81	
6381	1.3	S(p)+1679.04	3^+	5479.15	(4^+)
6384	6.5	S(p)+1734.0	(5^+)	5538.07	$(1,2^+)$
6385[@]	2.2[@]	S(p)+1806.62	3^+		
6386	19.6	S(p)+1531.84	4^+		
6389	0.9	S(p)+1687.24	3^+	5479.15	(4^+)
6390	11.4	S(p)+1535.86	2^+		
6391	18.5	S(p)+1801.0	4^+	5590.06	$1^+,2^+,3^+$
6392	39.7	S(p)+1726.7	(5^+)		
6397	0.5	S(p)+1806.62	3^+	5590.06	$1^+,2^+,3^+$
6402	50.6	S(p)+1480.66	$3^{(-)}$		
6404[#]	1.6[#]	S(p)+1440.64	1^+		
6405	9.6	S(p)+1480.66	$3^{(-)}$	5256.9	2^+
6405	7.8	S(p)+1483.44	$3^{(-)}$		
6408[#]	<1.8[#]	S(p)+1445.72	1^+		
6408	14.3	S(p)+1483.44	$3^{(-)}$	5256.9	2^+
6408	5.6	S(p)+1486.8	$3^{(-)}$		
6409	3.0	S(p)+1535.86	2^+	5307.81	
6411	8.9	S(p)+1486.8	$3^{(-)}$	5256.9	2^+
6415	6.5	S(p)+1801.0	4^+	5573.51	
6418[#]	4.3[#]	S(p)+1455.18	1^+		
6428	25.9	S(p)+1726.7	(5^+)	5479.15	(4^+)
6431	10.9	S(p)+1507.2	$3^{(-)}$	5256.9	2^+
6438	11.7	S(p)+1773.17	3^+		
6442	29.6	S(p)+1521.4	4^+		
6445	33.6	S(p)+1521.4	4^+	5256.9	2^+
6445	62.8	S(p)+1524.10	4^+		
6445	6.9	S(p)+1796.07	(4^-)	5538.07	$(1,2^+)$

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
6448	24.3	S(p)+1524.10	4^+	5256.9	2^+	
6450	13.9	S(p)+1801.0	4^+	5538.07	$(1,2^+)$	
6451	10.8	S(p)+1480.66	$3^{(-)}$			
6453	100	S(p)+1531.84	4^+			
6454	50.6	S(p)+1483.44	$3^{(-)}$			
6456	39.1	S(p)+1531.84	4^+	5256.9	2^+	
6456	8.4	S(p)+1806.62	3^+	5538.07	$(1,2^+)$	
6457	25.6	S(p)+1486.8	$3^{(-)}$			
6457	70.5	S(p)+1535.86	2^+			
6460	66.7	S(p)+1535.86	2^+	5256.9	2^+	
6460	13.7	S(p)+1796.07	(4^-)			
6465	10.2	S(p)+1801.0	4^+			
6466	12	S(p)+1344.0	3^+			
6471	19	S(p)+1344.0	3^+	5055.87	$4^+,(3^+)$	
6471[@]	7.9[@]	S(p)+1806.62	3^+			
6474	9.7	S(p)+1773.17	3^+	5479.15	(4^+)	
6477	1.7	S(p)+1507.2	$3^{(-)}$			
6481	35	S(p)+1344.0	3^+			
6488	20.5	S(p)+1480.66	$3^{(-)}$			
6491	67.5	S(p)+1483.44	$3^{(-)}$			
6491	9.6	S(p)+1521.4	4^+			
6494	24.4	S(p)+1486.8	$3^{(-)}$			
6496	2.0	S(p)+1796.07	(4^-)	5479.15	(4^+)	
6501	6.5	S(p)+1801.0	4^+	5479.15	(4^+)	
6505	7.2	S(p)+1480.66	$3^{(-)}$			
6506	5.3	S(p)+1535.86	2^+			
6508	7.8	S(p)+1483.44	$3^{(-)}$			
6528	4.8	S(p)+1521.4	4^+			
6530	25.8	S(p)+1679.04	3^+			Additional information 3.
6531	26.0	S(p)+1507.2	$3^{(-)}$			
6531	2.2	S(p)+1531.84	4^+	5186.82	2^+	
6538	18.3	S(p)+1687.24	3^+			
6543	2.3	S(p)+1535.86	2^+			
6545	10.4	S(p)+1521.4	4^+			
6547	18.8	S(p)+1696.5	3^+			
6548	17.6	S(p)+1524.10	4^+			
6549[&]	6.6[&]	S(p)+1535.86	2^+			
6549	2.6	S(p)+1679.04	3^+	5307.81		
6556	20.7	S(p)+1531.84	4^+			
6560	8.3	S(p)+1535.86	2^+			
6576	21.4	S(p)+1440.64	1^+			
6576[#]	100[#] *17*	7422.67	$(1,2^+)$	846.5	2^+	
6580[#]	8.1[#]	S(p)+1445.72	1^+			
6582	21.7	S(p)+1480.66	$3^{(-)}$			
6584	15.1	S(p)+1734.0	(5^+)			
6585	11.7	S(p)+1483.44	$3^{(-)}$			
6590	6.3	S(p)+1455.18	1^+			
6596	44.8	S(p)+1726.7	(5^+)	5307.81		
6597	7.7	S(p)+1679.04	3^+			
6600	31.2	S(p)+1480.66	$3^{(-)}$			
6600	2.6	S(p)+1679.04	3^+	5256.9	2^+	
6603	23.4	S(p)+1483.44	$3^{(-)}$			
6603	2.5	S(p)+1734.0	(5^+)	5307.81		

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
6605	10.4	S(p)+1687.24	3^+			
6606	10	S(p)+1486.8	$3^{(-)}$			
6608	11.7	S(p)+1483.44	$3^{(-)}$	5055.87	4^+,(3^+)	
6608	8.9	S(p)+1507.2	$3^{(-)}$			
6611	6.7	S(p)+1486.8	$3^{(-)}$	5055.87	4^+,(3^+)	
6611	20.3	S(p)+1761.0	(4^+)			
6617	27.5	S(p)+1696.5	3^+	5256.9	2^+	
6618	6.5	S(p)+1483.44	$3^{(-)}$			
6623	35.0	S(p)+1773.17	3^+			
6637	16.7	S(p)+1535.86	2^+			
6645	10.4	S(p)+1521.4	4^+	5055.87	4^+,(3^+)	
6645	25.5	S(p)+1796.07	(4^-)			
6646	0.6	S(p)+1679.04	3^+			
6647	17.2	S(p)+1726.7	(5^+)	5256.9	2^+	
6650	38.0	S(p)+1801.0	4^+			
6654	19.4	S(p)+1734.0	(5^+)	5256.9	2^+	
6655	6.8	S(p)+1535.86	2^+			
6656	27.2	S(p)+1531.84	4^+	5055.87	4^+,(3^+)	
6656	2.7	S(p)+1806.62	3^+			
6660	12.9	S(p)+1535.86	2^+	5055.87	4^+,(3^+)	
6666	5.4	S(p)+1531.84	4^+			
6669	10.2	S(p)+1801.0	4^+			
6670	5.3	S(p)+1535.86	2^+			
6678	18.8	S(p)+1761.0	(4^+)			
6683	7.1	S(p)+1679.04	3^+			
6691	2.6	S(p)+1687.24	3^+			
6693	5.2	S(p)+1726.7	(5^+)			
6693	51.5	S(p)+1773.17	3^+			
6700	100	S(p)+1679.04	3^+			Additional information 4.
6700	35.5	S(p)+1734.0	(5^+)			
6706&	23&	S(p)+1696.5	3^+			
6708	100	S(p)+1687.24	3^+			Additional information 8.
6712	3.9	S(p)+1796.07	(4^-)			
6715#	2.7#	S(p)+1435.42				
6715	3.9	S(p)+1796.07	(4^-)			
6717	10	S(p)+1696.5	3^+			
6717	7.4	S(p)+1801.0	4^+			
6720	8.3	S(p)+1801.0	4^+			
6723	3.0	S(p)+1806.62	3^+			
6726#	2.3#	S(p)+1435.42				
6726	23.5	S(p)+1806.62	3^+			
6730	15.5	S(p)+1726.7	(5^+)			
6731#	37.8#	S(p)+1451.74				
6732	40.0	S(p)+1440.64	1^+			
6736#	71.8#	S(p)+1445.72	1^+			
6739	7.8	S(p)+1773.17	3^+			
6746	29	S(p)+1455.18	1^+			
6747	44.8	S(p)+1726.7	(5^+)			
6754	14.0	S(p)+1734.0	(5^+)			
6760	22.9	S(p)+1480.66	$3^{(-)}$			
6761	3.9	S(p)+1796.07	(4^-)			
6763	27.3	S(p)+1483.44	$3^{(-)}$			
6766	16.7	S(p)+1486.8	$3^{(-)}$			
6767	13	S(p)+1344.0	3^+			

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
6774	5.2	S(p)+1483.44	$3^{(-)}$		
6776	7.8	S(p)+1773.17	3^+		
6777	15.6	S(p)+1486.8	$3^{(-)}$		
6777	3.9	S(p)+1679.04	3^+		
6785	7.0	S(p)+1687.24	3^+		
6793	21.4	S(p)+1773.17	3^+		
6795	10.3	S(p)+1679.04	3^+		
6800	6.4	S(p)+1521.4	4^+		
6800	1.3	S(p)+1679.04	3^+		
6803	10.8	S(p)+1524.10	4^+		
6803	10.4	S(p)+1687.24	3^+		
6803	6.5	S(p)+1801.0	4^+	5186.82	2^+
6809	0.8	S(p)+1806.62	3^+	5186.82	2^+
6810	11.0	S(p)+1679.04	3^+	5055.87	4^+,(3^+)
6815[#]	<0.3[#]	S(p)+1440.64	1^+	4812.68	4^+,5^+
6815	7.6	S(p)+1535.86	2^+		
6815	13.7	S(p)+1796.07	(4^-)		
6817	30	S(p)+1696.5	3^+		
6818	10.4	S(p)+1687.24	3^+	5055.87	4^+,(3^+)
6820	27.8	S(p)+1801.0	4^+		
6821	91	S(p)+1344.0	3^+	4698.6	
6824	20.7	S(p)+1726.7	(5^+)		
6826	15.2	S(p)+1535.86	2^+		
6826	9.4	S(p)+1806.62	3^+		
6831	24.7	S(p)+1734.0	(5^+)		
6842	6.9	S(p)+1726.7	(5^+)		
6846	76	S(p)+1344.0	3^+	4683.04	(2^+),3^+
6847	17.2	S(p)+1726.7	(5^+)		
6854	35.5	S(p)+1734.0	(5^+)		
6855	7.2	S(p)+1480.66	$3^{(-)}$	4812.68	4^+,5^+
6858	9.1	S(p)+1483.44	$3^{(-)}$	4812.68	4^+,5^+
6871[#]	2.7[#]	S(p)+1440.64	1^+		
6876	0.7	S(p)+1455.18	1^+		
6876	44.9	S(p)+1761.0	(4^+)		
6881	34.8	S(p)+1761.0	(4^+)		
6891	34.8	S(p)+1761.0	(4^+)	5055.87	4^+,(3^+)
6894	43	S(p)+1344.0	3^+		
6904	5.2	S(p)+1483.44	$3^{(-)}$		
6907	1.1	S(p)+1440.64	1^+	4722.4	
6908[#]	4.1[#]	S(p)+1435.42			
6910	8.8	S(p)+1796.07	(4^-)		
6915	8.3	S(p)+1801.0	4^+		
6919	0.7	S(p)+1440.64	1^+	4698.6	
6921	1.3	S(p)+1455.18	1^+	4722.4	
6924[#]	14.4[#]	S(p)+1451.74			
6927	14.2	S(p)+1507.2	$3^{(-)}$		
6935[#]	21.1[#]	S(p)+1435.42		4683.04	(2^+),3^+
6936[@]	8.1[@]	S(p)+1806.62	3^+	5055.87	4^+,(3^+)
6941[#]	1.0[#]	S(p)+1440.64	1^+	4683.04	(2^+),3^+
6941	36	S(p)+1521.4	4^+		
6944	100	S(p)+1524.10	4^+		
6949	13	S(p)+1344.0	3^+		
6952	10	S(p)+1486.8	$3^{(-)}$	4722.4	

