

Supporting Information

Tuning of Texture and Structure of Copper-containing Nanocomposite Oxide Materials

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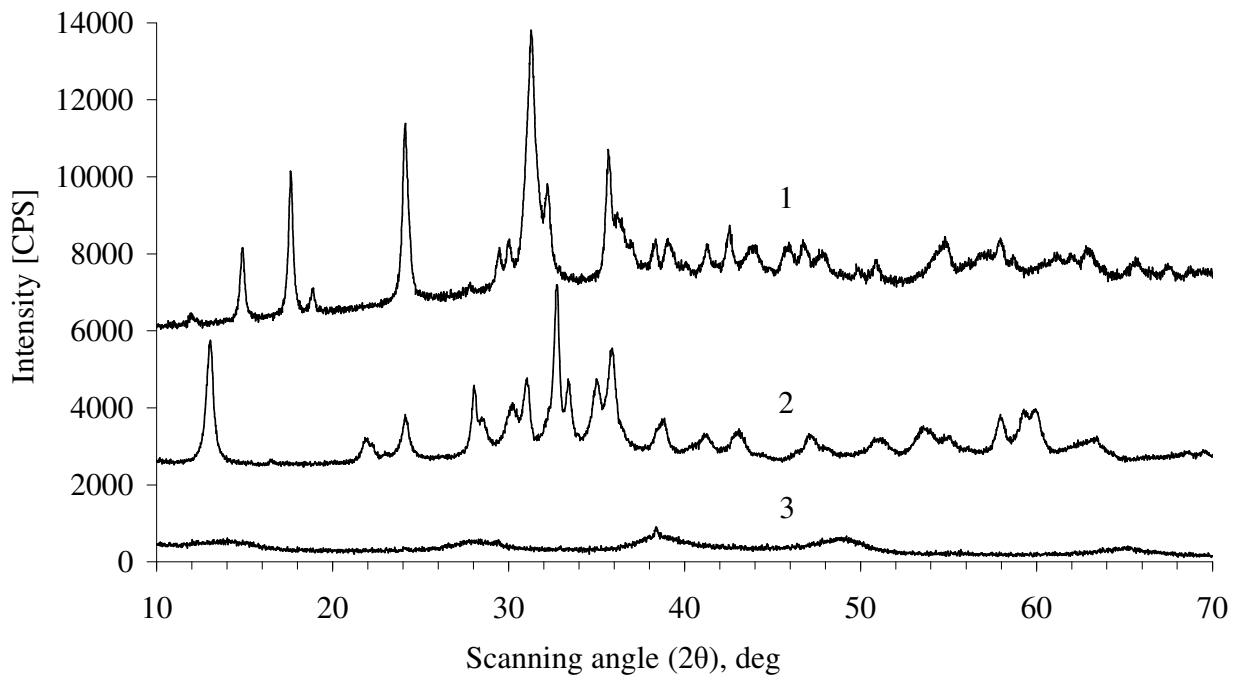


Figure 1. X-ray diffraction (XRD) patterns of uncalcined precursors of the pure phase oxides. 1), C100-NaHCO₃. 2), Z100-NaHCO₃. 3), A100-NaHCO₃.

