TWO NEW PHASES GROWN IN CA/LI FLUX, $CA_{11}C_8$ SN_3 AND $CA_{11}C_8$ PB_3. Trevor Blankenship, Department of Chemistry, Florida State University, 4202 E. Fowler Ave CHE205, Tampa, FL 33620.

Two new phases, $Ca_{11}C_8$ Sn_3 and $Ca_{11}C_8$ Pb_3 were produced from reacting C and either Sn or Pb in Ca/Li flux. The flux is a 10:10 mmol mixture which melts at 300°C. The structures are analogues in the monoclinic space group $P2_1/c$. The carbon atoms are found in two C_3^{4-} and one C_2^{2-} anions per formula unit. The structures are a zintl phase, and are charge-balanced by conventional valence electron counting. Band structure calculations, magnetic susceptibility, and NMR spectroscopy studies are carried out to explore the electronic properties of these phases.