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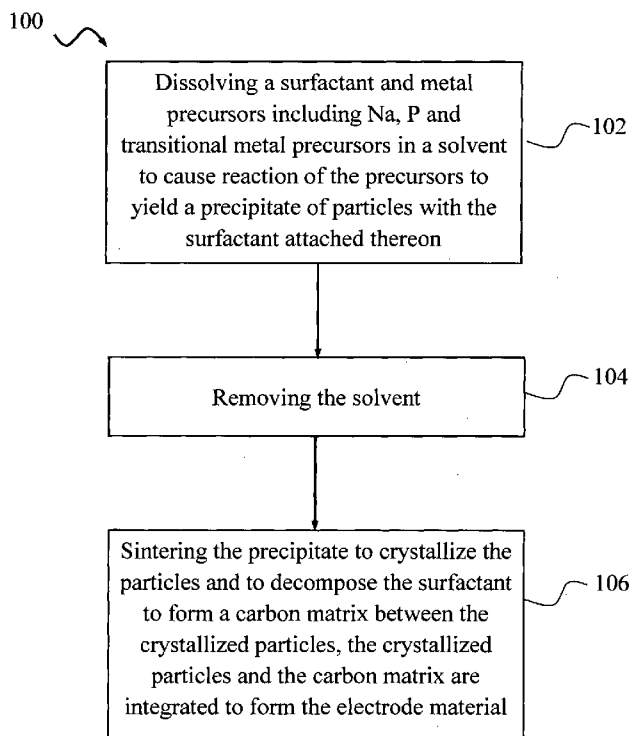
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(54) Title: ELECTRODE MATERIAL AND METHOD OF SYNTHESIZING



(57) **Abstract:** The present disclosure provides a phosphate framework electrode material for sodium ion battery and a method for synthesizing such electrode material. A surfactant and precursors including a sodium precursor, a phosphate precursor, a transition metal precursor are dissolved in a solvent and stirred for sufficient mixing and reaction. The precursors are reacted to yield a precipitate of particles of $\text{Na}_x\text{A}_y\text{M}_z(\text{PO}_4)_w\text{X}_n$ compound and with the surfactant attached to the particles. The solvent is then removed and the remaining precipitate is sintered to crystallize the particles. During sintering, the surfactant is decomposed to form a carbon network between the crystallized particles and the crystallized particles and the carbon matrix are integrated to form the electrode material.



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