solvent as the positive electrolyte (catholyte) to form redox flow battery with operational voltage of approximately 2.3V.

While a number of embodiments of the present invention have been shown and described, it will be apparent to those skilled in the art that many changes and modifications may be made without departing from the invention in its broader aspects. The appended claims, therefore, are intended to cover all such changes and modifications as they fall within the true spirit and scope of the invention.

We claim:

1. An energy storage system having a separator separating first and second electrodes, the first electrode comprising a first current collector and a first volume containing a first active material the second electrode comprising a second current collector and a second volume containing a second active material, the energy storage system characterized during operation by a first source operably connected to the first volume and configured to provide a flow of first active material, the first active material comprising a redox active organic compound dissolved in a non-aqueous electrolyte and the second active material comprising a redox active metal, wherein the redox active organic compound comprises 1 5-bis(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)anthracene-9, 10-dione (151)3GAQ).

2. The system of claim **1**, herein the second active material comprises a solid.

3. The system of claim **1**, further comprising a second source operably connected to the second volume and configured to provide during operation a flow of second active material.

4. The system of claim **3**, wherein the second active material is a mixture of solid and flowable non-aqueous liquid materials.

5. The system of claim **3**, wherein the second active material comprises a liquid.

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