

$^{75}\text{As}(^{28}\text{Si},2\text{p}3\text{n}\gamma)$ **2014Ku04**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

2014Ku04: $E(^{28}\text{Si})=120$ MeV from IUAC-New Delhi accelerator facility. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, $\gamma\gamma(\theta)$ (DCO), $\gamma\gamma(\text{lin pol})$ using INGA array with 18 large clover HPGe detectors. Deduced levels, J , π , bands, multipolarity. Comparison with Tilted-axis cranking (TAC) shell-model calculations.

Additional information 1.

Note that the study by **2014Ku04** has significantly extended the level schemes from previous γ -spectroscopy studies which are all based on the assumption of the 841γ proceeding to the $(2)^+$ ground state made by **1983Be63** via (α,npy) and $(\text{d},3\text{n}\gamma)$. However, based on their extended level scheme, **2014Ku04** propose that the 841γ should proceed to a level at $E=56$ keV with $J^\pi=5^+$, which has been assumed by evaluators to be the same as the 3.6-min isomer with $J^\pi=(5^+)$ but unknown energy in Adopted Levels, although they are considered as different levels by **2014Ku04**. See comments for the isomer in Adopted Levels, where the level scheme from **2014Ku04** has been adopted.

 ^{98}Rh Levels

E(level) [†]	J^π [‡]	Comments
0.0	$(2)^+$	J^π : from Adopted Levels.
48.5 <i>10</i>		
56.3 [@] <i>10</i>	5^+	E(level), J^π : 2014Ku04 state that the 3.6-min isomer with $J^\pi=(5^+)$ but unknown excitation energy is not populated in their study and therefore point out that this 5^+ level at $E=56$ keV seen in their study, most likely, is not the same as the 3.6-min isomer. However, evaluators assume in Adopted Levels that the two levels are the same. See comments for this level in Adopted Levels.
106.8 <i>7</i>	$(3)^+$	There is a large intensity imbalance at this level.
194.0? <i>11</i>		E(level): since ordering of 206-146 γ cascade is not established, this level is either at 194.0 or 254.9 keV.
271.9? <i>10</i>		E(level): since ordering of 139-223 γ cascade is not established, this level is either at 271.9 or 187.5 keV.
283.6 <i>10</i>		
400.5 <i>10</i>	(5^+)	
410.9 <i>9</i>	$(5)^+$	There is a large intensity imbalance at this level.
897.9 [@] <i>10</i>	7^+	E(level): this level is based on the placement of 841γ to the 56, 5^+ level proposed in 2014Ku04 , while the 841γ has been placed to the $(2)^+$ ground state in previous γ -spectroscopy studies, resulting in a different level scheme from that proposed by 2014Ku04 , with the latter adopted by the evaluators in Adopted Levels.
916.1 <i>10</i>	(6^-)	
956.2 ^b <i>11</i>		
1005.8 <i>9</i>	$(6)^+$	
1290.1 <i>10</i>	7^+	
1592.5 ^b <i>10</i>	(7^-)	
1611.0 ^{&} <i>10</i>	6^+	
1623.5 [@] <i>10</i>	9^+	
1653.2 <i>10</i>	7^+	
1879.2 <i>10</i>	(8^-)	
1930.2 <i>11</i>		
1982.1 ^a <i>10</i>	7^+	
2137.5 <i>13</i>		
2173.7 ^b <i>13</i>		
2240.3 ^{&} <i>10</i>	8^+	
2389.7 ^a <i>10</i>	8^+	
2483.5 ^c <i>10</i>	10^+	
2511.9 ^{&} <i>10</i>	9^+	
2617.5 [@] <i>10</i>	11^+	
2618.7 ^b <i>14</i>		
2807.4 ^a <i>10</i>	9^+	

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$^{75}\text{As}(^{28}\text{Si}, 2\text{p}3\text{n}\gamma)$ **2014Ku04 (continued)** ^{98}Rh Levels (continued)

E(level) [†]	J^π [‡]	E(level) [†]	J^π [‡]	E(level) [†]	J^π [‡]	E(level) [†]	J^π [‡]
3018.3 ^{&} 10	10 ⁺	3862.1 ^c 10	13 ⁺	5552.2 [#] 11	16 ⁻	7558.4 ^c 13	(18 ⁺)
3030.6 ^c 10	11 ⁺	4232.0 ^d 10	13 ⁻	5611.4 11	16 ⁺	7611.7 12	
3153.6 ^a 10	10 ⁺	4406.1 11	14 ⁺	5939.0 [@] 13		8341.4 13	
3266.7 ^b 16		4411.0 ^c 10	14 ⁺	6403.7 ^d 11	17 ⁻	8654.5 ^c 15	
3378.0 ^{&} 10	11 ⁺	4447.0 [#] 11	14 ⁻	6747? 1		8685.1 ^d 12	21 ⁻
3562.7 ^a 10	11 ⁺	5024.0 ^d 11	15 ⁻	6909.2 ^c 11	17 ⁺	8899.9 13	
3574.2 ^c 10	12 ⁺	5091.0 [@] 11	15 ⁺	7337.3 ^d 11	19 ⁻	10171.3 ^d 13	(23 ⁻)
3597.2 [@] 10	13 ⁺	5380.0 ^c 11	15 ⁺	7345.7 12			
3769.3 ^{&} 10	12 ⁺	5547.2 ^c 10	16 ⁺	7552.4 [#] 12	20 ⁻		

[†] From a least-squares fit to γ -ray energies.

