		History	
Туре	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

1998Sm08, 1998SmZX: E=180 MeV. Measured E γ , I γ , $\gamma\gamma\gamma$, $\gamma\gamma(\theta)$, particle- γ coin using GAMMASPHERE array with 92 detectors and MICROBALL array of particle detectors.

Additional information 1.

¹³⁰Pr Levels

For band assignments, see details in Adopted Levels.

E(level) [†]	Jπ‡	E(level) [†]	Jπ‡	E(level) [†]	Jπ‡	E(level) [†]	$J^{\pi \ddagger}$
0+x [#]	(5 ⁺) [#]	1489.5+x ⁱ 6	(13 ⁻)	3759.9+x ⁱ 8	(19 ⁻)	6724.4+x ^f 9	(24 ⁻)
58+x ^{#h}	(6 ⁻) [#]	1612.1+x ^b 6	(12 ⁻)	3915.5+x ^f 8	(18 ⁻)	7077.1+x ^g 10	(25 ⁻)
62+x [#]	$(6^+)^{\#}$	1628.6+x ^{&} 6	(14^{+})	3978.8+x ^a 8	(19 ⁻)	7163.1+x ^{&} 10	(26^+)
138.9+x ⁱ 5	(7 ⁻)	1644.6+x ^d 6	(13 ⁺)	4109.6+x ^{&} 8	(20^{+})	7177.7+x ^b 10	(26 ⁻)
142.9+x 5	(7^{+})	1685.7+x ^c 6	(12^{+})	4168.7+x ^h 8	(20 ⁻)	7251.2+x ^h 10	(26 ⁻)
194.0+x 5	(7^{+})	1819.1+x ^g 6	(13 ⁻)	4186.4+x ^g 8	(19 ⁻)	7381.5+x ^c 10	(26^{+})
$239.8 + x^{d} 5$	(5 ⁺)	1824.4+x ^{<i>h</i>} 6	(14 ⁻)	4349.4+x ^e 8	(19 ⁻)	7628.1+x [@] 10	(27^{+})
246.4+x [@] 5	(7^{+})	1896.1+x ^a 6	(13 ⁻)	4382.5+x ^b 8	(20^{-})	7670.5+x ^d 10	(27^{+})
$262.5 + x^{h} 5$	(8-)	2015.3+x [@] 6	(15^{+})	4479.8+x ^c 8	(20^{+})	7706.1+x ^a 10	(27 ⁻)
336.1+x & 5	(8 ⁺)	$2192.9 + x^{i}$ 7	(15 ⁻)	4539.3+x [@] 8	(21^+)	7867.8+x ¹ 10	(27 ⁻)
365.6+x ^g 5	(7 ⁻)	2198.0+x ^b 7	(14^{-})	4584.3+x ^d 8	(21^+)	8145.3+x ⁸ 10	(27 ⁻)
382.6+x 5	(7-)	2217.1+x ^e 7	(13 ⁻)	$4620.5 + x^{i} 8$	(21 ⁻)	8240.6+x ^b 10	(28-)
384.9+x 5	(6^{+})	2242.9+x ^c 7	(14^{+})	4802.5+x ^f 8	(20 ⁻)	8372.1+x ^{&} 10	(28 ⁺)
434.4+x ⁱ 5	(9 ⁻)	2258.0+x ^d 7	(15^{+})	4811.8+x ^{<i>a</i>} 8	(21 ⁻)	8509.2+x ^h 10	(28 ⁻)
446.2+x [@] 5	(9 ⁺)	2376.8+x ^{&} 7	(16^{+})	5045.0+x ^{&} 8	(22^{+})	8509.4+x ^c 10	(28^+)
517.6+x ^d 5	(7^{+})	2471.4+x ^f 7	(14 ⁻)	5074.6+x ^g 8	(21 ⁻)	8802.2+x ^a 10	(29 ⁻)
532.2+x 5	(7^{+})	2519.8+x ^a 7	(15 ⁻)	5082.0+x ^h 8	(22 ⁻)	8846.7+x [@] 10	(29^+)
577.5+x ^{&} 5	(10^{+})	2552.7+x ^g 7	(15 ⁻)	5249.8+x ^b 8	(22 ⁻)	8890.6+x ^d 10	(29 ⁺)
600.9+x ^C 5	(6 ⁺)	2566.1+x ^h 7	(16 ⁻)	5260.4+x ^e 8	(21 ⁻)	9160.1+x ⁱ 10	(29 ⁻)
641.9+x ^h 5	(10 ⁻)	2772.8+x ^e 7	(15 ⁻)	5377.4+x ^c 8	(22^{+})	9275.0+x ^g 10	(29 ⁻)
694.3+x ^g 5	(9 ⁻)	2798.9+x [@] 7	(17^{+})	5487.9+x [@] 8	(23 ⁺)	9370.7+x ^b 10	(30 ⁻)
706.9+x ^b 5	(8-)	2857.3+x ^b 7	(16 ⁻)	5511.0+x ^d 8	(23+)	9656.6+x ^{&} 10	(30^{+})
770.1+x ^d 5	(9 ⁺)	2900.6+x ^c 7	(16 ⁺)	5591.0+x ⁱ 8	(23 ⁻)	9730.3+x ^c 10	(30 ⁺)
803.5+x [@] 5	(11^{+})	2962.1+x ⁱ 7	(17 ⁻)	5711.5+x ^a 8	(23 ⁻)	9846.2+x ^h 10	(30 ⁻)
865.5+x ^c 5	(8^{+})	2962.5+x ^d 7	(17^{+})	5728.1+x ^f 8	(22 ⁻)	9966.0+x ^a 10	(31 ⁻)
884.8+x ^a 5	(9-)	3117.3+x ^f 7	(16 ⁻)	6041.2+x <mark>8</mark> 9	(23 ⁻)	10156.6+x [@] 10	(31+)
893.2+x ⁱ 5	(11^{-})	3213.6+x ^a 7	(17^{-})	6055.5+x ^{&} 9	(24^{+})	10188.7+x ^d 10	(31 ⁺)
1016.9+x ^{&} 5	(12^{+})	3219.2+x& 7	(18^{+})	6113.0+x ^h 9	(24 ⁻)	10526.3+x ⁱ 10	(31 ⁻)
1103.0+x ^b 6	(10 ⁻)	3350.3+x ^h 7	(18 ⁻)	6181.7+x ^b 9	(24 ⁻)	10569.1+x ^b 10	(32 ⁻)
1143.9+x ^d 6	(11^{+})	3350.9+x ^g 7	(17 ⁻)	6217.3+x ^e 9	(23 ⁻)	11048.6+x ^c 10	(32^{+})
1171.6+x ^h 6	(12^{-})	3503.2+x ^e 8	(17 ⁻)	6341.1+x ^c 9	(24+)	11204.3+x ^a 10	(33-)
1186.9+x ^g 6	(11 ⁻)	3585.0+x ^b 8	(18 ⁻)	6511.4+x [@] 9	(25 ⁺)	11562.9+x ^d 10	(33+)
1229.8+x ^C 6	(10^{+})	3648.1+x [@] 8	(19 ⁺)	6540.4+x ^d 9	(25 ⁺)	11836.1+x ^b 10	(34 ⁻)
1338.0+x [@] 6	(13 ⁺)	3650.4+x ^c 8	(18 ⁺)	6674.4+x ^a 9	(25 ⁻)	12411.4+x ^c 10	(34+)
1347.1+x ^a 6	(11 ⁻)	3739.5+x ^d 8	(19 ⁺)	6676.3+x ⁱ 9	(25 ⁻)		

¹³⁰Pr Levels (continued)

- [†] From least-squares fit to $E\gamma'$ s, assuming $\Delta(E\gamma)=0.3$ keV for each γ ray. The bands #1 and #5 are assumed (evaluator) to be based on 58+x level, and bands #2, #3, #4 and #6 based on 62+x level, as proposed by 1998Pe05.
- [‡] As proposed by 1998SmZX. These are based on DCO ratios (R(DCO) \approx 1 for $\Delta J=2$, quadrupole transitions, and R(DCO) \approx 0.5 for $\Delta J=1$ transitions) and band associations. All assignments are given in parentheses (evaluator) since the J^{π}'s of lower states are not established well.
- [#] From 1998Pe05.
- [@] Band(A): $\pi h_{11/2} \nu h_{11/2}$, $\alpha = 1$.
- [&] Band(a): $\pi h_{11/2} \nu h_{11/2}$, $\alpha = 0$.
- ^{*a*} Band(B): $\pi g_{7/2} \nu h_{11/2}$, $\alpha = 1$.
- ^{*b*} Band(b): $\pi g_{7/2} \nu h_{11/2}$, $\alpha = 0$.
- ^{*c*} Band(C): 6^+ band.
- ^d Band(D): 5⁺ band.
- ^{*e*} Band(E): 13⁻, α =1.
- ^f Band(e): 13⁻, α =0.
- ^g Band(F): 7^{-} band.
- ^h Band(G): 6⁻ band, $\alpha = 0$.
- ^{*i*} Band(g): 6⁻ band, α =1.

$\gamma(^{130}\text{Pr})$

All DCO data are from 1998SmZX.

