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(54) **IRON-SULFIDE REDOX FLOW BATTERIES**

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(58) **Field of Classification Search**  
None  
See application file for complete search history.

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(57) **ABSTRACT**

Iron-sulfide redox flow battery (RFB) systems can be advantageous for energy storage, particularly when the electrolytes have pH values greater than 6. Such systems can exhibit excellent energy conversion efficiency and stability and can utilize low-cost materials that are relatively safer and more environmentally friendly. One example of an iron-sulfide RFB is characterized by a positive electrolyte that comprises Fe(III) and/or Fe(II) in a positive electrolyte supporting solution, a negative electrolyte that comprises S<sup>2-</sup> and/or S in a negative electrolyte supporting solution, and a membrane, or a separator, that separates the positive electrolyte and electrode from the negative electrolyte and electrode.

**15 Claims, 2 Drawing Sheets**

