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Formula index

Classes of compounds are arranged alphabetically at the beginning of this list. *Chemical formulas* of specific JT systems are arranged along the Periodic Table of elements by their assumed JT atoms or (conventionally) JT centers, and are listed for each element by the increasing number of such atoms in the formula and increasing environment. *Section numbers*, given where appropriate, are indicated in *italics*; *Table numbers* are indicated in *italics* and preceded by a letter *T*.

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- Mn^{3+} in
 yttrium-iron garnet - 342
 $Be_3Al_2(SiO_3)_6$ - 491
 Al_2O_3 - *T482*
- Mn : Si - 321
 MnH_3 - 404
 $[MnH_6]^+$ - 441
 MnF_3 - *T395*, 403
 $KMnF_3$ - 403
 $LaMnO_3$ - 579
- $CaMnO_3$ - 579
 $A_{1-x}B_xMnO_3$ - 580
 $R_{1-x}A_xMnO_3$, R = La, Nd;
 A = Ca, Sr - 577
 $L_{0.5}A_{0.5}MnO_3$
 L = Pr, $Pr_{1-y}Y_y$, Sm;
 A = $Ca_{1-x}Sr_x$, Sr - 579
 L = La, Pr, Nd, Y, Eu, Sm;
 A = Ca, Sr - 579
 $La_{1-x}Sr_xMnO_3$ - 579
 $La_{1-x}Ca_xMnO_3$ - 580
 $La_{7/8}Sr_{1/8}MnO_3$ - 579
 $La_{0.75}Ca_{0.25}MnO_3$ - 577
 $La_{1-x}Sr(Ba)_xMnO_3$ - 581
 $LaMn_{1-x}Ga_xO_3$ - 579
 $RMnO_3$, R = La, Pr, Nd - 579
 $RNiO_3$, R = lanthanide - 579
 $LaMnO_{3+\delta}$ - 579
 $La_{0.96}Sr_{0.04}MnO_{3+\delta}$ - 579
 MnO_4^- - 18
 $AMnF_4$, A = Cs, Pb, NH_4 , K - 538
 $[MnF_6]^{4-}$ - 443
 $[MnO_6]^{9-}$, $[MnO_6]^{8-}$ in $La_{2-2x}Sr_{1+2x}Mn_2O_7$ - 579
 $[Mn(H_2O)_6]^{3+}$ - 442
 $[Mn(H_2O)_6]^{2+}$ - 439
 MP, P = porphin, M = Mn, Fe, Co, Ni, Cu,
 Zn - 447
 $MnPc$, Pc = phthalocyanine - 447
 $Mn(trop)_3$ - *T497*
 $Mn(acac)_3$ - *T497*
 $Mn(Et_2dte)_3$ - *T497*
 $La_{1.4}Sr_{1.6}Mn_2O_7$ - 579
 $[Mn_2O_{11}]^{15-}$ - 580
 Mn_3O_4 - *T526*
- Fe**
- Fe^+ in MgO - 322
 Fe^{2+} in
 $CdTe$ - 487, *T488*
 ZnS - 487, *T488*
 $ZnTe$ - 488, *T488*
 $ZnSe$ - 488, *T488*
 $GaAs$ - 488, *T488*
 InP - 488, *T488*
 GaP - 488, *T488*
 MgO - 288, *T482*, *T485*
 CaO - 321, *T485*
 $AgCl$ - *T482*
 $AgBr$ - *T482*
 $KMgF_3$ - *T482*, *T485*
 $CdCl_2$ - *T482*
 $CdBr_2$ - *T482*
 CdF_2 - *T482*
 Al_2O_3 - *T485*
 Fe^{6+} in $[FeO_4]^{2-}$ of K_2XO_4 , X = S, Se, Cr - 488
 FeF_3 - 403
 $[FeCl_4]^{2-}$ - 340
 $Fe(CO)_4$ - 359, 362
 $Fe(CO)_2(^{13}C^{18}O)_2$ - 359
 $FeCr_2O_4$ - 340
 $H[Fe(5-Clthsa)_2]$, thsa = thiosemicarbazone - 539

