

material stability criteria are given which define stable one-phase and stable two-phase crystal growth. The kind of deposit may be changed by altering the amount of transporting agent. It is shown that limited interface kinetics favors a two-phase deposit.

Structural Chemistry of $Sr_3Cr_2WO_9$, $Ca_3Cr_2WO_9$, and $Ba_3Cr_2WO_9$. D. BALLUTAUD-HARARI and P. POIX. E.R. 83 C.N.R.S., Laboratoire de Chimie Minérale, Batiment 420, Faculté des Sciences, 91406 Orsay, France. We have studied the preparation and crystallographic structure of three perovskite-type compounds: $Sr_3Cr_2WO_9$, cubic, lattice parameter of which is $a = 7.812 \text{ \AA}$; $Ca_3Cr_2WO_9$, tetragonal, lattice parameters of which are $a = 5.408 \text{ \AA}$ and $c = 7.635 \text{ \AA}$, and $Ba_3Cr_2WO_9$, hexagonal, lattice parameters of which are $a = 5.691 \text{ \AA}$ and $c = 13.957 \text{ \AA}$. We have compared these three structures, and shown the relations between the dimension of the alkaline-earth metal and the existence of the different structures.