

^{38}Ar $Z = 18$ $N = 20$ [link to full NNDC output](#)

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

BE = 327.343 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
38AR 1	0.000	0+			1 STABLE
38AR 2	2.167	2+			2 0.458 PS 21
38AR 3	3.377	0+			3 22.8 PS 15
38AR 4			3.810 3-		4 56 FS 14
38AR 5	3.937	2+			5 43 FS 5
38AR 6			4.480 4-		6 0.97 PS +25-20
38AR 7	4.565	2+			7 36 FS 3
38AR 8			4.586 5-		8 132 PS 4
38AR 9	4.709	0+			9 1.7 PS +21-7
38AR 10			4.877 3-		10 34 FS 8
38AR 11				5.084 (2)-	11 39 FS 10
38AR 12	5.157	2+			12 23 FS 7
38AR 13	5.349	4+			13 0.14 PS 4
38AR 14			5.513 3-		14 0.19 PS 6
38AR 15				5.552 1+,2+	15 11 FS 6
38AR 16	5.595	2+			16 60 FS 18
38AR 17			5.659 5-		17 29 FS 5
38AR 18			5.734 1-		18 4 FS LT
38AR 19			5.825 3-		19 0.24 PS +62-14
38AR 20				5.858 (2)-	20 15.2 FS 35
38AR 21				5.975 (0+:3-)	21 1.7 PS GT
38AR 22				6.042 (3-,4+)	22 58 FS 12
38AR 23				6.053 (4+)	23 71 FS 14
38AR 24			6.209 4-		24 74 FS 23
38AR 25				6.214 (2+)	25 5.4 FS 31
38AR 26	6.250	2+			26 111 FS GT
38AR 27	6.276	4+			27 81 FS 35
38AR 28				6.339 1-,2-,3-	28 13 FS LT
38AR 29			6.353 1-		29 3.6 FS 14
38AR 30	6.408	6+			30 1.0 PS 3
38AR 31				6.477 (0+:3-)	31 0.17 PS GT
38AR 32				6.485 (1-,2,3-)	32 29 FS 22
38AR 33				6.496 (2-,3-)	33 10 FS 4
38AR 34	6.520	2+			34
38AR 35			6.574 1-		35 3.5 FS LT
38AR 36			6.602 4-		36 12.5 FS 21
38AR 37				6.622 (1-,2,3-)	37 36 FS 12
38AR 38			6.674 5-		38 13.7 FS 35

38AR 39				6.682	(0,1,2)	39	53 FS	19
38AR 40				6.773	1-	40	2.8 FS	LT

38AR 41				6.824	(2+,3-)	41	17 FS	6
38AR 42				6.824	(0+:4+)	42		
38AR 43				6.846	(0-:4-)	43		
38AR 44				6.852	(1,2+)	44		
38AR 45				6.870	(2-,3,4+)	45		
38AR 46				6.904	2-,3-	46	6.2 FS	21
38AR 47				6.948	(2+)	47		
38AR 48				7.046	(3-,4+)	48		
38AR 49		7.060	0+			49		
38AR 50				7.070	(6)-	50	51 FS	14

38AR 51				7.101	(1-:4+)	51	12 FS	5
38AR 52				7.128	(1-:4+)	52		
38AR 53				7.181	(1,2+)	53		
38AR 54				7.192	(2-,3,4)	54		

S-alpha= 7.208 (0.000)-----								
38AR 55				7.234	(1-:4+)	55		
38AR 56				7.236	(2+)	56		
38AR 57		7.288	6+			57	27 FS	13
38AR 58				7.290	(3-,4+)	58	55 FS	GT
38AR 59				7.334	(1-:4+)	59		
38AR 60				7.350	(3-,4+)	60		

38AR 61				7.365		61		
38AR 62				7.370	(1+)	62		
38AR 63				7.376	(2+,3,4+)	63		
38AR 64				7.431	(2-,3,4+)	64	13 FS	8
38AR 65				7.452	(1-:4+)	65		
38AR 66				7.485	(3-,4+)	66		
38AR 67				7.491	(6+)	67		
38AR 68				7.497	(3,4,5-)	68		
38AR 69				7.508	7-	69	42 FS	GE
38AR 70				7.528	(3-:7-)	70		

