## **The Bravais Lattice Types**

**Lattice System** Dirichlet cells also known as H-R **Dirichlet domains Voronoi domains** Federov parallelohedra hexagonal Wigner-Seitz cell monoclinic cubic tetragonal rhombohedral orthorhombic orthorhombic C1 **R1** M1A **01A**∧ **01B**<sub>N</sub> M<sub>1</sub>B<sub>N</sub> truncated octahedron aP (rst uvw) oF (rrs rrt) ol (rst rst) (rrr rrr) hR (rrr sss) mC (rrs ttu) mC (rst rsu) (rrr rrs) aP, type 1 02 M2A M2B \* A2 elongated dodecahedron mC (rs0 rst) aP (rs0 tuv) (rr0 rrs) ol (rs0 srt) mC (rs0 stu) **C**3 **R3 M3 O3 A3** Federov truncated octahedron cF (rr0 rr0) hR (rr0 sr0) ol (rs0 rs0) mC (rs0 ts0) aP (rs0 tu0) ol, type 3 **H4 H4** 04 **M4** hexagonal prism hP (00r rrs) mP (00r stu) oS (00r sst) hP, type 4 **O5 C**5 cuboid cP (000 rrr) (000 rrs) oP (000 rst)

## \*Not a full-dimensional Bravais type

O3 is a 2-D manifold between O2 and O1B M3 is a 3-D manifold between M2A and M1B M2B is a 3-D manifold between M1A and M1B

[modified after Delone, Galiulin, and Shtogrin, 1975]