- [Fe(phen)₂(NCX)₂]⁺, X = S, Se – 539
 Fe(II)-phthalocyanine – 447
 Fe-porphyrin – 447
 Fe₂As – 546
 [Fe₃S₄]⁰ – 458
 [Fe₃O(CF₃COO)₆](H₂O)₃ – 453
 Fe₃O₁₂ – 460
 Fe₃O₁₆ – 460
 [Fe(II)Fe₂(III)(CH₃COO)₆L₃] – 456
 Na₂[Fe(CN)₅(NO)]2H₂O – 444
 [Fe₄S₄]³⁺ – 458
- Co**
 Co²⁺ in
 [CoF₆]⁴⁻ of Co²⁺: KZnF₃ – 490
 SrLaGa₃O₇ – 491
 CdF₂ – T482
 CoX₄ in cat[MX₄], cat = *p*-xylylene
 bis(triphenylphosphonium)²⁺,
 X = NCS⁻ – T445
 Co(CO)₄ – 362
 LaCoO₃ – 576
 La_{1-x}Sr_xCoO₃ – 576
 Co₂Sb – 546
 Co-porphin – 447
- Ni**
 Ni⁺ in
 NaF – T481
 MgO – T483
 CsCaF₃ – 487
 CaF₂ of [NiF₈Ca₁₂]¹⁷⁺ – 487, 494
 Ni²⁺ in
 CaF₂ – T482
 CdF₂ – T482
 Ni_xZn_{1-x}Cr₂O₄ – 487
 Cu_{1-x}Ni_xCr₂O₄ – 487
 Ni³⁺ in
 NiO_x of LaSrNiO_{4±δ} and LaSrAl_{1-x}Ni_xO_{4±δ} –
 487
 CaO – T481
 MgO – T483
 Al₂O₃ – 344, T482
 Ni⁻: Ge – 321
 NiF₃ – 62
 K₂NiF₄ – 576
 Ni(NMTP)₄[BF₄]₂, NMTP = *N*-methyl-2-
 thioxopyrrolidine – 443, T445
 NiX₄ in cat[MX₄], cat = *p*-xylylene
 bis(triphenylphosphonium)²⁺,
 X = NCS⁻ – T445
 NiCr₂O₄ – T526
 Ni₆ – 443
 Ni-porphin – 447
- Cu**
 Cu⁺ in
 NaF – 484
 Cu²⁺ in
 MgO – 320, T481
 SrO – 493
 CaO – 308, 333, T481, T482, T483
 AgCl – T481
 CuN₆ – 480
 CuO₆ – 480
 CaF₂ – 485
 SrF₂ – 440, 485
 SrCl₂ – 485
 Sr_{1-x}Ba_xF₂ – 485
 Ca_xSr_{1-x}F₂ – 485
 K₂C₂O₄ · H₂O – 485
 K₂MgF₄ – 486
 Cu_xZn_{1-x}Cr₂O₄ – 486
 Cu_{1-x}Ni_xCr₂O₄ – 486
 [Cu{(NH₃)₂sar}](NO₃)₄H₂O – 486
 [Cu(H₂O)₆]²⁺ of
 Cu²⁺: Cs₂Zn(SO₄)₂ · 6H₂O – 486
 Cs₂Zn_{1-x}Cu_x(ZnF₆) · 6H₂O – 504
 (CH₃NH₃)₂CdCl₄ – 486
 (CH₃NH₃)₂CuCl₄ – 486
 (C₃H₇NH₃)₂CdCl₄ – 486
 ZnSiF₆ · 6H₂O – T481
 Zn(BrO₃)₂ · 6H₂O – T481
 La₂Mg₃(NO₃)₁₂ · 24H₂O – T481
 Bi₂Mg₃(NO₃)₁₂ · 24H₂O – T481
 Cu₃La₂(NO₃)₁₂ · 24H₂O – T481
 Zn(pyNO)₆(BF₄)₂ – T481
 (NH₄)₂Cu(H₂O)₆(SO₄)₂ – T481
 LiKSO₄ – T481
 LiNH₄SO₄ – T481
 ethylene-glycol – 440
 CuO₂ in
 La₂CuO₄ – 569
 La_{2-x}Sr_xCuO₄ – 571
 Cu(NH₃)₂X₂, X = Cl, Br – 498
 CuF₃ – 402
 KCuF₃ – 536
 CsCuCl₃ – 527
 RbCuCl₃ – 526
 Cu(acac)₂ – T497
 CuFe₂O₄ – T526
 K₂CuF₄ – 440, 535
 CuX₄ in cat[MX₄], cat = *p*-xylylene
 bis(triphenylphosphonium)²⁺, X = NCS⁻,
 Br⁻ – T445
 CuX₄Y₂ – 367
 [CuCl₄]²⁻ – 416
 Cs₂CuCl₄ – 416
 [CuCl₅]³⁻ – T122, 358, 437
 KAlCuF₆ – 440
 Ba₂CuF₆ – 440
 CuN₆ in Cu(mtz)₆(BF₄)₂, mtz =
 1-methyltetrazole – 504
 [Co(NH₃)₆][CuCl₅] – 437
 [Cu(NO₂)₆]⁴⁻ – 533
 A₂BCu(NO₂)₆ – 532, 534
 K₂BaCu(NO₂)₆ – T497
 K₂PbCu(NO₂)₆ – T497, T526, 532
 Cs₂PbCu(NO₂)₆ – 440, T497
 Rb₂PbCu(NO₂)₆ – T526
 Tl₂PbCu(NO₂)₆ – T526
 Cu(en)₃SO₄ – T497