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
6952	9.8	S(p)+1531.84	4^+			
6955	7.1	S(p)+1679.04	3^+			
6956	16.7	S(p)+1535.86	2^+			
6960#	11.2#	S(p)+1460.04		4683.04	$(2^+),3^+$	
6961	20	S(p)+1486.8	$3^{(-)}$			
6963	13.9	S(p)+1687.24	3^+			
6964	25	S(p)+1344.0	3^+			
6966	9.7	S(p)+1679.04	3^+			
6971[a]	27.9[a]	S(p)+1535.86	2^+			
6972	3.6	S(p)+1507.2	$3^{(-)}$	4722.4		
6972	8.8	S(p)+1696.5	3^+			
6974	35.7	S(p)+1687.24	3^+			
6980	54.2	S(p)+1480.66	$3^{(-)}$	4683.04	$(2^+),3^+$	
6981#	3.0#	S(p)+1435.42				
6981	3.0	S(p)+1507.2	$3^{(-)}$			
6983	49.4	S(p)+1483.44	$3^{(-)}$	4683.04	$(2^+),3^+$	
6983	58.8	S(p)+1696.5	3^+			Additional information 13.
6986	24.4	S(p)+1486.8	$3^{(-)}$	4683.04	$(2^+),3^+$	
6986	7.2	S(p)+1521.4	4^+	4722.4		
6989	0.7	S(p)+1440.64	1^+			
6989	17.6	S(p)+1524.10	4^+	4722.4		
6995	7	S(p)+1344.0	3^+			
6995	4.8	S(p)+1521.4	4^+			
6997	95.7	S(p)+1531.84	4^+	4722.4		
6998	12.1	S(p)+1524.10	4^+			
7001	15.9	S(p)+1535.86	2^+	4722.4		
7002	37.9	S(p)+1726.7	(5^+)			
7003#	0.2#	S(p)+1455.18	1^+			
7006#	32.8#	S(p)+1460.04				
7006	8.9	S(p)+1507.2	$3^{(-)}$	4683.04	$(2^+),3^+$	
7006	19.6	S(p)+1531.84	4^+			
7010	12.1	S(p)+1535.86	2^+			
7020	5.6	S(p)+1521.4	4^+	4683.04	$(2^+),3^+$	
7023	18.9	S(p)+1524.10	4^+	4683.04	$(2^+),3^+$	
7028	9.6	S(p)+1480.66	$3^{(-)}$			
7031	7.8	S(p)+1483.44	$3^{(-)}$			
7031	28.3	S(p)+1531.84	4^+	4683.04	$(2^+),3^+$	
7035	18.2	S(p)+1535.86	2^+	4683.04	$(2^+),3^+$	
7044	0.7	S(p)+1440.64	1^+			
7046	72	S(p)+1344.0	3^+			
7048	6.8	S(p)+1773.17	3^+			
7054	1.7	S(p)+1507.2	$3^{(-)}$			
7058	3.3	S(p)+1455.18	1^+			
7059	15.1	S(p)+1440.64	1^+			
7059	10.7	S(p)+1773.17	3^+			
7063#	<1.8#	S(p)+1445.72	1^+			
7068	29.6	S(p)+1521.4	4^+			
7070	3.9	S(p)+1796.07	(4^-)			
7071	21.6	S(p)+1524.10	4^+			
7073	2.7	S(p)+1455.18	1^+			
7075	5.6	S(p)+1801.0	4^+			
7078#	12.4#	S(p)+1460.04				
7079	28.3	S(p)+1531.84	4^+			

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
7081	14.3	S(p)+1806.62	3^+			
7083#	3.0#	S(p)+1435.42		4540.02	$1^+,2^+$	
7083	12.0	S(p)+1480.66	$3^{(-)}$			
7083	22.0	S(p)+1535.86	2^+			
7086	9.1	S(p)+1483.44	$3^{(-)}$			
7089	8.9	S(p)+1486.8	$3^{(-)}$			
7090	3.5	S(p)+1440.64	1^+			
7092	5.4	S(p)+1806.62	3^+			
7096	31.0	S(p)+1679.04	3^+			Additional information 5.
7099#	41.4#	S(p)+1451.74		4540.02	$1^+,2^+$	
7103	57	S(p)+1344.0	3^+			
7104	1.7	S(p)+1455.18	1^+	4540.02	$1^+,2^+$	
7104	20.9	S(p)+1687.24	3^+			
7109	10	S(p)+1344.0	3^+			
7109	11.2	S(p)+1507.2	$3^{(-)}$			
7123	9.6	S(p)+1521.4	4^+			
7126	5.4	S(p)+1524.10	4^+			
7129	48.2	S(p)+1480.66	$3^{(-)}$	4540.02	$1^+,2^+$	
7132	42.9	S(p)+1483.44	$3^{(-)}$	4540.02	$1^+,2^+$	
7134#	0.9#	S(p)+1435.42				
7134	13.0	S(p)+1531.84	4^+			
7135	46.7	S(p)+1486.8	$3^{(-)}$	4540.02	$1^+,2^+$	
7138	6.4	S(p)+1521.4	4^+			
7138	22.7	S(p)+1535.86	2^+			
7141	0.7	S(p)+1440.64	1^+			
7141	4.1	S(p)+1524.10	4^+			
7149	16.5	S(p)+1687.24	3^+	4728.14	2^+	
7150#	49.6#	S(p)+1451.74				
7150	22.6	S(p)+1679.04	3^+			
7155#	<0.4#	S(p)+1455.18	1^+			
7155	1.7	S(p)+1507.2	$3^{(-)}$	4540.02	$1^+,2^+$	
7158	15.7	S(p)+1687.24	3^+	4722.4		
7158	26.2	S(p)+1696.5	3^+	4728.14	2^+	
7159#	25.4#	S(p)+1460.04				
7167	17.5	S(p)+1696.5	3^+	4722.4		
7167#	100# *12*	7167.27	1	0	0^+	
7169	12	S(p)+1521.4	4^+	4540.02	$1^+,2^+$	
7172	16.2	S(p)+1524.10	4^+	4540.02	$1^+,2^+$	
7175	17.4	S(p)+1679.04	3^+	4683.04	$(2^+),3^+$	
7180	22.9	S(p)+1480.66	$3^{(-)}$			
7180	15.2	S(p)+1531.84	4^+	4540.02	$1^+,2^+$	
7183	42.9	S(p)+1483.44	$3^{(-)}$			
7183	23.5	S(p)+1687.24	3^+	4683.04	$(2^+),3^+$	
7184	12	S(p)+1535.86	2^+	4540.02	$1^+,2^+$	
7186	22.2	S(p)+1486.8	$3^{(-)}$			
7188	36.7	S(p)+1726.7	(5^+)	4728.14	2^+	
7192#	5.1#	S(p)+1435.42				
7195	47.3	S(p)+1734.0	(5^+)	4728.14	2^+	
7197	22.4	S(p)+1726.7	(5^+)	4722.4		
7198#	2.1#	S(p)+1435.42				
7198	11.9	S(p)+1440.64	1^+			
7204	1.4	S(p)+1440.64	1^+			

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
7204	23.7	S(p)+1734.0	(5^+)	4722.4	
7206	73	S(p)+1344.0	3^+		
7206	5.0	S(p)+1507.2	$3^{(-)}$		
7211	11.8	S(p)+1796.07	(4^-)		
7211		7211.1	1	0	0^+
7212#	0.8#	S(p)+1455.18	1^+		
7214#	32.4#	S(p)+1451.74			
7216	11.1	S(p)+1801.0	4^+		
7217#	17.5#	S(p)+1460.04			
7218#	0.3#	S(p)+1455.18	1^+		
7220	16	S(p)+1521.4	4^+		
7222	30.4	S(p)+1761.0	(4^+)	4728.14	2^+
7222	4.6	S(p)+1806.62	3^+		
7223#	<2.4#	S(p)+1460.04			
7223	37.8	S(p)+1524.10	4^+		
7223	8.4	S(p)+1679.04	3^+		
7231	52.2	S(p)+1531.84	4^+		
7231	14.8	S(p)+1687.24	3^+		
7231	33.3	S(p)+1761.0	(4^+)	4722.4	
7234	16.5	S(p)+1773.17	3^+	4728.14	2^+
7235	42.4	S(p)+1535.86	2^+		
7237	6.0	S(p)+1480.66	$3^{(-)}$		
7240	7.8	S(p)+1483.44	$3^{(-)}$		
7240	23.8	S(p)+1696.5	3^+		
7243	38.6	S(p)+1480.66	$3^{(-)}$		
7243	18.6	S(p)+1773.17	3^+	4722.4	
7246	23.4	S(p)+1483.44	$3^{(-)}$		
7249	20	S(p)+1486.8	$3^{(-)}$		
7256	6.9	S(p)+1796.07	(4^-)	4728.14	2^+
7261	18.5	S(p)+1801.0	4^+	4728.14	2^+
7265	10.8	S(p)+1796.07	(4^-)	4722.4	
7267	1.9	S(p)+1806.62	3^+	4728.14	2^+
7268	14.6	S(p)+1773.17	3^+	4692.32	4^+
7269	2.0	S(p)+1507.2	$3^{(-)}$		
7270	13.8	S(p)+1726.7	(5^+)		
7270	30.6	S(p)+1801.0	4^+	4722.4	
7276	8.6	S(p)+1806.62	3^+	4722.4	
7277	26.9	S(p)+1734.0	(5^+)		
7278	13.5	S(p)+1679.04	3^+		
7283	7.2	S(p)+1521.4	4^+		
7286	9.5	S(p)+1524.10	4^+		
7286	6.1	S(p)+1687.24	3^+		
7290	15.7	S(p)+1796.07	(4^-)	4692.32	4^+
7292	1.5	S(p)+1535.86	2^+		
7294	10.9	S(p)+1531.84	4^+		
7295#	1.4#	S(p)+1435.42			
7295	22.2	S(p)+1801.0	4^+	4692.32	4^+
7298	6.1	S(p)+1535.86	2^+		
7301#	0.4#	S(p)+1440.64	1^+		
7301	6.1	S(p)+1687.24	3^+		
7301	1.9	S(p)+1806.62	3^+	4692.32	4^+
7310	32.5	S(p)+1696.5	3^+		
7311#	46.0#	S(p)+1451.74			

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
7316	8.7	S(p)+1773.17	3^+		
7324	12.3	S(p)+1679.04	3^+	4540.02	$1^+,2^+$
7325	75.9	S(p)+1726.7	(5^+)		
7332	5.2	S(p)+1687.24	3^+	4540.02	$1^+,2^+$
7332	6.5	S(p)+1734.0	(5^+)		
7338	48.0	S(p)+1796.07	(4^-)		
7340	48.2	S(p)+1480.66	$3^{(-)}$		
7341	10	S(p)+1696.5	3^+	4540.02	$1^+,2^+$
7343	96.2	S(p)+1483.44	$3^{(-)}$		
7343	63.9	S(p)+1801.0	4^+		
7346	47.8	S(p)+1486.8	$3^{(-)}$		
7349	4.9	S(p)+1806.62	3^+		
7366	2.6	S(p)+1507.2	$3^{(-)}$		
7371	8.6	S(p)+1726.7	(5^+)	4540.02	$1^+,2^+$
7375	27.7	S(p)+1679.04	3^+		
7380	12.8	S(p)+1521.4	4^+		
7383	10.8	S(p)+1524.10	4^+		
7383	29.6	S(p)+1687.24	3^+		
7384	36	S(p)+1344.0	3^+		
7391	28.3	S(p)+1531.84	4^+		
7392	15	S(p)+1696.5	3^+		
7392[#]	100[#] *38*	8238.7	1	846.5	2^+
7393	100	S(p)+1796.07	(4^-)		
7395	23.5	S(p)+1535.86	2^+		
7398	100	S(p)+1801.0	4^+		
7401[#]	100[#] *28*	8248.0	$0^+,1^+,2^+,3^+$	846.5	2^+
7404	51	S(p)+1344.0	3^+	4120.3	3^+
7404	10.0	S(p)+1806.62	3^+		
7408	2.0	S(p)+1796.07	(4^-)		
7413	5.6	S(p)+1801.0	4^+		
7417	53.4	S(p)+1773.17	3^+	4540.02	$1^+,2^+$
7419[@]	5.3[@]	S(p)+1806.62	3^+		
7422	51.7	S(p)+1726.7	(5^+)		
7423[#]	17[#] *8*	7422.67	$(1,2^+)$	0	0^+
7429	26.9	S(p)+1734.0	(5^+)		
7432	11.6	S(p)+1679.04	3^+		
7438	4.5	S(p)+1679.04	3^+		
7439	39.2	S(p)+1796.07	(4^-)	4540.02	$1^+,2^+$
7440	33.0	S(p)+1687.24	3^+		
7444	22.2	S(p)+1801.0	4^+	4540.02	$1^+,2^+$
7446	9.6	S(p)+1687.24	3^+		
7450	2.4	S(p)+1806.62	3^+	4540.02	$1^+,2^+$
7455	22	S(p)+1344.0	3^+		
7455	33.8	S(p)+1696.5	3^+		
7463[#]	100[#] *11*	8309.59	$(1,2^+)$	846.5	2^+
7468	15.5	S(p)+1773.17	3^+		
7468[#]	100[#] *42*	7468.0	1	0	0^+
7473[#]	4.6[#]	S(p)+1435.42			
7479[#]	0.2[#]	S(p)+1440.64	1^+		
7485	31.0	S(p)+1726.7	(5^+)		
7489[#]	11.7[#]	S(p)+1451.74			
7490	5.9	S(p)+1796.07	(4^-)		
7492	9.7	S(p)+1734.0	(5^+)		