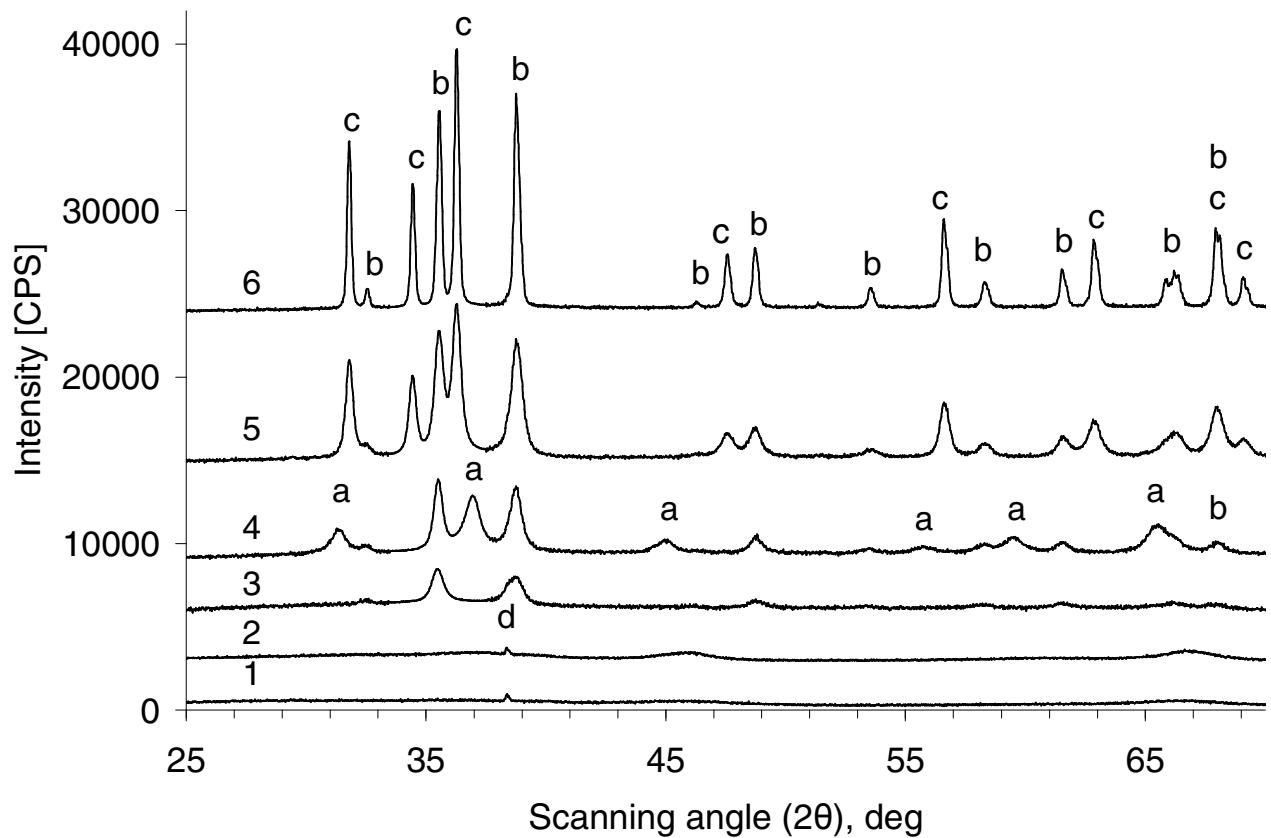


Figure 2. XRD patterns of calcined precipitates with the use of precipitant NaHCO_3 . a, CuAl_2O_4 phase; b, CuO phase; c, ZnO phase; d, Al_2O_3 phase. 1), A100- NaHCO_3 , calcined at 400°C for 3hr; 2), A100- NaHCO_3 , $700^\circ\text{C}/3\text{hr}$; 3), M2; 4), M3; 5), M8; 6), M9.

