

^{146}Nd $Z = 60$ $N = 86$ [link to full NNDC output](#)

Based on ENSDF from Dec 2018, and mass evaluation from 2016

BE = 1212.397 (0.001) MeV

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

S-alpha=	-1.183	(0.003)						
146ND 1	0.000	0+					1 STABLE	
146ND 2	0.454	2+					2 20.9 PS 9	
146ND 3	0.915	0+					3	
146ND 4	1.043	4+					4 3.8 PS 10	
146ND 5				1.190	3-		5 0.62 PS +90-24	
146ND 6	1.303	2+					6	
146ND 7				1.377	1-		7 63 FS 13	
146ND 8	1.471	2+					8 0.32 PS 19	
146ND 9				1.518	5-		9	
146ND 10						1.572 (0+)	10	

146ND 11	1.603	0+					11	
146ND 12	1.697	0+					12	
146ND 13	1.745	4+					13	
146ND 14						1.769 (2+,3-)	14	
146ND 15	1.777	3+					15	
146ND 16	1.780	6+					16	
146ND 17	1.787	2+					17	
146ND 18						1.812 (2,3)-	18	
146ND 19						1.834	19	
146ND 20						1.885 (2:4)-	20	

146ND 21						1.895 (2:5)-	21	
146ND 22	1.906	2+					22	
146ND 23						1.911	23	
146ND 24	1.919	4+					24	
146ND 25	1.978	2+					25	
146ND 26	1.989	4+					26	
146ND 27				2.027	1-		27	
146ND 28				2.029	7-		28	
146ND 29						2.046 4-,5	29	
146ND 30				2.069	5-		30	

146ND 31				2.073	3-		31	
146ND 32						2.084 (6+)	32	
146ND 33						2.090 (0+)	33	
146ND 34	2.096	4+					34	
146ND 35	2.120	2+					35	
146ND 36	2.144	2+					36	
146ND 37						2.149 (1,2+)	37	

146ND	38			2.168	3-				38
146ND	39	2.197	2+						39
146ND	40	2.208	2+						40

146ND	41	2.220	3+						41
146ND	42			2.225	1-				42
146ND	43					2.226	3+,4+		43
146ND	44			2.231	3-				44
146ND	45	2.266	2+						45
146ND	46			2.269	1-				46
146ND	47	2.286	2+						47
146ND	48					2.292			48
146ND	49					2.302	(2+:5+)		49
146ND	50					2.311			50

146ND	51					2.325			51
146ND	52			2.336	7-				52
146ND	53			2.336	3-				53
146ND	54	2.356	1+						54 15.5 FS 23
146ND	55	2.357	4+						55
146ND	56					2.374			56
146ND	57					2.419	2+:5+		57
146ND	58					2.434	(3-,4-)		58
146ND	59	2.435	4+						59
146ND	60	2.438	2+						60

146ND	61	2.457	2+						61
146ND	62					2.460	(1,2+)		62
146ND	63					2.470	2+,5+,(3+,4+)		63
146ND	64	2.475	8+						64
146ND	65					2.479	(2+)		65
146ND	66	2.484	2+						66
146ND	67					2.491	2+,3+		67 0.18 PS +6-4
146ND	68			2.516	2-				68
146ND	69					2.522	2+:4+		69
146ND	70			2.526	3-				70

146ND	71	2.528	2+						71
146ND	72			2.530	3-				72
146ND	73					2.547	2+,(4+)		73
146ND	74	2.552	2+						74
146ND	75					2.556	3+,4+		75
146ND	76	2.562	3+						76
146ND	77			2.570	5-				77
146ND	78	2.574	2+						78
146ND	79	2.583	2+						79
146ND	80	2.590	4+						80

146ND	81	2.594	8+						81
146ND	82					2.598	(1,2+)		82 0.14 PS 7

146ND 83						2.602	2-,3-	83
146ND 84		2.611	0+					84
146ND 85		2.623	4+					85
146ND 86						2.628	(8+)	86
146ND 87						2.641	(1-)	87
146ND 88						2.661	3+,4+	88
146ND 89						2.663	(1-),2+	89
146ND 90					2.681	1-		90 0.083 PS 32

