

^{177}Ta $Z = 73$ $N = 104$ adopted link ENSDF link

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

BE = 1423.227 (0.003) MeV

Qbeta+ = 1.166 (0.004) MeV

	Energy T	J+	J-	J-other	T1/2

S-alpha=	-2.741	(0.004)	-----		
177TA 1	0.000	7/2+			1 56.36 H 13
177TA 2	0.070	5/2+			2 70.2 NS 19
177TA 3			0.073	9/2-	3 410 NS 7
177TA 4	0.131	9/2+			4
177TA 5	0.172	7/2+			5
177TA 6			0.186	5/2-	6 3.62 US 10
177TA 7			0.217	1/2-	7 0.72 NS 4
177TA 8			0.220	11/2-	8
177TA 9			0.246	9/2-	9
177TA 10	0.288	11/2+			10

177TA 11	0.301	9/2+			11
177TA 12			0.373	3/2-	12 0.1 NS LT
177TA 13			0.392	13/2-	13
177TA 14			0.402	13/2-	14
177TA 15	0.455	11/2+			15
177TA 16	0.471	13/2+			16
177TA 17	0.488	1/2+			17 26 NS 3
177TA 18	0.497	3/2+			18 0.44 NS 2
177TA 19				0.523 (7/2-)	19
177TA 20				0.573 (1/2+)	20

177TA 21			0.587	15/2-	21
177TA 22	0.633	13/2+			22
177TA 23	0.640	5/2+			23
177TA 24			0.659	17/2-	24
177TA 25	0.675	15/2+			25
177TA 26				0.690 (3/2-)	26
177TA 27				0.737 (11/2-)	27
177TA 28			0.805	17/2-	28
177TA 29	0.834	15/2+			29
177TA 30	0.865	3/2+			30

177TA 31			0.899	11/2-	31 1.4 NS LT
177TA 32	0.901	17/2+			32
177TA 33				0.948 (5/2+)	33
177TA 34				1.010 5/2-,7/2-	34
177TA 35			1.012	21/2-	35
177TA 36				1.029 (15/2-)	36

177TA 37				1.043	19/2-			37
177TA 38				1.045	3/2-			38
177TA 39		1.055	17/2+					39
177TA 40				1.059	13/2-			40

177TA 41						1.086	(5/2+,7/2+)	41
177TA 42						1.094	(1/2)-	42
177TA 43						1.120	(5/2,7/2)	43
177TA 44		1.147	19/2+					44
177TA 45						1.161	(7/2)-	45
177TA 46				1.239	15/2-			46
177TA 47				1.253	3/2-			47
177TA 48						1.264	(5/2+,7/2+)	48
177TA 49		1.296	19/2+					49
177TA 50				1.302	21/2-			50

177TA 51						1.336	(5/2,7/2)	51
177TA 52				1.355	21/2-			52 5.30 US 11
177TA 53						1.362		53
177TA 54						1.406	(19/2-)	54
177TA 55		1.409	21/2+					55
177TA 56				1.432	17/2-			56
177TA 57						1.448	(7/2-)	57
177TA 58				1.452	25/2-			58
177TA 59						1.476	(17/2-)	59 1.4 NS LT
177TA 60						1.477	(3/2)-	60

177TA 61						1.477	(3/2)+	61
177TA 62						1.488	(1/2)-	62
177TA 63						1.513	(1/2)-	63
177TA 64		1.523	17/2+					64 5.5 NS 14
177TA 65				1.543	3/2-			65
177TA 66		1.553	21/2+					66
177TA 67				1.577	23/2-			67
177TA 68				1.603	19/2-			68 1.4 NS LT
177TA 69		1.605	19/2+					69
177TA 70				1.626	23/2-			70

177TA 71						1.634	(5/2+,7/2+)	71
177TA 72						1.651	(19/2-)	72
177TA 73		1.686	23/2+					73
177TA 74		1.698	23/2+					74 1 NS LT
177TA 75		1.737	21/2+					75
177TA 76				1.766	21/2-			76
177TA 77						1.800		77
177TA 78		1.828	23/2+					78
177TA 79		1.834	25/2+					79
177TA 80						1.865	(23/2-)	80

177TA 81				1.869	25/2-			81

177TA 82				1.875	25/2-				82
177TA 83		1.905	23/2+						83
177TA 84				1.920	25/2-				84
177TA 85				1.949	23/2-				85
177TA 86				1.973	29/2-				86
177TA 87		1.975	25/2+						87
177TA 88		2.037	27/2+						88
177TA 89		2.098	25/2+						89
177TA 90		2.102	25/2+						90

177TA 91		2.116	25/2+						91
177TA 92				2.117	27/2-				92
177TA 93				2.154	25/2-				93
177TA 94				2.171	27/2-				94
177TA 95				2.193	27/2-				95
177TA 96		2.271	29/2+						96
177TA 97		2.274	27/2+						97
177TA 98		2.324	27/2+						98
177TA 99		2.324	27/2+						99
177TA 100				2.380	29/2-				100

