Appendix - 2

Compilation of X-ray Diffractograms

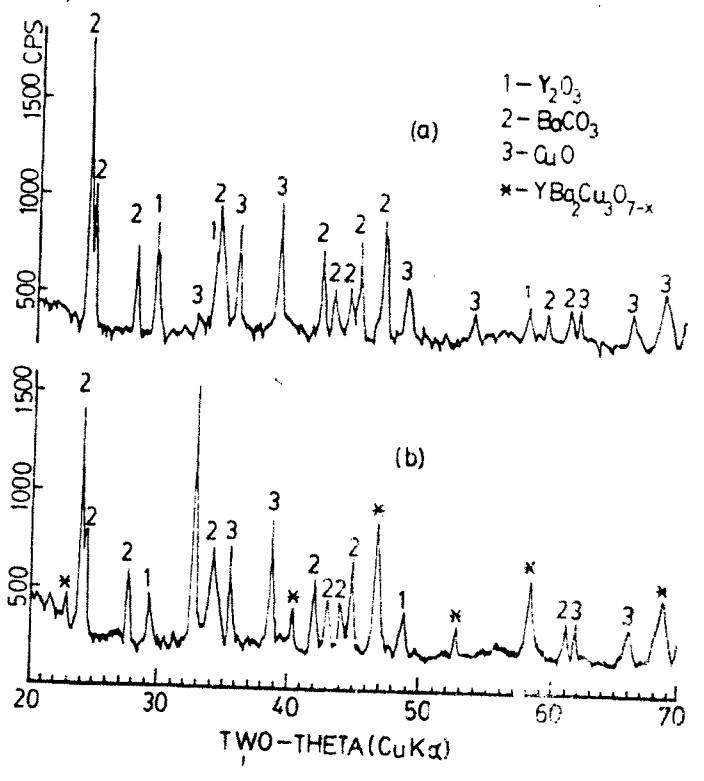

FIG. 1
The formation of tetragonal structure

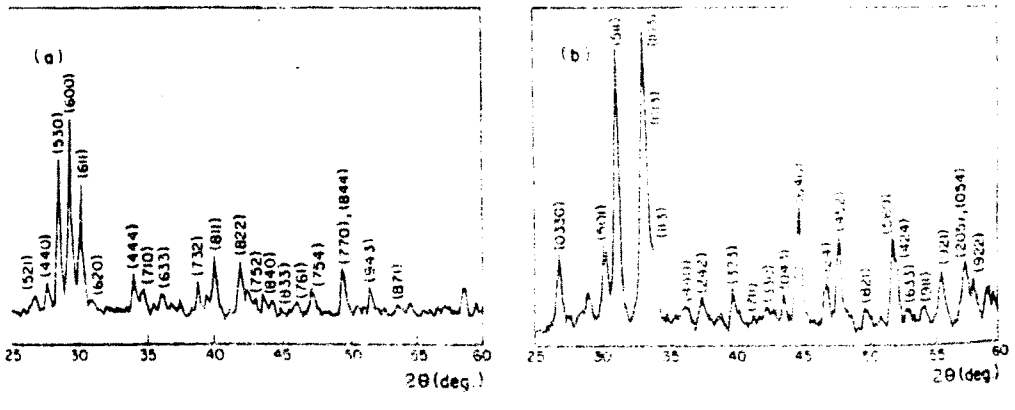

FIG. 2

X-ray diffraction pattern for (a) $BaCuO_2$ and (b) $Y_2Cu_2O_5$

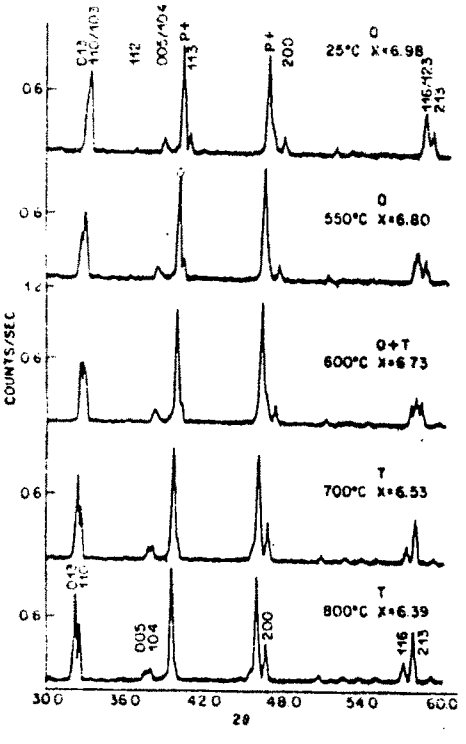

FIG. 3:

Powder x-ray data as a function of temperature in air. The Pt peaks are from the strip heater and were used as an internal calibration.

