

(HI,xn γ) [1986Va03](#),[1995Va32](#),[2002Si20](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong	NDS 108, 1093 (2007)	1-Jan-2006

Main references: [2005Dr11](#), [2002Si20](#), [2002Si29](#), [2002Vy02](#), [1998CI08](#), [1996Ba53](#), [1995Mo01](#), [1995Va32](#), [1986Va03](#).

[2005Dr11](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$, E=138 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, lifetimes of 11^- isomer by pulsed-beam and γ - γ -time using CAESAR array comprising six Compton-suppressed Ge detectors and two small-volume planar detectors.

[2002Si20](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=144 MeV. Measured using the EUROBALL-IV spectrometer array consisting of 26 Clover, 15 Cluster and 30 tapered Ge detectors (total of 230 Ge crystals) and an inner ball comprised of 210 BGO scintillation detectors.

[2002Si20](#): $^{186}\text{W}(^{16}\text{O},4n\gamma)$ E=110 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, $\gamma\gamma(\theta)$ (DCO) using the EUROBALL-III spectrometer consisting of 28 Compton-suppressed tapered Ge detectors, 25 Clover and 13 Cluster composite detectors (with a total of 206 Ge crystals).

[2002Si29](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=144 MeV. Measured lifetimes of levels in magnetic-rotational bands using Doppler-shift attenuation method. Spectrometer: EUROBALL array with 30 Compton-suppressed Ge detectors and 41 composite (26 clovers and 15 clusters) Ge detectors.

[2002Vy02](#), [2001Ba86](#): $^{187}\text{Re}(^{14}\text{N},5n\gamma)$ E=87 MeV. Measured static quadrupole moment and half-life of 11^- state at 3193.

[2001Ke12](#): $^{164}\text{Dy}(^{36}\text{S},4n\gamma)$ E=168 MeV. Measured $E\gamma$, $\gamma\gamma$, lifetimes by DSA.

[1998CI06](#): $^{176}\text{Yb}(^{26}\text{Mg},6n\gamma)$. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, lifetimes by DSA.

[1996Ba53](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=143 MeV. Measured γ , $\gamma\gamma$ with GASP array of 40 Compton-suppressed Ge detectors.

[1995Mo01](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=142, 146, 151 MeV. Measured γ , $\gamma\gamma$, $\gamma(\theta)$, $T_{1/2}$ by DSA method with BGO- γ facility of 12

Compton-suppressed Ge detectors.

[1995Va32](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=143 MeV. Measured γ , $\gamma\gamma$ with GASP array of 40 Compton-suppressed Ge detectors.

[1994CI02](#): $^{186}\text{W}(^{18}\text{O},^8\text{N}\gamma)$ E=113 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma\gamma$, SD band using EUROGAM array (43 detectors).

[1993Da04](#): $^{184}\text{W}(^{16}\text{O},4n\gamma)$ E=98 MeV and $^{186}\text{W}(^{16}\text{O},6n\gamma)$ E=120 MeV. Measured γ , $\gamma\gamma$.

[1993Mo19](#),[1993Hu01](#): $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=142-151 MeV. Measured γ , $\gamma\gamma$, $\gamma\gamma(\theta)$, $T_{1/2}$ by DSA method.

[1990Br10](#),[1991Wa14](#): $^{176}\text{Yb}(^{24}\text{Mg},4n\gamma)$ E=122 MeV; $^{176}\text{Yb}(^{26}\text{Mg},6n\gamma)$ E=135 MeV. HERA spectrometer. Twofold coincidences with sum energy $h>3.25$ MeV and multiplicity $K>8$. Identified superdeformed band.

[1989Su12](#): $^{182}\text{W}(^{18}\text{O},4n\gamma)$ E=85 MeV. Measured ce-ce and γ -ce coincidence. 91.6% enriched ^{182}W target.

[1986Pa16](#): $^{184}\text{W}(^{16}\text{O},4n\gamma)$ E=98 MeV. Measured $E\gamma$, $I\gamma$, Ice, $\gamma\gamma(t)$, γ -ce coin. Enriched target, helicoidal magnetic lens, Si(Li),Ge(Li). [1986Pa18](#): $^{187}\text{Re}(^{14}\text{N},5n\gamma)$ E=76 MeV. $\gamma(\theta)$ at $\theta=30, 60, 90^\circ$ other references from the same group: [1986LaZU](#), [1977Ro15](#), [1973Pa03](#), [1973Al26](#), [1972PaZG](#), [1972Al49](#), [1972Al44](#), [1972AlZM](#).

[1986Va03](#): $^{188}\text{Os}(^{12}\text{C},4n\gamma)$ E=70 to 110 MeV; $^{198}\text{Hg}(\alpha,6n\gamma)$ E=75 MeV. Measured $E\gamma$, $I\gamma(t)$, $\gamma\gamma(t)$, $\sigma(E\gamma,\theta)$, γ - Σ γ coin, Ice. 97% enriched ^{188}Os target. Sum spectrometer, mini-orange filter, annular Ge detector, Si(Li),Ge(Li). Other references from the same group: [1987Pe13](#), [1986PeZV](#), [1983Va06](#).

[1984AlZA](#): $^{186}\text{W}(^{16}\text{O},6n\gamma)$ E=95 MeV. Measured Ice, $I\gamma$, $E\gamma$.

See [1983Va06](#) for measured K x-ray multiplicities.

All data are from [2002Si20](#) unless otherwise stated.

^{196}Pb Levels

E(level) [†]	J ^π	T _{1/2} [‡]	Comments
0.0 [#]	0 ⁺ ⁿ	37 ⁿ min 3	
1049.21 [#] 9	2 ⁺	<100 ns	T _{1/2} : from ^{14}N - γ delay (1970InZW). J ^π : E2 γ to 0 ⁺ , g.s.
1738.23 [#] 13	4 ⁺		J ^π : E2 γ to 2 ⁺ , 1049.
1797.47 [#] 15	5 ⁻	130 ns 10	B(E1) $\uparrow$ = 1.16×10^{-7} 9 (1986Va03); B(E1) $\uparrow$ = 1.15×10^{-7} (1973Pa03) B(E3) $\uparrow$ = 5.0×10^{-3} 15 (1986Va03); B(E3) $\uparrow$ = 3.60×10^{-3} 70 (1986Pa18) J ^π : E3 γ to 2 ⁺ , 1049. neutron two-quasiparticle state. T _{1/2} : from $\gamma\gamma(t)$ (1986Pa16 , 1973Pa03).
2169.40 [#] 17	7 ⁻	<5 ns	J ^π : E2 γ to 5 ⁻ , 1797. T _{1/2} : from TDPAD (1977Ro15).
2307.81 [#] 19	9 ⁻	52 ns 5	B(E2) $\uparrow$ = 7.4×10^{-3} 7 (1986Va03); B(E2) $\uparrow$ = 8.3×10^{-3} (1986Pa18)

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) ^{196}Pb Levels (continued)

E(level) [†]	J ^π	T _{1/2} [‡]	Comments
			B(E2) [†] = 5.91×10^{-3} (1973Pa03) J ^π : E2 γ to 7 ⁻ ,2169. neutron two-quasiparticle state. T _{1/2} : from $\gamma\gamma(t)$ (1973Pa03).
2333.9 ^d 5	(8 ⁻) ⁿ		
2590.7 ^l 4	8 ⁻		J ^π : M1 γ to 9 ⁻ ,2308, 7 ⁻ ,2169. 1986Va03 suggests $\pi=+$ from E1 of 421 γ .
2630	(8 ⁺)		J ^π : 562 γ E3 from 11 ⁻ . E(level): From 2005Dr11.
2645.10 [#] 20	10 ⁺	<2 ns	B(E1) [†] > 5.6×10^{-8} (1986Pa18) T _{1/2} : from $\gamma\gamma(t)$ (1986Pa18).
2694.6 3	12 ⁺	269 ns 5	B(E2) [†] = 4.00×10^{-3} 9 (1989Su12); B(E2) [†] = 4.095×10^{-3} 150 (1986Pa16) B(E2) [†] = 3.9×10^{-3} 4 (1986Va03); B(E2) [†] = 2.76×10^{-3} (1973Pa03) g=-0.1600 15 (1983St15) Q=0.65 5 J ^π : (E2) γ to 10 ⁺ ,2645. neutron two-quasiparticle state. T _{1/2} : from $\gamma(\theta,H,t)$ (1977Ro15). Others: T _{1/2} =295 ns 30 (1973Pa03); T _{1/2} =269 ns 10 (1983St15); T _{1/2} =273 ns 6 (1989Su12). g: From $\gamma(\theta,H,t)$ and TDPAD. Other: g=-0.157 7 (1977Ro15). Q: From TDPAD (1981Zy02).
3037.9 6	9 ⁻		J ^π : E2 γ to 7 ⁻ ,2169.
3042.8 5	9 ⁻		J ^π : E2 γ to 7 ⁻ ,2169.
3086.7 ^l 6	9 ⁻		J ^π : M1 γ to 8 ⁻ ,2591.
3192.7 3	11 ⁻	72 ns 4	g=0.96 8 MOME1=10.6 9 (1987Pe13,1989Ra17) Q=(-)3.4 7 (2002Vy02) J ^π : E1 γ to 12 ⁺ ,2694, 10 ⁺ ,2645. T _{1/2} : from $\gamma\gamma(t)$ (1986Va03). Others: 74 ns 10 (1987Pe13,1985PeZU); 72 ns 5 (1986PeZV), 57 ns 3 (2005Dr11). g: From spin-precession, 0.93 from theory (1987Pe13). Configuration=(9/2 ⁻ [514] 13/2 ⁺ [606])11 ⁻ . configuration: Proton 2p- ² H intruder state. theory: g=0.93 for Configuration=(1/2 ⁺ [404]-2 9/2 ⁻ [514] 13/2 ⁺ [606]) 11 ⁻ . a member of a $\Delta J=1$ rotational band built upon this isomer.
3280.8 4	10 ⁻		J ^π : E2 γ to (8 ⁻),2334; M1 γ to 9 ⁻ ,3043,2308.
3338.3 4	11 ⁻		J ^π : E2 γ to 9 ⁻ ,2308.
3393.8 ^l 6	10 ⁻		J ^π : E2 γ to 8 ⁻ ,2591; M1 γ to 9 ⁻ ,3087.
3460.9 4	12 ⁺		J ^π : E2 γ to 10 ⁺ ,2645; M1 γ to 12 ⁺ ,2694.
3508.6 6	11 ⁻		J ^π : E2 γ to 9 ⁻ ,3038.
3654.3 3	14 ⁺		J ^π : E2 γ to 12 ⁺ ,2694.
3669.0 8	10 ⁻		J ^π : M1 γ to 9 ⁻ ,3087.
3738.7 4	12 ⁻		J ^π : M1 γ to 11 ⁻ ,3191.
3828.8 5	12 ⁻		J ^π : E2 γ to 10 ⁻ ,3281; M1 γ to 11 ⁻ ,3338.
3863.4 6			
3885.2 ^l 7	11 ⁻		J ^π : E2 γ to 9 ⁻ ,3087; M1 γ to 10 ⁻ ,3394.
3917.7 4	14 ⁺		J ^π : E2 γ to 12 ⁺ ,2694,3461; M1 γ to 14 ⁺ ,3654.
4028.1 9	11 ⁻		J ^π : M1 γ to 10 ⁻ ,3394.
4031.8 5	13 ⁻		J ^π : E2 γ to 11 ⁻ ,3338,3509.
4047.3 3	13 ⁻		J ^π : E2 γ to 11 ⁻ ,3191; M1 γ to 12 ⁻ ,3739.
4067.8 5	12 ⁻		J ^π : M1 γ to 11 ⁻ ,3191.
4121.8 ^j 4	15 ⁻		J ^π : E1 γ to 14 ⁺ ,3918,3654.
4218.9 ^m 4	16 ⁺		J ^π : E2 γ to 14 ⁺ ,3654.
4279.6 9	11 ⁻		J ^π : M1 γ to 10 ⁻ ,3669.
4333.4 4	16 ⁺		J ^π : E2 γ to 14 ⁺ ,3918,3654.
4384.3 ^l 8	12 ⁻		J ^π : E2 γ to 10 ⁻ ,3394; M1 γ to 11 ⁻ ,3885.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) ^{196}Pb Levels (continued)

E(level) [†]	J ^π	T _{1/2} [‡]	Comments
4384.8 ^e 5	14 ⁻		J ^π : E2 γ to 12 ⁻ ,3829; M1 γ to 13 ⁻ ,4032.
4430.4 5	14 ⁻		J ^π : E2 γ to 12 ⁻ , 3829.
4479.6 ^k 4	16 ⁻	5.0 ns 5	J ^π : M1 γ to 15 ⁻ , 4121. 1986Va03 suggests 15 ⁻ on the basis of a combined analysis of the results of the angular distribution and conversion electron measurement and R(DCO). T _{1/2} : from time spectrum for ce (1986Va03).
4542.2 11	(12 ⁻)		J ^π : (M1) γ to 11 ⁻ , 4028.
4549.5 9	12 ⁻		J ^π : M1 γ to 11 ⁻ , 4280.
4551.4 6			
4561.0 ^e 5	15 ⁻		J ^π : M1 γ to 14 ⁻ , 4385.
4581.7 8	(13 ⁻)		J ^π : (M1) γ to 12 ⁻ , 4068.
4582.5 ⁱ 6	14 ⁻		J ^π : M1 γ to 13 ⁻ , 4048.
4585.7 ^l 10	13 ⁻		J ^π : M1 γ to 12 ⁻ , 4384.
4589.4 4	12 ⁺		J ^π : E2 γ to 10 ⁺ ,2645; M1 γ to 12 ⁺ ,3461.
4625.4 5	13 ⁻		J ^π : E1 γ to 12 ⁺ ,3461,2694.
4647.7 5	16 ⁻		J ^π : M1 γ to 15 ⁻ ,4121.
4652.9 4	15 ⁻		J ^π : E2 γ to 13 ⁻ ,4032,4047.
4658.1 ^d 5	14 ⁺		J ^π : E2 γ to 12 ⁺ ,3461.
4676.7 ^j 6	17 ⁻		J ^π : E2 γ to 15 ⁻ ,4121; M1 γ to 16 ⁻ ,4479.
4696.0 8	15 ⁻		J ^π : E2 γ to 13 ⁻ ,4032.
4723.9 5	17 ⁻		J ^π : M1 γ to 16 ⁻ ,4479. 1986Va03 suggests 16 ⁻ on the basis of a combined analysis of the results of the angular distribution and conversion electron measurement and R(DCO).
4748.4 ^d 5	15 ⁺		J ^π : M1 γ to 16 ⁺ ,4333.
4803.8 6	(18 ⁻)		J ^π : γ to 17 ⁻ ,4724.
4817.7 5	16 ⁺		J ^π : E2 γ to 14 ⁺ ,3918; M1 γ to 16 ⁺ ,4333.
4843.5 6	16 ⁻		J ^π : M1 γ to 15 ⁻ ,4121.
4849.5 6	16 ⁺		J ^π : M1 γ to 15 ⁺ ,4748.
4852.7 ^d 5	16 ⁺		J ^π : M1 γ to 15 ⁺ ,4748.
4864.2 ^e 6	16 ⁻		J ^π : M1 γ to 15 ⁻ ,4561.
4899.0 ⁱ 5	15 ⁻		J ^π : E2 γ to 13 ⁻ ,4047; M1 γ to 14 ⁻ ,4583.
4964.1 ^m 4	18 ⁺		J ^π : E2 γ to 16 ⁺ , 4219,4333.
4971.7 6	17 ⁻		J ^π : E2 γ to 15 ⁻ , 4121.
4985.8 6	15 ⁻		J ^π : E2 γ to 13 ⁻ , 4048.
4995.7@ 5	17 ⁺		J ^π : M1 γ to 16 ⁺ , 4853,4219.
5035.5 ^d 5	17 ⁺		J ^π : M1 γ to 16 ⁺ , 4853,4219.
5155.1& 4	16 ⁻		J ^π : E2 γ to 14 ⁻ ,4385,4431; M1 γ to 15 ⁻ ,4653. Estimated Q=-0.32 10 (2002Vy02).
5166.3 ^k 5	18 ⁻		J ^π : E2 γ to 16 ⁻ ,4843,4479.
5173.3 5	16 ⁻		J ^π : E2 γ to 14 ⁻ ,4385; M1 γ to 15 ⁻ ,4653.
5188.4@ 5	18 ⁺	0.89 ps 15	J ^π : M1 γ to 17 ⁺ ,4995. T _{1/2} : from DSA in 2001Ke12.
5212.1 ^e 6	17 ⁻		J ^π : M1 γ to 16 ⁻ ,4864.
5235.8& 5	17 ⁻		J ^π : E2 γ to 15 ⁻ ,4653.
5255.3 7	19 ⁻		J ^π : E2 γ to 17 ⁻ ,4676.
5265.2 ^h 7	16 ⁻		J ^π : M1 γ to 15 ⁻ ,4653.
5283.6 ^d 5	18 ⁺		J ^π : M1 γ to 17 ⁺ ,5035.
5329.8 ⁱ 5	16 ⁻		J ^π : M1 γ to 15 ⁻ ,4899.
5342.7& 7	18 ⁻		J ^π : M1 γ to 17 ⁻ ,5236.
5350.5 ^j 7	19 ⁻		J ^π : E2 γ to 17 ⁻ ,4676,4971.
5380.9 ^h 8	17 ⁻		J ^π : M1 γ to 16 ⁻ ,5265.
5480.7& 7	19 ⁻		J ^π : M1 γ to 18 ⁻ ,5343.
5493.1 ^m 5	20 ⁺		pure (i _{13/2}) ⁴ configuration.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) ^{196}Pb Levels (continued)

E(level) [†]	J ^π	T _{1/2} [‡]	Comments
5502.9@ 5	19 ⁺	0.67 ps 14	J ^π : E2 γ to 18 ⁺ ,4964. J ^π : M1 γ to 18 ⁺ ,4964,5188. T _{1/2} : from DSA in 2001Ke12.
5558.6 ^e 7	18 ⁻		J ^π : E2 γ to 16 ⁻ ,4864; M1 γ to 17 ⁻ ,5212.
5576.2 ⁱ 6	17 ⁻		J ^π : M1 γ to 16 ⁻ ,5155,5330.
5577.5 ^d 5	19 ⁺		J ^π : E2 γ to 17 ⁺ ,5035; M1 γ to 18 ⁺ ,5283.
5608.2 5	19 ⁻		J ^π : E2 γ to 17 ⁻ ,4724; M1 γ to 18 ⁻ ,5166.
5658.4 ^h 8	18 ⁻		J ^π : M1 γ to 17 ⁻ ,5381.
5684.6& 7	20 ⁻		J ^π : M1 γ to 19 ⁻ ,5481.
5706.0 6	19 ⁻		J ^π : E2 γ to 17 ⁻ ,4724.
5709.2 5	20 ⁺		J ^π : E2 γ to 18 ⁺ ,4964. 1986Va03 suggests (19 ⁻) on the basis of a combined analysis of the results of the angular distribution and conversion electron measurement and R(DCO).
5728.2 6	19 ⁻		J ^π : E2 γ to 17 ⁻ ,4724.
5785.7 ^k 7	19 ⁻		J ^π : M1+E2 γ to 18 ⁻ ,5166. J ^π : 20 ⁻ in figure 1 of 2002Si20 is a misprint.
5870.4 ^h 10	19 ⁻		J ^π : M1 γ to 18 ⁻ ,5659.
5877.5@ 5	20 ⁺	0.93 ps 35	T _{1/2} : from DSA in 2001Ke12. J ^π : E2 γ to 18 ⁺ ,5188; M1 γ to 19 ⁺ ,5503.
5886.4 ^a 6	18 ⁻		J ^π : M1 γ to 17 ⁻ ,5576.
5896.0 ^e 7	19 ⁻		J ^π : E2 γ to 17 ⁻ ,5212.
5928.4 7	20 ⁺		J ^π : M1 γ to 20 ⁺ ,5493.
5934.3 ^d 6	20 ⁺		J ^π : E2 γ to 18 ⁺ ,5283; M1 γ to 19 ⁺ ,5577.
5952.4& 8	21 ⁻		J ^π : M1 γ to 20 ⁻ ,5685.
5976.2 8	21 ⁻		J ^π : E2 γ to 19 ⁻ ,5350.
6026.3 ^j 8	21 ⁻		J ^π : E2 γ to 19 ⁻ ,5350.
6041.4 ^a 7	19 ⁻		J ^π : M1 γ to 18 ⁻ ,5659,5887.
6050.6 6	21 ⁺		J ^π : M1 γ to 20 ⁺ ,5493,5928.
6075.3 7	20 ⁺		J ^π : M1 γ to 19 ⁺ ,5503.
6160.1 ^e 8	20 ⁻		J ^π : M1 γ to 19 ⁻ ,5896.
6185.1 ^a 7	20 ⁻		J ^π : E2 γ to 18 ⁻ ,5343; M1 γ to 19 ⁻ ,6042.
6196.5 ^h 12	20 ⁻		J ^π : M1 γ to 19 ⁻ ,5871.
6232.8@ 5	21 ⁺		J ^π : E2 γ to 19 ⁺ ,5503; M1 γ to 20 ⁺ ,5877.
6284.2& 8	22 ⁻		J ^π : M1 γ to 21 ⁻ ,5952.
6294.4 ^d 6	21 ⁺		J ^π : E2 γ to 19 ⁺ ,5577; M1 γ to 20 ⁺ ,5934.
6334.5 7	22 ⁺		J ^π : M1 γ to 21 ⁺ ,6050.
6349.2 ^a 7	21 ⁻		J ^π : M1 γ to 20 ⁻ ,6160,6185.
6360.6 ^m 6	22 ⁺		J ^π : E2 γ to 20 ⁺ ,5493,5709.
6369.1 ^e 10	21 ⁻		J ^π : M1 γ to 20 ⁻ ,6160.
6379.3 ^k 6	21 ⁻		J ^π : E2 γ to 19 ⁻ ,5607,5706,5785.
6458.1 6	22 ⁺		J ^π : E2 γ to 20 ⁺ ,5709.
6498.7 ^h 13	21 ⁻		J ^π : M1 γ to 20 ⁻ ,6197.
6516.4 7	22 ⁺		J ^π : E2 γ to 20 ⁺ ,5709.
6534.4 ^c 6	21 ⁺		J ^π : M1 γ to 20 ⁺ ,5877,6075.
6557.5 ^a 9	22 ⁻		J ^π : M1 γ to 21 ⁻ ,6349.
6574.4@ 5	22 ⁺		J ^π : E2 γ to 20 ⁺ ,5877; M1 γ to 21 ⁺ ,6233.
6581.0 ^c 7	21 ⁺		J ^π : M1 γ to 21 ⁺ ,6075.
6601.9 ^e 12	22 ⁻		J ^π : M1 γ to 21 ⁻ ,6369.
6614.9 7	23 ⁺		J ^π : M1 γ to 22 ⁺ ,6334,6360,6458.
6645.7 8	20 ⁻		J ^π : M1 γ to 19 ⁻ ,5728.
6651.2& 8	23 ⁻		J ^π : E2 γ to 21 ⁻ ,5952; M1 γ to 22 ⁻ ,6284.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) ^{196}Pb Levels (continued)

E(level) [†]	J ^π	T _{1/2} [‡]	Comments
6657.8 7	23 ⁺		J ^π : M1 γ to 22 ⁺ ,6334,6360.
6690.0 ^d 7	22 ⁺		J ^π : E2 γ to 20 ⁺ ,5934; M1 γ to 21 ⁺ ,6294.
6693.1 7	24 ⁺		J ^π : E2 γ to 22 ⁺ ,6360.
6725.4 ^j 9	23 ⁻		J ^π : E2 γ to 21 ⁻ ,5976,6026.
6780.4 ^c 6	22 ⁺		J ^π : E2 γ to 20 ⁺ ,5877; M1 γ to 21 ⁺ ,6534,6581.
6807.7 ^a 9	23 ⁻		J ^π : M1 γ to 22 ⁻ ,6558.
6818.0 [@] 6	23 ⁺		J ^π : E2 γ to 21 ⁺ ,6233; M1 γ to 22 ⁺ ,6574.
6857.7 ^h 14	22 ⁻		J ^π : M1 γ to 21 ⁻ ,6499.
6865.9 8			
6881.1 ^e 13	23 ⁻		J ^π : M1 γ to 22 ⁻ ,6602.
7027.8 [@] 6	24 ⁺		J ^π : M1 γ to 23 ⁺ ,6818.
7042.1 ^c 6	23 ⁺		J ^π : E2 γ to 21 ⁺ ,6233; M1 γ to 22 ⁺ ,6780.
7043.4 ^{&} 8	24 ⁻		J ^π : E2 γ to 22 ⁻ ,6284; M1 γ to 23 ⁻ ,6651.
7074.7 ^d 7	23 ⁺		J ^π : E2 γ to 21 ⁺ ,6294; M1 γ to 22 ⁺ ,6690.
7116.8 ^a 10	24 ⁻		J ^π : M1 γ to 23 ⁻ ,6808.
7171.9 9	23 ⁻		J ^π : E2 γ to 21 ⁻ ,6379.
7174.7 ^m 7	24 ⁺		J ^π : E2 γ to 22 ⁺ ,6360,6458.
7211.5 ^e 14	24 ⁻		J ^π : M1 γ to 23 ⁻ ,6881.
7213.3 ^h 16	23 ⁻		J ^π : From cascade of M1 γ 's and band structure.
7246.1 ^k 9	23 ⁻		J ^π : E2 γ to 21 ⁻ ,6379.
7254.6 9			
7267.2 [@] 7	25 ⁺		J ^π : M1 γ to 24 ⁺ ,7028.
7302.2 9	22 ⁻		J ^π : M1 γ to 21 ⁻ ,6379.
7337.0 ^c 8	24 ⁺		J ^π : M1 γ to 23 ⁺ ,7042.
7441.1 ^{&} 8	25 ⁻		J ^π : E2 γ to 23 ⁻ ,6651; M1 γ to 24 ⁻ ,7043.
7465.3 ^d 8	24 ⁺		J ^π : E2 γ to 22 ⁺ ,6690; M1 γ to 23 ⁺ ,7074.
7491.9 ^a 10	25 ⁻		J ^π : M1 γ to 24 ⁻ ,7117.
7507.9 10	22 ⁻		J ^π : E2 γ to 20 ⁻ ,6645.
7553.3 [@] 7	26 ⁺	0.132 ps +2I-28	J ^π : M1 γ to 25 ⁺ ,7267. T _{1/2} : from DSA in 1998Cl06. Other: 0.28 ps 6 (1995Mo01).
7563.8 ^e 16	25 ⁻		J ^π : M1 γ to 24 ⁻ ,7212.
7564.6 11	24 ⁻		J ^π : M1 γ to 23 ⁻ ,7172.
7588.2 10	25 ⁺		J ^π : M1 γ to 24 ⁺ ,6693.
7593.0 ^h 17	24 ⁻		J ^π : From cascade of M1 γ 's and band structure.
7634.9 ^c 8	25 ⁺		J ^π : M1 γ to 24 ⁺ ,7337.
7825.9 ^d 8	25 ⁺		J ^π : M1 γ to 24 ⁺ ,7465.
7849.3 ^{&} 9	26 ⁻		J ^π : E2 γ to 24 ⁻ ,7043; M1 γ to 25 ⁻ ,7441.
7892.0 [@] 7	27 ⁺	0.118 ps +2I-28	J ^π : M1 γ to 26 ⁺ ,7553. T _{1/2} : from DSA in 1998Cl06.
7896.4 ^a 9	26 ⁻		J ^π : M1 γ to 25 ⁻ ,7492.
7912.3 ^g 8	26 ⁺		J ^π : M1 γ to 25 ⁺ ,7635.
7940.3 ^e 17	26 ⁻		J ^π : From cascade of M1 γ 's and band structure.
7940.8 ^b 11	26 ⁻		J ^π : M1 γ to 25 ⁻ ,7492.
7977.8 ^c 10	26 ⁺	0.118 ps 2I	J ^π : M1 γ to 25 ⁺ ,7635.
8025.8 ^m 9	26 ⁺		J ^π : E2 γ to 24 ⁺ ,7174.
8166.6 ^d 10	26 ⁺		J ^π : M1 γ to 25 ⁺ ,7826.
8201.3 ^g 8	27 ⁺	0.159 ps 28	J ^π : M1 γ to 26 ⁺ ,7912.
8222.7 ^{&} 9	27 ⁻		J ^π : E2 γ to 25 ⁻ ,7441; M1 γ to 26 ⁻ ,7849,7896.
8271.1 ^a 9	27 ⁻		J ^π : E2 γ to 25 ⁻ ,7441; M1 γ to 26 ⁻ ,7849,7896.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) ^{196}Pb Levels (continued)