- $[\text{Cu}(\text{en})_3]^{2+}$ – 446
 $[\text{Cu}(\text{en})_2\text{H}_2\text{O}]\text{SO}_4$ – 444
 $[\text{Cu}(\text{bpy})_3]^{2+}$ – 501
cis- CuN_4O_2 in $[\text{Cu}(\text{bpy})_2(\text{ONO})]\text{NO}_3$,
 bpy = bipyridine – 501, *T503*
 $[\text{Cu}(\text{phen})_2\text{Br}][\text{Y}]$, Y = $\text{Br}^- \cdot \text{H}_2\text{O}$, ClO_4^- ,
 $\text{NO}_3^- \cdot \text{H}_2\text{O}$, PF_6^- , and BPH_4^- – 445
 $[\text{C}_{14}\text{H}_{19}\text{N}_2]\text{Cu}(\text{hfacac})_3$ – *T497*
 $[\text{Cu}(\text{H}_2\text{O})_6](\text{BrO}_3)_2$ – 438, 440
 $[\text{Cu}(\text{H}_2\text{O})_6]\text{SiF}_6$ – *T497*
 $\text{Cu}(\text{ClO}_4)_2 \cdot 6\text{H}_2\text{O}$ – *T497*
 $(\text{NH}_4)_2\text{Cu}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ – *T497*
 $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$ – 438, 440, 504
 $\text{Cu}(\text{OMPA})_3(\text{ClO}_4)_2$ – *T497*
 $\text{Cu}(\text{IPCP})_3(\text{ClO}_4)_2$ – *T497*
 $\text{Cu}(\text{phen})_3(\text{ClO}_4)_2$ – *T497*
 $\text{Cu}(\text{l-pn})_3\text{Br}_2 \cdot 2\text{H}_2\text{O}$ – *T497*
 $[\text{Cu}(\text{ONC}_3\text{H}_5)_6](\text{ClO}_4)_2$ – 440, 536
 $[\text{Cu}(\text{ONC}_3\text{H}_6)_6]^{2+}$ in
 $\text{Cu}(\text{ONC}_3\text{H}_6)_6\text{X}_2$, X = BF_4^- , ClO_4^- – 536
 $\text{Cu}(\text{ONC}_3\text{H}_6)_6(\text{NO}_3)_2$ – 537
 CuO_6 polyhedra – 496, *T497*
 in La_2CuO_4 – 571
 CuN_6 polyhedra – 496, *T497*
 CuCl_6 polyhedra in
 CsCuCl_3 – 527
 RbCuCl_3 – 527
 $(\text{CH}_3)_4\text{NCuCl}_3$ – 527
 $(\text{CH}_3)_2\text{CHNH}_3\text{CuCl}_3$ – 526
 CsCdCl_3 – *T481*
 (3-chloroanilinium) $[\text{CuCl}_6]\text{Cl}_4$ – 440
 La_2CuO_4 – *T526*, 566, 569
 $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ – 566, 568, 573
 $\text{La}_{1.90}\text{Ba}_{0.10}\text{Cu}_2\text{O}_4$ – 575
 $\text{La}_{1+x}\text{Sr}_{1-x}\text{Ga}_{1-x}\text{Cu}_x\text{O}_4$ – 576
 $\text{La}_{1.81}\text{Ho}_{0.04}\text{Sr}_{0.15}\text{CuO}_4$ – 574
 $\text{HoBa}_2\text{Cu}_4\text{O}_8$ – 574
 $\text{YBa}_2\text{Cu}_3\text{O}_7$ – 569
 $\text{Ba}_2\text{Zn}_{1-x}\text{Cu}_x\text{WO}_6$ – *T526*
 bis(1,3,5-trihydroxycyclohexane)copper(II)
 tosylate – 503
 Cu_3 – *T395*, 399
 $[\text{Cu}_3\text{O}_2\text{L}_3]^{3+}$, L = *N*-permethylated(1R,
 2R-cyclohexanediamine) – 456
 $[\text{Cu}_3\text{O}_2(\text{NH}_3)_6]^{3+}$ – 457
 $\text{CdCu}_3(\text{OH})_6(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$ – *T497*
 $\text{Cu}_4\text{O}_{12}\text{H}_8$ – 438, 443, 576
 $\text{Cu}_4\text{OL}_4\text{X}_6$, X = Cl, Br, L = Cl, Br, pyridine, OPR₃,
 ONR₃ – 102, 443
 $\text{Cu}_4(\text{NO}_3)_2(\text{OH})_6$ – *T497*
 $\text{Ca}(\text{Cu}, \text{Zn})_4(\text{OH})_6(\text{SO}_4)_2 \cdot 3\text{H}_2\text{O}$ – *T497*
 $\text{Cu}_6(\text{Si}_6\text{O}_{19}) \cdot 6\text{H}_2\text{O}$ – *T497*
 $[\text{CuF}_8]^{3-}$ – 440
 ascorbate oxidase – 457
 ceruloplasmin – 457
 H_2O -lactase – 457
 Cu-porphin – 447
Zn
 ZnCH_3 – 408, *T409*
 $[\text{Zn}(\text{H}_2\text{O})_6]^{3+}$ – 440
 $[\text{ZnCl}_5]^{3-}$ – 439
cis- ZnN_4O_2 in $[\text{Zn}(\text{bpy})_2(\text{ONO})]\text{NO}_3$,
 bpy = bipyridine – 503, *T503*
 $[\text{Co}(\text{NH}_3)_6][\text{ZnCl}_5]$ – 439
 Zn-porphin – 447
Ga
 Ga^+ in KBr – 492
 Ga in $\text{A}^{\text{IV}}\text{B}^{\text{VI}}$ – 492
 GaAs – 492
 InAs/GaAs , quantum dots – 495
Ge
 GeTe – 555
As
 As – 547
 As_4^+ – 410
 InAs/GaAs , quantum dots – 495
Se
 SeF_6^{2-} – 440
 SeCl_6^{2-} – 441
 SeBr_6^{2-} – 441
Br
 BrF_6^- – 441
Sr
 SrCl_2 , F center – 276
Y
 Y^{2+} in
 CaF_2 – *T481*
 SrCl_2 – *T484*
Zr
 BaMO_3 , M = Ti, Zr, Hf – 551, 556, *T558*, *T562*,
T566
 BaZrO_3 – 558
 ZrSiS – 546
Nb
 NbF_4 – 416
 KNbO_3 – 562, *T562*, *T566*
 $\text{KNb}_x\text{Ta}_{1-x}\text{O}_3$ – *T566*
 $[(\eta^6\text{-benzene})\text{Nb}(\text{CO})_3]^+$ – 445
Mo
 MoH_3 – 403
 MoCl_5 – 439
cis- $\text{Mo}_2(\mu_2\text{-O}_2\text{CCH}_3)_2(\mu_2\text{-DX}_y\text{IF}^{2,6})_2$,
 $\text{DX}_y\text{IF}^{2,6} = N,N'$ -di-(2,6-xylylformamidine) –
 446
 Mo-porphin – 447
Ru
 RuF_6 – 441
 $[\text{Ru}(\text{H}_2\text{O})_6]^{3+}$ – 442
 $[(\text{NH}_3)_5\text{Ru}(\text{pyz})\text{Ru}(\text{NH}_3)_5]^{5+}$,
 pyz = pyrazine – 460

