

$^{81}\text{Br}(n,\gamma)$ E=thermal 1978Do06

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne		NDS 157, 260 (2019)	1-Mar-2019

Enriched target. Bent-crystal spectrometers. Ge(Li) Compton-suppression and pair-formation spectrometers, FWHM= 2.4 keV and 2.25 keV at 1.33 MeV. Magnetic spectrometer. Measured E_γ , I_γ , Ice. Deduced $\alpha(\text{exp})$. Extended data of this experiment are reported in [1977DoZP](#).

For n-resonance parameters see [1981Oh09](#), [1981MuZQ](#), [1983Al08](#), and [1988Ma24](#).

 ^{82}Br Levels

E(level)	J^π^\dagger	$T_{1/2}$	Comments
0	5^-		
45.9492 10	2^-	6.13 min 5	$T_{1/2}$: from Adopted Levels.
75.0621 14	$(1)^+$		
290.7805 14	$(3)^-$		
362.8011 21	$(2)^+$		
420.0683 16	(2)		
475.4247 17	$(4)^-$		
540.9882 23	$(2^+,3^+)$		
627.2366 23	$(2,3^+)$		
641.1641 25	(3^+)		
689.248 6	$(1^-,2^-,3^-)$		
759.949 3	$(1^+,2,3^+)$		
762.13 6			
763.712 17	$(1)^+$		
792.276 3			
822.811 4			
846.688 4	$(1^+,2,3^+)$		
886.70 3			
910.770 17	$(4,5^+)$		
935.301 14			
970.917 12	$(2,3^+)$		
988.150 5			
1007.896 12			
1022.470 23			
1058.977 20	$(1,2,3)$		
1082.853 9			
1093.166 11			
1109.789 20	$(1^-,2,3)$		
1139.931 9			
1155.099 25			
1179.388 19	$(2,3)$		
1186.68 6			
1216.521 13			
1226.541 17			
1232.571 24			
1243.59 4			
1276.202 25	$(1,2,3^+)$		
(7593.032 22)	$1^-,2^-$		$E(\text{level}),J^\pi$: Neutron capture state from $3/2^-$ target. S(n)=7592.94 12 (2017Wa10).

† From Adopted Levels.

$^{81}\text{Br}(n,\gamma) \text{E=thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$

I γ normalization: from intensity of γ -lines from ^{82}Br decay if $\sigma(35.282\text{-h } ^{82}\text{Br})=0.26$ barn and $\sigma(6.13\text{-min } ^{82}\text{Br})=2.43$ barn (σ values from Chart of the nuclides, Karlsruhe, 1974) (1978Do06).

E_γ †	I_γ † α	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α &	Comments
29.113 1	18.3 9	75.0621	(1) ⁺	45.9492	2 ⁻	E1	3.08	$\alpha(\text{L1})\text{exp}=0.22$ 4 $\alpha(\text{K})=2.71$ 4; $\alpha(\text{L})=0.315$ 5; $\alpha(\text{M})=0.0490$ 7 $\alpha(\text{N})=0.00420$ 6 Mult.: from $\alpha(\text{L1})\text{exp}$ if 45.9 γ is pure M3.
^x 45.483 9	0.18 6							
45.949 1	0.24 @ 7	45.9492	2 ⁻	0	5 ⁻	M3	400	$\alpha(\text{K})\text{exp}=294$ 90; $\alpha(\text{L1})\text{exp}=50$ 15; $\alpha(\text{L2})\text{exp}+\alpha(\text{L3})\text{exp}=39$ 12; $\alpha(\text{M1})\text{exp}=12$ 4; K/L=3.3 3 $\alpha(\text{K})=288$ 4; $\alpha(\text{L})=94.6$ 14; $\alpha(\text{M})=15.91$ 23 $\alpha(\text{N})=1.297$ 19 Mult.: from K/L. Additional information 1.
^x 48.309 22	0.11 5							
^x 50.83 4	0.18 4							
57.267 3	0.24 3	420.0683	(2)	362.8011	(2) ⁺			
^x 68.139 5	0.04 2							
^x 68.987 8	0.08 2							
69.614 20	0.05 3	1179.388	(2,3)	1109.789	(1 ⁻ ,2,3)			
72.028 23	0.07 3	362.8011	(2) ⁺	290.7805	(3) ⁻			
^x 81.831 5	0.07 2							
85.266 7	0.07 2	1093.166		1007.896				
^x 86.543 6	0.07 2							
88.093 25	0.06 2	1058.977	(1,2,3)	970.917	(2,3 ⁺)			
92.656 30	0.06 3	1232.571		1139.931				
96.54 3	0.04 2	1179.388	(2,3)	1082.853				
^x 102.77 4	0.06 3							
106.703 25	0.04 2	1216.521		1109.789	(1 ⁻ ,2,3)			
^x 109.135 8	0.11 2							
^x 109.844 8	0.11 2							
^x 112.80 6	0.06 2							
^x 113.708 9	0.13 4							
^x 114.725 23	0.06 3							
^x 116.308 21	0.10 3							
118.770 8	0.07 2	759.949	(1 ⁺ ,2,3 ⁺)	641.1641	(3 ⁺)			
^x 124.07 5	0.08 3							
^x 124.90 6	0.04 1							
^x 127.289 7	0.09 3							
^x 128.20 9	0.08 5							
^x 130.66 7	0.05 2							
^x 131.77 8	0.06 2							
133.547 10	0.07 2	822.811		689.248	(1 ⁻ ,2 ⁻ ,3 ⁻)			
135.82 10	0.05 2	1022.470		886.70				
^x 140.20 4	0.05 2							
^x 143.83 4	0.14 3							
^x 146.499 10	0.07 3							
^x 146.91 4	0.07 2							
148.21 5	0.05 1	689.248	(1 ⁻ ,2 ⁻ ,3 ⁻)	540.9882	(2 ⁺ ,3 ⁺)			

