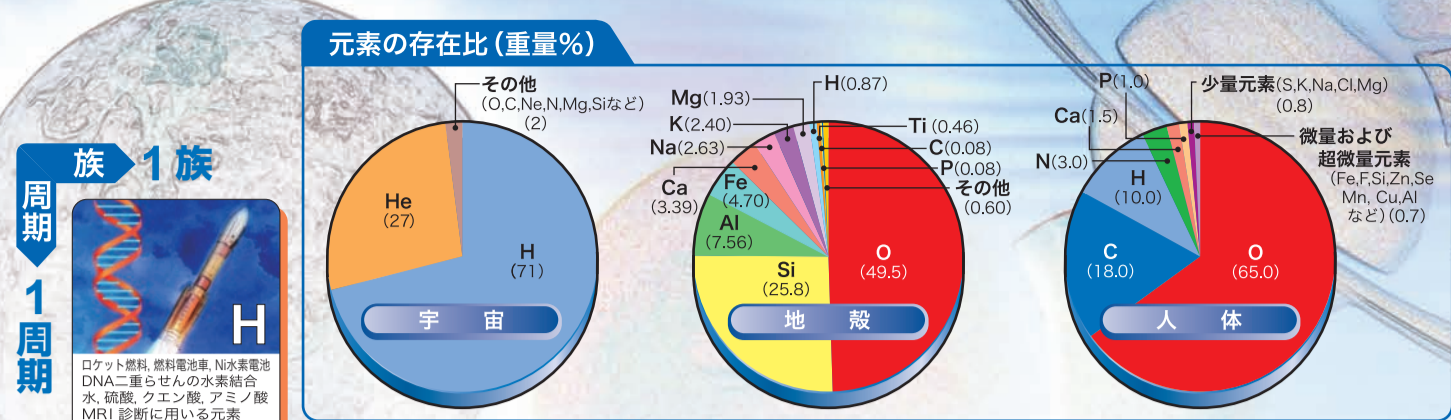


# 元素周期表

## Periodic Table of the Elements

### 自然も暮らしもすべて元素記号で書かれている

メンデレーエフ (Dmitriy Ivanovich Mendeleev, 1834~1907)  
1869年、ロシアのベテルスブルグ大学の化学者メンデレーエフは、当時知られていた63種類の元素を(1)原子量の順に並べ、(2)酸素や塩素と結合してできる物質の組成(たとえば、ナトリウムはNaClで、マグネシウムはMgCl<sub>2</sub>をつくる)などの性質が周期的に変化する法則(「周期律」)を見だし、性質が似た元素が同じ列にくるように配列した周期表をつくった。その表のなかには空欄があり、当時知られていなかった元素の性質を予言した。初めはメンデレーエフの周期表は注目されなかったが、1875年にガリウムが、1886年にゲルマニウムが発見され、それらの性質が彼の予言と一致したため、世界的に高く評価された。  
現在では周期表は、すべての人が用いる化学や物理学の基本となっている。



