

Abbreviation	Description and/or Equation
S.A. p=0	The fraction of elements present without regard to what the elements are. All are based on L^p norms with varying p values to capture various degrees of change. $\ X\ _p = \left(\sum_i^n x_p ^p \right)^{1/p}$
S.A. p=2	$\ X\ _p = \left(\sum_i^n x_p ^p \right)^{1/p}$
S.A. p=3	$\ X\ _p = \left(\sum_i^n x_p ^p \right)^{1/p}$
S.A. p=5	$\ X\ _p = \left(\sum_i^n x_p ^p \right)^{1/p}$
S.A. p=7	$\ X\ _p = \left(\sum_i^n x_p ^p \right)^{1/p}$
S.A. p=10	$\ X\ _p = \left(\sum_i^n x_p ^p \right)^{1/p}$
V.O.O.A. s	Fraction-weighted average of the total valence electrons in the s-orbital.
V.O.O.A. p	Fraction-weighted average of the total valence electrons in the p-orbital.
V.O.O.A. d	Fraction-weighted average of the total valence electrons in the d-orbital.
V.O.O.A. f	Fraction-weighted average of the total valence electrons in the f-orbital.
I.C.A. max	The max ionic character between any two constituent elements: $I(X_A, X_B) = 1 - \exp(-0.25(X_A - X_B)^2)$ Where X_A, X_B are the electronegativity of element A, B.
I.C.A. mean	The mean ionic character for the composition: $\bar{I} = \sum x_i x_j * I(X_i, X_j)$
E.P.B.A. a.n.min	The minimum atomic number of all the elements in the composition.
E.P.B.A. a.n.max	The maximum atomic number of all the elements in the composition.
E.P.B.A. m.n.min	The minimum Mendeleev number of all the elements in the composition.
E.P.B.A. m.n.max	The maximum Mendeleev number of all the elements in the composition.
E.P.B.A. m.n.range	The range of Mendeleev numbers of all the elements in the composition.
E.P.B.A. m.n.f.w.m	The fraction-weighted mean of the Mendeleev number for the composition.
E.P.B.A. m.n.a.d	The average deviation of the Mendeleev number for the composition.
E.P.B.A. m.n.m	The mode of the Mendeleev number for the composition.
E.P.B.A. a.w.min	The minimum atomic weight of all the elements in the composition.
E.P.B.A. a.w.max	The maximum atomic weight of all the elements in the composition.
E.P.B.A. a.w.range	The range of atomic weight of all the elements in the composition.
E.P.B.A. a.w.f.w.m	The fraction-weighted mean of the atomic weight for the composition.
E.P.B.A. a.w.a.d	The average deviation of the atomic weight for the composition.
E.P.B.A. a.w.m	The mode of the atomic weight for the composition.
E.P.B.A. m.t.min	The minimum melting temperature of all the elements in the composition.
E.P.B.A. m.t.max	The maximum melting temperature of all the elements in the composition.

E.P.B.A. m.t.range	The range of melting temperature of all the elements in the composition.
E.P.B.A. m.t.f.w.m	The fraction-weighted mean of the melting temperature for the composition.
E.P.B.A. m.t.a.d	The average deviation of the melting temperature for the composition.
E.P.B.A. m.t.m	The mode of the melting temperature for the composition.
E.P.B.A. c.min	The minimum column of all the elements in the composition.
E.P.B.A. c.max	The maximum column of all the elements in the composition.
E.P.B.A. r.min	The minimum row of all the elements in the composition.
E.P.B.A. r.max	The maximum row of all the elements in the composition.
E.P.B.A. c.r.min	The minimum covalent radius of all the elements in the composition.
E.P.B.A. c.r.max	The maximum covalent radius of all the elements in the composition.
E.P.B.A. c.r.range	The range of covalent radius of all the elements in the composition.
E.P.B.A. c.r.f.w.m	The fraction-weighted mean of the covalent radius for the composition.
E.P.B.A. c.r.a.d	The average deviation of the covalent radius for the composition.
E.P.B.A. c.r.m	The mode of the covalent radius for the composition.
E.P.B.A. e.min	The minimum electronegativity of all the elements in the composition.
E.P.B.A. e.max	The maximum electronegativity of all the elements in the composition.
E.P.B.A. e.range	The range of electronegativity of all the elements in the composition.
E.P.B.A. e.f.w.m	The fraction-weighted mean of the electronegativity for the composition.
E.P.B.A. e.a.d	The average deviation of the electronegativity for the composition.
E.P.B.A. e.m	The mode of the electronegativity for the composition.
E.P.B.A. s.v.e.min	The minimum s-valence electrons of all the elements in the composition.
E.P.B.A. s.v.e.max	The maximum s-valence electrons of all the elements in the composition.
E.P.B.A. s.v.e.range	The range of s-valence electrons of all the elements in the composition.
E.P.B.A. s.v.e.f.w.m	The fraction-weighted mean of the s-valence electrons for the composition.
E.P.B.A. s.v.e.a.d	The average deviation of the s-valence electrons for the composition.
E.P.B.A. s.v.e.m	The mode of the s-valence electrons for the composition.
E.P.B.A. p.v.e.min	The minimum p-valence electrons of all the elements in the composition.
E.P.B.A. p.v.e.max	The maximum p-valence electrons of all the elements in the composition.
E.P.B.A. p.v.e.range	The range of p-valence electrons of all the elements in the composition.
E.P.B.A. p.v.e.f.w.m	The fraction-weighted mean of the p-valence electrons for the composition.
E.P.B.A. p.v.e.a.d	The average deviation of the p-valence electrons for the composition.
E.P.B.A. p.v.e.m	The mode of the p-valence electrons for the composition.
E.P.B.A. d.v.e.min	The minimum d-valence electrons of all the elements in the composition.
E.P.B.A. d.v.e.max	The maximum d-valence electrons of all the elements in the composition.
E.P.B.A. d.v.e.range	The range of d-valence electrons of all the elements in the composition.
E.P.B.A. d.v.e.f.w.m	The fraction-weighted mean of the d-valence electrons for the composition.
E.P.B.A. d.v.e.a.d	The average deviation of the d-valence electrons for the composition.
E.P.B.A. d.v.e.m	The mode of the d-valence electrons for the composition.
E.P.B.A. f.v.e.min	The minimum f-valence electrons of all the elements in the composition.
E.P.B.A. f.v.e.max	The maximum f-valence electrons of all the elements in the composition.
E.P.B.A. f.v.e.range	The range of f-valence electrons of all the elements in the composition.