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$^{81}\text{Br}(n,\gamma)$ E=thermal 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ^\dagger	$I_\gamma^{\ddagger a}$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
151.803 10	0.12 2	627.2366	(2,3 ⁺)	475.4247	(4) ⁻
^x 157.565 20	0.07 2				
^x 160.319 16	0.11 3				
^x 171.20 5	0.05 2				
^x 172.53 3	0.09 3				
173.58 4	0.11 4	1232.571		1058.977	(1,2,3)
178.16 3	0.06 3	540.9882	(2 ⁺ ,3 ⁺)	362.8011	(2) ⁺
181.54 8	0.06 2	822.811		641.1641	(3) ⁺
184.644 1	2.1 4	475.4247	(4) ⁻	290.7805	(3) ⁻
^x 191.57 5	0.09 5				
^x 193.69 4	0.15 3				
^x 194.46 6	0.06 3				
^x 195.07 4	0.06 2				
^x 200.92 4	0.10 5				
^x 201.16 5	0.08 3				
^x 203.83 5	0.09 3				
205.510 25	0.06 2	846.688	(1 ⁺ ,2,3 ⁺)	641.1641	(3) ⁺
207.250 30	0.08 2	970.917	(2,3 ⁺)	763.712	(1) ⁺
208.625 4	0.53 5	1216.521		1007.896	
^x 211.645 30	0.09 3				
215.75 10	0.06 2	290.7805	(3) ⁻	75.0621	(1) ⁺
^x 217.06 4	0.09 3				
^x 219.919 6	0.16 4				
221.095 6	0.57 5	641.1641	(3) ⁺	420.0683	(2)
^x 225.220 5	0.44 4				
^x 226.45 [‡] 18	0.03 3				
228.30 10	0.08 3	1216.521		988.150	
^x 232.82 9	0.23 8				
235.70 4	0.24 7	1243.59		1007.896	
^x 236.420 30	0.09 2				
^x 240.20 5	0.12 4				
^x 242.16 6	0.06 1				
^x 243.41 4	0.15 5				
244.831 1	9.7 4	290.7805	(3) ⁻	45.9492	2 ⁻
245.55 10	0.25 11	886.70		641.1641	(3) ⁺
250.208 2	1.28 8	540.9882	(2 ⁺ ,3 ⁺)	290.7805	(3) ⁻
255.65 4	0.05 2	1226.541		970.917	(2,3 ⁺)
264.435 1	2.30 9	627.2366	(2,3 ⁺)	362.8011	(2) ⁺
275.96 8	0.06 3	1186.68		910.770	(4,5 ⁺)
^x 277.20 8	0.06 3				
278.358 5	0.95 7	641.1641	(3) ⁺	362.8011	(2) ⁺
^x 280.75 10	0.05 3				
^x 282.41 3	0.25 10				
283.540 22	0.13 3	910.770	(4,5 ⁺)	627.2366	(2,3 ⁺)
284.55 12	0.09 4	759.949	(1 ⁺ ,2,3 ⁺)	475.4247	(4) ⁻
287.738 2	16.8 7	362.8011	(2) ⁺	75.0621	(1) ⁺
^x 290.35 8	0.12 4				
295.22 3	0.28 7	1058.977	(1,2,3)	763.712	(1) ⁺
^x 296.371 11	0.29 4				
^x 300.60 4	0.08 3				
305.73 12	0.08 5	846.688	(1 ⁺ ,2,3 ⁺)	540.9882	(2 ⁺ ,3 ⁺)
308.420 30	0.07 2	1155.099		846.688	(1 ⁺ ,2,3 ⁺)
^x 309.568 10	0.06 3				
^x 310.618 16	0.08 4				
315.770 5	1.44 12	1226.541		910.770	(4,5 ⁺)
316.851 2	0.62 6	792.276		475.4247	(4) ⁻

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$^{81}\text{Br}(n,\gamma) E=\text{thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ^\dagger	$I_\gamma^\dagger a$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
$^x318.790$ 15	0.10 2				
$^x329.755$ 15	0.43 7	970.917	(2,3 ⁺)	641.1641	(3 ⁺)
$^x334.86$ 7	0.21 7				
$^x336.35$ 16	0.07 3	627.2366	(2,3 ⁺)	290.7805	(3) ⁻
$^x339.882$ 3	0.77 11	759.949	(1 ⁺ ,2,3 ⁺)	420.0683	(2)
$^x345.006$ 1	8.8 5	420.0683	(2)	75.0621	(1) ⁺
$^x346.986$ 4	0.49 7	988.150		641.1641	(3 ⁺)
$^x347.98$ 5	0.24 12				
$^x349.23$ 15	0.19 6				
$^x350.384$ 3	0.46 6	641.1641	(3 ⁺)	290.7805	(3) ⁻
$^x353.12$ 8	0.07 2				
$^x356.735$ 2	0.57 15				
$^x363.80$ 29	0.07 4	1186.68		822.811	
$^x369.577$ 9	0.46 4				
$^x371.490$ 8	0.32 6				
$^x374.118$ 4	0.99 10	420.0683	(2)	45.9492	2 ⁻
$^x376.685$ 9	0.23 5				
$^x377.45$ 7	0.25 5				
$^x379.974$ 10	0.33 4	1139.931		759.949	(1 ⁺ ,2,3 ⁺)
$^x380.25$ 13	0.16 4				
$^x385.58$ 10	0.09 3				
$^x388.29$ 6	0.07 3				
$^x389.18$ 4	0.07 3				
$^x391.38$ 6	0.23 9	1155.099		763.712	(1) ⁺
$^x393.600$ 7	0.28 7	1082.853		689.248	(1 ⁻ ,2 ⁻ ,3 ⁻)
$^x395.42$ 4	0.23 3				
$^x397.127$ 20	0.74 11	759.949	(1 ⁺ ,2,3 ⁺)	362.8011	(2) ⁺
$^x400.93$ 5	1.53 30	763.712	(1) ⁺	362.8011	(2) ⁺
$^x402.743$ 3	0.98 22	822.811		420.0683	(2)
$^x412.785$ 28	0.42 11				
$^x413.99$ 4	0.12 6				
$^x417.26$ 8	0.56 20				
$^x419.44$ 5	0.31 10	1179.388	(2,3)	759.949	(1 ⁺ ,2,3 ⁺)
$^x421.82$ 6	0.11 3				
$^x423.31$ 10	0.07 3				
$^x426.625$ 8	0.35 8	846.688	(1 ⁺ ,2,3 ⁺)	420.0683	(2)
$^x432.45$ 7	0.31 6				
$^x453.300$ 6	0.77 19				
$^x455.70$ 4	0.31 6	1082.853		627.2366	(2,3 ⁺)
$^x456.36$ 6	0.11 4				
$^x459.875$ 13	0.35 18	935.301		475.4247	(4) ⁻
$^x465.936$ 11	1.60 15	1093.166		627.2366	(2,3 ⁺)
$^x466.634$ 30	0.55 10	886.70		420.0683	(2)
$^x468.04$ 7	0.24 7				
$^x479.930$ 14	0.49 6				
$^x483.885$ 3	2.8 4	846.688	(1 ⁺ ,2,3 ⁺)	362.8011	(2) ⁺
$^x495.036$ 6	2.1 6	540.9882	(2 ⁺ ,3 ⁺)	45.9492	2 ⁻
$^x496.71$ 10	0.23 8				
$^x498.779$ 14	0.66 6	1139.931		641.1641	(3 ⁺)
$^x501.46$ 5	0.13 9	792.276		290.7805	(3) ⁻
$^x512.490$ 21	1.40 22	1276.202	(1,2,3 ⁺)	763.712	(1) ⁺
$^x517.727$ 15	0.23 6				
$^x523.91$ 3	0.32 11				
$^x528.30$ 5	0.23 6				
$^x529.22$ 5	0.35 7				
$^x538.17$ 5	0.22 10	1179.388	(2,3)	641.1641	(3 ⁺)

