**Ionization Energy for Elements 1-20**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| IE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|  | H | He | Li | Be | B | C | N | O | F | Ne | Na | Mg | Al | Si | P | S | Cl | Ar | K | Ca |
| 1 | 13.6 | 24.6 | 5.4 | 9.3 | 8.3 | 11.3 | 14.5 | 13.6 | 17.4 | 21.6 | 5.1 | 7.6 | 6.0 | 8.2 | 10.5 | 10.4 | 13.0 | 15.8 | 4.3 | 6.1 |
| 2 |  | 54.4 | 75.6 | 18.2 | 25.2 | 24.4 | 29.6 | 35.1 | 35.0 | 41.0 | 47.3 | 15.0 | 18.8 | 16.3 | 16.3 | 23.3 | 23.8 | 27.6 | 31.6 | 11.9 |
| 3 |  |  | 122 | 154 | 37.9 | 47.9 | 47.4 | 54.9 | 62.7 | 63.5 | 71.6 | 80.1 | 28.4 | 33.5 | 33.5 | 34.8 | 39.6 | 40.7 | 45.8 | 50.9 |
| 4 |  |  |  | 218 | 259 | 64.5 | 77.5 | 77.4 | 87.1 | 97.1 | 98.9 | 109 | 120 | 45.1 | 45.1 | 47.2 | 53.5 | 59.8 | 60.9 | 67.3 |
| 5 |  |  |  |  | 340 | 392 | 97.9 | 114 | 114 | 126 | 138 | 141 | 154 | 167 | 167 | 72.6 | 67.8 | 75.0 | 82.7 | 84.5 |
| 6 |  |  |  |  |  | 490 | 552 | 138 | 157 | 158 | 172 | 187 | 190 | 205 | 220 | 88.1 | 97.0 | 91.0 | 99.4 | 109 |
| 7 |  |  |  |  |  |  | 667 | 739 | 185 | 207 | 209 | 225 | 242 | 247 | 264 | 281 | 114 | 124 | 118 | 127 |
| 8 |  |  |  |  |  |  |  | 871 | 954 | 239 | 264 | 266 | 285 | 304 | 310 | 329 | 348 | 143 | 155 | 147 |
| 9 |  |  |  |  |  |  |  |  | 1103 | 1196 | 300 | 328 | 330 | 351 | 372 | 380 | 400 | 422 | 176 | 189 |
| 10 |  |  |  |  |  |  |  |  |  | 1362 | 1465 | 368 | 399 | 401 | 424 | 448 | 456 | 479 | 504 | 211 |
| 11 |  |  |  |  |  |  |  |  |  |  | 1649 | 1762 | 442 | 476 | 479 | 505 | 529 | 539 | 565 | 592 |
| 12 |  |  |  |  |  |  |  |  |  |  |  | 1963 | 2086 | 523 | 561 | 564 | 592 | 618 | 629 | 657 |
| 13 |  |  |  |  |  |  |  |  |  |  |  |  | 2304 | 2437 | 611 | 652 | 657 | 686 | 715 | 727 |
| 14 |  |  |  |  |  |  |  |  |  |  |  |  |  | 2673 | 2817 | 707 | 750 | 756 | 787 | 818 |
| 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3070 | 3224 | 809 | 855 | 861 | 895 |
| 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3494 | 3658 | 918 | 968 | 974 |
| 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3946 | 4120 | 1033 | 1087 |
| 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4426 | 4611 | 1158 |
| 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4934 | 5129 |
| 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5470 |