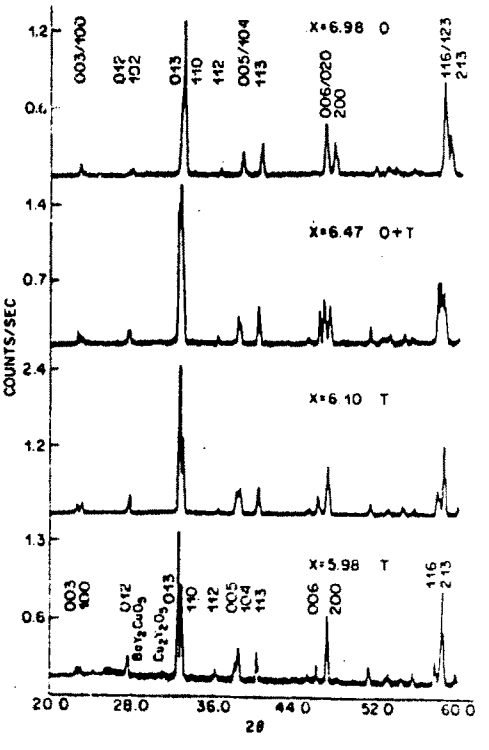

FIG. 4

Powder diffraction data for samples heated in N_2 to adjust oxygen stoichiometry. The stoichiometry based on weight change is indicated on each panel.

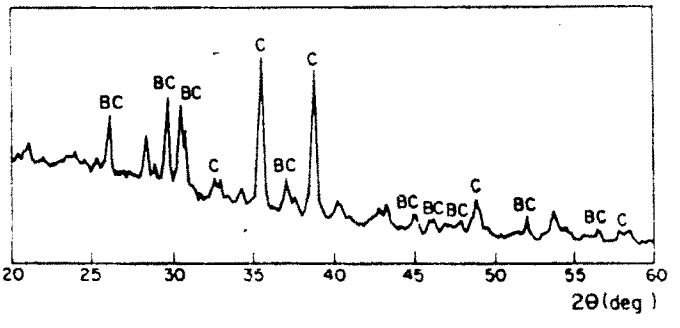

FIG. 5

X-ray diffraction patterns for molten phases bred out during the calcination of $1/2Y_2O_3$, $2BaCO_3$, and $3CuO$ at 940 °C in air.
BC: $BaCO_4$ (BaO_2+CO_2, JCPDS CARDS #3-0659)
C: CuO (JCPDS CARDS #5-0661)

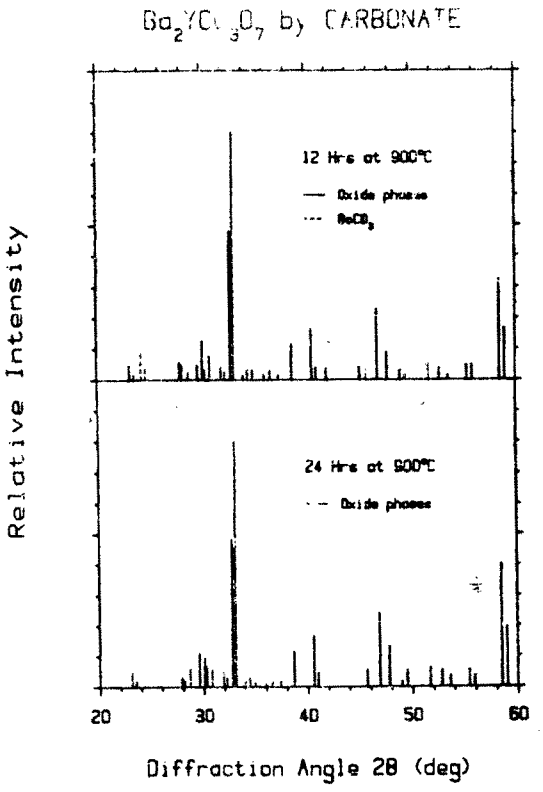

Fig. 6. X-ray diffraction patterns of a mixture of $BaCO_3$, Y_2O_3 and CuO heated at 900°C showing the presence of unreacted $BaCO_3$ after 12 hrs and a multiphase product after 24 hrs.