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	$E_f = J_f^{\pi}$	_	Comments
58 [‡]		58+x	(6 ⁻)	0+x (5 ⁺)		
62 [‡]		62+x	(6^{+})	0+x (5 ⁺)		
69		600.9 + x	(6^+)	532.2 + x (7 ⁺)		
80.8	>17	138.9 + x	(7^{-})	58+x (6 ⁻)	R(DCO) = 0.36 l.	
83		600.9 + x	(6^+)	$517.6 + x (7^+)$	(
89.7	15.6 6	336.1+x	(8^+)	$246.4 + x (7^+)$		
103.1	1.2 3	365.6+x	(7^{-})	262.5+x (8 ⁻)	R(DCO)=0.80 7.	
110.1	19.4 7	446.2+x	(9+)	$336.1 + x (8^+)$	R(DCO)=0.42 2.	
123.5	17.2 25	262.5+x	(8-)	138.9+x (7 ⁻)	R(DCO)=0.47 6.	
131.2	19.7 7	577.5+x	(10^{+})	$446.2 + x (9^+)$	R(DCO)=0.40 1.	
142.1	3.06 16	336.1+x	(8 ⁺)	194.0+x (7 ⁺)	R(DCO)=0.71 7.	
145		384.9+x	(6^+)	239.8+x (5 ⁺)		
172.0	18.0 <i>6</i>	434.4+x	(9 ⁻)	262.5+x (8 ⁻)	R(DCO)=0.50 4.	
177.9	0.85 7	884.8+x	(9-)	706.9+x (8 ⁻)		
181.3	1.92 16	517.6+x	(7^{+})	336.1+x (8 ⁺)		
184.4	>15.5	246.4+x	(7^{+})	62+x (6 ⁺)	R(DCO)=0.63 6.	
192.3	1.13 6	770.1+x	(9 ⁺)	$577.5 + x (10^{+})$	$R(DCO)=0.85 \ 6.$	
193.2	3.72 17	336.1+x	(8^{+})	$142.9 + x (7^+)$	R(DCO)=0.63 6.	
196.3	1.96 17	532.2+x	(7^{+})	336.1+x (8 ⁺)		
204.5	2.1 3	262.5+x	(8 ⁻)	58+x (6 ⁻)		
207.5	12.9 4	641.9+x	(10^{-})	434.4+x (9 ⁻)	R(DCO)=0.54 3.	
213.4	12.6 4	1016.9+x	(12^{+})	803.5+x (11 ⁺	$R(DCO)=0.61 \ 3.$	
215.9	0.29 8	600.9+x	(6^{+})	384.9+x (6 ⁺)		
218.2	0.94 6	1103.0+x	(10^{-})	884.8+x (9 ⁻)		
226.0	16.7 5	803.5+x	(11^{+})	$577.5+x (10^{+})$	R(DCO)=0.59 2.	
226.6	3.0 7	365.6+x	(7^{-})	138.9+x (7 ⁻)	R(DCO)=0.85 6.	
237.9	1.13 6	770.1+x	(9+)	532.2+x (7 ⁺)	R(DCO)=0.91 6.	
241.3	2.44 11	577.5+x	(10^{+})	$336.1 + x (8^+)$		

$\gamma(^{130}\text{Pr})$ (continued)