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
7493#	1.7#	S(p)+1435.42		4120.3	3+	
7493#	0.9#	S(p)+1455.18	1+			
7495	8.3	S(p)+1801.0	4+			
7498#	36.6#	S(p)+1460.04				
7499	4.6	S(p)+1440.64	1+	4120.3	3+	
7501	3.2	S(p)+1806.62	3+			
7509#	42.3#	S(p)+1451.74		4120.3	3+	
7513	1.1	S(p)+1455.18	1+	4120.3	3+	
7518#	≈4.8#	S(p)+1460.04		4120.3	3+	
7518	53.0	S(p)+1480.66	3(−)			
7521	16.9	S(p)+1483.44	3(−)			
7523#	6.3#	S(p)+1451.74				
7524	8.9	S(p)+1486.8	3(−)			
7527#	0.8#	S(p)+1455.18	1+			
7531	18.4	S(p)+1773.17	3+			
7532#	≈9.6#	S(p)+1460.04				
7535	3.9	S(p)+1679.04	3+			
7538	26.5	S(p)+1480.66	3(−)	4120.3	3+	
7541	6.5	S(p)+1483.44	3(−)	4120.3	3+	
7543	45.2	S(p)+1687.24	3+			Additional information 9.
7544	8.9	S(p)+1486.8	3(−)	4120.3	3+	
7544	2.3	S(p)+1507.2	3(−)			
7550	0.7	S(p)+1440.64	1+			
7552	27.5	S(p)+1696.5	3+			
7558	21.6	S(p)+1521.4	4+			
7558	0.8	S(p)+1806.62	3+			
7560#	39.6#	S(p)+1451.74				
7561	14.9	S(p)+1524.10	4+			
7564	11.2	S(p)+1507.2	3(−)	4120.3	3+	
7564	0.8	S(p)+1806.62	3+			
7569#	≈7.2#	S(p)+1460.04				
7569	5.4	S(p)+1531.84	4+			
7573	9.1	S(p)+1535.86	2+			
7578	8.8	S(p)+1521.4	4+	4120.3	3+	
7581	6.8	S(p)+1524.10	4+	4120.3	3+	
7582	51.7	S(p)+1726.7	(5+)			
7589	12.0	S(p)+1480.66	3(−)			
7589	14.1	S(p)+1531.84	4+	4120.3	3+	
7592	13.0	S(p)+1483.44	3(−)			
7593	68.2	S(p)+1535.86	2+	4120.3	3+	
7595	28.9	S(p)+1486.8	3(−)			
7601#	100# *24*	8447.87	0+,1+,2+,3+	846.5	2+	
7628	53.4	S(p)+1773.17	3+			
7629	6.4	S(p)+1521.4	4+			
7632	5.4	S(p)+1524.10	4+			
7640	43.5	S(p)+1531.84	4+			
7644	12.9	S(p)+1535.86	2+			
7650	25.5	S(p)+1796.07	(4−)			
7655	38.9	S(p)+1801.0	4+			
7658	2	S(p)+1344.0	3+			
7661	3.8	S(p)+1806.62	3+			
7674	48	S(p)+1344.0	3+	3856.3	3+	

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
7713	39.4	S(p)+1679.04	3^+		
7721	67.0	S(p)+1687.24	3^+		
7733	8.4	S(p)+1679.04	3^+		
7737#	33.1#	S(p)+1435.42			
7741	14.8	S(p)+1687.24	3^+		
7743#	0.6#	S(p)+1440.64	1^+		
7750	11.2	S(p)+1696.5	3^+		
7753#	9.0#	S(p)+1451.74			
7757	2.0	S(p)+1455.18	1^+		
7760	15.5	S(p)+1726.7	(5^+)		
7762#	4.6#	S(p)+1460.04			
7763#	5.0#	S(p)+1435.42		3856.3	3^+
7767	11.8	S(p)+1734.0	(5^+)		
7769	2.1	S(p)+1440.64	1^+	3856.3	3^+
7780	24.1	S(p)+1726.7	(5^+)		
7782	36.1	S(p)+1480.66	$3^{(-)}$		
7783#	0.4#	S(p)+1455.18	1^+	3856.3	3^+
7784	29.0	S(p)+1679.04	3^+		
7785	22.1	S(p)+1483.44	$3^{(-)}$		
7787	29.0	S(p)+1734.0	(5^+)		
7788	13.3	S(p)+1486.8	$3^{(-)}$		
7792	35.7	S(p)+1687.24	3^+		
7798#	23.0#	S(p)+1460.04			
7801	18.8	S(p)+1696.5	3^+		
7806	10.7	S(p)+1773.17	3^+		
7808	9.6	S(p)+1507.2	$3^{(-)}$		
7814	16.7	S(p)+1486.8	$3^{(-)}$	3856.3	3^+
7814	42.0	S(p)+1761.0	(4^+)		
7822	24.8	S(p)+1521.4	4^+		
7825	28.4	S(p)+1524.10	4^+		
7826	26.2	S(p)+1773.17	3^+		
7831	6.9	S(p)+1726.7	(5^+)		
7833	15.2	S(p)+1531.84	4^+		
7833	5.6	S(p)+1801.0	4^+		
7834	1.0	S(p)+1507.2	$3^{(-)}$	3856.3	3^+
7837	4.5	S(p)+1535.86	2^+		
7838	12.9	S(p)+1734.0	(5^+)		
7839	4.6	S(p)+1806.62	3^+		
7843#	1.4#	S(p)+1440.64	1^+		
7848	20.6	S(p)+1796.07	(4^-)		
7851	2.7	S(p)+1524.10	4^+	3856.3	3^+
7853	50	S(p)+1801.0	4^+		
7855#	0.2#	S(p)+1440.64	1^+		
7857#	1.8#	S(p)+1455.18	1^+		
7859	8.4	S(p)+1806.62	3^+		
7863	0.8	S(p)+1535.86	2^+	3856.3	3^+
7865	31.9	S(p)+1761.0	(4^+)	4085.93	$(1,2^+)$
7877	21.4	S(p)+1773.17	3^+		
7887#	100# *14*	7886.54	$(1,2^+)$	0	0^+
7904		S(p)+1344.0	3^+		
7904	43.5	S(p)+1801.0	4^+	4085.93	$(1,2^+)$
7908	0.7	S(p)+1507.2	$3^{(-)}$		

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
7910	9.4	S(p)+1806.62	3^+	4085.93	$(1,2^+)$	
7925	4.1	S(p)+1524.10	4^+			
7933	3.3	S(p)+1531.84	4^+			
7977	7.7	S(p)+1679.04	3^+			
7985	12.2	S(p)+1687.24	3^+			
7987[#]	0.6[#]	S(p)+1435.42				
7989	4.2	S(p)+1440.64	1^+			
7993[#]	0.8[#]	S(p)+1435.42				
7993[#]	2.4[#]	S(p)+1440.64	1^+			
7999	2.8	S(p)+1440.64	1^+			
8003[#]	1.8[#]	S(p)+1445.72	1^+			
8003	11.3	S(p)+1455.18	1^+			
8003	5.2	S(p)+1679.04	3^+	3856.3	3^+	
8007[#]	4.2[#]	S(p)+1455.18	1^+			
8013	5.3	S(p)+1455.18	1^+			
8018[#]	39.0[#]	S(p)+1460.04				
8021[&]	8[&]	S(p)+1696.5	3^+	3856.3	3^+	
8024	8.6	S(p)+1726.7	(5^+)			
8028	7.2	S(p)+1480.66	$3^{(-)}$			
8034	4.4	S(p)+1486.8	$3^{(-)}$			
8038	8.4	S(p)+1480.66	$3^{(-)}$			
8041	5.2	S(p)+1483.44	$3^{(-)}$			
8044	4.4	S(p)+1486.8	$3^{(-)}$			
8050	6.9	S(p)+1726.7	(5^+)	3856.3	3^+	
8058	36.2	S(p)+1761.0	(4^+)			
8059	16	S(p)+1344.0	3^+			
8064	3.6	S(p)+1507.2	$3^{(-)}$			
8070	18.4	S(p)+1773.17	3^+			
8077	12.9	S(p)+1679.04	3^+			
8078		S(p)+1521.4	4^+			
8081		S(p)+1524.10	4^+			
8083	1.5	S(p)+1535.86	2^+			
8084	40.6	S(p)+1761.0	(4^+)	3856.3	3^+	
8085	7.0	S(p)+1687.24	3^+			
8089		S(p)+1531.84	4^+			
8092	6.9	S(p)+1796.07	(4^-)			
8093	4.5	S(p)+1535.86	2^+			
8097	4.6	S(p)+1801.0	4^+			
8103[@]	3.9[@]	S(p)+1806.62	3^+			
8124	100	S(p)+1726.7	(5^+)			
8131	10.8	S(p)+1734.0	(5^+)			
8134	100	S(p)+1344.0	3^+	3388.55	6^+	
8145[#]	<25.0[#]	S(p)+1435.42				I_γ: Iγ(8145+8148)=25.0.
8148[#]	<25.0[#]	S(p)+1435.42				I_γ: Iγ(8145+8148)=25.0.
8151[#]	1.2[#]	S(p)+1440.64	1^+			
8154	2.8	S(p)+1440.64	1^+			
8155[#]	<21.1[#]	S(p)+1445.72	1^+			I_γ: Iγ(8155+8158)=21.1.
8158[#]	<21.1[#]	S(p)+1445.72	1^+			I_γ: Iγ(8155+8158)=21.1.
8158	27.5	S(p)+1761.0	(4^+)			
8161[#]	<15.3[#]	S(p)+1451.74				I_γ: Iγ(8161+8164)=15.3.
8164[#]	<15.3[#]	S(p)+1451.74				I_γ: Iγ(8161+8164)=15.3.

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
8166[#]	2.3[#]	S(p)+1455.18	1^+			
8168	6.7	S(p)+1455.18	1^+			
8170[#]	<14.4[#]	S(p)+1460.04				I_γ: Iγ(8170+8173)=14.4.
8173[#]	<14.4[#]	S(p)+1460.04				I_γ: Iγ(8170+8173)=14.4.
8193	34.9	S(p)+1480.66	$3^{(-)}$			
8196	10.4	S(p)+1483.44	$3^{(-)}$			
8197	7.4	S(p)+1801.0	4^+			
8199	25.6	S(p)+1486.8	$3^{(-)}$			
8203	2.7	S(p)+1806.62	3^+			
8210	2.1	S(p)+1440.64	1^+			
8224	1.3	S(p)+1455.18	1^+			
8229	7.0	S(p)+1440.64	1^+			
8233[#]	18.2[#]	S(p)+1445.72	1^+			
8233	31.2	S(p)+1521.4	4^+			
8233	36.1	S(p)+1679.04	3^+			
8236	87.8	S(p)+1524.10	4^+			
8239[b]		8238.7	1	0	0^+	
8241	40.9	S(p)+1687.24	3^+			
8243	2.0	S(p)+1455.18	1^+			
8244	5.4	S(p)+1531.84	4^+			
8248[#]	31.8[#]	S(p)+1460.04				
8248	15.9	S(p)+1535.86	2^+			
8250	17.5	S(p)+1696.5	3^+			
8252	3.9	S(p)+1483.44	$3^{(-)}$			
8268	6.0	S(p)+1480.66	$3^{(-)}$			
8271	5.2	S(p)+1483.44	$3^{(-)}$			
8274	18.9	S(p)+1486.8	$3^{(-)}$			
8275	2.3	S(p)+1507.2	$3^{(-)}$			
8294	100	S(p)+1507.2	$3^{(-)}$			
8300	6.5	S(p)+1531.84	4^+			
8304	4.5	S(p)+1535.86	2^+			
8310[#]	35[#] *11*	8309.59	$(1,2^+)$	0	0^+	
8319	7.6	S(p)+1531.84	4^+			
8326	7.8	S(p)+1773.17	3^+			
8359[@]	3.0[@]	S(p)+1806.62	3^+			
8381	18	S(p)+1344.0	3^+			
8388	29.7	S(p)+1679.04	3^+			
8396	40	S(p)+1687.24	3^+			Additional information 10.
8405	16.2	S(p)+1696.5	3^+			
8435	8.6	S(p)+1726.7	(5^+)			
8442	31.2	S(p)+1734.0	(5^+)			
8444	9.0	S(p)+1679.04	3^+			
8463	19.1	S(p)+1679.04	3^+			
8469	21.7	S(p)+1761.0	(4^+)			
8471	2.6	S(p)+1687.24	3^+			
8476	6.3	S(p)+1440.64	1^+			
8479[#]	1.6[#]	S(p)+1440.64	1^+			
8480[#]	<12.6[#]	S(p)+1445.72	1^+			I_γ: Iγ(8480+8483)=12.6.
8480	22.5	S(p)+1696.5	3^+			
8481	35.0	S(p)+1773.17	3^+			
8483[#]	<12.6[#]	S(p)+1445.72	1^+			I_γ: Iγ(8480+8483)=12.6.
8490	1.7	S(p)+1455.18	1^+			

