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TRANSLATION

SYSTEMATISM OF BINARY INTERMETALLIC PHASES

By

P. I. Kripyakevich and E. E. Cherkashin

FOREIGN TECHNOLOGY DIVISION

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FOREIGN TECHNOLOGY DIVISION
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SYSTEMATISM OF BINARY INTERMETALLIC PHASES

By

P. I. Kripyakevich and E. E. Cherkashin

Literature so far is lacking full systematism in very important, from theoretical and practical viewpoint, group of compounds - intermetallic phases (IMF). The need for such a systematism is felt presently very acutely, if we take into consideration the greater number of IMF (about 1800 binary phases only) and the variety of their compositions, types of structure and types of chemical bonds. The purpose of this report is to offer a systematic review of all known binary intermetallic phases.

We include in IMF these intermediate phases (as well as superstructural phases, formed in solid solutions) which possess metallic properties (metallic luster and electron conductivity), expressed even if in a slight degree; in the table in the insert is shown the propagation of IMF in binary systems. IMF can be systematized by various characteristics, for example, by the method of formation in form of a homogeneity area on the structural diagram, or by the physical and chemical properties; a systematism based on the most essential indication is given: On the type of structure and on the type of chemical bond.

In order to systematize phases by the structural type, it is necessary to establish first of all the isotopy signs of the phases, i. e., the belonging of several phases to one type of structure. These signs appear to be (for cubical phases with parameterless arrangement of atoms) identical proper systems of points (1) (lattice complexes (2)) in one spatial group and a uniform method of distribution of these point systems between atoms of various elements. And so, β-and β' phases of the Cu-Zn system* belong to various structural types: The first one, with statistical distribution of Cu and Zn atoms - to α - W type; the second one, with

*

References to literature concerning individual phases, see in Binary IMF Indicators, p. 82.

perfectly ordered distribution of atoms, - to the CsCl type. The gamma phase Mn-Al, having a structure with atom arrangements, as in alpha-Mn and total order at a $Mg_{17}Al_{12}$ composition, belongs to the alpha-Mn type, but to a separate $Mg_{17}Al_{12}$ type. KBi_2, $AgBe_{2.7}$ and $FeBe_5$ phases (the latter is homogeneous in a wide range of concentrations) have identical type structure (type Cu_2Mg), in spite of the different quantitative composition, because the points combination in each one of them, points occupied by atoms, break up into two proper points systems (two lattice complexes), one with multiplicity 8, occupied by K, Ag + Be atoms respectively (statistically) or Fe + Be (statistically), and the second ones with multiplicity 16, occupied by atoms Bi (in first case) or Be (in remaining cases). At the same time, $FeBe_5$ and $AuBe_5$ phases with uniform arrangement of atoms in general and uniform quantitative composition, do not appear to be isotopic: $AuBe_5$ belongs to the special structural type, to which are inherent three proper point systems with multiples 4 (Au), 4 (Be) and 16 (Be). In a similar way, nonisotopic (at identical atom arrangements) appear to be gamma-phases of Cu-Zn, Cu-Cd and Cu-Hg systems.

For cubical phases, structures of which are characterized by arrangements of atoms with degrees of freedom (as well as noncubical phases) exists an additional sign of isotory: atoms with identical coordinates in both phases should have an identical coordination number and one type of coordination sphere. That is why NiAs and PdSn phases should be counted into one type of structure (MnP), in spite of their heterogeneous (but close) values of axes ration (c/a) and parameters of atomic arrangements. But if in a certain structure, the change in these values leads to changes in the nature of coordination, then this is equivalent to transition to a new structural type: $CaPb_2$ phases (cubical, type $AlCu_2$) $SrPb_2$ (tetragonally deformed $AlCu_2$ structure, $c/a > 1$) and $PdCu_2$ (tetragonally deformed $AlCu_2$, $c/a > 1$) counted to various structural types.

Of greater importance for systematism, is the problem of affiliation of variable composition phases (as well as constant composition phases with orderless

distribution of atoms of various components) to definite structural types. If the phase contains in its area of homogeneity a composition with fully ordered atoms (or with maximum on composition -degree of orderliness curve), then it should be counted to the type of structure corresponding to this composition; for example, gamma-phase of Ni-Sb with complete orderliness at 50 at. % Sb, has a structure of the NiAs type. In the few enumerated instances, the phase may contain two compositions with total orderliness, and then we count it to two structural types simultaneously ($NiTe$-$NiTe_2$, types NiAs and CdJ_2). About phases with partial orderliness in the entire range of homogeneity was mentioned above ($FeBe_5$); to these phases belong also, e. g., phase of Fe-Sb system with defective structure of Ni_2In type. Phases with totally unordered distribution of atoms belong ordinarily to the type of structure, inherent of simple substances (Mg, Cu, alpha-W, beta-V.....provided the corresponding structure of the simple substance is unknown, the phases will be referred to an individual type (e, g. In_2B_i).

Types of structures of intermetallic phases, as well as phases most suitable for systematization by their ratio to denser packings. We distinguish the following groups of structures: 1) denser packings of atoms close in dimensions (types Mg, Cu and their superstructures Ni_3Sn and $AuCu_3$, type $TiNi_3$ and a number of deformed denser packings); 2) denser packings of atoms of various dimensions (types Zn_2Mg, Cu_2Mg, Ni_2Mg, $AuBe_5$, $ZnMg$, W_6Fe_7, $CaZn_5$, $Zn_{11}Mg_2$, $NaZn_{13}$); 3) dense packings (types $MoSi_2$, $CrSi_2$ and $TiSi_2$) and derivatives of cubical volumetrically centered structure (types alpha-W, CsCl, NaTl, Cu_5Zn_8, Ni_2Al_3 and others); 4) structure of introducing atoms of one component into denser packing of atoms of the second (types NaCl, NiAs and many others) and 5) structures, non-bound with denser and dense packings.

The second important distribution of structural types and phases is based on a different manifestation of atom tendencies to combine into complexes. Types of structures of binary phases can be divided into the following groups:1) homodesmic

3) where any two adjoining atoms are bound firmly in an identical degree, so that it is impossible to form individual complexes (examples: $AuCu_3$, CsCl, NaCl types); 2) heterodesmic (3) of the first order, where the atoms of the first component (ordinarily less metallic) are firmly bound between themselves into complexes (pairs S_2 and FeS_2 modifications, chains - B - B - B in FeB, etc.), and 3) heterodesmic of the second type - with atoms of both components, combined in individual complexes, whereby the bond between complexes is weaker, than the bond within them (lamellar structure MoS_2, molecular structure NiS - millerite and others). Heterodesmic structures can further, be systematized by the measure of complexes (insular, one- two and three dimensional) and by their form among heterodesmic structures with various types of coordinations (most widely known form of coordination sphere: triangular prism and twisted cube).

The third method of systematizing IMF - is division by the type of dependence ofquantitative phase composition upon the valence of the components. Here can be separated the following IMF groups: 1) phase with valent ratios of the components, quantitative composition of which is determined by the velances of both components (certain phases, possessing NaCl, ZnS, CaF_2, Na_3As, as structural types and others); 2) nickel-Arsenide phases (structural Ni_2In, NiAs, CdJ_2 types and certain rhombical), the arrangement of which on the structural diagram is due firt of all to the valence of a less metallic component, whereby the dependence is not such a clear one in phases with valent component ratio; 3) electron phases (electron bonds), the homogeneity range of which is determined by electron concentrations (series of phases of alpha-W, CsCl, gamma-brass, Mg, Ni_2Al_3 types and others) and 4) phases with composition, not dependent on the valence of components.

For the purpose of classification, which could have enveloped a maximum number of IMF, it is necessary to combine all three discussed signs, i. e., ratio to denser packings, presence of complexes and the effect of valences. As result we obtain an IMF division into the following classes (proposed classification differs

from the one introduced by Ye. S. Makarov (4), first of all by the separation of heterodesmic phase classes and expansion of the class of dense packings)*):

1. Phases with more dense atom packings, atoms of close dimensions (r_R/r_X** 1.00 - 1.10) without electron phases. Homodesmic; quantitative composition does not depend upon the valence of the components.

2. Phases with denser packings of atoms of various dimensions (r_R/r_X 1.10 - 1.80). Transient from homodesmic to heterodesmic of the first magnitude (in a majority of phases firm bonds between atoms of the prevalent component); the quantitative composition depends not upon the valence of the components, but upon the ratio r_R/r_X: content of component with atoms of smaller dimensions (X-component) is then greater, when r_R/r_X is greater,(5).

3. Phases with dense packings - w/o electron phases (structural types indicated above). Preferably homodesmic; quantitative composition does not depend upon valence.

4. Electron phases. In a majority of instances, homodesmic. Type of structure and quantitative composition due to electron concentration; content of less metallic component in a series of phases of specific structural typ, decreases with the rise in valence of this component. A majority of electron phases is made up by phases with cubical volumetrically centered structure and its defective derivatives; the degree of structural defectiveness rises with electron concentration, which corresponds approximately to a constant number of valent electrons (about three) in a small cell (with dimensions as in phases of CsCl type).

5. Introduction phases. 1) Nickel-arsenide phases - atom introduction phases (or ion introduction phases) of transient metal in a hexagonal more dense packing

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* Boundaries between IMF classes are not sharp; some phases can belong simultaneously to two classes.

** R - components with atoms of larger dimensions.

of atoms (ions) of nonmetallic or semi-metallic elements. In a series of nickel-arsenide phases, where the number of the group is less the metallic component rises, there is also an increase in the content of this component (homological series of phases with Ni_2In, NiAs and CdJ_2 structural types (6) and Co_2Si and MnP types (7)). Nickel-arsenide phases are preferably heterodesmic.

2) Other phases of introduction into denser packings. Of special importance here are the phases of introduction of small atoms into hexagonal or cubic denser packing of atoms of transient metals (e. g., phase CrN, Co_3N) and phases with valent ratio of components (e. g., Mg_2Sn, Mg_2Sb_2).

6. Heterodesmic phases of first magnitude*, have different structural types, in a majority of instances not bound with denser packings. Phase composition does not depend on the valence of the components.

7. Heterodesmic phases of second magniture*. Structural types, not bound with denser packings; ratio of components in a majority of phases valent.

In the non-enumerated classes remains only a slight number of phases with known types of structure, as well as phases with type of structure, determined partially or unknown.

The table given below contains binary IMF, data about which have been published prior to July 1952**: Tables 1-7 contain mainly phases with known type of structure and correspond to phase division into classes; in Table VIII are given classes (phases) with known type of structure, which so far cannot be included in specific classes. Almost for all types of structures Tables I - VIII carry: formula, symbol, number of atoms in elementary cell (N) and spatial group. In Table IX are listed phases with structure, not completely determined, in Table X - with unknown structure.

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* Determination and examples see above.

** Phases, characterized by structural types IMF, but having no metallic properties (e, g., SnS_2, ZnS, CaC_2) not included in the systematism.

In the tables the following phase designations are used (designation methods are based in a symbolism, introduced by Ye. S. Makarov (8)):

A_mB_n - constant composition phases;

∂ -A_mB_n - variable composition phases with complete orderliness at A_mB_n composition (Dalton phases (9));

∂ -$A_mB_{n_1}$ - $A_mB_{n_2}$ variable composition phases with total orderliness at $A_mB_{n_1}$ and $A_mB_{n_2}$ compositions;

$AB_{n_1 - n_2}$ - variable composition phases w/o total orderliness (Bertollite phases (9)), as well as phases with known zone of homogeneity and unknown type of structure (indices n_1 and n_2 pertain to boundary phase compositions);

$A_mB_n \pm x$ - phases with unknown homogeneity zone (structure known or unknown);

AB_x, AB_y, AB_{n+x}, AB_{n-x} (not $AB_{n \pm x}$) phase of unknown composition.

In phase formulas in the first place, there is always the symbol of the component (A), situated in the periodic system of elements of D. I. Mendeleyev (of the 18 vertical series)*, to the left of the second component (B), and if both components belong to one vertical series, then the component, having greater ordinal number. In addition to designations by formulas, letter designations of phases are given - in cases where they are needed. Phase formulas, the affiliation of which to the given type of structure is proved, are included in square parentheses. Phase formulas of one type of structure are arranged in tables in the order of the ascendint (rising) number of series, in which the B component is situated.

The authors express thanks to Ye. I. Gladyshevskiy for evaluating the problems touched upon in this report.

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* In table of the 18 vertical series Be is included in the 12th row, Mg in a majority of phases in the 12th, and in some (mg-Hg system) to second, H to 17th row.

The authors plead to report to them any errors and inaccuracies in the tables and in phase indicator.

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Table 1.

Phases with Denser Packings of Atoms of Close Dimensions

1. Derivatives of Hexagonal Double Layer Denser Packing

Mg, гекс., 1) $N=2$, D_{6h}^4: $MnFe_{3,4\to6,7}(\varepsilon)$, $LiZn_{9\to10}(\beta')$, $PdZn_{13\to14}(\eta)$, $HgZn_{1,5\to1,0}(\beta)$, $HgZn_{2,3\to3,0}(\gamma)$, $LiCd_{2,6\to5,7}(\beta')$, $Au_{2,7\to1,9}Cd$ (α_3), $UHg_{3\pm x}$, $Au_{3\pm x}Hg(\delta)$; $Cu_{2,5\pm x}Al(\gamma')$[3], $LaTl_3$, $Cu_{8\to6}Si(\varkappa)$, $Ni_3Sn(\beta')$; $Cu_{3\pm x}As$[2]; $Ag_{8,5}As(\beta)$, $Pb_{3\to2}Bi(\delta)$.

AuCd, ромбич. 2) $N=4$, D_{2h}^5; ∂-CdMg[3], ∂-AuCd (β')[4].

Ni_3Sn, гекс. 3) $N=2$. D_{6h}^4, $MoCo_{3\pm x}$, WCo_3; $[MoNi_3]$; ∂-Cd_3Mg[5], ∂-$CdMg_3$[6], $LiHg_3$; $Ni_3In(\gamma)$, ∂-$Ag_3In(\gamma)$ $(t<187°)$; $Mn_{3,25}Ge$[7], $Ti_{3\pm x}Sn$, $Mn_{3,4\to3,1}Sn(\beta')$[7], $Fe_3Sn(\beta'')$, $Ni_3Sn(\beta)$, Ti_4Pb[7]; Ti_4Sb[7].

Ag_3Sb, ромбич., 4) $N=4$, C_{2v}^1; $[NbNi_3]$, $[\beta$-$TaNi_3]$; $[\beta$-$TiCu_3(\beta)]$[8], $[TiAu_{3\pm x}]$[9] ∂-$Ag_3Sb(\varepsilon')$[10].

1) hexagonal; 2) rhombical; 3) hexagonal; 4) rhombical

Structures with irregular distribution of atoms were not fully investigated, rhombic: $TiCu_{3.0\to3.8}(\beta')$[11];

hexagonal, N = 18: $FeBe_{10.1\to11.5}(\zeta)$.

2. Derivations of Cubical Triple Layer Denser Packing

Cu, Cub, $N=4$, O_h^1: $MnZn_{2,4\to3,0}(\alpha)$, $Li_{3,8\to4,7}Cd(\gamma')$.

$AuCu_3$, Cub, $N=4$, O_h^1: $MnNi_{3\pm x}$, ∂-$FeNi_3$, $PdNi_{3\pm x}$, ∂-$FePd_3$, $TiPt_{3\pm x}$, $CoPt_{3\pm x}$; $[RhCu_{3\pm x}]$, $Rh_{3\pm x}Cu$, ∂-$PtCu_3$, ∂-$AuCu_3$, $PtAg_{3\pm x}$, ∂-$Pt_3Ag(\gamma)$; $TiZn_{3\pm x}$, $Pt_{3\pm x}Zn$; $[Pt_{3\pm x}Cd]$, ∂-Au_3Cd (α'') (400—550°); UAl_3, ∂-Ni_3Al (α'), $MgIn_{3-x}$[7,12], $CaTl_3$; $Ni_3Si(\beta_1)$, $Ni_{3\pm x}Ge$, USn_{3-x}, $CaSn_3$, $CoSn_3$, $LaSn_3$, $PrSn_3$, Pt_3Sn, $CaPb_3$, $LaPb_3$, $CoPb_3$, $PrPb_3$, $NaPb_{1,35\to2,91}(\beta)$[7], $Pd_{3\pm x}Pb$, $Pt_{3\pm x}Pb$.

In tetra $N=4$, D_{4h}^{17}, $c/a>1$: $An_{4,7\to3,7}Zn$ (α_1).

γ-Mn, tetra $N=4$, D_{4h}^{17}, $c/a<1$: $HgCd_{0,4\to1,7}$; $Ni_{1,78}Ga$ (δ), $Pd_{3\pm x}In$ (β).

$SrPb_3$, tetra $N=4$, $c/a>1$: ∂-Au_3Cd (α') $(t<400°)$; $SrPb_{3\pm x}$.

$PdCu_3$, tetra $N=4$, $c/a<1$: $PdCu_{3\pm x}$[13].

$TiAl_3$[14], tetra $N=16$, D_{4h}^{17}: ∂-Au_3Zn (χ_2); $TiAl_{3\pm x}$, $VAl_{3\pm x}$, $NbAl_{3\pm x}$, $TaAl_{3\pm x}$, $TiGa_{3\pm x}$, $ZrGa_{3-x}$.

$ZrAl_3$[14], tetra $N=16$, D_{4h}^{17}: $ZrAl_{3\pm x}$.

U_3Si, tetra $N=16$, D_{4h}^{18}: $U_{3\pm x}Si$.

AuCu, tetra $N=4$, D_{4h}^1: ∂-MnNi (δ') $(t<650°)$, $FePd_{1\pm x}$, ∂-CoPt; ∂-TiCu(δ), ∂-AuCu $(t<370°)$, $RhCu_{1\pm x}$ (псевдокубическая), ZrAg, ∂-MnAu (β)[15]; ∂-NiZn (β_1), ∂-PdZn (δ), $PtZn_{1\pm x}$, $Pd_{2,0\to1,1}Cd$ (δ), $PtCd_{1\pm x}$, $PdHg_{1\pm x}$[16]; ∂-TiAl, ∂-MgIn[12]; LiBi (α); NaBi.

AuCu, rhombical $N=40$: $AuCu_{1\pm x}$(370—400°)[12].

PtCu, rhombical $N=16$, D_{3d}^5: ∂-PtCu.

$MoNi_4$, tetra $N=10$, C_{4h}^5: ∂-$MoNi_4(\beta)$, $WNi_{4\pm x}$.

3. Derative of hexagonal four layer denser packing.

$TiNi_3$ Hexag. $N = 16$, D_{6h}^4: $TiNi_{3\pm x}$, $TiPd_{3\pm x}$, $ZrPt_{3\pm x}$.

Other phases with denser packing of atoms of close dimensions - see Table 4 (types Mgm β-Min).

1. Metastable phase.

2. Algodonite.

3. In accordance with other data, in the zone of CdMg composition exists a phase with irregular structure at high temperature (γ) and orderly - at low temperature (γ').

4. The phase can be considered as an electron (deformed hexagonal denser packing $c_{el} = 1.5$).

5. By other data, in the zone of Cd_3M_σ composition exists two phases: β at high temperature and β' at low temperature.

6. According to other data, in the field of $CdMg_3$ composition two phases exist: δ at high temperature and δ' at low temperature.

7. Phases with partially unordered distribution of atom.

8. Low temperature modification.

9. According to other data, the phase has the composition of $TiAu_2$ and Mg structure.

10. At this composition, there exists a second phase modification, probably with disordered distribution of atoms.

11. High temperature modification.

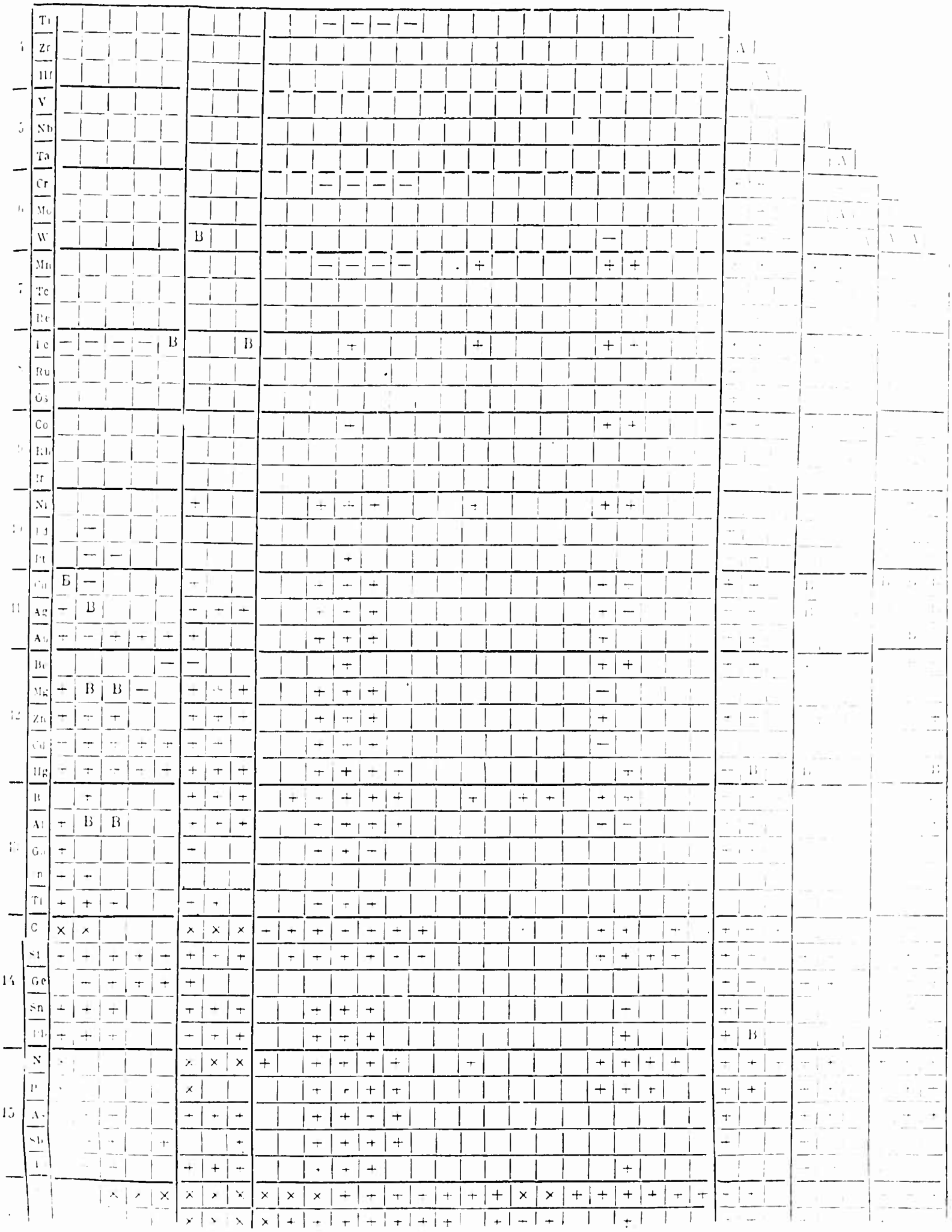
12. γ-MgIn and $MgIn_{2-x}$ phases are formed from primary solid Mg solution in In; furthermore, in this solid solution exists a tendency toward orderliness at 25-35 at. % In (cubical structure, inherent of $AuCd_3$) and 37-44 at. % In (rhombical structure, inherent of rhombical AuCu).

13. According to other data, $PdCu_{5 \pm x}$.

14. $TiAl_3$ and $ZrAl_3$ types of phases-heterodesmic of the first order (flat grids of Al and Au atoms).

15. The phase forms a continuous series of solid solutions in Au.

16. By other data, cubical structure ($N = 8$, T^4).



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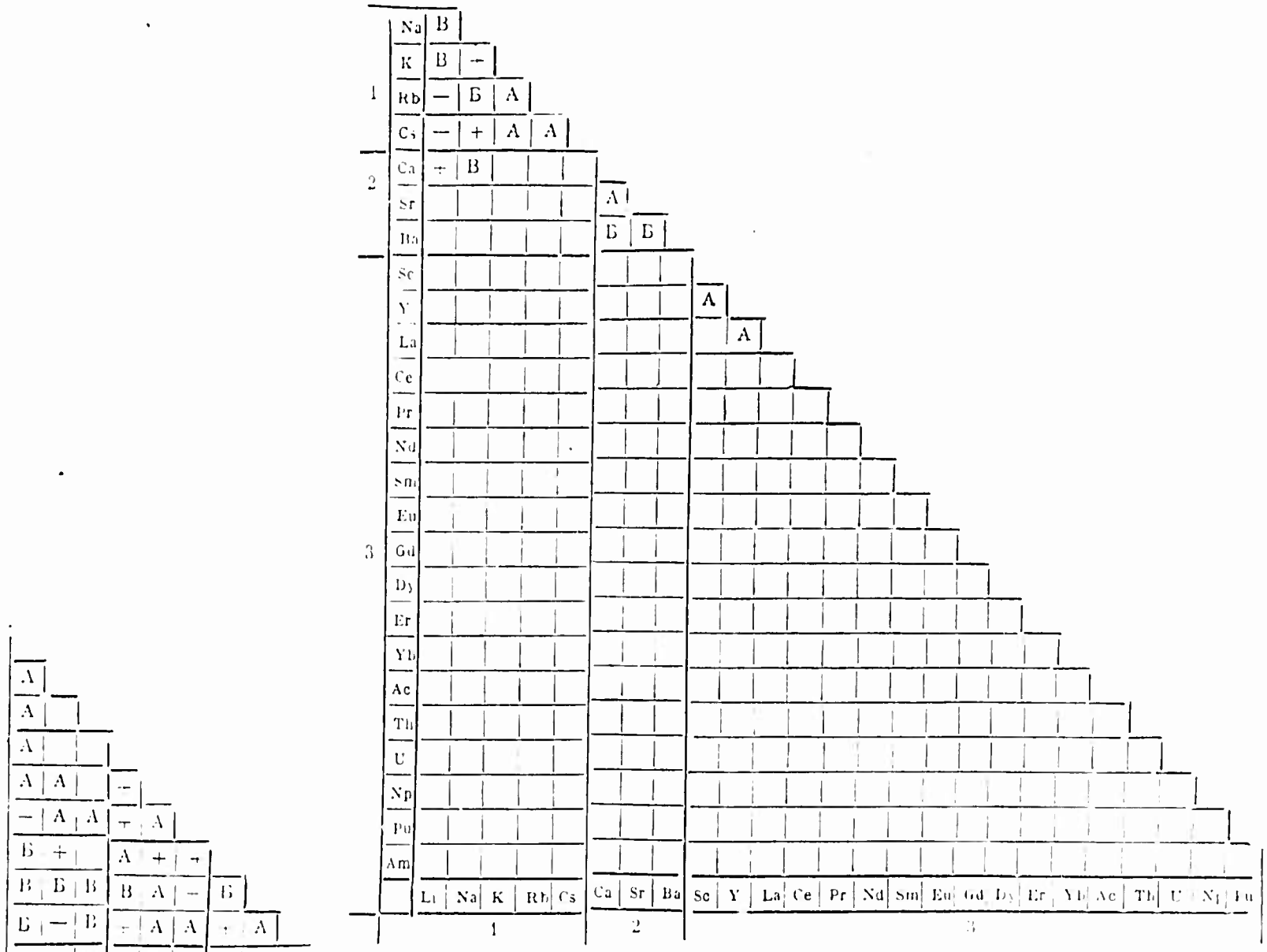

Systems:

- with intermetallic phases;
- × with non-intermetallic phases;
- A with continuous series of solid solutions;
- Б with partial solubility or insolubility in solid state;
- В with unsoluble liquid state;
- — other things without intermetallic phases;
- (blank) Uninvestigated.

Table II

Phases with Denser Packing of Atoms of Various Dimensions

ZnMg, hexag., $N = 96$, D_{6h}^4: ∂-ZnMg (ζ).

W_6Fe_7, rhomb., $N = 13$, D_{3d}^5: ∂-Mo_6Fe_7 (ε), $W_6Fe_{7\pm x}$ (ζ); ∂-Mo_6Co_7 (ξ), ∂-W_6Co_7.