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$^{81}\text{Br}(n,\gamma)$ E=thermal 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ †	I_γ †a	$E_i(\text{level})$	J_i^π	E_f	J_f^π
541.90 4	0.43 15	1082.853		540.9882	(2 ⁺ ,3 ⁺)
^x 542.07 5	0.70 6				
^x 546.13 24	0.29 6				
^x 549.3 4	0.60 7				
552.150 27	0.32 8	627.2366	(2,3 ⁺)	75.0621	(1) ⁺
^x 554.93 4	0.06 6				
^x 558.40 9	0.36 13				
^x 565.415 29	0.79 16				
566.097 6	3.4 5	641.1641	(3 ⁺)	75.0621	(1) ⁺
^x 570.179 28	0.39 7				
581.300 15	0.64 4	627.2366	(2,3 ⁺)	45.9492	2 ⁻
^x 582.490 29	0.56 8				
^x 583.10 12	0.32 5				
^x 584.52 15	0.10 4				
585.28 7	0.15 5	1226.541		641.1641	(3 ⁺)
^x 590.89 16	0.06 3				
^x 594.65 6	0.16 10				
595.200 18	0.37 4	641.1641	(3 ⁺)	45.9492	2 ⁻
599.33 6	0.18 7	1226.541		627.2366	(2,3 ⁺)
^x 600.28 12	0.30 5				
602.41 3	0.28 6	1022.470		420.0683	(2)
^x 603.03 13	0.36 10				
608.12 4	1.6 7	970.917	(2,3 ⁺)	362.8011	(2) ⁺
^x 609.35 6	0.60 11				
^x 610.10 25	0.16 6				
^x 620.10 10	0.65 21				
^x 621.266 26	0.49 18				
625.30 4	0.35 9	988.150		362.8011	(2) ⁺
^x 628.34 24	0.29 4				
^x 633.38 10	0.16 3				
^x 641.768 25	0.39 7				
643.289 6	0.41 11	689.248	(1 ⁻ ,2 ⁻ ,3 ⁻)	45.9492	2 ⁻
^x 648.54 4	0.20 3				
^x 649.55 8	0.12 4				
^x 657.46 14	0.09 3				
^x 662.34 7	0.09 3				
680.15 5	0.16 5	970.917	(2,3 ⁺)	290.7805	(3) ⁻
684.877 12	2.0 6	759.949	(1 ⁺ ,2,3 ⁺)	75.0621	(1) ⁺
687.05 11	0.20 5	762.13		75.0621	(1) ⁺
688.65 3	0.42 4	763.712	(1) ⁺	75.0621	(1) ⁺
696.14 29	0.17 5	1058.977	(1,2,3)	362.8011	(2) ⁺
^x 702.65 12	0.49 11				
^x 706.16 26	0.31 11				
716.18 8	2.94 25	762.13		45.9492	2 ⁻
717.71 9	2.35 23	763.712	(1) ⁺	45.9492	2 ⁻
730.35 28	0.18 5	1093.166		362.8011	(2) ⁺
735.06 12	0.55 6	1155.099		420.0683	(2)
746.91 13	0.59 7	1109.789	(1 ⁻ ,2,3)	362.8011	(2) ⁺
759.36 26	0.32 7	1179.388	(2,3)	420.0683	(2)
^x 766.53 23	0.57 11				
771.60 15	1.05 14	846.688	(1 ⁺ ,2,3 ⁺)	75.0621	(1) ⁺
^x 774.1 4	0.87 20				
^x 781.39 12	0.55 9				
^x 786.7 4	0.41 17				
^x 791.3 8	0.12 8				
802.5 4	0.14 5	1093.166		290.7805	(3) ⁻

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$^{81}\text{Br}(n,\gamma) E=\text{thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$	J_i^π	E_f	J_f^π
^x 810.93 24	0.26 6				
^x 815.00 11	0.83 25				
816.48 22	0.50 10	1179.388	(2,3)	362.8011	(2) ⁺
^x 822.42 25	0.26 5				
^x 838.99 16	0.44 6				
^x 842.9 6	0.09 5				
856.12 9	0.74 6	1276.202	(1,2,3 ⁺)	420.0683	(2)
^x 861.22 15	0.29 8				
^x 866.63 19	0.50 25				
^x 879.0 9	0.01 1				
880.75 9	0.76 7	1243.59		362.8011	(2) ⁺
888.77 26	0.30 12	1179.388	(2,3)	290.7805	(3) ⁻
^x 891.13 14	0.63 8				
895.86 8	1.58 18	1186.68		290.7805	(3) ⁻
^x 898.59 16	0.33 5				
910.74 5	3.24 17	910.770	(4,5 ⁺)	0	5 ⁻
913.6 4	0.12 4	1276.202	(1,2,3 ⁺)	362.8011	(2) ⁺
^x 920.53 24	0.21 4				
^x 923.3 4	0.12 4				
^x 928.9 3	0.14 4				
932.76 10	0.83 7	1007.896		75.0621	(1) ⁺
^x 940.60 18	0.18 5				
947.34 20	0.27 5	1022.470		75.0621	(1) ⁺
^x 949.9 4	0.18 5				
^x 952.26 14	0.52 7				
^x 956.7 4	0.11 4				
962.00 22	0.20 4	1007.896		45.9492	2 ⁻
^x 967.60 20	0.09 5				
^x 968.8 4	0.38 5				
^x 975.38 27	0.32 4				
976.49 4	2.08 7	1022.470		45.9492	2 ⁻
^x 988.50 19	0.24 4				
^x 1002.3 ‡ 9	0.15 9				
^x 1005.8 10	0.17 8				
^x 1009.5 4	0.26 8				
1012.96 17	1.39 30	1058.977	(1,2,3)	45.9492	2 ⁻
1034.68 8	1.28 9	1109.789	(1 ⁻ ,2,3)	75.0621	(1) ⁺
1037.11 15	0.47 6	1082.853		45.9492	2 ⁻
^x 1060.25 18	0.30 5				
1064.00 24	0.22 4	1109.789	(1 ⁻ ,2,3)	45.9492	2 ⁻
^x 1068.56 25	0.20 4				
^x 1073.93 11	0.64 6				
1079.99 9	1.72 16	1155.099		75.0621	(1) ⁺
^x 1088.0 6	0.18 9				
^x 1092.4 4	0.11 4				
^x 1101.7 6	0.49 26				
^x 1107.59 24	0.21 4				
^x 1116.14 30	0.38 10				
^x 1117.29 23	0.38 10				
^x 1122.74 24	0.24 7				
^x 1124.00 30	0.24 7				
^x 1125.66 14	1.24 17				
^x 1130.0 7	0.31 17				
1133.40 21	0.87 21	1179.388	(2,3)	45.9492	2 ⁻
1141.6 9	0.09 7	1216.521		75.0621	(1) ⁺
^x 1143.48 28	0.35 8				

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$^{81}\text{Br}(n,\gamma) \text{E=thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ [†]	I_γ ^{†a}	$E_i(\text{level})$	J_i^π	E_f	J_f^π
^x 1149.49 17	0.43 6				
^x 1152.04 21	0.32 5				
1157.46 7	1.31 9	1232.571		75.0621	(1) ⁺
^x 1168.82 12	0.55 6				
^x 1175.8 4	0.18 5				
^x 1181.97 17	0.32 5				
^x 1184.2 7	0.10 5				
^x 1187.29 20	0.70 17				
^x 1193.47 11	0.59 6				
^x 1198.10 15	0.41 5				
1201.11 10	0.80 7	1276.202	(1,2,3 ⁺)	75.0621	(1) ⁺
^x 1208.6 5	0.09 4				
^x 1217.8 7	0.06 4				
^x 1223.7 3	0.22 5				
^x 1225.9 5	0.13 5				
1230.20 15	0.48 6	1276.202	(1,2,3 ⁺)	45.9492	2 ⁻
^x 1235.0 8	0.11 7				
^x 1240.07 25	0.20 4				
^x 1260.23 25	0.50 8				
^x 1276.0 3	0.25 6				
^x 1307.5 4	0.26 7				
^x 1360.1 7	0.07 4				
^x 1364.88 19	0.43 6				
^x 1380.46 28	0.26 6				
^x 1405.05 17	0.38 5				
^x 1413.6 4	0.19 5				
^x 1416.47 29	0.20 5				
^x 1434.33 23	0.24 4				
^x 1446.4 4	0.12 4				
^x 1453.3 4	0.14 4				
^x 1463.4 3	0.27 6				
^x 1466.0 5	0.15 5				
^x 1487.0 3	0.22 5				
^x 1504.79 22	0.32 6				
^x 1511.8 6	0.14 6				
^x 1514.2 8	0.10 6				
^x 1537.0 5	0.12 4				
^x 1539.99 21	0.46 6				
^x 1542.68 25	0.49 7				
^x 1545.27 30	0.58 9				
^x 1547.43 29	0.75 10				
^x 1549.75 24	0.97 11				
^x 1551.93 19	1.21 12				
^x 1554.57 23	1.36 23				
^x 1558.99 27	0.33 6				
^x 1562.47 23	0.27 6				
^x 1562.9 9	0.06 1				
^x 1576.39 29	0.26 5				
^x 1579.03 24	0.32 6				
^x 1592.25 27	0.29 6				
^x 1600.9 [‡] 8	0.08 4				
^x 1620.3 5	0.16 5				
^x 1628.9 4	0.11 5				
^x 1633.21 21	0.35 5				
^x 1638.53 29	0.34 7				
^x 1647.8 4	0.19 5				