[‡] As given in Table I and Fig. 1 of 2014Ku04. Authors state that J^π assignments are tentative since the low-lying levels are not assigned definite J^π values, and that all assignments are relative, assigned on the basis of multipolarity assignments from their DCO and POL data, and assuming that spins ascend with excitation energies as well as preference for transitions which do not involve parity change.

[#] Probably related to band based on 13⁻.

[@] Seq.(A): Decoupled structure based on 5⁺. Possible configuration= $\pi p_{1/2} \otimes \nu h_{11/2}$.

[&] Seq.(B): $\Delta J=1$ γ cascade based on 6⁺.

^a Seq.(C): $\Delta J=1$ γ cascade based on 7⁺. Possible configuration= $\pi f_{5/2} \otimes \nu h_{11/2}$.

^b Seq.(D): γ cascade based on 956 level.

^c Seq.(E): $\Delta J=1$, γ cascade based on 10⁺. Possible configuration= $\pi(p_{1/2}/f_{5/2}) \otimes \pi g_{9/2}^2 \otimes \nu h_{11/2}$.

^d Seq.(F): γ cascade based on 13⁻. Possible configuration= $\pi p_{1/2} \otimes \nu h_{11/2}^2 \otimes \nu d_{5/2}$.

 $\gamma(^{98}\text{Rh})$

DCO ratios are for gates on $\Delta J=2$, quadrupole (E2) transitions. Expected values are: ≥ 1.0 for $\Delta J=2$, quadrupole, ≤ 0.6 for $\Delta J=1$, dipole, and ≈ 1 for $\Delta J=0$, dipole transitions.

E_γ [†]	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	Comments
106.8 7	0.30 6	106.8	(3) ⁺	0.0	(2) ⁺		Additional information 2.
117.0 5	2.9 4	400.5	(5 ⁺)	283.6		Q	DCO=0.92 18
134.0 7	0.70 9	2617.5	11 ⁺	2483.5	10 ⁺		Additional information 29.
138.9 5	1.80 25	410.9	(5) ⁺	271.9?			
145.6 [#] 7	0.27 6	194.0?		48.5			
167.3 5	2.4 2	5547.2	16 ⁺	5380.0	15 ⁺	D	DCO=0.53 7 Additional information 64.
184.6 7	0.73 8	3562.7	11 ⁺	3378.0	11 ⁺		
206.5 ^{@#} 7	0.35 [@] 5	400.5	(5 ⁺)	194.0?			
206.5 [@] 7	8.6 [@] 6	3769.3	12 ⁺	3562.7	11 ⁺	M1	DCO=0.59 6 POL=-0.09 3. Additional information 33. Additional information 57. Additional information 72.
210.9 7	0.16 2	3018.3	10 ⁺	2807.4	9 ⁺		
215.1 5	4.5 3	4447.0	14 ⁻	4232.0	13 ⁻		
215.2 5	1.50 15	7552.4	20 ⁻	7337.3	19 ⁻		
223.4 5	2.8 2	271.9?		48.5			
227.3 3	10.4 10	283.6		56.3	5 ⁺	D	DCO=0.45 9
235.1 3	11.1 10	283.6		48.5		Q	DCO=0.92 18

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$^{75}\text{As}(^{28}\text{Si}, 2\text{p}3\text{n}\gamma)$ **2014Ku04** (continued) $\gamma(^{98}\text{Rh})$ (continued)