Zn_2Mg, hexag., $N = 12$, D_{6h}^4: KNa_2; $Li_{2\pm x}Ca$; $ZrV_{2\pm x}$; $ZrCr_{2\pm x}$, $NbCr_{2\pm x}$[1]; $ThMn_2$, $TiMn_{2\pm x}$, $ZrMn_{2\pm x}$, $NbMn_{2\pm x}$, $TaMn_{2\pm x}$, $ZrRe_{2\pm x}$; $TiFe_{2\pm x}$, $NbFe_{2\pm x}$, $TaFe_{2\pm x}$, $WFe_{2\pm x}$ (ε), $ZrRu_{2\pm x}$, $ZrOs_{2\pm x}$, $MoFe_{2\pm x}$; $ZrIr_{2\pm x}$; $UNi_{2\pm x}$; $VBe_{2\pm x}$, $CrBe_{2\pm x}$, $MoBe_{2\pm x}$, $WBe_{2\pm x}$, $MnBe_{2\pm x}$, $ReBe_{2\pm x}$, ∂-$FeBe_2$, ∂-Zn_2Mg (η), ∂-$CaMg_2$, $SrMg_2$, $BaMg_2$, $LaMg_2$, $CeMg_2$, Cu_2Cd (β), $CaCd_{2\pm x}$.

Cu_2Mg, cub., $N = 24$, O_h^7: $TiCr_{2\pm x}$, $ZrCr_{2\pm x}$, $NbCr_{2\pm x}$[2], $TaCr_{2\pm x}$, $ZrMo_{2\pm x}$, $ZrW_{2\pm x}$, $GdMn_{2\pm x}$, UMn_2; $CeFe_2$, $GdFe_{2\pm x}$, UFe_2, $ZrFe_{2\pm x}$; $CeCo_2$, ∂-UCo_2, $TiCo_{2\pm x}$, $ZrCo_{2\pm x}$, $NbCo_{2\pm x}$, $TaCo_{2\pm x}$; $LaNi_2$, ∂-$CeNi_2$, $PrNi_2$, $CePt_{2\pm x}$; ∂-$NaAu_2$ (β); ∂-$TiBe_2$, $FeBe_{4,9\to15,7}$ (ε)[3], $CuBe_{2,3\to3,7}$(δ)[4], $AgBe_{2,7}$[3], ∂-Cu_2Mg (β); $CaAl_4$, $LaAl_4$, ∂-$CeAl_4$, UAl_4; Au_2Pb; Au_2Bi, KBi_2.

Ni_2Mg, hexag., $N = 24$, D_{6h}^4: $ZrFe_{2,85}$[3]; $TiCo_{2\pm x}$, $NbCo_{2,85}$[3], $TaCo_{2,85}$[3]; Ni_2Mg.

$AuBe_5$, cub., $N = 24$, T_d^2: $UNi_{5\pm x}$; ∂-UCu_5; $PdBe_{5\pm x}$, $AuBe_{5\pm x}$.

$CaZn_5$, hexag., $N = 6$, D_{6h}^1: [$ThFe_5$]; $CeCo_5$, $ThCo_{5\pm x}$; $CaNi_{5\pm x}$, $CeNi_5$, $LaNi_5$, $PrNi_5$, $GdNi_{5\pm x}$, $ThNi_5$; $CaCu_{5\pm x}$, $CeCu_4$[3], $LaCu_4$[3]; $CaZn_{5\pm x}$, $LaZn_{5\pm x}$, $ThZn_9$[3].

$Zn_{11}Mg_2$, cub., $N = 39$, T_h^1: ∂-$Zn_{11}Mg_2$ (ϑ)[5].

$NaZn_{13}$, cub., $N = 112$, O_h^6: $CeBe_{13\pm x}$, $ThBe_{13\pm x}$, $UBe_{13\pm x}$, ∂-$ZrBe_{13}$ (η), $NaZn_{13\pm x}$, KZn_{13}, [$CaZn_{13\pm x}$], [$SrZn_{13\pm x}$], [$BaZn_{13\pm x}$], KCd_{13}, $RbCd_{13\pm x}$, $CsCd_{13\pm x}$.

1. High temperature modification.

2. Low temperature modification.

3. Phases with partially disordered distribution of atoms.

4. Daltonide phase with singular point at $CuBe_3$ composition; structure at this composition was not investigated.

5. To phase γ-$Zn_{11}Mg_2$ (ϑ) was first attributed an incorrect structure $MgZn_2$ (hexagonal, N = 96, D_6^6).

Table III

Phases with Dense Packings of Atoms

1. Phases, Structures of which consist of layers of the type of the densest packin:

$MoSi_2$, tetra., $N = 6$, D_{4h}^{17}: $MgHg_2$ (η); $MoSi_2$, WSi_2, $ReSi_{2\pm x}$.
$CrSi_2$, hexag., $N = 9$, D_6^4: $CrSi_2$ (γ), $VSi_{2\pm x}$, $NbSi_{2\pm x}$, $TaSi_{2\pm x}$, $NbGe_{2\pm x}$, $TaGe_{2\pm x}$.
$TiSi_2$, rhomba., $N = 24$, D_{2h}^{21}: $TiSi_{2\pm x}$, $TiGe_{2\pm x}$.
Mn_3As[1], rhomba., $N = 16$, D_{2h}^{13}: $Mn_{3\pm x}As$.

2. Derivative of Cubical Face-centered Structure.

α-W, cub., $N = 2$, O_h^9: $Cu_{1,85\rightarrow1,17}Be$ (β)[2], $Mn_{1,86\rightarrow1,95}Zn$ (β), $PdCd_{1,15\rightarrow1,70}$ (β), $Au_{1,9\rightarrow3,8}Al$ (β)[3]; $Mn_{3\pm x}Si$.

CsCl, Cub., $N = 2$, O_h^1: $TiFe_{1\pm x}$, $TiRu_{1\pm x}$, $TiOs_{1\pm x}$; $TiCo_{1\pm x}$, $FeCo_{1\pm x}$; $TiNi_{1\pm x}$, ∂-MnNi ($\beta = \delta$) ($t > 650°$)[4], ∂-FePt; $PdCu_{1\pm x}$[5], ∂-LiAg, CeAg, LaAg, $NiAu_{1\pm x}$; $CoBe_{1\pm x}$, ∂-NiBe (β), PdBe, SrMg, LaMg, CeMg, PrMg, $TiZn_{1\pm x}$, ∂-CoZn (β), ∂-NiZn (β), $Pd_{2,8\rightarrow1,0}Zn$ (β)[6], $PdZn_{1,4\rightarrow1,0}$ (β_1)[6], $LaZn_{1\pm x}$, $CeZn_{1\pm x}$, $PrZn_{1\pm x}$, ∂-LiHg, MgHg (ζ), $LaCd_{1\pm x}$, $CeCd_{1\pm x}$, $PrCd_{1\pm x}$, $LaHg_{1\pm x}$, $CeHg_{1\pm x}$, $PrHg_{1\pm x}$, $NdHg_{1\pm x}$; $NdAl_{1\pm x}$, LiTl, [KTl], MgTl, ∂-CaTl (γ), $SrTl_{1\pm x}$; $RuSi_{1\pm x}$, LiPb (β').

UCo[7], Cub., $N = 16$, T^5: UCo.

NaTl[8], Cub., $N = 16$, O_h^7: ∂-LiZn (δ''), ∂-LiCd (γ): ∂-LiAl (β), $LiGa_{1\pm x}$, ∂-LiIn[9], $NaIn_{1\pm x}$, ∂-NaTl.

Tl_7Sb_2, Cub., $N = 54$, O_h^9: Tl_7Sb_2 (γ).

Cr_2Al, tetra., $N = 6$, D_{4h}^{17}: ∂-Cr_2Al (β).

V_3Si[10], Cub., $N = 8$, O_h^3: $V_{3\pm x}Co$; $Ti_{3\pm x}Pt$; $Ti_{3\pm x}Au$[11], $V_{3\pm x}Si$, Cr_3Si (β), Mo_3Si, $V_{3\pm x}Ge$, $Cr_{3\pm x}Ge$.

Other phases with structures, derivativatives of body centered cubic - see Tables IV, V_B (type BiF_3) and VI (type $Mg_{17}Al_{12}$).

1. Cubical denser packing with passing of one fifth of the layers along the quaternary axis; structure, inherent to the Cu_2Sb type.

2. At $t > 880°$ the β-phase forms one area with γ-phase (Table IV).

3. High temperature modification.

4. According to other data, the cubical body centered structure (probably of the AuCu type, pseudocubical, as in $RhCu_{1 \pm x}$ phase).

5. By other data, $Pd_3Cu_{5 \pm x}$.

6. Phases with partially disordered atom distribution.

7. Type of heterodesmic structure of second order (molecules).

8. Type of heterodesmic structure of first type (frame of B-atoms).

9. Phase forms a continuous series of solid solutions with Li.

10. Superstructure β-W; type of structure, intermediate between α-W and Cu.

11. By other data, phase possesses a structure of the $AuCu_3$ type.

Table IV.

Electron Phases

1. $C_{el} = 1.50$.

α-W[1], куб., $N = 2$, O_h^9: $CuZn_{0,67\to1,38}$ (β), $AgZn_{0,67\to1,38}$ (β), $AgCd_{0,73\to1,26}$ (β); $Cu_{4,0\to2,6}Al$ (β), $Ag_{3,1\to2,6}Al$ (β), $Cu_{3,9\to3,0}Ga$ (β), $Cu_{4,3\to3,2}In$ (β), $Ag_{3,2\to3,0}In$ (β); $Cu_{6,7\to5,3}Sn$ (β).

CsCl[1], куб., $N = 2$, O_h^1: $Cu_{1,08\to1,04}Be$ (γ)[2], ∂-AgMg (β), ∂-AuMg (β), ∂-CuZn (β'), ∂-AuZn (β), ∂-AuCd (β); ∂-MnAl, ∂-FeAl (β_2), ∂-CoAl (γ), ∂-NiAl (β)[3], $PdAl_{1\pm x}$, $NiGa_{1\pm x}$ (β), ∂-NiIn (δ)[4], $PdIn_{1\pm x}$.

BiF_3[1], куб., $N = 16$, O_h^5: $Cu_{3\pm x}Al$ (β_1)[5].

β-Mn, tetra., $N = 20$, O^7: $Ag_{3,8\to3,0}Al$ (β'), [$Cu_{4,9\to4,6}Si$ (γ)].

Mg, hex., $N = 2$, D_{6h}^4: $AgCd_{1,0\to1,1}$ (ζ), $Ag_{1,21}Hg$ (β); $Cu_{4,0\to3,2}Ga$ (μ), $Ag_{2,7\to2,0}Ga$ (β), $Ag_{2,6\to2,0}Ga$ (γ), $Ag_{3,4\to2,0}In$ (γ) ($t > 187°$), $Au_{5,7\to4,0}In$ (β); $Cu_{6,7\to5,3}Si$ (β), $Cu_{6,2\to4,7}Ge$ (β)[6], $Ag_{7,1\to3,8}Sn$ (β), $Au_{7,4\to5,7}Sn$ (β); $Ag_{9\to6}Sb$.

2. $C_{el} = 1.62$.

Cu_5Zn_8[1,7], cub., $N = 52$, T_d^3: ∂-Cu_5Zn_8 (γ), ∂-Ag_5Zn_8 (γ), $AuZn_{1,8\to1,6}$ (γ_1)[8], ∂-Ag_5Cd_8 (γ), ∂-Ag_5Hg_8 (γ).

Cu_5Cd_8[1,7], куб., $N = 52$, T_d^3: $CuCd_{1,4\to1,8}$ (δ)[8].

Cu_9Al_4[1,7], куб., $N = 52$, T_d^1: ∂-Cu_9Al_4 (γ), ∂-Cu_9Ga_4 (δ), ∂-Cu_9In_4 (γ), $Ag_{2,1\to2,0}In$ (ε)[8], ∂-Au_9In_4 (δ).

$Cu_{31}Sn_8$[1,7,9], куб.: $Cu_{31}Sn_8$ (δ).

Co_5Zn_{21}[1,7,9], куб.: $MnZn_{4,4\to5,9}$ (Γ), $FeZn_{2,1\to3,4}$ (Γ), $CoZn_{2,3\to5,7}$ (Γ), $Rh_5Zn_{21\pm x}$, $NiZn_{2,3\to5,7}$ (Γ), $PdZn_{4,0\to5,7}$ (γ), Pt_5Zn_{21+x}, $Co_5Cd_{21\pm x}$, Rh_5Cd_{21+x}, $Ni_5Cd_{21\pm x}$, $PdCd_{4,3\to4,7}$ (γ) Pt_5Cd_{21+x} (γ).

3. $C_{el} = 1.75$.

Mg, hex., $N = 2$, D_{6h}^4: $MnZn_{0,7\to7,3}$ (ε), $CuZn_{3,6\to6,7}$ (ε), $AgZn_{2,1\to7,3}$ (δ), $AuZn_3$ (ε), $AgCd_{1,8\to5,3}$ (δ); $Ag_{3,2\to1,4}Al$ (ζ), Au_5Al_{3+x}; $Cu_{4,4\to3,8}Sb$ (ε)[10].

Rhombically deformed structure Mg: $Cu_{3,2\to2,9}Ge$ (ε), Cu_3Sn (ε)[11], $Ag_{3,0\to2,8}Sn$ (ε').

4. $C_{el} = 1.80$.

Ni_2Al_3[1], hex., $N = 5$, D_{3d}^3: ∂-Ni_2Al_3 (δ), $Pd_2Al_{3\pm x}$, Ni_2Ga_3 (β'), $Pt_2Ga_{3\pm x}$, Ni_2In_3 (β'), $Pd_2In_{3\pm x}$, $Pt_2In_{3\pm x}$.

1. Derivatives of cubical body-centered structure; they also include structural CaF_2 types (cubical body-cebtered structure with partially unoccupied positions of atoms; see Table V,b and Ru_3Sn_7 (Table VI).

2. See remark[2] to table III.

3. At low aluminum content the lattice is deformed tetragonally.

4. High temperature modification.

5. Metastable phase.

6. Probably, monoclinic deformed structure.

7. Atomic positions in structures of Cu_5Cd_8, Cu_9Al_4, $Cu_{31}Sn_4$ and Co_5Zn_{21} type (structural types of γ-brass) are generally identical, but differently distributed between the atoms of components A and B. Other structural types with very same atomic positions, see in table VIII. Defective structure, derived from the type of γ-brass, have phases of the Ru_3Sn_7 type (table VI), other defective and deformed structure are listed in tables IX and X.

8. Partially disordered distribution of atoms over the entire phase homogeneity zone.

9. Structures incompletely investigated.

10. In addition to phase ε, in this phase exists phase ε' with ordered atom distribution. According to other data, instead of phases ε and ε', there exist three superstructural phases: $Cu_{4.5\rightarrow4.1}Sb$ (δ) hex., N = 12), $Cu_{11}Sb_4$ (ϑ) (hex., N = 15) and $Cu_{11}Sb_2$ (η) (rhombic, N = 49).

11. By other data, superstructure to type Mg with N = 16.

Table V.

Introduction Phases

a. Nickel-arsenide phases.

Ni_2In[1], hex., $N=6$, D^4_{6h} $Ni_{1,78\rightarrow1,44}Ga$ (γ)[2], ∂-Ni_2In (β), ∂-Cu_2In (η'), $Cu_{1,48\rightarrow1,41}In$ (φ)[2];
Ni_2Si (δ)[3], ∂-Fe_2Ge, ∂-Co_2Ge[4], ∂-Ni_2Ge, $Mn_{1,86\rightarrow1,50}Sn$ (γ')[2], $Fe_{1,27}Sn$ (γ)[2],
$Co_{1,44\rightarrow1,38}Sn$ (γ)[2], $Rh_3Sn_{2\pm x}$[2], $Ni_{1,54\rightarrow1,38}Sn$ (γ)[2], $Pd_{1,78\rightarrow1,38}Sn$[2],
$Cu_{1,32\rightarrow1,22}Sn$ (η)[2], Pd_3Pb_{2+x}[2], $Mn_{1,37\rightarrow1,14}Sb$ (ε)[2], $Fe_{1,38\rightarrow1,98}Sb$ (ε)[2],
$Co_{1,33\rightarrow1,02}Sb$[2], $Ni_{1,32\rightarrow1,13}Bi$ (β)[2].

Superstructures with unknown distribution of atoms, derivatives of the Ni_2In type:

Ni_2In: $Ni_{1,41}Ga$ (γ'), $Cu_{2,6\rightarrow1,8}In$ (δ); $Co_{1,44\rightarrow1,38}Sn$ (γ'), $Ni_{1,60\rightarrow1,33}Sn$ (γ'), $Cu_{1,22}Sn$ (η').

Structures, inherent to Ni_2In type, not thoroughly investigated: Mn_5Ge_2 (two modifications), $Mn_{1.85} \rightarrow 1.66 Ge$.

NiAs[1], Terr., $N = 4$, D^4_{6h}: $IrSn_{1\pm x}$, $PtSn_{1\pm x}$, AuSn, $IrPb_{1\pm x}$, $PtPb_{1\pm x}$; MnAs, NiAs, $CrSb_{1\pm x}$ (β), ∂-NiSb (γ), PdSb, PtSb, $MnBi_{1\pm x}$, RhBi, $PtBi_{1\pm x}$; ∂-VS, ∂-CrS (α), ∂-FeS, ∂-CoS, $NiS_{1\pm x}$ (β), ∂-CrSe (α), ∂-FeSe (β)[6], ∂-CoSe, $NiSe_{1\pm x}$ (β), $VTe_{1\pm x}$, ∂-CrTe (α), $MnTe_{1\pm x}$, ∂-FeTe, $PdTe_{1\pm x}$, $PtTe_{1\pm x}$.

Defective structure, not thoroughly investigated derivative of type NiAs: $CrSe_{1.44} \rightarrow 1.50$ (γ).

Moniclinically deformed defective structure, not thoroughly investigated, derivatives of the type NiAs: Ni_3Sn_4 (δ) (N = 14); $CrS_{1.22} \rightarrow 1.44$ (β), $CrSe_{1.18} \rightarrow 1.38$ (β), $CrTe_{1.17} \rightarrow 1.50$ (β).

CdJ_2[6], Terr., $N = 3$, D^3_{3d}: ∂-TiS_2, ∂-ZrS_2, ∂-TaS_2 $ReS_{2\pm x}$, $PtS_{2\pm x}$, $ZrSe_{2\pm x}$ $PtSe_{2\pm x}$, $PdTe_{2\pm x}$, $PtTe_{2\pm x}$.

NiAs — CdJ_2: ∂-TiSe — $TiSe_2$, ∂-VSe — VSe_2[7], ∂-TiTe — $TiTe_2$, ∂-CoTe — $CoTe_2$, ∂-NiTe — $NiTe_2$.

Co_2Si[8] Rhom., $N = 12$, D^{10}_{2h}: Co_3Si (ϑ), Ni_2Si (δ)[9].

MnP[10], Rhom., $N = 8$, D^{10}_{2h}: AuGe; NiSi (η), PdSi[11], PtSi, IrGe, NiGe, PdGe, PtGe, PdSn; $CrP_{1\pm x}$, $WP_{1\pm x}$, MnP, $FeP_{1\pm x}$, $CoP_{1\pm x}$, $CrAs_{1\pm x}$, FeAs (η), CoAs, RhSb.

$AuTe_2$[12], Mono., $N = 6$, C^3_{2h}: $AuTe_{2+x}$[13].

Nickel-arsenide phase are joined by phases of the Mn_5Si_3 types (table V b and) Cr_3C_2 (table VI). Phases with antiisomorphous structure to CdJ_2, see Table V b.

1. To the type Ni_2IN are figured in phases, containing no AB composition, to the type NiAs - containing this composition.

2. Defective Ni_2Om structure (part of Ni positions vacant).

3. High temperature modification.

4. At low temperature superstructure (probably at Co_3Co_2 composition).

5. High temperature modification in the zone 53-57 at. %, the Se structure is monoclinically deformed.

6. Heterodesmic structural type of second order (lamellar structure).

7. In the region of 55.5 - 60.5 at. %, the Se structure is monoclinically deformed.

8. Deformed Ni_2In structure, heterodesmic of first magnitude (chains of B-atoms).

9. Low temperature modification.

10. Deformed NiAs structure, heterodesmic of first magnitude (chains of B-atoms).

11. By other data, phase homogeneous in zone Pd_2Si-PdSi and has hexagonal structure, like Pd_3B_2.

12. Deformed structure of CdJ_2 type, heterodesmic (chains of B atoms and AB_2 molecules). Atoms occupy positions of deformed cubical simple packing.

13. Kalevarite.

b. Other introduction phases into the hexagonal double layer denser packing (PU) and other noncubical PU.

(see page 16a for formula)

Structure with ordered introduction of boron atoms into the dense packing of Ti atoms; hexag.: $Ti_{10,0} \rightarrow 1.3^{B(6)}$.

Fe_4N, cub., $N = 5$, O_h^1: ∂-Mn_4N[1]; ∂-Mn_4N(ε), ∂-Fe_4N(γ) (PU OF METAL Atoms),
U_4S_3, cub., $N = 7$: $U_4S_{3\pm x}$.
La_2O_3, hex., $N = 5$, D_{3d}^3: $Th_2N_{3\pm x}$, $Mg_3Sb_2(\alpha)$, $Mg_3Bi_2(\alpha)$ PU OF H, Mg Atoms),
NaCl, cub, $N = 6$, O_h^5: $ScC_{1\pm x}$, $ThC_{1\pm x}$, UC, $PuC_{1\pm x}$, ∂-TiC, ∂-ZrC $HfC_{1\pm x}$, ∂-VC(α,
$Nb_{1,38} \rightarrow$ $C^{(1,2)}$, ∂-TaC; $ScN_{1\pm x}$, $[LaN_{1\pm x}]$, $[CeN_{1\pm x}]$, $[PrN_{1\pm x}]$, $NdN_{1\pm x}$, $GdN_{1\pm x}$.

a)(PU atoms, occupying As positions) b) metal atoms PU.

1. Metstable phase.

2. In the zone of ε-phase homogeneity total orderliness was found also at compositions Fe_4N, $Fe_{12}N_5$ and Fe_2N.

3. Positions of hydrogen atoms in the structure are unknown.

Na_3As, гекс., $N = 8$, D_{6h}^4: $AuMg_3$, Mg_3Hg (β); Na_3P, Li_3As, Na_3As, K_3As, Li_3Sb, Na_3Sb, K_3Sb, Na_3Bi, K_3Bi (ПУ атомов, занимающих положения As).

Ni_3N, гекс.; $N = 8$, D_6^6: $Fe_{3\pm x}C$ (ε)[1]; ∂-Fe_3N (ε)[2], Co_3N (γ), Ni_3N (ПУ атомов металла).

CdJ_2, гекс.; $N = 3$, D_{3d}^3: $V_{2+x}C$ (β), $Ta_{2\pm x}C$, ∂-Mo_2C, ∂-W_2C, [$Fe_{2\pm x}C$]; [$Cr_{2\pm x}N$(β)], [$V_{2,7\to 2,3}N$ (β)], [$Nb_{2+x}N$], [∂-Mn_2N(ζ)] (ПУ атомов металла).

Fe_2N, ромбич.; $N = 12$: Fe_2N (ζ) (ПУ атом металла).

Co_2N, ромбич.; $N = 6$, D_{2h}^{14}: $Co_{2\pm x}C$; Co_2N (δ) (ПУ атомов металла).

Mn_5Si_3, гекс., $N = 16$, D_{6h}^3; Mg_5Hg_1 (ε); $Ti_5Si_{3\pm x}$, $Mn_5Si_{3\pm x}$, Fe_5Si_3 (η), $Ti_5Ge_{3\pm x}$, $Ti_5Sn_{3\pm x}$ (ПУ атомов Hg, Si, Ge, Sn).

Tl_2S, ромбоэдр.; $N = 81$, C_3^4: Tl_2S (ПУ атомов Tl).

Zr_2H[3], гекс.: $Zr_{2\pm x}H$ (γ), $Ta_{2\pm x}H$ (β), $Ni_{2\pm x}H$ (ПУ атомов металла).

Cu_2S[4], гекс., $N = 6$, D_{6h}^4: Cu_2S ($t > 52°$) (ПУ атомов S).

Fe_2P, гекс.; $N = 9$, D_3^2: Mn_2P, $Fe_{2\pm x}P$, $Ni_{2\pm x}P$ (ПУ атомов металла).

$PbCl_2$, ромбич., $N = 12$, D_{2h}^{16}: ∂-Co_2P, ∂-ThS_2 (ПУ атомов P,Th).

ZnS[5], гекс., $N = 4$, C_{6v}^4: [$TaN_{1\pm x}$], $GaN_{1\pm x}$, $InN_{1\pm x}$, $CdSe_{1\pm x}$; [$CrH_{1\pm x}$].

Структура с упорядоченным внедрением атомов бора в плотнейшую упаковку атомов Ti; гекс.: $Ti_{10,0\to 1,3}B$[6].

Pt_2Sn_3[7], гекс., $N = 10$, D_{6h}^4: Pt_2Sn_3 (ПУ атомов Sn),

Bi_2Te_3[8], ромбоэдр., $N = 5$, D_{3d}^5: [$As_2Se_{3\pm x}$], [Bi_2Se_3], [∂-Sb_2Te_3], ∂-Bi_2Te_3 (ПУ атомов Se, Te).

4. High temperature modification of chalcosine.

5. Wuestite.

6. Structure not thoroughly investigated.

7. Introduction structure into hexagonal six-ply denser packing.

8. Introduction structure into rhombical 9-ply denser packing, heterodesmic of second magnitude (lamellar).

c. Introduction phases into a cubical denser packing

Filling of Octahedral Voids

$ThN_{1\pm x}$, UN, $NpN_{1\pm x}$, $PuN_{1\pm x}$, $TiN_{1\pm x}$, $ZrN_{1\pm x}$, ∂-VN(γ), $NbN_{1\pm x}$, CrN(γ), $WN_{1\pm x}$, $[ReN_{0,43-x}]$, $[LaP_{1\pm x}]$, $[CeP_{1\pm x}]$, $[PrP_{1\pm x}]$, $NdP_{1\pm x}$, $Th_{1,41}P^{(4)}$, $UP_{1\pm x}$, $LaAs_{1\pm x}$, $CeAs_{1\pm x}$, $PrAs_{1\pm x}$, $NdAs_{1\pm x}$, SnAs, $LaSb_{1\pm x}$, $CeSb_{1\pm x}$, $PrSb_{1\pm x}$, $NdSb_{1\pm x}$, $LaBi_{1\pm x}$, CeBi, $PrBi_{1\pm x}$, $UBi_{1\pm x}$; ∂-CeS, $EuS_{1\pm x}$, $Th_{2,0\rightarrow1,3}S^{(2)}$, $PuS_{1\pm x}$, $PbS_{1\pm x}$, $CeSe_{1\pm x}$, $EuSe_{1\pm x}$, $YbSe_{1\pm x}$, $PbSe_{1\pm x}$, $EuTe_{1\pm x}$, $YbTe_{1\pm x}$, ∂-GeTe$^{(3)}$, SnTe, ∂-PbTe (β)

$SnSb^{(4)}$, Rhom., ромбоэдр., $N = 8$: ∂-SnSb(β).

$SnS^{(4,5)}$, Rhom., ромбич., $N = 8$, D_{2h}^{16}: $SnS_{1\pm x}$.

$GeS^{(1,5)}$, Rhom., ромбич., $N = 8$, D_{2h}^{16}: $GeS_{1\pm x}$.

$FeSi^{(4,5)}$, Cub., куб., $N = 8$, T^4: AuBe (β)$^{(6)}$; $PdGa_{1\pm x}$, $PtGa_{1\pm x}$; CrSi (ε), MnSi (ε), FeSi (ε), CoSi (ε), $CrGe_{1\pm x}$, $RhSn_{1\pm x}$.

Structures with unknown distribution of N atoms in the voids:

$Fe_{11\rightarrow10,5}N$ (α'') (тетр.)$^{(7,8)}$, $Mn_{4+x}N$ (δ) (тетр., N=5), $Mo_{2,12\rightarrow1,93}N$ (γ) (тетр., $N = 6$), $Mo_{2,70\rightarrow2,33}N$ (β), Mn_3N_{2+x} (ε).