Continued on next page (footnotes at end of table)

$^{81}\text{Br}(n,\gamma) \text{E=thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$	E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$	E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$
$^{x}1650.42$ 12	0.87 8		$^{x}2408.76$ 25	0.06 3		$^{x}3007.99$ 27	0.09 3	
$^{x}1653.7$ 5	0.12 4		$^{x}2417.69$ 11	0.45 4		$^{x}3029.32$ 21	0.19 3	
$^{x}1667.79$ 17	0.38 5		$^{x}2426.35$ 14	0.18 4		$^{x}3037.45$ 21	0.21 3	
$^{x}1673.46$ 19	0.33 5		$^{x}2443.21$ 20	0.21 3		$^{x}3045.27$ 11	0.13 2	
$^{x}1680.6$ 3	0.18 5		$^{x}2462.90$ 9	0.23 3		$^{x}3049.99$ 13	0.11 2	
$^{x}1696.4$ 6	0.10 4		$^{x}2470.43$ 17	0.14 3		$^{x}3061.3$ 3	0.13 2	
$^{x}1712.9$ 8	0.19 13		$^{x}2491.85$ 12	0.14 2		$^{x}3077.48$ 28	0.11 3	
$^{x}1759.45$ 23	0.31 5		$^{x}2494.52$ 16	0.08 2		$^{x}3083.30$ 16	0.24 3	
$^{x}1772.8$ 9	0.35 21		$^{x}2529.9$ ‡ 4	0.06 3		$^{x}3086.3$ 3	0.10 2	
$^{x}1775.5$ 9	0.09 1		$^{x}2539.8$ 4	0.07 3		$^{x}3092.98$ 14	0.23 3	
$^{x}1820.15$ 26	0.23 4		$^{x}2548.02$ 22	0.13 3		$^{x}3106.20$ 10	0.30 3	
$^{x}1831.82$ 11	0.69 6		$^{x}2553.2$ 3	0.09 3		$^{x}3115.0$ 3	0.09 3	
$^{x}1849.3$ 4	0.17 4		$^{x}2562.49$ 19	0.10 2		$^{x}3120.28$ 16	0.14 2	
$^{x}1864.76$ 29	0.50 13		$^{x}2607.3$ 5	0.07 3		$^{x}3133.12$ 14	0.11 2	
$^{x}1878.6$ 3	0.19 4		$^{x}2622.14$ 21	0.15 3		$^{x}3139.30$ 18	0.10 2	
$^{x}1886.1$ 4	0.18 5		$^{x}2630.49$ 12	0.31 3		$^{x}3144.8$ 4	0.07 3	
$^{x}1897.2$ 10	0.08 5		$^{x}2641.1$ 4	0.06 3		$^{x}3148.89$ 8	0.21 3	
$^{x}1902.9$ 6	0.11 4		$^{x}2645.63$ 20	0.08 3		$^{x}3153.61$ 30	0.09 3	
$^{x}1908.1$ 7	0.08 4		$^{x}2654.44$ 15	0.13 2		$^{x}3155.9$ 4	0.07 3	
$^{x}1915.02$ 28	0.21 4		$^{x}2666.85$ 27	0.09 3		$^{x}3159.96$ 18	0.08 2	
$^{x}1964.3$ 4	0.21 5		$^{x}2676.53$ 11	0.21 3		$^{x}3161.97$ 14	0.10 2	
$^{x}1977.74$ 28	0.23 5		$^{x}2686.34$ 23	0.09 3		$^{x}3166.65$ 11	0.15 2	
$^{x}1990.6$ 4	0.12 4		$^{x}2690.24$ 16	0.14 3		$^{x}3168.52$ 21	0.08 2	
$^{x}2004.05$ 18	0.60 7		$^{x}2715.42$ 21	0.30 6		$^{x}3172.26$ ‡ 18	0.06 2	
$^{x}2015.8$ ‡ 9	0.07 5		$^{x}2722.83$ 25	0.10 3		$^{x}3175.05$ 12	0.07 2	
$^{x}2030.38$ 10	0.96 8		$^{x}2726.2$ 4	0.10 3		$^{x}3180.29$ 13	0.08 2	
$^{x}2034.9$ 4	0.14 5		$^{x}2732.90$ # 21	0.08 2		$^{x}3182.73$ 9	0.13 2	
$^{x}2040.6$ 3	0.18 6		$^{x}2762.81$ 9	0.26 3		$^{x}3195.78$ 25	0.04 2	
$^{x}2053.54$ 30	0.22 5		$^{x}2768.4$ 4	0.05 2		$^{x}3198.44$ 13	0.07 2	
$^{x}2088.9$ 6	0.11 5		$^{x}2771.93$ 27	0.07 2		$^{x}3220.3$ 4	0.07 3	
$^{x}2097.7$ 6	0.19 7		$^{x}2775.41$ 25	0.07 2		$^{x}3226.91$ 9	0.11 2	
$^{x}2144.8$ 6	0.12 5		$^{x}2778.80$ 24	0.07 2		$^{x}3230.63$ 14	0.09 2	
$^{x}2146.75$ 30	0.23 5		$^{x}2788.87$ 13	0.08 2		$^{x}3233.27$ 17	0.08 2	
$^{x}2164.26$ 23	0.18 3		$^{x}2801.67$ 26	0.09 3		$^{x}3242.26$ 17	0.09 2	
$^{x}2170.97$ 8	0.59 5		$^{x}2805.79$ 25	0.13 3		$^{x}3246.13$ 11	0.14 2	
$^{x}2175.36$ 20	0.21 3		$^{x}2824.1$ 5	0.11 4		$^{x}3253.17$ 8	0.19 2	
$^{x}2237.7$ 3	0.13 3		$^{x}2833.66$ 16	0.10 2		$^{x}3262.58$ 21	0.09 2	
$^{x}2246.78$ 26	0.16 3		$^{x}2838.15$ 16	0.10 2		$^{x}3268.1$ 4	0.07 3	
$^{x}2258.59$ 26	0.14 3		$^{x}2845.28$ 21	0.08 2		$^{x}3273.59$ 16	0.09 2	
$^{x}2265.20$ 8	1.12 7		$^{x}2849.23$ 20	0.09 2		$^{x}3285.93$ 23	0.06 2	
$^{x}2278.9$ ‡ 6	0.07 4		$^{x}2872.92$ 18	0.18 3		$^{x}3297.3$ 3	0.08 3	
$^{x}2288.1$ 3	0.13 4		$^{x}2876.68$ 27	0.12 3		$^{x}3326.9$ ‡ 7	0.05 3	
$^{x}2310.2$ ‡ 5	0.05 3		$^{x}2882.5$ 3	0.08 3		$^{x}3330.1$ 6	0.08 3	
$^{x}2314.71$ 17	0.10 3		$^{x}2893.71$ 20	0.14 3		$^{x}3332.8$ 3	0.11 3	
$^{x}2317.79$ 13	0.13 2		$^{x}2901.48$ 15	0.08 2		$^{x}3341.72$ 21	0.12 3	
$^{x}2324.01$ 28	0.14 3		$^{x}2907.11$ 20	0.08 2		$^{x}3350.16$ 20	0.15 3	
$^{x}2330.43$ 13	0.39 4		$^{x}2927.1$ 4	0.07 3		$^{x}3356.1$ 4	0.08 3	
$^{x}2334.8$ 3	0.14 3		$^{x}2935.2$ ‡ 4	0.05 2		$^{x}3358.0$ 4	0.11 3	
$^{x}2338.11$ 13	0.26 3		$^{x}2946.06$ 11	0.19 2		$^{x}3360.78$ 19	0.10 2	
$^{x}2356.0$ 4	0.09 3		$^{x}2948.75$ 22	0.11 3		$^{x}3373.21$ 28	0.07 2	
$^{x}2361.13$ 11	0.46 3		$^{x}2955.30$ 12	0.37 3		$^{x}3385.6$ 3	0.08 3	
$^{x}2372.1$ 4	0.09 3		$^{x}2964.9$ 3	0.13 3		$^{x}3389.7$ 3	0.14 3	
$^{x}2375.5$ ‡ 7	0.05 3		$^{x}2975.3$ 4	0.08 3		$^{x}3399.4$ 3	0.07 3	
$^{x}2387.14$ 18	0.23 3		$^{x}2994.13$ 12	0.20 3		$^{x}3411.24$ 6	0.37 3	
$^{x}2397.53$ 10	0.38 4		$^{x}3000.19$ 19	0.13 3		$^{x}3421.72$ 27	0.07 2	
$^{x}2403.05$ 20	0.10 3		$^{x}3004.41$ 27	0.10 3		$^{x}3428.9$ 4	0.14 5	