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Comments
244.1 $0.74.4$ $1347.1+x$ (11^{-}) $1103.0+x$ (10^{-}) 252.4 1.17 $710.1+x$ (9^{-}) $517.6+x$ (7^{+}) $R(DCO)=0.80$ $5=4$, 252.4 1.17 $710.1+x$ (17^{-}) $217.1+x$ (13^{-}) 264.5 0.76 7 $865.5+x$ (8^{+}) $600.9+x$ (6^{-}) $R(DCO)=0.80$ $5=4$, 265.0 $0.41.3$ $1612.1+x$ (12^{-}) $1347.1+x$ (11^{-}) 277.8 $0.66.10$ $517.6+x$ (8^{+}) $622.4x$ (6^{-}) $R(DCO)=0.117$ 9, 277.8 $0.66.10$ $517.6+x$ (7^{+}) $239.8+x$ (5^{+}) 277.8 $0.66.10$ $517.6+x$ (12^{-}) $239.2+x$ (11^{-}) $R(DCO)=0.51$ 3. 283.9 $0.40.3$ $1866.1+x$ (12^{-}) $1612.1+x$ (12^{-}) 290.6 4.88 16 $1028.6+x$ (17^{-}) $1612.1+x$ (12^{-}) 290.6 4.88 16 $1028.6+x$ (17^{-}) $1612.1+x$ (12^{-}) 290.6 4.88 16 $1028.6+x$ (17^{-}) $239.8+x$ (5^{+}) 290.6 4.88 16 $1028.6+x$ (17^{-}) $239.8+x$ (5^{+}) 290.6 4.88 16 $128.6+x$ (17^{-}) $239.8+x$ (5^{+}) 290.6 4.88 106 $128.6+x$ (17^{-}) $1612.1+x$ (12^{-}) 290.6 4.88 106 $128.6+x$ (17^{-}) $189.4+x$ (13^{-}) 290.6 4.88 106 $128.6+x$ (17^{-}) $189.4+x$ (13^{-}) 290.6 4.88 $134.4+x$ (17^{-}) $239.8+x$ (5^{+}) 291.7 $R(DCO)=0.56.4.$ 292.5 4.16 $16.335.6+x$ (7^{-}) $58.4×$ (6^{-}) $R(DCO)=0.72.8.$ 317.9 4.53 15 1449 $355.6+x$ (17^{-}) $88+x$ (16^{-}) 317.9 4.53 15 $1449.5+x$ (13^{-}) $117.16+x$ (12^{-}) $R(DCO)=0.51.3.$ 318.1 $8.85.5+x$ (13^{+}) $117.9+x$ (15^{-}) $R(DCO)=0.51.3.$ 311.8 8.4 $153.9+x$ (15^{-}) $219.8+x$ (15^{-}) $R(DCO)=0.51.3.$ 313.0 3.8 $11824.4+x$ (1^{+}) $1489.5+x$ (13^{-}) $R(DCO)=0.51.3.$ 314.9 3.13 $169.4+x$ (1^{-}) $239.2+x$ (1^{+}) $R(DCO)=0.51.3.$ 315.0 3.38 $11824.4+x$ (1^{+}) $1489.5+x$ (13^{-}) $R(DCO)=0.51.3.$ 316.9 3.38 $1285.5+x$ (18^{+}) $317.2+x$ (16^{+}) $2102.9+x$ (15^{-}) $R(DCO)=0.51.6.$ 317.9 0.33 $3.855.5+x$ (18^{+}) $122.9+x$ (15^{-}) $R(DCO)=0.51.6.$ 318.1 $18.34.4+x$ (17^{-}) $219.2+x$ (17^{+}) $210.2+x$ (18^{+}) $R(DCO)=0.51.6.$ 319.4 13.338 $13.865.5+x$ (18^{+})	243.7	0.6 9	382.6+x	(7^{-})	138.9+x (7 ⁻)	
2113 0.03 893 2+x (11) (41) 9+x (10) R(DCO)=0.08 <i>I</i> . 224. 1) 77 770 1+x (9) S17(5+x (7) R(DCO)=0.80 5=4. 245. 0.76 7 865 5+x (8) 6000 9+x (6^{7}) R(DCO)=0.94 9. 265.0 0.41 3 1612 1+x (12) 1347.1+x (11) R(DCO)=1.17 9. 274.1 387 19 336.1+x (8) 62.4 (6^{5}) R(DCO)=0.51 3. 278.4 6.60 20 1171.6+x (12) 893.2+x (11) R(DCO)=0.51 3. 285.0 0.40 3 1886.1+x (13) 1612.1+x (12) R(DCO)=0.51 3. 285.0 0.41 3 1612 (1+x (12) 1343.0+x (13) R(DCO)=0.56 4. 292.5 0.41 6 532.2+x (17) 138.9+x (7) R(DCO)=0.66 4. 302.1 4.88 16 1638.6+x (14') 138.0+x (13') R(DCO)=0.66 4. 302.1 4.88 16 1638.6+x (14') 1896.1+x (13) 302.1 0.30 3 2198.0+x (14') 1896.1+x (13') 302.1 0.30 3 2198.0+x (14') 1896.1+x (13') 307.6 11.4' 365.6+x (7') 382.6+x (7') R(DCO)=0.66 4. 311.7 0.65 4 694.3+x (9') 382.6+x (7') R(DCO)=0.51 3. 311.7 0.65 4 694.3+x (13') 101.6+x (12') R(DCO)=0.54 3. 311.7 0.55 4 694.3+x (13') 101.6+x (12') R(DCO)=0.54 3. 311.8 0.47 4 2519.8+x (15') 2198.0+x (14') 323.1 0.47 4 2519.8+x (15') 2198.0+x (14') 323.1 0.47 4 2519.8+x (15') 2198.0+x (14') 324.1 2.8 3 3 285.73+x (16') 2772.8+x (15') 335.0 3.38 1/1 182.4+x (14') 1489.5+x (13') 312.1 0.47 4 3117.3+x (16') 2172.8+x (15') 335.0 3.38 1/1 182.4+x (16') 215.3+x (15') 335.0 3.38 1/1 182.4+x (16') 215.3+x (15') 344.5 0.73 4 3117.3+x (16') 2172.8+x (15') 345.0 3.38 285.73+x (16') 219.9+x (15') 345.0 3.38 285.73+x (16') 219.5+x (15') 345.0 3.38 285.73+x (16') 219.5+x (15') 345.0 3.38 210 63.1 (15') 480.5+x (18') R(DCO)=0.55.4 345.1 70 70.69+x (19') 305.5+x (8') R(DCO)=0.76. 345.2 107 70.69+x (10') 305.5+x (8') R(DCO)=0.79.8 345.2 107 70.69+x (17') 3117.3+x (16') 345.2 107 70.69+x (17') 3117.3+x (16') 345.2 107 70.69+x (17') 3117.3+x (16') 345.5 416.67+x (20) 375.9+x (19') 345.5 416.67+x (244.1	0.74 4	1347.1 + x	(11^{-})	1103.0+x (10 ⁻)	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	251.3	9.0.3	893.2+x	(11^{-})	641.9+x (10 ⁻)	R(DCO)=0.68 1.
	252.4	1.17.7	770.1 + x	(9^+)	517.6+x (7 ⁺)	R(DCO)=0.805=4
$ \begin{aligned} \frac{2}{2} + \frac{2}{3} & 0.76 & 7 & 865 + x & (8^+) & 600.9 + x & (6^+) & R(DCO) = 0.94 9, \\ \frac{2}{3} + \frac{2}{3} + \frac{1}{3} + 1$	254.3	1.73 9	2471.4 + x	(14^{-})	$2217.1 + x (13^{-})$	
$ \begin{array}{c} 2650 & 0.41 & 3 & 1612.1+x & (12^{-}) & 1347.1+x & (11^{-}) & R(DCO)=0.010.5 \\ 2741 & 387.19 & 336.1+x & (8^{+}) & 62+x & (6^{+}) & R(DCO)=0.11.7 & 9. \\ 2778 & 0.66 & 10 & 511.6+x & (7^{+}) & 239.8+x & (5^{+}) & R(DCO)=0.51 & 3. \\ 2784 & 600 & 20 & 1171.6+x & (12^{-}) & 893.2+x & (11^{-}) & R(DCO)=0.56 & 4. \\ 229.5 & 0.41 & 6 & 532.2+x & (7^{+}) & 239.8+x & (5^{+}) & R(DCO)=0.56 & 4. \\ 292.5 & 0.41 & 6 & 532.2+x & (7^{+}) & 239.8+x & (5^{+}) & R(DCO)=0.66 & 4. \\ 301.4 & 0.61 & 5 & 2772.8+x & (15^{-}) & 138.9+x & (7^{-}) & R(DCO)=0.66 & 4. \\ 301.4 & 0.61 & 5 & 2772.8+x & (15^{-}) & 2171.4+x & (13^{+}) & R(DCO)=0.998 & 8. \\ 311.7 & 0.65 & 4 & 694.3+x & (9^{-}) & 382.6+x & (7^{-}) & R(DCO)=0.998 & 8. \\ 311.9 & 0.65 & 1 & 489.8+x & (13^{+}) & 1016.9+x & (12^{+}) & R(DCO)=0.56 & 3. \\ 321.1 & 8.8 & 3 & 1338.0+x & (13^{+}) & 1016.9+x & (12^{+}) & R(DCO)=0.56 & 3. \\ 321.3 & 0.47 & 2519.8+x & (15^{+}) & 2198.0+x & (14^{+}) & 328.7 & 203.13 & 694.3+x & (9^{-}) & 365.6+x & (7^{-}) & R(DCO)=0.074 & 6. \\ 335.0 & 3.38 & 11 & 182.4+x & (14^{-}) & 1489.5+x & (13^{+}) & R(DCO)=0.074 & 6. \\ 336.0 & 0.38 & 3 & 2857.3+x & (16^{-}) & 219.8+x & (15^{+}) & R(DCO)=0.75 & 6. \\ 337.3 & 4.04 & 15 & 803.5+x & (17^{+}) & 532.3+x & (16^{-}) & R(DCO)=0.75 & 6. \\ 356. & 0.34 & 3 & 331.5+x & (17^{-}) & 287.3+x & (16^{-}) & R(DCO)=0.70 & 6. \\ 370.3^{8} & 0.35 & 10 & 706.9+x & (8^{-}) & 336.1+x & (8^{+}) & R(DCO)=0.70 & 6. \\ 370.3^{8} & 0.35 & 10 & 706.9+x & (8^{-}) & 336.1+x & (8^{+}) & R(DCO)=0.70 & 6. \\ 370.3^{8} & 0.35 & 10 & 706.9+x & (8^{-}) & 336.1+x & (8^{+}) & R(DCO)=0.70 & 6. \\ 370.3^{8} & 0.35 & 10 & 706.9+x & (8^{-}) & 336.1+x & (8^{+}) & R(DCO)=0.70 & 6. \\ 370.3^{8} & 0.35 & 10 & 706.9+x & (8^{-}) & 336.1+x & (8^{+}) & R(DCO)=0.70 & 6. \\ 370.3^{8} & 0.35 & 10 & 706.9+x & (8^{-}) & 336.1+x & (8^{+}) & R(DCO)=0.70 & 7. \\ 380.4 & 2.45 & 10 & 366.1+x & (17^{-}) & 256.1+x & (17^{-}) & R(DCO)=0.50 & 5. \\ 380.4 & 2.45 & 10 & 366.1+x & (19^{-}) & 3350.3+x & (17^{-}) & R(DCO)=0.70 & 7. \\ 380.4 & 2.45 & 10 & 368.1+x & (19^{+}) & 3216.$	264.5	0.76.7	865.5+x	(8^+)	600.9+x (6 ⁺)	R(DCO)=0.94.9
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	265.0	0.41 3	1612.1 + x	(12^{-})	$1347.1 + x (11^{-})$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	274.1	3.87 19	336.1+x	(8^+)	62+x (6 ⁺)	R(DCO)=1.17 9.
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	277.8	0.66 10	517.6+x	(7^+)	239.8+x (5 ⁺)	
283.9 0.40 3 1896.1+x (13 ⁻) 1612.1+x (12 ⁻) (12 ⁻) 290.6 4.88 16 1628.6+x (14 ⁺) 1338.0+x (13 ⁺) R(DCO)=0.56 4. 292.5 0.41 6 532.2+x (7 ⁺) 239.8+x (5 ⁺) 295.5 4.16 18 434.4+x (9 ⁻) 138.9+x (7 ⁺) R(DCO)=0.66 4. 301.4 0.61 5 2772.8+x (15 ⁻) 2471.4+x (14 ⁻) 302.1 0.30 3 2198.0+x (14 ⁻) 1896.1+x (13 ⁻) 307.6 1.4 4 365.6+x (7 ⁻) S4+x (6 ⁻) R(DCO)=0.72 8. 311.7 0.65 4 694.3+x (9 ⁻) 382.6+x (7 ⁻) R(DCO)=0.99 8. 311.7 0.65 4 694.3+x (9 ⁻) 385.6+x (7 ⁻) R(DCO)=0.54 3. 321.1 8.8 3 1338.0+x (13 ⁺) 1016.9+x (12 ⁺) R(DCO)=0.56 3. 321.3 0.47 4 2519.8+x (15 ⁻) 2198.0+x (14 ⁻) 333.0 0.32 5 865.5+x (8 ⁺) 532.2+x (7 ⁺) R(DCO)=0.64 5. 335.0 0.38 1 1824.4+x (14 ⁻) 1489.5+x (15 ⁻) 347.9 0.30 3 865.5+x (8 ⁺) 517.6+x (7 ⁺) 355.6 0.34 3 3213.6+x (11 ⁺) 240.8+x (15 ⁻) 347.9 0.30 3 865.5+x (8 ⁺) 517.6+x (7 ⁺) 355.6 0.34 3 3213.6+x (11 ⁺) 240.5+x (15 ⁻) 347.9 0.30 3 865.5+x (11 ⁺) 440.2+x (9 ⁺) R(DCO)=0.75 6. 361.5 2.80 10 2376.8+x (16 ⁺) 2015.3+x (15 ⁺) R(DCO)=0.104 1. 364.3 1.59 1229.8+x (10 ⁺) 865.5+x (8 ⁺) 373.4 0.41 5 803.5+x (11 ⁺) 440.2+x (9 ⁺) R(DCO)=0.104 1. 364.3 1.59 1229.8+x (10 ⁺) 243.8+x (15 ⁻) R(DCO)=0.70 6. 370.8 [#] 0.35 10 706.9+x (15 ⁻) 182.4+x (14 ⁺) R(DCO)=0.70 6. 370.8 [#] 0.35 10 706.9+x (15 ⁻) 182.4+x (14 ⁺) R(DCO)=0.70 7. 373.8 5.90 21 143.9+x (11 ⁺) 72.1+x (9 ⁺) R(DCO)=0.104 1. 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3503.2+x (17 ⁻) 317.3+x (16 ⁻) 385.9 0.60 3 3	278.4	6.00 20	1171.6+x	(12^{-})	893.2+x (11 ⁻)	R(DCO)=0.51 3.