Filling of tetrahedral voids

ZnS[9], куб., $N = 8$, T_d^2: [∂-TiB]; $AlP_{1\pm x}$, $GaP_{1\pm x}$, $InP_{1\pm x}$, $AlAs_{1\pm x}$, $GaAs_{1\pm x}$, $InAs_{1\pm x}$, AlSb, $GaSb_{1\pm x}$, InSb; $ZnSe_{1\pm x}$, $CdSe_{1\pm x}$, $CdTe_{1\pm x}$, $HgSe_{1\pm x}$, $ZnTe_{1\pm x}$, $HgTe_{1\pm x}$, Ga_2Se_3[10], Ga_2Te_3[10], In_2Te_3[10]; ∂-TiH (β), ZrH_{1+x} (δ).

PbO[11], тетр., $N = 4$, D_{4h}^7: InBi (γ); $FeSe_{1\pm x}$ (α)[6] (ПУ атомов Bi, Se).

PtS, тетр., $N = 4$, D_{4h}^9: PtS_{1+x} (ПУ атомов Pt).

Zn_3P_2, тетр., $N = 40$, D_{4h}^{15}: Zn_3P_2[12], Cd_3P_2[12], Zn_3As_2, Cd_3As_2[12] (ПУ атомов P, As).

Mn_2O_3, куб., $N = 80$, T_h^7: Mg_3As_2 (ПУ атомов As).

CaF_2, куб., $N = 12$, O_h^5: $PtAl_{2\pm x}$[13], ∂-$AuAl_2$, $PtGa_{2+x}$[13], $AuGa_2$, $PtIn_{2+x}$[13], $AuIn_2$; $CoSi_2$, $NiSi_2$ (ζ), $PtSn_2$, $IrSn_2$, Mg_2Si, Mg_2Ge, Mg_2Sn[14], Mg_2Pb[14], $Rh_{2+x}P$, $Ir_{2+x}P$; $[CrH_{2\pm x}]$ (ПУ атомов, занимающих положения Ca).

$Mn_2O_3 — CaF_2$: ∂-U_2N_3—UN_2.

ZrH_2[15], тетр., $N = 6$: $CuAl_{2+x}$ (δ')[8]; ThH_{2+x}, $ZrH_{2\pm x}$ (ε).

Structure with unknown distribution of H atoms over the voids: Zr_2H(β)

Filling octahedral and tetrahedral voids

Co_3S_4, куб., $N = 56$, O_h^7: Co_3S_4, Ni_3S_4 } (ПУ атомов S).
Co_9S_8, куб., $N = 68$, O_h^5: Co_9S_8

Cu_2Sb, тетр., $N = 6$, D_{4h}^7: $Cr_{2\pm x}As$, ∂-Mn_2As (β), Fe_2As, ∂-Mn_2Sb (δ), ∂-Cu_2Sb (γ); $Cu_{4,4}Te$[10] (ПУ атомов As, Sb, Te).

BiF_3[16], куб., $N = 16$, O_h^5: ∂-$LaMg_3$, ∂-$CeMg_3$, $PrMg_3$, Li_3Hg; ∂-Fe_3Al (β_1); Fe_3Si (δ); ∂-Cu_3Sb (β'), Li_3Sb (β), Li_3Bi (ПУ атомов, занимающих положения Bi).

Structures with finally not established distribution of metal atoms over the voids: cub.: $Cu_{1.9 \rightarrow 1.6}S$[17], $Cu_{2.00 \rightarrow 1.74}Se$ (α), $Ag_{2\pm x}Te$ (α).

1. Phase homogeneity zones ∂-Nb_4C and $Nb_{1.98 \rightarrow 1.8}C$ at a rise in temperature expand and above 1600° fuse together.

2. Phase with defective structures (part of nonmetal atom position vacant).

3. At low temperature and low, Te content - As type superstructure, at high Te content - deformed structure of NaCly type.

4. Deformed NaCl type structure.

5. Structural type intermediate from homodesmic to heterodesmic of second order (molecular).

6. Low temperature modification.

7. Partially disordered distribution of N atoms; to total orderliness corresponds formula Fe_8N and N = 18.

8. Metastable phase.

9. Zinc Blende.

10. Phase with defective structures (part of metal atom positions vacant).

11. Structural type heterodesmic of second order (lamellar structure).

12. To phases Zn_3P_2, Cd_3P_2 and Cd_3As_2 was previously erroneously attributed a structure of the type Mg_3P_2 (cub. N = 10 ; D^7_{4h}).

13. Phases $PtAl_{2 \pm x}$, $PtGa_{2 \pm x}$ and $PtIn_{2 \pm x}$ can be considered as electron phases with $C_{el} = 2$.

14. According to new data, Mg_2Sn and Mg_2Pb represent introduction phases of additional Mg and Sn atoms (Pb) (in ratio 2:1 into the structure of CaF_2 type.

15. Deformed CaF_2 type structure.

16. Superstructure to type α-W.

17. Digenite.

Table VI.

Heterodesmic Phases of First Magnitude

1. Phases with three-dimensional complexes (bodies) of B-component atoms

$ThSi_2$, tetr., $N = 12$, D^{19}_{4h}: $LaSi_{2\pm x}$, $CeSi_{2\pm x}$, $PrSi_{2\pm x}$, $NdSi_{2\pm x}$, $SmSi_{2\pm x}$, $ThSi_{2\pm x}$, $USi_{2\pm x}(\alpha)$, $NpSi_{2\pm x}$, $PuSi_{2\pm x}$.

$Ru_3Sn_7^{(1)}$, cub $N = 40$, O^9_h: $[NiGa_{4\pm x}(\varepsilon)]$, $Pd_3Ga_{7\pm x}$, $Pt_3Ga_{7\pm x}$, $[Ni_{10}In_{27\pm x}(\eta)]$ $[PdIn_{3\pm x}]$, $Pt_3In_{7\pm x}$; $Ir_3Ge_{7\pm x}$, Ir_3Sn_7, Ru_3Sn_7.

UB_4, tetr. $N = 20$, D^5_{4h}: $CeB_{4\pm x}$, $ThB_{4\pm x}$, $UB_{4\pm x}$.

CaB_6, cub, $N = 7$, O^1_h: $CaB_{6\pm x}$, $SrB_{6\pm x}$, $BaB_{6\pm x}$, $LaB_{6\pm x}$, $CeB_{6\pm x}$, $PrB_{6\pm x}$, $NdB_{6\pm x}$, $GdB_{6\pm x}$, $ErB_{6\pm x}$, $YbB_{6\pm x}$, $YB_{6\pm x}$, $ThB_{6\pm x}$.

UB_{12}, hex. $N = 52$, O^5_h: $UB_{12\pm x}$.

$NiMg_2$, hex, $N = 18$, D^4_6: $NiMg_2$.

$NiAl_3$, rhom, $N = 16$, D^{16}_{2h}: $NiAl_3(\varepsilon)$.

Co_2Al_5, hex, $N = 28$, D^4_{6h}: ∂-Co_2Al_5.

Co_2Al_9, mono., $N = 22$ C^5_{2h}: Co_2Al_9.

2. Phases with two-dimensional complexes (lattices) of B-component atoms

AlB_2, гекс., $N = 3$, D^1_{6h}: $ThNi_3$ (или Th_2Ni_5); $ThCu_2$ (или Th_3Cu_5); $[PtZn_{2\pm x}]$, $[PtCd_{2\pm x}]$, $UHg_{2\pm x}$; ∂-TiB_2, $ZrB_{2\pm x}$, $VB_{2\pm x}$, ∂-NbB_2 (ε), ∂-TaB_2 (ε), CrB_2 (δ), $MoB_{2\pm x}$, $AlB_{2\pm x}$, $CaGa_{2\pm x}$, $LaGa_{2\pm x}$, $CeGa_{2\pm x}$, $[PrGa_2]$; $USi_{2\pm x}$ (β).

$CaSi_2$, ромбоэдр., $N = 6$, D^5_{3d}: $CaSi_2$, $CaGe_{2\pm x}$.

Mo_3B_7, гекс., $N = 20$, D^5_{3d}: Mo_3B_7 (ε)[2].

Ti_2B_5, гекс., $N = 14$, D^4_{6h}: $Ti_2B_{5\pm x}$, $WB_{2,0\to 2,1}$ (ε)[3].

3. Phases with monodimensional complexes (chains, bands) of B-component atoms

FeB, ромбич., $N = 8$, D^{16}_{2h}: FeB, CoB, MnB (ζ); $USi_{1\pm x}$.

WB, тетр., $N = 16$, D^{19}_{4h}: ∂-MoB (δ), ∂-WB (δ).

CrB, ромбич., $N = 8$, D^{17}_{2h}: CrB (ζ), $MoB_{1\pm x}$ (β), $WB_{1\pm x}$, NbB (γ), TaB (γ); CaSi.

Ta_3B_4, ромбич., $N = 14$, D^{25}_{2h}: Nb_3B_4 (δ), Ta_3B_4 (δ), Cr_3B_4 (η), Mn_3B_4 (η).

Cr_3C_2, ромбич., $N = 20$, D^{16}_{2h}: ∂-Cr_3C_2.

$CuMg_2$, ромбич., $N = 48$, D^{24}_{2h}: $CuMg_2$.

4. Phases with insular complexes (pairs, etc.) of atoms of one component (preferably of B-component)

FeS_2[4,5], куб., $N = 12$, T^6_h: $PtP_{2\pm x}$, $PdAs_{2\pm x}$, $PtAs_{2\pm x}$, $PdSb_2$, $PtSb_2$, $AuSb_2$, $PtBi_{2\pm x}$; $MnS_{2\pm x}$, FeS_2, $RuS_{2\pm x}$, $OsS_{2\pm x}$, $CoS_{2\pm x}$, $RhS_{2\pm x}$, $NiS_{2\pm x}$, $MnSe_{2\pm x}$, $RuSe_{2\pm x}$, $OsSe_{2\pm x}$, $CoSe_{2\pm x}$, $NiSe_{2\pm x}$, $MnTe_{2\pm x}$, $RuTe_{2\pm x}$, $OsTe_{2\pm x}$.

FeS_2[6], ромбич., $N = 6$, D^{12}_{2h}: $FeP_{2\pm x}$, $FeAs_2$, $[CoAs_{2\pm x}]$, $NiAs_{2\pm x}$[7], $FeSb_2$ (ζ), $CoSb_2$, $NiSb_2$ (ε), $CrSb_2$; FeS_2, $FeSe_{2\pm x}$, $FeTe_{2\pm x}$, $CoTe_{2\pm x}$.

CuS, гекс., $N = 12$, D^4_{6h}: $CuS_{1\pm x}$, $CuSe_{1\pm x}$.

TlSe, тетр., $N = 16$, D^{18}_{4h}: ∂-TlS, TlSe.

$CoAs_3$, куб., $N = 32$, T^5_h: $CoAs_{3\pm x}$.

B_4C, ромбоэдр., $N = 15$, D^5_{3d}: ∂-B_4C.

NaPb, тетр., $N = 64$, D^{20}_{4h}: ∂-NaPb (γ).

CaC_2[5], тетр., $N = 12$, D^{17}_{4h}: $LaC_{2\pm x}$, $CeC_{2\pm x}$, $PrC_{2\pm x}$, $NdC_{2\pm x}$, $SmC_{2\pm x}$, ∂-UC_2, $VC_{2\pm x}$.

ZrC_2[5], тетр., $N = 12$, D^{18}_{4h}: $ZrC_{2\pm x}$.

ThC_2, моноэдр., $N = 12$, C^3_{2h} или C^4_s: $ThC_{2\pm x}$.

U_3Si_2, тетр., $N = 10$, D^5_{4h}: $U_3Si_{2\pm x}$.

$PtPb_4$, тетр., $N = 10$, D^3_{4h}: $PtPb_4$.

$PdSn_4$, ромбич., $N = 20$, C^{17}_{2v}: $PdSn_{4\pm x}$, $PtSn_4$, $AuSn_4$.

$CoGe_2$, ромбич., $N = 24$, C^{17}_{2v}: ∂-$CoGe_2$, $RhSn_{2\pm x}$ (θ), $PdSn_{2\pm x}$.

$CuAl_2$, тетр., $N = 12$, D^{18}_{4h}: Th_2Cu, ∂-Na_2Au (γ); $Ti_{2\pm x}B$, Ta_2B (β), Mo_2B (γ), W_2B (γ), Mn_2B (ε), Fe_2B, Co_2B, Ni_2B (δ), $CuAl_2$ (ϑ)[9], $AgIn_2$ (φ); $FeGe_{2\pm x}$, $MnSn_2$ (δ), $FeSn_2$, $CoSn_2$, $RhSn_{2\pm x}$[10], $RhPb_{2\pm x}$, $PdPb_{2\pm x}$, $AuPb_2$; $TiSb_{2\pm x}$, VSb_{2+x}.

Mn_4B[11], ромбич., $N = 40$, D^{21}_{2h}: $Mn_{4\pm x}B$ (δ).

U_6Mn, тетр., $N = 28$, D^{18}_{4h}: U_6Mn, U_6Fe, U_6Co, $U_{6\pm x}Ni$.

$BaAl_4$, тетр., $N = 10$, D^{17}_{4h}: $CaAl_4$, ∂-$SrAl_4$ (β), $BaAl_{4\pm x}$, $LaAl_4$, $CeAl_4$.

$Mg_{17}Al_{12}$[12], куб., $N = 58$, T^3_d: ∂-$Mg_{17}Al_{12}$ (γ).

Other heterodesmic phases of first order, see in Table I (types $TiAl_3$ and $ZrAl_3$), III (type NaTl) and V,a (types Co_2Si and MaP).

Taking into consideration the coordination properties of structures, in the interior of the heterodesmic phase class of first order, can be separated into two groups of structural types:

a) with coordination sphere about the A-atoms (in case of Fe_2B and analogous phases - B-atoms), having the form of a twisted cube: $NiMg_2$, $NiAl_3$, Co_2Al_9, $CuMg_2$, $PtPb_4$, $PdSn_4$, $CoGe_2$, $CuAl_2$;

b)with coordination sphere around B-atoms (in case of NeS_2 type phases - A-atoms), having the form of a triangular prism: UB_4, AlB_2, Mo_3B_7, TiB_5, FeB, βB, CrB, Ta_3B_4, Cr_3C_2; here also belong structural types Ni_2In, NiAs, Co_2Si (table V,a), MCS_2 (table VII), Fe_3C, Cr_7C_3, MoC (table VIII).

1. Defective derivative from γ-brass type.

2. Phase with defective structure, fully taken up by atomic positions, would correspond to formula Mo_2B_5 and N = 21.

3. Phase with defective structure.

4. Pyrite.

5. Structure of type FeS_2 (pyrite), CaC_2 and ZrC_2 can be considered as introduction structures of pairs of atoms into a cubical denser packing of metallic atoms.

6. Marcasite.

7. Rammel'sbergite.

8. Low temperature modification.

9. According to certain data, the phase is homogeneous approximately at 69 at.% of Al.

10. High temperature modification.

11. Phase with defective structure; to positions fully occupied by atoms would correspond a formula Mn_2B and N = 48.

12. Structure $Mg_{17}Al_{12}$ is inherent to cubical body-centered (atomic positions as in α-Mn).

Table VII.

Heterodesmic Phases of Second Order

1. Phases with lamellar structures

MoS_2, hex.: $N = 6$, D_{6h}^1: $MoS_{2\pm x}$, WS_2, $MoSe_{2\pm x}$, WSe_2, $MoTe_{2\pm x}$, $WTe_{2\pm x}$.
Cu_2Te, гекс.: $N = 6$, D_{6h}^1: $Cu_{2\pm x}Te$.
$ZrSi_2$, ромбич.: $N = 12$, D_{2h}^{17}: $ZrSi_2$, $ZrGe_{2\pm x}$.

2. Phases with tape structures

Bi_2S_3, ромбич.: $N = 20$, D_{2h}^{16}: ∂-$Th_2S_{3\pm x}$, $U_2S_{3\pm x}$, $Np_2S_{3\pm x}$, $Sb_2S_{3\pm x}$, $Bi_2S_{3\pm x}$.

3. Phases with molecular structures

NiS, ромбоэдр.: $N = 6$, C_{3v}^5: $NiS_{1\pm x}$ (γ)[1], $NiSe_{1\pm x}$ (γ).
$AuTe_2$, ромбич.: $N = 24$, C_{2v}^4: $AuTe_{2\pm x}$[2].

Other heterodesmic phases of second order are given in table III (type UCo) and V (types CdJ_2, GeS, SnS, FeSi, PbO, Bi_2Te_3).

1. Millent.

2. Krennerite, deformed cubical straight packing of atoms as in kavalerite (Table V,a) but with different atom distribution.

Table VIII.

Other Phases with Known Structures

(see page 22a for table)

Table VIII.

Cu_7Hg_6[1], куб., $N = 52$, T_d^3: ∂-Cu_7Hg_6 (γ).

$Li_{10}Pb_3$[1], куб., $N = 52$, T_d^1: $Li_{10}Pb_3$ (γ).

$Cu_{15}Si_4$, куб., $N = 76$, T_d^6: ∂-$Cu_{15}Si_4$ (ε), ∂-$Na_{15}Pb_4$.

Th_3P_4, куб., $N = 28$, T_d^6: $Th_3P_{4\pm x}$, $U_3P_{4\pm x}$, $[Np_3P_{4\pm x}]$; ∂-Ce_2S_4, $[Pr_2S_{3\pm x}]$[2], $[Nd_2S_{3\pm x}]$[2], $[Sm_2S_{3\pm x}]$[2], $[Dy_2S_{3\pm x}]$[2], $[Gd_2S_{3\pm x}]$[2], $Ac_2S_{3\pm x}$[2], ∂-Pu_2S_4, $Am_2S_{3\pm x}$[2], $Ce_2Se_{3\pm x}$[2].

Pu_2C_3, куб., $N = 40$, T_d^6: $Pu_2C_{3\pm x}$.

$Cr_{23}C_6$, куб., $N = 116$, O_h^5: ∂-$Cr_{23}C_6$, $Mn_{23}C_{6\pm x}$.

Th_6Mn_{23}[3], куб., $N = 116$, O_h^5: Th_6Mn_{23}.

UH_3, куб., $N = 32$: $UH_{3\pm x}$[4].

In_2Bi[5], гекс., $N = 3$, D_{6h}^1: In_2Bi (β), $TlBi_{1,27\rightarrow 1,59}$ (δ).

CoSn, гекс., $N = 6$, D_{6h}^1: NiIn (ε)[6], PtTl; FeSn (β), CoSn.

Th_7S_{12}, гекс., $N = 19$, C_{6h}^2: $ThS_{1,70\rightarrow 1,78}$[7].

Cu_3As, гекс., $N = 24$, D_{3d}^1: ∂-Cu_3P, $Cu_{3\pm x}As$[8].

AgZn, гекс., $N = 9$, C_{3v}^1: ∂-AgZn.

MoC, гекс., $N = 2$: ∂-MoC (γ)[9], WC; $MoN_{1\pm x}$ (δ).

Cr_7C_3, ромбоэдр., $N = 80$, C_{3v}^4: ∂-Cr_7C_3, $Mn_7C_{3\pm x}$.

Cr_5Al_8[10], ромбоэдр., $N = 26$, C_{3v}^5: ∂-Cr_5Al_8 (γ_2).

Ni_3S_2, ромбоэдр., $N = 5$, D_3^7: $Ni_3S_{2\pm x}$.

Sn_3As_2, ромбоэдр., $N = 5$: Sn_3As_2[11].

PdS[13], тетр., $N = 16$, C_{4h}^2: $PdS_{1\pm x}$.

$ThMn_{12}$[3], тетр., $N = 26$, D_{4h}^{17}: $ThMn_{12}$.

ZnSb, ромбич., $N = 16$, D_{2h}^{15}: ZnSb, ∂-CdSb (γ).

Fe_3C, ромбич., $N = 16$, D_{2h}^{16}: $Mn_{3\pm x}C$, Fe_3C[12], $Co_{3\pm x}C$, $Ni_{3\pm x}C$.

UAl_4, ромбич., $N = 20$, D_{2h}^{24}: $UAl_{4\pm x}$.

1. Atomic positions, as in Cu_5Zn_8.

2. Part of metal atom position vacant.

3. Structure close to denser packing of atoms of various dimensions.

4. Introduction of H atoms into β-W structure.

5. Atomic positions, as in AlB_2, but their distribution is totally orderless.

6. Low temperature modification.

7. Phase with defective structure: fully occupied by atomic positions, would have coincided with formula Ta_2S_3 and N = 20.

8. Artificial domeykite.

9. Certain authors negate the existence of hexagonal MoC phase.

10. Deformed structure of Cu_5Zn_8 type.

11. Phase with defective structure: fully occupied by atomic positions would have corresponded to formula Sn_4As_3 and N = 7.

12. In addition to rhombic phase Fe_3C (cementite) there is a metastable deformed $Fe_{2\pm x}C$ modification.

13. Pd atoms form the β-W structure.

Table IX.

Phases with Structures, Not Completely Determined

1. Cubical Syngony

Ti_2Fe[1], $N = 96$: $Ti_{2\pm x}Mn$; $Ti_{2\pm x}Fe$; $Ti_{2+x}Co$; $Ti_{2-x}Ni$, $Ti_{2\pm x}Pd$, $Ti_{2\pm x}Pt$; $Ti_{2\pm x}Cu$[2]. RuB: $RuB_{1\pm x}$, $OsB_{1\pm x}$.

1) Разные неизотипные фазы: $VMn_{1\pm x}$ ($N = 58$, T_d^3)[4], $VMn_{1\pm x}$[5]; Cr_3Pd_2[6]; $Pt_{2,3\rightarrow1,5}Cu$ (O_h^7)[7], $PtCu_{1,2\pm x}$, Li_3Ag ($N = 52$), $CaAg$[8], $PrAg$; $CoZn_{0,03\rightarrow1,32}$ (β_1) ($N=20$, O^7)[9], $CuZn_{2,92\rightarrow3,08}$ (δ)[10], $AuZn_{1,7\rightarrow4,9}$ (γ_2) ($N=32$)[11], $AuZn_{1,7\rightarrow4,9}$ (γ)[11], $PtCd_{3,3\rightarrow4,0}$ (γ_1)[11], $AuCd_{2,3\rightarrow3,4}$ (ε')[11], $LiCd_{2,3\rightarrow9,0}$ (β), $NaCd_2$, CaCd, $UHg_{4\pm x}$ ($N = 10$), $NiHg_{3\pm x}$ ($N = 4$), CaHg, $ZrB_{1\pm x}$[14], $Sr_{1,2\rightarrow1,0}Al$ ($N = 116$), $FeAl_{1,44\rightarrow1,86}$ (ε), $Co_{1,33\rightarrow1,13}Al$ (ε), Mn_3In[11], $Hg_{4,0\rightarrow2,3}Tl$ (γ), $HgTl_{6\rightarrow?}$ LaTl, CeTl, PrTl; $MoC_{1\pm x}$, $RuSi_{1\pm x}$, Ca_2Si, $Cu_{2,7-2,6}Ge$ (δ)[15], $Tl_{3,0\rightarrow1,2}Pb$ (γ)[12], $Cu_{3\pm x}As$ ($N = 64$, T_d^6)[13], $Sb_{3,0\rightarrow1,2}As$ (β)[14], $Ni_{13}Sb_{4\pm x}$ (δ) ($N = 17$); $Tl_{24\rightarrow3}Bi$ (γ); $Ag_{2\pm x}S$ (α) ($N = 6$), $Ag_{2\pm x}Se$ (α) ($N = 6$); $Pd_{1,6\rightarrow1,3}H$[16], $ThH_{3\pm x}$.

1) Various nonisotopic phases.

2. Hexagonal Syngony

Mg_3Ga, $N = 18$: Mg_3Ga, $Mg_{3+x}In$ (β_2), Mg_3Tl.

1) Деформированная дефектная структура γ-латуни: $N = 550 \pm 8$: $MnZn_{10,8\to11,5}$ (δ_1), $FeZn_{6,7\to11,5}$ (δ_1).

2) Разные неизотипные фазы: $TiBe_{12+x}$ ($N = 576$), $CrZn_{21\pm x}$ ($\vartheta = \delta$), $NiZn_{8\to10}$ (δ) ($N = 70$)[17]; Pd_3B_{2+x}, $ThAl_{3+x}$ ($N = 8$), $MnAl_{4+x}$, $MgAl_{1,50\to1,63}$ (β) ($N = 104$)[18]; YC_{2+x} ($N = 6$), Ni_5Si_2 (γ_1), $Cu_{4,0\to3,6}Sn$ (ζ) ($N = 26$, D^1_{3d})[19], $HgSn_{16\to24}$; $W_{2+x}P$, $Ni_{2,6\to3,4}As$ (β); BiSe, $Ag_{12}Te_{7+x}$ (α) ($N = 57$), Bi_2Te_{3+x}.

1) Deformed defective structure of γ-brass; 2) various nonisotopic phases

3. Rhombohedral Syngony

1) Деформированная дефектная кубическая объемноцентрированная структура: $Cu_{3,4\to3,0}Si$ (η), $Cu_{3,3\to3,0}Ge$ (γ)[20].

2) Разные неизотипные фазы: $Au_{1,82\to1,08}Cd$ (α_3)[21], $Cu_{2,7\to1,8}Al$ (γ_2) ($N = 50$, C^6_{3v})[17], $FeAl_{2+x}$ (ζ) ($N = 18$).

1) Deformed defective cubical body-centered structure; 2) various nonisotopic phases.

4. Tetragonal Syngony

Fe_3P, $N = 32$, S^2_4: $Cr_{3+x}P$, [$Mo_{3\pm x}P$], Mn_3P, $Fe_{3\pm x}P$, $Ni_{3\pm x}P$.

$RuSi_2$, $RuSi_{2\pm x}$, $RuGe_{2\pm x}$, $OsSi_{2\pm x}$, $OsGe_{2\pm x}$.

Ru_2Si_3: Ru_2Si_{3+x}, Os_2Si_{3+x}.

Pt_3B_2: $Pt_3B_{2\pm x}$ (или $PtB_{1\pm x}$); Pt_2Si_{2+x} (или $Pt_{2\pm x}Si$).

«σ-фазы»: $N = 30$, D^{14}_{4h}, D^8_{2d} или C^4_4: $CrMn_{3,6\to4,9}$ (ϑ)[22], $VMn_{3,1}$; $CrFe_{0,94\to1,05}$ (σ), $MoFe_{1+x}$ (η), VFe_{1+x} (ε); $V_{1,02}Co$, $CrCo_{0,81\to1,05}$ ($\gamma = \delta$), $Mo_3Co_{2\pm x}$ (δ); $V_{1,85\to1,02}Ni$.

$MoBe_{13}$: $MoBe_{13+x}$, [$WBe_{13\pm x}$].

1) Разные неизотипные фазы: $VNi_{3\pm x}$ (ϑ), $MnNi_{1\pm x}$ (δ') ($t < 650°$)[14], $Cr_{2\pm x}Ni$ ($N = 96$, D^{10}_4), $MnPd_{0,85\to1,16}$ (η), $MnPd_{1,23\to1,86}$ (ζ); $Ti_{1,1\to1,0}Cu$ (γ), $Au_3Cu_{2\pm x}$ $CaAg_2$, $TlAu_2$, $MnAu_{2\pm x}$ (или $MnAu_{3\pm x}$)[23]; $Au_{4,7\to3,7}Zn$ (α_2) ($N = 8$), $HgCd_{3\pm x}$ ($N = 152$); $CuGa_{1,38}$ (φ) ($N = 3$)[24]; $NaSi_{2\pm x}$ ($N = 12$), $MnSi_{2\pm x}$ ($N = 48$), $FeSi_{2,4\to2,1}$ (ζ) ($N = 3$, D^1_{4h})[24], $In_{3\pm x}Sn$ (β), $InSn_{4\pm x}$ (γ), $In_{3,7\to4,0}Pb$; $Ni_7P_{3\pm x}$ ($N = 60$), Ni_3As_2, $Cu_{4,5\to3,1}Sb$ (β) ($N = 14$), $Ni_{3,58\to3,32}Sb$ (β) ($N = 14$), $MnBi_{2\pm x}$ (Y); $Cu_{1,96\pm x}Se$ (β), $GeSe_{1\pm x}$ ($N = 32$).