E(level) [†]	J ^{π}	T _{1/2} [‡]	Comments
8289.7 [@] 8	28 ⁺	0.090 ps +21-14	J ^{π} : E2 γ to 26 ⁺ ,7553; M1 γ to 27 ⁺ ,7892. T _{1/2} : other: 0.104 ps 21 (1998Cl06), 0.17 ps 4 (1995Mo01).
8357.2 ^c 12	27 ⁺	0.104 ps +21-14	J ^{π} : M1 γ to 26 ⁺ ,7978.
8382.9 ^e 18	27 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
8383.5 ^b 10	27 ⁻		J ^{π} : M1 γ to 26 ⁻ ,7941.
8517.0 ^d 12	27 ⁺		J ^{π} : M1 γ to 26 ⁺ ,8166.
8540.6 ^g 8	28 ⁺	0.104 ps +21-14	J ^{π} : M1 γ to 27 ⁺ ,8201. T _{1/2} : Other: 0.24 ps +14-7 (1995Mo01).
8556.2 ^{&} 9	28 ⁻		J ^{π} : E2 γ to 26 ⁻ ,7849; M1 γ to 27 ⁻ ,8223.
8666.2 ^a 9	28 ⁻		J ^{π} : E2 γ to 26 ⁻ ,7849; M1 γ to 27 ⁻ ,8271.
8738.4 [@] 8	29 ⁺	0.097 ps 14	J ^{π} : E2 γ to 27 ⁺ ,7892; M1 γ to 28 ⁺ ,8289. T _{1/2} : other: 0.090 ps +21-14 (1998Cl06), 0.19 ps 3 (1995Mo01).
8769.5 ^c 13	28 ⁺	0.090 ps +21-14	J ^{π} : M1 γ to 27 ⁺ ,8357.
8850.6 ^e 19	28 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
8883.0 ^b 12	28 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
8892.7 ^{&} 10	29 ⁻		J ^{π} : M1 γ to 28 ⁻ ,8556.
8937.7 ^m 11			
8940.1 ^g 9	29 ⁺	0.090 ps 14	J ^{π} : M1 γ to 28 ⁺ ,8540.
9070.3 ^a 10	29 ⁻		J ^{π} : M1 γ to 28 ⁻ ,8666.
9202.0 ^c 15	29 ⁺	0.097 ps +21-14	J ^{π} : M1 γ to 28 ⁺ ,8769.
9228.6 [@] 9	30 ⁺	0.090 ps 21	J ^{π} : M1 γ to 29 ⁺ ,8738. T _{1/2} : Other: 0.125 ps 28 (1998Cl06), 0.16 ps 4 (1995Mo01).
9251.2 ^{&} 10	30 ⁻		J ^{π} : M1 γ to 29 ⁻ ,8893.
9374.3 ^e 20	29 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
9404.2 ^g 9	30 ⁺	0.097 ps +21-14	J ^{π} : M1 γ to 29 ⁺ ,8738.
9498.3 ^a 11	30 ⁻		J ^{π} : M1 γ to 29 ⁻ ,9070.
9645.7 ^c 16	30 ⁺	0.076 ps 14	J ^{π} : M1 γ to 29 ⁺ ,9202.
9646.7 ^{&} 10	31 ⁻		J ^{π} : M1 γ to 30 ⁻ ,9251.
9755.0 [@] 9	31 ⁺	0.111 ps 21	J ^{π} : M1 γ to 30 ⁺ ,9228.
9917.4 ^g 11	31 ⁺	0.097 ps 21	J ^{π} : M1 γ to 30 ⁺ ,9404.
9950.9 ^a 11	31 ⁻		J ^{π} : M1 γ to 30 ⁻ ,9498.
10088.8 ^{&} 11	32 ⁻		J ^{π} : M1 γ to 31 ⁻ ,9647.
10099.7 ^c 17	31 ⁺	0.090 ps +21-14	J ^{π} : From cascade of M1 γ 's and band structure.
10310.9 [@] 10	32 ⁺		J ^{π} : M1 γ to 31 ⁺ ,9755.
10438.5 ^a 13	32 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
10462.0 ^g 13	32 ⁺		J ^{π} : From cascade of M1 γ 's and band structure.
10568.3 ^c 18	32 ⁺		J ^{π} : From cascade of M1 γ 's and band structure.
10578.2 ^{&} 13	33 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
10884.0 [@] 10	33 ⁺		J ^{π} : M1 γ to 32 ⁺ ,10311.
10956.1 ^a 14	33 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
11028.2 ^g 14	33 ⁽⁺⁾		J ^{π} : From cascade of M1 γ 's and band structure.
11059.7 ^c 19	33 ⁺		J ^{π} : From cascade of M1 γ 's and band structure.
11111.7 ^{&} 14	34 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
11456.6 [@] 10	34 ⁺		J ^{π} : M1 γ to 33 ⁺ ,10884.
11585.5 ^c 20	34 ⁺		J ^{π} : From cascade of M1 γ 's and band structure.
11625.4 ^g 15	34 ⁽⁺⁾		J ^{π} : From cascade of M1 γ 's and band structure.
11683.0 ^{&} 15	35 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.
12023.3 [@] 12	35 ⁺		J ^{π} : From cascade of M1 γ 's and band structure.
12282.4 ^{&} 16	36 ⁻		J ^{π} : From cascade of M1 γ 's and band structure.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) ^{196}Pb Levels (continued)

E(level) [†]	J ^π	T _{1/2} [‡]	Comments
12585.8 [@] 14	36 ⁺		J ^π : From cascade of M1 γ 's and band structure.
0+x ^f	J		J ^π : >17 proposed from the decay of this band mainly to 4653.1, (15 ⁻) and 5155.3, (16 ⁻) levels.
150.3+x ^f 6	J+1		
331.3+x ^f 9	J+2		
529.9+x ^f 11	J+3		
774.2+x ^f 12	J+4		
1071.9+x ^f 14	J+5		
1420.7+x ^f 15	J+6	0.111 ps +28-21	
1783.5+x ^f 16	J+7	0.104 ps 21	
2177.1+x ^f 17	J+8		
2590.8+x ^f 18	J+9	0.139 ps 28	
3011.6+x ^f 19	J+10		
3435.3+x ^f 20	J+11	0.111 ps 21	
3893.1+x ^f 21	J+12		
4386.6+x ^f 22	J+13		
4906.8+x ^f 23	J+14		

[†] From least-squares fit to E γ 's.[‡] From DSA (2002Si29) unless otherwise stated.[#] Band(A): γ cascade based on g.s (2002Si20,2005Dr11).[@] Band(B): Magnetic-dipole rotational band based on 17⁺ (1995Mo01, 1996Ba53,2002Si20,2002Si29). The spins are lower by one unit in 1998Cl06.[&] Band(C): Magnetic-dipole rotational band based on 16⁻ (1995Mo01,1996Ba53,2002Si20).^a Band(D): Magnetic-dipole rotational band based on 18⁻ (1993Hu01,1995Mo01,1996Ba53,2002Si20).^b Band(E): Forking of band based on 18⁻, above J=25 (2002Si20).^c Band(F): Magnetic-dipole rotational band based on either of the two 21⁺ states or 22⁺ (1995Mo01, 1996Ba53, 2002Si20, 2002Si29).^d Band(G): Magnetic-dipole rotational band based on 14⁺ (2002Si20).^e Band(H): Magnetic-dipole rotational band based on 14⁻ (2002Si20).^f Band(I): Magnetic-dipole rotational band (2002Si20,2002Si29).^g Band(J): Magnetic-dipole rotational band based on 26⁺ (2002Si20, 2002Si29).^h Band(K): Magnetic-dipole rotational (?) band based on 16⁻ Irregular band (2002Si20). Its magnetic rotational character is uncertain.ⁱ Band(L): γ cascade based on 14⁻ (2002Si20).^j Band(M): γ cascade based on 15⁻ (2002Si20).^k Band(N): γ cascade based on 16⁻ (2002Si20).^l Band(O): γ cascade based on 8⁻ (2002Si20).^m Band(P): γ cascade based on 16⁺ (2002Si20).ⁿ From Adopted Levels.

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$

R(POL)=Linear polarization asymmetry ratio; POL=Linear polarization coefficient.

$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
38 47.7 5		2630 2694.6	(8 ⁺) 12 ⁺	2590.7 2645.10	8 ⁻ 10 ⁺	(E2)	206	E_γ : From 2005Dr11. $\alpha(\text{L})=151$ 9; $\alpha(\text{M})=39.6$ 22; $\alpha(\text{N}+..)=11.8$ 7 α : from 1989Su12. Other: 200.6 from 1986Pa16. E_γ : from conversion electron measurement (1989Su12). Others: 47.9 (1986Pa18), 50.7 (1986Va03), 49.0 5 (1986Pa16), 50.0 3 (2002Si20).
54 59.23 [#] 9	47 ^{&} 11	2645.10 1797.47	10 ⁺ 5 ⁻	2590.7 1738.23	8 ⁻ 4 ⁺	E1	0.375	E_γ : From 2005Dr11. $\alpha(\text{L})=0.287$ 5; $\alpha(\text{M})=0.0682$ 10; $\alpha(\text{N}+..)=0.0202$ 3 Mult.: from $\alpha(\text{exp})=0.53$ 15, (L1+L2)/L3=2.0 4 (1986Pa18). $\alpha(\text{exp})$ from the intensity balance. $I(\gamma+\text{ce})=95.5$ from 1986Pa18. $B(\text{E1})(\text{W.u.})=5.4 \times 10^{-6}$ from $T_{1/2}$.
79.9 6 80.7 6 90.0 6		4803.8 5235.8 4748.4	(18 ⁻) 17 ⁻ 15 ⁺	4723.9 5155.1 4658.1	17 ⁻ 16 ⁻ 14 ⁺	M1 M1	3.26 9 12.6 3	$\alpha(\text{L})=2.49$ 7; $\alpha(\text{M})=0.585$ 16; $\alpha(\text{N}+..)=0.182$ 5 $\alpha(\text{K})=10.25$ 22; $\alpha(\text{L})=1.82$ 5; $\alpha(\text{M})=0.426$ 11; $\alpha(\text{N}+..)=0.132$ 4
101.1 6	0.26 9	4849.5	16 ⁺	4748.4	15 ⁺	M1	9.13 21	$\alpha(\text{K})=7.44$ 17; $\alpha(\text{L})=1.30$ 3; $\alpha(\text{M})=0.304$ 7; $\alpha(\text{N}+..)=0.0944$ 21
104.3 6	0.89 27	4852.7	16 ⁺	4748.4	15 ⁺	M1 ^b	8.36 19	$\alpha(\text{K})=6.81$ 15; $\alpha(\text{L})=1.19$ 3; $\alpha(\text{M})=0.278$ 6; $\alpha(\text{N}+..)=0.0863$ 19 DCO=0.51 13.
106.9 6	4.0 9	5342.7	18 ⁻	5235.8	17 ⁻	M1 ^b	7.79 17	$\alpha(\text{K})=6.35$ 14; $\alpha(\text{L})=1.105$ 24; $\alpha(\text{M})=0.259$ 6; $\alpha(\text{N}+..)=0.0804$ 18 DCO=0.43 6. E_γ : 107.2 (1996Ba53). I_γ : ≈ 9.2 (1995Mo01).
115.7 6	0.52 14	5380.9	17 ⁻	5265.2	16 ⁻	M1 ^b	6.21 13	$\alpha(\text{K})=5.06$ 11; $\alpha(\text{L})=0.880$ 18; $\alpha(\text{M})=0.206$ 5; $\alpha(\text{N}+..)=0.0640$ 14 DCO=0.39 12.
122.2 6	0.27 7	6050.6	21 ⁺	5928.4	20 ⁺	M1 ^b	5.32 11	$\alpha(\text{K})=4.33$ 9; $\alpha(\text{L})=0.752$ 15; $\alpha(\text{M})=0.176$ 4; $\alpha(\text{N}+..)=0.0547$ 11 DCO=0.38 14.
130.6 6	0.15 6	4561.0	15 ⁻	4430.4	14 ⁻	M1	4.40 9	$\alpha(\text{K})=3.59$ 7; $\alpha(\text{L})=0.621$ 12; $\alpha(\text{M})=0.146$ 3; $\alpha(\text{N}+..)=0.0452$ 9
138.0 4	7.6 11	5480.7	19 ⁻	5342.7	18 ⁻	M1 ^b	3.76 7	$\alpha(\text{K})=3.07$ 5; $\alpha(\text{L})=0.531$ 9; $\alpha(\text{M})=0.1244$ 21; $\alpha(\text{N}+..)=0.0386$ 7 DCO=0.48 5. E_γ : 138.4 (1996Ba53). I_γ : 9.1 6 (1995Mo01).
138.41 [#] 7	16.9 ^{&} 1	2307.81	9 ⁻	2169.40	7 ⁻	E2	1.670	$\alpha(\text{K})=0.366$ 6; $\alpha(\text{L})=0.971$ 14; $\alpha(\text{M})=0.256$ 4; $\alpha(\text{N}+..)=0.0766$ 11 Mult.: from $\alpha(\text{L})_{\text{exp}}=0.950$ 75, $\alpha(\text{L}3)_{\text{exp}}=0.391$ 55 (1986Pa18); $A_2=0.11$ 7, $A_4=-0.03$ 5 (1986Va03). $B(\text{E2})(\text{W.u.})=1.20$ from $T_{1/2}$. $I(\gamma+\text{ce})=91.0$ 22 from 1986Pa18.
142.9 6	0.93 23	4995.7	17 ⁺	4852.7	16 ⁺	M1 ^b	3.41 7	$\alpha(\text{K})=2.78$ 6; $\alpha(\text{L})=0.480$ 9; $\alpha(\text{M})=0.1126$ 21;

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
143.7 6	2.1 6	6185.1	20 ⁻	6041.4	19 ⁻	M1 ^b	3.35 7	$\alpha(\text{N}+..)=0.0349$ 7 DCO=0.47 8. $\alpha(\text{K})=2.73$ 5; $\alpha(\text{L})=0.473$ 9; $\alpha(\text{M})=0.1108$ 21; $\alpha(\text{N}+..)=0.0344$ 7 DCO=0.44 8.
146.1 6	0.52 14	4995.7	17 ⁺	4849.5	16 ⁺	M1 ^b	3.20 6	$\alpha(\text{K})=2.61$ 5; $\alpha(\text{L})=0.451$ 9; $\alpha(\text{M})=0.1057$ 20; $\alpha(\text{N}+..)=0.0328$ 6 DCO=0.55 12.
150.3 6	0.64 16	150.3+x	J+1	0+x	J	M1 ^b	2.95 6	$\alpha(\text{K})=2.41$ 5; $\alpha(\text{L})=0.416$ 8; $\alpha(\text{M})=0.0975$ 18; $\alpha(\text{N}+..)=0.0303$ 6 DCO=0.42 10.
155.0 6	1.3 3	6041.4	19 ⁻	5886.4	18 ⁻	M1 ^b	2.70 5	$\alpha(\text{K})=2.21$ 4; $\alpha(\text{L})=0.381$ 7; $\alpha(\text{M})=0.0893$ 16; $\alpha(\text{N}+..)=0.0277$ 5 DCO=0.44 12.
156.4 6	0.33 8	6614.9	23 ⁺	6458.1	22 ⁺	M1 ^b	2.64 5	$\alpha(\text{K})=2.15$ 4; $\alpha(\text{L})=0.371$ 7; $\alpha(\text{M})=0.0871$ 16; $\alpha(\text{N}+..)=0.0270$ 5 DCO=0.28 13.
164.1 6	2.7 7	6349.2	21 ⁻	6185.1	20 ⁻	M1 ^b	2.30	$\alpha(\text{K})=1.88$ 4; $\alpha(\text{L})=0.324$ 6; $\alpha(\text{M})=0.0760$ 14; $\alpha(\text{N}+..)=0.0236$ 5 E_γ : 164.4 (1996Ba53). I_γ : 3.2 2 (1995Mo01). DCO=0.50 8.
164.4 6	3.1 8	2333.9	(8 ⁻)	2169.40	7 ⁻	M1 ^b	2.29	$\alpha(\text{K})=1.87$ 4; $\alpha(\text{L})=0.322$ 6; $\alpha(\text{M})=0.0756$ 14; $\alpha(\text{N}+..)=0.0234$ 4 DCO=0.55 7, R(pol)=-0.097 35, pol=-0.39 15.
176.2 6	1.8 4	4561.0	15 ⁻	4384.8	14 ⁻	M1 ^b	1.88 4	$\alpha(\text{K})=1.54$ 3; $\alpha(\text{L})=0.265$ 5; $\alpha(\text{M})=0.0621$ 11; $\alpha(\text{N}+..)=0.0193$ 4 DCO=0.46 9, R(pol)=-0.054 15, pol=-0.22 7.
181.0 6	1.6 3	331.3+x	J+2	150.3+x	J+1	M1 ^b	1.75 3	$\alpha(\text{K})=1.425$ 24; $\alpha(\text{L})=0.246$ 5; $\alpha(\text{M})=0.0575$ 10; $\alpha(\text{N}+..)=0.0179$ 3 DCO=0.44 9.
182.7 4	5.9 9	5035.5	17 ⁺	4852.7	16 ⁺	M1 ^b	1.70 3	$\alpha(\text{K})=1.388$ 22; $\alpha(\text{L})=0.239$ 4; $\alpha(\text{M})=0.0560$ 9; $\alpha(\text{N}+..)=0.0174$ 3 DCO=0.46 7.
187.5 6	0.33 11	5173.3	16 ⁻	4985.8	15 ⁻	M1	1.58 3	$\alpha(\text{K})=1.291$ 22; $\alpha(\text{L})=0.222$ 4; $\alpha(\text{M})=0.0521$ 9; $\alpha(\text{N}+..)=0.0162$ 3
189.1 6	0.87 17	6349.2	21 ⁻	6160.1	20 ⁻	M1 ^b	1.54 3	$\alpha(\text{K})=1.260$ 21; $\alpha(\text{L})=0.217$ 4; $\alpha(\text{M})=0.0509$ 9; $\alpha(\text{N}+..)=0.0158$ 3 DCO=0.38 9.
192.7 2	15.0 14	5188.4	18 ⁺	4995.7	17 ⁺	M1 ^b	1.464	$\alpha(\text{K})=1.196$ 17; $\alpha(\text{L})=0.206$ 3; $\alpha(\text{M})=0.0482$ 7; $\alpha(\text{N}+..)=0.01496$ 22 E_γ : 192.9 (1996Ba53). I_γ : 12.0 2 (1995Mo01). DCO=0.44 5, R(pol)=-0.116 9, pol=-0.48 7.
197.1 6	4.4 8	4676.7	17 ⁻	4479.6	16 ⁻	M1 ^b	1.375 23	$\alpha(\text{K})=1.122$ 19; $\alpha(\text{L})=0.193$ 4; $\alpha(\text{M})=0.0452$ 8; $\alpha(\text{N}+..)=0.01404$ 23 DCO=0.37 6. E_γ : 197.0 4 (1986Va03). I_γ : 1.6 3 (1986Va03). Mult.: 1986Va03 suggests (E2) from R(DCO)=1.1 3.
198.6 6	1.9 4	529.9+x	J+3	331.3+x	J+2	M1 ^b	1.346 22	$\alpha(\text{K})=1.099$ 18; $\alpha(\text{L})=0.189$ 4; $\alpha(\text{M})=0.0443$ 8; $\alpha(\text{N}+..)=0.01374$ 23 DCO=0.41 8.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
199.4 6	0.73 18	6780.4	22 ⁺	6581.0	21 ⁺	M1 ^b	1.331 22	$\alpha(\text{K})=1.087$ 18; $\alpha(\text{L})=0.187$ 3; $\alpha(\text{M})=0.0438$ 8; $\alpha(\text{N}+..)=0.01359$ 23 DCO=0.61 16.
201.4 6	0.44 13	4585.7	13 ⁻	4384.3	12 ⁻	M1 ^b	1.294 22	$\alpha(\text{K})=1.057$ 18; $\alpha(\text{L})=0.182$ 3; $\alpha(\text{M})=0.0426$ 7; $\alpha(\text{N}+..)=0.01321$ 22 DCO=0.44 12.
^x 202.8 @								
203.7 6	0.83 18	4121.8	15 ⁻	3917.7	14 ⁺	E1	0.0746 12	$\alpha(\text{K})=0.0606$ 10; $\alpha(\text{L})=0.01070$ 17; $\alpha(\text{M})=0.00251$ 4; $\alpha(\text{N}+..)=0.000762$ 13
203.9 2	16.0 19	5684.6	20 ⁻	5480.7	19 ⁻	M1 ^b	1.250	$\alpha(\text{K})=1.021$ 15; $\alpha(\text{L})=0.176$ 3; $\alpha(\text{M})=0.0411$ 6; $\alpha(\text{N}+..)=0.01276$ 19 DCO=0.47 5, R(pol)=-0.098 19, pol=-0.40 9. E_γ : 204.2 (1996Ba53). I_γ : 7.3 3 (1995Mo01).
208.3 6	4.7 8	6557.5	22 ⁻	6349.2	21 ⁻	M1 ^b	1.178 19	$\alpha(\text{K})=0.962$ 16; $\alpha(\text{L})=0.165$ 3; $\alpha(\text{M})=0.0387$ 7; $\alpha(\text{N}+..)=0.01202$ 20 E_γ : 208.5 (1996Ba53). I_γ : 3.4 2 (1995Mo01). DCO=0.47 6.
209.0 6	0.75 18	6369.1	21 ⁻	6160.1	20 ⁻	M1 ^b	1.167 19	$\alpha(\text{K})=0.953$ 16; $\alpha(\text{L})=0.164$ 3; $\alpha(\text{M})=0.0384$ 7; $\alpha(\text{N}+..)=0.01191$ 20 DCO=0.49 12.
209.8 4	8.9 12	7027.8	24 ⁺	6818.0	23 ⁺	M1 ^b	1.155	$\alpha(\text{K})=0.943$ 15; $\alpha(\text{L})=0.1620$ 25; $\alpha(\text{M})=0.0380$ 6; $\alpha(\text{N}+..)=0.01178$ 18 E_γ : 209.9 (1996Ba53). I_γ : 6.3 2 (1995Mo01). DCO=0.46 6.
212.0 6	0.61 15	5870.4	19 ⁻	5658.4	18 ⁻	M1 ^b	1.122 18	$\alpha(\text{K})=0.916$ 15; $\alpha(\text{L})=0.157$ 3; $\alpha(\text{M})=0.0369$ 6; $\alpha(\text{N}+..)=0.01144$ 19 DCO=0.42 12.
217.7 6	0.92 23	5035.5	17 ⁺	4817.7	16 ⁺	M1 ^b	1.042 17	$\alpha(\text{K})=0.851$ 14; $\alpha(\text{L})=0.1461$ 24; $\alpha(\text{M})=0.0342$ 6; $\alpha(\text{N}+..)=0.01062$ 17 DCO=0.49 12.
232.8 6	0.51 15	6601.9	22 ⁻	6369.1	21 ⁻	M1 ^b	0.864 14	$\alpha(\text{K})=0.706$ 12; $\alpha(\text{L})=0.1211$ 19; $\alpha(\text{M})=0.0284$ 5; $\alpha(\text{N}+..)=0.00880$ 14 DCO=0.50 14.
238.0 6	0.31 12	3280.8	10 ⁻	3042.8	9 ⁻	M1 ^b	0.813 13	$\alpha(\text{K})=0.664$ 11; $\alpha(\text{L})=0.1139$ 18; $\alpha(\text{M})=0.0267$ 5; $\alpha(\text{N}+..)=0.00828$ 13 DCO=0.41 12.
239.4 4	8.5 13	7267.2	25 ⁺	7027.8	24 ⁺	M1 ^b	0.800	$\alpha(\text{K})=0.653$ 10; $\alpha(\text{L})=0.1121$ 17; $\alpha(\text{M})=0.0263$ 4; $\alpha(\text{N}+..)=0.00814$ 12 E_γ : 239.5 (1996Ba53). I_γ : 5.6 2 (1995Mo01). DCO=0.46 6.
243.6 2	12.8 14	6818.0	23 ⁺	6574.4	22 ⁺	M1 ^b	0.762	$\alpha(\text{K})=0.623$ 9; $\alpha(\text{L})=0.1068$ 16; $\alpha(\text{M})=0.0250$ 4; $\alpha(\text{N}+..)=0.00776$ 11 E_γ : 243.7 (1996Ba53). I_γ : 7.0 2 (1995Mo01). DCO=0.47 5.
^x 244.0 @								
244.3 6	1.4 3	774.2+x	J+4	529.9+x	J+3	M1 ^b	0.756 12	$\alpha(\text{K})=0.618$ 10; $\alpha(\text{L})=0.1059$ 17; $\alpha(\text{M})=0.0248$ 4; $\alpha(\text{N}+..)=0.00770$ 12 DCO=0.48 9.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α ^c	Comments
244.3 2	14.6 18	4723.9	17 ⁻	4479.6	16 ⁻	M1 ^b	0.756	$\alpha(\text{K})=0.618$ 9; $\alpha(\text{L})=0.1059$ 15; $\alpha(\text{M})=0.0248$ 4; $\alpha(\text{N}+..)=0.00770$ 11 DCO=0.75 9. E_γ : 244.31 10 (1986Va03). I_γ : 3.8 3 (1986Va03). $\delta=0.3$ +1-5 (1986Va03). Mult.: 1986Va03 suggests M1+E2 from $\alpha(\text{K})_{\text{exp}}=0.48$ 15, $\alpha(\text{L})_{\text{exp}}=0.087$ 17, $A_2=0.25$ 4, $A_4=0.10$ 6, $R(\text{DCO})=0.71$ 15 (1986Va03).
246.0 6	1.01 27	6780.4	22 ⁺	6534.4	21 ⁺	M1 ^b	0.742 12	$\alpha(\text{K})=0.606$ 10; $\alpha(\text{L})=0.1039$ 17; $\alpha(\text{M})=0.0243$ 4; $\alpha(\text{N}+..)=0.00755$ 12 DCO=0.52 13.
246.4 6	1.2 3	5576.2	17 ⁻	5329.8	16 ⁻	M1 ^b	0.739 12	$\alpha(\text{K})=0.603$ 10; $\alpha(\text{L})=0.1034$ 16; $\alpha(\text{M})=0.0242$ 4; $\alpha(\text{N}+..)=0.00752$ 12 DCO=0.30 9.
^x 247.9 @								
248.1 4	7.1 10	5283.6	18 ⁺	5035.5	17 ⁺	M1 ^b	0.725	$\alpha(\text{K})=0.592$ 9; $\alpha(\text{L})=0.1015$ 15; $\alpha(\text{M})=0.0238$ 4; $\alpha(\text{N}+..)=0.00737$ 11 DCO=0.44 7.
250.2 4	5.4 9	6807.7	23 ⁻	6557.5	22 ⁻	M1 ^b	0.708	$\alpha(\text{K})=0.578$ 9; $\alpha(\text{L})=0.0991$ 15; $\alpha(\text{M})=0.0232$ 4; $\alpha(\text{N}+..)=0.00720$ 11 E_γ : 250.3 (1996Ba53). I_γ : 3.1 2 (1995Mo01). DCO=0.46 6.
254.5 6	0.44 12	6614.9	23 ⁺	6360.6	22 ⁺	M1 ^b	0.675 11	$\alpha(\text{K})=0.552$ 9; $\alpha(\text{L})=0.0945$ 15; $\alpha(\text{M})=0.0221$ 4; $\alpha(\text{N}+..)=0.00687$ 11 DCO=0.33 12.
^x 258.6 @								
261.7 6	1.5 3	7042.1	23 ⁺	6780.4	22 ⁺	M1 ^b	0.625 10	$\alpha(\text{K})=0.511$ 8; $\alpha(\text{L})=0.0875$ 14; $\alpha(\text{M})=0.0205$ 4; $\alpha(\text{N}+..)=0.00636$ 10 DCO=0.50 9.
263.9 6	1.0 3	3917.7	14 ⁺	3654.3	14 ⁺	M1 ^b	0.611 10	$\alpha(\text{K})=0.499$ 8; $\alpha(\text{L})=0.0855$ 14; $\alpha(\text{M})=0.0200$ 3; $\alpha(\text{N}+..)=0.00621$ 10 DCO=0.56 16.
264.1 6	1.0 3	6160.1	20 ⁻	5896.0	19 ⁻	M1 ^b	0.610 10	$\alpha(\text{K})=0.498$ 8; $\alpha(\text{L})=0.0853$ 14; $\alpha(\text{M})=0.0200$ 3; $\alpha(\text{N}+..)=0.00620$ 10 DCO=0.41 11.
267.8 2	20.6 24	5952.4	21 ⁻	5684.6	20 ⁻	M1 ^b	0.587	$\alpha(\text{K})=0.480$ 7; $\alpha(\text{L})=0.0821$ 12; $\alpha(\text{M})=0.0192$ 3; $\alpha(\text{N}+..)=0.00596$ 9 DCO=0.50 4, $R(\text{pol})=-0.078$ 7, $\text{pol}=-0.34$ 5. E_γ : 267.9 (1996Ba53). I_γ : 5.8 2 (1995Mo01).
^x 269.2 @								
269.9 6	0.90 18	4549.5	12 ⁻	4279.6	11 ⁻	M1 ^b	0.575 9	$\alpha(\text{K})=0.470$ 8; $\alpha(\text{L})=0.0803$ 13; $\alpha(\text{M})=0.0188$ 3; $\alpha(\text{N}+..)=0.00584$ 9 DCO=0.50 9.
277.4 6	0.64 15	7912.3	26 ⁺	7634.9	25 ⁺	M1 ^b	0.533	$\alpha(\text{K})=0.436$ 7; $\alpha(\text{L})=0.0745$ 12; $\alpha(\text{M})=0.0174$ 3; $\alpha(\text{N}+..)=0.00541$ 9 DCO=0.43 10.
277.5 6	1.5 3	5658.4	18 ⁻	5380.9	17 ⁻	M1 ^b	0.532	$\alpha(\text{K})=0.435$ 7; $\alpha(\text{L})=0.0744$ 12; $\alpha(\text{M})=0.0174$ 3; $\alpha(\text{N}+..)=0.00541$ 9 DCO=0.47 10.
279.2 6	0.35 12	6881.1	23 ⁻	6601.9	22 ⁻	M1 ^b	0.523	$\alpha(\text{K})=0.428$ 7; $\alpha(\text{L})=0.0732$ 12; $\alpha(\text{M})=0.0171$ 3;