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^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
8491	63.8	S(p)+1726.7	(5^+)			
8493#	0.2#	S(p)+1455.18	1^+			
8495#	<15.8#	S(p)+1460.04				I_γ: Iγ(8495+8498)=15.8.
8498#	<15.8#	S(p)+1460.04				I_γ: Iγ(8495+8498)=15.8.
8498	31.2	S(p)+1734.0	(5^+)			
8503	7.8	S(p)+1796.07	(4^-)			
8508	13.0	S(p)+1801.0	4^+			
8510	19.0	S(p)+1726.7	(5^+)			
8514	5.4	S(p)+1806.62	3^+			
8515	100	S(p)+1480.66	$3^{(-)}$			
8518	66.2	S(p)+1483.44	$3^{(-)}$			
8521	78.9	S(p)+1486.8	$3^{(-)}$			
8523#	<0.3#	S(p)+1440.64	1^+			
8537#	0.2#	S(p)+1455.18	1^+			
8541	34.6	S(p)+1507.2	$3^{(-)}$			
8542#	<7.2#	S(p)+1460.04				
8544	82	S(p)+1344.0	3^+			
8544	37.7	S(p)+1761.0	(4^+)			
8555	100	S(p)+1521.4	4^+			
8556	16.5	S(p)+1773.17	3^+			
8558	18.9	S(p)+1524.10	4^+			
8564	17.6	S(p)+1801.0	4^+			
8566	76.1	S(p)+1531.84	4^+			
8570[a]	32.4[a]	S(p)+1535.86	2^+			
8570	1.9	S(p)+1806.62	3^+			
8583	4.6	S(p)+1801.0	4^+			
8589	4.6	S(p)+1806.62	3^+			
8633#	5.4#	S(p)+1435.42				
8639	14.7	S(p)+1440.64	1^+			
8643#	5.2#	S(p)+1445.72	1^+			
8653	6.7	S(p)+1455.18	1^+			
8657#	3.4#	S(p)+1440.64	1^+	2960.9	2^+	
8661#	<1.8#	S(p)+1445.72	1^+	2960.9	2^+	
8671#	0.6#	S(p)+1455.18	1^+	2960.9	2^+	
8678	15.7	S(p)+1480.66	$3^{(-)}$			
8681	32.5	S(p)+1483.44	$3^{(-)}$			
8684	46.7	S(p)+1486.8	$3^{(-)}$			
8710	24.5	S(p)+1679.04	3^+			
8718	52.2	S(p)+1687.24	3^+			
8721	13.5	S(p)+1524.10	4^+			
8727	100	S(p)+1696.5	3^+			Additional information 14.
8733[a]	21.6[a]	S(p)+1535.86	2^+			
8757	34.5	S(p)+1726.7	(5^+)			
8764	16.1	S(p)+1734.0	(5^+)			
8791	100	S(p)+1761.0	(4^+)			
8803	19.4	S(p)+1773.17	3^+			
8825	12.7	S(p)+1796.07	(4^-)			
8830	14.8	S(p)+1801.0	4^+			
8836	18.1	S(p)+1806.62	3^+			
8846	22	S(p)+1344.0	3^+			
8873	11.0	S(p)+1679.04	3^+			
8881	54.8	S(p)+1687.24	3^+			

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Comments
8890	52.5	S(p)+1696.5	3^+			Additional information 15.
8910#	100# *24*	8909.9	$(1,2^+)$	0	0^+	
8920	8.6	S(p)+1726.7	(5^+)			
8927	15.1	S(p)+1734.0	(5^+)			
8935#	7.4#	S(p)+1435.42				
8941	2.5	S(p)+1440.64	1^+			
8945#	11.2#	S(p)+1445.72	1^+			
8955	3.7	S(p)+1455.18	1^+			
8966	9.7	S(p)+1773.17	3^+			
8980	15.7	S(p)+1480.66	$3^{(-)}$			
8983	3.9	S(p)+1483.44	$3^{(-)}$			
8993	2.8	S(p)+1801.0	4^+			
8999@	8.4@	S(p)+1806.62	3^+			
9006	2.6	S(p)+1507.2	$3^{(-)}$			
9020	6.4	S(p)+1521.4	4^+			
9023	10.8	S(p)+1524.10	4^+			
9031	7.6	S(p)+1531.84	4^+			
9035	3.0	S(p)+1535.86	2^+			
9175	16.1	S(p)+1679.04	3^+			
9183	23.5	S(p)+1687.24	3^+			
9192	15	S(p)+1696.5	3^+			
9222	6.9	S(p)+1726.7	(5^+)			
9268	42.7	S(p)+1773.17	3^+			
9295	2.8	S(p)+1801.0	4^+			
9301	12.9	S(p)+1806.62	3^+			
9419	33	S(p)+1344.0	3^+			
9508#	100.0#	S(p)+1435.42				
9514	5.3	S(p)+1440.64	1^+			
9518#	14.4#	S(p)+1445.72	1^+			
9524#	100.0#	S(p)+1451.74				
9528#	0.8#	S(p)+1455.18	1^+			
9533#	100.0#	S(p)+1460.04				
9553	45.6	S(p)+1480.66	$3^{(-)}$			
9556	23.4	S(p)+1483.44	$3^{(-)}$			
9558#	100#	9557.62	$(1,2^+)$	0	0^+	
9559	71.1	S(p)+1486.8	$3^{(-)}$			
9579	8.9	S(p)+1507.2	$3^{(-)}$			
9593	32	S(p)+1521.4	4^+			
9596	21.6	S(p)+1524.10	4^+			
9604	46.2	S(p)+1531.84	4^+			
9608	6.1	S(p)+1535.86	2^+			
9748	22.6	S(p)+1679.04	3^+			Additional information 6.
9756	70.4	S(p)+1687.24	3^+			Additional information 11.
9765	25	S(p)+1696.5	3^+			
9795	41.4	S(p)+1726.7	(5^+)			
9802	100	S(p)+1734.0	(5^+)			
9829	94.2	S(p)+1761.0	(4^+)			
9841	100	S(p)+1773.17	3^+			
9863	16.7	S(p)+1796.07	(4^-)			
9868	85.2	S(p)+1801.0	4^+			
9874	17.5	S(p)+1806.62	3^+			
10471#	10.8#	S(p)+1460.04				

Continued on next page (footnotes at end of table)

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03 (continued)

γ(^{56}Fe) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
10657	18	S(p)+1344.0	3^+			
10746[#]	7.6[#]	S(p)+1435.42				
10752	37.5	S(p)+1440.64	1^+			Additional information 1.
10756[#]	48.0[#]	S(p)+1445.72	1^+			
10762[#]	<11.7[#]	S(p)+1451.74				
10766	45.3	S(p)+1455.18	1^+			
10791	44.6	S(p)+1480.66	$3^{(-)}$			
10794	27.3	S(p)+1483.44	$3^{(-)}$			
10797	100	S(p)+1486.8	$3^{(-)}$			
10817	21.1	S(p)+1507.2	$3^{(-)}$			
10831	11.2	S(p)+1521.4	4^+			
10834	18.9	S(p)+1524.10	4^+			
10842		S(p)+1531.84	4^+			
10846	100	S(p)+1535.86	2^+			
10986	29.7	S(p)+1679.04	3^+			Additional information 7.
10994	66.1	S(p)+1687.24	3^+			Additional information 12.
11003	37.5	S(p)+1696.5	3^+			Additional information 16.
11033	19.0	S(p)+1726.7	(5^+)			
11040	8.6	S(p)+1734.0	(5^+)			
11067	23.2	S(p)+1761.0	(4^+)			
11079	29.1	S(p)+1773.17	3^+			
11101	10.8	S(p)+1796.07	(4^-)			
11106	13.0	S(p)+1801.0	4^+			
11112	100	S(p)+1806.62	3^+			
11504		S(p)+1344.0	3^+	0	0^+	
11593[#]	2.5[#]	S(p)+1435.42		0	0^+	
11599	100	S(p)+1440.64	1^+	0	0^+	Additional information 2.
11603[#]	100.0[#]	S(p)+1445.72	1^+	0	0^+	
11609[#]	25.2[#]	S(p)+1451.74		0	0^+	
11613	100	S(p)+1455.18	1^+	0	0^+	
11618[#]	<2.2[#]	S(p)+1460.04		0	0^+	
11693	1.5	S(p)+1535.86	2^+	0	0^+	

[†] Primary γ′s are given, the values based on S(p)=10183.74 keV *17* (2003Au03) and level scheme from 2000Ma82; secondary γ′s are from 2003Kr11, except as noted.
[‡] Relative photon branching renormalized to 100 for the strongest branching from each level, primary γ′s from 2000Ma82, secondary γ′s from 2003Kr11, except as noted.
[#] From 1992Gu03.
[@] From 1973El16.
[&] From 1969Fr22.
[a] From 1973El14.
[b] Placement of transition in the level scheme is uncertain.

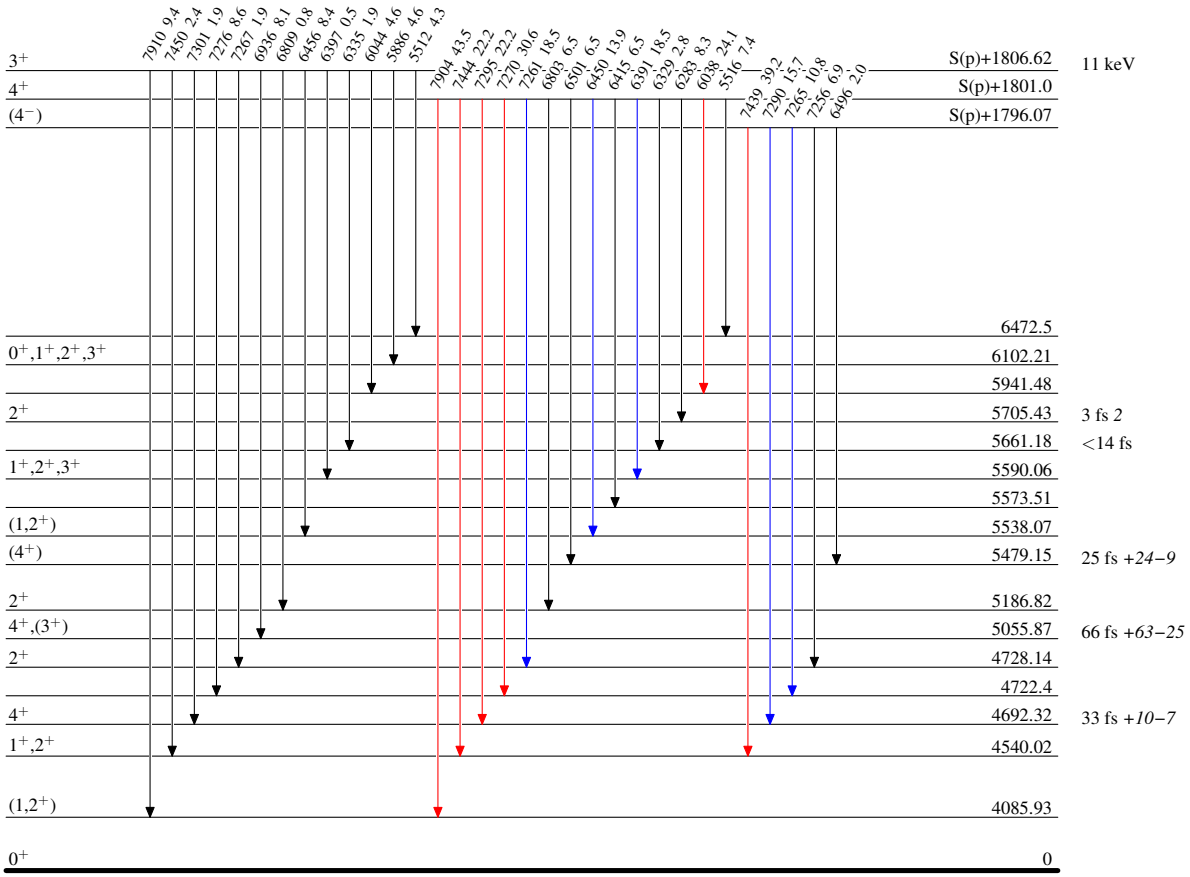
^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