1) Various nonisotopic phases

5. Rhombic Syngony

Mg_5Ga_2, $N = 28$, D^{26}_{2h}: Mg_5Ga_2, $Mg_5In_{2\pm x}$[25], Mg_5Tl_2.

Cr_3Si_2: Cr_3Si_{2+x} (ϑ), Cr_3Ge_{2+x}.

1) Разные неизотипные фазы: $VNi_{2\pm x}$ (δ); $Cr_{2+x}B$ (δ), $MnAl_6$, $FeAl_{2,9\to3,0}$ (ϑ) ($N = 400$, D^{23}_{2h}), Fe_2Al_7, $CuAl_{0,93\to1,05}$ (γ) ($N = 32$)[26]; Ni_3Si_2 (δ), $Na_{15}Sn_4$ ($N = 38$), $Cu_{5\pm x}Sn$ (β'') ($N = 8$)[27], $HgSn_{10\pm x}$, $ZnAs_{2\to3}$ (γ) ($N = 96$), $Ag_{2+x}Sb$ ($N = 30$, D^5_2), $NiAs_{2\pm x}$ ($N = 24$, D^{11}_{2h})[28], Mn_2Bi_{3+x} (X); $Ni_6S_{5\pm x}$ ($N = 44$), $Cu_{2,0\to1,9}S$ ($t < 52°$) ($N = 288$, C^{15}_{2v})[29], $Ag_{2\pm x}S$ (β) ($N = 12$); $Ta_{1,18\to1,13}H$ (γ), $Nb_{1,27}H$.

1) Various nonisotopic phases

6. Monoclinal Syngony

$FeZn_{13}$[17], $N = 28$, C_{2h}^3: $MnZn_{17\to19}(\zeta)$, $FeZn_{13\to15}(\zeta)$, $CoZn_{10,1\to13,3}(\zeta)$.

1) Разные неизотипные фазы: $CrAl_{6,7\to7,3}(\vartheta)$, $FeAl_{2,3\to2,5}(\gamma_1)$ $(N=56)$, $Cu_{2,1\to1,6}Al(\gamma_1)$ $(N = 102$, $C_s^3)$[17], $Cu_{1,27\to1,17}Al(\zeta)$ $(N = 21)$[26], $Fe_3Sn_2(\beta')$ $(N = 40)$, $PdPb_{1\pm x}$; NaSb $(N = 16)$, $Cd_3Sb_{2-x}(\beta)$ $(N = 20)$[27], $Fe_{7}S_{8\pm x}$[3], $Ag_{2-x}Te(\beta)$ $(N = 9)$.

1. Probably, Ti_4Fe_2O type structure (derivative of W_2Fe_3C type) with vacant oxygen positions.

2. By other data, phase composition: $Ti_{3+x}Cu$ (ε-phase).

3. Pyrrhotine, structure, allied to NiAs type.

4. Atomic positions of α-Mn structure; atom distribution not established.

5. Body-centered lattice.

6. Phase forms a continuous solid solution with chromium.

7. Displacement structure in cubical denser packing.

8. By other data, noncubical symmetry.

9. Atomic positions of β-Mn structure, distribution of atoms not established.

10. Structure, inherent to the CsCl type.

11. Structure allied to γ-brass types.

12. By other data, superstructure to solid solution on Pb-basis - at Ti_2Pb compositions (type $AuCu_3$) and Tl_4Pb.

13. Domeykite.

14. Body-centered lattice.

15. Defective cubic body-centered structure; by other data, phase has composition corresponding to formula $Cu_{3.2\to2.7}Ge$.

16. Introduction structure into cubical packing of Pd atoms.

17. Deformed defective γ-brass structures.

18. By other data, structure cubical with N = 1172.

19. Deformed defective cubical body-centered structure.

20. By other data, the phase has a composition, corresponding to formula $Cu_{4.3\rightarrow3.2}Ge$.

21. Deformed cubical body-centered packing.

22. By other data, two α and β modifications.

23. Deformed superstructure to cubical denser packing.

24. Position of atoms as in Cu_2Sb structure, distribution of atoms finally determined, most likely partially disordered.

25. By other data, phase has a composition, corresponding to formula $In_{3.3\rightarrow3.1}$ (β_1 -phase).

26. Structure allied to Ni_2Al_2 type.

27. Metastable phase.

28. Pair-rammelsbergite.

29. Low temperature modification of chalcosine.

Table X.

Phases with Unknown Structure

1/1 (1): $CsNa_2$.

1/11: $Li_{1,03}Au$, $Na_{1,22}Au$ (β'), KAu_4, $RbAu_4$, $Cs_{13}Au_{10}$, $CsAu$

1/12: $LiMg_{1\rightarrow3}$(γ), $LiZn_{1\rightarrow2}$(δ), $LiZn_{1,5\rightarrow2,0}$(δ'), $LiZn_{2,3\rightarrow3,0}$(γ), $LiZn_{2,3\rightarrow3,0}$(γ'), $LiZn_2$, $LiZn_{3\rightarrow10}$ (β), Li_6Hg, Li_2Hg, $LiHg_2$, $NaCd_{2\pm x}$, $NaCd_6$, Na_2Hg, Na_5Hg_2, Na_3Hg_2, $NaHg$, Na_2Hg_3, $NaHg_2$, $NaHg_4$, KCd_{13-x}, KHg, KHg_2, KHg_3, KHg_4, KHg_8, Rb_7Hg_6, Rb_3Hg_4, $RbHg_2$, Rb_2Hg_7, Rb_6Hg_{18}, Rb_2Hg_9, $RbHg_6$, $RbHg_9$, Cs_2Hg_3, $CsHg_2$, $CsHg_4$, $CsHg_6$, $CsHg_{10}$.

1/13: $Li_{3\pm x}Al$, Li_2Al, $LiAl_{2\pm x}$, $Li_{3\pm x}Ga$, Li_4Tl, Li_3Tl, Li_5Tl_2, Li_2Tl, $NaB_{2\pm x}$, Na_6Tl, Na_2Tl, $NaTl_2$.

1/14: $Li_{3\pm x}Si$, Li_4Sn, Li_7Sn_2, Li_5Sn_2, Li_2Sn, $LiSn$, $LiSn_2$, Li_4Pb, Li_7Pb_2, Li_5Pb_2, $LiPb$ (β), $NaSi_{1\pm x}$, $NaSi_{2\pm x}$, $NaGe_{1\pm x}$, Na_2Sn, Na_4Sn_3, $NaSn$, $NaSn_2$, $Na_{2,6-2,3}Pb$ (δ), Na_2Pb, $KSi_{1\pm x}$, $KSi_{8\pm x}$, $KGe_{1\pm x}$, $KGe_{4\pm x}$, K_2Sn, KSn, KSn_2, KSn_4, $K_{2\pm x}Pb$, $KPb_{1\pm x}$, $KPb_{2\pm x}$, $KPb_{4\pm x}$, $RbSi_{1\pm x}$, $RbSi_{8\pm x}$, $RbGe_{1\pm x}$, $RbGe_{4\pm x}$, $CsSi_{1\pm x}$, $CsSi_{8\pm x}$, $CsGe_{1\pm x}$, $CsGe_{4\pm x}$.

1/15: LiBi (β), $KAs_{2\pm x}$, KSb, K_3Bi_2, Cs_3Sb.

2/11: $CaAg_2$, $CaAg_4$, Ca_2Au, Ca_4Au_3, $CaAu_{0,78\rightarrow1,04}$, $CaAu_2$, $CaAu_3$, $CaAu_4$, Sr_3Ag_2, $SrAg$, Sr_3Ag_5, $SrAg_4$, Ba_3Ag_5, Ba_2Ag_3, $BaAg_4$.

2/12: Ca_4Zn, $CaZn$, $CaZn_{2\pm x}$ (2), $CaCd_3$, $CaHg_3$, $CaHg_5$, $CaHg_{10\pm x}$, $SrMg_{4\pm x}$, $SrMg_9$, $SrCd_{4\pm x}$, $SrHg_{12\pm x}$, $BaMg_{4\pm x}$, $BaMg_9$, $BaHg_{12\pm x}$.

2/13: $CaAl_3$, $CaIn_{1\pm x}$, $CaIn_{3\pm x}$, Ca_3Tl_4.

2/14: $CaGe_{1\pm x}$, Ca_2Sn, CaSn, $Ca_{3,4\to2,0}Pb$ (γ), CaPb, $SrSi_{1\pm x}$, $SrSi_{2\pm x}$, $SrSn_3$, $SrSn_6$, $BaSi_{2\pm x}$, $BaSn_3$, $BaSn_5$, $Ba_{2\pm x}Pb$, BaPb, $BaPb_3$.

2/15: Ca_3As_2, Ca_3Bi_2, $CaBi_3$, Sr_3As_2, $SrBi_3$, Ba_3As_2, $Ba_3Sb_{2\pm x}$, $Ba_3Bi_{2\pm x}$, $BaBi_3$.

3/8: Ce_2Fe_5, Th_7Fe_3, $ThFe_3$, Th_2Fe_{17}.

3/9: Ce_3Co, $CeCo_3$, $CeCo_4$, Th_7Co_3, ThCo, $ThCo_{2\to3}$, Th_2Co_{17}.

3/10: La_3Ni, LaNi, $LaNi_3$, $LaNi_4$, Ce_3Ni, CeNi, $CeNi_3$, $CeNi_4$, Pr_3Ni, PrNi, $PrNi_3$, $PrNi_4$, Th_7Ni_3 (или Th_2Ni), ThNi, Th_2Ni_{17} (или $ThNi_9$), $UNi_{1\pm x}$.

3/11: LaCu, $LaCu_2$, $LaCu_6$, CeCu, $CeCu_2$, $CeCu_6$, PrCu, $PrCu_2$, $PrCu_4$, $PrCu_6$, $LaAg_2$, $LaAg_3$, $CeAg_2$, $CeAg_3$, $PrAg_2$, $PrAg_3$, La_2Au, LaAu, $LaAu_2$, $LaAu_3$, Ce_2Au, CeAu, $CeAu_2$, $CeAu_3$, Pr_3Au, PrAu, $PrAu_2$, $PrAu_4$, $ThCu_3$, $ThCu_6$, Th_3Ag_5, $ThAg_3$, Th_3Au_5, $ThAu_3$.

3/12: La_3Mg, $LaMg_9$, $CeMg_9$, Pr_3Mg, $PrMg_9$, $LaZn_{6\to9}$ (δ), $LaZn_{10,0\to11,5}$ (ε), Ce_3Zn, Ce_2Zn, $CeZn_{6\to9}$ (δ), $CeZn_{10,0\to11,5}$ (ε), $LaHg_{1\pm x}$, $CeHg_{1\pm x}$, $PrHg_{1\pm x}$, $NdHg_{1\pm x}$, $ThZn_x$.

3/13: La_3Al_2, LaAl, Ce_3Al_2, CeAl, Pr_3Al_2, PrAl, $PrAl_2$, $PrAl_4$, Pr_3Ga, Pr_3Ga_2, PrGa, La_2Tl, Ce_2Tl, $CeTl_3$, Pr_2Tl, $PrTl_3$, $ThB_{1\pm x}$, UAl_5.

3/14: Sc_3C_{3+x}, $YSi_{2\pm x}$, La_2Sn, La_2Sn_3, Ce_2Sn, Ce_2Sn_3, Pr_2Sn, Pr_2Sn_3, La_2Pb, LaPb, Ce_2Pb, Pr_2Pb, PrPb, U_2C_{3+x}, USn_x, [USn_y, $UPb_{1\pm x}$, $UPb_{3\pm x}$.

3/15: Ce_3Bi, Ce_4Bi_3, $CeBi_2$, $Th_3N_{4\pm x}$, $UP_{2\pm x}$, $U_4Bi_{5\pm x}$, $UBi_{2\pm x}$.

3/16: Y_2Se_{3+x}, $CeS_{2\pm x}$, $LaSe_{2\pm x}$, $Ce_2Se_{3\pm x}$, $CeSe_{2\pm x}$, $PrSe_{2\pm x}$, $NdSe_{2\pm x}$, $Nd_2Se_{3\pm x}$, Sm_2Se_{3+x}, Er_2Se_{3+x}, $Dy_2Se_{3\pm x}$, Yb_2Se_{3+x}, $CeTe_{1\pm x}$, $Th_{3\pm x}Te$, $US_{2\pm x}$, $US_{3\pm x}$, U_2Se_{3+x}, $USe_{2\pm x}$, $U_{2+x}Te$.

4/10: $Ti_2Pd_{3\pm x}$, $Ti_2Pt_{3\pm x}$.

4/11: $ZrCu_3$ (β), $ZrAu_3$.

4/12: $Ti_{1,3\to1,0}Be$, $TiBe_{4\pm x}$, $TiBe_{10\pm x}$, $ZrBe_2$ (γ), $ZrBe_4$ (δ), $ZrBe_{5\pm x}$ (ε), $ZrZn_x$.

4/13: $ZrB_{12\pm x}$, HfB_{1+x}.

4/14: $TiSi_{1+x}$, Zr_4Si, Zr_2Si, Zr_3Si_2, Zr_4Si_3, Zr_6Si_5, ZrSi, Zr_4Sn, Zr_5Sn_3, ZrSn.

4/15: $Ti_{2\pm x}P$, $TiP_{1\pm x}$, $TiAs_x^{(3)}$, $ZrP_{1\pm x}$, $ZrP_{2\pm x}$, $HfN_{1\pm x}$.

4/16: $Ti_{2,5\to1,0}S$, TiS, $TiS_{1,1\to1,5}$, TiS_3, $Zr_{5\to3}S$, $Zr_{2,0\to1,1}S$, $ZrS_{1,2\to1,5}$, $Zr_{2\pm x}Te$.

5/7: $V_{3,3\to1,0}Mn$.

5/8: $Nb_2Fe_{3\pm x}$.

5/10: $Ta_3Ni_{2\pm x}$.

5/12: $TaBe_x$.

5/13: $Nb_{9\pm x}B$ (β) (800°), $Nb_{9\pm x}B$ (β') (1200°), $Nb_{3,0\to1,0}B$ (β'').

5/14: $V_{3\pm x}Si$, $Ta_5Si_{3\pm x}$, $Ta_5Si_{2\pm x}$, $Ta_{5\pm x}Si$.

5/15: $V_{3\pm x}P$, $V_{2,0\to1,5}P$, $VP_{1\pm x}$, $VP_{2\pm x}$, $VAs_x^{(3)}$, $NbP_{1\pm x}$, $NbP_{2\pm x}$, $NbAs_{2\pm x}$, $Ta_{2\pm x}N$, $TaP_{1\pm x}$, $TaP_{2\pm x}$.

5/16: $VS_{1,2\to1,5}$, $VS_{1\pm x}$, $Nb_{2\to1}S$, $NbS_{1,5\to4,0}$, $Ta_{3,4\to1,0}S$, $TaS_{1,0\to1,9}$, $TaS_{3\pm x}$.

6/7: $W_2Re_{3\pm x}$.

6/8: $WFe_{3\pm x}$.

6/9: $Cr_{2,12\to1,22}Co(\delta)$, $MoCo_{1\pm x}(\gamma)$, [$W_{3\pm x}Co$.]

6/10: $Cr_{3\pm x}Pt$ (или $Cr_{2\pm x}Pt$), $CrPt_{1\pm x}$, MoNi, $WNi_{1\pm x}$.

6/12: WZn_x.

6/13: $Cr_3B_2(\varepsilon)$, $Cr_{3\pm x}Al$, $CrAl_{1,50\to1,63}$ (γ_1), $CrAl_{1,94\to2,03}$ (γ_3), $CrAl_{1,94\to2,22}$ (γ_4),

$CrAl_{2,6\to3,1}$ (δ), $CrAl_{4,0\to4,7}$(ε), $CrAl_{5,2\to6,1}$(η), $MoAl_{4\pm x}$, $WAl_{1,7\to2,0}$ $WAl_{2,2\to2,0}$ $WAl_{2,0\to3,3}$, $WAl_{4,5\to4,9}$, WAl_{12}.

6/14: Cr_3Si, Mo_3Si_2, $MoSi_{1\pm x}$, $MoGe_x$, W_3Si_2, WGe_x.

6/15: $CrP_{2\pm x}$, $Cr_{2\pm x}P$, $Cr_3As_{2\pm x}$, $Cr_2As_{3\pm x}$, $MoP_{1\pm x}$, $MoP_{2\pm x}$, $MoAs_{1\pm x}$, $MoAs_{2\pm x}$ $WP_{2\pm x}$, $WAs_{1\pm x}$, $WAs_{2\pm x}$.

6/16: $Mo_{2\pm x}Te$, $Mo_2Te_{3\pm x}$, $W_{2\pm x}Te$.

7/8: $Re_2Fe_{3\pm x}$ (ε), $ReFe_{3\pm x}$ (τ_i), $ReFe_{3\pm x}$ (δ).

7/10: $Mn_{1\pm x}Pt$, $MnPt_{1\pm x}$, $MnPt_{3\pm x}$.

7/11: $Mn_{3\pm x}Au$.

7/12: $MnZn_{10,8\to11,5}$ $(\delta)^{(5)}$, $MnHg_{2\pm x}$.

7/13: $MnAl_3$, $MnAl_{3,55}$(δ), $MnAl_{12\pm x}(G)^{(4)}$.

7/14: Mn_3Ge_2, ReC_x.

7/15: Mn_3P_2, MnP_3, $Mn_3As_{2\pm x}$, $Re_{2\pm x}P$, $ReP_{1\pm x}$, $ReP_{2\pm x}$, $ReP_{3\pm x}$, $ReAs_{2,1\to2,3}$.

7/16: $Tc_2S_{7\pm x}$, $Re_2S_{3\pm x}$, $Re_2S_{7\pm x}$.

8/9: $FeIr_{1\pm x}$.

8/11: Fe_3Au.

8/12: $FeZn_{7,3\to9,0}(\delta)^{(5)}$, $RuBe_x$, $OsBe_x$.

8/13: $Ru_{2\pm x}B$, $Ru_2B_{3\pm x}$, $RuB_{2\pm x}$, $OsB_{1\pm x}$, $OsB_{2\pm x}$, $OsB_{2\pm x}$.

8/14: $FeSi_x(\alpha'')$, $Ru_3Si_{2\pm x}$.

8/15: $FeP_{2,0\to4,0}$, $Fe_{1,77\to1,27}As(\zeta)$, $Ru_{2\pm x}P$, $RuP_{1\pm x}$, $RuP_{2\pm x}$, $RuAs_{2\pm x}$, $OsP_{2\pm x}$.

9/12: $Co_5Be_{21\pm x}$[6], $CoZn_{6,7\to8,1}$ $(\delta)^{(5)}$, $CoZn_{6,7\to8,1}$ $(\delta_1)^{(5)}$, $RhBe_{2\pm x}$, $IrBe_{2\pm x}$.

9/13: $CoAl_3$, Co_4Al_{13}, $Rh_{2\pm x}B$, $RhB_{1\pm x}$, $RhB_{2\pm x}$, $Ir_3B_{2\pm x}$, $IrB_{1\pm x}$, $IrB_{2\pm x}$.

9/14: Co_3Si, Co_3Si_2, $CoGe_{0,08\to1,04}$, Co_2Ge_3, $Rh_{1,5\pm x}Si$, $Rh_3Si_{2\pm x}$, $RhSi_{1\pm x}$, $RhSi_{2\pm x}$ (или $Rh_2Si_{3\pm x}$), $Rh_{2\pm x}Sn$, $RhSn_{1\pm x}$, $Rh_{2\pm x}Pb$, $Ir_{1,5\pm x}Si$, $Ir_3Si_{2\pm x}$, $IrSi_{1\pm x}$, $Ir_2Si_{3\pm x}$, $IrSi_{3\pm x}$.

9/15: $CoP_{3\pm x}$, Co_5As_2, Co_2As, Co_3As_2, $Rh_5P_{4\pm x}$, $RhP_{2\pm x}$, $RhP_{3\pm x}$, $RhAs_{2\pm x}$, $Rh_3Sb_{1\pm x}$, $RhSb_2$, $RhBi$, $RhBi_2$, $RhBi_4$, $IrP_{2\pm x}$, $IrAs_{2\pm x}$, Ir_2Bi, $IrBi$.

9/16: $CoS_{1\pm x}$, $Co_{1,35\to1,27}S$ (β), $Rh_9S_{8\pm x}$, $Rh_2S_{3\pm x}$, $Rh_2S_{5\pm x}$, $Rh_2Se_{5\pm x}$, $Rh_2Te_{4\pm x}$, $Ir_2S_{3\pm x}$, $IrS_{2\pm x}$, $Ir_3S_{8\pm x}$, $IrSe_{3\pm x}$, $IrTe_{3\pm x}$.

10/10: $PtNi_{1\pm x}$, $PtNi_{3\pm x}$.

10/11: $PtAg_{1\pm x}$ (β).

10/12: $NiBe_{1,5\to4,9}$ $(\gamma)^{(5)}$, $NiZn_{3,0\to3,6}$ $(\Gamma_1)^{(5)}$, Pd_3Be, Pd_2Be, $Pd_3Be_{2\mp x}$, $Pd_{1,2\pm x}Be$, $Pd_{1,08\mp x}Be$, $Pd_{1,9}Zn(\xi)$, $PdZn_{1,50\to1,55}$ (ξ_1), $PdZn_{3,2\to4,0}$ $(\gamma_1)^{(7)}$, $PdCd_{1,1}$ $(\delta')^{(4)}$, $PdCd_{3\mp x}$ (γ'), $Pt_5Be_{21\pm x}$[5], $PtZn_{6\pm x}$, $PtCd_{2\pm x}$, $Pt_{3\pm x}Hg$ (β), $Pt_{2\mp x}Hg$ (γ) $PtHg_{1\pm x}$(δ).

10/13: $Ni_{3,0\to2,3}B$ (γ), Ni_3B_2 (ε), NiB (ζ), Ni_2B_3, $Pd_{3\pm x}Ga$, $Pd_{2\pm x}Ga$, $Pd_{3\pm x}In$ (γ_1).

10/14: $NiSn_{1,17\pm x}$ (θ), $Pd_{2\pm x}Si$[8], $Pd_{4\pm x}Ge$, $Pd_5Ge_{2\pm x}$, Pd_2Ge, Pd_2Sn, Pt_5Si_2, $Pt_{1,5\to1,0}Si$, $Pt_{2\pm x}Ge$, $Pt_2Ge_{3\pm x}$.

10/15: $Ni_5P_{2\pm x}$, $Ni_6P_{5\pm x}$, $NiP_{2\pm x}$, $NiP_{3\pm x}$, $Ni_{2,6\to2,4}As$ (β), $NiBi_3$, $Pd_{6,7\to4,0}P$ (β), $Pd_{4\to3}P(\gamma)$, $Pd_5P_2(\delta)$, PdP_2, $Pd_{3\pm x}Sb$ (β), $Pd_{2,1\to1,5}Sb$ (γ), $PdBi_2$, $Pt_{20}P_7$, Pt_4Sb.

10/16: $Ni_7S_{6\pm x}$, $Pd_{4\pm x}S$, $Pd_{2\pm x}S$, $PdS_{2\pm x}$, $PdSe_{1\pm x}$, $PdSe_{2\pm x}$, $PtSe_{1\pm x}$.

10/17: $Pd_{4\pm x}H$.

11/12: $Cu_{1,33\to1,27}Cd$ (γ), $CuCd_3$ (ε), $AgBe_{1,71}$ (γ), $AgMg_{3,0\to3,6}(\gamma)$, Au_3Be, Au_2Be, Au_4Be_3, $AuBe$ $(\alpha)^{(9)}$, $AuBe_{3\pm x}$, $AuMg_2$, Au_2Mg_5, $Au_{1,62\to1,08}Cd$ (α_2), $AuCd_{1,8\to2,0}$ (γ),

AuCd$_{1.5\rightarrow1.9}$ (γ'), AuCd$_{1.5\rightarrow2.1}$ (δ), AuCd$_{1.5\rightarrow2.0}$ (δ'), AuCd$_{2.3\rightarrow3.1}$ (ε), Au_2Hg (γ), $AuHg_2$ (δ).

11/13: **$Cu_{3+x}Al$** (β') [1,10], $Cu_{3\pm x}Al$ (β'')[4], $Cu_{1.6\rightarrow1.5}Al$(δ), $Cu_{2.33\rightarrow1.77}Ga$ (γ), $Cu_{1.30\rightarrow1.22}Ga$ (ε), $Cu_{1.27\rightarrow1.22}Ga$ (ε'), $Cu_{2.2}In$ (ε), $Cu_{2.0\rightarrow1.8}In$ (γ), $AgGa_{1.5\rightarrow1.0}$(δ), $Au_{2.7\rightarrow2.6}Al$, **$Au_{1.94\rightarrow1.85}Al$**, $AuAl_{1\pm x}$, $Au_{2.8\rightarrow2.5}Ga$ (β), $Au_{2.3\rightarrow2.2}Ga$ (γ), $Au_{2.6}In$ (γ), $Au_{2.5\rightarrow2.2}In$ (δ'), AuIn.

11/14: $Cu_{4.6\rightarrow4.3}Si$ (δ)[5], $Cu_{5.7\rightarrow2.7}Sn$ (γ), $Cu_{6\pm x}Sn$ (β')[4], $AuSn_2$.

11/15: $CuP_{2\pm x}$, Cu_5As_2, $AgP_{2\pm x}$, $AgP_{3\pm x}$, $Au_2P_{3\pm x}$, $AuAs_{1\pm x}$.

11/16: $Ag_{12}Te_{7\pm x}$ (β), $Au_2Se_{3\pm x}$.

12/12: Zn_3Mg_2, $ZnMg_{2.28\rightarrow2.61}$ (ε), Mg_5Hg_2 (γ), Mg_2Hg (δ).

12/13: **$MgAl_{1\pm x}$** (γ')[11], $MgAl_{1.2\pm x}$ (β'), MgGa, $MgGa_2$.

12/14: $CdSn_{1.4\rightarrow3.2}$ (β).

12/15: Mg_3Sb_2 (β), Mg_3Bi_2 (β), Zn_3Sb_2, Zn_4Sb_3, $CdAs_2$, $Hg_3Sb_{2\pm x}$.

13/14: $B_{6\pm x}Si$, $B_{3\pm x}Si$, $Al_{3\pm x}C$.

13/16: Ga_2S, GaS, Ga_2Se, GaSe, GaTe, $In_{2\pm x}S$, $In_{2\pm x}Se$, $InSe_{1\pm x}$, $In_2Se_{3\pm x}$, In_2Te, InTe, $InTe_2$, Tl_4S_3, Tl_2Se, Tl_2Se_3, $Tl_{2\pm x}Te$, $TlTe_{1\pm x}$.

14/15: SiAs, $SiAs_2$, GeP, GeAs, $GeAs_2$, Sn_4P_3, $Sn_3P_{4\pm x}$, SnP_3, $Pb_3P_{3\pm x}$.

14/16: SnSe, $SnSe_2$.

15/15: $As_{1\rightarrow4}P$.

15/16: Sb_2Se_3.

1. Numerals designate the numbers of vertical rows of the periodic system of elements, in which phase components are situated.
2. Probably, heterodesmic structure of first order (zinc atom grids).
3. Several phases of unknown composition.
4. Metastable phase.
5. Deformed defective structure of γ-brass.
6. Probably, structure of α-Mn type (atom distribution not established).
7. Structure, allied to γ-brass type.
8. See remark (11) to table V,a.
9. High temperature modification.
10. Structure, close to hexagonal denser packing.
11. Deformed α-Mn structure.

Index of Double Intermetallic Phases

Systems, in which binary intermetallic phases are formed, are given in alphabetic order; phases in each system are given in the order of growing content of B-component. Designations are the same as in tables. The Roman numerals in each formula designate the number of the systematism table (i. e., class number), arabic numerals (in straight parentheses) - literature reference; the number of the basic reference is in first place. References to reports, contributing no substantial changes (as well as to reports with incorrect data) are not given.