146ND 91						2.690	(3-)	91
146ND 92						2.705	(6+)	92
146ND 93						2.706	2,3(-)	93
146ND 94					2.706	9-		94
146ND 95						2.707	(3+,4+)	95
146ND 96						2.711		96
146ND 97		2.729	0+					97
146ND 98					2.750	5-		98
146ND 99					2.757	1-		99 5.3 FS 14
146ND 100						2.776	1,2+	100

146ND 101						2.784	(3+,4+)	101
146ND 102						2.803	2+, (3+)	102
146ND 103					2.807	3-		103
146ND 104		2.820	0+					104
146ND 105					2.830	1-		105 67 FS 12
146ND 106					2.845	3-		106
146ND 107		2.855	2+					107
146ND 108					2.856	3-		108
146ND 109		2.871	2+					109
146ND 110					2.877	5-		110

146ND 111						2.885	(4+)	111
146ND 112						2.906	3+,4+	112
146ND 113						2.914	3	113
146ND 114					2.923	5-		114
146ND 115		2.930	4+					115
146ND 116		2.945	0+					116
146ND 117						2.959		117
146ND 118		2.970	2+					118
146ND 119						2.997	3+,4+	119
146ND 120						3.000	1	120

146ND 121					3.005	5-		121
146ND 122		3.013	4+					122
146ND 123		3.028	0+					123
146ND 124						3.035	(2)+	124
146ND 125		3.043	2+					125
146ND 126						3.065	+	126
146ND 127						3.091	(2+,4+)	127
146ND 128		3.103	2+					128

146ND 129				3.109	9-					129
146ND 130		3.124	10+							130

146ND 131				3.126	1-					131
146ND 132		3.145	2+							132
146ND 133							3.149	(4+,6+)		133
146ND 134		3.162	4+							134
146ND 135		3.172	2+							135
146ND 136							3.179	3+, (5+)		136
146ND 137		3.210	4+							137
146ND 138		3.220	2+							138
146ND 139							3.230	3+,4+		139
146ND 140							3.231	(4-)		140

146ND 141		3.236	2+							141
146ND 142				3.246	10-					142
146ND 143							3.247	2+:4+		143
146ND 144				3.249	3-					144
146ND 145							3.273	(6+)		145
146ND 146		3.276	1+						146	22.4 FS 34
146ND 147		3.283	2+						147	
146ND 148							3.292	1	148	12.7 FS 31
146ND 149		3.310	4+						149	
146ND 150		3.320	10+						150	

146ND 151							3.330	(3-,4,5+)	151	
146ND 152							3.335		152	
146ND 153							3.347	1,2+	153	
146ND 154				3.356	3-				154	
146ND 155							3.369	1-,2	155	
146ND 156							3.385	(2,3,4)	156	
146ND 157				3.392	1-				157	
146ND 158				3.405	11-				158	
146ND 159		3.411	1+						159	8.5 FS 13
146ND 160		3.419	0+						160	

146ND 161							3.429	1	161	32 FS 7
146ND 162				3.435	5-				162	
146ND 163		3.443	2+						163	
146ND 164							3.451	(2+,1)	164	
146ND 165		3.455	4+						165	
146ND 166				3.468	3-				166	
146ND 167		3.473	4+						167	
146ND 168		3.481	2+						168	
146ND 169				3.496	5-				169	
146ND 170				3.501	11-				170	

146ND 171				3.521	3-				171	
146ND 172				3.534	1-				172	
146ND 173		3.546	2+						173	

146ND 174			3.558	5-				174
146ND 175	3.569	2+						175
146ND 176					3.577	1(+)		176 7.0 FS 12
146ND 177	3.585	2+						177
146ND 178					3.595			178
146ND 179	3.601	4+						179
146ND 180			3.616	5-				180

146ND 181					3.618			181
146ND 182	3.625	2+						182
146ND 183					3.634	1		183 25 FS 5
146ND 184					3.646			184
146ND 185			3.667	5-				185
146ND 186					3.670	(2+)		186
146ND 187					3.692	(5-)		187
146ND 188					3.701	(2+)		188
146ND 189	3.710	2+						189 45 FS 15
146ND 190					3.714	(2,3,4)		190