38AR 71				7.539	(3,4,5)	71	43 FS	24
38AR 72				7.628	(1,2+)	72		
38AR 73				7.648	(1,2+)	73		
38AR 74				7.663	(2+:6+)	74		
38AR 75				7.667	(3-:7-)	75		
38AR 76				7.683	(3-,4+)	76	10 FS	6
38AR 77				7.702	(1+)	77		
38AR 78				7.786	(2-:6-)	78		
38AR 79				7.828	(1-:5-)	79		
38AR 80				7.857	(1-,2+)	80		

38AR 81				7.859	(6)	81		
38AR 82				7.893	(1+,2+)	82	3.5 FS	LT

38AR 83						7.899	(3-:7-)	83
38AR 84						7.911	(3-,4+)	84
38AR 85						7.992	(1-,2,3-)	85
38AR 86						8.068	(3-,4+)	86
38AR 87		8.077	7+					87
38AR 88						8.106	(0+:4+)	88
38AR 89						8.124	(3-:6+)	89
38AR 90						8.125	(6-)	90

38AR 91						8.181	(3-,4+)	91
38AR 92						8.215	(3-:7-)	92
38AR 93						8.233	(1-)	93
38AR 94						8.261	(3-:6-)	94
38AR 95						8.311	(1+)	95
38AR 96						8.353	(1,2+)	96
38AR 97						8.391	(2+)	97
38AR 98						8.417	(3-:7-)	98
38AR 99						8.481	(3-:6-)	99
38AR 100						8.491	(6-)	100

38AR 101						8.517	(1,2+)	101
38AR 102						8.520	(3-:6-)	102
38AR 103		8.570	8+					103
38AR 104						8.595	(3-:7-)	104
38AR 105						8.650	(3-:6+)	105
38AR 106		8.668	2+					106
38AR 107						8.783	(3-:7-)	107
38AR 108						8.789	(4-:7-)	108
38AR 109						8.800	(2-:6-)	109
38AR 110						8.809	(4+:8+)	110

38AR 111						8.828	(3-:7-)	111
38AR 112						8.875	(3-:6-)	112
38AR 113						8.944	(4+:7-)	113
38AR 114						8.956	(4-:7-)	114
38AR 115					8.973	7-		115
38AR 116						8.998	(4+,5,6-)	116
38AR 117						9.072	(4-,5,6+)	117
38AR 118						9.077	(1-:5-)	118
38AR 119						9.087	(3-:7-)	119
38AR 120						9.100	(1,2+)	120

38AR 121						9.158	(0+:4+)	121
38AR 122						9.170	(3-:6-)	122
38AR 123						9.199	(4-:8-)	123
38AR 124						9.204	(0+:4+)	124
38AR 125						9.260	(0+:4+)	125
38AR 126						9.293	(3-:7-)	126
38AR 127						9.300	(0+:4+)	127
38AR 128						9.330	(4+:8+)	128

38AR 173				10.245	(0+:4+)	173			
38AR 174		10.255	1-			174			
38AR 175					10.274	(4+:8+)	175		
38AR 176					10.316	(3-:7-)	176		
38AR 177		10.335	1-			177			
38AR 178					10.382	(1-:4+)	178		
38AR 179		10.398	1-			179	12 FS	11	
38AR 180		10.431	1-			180	26 FS	12	

38AR 181					10.443	(4+:8+)	181		
38AR 182					10.455	(5-:8+)	182		
38AR 183		10.494	1-			183			
38AR 184					10.495	(1+)	184		
38AR 185					10.507	(1,2+)	185		
38AR 186					10.516	(0+)	186		
38AR 187					10.547	(0+)	187		
38AR 188					10.557	(5-:9-)	188		
38AR 189		10.587	1-			189	18 FS	11	
38AR 190					10.589	(4+:7-)	190		