Ac — S			
$Ac_2S_{3\pm x}$		VIII	[269]
Ag — Al			
$Ag_{3,1\rightarrow3,6}Al$	(β)	IV	[4, 8, 147a]
$Ag_{3,3\rightarrow3,0}Al$	(β')	IV	[8, 147a]
$Ag_{3,2\rightarrow1,4}Al$	(ζ)	IV	[8, 147a]
Ag — As			
$Ag_{8,5}As$	(β)	I	[8]
Ag — Ba			
Ba_3Ag_5		X	[8]
Ba_2Ag_5		X	[8]
$BaAg_4$		X	[8]
Ag — Be			
$AgBe_{1,7}$	(γ)	X	[81]
$AgBe_{2,7}$	(δ)	II	[81]
Ag — Ca			
CaAg		IX	[125, 460, 8]
$CaAg_2$		X	[8]
$CaAg_3$		IX	[125, 460, 8]
$CaAg_4$		X	[8]
Ag — Cd			
$AgCd_{0,7\rightarrow1,8}$	(β)	IV	[7]
$AgCd_{1,8\rightarrow1,1}$	(ζ)	IV	[7]
∂-Ag_5Cd_8	(γ)	IX	[7]
$AgCd_{1,8\rightarrow5,2}$	(δ)	IV	[7]
Ag — Ce			
CeAg		III	[9, 168, 279]
$CeAg_2$		X	[168]
$CeAg_3$		X	[168]
Ag — Ga			
$Ag_{2,7\rightarrow2,0}Ga$	(β)	IV	[496, 4]
$Ag_{2,6\rightarrow2,0}Ga$	(γ)	IV	[4, 1476, 169, 496]
$AgGa_{1,5\rightarrow1,6}$	(δ)	X	[4]
Ag — Hg			
$Ag_{1,24}Hg$	(β)	IV	[8]
∂-Ag_5Hg_8	(γ)	IV	[8, 133]
Ag — In			
$Ag_{3,2\rightarrow3,0}In$	(β)	IV	[3, 1476]
$Ag_{3,4\rightarrow2,0}In$	(γ)	IV	[377, 3]
∂-Ag_3In	(γ')	I	[377]
$Ag_{2,1\rightarrow2,0}In$	(ε)	IV	[377, 35, 3]
$AgIn_2$	(φ)	VI	[377, 35, 3]
Ag — La			
LaAg		III	[9, 279]
$LaAg_2$		X	[8]
$LaAg_3$		X	[8]
Ag — Li			
Li_9Ag		IX	[8]
∂-LiAg		III	[8]

Ag — Mg

∂-AgMg	(β)	IV	[8, 317, 318, 319]
$AgMg_{3,0\rightarrow3,6}$	(γ)	X	[8]

Ag — P

$AgP_{2\pm x}$		X	[11]
$AgP_{3\pm x}$		X	[11]

Ag — Pr

PrAg		IX	[8]
$PrAg_2$		X	[8]
$PrAg_3$		X	[8]

Ag — Pt

∂-Pt_3Ag	(γ)	I	[8, 148]
$PtAg_{1\pm x}$	(β)	X	[8, 188]
$PtAg_{3\pm x}$		I	[188]

Ag — S

$Ag_{2\pm x}S$	(α)	IX	[4]
$Ag_{2\pm x}S$	(β)	IX	[128]

Ag — Sb

$Ag_{9\rightarrow6}Sb$	(ε)	IV	[8]
∂-Ag_3Sb	(ε′)	I	[277, 8, 133, 431]
$Ag_{2\pm x}Sb$		IX	[7]

Ag — Se

$Ag_{2\pm x}Se$	(α)	IX	[4]

Ag — Sn

$Ag_{7,1\rightarrow3,8}Sn$	(β)	IV	[8]
$Ag_{3,0\rightarrow2,9}Sn$	(ε′)	IV	[8, 133]

Ag — Sr

Sr_3Ag_2		X	[8]
SrAg		X	[8]
Sr_3Ag_5		X	[8]
$SrAg_4$		X	[8]

Ag — Te

$Ag_{2\pm x}Te$	(α)	V, в	[4]
$Ag_{2\pm x}Te$	(β)	IX	[129]
$Ag_{12}Te_{7\pm x}$	(α)	IX	[10]
$Ag_{12}Te_{7\pm x}$	(β)	X	[10]

Ag — Th

Th_3Ag_5		X	[205]
$ThAg_3$		X	[205]

Ag — Zn

$AgZn_{0,7\rightarrow1,4}$	(β)	IV	[6]
∂-AgZn	(ζ)	VIII	[445,6]
∂-Ag_5Zn_8	(γ)	IV	[6]
$AgZn_{2,1\rightarrow7,3}$	(δ)	IV	[6]

Ag — Zr

ZrAg		I	[499, 236]

Al — As

$AlAs_{1\pm x}$		V, в	[8]

Al — Au

Au_4Al	(β′)	I	[207, 397]
$Au_{4,0\rightarrow3,8}Al$	(β)	III	[397]
$Au_{2,\sim\rightarrow2,6}Al$		X	[253a]
$Au_{1,94\rightarrow1,85}Al$		X	[253a]
$Au_5Al_{3\pm x}$		IV	[133]
$AuAl_{1\pm x}$		X	[307]
∂-$AuAl_2$		V, в	[8]

Al — B

$AlB_{2\pm x}$		VI	[3, 12]

Al — Ba

$BaAl_{4\pm x}$		VI	[3]

Al — C

$Al_{3\pm x}C$		X	[8]

Al — Ca

$CaAl_2$		II	[7, 8]
$CaAl_3$		X	[8]
$CaAl_4$		VI	[37]

Al — Ce

Ce_3Al_2		X	[168]
CeAl		X	[168]
∂ $CeAl_2$		II	[168, 13]
$CeAl_4$		VI	[168, 37]

Al — Co

∂-CoAl	(γ)	IV	[7, 8, 14, 253a]
∂-Co_2Al_5		VI	[8, 14]
$CoAl_3$		X	[7, 14]
Co_4Al_{13}		X	[7, 14]
Co_2Al_9		VI	[14]

Al — Cr

$Cr_{3+x}Al$		X	[15]
∂-Cr_2Al	(β)	III	[16]
$CrAl_{1,60\rightarrow1,63}$	(γ_1)	X	[15]

∂-Cr_5Al_8	(γ_2)	VIII	[16]
$CrAl_{1.91\rightarrow2.03}$	(γ_3)	X	[15]
$CrAl_{1.91\rightarrow2.22}$	(γ_4)	X	[15]
$CrAl_{2.6\rightarrow3.1}$	(δ)	X	[15]
$CrAl_{1.9\rightarrow4.7}$	(ε)	X	[15]
$CrAl_{5.3\rightarrow6.1}$	(ζ)	X	[15]
$CrAl_{6.7\rightarrow7.3}$	(ϑ)	IX	[15, 356]

Al — Cu

$Cu_{4.0\rightarrow2.8}Al$	(β)	IV	[8, 147в]
$Cu_{3\pm x}Al$	(β_1)	IV	[253г, 276а]
$Cu_{3\pm x}Al$	(β')	X	[428, 253е]
$Cu_{3\pm x}Al$	(β'')	X	[428]
$Cu_{2.5+x}Al$	(γ')	I	[428, 253е]
∂-Cu_9Al_4	(γ)	IV	[3, 147в]
$Cu_{2.1\rightarrow1.6}Al$	(γ_1)	IX	[429, 182, 147в]
$Cu_{2.1\rightarrow1.6}Al$	(γ_2)	IX	[182, 147в]
$Cu_{1.6\rightarrow1.5}Al$	(δ)	X	[147в]
$Cu_{1.32\rightarrow1.18}Al$	(ε)	IX	[147в]
$Cu_{1.27\rightarrow1.17}Al$	(ζ)	IX	[7, 147в]
$CuAl_{0.95\rightarrow1.05}$	(η)	IX	[7, 147в]
$CuAl_2$	(ϑ)	VI	[8, 147в]
$CuAl_{2\pm x}$	(ϑ')	V, в	[253ж]

Al — Fe

∂-Fe_3Al	(β_1)	V, в	[8, 133]
∂-$FeAl$	(β_2)	IV	[8, 6]
$FeAl_{1.41\rightarrow1.86}$	(ε)	IX	[8]
$FeAl_{2\pm x}$	(ζ)	IX	[8]
$FeAl_{2.3\rightarrow2.5}$	(η)	IX	[8, 492]
$FeAl_{2.9\rightarrow3.0}$	(ϑ)	IX	[17, 492]
Fe_2Al_7		IX	[7, 492]

Al — La

La_3Al_2		X	[168]
$LaAl$		X	[168]
$LaAl_2$		II	[168, 18]
$LaAl_4$		VI	[168, 37]

Al — Li

$Li_{3\pm x}Al$		X	[218]
Li_2Al		X	[508, 19]
∂-$LiAl$ (β)		III	[508, 20]
$LiAl_{2\pm x}$		X	[138]

Al — Mg

∂-$Mg_{17}Al_{12}$	(γ)	VI	[6, 21, 306]
$MgAl_{1\pm x}$	(γ')	X	[6, 21]
$MgAl_{1.2\pm x}$	(β')	X	[6, 21]
$MgAl_{1.50\rightarrow1.63}$	(β)	IX	[483, 6, 21, 201, 509]

Al — Mn

∂-MnAl		IV	[22, 281]
$MnAl_2$		X	[23, 281]
$MnAl_{3.55}$	(δ)	X	[281]
$MnAl_{4\pm x}$		IX	[23, 24, 281]
$MnAl_6$		IX	[23, 24]
$MnAl_{12}$	(G)	X	[23]

Al — Mo

$MoAl_{4+x}$		X	[367]

Al — Nb

$NbAl_{3\pm x}$		I	[25]

Al — Nd

$NdAl_{1\pm x}$		III	[8]

Al — Ni

∂-Ni_2Al	(α_1)	I	[5, 148]
∂-$NiAl$	(β)	IV	[5, 324, 326, 364, 413]
∂-Ni_2Al_3	(δ)	IV	[5, 326]
$NiAl$	(ε)	VI	[5]

Al — P

$AlP_{1\pm x}$		V, в	[8]

Al — Pd

$PdAl_{1\pm x}$		IV	[402]
$Pd_2Al_{3\pm x}$		IV	[402]

Al — Pr

Pr_3Al_2		X	[168]
$PrAl$		X	[168]
$PrAl_2$		X	[168]
$PrAl_4$		X	[168]

Al — Pt

$PtAl_{2\pm x}$		V, в	[26]

Al — Sb

$AlSb$		V, в	[8, 133, 348]

Al — Sr

$Sr_{1,2\rightarrow1,0}Al$		IX	[27]
∂-$SrAl_4$	(β)	VI	[27]

Al — Ta

$TaAl_{3\pm x}$		I	[25]

Al — Th

[illegible]		IV	[illegible]

Al — Ti		
β-TiAl	I	[346]
$TiAl_{3\pm x}$	I	[25]
Al — U		
UAl_2	II	[262, 382]
UAl_3	I	[262, 382]
$UAl_{4\pm x}$	VIII	[443]
UAl_6	X	[262, 382]
Al — V		
$VAl_{3\pm x}$	I	[28]
Al — W		
$WAl_{1,7\rightarrow 2,0}$	X	[29]
$WAl_{2,2\rightarrow 2,6}$	X	[29]
$WAl_{3,0\rightarrow 3,3}$	X	[29]
$WAl_{3,6\rightarrow 4,4}$	IX	[29]
$WAl_{4,5\rightarrow 4,9}$	X	[29]
WAl_{12}	X	[29]
Al — Zr		
$ZrAl_{3\pm x}$	I	[7, 25]
Am — S		
$Am_2S_{3\pm x}$	VIII	[269]
As — Au		
$AuAs_{1\pm x}$	X	[2766]
As — Ba		
Ba_3As_2	X	[8]
As — Ca		
Ca_3As_2	X	[8]
As — Cd		
Cd_3As_2	V, в	[8, 3]
$CdAs_2$	X	[8]
As — Ce		
$CeAs_{1\pm x}$	V, в	[5]
As — Co		
Co_3As_2	X	[8]
Co_2As	X	[8]
Co_2As_3	X	[8]
CoAs	V, а	[3, 8]
$CoAs_{2\pm x}$	VI	[130]
$CoAs_{3\pm x}$	VI	[1, 95a]
As — Cr		
$Cr_{2\pm x}As$	V, в	[30]
$Cr_3As_{2\pm x}$	X	[30]
$CrAs_{1\pm x}$	V, а	[8]
$Cr_2As_{3\pm x}$	X	[8]
As — Cu		
$Cu_{3\pm x}As$ (искусственный домейкит)	VIII	[6, 180]
$Cu_{3\pm x}As$ (домейкит)	IX	[6, 180]
$Cu_{3\pm x}As$ (альгодонит)	I	[6, 180]
Cu_5As_2	X	[8]
As — Fe		
Fe_2As	V, в	[8, 3]
$Fe_{1,77\rightarrow 1,27}As$ (ζ)	X	[3]
FeAs (η)	V, а	[3, 8]
$FeAs_2$	VI	[8]
As — Ga		
$GaAs_{1\pm x}$	V, в	[3]
As — Ge		
GeAs	X	[165]
$GeAs_2$	X	[165]
As — In		
$InAs_{1+x}$	V, в	[3]
As — Ir		
$IrAs_{2\pm x}$	X	[8]
As — K		
K_3As	V, б	[32]
$KAs_{2\pm x}$	X	[8]
As — La		
$LaAs_{1\pm x}$	V, в	[5]
As — Li		
Li_3As	V, б	[32]
As — Mg		
Mg_3As_2	V, в	[3]
As — Mn		
$Mn_{3\pm x}As$	III	[453, 232]
∂-Mn_2As (β)	в	[8, 232, 453]
$Mn_3As_{2\pm x}$		[453]
MnAs		[453, 456, 457]

As—Mo

$MoAs_{1\pm x}$		X	[33]
$MoAs_{2\pm x}$		X	[8]

As — Na

Na_3As		V, б	[32]

As — Nb

$NbAs_{2\pm x}$		X	[8]

As — Nd

$NdAs_{1\pm x}$		V, в	[5]

As — Ni

$Ni_{2.6\rightarrow 2.4}As$	(β)	IX	[496, 8]
Ni_3As_2		IX	[8, 301]
NiAs		V, а	[8, 133]
$NiAs_{2\pm x}$		VI	[7]
(раммельсбергит)			
$NiAs_{2-x}$		IX	[7]
(пара-раммельсбергит)			

As — P

$As_{4\rightarrow 1}P$		X	[300]

As — Pd

$PdAs_{2\pm x}$		VI	[8]

As — Pr

$PrAs_{1\pm x}$		V, в	[5]

As — Pt

$PtAs_{2\pm x}$		VI	[8]

As — Re

$ReAs_{2,1\rightarrow 2.3}$		X	[34]

As — Rh

$RhAs_{2\pm x}$		X	[8]

As — Rn

$RuAs_{2\pm x}$		X	[8]

As — Sb

$Sb_{3.0\rightarrow 1.2}As$	(β)	IX	[484, 7]

As — Se

$As_2Se_{3\pm x}$		V, б	[2]

As — Si

SiAs		X	[36]
$SiAs_2$		X	[36]

As — Sn

Sn_3As_2		VIII	[3]
SnAs		V, в	[3]

As — Sr

Sr_2As_2		X	[8]

As — Ti

$TiAs_x$		X	[453]
(несколько фаз неизвестного состава)			

As — V

VAs_x		X	[453]
(несколько фаз неизвестного состава)			

As — W

$WAs_{1\pm x}$			[33]
$WAs_{2\pm x}$		X	[8]

As — Zn

Zn_3As_2		V, в	[3]
$ZnAs_{2\rightarrow 3}$	(γ)	IX	[3]

Au — Be

Au_3Be		X	[81, 373]
Au_2Be		X	[81, 373]
Au_4Be_3		X	[81]
AuBe	(α)	X	[81, 39]
AuBe	(β)	V, б	[81, 39, 373]
$AuBe_{3\pm x}$		X	[373]
$AuBe_{5\pm x}$		II	[3, 40, 373]

Au — Bi

Au_2Bi		II	[478]

Au — Ca

Ca_2Au		X	[8]
Ca_4Au_3		X	[8]
$CaAu_{0.78\rightarrow 1.04}$		X	[8]
$CaAu_2$		X	[8]
$CaAu_3$		X	[8, 480]
$CaAu_4$		X	[8]

Au — Cd

∂-Au_3Cd	(α')	I	[365, 41]
∂-Au_3Cd	(α'')	I	[365, 41]
$Au_{2.7\rightarrow1.5}Cd$	(α_2)	I	[365, 41]
$Au_{1.82\rightarrow1.08}Cd$	(α_3)	IX	[41]
∂-AuCd	(β)	IV	[8]
∂-AuCd	(β')	I	[8]
$AuCd_{1.8\rightarrow2.0}$	(γ)	X	[8]
$AuCd_{1.5\rightarrow1.9}$	(γ')	X	[8]
$AuCd_{1.5\rightarrow2.1}$	(δ)	X	[8]
$AuCd_{1.5\rightarrow2.0}$	(δ')	X	[8]
$AuCd_{2.3\rightarrow3.4}$	(ε)	X	[8]
$AuCd_{2.3\rightarrow3.4}$	(ε')	IX	[8]

Au — Ce

Ce_2Au		X	[168]
CeAu		X	[168]
$CeAu_2$		X	[168]
$CeAu_3$		X	[168]

Au — Cs

$Cs_{1,1}Au_{10}$		X	[42]
CsAu		X	[42]

Au — Cu

$Au_3Cu_{2\pm x}$		IX	[2]
∂-AuCu		I	[1, 8, 320]
$AuCu_{1\pm x}$		I	[216, 253в]
∂-$AuCu_3$		I	[1, 8, 320, 334, 335]

Au — Fe

Fe_3Au		X	[8]

Au — Ga

$Au_{2.8\rightarrow2.5}Ga$	(β)	X	[170]
$Au_{2.3\rightarrow2.2}Ga$	(γ)	X	[170]
AuGa		V, a	[193, 170]
$AuGa_2$		V, в	[26, 170]

Au — Hg

$Au_{3\pm x}Hg$	(β)	I	[133, 258]
Au_2Hg	(γ)	X	[258]
$AuHg_2$	(δ)	X	[258]

Au — In

$Au_{3,7\rightarrow3,0}In$	(β)	IV	[43, 1476]
$Au_{3,6}In$	(γ)	X	[43]
∂-Au_9In_4		IV	[35, 43]
$Au_{2.5\rightarrow2,2}In$	(δ')	X	[43]
AuIn		X	[43]
$AuIn_2$		V, в	[26, 43]

Au — K

KAu_4		X	[42]

Au — La

La_2Au		X	[8]
LaAu		X	[8]
$LaAu_2$		X	[8]
$LaAu_3$		X	[8]

Au — Li

$Li_{1,08}Au$		X	[8]

Au — Mg

∂-AuMg	(β)	IV	[2, 8]
$AuMg_2$		X	[8]
Au_2Mg		X	[8]
$AuMg_{5,2}$		V, б	[314, 8]

Au — Mn

$Mn_{3\pm x}Au$		X	[137]
∂-MnAu	(β)	I	[137, 253в, 433]
$MnAu_{2\pm x}$ ($MnAu_{3\pm x}$)		IX	[253в, 137, 433]

Au — Na

∂-Na_2Au	(γ)	VI	[44]
$Na_{1,22}Au$	(β)	X	[44]
∂-$NaAu_2$	(β)	II	[44]

Au — Ni

$NiAu_{1\pm x}$		III	[216]

Au — P

$Au_2P_{3\pm x}$		X	[8]

Au — Pb

Au_2Pb		II	[40, 8]
$AuPb_2$		VI	[45, 8]

Au — Pr

Pr_3Au		X	[168]
PrAu		X	[168]
$PrAu_2$		X	[168]
$PrAu_3$		X	[168]

Au — Rb

$RbAu_4$		X	[42]

Au — Sb

$AuSb_2$		VI	

Au — Se

$Au_2Se_{3\pm x}$	X	[8]

Au — Sn

$Au_{7,1\rightarrow 6,7}Sn$ (β)	IV	[8, 133]
AuSn	V, a	[8]
$AuSn_2$	X	[8]
$AuSn_4$	VI	[294, 8]

Au — Te

$AuTe_{2\pm x}$ (калаверит)	V, a	[3, 502]
$AuTe_{2-x}$ (креннерит)	VII	[4, 502]

Au — Th

Th_3Au_5	X	[205]
$ThAu_3$	X	[205]

Au — Ti

$Ti_{3\pm x}Au$	III	[452, 148, 185]
$TiAu_{3\pm x}$ (или $TiAu_2$)	I	[151, 499]
$TiAu_6$	IX	[499]

Au — Zn

$Au_{4,7\rightarrow 2,7}Zn$	(α_1)	I	[287, 8]
∂-Au_3Zn	(α_2)	I	[287, 8]
	(β)	IV	[8, 133, 321]
$AuZn_{1,7\rightarrow 4,0}$	(γ)	IX	[8]
$AuZn_{1,8\rightarrow 3,8}$	(γ_1)	IV	[8]
$AuZn_{1,7\rightarrow 4,0}$	(γ_2)	IX	[8]
$AuZn_8$	(ε)	IV	[8]

Au — Zr

$ZrAu_3$	X	[236]

B — Ba

$BaB_{6\pm x}$	VI	[46]

B — C

∂-B_4C	VI	[485]

B — Ca

$CaB_{6\pm x}$	VI	[46]

B — Ce

$CeB_{4\pm x}$	VI	[3, 46]
$CeB_{6\pm x}$	VI	[3]

B — Co

Co_2B	VI	[3]
CoB	VI	[3]

B — Cr

$Cr_{2-x}B$	(δ)	IX	[308, 309]
Cr_3B_2	(ε)	X	[309]
CrB	(ζ)	VI	[309]
Cr_3B_4	(η)	VI	[308, 309]
CrB_2	(ϑ)	VI	[309]

B — Er

$ErB_{6\pm x}$	VI	[46]

B — Fe

Fe_2B	VI	[3]
FeB	VI	[3]

B — Gd

$GdB_{6\pm x}$	VI	[46]

B — Hf

$HfB_{1\pm x}$	X	[135r]

B — Ir

$Ir_3B_{2\pm x}$	X	[393]
$IrB_{1\pm x}$	X	[393]
$IrB_{2\pm x}$	X	[393]

B — La

$LaB_{6\pm x}$	VI	[4]

B — Mn

$Mn_{4\pm x}B$	(δ)	VI	[316]
Mn_2B	(ε)	VI	[316]
MnB	(ζ)	VI	[316]
Mn_3B_4	(η)	VI	[316]

B — Mo

Mo_2B	(γ)	VI	[237, ...]
∂-MoB	(δ)	VI	[237, ...]
$MoB_{1\pm x}$	(β)	VI	[390]
$MoB_{2\pm x}$		VI	[389, 390]
Mo_3B_7	(ε)	VI	[237]

B — Na

$NaB_{2\pm x}$	X	[2]

B — Nb

$Nb_{9\pm x}B$	(β)	X	[358]
$Nb_{9\pm x}B$	(β')	X	[358]
$Nb_{3,0\rightarrow 1,0}B$	(β'')	X	[358]
NbB	(γ)	VI	[358]
Nb_3B_4	(δ)	VI	[358]
∂-NbB_2	(ε)	VI	[204, 47, 358]

B — Nd

$NdB_{6\pm x}$	VI	[46]

B — Ni

$Ni_{3,0\rightarrow2,3}B$	(γ)	X	[358]
Ni_2B	(δ)	VI	[3, 358]
Ni_3B_2	(ε)	X	[8, 149, 358]
NiB	(ζ)	X	[8, 149, 358]
Ni_2B_3		X	[8, 149, 358]

B — Os

$OsB_{1\pm x}$	IX	[393]
$OsB_{2\pm x}$	X	[393]
$OsB_{3\pm x}$	X	[393]

B — Pd

$Pd_3B_{2\pm x}$	IX	[393]

B — Pr

$PrB_{6\pm x}$	VI	[46]

B — Pt

$Pt_3B_{2\pm x}$ (или PtB_{1-x})	IX	[393]

B — Rh

$Rh_{2\pm x}B$	X	[393]
$RhB_{1\pm x}$	X	[393]
$Rh_2B_{3\pm x}$	X	[393]
$RhB_{2\pm x}$	X	[393]

B — Ru

$Ru_{2\pm x}B$	X	[393]
$RuB_{1\pm x}$	IX	[393]
$Ru_2B_{3\pm x}$	X	[393]
$RuB_{2\pm x}$	X	[393]

B — Si

$B_{6\pm x}Si$	X	[135a]
$B_{3\pm x}Si$	X	[135a]

B — Sr

$SrB_{6\pm x}$	VI	[46]

B — Ta

Ta_2B	(β)	VI	[510]
TaB	(γ)	VI	[510]
Ta_3B_4	(δ)	VI	[510]
∂-TaB_2	(ε)	VI	[510, 264, 47]

B — Th

$ThB_{1\pm x}$	X	[358]
$ThB_{4\pm x}$	VI	[355]
$ThB_{6\pm x}$	VI	[46]

B — Ti

$Ti_{10,0\rightarrow1,3}B$	V, б	[288]
$Ti_{2-x}B$	VI	[510]
∂-TiB	V, в	[288, 358, 510]
∂-TiB_2	VI	[264, 288]
$Ti_2B_{6\pm x}$	VI	[510]

B — U

$UB_{4\pm x}$	VI	[355, 299, 263]
$UB_{12\pm x}$	VI	[418, 299, 263]

B — V

$VB_{2\pm x}$	VI	[264]

B — W

W_2B	(γ)	VI	[237, 33]
∂-WB	(δ)	VI	[237, 33, 510]
$WB_{1\pm x}$		VI	[510]
$WB_{2,0\rightarrow2,1}$	(ε)	VI	[237]

B — Y

$YB_{6\pm x}$	VI	[46]

B — Yb

$YbB_{6\pm x}$	VI	[46]

B — Zr

$ZrB_{1\pm x}$	IX	[510]
$ZrB_{2\pm x}$	VI	[264, 47, 141]
$ZrB_{12\pm x}$	X	[404]

Ba — Bi

$Ba_3Bi_{2\pm x}$	X	[272]
$BaBi_3$	X	[48]

Ba — Hg

$BaHg_{12\pm x}$	X	[8]

Ba — Mg

$BaMg_2$	H	[172, 202]
$BaMg_{1\pm x}$	X	[202, 48]
$BaMg_6$	X	[202, 48]

Ba — Pb

$Ba_{2\pm x}Pb$	X	[48]
BaPb	X	[48]
$BaPb_3$	X	[48]

Ba — Sb

$Ba_3Sb_{2\pm x}$	X	[272]