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
280.5 6	0.44 14	6614.9	23 ⁺	6334.5	22 ⁺	M1 ^b	0.517	$\alpha(\text{N}+..)=0.00531$ 8 DCO=0.48 15. $\alpha(\text{K})=0.422$ 7; $\alpha(\text{L})=0.0722$ 11; $\alpha(\text{M})=0.0169$ 3; $\alpha(\text{N}+..)=0.00525$ 8 DCO=0.45 13.
283.0 6	2.9 7	2590.7	8 ⁻	2307.81	9 ⁻	M1 ^b	0.504	$\alpha(\text{K})=0.412$ 7; $\alpha(\text{L})=0.0705$ 11; $\alpha(\text{M})=0.0165$ 3; $\alpha(\text{N}+..)=0.00512$ 8 DCO=0.47 13.
284.0 6	1.2 3	6334.5	22 ⁺	6050.6	21 ⁺	M1 ^b	0.500	$\alpha(\text{K})=0.408$ 7; $\alpha(\text{L})=0.0698$ 11; $\alpha(\text{M})=0.01634$ 25; $\alpha(\text{N}+..)=0.00507$ 8 DCO=0.64 15.
286.1 4	7.2 11	7553.3	26 ⁺	7267.2	25 ⁺	M1 ^b	0.490	$\alpha(\text{K})=0.400$ 6; $\alpha(\text{L})=0.0684$ 10; $\alpha(\text{M})=0.01602$ 24; $\alpha(\text{N}+..)=0.00497$ 8 E_γ : 286.2 (1996Ba53). I_γ : 4.4 6 (1995Mo01). DCO=0.43 6.
289.0 6	1.8 4	8201.3	27 ⁺	7912.3	26 ⁺	M1 ^b	0.476	$\alpha(\text{K})=0.389$ 6; $\alpha(\text{L})=0.0665$ 10; $\alpha(\text{M})=0.01558$ 24; $\alpha(\text{N}+..)=0.00483$ 8 DCO=0.53 9.
293.9 4	6.0 8	5577.5	19 ⁺	5283.6	18 ⁺	M1 ^b	0.455	$\alpha(\text{K})=0.372$ 6; $\alpha(\text{L})=0.0635$ 10; $\alpha(\text{M})=0.01487$ 22; $\alpha(\text{N}+..)=0.00461$ 7 DCO=0.45 7.
294.9 6	3.5 6	7337.0	24 ⁺	7042.1	23 ⁺	M1 ^b	0.451	$\alpha(\text{K})=0.368$ 6; $\alpha(\text{L})=0.0629$ 10; $\alpha(\text{M})=0.01473$ 23; $\alpha(\text{N}+..)=0.00457$ 7 E_γ : 296 (1996Ba53). I_γ : 1.3 3 (1995Mo01). DCO=0.49 7.
297.2 6	0.24 7	6657.8	23 ⁺	6360.6	22 ⁺	M1 ^b	0.441	$\alpha(\text{K})=0.361$ 6; $\alpha(\text{L})=0.0616$ 10; $\alpha(\text{M})=0.01442$ 22; $\alpha(\text{N}+..)=0.00447$ 7 DCO=0.61 16.
297.7 6	1.03 23	1071.9+x	J+5	774.2+x	J+4	M1 ^b	0.439	$\alpha(\text{K})=0.359$ 6; $\alpha(\text{L})=0.0613$ 10; $\alpha(\text{M})=0.01435$ 22; $\alpha(\text{N}+..)=0.00445$ 7 DCO=0.45 9.
297.9 6	2.3 4	7634.9	25 ⁺	7337.0	24 ⁺	M1 ^b	0.438	$\alpha(\text{K})=0.358$ 6; $\alpha(\text{L})=0.0612$ 10; $\alpha(\text{M})=0.01433$ 22; $\alpha(\text{N}+..)=0.00444$ 7 DCO=0.40 8.
302.2 6	0.34 8	6498.7	21 ⁻	6196.5	20 ⁻	M1 ^b	0.421	$\alpha(\text{K})=0.345$ 6; $\alpha(\text{L})=0.0588$ 9; $\alpha(\text{M})=0.01377$ 21; $\alpha(\text{N}+..)=0.00427$ 7 DCO=0.47 14.
303.2 6	2.6 6	4864.2	16 ⁻	4561.0	15 ⁻	M1 ^b	0.418	$\alpha(\text{K})=0.342$ 6; $\alpha(\text{L})=0.0583$ 9; $\alpha(\text{M})=0.01365$ 21; $\alpha(\text{N}+..)=0.00423$ 7 DCO=0.44 8, R(pol)=-0.056 11, pol=-0.25 6.
307.1 6	1.2 4	3393.8	10 ⁻	3086.7	9 ⁻	M1 ^b	0.403	$\alpha(\text{K})=0.330$ 5; $\alpha(\text{L})=0.0563$ 9; $\alpha(\text{M})=0.01318$ 20; $\alpha(\text{N}+..)=0.00409$ 7 DCO=0.51 9.
308.6 4	8.8 16	4047.3	13 ⁻	3738.7	12 ⁻	M1 ^b	0.398	$\alpha(\text{K})=0.325$ 5; $\alpha(\text{L})=0.0555$ 8; $\alpha(\text{M})=0.01300$ 19; $\alpha(\text{N}+..)=0.00403$ 6 E_γ : 308.7 (1996Ba53). I_γ : 3.1 2 (1995Mo01). DCO=0.47 9.
309.1 6	4.8 11	7116.8	24 ⁻	6807.7	23 ⁻	M1 ^b	0.396	$\alpha(\text{K})=0.324$ 5; $\alpha(\text{L})=0.0553$ 9; $\alpha(\text{M})=0.01294$ 20; $\alpha(\text{N}+..)=0.00402$ 6 I_γ : for 309.1+310.2; but 310.2 is stated as weak by

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

$E_{\gamma}^{\dagger}$	$I_{\gamma}^{\ddagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Mult. ^a	α^c	Comments
								2002Si20. E_{γ} : 309.1 (1996Ba53). I_{γ} : 3.1 2 (1995Mo01). DCO=0.55 8 for 309.1+310.2 (weak component). $\alpha(K)$ =0.321 5; $\alpha(L)$ =0.0548 9; $\alpha(M)$ =0.01282 20; $\alpha(N+..)$ =0.00398 6. I_{γ} : see comment for 309.1 γ .
310.2 6		5886.4	18 ⁻	5576.2	17 ⁻	M1	0.392	
312.8 6	0.18 6	4864.2	16 ⁻	4551.4				
314.5 2	27.4 25	5502.9	19 ⁺	5188.4	18 ⁺	M1 ^b	0.378	$\alpha(K)$ =0.309 5; $\alpha(L)$ =0.0527 8; $\alpha(M)$ =0.01234 18; $\alpha(N+..)$ =0.00383 6. E_{γ} : 314.6 (1996Ba53). I_{γ} : 12.2 2 (1995Mo01). DCO=0.45 4, R(pol)=-0.077 6, pol=-0.35 5. $\alpha(K)$ =0.304 5; $\alpha(L)$ =0.0518 8; $\alpha(M)$ =0.01213 19; $\alpha(N+..)$ =0.00376 6. DCO=0.53 13.
316.5 6	1.6 4	4899.0	15 ⁻	4582.5	14 ⁻	M1 ^b	0.372	
322.8 6	0.87 20	5166.3	18 ⁻	4843.5	16 ⁻	E2 ^b	0.0933 14	$\alpha(K)$ =0.0549 8; $\alpha(L)$ =0.0288 5; $\alpha(M)$ =0.00737 12; $\alpha(N+..)$ =0.00223 4. DCO=0.84 24.
323.2 6	0.28 8	6657.8	23 ⁺	6334.5	22 ⁺	M1 ^b	0.351	$\alpha(K)$ =0.287 5; $\alpha(L)$ =0.0489 8; $\alpha(M)$ =0.01145 17; $\alpha(N+..)$ =0.00355 6. DCO=0.50 15.
326.1 6	0.83 18	6196.5	20 ⁻	5870.4	19 ⁻	M1 ^b	0.343	$\alpha(K)$ =0.280 5; $\alpha(L)$ =0.0477 8; $\alpha(M)$ =0.01118 17; $\alpha(N+..)$ =0.00347 6. DCO=0.35 9.
326.3 6	0.9 3	8222.7	27 ⁻	7896.4	26 ⁻	M1 ^b	0.342	$\alpha(K)$ =0.280 5; $\alpha(L)$ =0.0477 7; $\alpha(M)$ =0.01116 17; $\alpha(N+..)$ =0.00346 6. DCO=0.46 10.
330.4 6	0.26 8	7211.5	24 ⁻	6881.1	23 ⁻	M1 ^b	0.331	$\alpha(K)$ =0.270 4; $\alpha(L)$ =0.0461 7; $\alpha(M)$ =0.01078 16; $\alpha(N+..)$ =0.00334 5. DCO=0.43 15.
331.8 2	21 4	6284.2	22 ⁻	5952.4	21 ⁻	M1 ^b	0.327	$\alpha(K)$ =0.267 4; $\alpha(L)$ =0.0455 7; $\alpha(M)$ =0.01066 15; $\alpha(N+..)$ =0.00331 5. DCO=0.53 5. E_{γ} : 331.9 (1996Ba53). I_{γ} : 5.1 2 (1995Mo01).
332.5 6	0.23 7	6693.1	24 ⁺	6360.6	22 ⁺	E2 ^b	0.0857 13	$\alpha(K)$ =0.0512 8; $\alpha(L)$ =0.0258 4; $\alpha(M)$ =0.00660 11; $\alpha(N+..)$ =0.00200 3. DCO=1.02 23.
333.5 6	3.8 6	8556.2	28 ⁻	8222.7	27 ⁻	M1 ^b	0.322	$\alpha(K)$ =0.264 4; $\alpha(L)$ =0.0449 7; $\alpha(M)$ =0.01051 16; $\alpha(N+..)$ =0.00326 5. E_{γ} : 333.8 (1996Ba53). DCO=0.49 9.
336.5 6	2.7 6	8892.7	29 ⁻	8556.2	28 ⁻	M1 ^b	0.315	$\alpha(K)$ =0.257 4; $\alpha(L)$ =0.0438 7; $\alpha(M)$ =0.01026 16; $\alpha(N+..)$ =0.00318 5. E_{γ} : 336.7 (1996Ba53). DCO=0.51 10.
337.29 [#] 7	56 ^{&} 2	2645.10	10 ⁺	2307.81	9 ⁻	E1	0.0226	$\alpha(K)$ =0.0185 3; $\alpha(L)$ =0.00309 5; $\alpha(M)$ =0.000722 11; $\alpha(N+..)$ =0.000221 3. Mult.: from A_2 =-0.07 3, A_4 =0.03 5, R(DCO)=1.52 16 (1986Va03). $\alpha(K)_{\text{exp}}$ =0.0194 15 (1986Pa18). Other: A_2 =-0.13 3 (1977Ro15). I(γ +ce)=87.5 17 from 1986Pa18.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
337.4 6	1.1 3	5896.0	19 ⁻	5558.6	18 ⁻	M1	0.312	$\alpha(\text{K})=0.255$ 4; $\alpha(\text{L})=0.0435$ 7; $\alpha(\text{M})=0.01018$ 15; $\alpha(\text{N}+..)=0.00316$ 5
338.7 4	6.8 10	7892.0	27 ⁺	7553.3	26 ⁺	M1 ^b	0.309	$\alpha(\text{K})=0.253$ 4; $\alpha(\text{L})=0.0430$ 7; $\alpha(\text{M})=0.01007$ 15; $\alpha(\text{N}+..)=0.00313$ 5 DCO=0.42 7.
339.3 6	1.6 4	8540.6	28 ⁺	8201.3	27 ⁺	M1 ^b	0.308	$\alpha(\text{K})=0.252$ 4; $\alpha(\text{L})=0.0428$ 7; $\alpha(\text{M})=0.01003$ 15; $\alpha(\text{N}+..)=0.00311$ 5 E_γ : 339.2 (1996Ba53). I_γ : 5.1 3 (1995Mo01). DCO=0.39 10.
340.7 6	0.55 15	8166.6	26 ⁺	7825.9	25 ⁺	M1 ^b	0.304	$\alpha(\text{K})=0.249$ 4; $\alpha(\text{L})=0.0424$ 7; $\alpha(\text{M})=0.00991$ 15; $\alpha(\text{N}+..)=0.00308$ 5 DCO=0.52 9.
341.6 2	18.9 18	6574.4	22 ⁺	6232.8	21 ⁺	M1 ^b	0.302	$\alpha(\text{K})=0.247$ 4; $\alpha(\text{L})=0.0421$ 6; $\alpha(\text{M})=0.00984$ 14; $\alpha(\text{N}+..)=0.00305$ 5 E_γ : 341.5 (1996Ba53). I_γ : 6.7 2 (1995Mo01). DCO=0.48 5.
^x 342 ^d	<0.7					Q		E_γ : From 1986Va03. I_γ : From 1995Mo01.
342.9 6	1.9 3	7977.8	26 ⁺	7634.9	25 ⁺	M1 ^b	0.299	$\alpha(\text{K})=0.245$ 4; $\alpha(\text{L})=0.0416$ 7; $\alpha(\text{M})=0.00974$ 15; $\alpha(\text{N}+..)=0.00302$ 5 E_γ : 343 (1996Ba53). I_γ : 1.3 3 (1995Mo01). DCO=0.44 8.
346.5 6	1.5 6	5558.6	18 ⁻	5212.1	17 ⁻	M1 ^b	0.291	$\alpha(\text{K})=0.238$ 4; $\alpha(\text{L})=0.0405$ 6; $\alpha(\text{M})=0.00947$ 14; $\alpha(\text{N}+..)=0.00294$ 5 DCO=0.45 9 for 346.5+347.9.
347.9 6	1.8 5	5212.1	17 ⁻	4864.2	16 ⁻	M1 ^b	0.287	$\alpha(\text{K})=0.235$ 4; $\alpha(\text{L})=0.0400$ 6; $\alpha(\text{M})=0.00936$ 14; $\alpha(\text{N}+..)=0.00290$ 5 DCO=0.45 9 for 346.5+347.9.
348.8 6	0.77 18	1420.7+x	J+6	1071.9+x	J+5	M1 ^b	0.285	$\alpha(\text{K})=0.234$ 4; $\alpha(\text{L})=0.0397$ 6; $\alpha(\text{M})=0.00930$ 14; $\alpha(\text{N}+..)=0.00288$ 5 DCO=0.38 10.
350.4 6	0.36 12	8517.0	27 ⁺	8166.6	26 ⁺	M1 ^b	0.282	$\alpha(\text{K})=0.231$ 4; $\alpha(\text{L})=0.0392$ 6; $\alpha(\text{M})=0.00918$ 14; $\alpha(\text{N}+..)=0.00285$ 5 DCO=0.43 9.
352.3 6	0.20 6	7563.8	25 ⁻	7211.5	24 ⁻	M1 ^b	0.278	$\alpha(\text{K})=0.227$ 4; $\alpha(\text{L})=0.0387$ 6; $\alpha(\text{M})=0.00905$ 14; $\alpha(\text{N}+..)=0.00281$ 5 DCO=0.38 15.
353.1 6	0.44 16	4384.8	14 ⁻	4031.8	13 ⁻	M1	0.276	$\alpha(\text{K})=0.226$ 4; $\alpha(\text{L})=0.0384$ 6; $\alpha(\text{M})=0.00899$ 14; $\alpha(\text{N}+..)=0.00279$ 5
355.3 2	20.2 18	6232.8	21 ⁺	5877.5	20 ⁺	M1 ^b	0.272	$\alpha(\text{K})=0.222$ 4; $\alpha(\text{L})=0.0378$ 6; $\alpha(\text{M})=0.00884$ 13; $\alpha(\text{N}+..)=0.00274$ 4 E_γ : 355.4 (1996Ba53). I_γ : 6.6 2 (1995Mo01). DCO=0.46 4.
355.6 6	0.15 8	7213.3	23 ⁻	6857.7	22 ⁻	M1	0.271	$\alpha(\text{K})=0.222$ 4; $\alpha(\text{L})=0.0377$ 6; $\alpha(\text{M})=0.00882$ 13; $\alpha(\text{N}+..)=0.00274$ 4
356.8 6	4.6 9	5934.3	20 ⁺	5577.5	19 ⁺	M1 ^b	0.268	$\alpha(\text{K})=0.220$ 4; $\alpha(\text{L})=0.0373$ 6; $\alpha(\text{M})=0.00874$ 13; $\alpha(\text{N}+..)=0.00271$ 4 DCO=0.49 8.
357.8 2	28 3	4479.6	16 ⁻	4121.8	15 ⁻	M1 ^b	0.266	$\alpha(\text{K})=0.218$ 3; $\alpha(\text{L})=0.0371$ 6; $\alpha(\text{M})=0.00867$ 13;

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

$E_{\gamma}^{\dagger}$	$I_{\gamma}^{\ddagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Mult. ^a	α^c	Comments
								$\alpha(\text{N}+..)=0.00269\ 4$ DCO=0.63 6. E_{γ} : 357.9 1 (1986Va03). I_{γ} : 6.2 2 (1986Va03). $\delta=1.5 +20-5$ or $\delta=-3.0 +1.0-\infty$ (1986Va03). Mult.: 1986Va03 suggests M1+E2 from $\alpha(\text{K})_{\text{exp}}=0.12\ 2$, $\alpha(\text{L})_{\text{exp}}=0.05\ 1$, $A_2=-0.15\ 3$, $A_4=-0.18\ 4$, $R(\text{DCO})=0.83\ 8$ (1986Va03). $\alpha(\text{K})=0.0431\ 7$; $\alpha(\text{L})=0.0197\ 3$; $\alpha(\text{M})=0.00500\ 8$; $\alpha(\text{N}+..)=0.001516\ 24$
358.5 6	0.26 8	6693.1	24 ⁺	6334.5	22 ⁺	E2	0.0693	$\alpha(\text{K})=0.217\ 4$; $\alpha(\text{L})=0.0369\ 6$; $\alpha(\text{M})=0.00863\ 13$; $\alpha(\text{N}+..)=0.00268\ 4$ E_{γ} : 358.6 (1996Ba53). DCO=0.54 9.
358.5 6	1.8 4	9251.2	30 ⁻	8892.7	29 ⁻	M1 ^b	0.265	$\alpha(\text{K})=0.216\ 4$; $\alpha(\text{L})=0.0367\ 6$; $\alpha(\text{M})=0.00860\ 13$; $\alpha(\text{N}+..)=0.00267\ 4$
359.0 6	0.19 6	6857.7	22 ⁻	6498.7	21 ⁻	M1	0.264	$\alpha(\text{K})=0.214\ 4$; $\alpha(\text{L})=0.0364\ 6$; $\alpha(\text{M})=0.00852\ 13$; $\alpha(\text{N}+..)=0.00264\ 4$ DCO=0.45 9 for 360.1+360.6. I_{γ} : for 360.1+360.6.
360.1 6	3.7 11	6294.4	21 ⁺	5934.3	20 ⁺	M1 ^b	0.262	$\alpha(\text{K})=0.213\ 4$; $\alpha(\text{L})=0.0363\ 6$; $\alpha(\text{M})=0.00849\ 13$; $\alpha(\text{N}+..)=0.00263\ 4$ DCO=0.45 9 for 360.6+360.1. I_{γ} : for 360.1+360.6.
360.6 6	3.7 11	7825.9	25 ⁺	7465.3	24 ⁺	M1 ^b	0.261	$\alpha(\text{K})=0.210\ 3$; $\alpha(\text{L})=0.0357\ 6$; $\alpha(\text{M})=0.00835\ 13$; $\alpha(\text{N}+..)=0.00259\ 4$ DCO=0.40 11.
362.8 6	0.23 8	1783.5+x	J+7	1420.7+x	J+6	M1 ^b	0.257	$\alpha(\text{K})=0.204\ 3$; $\alpha(\text{L})=0.0346\ 5$; $\alpha(\text{M})=0.00809\ 12$; $\alpha(\text{N}+..)=0.00251\ 4$ E_{γ} : 367.1 (1996Ba53). I_{γ} : 4.1 2 (1995Mo01). DCO=0.46 5.
367.0 2	15.5 18	6651.2	23 ⁻	6284.2	22 ⁻	M1 ^b	0.249	$\alpha(\text{K})=0.0397\ 6$; $\alpha(\text{L})=0.01728\ 25$; $\alpha(\text{M})=0.00438\ 7$; $\alpha(\text{N}+..)=0.001328\ 19$ Mult.: from $\alpha(\text{K})_{\text{exp}}=0.0385\ 35$, $\alpha(\text{L})_{\text{exp}}=0.0153\ 30$ (1986Pa18); $A_2=0.13\ 3$, $A_4=-0.04\ 4$ (1986Va03). $I(\gamma+\text{ce})=95.8\ 20$ from 1986Pa18.
371.93 [#] 8	68 ^{&} 2	2169.40	7 ⁻	1797.47	5 ⁻	E2	0.0627	$\alpha(\text{K})=0.194\ 3$; $\alpha(\text{L})=0.0330\ 5$; $\alpha(\text{M})=0.00772\ 11$; $\alpha(\text{N}+..)=0.00240\ 4$ E_{γ} : 373.8 (1996Ba53). DCO=0.44 8.
373.4 4	5.1 8	8222.7	27 ⁻	7849.3	26 ⁻	M1 ^b	0.237	$\alpha(\text{K})=0.193\ 3$; $\alpha(\text{L})=0.0327\ 5$; $\alpha(\text{M})=0.00766\ 11$; $\alpha(\text{N}+..)=0.00237\ 4$ E_{γ} : 374.5 (1996Ba53). I_{γ} : 7.7 2 (1995Mo01). DCO=0.45 5.
374.6 2	24.8 25	5877.5	20 ⁺	5502.9	19 ⁺	M1 ^b	0.235	$\alpha(\text{K})=0.192\ 3$; $\alpha(\text{L})=0.0327\ 5$; $\alpha(\text{M})=0.00764\ 12$; $\alpha(\text{N}+..)=0.00237\ 4$ DCO=0.47 6 for 374.8+375.1. I_{γ} : for 374.8+375.1.
374.8 6	4.5 9	8271.1	27 ⁻	7896.4	26 ⁻	M1 ^b	0.235	$\alpha(\text{K})=0.192\ 3$; $\alpha(\text{L})=0.0326\ 5$; $\alpha(\text{M})=0.00763\ 12$; $\alpha(\text{N}+..)=0.00237\ 4$
375.1 6	4.5 9	7491.9	25 ⁻	7116.8	24 ⁻	M1 ^b	0.235	

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

$E_{\gamma}^{\dagger}$	$I_{\gamma}^{\ddagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Mult. ^a	α^c	Comments
								E_{γ} : 375.1 (1996Ba53). I_{γ} : 1.9 1 (1995Mo01). DCO=0.47 6 for 374.8+375.1. I_{γ} : for 374.8+375.1.
376.5 6	0.17 6	7940.3	26 ⁻	7563.8	25 ⁻	M1	0.232	$\alpha(K)=0.190$ 3; $\alpha(L)=0.0323$ 5; $\alpha(M)=0.00755$ 11; $\alpha(N+..)=0.00234$ 4
378.8 6	1.7 4	5350.5	19 ⁻	4971.7	17 ⁻	E2 ^b	0.0596	$\alpha(K)=0.0381$ 6; $\alpha(L)=0.01621$ 25; $\alpha(M)=0.00411$ 7; $\alpha(N+..)=0.001245$ 19 DCO=0.90 19.
379.4 6	1.5 3	8357.2	27 ⁺	7977.8	26 ⁺	M1 ^b	0.227	$\alpha(K)=0.186$ 3; $\alpha(L)=0.0316$ 5; $\alpha(M)=0.00740$ 11; $\alpha(N+..)=0.00229$ 4
								E_{γ} : 380 (1996Ba53). I_{γ} : 1.0 3 (1995Mo01). DCO=0.44 9.
379.7 6	<0.1	7593.0	24 ⁻	7213.3	23 ⁻	M1	0.227	$\alpha(K)=0.186$ 3; $\alpha(L)=0.0315$ 5; $\alpha(M)=0.00738$ 11; $\alpha(N+..)=0.00229$ 4
383.0 6	1.3 3	6041.4	19 ⁻	5658.4	18 ⁻	M1 ^b	0.222	$\alpha(K)=0.182$ 3; $\alpha(L)=0.0308$ 5; $\alpha(M)=0.00721$ 11; $\alpha(N+..)=0.00224$ 4 DCO=0.48 10.
384.7 6	1.5 3	7074.7	23 ⁺	6690.0	22 ⁺	M1 ^b	0.219	$\alpha(K)=0.179$ 3; $\alpha(L)=0.0304$ 5; $\alpha(M)=0.00712$ 11; $\alpha(N+..)=0.00221$ 4 DCO=0.40 11.
388.7 6	0.42 14	7254.6		6865.9				
390.6 6	1.10 24	7465.3	24 ⁺	7074.7	23 ⁺	M1 ^b	0.210	$\alpha(K)=0.172$ 3; $\alpha(L)=0.0292$ 5; $\alpha(M)=0.00683$ 10; $\alpha(N+..)=0.00212$ 3 I_{γ} : 1.1 24 maybe a misprint in 2002Si20. DCO=0.39 11.
392.2 2	14.0 18	7043.4	24 ⁻	6651.2	23 ⁻	M1 ^b	0.208	$\alpha(K)=0.1703$ 24; $\alpha(L)=0.0289$ 4; $\alpha(M)=0.00676$ 10; $\alpha(N+..)=0.00210$ 3 E_{γ} : 392.4 (1996Ba53). I_{γ} : 3.4 2 (1995Mo01). DCO=0.49 5.
392.7 6	0.61 19	7564.6	24 ⁻	7171.9	23 ⁻	M1 ^b	0.207	$\alpha(K)=0.1697$ 25; $\alpha(L)=0.0288$ 5; $\alpha(M)=0.00674$ 10; $\alpha(N+..)=0.00209$ 3 DCO=0.31 7.
393.6 6	0.17 6	2177.1+x	J+8	1783.5+x	J+7	M1 ^b	0.206	$\alpha(K)=0.1687$ 25; $\alpha(L)=0.0286$ 5; $\alpha(M)=0.00669$ 10; $\alpha(N+..)=0.00208$ 3 DCO=0.45 13.
395.0 6	1.7 5	8666.2	28 ⁻	8271.1	27 ⁻	M1 ^b	0.204	$\alpha(K)=0.1671$ 25; $\alpha(L)=0.0283$ 5; $\alpha(M)=0.00663$ 10; $\alpha(N+..)=0.00206$ 3 DCO=0.37 8.
395.5 6	1.04 25	9646.7	31 ⁻	9251.2	30 ⁻	M1 ^b	0.203	$\alpha(K)=0.1665$ 25; $\alpha(L)=0.0282$ 5; $\alpha(M)=0.00661$ 10; $\alpha(N+..)=0.00205$ 3 E_{γ} : 395.4 (1996Ba53). DCO=0.46 10.
395.6 6	1.8 4	6690.0	22 ⁺	6294.4	21 ⁺	M1 ^b	0.203	$\alpha(K)=0.1664$ 25; $\alpha(L)=0.0282$ 5; $\alpha(M)=0.00660$ 10; $\alpha(N+..)=0.00205$ 3 DCO=0.41 9.
397.7 2	11.6 15	7441.1	25 ⁻	7043.4	24 ⁻	M1 ^b	0.200	$\alpha(K)=0.1641$ 23; $\alpha(L)=0.0278$ 4; $\alpha(M)=0.00651$ 10; $\alpha(N+..)=0.00202$ 3 E_{γ} : 397.7 (1996Ba53). I_{γ} : 2.1 1 (1995Mo01). DCO=0.43 6.
397.7 4	5.6 8	8289.7	28 ⁺	7892.0	27 ⁺	M1 ^b	0.200	$\alpha(K)=0.1641$ 24; $\alpha(L)=0.0278$ 4; $\alpha(M)=0.00651$ 10;