E_γ †	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
258.3 5	2.8 3	2240.3	8 ⁺	1982.1	7 ⁺	D	DCO=0.44 8 Additional information 17.
264.8 3	16.4 10	3862.1	13 ⁺	3597.2	13 ⁺	(M1)	DCO=0.85 8 POL=-0.03 1. Mult.: DCO and POL seem consistent with $\Delta J=0$, M1 (evaluators). 2014Ku04 assign mult=D.
271.6 3	7.2 6	2511.9	9 ⁺	2240.3	8 ⁺	D	Additional information 25.
287.9 5	4.1 5	3862.1	13 ⁺	3574.2	12 ⁺		DCO=0.56 10 Additional information 54.
295.5 7	0.77 11	2807.4	9 ⁺	2511.9	9 ⁺	D	Additional information 11.
302.4 3	3.4 3	1592.5	(7 ⁻)	1290.1	7 ⁺		
304.1 5	1.60 20	410.9	(5 ⁺)	106.8	(3 ⁺)		
329.0 7	0.91 15	1982.1	7 ⁺	1653.2	7 ⁺		
333.3 5	1.20 20	1623.5	9 ⁺	1290.1	7 ⁺		
334.2 7	0.77 14	1290.1	7 ⁺	956.2			
344.2 5	2.32 23	400.5	(5 ⁺)	56.3	5 ⁺		
346.1 5	3.00 24	3153.6	10 ⁺	2807.4	9 ⁺		
359.6 7	0.23 4	3378.0	11 ⁺	3018.3	10 ⁺		
362.6 7	0.75 12	410.9	(5 ⁺)	48.5			
371.0 5	1.05 15	1982.1	7 ⁺	1611.0	6 ⁺	M1	Additional information 15.
374.1 5	2.60 26	1290.1	7 ⁺	916.1	(6 ⁻)		Additional information 7.
391.4 5	1.00 14	3769.3	12 ⁺	3378.0	11 ⁺		Additional information 49.
407.6 3	11.1 9	2389.7	8 ⁺	1982.1	7 ⁺		DCO=0.61 8 POL=-0.03 1.
409.1 5	3.8 4	3562.7	11 ⁺	3153.6	10 ⁺	D	DCO=0.40 6 Additional information 44.
413.0 5	2.7 3	3030.6	11 ⁺	2617.5	11 ⁺	D	DCO=0.81 14 Mult.: DCO consistent with $\Delta J=0$, dipole (evaluators).
417.8 5	2.30 25	2807.4	9 ⁺	2389.7	8 ⁺		DCO=0.64 11 Additional information 30.
445.0 7	0.20 4	2618.7		2173.7			
456.2 3	6.0 5	5547.2	16 ⁺	5091.0	15 ⁺	M1	DCO=0.45 6 POL=-0.04 2.
462.7 3	24.0 17	4232.0	13 ⁻	3769.3	12 ⁺	E1	DCO=0.51 5 POL=+0.08 2.
497.4 5	1.38 17	897.9	7 ⁺	400.5	(5 ⁺)	D	Additional information 3.
506.1 7	0.16 3	6909.2	17 ⁺	6403.7	17 ⁻		Additional information 69.
506.5 5	1.42 14	3018.3	10 ⁺	2511.9	9 ⁺		Additional information 34.
515.6 3	20.2 16	916.1	(6 ⁻)	400.5	(5 ⁺)		DCO=0.41 4 Additional information 4.
528.3 5	3.6 3	5552.2	16 ⁻	5024.0	15 ⁻	D	DCO=0.52 7 Additional information 65.
529.8 5	2.9 3	2511.9	9 ⁺	1982.1	7 ⁺	M1	Additional information 26.
543.6 3	6.6 5	3574.2	12 ⁺	3030.6	11 ⁺		DCO=0.59 6 POL=-0.02 1.
544.0 5	3.9 4	4406.1	14 ⁺	3862.1	13 ⁺	D	DCO=0.53 8 Additional information 55.
544.4 5	3.5 4	3562.7	11 ⁺	3018.3	10 ⁺	M1	Additional information 45.
545.0 7	0.41 6	2137.5		1592.5	(7 ⁻)		
547.2 5	1.21 14	3030.6	11 ⁺	2483.5	10 ⁺		Additional information 37.
548.9 3	16.2 10	4411.0	14 ⁺	3862.1	13 ⁺		DCO=0.50 5 POL=-0.03 1.
555.8 5	2.6 3	956.2		400.5	(5 ⁺)	D	
577.1 5	3.0 3	5024.0	15 ⁻	4447.0	14 ⁻		DCO=0.57 9 Additional information 58.

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$^{75}\text{As}(^{28}\text{Si},2\text{p}3\text{n}\gamma)$ **2014Ku04** (continued) $\gamma(^{98}\text{Rh})$ (continued)