Level Scheme

Intensities: Type not specified

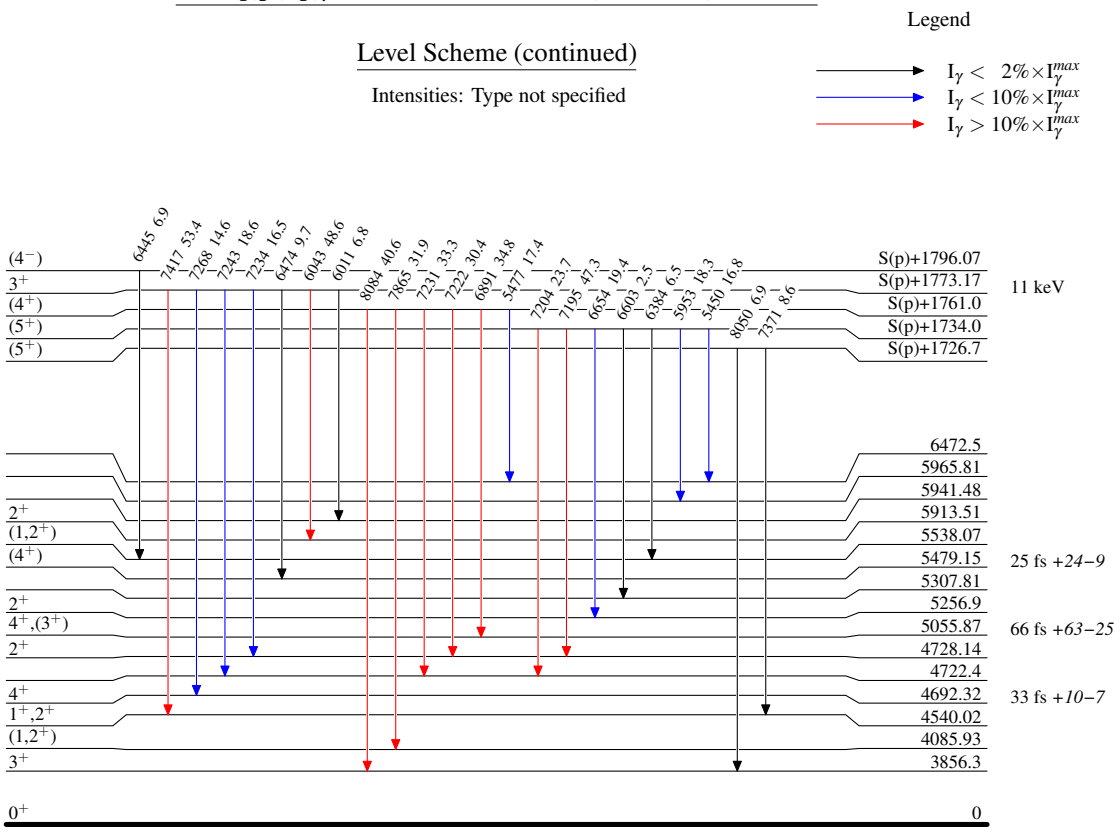


$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

Intensities: Type not specified



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

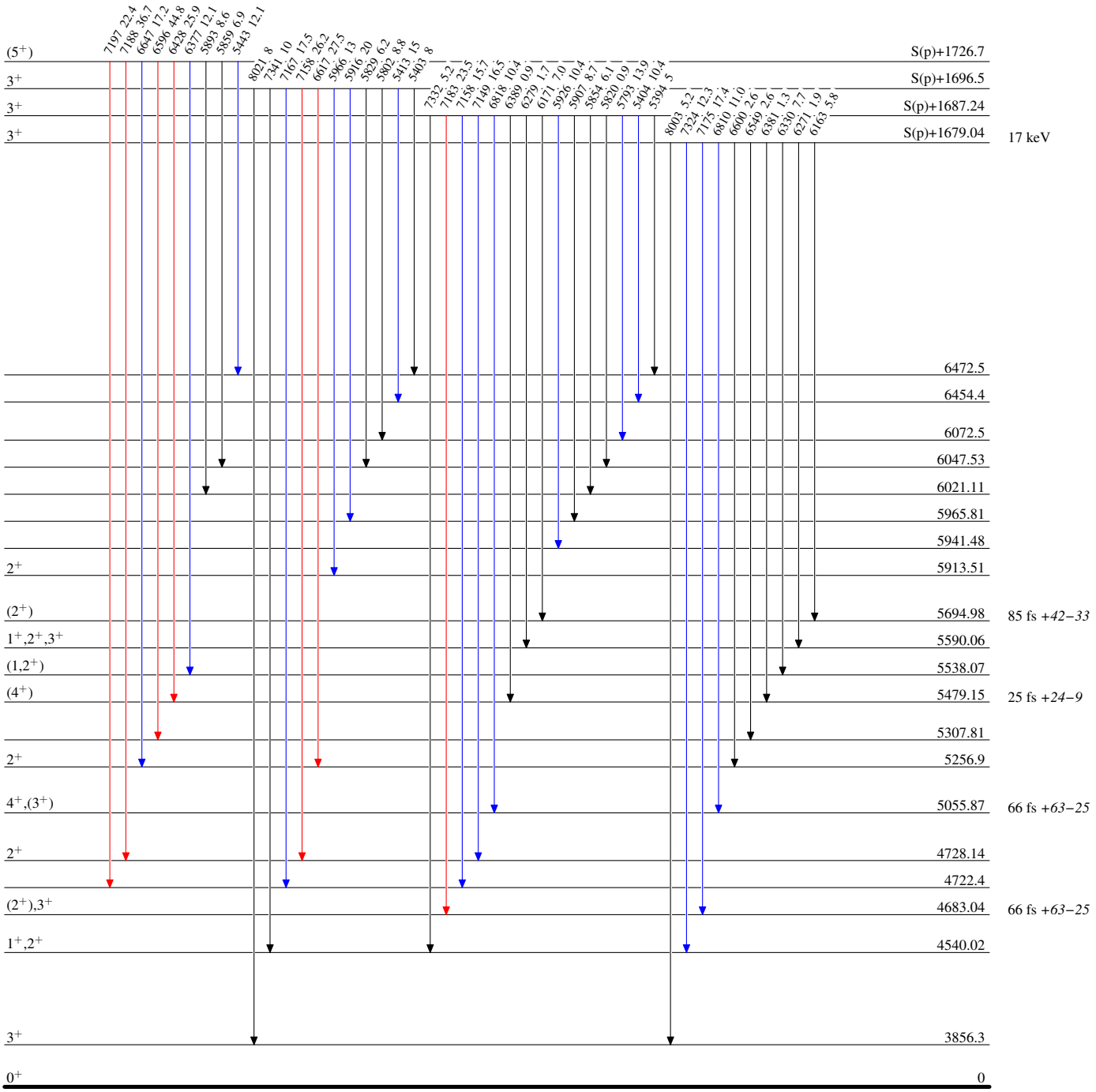
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

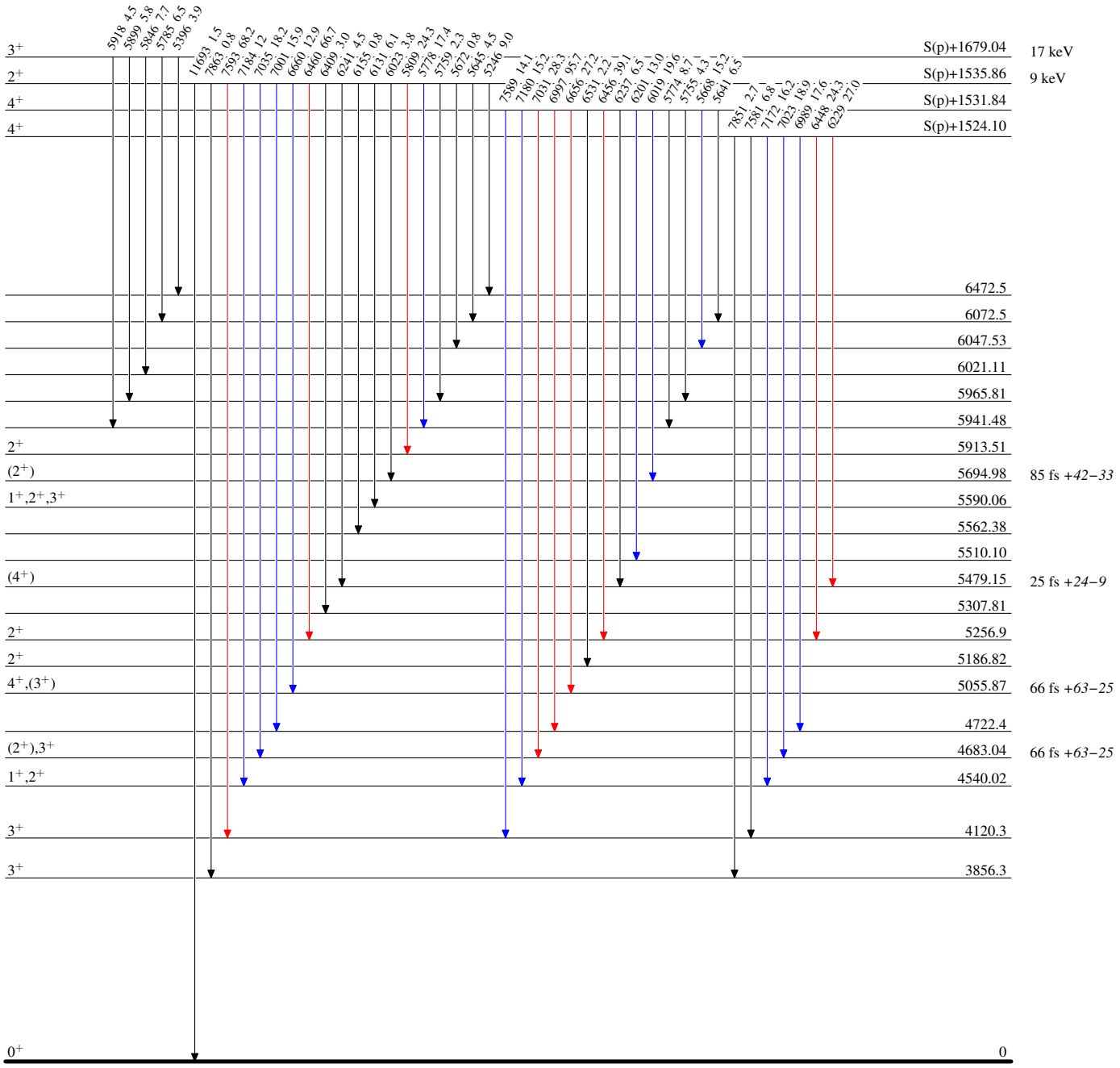
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

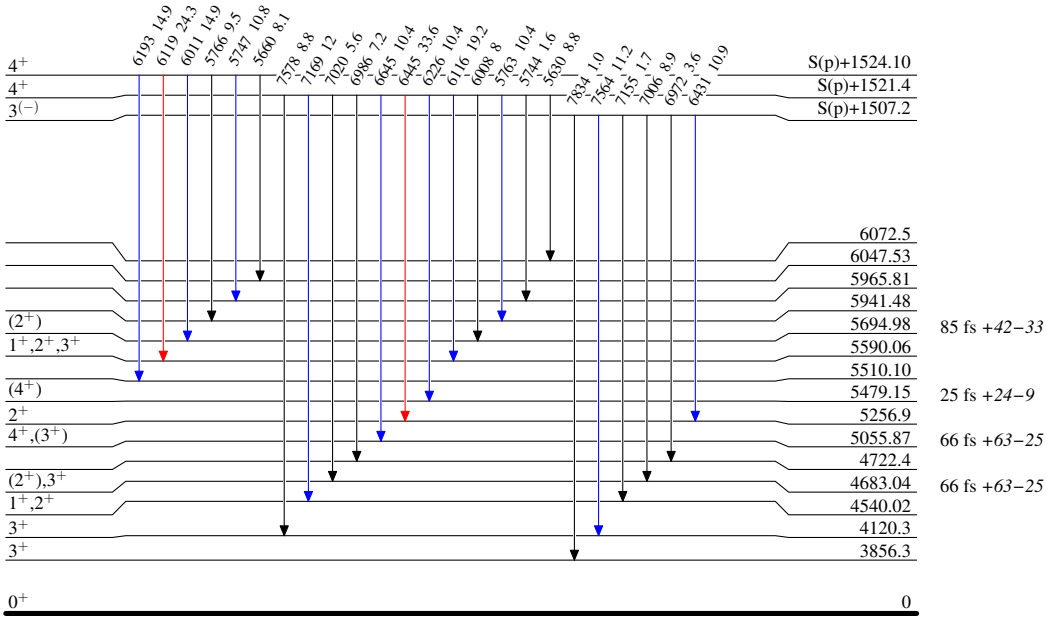
^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

Level Scheme (continued)