2906 4.88 /6 $1628.6+x$ (14^+) $1338.9+x$ (13^+) $R(DCO)=0.56 4.$ 292.5 $4.16 / 8$ $434.4+x$ (9^-) $138.9+x$ (7^+) $R(DCO)=0.66 4.$ 301.4 $0.61 5$ $2772.8+x$ (15^-) $2471.4+x$ (14^-) 307.6 $1.4 4$ $355.6+x$ (7^-) $58+x$ (6^-) $R(DCO)=0.72.8.$ 317.9 $4.63 / 5$ $1489.5+x$ (13^-) $189.1+x$ (13^-) $R(DCO)=0.99.8.$ 317.9 $4.63 / 5$ $1489.5+x$ (13^-) $189.1+x$ (12^-) $R(DCO)=0.99.8.$ 317.9 $4.63 / 5$ $1489.5+x$ (13^-) $1171.6+x$ (12^-) $R(DCO)=0.54.3.$ 321.1 $0.65 4$ $694.3+x$ (9^-) $352.6+x$ (7^-) $R(DCO)=0.56.3.$ 321.3 $0.47 4$ $2519.8+x$ (15^-) $2198.0+x$ (14^-) $R(DCO)=0.65 5.$ 335.0 $3.38 / I$ $1824.4+x$ (14^-) $1489.5+x$ (13^-) $R(DCO)=0.65 5.$ 335.0 $3.38 / I$ $1824.4+x$ (14^-) $1489.5+x$ (13^-) $R(DCO)=0.65 5.$ 344.5 $0.73 4$ $3117.3+x$ (16^-) $2519.8+x$ (15^-) 344.5 $0.73 4$ $31213.6+x$ (17^+) $2857.3+x$ (16^-) 357.3 $4.04 / 5$ $803.5+x$ (11^+) $446.2+x$ (9^+) $R(DCO)=0.75 6.$ 364.3 $1.59 9$ $1229.8+x$ (10^+) $865.5+x$ (8^+) $R(DCO)=1.04 I.I.$ 368.4 $2.54 9$ $2192.9+x$ (15^-) $1824.4+x$ (14^-) $R(DCO)=0.79 3.$ 373.8 $5.00 2.37 (8^+)$ (8^-) $335.1+x$ (8^+) 373.2 $2.06 8 2566.1+x$ (16^-) $2192.9+x$ (15^-) $R(DCO)=0.79 3.$ 373.8 $5.90 1.63 350.3+x$ (18^+) $2962.1+x$ (17^-) $R(DCO)=0.10.3.$ 379.4 $5.81 2 I$ $641.9+x$ (10^-) $226.5+x$ (8^+) $R(DCO)=1.00 1.3.$ 379.4 $5.81 2 I$ $641.9+x$ (10^-) $226.5+x$ (8^+) $R(DCO)=0.79 3.$ 373.8 $5.90 1.63 350.3+x$ (18^+) $2796.9+x$ (18^-) $R(DCO)=0.79 3.$ 373.8 $5.90 1.63 350.3+x$ (18^+) $2796.9+x$ (18^-) $R(DCO)=0.79 4.$ 402.3 $1.62 4.84 4.84 (19^+)$ $330.3+x$ (18^+) $R(DCO)=0.59 7.$ 422.3 $0.67 4$ $3915.5+x$ (18^+) $2796.9+x$ (17^-) $R(DCO)=0.79 4.$ 423.9 $0.70 4$ $434.94 +x$ (19^-) $330.3+x$ (18^+) $R(DCO)=0.59 7.$ 424.9 $2.45 $	283.9	0.40 3	1896.1+x	(13^{-})	$1612.1 + x (12^{-})$	
2925 0.41 6 532.2+x ($\dot{\tau}'$) 239.8+x ($\dot{\tau}'$) 295.5 4.16 18 434.4+x ($\dot{\tau}'$) 138.9+x ($\dot{\tau}'$) 302.1 0.30 3 2198.0+x (\dot{t}') 138.9+x ($\dot{\tau}'$) 302.1 0.30 3 2198.0+x (\dot{t}') 188.9+x (\dot{t}') 307.6 1.4 4 365.6+x ($\dot{\tau}'$) 58+x (\dot{t}') R(DCO)=0.72 8. 311.7 0.65 4 694.3+x ($\dot{\tau}'$) 382.6+x ($\dot{\tau}'$) R(DCO)=0.99 8. 317.9 4.63 J5 1489.5+x (\dot{t}'') 382.6+x ($\dot{\tau}''$) R(DCO)=0.54 3. 321.1 8.8 3 138.0+x (\dot{t}'') 101.6.9+x (\dot{t}'') R(DCO)=0.55 3. 321.3 0.47 4 2519.8+x (\dot{t}'') 2198.0+x (\dot{t}'') R(DCO)=0.55 5. 333.0 0.38 J 1854.4+x (\dot{t}'') 2198.0+x (\dot{t}'') R(DCO)=0.65 5. 335.0 3.38 J1 182.4+x (\dot{t}'') 2519.8+x (\dot{t}'') R(DCO)=0.74 6. 336.0 0.38 3 2857.3+x (\dot{t}'') 2517.6+x (\dot{t}'') 344.5 0.73 4 3117.3+x (\dot{t}'') 2287.3+x (\dot{t}'') R(DCO)=0.74 6. 357.3 4.04 17.8 30.5+x (\dot{t}'') 217.6+x (\dot{t}'') R(DCO)=0.75 6. 361.5 2.80 10 2376.8+x (\dot{t}'') 217.6+x (\dot{t}'') R(DCO)=0.75 6. 361.5 2.80 10 2376.8+x (\dot{t}'') 2015.3+x (\dot{t}'') R(DCO)=0.70 6. 370.8 ⁴ 0.35 10 706.9+x (\dot{t}'') 336.1+x (\dot{t}'') R(DCO)=0.70 7. 373.4 5.9 2129.8+x (\dot{t}'') 2192.9+x (\dot{t}'') R(DCO)=0.70 7. 373.4 5.9 0.21 143.9+x (\dot{t}'') 2192.9+x (\dot{t}'') R(DCO)=0.70 7. 373.4 5.9 0.21 143.9+x (\dot{t}'') 2192.9+x (\dot{t}'') R(DCO)=0.70 8. 379.4 5.81 21 641.9+x (\dot{t}'') 2192.9+x (\dot{t}'') R(DCO)=1.04 17. 386.7 4.50 15 205.3+x (\dot{t}'') 1317.3+x (\dot{t}'') R(DCO)=1.04 3. 379.4 5.81 21 641.9+x (\dot{t}'') 2192.9+x (\dot{t}'') R(DCO)=1.04 4. 388.2 1.57 6 350.3+x (\dot{t}'') 1317.3+x (\dot{t}'') R(DCO)=0.57 4. 388.2 1.57 6 350.3+x (\dot{t}'') 1350.3+x (\dot{t}'') R(DCO)=0.57 4. 388.2 1.57 6 350.3+x (\dot{t}'') 1350.3+x (\dot{t}'') R(DCO)=0.48 7. 412.3 0.67 4 391.5+x (\dot{t}'') 2350.3+x (\dot{t}'') R(DCO)=0.59 7. 422.1 2.62 10 2798.9+x (\dot{t}'') 2350.3+x (\dot{t}'') R(DCO)=0.59 7. 423.1 0.57 4 391.5+x (\dot{t}'') 336.1+x (\dot{t}'') R(DCO)=0.59 7. 424.2 2.80 14 70.1+x (\dot{t}'') 336.1+x (\dot{t}'') R(DCO)=0.59 7. 424.2 2.80 14 70.1+x (\dot{t}'') 336.1+x (\dot{t}'') R(DCO)=0.59 7. 424.2 2.80 14	290.6	4.88 16	1628.6+x	(14^+)	1338.0+x (13 ⁺)	R(DCO)=0.56 4.
2955 4.16 <i>I</i> 8 434.4+x (p ⁻¹) 138.9+x (1 ⁻¹) R(DCO)=0.66 <i>A</i> . 301.4 0.61 5 2772.8+x (15 ⁻¹) 2471.4+x (14 ⁻¹) 307.6 1.4 <i>4</i> 365.6+x (7 ⁻¹) 58+x (6 ⁻¹) R(DCO)=0.72 <i>B</i> . 317.9 0.65 4 694.3+x (9 ⁻¹) 382.6+x (7 ⁻¹) R(DCO)=0.99 <i>B</i> . 317.9 4.63 <i>I</i> 5 1489.5+x (13 ⁻¹) 1171.6+x (12 ⁻¹) R(DCO)=0.54 <i>A</i> . 321.1 8.8 1 338.0+x (13 ⁺¹) 106.9+x (12 ⁻¹) R(DCO)=0.56 <i>A</i> . 321.3 0.47 <i>4</i> 2519.8+x (15 ⁻¹) 2198.0+x (14 ⁻¹) 328.7 2.03 <i>I</i> 3 694.3+x (9 ⁻¹) 365.6+x (7 ⁻¹) R(DCO)=0.104 <i>T</i> . 333.3 0.52 865.5+x (8 ⁺¹) 532.2+x (7 ⁺¹) R(DCO)=0.65 <i>S</i> . 335.0 3.38 <i>II</i> 1824.4+x (14 ⁻¹) 1489.5+x (13 ⁻¹) R(DCO)=0.74 <i>G</i> . 336.0 0.38 285.7+x (16 ⁻¹) 219.8+x (15 ⁻¹) 344.5 0.73 <i>A</i> 3117.3+x (16 ⁻¹) 219.8+x (15 ⁻¹) 347.9 0.30 3 865.5+x (8 ⁺¹) 517.6+x (7 ⁺¹) 355.6 0.34 3 3213.6+x (11 ⁺¹) 2857.3+x (16 ⁻¹) 365.4 1.5 ² 219.8+x (16 ⁻¹) 2153.4+x (16 ⁻¹) 375.3 4.04 <i>I</i> 5 803.5+x (11 ⁺¹) 246.2+x (9 ⁺¹) R(DCO)=0.75 <i>G</i> . 364.3 1.59 9 1229.8+x (10 ⁺¹) 885.5+x (8 ⁺¹) R(DCO)=0.70 <i>G</i> . 370.8 ⁴⁰ 0.35 <i>I</i> 0 70.6.9+x (8 ⁻¹) 33.6.1+x (8 ⁺¹) 373.2 2.06 <i>B</i> 2566.1+x (16 ⁻¹) 219.2.9+x (15 ⁻¹) R(DCO)=0.70 <i>G</i> . 370.8 ⁴¹ 0.35 <i>I</i> 0 70.6.9+x (8 ⁻¹) 33.6.1+x (8 ⁺¹) 373.2 2.06 <i>B</i> 2566.1+x (16 ⁻¹) 219.2.9+x (15 ⁻¹) R(DCO)=0.79 <i>J</i> . 373.8 5.90 2 <i>I</i> 1143.9+x (11 ⁺¹) 770.1+x (9 ⁺¹) R(DCO)=0.79 <i>J</i> . 373.8 5.90 2 <i>I</i> 1143.9+x (11 ⁺¹) 701.4+x (16 ⁻¹) R(DCO)=0.79 <i>J</i> . 373.8 5.90 2 <i>I</i> 1143.9+x (11 ⁺¹) 701.4+x (16 ⁺¹) R(DCO)=0.55 <i>J</i> . 388.4 2.157 6 3350.3+x (18 ⁻¹) 2962.1+x (17 ⁻¹) R(DCO)=0.59 <i>J</i> . 388.5 4168.7+x (20 ⁻¹) 375.9+x (19 ⁻¹) 335.3+x (18 ⁻¹) R(DCO)=0.59 <i>J</i> . 408.8 0.85 5 4168.7+x (18 ⁻¹) 2963.2+x (17 ⁻¹) R(DCO)=0.90 <i>J</i> . 408.8 0.85 5 4168.7+x (20 ⁻¹) 375.9+x (19 ⁻¹) R(DCO)=0.59 <i>J</i> . 428.9 2.45 <i>I</i> 0 3648.1+x (18 ⁺¹) 2963.2+x (17 ⁻¹) R(DCO)=0.59 <i>J</i> . 428.9 2.45 <i>I</i> 0 3648.1+x (18 ⁺¹) 3219.2+x (18 ⁺¹) R(DCO)=0.59 <i>J</i> . 428.9 2.45 <i>I</i> 0 3648.1+x (18 ⁺¹) 3219.2+x (18 ⁺¹) R(DCO)=0.59 <i>J</i> . 428.9 2.45 <i>I</i> 0 3648.1+x (18 ⁺¹) 3219.2+x (18 ⁺¹) R(DCO)=0.59 <i>J</i> . 428.9 2.45 <i>I</i> 0 3648.1+x (19 ⁺¹)	292.5	0.41 6	532.2+x	$(7^{+})^{\prime}$	$239.8 + x (5^+)$	
301.4 0.61 5 2772.8+x (15 ⁺) 2471.4+x (14 ⁺) 302.1 0.30 3 2198.0+x (14 ⁺) 1896.1+x (13 ⁻) 307.6 1.4 4 365.6+x (7 ⁻) 58+x (6 ⁻) R(DCO)=0.72.8. 311.7 0.65 4 694.3+x (9 ⁻) 382.6+x (7 ⁻) R(DCO)=0.99.8. 311.7 4.63 15 1489.5+x (13 ⁺) 1016.9+x (12 ⁺) R(DCO)=0.56 3. 321.1 8.8 3 1338.0+x (13 ⁺) 1016.9+x (12 ⁺) R(DCO)=0.56 3. 328.7 2.03 13 694.3+x (9 ⁻) 365.6+x (7 ⁻) R(DCO)=0.104 7. 333.3 0.52 5 865.5+x (8 ⁺) 532.2+x (7 ⁺) R(DCO)=0.104 7. 335.0 3.38 1/ 1824.4+x (14 ⁻) 1489.5+x (15 ⁻) 335.0 3.38 1/ 1824.4+x (14 ⁻) 1489.5+x (15 ⁻) 344.5 0.73 4 3117.3+x (16 ⁻) 2772.8+x (15 ⁻) 344.5 0.73 4 3117.3+x (16 ⁻) 2772.8+x (15 ⁻) 344.5 0.73 4 3117.3+x (16 ⁻) 2772.8+x (15 ⁻) 355.6 0.34 3 3213.6+x (17 ⁻) 2857.3+x (16 ⁺) 355.6 0.34 3 3213.6+x (17 ⁻) 2857.3+x (16 ⁺) 355.6 0.34 1.59 9 1229.8+x (10 ⁺) 865.5+x (8 ⁺) R(DCO)=0.75 6. 361.3 1.59 9 1229.8+x (10 ⁺) 865.5+x (8 ⁺) R(DCO)=0.70 6. 370.8 [#] 0.35 10 706.9+x (8 ⁻) 336.1+x (8 ⁺) 373.2 2.66 8 2566.1+x (16 ⁺) 2192.9+x (15 ⁻) R(DCO)=0.79 3. 373.4 5.81 2/ 641.9+x (10 ⁺) 262.5+x (8 ⁺) R(DCO)=1.00 3. 379.4 5.81 2/ 641.9+x (10 ⁻) 262.5+x (8 ⁺) R(DCO)=1.00 3. 379.4 5.81 2/ 641.9+x (10 ⁻) 262.5+x (8 ⁺) R(DCO)=0.79 8. 408.8 0.85 5 41.68.7+x (15 ⁺) 1628.6+x (14 ⁺) R(DCO)=0.48 4. 396.0 1.95 7 2962.1+x (17 ⁻) 2566.1+x (16 ⁻) R(DCO)=0.48 7. 412.3 0.67 4 3915.5+x (18 ⁺) 350.3+x (18 ⁺) R(DCO)=0.55 5. 428.9 1.45 10 3648.1+x (19 ⁺) 319.2+x (18 ⁺) R(DCO)=0.59 7. 422.1 2.62 10 2798.9+x (17 ⁺) 276.8+x (16 ⁺) R(DCO)=0.55 5. 428.9 2.45 10 3648.1+x (19 ⁺) 219.2+x (18 ⁺) R(DCO)=0.48 4. 396.0 1.95 7 2962.1+x (17 ⁺) 236.8+x (16 ⁺) R(DCO)=0.55 5. 428.9 2.45 10 3648.1+x (19 ⁺) 319.2+x (18 ⁺) R(DCO)=0.57 4. 429.7 0.21 6 4353.9,3+x (18 ⁺) 350.3+x (18 ⁺) R(DCO)=0.57 7. 422.1 2.62 10 2798.9+x (17 ⁺) 2376.8+x (16 ⁺) R(DCO)=0.57 7. 422.1 2.62 10 2798.9+x (17 ⁺) 2376.8+x (16 ⁺) R(DCO)=0.57 7. 423.1 2.62 10 2798.9+x (17 ⁺) 336.1+x (8 ⁺) R(DCO)=0.19 12. 433.9 0.70 4 4349.4+x (9 ⁻) 336.1+x (8 ⁺) R(DCO)=0.79 4. 434.8 0.51	295.5	4.16 18	434.4+x	(9-)	138.9 + x (7 ⁻)	R(DCO)=0.66 4.
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	301.4	0.61 5	2772.8+x	(15^{-})	2471.4+x (14 ⁻)	
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	302.1	0.30 3	2198.0+x	(14^{-})	1896.1+x (13 ⁻)	
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	307.6	1.4 4	365.6+x	$(7^{-})^{-}$	58+x (6 ⁻)	R(DCO)=0.72 8.
$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	311.7	0.65 4	694.3+x	(9-)	382.6+x (7 ⁻)	R(DCO)=0.99 8.