E_γ †	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
581.2 7	0.82 10	2173.7		1592.5	(7 ⁻)		
587.1 7	0.13 3	2240.3	8 ⁺	1653.2	7 ⁺		Additional information 18.
589.3 5	1.40 20	1879.2	(8 ⁻)	1290.1	7 ⁺		Additional information 13.
594.9 3	12.6 10	1005.8	(6 ⁺)	410.9	(5 ⁺)	D	DCO=0.48 6 Additional information 5.
*600.8 7	0.36 8						
605.2 3	11.4 9	1611.0	6 ⁺	1005.8	(6 ⁺)	D	DCO=0.93 12 Mult.: $\Delta J=0$, dipole, assigned by evaluators.
605.5 7	0.28 6	1005.8	(6 ⁺)	400.5	(5 ⁺)		Additional information 6.
615.8 5	3.7 3	3769.3	12 ⁺	3153.6	10 ⁺		Additional information 50.
616.8 5	3.8 3	2240.3	8 ⁺	1623.5	9 ⁺		Additional information 19.
629.4 3	14.5 10	2240.3	8 ⁺	1611.0	6 ⁺	Q	DCO=0.80 10 Additional information 20.
632.6 7	0.66 8	2511.9	9 ⁺	1879.2	(8 ⁻)		Additional information 27.
636.2 7	0.53 7	1592.5	(7 ⁻)	956.2			
641.7 5	2.50 22	3153.6	10 ⁺	2511.9	9 ⁺		Additional information 39.
648.0 7	0.080 16	3266.7		2618.7			
649.2 7	0.91 20	7558.4	(18 ⁺)	6909.2	17 ⁺		Additional information 73.
676.4 7	0.55 8	1592.5	(7 ⁻)	916.1	(6 ⁻)		Additional information 9.
680.0 5	2.43 20	5091.0	15 ⁺	4411.0	14 ⁺	D	DCO=0.51 7 Additional information 59.
685.0 7	0.58 8	5091.0	15 ⁺	4406.1	14 ⁺		Additional information 60.
725.6 3	87.7 44	1623.5	9 ⁺	897.9	7 ⁺	E2	DCO=0.99 8 POL=+0.10 2.
737.0 5	1.69 23	1653.2	7 ⁺	916.1	(6 ⁻)		Additional information 12.
738.6 5	2.00 21	3769.3	12 ⁺	3030.6	11 ⁺		Additional information 51.
750.9 3	5.4 5	3769.3	12 ⁺	3018.3	10 ⁺	(Q)	DCO=0.77 12 Additional information 52.
755.4 5	1.41 20	3562.7	11 ⁺	2807.4	9 ⁺		Additional information 46.
764.1 5	1.32 20	3153.6	10 ⁺	2389.7	8 ⁺	Q	DCO=1.3 2 Additional information 40.
778.0 3	5.4 5	3018.3	10 ⁺	2240.3	8 ⁺	(Q)	DCO=0.71 10 Additional information 35.
792.0 3	14.5 9	5024.0	15 ⁻	4232.0	13 ⁻	E2	DCO=0.97 10 POL=+0.09 2.
792.3 5	1.20 20	6403.7	17 ⁻	5611.4	16 ⁺		Additional information 68.
813.9 3	9.5 7	4411.0	14 ⁺	3597.2	13 ⁺	M1	DCO=0.47 6 POL=-0.03 1.
825.1 5	3.3 5	2807.4	9 ⁺	1982.1	7 ⁺	Q	DCO=1.08 24 Additional information 31.
831.5 5	4.1 3	3862.1	13 ⁺	3030.6	11 ⁺	E2	DCO=0.89 12 POL=+0.05 2.
836.6 7	0.90 16	4411.0	14 ⁺	3574.2	12 ⁺		Additional information 56.
841.6 3	100.0 50	897.9	7 ⁺	56.3	5 ⁺	E2	DCO=0.97 8 POL=+0.10 2. Note that this γ has been placed from a 841 level to (2) ⁺ ground state in previous γ -spectroscopy studies based on its original placement by 1983Be63 via (α ,np γ) and (d,3n γ). In Adopted Levels, Gammas, the evaluators have adopted the placement here by 2014Ku04 .
848.0 7		5939.0		5091.0	15 ⁺		
851.6 5	4.7 5	6403.7	17 ⁻	5552.2	16 ⁻	M1	DCO=0.56 8 POL=-0.03 1.
856.6 3	8.1 7	6403.7	17 ⁻	5547.2	16 ⁺	E1	DCO=0.58 7 POL=+0.03 1.
860.2 5	2.7 3	2483.5	10 ⁺	1623.5	9 ⁺	D	DCO=0.54 8 Additional information 24.

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$^{75}\text{As}(^{28}\text{Si}, 2\text{p}3\text{n}\gamma)$ **2014Ku04 (continued)** $\gamma(^{98}\text{Rh})$ (continued)