<b>1族</b> H (1) 1 Hydrogen	<b>2族</b> Li (3) 3 Lithium	<b>3族</b> Sc (21) 21 Scandium	<b>4族</b> Ti (22) 22 Titanium	<b>5族</b> V (23) 23 Vanadium	<b>6族</b> Cr (24) 24 Chromium	<b>7族</b> Mn (25) 25 Manganese	<b>8族</b> Fe (26) 26 Iron	<b>9族</b> Co (27) 27 Cobalt	<b>10族</b> Ni (28) 28 Nickel	<b>11族</b> Cu (29) 29 Copper	<b>12族</b> Zn (30) 30 Zinc	<b>13族</b> B (5) 5 Boron	<b>14族</b> C (6) 6 Carbon	<b>15族</b> N (7) 7 Nitrogen	<b>16族</b> O (8) 8 Oxygen	<b>17族</b> F (9) 9 Fluorine	<b>18族</b> Ne (10) 10 Neon	
<b>2族</b> Be (4) 4 Beryllium	<b>3族</b> Mg (12) 12 Magnesium	<b>4族</b> Ca (20) 20 Calcium	<b>5族</b> Sr (38) 38 Strontium	<b>6族</b> Ba (56) 56 Barium	<b>7族</b> Ra (88) 88 Radium	<b>8族</b> Fr (87) 87 Francium	<b>9族</b> Ra (88) 88 Radium	<b>10族</b> Ac (89) 89 Actinium	<b>11族</b> La (57) 57 Lanthanum	<b>12族</b> Ce (58) 58 Cerium	<b>13族</b> Pr (59) 59 Praseodymium	<b>14族</b> Nd (60) 60 Neodymium	<b>15族</b> Pm (61) 61 Promethium	<b>16族</b> Sm (62) 62 Samarium	<b>17族</b> Eu (63) 63 Europium	<b>18族</b> Gd (64) 64 Gadolinium	<b>19族</b> Tb (65) 65 Terbium	<b>20族</b> Dy (66) 66 Dysprosium
<b>3族</b> Y (39) 39 Yttrium	<b>4族</b> Zr (40) 40 Zirconium	<b>5族</b> Nb (41) 41 Niobium	<b>6族</b> Mo (42) 42 Molybdenum	<b>7族</b> Tc (43) 43 Technetium	<b>8族</b> Ru (44) 44 Ruthenium	<b>9族</b> Rh (45) 45 Rhodium	<b>10族</b> Pd (46) 46 Palladium	<b>11族</b> Ag (47) 47 Silver	<b>12族</b> Cd (48) 48 Cadmium	<b>13族</b> In (49) 49 Indium	<b>14族</b> Sn (50) 50 Tin	<b>15族</b> Sb (51) 51 Antimony	<b>16族</b> Te (52) 52 Tellurium	<b>17族</b> I (53) 53 Iodine	<b>18族</b> Xe (54) 54 Xenon	<b>19族</b> Ba (56) 56 Barium	<b>20族</b> La (57) 57 Lanthanum	<b>21族</b> Ce (58) 58 Cerium
<b>4族</b> K (19) 19 Potassium	<b>5族</b> Rb (37) 37 Rubidium	<b>6族</b> Cs (55) 55 Cesium	<b>7族</b> Fr (87) 87 Francium	<b>8族</b> Ra (88) 88 Radium	<b>9族</b> Ac (89) 89 Actinium	<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium
<b>5族</b> Rb (37) 37 Rubidium	<b>6族</b> Cs (55) 55 Cesium	<b>7族</b> Fr (87) 87 Francium	<b>8族</b> Ra (88) 88 Radium	<b>9族</b> Ac (89) 89 Actinium	<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium
<b>6族</b> Cs (55) 55 Cesium	<b>7族</b> Fr (87) 87 Francium	<b>8族</b> Ra (88) 88 Radium	<b>9族</b> Ac (89) 89 Actinium	<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium
<b>7族</b> Fr (87) 87 Francium	<b>8族</b> Ra (88) 88 Radium	<b>9族</b> Ac (89) 89 Actinium	<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium
<b>8族</b> Ra (88) 88 Radium	<b>9族</b> Ac (89) 89 Actinium	<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum
<b>9族</b> Ac (89) 89 Actinium	<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten
<b>10族</b> La (57) 57 Lanthanum	<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium
<b>11族</b> Ce (58) 58 Cerium	<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium
<b>12族</b> Pr (59) 59 Praseodymium	<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium
<b>13族</b> Nd (60) 60 Neodymium	<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum
<b>14族</b> Pm (61) 61 Promethium	<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold
<b>15族</b> Sm (62) 62 Samarium	<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury
<b>16族</b> Eu (63) 63 Europium	<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium
<b>17族</b> Gd (64) 64 Gadolinium	<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead
<b>18族</b> Tb (65) 65 Terbium	<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead	<b>36族</b> Bi (83) 83 Bismuth
<b>19族</b> Dy (66) 66 Dysprosium	<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead	<b>36族</b> Bi (83) 83 Bismuth	<b>37族</b> Po (84) 84 Polonium
<b>20族</b> Ho (67) 67 Holmium	<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead	<b>36族</b> Bi (83) 83 Bismuth	<b>37族</b> Po (84) 84 Polonium	<b>38族</b> At (85) 85 Astatine
<b>21族</b> Er (68) 68 Erbium	<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead	<b>36族</b> Bi (83) 83 Bismuth	<b>37族</b> Po (84) 84 Polonium	<b>38族</b> At (85) 85 Astatine	<b>39族</b> Rn (86) 86 Radon
<b>22族</b> Tm (69) 69 Thulium	<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead	<b>36族</b> Bi (83) 83 Bismuth	<b>37族</b> Po (84) 84 Polonium	<b>38族</b> At (85) 85 Astatine	<b>39族</b> Rn (86) 86 Radon	<b>40族</b> Fr (87) 87 Francium
<b>23族</b> Yb (70) 70 Ytterbium	<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W (74) 74 Tungsten	<b>28族</b> Re (75) 75 Rhenium	<b>29族</b> Os (76) 76 Osmium	<b>30族</b> Ir (77) 77 Iridium	<b>31族</b> Pt (78) 78 Platinum	<b>32族</b> Au (79) 79 Gold	<b>33族</b> Hg (80) 80 Mercury	<b>34族</b> Tl (81) 81 Thallium	<b>35族</b> Pb (82) 82 Lead	<b>36族</b> Bi (83) 83 Bismuth	<b>37族</b> Po (84) 84 Polonium	<b>38族</b> At (85) 85 Astatine	<b>39族</b> Rn (86) 86 Radon	<b>40族</b> Fr (87) 87 Francium	<b>41族</b> Ra (88) 88 Radium
<b>24族</b> Lu (71) 71 Lutetium	<b>25族</b> Hf (72) 72 Hafnium	<b>26族</b> Ta (73) 73 Tantalum	<b>27族</b> W															