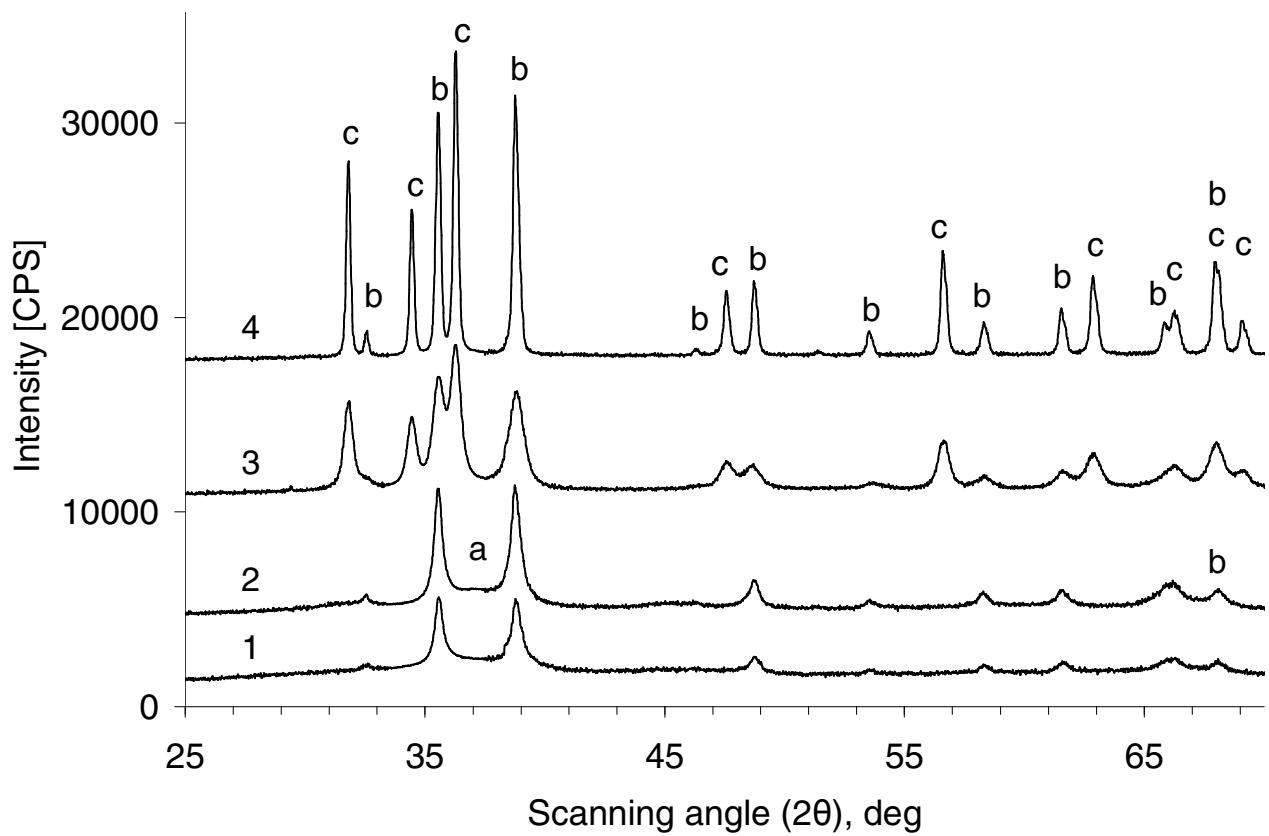


Figure 3. XRD patterns of some calcined precipitates. a, CuAl_2O_4 phase; b, CuO phase; c, ZnO phase.
1), M5; 2), M6; 3), M11; 4), M12.

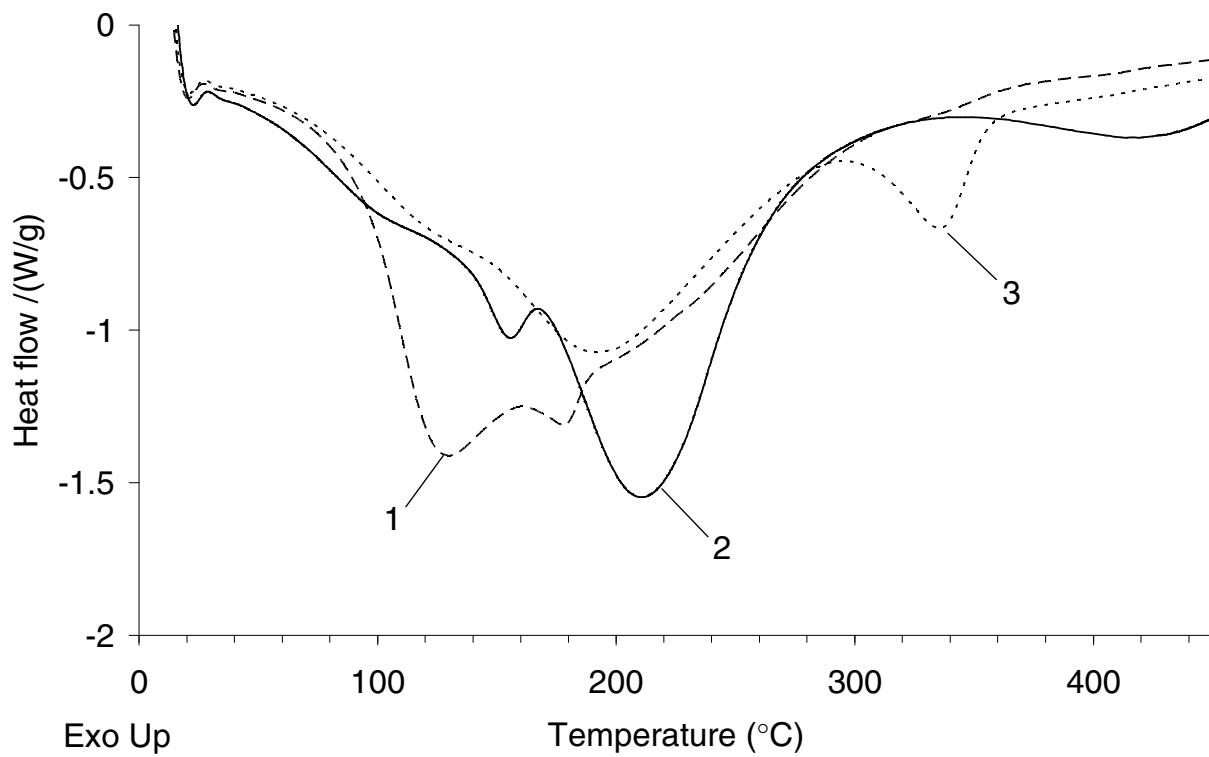


Figure 4. Differential scanning calorimetry (DSC) curves of uncalcined precipitates in nitrogen atmosphere. 1) CA50- $(\text{NH}_4)_2\text{CO}_3$; 2) CA50- Na_2CO_3 ; 3) CA50- NaHCO_3 .