E.P.B.A. f.v.e.f.w.m	The fraction-weighted mean of the f-valence electrons for the composition.
E.P.B.A. f.v.e.a.d	The average deviation of the f-valence electrons for the composition.
E.P.B.A. f.v.e.m	The mode of the f-valence electrons for the composition.
E.P.B.A. t.v.e.min	The minimum total valence electrons of all the elements in the composition.
E.P.B.A. t.v.e.max	The maximum total valence electrons of all the elements in the composition.
E.P.B.A. t.v.e.range	The range of total valence electrons of all the elements in the composition.
E.P.B.A. t.v.e.f.w.m	The fraction-weighted mean of the total valence electrons for the composition.
E.P.B.A. t.v.e.a.d	The average deviation of the total valence electrons for the composition.
E.P.B.A. t.v.e.m	The mode of the total valence electrons for the composition.
E.P.B.A. u.s.v.e.min	The minimum unfilled s-valence electrons of all the elements in the composition.
E.P.B.A. u.s.v.e.max	The maximum unfilled s-valence electrons of all the elements in the composition.
E.P.B.A. u.s.v.e.range	The range of unfilled s-valence electrons of all the elements in the composition.
E.P.B.A. u.s.v.e.f.w.m	The fraction-weighted mean of the unfilled s-valence electrons for the composition.
E.P.B.A. u.s.v.e.a.d	The average deviation of the unfilled s-valence electrons for the composition.
E.P.B.A. u.s.v.e.m	The mode of the unfilled s-valence electrons for the composition.
E.P.B.A. u.p.v.e.min	The minimum unfilled p-valence electrons of all the elements in the composition.
E.P.B.A. u.p.v.e.max	The maximum unfilled p-valence electrons of all the elements in the composition.
E.P.B.A. u.p.v.e.range	The range of unfilled p-valence electrons of all the elements in the composition.
E.P.B.A. u.p.v.e.f.w.m	The fraction-weighted mean of the unfilled p-valence electrons for the composition.
E.P.B.A. u.p.v.e.a.d	The average deviation of the unfilled p-valence electrons for the composition.
E.P.B.A. u.p.v.e.m	The mode of the unfilled p-valence electrons for the composition.
E.P.B.A. u.d.v.e.min	The minimum unfilled d-valence electrons of all the elements in the composition.
E.P.B.A. u.d.v.e.max	The maximum unfilled d-valence electrons of all the elements in the composition.
E.P.B.A. u.d.v.e.range	The range of unfilled d-valence electrons of all the elements in the composition.
E.P.B.A. u.d.v.e.f.w.m	The fraction-weighted mean of the unfilled d-valence electrons for the composition.
E.P.B.A. u.d.v.e.a.d	The average deviation of the unfilled d-valence electrons for the composition.
E.P.B.A. u.d.v.e.m	The mode of the unfilled d-valence electrons for the composition.
E.P.B.A. u.f.v.e.min	The minimum unfilled f-valence electrons of all the elements in the composition.
E.P.B.A. u.f.v.e.max	The maximum unfilled f-valence electrons of all the elements in the composition.
E.P.B.A. u.f.v.e.range	The range of unfilled f-valence electrons of all the elements in the composition.
E.P.B.A. u.f.v.e.f.w.m	The fraction-weighted mean of the unfilled f-valence electrons for the composition.
E.P.B.A. u.f.v.e.a.d	The average deviation of the unfilled f-valence electrons for the composition.
E.P.B.A. u.f.v.e.m	The mode of the unfilled f-valence electrons for the composition.
E.P.B.A. u.t.v.e.min	The minimum unfilled total valence electrons of all the elements in the composition.
E.P.B.A. u.t.v.e.max	The maximum unfilled total valence electrons of all the elements in the composition.
E.P.B.A. u.t.v.e.range	The range of unfilled total valence electrons of all the elements in the composition.

E.P.B.A. u.t.v.e.f.w.m	The fraction-weighted mean of the unfilled total valence electrons for the composition.
E.P.B.A. u.t.v.e.a.d	The average deviation of the unfilled total valence electrons for the composition.
E.P.B.A. u.t.v.e.m	The mode of the unfilled total valence electrons for the composition.

CALPHAD Features

# of phases at 3500K	The total number of phases present at 3500K.
Rock Salt at 1000K	The phase fraction of rock-salt structure at 1000K.
Rock Salt at 1400K	The phase fraction of rock-salt structure at 1400K.
GRAPHITE at 1100K	The phase fraction of graphite at 1100K.
GRAPHITE at 1700K	The phase fraction of graphite at 1700K.
GRAPHITE at 2200K	The phase fraction of graphite at 2200K.
Liquidus T	The temperature (in Kelvin) above which the substance is entirely liquid.
Solidus T	The temperature (in Kelvin) below which the substance is entirely solid.