	Ba — Si		
$BaSi_{2\pm x}$		X	[8]
	Ba — Sn		
$BaSn_3$		X	[8]
$BaSn_5$		X	[8]
	Ba — Zn		
$BaZn_{13\pm x}$		II	[49]
	Be — Co		
$CeBe_{13\pm x}$		II	[283]
	Be — Co		
$CoBe_{1\pm x}$		III	[50, 491]
$Co_5Be_{21\pm x}$		X	[491]
	Be — Cr		
$CrBe_{2\pm x}$		II	[4]
	Be — Cu		
$Cu_{1.85\rightarrow1.17}Be$	(β)	III	[3, 488]
$Cu_{1.08\rightarrow1.04}Be$	(γ)	IV	[51, 488, 3]
$CuBe_{2.3\rightarrow3.7}$	(δ)	II	[51, 488, 3]
	Be — Fe		
∂-$FeBe_2$	(β)	II	[51, 375]
$FeBe_{1.9\rightarrow15.7}$	(ε)	II	[51, 375]
$FeBe_{10.1\rightarrow11.5}$	(ζ)	I	[375, 399, 51]
	Be — Ir		
$IrBe_{2\pm x}$		X	[4]
	Be — Mn		
$MnBe_{2\pm x}$		II	[4]
	Be — Mo		
$MoBe_{2\pm x}$		II	[4, 410]
$MoBe_{13\pm x}$		IX	[410]
	Be — Ni		
∂-NiBe	(β)	III	[50, 434]
$NiBe_{3.5\rightarrow4.9}$	(γ)	X	[50, 51, 434]
	Be — Os		
$OsBe_x$		X	[4]
	Be — Pd		
Pd_3Be		X	[81]
Pd_2Be		X	[81]
$Pd_3Be_{2\pm x}$		X	[81]
$Pd_{1,3\pm x}Be$		X	[81]
$Pd_{1,08\pm x}Be$		X	[81]
PdBe		III	[4]
$PdBe_{5\pm x}$		II	[3, 40]
	Be — Pt		
$Pt_5Be_{21\pm x}$		X	[51]
	Be — Re		
$ReBe_{2\pm x}$		II	[4]
	Be — Rh		
$RhBe_{2\pm x}$		X	[4]
	Be — Ru		
$RuBe_x$		X	[4]
	Be — Ta		
$TaBe_x$		X	[4]
	Be — Th		
$ThBe_{13\pm x}$		II	[283]
	Be — Ti		
$Ti_{1,3\rightarrow1,0}Be$		X	[288]
∂-$TiBe_2$		II	[4, 288]
$TiBe_{4\pm x}$		X	[288]
$TiBe_{10\pm x}$		X	[288]
$TiBe_{12\pm x}$		IX	[487]
	Be — U		
$UBe_{13\pm x}$		II	[283]
	Be — V		
$VBe_{2\pm x}$		II	[4]
	Be — W		
$WBe_{2\pm x}$		II	[4]
$WBe_{13\pm x}$		IX	[4]
	Be — Zr		
$ZrBe_2$	(γ)	X	[4, 378]
$ZrBe_4$	(δ)	X	[378]
$ZrBe_{5\pm x}$	(ε)	X	[378]
∂-$ZrBe_{12}$	(η)	II	[283, 378]
	Bi — Ca		
Ca_3Bi_2		X	[8]
$CaBi_3$		X	[8, 460]

Bi — Ce

Ce_3Bi		X	[8]
Ce_4Bi_3		X	[8]
CeBi		V, в	[5, 8]
$CeBi_2$		X	[8]

Bi — In

In_2Bi	(β)	VIII	[254, 302]
InBi	(γ)	V, в	[52, 249, 302]

Bi — Ir

Ir_2Bi		X	[257]
IrBi		X	[257]

Bi — K

K_3Bi		V, б	[8, 32]
K_3Bi_2		X	[8]
KBi_2		II	[8]

Bi — La

$LaBi_{1-x}$		V, в	[5]

Bi — Li

Li_3Bi		V, в	[53]
LiBi	(α)	I	[53]
LiBi	(β)	X	[53]

Bi — Mg

Mg_3Bi_2	(α)	V, в	[54]
Mg_3Bi_2	(β)	X	[8]

Bi — Mn

$MnBi_{1+x}$		V, а	[7]
Mn_2Bi_{3-x}	(X)	IX	[55, 56]
$MnBi_{2-x}$	(Y)	IX	[55, 56]

Bi — Na

Na_3Bi		V, б	[8, 32, 539]
NaBi		I	[8]

Bi — Ni

$Ni_{1,32\rightarrow1,13}Bi$	(β)	V, а	[8]
$NiBi_3$		X	[8]

Bi — Pb

$Pb_{0\rightarrow2}Bi$	(β)	I	[2, 430]

Bi — Pd

$PdBi_{2\pm x}$		X	[8]

Bi — Pr

$PrBi_{1\pm x}$		V, в	[5]

Bi — Pt

$PtBi_{1\pm x}$		V, а	[8]
$PtBi_{2\pm x}$		VI	[173]

Bi — Rh

RhBi		V, а	[402, 423, 8]
$RhBi_2$		X	[423, 8]
$RhBi_4$		X	[423, 8]

Bi — S

Bi_2S_{3-x}		VII	[3]

Bi — Se

BiSe		IX	[2, 8]
Bi_2Se_3		V, б	[2, 8]

Bi — Sr

$SrBi_3$		X	[514]

Bi — Te

Bi_7Te_{3-x}		IX	[278]
∂-Bi_2Te_3		V, б	[7, 95]

Bi — Tl

$Tl_{21\rightarrow3}Bi$	(γ)	IX	[57, 340]
$TlBi_{1,37\rightarrow1,59}$	(δ)	VIII	[306; 57, 340]

Bi — U

$UBi_{1\pm x}$		V, в	[419]
$U_3Bi_{5\pm x}$		X	[419]
$UBi_{2\pm x}$		X	[419]

C — Ce

CeC_{2+x}		VI	[8]

C — Co

$Co_{3-x}C$		VIII	[6]
$Co_{2+x}C$		V, б	[458, 459]

C — Cr

σ-$Cr_{23}C_6$		VIII	[3, 8]
∂-Cr_7C_3		VIII	[3, 8]
∂-Cr_3C_2		VI	[3, 8]

C — Fe

Fe_3C (цементит)		VIII	[8]
$Fe_{3-x}C$ (ε)		V, б	[241]

$Fe_{3\pm x}C$ (деформир.	VIII	[241]
$Fe_{2\pm x}C$ цементит)	V, б	[221]

C — Hf

$HfC_{1\pm x}$	V, в	[4]

C — La

$LaC_{2\pm x}$	VI	[8]

C — Mn

$Mn_{23}C_{6\pm x}$	VIII	[8]
$Mn_{3\pm x}C$	VIII	[8]
$Mn_7C_{3\pm x}$	VIII	[8]

C — Mo

∂-Mo_2C (β)	V, б	[3, 217]
∂-MoC (γ)	VIII	[3, 217]
$MoC_{1\pm x}$	IX	[462]

C — Nb

∂-Nb_4C	V, в	[58, 217]
$Nb_{1,38\rightarrow1,08}C$	V, в	[58, 217]

C — Nd

$NdC_{2\pm x}$	VI	[2]

C — Ni

$Ni_{3\pm x}C$	VIII	[6]

C — Pr

$PrC_{2\pm x}$	VI	[2]

C — Pu

$PuC_{1\pm x}$	V, в	[290]
$Pu_2C_{3\pm x}$	VIII	[486]

C — Re

ReC_x	X	[291]

C — Sc

$Sc_4C_{3\pm x}$	X	[8]
$ScC_{1\pm x}$	V, в	[8]

C — Sm

$SmC_{2\pm x}$	VI	[8]

C — Ta

$Ta_{2-x}C$	V, б	[2]
∂-TaC	V, в	[217]

C — Th

$ThC_{1\pm x}$	V, в	[222]
$ThC_{2\pm x}$	VI	[466]

C — Ti

∂-TiC	V, в	[59, 288, 329]

C — U

UC	V, в	[217, 223, 224]
U_2C_3	X	[223]
∂-UC_2	VI	[223, 224, 273]

C — V

$V_{2\pm x}C$ (β)	V, б	[59, 134, 217]
∂-VC (ϵ)	V, в	[59, 134, 217, 330]
$VC_{2\pm x}$	VI	[1436]

C — W

∂-W_2C	V, б	[134, 217]
WC	VIII	[134]

C — Y

$YC_{2\pm x}$	IX	[133]

C — Zr

∂-ZrC	V, в	[217]
$ZrC_{2\pm x}$	VI	[1436]

Ca — Cd

CaCd	IX	[460, 8]
$CaCd_{2\pm x}$	II	[183]
$CaCd_3$	X	[8, 460]

Ca — Cu

$CaCu_{5\pm x}$	II	[60]

Ca — Ga

$CaGa_{2\pm x}$	VI	[61]

Ca — Ge

$CaGe_{1\pm x}$	X	[135в]
$CaGe_{2\pm x}$	VI	[152]

Ca — Hg

$CaHg_2$	IX	[460]
$CaHg_3$	X	[8, 460]
$CaHg_6$	X	[8]
$CaHg_{10-x}$	X	[8]

	Ca — In		
$CaIn_{1\pm x}$		X	[460]
$CaIn_{3\pm x}$		X	[460]
	Ca — Li		
$Li_{2\pm x}Ca$		II	[172]
	Ca — Mg		
∂-$CaMg_2$		II	[40, 189, 202]
	Ca — Ni		
$CaNi_{5\pm x}$		II	[189]
	Ca — Pb		
$Ca_{1,6\rightarrow2,0}Pb$ (γ)		X	[8]
$CaPb$		X	[8, 460]
$CaPb_3$		I	[8, 460]
	Ca — Si		
Ca_2Si		IX	[154]
$CaSi$		VI	[359, 8]
$CaSi_2$		VI	[1]
	Ca — Sn		
Ca_2Sn		X	[8]
$CaSn$		X	[8, 460]
$CaSn_3$		I	[8, 460]
	Ca — Tl		
∂-$CaTl$ (γ)		III	[8]
$CaTl_3$		X	[8]
$CaTl_3$		I	[8]
	Ca — Zn		
Ca_2Zn		X	[8]
$CaZn$		X	[8]
$CaZn_{2\pm x}$		X	[150, 60]
$CaZn_{3\pm x}$		II	[60]
$CaZn_{13\pm x}$		II	[49, 60]
	Cd — Ce		
$CeCd_{1\pm x}$		III	[5]
	Cd — Co		
$Co_5Cd_{21\pm x}$		IV	[8]
	Cd — Cs		
$CsCd_{13\pm x}$		II	[62]
	Cd — Cu		
Cu_2Cd	(β)	II	[412, 8]
$Cu_{1,32\rightarrow1,27}Cd$	(γ)	X	[8]
$CuCd_{1,1\rightarrow1,8}$	(δ)	IV	[8, 8]
$CuCd_3$	(ε)	X	[8]
	Cd — Hg		
$HgCd_{0,4\rightarrow1,7}$		I	[133, 175]
$HgCd_3$		IX	[131]
	Cd — K		
KCd_{13-x}		X	[62]
KCd_{13}		II	[62]
	Cd — La		
$LaCd_{1\pm x}$		III	[5]
	Cd — Li		
$Li_{3,8\rightarrow2,7}Cd$	(γ')	I	[8]
∂-$LiCd$	(γ)	III	[8]
$LiCd_{2,6\rightarrow5,7}$	(β')	I	[8]
$LiCd_{2,3\rightarrow0,0}$	(β)	IX	[8]
	Cd — Mg		
∂-Cd_3Mg		I	[133, 322, 63]
∂-$CdMg$		I	[176, 322, 63]
∂-$CdMg_3$		I	[133, 322, 63]
	Cd — Na		
$NaCd_2$		IX	[1, 8, 372]
$NaCd_{5\pm x}$		X	[372]
$NaCd_6$		X	[8, 372]
	Cd — Ni		
$Ni_5Cd_{21\pm x}$		IV	[8]
	Cd — P		
Cd_3P_2		V, n	[1]
	Cd — Pd		
$Pd_{2,0\rightarrow1,1}Cd$	(δ)	I	[505, 447]
$PdCd_{1,1}$	(δ')	X	[505]
$PdCd_{1,15\rightarrow1,70}$	(ε)	III	[505]
$PdCd_{3\pm x}$	(γ')	X	[505]
$PdCd_{3,3\rightarrow4,0}$	(γ_1)	IX	[505]
$PdCd_{4,3\rightarrow4,7}$	(γ)	IV	[505]
	Cd — Pr		
$PrCd_{1\pm x}$		III	[8]
	Cd — Pt		
$Pt_{3\pm x}Cd$		I	[393]
$PtCd_{1\pm x}$		I	[391]
$PtCd_{2\pm x}$		VI	[493]
$Pt_5Cd_{21\pm x}$	(γ)	IV	[8]

Cd — Rb		
$BbCd_{13\pm x}$	II	[62]
Cd — Rh		
$Rh_5Cd_{21\pm x}$	IV	[8]
Cd — Sb		
$Cd_3Sb_{2\pm x}$ (β)	IX	[8]
∂-CdSb (γ)	VIII	[38, 3, 8, 323]
Cd — Se		
$CdSe_{1\pm x}$	V, в	[8]
$CdSe_{1\pm x}$	V, б	[8]
Cd — Sn		
$CdSn_{(1-32}$ (β)	X	[8, 256]
Cd — Sr		
$SrCd_{4\pm x}$	X	[8]
Cd — Te		
$CdTe_{1\pm x}$	V, в	[8]
Ce — Co		
Ce_3Co	X	[196]
$CeCo_2$	II	[184, 196]
$CeCo_3$	X	[196]
$CeCo_4$	X	[196]
$CeCo_5$	II	[196]
Ce — Cu		
$CeCu$	X	[8, 168]
$CeCu_2$	X	[8, 168]
$CeCu_4$	II	[8, 168, 261]
$CeCu_6$	X	[8, 168]
Ce — Fe		
$CeFe_2$	II	[184, 8]
Ce_2Fe_5	X	[8]
Ce — Ga		
$CeGa_{2\pm x}$	VI	[61]
Ce — Hg		
$CeHg_{1\pm x}$	III	[408]
$CeHg_{4\pm x}$	X	[8]
Ce — Mg		
$CeMg$	III	[139, 311]
$CeMg_2$	II	[155, 311]
∂-$CeMg_3$	V, в	[3, 311]
$CeMg_9$	X	[8, 311]
Ce — N		
$CeN_{1\pm x}$	V, в	[276в]
Ce — Ni		
Ce_3Ni	X	[196]
$CeNi$	X	[196]
∂-$CeNi_2$	II	[184]
$CeNi_3$	X	[196]
$CeNi_4$	X	[196]
$CeNi_5$	II	[186, 196]
Ce — P		
$CeP_{1\pm x}$	V, в	[276в]
Ce — Pb		
Ce_2Pb	X	[163]
$CePb_3$	I	[8]
Ce — Pt		
$CePt_{2\pm x}$	II	[290]
Ce — S		
∂-CeS	V, в	[252, 477]
∂-Ce_3S_4	VIII	[269, 297, 477]
$CeS_{2\pm x}$	X	[297]
Ce — Sb		
$CeSb_{1\pm x}$	V, в	[8]
Ce — Se		
$Ce_2Se_{3\pm x}$	VIII	[497, 293]
$CeSe_{1\pm x}$	V, в	[497]
$CeSe_{2\pm x}$	X	[293]
Ce — Si		
$CeSi_{2\pm x}$	VI	[268, 360]
Ce — Sn		
Ce_2Sn	X	[168]
Ce_3Sn_3	X	[168]
$CeSn_3$	I	[168, 8]
Ce — Te		
$CeTe_{1\pm x}$	X	[243]
Ce — Tl		
Ce_2Tl	X	[168]
$CeTl$	IX	[9, 168]
$CeTl_3$	X	[168]

Ce — Zn

Ce_4Zn	X	[8]
Ce_2Zn	X	[8]
$CeZn_{1\pm x}$	III	[5]
$CeZn_{0\rightarrow 0}$ (δ)	X	[235]
$CeZn_{10,0\rightarrow 11,8}$ (ε)	X	[235]

Co — Cr

$CrCo_{0,81\rightarrow 1,05}$ (γ=δ)	IX	[385, 387]

Co — Fe

$FeCo_{1\pm x}$	III	[216]

Co — Ge

∂-Co_2Ge	V, a	[296, 178]
$CoGe_{0,99\rightarrow 1,01}$	X	[296]
Co_2Ge_3	X	[296]
∂-$CoGe_2$	VI	[295, 296]

Co — Mo

$Mo_3Co_{2\pm x}$ (δ)	X	[446, 8]
$MoCo_{1\pm x}$ (γ)	X	[8]
∂-Mo_6Co_7 (ξ)	II	[139, 414, 446]
$MoCo_{1\pm x}$	I	[139]

Co — N

Co_3N (γ)	V, б	[208]
Co_2N (δ)	V, б	[208, 244, 271, 459]

Co — Nb

$NbCo_{2\pm x}$	II	[65]
$NbCo_{2,85}$	II	[65]

Co — P

∂-Co_2P	V, б	[238]
$CoP_{1\pm x}$	V, a	[3, 7]
$CoP_{3\pm x}$	X	[7]

Co — Pt

∂-CoPt	I	[392, 66]
$CoPt_{3\pm x}$	I	[490]

Co — S

$Co_{1,33-1,27}S$ (β)	X	[4]
Co_9S_8	V, в	[6]
∂-CoS	V, a	[6, 253a]
$CoS_{1\pm x}$	X	[6]
Co_3S_4	V, в	[6]
$CoS_{2\pm x}$	VI	[6]

Co — Sb

$Co_{1,33\rightarrow 1,02}Sb$	V, a	[8]
$CoSb_2$	VI	[55, 8]

Co — Se

∂-CoSe	V, a	[8, 253a]
$CoSe_{2\pm x}$	VI	[8]

Co — Si

Co_3Si	X	[8]
Co_2Si (ϑ)	V, a	[234, 3, 8, 134, 415]
Co_3Si_2	X	[8]
CoSi (ε)	V, в	[8, 134]
$CoSi_2$	V, в	[295, 406, 81

Co — Sn

$Co_{1,11\rightarrow 1,38}Sn$ (γ)	V, a	[270]
$Co_{1,44\rightarrow 1,38}Sn$(γ')	V, a	[270]
CoSn	VIII	[270]
$CoSn_2$	VI	[6, 270]

Co — Ta

$TaCo_{2\pm x}$	II	[65]
$TaCo_{2,85}$	II	[65]

Co — Te

∂-CoTe — $CoTe_2$	V, a	[67, 326]
$CoTe_{2\pm x}$	VI	[67]

Co — Th

Th_7Co_3	X	[520]
ThCo	X	[520]
$ThCo_{2\rightarrow 3}$	X	[520]
$ThCo_5$	II	[261, 520]
Th_2Co_{17}	X	[520]

Co — Ti

$Ti_{2\pm x}Co$	IX	[185, 388]
$TiCo_{1\pm x}$	III	[185, 388]
$TiCo_{2\pm x}$	II	[65, 388, 508, 511]
$TiCo_{2\pm x}$	II	[65, 508, 511]

Co — U

U_6Co	VI	[289]
UCo	III	[289]
∂-UCo_2	II	[289]

Co — V

$V_{3\pm x}Co$	III	[452]
$V_{1,62}Co$	IX	[368]

Co — W

$W_{3\pm x}Co$		X	[374]
∂-W_6Co_7		II	[482]
WCo_3		I	[482, 139]

Co — Zn

∂-CoZn	(β)	III	[68]
$CoZn_{0,92\rightarrow1,32}$	(β_1)	IX	[68]
$CoZn_{2,3\rightarrow3,7}$	(Γ)	IV	[68]
$CoZn_{6,7\rightarrow8,1}$	(δ)	X	[68]
$CoZn_{6,7\rightarrow8,1}$	(δ_1)	X	[68]
$CoZn_{10,1\rightarrow13,3}$	(ζ)	IX	[68, 351]

Co — Zr

$ZrCo_{2\pm x}$		II	[65]

Cr — Fe

$CrFe_{0,91\rightarrow1,05}$	(σ)	IX	[239, 240, 250, 384, 385, 386]

Cr — Ge

$Cr_{3\pm x}Ge$		III	[152]
$Cr_3Ge_{2\pm x}$		IX	[152]
$CrGe_{1\pm x}$		V, в	[152]

Cr — H

$CrH_{1\pm x}$		V, б	[227]
$CrH_{2\pm x}$		V, в	[227]

Cr — Mn

$CrMn_{2,6\rightarrow4,9}$	(ϑ)	IX	[368, 369, 470]

Cr — N

$Cr_{2\pm x}N$	(β)	V, б	[8]
CrN	(γ)	V, в	[8]

Cr — Nb

$NbCr_{2\pm x}$		II	[248]
$NbCr_{2\pm x}$		II	[248]

Cr — Ni

$Cr_{2\pm x}Ni$		IX	[2]

Cr — P

$Cr_{3\pm x}P$		IX	[6]
$Cr_{2\pm x}P$		X	[157]
$CrP_{1\pm x}$		V, в	[6]
$CrP_{2\pm x}$		X	[157]

Cr — Pd

Cr_3Pd_2		IX	[69]

Cr — Pt

$Cr_{3\pm x}$ (Pt или $Cr_{2\pm x}Pt$)		X	[8, 409]
$CrPt_{1\pm x}$		X	[8, 409]

Cr — S

∂-CrS	(α)	V, а	[70]
$CrS_{1,22\rightarrow1,41}$	(β)	V, а	[70]

Cr — Sb

$CrSb_{1\pm x}$	(β)	V, а	[8]
$CrSb_2$		VI	[71, 8]

Cr — Se

∂-CrSe	(α)	V, а	[6]
$CrSe_{1,15\rightarrow1,38}$	(β)	V, а	[6]
$CrSe_{1,44\rightarrow1,50}$	(γ)	V, а	[6]

Cr — Si

Cr_3Si	(β)	III	[3, 72]
Cr_2Si		X	[72]
$Cr_3Si_{2\pm x}$	(ϑ)	IX	[3, 72]
CrSi	(ε)	V, в	[3, 72]
$CrSi_2$	(γ)	III	[3, 72]

Cr — Ta

$TaCr_{2\pm x}$		II	[248]

Cr — Te

∂-CrTe	(α)	V, а	[73]
$CrTe_{1,17\rightarrow1,50}$	(β)	V, а	[73]

Cr — Ti

$TiCr_{2\pm x}$		II	[411, 495]

Cr — Zn

$CrZn_{21\pm x}$	(ϑ=δ)	IX	[206, 74]

Cr — Zr

$ZrCr_{2\pm x}$		II	[75]
$ZrCr_{2\pm x}$		II	[461]

Cs — Ge

$CsGe_{1\pm x}$		X	[219]
$CsGe_{4\pm x}$		X	[219]

Co — W

$W_{3\pm x}Co$	X	[374]
∂-W_6Co_7	II	[482]
WCo_3	I	[482, 139]

Co — Zn

∂-CoZn	(β)	III	[68]
$CoZn_{0,92\rightarrow1,32}$	(β_1)	IX	[68]
$CoZn_{2,3\rightarrow5,7}$	(Γ)	IV	[68]
$CoZn_{6,7\rightarrow8,1}$	(δ)	X	[68]
$CoZn_{6,7\rightarrow8,1}$	(δ_1)	X	[68]
$CoZn_{10,1\rightarrow13,3}$	(ζ)	IX	[68, 351]

Co — Zr

$ZrCo_{2\pm x}$		II	[65]

Cr — Fe

$CrFe_{0,94\rightarrow1,05}$	(σ)	IX	[239, 240, 250, 384, 385, 386]

Cr — Ge

$Cr_{3\pm x}Ge$		III	[152]
$Cr_3Ge_{2\pm x}$		IX	[152]
$CrGe_{1\pm x}$		V, в	[152]

Cr — H

$CrH_{1\pm x}$		V, б	[227]
$CrH_{2\pm x}$		V, в	[227]

Cr — Mn

$CrMn_{2,6\rightarrow4,9}$	(ϑ)	IX	[368, 369, 470]

Cr — N

$Cr_{2\pm x}N$	(β)	V, б	[8]
CrN	(γ)	V, в	[8]

Cr — Nb

$NbCr_{2\pm x}$		II	[248]
$NbCr_{2\pm x}$		II	[248]

Cr — Ni

$Cr_{2\pm x}Ni$		IX	[2]

Cr — P

$Cr_{3\pm x}P$		IX	[6]
$Cr_{2\pm x}P$		X	[157]
$CrP_{1\pm x}$		V, а	[6]
$CrP_{2\pm x}$		X	[157]

Cr — Pd

Cr_3Pd_2		IX	[69]

Cr — Pt

$Cr_{3\pm x}$ (Pt или $Cr_{2\pm x}Pt$)		X	[8, 409]
$CrPt_{1\pm x}$		X	[8, 409]

Cr — S

∂-CrS	(α)	V, а	[70]
$CrS_{1,22\rightarrow1,44}$	(β)	V, а	[70]

Cr — Sb

$CrSb_{1\pm x}$	(β)	V, а	[8]
$CrSb_2$		VI	[71, 8]

Cr — Se

∂-CrSe	(α)	V, а	[6]
$CrSe_{1,18\rightarrow1,38}$	(β)	V, а	[6]
$CrSe_{1,44\rightarrow1,60}$	(γ)	V, а	[6]

Cr — Si

Cr_3Si	(β)	III	[3, 72]
Cr_2Si		X	[72]
$Cr_3Si_{2\pm x}$	(ϑ)	IX	[3, 72]
CrSi	(ϵ)	V, в	[3, 72]
$CrSi_2$	(γ)	III	[3, 72]

Cr — Ta

$TaCr_{2\pm x}$		II	[248]

Cr — Te

∂-CrTe	(α)	V, а	[73]
$CrTe_{1,17\rightarrow1,50}$	(β)	V, а	[73]

Cr — Ti

$TiCr_{2\pm x}$		II	[411, 495]

Cr — Zn

$CrZn_{21\pm x}$	(ϑ=δ)	IX	[206, 74]

Cr — Zr

$ZrCr_{2\pm x}$		II	[75]
$ZrCr_{2\pm x}$		II	[461]

Cs — Ge

$CsGe_{1\pm x}$		X	[219]
$CsGe_{4\pm x}$		X	[219]

Cs — Hg

Cs_2Hg_3		X	[8]
$CsHg_2$		X	[8]
$CsHg_4$		X	[8]
$CsHg_6$		X	[8]
$CsHg_{10}$		X	[8]

Cs — Na

$CsNa_2$		X	[8]

Cs — Sb

Cs_3Sb		X	[127]

Cs — Si

$CsSi_{1\pm x}$		X	[8]
$CsSi_{8\pm x}$		X	[8]

Cu — Ga

$Cu_{3,0\to3,0}Ga$	(β)	IV	[76]
$Cu_{4,0\to3,2}Ga$	(μ)	IV	[4]
$Cu_{2,33\to1,77}Ga$	(γ)	X	[76]
∂-Cu_9Ga_4	(δ)	IV	[4, 76]
$Cu_{1,50\to1,22}Ga$	(ε)	X	[76]
$Cu_{1,27\to1,22}Ga$	(ε′)	X	[76]
$CuGa_{1,38}$	(φ)	IX	[4]

Cu — Ge

$Cu_{6,2\to4,7}Ge$	(β)	IV	[500, 231, 363]
$Cu_{3,2\to3,0}Ge$	(γ)	IX	[500, 231]
$Cu_{3,2\to2,9}Ge$	(ε)	IV	[500, 231]
$Cu_{2,7\to2,6}Ge$	(δ)	IX	[500, 231]

Cu — Hg

∂-Cu_7Hg_6	(γ)	VIII	[233, 133]

Cu — In

$Cu_{4,3\to3,2}In$	(β)	IV	[77]
∂-Cu_9In_4	(γ)	IV	[35, 77]
$Cu_{2,6\to1,8}In$	(δ)	V, a	[35, 77]
$Cu_{2,2}In$	(ε)	X	[77]
$Cu_{2,0\to1,8}In$	(η)	X	[77]
∂-Cu_2In	(η′)	V, a	[35, 78]
$Cu_{1,49\to1,44}In$	(φ)	V, a	[78]

Cu — La

LaCu		X	[168]
$LaCu_2$		X	[168]
$LaCu_4$		II	[168, 261]
$LaCu_6$		X	[168]

Cu — Mg

∂-Cu_2Mg	(β)	II	[1, 2, 331]
$CuMg_2$		VI	[308, 314, 331]

Cu — P

∂-Cu_3P		VIII	[79]
$CuP_{2\pm x}$		X	[79]

Cu — Pd

$PdCu_{1\pm x}$ (или $Pd_8Cu_{5\pm x}$)		III	[8, 216, 133, 405]
$PdCu_{3\pm x}$ (или $PdCu_{5\pm x}$)		I	[7, 8, 405]

Cu — Pr

PrCu		X	[8]
$PrCu_2$		X	[8]
$PrCu_4$		X	[8]
$PrCu_6$		X	[8]

Cu — Pt

$Pt_{2,3\to1,8}Cu$		IX	[1]
∂-PtCu		I	[1, 328]
$PtCu_{1,2\pm x}$		IX	[1]
∂-$PtCu_3$		I	[1]

Cu — Rh

$Rh_{3\pm x}Cu$		I	[421]
$RhCu_{1\pm x}$		I	[421]
$RhCu_{3\pm x}$		I	[421]