146ND 191	3.727	2+						191
146ND 192			3.739	3-				192
146ND 193			3.751	1-				193 16.7 FS 30
146ND 194					3.753	(4+)		194
146ND 195					3.762			195
146ND 196					3.770	(2+,1)		196
146ND 197					3.780	1		197 23 FS 4
146ND 198					3.789			198
146ND 199					3.795	1		199 21 FS LE
146ND 200			3.813	3-				200

146ND 201					3.828	1(-)		201
146ND 202					3.847			202
146ND 203					3.866	(2+)		203
146ND 204					3.875	(5-)		204
146ND 205					3.884	(4+)		205
146ND 206					3.893	1		206 15.2 FS 32
146ND 207	3.902	12+						207
146ND 208					3.913	(3-)		208
146ND 209			3.922	3-				209
146ND 210					3.931			210

146ND 211					3.939	(2+)		211
146ND 212					3.949	(2+)		212
146ND 213			3.958	12-				213
146ND 214					3.963			214
146ND 215					3.975	1		215 17 FS 4
146ND 216	3.994	12+						216
146ND 217					4.006	(2+)		217
146ND 218					4.014	(1)		218
146ND 219			4.028	13-				219

146ND 220					4.039	(2+,3-)	220
146ND 221					4.042	(1)	221
146ND 222					4.054	(2+)	222
146ND 223					4.066	(2+)	223
146ND 224					4.121	(2+)	224
146ND 225					4.138	(2+,3-)	225
146ND 226	4.168	2+					226
146ND 227			4.179	3-			227
146ND 228	4.196	2+					228
146ND 229	4.212	2+					229
146ND 230			4.243	1-			230
146ND 231	4.256	2+					231
146ND 232			4.295	13-			232
146ND 233					4.302	(4+)	233
146ND 234					4.310	(1-)	234
146ND 235					4.325	(4+)	235
146ND 236					4.341	(2+,3-)	236
146ND 237					4.380	(3-)	237
146ND 238					4.388	(2+)	238
146ND 239	4.404	4+					239
146ND 240					4.411	(4+)	240
146ND 241					4.422	(3-)	241
146ND 242			4.442	3-			242
146ND 243					4.454	(3-)	243
146ND 244			4.461	3-			244
146ND 245					4.485	(3-)	245
146ND 246					4.501	(3-)	246
146ND 247					4.517	(4+)	247
146ND 248					4.533	(3-)	248
146ND 249	4.545	4+					249
146ND 250					4.558	(3-)	250
146ND 251					4.571	(3-)	251
146ND 252					4.591	(2+,3-)	252
146ND 253					4.649	(3-)	253
146ND 254	4.694	14+					254
146ND 255	4.696	14+					255
146ND 256					4.696	(3-)	256
146ND 257					4.707	(3-)	257
146ND 258			4.738	3-			258
146ND 259			4.755	3-			259
146ND 260			4.761	15-			260
146ND 261	4.765	2+					261
146ND 262			4.787	14-			262
146ND 263					4.802	(3-)	263
146ND 264	4.899	4+					264

146ND 265						4.948	(2+)	265
146ND 266						4.964	(3-)	266
146ND 267				4.982		3-		267
146ND 268						4.997		268
146ND 269				5.058		15-		269
146ND 270						5.116		270

146ND 271		5.161		15+				271
146ND 272						5.298		272
146ND 273		5.363		16+				273
146ND 274						5.390		274
146ND 275		5.461		16+				275
146ND 276						5.559		17-
146ND 277						5.612		16-
146ND 278		5.900		18+				278
146ND 279						6.203		19-
146ND 280		6.514		20+				280

146ND 281						6.807	(21-)	281
146ND 282				7.166		1-		282 0.37 FS 15
146ND 283						7.364	(22+)	283
146ND 284						7.565	3-,4-	284

S-p = 8.589 (0.007)-----
S-n = 7.565 (0.002)-----
S-2p = 15.072 (0.003)-----
S-2n = 13.321 (0.002)-----
S-alpha= -1.183 (0.003)-----

S+p = -5.405 (0.002)
S+n = -5.292 (0.002)
S+2p = -12.988 (0.002)
S+2n = -12.625 (0.002)
S+alpha = 1.450 (0.002)

gap p = 3.184 (0.007)
gap n = 2.273 (0.003)
gap 2p = 2.084 (0.004)
gap 2n = 0.696 (0.003)
gap alpha = 0.267 (0.003)