

# Nuclear States from Charged Particle Reactions – Tables of Excitations from Reactions with Charged Particles.

**Vol. I/19B1: 3-Lithium ... 36-Krypton**

**Vol. I/19B2: 37-Rubidium ... 62-Samarium**

**Vol. I/19B3: 63-Rubidium ... 99-Einsteinium**

## **63-Europium**

Eu-145  
Eu-146  
Eu-147  
Eu-148  
Eu-149  
Eu-150  
Eu-151  
Eu-152  
Eu-153  
Eu-154  
Eu-155  
Eu-156  
Eu-157  
Eu-159  
Eu-160

## **65-Terbium**

Tb-149  
Tb-150  
Tb-151  
Tb-152  
Tb-153  
Tb-154  
Tb-155  
Tb-156  
Tb-157  
Tb-158  
Tb-159  
Tb-160  
Tb-161  
Tb-162  
Tb-163

## **67-Holmium**

Ho-157  
Ho-158  
Ho-159  
Ho-160  
Ho-161  
Ho-162  
Ho-163  
Ho-164  
Ho-165  
Ho-166  
Ho-167  
Ho-168  
Ho-169  
Ho-170

## **70-Ytterbium**

Yb-166  
Yb-167  
Yb-168  
Yb-169  
Yb-170  
Yb-171  
Yb-172  
Yb-173  
Yb-174  
Yb-175  
Yb-176  
Yb-177  
Yb-178

## **64-Gadolinium**

Gd-146  
Gd-147  
Gd-148  
Gd-149  
Gd-150  
Gd-151  
Gd-152  
Gd-153  
Gd-154  
Gd-155  
Gd-156  
Gd-157  
Gd-158  
Gd-159  
Gd-160  
Gd-161  
Gd-162

## **66-Dysprosium**

Dy-154  
Dy-155  
Dy-156  
Dy-157  
Dy-158  
Dy-159  
Dy-160  
Dy-161  
Dy-162  
Dy-163  
Dy-164  
Dy-165  
Dy-166

## **68-Erbium**

Er-161  
Er-162  
Er-163  
Er-164  
Er-165  
Er-166  
Er-167  
Er-168  
Er-169  
Er-170  
Er-171  
Er-172

## **69-Thulium**

Tm-165  
Tm-166  
Tm-167  
Tm-168  
Tm-169  
Tm-170  
Tm-171  
Tm-172  
Tm-173  
Tm-174  
Tm-175

## **71-Lutetium**

Lu-171  
Lu-172  
Lu-173  
Lu-174  
Lu-175  
Lu-176  
Lu-177  
Lu-178  
Lu-179  
Lu-180

## **72-Hafnium**

Hf-173  
Hf-174  
Hf-175  
Hf-176  
Hf-177  
Hf-178  
Hf-179  
Hf-180  
Hf-181  
Hf-182  
Hf-183

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## 73-Tantalum

Ta-179  
Ta-180  
Ta-181  
Ta-182  
Ta-183  
Ta-184  
Ta-185

## 74-Tungsten

W-178  
W-179  
W-180  
W-181  
W-182  
W-183  
W-184  
W-185  
W-186  
W-187  
W-188

## 75-Rhenium

Re-181  
Re-182  
Re-183  
Re-184  
Re-185  
Re-186  
Re-187  
Re-188  
Re-189  
Re-190  
Re-191

## 76-Osmium

Os-184  
Os-185  
Os-186  
Os-187  
Os-188  
Os-189  
Os-190  
Os-191  
Os-192  
Os-193  
Os-194

## 77-Iridium

Ir-183  
Ir-184  
Ir-185  
Ir-186  
Ir-187  
Ir-188  
Ir-189  
Ir-190  
Ir-191  
Ir-192  
Ir-193  
Ir-194  
Ir-195

## 78-Platinum

Pt-180  
Pt-181  
Pt-182  
Pt-183  
Pt-184  
Pt-185  
Pt-186  
Pt-187  
Pt-188  
Pt-189  
Pt-190  
Pt-191  
Pt-192  
Pt-193  
Pt-194  
Pt-195  
Pt-196  
Pt-197  
Pt-198  
Pt-199  
Pt-200

## 79-Gold

Au-186  
Au-187  
Au-188  
Au-189  
Au-190  
Au-191  
Au-192  
Au-193  
Au-194  
Au-195  
Au-196  
Au-197  
Au-198  
Au-199

