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(54) **METHOD FOR EXTRACTING LITHIUM FROM CATHOD ACTIVE MATERIALS IN SPENT LITHIUM-ION BATTERIES USING NEUTRAL AQUEOUS SOLUTION AND METHOD FOR SELECTIVELY EXTRACTING LITHIUM FROM CATHOD ACTIVE MATERIALS IN SPENT LITHIUM-ION BATTERIES USING CARBONATED WATER**

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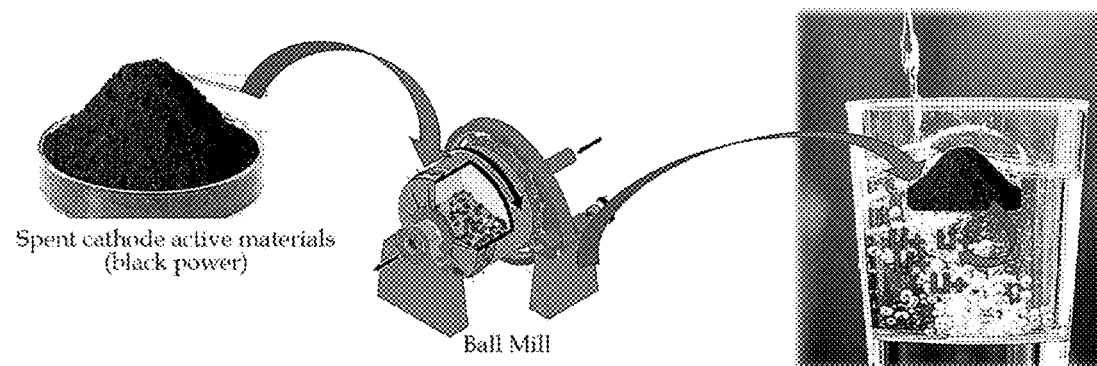
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ABSTRACT

The present disclosure relates to relates to a method for extracting lithium from cathode active materials in spent lithium-ion batteries using a neutral aqueous solution and a method for selectively extracting lithium from cathode active materials in spent lithium-ion batteries using a carbonated water. In particular, the method for extracting lithium from cathode active materials of spent lithium-ion batteries includes steps of: grinding the cathode active materials of spent lithium-ion batteries through a ball milling process; preparing a neutral aqueous solution and mixing ground cathode active materials into the neutral aqueous solution; and generating lithium ions extracted from the neutral aqueous solution.



Selective extraction of Li⁺ through an easy, rapid and environmentally friendly process by injecting ball milled cathode active materials into a neural pH solution such as DI water, etc.