321.18.8.31338.0+x(13 ⁺) $1016.9+x$ (12^+) $R(DCO)=0.56.3.$ 321.3 $0.47.4$ $2519.8+x$ (15^-) $2198.0+x$ (14^-) 333.3 $0.52.5$ $865.5+x$ (8^+) $532.2+x$ (7^+) $R(DCO)=1.04.7.$ 333.0 $0.38.3$ $2857.3+x$ (16^-) $2519.8+x$ (15^-) 344.5 $0.73.4$ $3117.3+x$ (16^-) $2519.8+x$ (15^-) 344.5 $0.73.4$ $3117.3+x$ (16^-) $2772.8+x$ (15^-) 355.6 $0.34.3$ $3213.6+x$ (11^+) $446.2+x$ (9^+) $R(DCO)=0.75.6.$ 315.5 2.010 $2376.8+x$ (16^+) $2015.3+x$ (15^-) 364.4 $2.54.9$ $2192.9+x$ (15^-) $1824.4+x$ (14^-) $R(DCO)=0.70.6.$ $370.8^{#}$ 0.510 $706.9+x$ (8^-) $336.1+x$ (8^+) 372.2 20.68 $2566.1+x$ (16^+) $2192.9+x$ (15^-) $R(DCO)=0.79.3.$ 373.8 $5.902.11$ $1143.9+x$ (10^-) $262.5+x$ (8^+) $R(DCO)=1.04.7.$ 385.9 $0.60.3$ $3503.2+x$ (17^-) $R(DCO)=0.55.4.$ (18^-) 385.9 $0.63.3$ $3503.2+x$ (17^-) $R(DCO)=0.55.4.$ (18^-) 385.9 $10.53.2+x$ (18^+) $2796.9+x$ (17^-) $8(DCO)=0.48.7.$ 385.9 16.3^+ (18^+) $2798.9+x$ (17^-) $8(DCO)=0.59.7.$ 385.9 16.3^+ (18^+) <t< td=""><td>317.9</td><td>4.63 15</td><td>1489.5+x</td><td>(13^{-})</td><td>1171.6+x (12⁻)</td><td>R(DCO) = 0.54 3.</td></t<>	317.9	4.63 15	1489.5+x	(13^{-})	1171.6+x (12 ⁻)	R(DCO) = 0.54 3.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	321.1	8.8 <i>3</i>	1338.0+x	(13^{+})	$1016.9 + x (12^+)$	R(DCO)=0.56 3.
$\begin{array}{llllllllllllllllllllllllllllllllllll$	321.3	0.47 4	2519.8+x	(15^{-})	2198.0+x (14 ⁻)	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	328.7	2.03 13	694.3+x	(9 ⁻)	365.6+x (7 ⁻)	R(DCO)=1.04 7.
$\begin{array}{llllllllllllllllllllllllllllllllllll$	333.3	0.52 5	865.5+x	(8^{+})	532.2+x (7 ⁺)	R(DCO)=0.65 5.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	335.0	3.38 11	1824.4+x	(14^{-})	1489.5+x (13 ⁻)	R(DCO)=0.74 6.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	336.0	0.38 3	2857.3+x	(16 ⁻)	2519.8+x (15 ⁻)	
$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	344.5	0.73 4	3117.3+x	(16 ⁻)	2772.8+x (15 ⁻)	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	347.9	0.30 3	865.5+x	(8^{+})	517.6+x (7 ⁺)	
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	355.6	0.34 3	3213.6+x	(17^{-})	2857.3+x (16 ⁻)	
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	357.3	4.04 15	803.5+x	(11^{+})	$446.2 + x (9^+)$	R(DCO)=0.75 6.
364.3 $1.59 \ 9$ $1229.8+x$ (10^+) $865.5+x$ (8^+) $R(DCO)=1.04 \ 1/.$ 368.4 $2.54 \ 9$ $2192.9+x$ (15^-) $1824.4+x$ (14^-) $R(DCO)=0.70 \ 6.$ 370.8 $0.35 \ 10$ $706.9+x$ (8^-) $336.1+x$ (8^+) 373.2 $2.06 \ 8$ $2566.1+x$ (16^-) $2192.9+x$ (15^-) $R(DCO)=0.79 \ 3.$ 373.8 $5.90 \ 21$ $1143.9+x$ (11^+) $770.1+x$ (9^+) $R(DCO)=1.00 \ 3.$ 379.4 $5.81 \ 21$ $641.9+x$ (10^-) $262.5+x$ (8^-) $R(DCO)=1.40 \ 7.$ 385.9 $0.60 \ 3$ $3503.2+x$ (17^-) $3117.3+x$ (16^-) 386.7 $4.50 \ 15$ $2015.3+x$ (18^-) $2962.1+x$ (17^-) 396.0 $1.95 \ 7$ $2962.1+x$ (17^-) $2566.1+x$ (16^-) 806.0 $1.95 \ 7$ $2962.1+x$ (17^-) $3503.3+x$ (18^-) 408.8 $0.85 \ 5$ $4168.7+x$ (20^-) $3759.9+x$ (19^-) 409.6 $1.11 \ 5$ $3759.9+x$ (19^-) $3503.2+x$ (17^-) 422.1 $2.62 \ 10$ $2798.9+x$ (17^+) $3275.9+x$ (16^+) 422.1 $2.62 \ 10$ $2798.9+x$ (17^+) $3275.9+x$ (16^-) 422.1 $2.62 \ 10^- 2798.9+x$ (17^+) $3276.8+x$ (16^+) 422.1 $2.62 \ 10^- 2798.9+x$ (17^+) $3219.2+x$ (18^+) 423.1 $0.51 \ 5$ $694.3+x$ (9^-) 26	361.5	2.80 10	2376.8+x	(16^{+})	$2015.3 + x (15^+)$	R(DCO)=0.50 5.
368.4 2.54 9 $2192.9+x$ (15^-) $1824.4+x$ (14^-) $R(DCO)=0.70$ $6.$ 370.8 0.35 10 $706.9+x$ (8^-) $336.1+x$ (8^+) 373.2 2.06 8 $2566.1+x$ (16^-) $2192.9+x$ (15^-) $R(DCO)=0.79$ 373.8 5.90 21 $1143.9+x$ (11^+) $770.1+x$ (9^+) $R(DCO)=1.00$ 379.4 5.81 21 $641.9+x$ (10^-) $262.5+x$ (8^-) $R(DCO)=1.40$ 385.9 0.60 3 $3503.2+x$ (17^-) $3117.3+x$ (16^-) 386.7 4.50 15 $2015.3+x$ (15^+) $1628.6+x$ (14^+) $R(DCO)=0.55$ 386.7 4.50 15 $2015.3+x$ (18^-) $2962.1+x$ (17^-) $R(DCO)=0.79$ 396.0 1.95 7 $2962.1+x$ (17^-) $2566.1+x$ (19^-) 408.8 0.85 5 $4168.7+x$ (20^-) $3759.9+x$ (19^-) 409.6 1.11 5 $3759.9+x$ (19^-) $3503.2+x$ (17^-) 422.3 0.67 4 $3915.5+x$ (18^-) $R(DCO)=0.59$ $7.$ 422.1 2.62 10 $2798.9+x$ (17^+) $2376.8+x$ (16^+) $R(DCO)=0.59$ $7.$ 422.1 2.62 10 $2798.9+x$ (17^+) $2376.8+x$ (16^+) $R(DCO)=0.59$ $7.$ 422.1 2.62 10 $3648.1+x$ (19^-) 3219.2	364.3	1.59 9	1229.8+x	(10^{+})	$865.5 + x (8^+)$	R(DCO)=1.04 11.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	368.4	2.54 9	2192.9+x	(15^{-})	$1824.4 + x (14^{-})$	R(DCO)=0.70 6.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	370.8 #	0.35 10	706.9+x	(8-)	336.1+x (8 ⁺)	
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	373.2	2.06 8	2566.1+x	(16 ⁻)	2192.9+x (15 ⁻)	R(DCO)=0.79 3.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	373.8	5.90 21	1143.9+x	(11^{+})	$770.1 + x (9^+)$	R(DCO)=1.00 3.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	379.4	5.81 21	641.9+x	(10^{-})	262.5+x (8 ⁻)	R(DCO)=1.40 7.
$\begin{array}{llllllllllllllllllllllllllllllllllll$	385.9	0.60 3	3503.2+x	(17^{-})	$3117.3 + x (16^{-})$	
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	386.7	4.50 15	2015.3+x	(15^{+})	$1628.6+x (14^+)$	R(DCO)=0.55 4.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	388.2	1.57 6	3350.3+x	(18)	2962.1 + x (17)	$R(DCO) = 0.48 \ 4.$
408.8 $0.85.5$ $4168.7+x$ (20^{-}) $3759.9+x$ (19^{-}) 409.6 $1.11.5$ $3759.9+x$ (19^{-}) $3350.3+x$ (18^{-}) $R(DCO)=0.48.7.$ 412.3 $0.67.4$ $3915.5+x$ (18^{-}) $3503.2+x$ (17^{-}) $R(DCO)=0.59.7.$ 420.3 $1.92.8$ $3219.2+x$ (18^{+}) $2798.9+x$ (17^{+}) $R(DCO)=0.59.7.$ 422.1 $2.62.10$ $2798.9+x$ (17^{+}) $2376.8+x$ (16^{+}) $R(DCO)=0.48.4.$ 429.7 $0.21.6$ $4539.3+x$ (21^{+}) $4109.6+x$ (20^{+}) 431.8 $0.51.5$ $694.3+x$ (9^{-}) $262.5+x$ (8^{-}) $R(DCO)=0.91.12.$ 433.9 $0.70.4$ $4349.4+x$ (19^{-}) $3915.5+x$ (18^{-}) 434.2 $2.80.14$ $770.1+x$ (9^{+}) $336.1+x$ (8^{+}) $R(DCO)=0.79.4.$ 439.4 $8.2.3$ $1016.9+x$ (12^{+}) $577.5+x$ (10^{+}) $R(DCO)=0.87.3.$ 443.0 $1.40.6$ $5487.9+x$ (23^{+}) $5045.0+x$ (22^{+})	396.0	1.95 /	2962.1+x	(1/)	2566.1 + x (16)	R(DCO)=0.79 8.
409.61.11 5 $5759.9+x$ (19) $5350.3+x$ (18) $R(DCO)=0.487$.412.30.67 43915.5+x (18^-) $3503.2+x$ (17^-) 420.31.92 8 $3219.2+x$ (18^+) $2798.9+x$ (17^+) $R(DCO)=0.597$.422.12.62 10 $2798.9+x$ (17^+) $2376.8+x$ (16^+) $R(DCO)=0.555$.428.92.45 10 $3648.1+x$ (19^+) $3219.2+x$ (18^+) $R(DCO)=0.484$.429.70.21 6 $4539.3+x$ (21^+) $4109.6+x$ (20^+) 431.80.51 5 $694.3+x$ (9^-) $262.5+x$ (8^-) $R(DCO)=0.9112$.433.90.70 4 $4349.4+x$ (19^-) $3915.5+x$ (18^-) 434.22.80 14 $770.1+x$ (9^+) $336.1+x$ (8^+) $R(DCO)=0.794$.439.48.2 3 $1016.9+x$ (12^+) $577.5+x$ (10^+) $R(DCO)=0.873$.443.01.40 6 $5487.9+x$ (23^+) $5045.0+x$ (22^+)	408.8	0.85 5	4168./+x	(20)	3/59.9+x (19)	R(RCO) 0.49.7
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	409.0	1.11 3	3/39.9+X	(19)	3330.3 + X (18)	R(DCO)=0.48 /.
420.5 $1.92.8$ $5219.2+x$ (17) $R(DCO)=0.597$. 422.1 $2.62.10$ $2798.9+x$ (17^+) $2376.8+x$ (16^+) $R(DCO)=0.555$. 428.9 $2.45.10$ $3648.1+x$ (19^+) $3219.2+x$ (18^+) $R(DCO)=0.484$. 429.7 $0.21.6$ $4539.3+x$ (21^+) $4109.6+x$ (20^+) 431.8 $0.51.5$ $694.3+x$ (9^-) $262.5+x$ (8^-) $R(DCO)=0.9112$. 433.9 $0.70.4$ $4349.4+x$ (19^-) $3915.5+x$ (18^-) 434.2 $2.80.14$ $770.1+x$ (9^+) $336.1+x$ (8^+) $R(DCO)=0.794$. 439.4 $8.2.3$ $1016.9+x$ (12^+) $577.5+x$ (10^+) $R(DCO)=0.873$. 443.0 $1.40.6$ $5487.9+x$ (23^+) $5045.0+x$ (22^+)	412.5	0.07 4	$3913.3 \pm x$	(10)	$3303.2 \pm x$ (17) $2708.0 \pm x$ (17 ⁺)	P(DCO) = 0.50.7
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	420.5	1.92 0	3219.2+X	(10) (17^+)	$2/98.9 \pm x$ (17) $2276.8 \pm x$ (16 ⁺)	R(DCO)=0.597.
428.9 2.45 10 5040.1+x (19') 3219.2+x (18') R(DCO)=0.48'4. 429.7 0.21 6 4539.3+x (21') 4109.6+x (20') 431.8 0.51 5 694.3+x (9') 262.5+x (8') R(DCO)=0.91 12. 433.9 0.70 4 4349.4+x (19'') 3915.5+x (18'') 434.2 2.80 14 770.1+x (9'') 336.1+x (8'') R(DCO)=0.79 4. 439.4 8.2 3 1016.9+x (12'') 577.5+x (10'') R(DCO)=0.87 3. 443.0 1.40 6 5487.9+x (23'') 5045.0+x (22'')	422.1	$2.02\ 10$ $2.45\ 10$	$2/90.9 \pm x$	(17) (10^{+})	2370.0+x (10) 2210.2+x (18 ⁺)	$R(DCO) = 0.33 \ 3.$
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	420.9	0.21.6	$3040.1 \pm x$	(19) (21^+)	$3219.2 \pm x$ (10) $4100.6 \pm x$ (20 ⁺)	K(DCO)=0.40 4.
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	431.8	0.51.5	694.3+x	(2^{-1})	$262.5 + x (8^{-})$	R(DCO)=0.91.12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	433.9	0.70 4	43494 + x	(19^{-})	$3915.5 + x (18^{-})$	R(200) 0.71 12.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	434.2	2.80 14	770.1 + x	(9^+)	$336.1 + x (8^+)$	R(DCO)=0.79 4.
443.0 1.40 6 5487.9+x (23^+) 5045.0+x (22^+)	439.4	8.2.3	1016.9 + x	(12^{+})	$577.5 + x (10^+)$	R(DCO)=0.87 3.
	443.0	1.40 6	5487.9+x	(23^{+})	5045.0+x (22 ⁺)	
451.8 0.98 5 4620.5+x (21 ⁻) 4168.7+x (20 ⁻)	451.8	0.98 5	4620.5+x	(21^{-})	4168.7+x (20 ⁻)	
453.1 0.75 4 4802.5+x (20^{-}) 4349.4+x (19^{-})	453.1	0.75 4	4802.5+x	(20-)	4349.4+x (19 ⁻)	
$455.6^{\#}$ $517.6+x$ (7^{+}) $62+x$ (6^{+})	455.6 [#]		517.6+x	(7 ⁺)	62+x (6 ⁺)	