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α ^c	Comments
								$\alpha(\text{N}+..)=0.00202$ 3 Branching=0.89 2 (2002Si29). E_γ : 397.7 (1996Ba53). I_γ : 2.8 1 (1995Mo01). DCO=0.41 7.
399.5 6	1.2 3	8940.1	29 ⁺	8540.6	28 ⁺	M1 ^b	0.198	$\alpha(\text{K})=0.1621$ 24; $\alpha(\text{L})=0.0275$ 4; $\alpha(\text{M})=0.00643$ 10; $\alpha(\text{N}+..)=0.00199$ 3 DCO=0.43 9.
404.1 6	1.4 4	9070.3	29 ⁻	8666.2	28 ⁻	M1 ^b	0.192	$\alpha(\text{K})=0.1572$ 23; $\alpha(\text{L})=0.0266$ 4; $\alpha(\text{M})=0.00623$ 9; $\alpha(\text{N}+..)=0.00193$ 3 E_γ : 404.1 (1996Ba53). DCO=0.40 8.
404.4 6	2.2 5	7896.4	26 ⁻	7491.9	25 ⁻	M1 ^b	0.192	$\alpha(\text{K})=0.1569$ 23; $\alpha(\text{L})=0.0266$ 4; $\alpha(\text{M})=0.00622$ 9; $\alpha(\text{N}+..)=0.00193$ 3 E_γ : 404.4 (1996Ba53). I_γ : 1.3 2 (1995Mo01). DCO=0.39 8.
408.3 4	8.3 11	7849.3	26 ⁻	7441.1	25 ⁻	M1 ^b	0.187	$\alpha(\text{K})=0.1529$ 22; $\alpha(\text{L})=0.0259$ 4; $\alpha(\text{M})=0.00606$ 9; $\alpha(\text{N}+..)=0.00188$ 3 E_γ : 408.3 (1996Ba53). I_γ : 1.9 1 (1995Mo01). DCO=0.44 6.
412.3 6	1.02 19	8769.5	28 ⁺	8357.2	27 ⁺	M1 ^b	0.182	$\alpha(\text{K})=0.1490$ 22; $\alpha(\text{L})=0.0252$ 4; $\alpha(\text{M})=0.00590$ 9; $\alpha(\text{N}+..)=0.00183$ 3 E_γ : 413 (1996Ba53). I_γ : ≤ 0.7 (1995Mo01). DCO=0.40 10.
413.7 6	0.33 10	2590.8+x	J+9	2177.1+x	J+8	M1 ^b	0.180	$\alpha(\text{K})=0.1476$ 22; $\alpha(\text{L})=0.0250$ 4; $\alpha(\text{M})=0.00585$ 9; $\alpha(\text{N}+..)=0.00181$ 3 DCO=0.53 15.
415.1 6	0.70 18	4748.4	15 ⁺	4333.4	16 ⁺	M1 ^b	0.179	$\alpha(\text{K})=0.1463$ 22; $\alpha(\text{L})=0.0248$ 4; $\alpha(\text{M})=0.00580$ 9; $\alpha(\text{N}+..)=0.00180$ 3 DCO=0.38 12.
415.3 6	1.8 4	4333.4	16 ⁺	3917.7	14 ⁺	E2 ^b	0.0467	$\alpha(\text{K})=0.0310$ 5; $\alpha(\text{L})=0.01183$ 18; $\alpha(\text{M})=0.00298$ 5; $\alpha(\text{N}+..)=0.000905$ 14 DCO=1.00 18.
420.8 6	0.13 5	3011.6+x	J+10	2590.8+x	J+9	M1	0.172	$\alpha(\text{K})=0.1411$ 21; $\alpha(\text{L})=0.0239$ 4; $\alpha(\text{M})=0.00559$ 9; $\alpha(\text{N}+..)=0.00173$ 3
421.1 6	0.24 8	5576.2	17 ⁻	5155.1	16 ⁻	M1 ^b	0.1720	$\alpha(\text{K})=0.1408$ 21; $\alpha(\text{L})=0.0238$ 4; $\alpha(\text{M})=0.00558$ 8; $\alpha(\text{N}+..)=0.00173$ 3 DCO=0.50 17.
421.2 4	8.2 12	2590.7	8 ⁻	2169.40	7 ⁻	E2 ^b	0.0449	$\alpha(\text{K})=0.0300$ 5; $\alpha(\text{L})=0.01124$ 16; $\alpha(\text{M})=0.00283$ 4; $\alpha(\text{N}+..)=0.000859$ 13 E_γ : 421.5 1 (1986Va03). DCO=0.61 11, R(pol)=-0.062 20, pol=-0.32 11. Other: A2=-0.17 7, A4=-0.2 2. R(DCO)=1.58 22 $\alpha(\text{exp}) \leq 0.03$ (1986Va03).
421.9 6	2.5 6	8271.1	27 ⁻	7849.3	26 ⁻	M1 ^b	0.1711	$\alpha(\text{K})=0.1401$ 21; $\alpha(\text{L})=0.0237$ 4; $\alpha(\text{M})=0.00555$ 8; $\alpha(\text{N}+..)=0.001721$ 25 E_γ : 422.1 (1996Ba53). I_γ : 1.2 1 (1995Mo01). DCO=0.47 7.
423.7 6	0.51 14	3435.3+x	J+11	3011.6+x	J+10	M1 ^b	0.1692	$\alpha(\text{K})=0.1385$ 20; $\alpha(\text{L})=0.0234$ 4; $\alpha(\text{M})=0.00548$ 8; $\alpha(\text{N}+..)=0.001701$ 25 DCO=0.46 12.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

$E_{\gamma}^{\dagger}$	$I_{\gamma}^{\ddagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Mult. ^a	α^c	Comments
428.0 6	1.0 3	9498.3	30 ⁻	9070.3	29 ⁻	M1 ^b	0.1647	$\alpha(K)=0.1348$ 20; $\alpha(L)=0.0228$ 4; $\alpha(M)=0.00534$ 8; $\alpha(N+..)=0.001656$ 24 E_{γ} : 428.5 (1996Ba53). I_{γ} : 1.2 1 (1995Mo01). DCO=0.37 9.
430.8 6	2.1 5	5329.8	16 ⁻	4899.0	15 ⁻	M1 ^b	0.1618	$\alpha(K)=0.1325$ 20; $\alpha(L)=0.0224$ 4; $\alpha(M)=0.00524$ 8; $\alpha(N+..)=0.001627$ 24 DCO=0.35 9.
432.5 6	0.66 12	9202.0	29 ⁺	8769.5	28 ⁺	M1 ^b	0.1601	$\alpha(K)=0.1311$ 19; $\alpha(L)=0.0222$ 4; $\alpha(M)=0.00519$ 8; $\alpha(N+..)=0.001610$ 24 E_{γ} : 432 (1996Ba53). I_{γ} : ≤ 0.7 (1995Mo01). DCO=0.37 11.
435.4 6	1.5 3	5928.4	20 ⁺	5493.1	20 ⁺	M1 ^b	0.1573	$\alpha(K)=0.1288$ 19; $\alpha(L)=0.0218$ 4; $\alpha(M)=0.00510$ 8; $\alpha(N+..)=0.001581$ 23 DCO=0.90 17.
441.9 6	2.5 5	5608.2	19 ⁻	5166.3	18 ⁻	M1 ^b	0.1512	$\alpha(K)=0.1238$ 18; $\alpha(L)=0.0209$ 3; $\alpha(M)=0.00490$ 7; $\alpha(N+..)=0.001519$ 22 DCO=0.62 9.
442.1 6	0.82 21	10088.8	32 ⁻	9646.7	31 ⁻	M1 ^b	0.1510	$\alpha(K)=0.1237$ 18; $\alpha(L)=0.0209$ 3; $\alpha(M)=0.00489$ 7; $\alpha(N+..)=0.001517$ 22 DCO=0.40 10.
442.6 6	0.12 5	8382.9	27 ⁻	7940.3	26 ⁻	M1	0.1506	$\alpha(K)=0.1233$ 18; $\alpha(L)=0.0209$ 3; $\alpha(M)=0.00488$ 7; $\alpha(N+..)=0.001513$ 22 E_{γ} : 442.5 (1996Ba53).
442.7 6	0.52 16	8383.5	27 ⁻	7940.8	26 ⁻	M1 ^b	0.1505	$\alpha(K)=0.1232$ 18; $\alpha(L)=0.0208$ 3; $\alpha(M)=0.00487$ 7; $\alpha(N+..)=0.001512$ 22 DCO=0.44 12.
443.7 6	0.48 8	9645.7	30 ⁺	9202.0	29 ⁺	M1 ^b	0.1496	$\alpha(K)=0.1225$ 18; $\alpha(L)=0.0207$ 3; $\alpha(M)=0.00484$ 7; $\alpha(N+..)=0.001502$ 22 DCO=0.42 14.
448.7 6	2.4 5	8738.4	29 ⁺	8289.7	28 ⁺	M1 ^b	0.1452	$\alpha(K)=0.1189$ 18; $\alpha(L)=0.0201$ 3; $\alpha(M)=0.00470$ 7; $\alpha(N+..)=0.001458$ 21 Branching=0.83 5 (2002Si29). E_{γ} : 448.6 (1996Ba53). I_{γ} : 1.4 1 (1995Mo01). DCO=0.45 8.
448.9 6	0.84 22	7940.8	26 ⁻	7491.9	25 ⁻	M1 ^b	0.1450	$\alpha(K)=0.1188$ 18; $\alpha(L)=0.0201$ 3; $\alpha(M)=0.00469$ 7; $\alpha(N+..)=0.001456$ 21 DCO=0.39 9.
449.2 6		7267.2	25 ⁺	6818.0	23 ⁺	E2	0.0383	$\alpha(K)=0.0261$ 4; $\alpha(L)=0.00913$ 14; $\alpha(M)=0.00229$ 4; $\alpha(N+..)=0.000696$ 11
452.6 6	0.56 19	9950.9	31 ⁻	9498.3	30 ⁻	M1 ^b	0.1419	$\alpha(K)=0.1162$ 17; $\alpha(L)=0.0196$ 3; $\alpha(M)=0.00459$ 7; $\alpha(N+..)=0.001424$ 21 DCO=0.46 13.
453.4 6	0.30 12	7027.8	24 ⁺	6574.4	22 ⁺	E2	0.0374	$\alpha(K)=0.0256$ 4; $\alpha(L)=0.00886$ 13; $\alpha(M)=0.00222$ 4; $\alpha(N+..)=0.000675$ 10
454.0 6	0.36 6	10099.7	31 ⁺	9645.7	30 ⁺	M1	0.1407	$\alpha(K)=0.1153$ 17; $\alpha(L)=0.0195$ 3; $\alpha(M)=0.00455$ 7; $\alpha(N+..)=0.001412$ 21
456.6 4	5.3 12	3917.7	14 ⁺	3460.9	12 ⁺	E2 ^b	0.0367	$\alpha(K)=0.0252$ 4; $\alpha(L)=0.00866$ 13; $\alpha(M)=0.00217$ 3; $\alpha(N+..)=0.000659$ 10 DCO=0.99 13.
457.8 6	0.10 5	3893.1+x	J+12	3435.3+x	J+11	M1	0.1376	$\alpha(K)=0.1127$ 17; $\alpha(L)=0.0190$ 3; $\alpha(M)=0.00445$ 7; $\alpha(N+..)=0.001381$ 20

Continued on next page (footnotes at end of table)

(HI,xn γ) **1986Va03,1995Va32,2002Si20 (continued)** $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
459.1 6	1.3 4	6534.4	21 ⁺	6075.3	20 ⁺	M1 ^b	0.1366	$\alpha(\text{K})=0.1119$ 17; $\alpha(\text{L})=0.0189$ 3; $\alpha(\text{M})=0.00442$ 7; $\alpha(\text{N}+..)=0.001371$ 20 DCO=0.72 15.
461		2630	(8 ⁺)	2169.40	7 ⁻			E_γ : From 2005Dr11.
464.1 6	0.81 18	9404.2	30 ⁺	8940.1	29 ⁺	M1 ^b	0.1327	$\alpha(\text{K})=0.1087$ 16; $\alpha(\text{L})=0.0184$ 3; $\alpha(\text{M})=0.00429$ 7; $\alpha(\text{N}+..)=0.001331$ 20 DCO=0.41 10.
467.6 2	50 5	4121.8	15 ⁻	3654.3	14 ⁺	E1	0.01101	$\alpha(\text{K})=0.00909$ 13; $\alpha(\text{L})=0.001471$ 21; $\alpha(\text{M})=0.000342$ 5; $\alpha(\text{N}+..)=0.0001049$ 15 Mult.: from $\alpha(\text{exp})=0.012$ 2, $A_2=-0.20$ 3, $A_4=0.00$ 5, $R(\text{DCO})=2.21$ 9 (1986Va03); DCO=0.60 7, $R(\text{pol})=+0.038$ 4, $\text{pol}=+0.20$ 4 (2002Si20). E_γ : 467.61 9 (1986Va03). I_γ : 16.9 6 (1986Va03).
467.7 6	0.8 3	7042.1	23 ⁺	6574.4	22 ⁺	M1	0.1300	$\alpha(\text{K})=0.1065$ 16; $\alpha(\text{L})=0.0180$ 3; $\alpha(\text{M})=0.00420$ 6; $\alpha(\text{N}+..)=0.001304$ 19
467.7 6	<0.1	8850.6	28 ⁻	8382.9	27 ⁻	M1	0.1300	$\alpha(\text{K})=0.1065$ 16; $\alpha(\text{L})=0.0180$ 3; $\alpha(\text{M})=0.00420$ 6; $\alpha(\text{N}+..)=0.001304$ 19
468.6 6	0.22 8	10568.3	32 ⁺	10099.7	31 ⁺	M1	0.1293	$\alpha(\text{K})=0.1060$ 16; $\alpha(\text{L})=0.0179$ 3; $\alpha(\text{M})=0.00418$ 6; $\alpha(\text{N}+..)=0.001297$ 19
470.7 6	2.7 7	3508.6	11 ⁻	3037.9	9 ⁻	E2 ^b	0.0341	$\alpha(\text{K})=0.0236$ 4; $\alpha(\text{L})=0.00786$ 12; $\alpha(\text{M})=0.00196$ 3; $\alpha(\text{N}+..)=0.000597$ 9 DCO=1.08 17.
471.7 6	0.74 22	5952.4	21 ⁻	5480.7	19 ⁻	E2	0.0339	$\alpha(\text{K})=0.0235$ 4; $\alpha(\text{L})=0.00781$ 12; $\alpha(\text{M})=0.00195$ 3; $\alpha(\text{N}+..)=0.000593$ 9 E_γ : 472 (1986Va03). I_γ : ≤ 0.7 (1995Mo01).
484.4 6	0.45 13	4817.7	16 ⁺	4333.4	16 ⁺	M1 ^b	0.1184	$\alpha(\text{K})=0.0971$ 14; $\alpha(\text{L})=0.01637$ 24; $\alpha(\text{M})=0.00383$ 6; $\alpha(\text{N}+..)=0.001187$ 17 DCO=0.65 16.
487.1 6	0.32 12	8383.5	27 ⁻	7896.4	26 ⁻	M1	0.1167	$\alpha(\text{K})=0.0956$ 14; $\alpha(\text{L})=0.01613$ 24; $\alpha(\text{M})=0.00377$ 6; $\alpha(\text{N}+..)=0.001169$ 17
487.6 6	0.40 13	10438.5	32 ⁻	9950.9	31 ⁻	M1	0.1164	$\alpha(\text{K})=0.0954$ 14; $\alpha(\text{L})=0.01608$ 24; $\alpha(\text{M})=0.00376$ 6; $\alpha(\text{N}+..)=0.001166$ 17
489.4 6	0.43 13	10578.2	33 ⁻	10088.8	32 ⁻	M1	0.1153	$\alpha(\text{K})=0.0945$ 14; $\alpha(\text{L})=0.01593$ 23; $\alpha(\text{M})=0.00372$ 6; $\alpha(\text{N}+..)=0.001155$ 17
490.2 6	1.3 3	9228.6	30 ⁺	8738.4	29 ⁺	M1 ^b	0.1148	$\alpha(\text{K})=0.0941$ 14; $\alpha(\text{L})=0.01586$ 23; $\alpha(\text{M})=0.00371$ 6; $\alpha(\text{N}+..)=0.001150$ 17 Branching=0.83 5 (2002Si29). E_γ : 490.5 (1996Ba53). I_γ : 1.4 2 (1995Mo01). DCO=0.42 9.
490.5 6	1.0 2	3828.8	12 ⁻	3338.3	11 ⁻	M1 ^b	0.1146	$\alpha(\text{K})=0.0939$ 14; $\alpha(\text{L})=0.01583$ 23; $\alpha(\text{M})=0.00370$ 6; $\alpha(\text{N}+..)=0.001148$ 17 DCO=0.43 8.
491.4 6	1.3 3	3885.2	11 ⁻	3393.8	10 ⁻	M1 ^b	0.1140	$\alpha(\text{K})=0.0935$ 14; $\alpha(\text{L})=0.01575$ 23; $\alpha(\text{M})=0.00368$ 6; $\alpha(\text{N}+..)=0.001142$ 17 DCO=0.48 14.
491.4 6	0.13 5	11059.7	33 ⁺	10568.3	32 ⁺	M1	0.1140	$\alpha(\text{K})=0.0935$ 14; $\alpha(\text{L})=0.01575$ 23; $\alpha(\text{M})=0.00368$ 6; $\alpha(\text{N}+..)=0.001142$ 17
493.5 6	<0.1	4386.6+x	J+13	3893.1+x	J+12	M1	0.1127	$\alpha(\text{K})=0.0924$ 14; $\alpha(\text{L})=0.01557$ 23; $\alpha(\text{M})=0.00364$ 6; $\alpha(\text{N}+..)=0.001129$ 17
496.0 6	3.5 6	3086.7	9 ⁻	2590.7	8 ⁻	M1 ^b	0.1112	$\alpha(\text{K})=0.0912$ 13; $\alpha(\text{L})=0.01537$ 22;

Continued on next page (footnotes at end of table)

(HI,xn γ) **1986Va03,1995Va32,2002Si20** (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
497.8 2	68.5 11	3192.7	11 ⁻	2694.6	12 ⁺	E1	0.00965	$\alpha(\text{M})=0.00359$ 6; $\alpha(\text{N}+..)=0.001114$ 16 DCO=0.40 11. $\alpha(\text{K})=0.00798$ 12; $\alpha(\text{L})=0.001284$ 18; $\alpha(\text{M})=0.000298$ 5; $\alpha(\text{N}+..)=9.15\times 10^{-5}$ 13 I_γ : From 2005Dr11. $B(\text{E}1)=4.20 \times 10^{-8}$ 22 (2005Dr11). Mult.: from $\alpha(\text{exp})<0.025$, $A_2=-0.16$ 9, $A_4=-0.2$ 3, $R(\text{DCO})=0.9$ 2 (1986Va03). $I(\gamma+\text{ce})=6.0$ 10 from 1986Pa18. E_γ : 497.7 2 (1986Va03). I_γ : 5.7 7 (1986Va03), 31 3 (2002Si20). $\alpha(\text{K})=0.0897$ 13; $\alpha(\text{L})=0.01511$ 22; $\alpha(\text{M})=0.00353$ 5; $\alpha(\text{N}+..)=0.001096$ 16 499.5 6 0.18 8 8883.0 28 ⁻ 8383.5 27 ⁻ M1 0.1092 $\alpha(\text{K})=0.0895$ 13; $\alpha(\text{L})=0.01508$ 22; $\alpha(\text{M})=0.00352$ 5; $\alpha(\text{N}+..)=0.001093$ 16 ^x 501 E_γ : having a prompt-delayed coincidence relation with 497 γ , set $J^\pi=(12^-)$ 3693L as a member of a band on top of 11 ⁻ isomer (1986PeZV). 502.2 2 25 3 5155.1 16 ⁻ 4652.9 15 ⁻ M1 ^b 0.1077 $\alpha(\text{K})=0.0882$ 13; $\alpha(\text{L})=0.01486$ 21; $\alpha(\text{M})=0.00347$ 5; $\alpha(\text{N}+..)=0.001078$ 16 DCO=0.39 5, $R(\text{pol})=-0.028$ 4, $\text{pol}=-0.16$ 3. E_γ : 502.2 (1996Ba53). I_γ : 5.8 1 (1995Mo01). 505.7 6 1.1 5 6581.0 21 ⁺ 6075.3 20 ⁺ M1 ^b 0.1057 $\alpha(\text{K})=0.0866$ 13; $\alpha(\text{L})=0.01459$ 21; $\alpha(\text{M})=0.00341$ 5; $\alpha(\text{N}+..)=0.001058$ 16 DCO=0.46 12. 507.2 6 1.3 4 5502.9 19 ⁺ 4995.7 17 ⁺ E2 0.0284 $\alpha(\text{K})=0.0202$ 3; $\alpha(\text{L})=0.00622$ 9; $\alpha(\text{M})=0.001545$ 23; $\alpha(\text{N}+..)=0.000471$ 7 E_γ : 507.6 (1996Ba53). 513.2 6 0.57 14 9917.4 31 ⁺ 9404.2 30 ⁺ M1 ^b 0.1017 $\alpha(\text{K})=0.0833$ 12; $\alpha(\text{L})=0.01403$ 21; $\alpha(\text{M})=0.00328$ 5; $\alpha(\text{N}+..)=0.001017$ 15 DCO=0.42 10. 513.9 6 1.2 3 4581.7 (13 ⁻) 4067.8 12 ⁻ (M1) ^b 0.1013 $\alpha(\text{K})=0.0830$ 12; $\alpha(\text{L})=0.01398$ 20; $\alpha(\text{M})=0.00327$ 5; $\alpha(\text{N}+..)=0.001013$ 15 DCO=0.34 11 for 513.9+514.1. 514.1 6 1.1 3 4542.2 (12 ⁻) 4028.1 11 ⁻ (M1) ^b 0.1012 $\alpha(\text{K})=0.0829$ 12; $\alpha(\text{L})=0.01396$ 20; $\alpha(\text{M})=0.00326$ 5; $\alpha(\text{N}+..)=0.001012$ 15 DCO=0.34 11 for 514.1+513.9. 517.6 6 0.23 9 10956.1 33 ⁻ 10438.5 32 ⁻ M1 0.0994 $\alpha(\text{K})=0.0815$ 12; $\alpha(\text{L})=0.01371$ 20; $\alpha(\text{M})=0.00320$ 5; $\alpha(\text{N}+..)=0.000994$ 15 518.6 6 0.58 13 5166.3 18 ⁻ 4647.7 16 ⁻ E2 ^b 0.0270 $\alpha(\text{K})=0.0193$ 3; $\alpha(\text{L})=0.00581$ 9; $\alpha(\text{M})=0.001442$ 21; $\alpha(\text{N}+..)=0.000440$ 7 DCO=1.29 26. 519.7 6 1.3 3 4551.4 4031.8 13 ⁻ 520.2 ^d 6 <0.1 4906.8+x? J+14 4386.6+x J+13 M1 0.0981 $\alpha(\text{K})=0.0804$ 12; $\alpha(\text{L})=0.01353$ 20; $\alpha(\text{M})=0.00316$ 5; $\alpha(\text{N}+..)=0.000981$ 14 520.4 6 1.2 3 5173.3 16 ⁻ 4652.9 15 ⁻ M1 ^b 0.0980 $\alpha(\text{K})=0.0803$ 12; $\alpha(\text{L})=0.01352$ 20; $\alpha(\text{M})=0.00316$ 5; $\alpha(\text{N}+..)=0.000980$ 14 DCO=0.62 16. 521.7 6 1.1 3 4589.4 12 ⁺ 4067.8 12 ⁻ E1 0.00876 $\alpha(\text{K})=0.00725$ 11; $\alpha(\text{L})=0.001160$ 17; $\alpha(\text{M})=0.000269$ 4; $\alpha(\text{N}+..)=8.27\times 10^{-5}$ 12 523.1 6 2.1 5 4031.8 13 ⁻ 3508.6 11 ⁻ E2 ^b 0.0264 $\alpha(\text{K})=0.0189$ 3; $\alpha(\text{L})=0.00566$ 9; $\alpha(\text{M})=0.001403$ 21; $\alpha(\text{N}+..)=0.000428$ 7 DCO=1.02 16.