- Rh**
 Rh²⁺ in
 [RhCl₆]⁴⁻ and RhCl₆Na₁₂Cl₈Na₆Cl₆ of Rh²⁺ :
 NaCl – 491
 AgBr – *T481*
 MgO – *T483*
- Pd**
 Pd⁻ in Si – 321
- Ag**
 Ag²⁺ in
 MgO – *T483*
 CaO – *T483*
 SrO – *T483*
 LiCl – *T526*
 NaCl – *T481*
 KCl – *T481*
 NaF – 484
 CaF₂ – 487
 SrF₂ – 487
 Ca_xSr_{1-x}F₂ – 487
 Sr_{1-x}Ba_xF₂ – 487
 Ag₃ – 383, *T386*, *T395*, 401
 Ag₃⁺ – 383, *T386*, 401
 Ag₃⁻ – 383, *T386*, 401
- Cd**
 CdCH₃ – 408, *T409*
 CdCO₃ – 7–49
 [Cd(H₂O)₆]³⁺ – 440
 CdSe, quantum dots – 495
 Cd_xSe_{1-x}S_x, quantum dots – 495
 CdSe/Zn/Se, quantum dots – 495
 CdS/HgS/CdS quantum dot – 495
- In**
 In in A^{IV}B^{VI} – 492
 [InCl₆]³⁻ – 364, 441
 in InCl – 366
 InCl – 441, 529
 InAs/GaAs, quantum dots – 495
- Sn**
 Sn₆(μ₅-O)₄(μ₃-OH)₄ – 446
 Sn-porphin – 447
- Sb**
 SbSI – 546
 [SbBr₆]³⁻ – 364
 Sb₄, Sb₄⁺ – 411
- Te**
 Te in A^{IV}B^{VI} – 8–10
 TeF₆³⁻ – 441
 TeCl₆²⁻ – 364, 441
 TeI₆²⁻ – 441
- I**
 IF₆⁻ – 441
 I₃ – 383, *T386*
- I₃⁺ – 383, *T386*
 I₃⁻ – 383, *T386*
- Xe**
 XeF₆ – 363, 441
- La**
 La²⁺ in
 CaF₂ – *T481*, *T484*
 SrF₂ – *T484*
- Pr**
 Pr⁴⁺ in PrO₂ – 491
 PrAlO₃ – 519
- Sm**
 Sm²⁺ in
 CaF₂ – 289, *T482*
 SrF₂ – 289, *T482*
- Eu**
 Eu²⁺ in
 CaF₂ – 289, *T482*
 SrF₂ – 289, *T482*
- Tb**
 RXO₄, R = Tm, Dy, Tb;
 X = V, As, P – *511*, 511
 TbVO₄ – 512, 517, *T526*
 TbAsO₄ – 518, *T526*
 TbPO₄ – 518, *T526*
 Tb_xY_{1-x}VO₄ – 519
- Dy**
 RXO₄, R = Tm, Dy, Tb;
 X = V, As, P – *511*, 511
 DyVO₄ – 512, 517, *T526*
 DyAsO₄ – 518, *T526*
 DySb – 519, *T526*
 Dy_xTb_{1-x}VO₄ – 519
 KDy(MoO₄)₂ – *T526*
 CsDy(MoO₄)₂ – *T526*
 RbDy(MoO₄)₂ – *T526*
- Ho**
 Rb₂NaHoF₆ – *T526*
 La_{1.81}Ho_{0.04}Sr_{0.15}CuO₄ – 574
- Tm**
 RXO₄, R = Tm, Dy, Tb;
 X = V, As, P – *511*, 511
 TmPO₄ – 519
 TmVO₄ – 512, *T526*
 TmAsO₄ – 518, *T526*
 TmCd – 519
 Rb₂NaTmF₆ – *T526*
- Hf**
 BaMO₃, M = Ti, Zr, Hf – *551*, 556,
 T558

