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- (54) **Title:** METHODS AND SYSTEMS FOR DETECTING CONTAMINATION BETWEEN SAMPLES

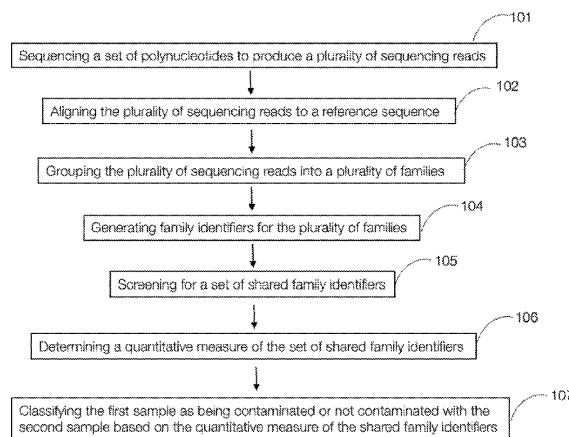


Fig. 1

(57) **Abstract:** Provided herein are various methods and related systems for detecting the presence/absence of contamination of a first sample with a second sample. In some embodiments, for example, the methods include (a) sequencing a set of polynucleotides to produce a plurality of sequencing reads, (b) aligning the plurality of sequencing reads to a reference sequence, (c) grouping the plurality of sequencing reads into a plurality of families, (d) generating family identifiers for the plurality of families, (e) screening for a set of shared family identifiers, (f) determining a quantitative measure of the set of shared family identifiers, and (g) classifying the first sample as being contaminated or not contaminated with the second sample based on the quantitative measure of the shared family identifiers.

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