38AR 191					10.611	(1-:4+)	191		
38AR 192					10.631	(2-)	192		
38AR 193					10.634	(6+:10+)	193		
38AR 194					10.658		194	300 EV	LT
38AR 195					10.666	(1-,2+,3-,4+)	195		
38AR 196					10.673	(2-)	196		
38AR 197					10.676	(4+:8+)	197		
38AR 198		10.684	1-			198			
38AR 199					10.726	(1-:4+)	199		
38AR 200					10.732		200	300 EV	LT

38AR 201		10.768	2+				201		
38AR 202		10.803	2+				202		
38AR 203					10.816	(0:3-)	203		
38AR 204					10.816		204		
38AR 205					10.827	(2)	205		
38AR 206					10.850	(2-,3-)	206		
38AR 207		10.857	1-				207		
38AR 208					10.874	(0+:3-)	208		
38AR 209					10.890	(5-:8-)	209		
38AR 210					10.915	(1-,2,3-)	210	0.2 KEV	LT

38AR 211		10.933	1-				211		
38AR 212					10.945	(1-,2+)	212	0.2 KEV	LT
38AR 213					10.947	(2-,3,4+)	213	0.2 KEV	LT
38AR 214					10.948	(9-)	214		
38AR 215					10.962		215	0.2 KEV	LT
38AR 216					10.963	2(+)	216		
38AR 217					10.967		217		
38AR 218					10.980		218		

38AR 219				10.988	(2)	219	0.2 KEV	LT
38AR 220				11.000		220		

38AR 221				11.006		221		
38AR 222				11.013	1	222		
38AR 223				11.015		223		
38AR 224				11.023		224		
38AR 225		11.032	1-			225		
38AR 226				11.044		226	0.2 KEV	LT
38AR 227				11.045	(3-)	227	0.2 KEV	LT
38AR 228				11.052		228	0.2 KEV	LT
38AR 229				11.054	(2)	229	0.2 KEV	LT
38AR 230				11.059	(1,2+)	230	0.2 KEV	LT

38AR 231				11.066	(2)	231	0.2 KEV	LT
38AR 232		11.067	1-			232		
38AR 233				11.068		233		
38AR 234				11.078		234		
38AR 235				11.084		235		
38AR 236				11.087	(4+:8+)	236		
38AR 237				11.095		237		
38AR 238				11.097	(2+)	238	0.2 KEV	LT
38AR 239				11.099		239		
38AR 240				11.107		240		

38AR 241				11.107		241		
38AR 242				11.109	(4-:8-)	242		
38AR 243				11.113		243	0.2 KEV	LT
38AR 244		11.117	3-			244	0.2 KEV	LT
38AR 245		11.123	3-			245		
38AR 246				11.125		246	0.2 KEV	LT
38AR 247				11.135		247		
38AR 248				11.136		248		
38AR 249				11.144		249	0.2 KEV	LT
38AR 250				11.146		250	0.6 KEV	LT

38AR 251				11.147	(2,3-)	251		
38AR 252				11.158		252	0.6 KEV	LT
38AR 253				11.161	(2-,3,4+)	253	0.2 KEV	LT
38AR 254				11.163	(6,7,8)	254		
38AR 255				11.168	(3-)	255	0.2 KEV	LT
38AR 256		11.173	3-			256	0.2 KEV	LT
38AR 257				11.174	(5-:9-)	257		
38AR 258		11.175	1-			258		
38AR 259				11.183		259	0.6 KEV	LT
38AR 260				11.185	(2+,3-)	260	0.2 KEV	LT

38AR 261				11.189		261	0.6 KEV	LT
38AR 262				11.198	(1-,2,3-)	262	0.2 KEV	LT
38AR 263				11.199	(8,9,10+)	263		

38AR 264				11.200		264		
38AR 265		11.202	1-			265	0.2 KEV	LT
38AR 266					11.204	266		
38AR 267					11.210	267	0.2 KEV	LT
38AR 268					11.215	268	0.2 KEV	LT
38AR 269					11.216	269		
38AR 270					11.218	270	0.2 KEV	LT