Continued on next page (footnotes at end of table)

$^{81}\text{Br}(n,\gamma) \text{E=thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$	E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$	E_γ †	I_γ † <i>a</i>	$E_i(\text{level})$
^x 3432.64 19	0.12 2		^x 3873.56 22	0.29 6		^x 4370.92 10	0.20 2	
^x 3439.41 20	0.09 3		^x 3884.61 24	0.08 2		^x 4394.09 12	0.26 3	
^x 3445.63 10	0.29 3		^x 3908.09 15	0.24 3		^x 4411.27 10	0.35 2	
^x 3448.63 16	0.17 3		^x 3914.0 4	0.08 3		^x 4437.65 14	0.21 2	
^x 3456.31 29	0.07 3		^x 3917.60 19	0.16 3		^x 4441.21 17	0.17 2	
^x 3461.5‡ 4	0.06 3		^x 3922.12 20	0.12 3		^x 4488.83 11	0.29 3	
^x 3469.45 13	0.28 3		^x 3927.51 13	0.19 3		^x 4517.15 11	0.19 2	
^x 3472.52 18	0.19 3		^x 3934.03 23	0.17 3		^x 4521.11 25	0.08 2	
^x 3476.08 11	0.25 3		^x 3953.09 19	0.11 3		^x 4549.53 23	0.13 3	
^x 3491.36 21	0.11 3		^x 3957.89 27	0.14 3		^x 4552.96 9	0.74 4	
^x 3495.02 21	0.12 3		^x 3960.5 4	0.11 3		^x 4559.53 9	0.29 2	
^x 3498.72 10	0.30 3		^x 3964.5‡ 5	0.05 2		^x 4581.58 10	0.27 2	
^x 3502.6 4	0.15 4		^x 3977.7 4	0.06 2		^x 4586.37 26	0.08 2	
^x 3512.02 20	0.12 2		^x 4005.83 17	0.12 2		^x 4600.09 10	0.20 2	
^x 3515.40 18	0.14 3		^x 4011.50 9	0.23 2		^x 4608.71 19	0.14 3	
^x 3519.37 21	0.10 2		^x 4022.65 20	0.16 3		^x 4611.37 15	0.18 3	
^x 3528.8‡ 4	0.06 3		^x 4045.5 5	0.09 2		^x 4618.87 9	0.58 3	
^x 3533.38 13	0.18 3		^x 4057.91 17	0.24 3		^x 4637.14 12	0.15 2	
^x 3538.4 5	0.05 3		^x 4060.88 26	0.11 3		^x 4653.16 12	0.21 2	
^x 3552.0‡ 7	0.07 4		^x 4073.09 20	0.12 2		^x 4679.02 15	0.15 2	
^x 3553.8 4	0.15 4		^x 4082.70 12	0.16 2		^x 4686.76 13	0.27 3	
^x 3565.75 21	0.10 2		^x 4098.77 10	0.22 2		^x 4695.5 3	0.09 2	
^x 3568.89 17	0.13 3		^x 4102.4‡ 6	0.04 2		^x 4703.04 10	0.23 3	
^x 3578.32 25	0.23 4		^x 4108.74 20	0.07 2		^x 4712.17 10	0.44 3	
^x 3580.6 5	0.11 4		^x 4111.84 17	0.07 2		^x 4718.39 12	0.20 2	
^x 3603.22 30	0.10 3		^x 4121.8 3	0.07 2		^x 4740.72 12	0.34 3	
^x 3609.94 11	0.28 3		^x 4127.63 12	0.23 3		^x 4770.04 10	0.22 3	
^x 3630.57 23	0.10 3		^x 4143.2‡ 5	0.06 3		^x 4779.84 17	0.18 2	
^x 3647.73 27	0.10 3		^x 4147.05 19	0.15 3		^x 4783.37 11	0.22 2	
^x 3652.63 7	0.37 3		^x 4159.72 14	0.45 5		^x 4803.01 14	0.27 3	
^x 3662.8 3	0.09 3		^x 4161.62 26	0.24 5		^x 4805.55 13	0.30 3	
^x 3671.53 12	0.32 3		^x 4172.82 22	0.17 3		^x 4854.4 4	0.07 3	
^x 3674.01 10	0.46 3		^x 4177.1 3	0.06 2		^x 4857.2 4	0.08 3	
^x 3680.26 23	0.18 3		^x 4190.31 22	0.15 3		^x 4880.80 10	0.20 2	
^x 3685.44 15	0.12 2		^x 4196.67 13	0.14 2		^x 4885.20 27	0.04 2	
^x 3691.86 14	0.13 2		^x 4205.41 18	0.10 2		^x 4896.59 11	0.48 3	
^x 3705.55 30	0.15 3		^x 4213.37 14	0.23 3		^x 4908.03 10	0.40 3	
^x 3713.21 10	0.21 2		^x 4224.59 11	0.17 2		^x 4915.32 21	0.09 2	
^x 3727.45 16	0.13 2		^x 4229.62 15	0.13 2		^x 4923.1 5	0.20 3	
^x 3744.65 27	0.09 3		^x 4234.47 12	0.45 4		^x 4925.9 4	0.11 3	
^x 3755.8 3	0.21 6		^x 4236.58 19	0.26 4		^x 4934.9‡ 5	0.04 2	
^x 3757.8 4	0.31 5		^x 4245.98 10	0.48 3		^x 4939.13 10	0.87 7	
^x 3768.9 3	0.06 2		^x 4248.91 25	0.11 3		^x 4961.85 10	0.18 2	
^x 3772.8 3	0.07 3		^x 4265.56 28	0.06 2		^x 4991.32 13	0.12 2	
^x 3777.0 3	0.06 3		^x 4277.59 29	0.06 2		^x 5017.09 10	0.53 3	
^x 3784.24 17	0.14 3		^x 4285.74 14	0.10 2		^x 5022.83 10	0.23 2	
^x 3799.51 10	0.26 3		^x 4291.16 10	0.14 2		^x 5046.52 16	0.12 2	
^x 3807.5 6	0.04 2		^x 4299.92 10	0.28 2		^x 5050.27 17	0.14 2	
^x 3811.3 4	0.07 2		^x 4303.70 12	0.14 2		^x 5054.61 9	1.25 4	
^x 3820.81 26	0.11 3		^x 4311.00 9	0.36 2		^x 5084.63 20	0.08 2	
^x 3836.9 5	0.05 3		^x 4315.89 18	0.07 2		^x 5091.52 16	0.31 3	
^x 3842.31 21	0.13 3		^x 4333.85 11	0.29 2		^x 5094.00 11	0.50 4	
^x 3845.5‡ 6	0.05 3		^x 4344.11 16	0.10 2		^x 5100.33 10	0.47 3	
^x 3853.01 10	0.30 3		^x 4354.88 21	0.09 2		^x 5116.36 9	1.11 5	
^x 3857.77 8	0.28 2		^x 4358.5‡ 4	0.05 2		^x 5120.03 16	0.19 2	
^x 3869.10 17	0.12 2		^x 4363.93 12	0.16 2		^x 5131.14 10	1.23 5	