$\gamma(^{130}\text{Pr})$ (continued)

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^π	$\mathbf{E}_f \qquad \mathbf{J}_f^{\pi}$	Comments
455.9	1.63.9	1685.7 + x	(12^{+})	1229.8+x (10 ⁺)	R(DCO)=0.87.7
455.9	1 65 7	65114 + x	(25^+)	$6055 5+x (24^+)$	
458.0	0.96.5	5260.4 + x	(21^{-})	$4802.5 + x (20^{-})$	
458.8	6.57 23	893.2+x	(11^{-})	434.4+x (9 ⁻)	R(DCO) = 1.14 12.
460.5#	0.38.11	$706.9 \pm x$	(8-)	$246.4 \pm x$ (7 ⁺)	(
461.5	1 21 6	4109.6 + x	(20^{+})	$3648 1 + x (19^+)$	R(DCO)=0.56.6
461 5	0.99.5	5082.0+x	(22^{-})	$46205+x(21^{-})$	((1000) 0.50 0.
462.3	0.40.3	1347.1 + x	(11^{-})	884.8+x (9 ⁻)	
467.7	1.63 7	5728.1 + x	(22^{-})	$5260.4 + x (21^{-})$	
489.2	0.58 3	6217.3+x	(23^{-})	5728.1 + x (22 ⁻)	
492.6	2.42 11	1186.9+x	(11^{-})	694.3+x (9 ⁻)	R(DCO)=1.07 9.
500.7	6.81 23	1644.6+x	(13^{+})	1143.9+x (11 ⁺)	R(DCO) = 1.06 5.
505.6	1.22 5	5045.0+x	(22^{+})	4539.3+x (21 ⁺)	
507.1	0.54 3	6724.4+x	(24^{-})	6217.3+x (23 ⁻)	
509.0	0.85 4	5591.0+x	(23 ⁻)	5082.0+x (22 ⁻)	
509.1	0.73 4	1612.1+x	(12^{-})	1103.0+x (10 ⁻)	
521.9	1.00 5	6113.0+x	(24^{-})	5591.0+x (23 ⁻))
529.7	7.52 25	1171.6+x	(12^{-})	641.9+x (10 ⁻)	R(DCO)= $0.96 \ 6.$
534.5	5.21 17	1338.0+x	(13^{+})	803.5+x (11 ⁺)	R(DCO)= $0.94 \ 12$.
548.9	1.09 6	1896.1+x	(13 ⁻)	1347.1+x (11 ⁻)	
557.2	1.49 7	2242.9+x	(14^{+})	$1685.7 + x (12^+)$	R(DCO)= $1.08 \ 9.$
566.4	1.41 7	1143.9+x	(11^{+})	$577.5 + x (10^+)$	R(DCO)= $0.41 \ 4.$
567.5	1.15 6	6055.5+x	(24^{+})	$5487.9 + x (23^+)$	
586.1	0.86 5	2198.0+x	(14^{-})	$1612.1 + x (12^{-})$	
596.3	7.72 25	1489.5+x	(13^{-})	893.2+x (11 ⁻)	R(DCO) = 1.20 7.
611.7	10.3 3	1628.6+x	(14^+)	$1016.9 + x (12^+)$	R(DCO) = 0.925.
613.3	6.73 23	2258.0+x	(15^{+})	$1644.6+x (13^{+})$	R(DCO)=0.98 4.
623.4	1.11.6	2519.8+x	(15)	1896.1+x (13)	
632.2	2.29 10	1819.1+X	(13)	1186.9 + X (11)	$R(DCO) = 0.97 \delta.$
652.8	1.20 23	1824.4+X	(14)	11/1.0+X (12) 2242.0+x (14 ⁺)	R(DCO) = 0.87.5.
660.2	1.42.0	2900.0+x	(10^{-1})	$2242.9 \pm x$ (14 ⁺)	$R(DCO)=0.02 \ J.$
677.3	0.85 5	$2637.3 \pm x$	(10) (15^+)	2198.0+x (14) 1338.0+x (13 ⁺)	P(DCO) = 1.07.8
60/ 5	1 18 6	$2013.5 \pm x$ $3213.6 \pm x$	(13^{-})	$1550.0\pm x$ (15) $2510.8\pm x$ (15 ⁻)	$(DCO) = 1.07 \ 0.$
703.4	6 11 20	2192.0+x	(17) (15^{-})	$14895 \pm x$ (13 ⁻)	R(DCO) = 1.14.7
704.5	5 01 17	2192.9 + x 2962 5+x	(17^+)	$2258 \ 0+x \ (15^+)$	R(DCO)=0.995
701.5	0.76.5	3585.0+x	(17^{-})	$2857.3+x(16^{-})$	(DCO)=0.77 5.
730.4	0.82.5	3503.2 + x	(10^{-})	2772.8 + x (15 ⁻)	
733.6	1.68 7	2552.7 + x	(15^{-})	$1819.1 + x (13^{-})$	R(DCO) = 1.03 11.
741.7	5.94 20	2566.1+x	(16^{-})	$1824.4 + x (14^{-})$	R(DCO)=1.09 7.
748.2	6.92 22	2376.8+x	(16^+)	1628.6+x (14 ⁺)	R(DCO) = 1.06 6.
749.8	1.29 6	3650.4+x	(18+)	2900.6+x (16 ⁺)	$R(DCO) = 0.78 \ 6.$
765.2	0.74 5	3978.8+x	(19 ⁻)	3213.6+x (17 ⁻)	
769.2	4.50 15	2962.1+x	(17^{-})	2192.9+x (15 ⁻)	R(DCO)= $0.98 \ 8.$
777.0	3.82 13	3739.5+x	(19^{+})	$2962.5 + x (17^+)$	R(DCO)= $0.94 \ 6.$
783.6	5.05 17	2798.9+x	(17^{+})	2015.3+x (15 ⁺)	R(DCO)=0.94 7.
784.2	4.15 15	3350.3+x	(18^{-})	2566.1+x (16 ⁻)	R(DCO)= $0.98 \ 8.$
797.5	0.52 4	4382.5+x	(20^{-})	3585.0+x (18 ⁻)	
797.8	2.93 11	3759.9+x	(19 ⁻)	2962.1+x (17 ⁻)	R(DCO)= $1.30 \ 8.$
798.1	0.39 3	3915.5+x	(18 ⁻)	3117.3+x (16 ⁻)	
798.2	1.29 6	3350.9+x	(17^{-})	$2552.7 + x (15^{-})$	R(DCO)=1.10 9.
818.4	2.62 10	4168.7+x	(20^{-})	$3350.3 + x (18^{-})$	R(DCO)=1.10 /.
829.4	1.2/6	44/9.8+x	(20^{+})	505U.4+X (18 ⁺)	
033.U 025 5	0.93 3	4811.8+X	(21)	39/8.8 + X (19)	B (DCO)-0.80.8
633.3	1.13 0	4180.4+X	(19)	5550.9+X (1/)	K(DCO)=0.80 8.