38AR 271					11.226	271		
38AR 272					11.227	272	0.2 KEV	LT
38AR 273					11.234	273	0.2 KEV	LT
38AR 274					11.245	274	0.2 KEV	LT
38AR 275		11.250	1-			275		
38AR 276					11.260	276	0.6 KEV	LT
38AR 277					11.262	277		
38AR 278					11.265	278	0.2 KEV	LT
38AR 279		11.268	3-			279	0.2 KEV	LT
38AR 280					11.270	280	0.6 KEV	LT

38AR 281					11.272	281	0.2 KEV	LT
38AR 282					11.276	282		
38AR 283					11.276	283	0.2 KEV	LT
38AR 284					11.284	284		
38AR 285					11.285	285	0.2 KEV	LT
38AR 286					11.287	286		
38AR 287					11.289	287	0.2 KEV	LT
38AR 288					11.290	288		
38AR 289					11.292	289	0.6 KEV	LT
38AR 290					11.292	290		

38AR 291					11.299	291		
38AR 292		11.302	1+2 5-			292	0.2 KEV	LT
38AR 293					11.306	293	0.6 KEV	LT
38AR 294		11.307	1+2 5-			294	0.2 KEV	LT
38AR 295		11.315	1-			295		
38AR 296					11.317	296	0.2 KEV	LT
38AR 297					11.319	297	0.2 KEV	LT
38AR 298					11.326	298	0.2 KEV	LT
38AR 299					11.327	299		
38AR 300					11.328	300	0.2 KEV	LT

38AR 301					11.330	301		
38AR 302					11.330	302	0.2 KEV	LT
38AR 303					11.339	303	0.2 KEV	LT
38AR 304					11.349	304	0.2 KEV	LT
38AR 305		11.351	1+2 3-			305	0.2 KEV	LT
38AR 306		11.355	1+2 3-			306	0.2 KEV	LT
38AR 307					11.359	307		
38AR 308					11.362	308	0.2 KEV	LT
38AR 309		11.367	3-			309	0.2 KEV	LT

38AR 310				11.369		310		
38AR 311				11.374	(1-,2,3-)	311	0.2 KEV	LT
38AR 312			11.374	1-		312		
38AR 313	11.376	4+				313	0.2 KEV	LT
38AR 314						314		
38AR 315					(4+:8+)	315		
38AR 316					(2+)	316	0.2 KEV	LT
38AR 317						317		
38AR 318					(1-,2+)	318	0.2 KEV	LT
38AR 319			11.385	3-		319		
38AR 320						320	0.2 KEV	LT
38AR 321			11.393	3-		321	0.2 KEV	LT
38AR 322					(3-)	322	0.2 KEV	LT
38AR 323					(1-,2+)	323	0.2 KEV	LT
38AR 324					(2)	324	0.2 KEV	LT
38AR 325						325		
38AR 326					(3-)	326	0.2 KEV	LT
38AR 327					(4+:8+)	327		
38AR 328					(3,4+)	328	0.2 KEV	LT
38AR 329			11.432	1-		329	0.2 KEV	LT
38AR 330					(2+,3-)	330	0.2 KEV	LT
38AR 331			11.443	3-		331		
38AR 332					(2-,3)	332	0.2 KEV	LT
38AR 333						333		
38AR 334						334	0.2 KEV	LT
38AR 335						335		
38AR 336						336		
38AR 337						337		
38AR 338					(1-,2+)	338	0.2 KEV	LT
38AR 339						339	0.2 KEV	LT
38AR 340						340	0.6 KEV	LT
38AR 341					(1-,2+)	341	0.2 KEV	LT
38AR 342						342	0.2 KEV	LT
38AR 343					(3-)	343	0.6 KEV	LT
38AR 344						344		
38AR 345						345		
38AR 346					(7-:11-)	346		
38AR 347					(1-,3-)	347	0.6 KEV	LT
38AR 348	11.494	2+				348	0.6 KEV	LT
38AR 349					(5+:9+)	349		
38AR 350					(2+)	350	0.2 KEV	LT
38AR 351					(1-,2+)	351	0.6 KEV	LT
38AR 352						352		
38AR 353					(2)	353		
38AR 354			11.514	1-		354	0.2 KEV	LT