Continued on next page (footnotes at end of table)

$^{81}\text{Br}(n,\gamma) E=\text{thermal}$ 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

E_γ [†]	I_γ ^{†a}	$E_i(\text{level})$
^x 5147.06 29	0.05 2	
^x 5155.34 11	0.15 2	
^x 5159.87 15	0.10 2	
^x 5177.99 10	0.24 2	
^x 5183.03 9	0.87 3	
^x 5199.84 11	0.30 2	
^x 5216.33 15	0.07 2	
^x 5222.20 12	0.10 2	
^x 5228.46 17	0.06 2	
^x 5236.6 [‡] 4	0.05 3	
^x 5252.20 8	2.07 6	
^x 5261.67 9	0.35 2	
^x 5270.54 17	0.07 2	
^x 5276.48 15	0.09 2	
^x 5285.99 9	0.93 4	
^x 5288.62 19	0.16 3	
^x 5308.87 10	0.30 2	
^x 5322.61 24	0.05 2	
^x 5329.01 10	0.15 2	
^x 5334.99 18	0.14 2	
^x 5338.55 25	0.30 4	
^x 5341.2 4	0.36 4	
^x 5343.3 4	0.18 2	
^x 5350.91 16	0.07 2	
^x 5364.59 10	0.21 2	
^x 5371.10 22	0.06 2	
^x 5396.03 18	0.09 2	
^x 5402.87 13	0.14 2	
^x 5413.64 19	0.44 6	
^x 5418.69 18	0.12 2	
^x 5439.42 11	0.58 3	
^x 5446.39 14	0.13 2	
^x 5455.02 10	0.36 2	
^x 5459.75 26	0.07 2	
^x 5471.06 10	0.53 3	
^x 5479.16 [‡] 27	0.04 2	
^x 5493.78 17	0.07 2	
^x 5503.48 16	0.09 2	
^x 5513.31 14	0.11 2	
^x 5534.00 8	1.06 3	
^x 5543.07 11	0.15 2	
^x 5556.84 9	0.91 3	
^x 5567.8 3	0.05 2	
^x 5573.36 16	0.07 2	
^x 5596.6 3	0.06 2	
^x 5600.19 11	0.21 2	
^x 5613.55 16	0.15 2	
^x 5628.08 22	0.05 2	
^x 5652.62 8	1.61 6	
^x 5667.81 10	0.30 2	
^x 5673.50 11	0.29 2	
^x 5678.3 4	0.04 2	
^x 5685.72 9	0.86 3	
^x 5689.43 10	0.66 3	
^x 5697.79 9	0.94 3	
^x 5725.18 9	0.92 3	

Continued on next page (footnotes at end of table)

⁸¹Br(n,γ) E=thermal 1978Do06 (continued)

γ(⁸²Br) (continued)

<u>E_γ[†]</u>	<u>I_γ^{†a}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
^x 5733.82 30	0.05 2				
^x 5741.67 26	0.05 2				
^x 5757.65 25	0.19 4				
^x 5759.7 6	0.07 4				
^x 5792.3 [‡] 3	0.04 2				
^x 5802.90 18	0.05 1				
^x 5812.68 13	0.14 2				
^x 5832.83 24	0.08 2				
^x 5837.47 10	0.48 5				
^x 5840.40 17	0.22 3				
^x 5849.39 8	1.78 5				
^x 5870.2 4	0.06 2				
^x 5912.91 8	1.61 5				
^x 5949.85 10	0.13 2				
^x 6042.76 8	1.58 5				
^x 6050.6 4	0.08 3				
^x 6053.5 6	0.06 3				
^x 6059.61 18	0.08 2				
^x 6104.24 8	3.03 18				
^x 6116.47 10	0.88 9				
^x 6209.77 10	0.19 2				
^x 6222.16 9	1.47 9				
^x 6267.69 [‡] 23	0.05 2				
^x 6319.36 27	0.21 3				
^x 6345.78 22	0.26 3				
6349.15 9	2.14 12	(7593.032)	1 ⁻ ,2 ⁻	1243.59	
^x 6357.13 [‡] 10	0.20 10				
6360.20 9	0.97 6	(7593.032)	1 ⁻ ,2 ⁻	1232.571	
6366.21 9	0.72 5	(7593.032)	1 ⁻ ,2 ⁻	1226.541	
^x 6403.42 15	0.16 2				
6413.58 9	1.83 11	(7593.032)	1 ⁻ ,2 ⁻	1179.388	(2,3)
^x 6422.95 11	0.23 2				
6437.72 9	2.61 16	(7593.032)	1 ⁻ ,2 ⁻	1155.099	
6452.70 9	0.65 4	(7593.032)	1 ⁻ ,2 ⁻	1139.931	
6482.95 9	0.63 5	(7593.032)	1 ⁻ ,2 ⁻	1109.789	(1 ⁻ ,2,3)
6533.90 12	0.26 2	(7593.032)	1 ⁻ ,2 ⁻	1058.977	(1,2,3)
6570.28 10	0.56 3	(7593.032)	1 ⁻ ,2 ⁻	1022.470	
6604.50 10	0.40 2	(7593.032)	1 ⁻ ,2 ⁻	988.150	
6621.89 15	0.60 30	(7593.032)	1 ⁻ ,2 ⁻	970.917	(2,3 ⁺)
6745.99 8	1.48 5	(7593.032)	1 ⁻ ,2 ⁻	846.688	(1 ⁺ ,2,3 ⁺)
6769.88 9	0.60 3	(7593.032)	1 ⁻ ,2 ⁻	822.811	
6830.60 12	0.38 2	(7593.032)	1 ⁻ ,2 ⁻	762.13	
6832.91 [‡] 23	0.09 2	(7593.032)	1 ⁻ ,2 ⁻	759.949	(1 ⁺ ,2,3 ⁺)
^x 6869.16 [‡] 22	0.05 2				
6951.51 9	0.88 5	(7593.032)	1 ⁻ ,2 ⁻	641.1641	(3 ⁺)
6965.50 11	0.17 2	(7593.032)	1 ⁻ ,2 ⁻	627.2366	(2,3 ⁺)
7051.75 9	0.63 5	(7593.032)	1 ⁻ ,2 ⁻	540.9882	(2 ⁺ ,3 ⁺)
7117.07 [‡] 25	0.05 2	(7593.032)	1 ⁻ ,2 ⁻	475.4247	(4 ⁻)
7172.63 8	3.76 17	(7593.032)	1 ⁻ ,2 ⁻	420.0683	(2)
7229.91 9	1.13 5	(7593.032)	1 ⁻ ,2 ⁻	362.8011	(2 ⁺)
7301.90 9	1.21 4	(7593.032)	1 ⁻ ,2 ⁻	290.7805	(3 ⁻)
^x 7408.53 [‡] 22	0.07 2				
^x 7428.65 [‡] 29	0.05 2				