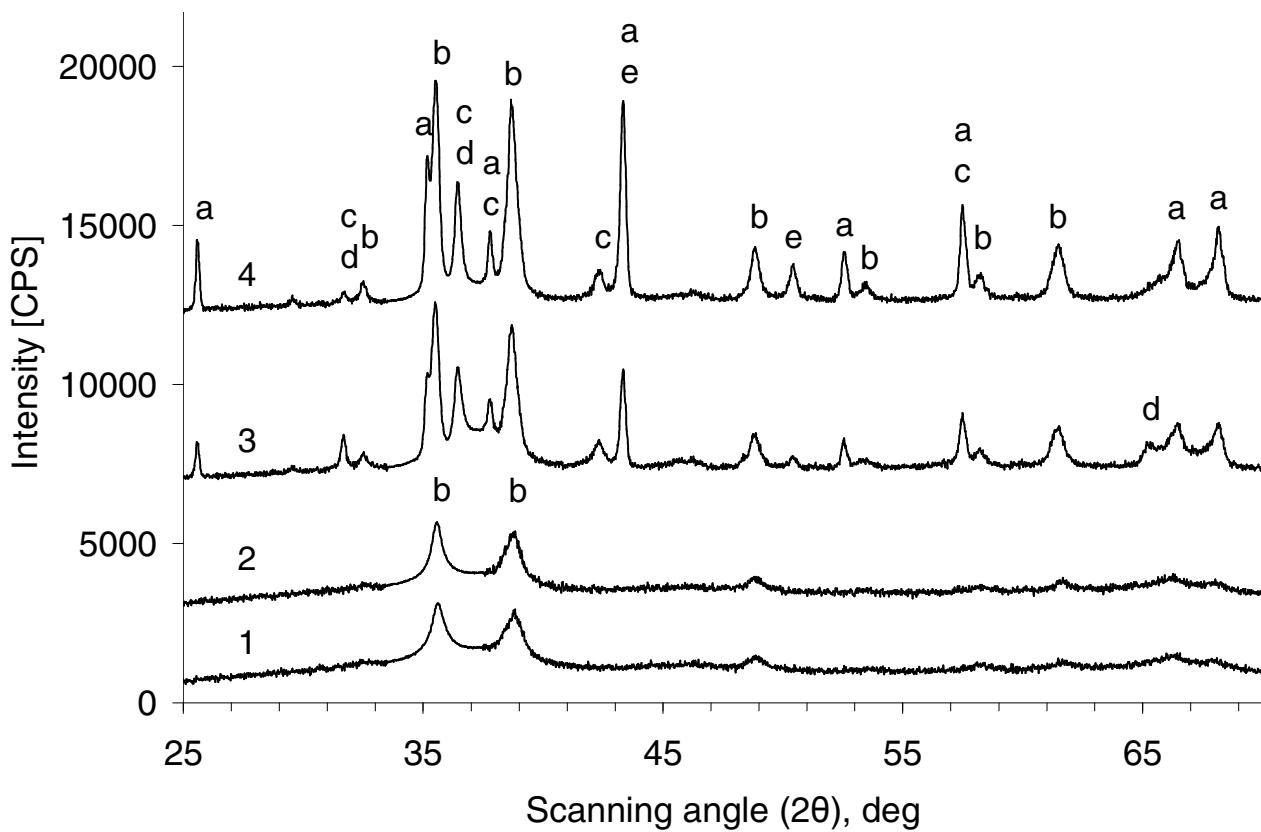


Figure 5. XRD patterns of calcined xerogels. a, α -Al₂O₃ phase; b, CuO phase; c, CuAlO₂ phase; d, CuAl₂O₄ phase; e, Cu⁰ phase. 1), M20; 2), M18; 3), M17; 4), M16.

Figures 1-5 of Supporting Information were described in Results and Discussion section.