Continued on next page (footnotes at end of table)

(HI,xn γ) **1986Va03,1995Va32,2002Si20 (continued)** $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
523.6 6	0.26 7	6232.8	21 ⁺	5709.2	20 ⁺	M1 ^b	0.0964	$\alpha(K)=0.0790$ 12; $\alpha(L)=0.01330$ 19; $\alpha(M)=0.00311$ 5; $\alpha(N+..)=0.000964$ 14 DCO=0.59 17.
523.7 6	<0.1	9374.3	29 ⁻	8850.6	28 ⁻	M1	0.0964	$\alpha(K)=0.0790$ 12; $\alpha(L)=0.01329$ 19; $\alpha(M)=0.00311$ 5; $\alpha(N+..)=0.000964$ 14
525.5 6		7553.3	26 ⁺	7027.8	24 ⁺	E2	0.0261	$\alpha(K)=0.0187$ 3; $\alpha(L)=0.00559$ 8; $\alpha(M)=0.001384$ 20; $\alpha(N+..)=0.000422$ 6
525.9 4	7.5 11	4647.7	16 ⁻	4121.8	15 ⁻	M1 ^b	0.0953	$\alpha(K)=0.0781$ 11; $\alpha(L)=0.01314$ 19; $\alpha(M)=0.00307$ 5; $\alpha(N+..)=0.000953$ 14 DCO=0.50 7. E_γ : 525.9 3 (1986Va03). I_γ : 2.2 4 (1986Va03). $\delta=-0.4 +3-40$ (1986Va03). Mult.: 1986Va03 suggests M1+E2 from $\alpha(\text{exp})=0.057$ 15, $A_2=-0.3$ 1, $A_4=0.3$ 2, $R(\text{DCO})=0.85$ 17 (1986Va03).
526.2 ^d 6	<0.1	11585.5?	34 ⁺	11059.7	33 ⁺	M1	0.0952	$\alpha(K)=0.0780$ 12; $\alpha(L)=0.01312$ 19; $\alpha(M)=0.00307$ 5; $\alpha(N+..)=0.000951$ 14
526.4 5	0.89 16	9755.0	31 ⁺	9228.6	30 ⁺	M1 ^b	0.0951	$\alpha(K)=0.0779$ 11; $\alpha(L)=0.01311$ 19; $\alpha(M)=0.00306$ 5; $\alpha(N+..)=0.000950$ 14 Branching=0.81 6 (2002Si29). E_γ : 526.7 (1996Ba53). DCO=0.39 10.
529.0 4	6.6 8	5493.1	20 ⁺	4964.1	18 ⁺	E2	0.0257	$\alpha(K)=0.0185$ 3; $\alpha(L)=0.00548$ 8; $\alpha(M)=0.001356$ 20; $\alpha(N+..)=0.000413$ 6 Mult.: from $\alpha(\text{exp})=0.009$ 3, $A_2=0.26$ 8, $A_4=-0.14$ 8 $R(\text{DCO})=1.0$ 2 (1986Va03); DCO=0.94 14 (2002Si20). E_γ : 529.1 3 (1986Va03). I_γ : 3.5 3 (1986Va03).
531.6 6	0.43 9	4652.9	15 ⁻	4121.8	15 ⁻	M1	0.0926	$\alpha(K)=0.0759$ 11; $\alpha(L)=0.01277$ 19; $\alpha(M)=0.00298$ 5; $\alpha(N+..)=0.000926$ 14
533.5 6	0.26 10	11111.7	34 ⁻	10578.2	33 ⁻	M1	0.0918	$\alpha(K)=0.0752$ 11; $\alpha(L)=0.01265$ 19; $\alpha(M)=0.00296$ 5; $\alpha(N+..)=0.000917$ 14
535.1 6	3.1 6	4582.5	14 ⁻	4047.3	13 ⁻	M1 ^b	0.0910	$\alpha(K)=0.0746$ 11; $\alpha(L)=0.01255$ 18; $\alpha(M)=0.00293$ 5; $\alpha(N+..)=0.000910$ 13 DCO=0.36 9.
538.8 6	0.30 9	5502.9	19 ⁺	4964.1	18 ⁺	M1 ^b	0.0894	$\alpha(K)=0.0733$ 11; $\alpha(L)=0.01232$ 18; $\alpha(M)=0.00288$ 5; $\alpha(N+..)=0.000893$ 13 DCO=0.76 18.
539.7 6	0.57 14	5706.0	19 ⁻	5166.3	18 ⁻	M1	0.0890	$\alpha(K)=0.0730$ 11; $\alpha(L)=0.01227$ 18; $\alpha(M)=0.00287$ 5; $\alpha(N+..)=0.000889$ 13
542.0 6	0.52 18	5577.5	19 ⁺	5035.5	17 ⁺	E2 ^b	0.0243	$\alpha(K)=0.01756$ 25; $\alpha(L)=0.00509$ 8; $\alpha(M)=0.001258$ 19; $\alpha(N+..)=0.000384$ 6 DCO=0.93 17.
544.6 6	0.38 10	10462.0	32 ⁺	9917.4	31 ⁺	M1	0.0869	$\alpha(K)=0.0713$ 11; $\alpha(L)=0.01198$ 18; $\alpha(M)=0.00280$ 4; $\alpha(N+..)=0.000868$ 13
*545								E_γ : having a prompt-delayed coincidence relation with 497 γ set $J^\pi=(13^-)$ 4238L as a member of a band on top of 11 ⁻ isomer (1986PeZV).
546.0 2	19.0 22	3738.7	12 ⁻	3192.7	11 ⁻	M1 ^b	0.0863	$\alpha(K)=0.0708$ 10; $\alpha(L)=0.01190$ 17; $\alpha(M)=0.00278$ 4; $\alpha(N+..)=0.000862$ 13 DCO=0.38 7. I_γ : total intensity of a complex peak (1986Va03). 3.1 2 (1995Mo01).

Continued on next page (footnotes at end of table)

(HI,xn γ) [1986Va03](#),[1995Va32](#),[2002Si20](#) (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
								Mult.: 1986Va03 suggests (E2+M1) from $\alpha(\text{exp})=0.022\ 7$, $A_2=0.22\ 10$, $A_4=-0.2\ 2$ (1986Va03) . $\alpha(\text{K})=0.0703\ 10$; $\alpha(\text{L})=0.01180\ 17$; $\alpha(\text{M})=0.00276\ 4$; $\alpha(\text{N}+..)=0.000856\ 13$ $\alpha(\text{K})=0.00656\ 10$; $\alpha(\text{L})=0.001046\ 15$; $\alpha(\text{M})=0.000243\ 4$; $\alpha(\text{N}+..)=7.45\times 10^{-5}\ 11$ I_γ : From 2005Dr11 . $B(\text{E}1)=1.13 \times 10^{-8}\ 7$ (2005Dr11). a member of a triplet. 548 γ coincide with 547 γ , not with 497.7 γ (1986Va03). E_γ : 547.4 from 1983Va06 . I_γ : 39 5 (2002Si20).
547.6 6	0.9 3	6780.4	22 ⁺	6232.8	21 ⁺	M1	0.0857	
547.8 2	24.5 8	3192.7	11 ⁻	2645.10	10 ⁺	E1	0.00792	
548.0 6	4.9 9	3828.8	12 ⁻	3280.8	10 ⁻	E2 ^b	0.0237	$\alpha(\text{K})=0.01717\ 25$; $\alpha(\text{L})=0.00493\ 7$; $\alpha(\text{M})=0.001217\ 18$; $\alpha(\text{N}+..)=0.000371\ 6$ $\text{DCO}=1.00\ 11$, $\text{R}(\text{pol})=+0.062\ 18$, $\text{pol}=+0.36\ 11$.
554.9 6	3.6 8	4676.7	17 ⁻	4121.8	15 ⁻	E2 ^b	0.0230	$\alpha(\text{K})=0.01673\ 24$; $\alpha(\text{L})=0.00475\ 7$; $\alpha(\text{M})=0.001172\ 17$; $\alpha(\text{N}+..)=0.000358\ 6$ $\text{DCO}=1.03\ 16$.
555.9 6	0.53 18	10310.9	32 ⁺	9755.0	31 ⁺	M1 ^b	0.0823	$\alpha(\text{K})=0.0675\ 10$; $\alpha(\text{L})=0.01134\ 17$; $\alpha(\text{M})=0.00265\ 4$; $\alpha(\text{N}+..)=0.000822\ 12$ $\text{DCO}=0.50\ 12$.
556.1 6	3.2 6	4384.8	14 ⁻	3828.8	12 ⁻	E2 ^b	0.0229	$\alpha(\text{K})=0.01666\ 24$; $\alpha(\text{L})=0.00472\ 7$; $\alpha(\text{M})=0.001164\ 17$; $\alpha(\text{N}+..)=0.000355\ 6$ $\text{DCO}=1.01\ 11$, $\text{R}(\text{pol})=+0.063\ 23$, $\text{pol}=+0.37\ 13$.
557.6 5	1.5 3	6050.6	21 ⁺	5493.1	20 ⁺	M1 ^b	0.0817	$\alpha(\text{K})=0.0670\ 10$; $\alpha(\text{L})=0.01125\ 16$; $\alpha(\text{M})=0.00263\ 4$; $\alpha(\text{N}+..)=0.000815\ 12$ $\text{DCO}=0.72\ 16$.
562	5.0 4	3192.7	11 ⁻	2630	(8 ⁺)	E3	0.0686	$\alpha(\text{K})=0.0398\ 6$; $\alpha(\text{L})=0.0216\ 3$; $\alpha(\text{M})=0.00556\ 8$; $\alpha(\text{N}+..)=0.001698\ 24$ E_γ, I_γ : From 2005Dr11 . $B(\text{E}3)=5.94 \times 10^4\ 56$ (2005Dr11).
562.5 6	0.17 9	12585.8	36 ⁺	12023.3	35 ⁺	M1	0.0798	$\alpha(\text{K})=0.0655\ 10$; $\alpha(\text{L})=0.01099\ 16$; $\alpha(\text{M})=0.00257\ 4$; $\alpha(\text{N}+..)=0.000797\ 12$
564.7 2	30 3	4218.9	16 ⁺	3654.3	14 ⁺	E2	0.0221	$\alpha(\text{K})=0.01614\ 23$; $\alpha(\text{L})=0.00451\ 7$; $\alpha(\text{M})=0.001112\ 16$; $\alpha(\text{N}+..)=0.000339\ 5$ E_γ : 564.7 1 (1986Va03). I_γ : 7.2 6 (1986Va03). Mult.: from $\alpha(\text{exp})=0.014\ 2$, $A_2=0.31\ 7$, $A_4=-0.03\ 8$, $\text{R}(\text{DCO})=1.06\ 12$ (1986Va03); $\text{DCO}=1.00$ (2002Si20) .
566.2 6	0.24 7	11028.2	33 ⁽⁺⁾	10462.0	32 ⁺	M1	0.0785	$\alpha(\text{K})=0.0644\ 10$; $\alpha(\text{L})=0.01080\ 16$; $\alpha(\text{M})=0.00252\ 4$; $\alpha(\text{N}+..)=0.000783\ 12$
566.7 6	0.28 12	12023.3	35 ⁺	11456.6	34 ⁺	M1	0.0783	$\alpha(\text{K})=0.0642\ 10$; $\alpha(\text{L})=0.01078\ 16$; $\alpha(\text{M})=0.00252\ 4$; $\alpha(\text{N}+..)=0.000781\ 12$
571.3 6	0.14 6	11683.0	35 ⁻	11111.7	34 ⁻	M1	0.0766	$\alpha(\text{K})=0.0629\ 9$; $\alpha(\text{L})=0.01055\ 15$; $\alpha(\text{M})=0.00246\ 4$; $\alpha(\text{N}+..)=0.000764\ 11$
572.4 6	3.0 8	6075.3	20 ⁺	5502.9	19 ⁺	M1 ^b	0.0763	$\alpha(\text{K})=0.0625\ 9$; $\alpha(\text{L})=0.01049\ 15$; $\alpha(\text{M})=0.00245\ 4$; $\alpha(\text{N}+..)=0.000761\ 11$ $\text{DCO}=0.38\ 8$, $\text{R}(\text{pol})=-0.038\ 14$, $\text{pol}=-0.22\ 9$.
572.6 6	0.51 18	11456.6	34 ⁺	10884.0	33 ⁺	M1 ^b	0.0762	$\alpha(\text{K})=0.0625\ 9$; $\alpha(\text{L})=0.01048\ 15$; $\alpha(\text{M})=0.00245\ 4$; $\alpha(\text{N}+..)=0.000760\ 11$ $\text{DCO}=0.41\ 12$ for 572.6+573.1. I_γ : for 572.6+573.1.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
573.1 6	0.51 18	10884.0	33 ⁺	10310.9	32 ⁺	M1 ^b	0.0760	$\alpha(K)=0.0623$ 9; $\alpha(L)=0.01046$ 15; $\alpha(M)=0.00244$ 4; $\alpha(N+..)=0.000758$ 11 DCO=0.41 12 for 573.1+572.6. I_γ : for 573.1+572.6.
578.2 6	0.58 16	4625.4	13 ⁻	4047.3	13 ⁻	M1	0.0743	$\alpha(K)=0.0609$ 9; $\alpha(L)=0.01022$ 15; $\alpha(M)=0.00239$ 4; $\alpha(N+..)=0.000740$ 11
578.6 6	1.5 3	5255.3	19 ⁻	4676.7	17 ⁻	E2 ^b	0.0209	$\alpha(K)=0.01536$ 22; $\alpha(L)=0.00420$ 6; $\alpha(M)=0.001034$ 15; $\alpha(N+..)=0.000316$ 5 DCO=0.90 16.
582.3 6	1.4 3	3669.0	10 ⁻	3086.7	9 ⁻	M1 ^b	0.0729	$\alpha(K)=0.0598$ 9; $\alpha(L)=0.01003$ 15; $\alpha(M)=0.00234$ 4; $\alpha(N+..)=0.000727$ 11 DCO=0.47 5.
582.9 6	0.97 16	5235.8	17 ⁻	4652.9	15 ⁻	E2 ^b	0.0206	$\alpha(K)=0.01513$ 22; $\alpha(L)=0.00411$ 6; $\alpha(M)=0.001012$ 15; $\alpha(N+..)=0.000309$ 5 DCO=0.90 17, R(pol)=+0.095 22, pol=+0.56 14.
585.2 6	0.68 18	6294.4	21 ⁺	5709.2	20 ⁺	M1 ^b	0.0720	$\alpha(K)=0.0590$ 9; $\alpha(L)=0.00990$ 15; $\alpha(M)=0.00231$ 4; $\alpha(N+..)=0.000717$ 11 DCO=0.38 12.
585.2 6	0.95 26	6818.0	23 ⁺	6232.8	21 ⁺	E2 ^b	0.0204	$\alpha(K)=0.01500$ 22; $\alpha(L)=0.00407$ 6; $\alpha(M)=0.001000$ 15; $\alpha(N+..)=0.000306$ 5 E_γ : 585.2 (1996Ba53). DCO=1.16 19.
590.2 6	0.82 22	4658.1	14 ⁺	4067.8	12 ⁻	(M2)	0.193	$\alpha(K)=0.1522$ 22; $\alpha(L)=0.0310$ 5; $\alpha(M)=0.00746$ 11; $\alpha(N+..)=0.00232$ 4
593.6 6	1.0 2	6379.3	21 ⁻	5785.7	19 ⁻	E2 ^b	0.0197	$\alpha(K)=0.01458$ 21; $\alpha(L)=0.00391$ 6; $\alpha(M)=0.000959$ 14; $\alpha(N+..)=0.000293$ 5 DCO=0.93 19.
597.2 6	0.13 5	11625.4	34 ⁽⁺⁾	11028.2	33 ⁽⁺⁾	M1	0.0682	$\alpha(K)=0.0560$ 8; $\alpha(L)=0.00938$ 14; $\alpha(M)=0.00219$ 4; $\alpha(N+..)=0.000680$ 10
599.5 ^d 6	<0.1	12282.4?	36 ⁻	11683.0	35 ⁻	M1	0.0675	$\alpha(K)=0.0554$ 8; $\alpha(L)=0.00928$ 14; $\alpha(M)=0.00217$ 3; $\alpha(N+..)=0.000673$ 10
599.6 6	0.9 3	6284.2	22 ⁻	5684.6	20 ⁻	E2	0.0193	$\alpha(K)=0.01428$ 21; $\alpha(L)=0.00379$ 6; $\alpha(M)=0.000931$ 14; $\alpha(N+..)=0.000285$ 4
601.7 6	1.3 3	4430.4	14 ⁻	3828.8	12 ⁻	E2 ^b	0.0191	$\alpha(K)=0.01418$ 20; $\alpha(L)=0.00376$ 6; $\alpha(M)=0.000922$ 14; $\alpha(N+..)=0.000282$ 4 DCO=1.05 16.
605.5 2	26 3	4652.9	15 ⁻	4047.3	13 ⁻	E2 ^b	0.0189	$\alpha(K)=0.01400$ 20; $\alpha(L)=0.00369$ 6; $\alpha(M)=0.000905$ 13; $\alpha(N+..)=0.000277$ 4 DCO=1.00, R(pol)=+0.097 6, pol=+0.56 7. E_γ : 605.6 (1996Ba53). I_γ : 5.9 1 (1995Mo01). E_γ : having a prompt-delayed coincidence relation with 497 γ set $J^\pi=(14^-)$ 4844L as a member of a band on top of 11 ⁻ isomer (1986PeZV).
*606								
608.9 6	0.66 17	7254.6		6645.7	20 ⁻			
610.6 6	1.00 24	4279.6	11 ⁻	3669.0	10 ⁻	M1 ^b	0.0644	$\alpha(K)=0.0528$ 8; $\alpha(L)=0.00885$ 13; $\alpha(M)=0.00207$ 3; $\alpha(N+..)=0.000641$ 10 DCO=0.51 18.
612.3 6	0.54 17	5173.3	16 ⁻	4561.0	15 ⁻	M1	0.0639	$\alpha(K)=0.0524$ 8; $\alpha(L)=0.00878$ 13; $\alpha(M)=0.00205$ 3; $\alpha(N+..)=0.000636$ 9
612.3 6	1.6 4	5265.2	16 ⁻	4652.9	15 ⁻	M1 ^b	0.0639	$\alpha(K)=0.0524$ 8; $\alpha(L)=0.00878$ 13; $\alpha(M)=0.00205$ 3; $\alpha(N+..)=0.000636$ 9 DCO=0.48 9, R(pol)=-0.039 13, pol=-0.26 9.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
613.4 6	0.82 21	5577.5	19 ⁺	4964.1	18 ⁺	M1 ^b	0.0636	$\alpha(K)=0.0522$ 8; $\alpha(L)=0.00874$ 13; $\alpha(M)=0.00204$ 3; $\alpha(N+..)=0.000633$ 9 DCO=0.44 11.
619.4 6	1.2 3	5785.7	19 ⁻	5166.3	18 ⁻	M1+E2 ^b	0.040 22	$\alpha(K)=0.032$ 19; $\alpha(L)=0.006$ 3; $\alpha(M)=0.0014$ 6; $\alpha(N+..)=0.00044$ 18 Mult.: E2 in table 1 of 2002Si20 may be a misprint. DCO=0.85 19.
621.2 6	1.3 3	4652.9	15 ⁻	4031.8	13 ⁻	E2 ^b	0.0178	$\alpha(K)=0.01330$ 19; $\alpha(L)=0.00343$ 5; $\alpha(M)=0.000841$ 12; $\alpha(N+..)=0.000257$ 4 DCO=0.84 19.
624.8 6	0.47 16	7892.0	27 ⁺	7267.2	25 ⁺	E2	0.01760	$\alpha(K)=0.01314$ 19; $\alpha(L)=0.00338$ 5; $\alpha(M)=0.000827$ 12; $\alpha(N+..)=0.000253$ 4
625.7 6	2.1 5	5976.2	21 ⁻	5350.5	19 ⁻	E2 ^b	0.01755	$\alpha(K)=0.01311$ 19; $\alpha(L)=0.00337$ 5; $\alpha(M)=0.000824$ 12; $\alpha(N+..)=0.000252$ 4 DCO=1.04 19.
630.7 2	17.2 19	4964.1	18 ⁺	4333.4	16 ⁺	E2	0.01724	$\alpha(K)=0.01290$ 18; $\alpha(L)=0.00329$ 5; $\alpha(M)=0.000805$ 12; $\alpha(N+..)=0.000246$ 4 Mult.: from $\alpha(\text{exp})=0.014$ 3, $A_2=0.28$ 11, $A_4=-0.08$ 10, $R(\text{DCO})=0.9$ 1 (1986Va03); DCO=1.02 13 (2002Si20). E_γ : 630.4 3 (1986Va03). I_γ : 3.0 3 (1986Va03).
634.3 6	1.2 3	4028.1	11 ⁻	3393.8	10 ⁻	M1 ^b	0.0583	$\alpha(K)=0.0478$ 7; $\alpha(L)=0.00800$ 12; $\alpha(M)=0.00187$ 3; $\alpha(N+..)=0.000580$ 9 DCO=0.69 20.
645.1 6	0.19 8	7912.3	26 ⁺	7267.2	25 ⁺	M1	0.0558	$\alpha(K)=0.0458$ 7; $\alpha(L)=0.00765$ 11; $\alpha(M)=0.00179$ 3; $\alpha(N+..)=0.000554$ 8
648.0 6	0.36 15	8201.3	27 ⁺	7553.3	26 ⁺	M1	0.0551	$\alpha(K)=0.0452$ 7; $\alpha(L)=0.00756$ 11; $\alpha(M)=0.00177$ 3; $\alpha(N+..)=0.000548$ 8 I_γ : for 648.0+648.6+650.4.
648.6 6	0.36 15	8540.6	28 ⁺	7892.0	27 ⁺	M1	0.0550	$\alpha(K)=0.0451$ 7; $\alpha(L)=0.00754$ 11; $\alpha(M)=0.00176$ 3; $\alpha(N+..)=0.000546$ 8 I_γ : for 648.6+648.0+650.4.
650.4 6	0.36 15	8940.1	29 ⁺	8289.7	28 ⁺	M1	0.0546	$\alpha(K)=0.0448$ 7; $\alpha(L)=0.00749$ 11; $\alpha(M)=0.001749$ 25; $\alpha(N+..)=0.000542$ 8 I_γ : for 650.4+648.0+648.6.
650.7 6	0.62 23	5934.3	20 ⁺	5283.6	18 ⁺	E2 ^b	0.01610	$\alpha(K)=0.01212$ 18; $\alpha(L)=0.00302$ 5; $\alpha(M)=0.000737$ 11; $\alpha(N+..)=0.000226$ 4 DCO=0.89 15.
651.1 6	0.28 9	5212.1	17 ⁻	4561.0	15 ⁻	E2	0.01608	$\alpha(K)=0.01210$ 17; $\alpha(L)=0.00302$ 5; $\alpha(M)=0.000736$ 11; $\alpha(N+..)=0.000225$ 4
651.5 6	1.1 3	6360.6	22 ⁺	5709.2	20 ⁺	E2 ^b	0.01606	$\alpha(K)=0.01209$ 17; $\alpha(L)=0.00301$ 5; $\alpha(M)=0.000735$ 11; $\alpha(N+..)=0.000225$ 4 E_γ : 651.6 (1996Ba53). DCO=1.06 22.
656.9 6	0.62 18	6534.4	21 ⁺	5877.5	20 ⁺	M1 ^b	0.0532	$\alpha(K)=0.0437$ 7; $\alpha(L)=0.00729$ 11; $\alpha(M)=0.001703$ 25; $\alpha(N+..)=0.000528$ 8 DCO=0.62 25.
658.3 6	0.15 5	7174.7	24 ⁺	6516.4	22 ⁺	E2	0.01570	$\alpha(K)=0.01184$ 17; $\alpha(L)=0.00293$ 5; $\alpha(M)=0.000714$ 11; $\alpha(N+..)=0.000219$ 4
662.3 6	0.45 10	4995.7	17 ⁺	4333.4	16 ⁺	M1 ^b	0.0521	$\alpha(K)=0.0427$ 6; $\alpha(L)=0.00714$ 11; $\alpha(M)=0.001667$ 24; $\alpha(N+..)=0.000517$ 8 DCO=0.45 10, $R(\text{pol})=-0.022$ 10, $\text{pol}=-0.14$ 6.
664.2 6	1.2 3	4696.0	15 ⁻	4031.8	13 ⁻	E2 ^b	0.01540	$\alpha(K)=0.01163$ 17; $\alpha(L)=0.00286$ 4;

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
								$\alpha(\text{M})=0.000696$ 10; $\alpha(\text{N}+..)=0.000213$ 3 DCO=0.94 21.
664.3 6	1.1 3	4549.5	12 ⁻	3885.2	11 ⁻	M1	0.0517	$\alpha(\text{K})=0.0424$ 6; $\alpha(\text{L})=0.00708$ 10; $\alpha(\text{M})=0.001654$ 24; $\alpha(\text{N}+..)=0.000513$ 8
664.7 6	0.43 13	6349.2	21 ⁻	5684.6	20 ⁻	M1	0.0516	$\alpha(\text{K})=0.0423$ 6; $\alpha(\text{L})=0.00707$ 10; $\alpha(\text{M})=0.001651$ 24; $\alpha(\text{N}+..)=0.000512$ 8
665.8 6	0.17 5	9404.2	30 ⁺	8738.4	29 ⁺	M1	0.0513	$\alpha(\text{K})=0.0422$ 6; $\alpha(\text{L})=0.00704$ 10; $\alpha(\text{M})=0.001644$ 24; $\alpha(\text{N}+..)=0.000510$ 8
670.0 6	0.25 11	8892.7	29 ⁻	8222.7	27 ⁻	E2	0.01511	$\alpha(\text{K})=0.01144$ 17; $\alpha(\text{L})=0.00279$ 4; $\alpha(\text{M})=0.000680$ 10; $\alpha(\text{N}+..)=0.000208$ 3
673.3 6	1.2 3	6379.3	21 ⁻	5706.0	19 ⁻	(E2) ^b	0.01496	$\alpha(\text{K})=0.01133$ 16; $\alpha(\text{L})=0.00275$ 4; $\alpha(\text{M})=0.000671$ 10; $\alpha(\text{N}+..)=0.000205$ 3 DCO=1.05 18 for 673.3+673.8.
673.8 6	2.9 6	5350.5	19 ⁻	4676.7	17 ⁻	E2 ^b	0.01493	$\alpha(\text{K})=0.01131$ 16; $\alpha(\text{L})=0.00275$ 4; $\alpha(\text{M})=0.000669$ 10; $\alpha(\text{N}+..)=0.000205$ 3 DCO=1.05 18 for 673.8+673.3.
674.3 6	0.41 14	5886.4	18 ⁻	5212.1	17 ⁻	M1	0.0497	$\alpha(\text{K})=0.0408$ 6; $\alpha(\text{L})=0.00681$ 10; $\alpha(\text{M})=0.001590$ 23; $\alpha(\text{N}+..)=0.000493$ 7
675.8 6	1.5 4	6026.3	21 ⁻	5350.5	19 ⁻	E2 ^b	0.01484	$\alpha(\text{K})=0.01124$ 16; $\alpha(\text{L})=0.00273$ 4; $\alpha(\text{M})=0.000664$ 10; $\alpha(\text{N}+..)=0.000203$ 3 DCO=1.08 16.
676.9 6	0.38 13	5329.8	16 ⁻	4652.9	15 ⁻	M1	0.0492	$\alpha(\text{K})=0.0404$ 6; $\alpha(\text{L})=0.00674$ 10; $\alpha(\text{M})=0.001574$ 23; $\alpha(\text{N}+..)=0.000488$ 7
679.2 2	23 3	4333.4	16 ⁺	3654.3	14 ⁺	E2	0.01468	$\alpha(\text{K})=0.01113$ 16; $\alpha(\text{L})=0.00269$ 4; $\alpha(\text{M})=0.000655$ 10; $\alpha(\text{N}+..)=0.000201$ 3 E_γ : 679.7 3 (1986Va03). I_γ : 6.0 6 (1986Va03). Mult.: from $\alpha(\text{exp})=0.018$ 3, $\text{R}(\text{DCO})=1.1$ 1 (1986Va03); DCO=1.00, $\text{R}(\text{pol})=+0.091$ 7, $\text{pol}=+0.59$ 10 (2002Si20).
683.9 6	0.32 8	5896.0	19 ⁻	5212.1	17 ⁻	E2 ^b	0.01446	$\alpha(\text{K})=0.01098$ 16; $\alpha(\text{L})=0.00264$ 4; $\alpha(\text{M})=0.000642$ 10; $\alpha(\text{N}+..)=0.000197$ 3 DCO=0.89 24.
686.7 6	4.2 7	5166.3	18 ⁻	4479.6	16 ⁻	E2 ^b	0.01434	$\alpha(\text{K})=0.01089$ 16; $\alpha(\text{L})=0.00261$ 4; $\alpha(\text{M})=0.000635$ 9; $\alpha(\text{N}+..)=0.000195$ 3 DCO=1.14 16.
689.00 [#] 9	75 ^{&} 3	1738.23	4 ⁺	1049.21	2 ⁺	E2	0.01423	$\alpha(\text{K})=0.01082$ 16; $\alpha(\text{L})=0.00259$ 4; $\alpha(\text{M})=0.000630$ 9; $\alpha(\text{N}+..)=0.000193$ 3 Mult.: from $\alpha(\text{K})\text{exp}=0.0087$ 14 (1986Pa18); $\text{R}(\text{DCO})=0.99$ 6, $\text{A}_2=0.07$ 3, $\text{A}_4=0.00$ 5 (1986Va03). $\text{I}(\gamma+\text{ce})=95.4$ 25 from 1986Pa18.
689.1 6	2.7 6	5877.5	20 ⁺	5188.4	18 ⁺	E2 ^b	0.01423	$\alpha(\text{K})=0.01082$ 16; $\alpha(\text{L})=0.00259$ 4; $\alpha(\text{M})=0.000629$ 9; $\alpha(\text{N}+..)=0.000193$ 3 E_γ : 689.2 (1996Ba53). DCO=0.92 9.
693.5 6	4.5 8	4031.8	13 ⁻	3338.3	11 ⁻	E2 ^b	0.01404	$\alpha(\text{K})=0.01068$ 15; $\alpha(\text{L})=0.00254$ 4; $\alpha(\text{M})=0.000618$ 9; $\alpha(\text{N}+..)=0.000189$ 3 DCO=0.89 14.
694.4 6	0.28 8	5558.6	18 ⁻	4864.2	16 ⁻	E2 ^b	0.01400	$\alpha(\text{K})=0.01066$ 15; $\alpha(\text{L})=0.00254$ 4; $\alpha(\text{M})=0.000616$ 9; $\alpha(\text{N}+..)=0.000189$ 3 DCO=0.89 25.
695.0 6	0.27 11	9251.2	30 ⁻	8556.2	28 ⁻	E2	0.01397	$\alpha(\text{K})=0.01064$ 15; $\alpha(\text{L})=0.00253$ 4; $\alpha(\text{M})=0.000615$ 9; $\alpha(\text{N}+..)=0.000188$ 3