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$^{81}\text{Br}(n,\gamma)$ E=thermal 1978Do06 (continued) $\gamma(^{82}\text{Br})$ (continued)

<u>E_γ</u> [†]	<u>I_γ</u> ^{†a}	<u>E_i(level)</u>
^x 7517.68 12	0.28 2	
^x 7546.83 8	0.85 5	

[†] From 1977DoZP.

[‡] Uncertain line.

[#] 2732.90 γ listed between 3727.45 γ and 3744.65 γ by 1977DoZP. Probably sorting error, or misprint.

[@] Since 45 level has $T_{1/2}$ of 6 min $I(45\gamma)$ is time dependent. From paper (1977Do08) it is not clear what this intensity represents.

[&] [Additional information 2](#).

^a Intensity per 100 neutron captures.

^x γ ray not placed in level scheme.

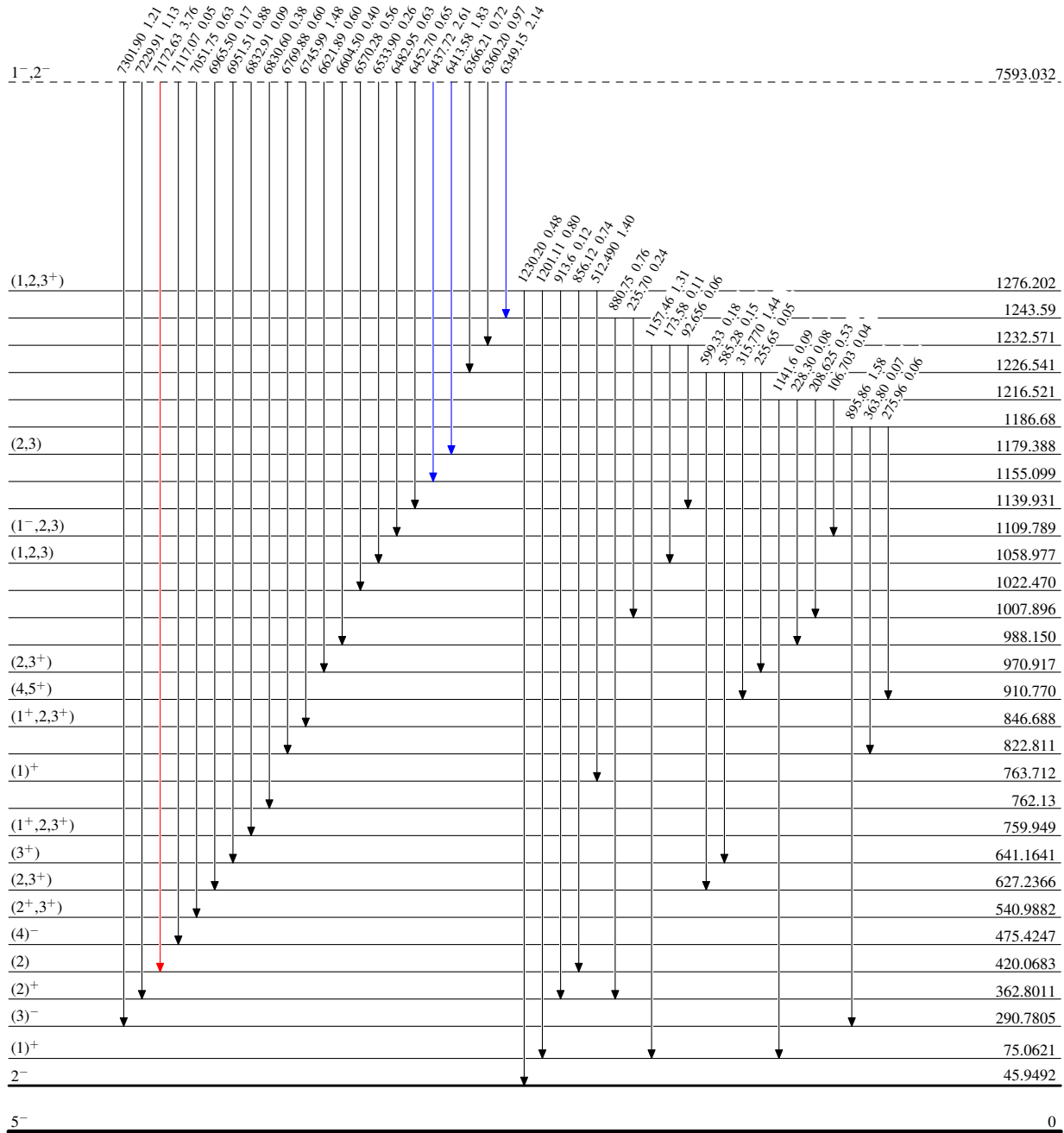
⁸¹Br(n,γ) E=thermal 1978Do06