Cu — S

∂-Cu_2S (халькозин, выс. t)		V, б	[230]
$Cu_{2,0\to1,9}S$ (халькозин, низ. t)		IX	[225]
$Cu_{1,9\to1,8}S$ (лигенит)		V, в	[4, 7]
$CuS_{1\pm x}$		VI	[2]

Cu — Sb

$Cu_{4,4\to3,8}Sb$	(ε)	IV	[416, 255]
$Cu_{4,4\to3,8}Sb$	(ε′)	IV	[416]
$Cu_{4,5\to2,1}Sb$	(β)	IX	[7]
∂-Cu_3Sb	(β′)	V, в	[255, 417]
∂-Cu_2Sb	(γ)	V, в	[3, 7]

Cu — Se

$Cu_{2,00\rightarrow1,74}Se$	(α)	V, в	[4, 266]
$Cu_{1,96\pm x}Se$	(β)	IX	[266]
$CuSe_{1\pm x}$		VI	[130, 265]

Cu—Si

$Cu_{6\rightarrow5}Si$	(κ)	I	[379, 380, 435]
$Cu_{6,7\rightarrow5,3}Si$	(β)	IV	[2]
$Cu_{4,0\rightarrow4,6}Si$	(γ)	IV	[2]
$Cu_{4,0\rightarrow4,3}Si$	(δ)	X	[2]
∂ - $Cu_{15}Si_4$	(ε)	VIII	[2]
$Cu_{3,4\rightarrow3,0}Si$	(η)	IX	[500, 2]

Cu — Sn

$Cu_{6,7\rightarrow5,3}Sn$	(β)	IV	[8, 147 г]
$Cu_{6\pm x}Sn$	(β′)	X	[253 е]
$Cu_{5\pm x}Sn$	(β″)	IX	[312, 253 е]
$Cu_{31}Sn_8$	(δ)	IV	[133, 147 г]
$Cu_{4,0\rightarrow3,5}Sn$	(ζ)	IX	[2, 500, 147 г]
$Cu_{5,7\rightarrow2,7}Sn$	(γ)	X	[8, 147 г]
Cu_3Sn	(ε)	IV	[500, 144, 147 г]
$Cu_{1,22}Sn$	(η′)	V, а	[1, 147 г]
$Cu_{1,32\rightarrow1,22}Sn$	(η)	V, а	[1, 147 г]

Cu — Te

$Cu_{2\pm x}Te$		VII	[183]
$Cu_{1,4}Te$		V, в	[259]

Cu — Th

Th_2Cu		VI	[520]
$ThCu_2$ (или Th_3Cu_5)		VI	[520, 205]
$ThCu_3$		X	[205]
$ThCu_6$		X	[205]

Cu — Ti

$Ti_{2\pm x}Cu$ (или $Ti_{3\pm x}Cu$)	(ε)	IX	[185, 455, 407]
$Ti_{1,1\rightarrow1,0}Cu$	(γ)	IX	[407, 499]
∂-TiCu	(δ)	I	[407, 499]
∂-$TiCu_3$	(β)	I	[407, 185, 499]
$TiCu_{3,0\rightarrow3,8}$	(β′)	I	[407]

Cu — U

∂-UCu_5		II	[289, 354]

Cu — Zn

$CuZn_{0,67\rightarrow1,38}$	(β)	IV	[8]
∂-CuZn	(β′)	IV	[8]
∂-Cu_5Zn_8	(γ)	IV	[8]
$CuZn_{2,92\rightarrow3,08}$	(δ)	IX	[401, 8]
$CuZn_{3,0\rightarrow6,7}$	(ε)	IV	[8]

Cu — Zr

$ZrCu_3$	(β)	X	[80, 236]

Dy — S

$Dy_2S_{3\pm x}$		VIII	[297]

Dy — Se

$Dy_2Se_{3\pm x}$		X	[293]

Er — Se

$Er_2Se_{3\pm x}$		X	[293]

Eu — S

$EuS_{1\pm x}$		V, в	[197]

Eu — Se

$EuSe_{1\pm x}$		V, в	[197]

Eu — Te

$EuTe_{1\pm x}$		V, в	[197]

Fe — Ge

∂-Fe_2Ge		V, а	[178, 215]
$FeGe_{2\pm x}$		VI	[45]

Fe — Gd

$GdFe_{2\pm x}$		II	[515, 504]

Fe — Ir

$FeIr_{1\pm x}$		X	[146]

Fe — Mn

$MnFe_{3,4\rightarrow6,7}$	(ε)	I	[2]

Fe — Mo

$MoFe_{1\pm x}$	(η)	IX	[2, 260]
∂-Mo_6Fe_7	(ε)	II	[3]
$MoFe_{2\pm x}$		II	[398, 3]

Fe — N

$Fe_{11\rightarrow10,5}N$	(α″)	V, в	[471, 241]
∂-Fe_4N	(γ′)	V, в	[1, 133, 253 д, 471]
∂-Fe_3N	(ε)	V, б	[519, 241, 156, 133, 471]
Fe_2N	(ζ)	V, б	[133, 471, 519]

	Fe — Nb		
$NbFe_{2\pm x}$	II	[65]	
	Fe — Ni		
∂-$FeNi_3$	I	[216, 8]	
	Fe — P		
$Fe_{3\pm x}P$	IX	[82]	
$Fe_{2\pm x}P$	V, б	[2, 332]	
$FeP_{1\pm x}$	V, а	[3]	
$FeP_{2\pm x}$	VI	[3]	
$FeP_{2,6\rightarrow 4,0}$	X	[153]	
	Fe — Pd		
$FePd_{1\pm x}$	I	[6]	
∂-$FePd_3$	I	[6, 438]	
	Fe — Pt		
∂-FePt	III	[2, 325]	
	Fe — Re		
$Re_2Fe_{3\pm x}$ (ε)	X	[83]	
$ReFe_{3\pm x}$ (η)	X	[83]	
$ReFe_{3+x}$ (δ)	X	[83]	
	Fe — S		
∂-FeS	V, а	[8, 326]	
$Fe_7S_{8\pm x}$ (пирротин)	IX	[524]	
FeS_2 (пирит)	VI	[8, 1]	
FeS_2 (марказит)	VI	[8, 1]	
	Fe — Sb		
$Fe_{1,38\rightarrow 1,08}Sb$ (ε)	V, а	[8, 326, 323]	
$FeSb_2$ (ζ)	VI	[8, 323]	
	Fe — Se		
$FeSe_{1\pm x}$ (α)	V, в	[8]	
∂-FeSe (β)	V, а	[8, 253а]	
$FeSe_{2\pm x}$	VI	[6]	
	Fe — Si		
Fe_3Si (ϑ)	V, в	[84]	
$FeSi_x$ (α'')	X	[274]	
Fe_6Si_3 (η)	V, б	[230]	
FeSi (ε)	V, в	[2, 956]	
$FeSi_{2,1\rightarrow 3,1}$ (ζ)	IX	[1, 341, 454]	
	Fe — Sn		
Fe_3Sn (β'')	I	[270, 203]	
Fe_3Sn_2 (β')	IX	[270]	
$Fe_{1,27}Sn$ (γ)	V, а	[270]	
FeSn (β)	VIII	[270]	
$FeSn_2$	VI	[270, 45]	
	Fe — Ta		
$TaFe_{2\pm x}$	II	[65]	
	Fe — Te		
∂-FeTe	V, а	[8, 253а]	
$FeTe_{2\pm x}$	VI	[6]	
	Fe — Th		
Th_7Fe_3	X	[520]	
$ThFe_3$	X	[520]	
$ThFe_5$	II	[520]	
Th_2Fe_{17}	X	[520]	
	Fe — Ti		
$Ti_{2\pm x}Fe$	IX	[185]	
$TiFe_{1\pm x}$	II	[185, 495]	
$TiFe_{2\pm x}$	II	[65]	
	Fe — U		
U_6Fe	VI	[289, 357, 382]	
UFe_2	II	[289, 357, 382]	
	Fe — V		
$VFe_{1\pm x}$ (ε)	IX	[239, 8]	
	Fe — W		
$W_6Fe_{7\pm x}$ (ζ)	II	[3]	
$WFe_{2\pm x}$ (ε)	II	[40, 3]	
$WFe_{3\pm x}$	IX	[2]	
	Fe — Zn		
$FeZn_{2,1\rightarrow 3,4}$ (Γ)	IV	[86]	
$FeZn_{7,3\rightarrow 9,0}$ (δ)	X	[86]	
$FeZn_{6,7\rightarrow 11,5}$ (δ_1)	IX	[86, 87]	
$FeZn_{13\rightarrow 15}$ (ζ)	IX	[86, 88]	
	Fe — Zr		
$ZrFe_{2\pm x}$	II	[65]	
$ZrFe_{2,85}$	II	[65]	
	Ga — La		
$LaGa_{2\pm x}$	VI	[61]	
	Ga — Li		
$Li_{3\pm x}Ga$	X	[218]	
$LiGa_{1\pm x}$	III	[6]	

Ga — Mg

Mg_5Ga_2		IX	[89, 90, 496]
Mg_2Ga		IX	[89, 90]
MgGa		X	[89, 90]
$MgGa_2$		X	[90]

Ga — N

$GaN_{1\pm x}$		V, б	[6]

Ga — Ni

$Ni_{1,78}Ga$	(δ)	I	[35, 467]
$Ni_{1,78\rightarrow1,41}Ga$	(γ)	V, а	[35, 467]
$Ni_{1,41}Ga$	(γ′)	V, а	[35, 467]
∂-NiGa	(β)	IV	[467, 35]
Ni_2Ga_3	(β′)	IV	[35, 467]
$NiGa_{4\pm x}$	(ε)	VI	[295, 35, 467]

Ga — P

$GaP_{1\pm x}$		V, в	[8]

Ga — Pd

$Pd_{3\pm x}Ga$		X	[35]
$Pd_{2\pm x}Ga$		X	[35]
$PdGa_{1\pm x}$		V, в	[35]
$Pd_3Ga_{7\pm x}$		VI	[35, 295]

Ga — Pr

Pr_3Ga		X	[267]
Pr_3Ga_2		X	[267]
PrGa		X	[267]
$PrGa_2$		VI	[267]

Ga — Pt

$PtGa_{1\pm x}$		V, в	[35]
$Pt_2Ga_{3\pm x}$		IV	[35]
$PtGa_{2\pm x}$		V, в	[26, 35]
$Pt_3Ga_{7\pm x}$		VI	[35, 295]

Ga — S

Ga_2S		X	[8]
GaS		X	[8]

Ga — Sb

$GaSb_{1\pm x}$		V, в	[8]

Ga — Se

Ga_2Se		X	[8]
GaSe		X	[8]
Ga_2Se_3		V, в	[282, 8]

Ga — Te

GaTe		X	[8]
Ga_2Te_3		V, в	[282, 8]

Ga — Ti

$TiGa_{3\pm x}$		I	[186]

Ga — Zr

$ZrGa_{3\pm x}$		I	[186]

Gd — Mn

$GdMn_{2\pm x}$		II	[515, 504]

Gd — N

$GdN_{1\pm x}$		V, в	[220]

Gd — Ni

$GdNi_{5\pm x}$		II	[153]

Gd — S

$Gd_2S_{3\pm x}$		VIII	[297]

Ge — Ir

IrGe		V, а	[193]
$Ir_3Ge_{7\pm x}$		VI	[295]

Ge — K

$KGe_{1\pm x}$		X	[219]
$KGe_{4\pm x}$		X	[219]

Ge — Mg

Mg_2Ge		V, в	[8]

Ge — Mn

$Mn_{3,25}Ge$		I	[304]
Mn_5Ge_2(выс. t)		V, а	[304]
Mn_5Ge_2(низ. t)		V, а	[304]
$Mn_{1,85\rightarrow1,60}Ge$		V, а	[304]
Mn_3Ge_2		X	[304]

Ge — Mo

$MoGe_x$		X	[152]

Ge — Na

$NaGe_{1\pm x}$		X	[219]

	Ge — Nb		
$NbGe_{2\pm x}$	III	[152]	
	Ge — Ni		
$Ni_{3\pm x}Ge$	I	[402]	
∂-Ni_2Ge	V, a	[178, 275]	
NiGe	V, a	[295]	
	Ge — Os		
$OsGe_{2\pm x}$	IX	[152]	
	Ge — P		
GeP	X	[166]	
	Ge — Pd		
$Pd_{4\pm x}Ge$	X	[193]	
$Pd_{5\pm x}Ge_2$	X	[193]	
Pd_2Ge	X	[193]	
PdGe	V, a	[193]	
	Ge — Pt		
$Pt_{2\pm x}Ge$	X	[193]	
PtGe	V, a	[193]	
Pt_2Ge_3	X	[193]	
	Ge — Rb		
$RbGe_{1\pm x}$	X	[219]	
$RbGe_{4\pm x}$	X	[219]	
	Ge — Ru		
$RuGe_{2+x}$	IX	[152]	
	Ge — S		
$GeS_{1\pm x}$	V, в	[2]	
	Ge — Se		
$GeSe_{1\pm x}$	IX	[91]	
	Ge — Ta		
$TaGe_{2\pm x}$	III	[152]	
	Ge — Te		
∂-GeTe	V, в	[468, 91]	
	Ge — Ti		
$Ti_5Ge_{3\pm x}$	V, б	[507]	
$TiGe_{2\pm x}$	III	[152]	
	Ge — V		
$V_{3\pm x}Ge$	III	[152]	
	Ge — W		
WGe_x	X	[152]	
	Ge — Zr		
$ZrGe_{2\pm x}$	VII	[152]	
	H — Nb		
$Nb_{1,27\pm x}H$	IX	[58]	
	H — Ni		
$Ni_{2\pm x}H$	V, б	[59]	
	H — Pd		
$Pd_{4\pm x}H$	X	[92]	
$Pd_{1,6\rightarrow 1,3}H$	IX	[59, 133]	
	H — Ta		
$Ta_{2\pm x}H$ (β)	V, б	[2]	
$Ta_{1,28\rightarrow 1,18}H$ (γ)	IX	[2, 58]	
	H — Th		
$ThH_{2\pm x}$	V, в	[450]	
$ThH_{3\pm x}$	D.	[450]	
	H — Ti		
∂-TiH (β)	V, в	[59, 2]	
	H — U		
$UH_{3\pm x}$	VIII	[464, 285]	
	H — Zr		
$Zr_{4\pm x}H$ (β)	V, в	[2]	
$Zr_{2\pm x}H$ (γ)	V, б	[2]	
$ZrH_{1\pm x}$ (δ)	V, в	[2]	
$ZrH_{2\pm x}$ (ε)	V, в	[450]	
	Hf — N		
$HfN_{1\pm x}$	X	[8]	
	Hg — K		
KHg	X	[8]	
KHg_2	X	[8]	
KHg_3	X	[8]	
KHg_4	X	[8]	
KHg_8	X	[8]	
	Hg — La		
$LaHg_{1\pm x}$	III	[408]	
$LaHg_{4\pm x}$	X	[8]	

Hg — Li

Li_6Hg		X	[8, 313]
Li_3Hg		V, в	[93, 8]
Li_2Hg		X	[8]
∂-LiHg		III	[8]
$LiHg_2$		X	[8]
$LiHg_3$		I	[93, 8]

Hg — Mg

Mg_3Hg	(		[187, 159]
Mg_5Hg_2	(γ)	X	[159]
Mg_2Hg	(δ)	X	[159]
Mg_5Hg_3	(ε)	V, б	[187, 159]
MgHg	(ζ)	III	[2, 159]
$MgHg_2$	(η)	III	[159]

Hg — Mn

$MnHg_{2\pm x}$		X	[8]

Hg — Na

Na_3Hg		X	[8]
Na_5Hg_2		X	[8]
Na_3Hg_2		X	[8]
NaHg		X	[8]
Na_7Hg_8		X	[8]
$NaHg_2$		X	[8]
$NaHg_4$		X	[8]

Hg — Nd

$NdHg_{1\pm x}$		III	[408]
$NdHg_{4\pm x}$		X	[8]

Hg — Ni

$NiHg_{3\pm x}$		IX	[133]

Hg — Pd

$PdHg_{1\pm x}$		I	[526, 228]

Hg — Pr

$PrHg_{1\pm x}$		III	[408]
$PrHg_{4\pm x}$		X	[8]

Hg — Pt

$Pt_{3\pm x}Hg$	(β)	X	[94]
$Pt_{2\pm x}Hg$	(γ)	X	[94]
$PtHg_{1\pm x}$	(δ)	X	[94]

Hg — Rb

Rb_7Hg_8		X	[8]
Rb_3Hg_4		X	[8]
$RbHg_2$		X	[8]
Rb_2Hg_7		X	[8]
Rb_5Hg_{19}		X	[8]
Rb_2Hg_9		X	[8]
$RbHg_6$		X	[8]
$RbHg_9$		X	[8]

Hg — Sb

$Hg_3Sb_{2\pm x}$		X	[8]

Hg — Se

$HgSe_{1\pm x}$		V, в	[8]

Hg — Sn

$HgSn_{10\pm x}$		IX	[134]
$HgSn_{16\rightarrow 24}$		IX	[134]

Hg — Sr

$SrHg_{12\pm x}$		X	[8]

Hg — Te

$HgTe_{1\pm x}$		V, в	[8]

Hg — Tl

$Hg_{4,0\rightarrow 2,3}Tl$	(γ)	IX	[3, 4, 8, 343]
$HgTl_{6\rightarrow 9}$		IX	[3]

Hg — U

$UHg_{2\pm x}$		VI	[262]
$UHg_{3\pm x}$		I	[262]
$UHg_{4\pm x}$		IX	[262]

Hg — Zn

$HgZn_{1,5\rightarrow 1,9}$	(β)	I	[8]
$HgZn_{2,3\rightarrow 3,0}$	(γ)	I	[8, 133]

In — Li

∂-LiIn		III	[313]

In — Mg

$Mg_3In_{2\pm x}$	(when ~~$Mg_{3,3\rightarrow 3,1}In$~~ ($\beta_1$))	IX	[89, 427]
$Mg_{2\pm x}In$	(β_2)	IX	[89, 427]
∂-MgIn		I	[89, 427]
$MgIn_{3-x}$		I	[89]

In — Mn

Mn_3In		IX	[381]

In — N			
$InN_{1\pm x}$		V, б	[6]
In — Na			
$NaIn_{1\pm x}$		III	[8]
In — Ni			
Ni_3In	(γ)	I	[35]
o-Ni_2In	(β)	V, а	[35, 249]
δ-NiIn	(δ)	IV	[35, 376]
NiIn	(ε)	VIII	[35, 78]
Ni_2In_3	(δ′)	IV	[35]
$Ni_{10}In_{27\pm x}$	(η)	VI	[376, 35]
In — P			
$InP_{1\pm x}$		V, в	[31]
In — Pb			
$In_{\sim 1,7\rightarrow 1,0}Pb$		IX	[96]
In — Pd			
$Pd_{3\pm x}In$	(β)	I	[35]
$Pd_{2\pm x}In$	(γ)	X	[35]
$PdIn_{1\pm x}$		IV	[35]
$Pd_2In_{3\pm x}$		IV	[35]
$PdIn_{3\pm x}$		VI	[35]
In — Pt			
$Pt_2In_{3\pm x}$		IV	[35]
$PtIn_{2\pm x}$		V, в	[26]
$Pt_3In_{7\pm x}$		VI	[295]
In — S			
$In_{2\pm x}S$		X	[8]
In — Sb			
InSb		V, в	[8]
In — Se			
$In_{2\pm x}Se$		X	[8]
$InSe_{1\pm x}$		X	[8]
$In_2Se_{3\pm x}$		X	[8]
In — Sn			
$In_{3\pm x}Sn$	(β)	IX	[370, 214]
$InSn_{4\pm x}$	(γ)	IX	[370, 214]
In — Te			
In_2Te		X	[8]
InTe		X	[8]
In_2Te_3		V, в	[268, 8]
$InTe_3$		X	[8]
Ir — P			
$Ir_{2\pm x}P$		V, в	[97]
$IrP_{2\pm x}$		X	[160]
Ir — Pb			
$IrPb_{1\pm x}$		V, а	[102]
Ir — S			
$Ir_2S_{3\pm x}$		X	[5]
$IrS_{2\pm x}$		X	[5]
$Ir_3S_{8\pm x}$		X	[5]
Ir — Sc			
$IrSc_{3\pm x}$		X	[292]
Ir — Si			
$Ir_{1,5\pm x}Si$		X	[393]
$Ir_3Si_{2\pm x}$		X	[393]
$IrSi_{1\pm x}$		X	[393]
$Ir_2Si_{3\pm x}$		X	[393]
$IrSi_{3\pm x}$		X	[393]
Ir — Sn			
$IrSn_{1\pm x}$		V, а	[195]
$IrSn_2$		V, в	[270]
Ir_3Sn_7		VI	[270]
Ir — Te			
$IrTe_{3\pm x}$		X	[292]
Ir — Zr			
$ZrIr_{2\pm x}$		II	[75]
K — Na			
KNa_2		II	[172, 426]
K — Pb			
$K_{2\pm x}Pb$		X	[8]
$KPb_{1\pm x}$		X	[8]
$KPb_{2\pm x}$		X	[8]
$KPb_{4\pm x}$		X	[8]
K — Sb			
K_3Sb		V, б	[32, 8]
KSb		X	[8]

K — Si		
$KSi_{1\pm x}$	X	[219]
$KSi_{8\pm x}$	X	[219]
K — Sn		
K_2Sn	X	[8]
KSn	X	[8]
KSn_2	X	[8]
KSn_4	X	[8]
K — Tl		
KTl	III	[8]
K — Zn		
KZn_{13}	II	[62, 8]
La — Mg		
La_4Mg	X	[168, 311]
LaMg	III	[168, 189, 311]
$LaMg_2$	II	[155, 311]
∂-$LaMg_3$	V, в	[3, 168, 311]
$LaMg_3$	X	[168, 311]
La — N		
$LaN_{1\pm x}$	V, в	[276в]
La — Ni		
La_3Ni	X	[196]
LaNi	X	[196]
$LaNi_2$	II	[196]
$LaNi_3$	X	[196]
$LaNi_4$	X	[196]
$LaNi_5$	II	[189, 196]
La — P		
$LaP_{1\pm x}$	V, в	[276 в]
La — Pb		
La_2Pb	X	[168]
LaPb	X	[168]
$LaPb_3$	I	[3, 168]
La — Sb		
$LaSb_{1\pm x}$	V, в	[5]
La — Se		
$LaSe_{2\pm x}$	X	[293]
La — Si		
$LaSi_{2\pm x}$	VI	[360,a361]
La — Sn		
La_2Sn	X	[168]
La_2Sn_3	X	[168]
$LaSn_3$	I	[3, 168]
La — Tl		
La_2Tl	X	[8]
LaTl	IX	[9, 8]
$LaTl_3$	I	[3, 8]
La — Zn		
$LaZn_{1\pm x}$	III	[5]
$LaZn_{5\pm x}$	II	[189]
$LaZn_{6\rightarrow 9}$ (δ)	X	[235]
$LaZn_{10,0\rightarrow 11,5}$ (ϵ)	X	[235]
Li — Mg		
$LiMg_{1\rightarrow 3}$ (γ)	X	[8]
Li — Pb		
Li_4Pb	X	[8]
Li_7Pb_2	X	[8]
$Li_{10}Pb_3$ (γ)	VIII	[7]
Li_6Pb_2	X	[8]
LiPb (β')	III	[190, 383, 8]
LiPb (β)	X	[383]
Li — Sb		
Li_3Sb (α)	V, б	[32]
Li_3Sb (β)	V, в	[32]
Li — Si		
$Li_{3\pm x}Si$	X	[356]
Li — Sn		
Li_4Sn	X	[8]
Li_7Sn_3	X	[8]
Li_5Sn_2	X	[8]
Li_2Sn	X	[8]
LiSn	X	[8]
$LiSn_2$	X	[8]
Li — Tl		
Li_4Tl	X	[8]
Li_3Tl	X	[8]
Li_5Tl_2	X	[8]
Li_2Tl	X	[8]
LiTl	III	[133, 8]
Li — Zn		
∂-LiZn (δ'')	III	[8]
$LiZn_{1,5\rightarrow 2,0}$ (δ')	X	[8]

$LiZn_{1\to 2}$	(δ)	X	[8]
$LiZn_2$		X	[8]
$LiZn_{2,3\to 3,0}$	(γ′)	X	[98, 8]
$LiZn_{2,3\to 3,6}$	(γ)	X	[8]
$LiZn_{3\to 10}$	(β′)	I	[98, 8]
$LiZn_{3\to 10}$	(β)	X	[8]

Mg — Ni

Ni_2Mg		II	[8]
$NiMg_2$		VI	[314, 8]

Mg — Pb

Mg_2Pb		V, в	[8, 174, 396]

Mg — Pr

Pr_3Mg		X	[168]
$PrMg$		III	[168, 189]
$PrMg_3$		V, в	[3, 168]
$PrMg_6$		X	[168]

Mg — Sb

Mg_3Sb_2	(α)	V, в	[3]
Mg_3Sb_2	(β)	X	[8]

Mg — Si

Mg_2Si		V, в	[8, 439]

Mg — Sn

Mg_2Sn		V, в	[8, 174, 396]

Mg — Sr

$SrMg$		III	[189]
$SrMg_2$		II	[172, 202]
$SrMg_{4+x}$		X	[202]
$SrMg_6$		X	[202]

Mg — Tl

Mg_5Tl_2		IX	[89, 8]
Mg_2Tl		IX	[89, 8]
$MgTl$		III	[89, 8, 133]

Mg — Zn

υ-$Zn_{11}Mg_2$	(ϑ)	II	[298, 21, 99]
υ-Zn_2Mg	(η)	II	[1, 21, 475]
Zn_3Mg_2		X	[209, 475]
∂-$ZnMg$	(ζ)	II	[3, 21, 475]
$ZnMg_{2,28\to 2,61}$	(ε)	X	[21, 209, 475]

Mn — N

υ-Mn_4N	(ε)	V, в	[133, 253д, 436]
$Mn_{4+x}N$	(δ)	V, в	[133]
∂-Mn_2N	(ζ)	V, б	[133, 436]
Mn_3N_{2-x}	(γ)	V, в	[133, 436]

Mn — Nb

$NbMn_{2\pm x}$		II	[65]

Mn — Ni

∂-MnNi	(β≈δ)	III	[463, 371]
∂-MnNi	(δ′)	I	[463, 371]
$MnNi_{3\pm x}$		I	[8, 132, 337, 338, 371]

Mn — P

Mn_3P		IX	[82, 305]
Mn_2P		V, б	[82, 305]
Mn_3P_2		X	[305]
MnP		V, а	[3, 82, 305]
MnP_3		X	[100]

Mn — Pd

$MnPd_{0,85\to 1,18}$	(η)	IX	[101, 346, 437]
$MnPd_{1,22\to 1,86}$	(ζ)	IX	[101, 437]

Mn — Pt

$Mn_{4\pm x}Pt$		X	[136]
$MnPt_{1\pm x}$		X	[136]
$MnPt_{3\pm x}$		X	[136]

Mn — S

$MnS_{2\pm x}$		VI	[8]

Mn — Sb

∂-Mn_2Sb	(δ)	V, в	[102, 8]
$Mn_{1,37\to 1,14}Sb$	(ε)	V, а	[275]

Mn — Se

$MnSe_{2\pm x}$		VI	[213]

Mn — Si

$Mn_{3\pm x}Si$		III	[103]
$Mn_5Si_{3\pm x}$		V, б	[103]
$MnSi$	(ε)	V, в	[3, 8]
$MnSi_{2\pm x}$	(γ)	IX	[8]

Mn — Sn

$Mn_{3,4\to 3,1}Sn$	(β′)	I	[270]
$Mn_{1,86\to 1,50}Sn$	(γ′)	V, а	[270]
$MnSn_2$	(δ)	VI	[270]

Mn — Ta

$TaMn_{2\pm x}$		II	[65]

Mn — Te

$MnTe_{1\pm x}$	V, а	[8]
$MnTe_{2\pm x}$	VI	[8]

Mn — Th

$ThMn_2$	II	[520]
Th_6Mn_{23}	VIII	[520]
$ThMn_{12}$	VIII	[520]