38AR 355				11.519		355		
38AR 356				11.520	(1-,2+,3-)	356	0.2 KEV	LT
38AR 357				11.526		357	0.2 KEV	LT
38AR 358				11.528	(1,2+)	358	0.2 KEV	LT
38AR 359				11.530	(1-,2+)	359	0.2 KEV	LT
38AR 360				11.532		360	0.2 KEV	LT

38AR 361				11.534		361		
38AR 362				11.538		362	0.33 KEV	11
38AR 363		11.540	1-			363		
38AR 364				11.543	(5+:9+)	364		
38AR 365				11.545		365		
38AR 366				11.545	(1-,2)	366		
38AR 367				11.547	(7-:11-)	367		
38AR 368				11.549	(10-)	368		
38AR 369				11.553	(1)-	369	0.2 KEV	LT
38AR 370				11.558		370		

38AR 371				11.558	(1+)	371	0.2 KEV	LT
38AR 372				11.562		372	0.2 KEV	LT
38AR 373				11.569	(1-,2,3-)	373	0.2 KEV	LT
38AR 374				11.574		374		
38AR 375				11.578	(1-,2+)	375		
38AR 376				11.579	(1-,2+)	376	0.2 KEV	LT
38AR 377				11.581		377		
38AR 378				11.582		378		
38AR 379				11.593		379	0.6 KEV	LT
38AR 380				11.594		380	0.2 KEV	LT

38AR 381				11.595	(4+:8+)	381		
38AR 382		11.598	4+			382	0.2 KEV	LT
38AR 383				11.600	(1,2+)	383	0.2 KEV	LT
38AR 384				11.606	(1,2+)	384	0.2 KEV	LT
38AR 385				11.607		385		
38AR 386				11.608	(5+:9+)	386		
38AR 387				11.608	(1-,2+)	387		
38AR 388				11.609		388		
38AR 389				11.613		389		
38AR 390				11.613		390		

38AR 391				11.615	11-	391	4.9 PS	21
38AR 392				11.616	1-	392	0.42 KEV	16
38AR 393				11.618		393	0.2 KEV	LT
38AR 394				11.620	(7+:11+)	394		
38AR 395				11.623		395	0.2 KEV	LT
38AR 396				11.623		396		
38AR 397				11.625	(1-,2+)	397	0.6 KEV	LT
38AR 398				11.630		398		
38AR 399				11.641		399	0.2 KEV	LT
38AR 400				11.643	(1-,2+)	400	0.6 KEV	LT

38AR 401				11.643		401		
38AR 402				11.645		402		
38AR 403				11.647		403	0.2 KEV	LT
38AR 404				11.651	(9-)	404		
38AR 405				11.651		405		
38AR 406				11.652	(3,4+)	406	0.2 KEV	LT
38AR 407				11.654		407		
38AR 408				11.657		408		
38AR 409				11.660		409	0.2 KEV	LT
38AR 410				11.661		410		

38AR 411				11.665		411		
38AR 412				11.667		412	0.2 KEV	LT
38AR 413				11.668		413	0.2 KEV	LT
38AR 414				11.671		414		
38AR 415				11.672	(3)	415	0.2 KEV	LT
38AR 416				11.680		416		
38AR 417				11.683	(4+)	417	0.2 KEV	LT
38AR 418				11.686		418	0.2 KEV	LT
38AR 419	11.686	2+				419	0.2 KEV	LT
38AR 420				11.687		420		