Level Scheme

Intensities: Relative I_γ

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}



6.13 min 5

⁸²Br₄₇

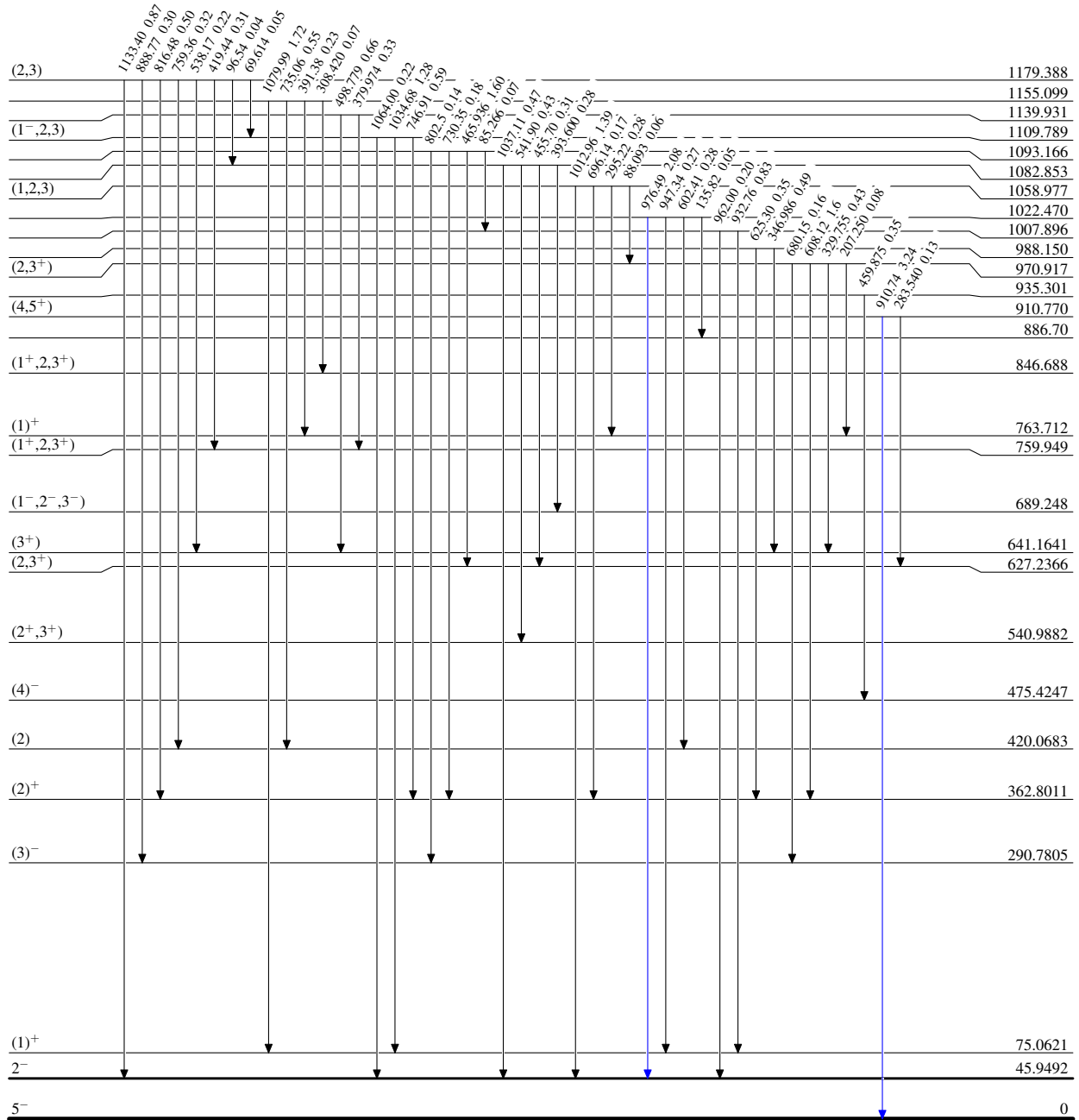
⁸¹Br(n,γ) E=thermal 1978Do06

Level Scheme (continued)

Intensities: Relative I_γ

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}



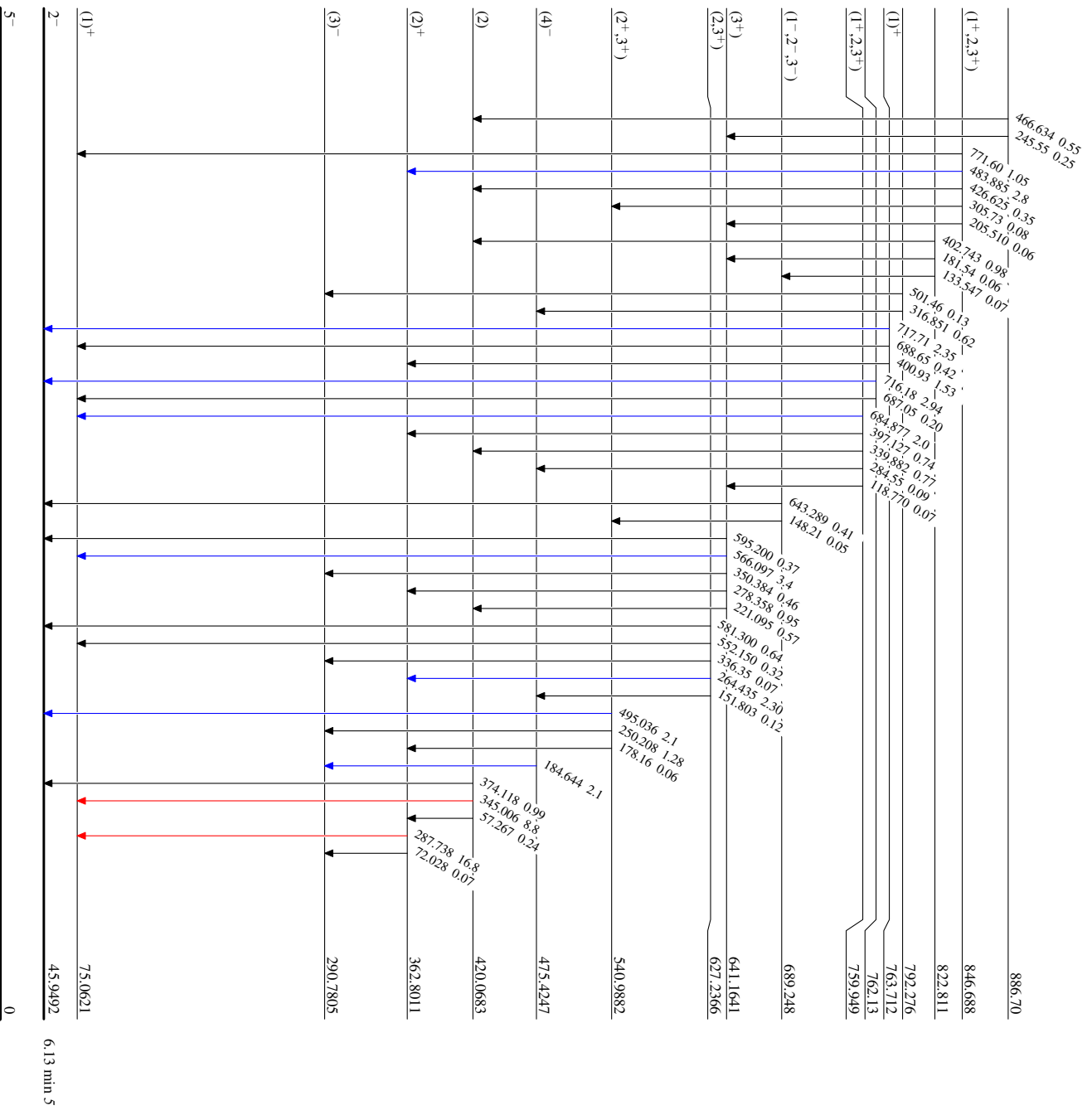
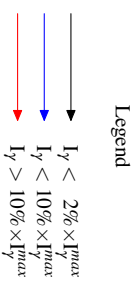
6.13 min 5

⁸²Br₄₇

⁸¹Br(n,γ)E=thermal 1978D006

Level Scheme (continued)

Intensities: Relative I_γ






⁸²Br₄₇
³⁵Br₄₇

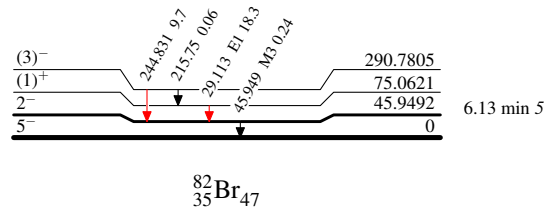
$^{81}\text{Br}(n,\gamma)$ E=thermal 1978Do06

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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

 $^{82}_{35}\text{Br}_{47}$