$\gamma(^{130}\text{Pr})$ (continued)

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	$E_f = J_f^{\pi}$	Со	mments
842.4	5.03 17	3219.2+x	(18^{+})	2376.8+x (16 ⁺	R(DCO)=0.91 7.	
844.8	2.91 10	4584.3+x	(21^+)	3739.5+x (19 ⁺	R(DCO) = 1.48 7.	
846.2	0.72 5	4349.4+x	(19^{-1})	3503.2 + x (17 ⁻)	
849.2	4.14 14	3648.1+x	(19 ⁺)	2798.9+x (17 ⁺	R(DCO)=1.03 9.	
860.6	2.81 10	4620.5+x	(21^{-})	3759.9+x (19-	R(DCO) = 1.23 9.	
867.2	0.70 4	5249.8+x	(22^{-})	4382.5+x (20 ⁻)	
879.1 [#]	1.59.9	2217.1+x	(13^{-})	1338.0+x (13 ⁺)	
887.0	0.73 4	4802.5 + x	(20^{-})	$3915.5 \pm x$ (18 ⁻)	
888.2	0.77 5	5074.6+x	(21^{-})	4186.4+x (19 ⁻)	
890.4	1.97 11	4109.6+x	(20^+)	3219.2+x (18 ⁺	$R(DCO)=0.88 \ 6.$	
891.3	4.16 16	4539.3+x	(21^+)	3648.1+x (19 ⁺	R(DCO)=1.11 7.	
897.6	1.12 5	5377.4+x	(22^{+})	4479.8+x (20 ⁺)	
899.7	0.77 4	5711.5+x	(23^{-})	4811.8+x (21 ⁻)	
903.6	0.86 4	5487.9+x	(23^{+})	4584.3+x (21 ⁺)	
911.0	0.60 4	5260.4+x	(21^{-})	4349.4+x (19 ⁻)	
913.3	2.22 9	5082.0+x	(22^{-})	4168.7+x (20 ⁻)	
925.7	0.65 4	5728.1+x	(22^{-})	4802.5+x (20 ⁻)	
926.7	1.99 7	5511.0+x	(23^{+})	4584.3+x (21 ⁺) R(DCO)=1.45 9.	
931.9	0.55 4	6181.7+x	(24 ⁻)	5249.8+x (22 ⁻)	
935.4	2.36 9	5045.0+x	(22^{+})	4109.6+x (20 ⁺)	
948.6	2.33 9	5487.9+x	(23^{+})	4539.3+x (21 ⁺	R(DCO)=1.21 9.	
956.9	0.73 4	6217.3+x	(23 ⁻)	5260.4+x (21 ⁻)	
962.9	0.52 4	6674.4+x	(25^{-})	5711.5+x (23 ⁻)	
963.7	0.72 4	6341.1+x	(24^{+})	5377.4+x (22 ⁺)	
966.6	0.59 4	6041.2+x	(23 ⁻)	5074.6+x (21 ⁻)	
970.5	1.61 7	5591.0+x	(23-)	4620.5+x (21 ⁻)	
996.0	0.43 <i>3</i>	7177.7+x	(26 ⁻)	6181.7+x (24 ⁻)	
996.2	0.66 4	6724.4+x	(24 ⁻)	5728.1+x (22 ⁻)	
1000.3	0.78 4	6511.4+x	(25^{+})	5511.0+x (23 ⁺)	
1010.5	1.76 7	6055.5+x	(24^{+})	5045.0+x (22 ⁺)	
1023.4	2.46 9	6511.4+x	(25^{+})	5487.9+x (23+)	
1029.4	1.16 5	6540.4+x	(25^+)	5511.0+x (23 ⁺)	
1031.0	1.77 7	6113.0+x	(24 ⁻)	5082.0+x (22 ⁻		
1031.7	0.41 4	7/06.1+x	(27)	66/4.4 + x (25		
1035.9	0.55 4	/0//.1+x	(25)	6041.2 + x (23		
1040.4	0.68 4	/381.5+x	(26^{+})	6341.1+x (24		
1062.9	0.51 3	8240.6+x	(28)	/1//./+x (26		
1008.2	0.41 3	8145.5+X	(27)	7077.1+x (25		
1085.5	1.40 0	$\frac{00}{0.3+X}$	(25)	3391.0+X (23 7706 1 + x (27=		
1090.1	0.34 5	$0002.2 \pm X$	(29^{+})	$7700.1 \pm x$ (27) 6055.5 \pm x (24)		
1107.0	1.30.0	$7103.1 \pm x$	(20)	$6511.4 \pm x$ (24)		
1127.0	1.50.8	8500 4 Ly	(27) (28^+)	$73815 \pm x$ (26 ⁺		
1127.9	0.34.3	$0.09.4 \pm x$	(20^{-})	$7301.3 \pm x$ (20 81/15 3 $\pm x$ (27 ⁻		
1129.7	0.30 3	$7670.5 \pm x$	(29) (27^+)	$6540.4 \pm x$ (25 ⁺		
1130.0	0.03 + 0.41 + 3	$9370.7 \pm x$	(27) (30^{-})	$8240.6 \pm x$ (28 ⁻		
1122 A#	1.02.7	2471 4 m	(30^{-})	$1229.0 \pm x$ (12+		
1133.4"	1.02 /	24/1.4+X 7251.2 m	(14)	1330.0+X (13) 6113.0+x (24)		
1150.2	1.23 0	1231.2+X	(20)	0113.0+X (24 8802 2.1 v (20-		
1105.7	0.30 3	7867 8 L V	(31) (27^{-})	$6676.3 \pm v$ (29		
1171.J	0342	10560 1 L	(27)	$0070.3 \pm x$ (23 0370 7 $\pm x$ (20 ⁻		
1200. 4	1.01.5	8372 1±v	(32) (28^+)	$7163 1 \pm v$ (30		
1218.6	1 20 6	$8846.7 \pm v$	(20^{+})	$7628 1 \pm v$ (20)		
1220.1	0.41 3	8890 6+x	(29^+)	7670.5 + x (27+		
1220.9	0.40 3	9730.3+x	(30^+)	8509.4 + x (28 ⁺)	
			<- · · /			