177TA 101				2.381	27/2-				101
177TA 102						2.399	(27/2-)		102
177TA 103		2.417	27/2+						103
177TA 104				2.471	29/2-				104
177TA 105				2.487	29/2-				105
177TA 106		2.530	31/2+						106
177TA 107				2.566	33/2-				107
177TA 108		2.570	29/2+						108
177TA 109		2.570	29/2+						109
177TA 110		2.582	29/2+						110

177TA 111						2.628	(29/2-)		111
177TA 112				2.666	31/2-				112
177TA 113		2.671	29/2+						113
177TA 114		2.727	29/2+						114
177TA 115				2.755	31/2-				115
177TA 116				2.807	31/2-				116
177TA 117		2.810	33/2+						117
177TA 118		2.826	31/2+						118
177TA 119						2.831	(31/2+)		119
177TA 120		2.840	31/2+						120

177TA 121				2.852	33/2-				121
177TA 122		2.894	31/2+						122
177TA 123						2.896	(31/2-)		123
177TA 124		2.957	35/2+						124
177TA 125				2.971	33/2-				125
177TA 126						3.001	(31/2-)		126
177TA 127				3.046	33/2-				127

177TA 128		3.048	31/2+				128
177TA 129		3.109	35/2+				129
177TA 130		3.129	33/2+				130

177TA 131				3.135	33/2-		131
177TA 132						3.145 (33/2+)	132
177TA 133						3.181 (33/2-)	133
177TA 134		3.189	37/2+				134
177TA 135		3.210	33/2+				135
177TA 136				3.216	35/2-		136
177TA 137				3.223	37/2-		137
177TA 138						3.287 (37/2)-	138 1.4 NS LT
177TA 139				3.294	35/2-		139
177TA 140				3.346	35/2-		140

177TA 141						3.373 (33/2+)	141
177TA 142		3.426	37/2+				142
177TA 143		3.438	35/2+				143
177TA 144						3.458 (35/2-)	144
177TA 145						3.481 (35/2-)	145
177TA 146						3.484 (35/2+)	146
177TA 147		3.511	39/2+				147
177TA 148						3.531 (35/2+)	148
177TA 149				3.590	37/2-		149
177TA 150						3.616 (39/2-)	150

177TA 151						3.633 (37/2-)	151
177TA 152				3.654	37/2-		152
177TA 153						3.662 (35/2-)	153
177TA 154						3.707 (35/2+)	154
177TA 155		3.758	39/2+				155
177TA 156		3.764	37/2+				156
177TA 157						3.779 (37/2-)	157
177TA 158						3.803 (37/2-)	158
177TA 159						3.860 (37/2+)	159
177TA 160		3.868	41/2+				160

177TA 161				3.940	41/2-		161
177TA 162						3.958 (41/2-)	162
177TA 163				3.968	39/2-		163
177TA 164						3.978 (39/2-)	164
177TA 165						3.988 (39/2-)	165
177TA 166						4.059 (37/2+)	166
177TA 167						4.093 (39/2-)	167
177TA 168						4.103 (41/2+)	168
177TA 169						4.196 (39/2+)	169
177TA 170		4.249	43/2+				170

177TA 171						4.317 (43/2-)	171
177TA 172		4.329	43/2+				172 0.69 NS 21

177TA 173				4.352	(41/2-)	173
177TA 174				4.426	(39/2+)	174
S-p = 4.427 (0.004)-----						
177TA 175				4.459	(43/2+)	175
177TA 176				4.505	(41/2-)	176
177TA 177				4.541	(41/2+)	177
177TA 178			4.570	45/2-		178 0.7 NS LT
177TA 179		4.647	45/2+			179
177TA 180			4.656	49/2-		180 133 US 4

177TA 181				4.692	(45/2-)	181
177TA 182			4.715	45/2-		182
177TA 183				4.728	(43/2-)	183
177TA 184				4.740	(45/2+)	184
177TA 185				4.825	(45/2+)	185
177TA 186				4.901	(43/2+)	186
177TA 187				4.983	(47/2-)	187
177TA 188		5.058	47/2+			188
177TA 189				5.083	(47/2-)	189
177TA 190				5.195	(47/2+)	190

177TA 191				5.271	(45/2+)	191
177TA 192				5.413	(49/2-)	192
177TA 193				5.479	(49/2+)	193
177TA 194				5.548	(49/2-)	194
177TA 195				5.905	(51/2+)	195
177TA 196				6.437	(53/2-)	196

S-p = 4.427 (0.004)-----
S-n = 8.421 (0.031)-----
S-2p = 11.127 (0.004)-----
S-2n = 15.449 (0.028)-----
S-alpha= -2.741 (0.004)-----

S+p = -5.981 (0.016)
S+n = -7.003 (0.003)
S+2p = -9.447 (0.025)
S+2n = -14.785 (0.004)
S+alpha = 2.772 (0.013)

gap p = -1.554 (0.016)
gap n = 1.418 (0.031)
gap 2p = 1.680 (0.025)
gap 2n = 0.664 (0.028)
gap alpha = 0.031 (0.013)