E_γ †	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
866.2 5	2.6 3	3378.0	11 ⁺	2511.9	9 ⁺	Q	DCO=0.96 15 Additional information 43.
888.4 5	1.35 15	2511.9	9 ⁺	1623.5	9 ⁺		
889.6 3	6.1 6	1290.1	7 ⁺	400.5 (5 ⁺)			Additional information 8.
933.6 3	8.1 7	7337.3	19 ⁻	6403.7	17 ⁻	E2	DCO=1.02 12 POL=+0.05 2.
942.0 & 5	1.40 15	7345.7		6403.7	17 ⁻		
945.3 7	0.59 8	3562.7	11 ⁺	2617.5	11 ⁺		
950.1 7	0.16 3	2240.3	8 ⁺	1290.1	7 ⁺		Additional information 21.
956.6 5	2.5 3	3574.2	12 ⁺	2617.5	11 ⁺	(D)	DCO=0.72 15 Additional information 48.
962.8 5	2.2 3	1879.2	(8 ⁻)	916.1 (6 ⁻)			Additional information 14.
969.1 5	2.6 3	5380.0	15 ⁺	4411.0	14 ⁺	D	DCO=0.40 9 Additional information 61.
973.8 7	0.15 3	5380.0	15 ⁺	4406.1	14 ⁺		Additional information 62.
979.7 3	34.7 17	3597.2	13 ⁺	2617.5	11 ⁺	E2	DCO=0.97 8 POL=+0.08 2.
994.0 3	57.0 28	2617.5	11 ⁺	1623.5	9 ⁺	E2	DCO=1.02 8 POL=+0.06 2.
1014.0 5	1.59 19	1930.2		916.1 (6 ⁻)			
1066.0 3	10.3 7	1982.1	7 ⁺	916.1 (6 ⁻)		D	DCO=0.40 4 Additional information 16.
1079.2 5	1.10 15	3562.7	11 ⁺	2483.5	10 ⁺		Additional information 47.
1084.4 3	5.0 4	1982.1	7 ⁺	897.9	7 ⁺		
1090.6 5	2.2 3	3574.2	12 ⁺	2483.5	10 ⁺	E2	DCO=1.0 2 POL=+0.02 1.
1096.1 7	0.57 14	8654.5		7558.4 (18 ⁺)			
1105.1 7	0.89 13	5552.2	16 ⁻	4447.0	14 ⁻		Additional information 66.
1132.7 5	1.12 16	8685.1	21 ⁻	7552.4	20 ⁻		Additional information 74.
1136 & 1	0.22 5	6747?		5611.4	16 ⁺		In Table I of 2014Ku04, this γ is listed as feeding a 16 ⁺ level, but not clear which of the two 16 ⁺ levels at 6747 or 6683.
1136.2 3	14.5 9	5547.2	16 ⁺	4411.0	14 ⁺	E2	DCO=0.94 9 POL=+0.06 1.
1151.7 3	5.9 4	3769.3	12 ⁺	2617.5	11 ⁺	D	DCO=0.44 5 Additional information 53.
1183.7 5	1.00 14	2807.4	9 ⁺	1623.5	9 ⁺		
1200.3 5	1.66 20	5611.4	16 ⁺	4411.0	14 ⁺		Additional information 67.
1208.0 5	2.5 3	7611.7		6403.7	17 ⁻		DCO=0.8 2
^x 1244.2 7	0.30 6						
1288.2 5	1.00 15	8899.9		7611.7			
1342.2 5	3.5 4	2240.3	8 ⁺	897.9	7 ⁺	D	DCO=0.50 9 Additional information 22.
1347.7 5	2.7 3	8685.1	21 ⁻	7337.3	19 ⁻	Q	DCO=1.01 18 Additional information 75.
1361.9 3	5.3 4	6909.2	17 ⁺	5547.2	16 ⁺	D	DCO=0.55 6 Additional information 70.
1379.7 3	12.4 10	6403.7	17 ⁻	5024.0	15 ⁻	E2	DCO=0.83 14 POL=+0.07 2.
1394.9 7	0.49 8	3018.3	10 ⁺	1623.5	9 ⁺		Additional information 36.
1407.0 3	7.0 5	3030.6	11 ⁺	1623.5	9 ⁺	E2	DCO=0.97 9 POL=+0.03 1.
1432.2 7	0.55 7	8341.4		6909.2	17 ⁺		
1486.2 5	1.77 26	10171.3	(23 ⁻)	8685.1	21 ⁻		Additional information 76.
1491.9 5	4.2 4	2389.7	8 ⁺	897.9	7 ⁺	D	DCO=0.56 7 Additional information 23.

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$^{75}\text{As}(^{28}\text{Si},2\text{p}3\text{n}\gamma)$ **2014Ku04 (continued)** $\gamma(^{98}\text{Rh})$ (continued)

E_γ [†]	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	Comments
1493.7 5	3.7 3	5091.0	15 ⁺	3597.2	13 ⁺	Q	DCO=0.87 14 POL=-0.03 1. Note that for E2, POL should be positive. Additional information 63.
1517.8 5	1.32 19	5380.0	15 ⁺	3862.1	13 ⁺		Additional information 71.
1529.0 ^{&} 7	0.18 4	6909.2	17 ⁺	5380.0	15 ⁺		Additional information 41.
1530.4 7	0.54 10	3153.6	10 ⁺	1623.5	9 ⁺		DCO=0.44 8
1554.6 3	4.9 4	1611.0	6 ⁺	56.3	5 ⁺	D	Additional information 10. Additional information 28.
1614.1 7	0.77 12	2511.9	9 ⁺	897.9	7 ⁺		
^x 1821 1	0.30 6						
^x 1836 1	0.25 6						
1909.3 7	0.13 3	2807.4	9 ⁺	897.9	7 ⁺		Additional information 32.
^x 2064 1	0.28 6						

[†] **2014Ku04** state that uncertainties are 0.3 keV for strong peaks rising to 0.7 keV for weak lines. Evaluators assign 0.3 keV for $I_\gamma > 5$, 0.5 keV for $I_\gamma = 1-5$, 0.7 keV for $I_\gamma < 1$ and for doublets, and 1 keV when E_γ stated to nearest keV.