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
696.9 6	2.8 6	6574.4	22 ⁺	5877.5	20 ⁺	E2 ^b	0.01389	$\alpha(K)=0.01058$ 15; $\alpha(L)=0.00251$ 4; $\alpha(M)=0.000610$ 9; $\alpha(N+..)=0.000187$ 3 E_γ : 696.8 (1996Ba53). I_γ : 1.4 1 (1995Mo01). DCO=1.06 9.
698.8 6	1.8 4	6651.2	23 ⁻	5952.4	21 ⁻	E2 ^b	0.01381	$\alpha(K)=0.01053$ 15; $\alpha(L)=0.00249$ 4; $\alpha(M)=0.000606$ 9; $\alpha(N+..)=0.000186$ 3 E_γ : 698.7 (1996Ba53). DCO=0.98 14.
699.1 6	1.0 2	6725.4	23 ⁻	6026.3	21 ⁻	E2 ^b	0.01380	$\alpha(K)=0.01052$ 15; $\alpha(L)=0.00249$ 4; $\alpha(M)=0.000605$ 9; $\alpha(N+..)=0.000185$ 3 DCO=0.87 18.
702.1 6	1.5 3	5035.5	17 ⁺	4333.4	16 ⁺	M1 ^b	0.0447	$\alpha(K)=0.0367$ 6; $\alpha(L)=0.00612$ 9; $\alpha(M)=0.001430$ 21; $\alpha(N+..)=0.000443$ 7 DCO=0.44 9, R(pol)=-0.043 10, pol=-0.28 6.
706.9 6	0.33 9	8556.2	28 ⁻	7849.3	26 ⁻	E2 ^b	0.01348	$\alpha(K)=0.01029$ 15; $\alpha(L)=0.00242$ 4; $\alpha(M)=0.000587$ 9; $\alpha(N+..)=0.000180$ 3 DCO=0.85 24.
716.8 6	0.57 14	7174.7	24 ⁺	6458.1	22 ⁺	E2 ^b	0.01309	$\alpha(K)=0.01001$ 15; $\alpha(L)=0.00233$ 4; $\alpha(M)=0.000566$ 8; $\alpha(N+..)=0.0001734$ 25 DCO=0.87 26.
716.9 6	0.66 18	6294.4	21 ⁺	5577.5	19 ⁺	E2 ^b	0.01308	$\alpha(K)=0.01001$ 15; $\alpha(L)=0.00233$ 4; $\alpha(M)=0.000565$ 8; $\alpha(N+..)=0.0001733$ 25 DCO=0.88 17.
721.7 6	1.1 2	4843.5	16 ⁻	4121.8	15 ⁻	M1 ^b	0.0416	$\alpha(K)=0.0342$ 5; $\alpha(L)=0.00570$ 8; $\alpha(M)=0.001330$ 19; $\alpha(N+..)=0.000413$ 6 DCO=0.42 13.
724.7 6	0.58 14	5155.1	16 ⁻	4430.4	14 ⁻	E2	0.01279	$\alpha(K)=0.00980$ 14; $\alpha(L)=0.00227$ 4; $\alpha(M)=0.000549$ 8; $\alpha(N+..)=0.0001684$ 24
729.9 6	3.0 5	6232.8	21 ⁺	5502.9	19 ⁺	E2 ^b	0.01260	$\alpha(K)=0.00967$ 14; $\alpha(L)=0.00222$ 4; $\alpha(M)=0.000539$ 8; $\alpha(N+..)=0.0001652$ 24 E_γ : 730.0 (1996Ba53). I_γ : 1.6 2 (1995Mo01). DCO=1.06 9.
736.4 6	0.70 15	8289.7	28 ⁺	7553.3	26 ⁺	E2 ^b	0.01236	$\alpha(K)=0.00950$ 14; $\alpha(L)=0.00217$ 3; $\alpha(M)=0.000526$ 8; $\alpha(N+..)=0.0001614$ 23 DCO=0.91 15.
740.4 6	0.87 24	4658.1	14 ⁺	3917.7	14 ⁺	M1 ^b	0.0390	$\alpha(K)=0.0320$ 5; $\alpha(L)=0.00533$ 8; $\alpha(M)=0.001244$ 18; $\alpha(N+..)=0.000386$ 6 DCO=0.82 24.
745.1 4	7.6 11	5709.2	20 ⁺	4964.1	18 ⁺	E2 ^b	0.01206	$\alpha(K)=0.00929$ 13; $\alpha(L)=0.00211$ 3; $\alpha(M)=0.000510$ 8; $\alpha(N+..)=0.0001565$ 22 DCO=1.00 14. Mult.: 1986Va03 suggests E1 from $A_2=(-0.2)$, $A_4=(0.0)$ (1986Va03). E_γ : 745.2 2 (1986Va03). I_γ : 2.0 5 (1986Va03).
745.2 2	13.2 16	4964.1	18 ⁺	4218.9	16 ⁺	E2	0.01206	$\alpha(K)=0.00928$ 13; $\alpha(L)=0.00211$ 3; $\alpha(M)=0.000510$ 8; $\alpha(N+..)=0.0001564$ 22 Mult.: from $\alpha(\text{exp})=0.006$ 2, $A_2=0.3$ 1, $A_4=-0.3$ 2, R(DCO)=1.1 1 (1986Va03); DCO=1.02 13 (2002Si20). E_γ : 745.2 2 (1986Va03). I_γ : 3.3 6 (1986Va03).

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
748.4 [#] 3	4.8 ^{&} 3	1797.47	5 ⁻	1049.21	2 ⁺	E3	0.0313	$\alpha(K)=0.0211$ 3; $\alpha(L)=0.00763$ 11; $\alpha(M)=0.00192$ 3; $\alpha(N+..)=0.000590$ 9 Mult.: from $\alpha(\text{exp})=0.017$ 3 (1986Va03,1986Pa18), $A_2=0.3$ 1, $A_4=-0.2$ 2 (1986Va03). $I(\gamma+\text{ce})=5.4$ 10 from 1986Pa18.
748.6 6	2.3 5	6458.1	22 ⁺	5709.2	20 ⁺	E2 ^b	0.01195	$\alpha(K)=0.00920$ 13; $\alpha(L)=0.00208$ 3; $\alpha(M)=0.000504$ 8; $\alpha(N+..)=0.0001546$ 22 DCO=1.19 19.
749.2 6	1.0 3	6725.4	23 ⁻	5976.2	21 ⁻	E2 ^b	0.01193	$\alpha(K)=0.00919$ 13; $\alpha(L)=0.00208$ 3; $\alpha(M)=0.000503$ 8; $\alpha(N+..)=0.0001543$ 22 DCO=0.84 15.
751.2 6	0.14 7	7825.9	25 ⁺	7074.7	23 ⁺	E2	0.01186	$\alpha(K)=0.00914$ 13; $\alpha(L)=0.00207$ 3; $\alpha(M)=0.000500$ 7; $\alpha(N+..)=0.0001532$ 22
754.0 6	0.21 7	9646.7	31 ⁻	8892.7	29 ⁻	E2	0.01177	$\alpha(K)=0.00908$ 13; $\alpha(L)=0.00205$ 3; $\alpha(M)=0.000495$ 7; $\alpha(N+..)=0.0001517$ 22
755.7 6	0.30 10	6690.0	22 ⁺	5934.3	20 ⁺	E2 ^b	0.01171	$\alpha(K)=0.00904$ 13; $\alpha(L)=0.00203$ 3; $\alpha(M)=0.000492$ 7; $\alpha(N+..)=0.0001508$ 22 DCO=1.06 19.
759.2 6	2.2 6	7043.4	24 ⁻	6284.2	22 ⁻	E2 ^b	0.01160	$\alpha(K)=0.00896$ 13; $\alpha(L)=0.00201$ 3; $\alpha(M)=0.000486$ 7; $\alpha(N+..)=0.0001490$ 21 E_γ : 759.3 (1996Ba53). DCO=1.36 21.
761.9 6		4625.4	13 ⁻	3863.4				
766.0 4	6.2 14	3460.9	12 ⁺	2694.6	12 ⁺	M1 ^b	0.0357	$\alpha(K)=0.0293$ 5; $\alpha(L)=0.00487$ 7; $\alpha(M)=0.001138$ 16; $\alpha(N+..)=0.000353$ 5 DCO=0.65 11. E_γ : 766.4 (1996Ba53).
770.3 6	0.56 12	5155.1	16 ⁻	4384.8	14 ⁻	E2 ^b	0.01126	$\alpha(K)=0.00871$ 13; $\alpha(L)=0.00194$ 3; $\alpha(M)=0.000468$ 7; $\alpha(N+..)=0.0001435$ 21 DCO=1.08 15.
771.0 6	1.0 3	6026.3	21 ⁻	5255.3	19 ⁻	E2	0.01124	$\alpha(K)=0.00869$ 13; $\alpha(L)=0.00193$ 3; $\alpha(M)=0.000467$ 7; $\alpha(N+..)=0.0001432$ 21
771.1 6	4.8 8	6379.3	21 ⁻	5608.2	19 ⁻	E2 ^b	0.01123	$\alpha(K)=0.00869$ 13; $\alpha(L)=0.00193$ 3; $\alpha(M)=0.000467$ 7; $\alpha(N+..)=0.0001431$ 21 E_γ : 771.4 (1996Ba53). DCO=1.02 14.
775.3 6	0.24 9	7465.3	24 ⁺	6690.0	22 ⁺	E2 ^b	0.01111	$\alpha(K)=0.00860$ 13; $\alpha(L)=0.00191$ 3; $\alpha(M)=0.000460$ 7; $\alpha(N+..)=0.0001412$ 20 DCO=0.90 22.
776.8 6	0.27 8	4995.7	17 ⁺	4218.9	16 ⁺	M1 ^b	0.0344	$\alpha(K)=0.0283$ 4; $\alpha(L)=0.00470$ 7; $\alpha(M)=0.001097$ 16; $\alpha(N+..)=0.000340$ 5 DCO=0.52 17.
780.3 6	0.34 11	7074.7	23 ⁺	6294.4	21 ⁺	E2 ^b	0.01096	$\alpha(K)=0.00849$ 12; $\alpha(L)=0.00188$ 3; $\alpha(M)=0.000452$ 7; $\alpha(N+..)=0.0001388$ 20 DCO=1.02 21.
781.5 6	0.68 22	8222.7	27 ⁻	7441.1	25 ⁻	E2 ^b	0.01093	$\alpha(K)=0.00847$ 12; $\alpha(L)=0.00187$ 3; $\alpha(M)=0.000451$ 7; $\alpha(N+..)=0.0001383$ 20 DCO=1.24 27.
788.5 6	0.98 25	5173.3	16 ⁻	4384.8	14 ⁻	E2 ^b	0.01073	$\alpha(K)=0.00833$ 12; $\alpha(L)=0.00183$ 3; $\alpha(M)=0.000440$ 7; $\alpha(N+..)=0.0001352$ 20 DCO=0.82 22.
789.9 6	2.3 7	7441.1	25 ⁻	6651.2	23 ⁻	E2 ^b	0.01069	$\alpha(K)=0.00830$ 12; $\alpha(L)=0.00182$ 3; $\alpha(M)=0.000438$ 7; $\alpha(N+..)=0.0001346$ 19

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

$E_{\gamma}^{\dagger}$	$I_{\gamma}^{\ddagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Mult. ^a	α^c	Comments
								E_{γ} : 790.3 (1996Ba53). DCO=0.93 10.
792.6 6	2.0 5	7171.9	23 ⁻	6379.3	21 ⁻	E2 ^b	0.01061	$\alpha(K)=0.00824$ 12; $\alpha(L)=0.00180$ 3; $\alpha(M)=0.000435$ 7; $\alpha(N+..)=0.0001334$ 19 DCO=0.85 14.
798.5 6	0.99 24	3885.2	11 ⁻	3086.7	9 ⁻	E2 ^b	0.01045	$\alpha(K)=0.00813$ 12; $\alpha(L)=0.00177$ 3; $\alpha(M)=0.000426$ 6; $\alpha(N+..)=0.0001309$ 19 DCO=0.98 23.
799.1 6	0.25 9	9070.3	29 ⁻	8271.1	27 ⁻	E2	0.01044	$\alpha(K)=0.00811$ 12; $\alpha(L)=0.001767$ 25; $\alpha(M)=0.000426$ 6; $\alpha(N+..)=0.0001306$ 19
803.1 6	3.7 7	3393.8	10 ⁻	2590.7	8 ⁻	E2 ^b	0.01033	$\alpha(K)=0.00804$ 12; $\alpha(L)=0.001745$ 25; $\alpha(M)=0.000420$ 6; $\alpha(N+..)=0.0001290$ 19 DCO=0.94 14, R(pol)=+0.059 19, pol=+0.43 14.
804.4 6	1.7 4	5608.2	19 ⁻	4803.8	(18 ⁻)	M1 ^b	0.0314	$\alpha(K)=0.0258$ 4; $\alpha(L)=0.00429$ 6; $\alpha(M)=0.001001$ 15; $\alpha(N+..)=0.000311$ 5 DCO=0.45 9.
805.8 6	1.9 5	7849.3	26 ⁻	7043.4	24 ⁻	E2 ^b	0.01026	$\alpha(K)=0.00799$ 12; $\alpha(L)=0.001730$ 25; $\alpha(M)=0.000417$ 6; $\alpha(N+..)=0.0001279$ 18 E_{γ} : 806.1 (1996Ba53). DCO=1.09 14.
807.1 6	1.3 3	6516.4	22 ⁺	5709.2	20 ⁺	E2 ^b	0.01023	$\alpha(K)=0.00796$ 12; $\alpha(L)=0.001723$ 25; $\alpha(M)=0.000415$ 6; $\alpha(N+..)=0.0001274$ 18 DCO=0.93 22.
809.3 6	0.78 16	7042.1	23 ⁺	6232.8	21 ⁺	E2 ^b	0.01017	$\alpha(K)=0.00792$ 12; $\alpha(L)=0.001712$ 25; $\alpha(M)=0.000412$ 6; $\alpha(N+..)=0.0001265$ 18 DCO=0.85 22.
813.9 6	0.59 17	7174.7	24 ⁺	6360.6	22 ⁺	E2 ^b	0.01005	$\alpha(K)=0.00783$ 11; $\alpha(L)=0.001688$ 24; $\alpha(M)=0.000406$ 6; $\alpha(N+..)=0.0001247$ 18 DCO=1.39 36.
816.0 4	8.1 13	3460.9	12 ⁺	2645.10	10 ⁺	E2 ^b	0.01000	$\alpha(K)=0.00780$ 11; $\alpha(L)=0.001677$ 24; $\alpha(M)=0.000404$ 6; $\alpha(N+..)=0.0001239$ 18 DCO=1.08 15.
816.6 6	0.74 19	5035.5	17 ⁺	4218.9	16 ⁺	M1 ^b	0.0302	E_{γ} : 816 (1996Ba53). $\alpha(K)=0.0249$ 4; $\alpha(L)=0.00413$ 6; $\alpha(M)=0.000962$ 14; $\alpha(N+..)=0.000299$ 5 DCO=0.60 15.
816.9 6	0.42 14	8666.2	28 ⁻	7849.3	26 ⁻	E2 ^b	0.00998	$\alpha(K)=0.00778$ 11; $\alpha(L)=0.001673$ 24; $\alpha(M)=0.000402$ 6; $\alpha(N+..)=0.0001236$ 18 DCO=1.04 18.
830.0 6	0.53 15	8271.1	27 ⁻	7441.1	25 ⁻	E2 ^b	0.00966	$\alpha(K)=0.00755$ 11; $\alpha(L)=0.001608$ 23; $\alpha(M)=0.000387$ 6; $\alpha(N+..)=0.0001187$ 17 DCO=0.96 17.
837.6 6	0.25 12	10088.8	32 ⁻	9251.2	30 ⁻	E2	0.00948	$\alpha(K)=0.00742$ 11; $\alpha(L)=0.001573$ 23; $\alpha(M)=0.000378$ 6; $\alpha(N+..)=0.0001161$ 17
842.4 6	1.9 5	6185.1	20 ⁻	5342.7	18 ⁻	E2 ^b	0.00937	$\alpha(K)=0.00734$ 11; $\alpha(L)=0.001551$ 22; $\alpha(M)=0.000373$ 6; $\alpha(N+..)=0.0001144$ 17 DCO=0.87 20, R(pol)=+0.077 19, pol=+0.58 15.
846.4 6	0.49 12	8738.4	29 ⁺	7892.0	27 ⁺	E2 ^b	0.00929	$\alpha(K)=0.00727$ 11; $\alpha(L)=0.001533$ 22; $\alpha(M)=0.000368$ 6; $\alpha(N+..)=0.0001131$ 16 DCO=0.80 21.
849.9 6	2.5 5	4971.7	17 ⁻	4121.8	15 ⁻	E2 ^b	0.00921	$\alpha(K)=0.00721$ 11; $\alpha(L)=0.001518$ 22; $\alpha(M)=0.000364$ 6; $\alpha(N+..)=0.0001119$ 16 DCO=0.91 15.

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
851.1 6	0.22 7	8025.8	26 ⁺	7174.7	24 ⁺	E2 ^b	0.00918	$\alpha(K)=0.00720$ 11; $\alpha(L)=0.001513$ 22; $\alpha(M)=0.000363$ 6; $\alpha(N+..)=0.0001115$ 16 DCO=1.12 28.
851.6 6	3.3 9	4899.0	15 ⁻	4047.3	13 ⁻	E2 ^b	0.00917	$\alpha(K)=0.00719$ 11; $\alpha(L)=0.001510$ 22; $\alpha(M)=0.000363$ 6; $\alpha(N+..)=0.0001114$ 16 DCO=1.16 22, R(pol)=+0.045 18, pol=+0.33 13.
854.6 2	26 3	4047.3	13 ⁻	3192.7	11 ⁻	E2 ^b	0.00911	$\alpha(K)=0.00714$ 10; $\alpha(L)=0.001498$ 21; $\alpha(M)=0.000359$ 5; $\alpha(N+..)=0.0001104$ 16 E_γ : 854.7 (1996Ba53). I_γ : 2.8 1 (1995Mo01). DCO=1.00, R(pol)=+0.060 5, pol=+0.46 6.
862.2 6	0.54 16	7507.9	22 ⁻	6645.7	20 ⁻	E2 ^b	0.00895	$\alpha(K)=0.00702$ 10; $\alpha(L)=0.001466$ 21; $\alpha(M)=0.000352$ 5; $\alpha(N+..)=0.0001080$ 16 DCO=0.92 26.
866.8 6	1.3 3	7246.1	23 ⁻	6379.3	21 ⁻	E2 ^b	0.00885	$\alpha(K)=0.00695$ 10; $\alpha(L)=0.001447$ 21; $\alpha(M)=0.000347$ 5; $\alpha(N+..)=0.0001066$ 15 DCO=0.97 18.
867.6 6	2.0 4	6360.6	22 ⁺	5493.1	20 ⁺	E2 ^b	0.00883	$\alpha(K)=0.00694$ 10; $\alpha(L)=0.001444$ 21; $\alpha(M)=0.000346$ 5; $\alpha(N+..)=0.0001064$ 15 E_γ : 867.8 (1996Ba53). DCO=1.10 18.
868.5 6	3.6 9	3037.9	9 ⁻	2169.40	7 ⁻	E2 ^b	0.00882	$\alpha(K)=0.00692$ 10; $\alpha(L)=0.001440$ 21; $\alpha(M)=0.000345$ 5; $\alpha(N+..)=0.0001061$ 15 DCO=0.98 15, R(pol)=+0.064 25, pol=+0.49 19.
873.3 6	0.78 22	3042.8	9 ⁻	2169.40	7 ⁻	E2 ^b	0.00872	$\alpha(K)=0.00685$ 10; $\alpha(L)=0.001421$ 20; $\alpha(M)=0.000341$ 5; $\alpha(N+..)=0.0001047$ 15 DCO=0.86 18.
875.0 6	3.3 6	4067.8	12 ⁻	3192.7	11 ⁻	M1 ^b	0.0253	$\alpha(K)=0.0208$ 3; $\alpha(L)=0.00345$ 5; $\alpha(M)=0.000804$ 12; $\alpha(N+..)=0.000249$ 4 DCO=0.57 11, R(pol)=-0.013 7, pol=-0.10 5.
880.6 6	0.16 8	9950.9	31 ⁻	9070.3	29 ⁻	E2	0.00857	$\alpha(K)=0.00675$ 10; $\alpha(L)=0.001393$ 20; $\alpha(M)=0.000334$ 5; $\alpha(N+..)=0.0001026$ 15
884	2.1 3	3192.7	11 ⁻	2307.81	9 ⁻	E2	0.00851	$\alpha(K)=0.00670$ 10; $\alpha(L)=0.001380$ 20; $\alpha(M)=0.000331$ 5; $\alpha(N+..)=0.0001016$ 15 E_γ, I_γ : From 2005Dr11. B(E2)= 3.7×10^{-4} 6 (2005Dr11).
884.3 4	5.6 8	5608.2	19 ⁻	4723.9	17 ⁻	E2 ^b	0.00850	$\alpha(K)=0.00669$ 10; $\alpha(L)=0.001379$ 20; $\alpha(M)=0.000330$ 5; $\alpha(N+..)=0.0001015$ 15 DCO=0.99 12. E_γ : 884.5 (1996Ba53).
895.1 6	0.44 12	7588.2	25 ⁺	6693.1	24 ⁺	M1 ^b	0.0239	$\alpha(K)=0.0196$ 3; $\alpha(L)=0.00325$ 5; $\alpha(M)=0.000758$ 11; $\alpha(N+..)=0.000235$ 4 DCO=0.51 14.
899.7 6	0.68 18	4817.7	16 ⁺	3917.7	14 ⁺	E2 ^b	0.00822	$\alpha(K)=0.00648$ 10; $\alpha(L)=0.001323$ 19; $\alpha(M)=0.000317$ 5; $\alpha(N+..)=9.74 \times 10^{-5}$ 14 DCO=0.92 18.
902.2 6	1.2 3	5706.0	19 ⁻	4803.8	(18 ⁻)	(M1)	0.0234	$\alpha(K)=0.0192$ 3; $\alpha(L)=0.00318$ 5; $\alpha(M)=0.000742$ 11; $\alpha(N+..)=0.000230$ 4
903.0 6	0.63 14	6780.4	22 ⁺	5877.5	20 ⁺	E2 ^b	0.00816	$\alpha(K)=0.00643$ 9; $\alpha(L)=0.001312$ 19; $\alpha(M)=0.000314$ 5; $\alpha(N+..)=9.65 \times 10^{-5}$ 14 DCO=1.08 24.
911.9 6	<0.1	8937.7		8025.8	26 ⁺			
917.5 6	1.1 2	6645.7	20 ⁻	5728.2	19 ⁻	M1 ^b	0.0224	$\alpha(K)=0.0184$ 3; $\alpha(L)=0.00305$ 5; $\alpha(M)=0.000711$

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
								10; $\alpha(\text{N}+..)=0.000220$ 4 DCO=0.65 11.
922.9 6	0.62 16	7302.2	22 ⁻	6379.3	21 ⁻	M1 ^b	0.0221	$\alpha(\text{K})=0.0181$ 3; $\alpha(\text{L})=0.00300$ 5; $\alpha(\text{M})=0.000700$ 10; $\alpha(\text{N}+..)=0.000217$ 3 DCO=0.65 16.
938.4 6	0.9 3	4985.8	15 ⁻	4047.3	13 ⁻	E2 ^b	0.00756	$\alpha(\text{K})=0.00598$ 9; $\alpha(\text{L})=0.001198$ 17; $\alpha(\text{M})=0.000286$ 4; $\alpha(\text{N}+..)=8.80\times 10^{-5}$ 13 DCO=0.94 24.
938.9 6	0.26 8	9228.6	30 ⁺	8289.7	28 ⁺	E2	0.00755	$\alpha(\text{K})=0.00598$ 9; $\alpha(\text{L})=0.001197$ 17; $\alpha(\text{M})=0.000286$ 4; $\alpha(\text{N}+..)=8.79\times 10^{-5}$ 13
946.9 4	5.1 9	3280.8	10 ⁻	2333.9	(8 ⁻)	E2 ^b	0.00742	$\alpha(\text{K})=0.00588$ 9; $\alpha(\text{L})=0.001173$ 17; $\alpha(\text{M})=0.000280$ 4; $\alpha(\text{N}+..)=8.61\times 10^{-5}$ 12 E_γ : 947.1 (1996Ba53).
959.69 9	33& 2	3654.3	14 ⁺	2694.6	12 ⁺	E2	0.00723	DCO=1.04 12, R(pol)=+0.072 13, pol=+0.58 12. $\alpha(\text{K})=0.00574$ 8; $\alpha(\text{L})=0.001137$ 16; $\alpha(\text{M})=0.000271$ 4; $\alpha(\text{N}+..)=8.35\times 10^{-5}$ 12 E_γ : seen in delayed coincidence with 48 γ transition (1989Su12). Mult.: from $\alpha(\text{exp})=0.005$ 1, $A_2=0.28$ 4, $A_4=-0.09$ 5, R(DCO)=0.62 8 (1986Va03); DCO=1.00, R(pol)=+0.064 6, pol=+0.53 7 (2002Si20). E_γ : 958.7 2(2002Si20).
973.1 4	5.0 9	3280.8	10 ⁻	2307.81	9 ⁻	M1 ^b	0.0193	$\alpha(\text{K})=0.01584$ 23; $\alpha(\text{L})=0.00262$ 4; $\alpha(\text{M})=0.000610$ 9; $\alpha(\text{N}+..)=0.000189$ 3 E_γ : 973.1 (1996Ba53). DCO=0.85 9, R(pol)=-0.040 8, pol=-0.33 7.
982.1 6	1.6 4	5706.0	19 ⁻	4723.9	17 ⁻	E2 ^b	0.00691	$\alpha(\text{K})=0.00550$ 8; $\alpha(\text{L})=0.001078$ 16; $\alpha(\text{M})=0.000257$ 4; $\alpha(\text{N}+..)=7.90\times 10^{-5}$ 12 DCO=0.84 18.
990.5 6	1.3 3	4384.3	12 ⁻	3393.8	10 ⁻	E2 ^b	0.00680	$\alpha(\text{K})=0.00541$ 8; $\alpha(\text{L})=0.001057$ 15; $\alpha(\text{M})=0.000252$ 4; $\alpha(\text{N}+..)=7.75\times 10^{-5}$ 11 DCO=1.04 18.
1004.3 4	5.3 7	5728.2	19 ⁻	4723.9	17 ⁻	E2 ^b	0.00662	$\alpha(\text{K})=0.00527$ 8; $\alpha(\text{L})=0.001024$ 15; $\alpha(\text{M})=0.000244$ 4; $\alpha(\text{N}+..)=7.50\times 10^{-5}$ 11 DCO=1.20 16.
1016.6 6	0.21 8	9755.0	31 ⁺	8738.4	29 ⁺	E2	0.00646	$\alpha(\text{K})=0.00515$ 8; $\alpha(\text{L})=0.000996$ 14; $\alpha(\text{M})=0.000237$ 4; $\alpha(\text{N}+..)=7.30\times 10^{-5}$ 11
1030.6 4	7.2 11	3338.3	11 ⁻	2307.81	9 ⁻	E2 ^b	0.00629	$\alpha(\text{K})=0.00503$ 7; $\alpha(\text{L})=0.000966$ 14; $\alpha(\text{M})=0.000230$ 4; $\alpha(\text{N}+..)=7.07\times 10^{-5}$ 10 DCO=1.09 12, R(pol)=+0.077 14, pol=+0.66 13.
1049.21 [#] 9	100&	1049.21	2 ⁺	0.0	0 ⁺	E2	0.00608	$\alpha(\text{K})=0.00486$ 7; $\alpha(\text{L})=0.000928$ 13; $\alpha(\text{M})=0.000220$ 3; $\alpha(\text{N}+..)=6.78\times 10^{-5}$ 10 I(γ +ce)=100 from 1986Pa18. Mult.: from $\alpha(\text{K})_{\text{exp}}=0.0046$ 6(1986Pa18), $A_2=0.16$ 4 (1986Va03).
1082.3 6	0.20 9	10310.9	32 ⁺	9228.6	30 ⁺	E2	0.00572	$\alpha(\text{K})=0.00459$ 7; $\alpha(\text{L})=0.000866$ 13; $\alpha(\text{M})=0.000205$ 3; $\alpha(\text{N}+..)=6.32\times 10^{-5}$ 9
1128.5 6	0.43 12	4589.4	12 ⁺	3460.9	12 ⁺	M1 ^b	0.01318	$\alpha(\text{K})=0.01085$ 16; $\alpha(\text{L})=0.00178$ 3; $\alpha(\text{M})=0.000416$ 6; $\alpha(\text{N}+..)=0.0001298$ 19 DCO=0.63 13.
1129.0 6	0.17 7	10884.0	33 ⁺	9755.0	31 ⁺	E2	0.00528	$\alpha(\text{K})=0.00425$ 6; $\alpha(\text{L})=0.000788$ 11; $\alpha(\text{M})=0.000187$ 3; $\alpha(\text{N}+..)=5.80\times 10^{-5}$ 9

Continued on next page (footnotes at end of table)

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued) $\gamma(^{196}\text{Pb})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ^a	α^c	Comments
1137.7 6	0.56 17	6865.9		5728.2	19 ⁻			
1145.7 6	<0.1	11456.6	34 ⁺	10310.9	32 ⁺	E2	0.00513	$\alpha(\text{K})=0.00413$ 6; $\alpha(\text{L})=0.000763$ 11; $\alpha(\text{M})=0.000181$ 3; $\alpha(\text{N}+..)=5.65\times 10^{-5}$ 8
1164.6 6	0.88 20	4625.4	13 ⁻	3460.9	12 ⁺	E1 ^b	0.00192	$\alpha(\text{K})=0.001596$ 23; $\alpha(\text{L})=0.000241$ 4; $\alpha(\text{M})=5.55\times 10^{-5}$ 8; $\alpha(\text{N}+..)=2.40\times 10^{-5}$ 4 DCO=0.64 10.
1168.7 6		3863.4		2694.6	12 ⁺			
1197.0 6	1.3 4	4658.1	14 ⁺	3460.9	12 ⁺	E2 ^b	0.00473	$\alpha(\text{K})=0.00381$ 6; $\alpha(\text{L})=0.000694$ 10; $\alpha(\text{M})=0.0001639$ 23; $\alpha(\text{N}+..)=5.41\times 10^{-5}$ 8 DCO=1.22 24.
1222.6 4	7.5 11	3917.7	14 ⁺	2694.6	12 ⁺	E2 ^b	0.00454	$\alpha(\text{K})=0.00367$ 6; $\alpha(\text{L})=0.000663$ 10; $\alpha(\text{M})=0.0001565$ 22; $\alpha(\text{N}+..)=5.42\times 10^{-5}$ 8 DCO=1.07 14.
1396.7 6	2.6 7	4589.4	12 ⁺	3192.7	11 ⁻	E1 ^b	1.50×10^{-3}	$\alpha(\text{K})=0.001166$ 17; $\alpha(\text{L})=0.0001747$ 25; $\alpha(\text{M})=4.02\times 10^{-5}$ 6; $\alpha(\text{N}+..)=0.0001164$ 17 DCO=0.55 8, R(pol)=+0.038 10, pol=+0.42 7.
1894.5 6	0.9 3	4589.4	12 ⁺	2694.6	12 ⁺	M1 ^b	0.00389	$\alpha(\text{K})=0.00292$ 4; $\alpha(\text{L})=0.000473$ 7; $\alpha(\text{M})=0.0001100$ 16; $\alpha(\text{N}+..)=0.000393$ 6 DCO=0.73 14.
1930.6 6	3.2 9	4625.4	13 ⁻	2694.6	12 ⁺	E1 ^b	1.29×10^{-3}	$\alpha(\text{K})=0.000681$ 10; $\alpha(\text{L})=0.0001006$ 14; $\alpha(\text{M})=2.31\times 10^{-5}$ 4; $\alpha(\text{N}+..)=0.000487$ 7 DCO=0.38 9, R(pol)=+0.017 5, pol=+0.24 7.
1944.5 6	0.9 3	4589.4	12 ⁺	2645.10	10 ⁺	E2 ^b	0.00216	$\alpha(\text{K})=0.001587$ 23; $\alpha(\text{L})=0.000258$ 4; $\alpha(\text{M})=6.01\times 10^{-5}$ 9; $\alpha(\text{N}+..)=0.000258$ 4 DCO=1.34 21.