Intensities: Type not specified



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

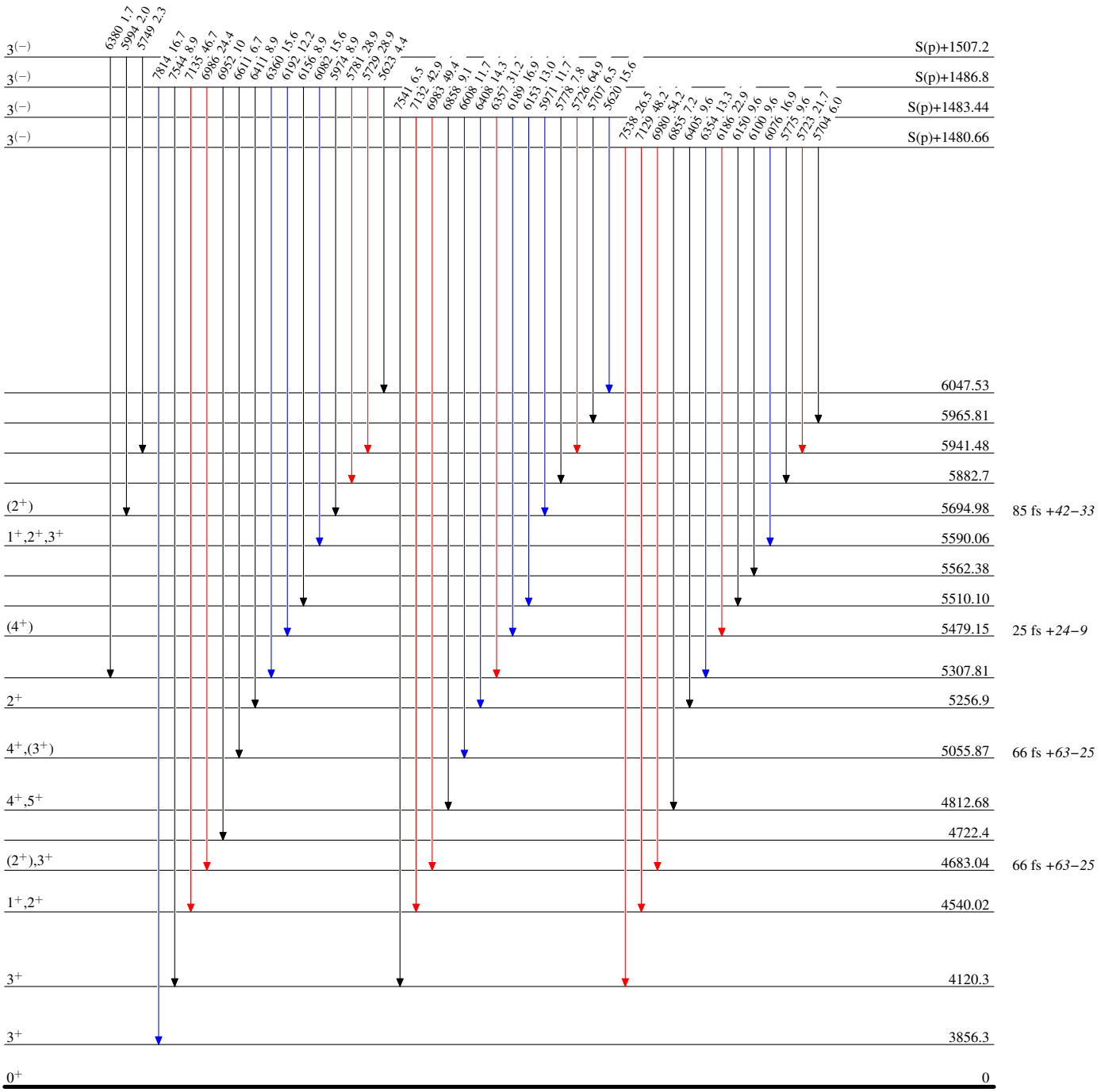
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

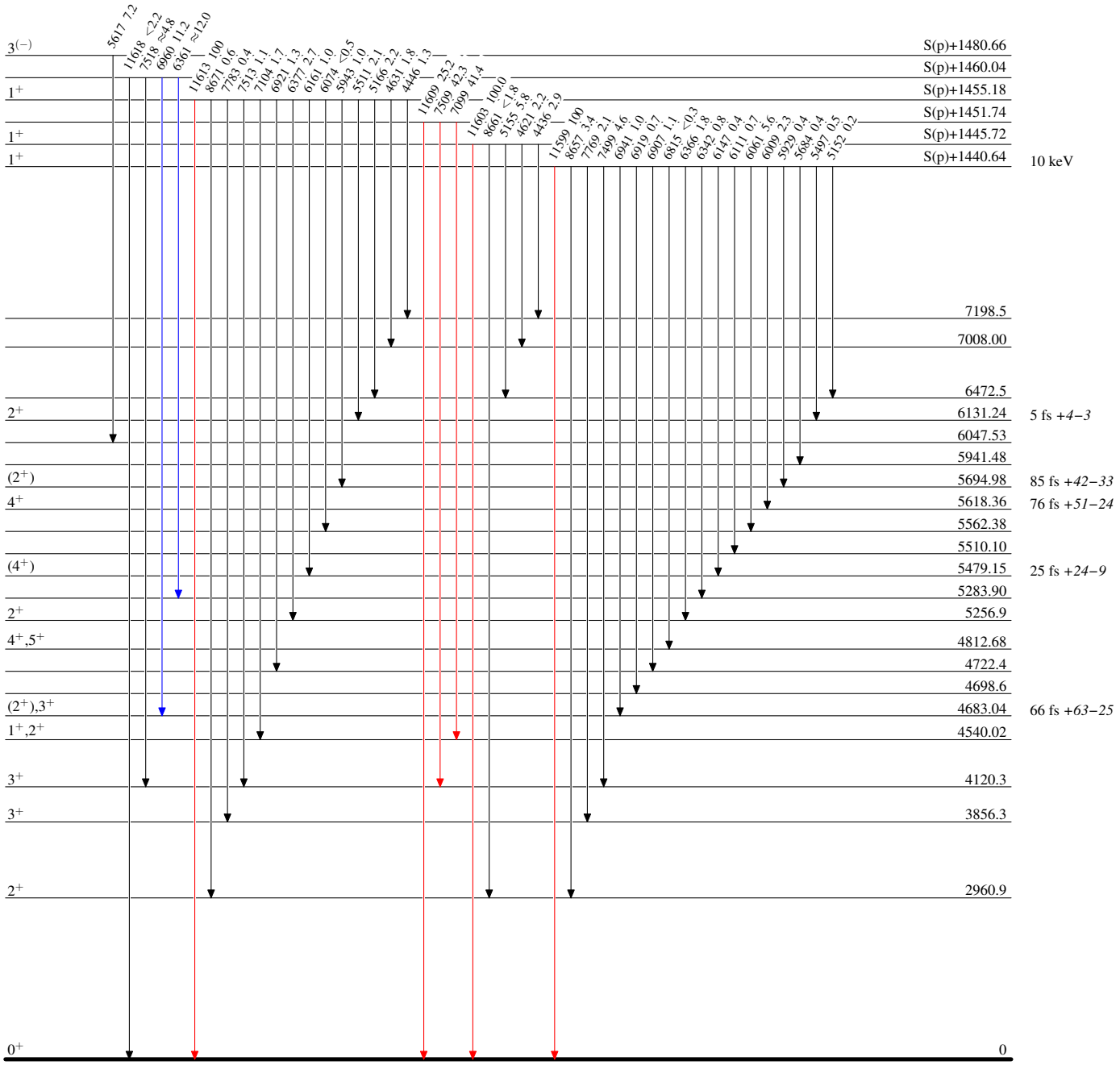
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

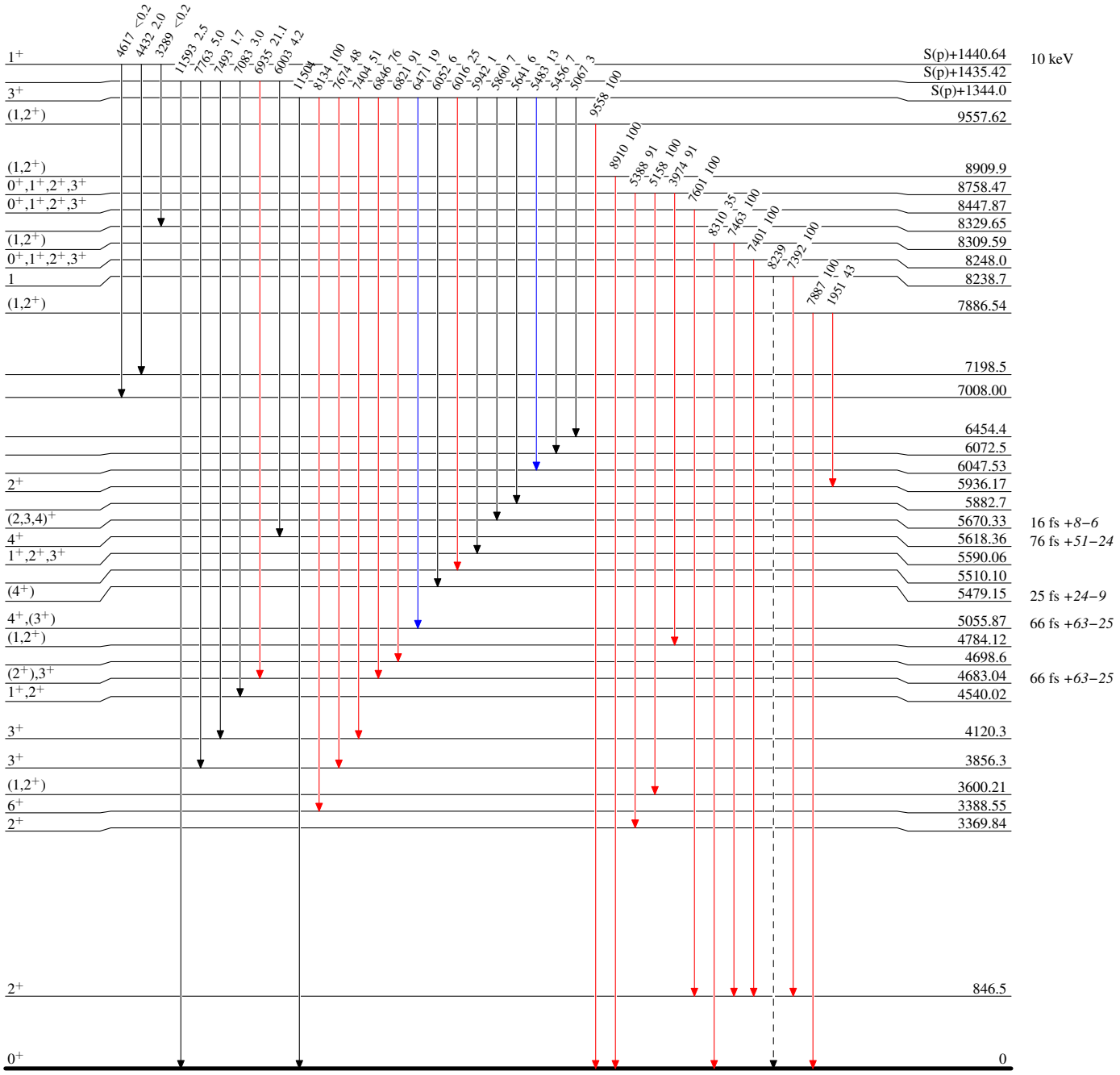
^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Legend

Level Scheme (continued)