## 80-Mercury

Hg-184  
Hg-185  
Hg-186  
Hg-187  
Hg-188  
Hg-189  
Hg-190  
Hg-191  
Hg-192  
Hg-193  
Hg-194  
Hg-195  
Hg-196  
Hg-197  
Hg-198  
Hg-199  
Hg-200  
Hg-201  
Hg-202  
Hg-203  
Hg-204  
Hg-205  
Hg-206

## 81-Thallium

Tl-195  
Tl-196  
Tl-197  
Tl-198  
Tl-199  
Tl-200  
Tl-201  
Tl-202  
Tl-203  
Tl-204  
Tl-205  
Tl-206  
Tl-207  
Tl-208  
Tl-209

## 82-Lead

Pb-196  
Pb-197  
Pb-198  
Pb-199  
Pb-200  
Pb-201  
Pb-202  
Pb-203  
Pb-204  
Pb-205  
Pb-206  
Pb-207  
Pb-208  
Pb-209  
Pb-210  
Pb-211  
Pb-212  
Pb-213  
Pb-214

## 83-Bismuth

Bi-201  
Bi-202  
Bi-203  
Bi-204  
Bi-205  
Bi-206  
Bi-207  
Bi-208  
Bi-209  
Bi-210  
Bi-211  
Bi-212  
Bi-213  
Bi-214  
Bi-215

# Index of nuclides

## 84-Polonium

Po-196  
Po-197  
Po-198  
Po-199  
Po-200  
Po-201  
Po-202  
Po-203  
Po-204  
Po-205  
Po-206  
Po-207  
Po-208  
Po-209  
Po-210  
Po-211  
Po-212  
Po-213  
Po-214  
Po-215  
Po-216

## 85-Astatine

At-203  
At-204  
At-205  
At-206  
At-207  
At-208  
At-209

## 86-Radon

Rn-208  
Rn-209  
Rn-210  
Rn-211  
Rn-212  
Rn-213  
Rn-214  
Rn-215  
Rn-216  
Rn-217  
Rn-218  
Rn-219  
Rn-220  
Rn-222

## 87-Francium

Fr-213  
Fr-214  
Fr-215  
Fr-216  
Fr-217  
Fr-218  
Fr-219  
Fr-220  
Fr-221  
Fr-222  
Fr-223  
Fr-225

## 88-Radium

Ra-212  
Ra-213  
Ra-214  
Ra-215  
Ra-216  
Ra-217  
Ra-218  
Ra-219  
Ra-220  
Ra-221  
Ra-222  
Ra-223  
Ra-224  
Ra-225  
Ra-226  
Ra-227  
Ra-228

## 89-Actinium

Ac-219  
Ac-220  
Ac-221  
Ac-222  
Ac-223  
Ac-224  
Ac-225  
Ac-226  
Ac-227  
Ac-228  
Ac-229  
Ac-230  
Ac-231  
Ac-232

## 90-Thorium

Th-217  
Th-218  
Th-220  
Th-221  
Th-222  
Th-223  
Th-224  
Th-225  
Th-226  
Th-227  
Th-228  
Th-229  
Th-230  
Th-231  
Th-232  
Th-233  
Th-234

## 91-Protactinium

Pa-229  
Pa-230  
Pa-231  
Pa-232  
Pa-233  
Pa-234  
Pa-235  
Pa-236  
Pa-237

## 92-Uranium

U-230  
U-231  
U-232  
U-233  
U-234  
U-235  
U-236  
U-237  
U-238  
U-239  
U-240

## 93-Neptunium

Np-233  
Np-234  
Np-235  
Np-236  
Np-237  
Np-238  
Np-239  
Np-240  
Np-242

## 94-Plutonium

Pu-235  
Pu-236  
Pu-237  
Pu-238  
Pu-239  
Pu-240  
Pu-241  
Pu-242  
Pu-243  
Pu-244  
Pu-245  
Pu-246

## 95-Americium

Am-239  
Am-240  
Am-241  
Am-242  
Am-243  
Am-244  
Am-245

## 96-Curium

Cm-242  
Cm-243  
Cm-244  
Cm-245  
Cm-246  
Cm-247  
Cm-248  
Cm-249  
Cm-250

## 97-Berkelium

Bk-247  
Bk-248  
Bk-249  
Bk-250  
Bk-251

## 98-Californium

Cf-246  
Cf-247  
Cf-248  
Cf-249  
Cf-250  
Cf-251  
Cf-252  
Cf-253

## 99-Einsteinium

Es-251  
Es-252  
Es-253  
Es-254

Z=63-99

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