[†] $\Delta(E_\gamma)$ assigned as 0.2 keV for $I_\gamma > 10$, 0.4 keV for $5 < I_\gamma < 10$ and 0.6 keV for $I_\gamma < 5$ based on a general statement by 2002Si20.

[‡] From $^{170}\text{Er}(^{30}\text{Si},4n\gamma)$ E=144 MeV using a thick target, except for transitions from levels of highest spins, where a thin target was used. Intensity is very weak when not quoted (2002Si20).

From sum spectrometer and annular Ge measurement of 1986Va03,

@ γ in coin with transitions in Magnetic-dipole rotational band based on 14⁻, through which the band decays to low-lying levels, but this γ cannot be uniquely placed (2002Si20).

& Intensities obtained from the angular distribution measurements are relative to 100 for 1049 γ (1986Va03).

^a From $\alpha(\text{K})\text{exp}$ (1986Va03). $\text{ce}(\text{K})$ from 1986Pa18. For SD band, assignments are from $\gamma\gamma(\theta)$ data and $T_{1/2}(\text{level})$. Mult=d, Q from dipole γ transition band (1995Mo01), except as noted.

^b From R(DCO); mult=D is for $\Delta J=1$, and mult=Q for $\Delta J=2$ (2002Si20).

^c Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^d Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

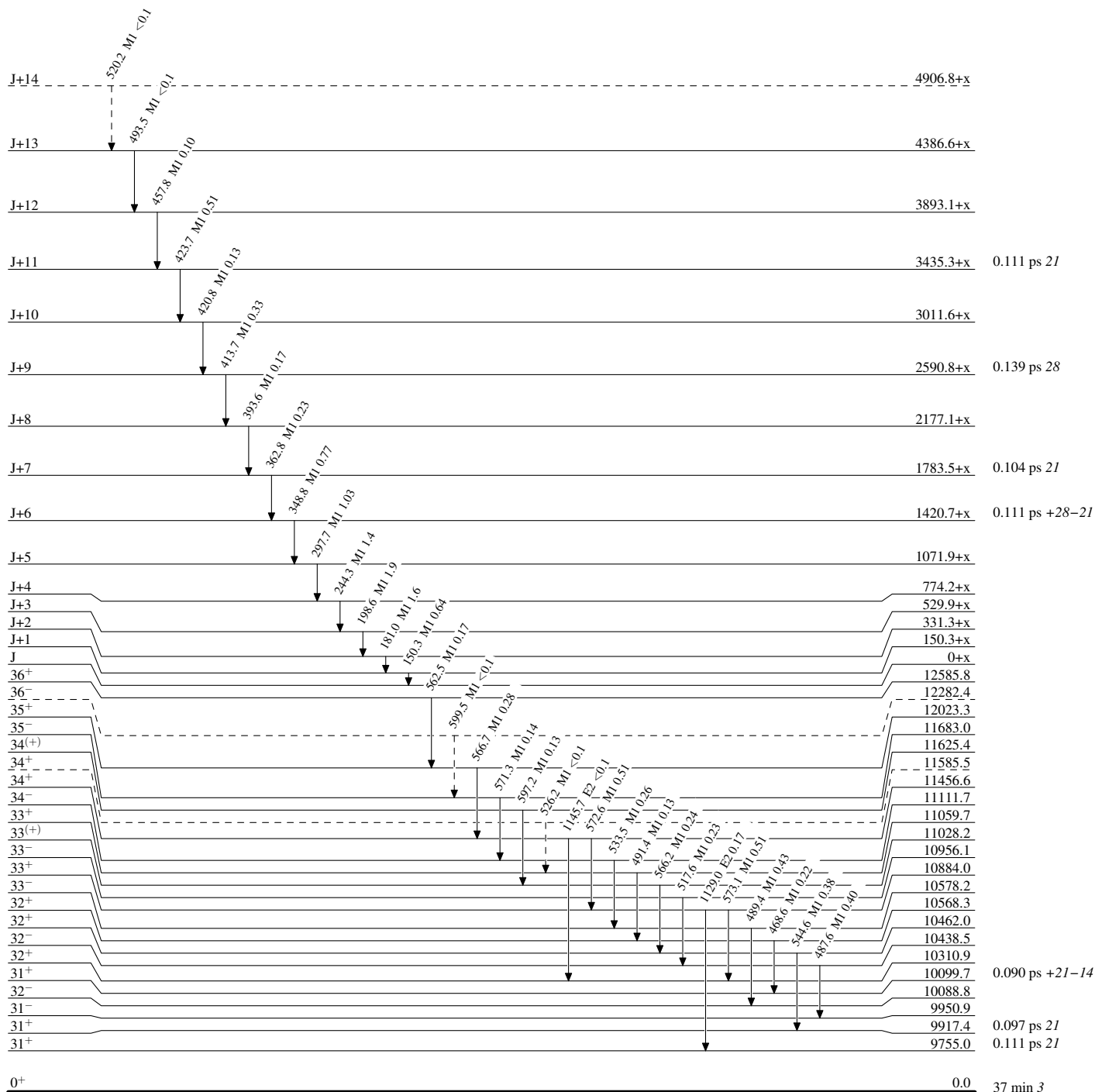
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Legend

Level Scheme

Intensities: Relative I_γ

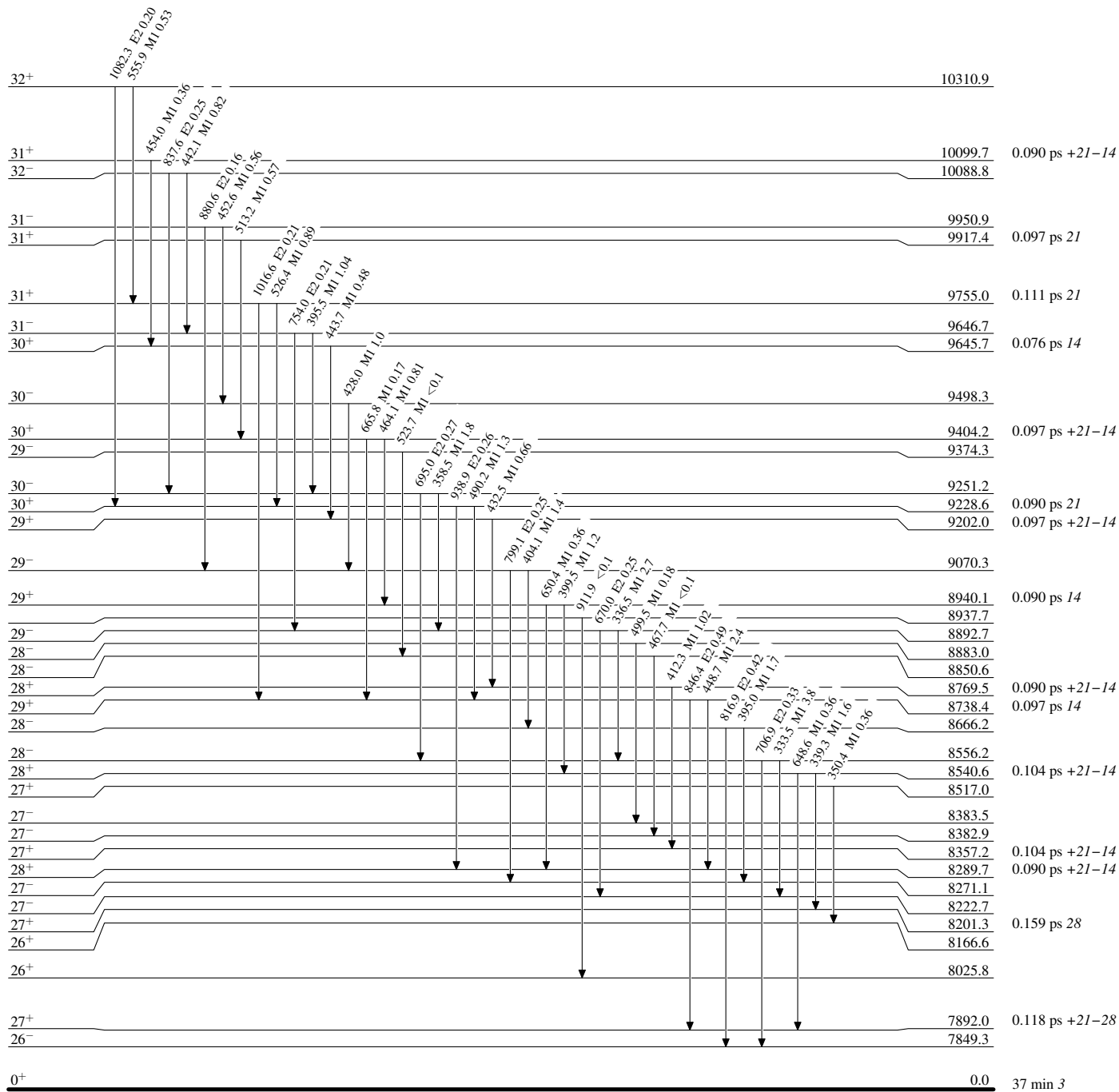
- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $\cdots\cdots\cdots\longrightarrow$ γ Decay (Uncertain)



(HI,xn γ) 1986Va03,1995Va32,2002Si20**Level Scheme (continued)**Intensities: Relative I_γ

Legend

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



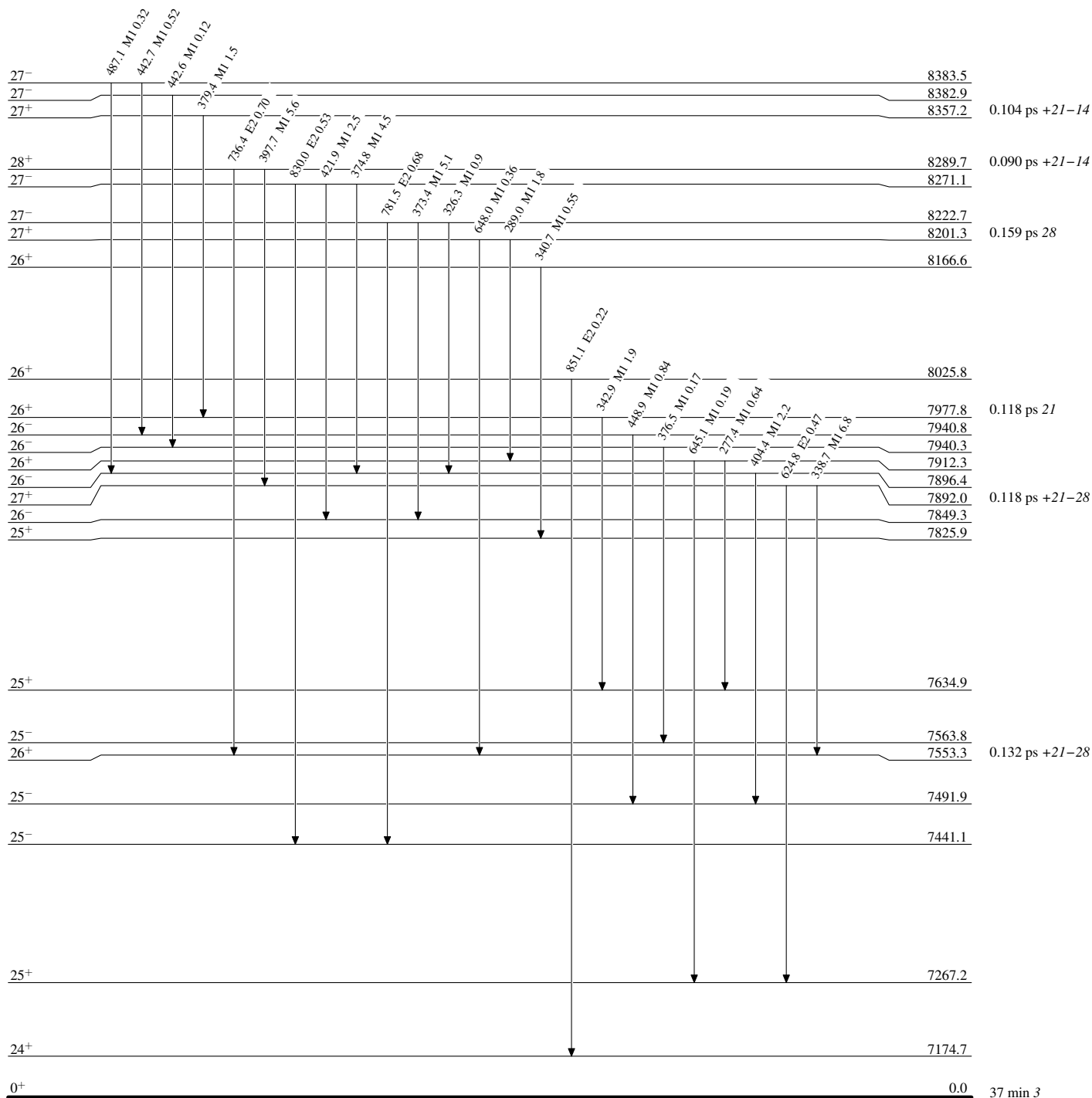
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



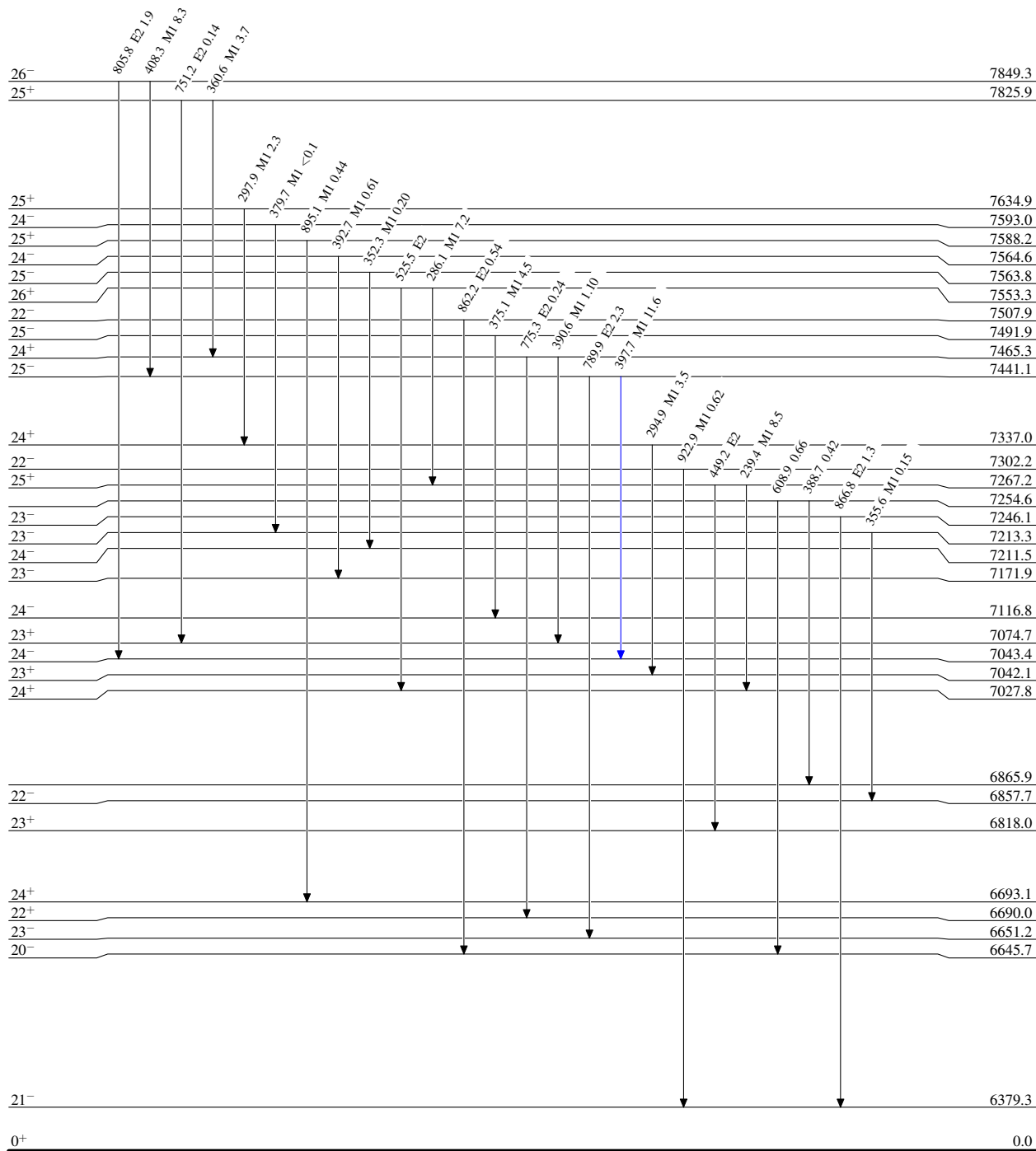
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



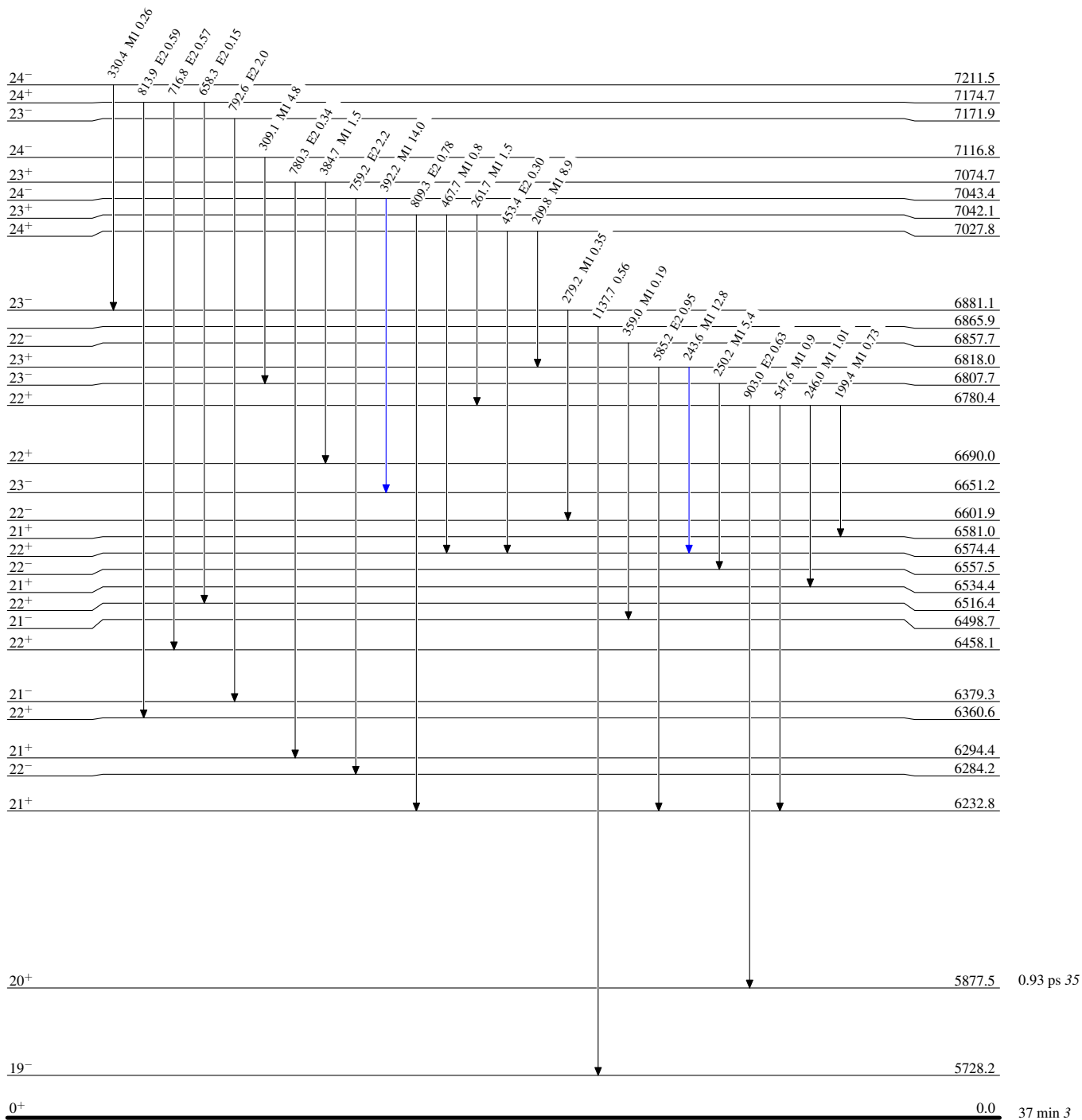
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



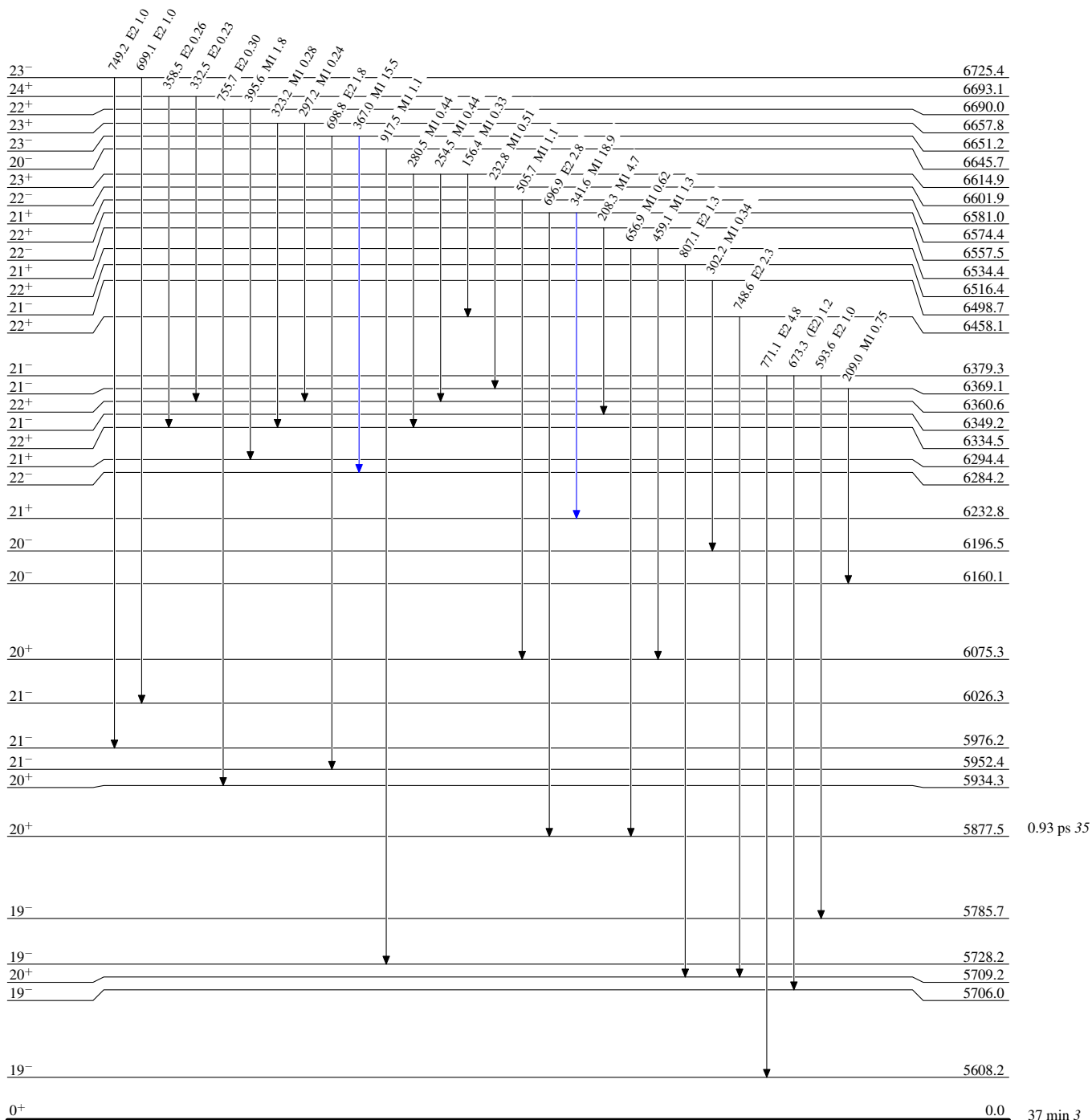
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