38AR 421				11.696		421	0.2 KEV	LT
38AR 422				11.702		422	0.6 KEV	LT
38AR 423				11.703	(3-,4+)	423	0.2 KEV	LT
38AR 424				11.707		424	0.2 KEV	LT
38AR 425				11.709		425		
38AR 426				11.710		426		
38AR 427	11.712	4+				427	0.6 KEV	LT
38AR 428				11.716	(1+)	428		
38AR 429				11.717	(2+)	429	0.6 KEV	LT
38AR 430				11.723		430		

38AR 431				11.723	(0:3)-	431	0.2 KEV	LT
38AR 432				11.724		432		
38AR 433				11.726		433		
38AR 434	11.728	2+				434		
38AR 435				11.728		435		
38AR 436				11.731	(4+)	436	0.6 KEV	LT
38AR 437				11.736		437		
38AR 438				11.737		438		
38AR 439				11.739		439		
38AR 440				11.739		440		

38AR 441				11.743		441		
38AR 442				11.744	(1)-	442	0.7 KEV	6
38AR 443				11.748		443	0.2 KEV	LT
38AR 444				11.752		444		
38AR 445				11.756	(3-,4+)	445	0.2 KEV	LT

38AR 446				11.759	(1,3)-	446		
38AR 447				11.765		447		
38AR 448				11.766		448		
38AR 449				11.766		449		
38AR 450				11.768		450	0.2 KEV	LT

38AR 451				11.770		451		
38AR 452				11.773		452		
38AR 453	11.775	4+				453	0.2 KEV	LT
38AR 454				11.781	(1,2,3)-	454	0.2 KEV	LT
38AR 455				11.784	(1-,3-)	455	0.2 KEV	LT
38AR 456				11.784		456	0.2 KEV	LT
38AR 457	11.788	2+				457		
38AR 458				11.790	(2+)	458	0.2 KEV	LT
38AR 459			11.791	1-		459	0.6 KEV	LT
38AR 460				11.795	(1-,2+,3-,4+)	460	0.2 KEV	LT

38AR 461				11.798	(1-,2,3,4+)	461	0.2 KEV	LT
38AR 462				11.800	(1,2+)	462	0.2 KEV	LT
38AR 463				11.802		463	0.2 KEV	LT
38AR 464		11.806	3-			464	0.2 KEV	LT
38AR 465				11.811		465		
38AR 466				11.812	(1,2+)	466	0.2 KEV	LT
38AR 467				11.815	(1-)	467	0.2 KEV	LT
38AR 468				11.819		468		
38AR 469				11.823	(3-,4+)	469	0.2 KEV	LT
38AR 470				11.829		470		

38AR 471			11.832	3-		471	0.2 KEV	LT
38AR 472				11.835		472		
38AR 473				11.837		473		

S-n	=	11.839 (0.000)	-----					
38AR 474	11.840	2+				474	0.302 KEV	
38AR 475	11.841	2+				475	0.267 KEV	
38AR 476				11.842		476		
38AR 477				11.842		477		
38AR 478				11.844		478		
38AR 479				11.846		479		
38AR 480				11.850		480	0.2 KEV	LT

38AR 481				11.851		481		
38AR 482				11.852		482		
38AR 483				11.856	(1+)	483		
38AR 484				11.859		484		
38AR 485				11.861	(1-,2+)	485		
38AR 486				11.862		486		
38AR 487				11.865	(1-,3-)	487	0.2 KEV	LT
38AR 488				11.866		488		
38AR 489				11.874	(3,4+)	489	0.2 KEV	LT
38AR 490				11.875		490		