Mn — Ti

$Ti_{2\pm x}Mn$	IX	[185]
$TiMn_{2\pm x}$	II	[65]

Mn — U

U_6Mn	VI	[289, 354]
UMn_2	II	[289, 354]

Mn — V

$V_{3.8\rightarrow1.0}Mn$	X	[104]
VMn_{1+x}	IX	[368, 104]
VMn_{1+x}	IX	[104]
$VMn_{3.1}$	IX	[368]

Mn — Zn

$Mn_{1.86\rightarrow1.35}Zn$ (β)	III	[303]
$MnZn_{0.7\rightarrow7.3}$ (ε)	IV	[303]
$MnZn_{2.4\rightarrow3.0}$ (α)	I	[432]
$MnZn_{4.4\rightarrow5.9}$ (Γ)	IV	[432]
$MnZn_{10.8\rightarrow11.5}$ (δ)	X	[432]
$MnZn_{10.8\rightarrow11.5}$ (δ_1)	IX	[432]
$MnZn_{17\rightarrow19}$ (ζ)	IX	[432, 192]

Mn — Zr

$ZrMn_{2\pm x}$	II	[65]

Mo — N

$Mo_{2.70\rightarrow2.33}N$ (β)	V, в	[133, 8]
$Mo_{2.12\rightarrow1.95}N$ (γ)	V, в	[217]
MoN_{1-x} (δ)	VIII	[8]

Mo — Ni

MoNi	X	[105]
$MoNi_3$	I	[105]
∂-$MoNi_4$ (β)	I	[106, 2536, 105]

Mo — P

$Mo_{3\pm x}P$	IX	[157]
$MoP_{1\pm x}$	X	[157]
$MoP_{2\pm x}$	X	[157]

Mo — S

$MoS_{2\pm x}$	VII	[1]

Mo — Sc

$MoSc_{2+x}$	VII	[143a]

Mo — Si

Mo_3Si	III	[356, 438]
Mo_3Si_2	X	[498]
$MoSi_{1\pm x}$	X	[448]
$MoSi_2$	III	[1, 498]

Mo — Te

$Mo_{2\pm x}Te$	X	[204]
$Mo_2Te_{3\pm x}$	X	[204]
$MoTe_{2\pm x}$	VII	[143a]

Mo — Zr

$ZrMo_{2\pm x}$	II	[465]

N — Nb

$Nb_{2\pm x}N$	V, б	[210]
$NbN_{1\pm x}$	V, в	[58]

N — Nd

$NdN_{1\pm x}$	V, в	[5]

N — Ni

Ni_3N	V, б	[156, 366]

N — Np

NpN_{1+x}	V, в	[290]

N — Pr

$PrN_{1\pm x}$	V, в	[276в]

N — Pu

$PuN_{1\pm x}$	V, в	[290]

N — Re

$ReN_{0.43-x}$	V, в	[518]

N — Sc

$ScN_{1\pm x}$	V, в	[1]

N — Ta

$Ta_{2\pm x}N$	X	[107]
$TaN_{1\pm x}$	V, б	[8, 107]

	N — Th		
$ThN_{1\pm x}$	V, в		[222]
$Th_3N_{4\pm x}$	X		[8]
$Th_2N_{3\pm x}$	V, в		[290]
	N — Ti		
$TiN_{1\pm x}$	V, в		[59]
	N — U		
UN	V, в		[223]
∂-$U_2N_3 - UN_2$	V, в		[223]
	N — V		
$V_{2,7\rightarrow 2,3}N$	(β)	V, б	[284]
∂-VN	(γ)	V, в	[284, 8]
	N — W		
$WN_{1\pm x}$	V, в		[217]
	N — Zr		
$ZrN_{1\pm x}$	V, в		[8]
	Na — P		
Na_3P	V, б		[32]
	Na — Pb		
∂-$Na_{15}Pb_4$		VIII	[108]
$Na_{2,6\rightarrow 2,3}Pb$	(δ)	X	[109, 8]
Na_2Pb		X	[109]
∂-NaPb	(γ)	VI	[516, 109, 8]
$NaPb_{1,85\rightarrow 2,01}$	(β)	I	[249, 333; 344, 109]
	Na — Sb		
Na_3Sb	V, б		[32, [8]
NaSb	IX		[8]
	Na — Si		
$NaSi_{1\pm x}$	X		[219]
$NaSi_{2\pm x}$	X		[198]
	Na — Sn		
$Na_{15}Sn_4$	IX		[108]
Na_2Sn	X		[8]
Na_4Sn_3	X		[8]
NaSn	X		[8]
$NaSn_2$	X		[8]
	Na — Tl		
Na_6Tl	X		[110]
Na_2Tl	X		[110]
∂-NaTl	III		[3, 8, 110]
$NaTl_2$	X		[110]
	Na — Zn		
$NaZn_{13\pm x}$	II		[6, 62, 521]
	Nb — Ni		
$NbNi_3$	I		[111, 151]
	Nb — P		
$NbP_{1\pm x}$	X		[176]
$NbP_{2\pm x}$	X		[176]
	Nb — S		
$Nb_{2\rightarrow 1}S$	X		[6]
$NbS_{1,5\rightarrow 4,0}$	X		[6]
	Nb — Si		
$NbSi_{2\pm x}$	III		[352, 177]
	Nd — P		
$NdP_{1\pm x}$	V, в		[5]
	Nd — S		
$Nd_2S_{3\pm x}$	VIII		[297]
	Nd — Sb		
$NdSb_{1\pm x}$	V, в		[5]
	Nd — Se		
$Nd_2Se_{3\pm x}$	X		[293]
$NdSe_{2\pm x}$	X		[293]
	Nd — Si		
$NdSi_{2\pm x}$	VI		[360]
	Ni — P		
$Ni_{3\pm x}P$	IX		[112]
$Ni_5P_{2\pm x}$	X		[112]
$Ni_{12}P_{5\pm x}$	IX		[112]
$Ni_{2\pm x}P$	V, б		[112]
$Ni_6P_{5\pm x}$	X		[113]
$NiP_{2\pm x}$	X		[113]
$NiP_{3\pm x}$	X		[113]
	Ni — Pd		
$PdNi_{3\pm x}$	I		[253в]

Ni — Pr

Pr_3Ni		X	[196]
PrNi		X	[196]
$PrNi_2$		II	[196]
$PrNi_3$		X	[196]
$PrNi_4$		X	[196]
$PrNi_5$		II	[196]

Ni — Pt

$PtNi_{1\pm x}$		X	[6, 400]
$PtNi_{3\pm x}$		X	[400]

Ni — S

Ni_3S_{2+x}		VIII	[6, 226]
Ni_6S_{5+x}		IX	[226]
Ni_7S_{6+x}		X	[226]
NiS_{1+x}	(β)	V, a	[2, 114, 226]
NiS_{1+x}	(γ)	VII	[114, 226]
Ni_3S_4		V, в	[226]
NiS_{2+x}		VI	[1, 226]

Ni — Sb

$Ni_{13}Sb_{4+x}$	(δ)	IX	[55]
$Ni_{2,58\rightarrow2,22}Sb$	(β)	IX	[55]
∂-NiSb	(γ)	V, a	[327, 8]
$NiSb_2$	(ε)	VI	[55]

Ni — Se

$NiSe_{1+x}$	(β)	V, a	[114]
$NiSe_{1+x}$	(γ)	VII	[114]
$NiSe_{2+x}$		VI	[8]

Ni — Si

Ni_3Si	(β_1)	I	[115, 148, 403, 512]
Ni_6Si_2	(γ_1)	IX	[512, 115]
Ni_2Si	(Θ)	V, a	[501, 402, 115, 512]
Ni_2Si	(δ)	V, a	[501, 512]
Ni_3Si_2	(ε)	IX	[512, 115]
NiSi	(ζ_1)	V, a	[444, 512]
$NiSi_2$	(ζ)	V, в	[295, 512]

Ni — Sn

Ni_3Sn	(β)	I	[270, 116]
Ni_3Sn	(β′)	I	[116]
$Ni_{1,51\rightarrow1,36}Sn$	(γ)	V, a	[270, 116, 249]
$Ni_{1,60\rightarrow1,35}Sn$	(γ′)	V, a	[270]
$NiSn_{1,17-x}$	(Θ)	X	[270]
Ni_3Sn_4	(δ)	V, a	[194, 116, 161, 270]

Ni — Ta

Ta_3Ni_{2+x}		X	[247]
∂-$TaNi_3$		I	[151]

Ni — Te

∂-NiTe—$NiTe_2$		V, a	[326, 67]

Ni — Th

Th_7Ni_3 (или Th_2Ni)		X	[520, 229]
ThNi		X	[520, 229]
$ThNi_2$ (или Th_2Ni_5)		VI	[520, 229]
$ThNi_5$		II	[261, 520, 229]
Th_2Ni_{17} (или $ThNi_9$)		X	[520, 229]

Ni — Ti

$Ti_{2+x}Ni$		IX	[388, 185, 455]
$TiNi_{1+x}$		III	[388, 185]
$TiNi_{3+x}$		I	[388, 7]

Ni — U

$U_{6+x}Ni$		VI	[289]
UNi_{1+x}		X	[289]
UNi_{2+x}		II	[289]
UNi_{5+x}		II	[289]

Ni — V

$V_{1,85\rightarrow1,22}Ni$		IX	[368, 451]
VNi_{2+x}	(δ)	IX	[525]
VNi_{3+x}	(Θ)	IX	[525]

Ni — W

WNi_{1-x}		X	[374]
WNi_{4-x}		I	[245, 2536, 140]

Ni — Zn

∂-NiZn	(β)	III	[118]
∂-NiZn	(β′)	I	[362, 118]
$NiZn_{2,3\rightarrow5,7}$	(Γ)	IV	[118, 249]
$NiZn_{3,0\rightarrow3,8}$	(Γ_1)	X	[118]
$NiZn_{8\rightarrow10}$	(δ)	IX	[118, 181]

Np — P

Np_3P_{4-x}		VIII	[503]

Np — S

Np_2S_{3+x}		VII	[252]

Np — Si

$NpSi_{2-x}$		VI	[268]

Os — P		
$OsP_{2\pm x}$	X	[119]
Os — S		
$OsS_{2\pm x}$	VI	[8]
Os — Se		
$OsSe_{2-x}$	VI	[8]
Os — Si		
Os_2Si_{3-x}	IX	[393]
$OsSi_{2-x}$	IX	[152, 393]
Os — Te		
$OsTe_{2-x}$	VI	[8]
Os — Ti		
$TiOs_{1\pm x}$	III	[185]
Os — Zr		
$ZrOs_{2\pm x}$	II	[75]
P — Pb		
$Pb_3P_{2\pm x}$	X	[8]
P — Pd		
$Pd_{6,7\rightarrow 4,6}P$ (β)	X	[4]
$Pd_{4\rightarrow 3}P$ (γ)	X	[4]
Pd_5P_2 (δ)	X	[4]
PdP_2	X	[4]
P — Pr		
PrP_{1-x}	V, в	[276в]
P — Pt		
$Pt_{20}P_7$	X	[3]
PtP_2	VI	[3]
P — Re		
$Re_{2-x}P$	X	[8]
ReP_{1-x}	X	[8]
ReP_{2-x}	X	[8]
ReP_{3-x}	X	[8]
P — Rh		
$Rh_{2-x}P$	V, в	[97]
Rh_5P_{4-x}	X	[117]
RhP_{2-x}	X	[117]
RhP_{3-x}	X	[117]
P — Ru		
$Ru_{2\pm x}P$	X	[119]
$RuP_{1\pm x}$	X	[119]
RuP_{2-x}	X	[119]
P — Sn		
Sn_4P_3	X	[8]
Sn_3P_{4-x}	X	[8]
SnP_3	X	[8]
P — Ta		
TaP_{1-x}	X	[167]
TaP_{2-x}	X	[167]
P — Th		
$Th_{1,44}P$	V, в	[120]
$Th_3P_{4\pm x}$	VIII	[120]
P — Ti		
$Ti_{2\pm x}P$	X	[480]
$TiP_{1\pm x}$	X	[480]
P — U		
$UP_{1\pm x}$	V, в	[162]
$U_3P_{4\pm x}$	VIII	[162]
$UP_{2\pm x}$	X	[162]
P — V		
$V_{3\pm x}P$	X	[176]
$V_{2,0\rightarrow 1,5}P$	X	[176]
$VP_{1\pm x}$	X	[176]
$VP_{2\pm x}$	X	[176]
P — W		
$W_{2\pm x}P$	IX	[4]
$WP_{1\pm x}$	V, а	[157]
$WP_{2\pm x}$	X	[157]
P — Zn		
Zn_3P_2	V, в	[3]
P — Zr		
ZrP_{1-x}	X	[6]
$ZrP_{2\pm x}$	X	[6]
Pb — Pd		
$Pd_{3-x}Pb$	I	[195]
$Pd_3Pb_{2\pm x}$	V, а	[195]
$PdPb_{1-x}$	IX	[195]
$PdPb_{2-x}$	VI	[195]

Pb — Pr

Pr_2Pb		X	[168]
$PrPb$		X	[168]
$PrPb_3$		I	[3, 168]

Pb — Pt

$Pt_{3\pm x}Pb$		I	[195]
$PtPb_{1\pm x}$		V, a	[195]
$PtPb_{4+x}$		VI	[454]

Pb — Rh

$Rh_{2\pm x}Pb$		X	[8]
$RhPb_{2+x}$		VI	[45]

Pb — S

PbS_{1+x}		V, в	[8]

Pb — Se

$PbSe_{1-x}$		V, в	[8]

Pb — Sr

$SrPb_{3-x}$		I	[3]

Pb — Te

∂-PbTe	(β)	V, в	[8]

Pb — Ti

Ti_4Pb		I	[513, 453]

Pb — Tl

$Tl_{3,0\to1,2}Pb$	(γ)	IX	[8, 342, 345, 479]

Pb — U

UPb_{1-x}		X	[522]
UPb_{3-x}		X	[522]

Pd — S

$Pd_{1-x}S$		X	[8]
$Pd_{2-x}S$		X	[8]
PdS_{1+x}		VIII	[5]
PdS_{2-x}		X	[4]

Pd — Sb

$Pd_{3-x}Sb$	(β)	X	[8, 424]
$Pd_{2,1\to1,5}Sb$	(γ)	X	[8, 424]
$PdSb$		V, a	[8, 424]
$PdSb_2$		VI	[8, 424]

Pd — Se

$PdSe_{1-x}$		X	[8]
$PdSe_{2+x}$		X	[8]

Pd — Si

$Pd_{2-x}Si$		X	[8, 393]
$PdSi$		V, a	[193, 8, 393]

Pd — Sn

Pd_2Sn		X	[195, 270]
$Pd_{1,78\to1,38}Sn$		V, a	[270, 195]
$PdSn_{1\pm x}$		V, a	[195]
$PdSn_{2\pm x}$		VI	[295]
$PdSn_{4\pm x}$		VI	[294]

Pd — Te

$PdTe_{1+x}$		V, a	[8]
$PdTe_{2-x}$		V, a	[8]

Pd — Ti

$Ti_{2+x}Pd$		IX	[185]
Ti_2Pd_{3+x}		X	[185]
$TiPd_{3-x}$		I	[151]

Pd — Zn

$Pd_{2,3\to1,9}Zn$	(β)	III	[506]
$Pd_{1,9}Zn$	(ξ)	X	[506]
δ-PdZn	(δ)	I	[506, 362]
$PdZn_{1,4\to1,6}$	(β_1)	III	[506]
$PdZn_{1,60\to1,55}$	(ξ_1)	X	[506]
$PdZn_{3,2\to4,0}$	(γ_1)	X	[506]
$PdZn_{4,0\to5,7}$	(γ)	IV	[506]
$PdZn_{12\to14}$	(η)	I	[506]

Pr — S

Pr_2S_{3-x}		VIII	[297]

Pr — Sb

$PrSb_{1-x}$		V, в	[5]

Pr — Se

$PrSe_{2-x}$		X	[293]

Pr — Si

$PrSi_{2-x}$		VI	[360]

Pr — Sn

Pr_2Sn		X	[168]
Pr_2Sn_3		X	[168]
$PrSn_3$		I	[3, 168]

Pr — Tl

Pr_2Tl		X	[168]

$PrTl$	IX	[9, 168]
$PrTl_3$	X	[168]

Pr — Zn

$PrZn_{1\pm x}$	III	[5]

Pt — S

$PtS_{1\pm x}$	V, в	[2]
$PtS_{2\pm x}$	V, а	[8]

Pt — Sb

Pt_4Sb	X	[420]
$PtSb$	V, а	[8, 420]
$PtSb_2$	VI	[1, 8, 420]

Pt — Se

$PtSe_{1\pm x}$	X	[8]
$PtSe_{2\pm x}$	V, а	[8]

Pt — Si

Pt_3Si_2	X	[422]
$Pt_{1\pm x}Si$ (или $Pt_3Si_{2\pm x}$)	IX	[422, 393]
$Pt_{1,5\rightarrow 1}Si$	X	[393]
$PtSi$	V, а	[193, 422]

Pt — Sn

Pt_3Sn	I	[472, 473]
∂-$PtSn$	V, а	[270, 473]
Pt_2Sn_3	V, б	[242, 472, 473]
$PtSn_2$	V, в	[173, 270, 473]
$PtSn_4$	VI	[294, 474, 473]

Pt — Te

$PtTe_{1\pm x}$	V, а	[133]
$PtTe_{2\pm x}$	V, а	[1]

Pt — Ti

$Ti_{3\pm x}Pt$	III	[452]
$Ti_{2\pm x}Pt$	IX	[185]
$Ti_2Pt_{3\pm x}$	X	[185]
$TiPt_{3\pm x}$	I	[148]

Pt — Tl

$PtTl$	VIII	[121, 8]

Pt — Zn

$Pt_{3\pm x}Zn$	I	[493]
$PtZn_{1\pm x}$	I	[391]
$PtZn_{2\pm x}$	VI	[493]
$Pt_6Zn_{21\pm x}$	IV	[8]
$PtZn_{8\pm x}$	X	[493]

Pt — Zr

$ZrPt_{3\pm x}$	I	[151]

Pu — S

$PuS_{1\pm x}$	V, в	[252]
∂-Pu_2S_4	VIII	[269]

Pu — Si

$PuSi_{2\pm x}$	VI	[268]

Rb — Si

$RbSi_{1\pm x}$	X	[219]
$RbSi_{8\pm x}$	X	[219]

Re — S

$Re_2S_{3\pm x}$	X	[8]
$ReS_{2\pm x}$	V, а	[8]
$Re_2S_{7\pm x}$	X	[8]

Re — Si

$ReSi_{2\pm x}$	III	[352, 177]

Re — W

$W_2Re_{3\pm x}$	X	[2]

Re — Zr

$ZrRe_{2\pm x}$	II	[75]

Rh — S

$Rh_9S_{8\pm x}$	X	[212]
$Rh_2S_{3\pm x}$	X	[212]
$RhS_{2\pm x}$	VI	[1]
$Rh_2S_{5\pm x}$	X	[212]

Rh — Sb

$Rh_3Sb_{2\pm x}$	X	[193]
$RhSb$	V, а	[193]
$RhSb_2$	X	[193]

Rh — Se

$Rh_2Se_{5\pm x}$	X	[292]

Rh — Si

$Rh_{1,5+x}Si$	X	[393]
$Rh_3Si_{2\pm x}$	X	[393]
$RhSi_{1\pm x}$	X	[393]

$Rh_2Si_{3\pm x}$ (или $RhSi_{2\pm x}$)	X	[393]
Rh — Sn		
$Rh_{2\pm x}Sn$	X	[211]
$Rh_3Sn_{2\pm x}$	V, а	[195, 211, 270]
$RhSn_{1\pm x}$	V, в	[211, 270]
$RhSn_{2+x}$(вис. t)	VI	[270]
$RhSn_{2\pm x}$(инв. t)	VI	[295, 270]
$RhSn_{4\pm x}$	X	[211]
Rh — Te		
Rh_2Te_{5+x}	X	[292]
Rh — Zn		
Rh_5Zn_{21+x}	IV	[8]
Ru — S		
$RuS_{2\pm x}$	VI	[8]
Ru — Se		
$RuSe_{2\pm x}$	VI	[8]
Ru — Si		
Ru_3Si_{2+x}	X	[393]
$RuSi_{1\pm x}$	III	[393]
$RuSi_{1\pm x}$	IX	[393]
Ru_2Si_{3+x}	IX	[393]
$RuSi_{2\pm x}$	IX	[152]
Ru — Sn		
Ru_3Sn_7	VI	[270]
Ru — Te		
$RuTe_{2\pm x}$	VI	[8]
Ru — Ti		
$TiRu_{1\pm x}$	III	[185]
Ru — Zr		
$ZrRu_{2\pm x}$	II	[75]
S — Sb		
$Sb_2S_{3\pm x}$	VII	[3]
S — Sm		
$Sm_2S_{3\pm x}$	VIII	[297]
S — Sn		
$SnS_{1\pm x}$	V, в	[3, 315]
S — Ta		
$Ta_{3,1\rightarrow 1,0}S$	X	[163]
$TaS_{1,0\rightarrow 1,9}$	X	[163]
∂-TaS_2	V, а	[6, 163, 481]
$TaS_{3\pm x}$	X	[163]
S — Tc		
$Tc_2S_{7\pm x}$	X	[469]
S — Th		
$Th_{2,0\rightarrow 1,3}S$	V, в	[122, 252]
∂-Th_2S_3	VII	[252, 122]
$ThS_{1,70\rightarrow 1,78}$	VIII	[252]
∂-ThS_2	V, в	[252, 122, 477]
S — Ti		
$Ti_{2,5\rightarrow 1,0}S$	X	[123]
TiS	X	[123]
$TiS_{1,1\rightarrow 1,5}$	X	[123]
∂-TiS_2	V, а	[123, 8]
TiS_3	X	[123]
S — Tl		
Tl_2S	V, б	[7, 251, 395]
Tl_4S_3	X	[395]
∂-TlS	VI	[395]
S — U		
$U_4S_{3\pm x}$	V, в	[97, 164, 252]
U_2S_{3+x}	VII	[252, 164]
$US_{2\pm x}$	X	[164, 477]
US_{3+x}	X	[164]
S — V		
∂-VS	V, а	[163]
$VS_{1,2\rightarrow 1,5}$	X	[163]
$VS_{4\pm x}$	X	[163]
S — W		
WS_2	VII	[1, 8, 288]
S — Zr		
$Zr_{5\rightarrow 3}S$	X	[124]
$Zr_{2,0\rightarrow 1,1}S$	X	[124]
$ZrS_{1,2\rightarrow 1,5}$	X	[124]
∂-ZrS_2	V, а	[8, 124]

	Sb — Se	
∂_2Se_3	X	[8]
	Sb — Sn	
∂-nSb (β)	V, a	[3]
	Sb — Te	
∂Sb_2Te_3	V, б	[2, 8]
	Sb — Ti	
Ti_4Sb	I	[513, 453]
$TiSb_{2\pm x}$	VI	[453]
	Sb — V	
$VSb_{2\pm x}$	VI	[453]
	Sb — Tl	
Tl_7Sb_2 (γ)	III	[3, 8, 348]
	Sb — Zn	
Zn_1Sb_2	X	[8]
Zn_4Sb_3	X	[8]
ZnSb	VIII	[38, 8]
	Sc — Sm	
$Sm_2Sc_{3\pm x}$	X	[293]
	Sc — Sn	
SnSe	X	[8]
$SnSe_2$	X	[8]
	Sc — Ti	
∂-TiSe — $TiSe_2$	V, a	[394]
	Sc — Tl	
Tl_2Se	X	[251, 395]
TlSe	VI	[7, 251, 395]
Tl_2Se_3	X	[251]
	Sc — U	
$U_2Se_{3\pm x}$	X	[8]
$USe_{2\pm x}$	X	[8]
	Sc — V	
∂-VSe — VSe_2	V, a	[7, 326]
	Sc — W	
WSe_2	VII	[143a, 288]
	Sc — Y	
$Y_2Se_{3\pm x}$	X	[293]
	Sc — Yb	
$YbSe_{1\pm x}$	V,a	[199]
$Yb_2Se_{3\pm x}$	X	[293]
	Sc — Zn	
$ZnSe_{1\pm x}$	V, a	[8]
	Sc — Zr	
$ZrSe_{2\pm x}$	V, a	[8]
	Si — Sm	
$SmSi_{2\pm x}$	VI	[360]
	Si — Sr	
$SrSi_{1\pm x}$	X	[8]
$SrSi_{2\pm x}$	X	[8]
	Si — Ta	
$Ta_{5\pm x}Si$	X	[404]
$Ta_5Si_{2\pm x}$	X	[404]
$Ta_5Si_{3\pm x}$	X	[404]
$TaSi_{2\pm x}$	X	[352, 177]
	Si — Th	
$ThSi_{2\pm x}$	VI	[177]
	Si — Ti	
$Ti_5Si_{3\pm x}$	V, б	[507, 441]
$TiSi_{1\pm x}$	X	[441]
$TiSi_{2\pm x}$	III	[7, 441]
	Si — U	
$U_{3\pm x}Si$	I	[268]
$U_3Si_{2\pm x}$	VI	[268]
$USi_{1\pm x}$	VI	[268]
$USi_{2\pm x}$ (α)	VI	[268]
$USi_{3\pm x}$ (β)	VI	[268]
	Si — V	
$V_{3\pm x}Si$	III	[7]
$V_{2\pm x}Si$	X	[8]
$VSi_{2\pm x}$	III	[352, 177, 8]
	Si — W	
W_3Si_2	X	[517, 404]
$WSi_{2\pm x}$	III	[1, 517]

	Si — Y	
$YSi_{2\pm x}$	X	[523]
	Si — Zr	
Zr_4Si	X	[527]
Zr_2Si	X	[527]
Zr_3Si_2	X	[527]
Zr_4Si_3	X	[527]
Zr_6Si_5	X	[527]
$ZrSi$	X	[527]
$ZrSi_2$	VII	[126, 177, 527]
	Sn — Sr	
$SrSn_3$	X	[8]
$SrSn_5$	X	[8]
	Sn — Te	
$SnTe$	V, a	[8]
	Sn — Ti	
$Ti_{3\pm x}Sn$	I	[513, 442]
$Ti_5Sn_{3\pm x}$	V, б	[507]
	Sn — U	
$USn_{3\pm x}$	I	[262]
USn_x	X	[262]
USn_y	X	[262]
	Sn — Zr	
Zr_4Sn	X	[528]
Zr_5Sn_3	X	[528]
$ZrSn$	X	[528]
	Sr — Tl	
$SrTl_{1\pm x}$	III	[8]
	Sr — Zn	
$SrZn_{13\pm x}$	II	[40]
	Te — Th	
$Th_{3\pm x}Te$	X	[243]
	Te — Ti	
δ-$TiTe - TiTe_2$	V, a	[394]
	Te — Tl	
$Tl_{2\pm x}Te$	X	[395, 251]
$TlTe_{1\pm x}$	X	[395, 251]
	Te — U	
$U_{2\pm x}Te$	X	[440, 243]
	Te — V	
$VTe_{1\pm x}$	V, a	[394]
	Te — W	
$W_{2\pm x}Te$	X	[440]
$WTe_{2\pm x}$	VII	[142, 143a]
	Te — Yb	
$YbTe_{1\pm x}$	V, a	[199]
	Te — Zn	
$ZnTe_{1\pm x}$	V, a	[8]
	Te — Zr	
$Zr_{2\pm x}Te$	X	[200]
	Th — Zn	
$ThZn_9$	II	[183]
$ThZn_x$	X	[183]
	Ti — Zn	
$TiZn_{1\pm x}$	III	[185]
$TiZn_{3\pm x}$	I	[185]
	V — Zr	
$ZrV_{2\pm x}$	II	[75]
	W — Zn	
WZn_x	X	[206]
	W — Zr	
$ZrW_{2\pm x}$	II	[40]
	Zn — Zr	
$ZrZn_x$	X	[207]

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* Adopted abbreviations: NIKK = New investigation of crystallography and crystallochemistry. Collected by N. S. Kurnakova, Collection of Selected reports by N. S. Kurnakov, Vol. I-II, 1938-1939.

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