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(54) Title: SINGLE CRYSTAL CATHODE MATERIALS USING MICROWAVE PLASMA PROCESSING

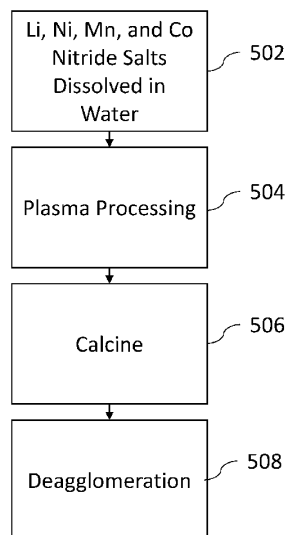


FIG. 5

(57) Abstract: Disclosed herein are systems and methods for synthesis of submicron-scale or micron-scale single crystal cathode (SCC) material, such as NMC, using a feedstock and microwave plasma processing. Microwave plasma processing of these SCC materials provides a low cost, scalable approach. In some embodiments, advanced SCC materials may be synthesized through microwave plasma processing of feedstock materials, wherein the SCC materials may comprise at least 80% nickel. In some embodiments, the microwave plasma processing may enable synthesis of SCC materials with very short calcination.

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