

ABSTRACT

A system, method and apparatus for executing a sequence analysis pipeline on genetic sequence data includes a integrated circuit formed of a set of hardwired digital logic circuits that are interconnected by physical electrical interconnects. One of the physical electrical interconnects forms an input to the integrated circuit connected with an electronic data source for receiving reads of genomic data. The hardwired digital logic circuits are arranged as a set of processing engines, each processing engine being formed of a subset of the hardwired digital logic circuits to perform one or more steps in the sequence analysis pipeline on the reads of genomic data. Each subset of the hardwired digital logic circuits is formed in a wired configuration to perform the one or more steps in the sequence analysis pipeline.

FIG. 10