94 Mo(40 Ca,3pn γ) 1998Sm08,1998SmZX (continued)

$\gamma(^{130}\text{Pr})$ (continued)

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	$\mathbf{E}_f \qquad \mathbf{J}_f^{\pi}$	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_i (level)	\mathbf{J}_i^{π}	E_f J	J_f^{π}
1238.3	0.33 2	11204.3+x	(33 ⁻)	9966.0+x (31 ⁻)	1309.9	0.81 4	10156.6+x	(31^{+})	8846.7+x (29) ⁺)
1258.0	0.79 4	8509.2+x	(28^{-})	7251.2+x (26 ⁻)	1318.3	0.34 2	11048.6+x	(32^{+})	9730.3+x (30)+)
1267.0	0.31 2	11836.1+x	(34-)	10569.1+x (32 ⁻)	1337.0	0.57 3	9846.2+x	(30^{-})	8509.2+x (28	3-)
1284.5	0.74 4	9656.6+x	(30^{+})	8372.1+x (28 ⁺)	1362.8	0.29 2	12411.4+x	(34^{+})	11048.6+x (32	$2^{+})$
1292.3	0.66 4	9160.1+x	(29^{-})	7867.8+x (27 ⁻)	1366.1	0.50 3	10526.3+x	(31-)	9160.1+x (29)-)
1298.1	0.49 3	10188.7+x	(31^{+})	8890.6+x (29 ⁺)	1374.2	0.32 2	11562.9+x	(33 ⁺)	10188.7+x (31	+)

[†] From 1998SmZX.
[‡] From 1998Pe05.
[#] Placement of transition in the level scheme is uncertain.



 $^{130}_{59} Pr_{71}$



 $^{130}_{59}$ Pr₇₁



 $^{130}_{59}$ Pr₇₁



 $^{130}_{59}$ Pr₇₁



¹³⁰₅₉Pr₇₁





¹³⁰₅₉Pr₇₁



 $^{130}_{59} Pr_{71}$



¹³⁰₅₉Pr₇₁