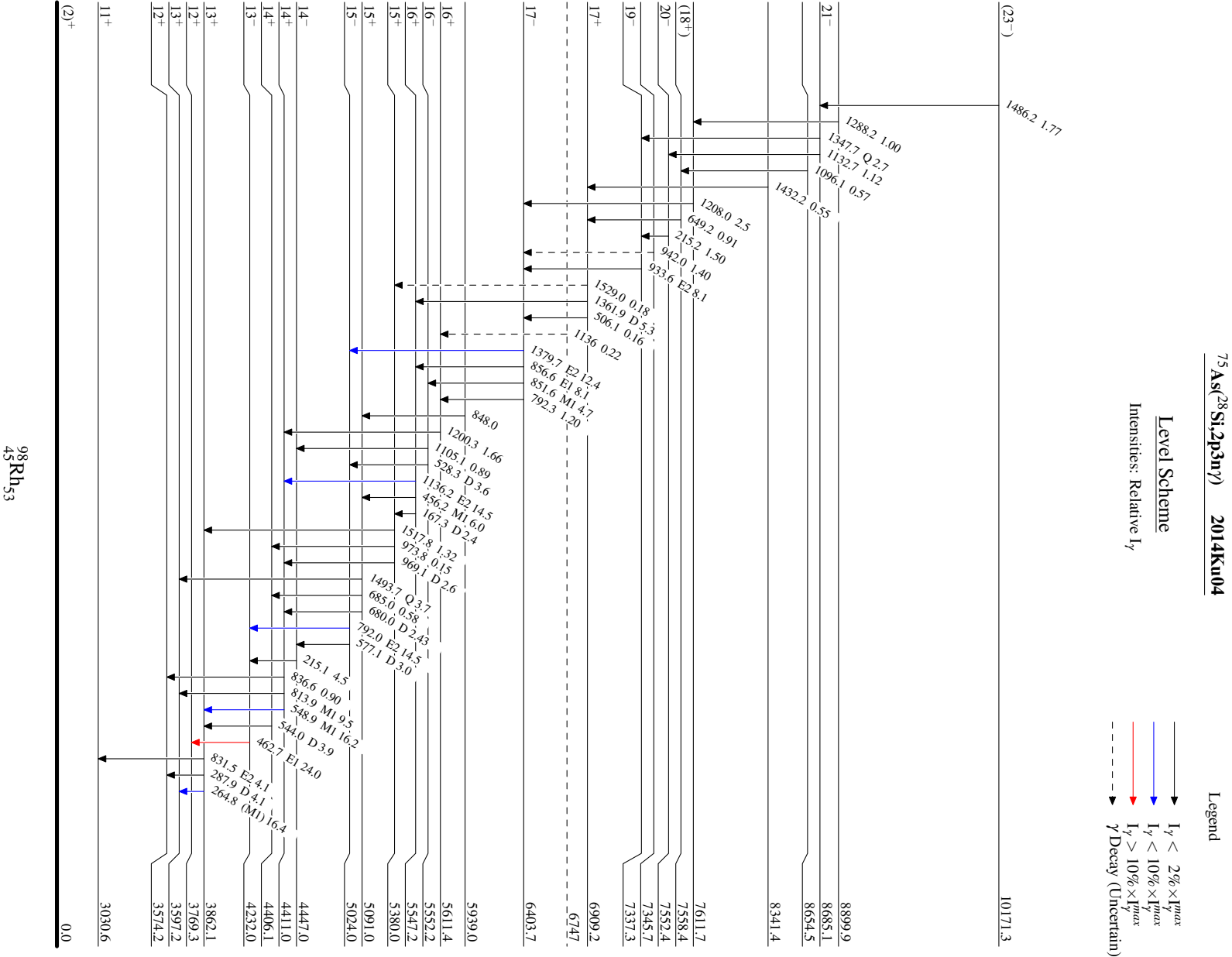
[‡] **2014Ku04** assigned multiplicities of M1, E2 or E1 to most of the transitions, based either on their DCO and POL, the latter for a few transitions only, or in several cases simply from their ΔJ^π values. Evaluators revise many of these assignments, based on the existence of supporting arguments such as DCO data, where mult=Q indicates $\Delta J=2$ transition (most likely E2), and mult=D indicates $\Delta J=1$, dipole (M1 or E1). No assignments are given when DCO data are absent. Authors' assignments are given in document records, when revised by the evaluators.

Ordering of the 139-223 and 206-146 γ cascades is not established.

@ Multiply placed with intensity suitably divided.

& Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

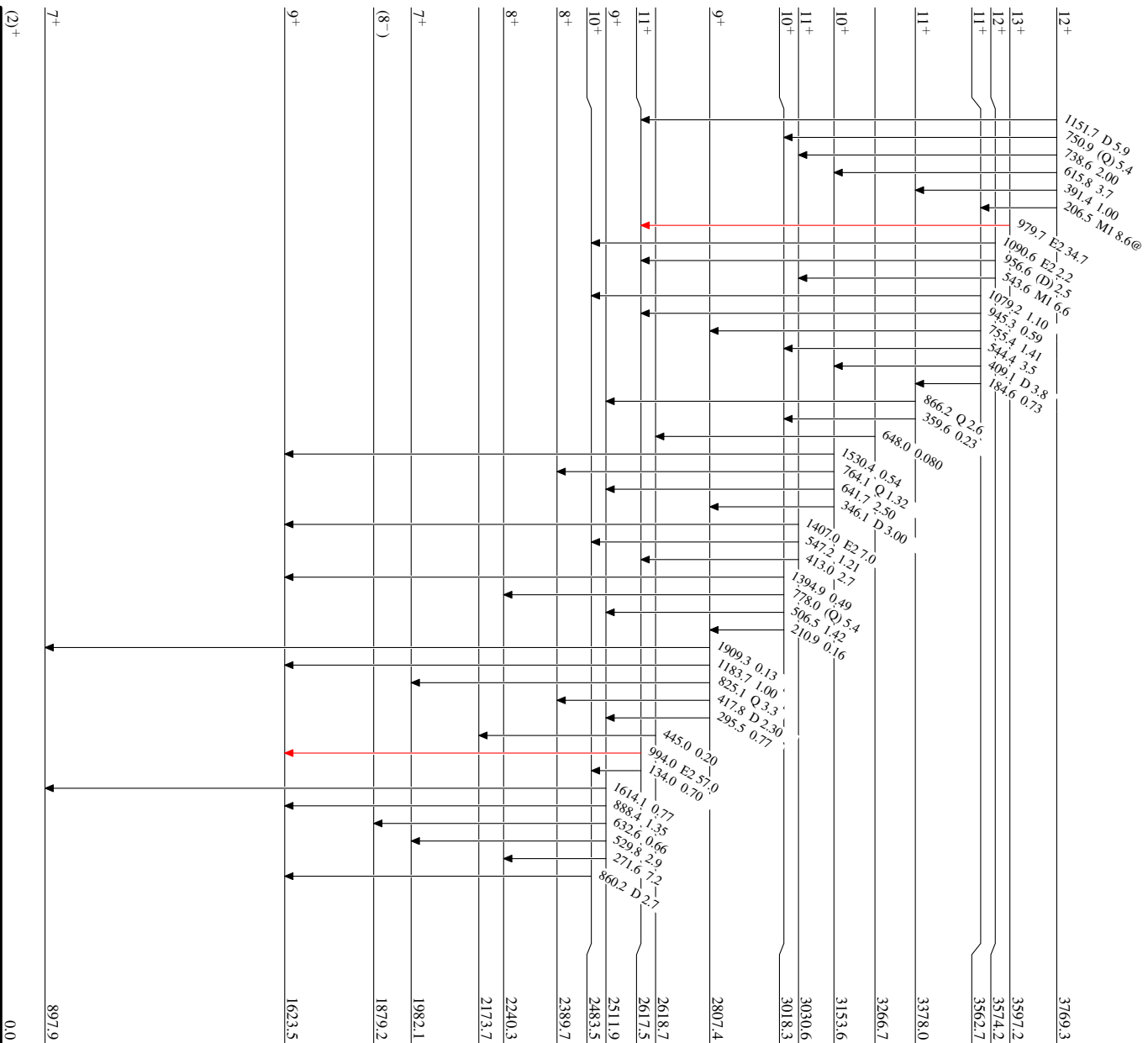
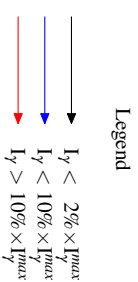


⁷⁵As(²⁸Si,^{2p3n}γ) 2014Ku04

Level Scheme (continued)

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided



⁷⁵As(²⁸Si,_{2p3n}γ) 2014Ku04

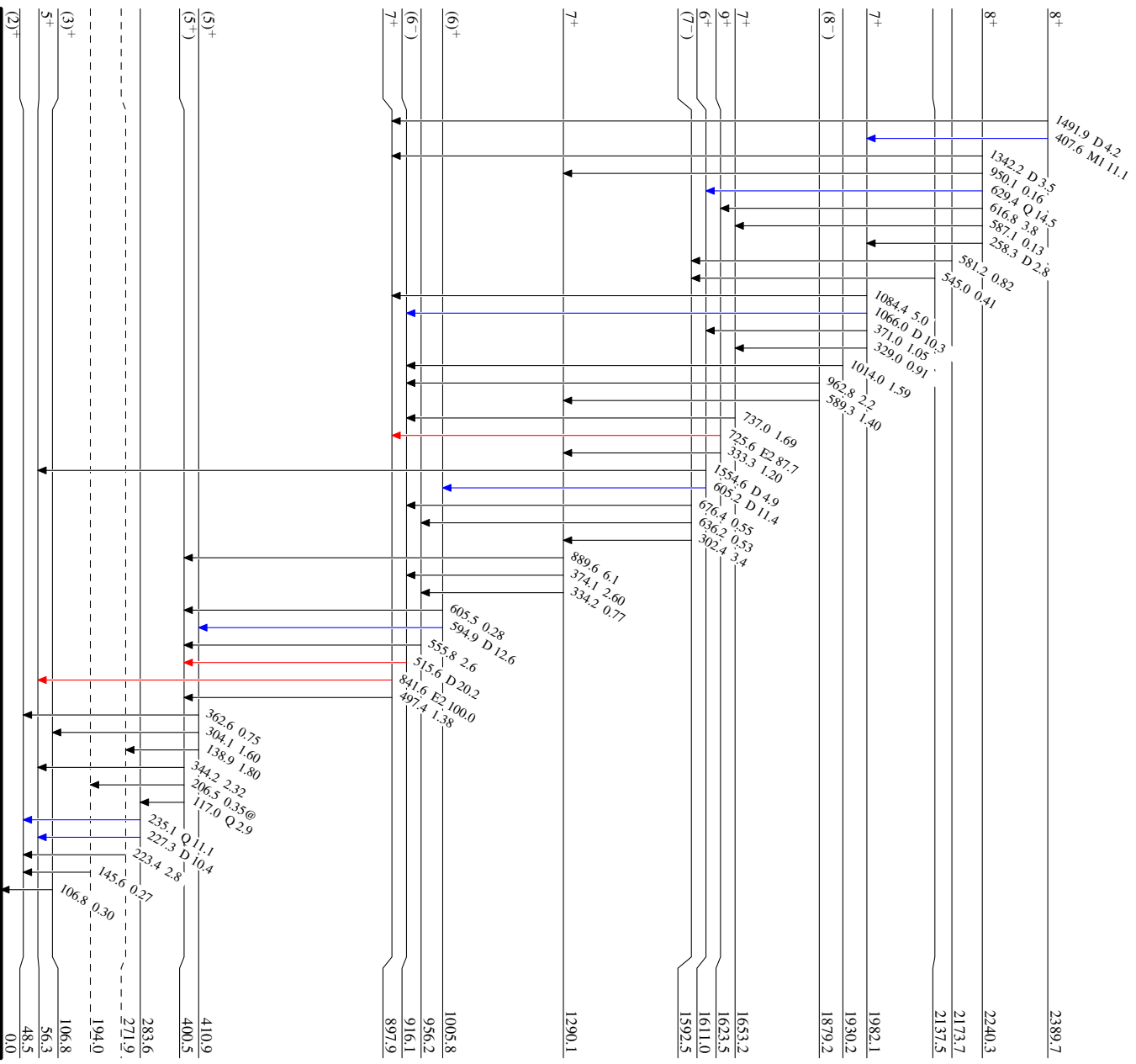
Level Scheme (continued)

