CLAIMS

1. A method comprising:

flowing a fluid through a flow channel of a flow cell, the fluid comprising a plurality of types of nucleotides, the flow cell including a plurality of primary bases to support polynucleotides, the primary bases being secured to a floor region of the flow cell;

selecting one type of nucleotide for attachment to a selected primary base of the plurality of primary bases in the flow cell; and

activating the selected one type of nucleotide to thereby cause the selected one type of nucleotide to attach to the selected primary base, the attached nucleotide representing machine-written data, activating the selected type of nucleotide comprising applying a change in pH within the flow cell, the applied pH being associated with the selected type of nucleotide.

2. The method of claim 1, further comprising repeating selecting one type of nucleotide for attachment to a selected primary base in the flow cell and activating the selected one type of nucleotide to thereby cause the selected one type of nucleotide to attach to the selected primary base, to thereby generate a polynucleotide on the primary base, the generated polynucleotide including a plurality of selected types of nucleotides, the generated polynucleotide representing machine-written data.

3. The method of claim 1, activating the selected type of nucleotide comprising activating an electrode in the flow cell to thereby apply a voltage to the selected type of nucleotide.

4. The method of claim 3, each type of nucleotide being associated with a particular voltage, activating the electrode comprising activating the electrode to apply the particular voltage associated with the selected type of nucleotide.

5. The method of claim 4, the flow cell including electrodes associated with different corresponding voltages, the method further comprising selecting an electrode from the electrodes, the selected electrode corresponding to the voltage associated with the selected type of nucleotide, the activated electrode being the selected electrode.

6. The method of any claim 1, activating the selected type of nucleotide comprising communicating pre-charged enzymes to the flow channel.