38AR 491				11.878	(0:3)-	491	0.19 KEV	12
38AR 492				11.881	(1-,3-)	492	0.3 KEV	LT
38AR 493				11.882		493		
38AR 494				11.888	(1,2,3)-	494	0.50 KEV	13
38AR 495				11.890		495		
38AR 496				11.892		496		
38AR 497				11.895		497	0.2 KEV	LT
38AR 498				11.898		498	0.3 KEV	LT
38AR 499				11.902		499		
38AR 500				11.902		500	0.2 KEV	LT
38AR 501				11.905		501		
38AR 502				11.906	(3-,4,5-)	502		
38AR 503				11.915	(10+)	503		
38AR 504				11.916		504		
38AR 505				11.917		505	1.73 KEV	14
38AR 506				11.918		506		
38AR 507				11.923		507		
38AR 508		11.928	4-			508	0.3 KEV	LT
38AR 509				11.928	1-,2+	509	0.2 KEV	LT
38AR 510	11.935	4+				510	0.2 KEV	LT
38AR 511				11.940		511	0.51 KEV	18
38AR 512				11.943		512		
38AR 513				11.946		513	0.45 KEV	16
38AR 514				11.949		514	0.07 KEV	LT
38AR 515				11.957		515	0.2 KEV	LT
38AR 516				11.966		516	0.2 KEV	LT
38AR 517				11.968		517		
38AR 518				11.972		518		
38AR 519				11.973	(1-,3-)	519	0.6 KEV	LT
38AR 520				11.978		520	0.2 KEV	LT
38AR 521				11.982		521	0.6 KEV	LT
38AR 522				11.995		522		
38AR 523				11.998	(7-:11-)	523		
38AR 524				11.999		524	0.6 KEV	LT
38AR 525				12.000	(1+)	525		
38AR 526				12.004		526	1.0 KEV	LT
38AR 527				12.006	(1-,3-)	527	1.0 KEV	6
38AR 528				12.012		528	1.0 KEV	LT
38AR 529				12.014		529	1.0 KEV	LT
38AR 530				12.017		530		
38AR 531	12.024	2+				531	1.2 KEV	6
38AR 532				12.031		532	1.0 KEV	LT
38AR 533		12.039	1-			533		
38AR 534				12.042	(1-,2+)	534	1.5 KEV	6
38AR 535				12.043		535	2.5 KEV	

38AR 536	12.054	2+				536	0.6 KEV	LT
38AR 537					12.061	537	1.6 KEV	
38AR 538					12.063	538		
38AR 539					12.067	539		
38AR 540					12.071	540		

38AR 541					12.076	541		
38AR 542					12.078	542		
38AR 543					12.082	543		
38AR 544			12.085	1-		544	2.1 KEV	6
38AR 545					12.094	545		
38AR 546	12.097	2+				546	3.0 KEV	6
38AR 547					12.106	547		
38AR 548					12.107	548		
38AR 549					12.111	549	2.6 KEV	6
38AR 550			12.117	1-		550	1.1 KEV	6

38AR 551					12.123	551		
38AR 552					12.127	552	1.4 KEV	6
38AR 553					12.132	553	2.3 KEV	
38AR 554					12.134	554		
38AR 555			12.136	1-		555	2.3 KEV	6
38AR 556					12.143	556	1.1 KEV	6
38AR 557					12.146	557		
38AR 558					12.150	558		
38AR 559					12.153	559		
38AR 560					12.159	560		

38AR 561					12.176	561	3.8 KEV	
38AR 562					12.185	562		
38AR 563					12.189	563		
38AR 564					12.199	564		
38AR 565					12.200	565		
38AR 566					12.206	566		
38AR 567					12.215	567	4.4 KEV	
38AR 568					12.233	568		
38AR 569					12.240	569		
38AR 570					12.250	570		

38AR 571					12.298	571		
38AR 572					12.325	572		
38AR 573					12.334	573		
38AR 574					12.344	574		
38AR 575					12.351	575		
38AR 576					12.357	576		
38AR 577					12.364	577		
38AR 578					12.369	578		
38AR 579					12.369	579		
38AR 580					12.373	580	2.7 KEV	

38AR 581			12.394	(3-,4,5-)	581
38AR 582			12.405	(3-,4,5-)	582
38AR 583			12.409		583
38AR 584			12.416		584
38AR 585			12.420		585
38AR 586			12.442		586 3.5 KEV
38AR 587			12.454		587
38AR 588			12.460		588
38AR 589			12.468		589
38AR 590			12.474		590