Intensities: Type not specified

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

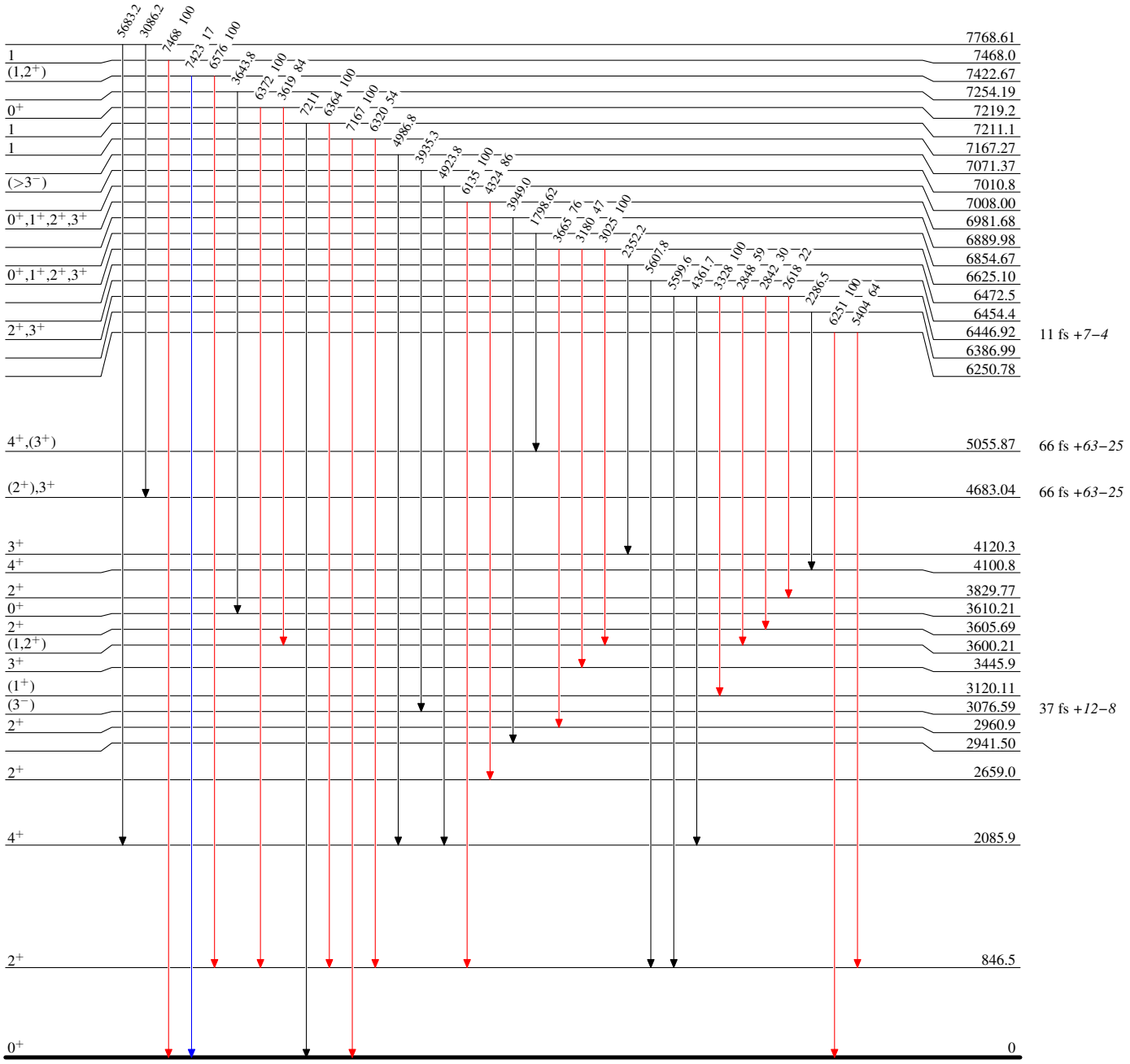
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

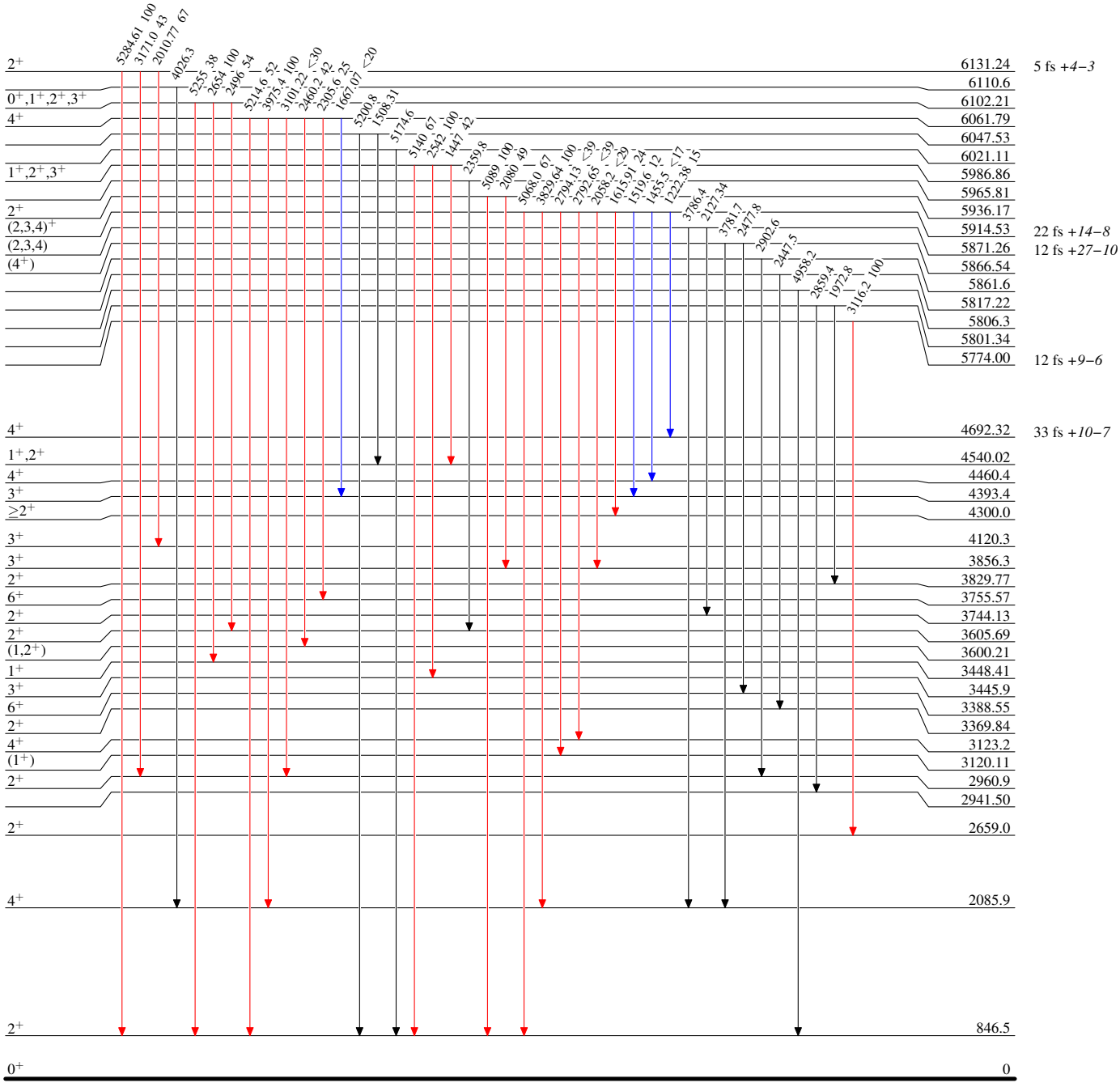
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

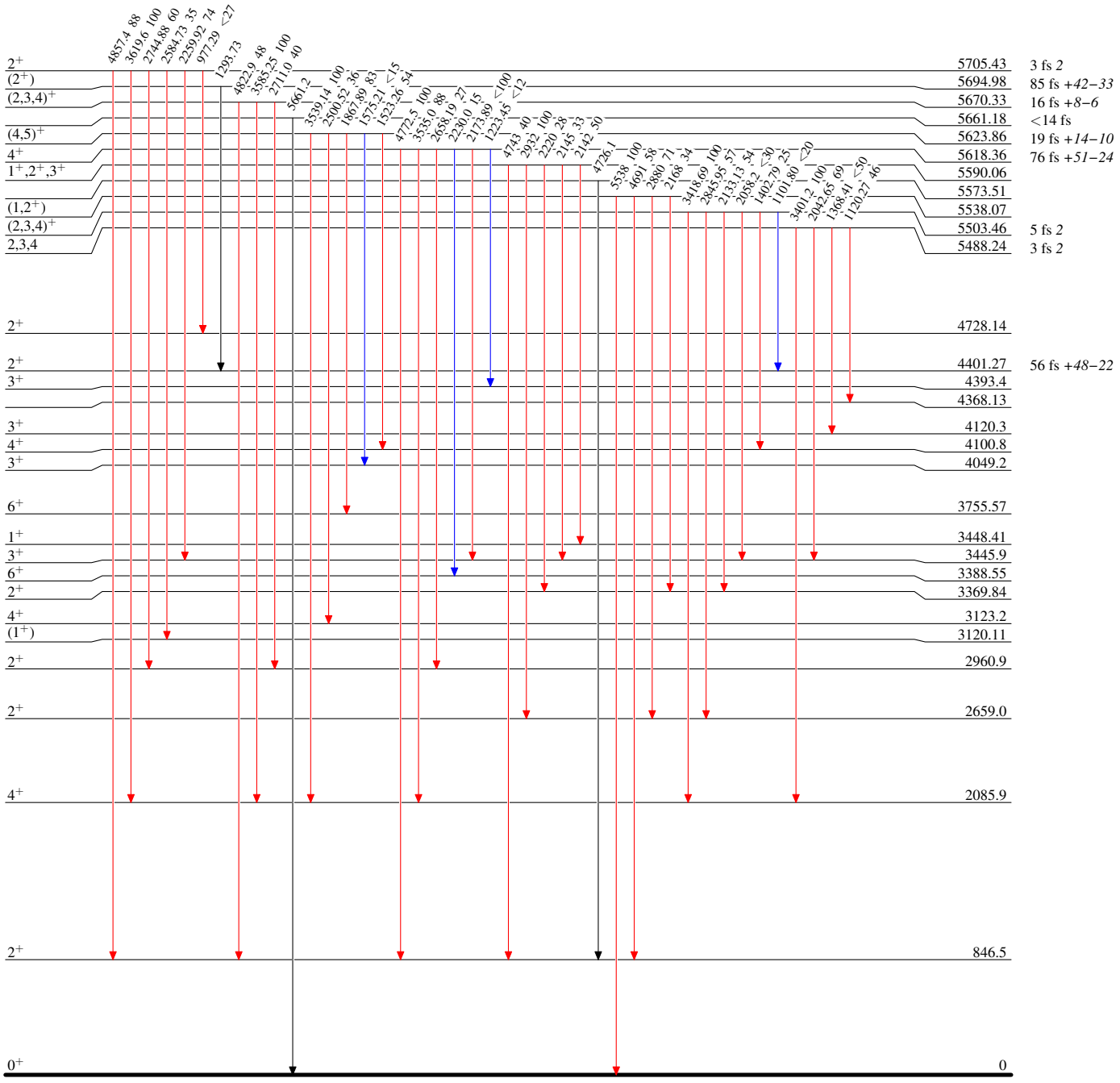
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

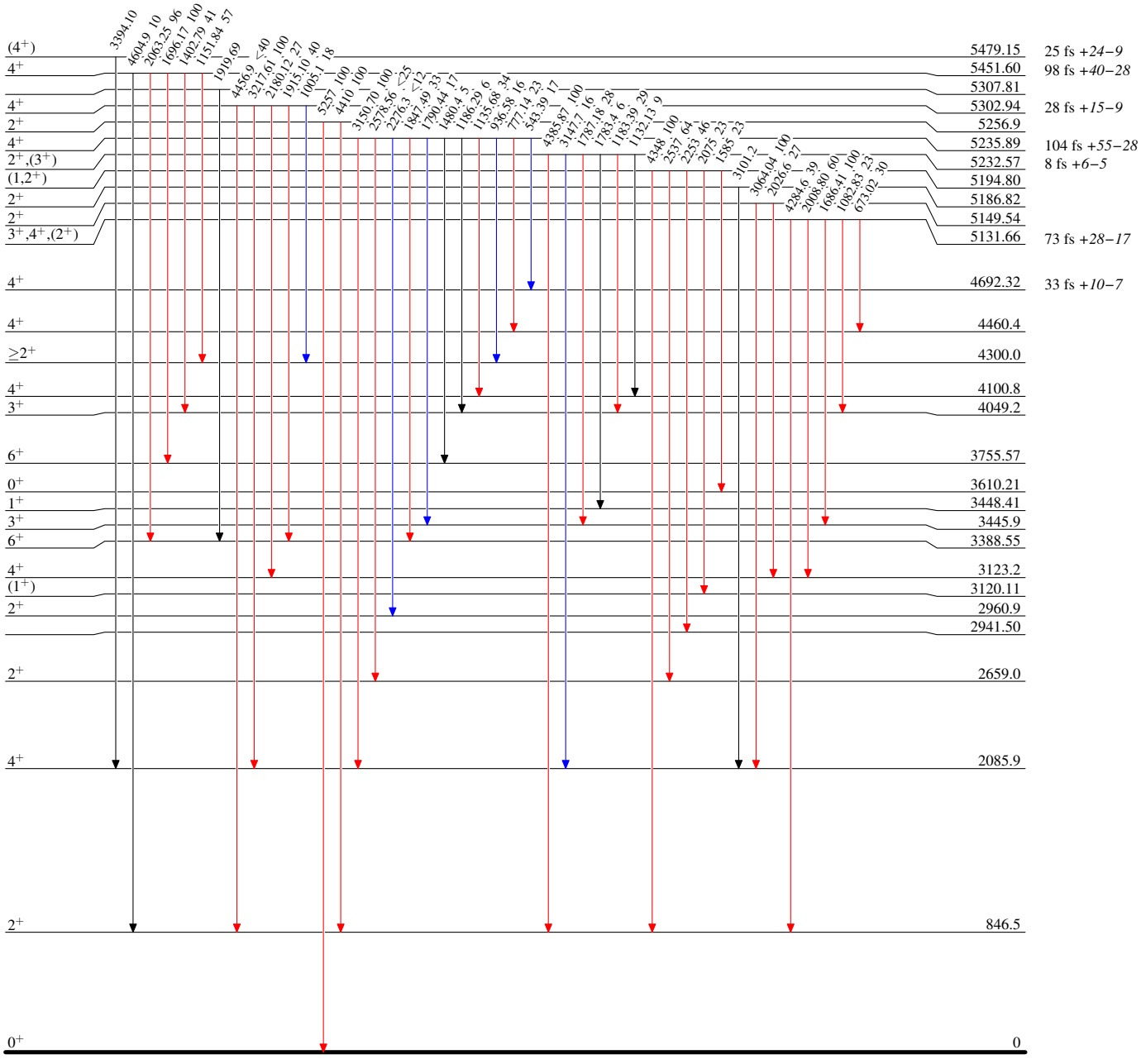
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