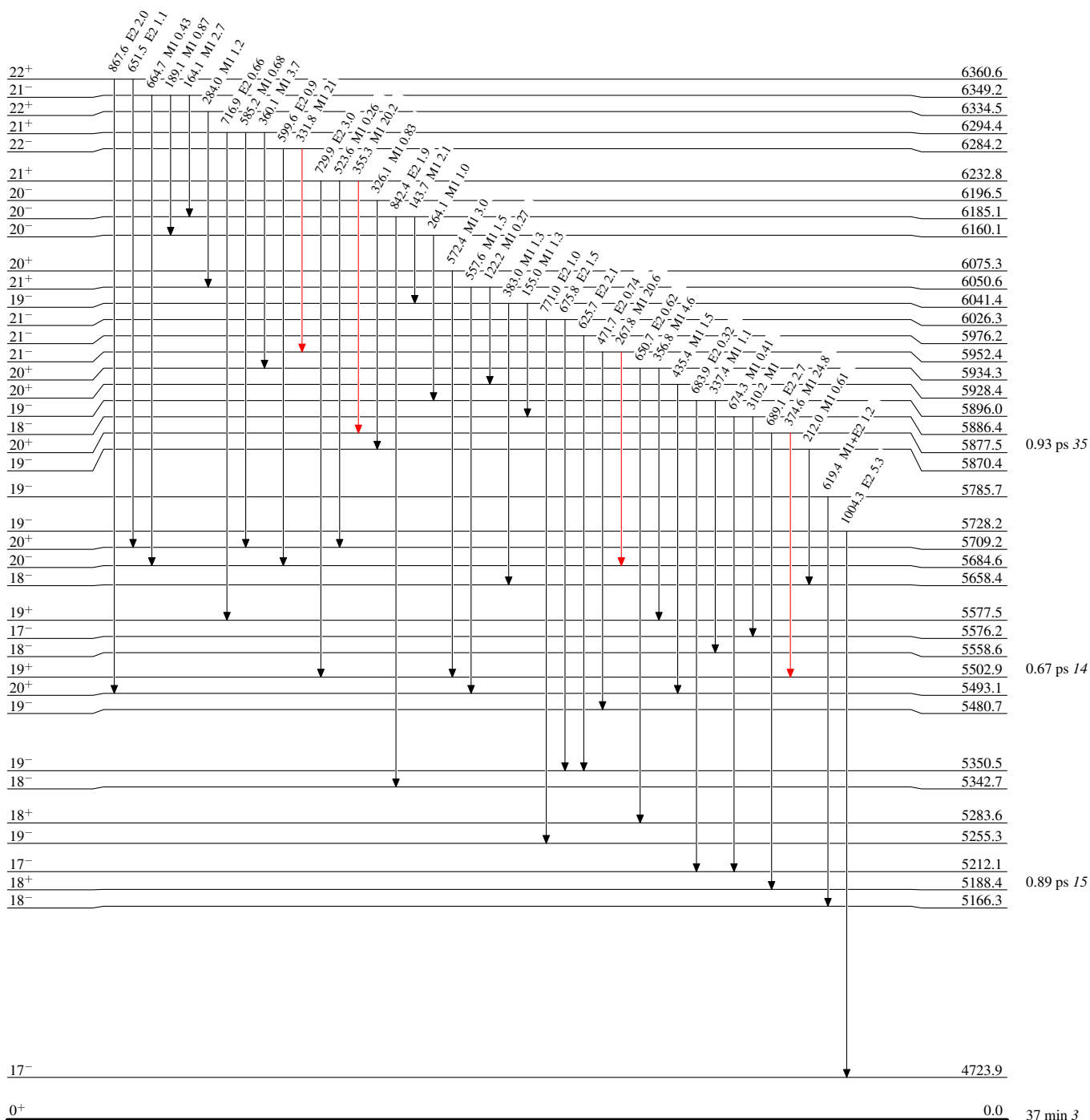
(Hf,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



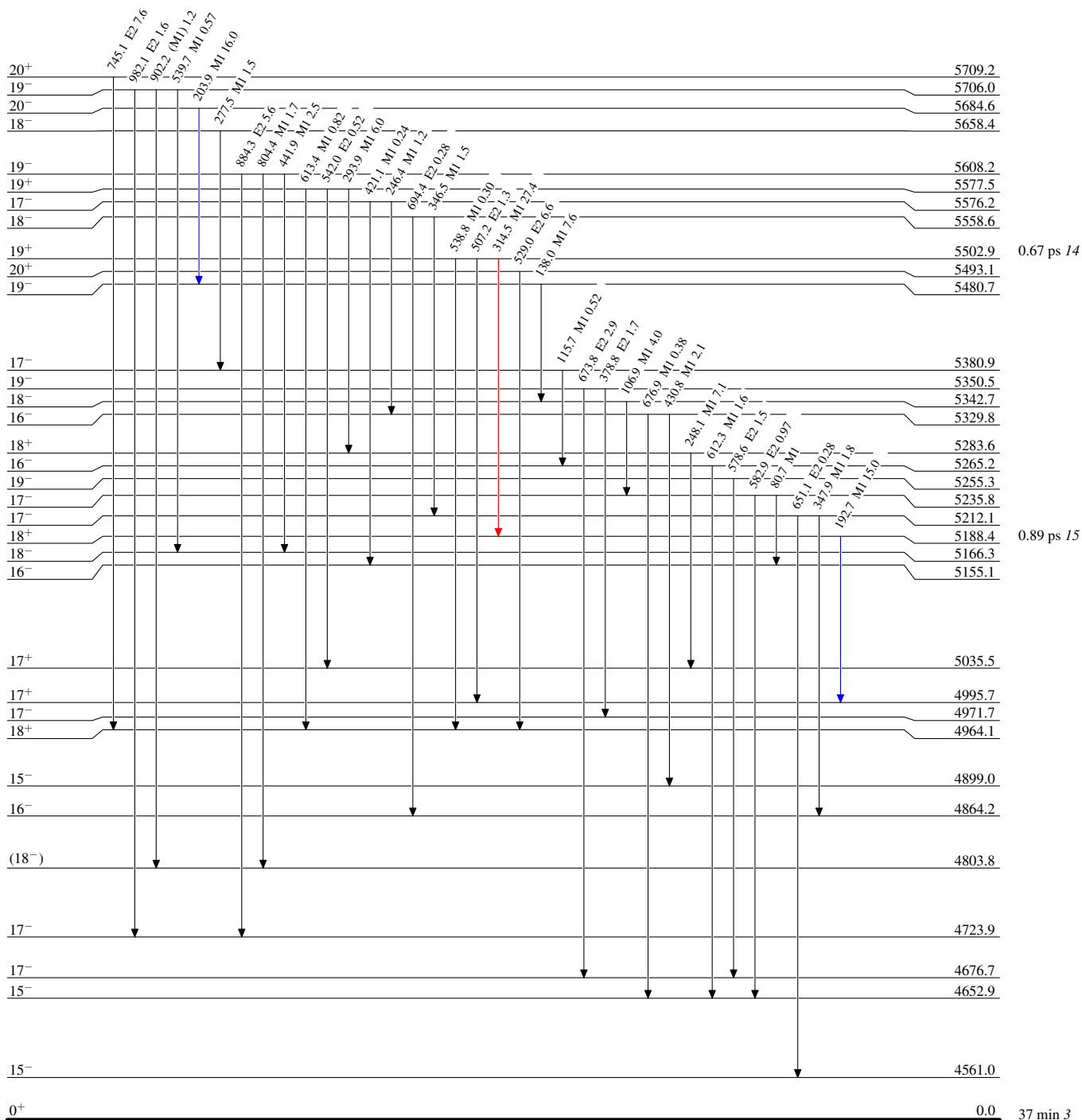
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



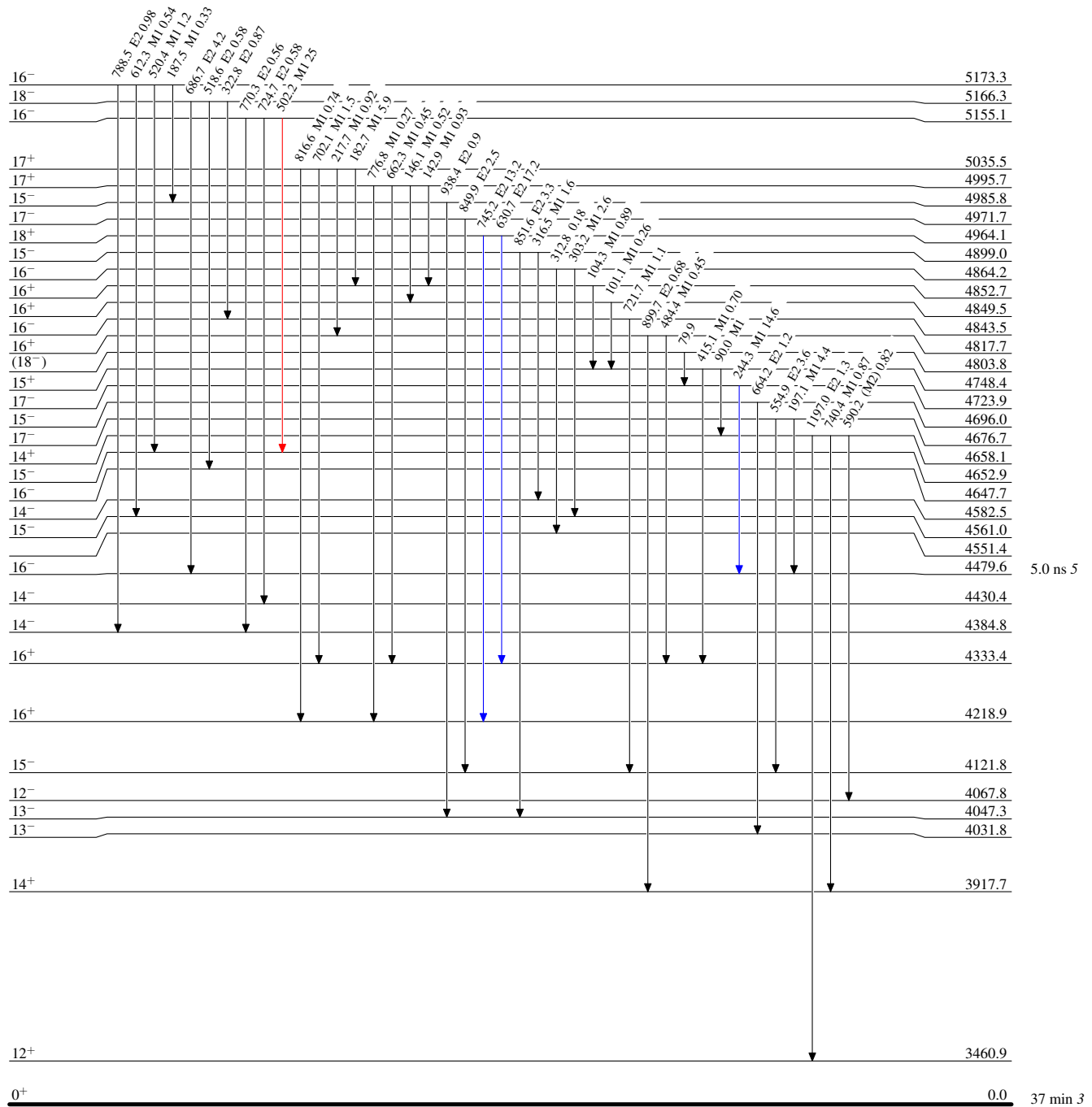
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



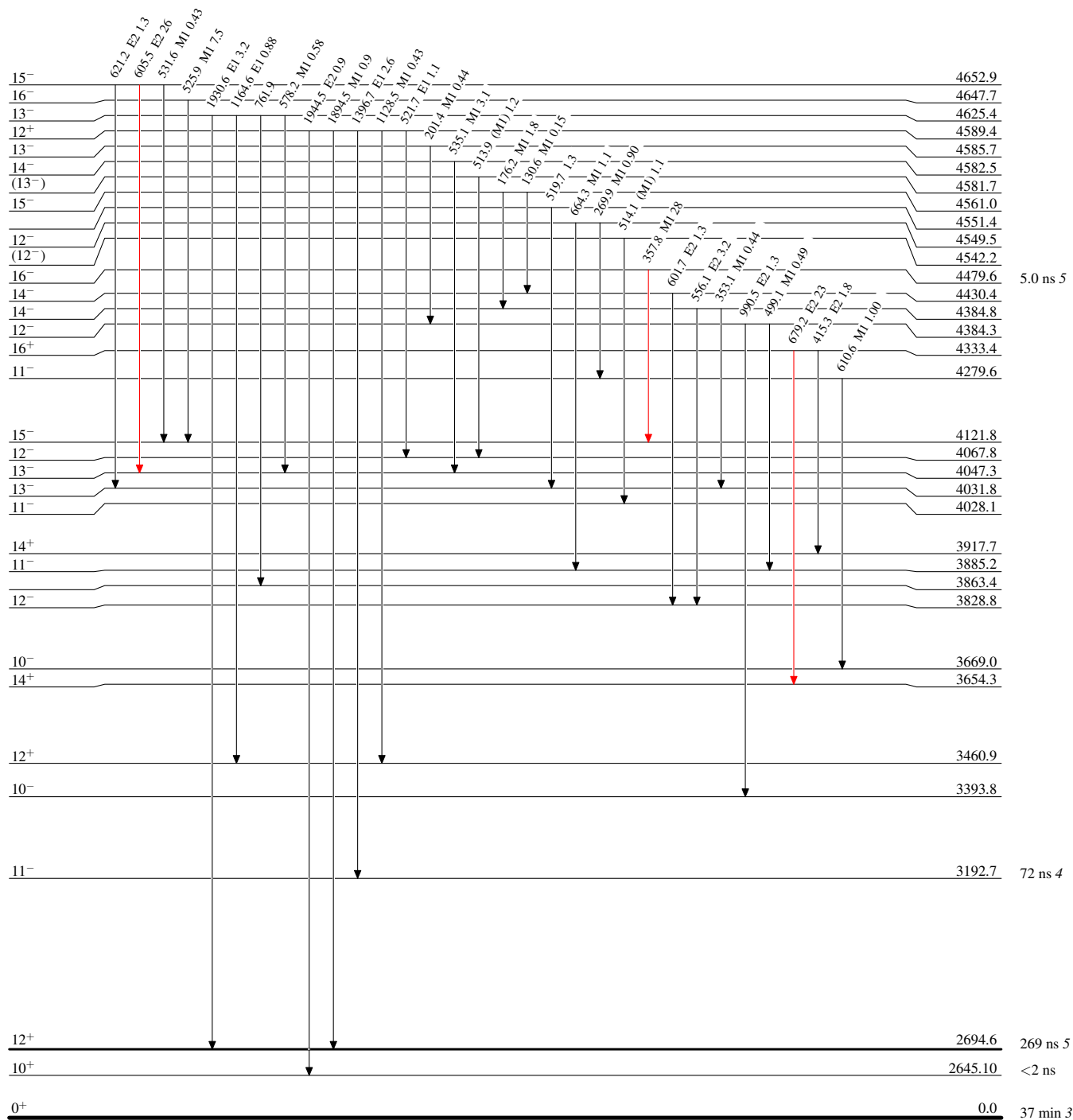
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



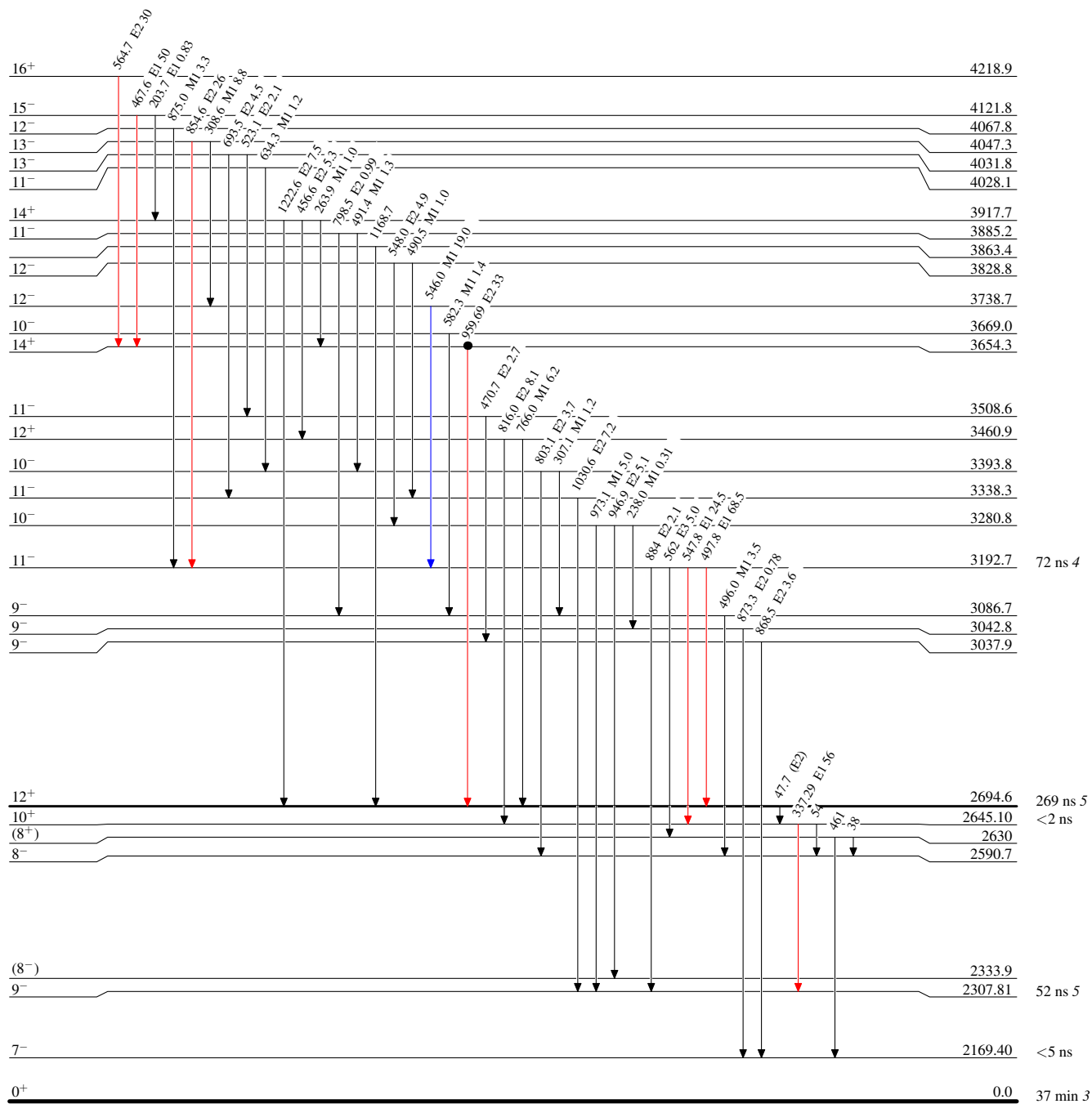
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Legend

Level Scheme (continued)

Intensities: Relative I_γ

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $\bullet$ Coincidence



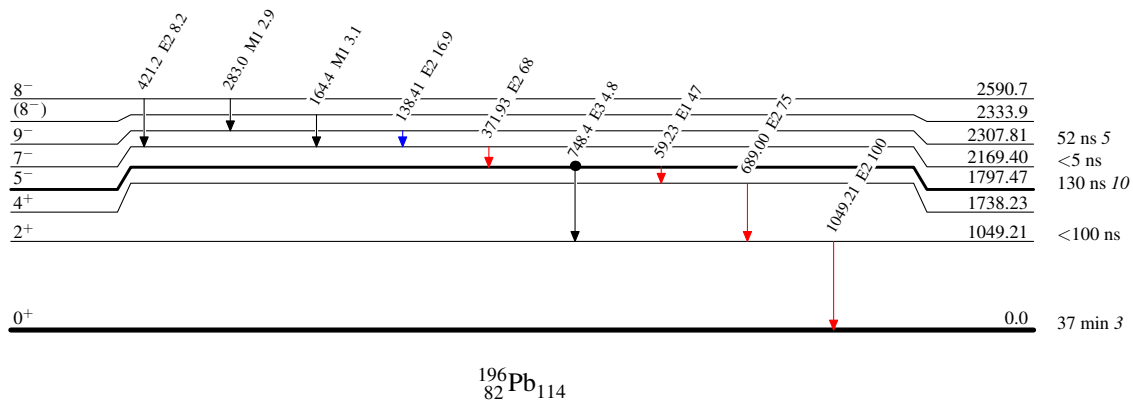
(HI,xn γ) 1986Va03,1995Va32,2002Si20

Level Scheme (continued)

Intensities: Relative I_γ

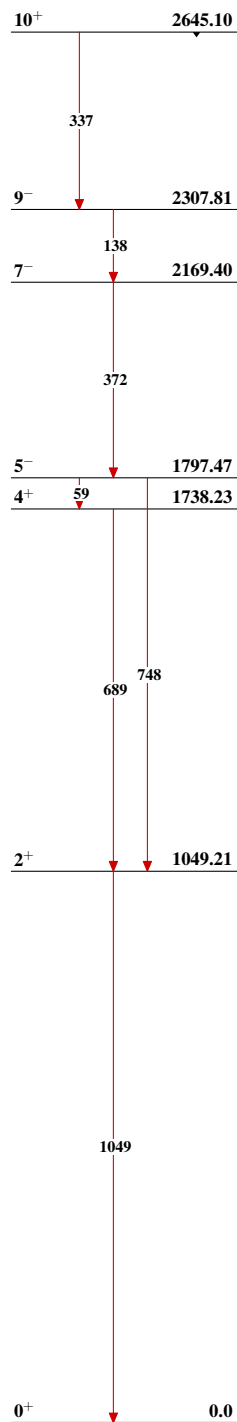
Legend

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



(HI,xn γ) 1986Va03,1995Va32,2002Si20

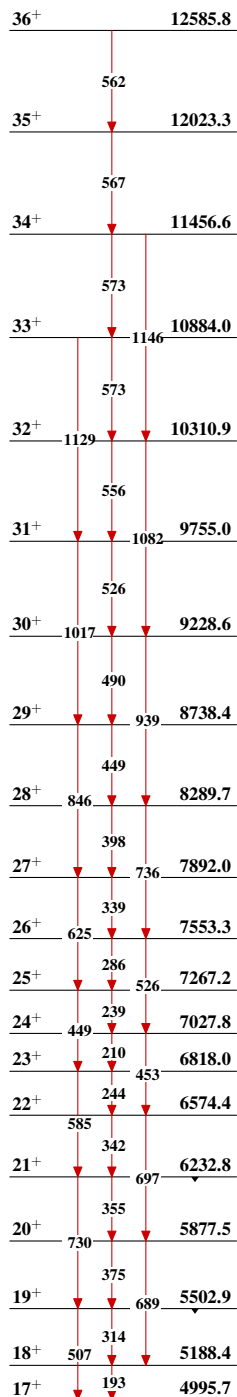
Band(A): γ cascade based on g.s
(2002Si20,2005Dr11)



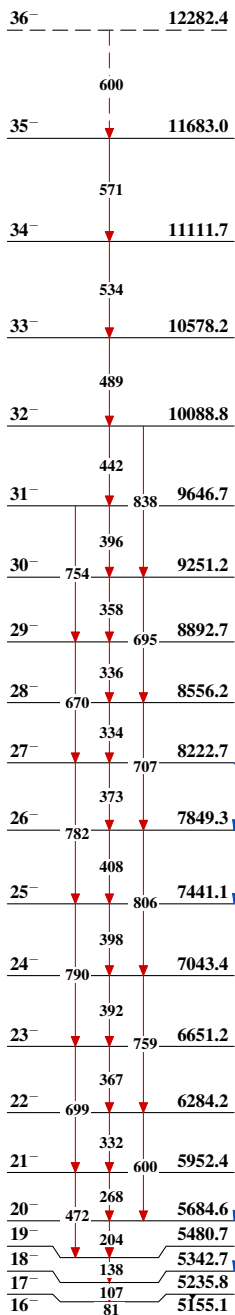
$^{196}_{82}\text{Pb}_{114}$

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued)

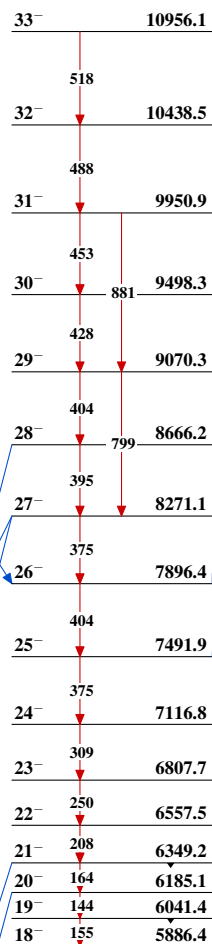
**Band(B): Magnetic-dipole
rotational band based on 17^+
(1995Mo01, 1996Ba53,2002Si20,
2002Si29)**



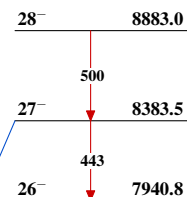
**Band(C): Magnetic-dipole
rotational band based on 16^-
(1995Mo01,1996Ba53,2002Si20)**



**Band(D): Magnetic-dipole
rotational band based on
 18^- (1993Hu01,1995Mo01,
1996Ba53,2002Si20)**



**Band(E): Forking of band
based on 18^- , above
 $J=25$ (2002Si20)**



(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued)Band(I): Magnetic-dipole
rotational band
(2002Si20,2002Si29)

J+14	4906.8+x
J+13	520 4386.6+x
J+12	494 3893.1+x
J+11	458 3435.3+x
J+10	424 3011.6+x
J+9	421 2590.8+x
J+8	414 2177.1+x
J+7	394 1783.5+x
J+6	363 1420.7+x
J+5	363 1071.9+x
J+4	349 774.2+x
J+3	298 529.9+x
J+2	244 331.3+x
J+1	199 150.3+x
J	0+x

Band(J): Magnetic-dipole
rotational band based on
26⁺ (2002Si20,
2002Si29)

34 ⁽⁺⁾	11625.4
33 ⁽⁺⁾	597 11028.2
32 ⁺	566 10462.0
31 ⁺	545 9917.4
30 ⁺	513 9404.2
29 ⁺	464 8940.1
28 ⁺	400 8540.6
27 ⁺	339 8201.3
26 ⁺	289 7912.3

Band(K): Magnetic-dipole
rotational (?) band
based on 16⁻ Irregular
band (2002Si20)

24 ⁻	7593.0
23 ⁻	380 7213.3
22 ⁻	356 6857.7
21 ⁻	359 6498.7
20 ⁻	302 6196.5
19 ⁻	326 5870.4
18 ⁻	326 5658.4
17 ⁻	212 5380.9
16 ⁻	278 5265.2

Band(F): Magnetic-dipole
rotational band based on
either of the two 21⁺
states or 22⁺ (1995Mo01,
1996Ba53, 2002Si20,
2002Si29)

34 ⁺	11585.5
33 ⁺	526 11059.7
32 ⁺	491 10568.3
31 ⁺	469 10099.7
30 ⁺	454 9645.7
29 ⁺	444 9202.0
28 ⁺	432 8769.5
27 ⁺	412 8357.2
26 ⁺	379 7977.8
25 ⁺	343 7634.9
24 ⁺	343 7337.0
23 ⁺	298 7042.1
22 ⁺	295 6780.4
21 ⁺	262 6581.0
21 ⁺	6534.4

Band(G): Magnetic-dipole
rotational band based on 14⁺
(2002Si20)

27 ⁺	8517.0
26 ⁺	350 8166.6
25 ⁺	341 7825.9
24 ⁺	361 7465.3
23 ⁺	391 7074.7
22 ⁺	385 6690.0
21 ⁺	396 6294.4
20 ⁺	360 5934.3
19 ⁺	357 5577.5
18 ⁺	357 5283.6
17 ⁺	294 5035.5
16 ⁺	248 4852.7
15 ⁺	183 4748.4
14 ⁺	4658.1

Band(H): Magnetic-dipole
rotational band based on 14⁻
(2002Si20)

29 ⁻	9374.3
28 ⁻	524 8850.6
27 ⁻	468 8382.9
26 ⁻	443 7940.3
25 ⁻	376 7563.8
24 ⁻	352 7211.5
23 ⁻	330 6881.1
22 ⁻	279 6601.9
21 ⁻	233 6369.1
20 ⁻	209 6160.1
19 ⁻	264 5896.0
18 ⁻	337 5558.6
17 ⁻	346 5212.1
16 ⁻	348 4864.2
15 ⁻	303 4561.0
14 ⁻	176 4384.8

(8⁻) 2333.9

(HI,xn γ) 1986Va03,1995Va32,2002Si20 (continued)