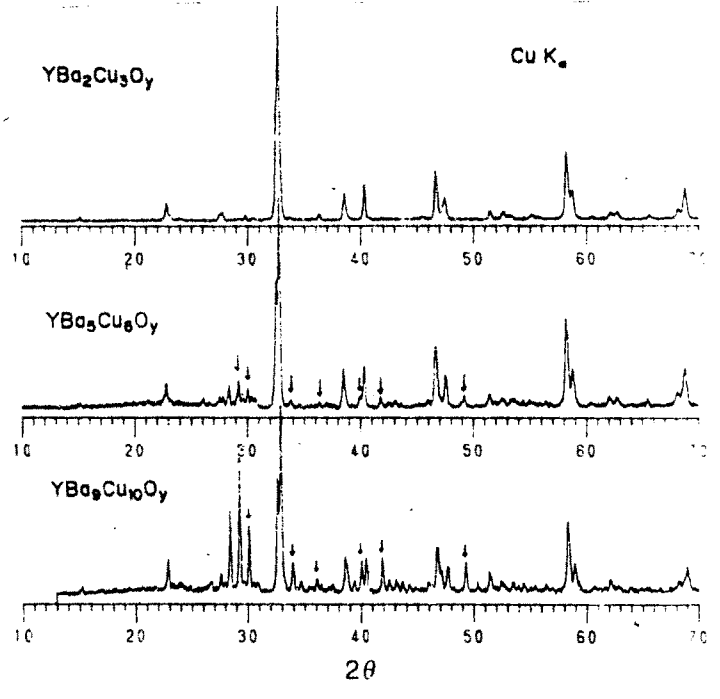

FIG. 7
Powder X-Ray Diffractions. Diffractions due to $BaCuO_2$ are shown by arrows.

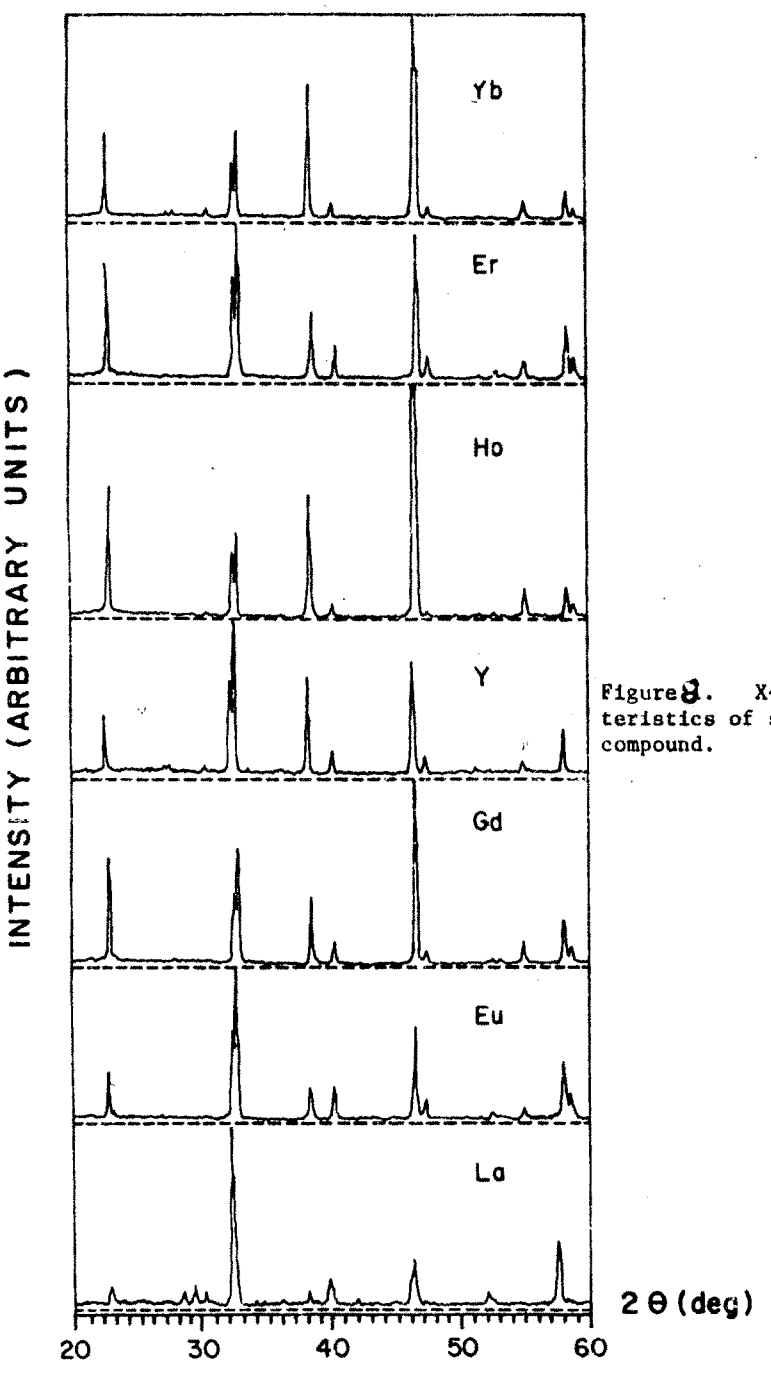

Figure 3. X-ray characteristics of some (1:2:3) compound.