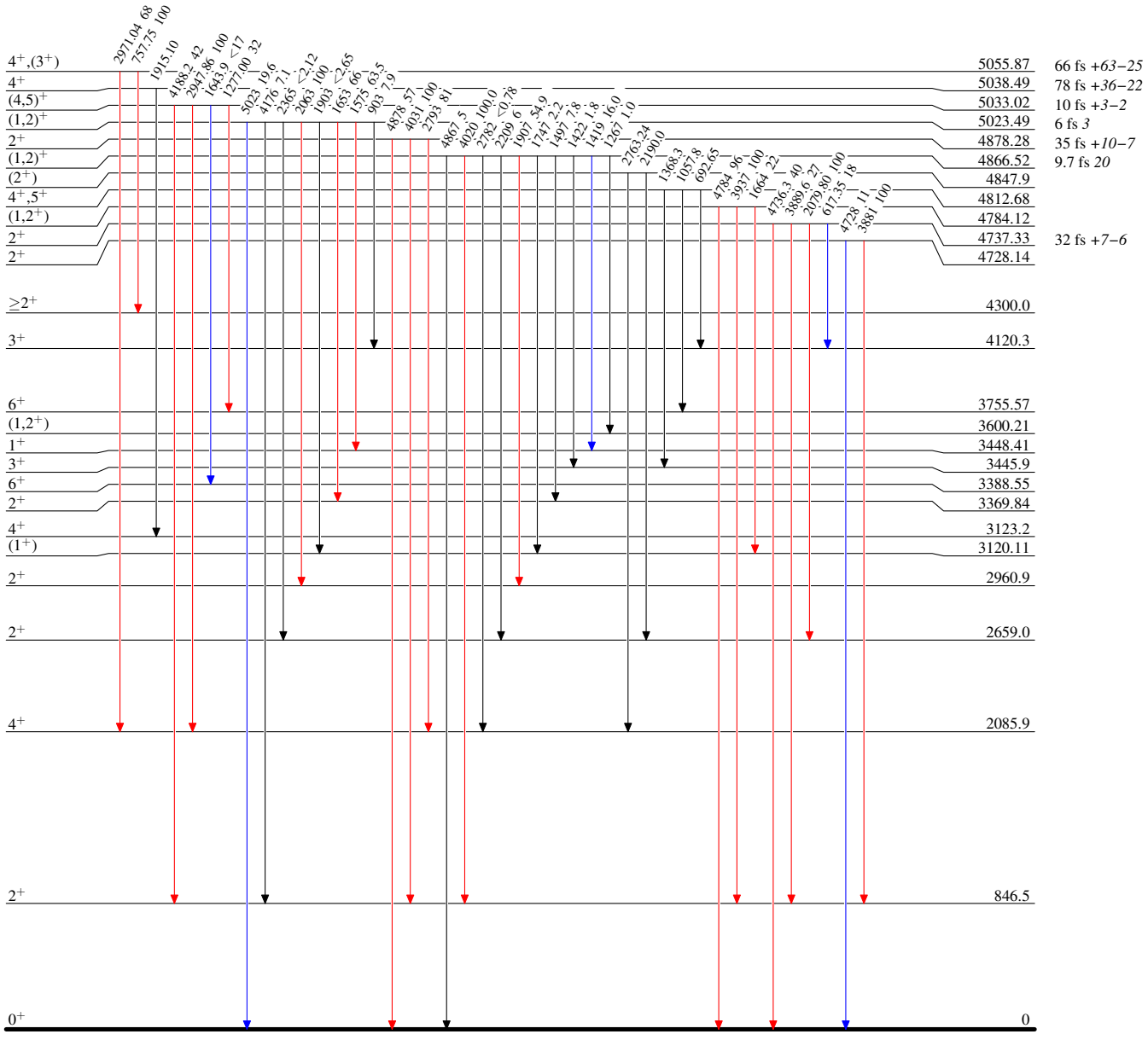
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

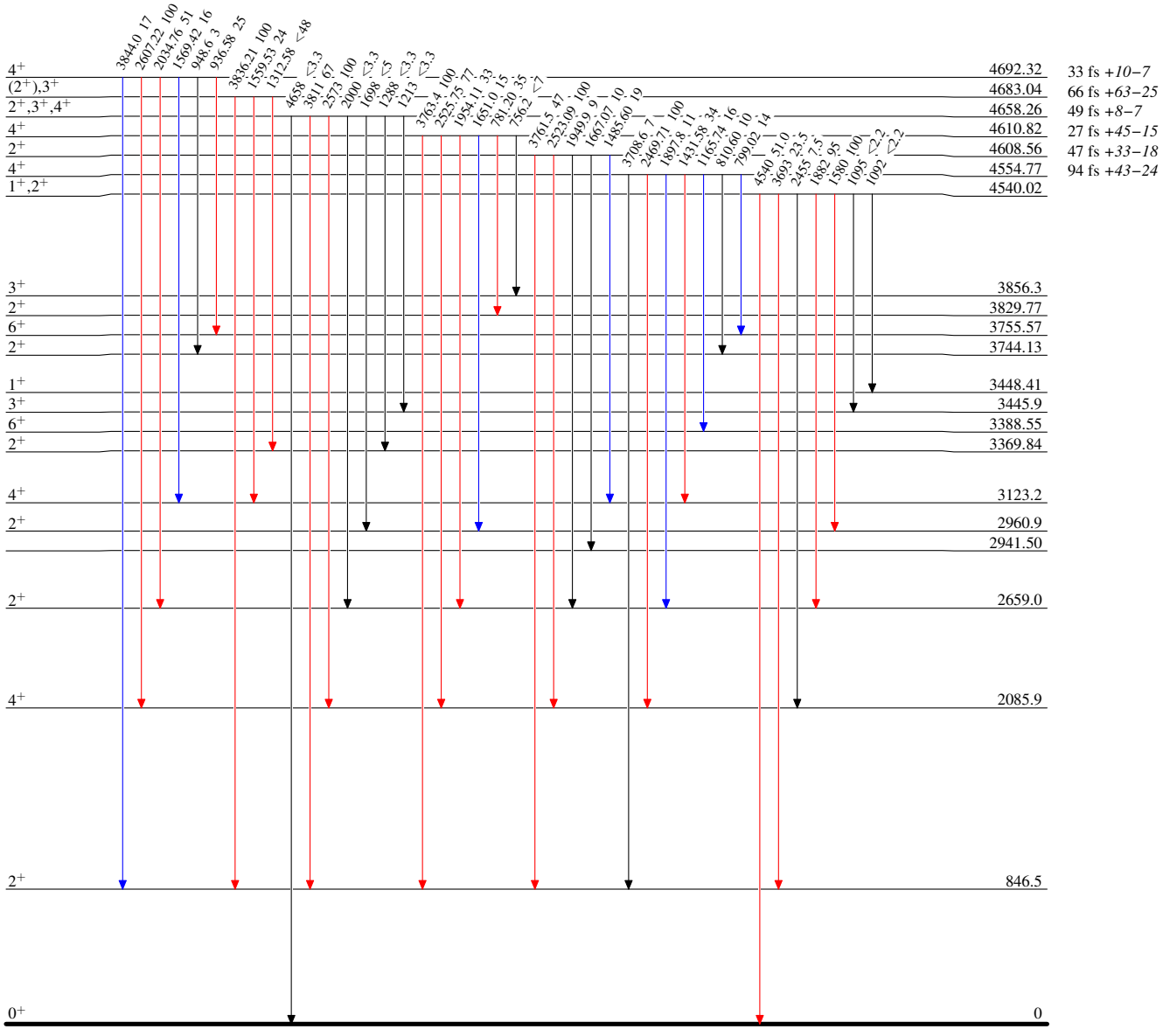
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$

^{55}Mn(p,p), (p,γ) E=res:IAR 2003Kr11,2000Ma82,1992Gu03

Level Scheme (continued)

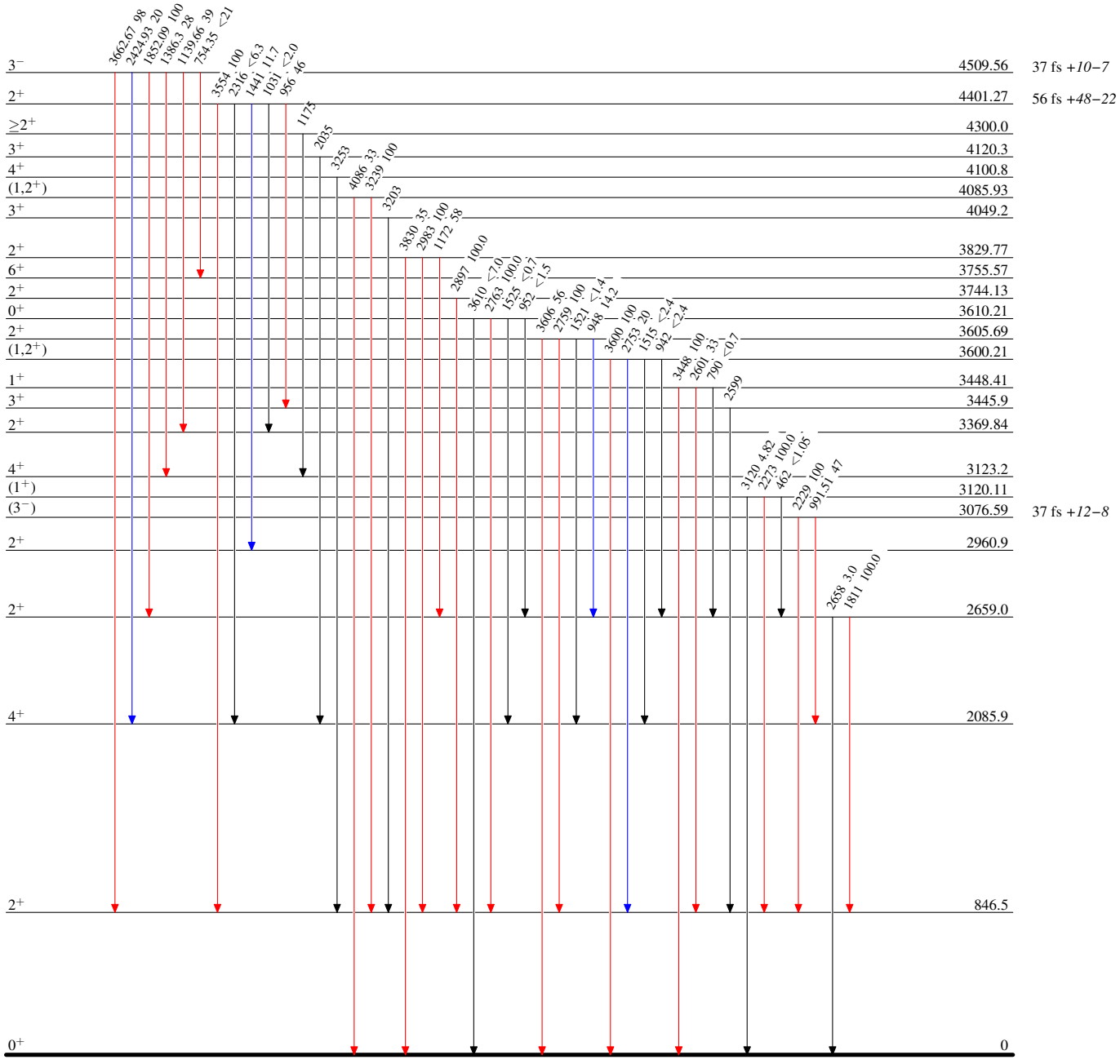
Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{26}Fe_{30}$