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TaTaF₄ – 416**W**WH₃ – 403WF₆ – 149[W₆Cl₁₄][−] – 443[W₁₀O₃₂]^{4−} – 460**Re**[Re₆S₈Cl₆]^{3−} – 443in (nBu₄N)₃[Re₆S₈Cl₆] – 443[ReO₄]^{2−} in KCl – 492**Ir**IrF₆ – 441**Pt**Pt[−] in Si – 322Pt³⁺ inAl₂O₃ – *T481*MgO – *T483*

PtXYZV – 373

AuAuH₃ – 403AuF₃ – 403AuCl₃ – 403, 441[AuCl₄][−] – 443AuCl_n – 442Au(CH₃)₃ – 410[Au(PH₃)₃]⁺ – 446AuL₃, L = phosphine – 446*Formula index*Au₃ – 402**Hg**[Hg(H₂O)₆]³⁺ – 440**Tl**

Tl in CsI – 491

Pb

Pb in CsCl – 491

PbFCl – 546

Pb₃ – 402Pb₃⁺ – 402Pb₆ – 443Pb₆⁺ – 443Pb₆[−] – 443

PbS, quantum dots – 495

Bi

BiOCl – 546

[BiCl₆]^{3−} – 441**Po**[PoF₆]^{2−} – 442**At**AtF₆[−] – 442**U**UO₂ – 550**Pu**Pu₄ – 413