Intensities: Relative I_γ

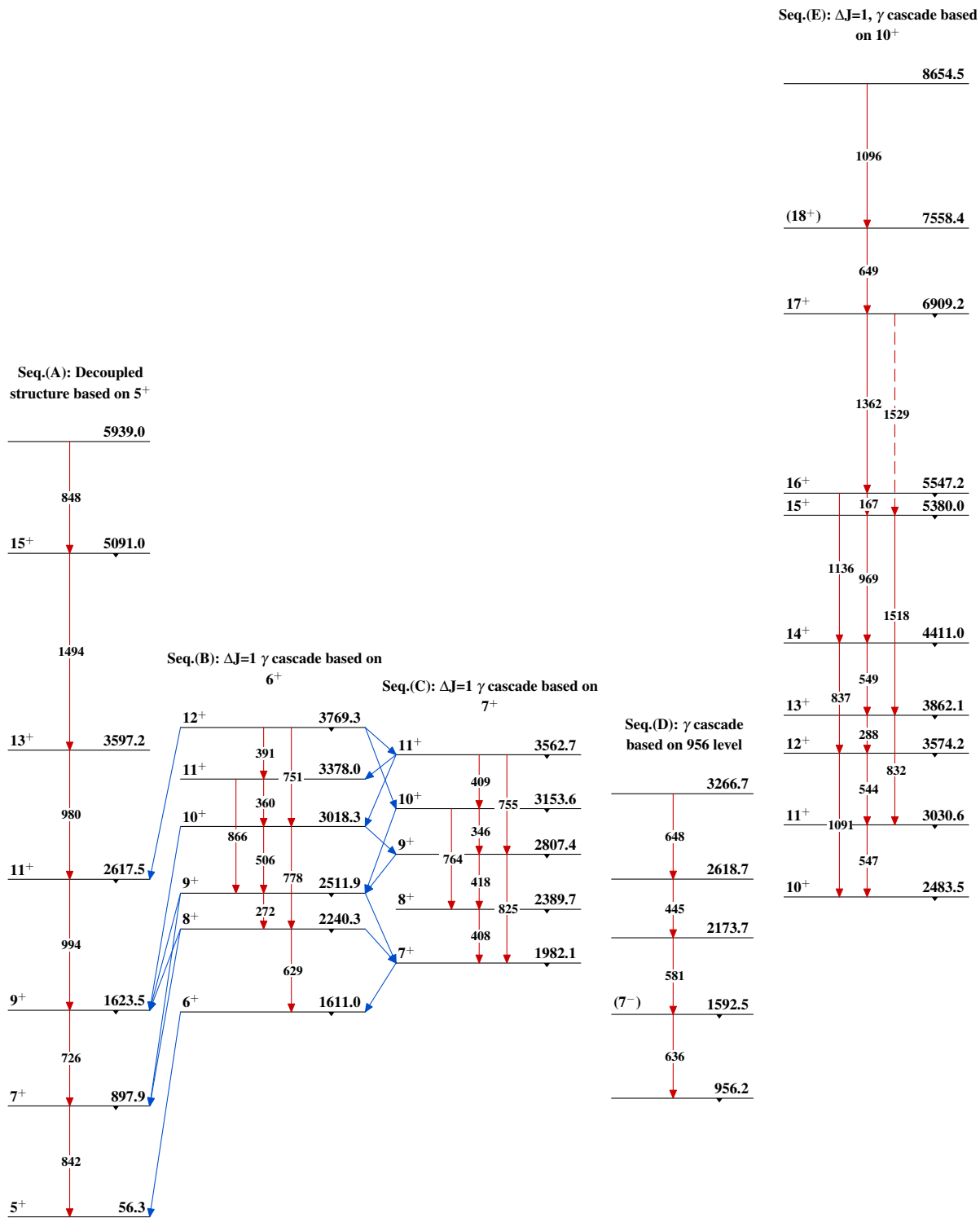
@ Multiply placed: intensity suitably divided

Legend

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



⁹⁸Rh₅₃

$^{75}\text{As}(^{28}\text{Si},2\text{p}3\text{n}\gamma)$ 2014Ku04

$^{75}\text{As}(^{28}\text{Si},2\text{p}3\text{n}\gamma)$ 2014Ku04 (continued)

