

$^{197}\text{Tl}$        $Z = 81$        $N = 116$       adopted link      ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 1555.034 ( 0.014) MeV

Qbeta+ = 2.186 ( 0.014) MeV

	Energy T	J+	J-	J-other	T1/2
-----					
S-alpha=	-2.626 ( 0.016)				
197TL 1	0.000	1/2+			1 2.84 H 4
197TL 2	0.386	3/2+			2
197TL 3			0.608	9/2-	3 0.54 S 1
197TL 4	0.761	5/2+			4
197TL 5			0.996	11/2-	5
197TL 6	1.156	3/2+			6
197TL 7				1.257 1/2-,3/2-,5/2-	7
197TL 8				1.282 3/2+,5/2+	8
197TL 9			1.304	13/2-	9
197TL 10			1.383	11/2-	10
-----					
197TL 11				1.502 9/2-,11/2-	11
197TL 12			1.553	13/2-	12
197TL 13				1.605 (1/2+,3/2+,5/2+	13)
197TL 14				1.647 3/2+,5/2+	14
197TL 15				1.663 3/2+,5/2+	15
197TL 16				1.675 3/2+,5/2+	16
197TL 17			1.720	15/2-	17
197TL 18				1.803 (11/2-,13/2-)	18
197TL 19				1.849 (1/2+,3/2+,5/2+)	19
197TL 20				1.854 (1/2+,3/2+,5/2+)	20
-----					
197TL 21			1.954	11/2-	21
197TL 22				1.970 (3/2+,5/2+)	22
197TL 23			1.995	13/2-	23
197TL 24				1.999 11/2-,13/2-	24
197TL 25			2.011	13/2-	25
197TL 26			2.019	17/2-	26
197TL 27				2.033 11/2-,13/2-	27
197TL 28			2.041	17/2-	28
197TL 29				2.073	29
197TL 30			2.114	13/2-	30
-----					
197TL 31	2.114	15/2+			31
197TL 32				2.175	32
197TL 33				2.218 11/2-,13/2-,15/2	33-
197TL 34				2.267 (17/2)+	34
197TL 35				2.303 (11/2)-,(13/2)-	35
197TL 36				2.328 (11/2)-,(13/2)-	36

197TL 37				2.346	(3/2+,5/2+)	37
197TL 38				2.368	(11/2-,13/2-)	38
197TL 39				2.412	(11/2-,13/2-)	39
197TL 40			2.426	19/2-		40
-----						
197TL 41				2.429	1/2,3/2,5/2(+)	41
197TL 42				2.457	11/2-,13/2-	42
197TL 43		2.463	19/2+			43
197TL 44				2.499	11/2-,13/2-	44
197TL 45				2.530		45 18 NS 4
197TL 46			2.570	15/2-		46
197TL 47			2.597	21/2-		47
197TL 48				2.783	11/2-,13/2-	48
197TL 49				2.802	(21/2)+	49
197TL 50				2.820		50
-----						
197TL 51				2.861	(23/2)-	51
197TL 52				3.068	(25/2)-	52
197TL 53				3.148	(23/2)+	53
197TL 54				3.170	(27/2-)	54
197TL 55				3.277	(29/2-)	55
197TL 56				3.569	(25/2)+	56
197TL 57				3.690		57
197TL 58				3.761	(27/2+)	58
S-p =	3.817	( 0.014)	-----			
197TL 59				3.966	(29/2+)	59

S-p = 3.817 ( 0.014)-----  
S-n = 8.929 ( 0.018)-----  
S-2p = 10.365 ( 0.014)-----  
S-2n = 16.341 ( 0.018)-----  
S-alpha= -2.626 ( 0.016)-----

S+p = -5.002 ( 0.016)  
S+n = -7.246 ( 0.016)  
S+2p = -7.021 ( 0.017)  
S+2n = -15.848 ( 0.031)  
S+alpha = 4.500 ( 0.018)

gap p = -1.185 ( 0.021)  
gap n = 1.683 ( 0.024)  
gap 2p = 3.344 ( 0.022)  
gap 2n = 0.494 ( 0.036)  
gap alpha = 1.874 ( 0.024)