38AR 591			12.484		591
38AR 592			12.489		592
38AR 593			12.495		593
38AR 594			12.498		594
38AR 595			12.504		595
38AR 596			12.509		596
38AR 597			12.518		597
38AR 598			12.529		598
38AR 599			12.540		599
38AR 600			12.545		600

38AR 601			12.553		601
38AR 602			12.562		602
38AR 603			12.566		603
38AR 604			12.572		604 3.3 KEV
38AR 605			12.578		605 4.1 KEV
38AR 606			12.588		606 1.8 KEV
38AR 607			12.593		607 1.8 KEV
38AR 608			12.598		608 1.8 KEV
38AR 609			12.601		609
38AR 610			12.611		610 3.1 KEV

38AR 611			12.621		611 3.3 KEV
38AR 612			12.631		612 2.4 KEV
38AR 613			12.638		613 2.1 KEV
38AR 614			12.642		614 4.3 KEV
38AR 615			12.656		615 2.4 KEV
38AR 616			12.665		616 4.3 KEV
38AR 617			12.670		617 4.3 KEV
38AR 618			12.673		618 4.3 KEV
38AR 619			12.682		619 4.3 KEV
38AR 620			12.699		620

38AR 621			12.700	(3-)	621
38AR 622			12.706		622
38AR 623			12.712		623
38AR 624			12.718		624 3.3 KEV
38AR 625			12.727		625
38AR 626			12.741		626

38AR 627			12.746		627	5.6 KEV
38AR 628			12.752		628	
38AR 629			12.769		629	7.8 KEV
38AR 630			12.787		630	

38AR 631			12.798		631	19 KEV
38AR 632			12.811		632	
38AR 633			12.818		633	
38AR 634			12.831		634	
38AR 635			12.839		635	3.2 KEV
38AR 636			12.847		636	
38AR 637			12.862		637	
38AR 638			12.877		638	
38AR 639			12.894		639	
38AR 640			12.900		640	12 KEV

38AR 641			12.906		641	
38AR 642			12.927		642	
38AR 643			12.933		643	
38AR 644			12.940		644	
38AR 645			12.948		645	
38AR 646			12.958		646	12 KEV
38AR 647			12.976		647	
38AR 648			12.994		648	
38AR 649			12.999		649	3.3 KEV
38AR 650			13.013		650	

38AR 651			13.022		651	
38AR 652			13.034		652	
38AR 653			13.044		653	
38AR 654			13.070		654	
38AR 655			13.116		655	39 KEV
38AR 656			13.178		656	21 KEV
38AR 657			13.320		657	
38AR 658			13.680		658	
38AR 659			13.684	(12-)	659	
38AR 660			13.891	(1+)	660	

38AR 661			13.967	(1+)	661	
38AR 662			14.066	(1+)	662	
38AR 663			14.120	(8+,9,10,11+)	663	
38AR 664			14.206	(1+)	664	
38AR 665			14.300	(3-)	665	
38AR 666			14.391	(12+)	666	
38AR 667			14.877	(12+)	667	
38AR 668			14.924	(1-)	668	
38AR 669			15.000	(4+,5-)	669	
38AR 670			15.394	(13-)	670	

38AR 671			17.002	(14+)	671	

38AR 672				17.781		672
38AR 673				18.070	(14+)	673
S-2p	=	18.629 (0.000)	-----			
38AR 674		18.784 3 0+				674
38AR 675				19.770	(8+)	675
38AR 676				19.913	(8+)	676

S-p	=	10.242 (0.000)	-----
S-n	=	11.839 (0.000)	-----
S-2p	=	18.629 (0.000)	-----
S-2n	=	20.626 (0.000)	-----
S-alpha	=	7.208 (0.000)	-----

S+p	=	-6.381 (0.000)
S+n	=	-6.599 (0.005)
S+2p	=	-14.709 (0.000)
S+2n	=	-16.468 (0.000)
S+alpha	=	-6.257 (0.000)

gap p	=	3.861 (0.000)
gap n	=	5.240 (0.005)
gap 2p	=	3.919 (0.000)
gap 2n	=	4.158 (0.000)
gap alpha	=	0.951 (0.000)