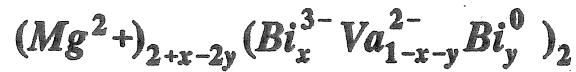


TWO-SUBLATTICE MODEL FOR LIQUIDS
WITH SHORT-RANGE ORDER



"Components": (end-members)

$$\text{Overall } X_{Bi} = \frac{2x+2y}{2x+2+y}$$



Site Fractions: (on lattice #2)

$$X_1 = X_{Va^{2-}}$$

$$X_2 = X_{Bi^0}$$

$$X_3 = X_{Bi^{3-}}$$

$$g = [X_1 g_{Mg_2^{2+} Va_2^{2-}} + X_2 g_{Mg_0^{2+} Bi_2^0} + X_3 g_{Mg_3^{2+} Bi_2^{3-}}] \\ + 2RT [X_1 \ln X_1 + X_2 \ln X_2 + X_3 \ln X_3] \\ + \alpha_{12} X_1 X_2 + \alpha_{23} X_2 X_3 + \alpha_{31} X_3 X_1$$

$$\Delta G = g_{Mg_3^{2+} Bi_2^{3-}}^0 - (3/2) g_{Mg_2^{2+} Va_2^{2-}}^0 - g_{Mg_0^{2+} Bi_2^0}^0$$