

Packing Possibilities Assuming Anion is Larger Than Cation^a

anion's lattice	cation's hole	Coordination Number (max)		$r_{\text{cation}}/r_{\text{anion}}$	base stoichiometry ^b	other stoichiometries ^c
		cation	anion			
simple cubic	cubic	8	8	0.732 – 0.999	1:1	1:2, 1:4
face-centered	octahedral	6	6	0.414 – 0.732	1:1	1:2, 2:3, 1:3
face-centered	tetrahedral	4	8	0.225 – 0.414	2:1	1:1, 1:2, 3:2

^a when cations are larger than anions, simply reverse their roles in the table

^b ratio is cation:anion assuming all holes are filled

^c assuming that some fraction of the holes remain unfilled